Cisco® Implementing Cisco® Data Center Core Technologies v1.1 (DCCOR)

Overview

The Implementing and Operating Cisco Data Center Core Technologies (DCCOR) v1.1 course helps you prepare for the Cisco® CCNP® Data Center and CCIE® Data Center certifications 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 gain hands-on experience 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. This course also earns you 64 Continuing Education (CE) credits towards recertification. This course may earn a Credly Badge.

Prerequisite Comments

To fully benefit from this course, you should have the following knowledge and skills:

Familiarity with Ethernet and TCP/IP networking
Familiarity with SANs
Familiarity with Fibre Channel protocol
Identify products in the Cisco Data Center Nexus and Cisco MDS families
Understanding of Cisco Enterprise Data Center architecture
Understanding of server system design and architecture
Familiarity with hypervisor technologies (such as VMware)

Target Audience

This course will help you:
Gain experience implementing, securing and automating network, compute, and storage infrastructure
Gain knowledge and skills through Cisco’s unique combination of lessons and hands-on practice using enterprise-grade Cisco learning technologies, data center equipment, and software
Qualify for professional and expert-level job roles in the high-demand area of enterprise-class data center environments

Course Objectives

After taking this course, you should be able to:
Implement routing and switching protocols in Data Center environment
Implement overlay networks in data center
Introduce high-level Cisco Application Centric Infrastructure (Cisco ACI™) concepts and Cisco Virtual Machine manager (VMM) domain integration
Describe Cisco Cloud Service and deployment models
Implement Fibre Channel fabric
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®)
Describe Cisco HyperFlex™ infrastructure concepts and benefits
Implement Cisco automation and scripting tools in data center

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Evaluate automation and orchestration technologies

Course Outline

1 - Implementing Data Center Switching Protocols

Spanning Tree Protocol
Port Channels Overview

1 - Implementing Data Center Switching Protocols (Self-study)

Spanning Tree Protocol
Port Channels Overview
Virtual Port Channels Overview

2 - Implementing First-Hop Redundancy Protocols

Hot Standby Router Protocol (HSRP) Overview
Virtual Router Redundancy Protocol (VRRP) Overview

2 - Implementing First-Hop Redundancy Protocols (Self-study)

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

3 - Implementing Routing in Data Center

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

3 - Implementing Routing in Data Center (Self-study)

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

4 - Implementing Multicast in Data Center

IP Multicast in Data Center Networks
Internet Group Management Protocol (IGMP) and Multicast Listener Discovery (MLD)

4 - Implementing Multicast in Data Center (Self-study)

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

5 - Implementing Data Center Overlay Protocols

Cisco Overlay Transport Virtualization
Virtual Extensible LAN

6 - Implementing Network Infrastructure Security

User Accounts and Role Based Access Control (RBAC)
Authentication, Authorization, and Accounting (AAA) and SSH on Cisco NX-OS

6 - Implementing Network Infrastructure Security (Self-study)

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

7 - Describing Cisco Application-Centric Infrastructure

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

7 - Describing Cisco Application-Centric Infrastructure

Cisco ACI Overview, Initialization, and Discovery
Cisco ACI Management

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

8 - Describing Cisco ACI Building Blocks and VMM Domain Integration

Tenant-Based Components
Cisco ACI Endpoints and Endpoint Groups (EPG)

9 - Describing Packet Flow in Data Center Network

Data Center Traffic Flows
Packet Flow in Cisco Nexus Switches

9 - Describing Packet Flow in Data Center Network (Self-study)

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

10 - Describing Cisco Cloud Service and Deployment Models

Cloud Architectures
Cloud Deployment Models

11 - Describing Data Center Network Infrastructure Management, Maintenance, and Operations

Time Synchronization
Network Configuration Management

11 - Describing Data Center Network Infrastructure Management, Maintenance, and Operations (Self-study)

Time Synchronization
Network Configuration Management
Software Updates
Network Infrastructure Monitoring

12 - Explaining Cisco Network Assurance Concepts

Need for Network Assurance
Cisco Streaming Telemetry Overview

12 - Explaining Cisco Network Assurance Concepts (Self-study)

Need for Network Assurance
Cisco Streaming Telemetry Overview

13 - Implementing Fibre Channel Fabric

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

13 - Implementing Fibre Channel Fabric

Fibre Channel Basics
Virtual Storage Area Network (VSAN) Overview

14 - 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

14 - Implementing Storage Infrastructure Services

Distributed Device Aliases
Zoning

15 - Implementing FCoE Unified Fabric

Fibre Channel over Ethernet
Describing FCoE
FCoE Topology Options
FCoE Implementation

15 - Implementing FCoE Unified Fabric

Fibre Channel over Ethernet
Describing FCoE

16 - Implementing Storage Infrastructure Security

User Accounts and RBAC
Authentication, Authorization, and Accounting

16 - Implementing Storage Infrastructure Security (Self-study)

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

17 - Describing Data Center Storage Infrastructure Maintenance and Operations

Time Synchronization
Software Installation and Upgrade

17 - Describing Data Center Storage Infrastructure Maintenance and Operations (Self-study)

Time Synchronization
Software Installation and Upgrade
Storage Infrastructure Monitoring

18 - Describing Cisco UCS Server Form Factors

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

18 - Describing Cisco UCS Server Form Factors (Self-study)

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

19 - Implementing Cisco Unified Computing Network Connectivity

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

19 - Implementing Cisco Unified Computing Network Connectivity

Cisco UCS Fabric Interconnect
Cisco UCS B-Series Connectivity

20 - Implementing Cisco Unified Computing Server Abstraction

Identity Abstraction
Service Profile Templates

21 - Implementing Cisco Unified Computing SAN Connectivity

iSCSI Overview
Fibre Channel Overview
Implement FCoE

21 - Implementing Cisco Unified Computing SAN Connectivity

iSCSI Overview
Fibre Channel Overview

22 - Implementing Unified Computing Security

User Accounts and RBAC
Options for Authentication
Key Management

22 - Implementing Unified Computing Security

User Accounts and RBAC
Options for Authentication

23 - Introducing Cisco HyperFlex Systems

Hyperconverged and Integrated Systems Overview
Cisco HyperFlex Solution

23 - Introducing Cisco HyperFlex Systems (Self-study)

Hyperconverged and Integrated Systems Overview
Cisco HyperFlex Solution
Cisco HyperFlex Scalability and Robustness

24 - Describing Data Center Unified Computing Management, Maintenance, and Operations

Compute Configuration Management
Software Updates

24 - Describing Data Center Unified Computing Management, Maintenance, and Operations (Self-study)

Compute Configuration Management
Software Updates
Infrastructure Monitoring
Cisco Intersight™

25 - Implementing Cisco Data Center Automation and Scripting Tools

Cisco NX-OS Programmability
Scheduler Overview

25 - Implementing Cisco Data Center Automation and Scripting Tools (Self-study)

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

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

26 - Describing Cisco Integration with Automation and Orchestration Software Platforms

Cisco and Ansible Integration Overview
Cisco and Puppet Integration Overview

27 - Describing Cisco Data Center Automation and Orchestration Technologies (Self-study)

Power On Auto Provisioning
Cisco Data Center Network Manager Overview
Cisco UCS Director Fundamentals
Cisco UCS PowerTool
The self-study material can be done at your own pace after the instructor-led portion of the course

27 - Describing Cisco Data Center Automation and Orchestration Technologies (Self-study)

Power On Auto Provisioning
Cisco Data Center Network Manager Overview