Course Outline

Building HP FlexFabric Data Centers, Rev 14.41

Course Summary

Description

The Building HP FlexFabric Data Centers course provides you with the skills and knowledge to design, implement and configure complex data center solutions based on the HP FlexNetwork Architecture.
Data center networks are at a breaking point. HP FlexFabric 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.
HP data center solutions and technologies such as Data Center Bridging (DCB) and HP Intelligent Resilient Framework (IRF) allow for the grouping of several switches that are managed as a single virtual switch with a single IP address through switch virtualization. Ethernet Virtual Interconnect (EVI) allows for the connection of geographically dispersed data centers for business resilience and high availability. For more information on the other technologies covered in this course, please go to the Objectives section.

Topics

- Understand the components of the HPE FlexFabric network architecture.
- Describe common datacenter networking requirements.
- Understand, describe and configure Multitenant Device Context (MDC) that is a technology that can partition a physical device or an IRF fabric into multiple logical switches called MDCs.
- Understand, describe and configure Multi-CE (MCE) which enables a switch to function as a Customer Edge (CE) device of multiple VPN instances in a BGP/MPLS VPN network, thus reducing network equipment investment.
- Understand, describe and configure MPLS L2VPN technologies which provide point-to-point connections through Martini, Kompella, CCC, SVC.
- Understand, describe and configure Virtual private LAN service (VPLS), also called transparent LAN service (TLS) or virtual private switched network service, can deliver a point-to-multipoint L2VPN service over public networks.
- Understand, describe and configure the Transparent Interconnection of Lots of Links (TRILL) protocol. TRILL provides large-scale Layer 2 fabric services to maintain the simplicity of traditional Layer 2 systems while adding the scalability and convergence of a Layer 3 routed network.
- Understand, describe and configure Shortest Path Bridging Mac-in-Mac Mod (SPBM) that provides Layer 2 connectivity between data center sites.
- Understand, describe and configure Datacenter Bridging (DCB) that is a technology that enables the consolidation of IP-based LAN traffic and block-based storage traffic onto a single converged Ethernet network. This can help 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 the Ethernet Virtual Interconnect (EVI) protocol that extends Layer-2 networks across data centers via already available L3 routes instead of dark fiber.
- Understand, describe, and configure Fiber Channel over Ethernet (FCoE).
- Understand and configure Storage Area Networking (SAN) Zoning.
- Describe and configure NPV mode.
- Configure a 5900CP for native FC connectivity.
- Describe requirements for a datacenter network design.
- Describe different datacenter deployment models.
- Understand various data center technologies and their impact on a design.
- Describe the options for data center layers.
- Understand, describe and configure Multiprotocol Label Switching (MPLS) that provides connection-oriented label switching over connectionless IP backbone networks.
- Describe the behavior of a Label Switching Router (LSR).
- Describe a Label Switched Path (LSP).
- Describe a Forwarding Equivalence Class (FEC).

Course Outline

Course Outline (cont'd)

Audience

This course is ideal for HPE partners, customer and HPE employees who have minimum of 3 years' experience implementing and designing enterprise level networks.

Candidates, who demonstrate an ability to understand, configure and implement modern data centers based on HPE FlexFabric Data Center 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 one of the ASE core courses, Architecting HP FlexNetwork Solutions or Deploying HP FlexNetwork Core Technologies and pass the associated exam.

Duration

Four days