
HP Certified Professional ProCurve Secure WAN Exam (HP0-144)

Exam Preparation Guide

Purpose of the Exam Prep Guide

The intent of this guide is to set expectations about the content and the context of the exam and to help candidates prepare for the exam. In this guide, you will find recommended HP training courses, reference and study material to assist you in preparing for the exam.

Studies conducted by HP and Prometric show that a combination of course attendance and self-study maximizes the likelihood of passing the exam on the first attempt.

Audience

This exam is for system engineers or networking engineers who have experience designing complex networks. Examples of job roles:

Reseller and customer network specialists, System Engineers, Network Engineers, HP Field System Engineers, HP Services Technical Support and Field Services Engineers

Certification Requirements

The ProCurve Secure WAN exam, HP0-144 is an ASE level exam for certification in ProCurve Networking. Check the HPCP website for specifics on the ASE requirements.

The ASE – ProCurve Networking designation provides certification that an individual has the skills to design complex, scalable ProCurve-based networks and can implement and support complex switched and routing environments. This certification also has a focus on multi-protocol networks and performance management. Candidates are expected to have knowledge and hands-on experience with the product to pass this exam.

Prerequisites:

The following requirements are prerequisites for the ASE – ProCurve Networking Certification.

- AIS – ProCurve Networking

Exam Details

At the beginning of the exam, you will be asked to answer several survey questions. The survey questions are designed to assist the exam development team in accurately profiling test results and to improve future exams.

The following are details about the exam:

- **Number of items:** 58
- **Item types:** multiple choice, drag and drop
- **Time commitment:** 105 minutes
- **Passing Score:** 72%
- **Reference Material:** No on-line or hard copy reference material will be allowed at the testing site.

Comments on the Exam

After the exam has been completed, there is additional 15 minutes allotted for the participant to make specific comments about the test items (i.e., accuracy, appropriateness to audience, etc). HP welcomes these comments as part of our continuous improvement process.

Exam Content

Topics included in this exam are:

- Module 1: ProCurve Secure Router Overview
- Module 2: Operating the ProCurve Secure Router
- Module 3: Ethernet Interfaces
- Module 4: Virtual LANs
- Module 5: DNS and DHCP
- Module 6: T1 Interfaces
- Module 7: E1 Interfaces
- Module 8: PPP Interfaces
- Module 9: Frame Relay Interfaces
- Module 10: ADSL Interfaces
- Module 11: Backup Interfaces
- Module 12: Routing and Bridging
- Module 13: ProCurve Secure Router OS Firewall
- Module 14: Access Control Policies
- Module 15: Network Address Translation
- Module 16: Virtual Private Networks
- Module 17: Quality of Service
- Module 18: ProCurve VPN Client

Student Performance Objectives

After passing the ProCurve Secure WAN exam, students will be able to:

- List the data-link option modules available for the ProCurve Secure Router 7102dl and the ProCurve Secure Router 7203dl and explain when companies would select each option
- Identify the modes available in the ProCurve Secure Router operating system (OS) and the tasks that can be performed in each mode
- Identify the commands that can be used to perform basic troubleshooting
- Configure Ethernet interfaces on the ProCurve Secure Router
- Configure the ProCurve Secure Router to support Virtual LANs (VLANs)
- Configure the ProCurve Secure Router to provide Domain Name System (DNS) services or Dynamic Host Configuration Protocol (DHCP) services
- Configure and troubleshoot a T1 or E1 physical connection and its data-link–layer protocol—either Point-to-Point Protocol (PPP) or Frame Relay
- Configure and troubleshoot an ADSL connection and its data-link layer, Asynchronous Transfer Mode (ATM)
- Configure PPP over Ethernet (PPPoE) or PPP over ATM (PPPoA) for ADSL connections
- Configure backup interfaces to provide redundancy if a primary interface fails
- Given a set of customer requirements, determine whether to use static routing, Routing Information Protocol (RIP), or Open Shortest Path First (OSPF)
- Configure RIP and OSPF on the ProCurve Secure Router
- Configure the ProCurve Secure Router to function as a remote bridge and route non-IP traffic
- Describe the firewall capabilities provided by the ProCurve Secure Router and explain how to use these capabilities to enforce a company’s security policy
- Configure access control policies to enforce security for a given set of customer requirements
- Configure Network Address Translation (NAT) on the ProCurve Secure Router
- Configure a site-to-site or client-to-site VPN connection with the ProCurve Secure Router as a VPN gateway
- Explain how the ProCurve Secure Router creates VPN connections using IP Security (IPSec) and Internet Key Exchange (IKE) standards and use this information to perform basic troubleshooting of VPN connections
- Identify the QoS features that the ProCurve Secure Router provides and explain when you would use these features

Recommended Training and Study References

This section lists training courses and documents that can help you acquire a majority of the knowledge and skills needed to pass the exam. You must also gain the practical experience outlined in this guide

You are not required to take the courses listed in this section. However, HP **strongly recommends** that you attend the classes, participate in class labs, and thoroughly review all course material and documents before taking the exam, even if you believe you have sufficient on-the-job experience.

