



Cisco Data Center and Virtualization Labs for Worldwide Channel Partners

The [Cisco Data Center and Virtualization Labs](#) are an online training and demonstration resource available at no cost to Cisco channel partners.

These labs highlight Cisco's leadership in data center and virtualization solutions and offer exercises featuring the implementation Fibre Channel over Ethernet (FCoE) and long-distance VMware vMotion technology using Cisco® Overlay Transport Virtualization (OTV) Technology.

Figure 1. Cisco UCS C250 Server



The technologies showcased in these labs include the following:

- **NEW** Cisco Nexus® 7000 Series Switches
- Cisco Nexus 5000 Series Switches and 2000 Series Fabric Extenders
- Cisco Nexus 1000V Series Switches
- Cisco MDS 9124 Multilayer Fabric Switch
- **NEW** Cisco UCS C200 High-Density Rack-Mount Server
- **NEW** Cisco UCS C250 Extended Memory Rack-Mount Server
- Cisco Fabric Manager
- Cisco Fabric Device Manager
- NetApp FAS2020 storage system
- EMC CLARiiON AX4 networked storage
- VMware vSphere 4.1 virtual data center operating system
- Emulex Converged Network Adapters

The lab can be used to demonstrate the following data center and virtualization solutions:

- Cisco Unified Fabric and Cisco Unified Compute
- **NEW** Cisco Overlay Transport Virtualization (OTV) technology
- Cisco Virtual Port Channel (VPC)
- **NEW** Long-distance VMware vMotion

Cisco Data Center and Virtualization Labs run on Cisco Unified Computing System™, powered by Intel® Xeon® processors, providing industry-leading virtualization performance.

Two types of labs are available for reservation:

- Training labs
- Demonstration labs

Labs are reserved online, can vary from 1 to 12 hours, and are available for either immediate (pending availability) or future use.

The Training and Demo labs share identical topologies but differ in the way they are preconfigured. The Training labs are in a default state, ready for in-depth training exercises to create a fully configured solution. The Demo labs are preconfigured, ready to demonstrate solution features with minimal additional configuration. Demo labs are ideal for customer demonstrations.

Detailed training and demonstration materials are available at the site for registered users.

Questions and Answers

Q: What is the intended use of the lab?

A: The training labs are specifically designed to provide Cisco data center and virtualization channel partner engineers with a hands-on opportunity to configure Cisco data center and virtualization products.

See the [list of lab exercises](#) for specific details.

The demonstration labs enable Cisco partners to provide their customers live demonstrations of Cisco data center and virtualization solutions.

Q: What products are included in the lab?

A: This lab includes the Cisco Nexus Data Center Switching Family (7000, 5000, 2000, and 1000 Series), Cisco UCS C-Series Rack-Mount Servers, as well as the Cisco MDS 9124 Multilayer Fabric Switch. Additionally, the lab is supported by EMC and NetApp SAN-attached storage, VMware virtualization solutions, and Emulex Converged Network Adapters.

Q: What technologies are highlighted by the lab and exercises?

A: These labs highlight Cisco's leadership in unified fabric and unified compute technologies and offer lab exercises, featuring the implementation FCoE and long-distance VMware vMotion over OTV. The training labs cover all phases, from initial configuration and setup through configuration of a working solution

Q: Can I use this lab to help me prepare for the DCNI exams?

A: The labs do not specifically map to specific Cisco Data Center Network Infrastructure (DCNI) exams but can be used by partner engineers to practice and refresh their skills prior to taking an exam.

Q: Who has access to the lab?

A: Cisco channel partners, strategic integrators and technology partners, and the Cisco channel sales teams who support them.

Q: How many users are allowed per pod of equipment?

A: The labs are specifically designed for self-paced learning and support a single person per lab. The labs can, however, be used in a classroom environment with multiple people collaborating to build a single pod.

