

Migrating from Cisco to HPE FlexNetworks H8D07S

This course gives network engineers an opportunity to plan for and implement migration from Cisco proprietary protocols to industry-standard protocols and interoperability with HPE Comware devices. Participants will develop plans for migrating Layer 2 and Layer 3 protocols.

HPE course number	H8D07S
Course length	4 days
Delivery mode	ILT, vILT
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Audience

Network or systems administrators, network engineers, and consultants who plan to integrate HPE Comware 7 switches into an existing Cisco environment, or migrate to HPE Comware from a Cisco environment.

Prerequisites

This course is recommended for students who have practical experience with Cisco switches.

- Basic fundamental LAN/WAN networking knowledge
- Theoretical knowledge of the following WAN protocols & services: Routing and Switching Fundamentals, OSPF, BGP, VRRP

Course Objectives

After completing this course, students will be able to:

- Securely manage HPE Comware switches
- Configure HPE Comware and Cisco switches to interoperate using Rapid PVST and MSTP
- Configure a combination of HPE Comware and Cisco switches to operate as edge devices connecting to an IRF fabric
- Migrate an existing Cisco EIGRP network to open standards using OSPF
- Configure HPE Comware and Cisco switches to interoperate using BGP
- Troubleshoot connectivity issues with HPE Comware and Cisco devices using open standards

Detailed Course Outline

Module 1: HPE Comware device management

- Comware initial device access
- Management interfaces
- CLI navigation
- Compare User-view and System-view
- Help and command auto-completion
- Comware basic configuration
- Interface configuration and verification
- DNS configuration
- NTP and manual time configuration
- Securing device access
- Role-based access control
- Local user accounts
- AAA with RADIUS
- Configure SSH access
- Managing software images
- Understanding the Comware boot process
- Comware password recovery procedure
- Flash file system management
- Upgrade the OS on a Comware device
- Managing system configuration files
- Save running configuration
- Specify the configuration to be used at boot up
- Delete, rename, and copy configuration files
- Basic troubleshooting commands
- Link Layer Discovery Protocol
- View LLDP neighbor information
- LLDP—CDP interoperability
- Comware information center
- Info-center severity levels
- Customizing info-center operation

Module 2: HPE-Cisco VLAN interoperability

- Static VLANs
- VLAN terminology
- Port types
- Static VLAN configuration syntax
- VLAN verification
- IP configuration
- IP default settings
- IP interface verification
- VLAN routing
- DHCP support on HPE Comware switches
- DHCP relay
- DHCP server
- Dynamic VLANs
- Compare VTP and GVRP

Module 3: Spanning tree interoperability and migration

- Compare single- and multiple-instance STP
- History and overview of Spanning Tree protocols
- HPE-Cisco options for interoperability
- Compare STP/RSTP with PVST+/Rapid PVST+
- Compare PVST+/Rapid PVST+ with MSTP
- Multiple Spanning Tree Protocol (MSTP) overview
- MST instances
- MSTP regions
- Spanning tree interconnecting different MSTP regions
- MSTP BPDUs
- MSTP interoperability
- Root bridge selection
- Configure edge ports
- Compare MSTP path cost methods
- Spanning Tree protection functions
- MSTP verification
- Region configuration verification
- Verify port states
- Troubleshooting
- Symptoms of MSTP misconfiguration
- Failure to activate region changes
- HPE-Cisco PVST interoperability
- Required and optional configuration steps
- Display PVST information

Module 4: Intelligent Resilient Framework (IRF)

- IRF virtualization overview
- IRF analogy and advantages
- Compare ring and chain topologies
- Master election—member ID and priority
- IRF resilience
- Logical IRF ports
- IRF topology and forwarding traffic
- Detecting a split stack condition
- Planning IRF fabric deployment
- IRF access layer best practices
- IRF distribution best practices
- IRF core layer best practices
- Combine IRF with link aggregation
- IRF configuration procedures
- Options for local and remote devices
- Configure load sharing on aggregated IRF ports
- Configure methods for detecting split stack
- Configuration file synchronization
- In Service Software Upgrade (ISSU)
- Verify IRF configuration and status
- Identify and resolve connectivity problems with IRF configuration

Module 5: Link aggregation interoperability

- Link aggregation overview
- Load-sharing limitations of STP
- Link aggregation interoperability
- Load sharing options
- Link aggregation modes
- Static/Manual link aggregation--
- Dynamic link aggregation
- LACP operational modes
- Link aggregation configuration
- Static link aggregation
- Dynamic link aggregation
- Comware load-sharing mode
- Verify link aggregation status
- Troubleshooting link aggregation

Module 6: EIGRP to OSPF interoperability and migration

- Review basic OSPF
- Establishing adjacency
- LSAs and Link State Database
- Network types: Broadcast, MBNA, PtoP
- OSPF Multiple-area overview
- Area Border Router
- Inter-area routes
- Route aggregation and filtering between areas
- OSPF external routes
- Autonomous System Boundary Router
- AS External summary routes
- Aggregating AS External routes
- Type 1 and Type 2 metric for external routes
- Using Stub and Totally Stub area types to summarize
- Using Not-so-stubby area type
- Compare EIGRP and OSPF
- Peer relationships
- Route selection
- Route summarization
- Design considerations
- Choosing an EIGRP-to-OSPF migration method
- Overlay method
- Redistribution method
- Plan for migration
- Identify factors that might cause downtime
- Peering and authentication
- Area boundaries and address summarization scenarios

Module 7: Border Gateway Protocol (BGP) interoperability

- BGP use cases
- Multi-home BGP subscriber
- Small ISP
- Large ISP
- BGP overview
- Session establishment
- Advertising and receiving prefixes
- Route attributes
- Configure BGP on HPE Comware and Cisco
- Create a connection
- Control route generation and redistribution
- Advertisement and reception filters
- BGP scaling features
- Peer groups
- Communities
- Route reflector and confederation
- Redistribution and filtering
- Identify and resolve problems that may occur in production migration

Detailed Lab Outline

Module 1 Lab - Comware Device Management

Module 2 Lab – Static 802.1Q VLAN Interoperability

Module 3 Lab – Migrating from PVST to MSTP

Module 4 Lab – Migrating to Intelligent Resilient Framework (IRF)

Module 5 Lab – Link Aggregation Interoperability

Module 6 Lab 1 – Implement Single-area OSPF

Module 6 Lab 2 – Implement Multiple OSPF Areas

Module 6 Lab 3 – Manage External OSPF Routes

Module 7 Lab 1 – Interior BGP Interoperability

Module 7 Lab 2 – Advertise and Receive Routes Using eBGP

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