Implementing and Operating Cisco Data Center Core Technologies

Description

The Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.0 course helps you prepare for the Cisco® CCNP® Data Center and CCIE® Data Center certifications and for advanced-level data center roles. In this course, you will master the skills and technologies you need to implement data center compute, LAN and SAN infrastructure. You will also learn the essentials of automation and security in data centers. You will get hands-on experience with deploying, securing, operating, and maintaining Cisco data center infrastructure including: Cisco MDS Switches and Cisco Nexus Switches; Cisco Unified Computing System™ (Cisco UCS®) B-Series Blade Servers, and Cisco UCS C-Series Rack Servers.

Course Content
Module 1: Implementing Data Center Switching Protocols

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

Module 2: Implementing First-Hop Redundancy Protocols

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

Module 3: Implementing Routing in Data Center

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

Module 4: 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

Module 5: Implementing Data Center Overlay Protocols

- Cisco Overlay Transport Virtualization
- Virtual Extensible LAN

Module 6: 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

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- Media Access Control Security
- Control Plane Policing

Module 7: Describing Cisco Application-Centric Infrastructure

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

Module 8: 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

Module 9: Describing Packet Flow in Data Center Network

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

Module 10: Describing Cisco Cloud Service and Deployment Models

- Cloud Architectures
- Cloud Deployment Models

Module 11: Describing Data Center Network Infrastructure Management, Maintenance, and Operations*

- Time Synchronization
- Network Configuration Management
- Software Updates
- Network Infrastructure Monitoring

Module 12: Explaining Cisco Network Assurance Concepts*

- Need for Network Assurance
- Cisco Streaming Telemetry Overview

Module 13: Implementing Fibre Channel Fabric

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

Module 14: Implementing Storage Infrastructure Services

- Distributed Device Aliases
- Zoning
- N-Port Identifier Virtualization (NPIV) and N-Port Virtualization (NPV)
- Fibre Channel over IP

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- Network Access Server (NAS) Concepts
- Storage Area Network (SAN) Design Options

Module 15: Implementing FCoE Unified Fabric

- Fibre Channel over Ethernet
- Describing FCoE
- FCoE Topology Options
- FCoE Implementation

Module 16: Implementing Storage Infrastructure Security

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

Module 17: Describing Data Center Storage Infrastructure Maintenance and Operations

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

Module 18: Describing Cisco UCS Server Form Factors

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

Module 19: Implementing Cisco Unified Computing Network Connectivity

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

Module 20: Implementing Cisco Unified Computing Server Abstraction

- Identity Abstraction
- Service Profile Templates

Module 21: Implementing Cisco Unified Computing SAN Connectivity

- iSCSI Overview
- Fibre Channel Overview
- Implement FCoE

Module 22: Implementing Unified Computing Security

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

Module 23: Introducing Cisco HyperFlex Systems

- Hyperconverged and Integrated Systems Overview
- Cisco HyperFlex Solution

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- Cisco HyperFlex Scalability and Robustness

Module 24: Describing Data Center Unified Computing Management, Maintenance, and Operations

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

Module 25: 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

Module 26: 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

Module 27: Describing Cisco Data Center Automation and Orchestration Technologies*

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

Lab / Exercises

- 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

Documentation

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- Digital courseware included

Exam

- This course prepares you to the 350-601 DCCOR Implementing and Operating Cisco Data Center Core Technologies exam. If you wish to take this exam, please contact our secretariat who will let you know the cost of the exam and will take care of all the necessary administrative procedures for you.

Participant profiles

- Network administrators
- Network ans systems engineers
- Technical solutions architects
- Cisco integrators and partners

Prerequisites

- Familiarity with Ethernet and TCP/IP networking
- Familiarity with SANs
- Familiarity with Fibre Channel protocol
- Understanding of Cisco Enterprise Data Center architecture
- Familiarity with hypervisor technologies (such as VMware)

Objectives

- Implement routing and switching protocols in Data Center environment
- Implement Fibre Channel over Ethernet (FCoE) unified fabric
- Implement security features in data center
- Implement software management and infrastructure monitoring
- Implement Cisco UCS Fabric Interconnect and Server abstraction
- Implement SAN connectivity for Cisco Unified Computing System™ (Cisco UCS®)
- Implement Cisco automation and scripting tools in data center

Niveau
Intermédiaire
Classroom Registration Price (CHF)
4350
Virtual Classroom Registration Price (CHF)
4090
Duration (in Days)
5
Reference
CIS-DCCOR

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