**Q: How do I get access to the lab?**

A: To register, go to dcv-labs.labgear.net and click the Signup button on the toolbar. You must use a corporate email address and supply basic contact info. Valid requests for access are typically responded to and granted immediately.

Q: How do I schedule time on the labs? When are they available?

A: The labs are available globally 24/7, 365 days a year, and can be scheduled online for immediate use, if available, or for future events. You can schedule lab sessions that are from one to 12 hours in length.

Q: How far in advance do I need to schedule a lab?

A: It is recommended to schedule your labs at least two weeks prior to the date you intend to actually use them.

Q: Where are the labs located?

A: The labs are hosted in Carson City, Nevada, and are globally accessible via the Internet. To log in to your lab, you use the credentials you receive when you schedule your event.

Q: What are the system requirements for lab use?

A: The lab requires Java 1.6 or later and supports by all common browsers. As you do the labs, you will experience reasonable response times provided there is at least 300 kbps upload and download speed at your location.

Q: What operating system versions are being used?

- A:
- For Cisco Nexus 7000 Series: Cisco NX-OS Software Release 5.1(2)
 - For Cisco Nexus 5000 and 2000 Series: Cisco NX-OS Software Release 5.0(2)N2(1)
 - For Cisco Nexus 1000V Series: Cisco NX-OS Software Release 4.2(1)SV1(4)
 - For Cisco MDS 9124L: Cisco Nexus Software Release NX-OS 5.0(1a)

Q: What if I have other questions?

A: Send an email to dcv-labs@cisco.com

Lab Exercises

Initial Switch Configuration

In this exercise, you will configure the Cisco Nexus 5000 Series and Cisco MDS 9124 switches for out-of-band management and explore the Cisco Nexus NX-OS operating system command line interface (CLI).

Configuring Cisco virtual PortChannel (vPC), Fibre Channel over Ethernet (FCoE), and the Cisco Fabric Extender (FEX) Using the CLI

In this exercise you will use the NX-OS CLI to configure interfaces on the Cisco Nexus 5000 Series for vPC, FCoE, and the FEX, as well as the Cisco MDS 9124 switch, for basic Fibre Channel connectivity.

Configuring vPC, FCoE, and the FEX Using Cisco Fabric Manager, Device Manager, and Data Center Networking Manager

In this exercise, you will use Cisco Fabric Manager, Device Manager and Data Center Networking Manager to configure interfaces on the Cisco Nexus 5000 for vPC, FCoE, and the FEX, as well as the Cisco MDS 9124 for basic Fibre Channel connectivity.

Configure VMware vCenter

In this exercise, you will add ESXi hosts and SAN attached storage to VMware vCenter, and then clone a virtual machine.

Configure Virtual Machine Networking

In this exercise, you will configure the virtual machine for access to the LAN and SAN.

Configuring Overlay Transport Virtualization (OTV)

In this exercise, you will configure the Cisco Nexus 7000 Series for OTV preparing for a long-distance OTV event.

Cisco Nexus 1000V NX-OS 4.0(4)SV1(3)

In this exercise you will deploy a Cisco Nexus 1000V Virtual Supervisor Module using an open virtualization appliance (OVA) file, and then install the Cisco Nexus 1000V switch using the installer.

Configuring VMware vMotion

In this exercise you will use Cisco NX-OS CLI to configure port profiles, and then execute a vMotion event.

Configuring Cisco Nexus 1000V Features

In this exercise, you will use Cisco NX-OS CLI to configure advanced features such as quality of service (QoS), Switched Port Analyzer/Encapsulated Remote Switch Port Analyzer (SPAN/ERSPAN) and private VLANs (PVLANS) on the Cisco Nexus 1000V distributed virtual switch.

Demonstrating Fibre Channel Efficiencies

In this exercise, you will use the devices managers for the Cisco Nexus 5000 Series and Cisco MDS 9124 Switches to view Fibre Channel metrics.