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# Arista Networking Training: Data Center Operations (DCOPS)

5 days (35 hours)

## Overview

The "Data Center" training track provides in-depth understanding and hands-on experience with advanced Arista technologies, focusing on Layer 2 and Layer 3 network architectures with underlay and overlay configurations, as well as VXLAN in a data center deployment.

During this training, you will gain the essential skills to configure, troubleshoot, and manage complex network infrastructures using Arista's cutting-edge solutions. The "Data Center" track covers key topics such as BGP in Leaf-Spine architectures, EVPN, and Arista's CloudVision platform.

The "Data Center" track is divided into two distinct sub-tracks: "Operations" and "Engineering." The "Operations" track focuses on "Day-2" tasks such as telemetry and troubleshooting, while the "Engineering" track focuses on the design and architecture of Layer 2 and Layer 3 Leaf-Spine data center networks. Both tracks include hands-on exercises focused on tasks specific to each of these roles.

Like all our courses, this one will introduce you to **the latest stable version** of the technology and its new features.

## Objectives

- Understand the key features and architecture of Arista CloudVision, as well as its role in network automation
- Navigate the CloudVision Portal (CVP) interface and manage profiles, configlets, and snapshots

- Provision network devices using containers, ZTP/ZTR workflows, and configuration templates
- Create and manage data center networks using CloudVision Studios, including L3LS and eVPN configurations
- Monitor network performance, compliance, and events using dashboards and built-in tools
- Perform EOS upgrades, troubleshoot the system, and leverage advanced monitoring features
- Use Advanced Event Management (AEM) to automate tasks and respond to network events

## Target Audience

- Senior network engineers and architects, network operations managers, and advanced network administrators

## Prerequisites

- In-depth knowledge of Layer 2 and Layer 3 core network technologies and protocols
- A good understanding of Spine/Leaf architectures is a plus

## Technical requirements

- 16 GB recommended (8 GB minimum for lightweight topologies)

## OUR TRAINING PROGRAM Arista Networking: Data Center Operations (DCOPS)

[Day 1 - Morning]

### Introduction to CloudVision

- Why CloudVision
- Approaches to Network Automation
- Introduction to CloudVision
- CVP Positioning

[Day 1 - Afternoon]

### Configuring CloudVision

- CVP Clustering
- Multi-Node CVP OVA Installation
- Initial CVaaS Deployment
- Upgrade
- Backup and Restore
- Getting Familiar with the CVP Interface
- Profiles
- Help Center
- License Key Management
- LAB – Navigating CVP

## Device Registration

- Connecting devices
- Manual Integration

## [Day 2 - Morning] Network

### Provisioning

- Containers
- Configuration sources
- Configuration designed and running
- Configlets
- Tasks and Change Control
- Applying configlets to containers
- Reconciliation
- LAB – Configlets
- Snapshots and Staging
- Redesigned change control user interface
- Restore
- LAB – Snapshots
- LAB – Change Control
- Configlet generator
- LAB – Configlet generator
- Image Repository

## [Day 2 - Afternoon] Zero-Touch

### Provisioning

- Zero-Touch Provisioning (ZTP)
- Deploying and Integrating vEOS into CVP Using ZTP
- Zero-Touch Replacement (ZTR)
- Replacing a device using ZTR

## [Day 3 - Morning]

## Introduction to Studios

- Introduction to Studios and Tags
- Workspaces
- Deploying and Running Studios
- LAB – Using Studios
- LAB – Cleaning up Studios

[Day 3 - Afternoon]

## Studios in Action

- New Studios User Interface
- Static Configuration Studio
- Connectivity Management Studio
- Software Management Studio
- Authentication Studio
- Mirroring Studio
- End-to-End Provisioning with Studios
- Provisioning New Devices with ZTP and Studios
- LAB – Static Configuration Studio

## Configuring the L3LS DC network with CVP Studios

- Configuring L3LS using Studios
- Configuring eVPN services, host interfaces, and external networks using Studios
- LAB – Deploying L3LS, eVPN, and MLAG with Studios
- LAB – Day 2 Operations with Studios

[Day 4 - Morning]

## Monitoring Devices with CVP

- Compliance Overview
- Device Power
- CloudVision and DMF Integration
- 802.1x Details in Endpoint Discovery

[Day 4 - Afternoon]

## Dashboards

- Dashboard Improvements

- Device Connectivity Status Panel Dashboard
- Compliance Metrics Dashboard
- Syslog Filters Dashboard
- Dashboard Tab Layout
- Exporting and Importing Dashboards

## Events

- Events and Event Groups
- Compliance Events
- Configuration validity check events
- PTP events
- LAB – Dashboards and Events

## Introduction to Topology

- Topology Icons and Settings
- Custom Topology Hierarchies
- User-defined topology filters
- PTP Overlay in the CVP Topology
- LAB – Topology

[Day 5 – Morning]

## EOS Reloads and Upgrades

- Understanding EOS Upgrades
- Standard Upgrade vs. Smart System Upgrade
- Upgrading EOS via the CLI
- Upgrading EOS via CVP
- Upgrading and Rebooting MLAG ISSU via the CLI
- Upgrading and Rebooting the Chassis
- Upgrading and Rebooting MLAG via CVP

[Day 5 - Afternoon]

## EOS monitoring tools

- SNMP
- sFLOW
- Watch and Diff Commands
- Latency Analyzer (LANZ)
- Port Mirroring
- TapAgg

## Advanced Event Management (AEM)

- AEM – CLI Scheduler
- AEM – Event Monitor
- AEM – Event Manager
- LAB – AEM

## EOS Hardware and Software Troubleshooting

- System and Software Troubleshooting
- SFP and Physical Errors
- EOS Health Checks – CLI and CVP
- Hardware Troubleshooting
- Memory and Flash Memory Errors
- Tcpdump and Iperf
- Installing Extensions
- Recovery procedures

## Target Companies

This training is designed for both individuals and companies—large or small—seeking to train their teams in new advanced IT technologies or to acquire specific industry knowledge or modern methodologies.

## Placement upon enrollment

The pre-training assessment complies with Qualiopi quality standards. Upon final registration, the learner receives a self-assessment questionnaire that allows us to evaluate their estimated proficiency in various types of technologies, as well as their expectations and personal goals for the upcoming training, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could pose challenges for monitoring and ensuring the smooth running of the training session.

## Teaching Methods

Practical Course: 60% Practical, 40% Theory. Training materials distributed in digital format to all participants.

## Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

## Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been properly acquired.

## Certification

A certificate will be issued to each trainee who has completed the entire training program.