Data Sheet

Learning@Cisco

Introducing Cisco Data Center Networking (DCICN) v6.1

Overview

Introducing Cisco Data Center Networking (DCICN) version 6.1 Cisco® Training on Demand course is designed to help you learn how to install, configure, and maintain data center technology and prepare for the Cisco CCNA® Data Center certification and associate-level data center roles.

You also gain foundational knowledge and skills and learn about technologies including network protocols and host-to-host communication, data center networking concepts and technologies, data center storage networking, and Cisco Unified Computing System™ (Cisco UCS®) architecture.

Duration

The DCICN v6.1 Training on Demand course consists of 26 sections totaling more than 40 hours of video instruction along with 18 hands-on lab exercises.

Target audience

The primary audience for this course is network administrators, engineers, designers, and managers; systems engineers and consulting systems engineers; technical solutions architects; and those preparing for the 200-150 DCICN exam.

Objectives

After completing this course, you should be able to:

- Describe and identify data center network protocols and host-to-host communication
- Describe basic data center networking concepts and use the Cisco NX-OS command-line interface to implement VLANs, trunks, and port channels

- Describe advanced data center networking concepts, implement multilayer switching, and perform basic configuration: protocols (Open Shortest Path First [OSPF], Enhanced Interior Gateway Routing Protocol [EIGRP], Hot Standby Routing Protocol [HSRP]); Authentication, Authorization, and Accounting (AAA) on Cisco NX-OS devices and secure remote administration; and Access Control Lists (ACLs)
- Describe and compare basic data center storage connectivity options and configure Virtual SANs (VSANs)
- Describe advanced data center storage and configure zoning, N-Port Virtualization (NPV) mode, and N-Port Identifier Virtualization (NPIV) on Cisco Nexus® and Cisco MDS switches
- Identify the components of Cisco UCS architecture and use the Cisco UCS Manager GUI

Course prerequisites

The knowledge and skills recommended before attending this course are:

- Good understanding of networking protocols and the VMware environment
- Basic computer literacy, knowledge of Microsoft Windows operating systems, and Internet usage skills

Course outline

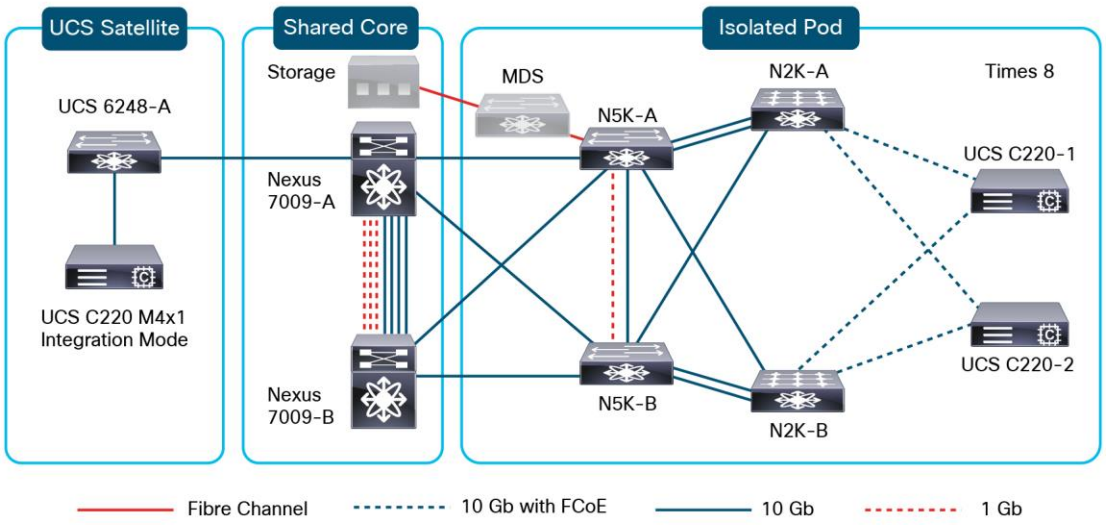
- Section 1: Describing Ethernet Functions and Standards
- Section 2: Describing Ethernet Hardware and Switching
- Section 3: Describing OSI and TCP/IP Models
- Section 4: Describing IPv4 and IPv6 Network Layer Addressing
- Section 5: Describing Packet Delivery on a Hierarchical Network
- Section 6: Describing the TCP/IP Transport Layer
- Section 7: Describing Data Center Network Architectures
- Section 8: Describing the Cisco Nexus Family and NX-OS
- Section 9: Implementing VLANs and Trunks
- Section 10: Describing Redundant Switched Topologies
- Section 11: Describing the Routing Process on Nexus Switches
- Section 12: Describing Routing Protocols on Nexus Switches
- Section 13: Describing Layer 3 First Hop Redundancy
- Section 14: Describing AAA on Nexus Switches
- Section 15: Describing ACLs on Nexus Switches
- Section 16: Describing Storage Connectivity Options in the Data Center
- Section 17: Describing Fibre Channel Storage Networking
- Section 18: Describing VSANs
- Section 19: Describing Communication Between Initiator and Target
- Section 20: Describing Fibre Channel Zone Types and Their Uses
- Section 21: Describing Cisco NPV Mode and NPIV
- Section 22: Describing Data Center Ethernet Enhancements
- Section 23: Describing Fibre Channel over Ethernet
- Section 24: Describing Cisco UCS Server Hardware Components

- Section 25: Cisco UCS Physical Connectivity for a Fabric Interconnect Cluster
- Section 26: Describing the Cisco UCS Manager Interfaces

Labs outline

This course contains 18 hands-on lab exercises.

Representative topology for all labs in the course:



The labs included in this course are:

- Discovery Lab 4.9: Use the DCICN Lab System
- Discovery Lab 5.11: Explore LAN Communication
- Discovery Lab 6.15: Explore Protocol Analysis
- Discovery Lab 6.16: Explore TCP and UDP Communication
- Discovery Lab 8.9: Explore the Cisco NX-OS Command Line Interface
- Discovery Lab 8.10: Explore Topology Discovery and Documentation
- Discovery Lab 9.10: Implement VLANs and Trunks
- Discovery Lab 10.9: Map a Spanning Tree and Configure Port Channels
- Discovery Lab 11.8: Implement Multilayer Switching
- Discovery Lab 12.4: Configure OSPF
- Discovery Lab 12.5: Configure EIGRP
- Discovery Lab 13.8: Configure HSRP
- Discovery Lab 14.8: Configure AAA and Secure Remote Administration
- Discovery Lab 15.6: Configure ACLs
- Discovery Lab 18.6: Configure VSANs
- Discovery Lab 19.4: Validate FLOGI and FCNS
- Discovery Lab 20.10: Configure Zoning
- Discovery Lab 24.13: Explore the Cisco UCS Manager GUI

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