Designing Cisco Data Center Infrastructure

Duración: 5 Días **Código del Curso: DCID** **Version: 6.2**

Temario:

Focused on the designing of data centers with Cisco components and technologies. This course covers network designs with virtualization, Layer 2 and Layer 3 technologies, routing protocols and data center interconnect design options. Also covered are device virtualization technologies such as virtual data centers and network function virtualization with virtual appliances including virtual switches, routers and firewalls. Storage and SAN design is covered, with an explanation of Fibre Channel networks and Cisco Unified Fabric. Design practices for the Cisco Unified Computing System (UCS) solution based on Cisco UCS B-Series and C-Series servers and Cisco UCS Manager are covered. Network management technologies include UCS Manager, Cisco Prime Data Center Network Manager, and Cisco UCS Director. The course includes theoretical content, as well as designoriented case studies that are in the form of activities.
The course is designed to help students prepare for Cisco CCNP Data Center certification and for professional-level data center roles.

Dirigido a:

Engineers and Architects involved in the design of a Cisco Data Center or Cisco Data Center Solution.

Objetivos:

- **After completing this courses you should be able to:**
- Describe the Layer 2 forwarding options and protocols used in a data center
- Describe the Layer 3 forwarding options and protocols used in a data center
- Describe the rack design options, traffic patterns, and data center switching layer access, aggregation, and core
- Describe the Cisco OTV technology that is used to interconnect data centers
- Design a solution that uses LISP for traffic forwarding
- Describe the hardware redundancy options and virtualize the network, compute, and storage. Discuss virtual networking in the data center.
- Describe solutions using fabric extenders and compare Adapter FEX with VM-FEX
- Describe the Cisco Nexus 1000V solution to extend the hypervisor functionality
- Describe security threats and solutions in the data center
- Describe advanced data center security technologies and best practices
- Describe virtual appliances that are deployed in a data center network
- Describe device management and orchestration in the data center
- Design a data center storage network
- Describe Fibre Channel concepts and architecture
- Describe how Ethernet and Fibre Channel networks converge
- Describe security options in the storage network
- Describe management and automation options for the storage networking infrastructure
- Describe Cisco UCS servers and use cases for various Cisco UCS platforms (B-Series and C-Series)
- Explain the connectivity options in the Fabric Interconnects for south- and northbound connections. Describe port personalities and oversubscription models. Distinguish between the EHV and switching mode, and between the NPV and Fibre Channel switching mode. Describe split brain and partition in time issue with the Fabric Interconnects for HA.
- Describe the hyper convergence solution and how it integrates systems based on different storage vendors. Compare storage vendors and evaluate the advantages for each stacked solution.
- Describe the different management options for Cisco UCS. Design the management solution in HA mode and describe integration with the Cisco UCS domain.
- Describe a Cisco UCS design using different applications and scenarios
- Describe the system-wide parameters to setup a Cisco UCS domain including monitoring, QoS, and organizations to build up a management hierarchy in the Cisco UCS domain
- Describe RBAC and integration with directory servers to control access rights on Cisco UCS Manager
- Describe the pools that may be used in service profiles or service profile templates on Cisco UCS Manager. Describe the design and best practices for naming conventions.
- Describe the different policies you may set in the service profile to

- Describe Fibre Channel topologies and industry terms

achieve and fulfill customer or application requirements

- Describe the Ethernet and Fibre Channel interface policies and additional network technologies
- Describe how to use templates to work more efficiently in Cisco UCS Manager
- Describe the storage options for the compute and the different RAID levels from a HA and performance perspective

Prerequisitos:

Attendees should meet the following prerequisites:

Have attended or have knowledge equivalent to:

- **DCICN** - Introducing Cisco Data Center Networking
- **DCICT** - Introducing Cisco Data Center Technologies
- **DCAC9K** - Configuring Cisco Nexus 9000 Switches in ACI Mode

Exámenes y certificación

Recommended as preparation for exam:

- **300-160** - **DCID** - Designing Cisco Data Center Infrastructure
This is one of four exams required for the Cisco CCNP Data Center Certification.

Siguientes cursos recomendados:

Students looking to achieve their CCNP in Data Center will also require:

- **DCUCI -** Implementing Cisco Data Center Unified Computing
- **DCII -** Implementing Cisco Data Center Infrastructure
- **DCVAI -** Implementing Cisco Data Center Virtualization and Automation

Contenido:

Data Center Network Connectivity Design

- Describing High Availability on Layer 2
- Describing Layer 3 Forwarding
- Designing Data Center Topologies
- Designing Data Center Interconnects with Cisco OTV
- Designing a LISP Solution

Data Center Infrastructure Design

- Describing Hardware and Device Virtualization
- Describing FEX Options
- Describing Virtual Networking
- Describing Basic Data Center Security
- Describing Advanced Data Center Security
- Describing Virtual Appliances
- Describing Management and Orchestration

Data Center Storage Network Design

- Describing Storage and RAID Options
- Describing Fibre Channel Concepts
- Describing Fibre Channel Topologies
- Describing FCoE
- Describing Storage Security
- Describing SAN Management and Orchestration

Data Center Compute Connectivity Design

- Describing Cisco UCS Servers and Use Cases
- Describing Fabric Interconnect Connectivity
- Describing Hyperconverged and Integrated Systems
- Describing Management Systems
- Describing Hadoop, SAP Hana, and IoT on Cisco UCS

Data Center Compute Resource Parameters Design

- Describing Cisco UCS Manager System-Wide Parameters
- Describing Cisco UCS RBAC
- Describing Pools for Service Profiles
- Describing Policies for Service Profiles
- Describing Network Specific Adapters and Policies
- Describing Templates in Cisco UCS Manager

Design Activities

- Design Virtual Port Channels
- Design FabricPath
- Design FHRP
- Design Routing Protocols
- Design Data Center Topology for a Customer
- Design Data Center Interconnect Using Cisco OTV
- Design Your VXLAN Network
- Design a FEX
- Design a Cisco Nexus 1000V-Based Solution
- Design a Cisco VACS Solution
- Design Management and Orchestration in Cisco UCS Solution
- Design a Fibre Channel Network
- Design and Integrate an FCoE Solution
- Design a Secure SAN
- Design Cisco UCS Director for Storage Networking
- Design Cisco UCS C-Series Servers Implementation
- Design Cisco UCS M-Series Servers Implementation
- Design a UCS Domain and Fabric Interconnect Cabling
- Design Cisco C-Series Integration with a UCS Domain
- Design a UCS Mini Solution
- Design UCS Fabric Interconnect Network and Storage Connectivity
- Design System-Wide Parameters in a Cisco UCS Solution
- Design an LDAP Integration with a UCS Domain
- Design Pools for Service Profiles in a Cisco UCS Solution
- Design Network-Specific Adapters and Policies in a Cisco UCS Solution

Más información:

Para más información o para reservar tu plaza llámanos al (34) 91 425 06 60

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