



## Course overview

Deploying HP FlexFabric Core Technologies for Comware Based Devices (H4C88s)

HP FlexNetwork is redefining the way organizations think about their data center network fabric; It is the industry's most complete software-defined network fabric. This four-day course gives network administrators, and engineers an opportunity to plan for and implement networks utilizing HP FlexNetwork Architecture, using Comware devices. Participants will work HP IRF, along with open standard technologies like ACL's, QoS, OSPF, BGP and Multicast technologies. The learner will experience both theory and hands on interaction using HP network devices through remote lab exercises over four days.

### Course Description

This course covers basic and advanced topics within the HP FlexCampus Architecture. The learner will experience both theory and hands on experience utilizing real hardware through lab exercises over four days. The learner will configure and monitor Comware devices using open standard technologies. You will work with layer 2 technologies, such as Multiple Instance Spanning Tree (MSTP) and Link-Aggregation (Trunks). You will also learn about Backplane Stacking. Layer 3 technologies, such as static routes, Open Shortest Path First (OSPF) with Multi-Area implementations, and Border Gateway Protocol (BGP), along with multicast solutions leveraging Protocol independent Multicast (PIM) both dense and sparse modes.

### Audience

- This course is designed for Network Administrators, engineers and consultants who plan to Deploy HP FlexNetwork Architecture using Comware devices.

### Prerequisites

The learner is should have completed one of the two courses below or obtained equivalent knowledge.

- HP FlexNetwork Fundamentals(H4C81)
- HP Comware Foundations training (Part number H4C87)

<b>Course title:</b>	Deploying HP FlexFabric Core Technologies for Comware Based Devices
<b>HP product number:</b>	H4C88s
<b>Category/Subcategory:</b>	Networking
<b>Course length:</b>	4 Days
<b>Level:</b>	Intermediate
<b>Delivery language:</b>	English
<b>To order:</b>	You can register your interest for this course online at <a href="http://www.hp.com.au/education">http://www.hp.com.au/education</a> .At the site, select the course under Networking portfolio and you will see dates for the course. Register your interest for the date of your choice.

### Course objectives

At the conclusion of this course, you should be able to:

- Implement and deploy HP IRF with MAD technologies to protect your network
- Implement, design and deploy Access Control Lists (ACLs)
- Configure, design and deploy Open Shortest Path First (OSPF), in multi-area, and work with External routes
- Implement, design and deploy Open Shortest Path First (OSPF), in multi-area design, and work with External routes
- Implement, design and deploy Border Gateway Protocol (BGP)
- Implement, design and deploy Quality of Service (QoS)
- Implement, design and deploy Multicast (Protocol Independent Multicast Dense Mode and Sparse mode) along with IGMP technologies
- Apply static ACLs to interfaces to meet the needs of a particular scenario
- Examine an ACL configuration and determine the action taken on specific packets

#### Module 4 – Quality of Service

- Need for QoS
- Prioritization and queue scheduling
- Traffic policing and shaping
- Congesting avoidance
- Voice VLAN and LLDP-MED

#### Module 5 – OSPF

- Deploy HP products in single-area and multiple-area OSPF systems
- Use area definitions and summaries to create efficient and scalable, multiple-area designs
- Advertise routes to external networks in a variety of OSPF environments
- Promote fast, effective convergence during a variety of failover situations
- Use virtual links as required to establish nondirect connections to the backbone
- Implement OSPF authentication

#### Module 6 - BGP

- Establish and monitor eBGP sessions between your routers and Internet Service Provider (ISP) routers
- Advertise an IP block to multiple ISP routers
- Filter BGP routes as required for a dual-homed ISP connection
- Configure a BGP router to advertise a default route in OSPF or to redistribute and aggregate BGP routes, as appropriate

#### Module 7 – Multicast

- Route multicast traffic using Protocol Independent Multicast-Dense Mode (PIM-DM) or Protocol Independent Multicast-Sparse Mode (PIM-SM)
- Select and configure rendezvous points (RPs) based on particular environmental needs such as redundancy and efficient operation
- Minimize unnecessary multicast flooding
- Apply advanced controls such as source-specific multicasting (SSM) and administrative scopes to a PIM-SM deployment

## Benefits to you

- Gain hands-on experience with HP FlexNetwork Architecture using Comware experience in a zero risk environment using real hardware. If you make a mistake you will not, incur any production outage in our lab environment which also means no higher ups asking what happened
- Learn how to plan, design and implement HP Flex Network Architecture using HP Comware.
- Enhance your knowledge and comfort level with HP Flex Network Architecture running Comware in any deployment location within your network, from the Core to the Edge, and also the Spine and Leaf design

## Why education services from HP?

- Unmatched technical expertise and support for HP products and technologies
- Comprehensive curriculum of job-specific training leading to vendor certification
- Training you need, when and where you need it with our Remotely Assisted Instructional Learning (RAIL)
- Global training with more than 90 training locations worldwide
- More than 30 years of Education Consulting
- Recognized as an IDC MarketScape leader for IT education (IDC MarketScape: Worldwide IT Education and Training 2012 Vendor Analysis, doc #232870, February 2012)

## Detailed course outline

### Module 1 – Introduction

- Course overview and objectives

### Module 2 – IRF

- Design an IRF virtual device for the core, distribution, or access layer
- Implement and manage an IRF virtual device
- Describe what a split IRF stack is and configure the mechanisms designed to detect and remedy this problem

### Module 3 – Access Control Lists

- Define ACL and identify the criteria by which ACLs select traffic
- Configure ACLs on HP Comware based switches to select given traffic

## For more information

To locate contact information and to learn more about education services, please visit our web site at <http://www.hp.com.au/education> .

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