

Course Details : Theory Outline

Implementing Data Center Switching Protocols:

- Spanning Tree Protocol
- Port Channels Overview
- Virtual Port Channels Overview

Implementing First-Hop Redundancy Protocols:

- Hot Standby Router Protocol (HSRP) Overview
- Virtual Router Redundancy Protocol (VRRP) Overview
- First Hop Redundancy Protocol (FHRP) for IPv6

Implementing Routing in Data Center:

- Open Shortest Path First (OSPF) v2 and Open Shortest Path Protocol (OSPF) v3
- Border Gateway Protocol

Implementing Multicast in Data Center:

- IP Multicast in Data Center Networks
- Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD)
- Multicast Distribution Trees and Routing Protocols
- IP Multicast on Cisco Nexus Switches

Implementing Data Center Overlay Protocols:

- Cisco Overlay Transport Virtualization
- Virtual Extensible LAN

Implementing Network Infrastructure Security:

- User Accounts and Role Based Access Control (RBAC)
- Authentication, Authorization, and Accounting (AAA) and SSH on Cisco NX-OS
- Keychain Authentication
- First Hop Security
- Media Access Control Security
- Control Plane Policing

Describing Cisco Application-Centric Infrastructure:

- Cisco ACI Overview, Initialization, and Discovery
- Cisco ACI Management
- Cisco ACI Fabric Access Policies

Describing Cisco ACI Building Blocks and VMM Domain Integration:

- **Tenant-Based Components**
- **Cisco ACI Endpoints and Endpoint Groups (EPG)**
- **Controlling Traffic Flow with Contracts**
- **Virtual Switches and Cisco ACI VMM Domains**
- **VMM Domain EPG Association**
- **Cisco ACI Integration with Hypervisor Solutions**

Describing Packet Flow in Data Center Network:

- **Data Center Traffic Flows**
- **Packet Flow in Cisco Nexus Switches**
- **Packet Flow in Cisco ACI Fabric**

Describing Cisco Cloud Service and Deployment Models:

- **Cloud Architectures**
- **Cloud Deployment Models**
- **Describing Data Center Network Infrastructure Management, Maintenance, and Operations**
- **Time Synchronization**
- **Network Configuration Management**
- **Software Updates**
- **Network Infrastructure Monitoring**

Explaining Cisco Network Assurance Concepts:

- **Need for Network Assurance**
- **Cisco Streaming Telemetry Overview**

Implementing Fibre Channel Fabric:

- **Fibre Channel Basics**
- **Virtual Storage Area Network (VSAN) Overview**
- **SAN Port Channels Overview**
- **Fibre Channel Domain Configuration Process**

Implementing Storage Infrastructure Services:

- **Distributed Device Aliases**
- **Zoning**
- **N-Port Identifier Virtualization (NPIV) and N-Port Virtualization (NPV)**
- **Fibre Channel over IP**
- **Network Access Server (NAS) Concepts**
- **Storage Area Network (SAN) Design Options**

Implementing FCoE Unified Fabric:

- **Fibre Channel over Ethernet**
- **Describing FCoE**

FCoE Topology Options:

- **FCoE Implementation**

Implementing Storage Infrastructure Security:

- **User Accounts and RBAC**
- **Authentication, Authorization, and Accounting**
- **Fibre Channel Port Security and Fabric Binding**

Describing Data Center Storage Infrastructure Maintenance and Operations:

- **Time Synchronization**
- **Software Installation and Upgrade**
- **Storage Infrastructure Monitoring**

Describing Cisco UCS Server Form Factors:

- **Cisco UCS B-Series Blade Servers**
- **Cisco UCS C-Series Rack Servers**

Implementing Cisco Unified Computing Network Connectivity:

- **Cisco UCS Fabric Interconnect**
- **Cisco UCS B-Series Connectivity**
- **Cisco UCS C-Series Integration**

Implementing Cisco Unified Computing Server Abstraction:

- **Identity Abstraction**
- **Service Profile Templates**

Implementing Cisco Unified Computing SAN Connectivity:

- **iSCSI Overview**
- **Fibre Channel Overview**
- **Implement FCoE**

Implementing Unified Computing Security:

- **User Accounts and RBAC**
- **Options for Authentication**
- **Key Management**

Describing Data Center Unified Computing Management, Maintenance, and Operations*:

- **Compute Configuration Management**
- **Software Updates**
- **Infrastructure Monitoring**
- **Cisco Intersight™**

Implementing Cisco Data Center Automation and Scripting Tools:

- **Cisco NX-OS Programmability**
- **Scheduler Overview**
- **Cisco Embedded Event Manager Overview**
- **Bash Shell and Guest Shell for Cisco NX-OS**
- **Cisco Nexus API**

Describing Cisco Integration with Automation and Orchestration Software Platforms:

- **Cisco and Ansible Integration Overview**
- **Cisco and Puppet Integration Overview**
- **Python in Cisco NX-OS and Cisco UCS**

Describing Cisco Data Center Automation and Orchestration Technologies:

- **Power On Auto Provisioning**
- **Cisco Data Center Network Manager Overview**
- **Cisco UCS Director Fundamentals**
- **Cisco UCS Power Tool**

Lab Outline

- **Configure Overlay Transport Visualization (OTV)**
- **Configure Virtual Extensible LAN (VXLAN)**
- **Explore the Cisco ACI Fabric**
- **Implement Cisco ACI Access Policies and Out-of-Band Management**
- **Implement Cisco ACI Tenant Policies**
- **Integrate Cisco ACI with VMware**
- **Configure Fibre Channel**
- **Configure Device Aliases**
- **Configure Zoning**
- **Configure NPV**
- **Configure FCoE**
- **Provision Cisco UCS Fabric Interconnect Cluster**
- **Configure Server and Uplink Ports**
- **Configure VLANs**
- **Configure a Cisco UCS Server Profile Using Hardware Identities**
- **Configure Basic Identity Pools**
- **Configure a Cisco UCS Service Profile Using Pools**
- **Configure an Internet Small Computer Systems Interface (iSCSI) Service Profile**
- **Configure Cisco UCS Manager to Authenticate Users with Microsoft Active Directory**
- **Program a Cisco Nexus Switch with Python**

