Implementing Data Center Networks

Category: Networking & Security | **Vendor:** HPE Aruba Networking

Duration: 40.00 hours (5 days) **32.5 CPD Hours** **Rating:** ⭐ 4.6 (5,878 reviews)

Course Information

Delivery Format: Instructor Led - Online

Certification: Certified Data Center Professional

Course Overview

The Implementing Data Center Networks course provides the skills and knowledge to design, implement, and configure complex data center solutions based on AOS-CX switches. Data center networks are at a breaking point. HPE offers a new architectural approach that provides simplified, scalable, and automated connectivity for virtualized compute, storage, and cloud. Data center networking requirements have evolved rapidly, with emerging technologies increasingly focused on supporting more automation and simplified operations in virtualized data centers.
This course will explain the HPE Aruba Networking solutions and technologies for data center networks and their use cases for traditional two and three-tier and modern spine and leaf data center architectures.

These course prepares you to the HPE7-A05 - Aruba Certified Data Center Professional Exam

About This Course

Introduction to data center networks

- Define data center networks
- Discuss common drivers for data center networks
- Distinguish common data center network requirements
- Differentiate data center versus campus networks

Data center network products and technologies

- Introduce HPE Aruba Networking data center products and technologies
- Compare the data center management options and advantages
- Deployment models, products, and technologies
- List and demonstrate connection high availability, fault tolerance and load balancing

Data center network design

- Define requirements for data center network design
- Introduce data center network design
- Describe data center policy design
- Compare the data center management options and advantages
- Demonstrate the supported HPE Aruba Data Center Reference Architectures

Switch provisioning and staging

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

Layer 2 collapsed core

- Debate the L2 collapsed core solution and advantages

- Describe the components of the solution

Switch virtualization and stacking

- List HPE Aruba Networking switch virtualization and stacking options and their characteristics
- Explain the difference between stacking and virtualization and their use cases on DCN
- Describe HPE Aruba Networking VSX technology
- Explain how VSX could be deployed in a data center
- Examine the usage and benefits of VSX in a data center

Loop prevention

- Link aggregation group (LAG) and multi-chassis LAG
- Load balancing
- Spanning tree protocols
- Redundant network links:

- Multiple Spanning Tree Protocol
- Loop protect
- Rapid Ring Protection Protocol

Virtual Routing and Forwarding (VRF)

- Describe the concepts behind VRF
- Explain VRF features
- Demonstrate common use cases for VRF
- Configure and maintain an AOS-CX switch running multiple VRFs

Leaf spine networks

- Debate the spine and leaf solution and advantages
- Describe the components of the solution

Virtual Extensible VLAN (VXLAN)

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

EVPN

- Introduce EVPN concepts and use cases
- Explain the EVPN configuration process
- Describe EVPN monitoring and troubleshooting
- Optimize the EVPN environment with ARP and ND suppression
- Describe the EVPN fabric configuration steps to handle multicast traffic
- Explain IPv6 EVPN overlay over an IPv4 underlay configuration

Aruba Fabric Composer

- Define the purpose of Aruba Fabric Composer
- Navigate menus and identify icons
- Manage network services using Guided Set Up
- Explain the benefits of integrating Aruba Fabric Composer with VMware vSphere, HPE ILO, and Pensando Policy Service Manager
- Integrate Aruba Fabric Composer with VMware products and solutions
- Integrate Aruba Fabric Composer with HPE iLO to configure, monitor securely, and update your HPE servers
- Integrate Aruba Fabric Composer with Pensando Policy Services Manager to set up policy for securing your network

Securing the data center with the Aruba CX 10000 Switch

- Define and describe 10K Switch features that improve network performance, security and design
- Manage network services with Aruba Fabric Composer
- Implement policy and network segmentation using Aruba Fabric Composer or Pensando Policy Service Manager
- Utilize analytics gathered by telemetry to view network configuration and view alerts

Data center bridging (DCB)

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

Network Analytics Engine (NAE)

- Describe NAE use cases to monitor and troubleshoot the network.
- Describe NAE agents
- Describe NAE troubleshooting

REST API

- Describe the need for the API
- List the REST API features and functions
- Demonstrate an AOS-CX REST API use case

Aruba Central on Prem (COP)

- Describe COP
- Explain COP use cases for DCN

Who Should Attend

Typical candidates for this course are network professionals responsible for planning, implementing, and supporting data center networking infrastructure.

Prerequisites & Entry Requirements

General Prerequisites:

Aruba suggests these courses as prerequisites :

- AOS-CX Switching Fundamentals (CXSF) &
- Implementing AOS-CX Switching (ICXS)

Or

- Campus Access Fundamentals (ACAF)
- Implementing Campus Access (IACA)

Learning Outcomes

Upon successful completion of this course, participants will be able to:

After you successfully complete this course, expect to be able to:

- 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 into data centers.
- Explain the technologies and frequent configurations used in an L2 collapsed core and spine and leaf DC implementations.
- Identify monitoring and troubleshooting options from HPE for data center networks.
- Recognize possible optimizations for DC switch configurations.
- Implement security policy for your data center network.
- Design and validate a data center network.
- Deploy HPE Aruba Networking data center switches into greenfield or brownfield network environments.
- Integrate HPE Aruba Networking data center switches with other products, such as servers, storage, hypervisors, and so forth, from HPE or 3rd party vendors.
- Troubleshoot, monitor, and maintain data center networks.

Detailed Course Outline

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Skills You Will Learn:

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Frequently Asked Questions

Q: What delivery options are available for Implementing Data Center Networks?

We offer multiple delivery formats:

- Live Instructor-Led Classroom Online (Virtual/Live Online)
- Traditional Instructor-Led Classroom Training (ILT)
- On-site delivery at your offices anywhere in United Kingdom
- Private dedicated courses customized for your team

Q: What certification does this course prepare me for?

The Implementing Data Center Networks course helps prepare you for the Certified Data Center Professional certification path.

Q: How many CPD hours does this course provide?

The 5-day Implementing Data Center Networks course provides up to 32.5 CPD hours of structured learning. CPD certificates can be provided upon request.

Q: What is the duration of the Implementing Data Center Networks training?

The training takes place over 5 day(s), with each day lasting approximately 40.00 hours including breaks for lunch and refreshments.

Q: Do you provide corporate training for Implementing Data Center Networks?

Yes, we provide corporate training, dedicated training, and closed classes for Implementing Data Center Networks. Training can take place anywhere in United Kingdom including London, Manchester, Birmingham, Edinburgh, or live online allowing teams from across United Kingdom or internationally to attend.

Q: What related terms do people search for?

Popular related searches include: Implementing Data Center Networks, Aruba Switching OS CX, IDCN

Q: Why choose Nexus Human for Implementing Data Center Networks?

Nexus Human is recognized as one of the leading training providers. Our trainers have won multiple awards including:

- Small Firms Best Trainer Award
- National Training Partner of the Year (Ireland) - Multiple Years
- Global Top 30 Instructor Awards (2012, 2019, 2021)
- Tech Excellence Award Nominations
- Learning Performance Institute (LPI) External Training Provider Sponsor 2024

Q: Are there any discount codes available?

Yes! Use discount code **PENPAL5** when booking your Implementing Data Center Networks training. Please note that only one discount code can be used per booking and cannot be combined with other special offers.

Nexus Human

Professional Training & Development

Email: info@nexushuman.com

Website: www.nexushuman.com

Phone: +353 1 889 8700 (Ireland) | +44 20 8142 8961 (UK)

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