Cisco Unified Computing System for Implementation Professionals

UCS-IP

Length:
5 Days

Format:
Lecture/Lab

Course Version:
5.0

Product Version:
2.1

Learning Business Partner

Learning Specialized Partner

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Why Firefly

This course includes UCS Manager Infrastructure version 2.1 updates and UCS Central 1.0 with additional content on networking design and operations that customers need to successfully integrate UCS into their environments. This update also includes best practices and exercises for VM-FEX Pass-Through Switching on Microsoft Hyper-V and VMware.

Key UCSM 2.1 updates covered in this course that are not covered in the standard 5.0 version of this course include:

- UCSM based FC Zoning - Direct Connect Topologies
- Multi-Hop FCoE
- Unified Appliance Port
- Inventory and Discovery Support for Fusion-IO and LSI PCIe Mezzanine Flash Storage (for UCS M3 blades)
- C-series Single Wire Management
- Sequential Pool ID Assignment
- PV Count Optimization
- VLAN Group
- Multicast Policy with IGMP Snooping and Querier
- Org-Aware VLAN
- LAN/SAN Connectivity Policies for Service Profile Configuration
- VCON Enhancement
- Cisco CNA NIC Multi-receiving Queue Support
- VM FEX for KVM SRIOV
- VM FEX for Hyper-V SRIOV
- Firmware Auto Install
- Mixed Version Support (For Infrastructure and
- Server bundles firmware)
- Service Profile Renaming
- Fault Suppression
- UCSM Upgrade Validation Utility
- FSM Tab Enhancement
- Lower Power Cap Minimum for B Series
- RBAC Enhancements
- CIMC Firmware update enhancements.
- Implicit upgrade compatibility check
- Support for UCS Central 1.0
- Independent server and FI firmware upgrades
- Direct-connect storage
- PVLAN support
- SPAN support
- Support for 16GB DIMMs
- 6248 and 6296 Fabric Interconnects
- 2204 and 2208 IO Modules
- 1225, 1240 and 1280 VIC
- B-Series Servers B22 M3, B200 M3, B230 M2, B420 M3, B440 M2
- C-Series Servers C22 M3, C24 M3, C220 M3, C240 M3, C260 M2, C420 M3, C460 M2
- Boot from iSCSI
- Discrete and Port Channel modes for FEX connectivity

These topics enable customers and partners to approach advanced UCS integration and implementation scenarios with confidence, increasing the likelihood of repeatable success with UCS.

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Course Description

The Cisco Data Center Unified Computing Implementation is a five-day, hands-on course designed for system engineers, data center administrators, and architects implementing Cisco Unified Computing System B- and C-Series servers. The course teaches how to deploy, configure, and manage UCS servers with consolidated I/O networking for LAN and SAN connectivity, including multi-hop FCoE and virtualize server properties to enable simple and rapid mobility of server OS images between physical servers. In the lab, students will implement mobile service profiles, upgrade firmware, configure a multi-tenant management model, configure HA and fault tolerance, back up and restore system configurations, and use the built-in monitoring and troubleshooting tools. Students will also install and configure VMware VM-FEX and VM-FEX Universal Pass-Through Mode with the Cisco Virtual Interface Card on the Cisco UCS infrastructure.

Who Should Attend

This course provides in-depth technical training for system engineers, data center designers, and data center administrators who need to deploy, configure, and manage the Cisco Unified Computing System.

Prerequisites

- Understanding of Server System design and architecture
- Familiarity with Ethernet and TCO/IP Networking
- Familiarity with SANs
- Familiarity with Fibre Channel Protocol
- Understanding of Cisco Enterprise Data Center Architecture
- Familiarity with hypervisor technologies (VMware vSphere, Microsoft Hyper-V, Red Hat KVM, Citrix Xen

Learning Objectives

- Describe Implementing C-Series System Architecture and Hardware components in UCS Manager 2.1
- Describe the Cisco UCS B-Series Management and System Architecture in UCS Manager 2.1
- Describe Implementing B-Series System Architecture and Hardware components in UCS Manager 2.1
- Describe Provisioning the Cisco UCS Compute Resources Describe Cisco UCS VM-FEX Technology in UCS Manager 2.1

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Module 1: Implement Cisco UCS C-Series Rack Server

Lesson 1: Implementing Cisco R-Series Rack Enclosures

Lesson 2: Installing Cisco UCS C-Series Servers

Lesson 3: Installing Cisco UCS C-Series Servers in a Cisco R-Series Rack Enclosures

Lesson 4: Updating Cisco UCS C-Series Firmware with the Host Upgrade Utility

Lesson 5: Server Configuration Utility

Lesson 6: Provisioning monitoring and logging on the Cisco UCS C-Series Server

Lesson 7: Provisioning LAN and SAN connectivity in the CIMC

Lesson 8: Provisioning Raid on the C-Series Server

Lesson 9: Installing VMware ESXi on the C-Series server local RAID array

Module 2: Manage the Cisco UCS B-Series

Lesson 1: Implementing Role Based Access Control

Lesson 2: Managing and Upgrading UCS B-Series Firmware

Lesson 3: Implementing Backup, Import and Restore of the Cisco UCS Manager Database

Lesson 4: Implementing Logging and Monitoring

Lesson 5: Implementing High Availability

Module 3: Implement Cisco UCS B-Series Connectivity

Lesson 1: Implementing Cisco UCS B-Series Physical Connectivity

Lesson 2: Installing Cisco UCS B-Series Hardware

Lesson 3: Implementing Cisco UCS B-Series LAN Connectivity

Lesson 4: Implementing Cisco UCS B-Series SAN Connectivity

Module 4: Provision Cisco UCS Compute Resources

Lesson 1: Provisioning the Cisco UCS Cluster

Lesson 2: Provisioning LAN Networking

Lesson 3: Provisioning SAN Networking

Lesson 4: Provisioning Resource Pools in Cisco UCS Manager

Lesson 5: Provisioning Server Policies in Cisco UCS Manager

Lesson 6: Provisioning Service Profiles from Templates in Cisco UCS Manager

Lesson 7: Provisioning Cisco UCS C-Series Server Integration in Cisco UCS Manager

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Module 5: Implement Cisco UCS Server Virtualization Features

Lesson 1: Provisioning Cisco VM-FEX and Cisco VM-FEX Universal Pass-Through Mode

Lesson 2: Provisioning Cisco VM-FEX

Lesson 3: Provisioning Cisco VM-FEX Universal Pass-Through Mode

Lab 1: Perform initial C-series Configuration

Lab 2: Update Cisco UCS C-Series firmware from the Host Update Utility

Lab 3: Implementing LAN and SAN Connectivity

Lab 4: Installing VMware ESXi on local RAID and verify SAN connectivity

Demonstration 1: Provision Initial B-Series Configuration

Lab 5: Provisioning Cisco UCS Ethernet Connectivity and Management IP Pools

Lab 6: Configure Role Based Access Control

Lab 7: Backup and Restore the UCS Manager Database objects

Lab 8: Configure Logging in Cisco UCS

Lab 9: Provisioning Identity and Resource Pools

Lab 10: Provisioning Mobile Service Profiles from Updating Templates

Lab 11: Test High Availability

Lab 12: Provisioning M81KR Cisco VM-FEX

Lab 13: Provisioning M81KR Cisco VM-FEX Universal Pass Thru