Overview

Requirements for successful completion

This guide helps you to study for the Implementing HP BladeSystem Solutions (HP0-S35) exam. You can benefit from this guide whether you are attempting to expand your existing HP certification or you have another vendor presales or integration background and want to get certified with HP.

To pass the exam, you will need to demonstrate your in-depth understanding of the technologies deployed in the HP BladeSystem Solution and how to properly configure the various hardware components; servers, options, rack, and power distribution components, and networking components into a base configuration ready for deployment.
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Why take the exam?
Based on your current achievements, passing this test gives you one component toward achieving:
- HP Accredited Technical Professional (ATP) – BladeSystem Solutions Integrator V8.1 certification

HP ATP – BladeSystem Solutions Integrator V8.1 certification
This certification attests that you can:
- demonstrate your in-depth understanding of the technologies deployed in the HP BladeSystem Server Solutions including the new HP ProLiant Generation 8 (Gen8) Server technologies and solutions
- describe and position the HP management and deployment tools and how they are used to deploy, monitor and manage HP BladeSystem Solutions

There is one path to achieve this certification, as outlined below.

Path 1
You must pass the following exam:
- Implementing HP BladeSystem Solutions (HP0-S35)

Table 1 summarizes the requirements for this path.

Table 1: HP ATP - BladeSystem Solutions Integrator V8.1 requirements based on current achievement

<table>
<thead>
<tr>
<th>Requirements for HP ATP - BladeSystem Solutions Integrator V8.1</th>
<th>All candidates</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP ATP – Server Administrator V8</td>
<td>Highly recommended</td>
</tr>
<tr>
<td>CompTIA Server+</td>
<td>Highly recommended</td>
</tr>
<tr>
<td>Or</td>
<td></td>
</tr>
<tr>
<td>Web-based exam – Industry Standard Architecture and Technology (HP2-T16)</td>
<td>Highly recommended</td>
</tr>
<tr>
<td>Operating System prerequisite – see Certification Explorer for details on ASE level server certifications <a href="http://www.certificationexplorer.com">www.certificationexplorer.com</a></td>
<td>Highly recommended</td>
</tr>
<tr>
<td>Networking prerequisite – see Certification Explorer for details on ASE level server certifications <a href="http://www.certificationexplorer.com">www.certificationexplorer.com</a></td>
<td>Highly recommended</td>
</tr>
<tr>
<td>HP0-S32 HP BladeSystem Networking (preferred)</td>
<td>Highly recommended</td>
</tr>
<tr>
<td>Proctored exam – Implementing HP BladeSystem Solutions (HP0-S35)</td>
<td>X</td>
</tr>
</tbody>
</table>
Who should take this exam?

All candidates for HP ATP – BladeSystem Solutions Integrator V8.1 certification must take the Implementing HP BladeSystem Solutions (HP0-S35) exam.

Although anyone can take the exam, it is recommended that candidates have a minimum of one year experience with server technologies, preferably HP BladeSystem solutions. It is also expected that you will have industry-standard server technology knowledge from training, hands-on experience or participation in other technical events. This guide describes some of these ways and provides references to materials for further preparation.

NOTE

If you are a new candidate and want to earn the HP ATP – BladeSystem Solutions V8.1 certification, it is highly recommended that you take the HP BladeSystem Networking course and exam HP0-S32 HP BladeSystem Networking, first.

How to study for the exam

The Implementing HP BladeSystem Solutions (HP0-S35) exam tests you on topics that are covered in an HP instructor-led training (ILT) course (5 days total). This training is recommended for all candidates no matter what their current achievements.

While it is recommended that you complete this training, the training is neither required nor does it guarantee that you will pass the exam. It is expected that you will study on your own and draw on your real-world experience. Also remember that the exam tests you on design concepts, which are covered in an instructor-led course and real life experiences.

Read the sections below to assess your options. Even if you do not intend to complete the recommended ILT-based course, you should examine the topics that are listed for them in the sections below; the exam will test you on your mastery of these topics.

