# CISC-11 - DCCOR - IMPLEMENTING AND OPERATING CISCO DATA CENTER CORE TECHNOLOGIES V1.4

Categoria: **Cisco**

## INFORMAZIONI SUL CORSO

| Durata: | Categoria: | Qualifica Istruttore: | Dedicato a: | Produttore: |
|---|---|---|---|---|
| 5 Giorni | Cisco | Cisco Certified Instructor | Professionista IT | Cisco |

## OBIETTIVI

After completing this course you should be able to:

- Implement spanning tree protocol, port channels, and virtual port channels in the data center
- Implement first-hop redundancy protocols in the data center using Hot Standby Router Protocol (HSRP), Virtual Router Redundancy Protocol (VRRP), and Gateway Load Balancing Protocol (GLBP)
- Implement routing in the data center by using Open Shortest Path First (OSPF)v2, OSPFv3, and Border Gateway Protocol (BGP)
- Implement multicast functionality in the data center on the Cisco Nexus switches
- Implement overlay networks in the data center by using Virtual Extensible LAN (VXLAN)
- Implement network infrastructure security features on the Cisco Nexus switches
- Understand the architecture and features of high-performance Ethernet fabrics
- Introduce high-level Cisco Application Centric Infrastructure (ACI) concepts and describe various fabric discovery parameters
- Describe Cisco ACI building blocks and Virtual Machine Manager (VMM) domain integration
- Describe packet flow for various traffic types (unicast, multicast, and broadcast) in the data center
- Describe Cisco Cloud Service and deployment models
- Describe Cisco ACI fabric setup
- Implement network configuration management, describe software updates and their impacts, and implement network infrastructure monitoring
- Describe Cisco network assurance concepts such as Cisco Streaming Telemetry
- Implement Fibre Channel fabric
- Implement storage infrastructure services in the data center such as distributed device aliases, zoning, N Port Virtualization (NPV), and Fibre Channel over IP (FCIP)
- Implement Fibre Channel over Ethernet (FCoE) unified fabric
- Implement storage infrastructure security features in the data center
- Describe storage infrastructure software updates and their impacts, and implement infrastructure monitoring
- Describe Cisco UCS Server form factors
- Implement Cisco UCS Fabric Interconnect and establish network connectivity for the Cisco UCS B-Series Blade Servers and Cisco UCS C-Series Rack Servers
- Implement Cisco Unified Computing Server abstraction
- Implement SAN connectivity for Cisco UCS
- Implement Cisco UCS security features in the data center

- Implement Cisco UCS configuration management, describe software updates and their impacts, and implement infrastructure monitoring
- Implement Cisco automation and scripting tools in the data center
- Describe and evaluate the Cisco integration with automation and orchestration software platforms, such as Ansible, Puppet, and Python
- Describe and evaluate Cisco data center automation and orchestration technologies

## PREREQUISITI

Attendees should meet the following prerequisites:

- 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)

Recommended prerequisites:

- CCNA - Implementing and Administering Cisco Solutions
- DCFNDU - Understanding Cisco Data Center Foundations

## CONTENUTI

**Implementing Data Center Switching Protocols**

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

**Implementing First-Hop Redundancy Protocols**

- HSRP Overview
- VRRP Overview

**Implementing Routing in Data Center**

- OSPFv2 and OSPFv3
- Border Gateway Protocol

**Implementing Multicast in Data Center**

- IP Multicast in Data Center Networks
- IGMP and MLD
- Multicast Distribution Trees and Routing Protocols
- IP Multicast on Cisco Nexus Switches

**Implementing Data Center Overlay Protocols**

- Virtual Extensible LAN
- VXLAN Control Plane Options
- VXLAN Gateways and Routing

**Implementing Network Infrastructure Security**

- -User Accounts and RBAC
- -AAA and SSH on Cisco NX-OS
- -Keychain Authentication
- -First Hop Security
- -DHCP Snooping
- -IP Source Guard
- -Dynamic ARP Inspection
- -Unicast Reverse Path Forwarding
- -MAC Security
- -Control Plane Policing
- -High-Throughput Converged Fabrics
- -Infiniband-to-Ethernet Transition
- -Cisco Nexus 9000 Series Switches Portfolio

