Advanced AOS-CX Switching (AR-ASTS2)

Course Description

This 5-day course prepares you for the HPE Aruba Networking AOS-CX based ACX - Switching certification exams (Written Exam Code: HPE7-A09 and Practical Exam Code: HPE4-A53). Attending this course will teach you the advanced skills necessary to implement and operate enterprise-level HPE Aruba Networking switching solutions. You will build on the skills you learned at the Professional level to configure and manage modern, open standards based networking solutions using HPE Aruba Networking AOS-CX routing and switching technologies.

In this course, you will learn about AOS-CX switch technologies, such as:

Switch virtualization with HPE Aruba Networking Virtual Switching eXtension (VSX) Redundancy technologies such as Multiple Spanning Tree Protocol (MSTP) Link aggregation techniques, including Link Aggregation Protocol (LACP) Securing port access with HPE Aruba Networking Dynamic Segmentation This course is approximately 50% lecture and 50% hands-on lab exercises.

Course Duration:

5 days

Prerequisites:

The suggested prerequisites for this course are to attend the Implementing AOS-CX Switching, Rev 24.31 course and/or pass the HPE Aruba Networking Certified Professional - Switching (ACP - Switching) certification exam (Exam Code: HPE7-A08).

Objectives:

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

- Design optimized network architectures using AOS-CX switches.
- Troubleshoot and monitor networks using a variety of tools including Command Line Interface (CLI), port mirroring, HPE Aru
- Networking Network Analytics Engine (NAE)), IP SLA, and HPE Aruba Networking Central.
- Configure and troubleshoot HPE Aruba Networking Virtual Switching eXtension and other Layer 2 features.
- Configure optimized network routes using PBR, OSPF, and BGP techniques.
- Implement virtual routing and route redistribution for a controlled routing architecture.
- Apply QoS techniques for efficient traffic handling.
- Employ dynamic segmentation for enhanced security and management.
- Improve network security using access control lists, control plane policing, and MACsec

Outline:

- Wired network design
  - Requirement analysis
  - Two-tier and three-tier network design considerations
  - Switching and routing design principles
- Troubleshooting
  - Troubleshooting principles and methodology
  - Logging and debugging
  - Diagnostic commands
  - Traffic analysis
  - Troubleshooting using HPE Aruba Networking Central
- Monitoring and automation
  - Network automation with AOS-CX
  - REST API
  - Sending REST API requests
  - HPE Aruba Networking Network Analytics Engine
  - Other monitoring
- VSX and L2 technologies
  - VSX
  - VSX best practices
  - VSX troubleshooting
- L3 routing and OSPF
  - Policy-based routing
  - Single-area OSPF troubleshooting
  - Multi-area OSPF
- Border Gateway Protocol
  - BGP connections
  - BGP advertisements
  - BGP metrics and tuning
  - Route control
- Route redistribution
  - Redistribution static routes to OSPF
  - Tuning static to OSPF route redistribution
  - Redistribute OSPF to BGP
- VRF and route leaking
  - Virtual routing and forwarding
  - VRF route leaking

- Multicast routing
    - IGMP
    - PIM-SM build-up process
    - Static RP configuration
    - Dynamic RP configuration
    - VSX and PIM
    - Multicast deployment
- Quality of Service
    - Quality of Service (QoS) overview
    - Ingress stage
    - Prioritization stage
    - Remark QoS
    - Queuing stage
    - Scheduler stage
    - Active queue management
- Dynamic Segmentation
    - Overview
    - Understanding user based tunneling
    - Downloadable user roles
- Network security
    - Access Control Lists
    - Classifier policy
    - Control Plane Policing
    - User group management
    - Management access using TACACS+
    - DHCP snooping and ARP inspection
    - MACsec

Who Should Attend

The ideal candidate for this course is very familiar with HPE Aruba Networking wired switching solutions, including the ability to implement and optimize enterprise-level HPE Aruba Networking Switching campus LAN solutions. Typical candidates in the ASTS course are preparing for the ACX - Switching written and/or ACX - Switching practical exams.