Designing Cisco Data Center Infrastructure v1.0 (300-610)

Exam Description: Designing Cisco Data Center Infrastructure v1.0 (DCID 300-610) is a 90-minute exam associated with the CCNP Data Center Certification. This exam certifies a candidate's knowledge of data center infrastructure design including network, compute, storage network, and automation. The course, Designing Cisco Data Center Infrastructure, helps candidates to prepare for this exam.

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. To better reflect the contents of the exam and for clarity purposes, the guidelines below may change at any time without notice.

35%   1.0   Network Design

    1.1   Evaluate options for Layer 2 connectivity
        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
        1.2.a   IP mobility
        1.2.b   Redundancy / high availability (graceful restart, NSF)
        1.2.c   Convergence
        1.2.d   Services insertion (load balancing, security)

    1.3   Evaluate data center technologies such as vPC/vPC+

    1.4   Evaluate options for interconnecting data centers such as VXLAN EVPN and OTV

    1.5   Evaluate options for device and routing virtualization
        1.5.a   VDC
        1.5.b   VRF (standard, VXLAN EVPN tenant)

    1.6   Evaluate in-band and out-of-band options for management

    1.7   Evaluate redundancy options such as active/active and disaster recovery site

25%   2.0   Compute Design

    2.1   Evaluate options for Ethernet connectivity
        2.1.a   Redundancy / high availability
        2.1.b   Bandwidth (oversubscription)
        2.1.c   Fabric interconnect operation mode (switch mode, end host mode)

    2.2   Evaluate options for storage connectivity

   2.2.a Bandwidth (port-channels, oversubscription)
   2.2.b Fabric interconnect operation mode (switch mode, end host mode)
   2.2.c Direct-attached storage (appliance, FC storage, and FCoE ports)

  2.3 Evaluate options for network device virtualization in a data center (Cisco VIC adapters)
   2.3.a Number of interfaces vs. IOM uplinks
   2.3.b vCon placement policies
   2.3.c Ethernet adaptor policies
   2.3.d Fibre Channel adapter policies

  2.4 Evaluate options for hyperconverged infrastructure
   2.4.a Cluster mode
   2.4.b HX for virtual server
   2.4.c Desktop virtualization

20% 3.0 Storage Network Design
  3.1 Plan for iSCSI deployment in a data center (Multipathing and addressing schemes)
  3.2 Evaluate QoS requirements in a data center
   3.2.a Fibre Channel
   3.2.b FCoE
   3.2.c FCIP
   3.2.d iSCSI

  3.3 Determine FCoE/ Fibre Channel interface
   3.3.a Dedicated and shared mode
   3.3.b Port types
   3.3.c ISL
   3.3.d Oversubscription

  3.4 Evaluate SAN topology options

20% 4.0 Automation Design
  4.1 Evaluate options for network orchestration and automation
   4.1.a DCNM
   4.1.b Intersight
   4.1.c NX-API
   4.1.d Model-driven programmability
   4.1.e Ansible
   4.1.f Puppet
   4.1.g Python

  4.2 Evaluate options for compute orchestration and automation
   4.2.a Service profile templates
   4.2.b vNIC templates
   4.2.c vHBA templates
   4.2.d Global policies vs. local policies