



VDCDI - VersaStack for Data Center Design and Implementation

Course ID #: 1575-125-v1-W

Hours: 28

Course Content

Course Description:

The Cisco-IBM VersaStack validated virtual data center design represents the latest converged infrastructure featuring the Cisco Unified Computing System computing, Nexus 9000, MDS and Nexus 1000V networking, IBM Storwize 7000 storage and VMware virtualization platforms. This five day seminar is intended for network architects, system engineers, channel partners, resellers, server, network, SAN and storage administrators that will be planning, designing, implementing and managing VersaStack solutions. The program will combine planning and design activities that establish key system parameters with the end-to-end configuration and management of a physical VersaStack environment. Upon completion of the program, attendees will have designed and configured compute, network, storage and virtualization platforms and emerging with a detailed, practical methodology for swift, repeatable VersaStack deployments.

Target Student:

Network Architects, System Engineers, Channel Partners, Resellers, Server, Network, SAN and Storage Administrators

Topics:

Module 1: Review the VersaStack for Data Center Architecture

- Describe the Reference Hardware Configuration
- Identify the Software Revisions for Platform Components

Module 2: VersaStack Global Configuration Guidelines

- Describe VersaStack VLAN and VSAN Usage
- Identify VMware Virtual Machine Requirements
- Present Management Addressing, Device Hostname and VLAN ID Variables

- Describe VersaStack Cabling and Device Connectivity

Module 3: VersaStack System Build Process

- Validate VersaStack Cabling Requirements
- Configuring the Cisco Nexus 9396 Switches
- Configuring the Cisco MDS 9148S Fibre Channel Switches
- Configuring the IBM Storwize V7000 Storage
- Configuring and Provision Cisco UCS Servers
- Configuring Fibre Channel Zoning
- Configuring and Validate SAN Boot Setup
- Configuring and Administer VMware vSphere



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- Configuring V7000 File Module Setup
- Installation and Configuration of the Cisco Nexus 1000V

Module 4: Configuring the Cisco Nexus 9396

Switches

- Review Important Design Parameters for Successful Nexus 9000 Deployment
- Perform Nexus 9000 Network Initial Configuration Setup
- Enable Nexus 9000 Features and Settings
- Create VLANs for VersaStack Traffic
- Configure the Virtual Port Channel Domain, Interfaces and Peer Link
- Configure Network Interfaces Connecting to the UCS Fabric Interconnects
- Configure In-band Management Access for Servers and Virtual Machines

Module 5: Configuring the Cisco MDS 9148S

Switches

- Review Important Design Parameters for Successful MDS 9148 Deployment
- Perform MDS 9148 Network Initial Configuration Setup
- Enable MDS Features and Settings
- Create VSANs and SAN Port Channel Connectivity to UCS Fabric Interconnects

Module 6: Configuring the IBM Storwize

Storage System Switches

- Review Important Design Parameters for Successful Storwize V7000 Deployment
- Securing Web Access to the Storwize V7000 Service and Management GUI
- Perform Storwize V7000 Initial Configuration Setup

Module 7: Configuring Cisco Unified Computing System

- Review Important Design Parameters for Successful Cisco Unified Computing System Deployment
- Perform a UCS Cluster Reset and Initialization
- Configure Server, Uplink and Fibre Channel Interfaces
- Configure Chassis Discovery, Enable Network Timing Protocol
- Create Management IP Pool for KVM Access
- Create VLANs and VSANs for LAN and SAN Connectivity
- Create Server Pools
- Create Resource Identity Pools (UUID, MAC, WWNNs and WWPNS)
- Create BIOS, Maintenance and Firmware Policies
- Create vNIC and vHBA Templates
- Create SAN Boot Policy
- Create Service Profile Template
- Create Service Profiles

Module 8: Configuring Cisco MDS SAN Parameters

- Review Important Design Parameters for Successful Cisco MDS SAN Deployment
- Create VSANs for SAN Fabrics
- Create Device Aliases for Server Initiators and Storage Targets
- Create Zones to Support SAN Boot Policy
- Create and Activate Zonesets on Each Fabric



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Module 9: Configuring Fibre Channel LUNs on the Storwize Storage System

- Review Important Design Parameters for Successful IBM Storwize SAN Deployment
- Create Fibre Channel Boot Volumes Using the IBM Storwize V7000 GUI
- Create NFS Volumes Using the IBM Storwize V7000 GUI
- Create the Fibre Channel Hosts
- Map the Boot Volume to the ESXi Hosts

Module 10: Installing VMware ESXi onto Cisco Unified Computing System

- Review Important Design Parameters for Successful VMware ESXi SAN Boot onto Cisco UCS
- Associate the ESXi Service Profile to the B-series
- Map the VMware ESXi .iso Installer Image
- Install ESXi
- Configure the ESXi Management Network Parameters

Module 11: Installing and Configuring VMware vCenter Server, vSphere Client and vSphere Update Manager

- Review Important Design Parameters for Successful VMware vCenter, vSphere Client and vSphere Update Manager Installation
- Install and Configure VMware vCenter Server
- Add ESXi Hosts to vCenter Server, vSphere Client and vSphere Update Manager (VUM)
- Configure Virtual Networking Parameters
- Map NFS Volumes to ESXi Hosts Using the IBM Storwize GUI

Module 12: Configuring IBM Storwize V7000 File Modules

- Review Important Design Parameters for Successful Configuration of IBM Storwize V7000 File Modules
- Initialize the IBM Storwize V7000 File Modules
- Delete and Recreate Network Associations that are LACP Compliant
- Configure IBM Storwize Virtual Port Channels on Nexus 9000 Switches
- Create and Export an NFS Datastore
- Add the NFS Volumes to the ESXi Hosts Using vSphere Client

Module 13: Installing the Cisco Nexus 1000V Using the Virtual Switch Update Manager

- Review Important Design Parameters for Successful Installation and Configuration of the Cisco Nexus 1000V
- Review the Nexus 1000V Architecture
- Configure the ESXi Virtual Networking to Accommodate the Nexus 1000V Installation and Connectivity
- Deploy the Nexus 1000V Virtual Supervisor Module (VSM) Using the .ova Image
- Install the Nexus 1000V Using the Cisco Virtual Switch Update Manager
- Configure the Primary VSM Using the NX-OS Command Line Interface
- Migrate Networking Components for ESXi Hosts to the Nexus 1000V
- Install the Virtual Ethernet Module (VEM) Onto The ESXi Hosts
- Validate VSM to VEM Connectivity



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Module 14: Review the VersaStack for Data Center Bill of Materials (BOM)

- IBM Storwize V7000 Storage Platform
- Cisco Nexus 9300 Series Switch
- Cisco NDS 9100 Series Fibre Channel Switch
- Cisco Unified Computing System