

## ICNX1V

### Why choose Firefly?

We take great care to provide current and up-to-date courseware. We typically release courseware associated to a technology version very shortly after the product is in general release. We also take the “lessons learned” from our field teams, who are constantly deploying and migrating solutions, directly into our courses.

This version of ICNX1V features the latest version of the Nexus 1000V software, including the new vPath architecture. vPath enables the Cisco Virtual Security Gateway (VSG), which is also covered in this course, providing trusted multitenant access—a critical feature for cloud deployments—along with Virtual Wide Area Application Services (vWAAS), which provides integrated WAN optimization services.

### Length:

2 Days

### Format:

Lecture/Lab

### Version:

2.2r1

### Course Description

The Cisco Nexus 1000V is a virtual switch that resides within the VMware ESX Server instance and provides operations and management consistency with existing Cisco Nexus and Catalyst switches.

The Nexus 1000V leverages the VN-Link specification, together with VMware’s vNetwork Distributed Switch (DVS) framework, to offer tightly integrated network services as part of a comprehensive Data Center server virtualization strategy.

This 2-day course provides you with an in-depth look at the design and configuration process for the Cisco Nexus 1000V.

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

### Who Should Attend

This course provides an introduction to VN-Link and the Cisco Nexus 1000V for network engineers who need to gain experience configuring a VMware virtual networking environment.

### Recommended Prerequisites

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

### Learning Objectives

After completing this course, you will be able to:

- Describe the VMware virtual networking
- Describe the Cisco Nexus 1000V Series Switch and its role in a virtual server network environment
- Describe the VMware networking environment
- Describe the Cisco Nexus 1000V Series Switch architecture
- Describe Cisco Nexus 1000V design considerations
- Describe the Cisco Nexus 1000V Virtualized Services and their role in VMware deployments
- Describe how to install and configure a Cisco Nexus 1000V Series Switch
- Configure basic Cisco Nexus 1000V networking
- Describe the configuration of security on the Cisco Nexus 1000V
- Describe the Cisco Nexus 1000V Series Switch traffic flow configuration
- Describe network monitoring and troubleshooting on the Cisco Nexus 1000V



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## Module 1: Networks in a Virtual Server Environment

### Lesson 1: Introducing the Cisco Nexus 1000V

- Data Center Access Layer Networks
- Virtual Environment Overview
- Cisco Virtual Switching Overview
- Feature Overview

### Lesson 2: VMware Networking

- The Virtual Access Layer
- vSwitch Configuration
- vSwitch Security
- Distributed Virtual Switch

### Lesson 3: Cisco Nexus 1000V Architecture

- Cisco Nexus 1000V Series Switch
- Architectural Overview
- Cisco Nexus 1000V Installation and Operation
- Cisco Nexus 1010V Architecture

### Lesson 4: Cisco Nexus 1000V Design Considerations

- Access Layer Designs
- NIC Teaming and Uplink Load Balancing
- High Availability Design

### Lesson 5: The Cisco Nexus 1000V Virtualized Services

- Unified Network Services
- Cisco Virtual Security Gateway
- Cisco vWAAS

## Module 2: Cisco Nexus 1000V Installation and Configuration

### Lesson 1: Installing and Configuring the Cisco Nexus 1000V

- Configure VSM vSwitch Networks
- VSM Virtual Machine Creation
- Initial VSM Configuration
- Connect the VSM to vCenter
- Cisco Nexus 1000V HA Configuration
- Cisco Nexus 1000V Licensing

### Lesson 2: Configuring Port Profiles

- Port Profiles
- VLAN Configuration
- Port Profile Changes in 4.0(4)SV1(2)
- Creating Uplink Profiles
- Configuring PortChannels
- Adding Hosts to the VSM
- Creating VM Data Port Profiles
- Adding VMs to the VSM
- Using the GUI to Configure the 1000V

### Lesson 3: Managing Security

- Traffic Integrity
- DHCP Snooping
- Dynamic ARP Inspection
- IP Source Guard
- Port Security
- Access Control Lists
- Private VLANs
- Configuring Private VLANs
- Virtual Service Domain

### Lesson 4: Traffic Flow

- IGMP Snooping
- Cisco Nexus 1000V QoS Overview
- Modular QoS CLI Overview
- Class Map
- Policy Map
- Service Policy

### Lesson 5: Network Monitoring and Troubleshooting

- NetFlow
- SPAN
- Troubleshooting VSM to VEM Connectivity
- Troubleshooting VSM to vCenter Connectivity
- Troubleshooting VM Connectivity
- Troubleshooting Version Issues

## Course Labs

- Lab 1: Populating the Virtual Center Database
- Lab 2: Configuring VMware Networking
- Lab 3: Installing the Cisco Nexus 1000V
- Lab 4: Configuring Port Profiles
- Lab 5: 1000V Switch Management
- Lab 6: Configuring Security
- Lab 7: Configuring HA and QoS