



# Expert Series Seminar—HPE Intelligent Resilient Framework H8D11S

This course is an introduction to the HPE networking differentiator technology called HPE Intelligent Resilient Framework (IRF). This course is designed to provide an overview of the technology and includes a Hands On Lab (HOL) to help reinforce the aspects covered in the course.

<b>HPE course number</b>	H8D11S
<b>Course length</b>	3 to 4 hours
<b>Delivery mode</b>	ILT
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## Why HPE Education Services?

- IDC MarketScape leader 4 years running for IT education and training\*
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## Course Description

This course covers basic and advanced topics within the HPE 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

- IT professionals who will deploy and manage networks based on HPE Comware products

## Prerequisites

- Students should possess experience with networking and common LAN protocols

## Course objectives

- Describe, implement, and verify HPE Intelligent Resilient Framework (IRF)
- Describe, implement, and verify Multiple Active Devices (MAD) Omad Link Aggregation Control Protocol (LACP) oMAD Bidirectional Forwarding Detection (BFD)

## Benefits to you

- This course will enhance your knowledge and skills in several areas of networking. You will gain proficiency in using the HPE Comware CLI. As a learner you will have sole control of a set of equipment, in a zero risk environment and dedicated to you

\* Realize Technology Value with Training, IDC Infographic 2037, Sponsored by HPE, January 2016

## Detailed course outline

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### Module 1: IRF Virtualization

#### Module 2: Traditional Network issues

- Slow network convergence
- Management complexity
- Poor performance
- Too many tradeoffs

#### Module 3: IRF Advantages

- Design and operational simplification
- Flatter topology
- Higher efficiency
- Scalable performance
- Faster failover
- Distributed high availability and resiliency
- Geographic resiliency
- In-Service-Software-Upgrade

#### Module 4: IRF versus STP

#### Module 5: Supported Comware Products

#### Module 6: IRF Analogy

- Chassis-Based Switches
- Chassis-Based Switches with IRF

#### Module 7: IRF Topologies

- Daisy Chain
- Ring

#### Module 8: IRF Components

- Topology Collection
- Logical IRF Ports
- IRF Domain
- Member IDs

#### Module 9: IRF Resiliency

- N:1
- Protocol Information
- Link
- IRF Port

#### Module 10: Electing a Master

#### Module 11: Switch Configuration Files

#### Module 12: IRF Topology and Forwarding Traffic

- Switching at Layer 2
- Routing at Layer 3

#### Module 13: IRF Split Stack Condition

#### Module 14: Multi-Active Detection (MAD)

- Functions of MAD
- MAD implementations

#### Module 15: Detecting a Split Stack

- Comware-LACPDU
- BFD

#### Module 16: Preventing Addressing Conflicts and Stack Recovery

#### Module 17: IRF Configuration Steps

#### Module 18: Lab Activity

- Configure Advanced IRF Settings
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