HP ATP - FlexNetwork Solutions V3
OFFICIAL CERTIFICATION STUDY GUIDE (EXAMS HP0-Y52 AND HP2-Z37)

First Edition

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About the Author

Miriam Allred has spent the last ten years configuring, testing, and troubleshooting HP wired and wireless networks. Miriam combines this wide range of technical expertise with pedagogy and instructional design training, allowing her to create technical training courses for both advanced and entry-level networking professionals. Miriam Allred has a Masters degree from Cleveland State University and a Bachelors degree from Brigham Young University.

Introduction

This book helps you study for the Applying HP FlexNetwork Fundamentals (HP0-Y52) exam and the HP2-Z37 fast track exam to achieve the HP ATP FlexNetwork Solutions V3 certification. The certification validates that you have the networking skills and expertise to design, implement and manage the modern network, based on the HP FlexNetwork Architecture, for small to mid-size businesses. It also verifies that you understand the converged infrastructure strategy including network virtualization with HP's Intelligent Resilient Framework (IRF).

Areas of study include the ability to:

- Perform basic configuration, access security and setup on HP switches.
- Configure Layer 2 technologies such as STP, Link Aggregation and VLANs
- Configure basic IP Routing with static and dynamic routing technologies (OSPF)
- Manage and monitor networks with HP IMC network management software

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Audience

This book is designed for presales solution architects, consultants, installation technicians and other IT professionals involved in supporting HPE networking solutions and products.

Minimum Qualifications

To pass the Applying HP FlexNetwork Fundamentals (HP0-Y52) you should have at least a year of experience in designing small and medium-sized networks with intermediate switching, basic routing and wireless technologies. Exams are based on an assumed level of industry standard knowledge that may be gained from training, hands-on experience, or other prerequisites.

Relevant Certifications

After you pass the exam, your achievement may be applicable toward more than one certification. To determine which certifications can be credited with this achievement, log in to The Learning Center and view the certifications listed on the exam's More Details tab. You might be on your way to achieving additional certifications.

Preparing for the HP0-Y52 Exam

This self-study guide does not guarantee that you will have all the knowledge you need to pass the exam. It is expected that you will also draw on real-world experience and would benefit from completing the hands-on lab activities provided in the instructor-led training.

Recommended Training

Recommended training to prepare for each exam is accessible from the exam's page in The Learning Center. See the exam attachment, "Supporting courses," to view and register for the courses.

Obtain Hands-on Experience

You are not required to take the recommended, supported courses, and completion of training does not guarantee that you will pass the exams. Hewlett Packard Enterprise strongly recommends a combination of training, thorough review of courseware and additional study references, and sufficient on-the-job experience prior to taking an exam.

Exam Registration

To register for an exam, go to http://certification-learning.hpe.com/tr/certification/learn_more_about_exams.html

CONTENTS

Introduction

Concepts covered in this study guide

This study guide introduces you to:

- Switch management
- HP ProVision command line interface (CLI) and Comware CLI
- Basic networking technologies and protocols, such as link aggregation, virtual LANs (VLANs), Spanning Tree Protocol (STP), HP Intelligent Resilient Framework(IRF), and Simple Network Management Protocol (SNMP)

In addition, you will learn about HP wireless access points (APs) and HP Intelligent Management Center (IMC), which provides a single pane of glass management solution.

At the time this study guide was published, the HP Aruba wireless solutions are not part of the HP0-Y52 exam. For more information about Aruba wireless solutions, please visit http://www.arubanetworks.com/. For more information about training, please visit http://community.arubanetworks.com/t5/Training-Certification-Career/bd-p/training-certification-career.

This study guide is designed to help you pass the related certification exam, HP0-Y52. After you pass this exam, you will obtain the HP Accredited Technical Professional (ATP) FlexNetwork Solutions V3 certification.

For more information about this and other HP certifications, visit: http://certification-learning.hpe.com

Although this study guide is a valuable resource, you should also consider taking the *HP FlexNetwork Fundamentals* instructor-led course because it provides hands-on labs, which you can use to practice configuring HP switches. You will also participate in discussions and lab activities, as you practice configuring these basic technologies on HP ProVision and Comware switches.

