

Configuring Data Center Networks with Aruba OS CX (01128162) H9TB0S

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The Configuring Data Center Networks with Aruba OS CX course provides the skills and knowledge to design, implement, and configure complex data center solutions based on the Aruba AOS CX switches. Data center networks are at a breaking point. Aruba 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. Aruba data center solutions and technologies such as Virtual Switching Extension (VSX) allow the grouping of data center switches for simpler management, but keep control and data planes separate for better high availability. Ethernet Virtual Private Networks (EVPN) allow the creation of modern two-layered data centers for business resilience and high availability. This course is approximately forty percent lecture and learning activities, and sixty percent lab activities.

Audience

This course is ideal for Aruba partners, customers and employees who have a minimum of 3 years of experience implementing and designing enterprise level networks.

Candidates should demonstrate an ability to understand, configure and implement modern data centers based on Aruba switching solutions that provide a simplified, scalable and automated Ethernet fabric that connects virtualized compute, storage, and cloud services.

Prerequisites

It is strongly recommended that the candidate first complete the Configuring Aruba OS CX (Course ID: 01123901) course.

Course Objectives

After you successfully complete this course, students should be able to:

- Understand the components of the Aruba OS CX switching architecture
- Describe common data center networking requirements
- Describe the benefits of VSX implementation in a data Center
- Understand, describe and configure VRF which enables a switch to run multiple routing instances in a network
- Understand, describe and configure VXLAN functionality; VXLAN provides an alternative to the traditional VLAN concept
- Understand, describe and configure EVPN to transport VXLAN thru the data center
- Understand, describe and configure Data Center Bridging (DCB), a technology that enables the consolidation of IP-based LAN traffic and block-based storage traffic onto a single converged Ethernet network, helping to eliminate the need to build separate infrastructures for LAN systems that carry typical end user data traffic, and SAN systems that carry storage-specific communications
- Understand, describe and configure Ethernet Ring Protection Switching (ERPS) which enables Ethernet ring topologies with a fast convergence
- Describe requirements for a data center network design
- Describe different data center deployment models
- Understand various data center technologies and their impact on a design

Certifications and related examinations

- HPE Product Certified: Aruba Data Center Network Specialist
- HPE2-W06: Aruba Data Center Network Specialist Exam

Detailed course outline

Module 1: Introduction to Data Center Technologies	<ul style="list-style-type: none"> Data center networking evolution Data center networking design 	<ul style="list-style-type: none"> AOS CX switches overview Data center networking technology
Module 2: NetEdit	<ul style="list-style-type: none"> Features Device discovery 	<ul style="list-style-type: none"> Plans
Module 3: Virtual Switching Extension (VSX)	<ul style="list-style-type: none"> VSX components and features VSX software upgrade 	<ul style="list-style-type: none"> VSX at the data center
Module 4: Data Center Bridging (DCB)	<ul style="list-style-type: none"> DCB configuration 	<ul style="list-style-type: none"> DCB components
Module 5: Virtual Routing and Forwarding (VRF)	<ul style="list-style-type: none"> VRF Lite VRF use cases 	<ul style="list-style-type: none"> VRF configuration Data center networking
Module 6: VXLAN	<ul style="list-style-type: none"> VXLAN concepts Operations 	<ul style="list-style-type: none"> Traffic flow
Module 7: EVPN	<ul style="list-style-type: none"> Dynamic tunneling Forwarding 	<ul style="list-style-type: none"> Centralized routing
Module 8: DCI	<ul style="list-style-type: none"> DCI solutions at AOS-CX 	<ul style="list-style-type: none"> ERPS
Module 9: NAE	<ul style="list-style-type: none"> Agents Scripts Upgrade 	<ul style="list-style-type: none"> Troubleshooting Use cases
Module 10: Data Center Networks Design	<ul style="list-style-type: none"> DCN requirements DCN design 	<ul style="list-style-type: none"> AOS-CX technologies for DCN

Detailed lab outline

Lab 1: Initial Lab Setup	<ul style="list-style-type: none"> Configure switches access 	<ul style="list-style-type: none"> System and hardware status
Lab 2: NetEdit	<ul style="list-style-type: none"> Setup environment NetEdit users and passwords Import and manage devices 	<ul style="list-style-type: none"> Create change and conformance validation Create a configuration plan for switches
Lab 3: VSX	<ul style="list-style-type: none"> Configuring VSX ISL VSX LAG Configuring VSX keepalive Configuring VSX active-gateway 	<ul style="list-style-type: none"> VSX redundancy VSX linkup-delay VSX split-brain
Lab 4: DCBX	<ul style="list-style-type: none"> Enabling DCBX Priority Flow Control (PFC) and APP TLV 	<ul style="list-style-type: none"> Enhanced Traffic Selection (ETS)
Lab 5: VRF	<ul style="list-style-type: none"> Setup environment 	<ul style="list-style-type: none"> Inter-Virtual Routing and Forwarding
Lab 6: VXLAN	<ul style="list-style-type: none"> Prepare the base configuration for the lab 	<ul style="list-style-type: none"> VXLAN configuration
Lab 7: EVPN	<ul style="list-style-type: none"> Setup environment 	<ul style="list-style-type: none"> Configure L2 EVPN
Lab 8: ERPS	<ul style="list-style-type: none"> Prepare lab environment Configure ERPS 	<ul style="list-style-type: none"> ERPS operations
Lab 9: NAE	<ul style="list-style-type: none"> Setup environment Upload a NAE script and create an agent 	<ul style="list-style-type: none"> Update a NAE script NAE troubleshoot

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