



Troubleshooting Cisco Data Center Infrastructure (300-180)

Exam Description: The Troubleshooting Cisco Data Center Infrastructure (DCIT) exam (300-180) 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 troubleshooting Cisco data center infrastructure including data network protocols, network virtualization and automation, Application Centric Infrastructure (ACI), storage, compute platforms, and management and operations. The course, Troubleshooting Cisco Data Center Infrastructure v6 (DCIT), 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.

- 26%** **1.0** **Troubleshooting Data Network Protocols**
- 1.1 Troubleshoot data center protocols
 - 1.1.a VPC
 - 1.1.b Fabric path
 - 1.1.b (i) Segment ID
 - 1.1.b (ii) Distributed gateway, anycast HSRP
 - 1.1.b (iii) MBGP
 - 1.1.b (iv) vPC+
 - 1.1.c VXLAN
 - 1.1.c (i) Distributed gateway
 - 1.1.c (ii) MBGP EVPN
 - 1.1.c (iii) VPC
 - 1.1.d OTV
 - 1.1.e LISP
- 1.2 Troubleshoot routing protocols
 - 1.2.a OSPFv2, OSPFv3
 - 1.2.b IS-IS
 - 1.2.c PIM
 - 1.2.d FHRP
 - 1.2.d (i) HSRP
 - 1.2.d (ii) VRRP
- 1.3 Troubleshoot switching protocols
 - 1.3.a STP

- 1.3.b LACP/port channel
- 1.3.c FEX, VNTAG
- 13% 2.0 Troubleshooting Network Virtualization and Automation**
 - 2.1 Troubleshoot logical device separation
 - 2.1.a VDC
 - 2.1.b VRF
 - 2.2 Troubleshoot virtual switching technologies
 - 2.3 Troubleshoot configuration profiles
 - 2.3.a Auto-config
 - 2.3.b Port profiles
 - 2.3.c Configuration synchronization
- 13% 3.0 Troubleshooting Application Centric Infrastructure**
 - 3.1 Troubleshoot fabric discovery process
 - 3.2 Troubleshoot VMM domain integration
 - 3.3 Troubleshoot tenant-based policies
 - 3.3.a EPGs
 - 3.3.a (i) Pathing
 - 3.3.a (ii) Domains
 - 3.3.b Contracts
 - 3.3.b (i) Consumer
 - 3.3.b (ii) Providers
 - 3.3.b (iii) Inter-tenant
 - 3.3.c Private networks
 - 3.3.c (i) Enforced/unenforced
 - 3.3.d Bridge domains
 - 3.3.d (i) Unknown unicast settings
 - 3.3.d (ii) ARP settings
 - 3.3.d (iii) Unicast routing
 - 3.4 Troubleshoot external network integration
 - 3.4.a External bridge network
 - 3.4.b External routed network
 - 3.5 Troubleshoot packet flow
 - 3.5.a Unicast
 - 3.5.b Multicast
 - 3.5.c Broadcast
 - 3.5.d Endpoint database
 - 3.6 Troubleshoot security domains and role mapping
 - 3.6.a AAA
 - 3.6.b RBAC
- 17% 4.0 Troubleshooting Data Center Storage**

- 4.1 Troubleshoot Fibre Channel
 - 4.1.a Switched fabric initialization
 - 4.1.b Fibre Channel buffer credit starvation
 - 4.1.c FCID

- 4.2 Troubleshoot Fibre Channel protocol services
 - 4.2.a Zoning
 - 4.2.b FCNS
 - 4.2.c VSAN
 - 4.2.d FSPF

- 4.3 Troubleshoot FCoE
 - 4.3.a Storage VDC
 - 4.3.b FIP
 - 4.3.c FCoE topologies
 - 4.3.d DCB

- 4.4 Troubleshoot boot from SAN
 - 4.4.a FCoE / Fibre Channel
 - 4.4.b iSCSI
 - 4.4.c Multipath

- 4.5 Troubleshoot FCoE/FC interface parameters
 - 4.5.a Dedicated and shared mode
 - 4.5.b Port types
 - 4.5.c Port channels, ISL

- 4.6 Troubleshoot SAN technologies
 - 4.6.a Fabric redundancy
 - 4.6.b NPV, NPIV, FCF

- 21%** **5.0 Troubleshooting Data Center Compute Platforms**
- 5.1 Troubleshoot Cisco computing platforms
 - 5.1.a Stand-alone computing
 - 5.1.b Chassis/blade
 - 5.1.c Modular / server cartridges
 - 5.1.d Server integration

- 5.2 Troubleshoot hardware interoperability
 - 5.2.a Converged Network Adapters / port expanders
 - 5.2.b Firmware
 - 5.2.c I/O modules / FEX
 - 5.2.d Fabric interconnects

- 5.3 Troubleshoot packet flow from server to the fabric

- 5.4 Troubleshoot server abstraction technologies
 - 5.4.a Service profiles

- 5.4.a (i) Pools
- 5.4.a (ii) Policies
 - 5.4.a (ii) 1 Connectivity
 - 5.4.a (ii) 2 Placement policy
 - 5.4.a (ii) 3 Remote boot policies

- 10% **6.0 Troubleshooting Data Center Management and Operations**
 - 6.1 Troubleshoot firmware upgrades, packages, and interoperability
 - 6.2 Troubleshoot integration of centralized management
 - 6.3 Troubleshooting data center LAN and SAN security
 - 6.3.a Troubleshoot fabric binding and port security
 - 6.3.b Troubleshoot AAA and RBAC
 - 6.3.c Troubleshoot first-hop security
 - 6.3.c (i) Dynamic ARP inspections
 - 6.3.c (ii) DHCP snooping
 - 6.3.c (iii) Unicast RPF
 - 6.3.c (iv) MACsec
 - 6.3.c (v) Port security
 - 6.3.d Troubleshoot CoPP
 - 6.3.e Troubleshoot ACLs
 - 6.4 Troubleshoot data center compute security
 - 6.4.a Troubleshoot AAA and RBAC
 - 6.4.b Troubleshoot key management