Complete recommended ILTs

ILT to help to prepare you for this exam:

•  Implementing HP BladeSystem Solutions, Rev 13.21 (5 days)

You are highly encouraged to attend this course, particularly because it offers content on the latest HP BladeSystem solutions that have been designed to make the data center simpler, more flexible, more efficient and less expensive to operate. Implementing HP BladeSystem Solutions Rev. 13.21 is a comprehensive course that focuses on the initial installation and startup tasks required to bring a customer’s BladeSystem Solution online and prepared for the deployment of applications. This course delivers the technical information necessary to successfully install and configure HP BladeSystem components including enclosure, server blades, interconnect modules, storage blades, and management devices. Students will install multiple operating systems using deployment tools and also use HP management software. This course includes content on HP’s latest generation of servers. HP ProLiant Gen8 servers have over 150 new design innovations, including the HP ProActive Insight systems architecture which comprises powerful hardware and software that delivers server life cycle automation, while at the same time providing continuous intelligence on server health, power usage and other important diagnostics. HP ProLiant Gen8 with the built-in HP ProActive Insight architecture addresses the top concerns of enterprises via intelligent technologies that automate tasks and significantly improve uptime. In addition to in-depth technical training on the key technologies that enable these solutions, this class provides hands-on labs, sizing and configuration exercises, and solution demonstrations. Completing this course assists
in preparation for the HP Accredited Technical Professional (HP ATP) - BladeSystem Solution Integrator V8.1 certification exam.

Register for the course in The Learning Center of your HP Partner Portal, which is the HP Learning Management System for HP customers and partners. You will require an HP Learner ID to register for a class. Please obtain this ID and then register for classes at least one week in advance. Costs and scheduling vary according to region.

Upon completion of this course, you should be able to:

- Describe the HP BladeSystem positioning
- Identify the components of the BladeSystem portfolio
- List the key HP BladeSystem Generation 8 (Gen8) server technologies
- Name the BladeSystem management and deployment tools
- Identify and describe the HP BladeSystem enclosures
- Explain how HP Onboard Administrator modules are used
- Describe the power architecture used in HP BladeSystem systems, including:
  - Power modes
  - Power supplies
  - Power modules
  - Power distribution units (PDUs)
- Describe Thermal Logic technology
- Describe the cooling technologies designed for the BladeSystem systems
- Describe the use of a DVD-ROM drive in the enclosures
- Describe the HP ProLiant Generation 8 (Gen 8) and Integrity server blades that constitute the HP BladeSystem portfolio.
- Describe the features and functions of HP:
  - Storage blades
  - Tape blades
  - Expansion blades
- Describe the features and functions of HP Smart Array controllers
- Describe the following HP BladeSystem Ethernet interconnect modules for HP ProLiant server blades:
  - HP 6120XG Ethernet Blade Switch
  - HP 6120G/XG Blade Switch
  - Cisco Catalyst Blade Switch 3020
  - Cisco Catalyst Blade Switch 3120
  - HP GbE2c Layer 2/3 Ethernet Blade Switch
  - HP 1:10Gb Ethernet BL-c Switch
  - HP 1Gb Ethernet Pass-Thru Module
  - HP 10GbE Pass-Thru Module
- Describe the HP BladeSystem Fibre Channel interconnect modules available for
- HP BladeSystem
  - Cisco MDS 9124e Fabric Switch
  - Brocade 8Gb SAN Switch
- Describe the Serial-Attached SCSI (SAS) switches available for BladeSystem
- Identify 4X InfiniBand Switch Modules available for BladeSystem
- Differentiate the Fibre Channel mezzanine card options available for BladeSystem
- Explain how to configure:
  - An HP GbE2c Layer 2/3 Ethernet Blade Switch
  - A Cisco Catalyst Blade Switch 3020 or 3120
  - An HP 1:10Gb Ethernet BL-c Switch
  - An HP 6120XG or 6120G/XG switch

