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Sign up

Aruba Data Center Networks Implementation (IDCN) Training

5 days (35 hours)

The Aruba Data Center Networks Implementation training course provides the skills and knowledge needed to design, implement, and configure complex data center solutions based on AOS-CX switches.

Data center networks have reached their limits. HPE offers a new architectural approach that provides simplified, scalable, and automated connectivity for virtualized compute, storage, and cloud environments. Data center networking requirements have evolved rapidly, with emerging technologies increasingly focused on supporting greater automation and simplifying operations in virtualized data centers. This course introduces HPE Aruba Networking solutions and technologies for data center networks, as well as their use cases for traditional two- and three-tier architectures and modern spine-and-leaf architectures.

This course prepares you for the HPE7-A05 exam—Aruba Certified Data Center Professional.

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

Objectives

- Describe data center (DC) networking requirements and typical use cases for the HPE Aruba Networking portfolio in this environment.
- List common methods for deploying AOS-CX switches in data centers
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- Explain the technologies and configurations commonly used in “L2 collapsed core” and “spine and leaf” data center implementations.
- Identify the monitoring and troubleshooting options offered by HPE for data center networks.

- Recognize potential optimizations for data center switch configurations.
- Implement a security policy for your data center network.
- Design and validate a data center network.
- Deploy HPE Aruba Networking data center switches in new or existing network environments.
- Integrate HPE Aruba Networking data center switches with other products, such servers, storage systems, hypervisors, and more, from HPE or third-party vendors.
- Troubleshoot, monitor, and maintain data center networks.

Target Audience

- Network professionals responsible for planning, implementing, and maintaining data center network infrastructure.

Prerequisites

- Completion of the AOS-CX Switching Fundamentals (CXSF) & Implementing AOS-CX Switching (ICXS) courses

Aruba Data Center Networks Implementation (IDCN) Training Program

[Day 1 - Morning]

Introduction to Data Center Networks

- Defining Data Center Networks
- Examining common determinants of data center networks
- Identifying common data center network requirements
- Distinguishing Data Center Networks from Campus Networks

[Day 1 - Afternoon]

Data Center Networking Products and Technologies

- Overview of HPE Aruba Networking products and technologies for data centers
- Comparison of data center management options and benefits
- Deployment models, products, and technologies
- Overview and demonstration of high availability, fault tolerance, and load balancing

Data center network design

- Defining data center network design requirements
- Overview of data center network design
- Describing data center policy design
- Compare data center management options and their benefits
- Overview of supported HPE Aruba reference architectures for data centers

Provisioning and commissioning switches

- Switch commissioning options
- Manual provisioning
- ZTP provisioning
- Remote management

[Day 2 - Morning]

Layer 2 Aggregated Core

- Discuss the Layer 2 Aggregated Core solution and its benefits
- Describe the components of the solution

Switch Virtualization and Stacking

- List the virtualization and stacking options for HPE Aruba Networking switches and their features
- Explain the difference between stacking and virtualization, as well as their use cases on DCN
- Describe HPE Aruba Networking’s VSX technology
- Explain how VSX can be deployed in a data center
- Examine the use and benefits of VSX in a data center

[Day 2 - Afternoon]

Loop Prevention

- Link Aggregation Group (LAG) and Multi-Chassis LAG
- Load Balancing
- Spanning Tree Protocols
- Redundant network links:
  - Multiple Spanning Tree Protocol
  - Loop protection
  - Fast Ring Protection Protocol

Virtual Routing and Forwarding (VRF)

- Describe the concepts underlying VRF
- Explain the features of VRF
- Present common use cases for VRF
- Configure and manage an AOS-CX switch running multiple VRFs

[Day 3 - Morning]

Spine-leaf networks

- Discuss the spine-leaf solution and its benefits
- Describe the components of the solution

Virtual Extensible VLAN (VXLAN)

- Describe the VXLAN feature
- Describe the basic operations of VXLAN
- Describe the MAC address learning process in a VXLAN
- Describe the integration of a virtual VXLAN network with a physical VLAN network
- Explain the basic configuration of a VXLAN tunnel

[Day 3 - Afternoon]

EVPN

- Present the concepts and use cases of EVPN
- Explain the EVPN configuration process
- Describe EVPN monitoring and troubleshooting
- Optimize the EVPN environment by suppressing ARP and ND packets
- Describe the steps for configuring the EVPN fabric to handle multicast traffic
- Explain the configuration of an IPv6 EVPN overlay on an IPv4 infrastructure

[Day 4 - Morning]

Aruba Fabric Composer

- Define the purpose of Aruba Fabric Composer
- Navigate the menus and identify the icons
- Manage network services using the configuration wizard
- Explain the benefits of integrating Aruba Fabric Composer with VMware vSphere, HPE iLO, and Pensando Policy Services Manager
- Integrating Aruba Fabric Composer with VMware products and solutions
- Integrate Aruba Fabric Composer with HPE iLO to securely configure, monitor, and update your HPE servers
- Integrate Aruba Fabric Composer with Pensando Policy Services Manager to define for your network

[Day 4 - Afternoon]

Securing the Data Center with the Aruba CX 10000 Switch

- Define and describe the 10K switch features that enhance network performance, security, and design
- Manage network services with Aruba Fabric Composer
- Implement policies and network segmentation using Aruba Fabric Composer or Pensando Policy Service Manager
- Use telemetry analytics to visualize the network configuration and view alerts

Data Center Bridging (DCB)

- Describe DCB and IP ECN
- Configure DCB and IP ECN
- Describe DCB monitoring options

[Day 5 - Morning]

Network Analysis Engine (NAE)

- Describe use cases for the NAE in network monitoring and troubleshooting.
- Describe NAE agents
- Describe NAE troubleshooting

[Day 5 - Afternoon]

REST API

- Describe the need for the API
- List the features and functions of the REST API
- Present a use case for the AOS-CX REST API

Aruba Central on Prem (COP)

- Describe COP
- Explain COP use cases for DCN

Target Audience

This training is intended 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.

Assessment 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.