

Designing Cisco Data Center Infrastructure (DCID)

Course Summary

Description

Designing Cisco Data Center Infrastructure (DCID) v6.0 is a five-day instructor-led course that focuses on data center design based on Cisco solutions. The course includes theoretical content, as well as design oriented case studies that are in the form of activities. The course is designed to help students prepare for Cisco CCNP Data Center certification and for professional-level data center roles.

The course includes information on designing data centers with Cisco components and technologies. It covers network designs with virtualization, Layer 2 and Layer 3 technologies and routing protocols, and data center interconnect design options. Also covered are device virtualization technologies such as virtual data centers and network function virtualization with virtual appliances including virtual switches, virtual routers, and virtual firewalls. Storage and SAN design is covered, with explanation of Fibre Channel networks and Cisco Unified Fabric. Design practices for the Cisco Unified Computing System (UCS) solution based on Cisco UCS B-Series and C-Series servers and Cisco UCS Manager are covered. Network management technologies include UCS Manager, Cisco Prime Data Center Network Manager, and Cisco UCS Director.

Objectives

By the end of this course, students will be able to:

- Describe Layer 2 switching and Layer 3 forwarding in a data center, including cabling and rack design for the access, aggregation, and core layers.
- Design vPC, Cisco FabricPath, OTV, and LISP in customer scenarios and describe management options in the LAN.
- Describe hardware virtualization and FEX technologies, compare the Cisco Nexus 1000v with VMFEX designs, discuss data center security threats and Cisco Virtual Application Container Services for IaaS, and describe management and automation options for the data center infrastructure.
- Describe storage and RAID options, describe the Fibre Channel concept and architecture, and design Fibre Channel and FCoE networks, along with management options.
- Describe the UCS C-Series, M-Series, and B-Series servers, with connectivity and adapter options. For the UCS B-Series deployment, you will be able to describe the blade chassis, I/O modules, and fabric interconnects, with a focus on south- and northbound connectivity and oversubscription.
- Compare the EHV and NPV network operations modes. Explain and distinguish among the different system integrated stack solutions and the management options for the UCS domains.
- Design the resource parameters for a UCS domain, starting with the setup and IP concepts, RBAC, and integration with authentication servers. Design the resource pools and policies used in UCS service profiles and templates.

Topics

- Data Center Network Connectivity Design
- Data Center Infrastructure Design
- Data Center Storage Network Design
- Data Center Compute Connectivity Design
- Data Center Compute Resource Parameters Design

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Course Summary (cont'd)

Audience

This course is designed for:

- Data center designers, data center administrators, and system engineers
- Data center engineers and managers
- Program and project managers
- System engineers and managers

Prerequisites

The knowledge and skills that a learner should have before attending this course include:

- Implement data center networking (LAN and SAN)
- Describe data center storage
- Implement data center virtualization
- Implement Cisco Unified Computing System
- Implement data center automation and orchestration with the focus on Cisco ACI and UCS Director
- Describe products in the Cisco Data Center Nexus and MDS families

