

Implementing Data Center Networks



Online Course

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Implementing Data Center Networks

Course Modules

1.Introduction to data center networks

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

2.Data center network products and technologies

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

3.Data center network design

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



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4. Switch provisioning and staging

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

5. Layer 2 collapsed core

- o Debate the L2 collapsed core solution and advantages
- o Describe the components of the solution

6. Switch virtualization and stacking

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

8. Virtual Routing and Forwarding (VRF)

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



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7. Loop prevention

- o Link aggregation group (LAG) and multi-chassis LAG
- o Load balancing
- o Spanning tree protocols
- o Redundant network links:
 - ☒ Multiple Spanning Tree Protocol
 - ☒ Loop protect
 - ☒ Rapid Ring Protection Protocol

8. Leaf spine networks

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

9. Virtual Extensible VLAN (VXLAN)

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



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11. EVPN

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

12. Aruba Fabric Composer

- o Define the purpose of Aruba Fabric Composer
- o Navigate menus and identify icons
- o Manage network services using Guided Set Up
- o Benefits of integrating Aruba Fabric Composer with VMware vSphere
- o Integrate Aruba Fabric Composer with VMware products & solutions
- o Integrate Aruba Fabric Composer with HPE iLO to configure
- o Integrate Aruba Fabric Composer with Pensando Policy Services

13. Securing the data center with the Aruba CX 10000 Switch

- o Define 10K Switch features that improve network performance
- o Manage network services with Aruba Fabric Composer
- o Policy and network segmentation using Aruba Fabric Composer
- o Utilize analytics gathered by telemetry to view network configuration



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14. Data center bridging (DCB)

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

15. Network Analytics Engine (NAE)

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

16. REST API

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

17. Aruba Central on Prem (COP)

- o Describe COP
- o Explain COP use cases for DCN

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