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2. Download the HP ExpertOne, powered by Aurasma, app on your iPhone or Android device.
3. Install the App.
4. Open the App and point your phone on an image in this guide that is marked by the 

icon. Allow the App to focus on the image until the video starts playing.
5. Once the video begins to play, you can move your smartphone or tablet away from the image in this guide. The video will keep playing on your smartphone.

Example configurations

This study guide provides some example configurations that guide you through the steps required to configure technologies such as STP or HP IRF. Each example configuration includes a network topology such as the one shown in Figure Introduction-1.

These network topologies include four switches, which are labeled ProVision-1, ProVision-2, Comware-1, and Comware-2. The network topology also includes a Windows server and a Windows client.

The network topology shows IP addresses, VLAN assignments, and the ports used to connect to each switch. In Figure Introduction-1, for example, Comware-1 connects to ProVision-1 on port 21 and connects to Comware-2 on port 19.

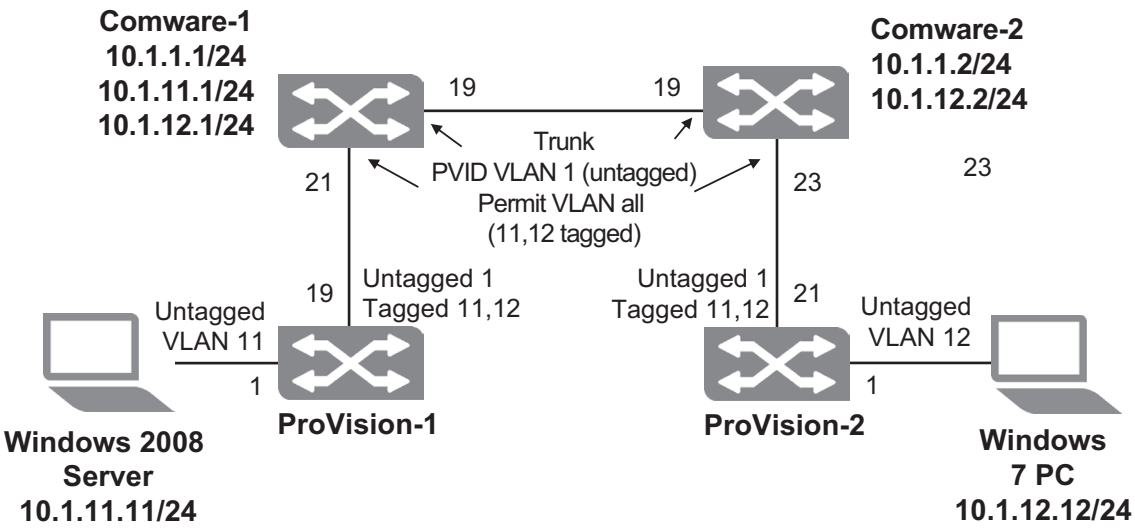

Figure Introduction-1: Example configuration

1 Introduction to HP Networking

EXAM OBJECTIVES

- ✓ Explain how HP Networking solutions meet companies' requirements
- ✓ Explain how HP Intelligent Management Center (IMC) simplifies network management
- ✓ Explain how Software Defined Networking (SDN) revolutionizes networking and encourages innovation

ASSUMED KNOWLEDGE

Before reading this chapter, you should have a basic understanding of

- Local Area Networks (LANs)
- Wide Area Networks (WANs)
- Data centers
- Campus networks
- Branch networks

INTRODUCTION

This chapter introduces you to HP networking solutions, outlining the overarching HP architecture called HP FlexNetwork. It also describes HP solutions that work at each part of that architecture. Note that this chapter does not provide a comprehensive list of HP networking solutions; it introduces you to these solutions, allowing you to go to the HP networking website to get up-to-date information about HP networking solutions.

