

## Advanced Services' VTS on Configuring the Cisco Nexus Data Center for Virtual Machines (CCNDC-V) Version 1.0



This Virtual Training Services (VTS) offering "Configuring the Cisco Nexus Data Center for Virtual Machines (CCNDC-V) Version 1.0" is an educational session 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 both the Cisco Nexus® and Cisco® MDS families of products, you will learn how to connect VMware vSphere ESX-based virtual machines to a highly available data center infrastructure that can be used to provide virtualized cloud-based services. 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 the VMware vSphere virtual switch 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.

### Duration

Virtual classroom offering: two days, six hours a day.

The virtual classroom offering allows you to attend the live instruction, along with getting access to our lab equipment, without leaving your office. For more information about the virtual classroom delivery format, go to [www.cisco.com/go/ase](http://www.cisco.com/go/ase).

### 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.

This VTS supports a maximum of 12 students in a single session.

### Session Objectives

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

- Describe current data center strategies such as cloud computing, virtualization, and unified fabric
- 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

### Session Prerequisites

Following are the prerequisites for this session:

- CCNA® level networking knowledge and experience configuring Cisco 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](http://www.cisco.com/web/learning/index.html).

### Session Outline

The session outline is as follows:

- Lesson 1: Determining the Elements of Proper Data Center Design
  - Cloud Computing Defined
  - Designing a Data Center Using Virtualization
  - Building a Data Center Unified Fabric with Fibre Channel over Ethernet
- Lesson 2: Connecting Virtualized Machines to the Network
  - VMware Virtualization Platform Overview
  - Understanding the View of the Network from a Virtual Machine
  - Configuring a Virtual Switch with Network Redundancy in VMware
  - Connecting a Virtualized Server to the Access Network
- Lesson 3: Enabling the Storage Infrastructure
  - Building a Storage Area Network Using Fibre Channel
  - Selecting Hardware for a Storage Area Network
  - Configuring and Verifying a Fibre Channel Storage Area Network on the MDS 9000
  - Building a Data Center Unified Fabric Using Fibre Channel and FCoE
  - Configuring and Verifying Fibre Channel and FCoE on the Cisco Nexus 5000
- Lesson 4: Verifying the End-to-End Virtual Computing Environment
  - Verifying Virtual Machine Connectivity to the Ethernet and FCoE Network
  - Verifying VMware Network Redundancy
  - Verifying Storage Resources Using FCoE and Fibre Channel
  - Verifying Virtual Machine Migration Using VMotion and Storage VMotion

### Lab Outline

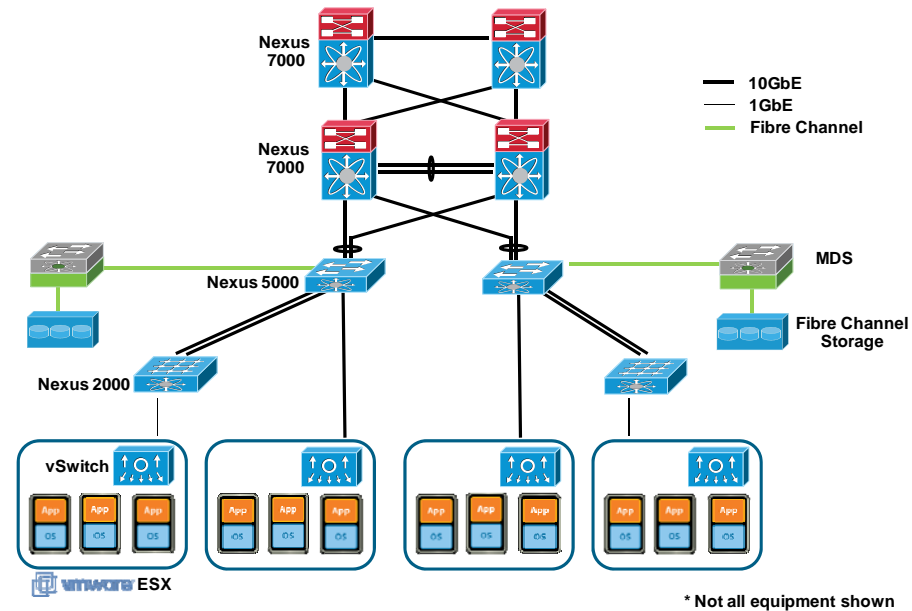
The lab outline is as follows:

- Lab 1: Connecting Virtual Machines to the Network
- Lab 2: Enabling the Storage Infrastructure
- Lab 3: Verifying End-to-End Data Center Connectivity

## Lab Topology

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

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



## Registration Information

VTS sessions are offered to customers who have a Cisco master services agreement (MSA). If you are interested in scheduling this session for your facility, make the request through your Cisco services or product account manager. For more information about this offering, send an email to [aeskt\\_registration@cisco.com](mailto: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](http://www.cisco.com/go/ase).



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