

Cisco 300-615 DCIT 2026: Troubleshooting Cisco Data Center Infrastructure

Troubleshoot Cisco data center infrastructure. Covers Nexus, ACI, storage, and Layer 2/3 for 300-615 DCIT 2026.

IT Certifications Instructor: Brian Mitchell • 5 sections • 44 lessons • 15.50h total

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About this course

Troubleshooting complex data center issues can be overwhelming, especially when you are dealing with Nexus switches, ACI fabrics, or storage networks under pressure. This course provides a practical guide to diagnosing and resolving common problems in Cisco data center environments, aligned with the 2026 300-615 DCIT exam objectives.

We will show you how to apply structured troubleshooting methodologies to real scenarios involving Layer 2/3 protocols, automation tools, and storage connectivity. Through hands-on case studies, downloadable checklists, and focused video lessons, you will learn how to quickly identify root causes and implement solutions.

Course curriculum

Foundations and Troubleshooting Methodology

- **Understanding the 300-615 DCIT 2026 Exam Blueprint (12m)**
Get a clear breakdown of the 2026 exam topics and how this course maps to each section for focused study.
- **Applying the Structured Troubleshooting Process (18m)**
Learn a step-by-step methodology to diagnose issues methodically, saving time and reducing errors in live environments.
- **Essential Tools: CLI, SNMP, and Syslog Setup (22m)**
We'll show you how to configure and use key diagnostic tools, with a downloadable command cheat sheet for quick reference.
- **Interpreting System Logs and Error Messages (15m)**
Real case study analysis on decoding common Nexus and IOS-XE logs to pinpoint failures faster.
- **Building Your Troubleshooting Lab Environment (25m)**
A practical guide to setting up a virtual or physical lab that mirrors real-world data center scenarios for safe practice.
- **Common Pitfalls in Data Center Troubleshooting (11m)**
Problem-solving session highlighting frequent mistakes engineers make and how to avoid them under pressure.
- **Documentation Best Practices for Issue Tracking (9m)**
Learn how to document problems and solutions effectively, making it easier to collaborate with teams and prevent recurrence.

Layer 2 and Layer 3 Protocol Troubleshooting

- **Diagnosing VLAN and Trunking Issues on Nexus Switches (20m)**
Step-by-step guide to troubleshooting VTP, access/trunk mismatches, and pruning errors with real CLI examples.
- **Resolving STP Loops and PortFast Misconfigurations (26m)**
We'll walk through detecting and fixing Spanning Tree Protocol issues, including a downloadable STP verification template.
- **Troubleshooting FEX and vPC Peer-Link Failures (32m)**
Real-world case studies on Fabric Extender and virtual PortChannel problems in multi-switch environments.
- **Fixing OSPF and EIGRP Adjacency Problems (19m)**
Learn how to isolate routing protocol issues using show commands and debugs, with a focus on area mismatches and timers.
- **BGP Convergence and Route Advertisement Issues (28m)**
Problem-solving session on common BGP peering failures and how to verify path selection in data center fabrics.

- **Multicast Troubleshooting: IGMP and PIM Sparse Mode (23m)**
Practical walkthrough of multicast group issues, including RP configuration checks and traffic flow analysis.
- **DHCP Relay and Snooping Configuration Errors (14m)**
Real case analysis on DHCP server reachability and protecting against rogue DHCP servers in the data center.
- **IPv6 Addressing and Neighbor Discovery Problems (17m)**
Step-by-step guide to troubleshooting IPv6 autoconfiguration and ND protocol issues on Nexus platforms.
- **ACL and Firewall Filter Blocking Legitimate Traffic (21m)**
We'll show you how to verify ACL hits and resolve implicit deny issues without compromising security.