**Describing Cisco Application-Centric Infrastructure**

- -Cisco ACI Overview, Initialization, and Discovery
- -Cisco Nexus Dashboard Overview
- -Cisco CLoud ACI Overview
- -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

**Cisco ACI Fabric Setup**

- -Cisco ACI Fabric Discovery

**Describing Data Center Network Infrastructure Management**

- -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
- -VSAN Overview
- -SAN Port Channels Overview
- -Fibre Channel Domain Configuration Process

**Implementing Storage Infrastructure Services**

- -Distributed Device Aliases
- -Zoning
- -NPIV and NPV
- -Fibre Channel over IP
- -NAS Concepts
- -SAN Design Options

**Implementing FCoE Unified Fabric**

- -Fibre Channel over Ethernet Overview
- -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
- -Cisco UCS X-Series Hardware
- -Cisco UCS X-Series Deployment
- -Cisco Intersight Managed Mode Overview

**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**

- -Cisco Unified Computing Storage Connectivity Options
- -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 Intersigh

**Implementing Cisco Data Center Automation and Scripting Tools**

- -Cisco NX-OS Programmability
- -Scheduler Overview
- -Cisco Embedded Event Manager Overview
- -Open NX-OS Linux Network Architecture
- -Bash Shell and Guest Shell for Cisco NX-OS
- -Cisco Nexus API
- -Cisco NX-OS Model-Driven Programmability
- -Cisco NX-SDK

**Describing Cisco Integration with Automation and Orchestration Software Platforms**

- -Cisco and Ansible Integration Overview
- -Python in Cisco NX-OS and Cisco UCS
- -HashiCorp Terraform Overview

- -Cisco Application-Centric Infrastructure Automation Options

**Describing Cisco Data Center Automation and Orchestration Technologies**

- -Power On Auto Provisioning
- -Cisco Nexus Dashboard Overview
- -Cisco Nexus Dashboard Fabric Controller Overview
- -Cisco UCS PowerTool

**Labs**

- -Discovery Lab 1: Configure VXLAN
- -Discovery Lab 2: Explore the Cisco ACI Fabric
- -Discovery Lab 3: Implement Cisco ACI Access Policies and Out-of-Band Management
- -Discovery Lab 4: Implement Cisco ACI Tenant Policies
- -Discovery Lab 5: Integrate Cisco ACI with VMware
- -Discovery Lab 6: Validate Fabric Discovery
- -Discovery Lab 7: Configure Fibre Channel
- -Discovery Lab 8: Configure Device Aliases
- -Discovery Lab 9: Configure Zoning

-Discovery Lab 10: Configure NPV
-Discovery Lab 11: Provision Cisco UCS Fabric Interconnect
-Discovery Lab 12: Configure Server and Uplink Ports
-Discovery Lab 13: Configure VLANs
-Discovery Lab 14: Configure Cisco UCS Server Profile Using Hardware Identities
-Discovery Lab 15: Configure Basic Identity Pools
-Discovery Lab 16: Configure a Cisco UCS Service Profile Using Pools
-Discovery Lab 17: Configure an iSCSI Service Profile
-Discovery Lab 18: Configure Cisco UCS Manager to Authenticate Users with Microsoft Active Directory
-Discovery Lab 19: Discovery Lab 1:Configure Cisco Nexus Switches with Ansible
-Discovery Lab 20: Program a Cisco Nexus Switch with Python

## INFO

**Esame:** 350-601 - Implementing and Operating Cisco Data Center Core Technologies
**Materiale didattico:** Materiale didattico ufficiale Cisco in formato digitale
**Costo materiale didattico:** incluso nel prezzo del corso a Calendario
**Natura del corso:** Operativo (previsti lab su PC)