Duration

Five days

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Course Outline

- I. **Data Center Network Connectivity Design**
 - A. Describing High Availability on Layer 2
 - 1. Error Detection
 - 2. UDLD Configuration
 - 3. High Availability on Layer 2
 - 4. RSTP and MSTP
 - 5. Layer 2 Protocols and Layer 2 Fabrics
 - 6. Layer 2 Scalability Limitations
 - 7. Layer 2 Newer Scaling Technologies
 - 8. Virtual Port Channels
 - 9. vPC Use Cases
 - 10. Cisco FabricPath
 - 11. Cisco FabricPath Simplicity and Usability in the Data Center
 - 12. Cisco FabricPath Technology, Architecture, and CE
 - 13. Conversational MAC Learning and IS-IS
 - 14. Multidestination Trees and Data Encapsulation
 - 15. Transparent Interconnection of Lots of Links
 - 16. Layer 2 Technologies in the Data Center
 - 17. Challenge
 - B. Describing Layer 3 Forwarding
 - 1. Layer 2 Error Detection
 - 2. High Availability on Layer 3
 - 3. Comparing First Hop Redundancy Protocols
 - 4. Hot Standby Router Protocol
 - 5. HSRP Within the Data Center
 - 6. Virtual Router Redundancy Protocol
 - 7. Gateway Load Balancing Protocol
 - 8. IPv6 in Data Centers
 - 9. Routing Protocols in Data Center Networks
 - 10. Routing Design and Policy Based Routing
 - 11. Routing Protocol Security
 - 12. Neighbor Authentication
 - 13. Control Plane Policing and Protection
 - 14. Routing Protocols High Availability
 - 15. Centralized and Distributed Forwarding
 - 16. Layer 3 Technologies Within Data Centers
 - 17. Challenge
 - C. Designing Data Center Topologies
 - 1. Data Center Traffic Flows
 - 2. Cabling Challenges
 - 3. Direct-Connect vs. Distributed Cabling
 - 4. EoR vs. MoR vs. ToR
 - 5. ToR with Cisco Nexus 2000 Series FEX
 - 6. Data Center Access: vPC
 - 7. Data Center Access: FEX
 - 8. Data Center Access: Unified Fabric
 - 9. Data Center Aggregation: Services
 - 10. Data Center Aggregation: Unified Fabric
 - 11. Data Center Aggregation: IP-Based Storage
 - 12. Data Center Core: Layer 3
 - 13. Data Center Core: Layer 2
 - 14. Data Center Core: Collapsed Core with VDCs
 - 15. Need for Spine-Leaf Architecture
 - 16. Spine-Leaf Architecture Overview
 - 17. Migration to Spine-Leaf Fabric
 - 18. Challenge
 - D. Designing Data Center Interconnects with Cisco OTV
 - 1. Cisco OTV Overview
 - 2. Cisco OTV Components
 - 3. Cisco OTV Control Plane
 - 4. Cisco OTV Control Plane Using Multicast
 - 5. Cisco OTV Control Plane Using Unicast
 - 6. Cisco OTV Data Plane
 - 7. Failure Isolation: STP
 - 8. Failure Isolation: Unicast Storms
 - 9. Failure Isolation: ARP Traffic
 - 10. Cisco OTV Multi-Homing
 - 11. Cisco OTV Mobility
 - 12. Cisco OTV Scalability
 - 13. Cisco OTV Path Optimization: Egress Routing
 - 14. Cisco OTV Path Optimization: Ingress Routing
 - 15. Cisco OTV VLAN Translation Feature
 - 16. FabricPath and VXLAN vs. Cisco OTV as the DCI
 - 17. Cisco OTV Support
 - 18. Challenge
 - E. Designing a LISP Solution
 - 1. LISP Overview
 - 2. LISP Terms and Components
 - 3. LISP Packet Flow
 - 4. LISP Control Plane
 - 5. Use Case: LISP Host Mobility Overview

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Course Outline (cont'd)

6. LISP Host Mobility Deployment Models
 7. Use Case: Multi-Tenant Environments
 8. Use Case: IPv6 Enablement
 9. Cisco Nexus 7000 as a Platform for LISP
 10. Challenge
- II. Data Center Infrastructure Design**
- A. Describing Hardware and Device Virtualization**
1. Hardware High Availability and Redundancy
 2. Device-Based Network Virtualization
 3. VLAN and VRF Principle
 4. VDC Architecture
 5. VDC Use Case
 6. Network Virtualization
 7. Server Hardware
 8. Universally Unique Identifiers
 9. World Wide Name
 10. Service Profile Summary
 11. Server Virtualization
 12. Virtual Access Layer
 13. Virtual Access Layer Solutions
 14. Storage Virtualization
 15. VSAN Primary Functions
 16. VSAN Numbering
 17. VSAN Membership
 18. VSAN Tagging
 19. Inter-VSAN Routing
 20. IVR Terminology
 21. NPIV Use Case
 22. NPV Use Case
 23. NPV and NPIV Hardware Support
 24. NPV Traffic Distribution
 25. Challenge
- B. Describing FEX Options**
1. Cisco Adapter FEX
 2. Cisco Adapter FEX Scalability
 3. Cisco Adapter FEX Use Cases
 4. Access Layer with Cisco FEX
 5. Cisco FEX Port Types
 6. Cisco FEX Access Topologies
 7. Cisco VM-FEX
 8. Virtualization-Aware Networking
 9. VN-Tag Frame Format
 10. Cisco VM-FEX Traffic Flow
 11. Cisco VM-FEX Traffic Modes
 12. Dynamic Interfaces
- C. Describing Virtual Networking**
1. Hypervisor Extensions
 2. Cisco Nexus 1000V Architecture Principles
 3. Cisco Nexus 1000V Components Communication
 4. Cisco Nexus 1000V VSM-VEM Layer 2 Connectivity
 5. Cisco Nexus 1000V VSM-VEM Layer 3 Connectivity
 6. Cisco Nexus 1010 Virtual Services Appliance
 7. Cisco Nexus 1000V Architecture High-Availability Communication
 8. Cisco Nexus 1000V Licensing Model
 9. Cisco Nexus 1000V Licensing Types
 10. Cisco Nexus 1000V License Editions
 11. Cisco Nexus 1000V Multi-Hypervisor Licensing
 12. Hypervisor Extension Scale
 13. Hypervisor Extension Compatibility
 14. VXLAN on Cisco Nexus 1000V
 15. VXLAN Unicast-Only Mode on Cisco Nexus 1000V
 16. MAC Address Distribution with VXLAN on Cisco Nexus 1000V
 17. VXLAN Trunking on Cisco Nexus 1000V
 18. Cisco vPath on Cisco Nexus 1000V
 19. Cisco vPath Service Chaining Architecture
 20. Cisco Nexus 1000V Interface Types
 21. Cisco Nexus 1000V Port Profiles and Port Groups
 22. Cisco Nexus 1000V Port Profiles Hierarchy
 23. Cisco Nexus 1000V Port Profiles Characteristics
 24. Policy-Based VM Connectivity Using Port Profiles
 25. Mobility of Network and Security Properties
 26. Cisco Nexus 1000V Series Security
 27. Virtual Networking Technologies in the Data Center
 28. Challenge

