

Advanced Services' Configuring the Cisco Nexus Data Center (CCNDC) Version 1.0



Configuring the Cisco Nexus Data Center (CCNDC) is a hands-on course that includes lecture by a Cisco subject matter expert and hands-on practice exercises that focus on designing and configuring a data center network to support a virtual computing environment (VCE). Using the Cisco Nexus® and MDS family of products, you will construct a highly available and modular network infrastructure that can be used to provide virtualized cloud-based services. You will learn about configuring the Cisco Nexus 7000 and 5000 Series Switches as well as the Cisco Nexus 2000 Series Fabric Extenders into a scalable data center network. You will learn how to connect VMware vSphere ESX-based virtual machines to the data center infrastructure. Topics covered include the configuration of a data center unified fabric using both Fibre Channel and Fibre Channel over Ethernet as well as the configuration of VMware virtual switching to a Cisco Nexus based data center network. In addition, the lecture and labs will cover how to configure both VMware VMotion and Storage VMotion in the data center environment. You will also learn how to scale the data center Layer 2 environment using Cisco® FabricPath and Overlay Transport Virtualization (OTV).

CCNDC is offered in a traditional classroom or as an interactive virtual live classroom training delivered over Cisco WebEx®. Both versions are led by the same knowledgeable instructors. The course materials are the same (although minor changes are made to accommodate the virtual live classroom environment), and both versions have the same hands-on labs. CCNDC virtual live classroom offers the same learning experience as the traditional version with the added benefit of remote access.

Duration

- Instructor-led offering: Five days, eight hours a day
- Virtual live classroom offering: Eight days, four hours a day

The virtual live classroom offering allows you to attend the live instruction, along with getting access to our lab equipment, without leaving your office. Go to www.cisco.com/go/ase for more information about the virtual live classroom delivery format.

Target Audience

This session is intended for network or data center professionals who are involved in the design, implementation, or support of virtualized and/or cloud compute data centers.

Course Objectives

Upon completion of this course, you should be able to:

- Describe current data center strategies such as cloud computing, virtualization, and unified fabric
- Configure a modern end-to-end data center infrastructure using the Cisco Nexus 2000, 5000, and 7000 Series products to support a virtual computing environment
- Configure a Cisco Nexus unified fabric data center network using Ethernet and Fibre Channel over Ethernet
- Configure a Cisco MDS-based Fibre Channel data center storage area network
- Connect VMware vSphere ESX-based virtual machines using redundant connections to a Cisco Nexus based unified data center fabric
- Configure a data center network to enable virtual machine migration using VMware VMotion and Storage VMotion technologies
- Scale the Layer 2 data center environment using Cisco FabricPath
- Connect multiple data centers together using OTV

Course Prerequisites

Following are the prerequisites for this course:

- CCNA® level networking knowledge and experience configuring Cisco network routers and switches
- Introductory-level understanding of data center architectures and virtualization concepts

To locate Cisco courses that cover the listed prerequisites, go to the Cisco Training and Events webpage at www.cisco.com/web/learning/index.html.

Course Outline

The course outline is as follows:

- Module 1: Configuring the Cisco Nexus Data Center Transport Infrastructure
 - Determining the Elements of Proper Data Center Design
 - Selecting Hardware to Meet the Data Center Design Requirements
 - Performing Initial Device Setup and Software Configuration
 - Configuring and Verifying the Data Center Transport Infrastructure
- Module 2: Configuring the Cisco Nexus Data Center for Virtual Machines
 - Connecting Virtualized Machines to the Network
 - Enabling the Storage Infrastructure
 - Verifying the End-to-End Virtual Computing Environment
- Module 3: Scaling and Interconnecting the Cisco Nexus Data Center
 - Scaling the Data Center Using Cisco FabricPath

- Connecting Multiple Data Centers Together Using OTV

Lab Outline

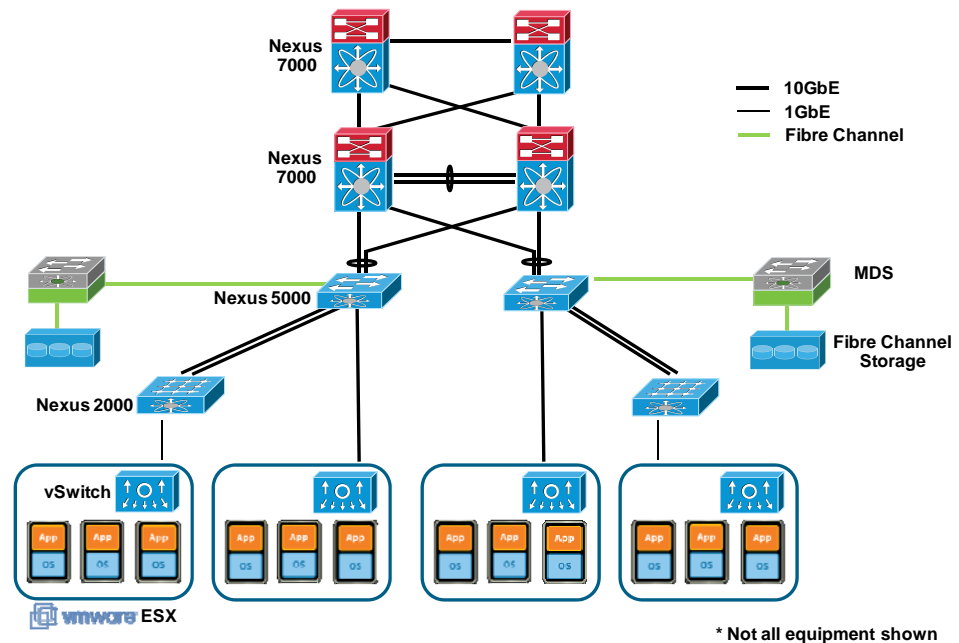
The lab outline is as follows:

- Lab 1: Managing the Cisco Nexus Hardware and Software Platforms
- Lab 2: Creating a Virtual Network Device
- Lab 3: Configuring and Verifying the Layer 2 Data Center Topology
- Lab 4: Configuring and Verifying the Layer 3 Data Center Topology
- Lab 5: Connecting Virtual Machines to the Network
- Lab 6: Enabling the Storage Infrastructure
- Lab 7: Verifying End-to-End Data Center Connectivity Using VMotion and Storage VMotion
- Lab 8: Scaling the Data Center Using Cisco FabricPath
- Lab 9: Connecting Multiple Data Centers Together Using OTV

Lab Topology

Figure 1 shows the lab topology that is used in this course.

Figure 1. Lab Topology for Configuring the Cisco Nexus Data Center



Registration Information

For more information about schedules and registration for this course, contact aeskt_registration@cisco.com.

For More Information

For more information about Advanced Services Education course offerings, including custom training options, as well as Advanced Services Curriculum Planning Services and the Advanced Services Technical Knowledge Library (TKL), refer to the Advanced Services Education website at www.cisco.com/go/ase.



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