



# HPE BladeSystem Networking HL942S (00378835)

This course describes how the HPE virtual connect family of interconnect solutions, which are modules deployed in HPE BladeSystem enclosures, can be used to enable server blades, also installed in the BladeSystem, to access IP and storage networks. A variety of supporting networking technologies will also be covered, including protocols and standards applicable to Layer 1, 2, and 3, that are commonly encountered when selling data center solutions encompassing local area and storage area networks.

**HPE course number** HL942S

**Course length** 3 days

**Delivery mode** ILT

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

## Audience

- HPE Solution Architect
- HPE Authorized Reseller
- Partners
- HPE Technical Client
- Consultants
- HPE Field Presales & Competency Center Solution Architects

## Certifications and related examinations

- AIS—HPE BladeSystem Solutions (2010)
- AIS—HPE ProLiant ML/DL/SL Servers (2010)
- HPE AIS—Converged infrastructure Integration (2011)
- HPO-S32—HPE BladeSystem Networking

## Course objectives

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

- Describe IP networking terminology and concepts including physical connectivity, switching, and routing

- Describe protocols supporting redundancy and availability in IP networks including those enabling link aggregation (LACP and PAgP), and path redundancy (Spanning Tree)
- Describe the implementation of VLANs and how traffic from multiple VLANs can be 2 transported over network links
- Describe protocols commonly used in the management of IP networks including LLDP, CDP, SNMP, and Syslog
- Describe virtual switching concepts including those encountered in server virtualization solutions like VMware
- Describe FlexFabric module and adapters features and functionality
- Describe Converged Network Adapter (CNA) technology and FCoE functionality
- Describe the hardware and software features of the HPE Virtual Connect Ethernet and FlexFabric modules
- Configure HPE Virtual Connect Ethernet modules to support IP network connectivity scenarios

- Configure HPE Virtual Connect FlexFabric modules to support IP network connectivity scenarios
- Describe storage networking terminology and concepts including physical connectivity and fabric topologies
- Describe the hardware and software features of the HPE Virtual Connect Fibre Channel modules
- Configure HPE Virtual Connect FlexFabric modules to support storage network connectivity scenarios
- Configure HPE Virtual Connect Fibre Channel modules to support storage network connectivity scenarios

## Detailed course outline

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<b>Module 1: Networking Overview and Management</b>	<ul style="list-style-type: none"><li>• Deliver an overview of network types and networking techniques</li><li>• Describe strategies for network management</li></ul>
<b>Module 2: Layer 2 concepts</b>	<ul style="list-style-type: none"><li>• Explain OSI Model Layer 2 concepts</li></ul>
<b>Module 3: Layer 3 Concepts</b>	<ul style="list-style-type: none"><li>• Describe Layer 3 concepts</li></ul>
<b>Module 4: Networking Security and Performance</b>	<ul style="list-style-type: none"><li>• Identify strategies for providing network security</li><li>• Explain how to attain network QoS</li><li>• Describe virtual switching concepts</li></ul>
<b>Module 5: HPE Virtual Connect for Ethernet</b>	<ul style="list-style-type: none"><li>• Define terms that relate to Virtual Connect technology in an Ethernet environment</li><li>• Compare the HPE Virtual Connect Ethernet interconnects supported in BladeSystem enclosures</li><li>• Describe the features and functions of VCM and VCEM</li><li>• Explain how to manage server VLAN tagging support</li></ul>
<b>Module 6: HPE Virtual Connect FlexNIC Technology</b>	<ul style="list-style-type: none"><li>• Compare the four Dual Port Flex-10 10GbE Multifunction BL-c Adapters supported in HPE BladeSystems</li><li>• Describe the features and functions of a FlexFabric adapter</li><li>• Explain how FlexNICs work</li></ul>
<b>Module 7: Virtual Connect Fibre Channel Concepts</b>	<ul style="list-style-type: none"><li>• Define terms that relate to Fibre Channel technology</li><li>• Compare the Virtual Connect Fibre Channel modules supported in BladeSystem enclosures</li><li>• Discuss the technologies supported by Virtual Connect Fibre Channel modules</li><li>• Explain how to enable converged network deployments in a data center</li></ul>
<b>Module 8: HPE Virtual Connect Stacking</b>	<ul style="list-style-type: none"><li>• Explain how to implement Virtual Connect stacking</li><li>• List the VC FlexFabric module stacking rules</li></ul>

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## Next steps

- Architecting the HPE Matrix Operating Environment, Rev. 12.31 HL052S (0049786)

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