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Course Outline (cont'd)

- D. Describing Basic Data Center Security
 - 1. Threats in Data Centers
 - 2. Switched Infrastructure Attack Countermeasures
 - 3. DHCP Server Spoofing
 - 4. DHCP Starvation
 - 5. DHCP Snooping
 - 6. ARP Spoofing: Man-in-the-Middle Attack
 - 7. Dynamic ARP Inspection
 - 8. IP Source Guard
 - 9. Unicast Reverse Path Forwarding
 - 10. Traffic Storm Control
 - 11. Device Compromise Threat
 - 12. Traffic Capture and Injection Threat
 - 13. Device and Link DoS Threat
 - 14. Management Plane Security
 - 15. Management Plane Countermeasures
 - 16. Management Plane Security Features
 - 17. Device Hardening
 - 18. Control Plane Countermeasures
 - 19. Control Plane Security
 - 20. Control Plane Policing
 - 21. Control Plane Protection
 - 22. CoPP Enhancements on Cisco Nexus 7000
 - 23. User Management Features
 - 24. Authentication, Authorization, and Accounting
 - 25. RBAC with AAA
 - 26. User Accounts and Roles
 - 27. User Role Rules
 - 28. Challenge
- E. Describing Advanced Data Center Security
 - 1. Enclave Architecture
 - 2. Cisco TrustSec Architecture
 - 3. Cisco TrustSec Principle
 - 4. Cisco TrustSec Authentication
 - 5. Cisco TrustSec: Security Group Tags
 - 6. Cisco TrustSec: Admission Control
 - 7. Cisco TrustSec: SGACL Enforcement
 - 8. Cisco TrustSec: Link Security
 - 9. Cisco TrustSec: Ingress Access Control
 - 10. Data Center Firewalls
 - 11. Firewall Characteristics
 - 12. Firewall Deployment Options
 - 13. Firewall Modes
 - 14. Firewall Virtualization
- 15. Cisco ASA Virtualization Deployment Choices
- 16. Positioning the Firewall Within Data Center Networks
- 17. Cisco FirePOWER Portfolio
- 18. FireSIGHT Controlling FirePOWER
- 19. FirePOWER Service Integration in Cisco ASA
- 20. FirePOWER Services Support
- 21. Cisco ASA Clustering Integration
- 22. Cisco ASA Clustering Performance
- 23. Threat Management with NextGen IPS
- 24. Threat Management with NextGen IPS Design Options
- 25. Threat Management with NextGen IPS Design Principles
- 26. Challenge
- F. Describing Virtual Appliances
 - 1. Cisco ASAv in the Data Center
 - 2. Cisco ASAv Architecture and Design Principles
 - 3. Cisco ASAv High Availability
 - 4. Cisco ASAv Scalability and Performance
 - 5. Cisco ASAv Deployment: Public Cloud
 - 6. Cisco ASAv Deployment with NAT
 - 7. VSG vs. Cisco ASAv and Cisco ASA 1000V
 - 8. Cisco VSG in the Data Center
 - 9. Cisco VSG Architecture
 - 10. Cisco VSG Scalability and Performance
 - 11. Cisco ASAv and Cisco VSG—3-Tier Server Zone Use Case
 - 12. Cisco CSR 1000V Architecture
 - 13. Cisco CSR 1000V Box-to-Box Availability
 - 14. Cisco CSR 1000V Feature and Technology Packages
 - 15. Cisco CSR 1000V Licensing Management
 - 16. Cisco CSR 1000V Scalability and Performance
 - 17. Cisco CSR 1000V Use Cases
 - 18. Cisco ITD in the Data Center
 - 19. Cisco ITD Comparison with Traditional Load-Balancer
 - 20. Cisco ITD Architecture

