

## Designing Cisco Data Center Infrastructure (300-160)

**Exam Description:** The Designing Cisco Data Center Infrastructure (DCID) exam (300-160) is a 90-minute, 60–70 question assessment. This exam is one of the exams associated with the CCNP Data Center Certification. This exam tests a candidate's knowledge of Cisco data center infrastructure design pertaining to deployment requirements and options for network connectivity, infrastructure, storage network, compute connectivity, and compute resource parameters. The course, Designing Cisco Data Center Infrastructure v6 (DCID), helps candidates to prepare for this exam because the content is aligned with the exam topics.

The following topics are general guidelines for the content likely to be included on the exam. However, other related topics may also appear on any specific delivery of the exam. In order to better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

- 24%**    **1.0**    **Data Center Network Connectivity Design**
  - 1.1    Evaluate options for Layer 2 connectivity to meet deployment requirements in the data center
    - 1.1.a    Endpoint mobility
    - 1.1.b    Redundancy / high availability
    - 1.1.c    Convergence
    - 1.1.d    Services insertion
  - 1.2    Evaluate options for Layer 3 connectivity to meet deployment requirements in the data center
    - 1.2.a    IP mobility
    - 1.2.b    Redundancy / high availability
      - 1.2.b (i)    Graceful restart / NSF
    - 1.2.c    Convergence
    - 1.2.d    Services insertion
      - 1.2.d (i)    Load balancing
      - 1.2.d (ii)    Security
- 21%**    **2.0**    **Data Center Infrastructure Design**
  - 2.1    Evaluate data center protocols to meet deployment requirements
    - 2.1.a    Fabric Path
    - 2.1.b    OTV
    - 2.1.c    VXLAN
    - 2.1.d    LISP
    - 2.1.e    VPC/VPC+
  - 2.2    Evaluate options for orchestration and management in a data center
    - 2.2.a    Orchestration and automation

- 2.2.b Out-of-band management network
- 2.2.c License management
- 2.3 Evaluate options for device and routing virtualization in a data center
  - 2.3.a VDC
  - 2.3.b VRF
- 2.4 Evaluate options for interconnecting data centers
- 21%** **3.0 Data Center Storage Network Design**
  - 3.1 Plan for iSCSI deployment in the data center
    - 1.1.a Multipathing
    - 1.1.b Addressing schemes
  - 3.2 Evaluate QoS requirements in the data center
    - 1.2.a Fibre Channel
    - 1.2.b FCoE
    - 1.2.c FCIP
    - 1.2.d iSCSI
  - 3.3 Determine FCoE/ Fibre Channel interface parameters based on data center requirements
    - 1.3.a Dedicated and shared mode
    - 1.3.b Port types
    - 1.3.c ISL
    - 1.3.d Oversubscription
  - 3.4 Evaluate SAN Topology options in the data center
    - 1.4.a Fabric redundancy
    - 1.4.b NPV, NPIV, and FCF
    - 1.4.c Load balancing
- 19%** **4.0 Data Center Compute Connectivity Design**
  - 4.1 Evaluate options for Ethernet connectivity to meet deployment requirements in a data center
    - 4.1.a Redundancy / high availability
    - 4.1.b Bandwidth
      - 4.1.b (i) Over subscription
    - 4.1.c Fabric interconnect operation mode
      - 4.1.c (i) Switch mode
      - 4.1.c (ii) End host mode
  - 4.2 Evaluate options for storage connectivity to meet deployment requirements in a data center
    - 4.2.a Multipathing
    - 4.2.b Bandwidth
      - 4.2.b (i) Port channels
      - 4.2.b (ii) Oversubscription

- 4.2.c Fabric interconnect operation mode
  - 4.2.c (i) Switch mode
  - 4.2.c (ii) End host mode
- 4.2.d Direct-attached storage
  - 4.2.d (i) Appliance port
  - 4.2.d (ii) Fibre Channel storage port
  - 4.2.d (iii) FCoE port

- 15% 5.0 Data Center Compute Resource Parameters Design**
- 5.1 Evaluate options for orchestration and automation in the data center
    - 5.1.a Service profile templates
    - 5.1.b vNIC templates
    - 5.1.c vHBA templates
    - 5.1.d Global policies vs local policies
  - 5.2 Evaluate options for management network in a data center
    - 5.2.a In-band
    - 5.2.b Out-of-band
  - 5.3 Evaluate options for network device virtualization in a data center
    - 5.3.a Cisco VIC adaptors
      - 5.3.a (i) Number of interfaces vs IOM uplinks
      - 5.3.a (ii) vCon placement policies
      - 5.3.a (iii) Ethernet adaptor policies
      - 5.3.a (iv) Fibre Channel policies