HP Certified Professional
Installing & Supporting Standard HP SAN Environments
Exam # HP0-429
Exam Preparation Guide

Purpose of the Exam Preparation 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, and sample test items to help you achieve a successful passing score.

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 engineers who support HP storage area networks. Examples of job roles include:

- HP ASE engineer
- HP Services field engineers, call center personnel, and other field personnel who provide installation and/or operational support assistance
- HP Channel Partners supporting HP storage products (e.g., engineers who perform warranty and installation services)

General content areas include:

- Storage technologies and implications
- Design and validate solutions
- Implementation
- Support
- Administration

Certification Requirements

The Installing & Supporting Standard HP SAN Environments exam (HP0-429) is one of the electives available to fulfill the requirements to be certified as an Accredited Systems Engineer – StorageWorks.
Prerequisites

- Accredited Integration Specialist – StorageWorks certification
- In-depth knowledge of the content of the SAN Design Guide
- Knowledge or completion of prerequisite Web-based and Instructor Led Training courses specified in the Recommended Training and Study References section of this exam preparation guide
- Good understanding of the content of the Designing and Implementing HP SAN Solutions v6.21 training course (33060)

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.

Details about the exam include:

- **Number of items:** 61
- **Item types:** multiple choice, drag-and-drop
- **Time commitment:** 90 minutes
- **Passing Score:** 75% (46 items to pass)
- **Reference Material:** No on-line or hard copy reference material will be allowed at the testing site.

Comments on the Exam

During the exam, participants can make specific comments about the items (i.e., accuracy, appropriateness to audience, etc). HP welcomes these comments as part of our continuous improvement process.

Exam Content

The following testing objectives represent the specific areas of content covered in the exam. Use this outline to guide your study and to check your readiness for the exam. The exam measures your understanding of these areas.

Installing & Supporting Standard HP SAN Environments (HP0-429) Exam Content

1.0 Storage Technologies & Implications

- 1.1 Compare and contrast storage technologies to meet customer needs.
- 1.2 Define and identify basic SAN related terms and concepts.
- 1.3 Define and identify common advanced SAN related terms and concepts, for example, storage and SAN virtualization, homogeneous and heterogeneous SANs, SAN trunking, fabric merge.
1.4 Define and identify vendor-specific terminology, concepts, and product classifications.

1.5 Describe basic storage technologies used in SAN environments, for example, RAID, backup, multi-pathing, zoning.

1.6 Describe advanced storage technologies used in SAN environments, for example, ISL trunking, port channeling.

1.7 Describe SAN performance aspects, SAN topologies, Fibre Channel routing, and multi-protocol concepts.

1.8 Identify and describe switch concepts and configurations, for example, M-Series, B-Series, and C-Series.

2.0 Design & Validate Solutions

2.1 Identify considerations for high availability service level requirements.

2.2 Identify references required for solution design and validation.

2.3 Identify recommended products for disaster tolerant configurations.

2.4 Define recommended validation levels to ensure solutions meet customer requirements.

3.0 Implementation

3.1 Demonstrate the ability to perform basic Fibre Channel switch configuration, for example, access methods, zoning implementation, set supported fabric parameters.

3.2 Demonstrate the ability to perform advanced Fibre Channel switch configuration, for example, trunking implementations, routing, special switch features.

3.3 Describe the functionality of different multi-pathing software and when to implement it.

3.4 Demonstrate the ability to verify the storage presentation and adapter connectivity on OpenVMS, HP-UX, Tru64 Unix, Linux and Windows

4.0 Support

4.1 Describe firmware update procedures for SAN components, MPIO drivers, and hardware drivers.

4.2 Identify the correct firmware versions of SAN elements, MPIO drivers and hardware drivers.

4.3 Demonstrate the ability to merge fabrics in a homogeneous switch environment.

4.4 Identify the correct methods to troubleshoot SAN components.

4.5 List the troubleshooting steps for a given malfunction scenario in a SAN environment.

4.6 Demonstrate the ability to correctly interpret messages and logs in a SAN environment.
4.7 Demonstrate the ability to correctly interpret SAN element error counters for problem resolution and pro-active SAN management.

4.8 Demonstrate the ability to establish and maintain SAN security.

4.9 List the steps to remove failed components and to integrate replaced components into a SAN.

4.10 List the steps to add components into a SAN.

5.0 Administration

5.1 List SAN element tools and utilities for installation, configuration, administration, monitoring and reporting, data management, and provisioning.

5.2 Identify methods and settings to implement and maintain SAN security.

5.3 Demonstrate the ability to monitor SAN performance.

5.4 Demonstrate the ability to administer and interpret messages and logs in a SAN environment.

5.5 Demonstrate the ability to maintain the availability state of a SAN.

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 and thoroughly review all course material and documents before taking the exam, even if you believe you have sufficient on-the-job experience.

Instructor-Led Training

Use the information in this guide and the practical experience you have gained to determine your need for the instructor-led training.

<table>
<thead>
<tr>
<th>Title</th>
<th>Course Number</th>
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<tbody>
<tr>
<td>Introduction to SANs</td>
<td>33061</td>
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</table>

Web-based Training

Self-paced training and technical documentation may provide appropriate learning alternatives to instructor-led training for more experienced candidates.

<table>
<thead>
<tr>
<th>Title</th>
<th>Course Code</th>
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<tbody>
<tr>
<td>SAN Fundamentals WBT</td>
<td>9275</td>
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**Documentation**

<table>
<thead>
<tr>
<th>Title</th>
<th>Source/Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP StorageWorks Fabric Manager 5.x Administrator Guide, September 2005</td>
<td>Part Number: AA-RUQSF-TE</td>
</tr>
<tr>
<td>McData Sphereon™ 4500 Fabric Switch Installation and Service Manual, Rev A</td>
<td>P/N 620-000159-330</td>
</tr>
</tbody>
</table>

**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 sample test items are not a check for readiness.

The following items represent the types of items and question formats that you could see on the exam. These are generic examples and do not reflect the content being tested.

1. Which planet is closest to the Earth?
   A. Mars  
   B. Pluto  
   C. Venus  
   D. Saturn
2. Which planets are “inner planets” — planets found within the asteroid belt? Select TWO.

A. Pluto
B. Earth
C. Neptune
D. Mercury
E. Venus

3. Click the Exhibit button. What is this constellation called?

A. Leo
B. Aries
C. Orion
D. Taurus
E. Gemini
F. Pleiades
G. Ursa Minor
H. Ursa Major
I. Andromeda
4. Click the Task button.

Place the planets in order of closest to farthest from the planet Earth.

**Conclusion**

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