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21. Cisco ITD Scalability and Performance
22. Cisco ITD Load-Balance Selective Traffic
23. Cisco Prime NAM in the Data Center
24. Cisco Prime NAM Product Family
25. Cisco Prime vNAM Key Features
26. Cisco Prime vNAM Use Case: VM-Level Visibility
27. Cisco Virtual Application Container Services
28. Cisco VACS Architecture
29. Cisco VACS Requirements
30. Cisco VACS Scalability and Performance
31. Cisco VACS Use Case
32. Challenge
- G. Describing Management and Orchestration
 1. Cisco Prime Network Services Controller
 2. Cisco Prime Network Services Controller—Features
 3. Cisco Prime Network Services Controller—Requirements
 4. Cisco Prime Network Services Controller—Deployment
 5. Cisco UCS Director
 6. Cisco UCS Director—Principle
 7. Cisco UCS Director—Management Capabilities
 8. Cisco UCS Director Network Configuration and Administration
 9. Cisco UCS Director Network Monitoring and Reporting
 10. Challenge
- III. **Data Center Storage Network Design**
 - A. Describing Storage and RAID Options
 1. Place Storage Technologies in the Data Center
 2. Direct Attached Storage
 3. SSD Performance Comparison
 4. DAS Use Case
 5. Network-Attached Storage
 6. NAS Use Case
 7. Fibre Channel Storage Area Network
 8. Fibre Channel Storage Use Case
 9. Fibre Channel over Ethernet
 10. FCoE Use Case
 - B. Describing Fibre Channel Concepts
 1. Fibre Channel Topologies
 2. Fibre Channel Ports
 3. Fibre Channel Port Speeds
 4. Fibre Channel Concepts
 5. Fibre Channel Addressing: WWN, NWWN, PWWN
 6. Fibre Channel Addressing: FCID
 7. Fibre Channel Flow Control
 8. Buffer-to-Buffer and Credit-Based Flow Control
 9. FSPF Routing
 10. FSPF Routing Characteristics
 11. Fibre Channel Services
 12. Fibre Channel Device Login Process
 13. Configuring the Fabric Via BF or RFC
 14. Fibre Channel Use Case: Fibre Channel Address Design (Scalability)
 15. NPIV Mode
 16. NPV Mode vs. Fibre Channel Switching Mode
 17. Storage Virtualization
 18. Zoning and VSANs
 19. Storage Trunking and Fibre Channel Port Channels
 20. Challenge
 - C. Describing Fibre Channel Topologies
 1. Fibre Channel SAN Dual Fabric Design
 2. Fibre Channel Fan-In, Fan-Out, and Oversubscription
 3. Calculation of Fan-In, Fan-Out and ISL Oversubscription
 4. Fibre Channel Core-Edge Design
 5. Evaluating Core-Edge Fabric
 6. Core-Edge Design Example
 7. Fibre Channel Collapsed Core-Edge Design
 8. Evaluating Collapsed-Core Design
11. Internet Small Computer Systems Interface
12. Compare Storage Performance in Data Center
13. RAID Options
14. Host to Storage Fibre Channel Multipathing
15. ESXi Multipathing with ALUA Storage Array
16. MPIO ALUA on NetApp Cluster Use Case
17. Challenge

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Course Outline (cont'd)