Cisco ACI Fabric Troubleshooting

- **ACI Fabric Discovery and Node Registration Failures (24m)**
Learn how to diagnose LACP, CDP, and LLDP issues preventing switches from joining the ACI fabric.
- **Resolving EPG and Contract Policy Mismatches (27m)**
Problem-solving session on why traffic is dropped between endpoint groups and how to verify policy enforcement.
- **Troubleshooting VMM Domain Integrations (30m)**
Real case studies on VMware and Hyper-V integrations, including resolving controller connectivity problems.
- **ACI Spine-Leaf Underlay Routing Issues (22m)**
Step-by-step guide to verifying IS-IS and COOP database health in the ACI underlay network.
- **Fixing L3Out Connectivity and External Network Problems (29m)**
We'll walk through troubleshooting OSPF/BGP peering on L3Out and resolving route redistribution errors.
- **APIC Controller Cluster Health and Synchronization (16m)**
Downloadable checklist to verify APIC cluster status and fix replication issues between controllers.
- **Endpoint Learning and ARP Flooding in ACI (18m)**
Practical analysis of endpoint table issues and how to mitigate unnecessary flooding in bridge domains.
- **ACI Multi-Site and Orchestrator Troubleshooting (25m)**
Real-world guide to diagnosing cross-site fabric communication and policy conflicts in ACI Multi-Site.

Storage Networking and Automation Issues

- **FC and FCoE Zoning and VSAN Mismatch Problems (23m)**
Step-by-step troubleshooting of Fibre Channel fabrics, including resolving stuck zones and VSAN isolation.
- **Nexus Switch SAN Port Channel Configuration Errors (19m)**
We'll show you how to diagnose NPV/NPIV mode issues and fix FLOGI/FCOE login failures.
- **iSCSI Connectivity and Authentication Troubleshooting (21m)**
Problem-solving session on CHAP authentication failures and network path verification for iSCSI targets.

- **Resolving Storage Network Latency and Buffer Issues (33m)**
Real case analysis using show commands to identify congestion and optimize frame delivery in FC networks.
- **NX-OS Scripting and EEM Automation Failures (26m)**
Learn how to troubleshoot Embedded Event Manager scripts that aren't triggering on expected events.
- **Python and Ansible Playbook Debugging in Data Center (28m)**
Practical guide to diagnosing automation errors, with downloadable Python snippets for common checks.
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- **REST API and NX-API HTTP Response Troubleshooting (17m)**
We'll walk through verifying API endpoints and fixing authentication token issues in scripted workflows.
- **Config Rollbacks and Version Control Conflicts (14m)**
Step-by-step guide to using Cisco's configuration rollback features to recover from bad changes quickly.

Performance Optimization and Next Steps

- **High CPU and Memory Utilization on Nexus Devices (24m)**
Real case study on identifying process spikes and mitigating control plane policing issues.
- **Troubleshooting Control Plane Policing (CoPP) Drops (20m)**
Learn how to verify CoPP rules and adjust policies to protect the CPU without blocking legitimate traffic.
- **FabricPath and VXLAN EVPN Control Plane Failures (31m)**
Problem-solving session on diagnosing flooding and head-end replication issues in overlay networks.
- **QoS Misconfigurations Causing Traffic Starvation (18m)**
Step-by-step guide to verifying queue drops and reclassifying priority traffic in data center links.
- **Resolving Software Upgrade and Patching Failures (27m)**
We'll show you how to troubleshoot ISSU errors and recover from failed NX-OS upgrades safely.
- **Hardware Redundancy and Supervisor Failover Issues (15m)**
Downloadable checklist for verifying redundant supervisors and resolving split-brain scenarios.
- **Integrating NetFlow and Telemetry for Proactive Monitoring (22m)**
Practical setup guide to collect flow data and use it to spot issues before they impact operations.
- **Real-World Exam Scenario: Multi-Vendor Integration Problem (35m)**
Full problem-solving walkthrough of a complex issue involving Cisco ACI, third-party storage, and legacy routers.
- **Final Review: Key Commands and Concepts for 300-615 (12m)**
A concise recap of must-know commands and troubleshooting frameworks to boost your exam confidence.

- **Building Your Post-Certification Troubleshooting Plan** (10m)

We'll discuss how to apply these skills on the job and continue improving with community resources and labs.

- **Accessing Practice Labs and Exam Tips** (8m)

Guidance on where to find additional practice scenarios and strategies for tackling the 300-615 exam efficiently.

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