Available Training Courses

Use the information in this guide and the practical experience you have gained to determine your need for the instructor-led training. The courses listed below do have other prerequisites.

| Title | Course Number | How to Enroll |
|------------------------------------|---------------|---|
| ProCurve WAN Technologies prestudy | 25463 | www.hp.com/go/procurvetraining This course is self-paced. It is offered in both CBT and pdf formats |
| ProCurve Secure WAN | 23459 | www.hp.com/go/procurvetraining Use the regional links to find schedules and registration information |

Documentation

| Title | Section Title | Source/Order Number |
|-----------------|---------------|---|
| Product Manuals | | http://www.hp.com/rnd/support/manuals/index.htm |

Other Reference Material

| Title | Order Number | Source |
|-------|--------------|--------|
|-------|--------------|--------|

| | | |
|---|--|---|
| FAQs, Manuals, Configuration Examples, etc. | | http://www.hp.com/rnd/support/ |
|---|--|---|

Preparing for the exam

Here are some recommended steps to prepare for the exam.

- 1) Attend the recommended training courses
- 2) Perform all lab activities
- 3) Make notes about examples that the instructor may have provided
- 4) Read the student and lab guides thoroughly, and ensure that you
 - Can define/describe relevant technologies
 - Can describe the importance of the technologies
 - Understand the possible options available for configuring this product or solution – and know the advantages/disadvantages of each option
 - Know HOW to perform each lab activity and know WHY each task is necessary
- 5) Think about how this product or solution would be used in other scenarios
- 6) Become familiar with the typical installation problems, and be able to perform basic troubleshooting

Sample Test Items

The sample test items give you a preview of what the actual test items will look like. It is important to note that these items WILL NOT be on the exam itself. However, they are representative of the actual items, and they should help you become familiar with the format and complexity of the test items. These items are numbered two ways, sequentially on the left, and by course module number on the right. The first digit of the question number relates to the course module that the question comes from.

These sample test items are not a check for readiness.

1) 5.2.a.1

Review the Exhibit below. The ProCurve Secure Router is configured as a Dynamic Host Configuration Protocol (DHCP) server, with the server address pool shown.

What is wrong with the configuration of this DHCP server address pool?

- A. You cannot enter a subnet mask for the DHCP server address pool; instead, you must use reverse logic wildcard bits.
- B. You can configure only one Domain Name System (DNS) server for each DHCP server address pool.
- C. You cannot specify a default router that is on a different subnet than the addresses in the network command.
- D. You must specify at least one WINS server for the DHCP server address pool.

Exhibit

```
!  
ip dhcp-server pool 'DHCP-Pool'  
  network 192.168.1.0 255.255.255.0  
  dns-server 192.168.1.4 192.168.6.4  
  netbios-node-type h-node  
  default router 192.168.2.1  
  lease 1  
!
```

2) 6.3.a.1

When you configure a serial interface, which option must you configure?

- A. serial-mode, which specifies the electrical signaling for the cable used
- B. tdm-group, which specifies which channels to use for the connection
- C. signaling mode, which controls how the interface transmits signaling information for traffic
- D. line coding, which specifies how data is transferred across the line.

3) 8.3.a.1

You establish a PPP connection for a T1 or E1 line. The interface for the physical carrier-line is up, but the Link Control Protocol (LCP) state is not opened. What could be the cause of this problem?

- A. The LCP cannot negotiate the layer-three protocol because the public carrier is using a different layer-three protocol.
- B. The public carrier is using an incompatible frame format.
- C. The LCP cannot authenticate the router to the public carrier because the authentication information is incorrect.
- D. The public carrier is using Frame Relay, rather than PPP.