9. Fibre Channel Collapsed Core-Edge Design Example
 10. Fibre Channel Edge-Core-Edge Design
 11. Evaluating the Fibre Channel Edge-Core-Edge Design
 12. Fibre Channel Edge-Core-Edge Design Example
 13. Choosing a Fibre Channel Design Solution
 14. ToR and MoR Physical Topology
 15. Entry-Level SAN Solution
 16. Performance Advantages with Cisco MDS 9710 Series Switches
 17. Fibre Channel SAN Extension Solutions
 18. Scale Numbers on Cisco MDS Series Switches
 19. Challenge
 - D. Describing FCoE
 1. FCoE Overview
 2. FCoE Standards
 3. FCoE vs. Fibre Channel Stack
 4. FCoE Benefits
 5. Data Center Bridging
 6. IEEE 802.1Qbb PFC
 7. IEEE 802.1Qaz ETS
 8. IEEE 802.1az DCBX
 9. FCoE Elements and Ports
 10. Fabric-Provided MAC Address
 11. FCoE Forwarding
 12. FCoE Initialization Protocol
 13. FIP Process
 14. FCoE vs. FIP
 15. FCoE NPV
 16. FCoE Single-Hop Topology
 17. FCoE FEX Topology
 18. FCoE Remote-Attached Topology
 19. FCoE Multihop Topology
 20. Dynamic FCoE
 21. Fibre Channel vs. FCoE Data Center Design
 22. Challenge
 - E. Describing Storage Security
 1. Secure SAN Design
 2. Fibre Channel SAN and IP SAN Security Features
 3. Zoning
 4. Zoning Basics
 5. Smart Zoning vs. Regular Zoning
 6. Basic vs. Enhanced Zoning
 7. Zone Merge
 8. Zoning and VSANs
 9. IVR Zones
 10. LUN Masking and LUN Zoning
 11. Storage Port Security
 12. DH-CHAP Authentication
 13. Other Fabric Access Security Options
 14. IPsec Tunnel Encryption for FCIP or IP-SAN Security
 15. Cisco MACsec Link Encryption for MAC-Layer Security
 16. Cisco TrustSec Link Encryption
 17. Challenge
 - F. Describing Management and Orchestration
 1. SAN Device Virtualization
 2. Cisco Prime DCNM for SAN
 3. Cisco UCS Director in SAN
 4. Designing Cisco UCS Director Workflow for Storage Provisioning
 5. Challenge
- #### IV. Data Center Compute Connectivity Design
- A. Describing Cisco UCS C-Series Servers and Use Cases
 1. Cisco UCS C-Series Server Classes and Applications
 2. Cisco UCS C-Series Server Use Cases
 3. Network Cards
 4. Network Cards Functionality
 5. Graphics Processing Units
 6. Storage Accelerators
 7. Local and Centralized Storage Accelerators
 8. Cisco UCS C-Series Server Management
 9. Cisco UCS C-Series Server Centralized Management
 10. Challenge
 - B. Describing Cisco UCS M-Series Servers and Use Cases
 1. Cisco UCS M-Series Servers and System Link Technology
 2. Traditional vs. Disaggregated Servers
 3. Cloud-Scale Computing
 4. Challenge
 - C. Describing Cisco UCS B-Series Servers and Use Cases
 1. Fabric Interconnects
 2. Fabric Interconnect Cabling
 3. Blade Chassis
 4. I/O Module