HP FlexNetwork architecture overview

The HP FlexNetwork Architecture, which is shown in Figure 1-1, forms the basis for HP networking solutions for networks of all sizes, from global enterprise networks to small-to-medium

business (SMB) networks. The networking solutions are a key component of the HP Converged Infrastructure. Enterprises can align their networks with their business needs—even as those needs change—by segmenting their networks into the four interrelated modular building blocks that comprise the HP FlexNetwork Architecture: FlexFabric, FlexCampus, FlexBranch, and FlexManagement.

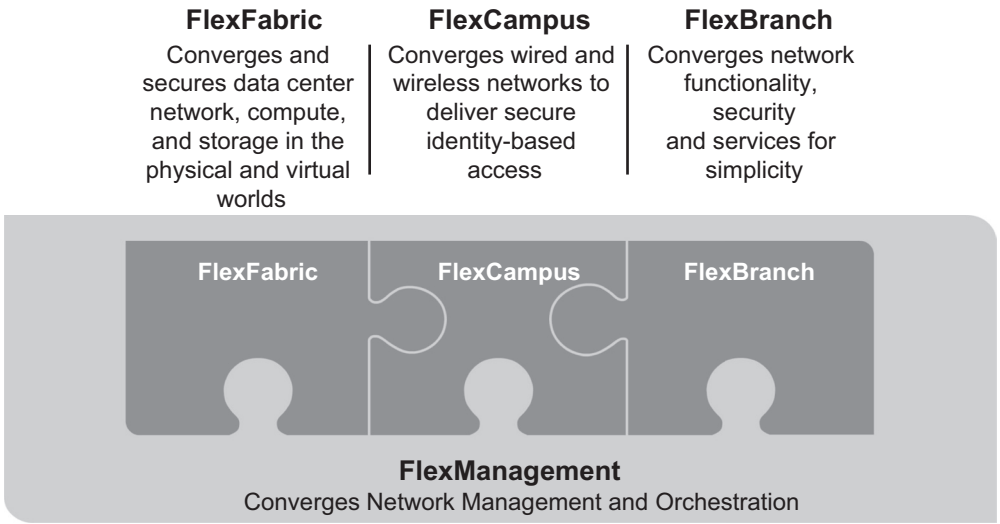

Figure 1-1: HP FlexNetwork architecture overview

HP FlexFabric

HP FlexFabric solutions form the network foundation of an agile, automated, and secure data center. HP data center networking solutions connect servers to a virtualized, high-performance, low-latency network that consolidates multiple protocols into a single fabric to significantly lower network complexity and cost. This unique, wire-once approach will enable businesses to combine Ethernet and storage networks onto one converged fabric that can easily adapt to changing workloads.

HP FlexCampus

HP FlexCampus solutions create an optimized, converged campus network that unifies wired and wireless access and supports multimedia applications. HP campus networking solutions are based on advanced two-tier (or sometimes three-tier) architectures that improve the performance of media-rich collaboration applications by reducing latency and accelerating network throughput as a whole. You will learn more about two-tier and three-tier architectures later in this module.

HP FlexBranch

The branch office plays an important role in an organization's ability to attract, service, and retain customers and to increase revenue. However, branch users often struggle with limited or slow network services. HP FlexBranch solutions ensure that branch users receive the same, satisfying network experience as users at the main office.

HP FlexManagement

You can manage the entire HP networking solution—from the data center to the main campus to each branch—from HP IMC.

IMC version is a centralized network management platform that allows you to manage both your physical and virtual networks. It uses SNMP among other protocols to discover, monitor, and manage devices. IMC integrates fault management, element configuration, and network monitoring from a central vantage point.

HP IMC supports both physical and virtual device management. It also supports both HP and third-party network devices. In fact, IMC supports thousands of network devices from dozens of vendors, including Cisco.

IMC has a modular architecture, which allows you to extend its capabilities in areas such as Bring-Your-Own Device (BYOD) management, wireless and wired user management, server health monitoring, and many others.

You can learn more about IMC in other HP training.

HP data center solutions

As Figure 1-2 shows, HP offers data center solutions that meet organizations' requirements for modern data centers:

- High scalability and density
- High-performance computing
- Resiliency and high availability
- Large Layer 2 networks for virtualized environments
- Control over and visibility into virtual networks
- Network and storage convergence
- Network automation
- Comprehensive switching and routing features