4) 8.4.a.1

In these debug messages, which option indicates support for multilink Point-to-Point Protocol?

```
PPPrx[t1 1/1] LCP: Conf-Req ID=133 Len=29
                ACCM(00000000) MAGIC(c0b82465) MRRU(1500)
                ED(3:0000000c045b)
```

```
PPPtX[t1 1/1] LCP: Conf-Ack ID=133 Len=29
                ACCM(00000000)MAGIC(c0b82465) MRRU(1500)
                ED(3:0000000c045b)
```

- A. LCP protocol
- B. ACCM field
- C. MRRU field
- D. Magic field

5) 11.2.b.2

For which connections can a BRI Integrated Services Digital Network (ISDN) backup module provide backup?

- A. The backup module only backs up Point-to-Point Protocol (PPP) WAN connections.
- B. The backup module only backs up interfaces that you have bound to the BRI interface.
- C. The backup module only backs up modules that are installed in the same slot in which the backup module is physically housed.
- D. The backup module only backs up connections for which you have configured a backup dial list.

6) 12.3.b.1

Which rule must you follow when assigning interfaces to a bridge group?

- A. Only Ethernet interfaces can be part of a bridge group.
- B. For interfaces with subinterfaces, you must assign the subinterface to the bridge group.
- C. Frame Relay and PPP interfaces cannot be part of the same bridge group.
- D. You must configure rapid spanning tree protocol (RSTP) for an interface before you can assign it to a bridge group.

7) 13.1.a.1

You have enabled the firewall on the ProCurve Secure Router. Which attack will not be blocked unless you enter a command to enable this additional attack check?

- A. IP spoofing
- B. ping of death
- C. WinNuke
- D. syndrop

8) 14.1.c.1

How do you configure the router to drop certain packets that are outbound through the PPP interface?

- A. Create a deny entry in an ACL, an allow entry in an ACP, and apply the ACP to the PPP interface for outbound traffic.
- B. Create a deny entry in an access control list (ACL) and apply the ACL to the PPP interface for outbound traffic.
- C. Create a permit entry in an ACL, a discard entry in an ACP, and apply the ACP to the PPP interface for outbound traffic.
- D. Create a deny entry in an ACL, a discard entry in an ACP, and apply the ACP to the PPP interface for outbound traffic.

9) 14.3.d.1

Review the Exhibit below. Review the network administrator's configuration.

A network administrator wants to prevent two servers on the network attached to the Ethernet 0/1 interface from transmitting traffic to remote network 10.1.1.0 /24. One server has the IP address 172.16.1.1, and the other server has the IP address 192.168.115.10.

The router is allowing traffic from these servers to remote network 10.1.1.0 /24. How can you fix this problem?

- A. The "discard list InsideTwo" entry in the ip policy-class LAN should be entered before the "allow list InsideOne" entry.
- B. The permit entries in the access-list InsideTwo should be changed to deny entries.
- C. The network administrator should have applied the ACP to the WAN interface directly attached to the remote network 10.1.1.0 /24.
- D. The permit entries in the access-list InsideTwo should be changed to deny entries, and the discard entry in the ip policy-class LAN should be changed to an allow entry.

Exhibit

```

ip firewall
!
ip access-list standard ACL InsideOne
  permit 172.16.0.0 0.0.255.255
  permit 192.168.115.0 0.0.0.255
  deny 10.1.1.0 0.0.0.255
!
ip access-list extended ACL InsideTwo
  permit ip host 192.168.115.10 10.1.1.0 0.0.0.255
  permit ip host 172.16.1.1 10.1.1.0 0.0.0.255
!
ip policy-class LAN
  allow list InsideOne
  discard list InsideTwo
!
interface Eth 0/1
  access-policy LAN

```

10) 16.2.b.1

You are configuring the ProCurve Secure Router to support a virtual private network (VPN) using preshared keys as the authentication method. When do you enter the actual preshared key?

- A. When configuring the IKE policy
- B. When configuring the IKE attribute policy
- C. When configuring the remote ID for the peer
- D. When configuring the crypto map
- E. When configuring the transform set

11) 17.3.a.1

In what order does the ProCurve Secure Router process the Quality of Service (QoS) map entries that are applied to an interface?

- A. The router processes the map entry that allocates the highest bandwidth first.
- B. The router processes the map entries in the exact order in which you applied them to the interface.
- C. The router processes the map entry with the highest sequence number first.
- D. The router processes the map entry with the lowest sequence number first.

Answers:

- | | |
|-----|----|
| 1) | C. |
| 2) | A. |
| 3) | D. |
| 4) | C. |
| 5) | D. |
| 6) | B. |
| 7) | C. |
| 8) | B. |
| 9) | A. |
| 10) | C. |
| 11) | D. |

Conclusion

HP wishes you success in the HP Certified Professional Program and in passing the exam for which you are preparing.