Designing Cisco Data Center Unified Computing v5.0 - DCUCD (Professional)

Course Details

Course Outline

- o **Cisco Data Center Solution Architecture and Components**
  - a. **Identifying Data Center Solutions**
    - Recognize the elements of data center computing solutions
    - Identify consolidation as a relevant data center trend
    - Identify virtualization as a relevant data center trend
    - Evaluate the business challenges of the contemporary data center solutions
    - Evaluate the environmental challenges of the contemporary data center solutions
    - Describe the technical challenges of the contemporary data center solutions
  - b. **Identifying Data Center Applications**
    - Describe common data center applications
    - Describe server virtualization characteristics
    - Describe desktop virtualization characteristics
  - c. **Identifying Cloud Computing**
    - Evaluate the cloud computing solution, terms, and general characteristics
    - Recognize cloud computing deployment models
    - Compare cloud computing service delivery categories, the responsibilities demarcation, and their applicability
    - Recognize the aspects of cloud computing services and solutions
  - d. **Identifying Cisco Data Center Architecture and Components**
    - Describe the Cisco Data Center architectural framework
    - Describe the Cisco Data Center architectural framework unified fabric component
    - Describe the Cisco Data Center network equipment
    - Describe the Cisco Data Center architectural framework compute component
    - Describe Cisco Validated Designs
- o **Assess Data Center Computing Requirements**
  - a. **Defining a Cisco Unified Computing System Solution Design**
    - Describe the design process for the Cisco UCS solution
    - Evaluate the design process phases for the Cisco UCS solution
    - Assess the deliverables of the Cisco UCS solution
  - b. **Analyzing Computing Solutions Characteristics**

- Identify performance characteristics
- Assess server virtualization performance characteristics
- Assess desktop virtualization performance characteristics
- Assess small VMware vSphere deployment requirements
- Assess small Hyper-V deployment requirements
- Assess VMware VDI deployment requirements

c. Employing Data Center Analysis Tools
- Evaluate reconnaissance and analysis tools
- Discuss general steps of running an analysis with the selected tool
- Perform existing computing solution analysis with VMware Capacity Planner
- Perform VMware vSphere analysis with VMware CapacityIQ
- Perform existing computing solution analysis with Microsoft Assessment and Planning Toolkit
- Evaluate the Cisco UCS TCO/ROI Advisor tool

- **Size Cisco Unified Computing Solutions**

a. Sizing the Cisco UCS C-Series Server Solution
- Recognize general steps for Cisco UCS C-Series server selection
- Identify the requirements of Cisco UCS C-Series integration with Cisco UCS Manager
- Select proper Cisco UCS C-Series server hardware based on the requirements for a given small VMware vSphere environment
- Select proper Cisco UCS C-Series server hardware based on the requirements for a given small Hyper-V vSphere environment

b. Sizing the Cisco UCS B-Series Server Solution
- Recognize the general Cisco UCS B-Series server hardware sizing aspects
- Describe an example of gathering requirements for a given VMware View desktop virtualization solution

c. Planning Unified Computing Deployment
- Recognize the Cisco Power Calculator tool
- Propose a physical deployment plan

- **Design Cisco Unified Computing Solutions**

a. Designing the Unified Computing Network
- Recognize the network operational modes of the Cisco UCS 6200 Series Fabric Interconnects
- Understand Cisco UCS network connectivity
- Recognize Layer 2 disjoint domain concepts and implications
- Define the network high-availability mechanisms for Cisco UCS network connectivity
- Define the VM-FEX requirements for the Cisco UCS B- and C-Series

b. Designing Unified Computing Storage

- Recognize SAN operational modes of Cisco UCS 6200 Series Fabric Interconnects
- Understand SAN connectivity design aspects
- Define the SAN high-availability mechanisms for Cisco UCS 6200 Series Fabric Interconnects

 c. Designing the Virtual Access Layer

- Identify and describe the Cisco Nexus 1000V
- Identify and describe Cisco Nexus 1000V integration with VMware vCenter

- **Design Cisco Unified Computing Solutions Server Deployment**

 a. Designing Cisco UCS Server Deployment

- Identify the aspects of the server deployment
- Define the common naming convention for given solutions
- Define the UUID addressing for given solutions
- Define the MAC addressing for given solutions
- Define the WWN addressing for given solutions
- Define the common policies for hosts of a given solution

 b. Designing Unified Computing Management

- Define the Cisco UCS management access
- Define the organizational hierarchy within Cisco UCS configuration
- Define the remote management connectivity characteristics

- **Cisco Unified Computing Solution Applications**

 a. Designing Cisco Unified Communications on Cisco UCS

- Recognize Cisco Unified Communications solutions
- Assess Cisco Unified Communications characteristics
- Describe the two options for deploying Cisco Unified Communications on Cisco UCS

 b. Designing Distributed Computing on Cisco UCS

- Recognize distributed computing solutions and applications
- Understand general Hadoop architecture
- Assess general Hadoop performance characteristics
- Design Cisco UCS for the Greenplum MR Hadoop solution

- **Lab**

- Analyze the Existing Computing Solution
- Size the Cisco UCS C-Series Solution
- Size the Cisco UCS B-Series Solution
- Plan the Physical Deployment
- Design Microsoft Hyper-V R2 Deployment on Cisco UCS
- Design VMware vSphere Deployment and Integration with Cisco UCS
- Design VMware vSphere Deployment on Cisco UCS and Cisco Nexus 1000V