5. Cisco UCS B-Series Server Adapter

Cards

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- 6. VIC Considerations
- 7. Server Access
- 8. Cisco UCS C-Series Server Integration with a UCS Domain
- 9. Stateless Computing
- 10. Cisco UCS Mini
- 11. Cisco UCS Mini Use Cases
- 12. Challenge
- D. Describing Fabric Interconnect Connectivity
 - 1. Fabric Interconnect Port Personalities
 - 2. Oversubscription Options
 - 3. VLANs in the UCS Domain
 - 4. VSANs in the UCS Domain
 - 5. Southbound Connection
 - 6. Northbound Connection
 - 7. Compare the EHV and Switch Mode
 - 8. NPV and FC Switching Mode
 - 9. Fabric Interconnect High Availability and Redundancy
 - 10. Challenge
- E. Describing Hyperconverged and Integrated Systems
 - 1. Hyperconvergence Overview
 - 2. Cisco HyperFlex
 - 3. HX Platform Overview
 - 4. HX Platform: Scale Out
 - 5. HX Platform: Scale Up
 - 6. Non-Disruptive Operations
 - 7. Continuous Data Optimization
 - 8. Data Services
 - 9. HyperFlex Configurations
 - 10. Integrated Systems Overview
 - 11. Challenge
- F. Describing Management Systems
 - 1. Cisco UCS Manager
 - 2. Cisco UCS Performance Manager
 - 3. VMware vCenter
 - 4. Microsoft Systems Center
 - 5. Cisco UCS Central
 - 6. Cisco UCS Director
 - 7. Challenge
- G. Describing Hadoop, SAP Hana, and IoT on Cisco UCS
 - 1. Introduction to Digital Disruption
 - 2. Converting Big Data into Disruptive Intelligence
 - 3. Introduction to Hadoop
 - 4. Hadoop Principle
 - 5. Introduction to SAP HANA
 - 6. Hadoop vs. SAP HANA
- 7. Use Case: "Smart Train" Predictive Maintenance
- 8. FlexPod for SAP HANA and Hadoop
- 9. Challenge
- V. **Data Center Compute Resource Parameters Design**
 - A. Describing System-Wide Parameters
 - 1. Cisco UCS System Configuration Types
 - 2. Initial System Setup Parameters
 - 3. Server Management IP Address in Cisco UCS
 - 4. Cisco UCS Core Elements and Monitor Interfaces
 - 5. Syslog
 - 6. Cisco UCS and SNMP
 - 7. Global Fault Summary in the GUI
 - 8. CIM XML and SMASH CLP
 - 9. Call Home
 - 10. QoS System Classes
 - 11. Defining the QoS System Class
 - 12. Provisioning a QoS Policy in a Service Profile
 - 13. Virtual Network Overview
 - 14. Multiple vSwitches on a VMware ESX/ESXi Host
 - 15. Cisco UCS B-Series Blade Server with Multiple vSwitches
 - 16. Organizations in Cisco UCS Manager
 - 17. Local Resources in an Organization
 - 18. Organization Inheritance and Name Resolution
 - 19. Challenge
 - B. Describing RBAC
 - 1. Role-Based Access Control
 - 2. Roles and Privileges
 - 3. Default Roles
 - 4. Default Privileges
 - 5. Organizations
 - 6. Organizations Structure
 - 7. Organization Policy Resolution
 - 8. Organization Pool Resolution
 - 9. Locales
 - 10. User Effective Rights
 - 11. User Authentication
 - 12. RADIUS Integration
 - 13. TACACS+ Integration
 - 14. LDAP Integration
 - 15. Authentication Servers Functionality Comparison

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16. Two Factor Authentication in Cisco UCS Manager
17. Two Factor Authentication Mechanism
18. Two Factor Authentication Administration
19. Challenge
- C. Describing Pools for Service Profiles
 1. Scaling Cisco UCS Management with Cisco UCS Central
 2. Global and Local Pools
 3. UUID Use
 4. UUID Format
 5. UUID Suffix Pools
 6. Provisioning UUID Suffix Pools
 7. MAC Address Pools
 8. Provisioning MAC Address Pools
 9. WWN Format
 10. WWNN Pools
 11. Provisioning WWNN Pools
 12. WWPN Pools
 13. Provisioning WWPN Pools
 14. Example: UUID/MAC/WWN Pool Addressing
 15. Server Pools
 16. Provisioning Server Pools
 17. Example: Server Pool Convention
 18. iSCSI Boot Interfaces and Initiator IP Pools
 19. Provisioning iSCSI Initiator IP Pools
 20. Challenge
- D. Describing Policies for Service Profiles
 1. Global vs. Local Policies
 2. Storage Policies
 3. Provisioning a Storage Policy
 4. RAID Levels in a Storage Policy
 5. BIOS Policies
 6. Provisioning a BIOS Policy
 7. Boot Policies
 8. Provisioning a Boot Policy
9. Boot Order Summary
10. IPMI Policies
11. Provisioning an IPMI Policy
12. Cisco UCS Integration with VMware vSphere DPM
13. Scrub Policies
14. Provisioning a Scrub Policy
15. Maintenance Policies
16. Provisioning a Maintenance Policy
17. Challenge
- E. Describing Network Specific Adapters and Policies
 1. LAN Connectivity and VLANs
 2. LAN Connectivity and Uplink Ports
 3. LAN Connectivity and Pin Groups
 4. LAN Connectivity Policy
 5. Fabric Selection and Failover
 6. Fabric Interconnect SAN Connectivity
 7. SAN Connectivity and VSANs
 8. SAN Connectivity and Uplink Ports
 9. SAN Pinning
 10. SAN Connectivity Policy
 11. SAN Adapter Failover
 12. Virtual Interfaces
 13. Virtual Network Interface Connections
 14. Cisco VM-FEX
 15. Host View with Cisco VM-FEX: One Network
 16. Cisco VM-FEX Operational Model
 17. Cisco VM-FEX in High-Performance Mode with vMotion
 18. UniDirectional Link Detection
 19. Provision UDLD in Cisco UCS
 20. Cisco usNIC
 21. VMQ Support
 22. Challenge
- F. Describing Templates in Cisco UCS Manager
 1. Cisco UCS Templates
 2. Service Profile Templates
 3. Networking Templates
 4. Challenge