To learn more about HP Servers, visit www.hp.com/virtualization

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HP0-S35: Implementing HP BladeSystem Solutions
Exam Preparation Guide / March 2013
• Explain how to configure the following switches:
  • Brocade 8Gb SAN Switch for HP BladeSystem
  • Cisco MDS 9124e Fabric Switch for HP BladeSystem
  • HP 3Gb SAS BL Switch for HP BladeSystem
• Describe the HP Virtual Connect portfolio and the basic technology
• Plan and implement a Virtual Connect environment
• Configure a Virtual Connect module
• Manage a Virtual Connect domain
• Explain how to use Virtual Connect modules in a real-world environment
• Describe the basic features of the HP Modular Smart Array (MSA) 2000/P2000 family
• Describe the basic features of the HP P4000 solution
• Identify HP software available for HP storage arrays and describe their features
• Describe how virtualization works with HP ProLiant servers running products from the following OEMs:
  • VMware
  • Citrix
  • Microsoft
• Describe the placement rules and installation guidelines for BladeSystem
• Explain how to use and configure:
  • Onboard Administrator
  • Insight Display
  • iLO Management Engine
• Describe the ways to attach a DVD-ROM drive to BladeSystem enclosures
• Describe HP Insight Control components and its hardware and software requirements
• Describe the basic features of HP Systems Insight Manager (HP SIM)
• Describe features and components of Insight Control server deployment
• Describe scripted and imaged installation
• Describe special functionality of Insight Control server deployment for HP BladeSystem
• Explain how to increase availability through power protection
• Identify data protection software products available from HP and describe their key features
• Identify the diagnostic tools available for HP BladeSystem solutions
• Maintain the drivers and firmware for a BladeSystem solution
• Identify the HP Services available for BladeSystem

Format offered
Five-day instructor-led training.

To learn more about HP Servers, visit www.hp.com/virtualization
Obtain hands-on experience

All HP exams are designed for server solution design professionals with on-the-job experience, but this exam, in particular, requires no such experience.

Highly recommended optional training

To support the exam several WBTs have been consolidated into a curriculum offering that provides product related knowledge that will be of interest. The information on the latest generation of servers, Gen8, is contained in the “What’s New” section of the WBT. For this exam it is very highly recommended that you take the time to review each course “What’s New” section in this curriculum.

Course ID Course Name
00755204 Level I - Consolidated Blade Family Technical Training

Highly recommended reading

To support the exam there are Whitepapers and Guides that provide product related knowledge that will be of interest. The Whitepapers referenced contain information on the latest generation of servers and tools. For this exam it is very highly recommended that you take the time to review each document listed in this section.

<table>
<thead>
<tr>
<th>Whitepaper and Guide Name</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>HP ProLiant Servers Troubleshooting Guide</td>
<td><a href="http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?lang=en&amp;cc=us&amp;taskId=101&amp;prodClassId=-1&amp;contentType=SupportManual&amp;docIndexId=64255&amp;prodTypeId=37099458&amp;prodSeriesId=1844065">http://h20000.www2.hp.com/bizsupport/TechSupport/DocumentIndex.jsp?lang=en&amp;cc=us&amp;taskId=101&amp;prodClassId=-1&amp;contentType=SupportManual&amp;docIndexId=64255&amp;prodTypeId=37099458&amp;prodSeriesId=1844065</a></td>
</tr>
</tbody>
</table>
The Learning Center resources

To provide additional support for your job role we have many resources that are available on The Learning Center accessed through the HP Partner Portal. The following is a snapshot of the resources available there:

Specifically under the Resource category you will find the Media Center & Library where you can find items like customer case studies and videos, and numerous Whitepapers. You will also find here the Partner Services Media Library which gives you access to content like Field Replaceable Unit Remove/Replace procedures and Part Locator and the newest addition, Quick View Product Knowledge, which contains an overview of products using descriptions, graphics and video compiled from HP technical documentation and training resources.
How to take the Implementing HP BladeSystem Solutions (HP0-S35) exam

Table 2 provides details about the exam. Note that this is a proctored exam, which you must complete at a scheduled time and authorized location. You will not be allowed to take any reference materials with you.

Table 2: HP0-S35 exam details

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of items</td>
<td>60</td>
</tr>
<tr>
<td>Item types</td>
<td>• Multiple choice (single response)</td>
</tr>
<tr>
<td></td>
<td>• Multiple response</td>
</tr>
<tr>
<td></td>
<td>• Matching</td>
</tr>
<tr>
<td>Exam time</td>
<td>90 minutes</td>
</tr>
<tr>
<td>Passing score</td>
<td>70%</td>
</tr>
<tr>
<td>Additional guidelines</td>
<td>• No online or hard copy reference materials will be allowed during this exam.</td>
</tr>
<tr>
<td></td>
<td>• This exam may contain additional, non-scored beta test items for experimental purposes.</td>
</tr>
</tbody>
</table>

Exam objectives

The following testing objectives represent the specific areas of content covered on 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.

Table 3: HP0-S35 objectives

<table>
<thead>
<tr>
<th>HP0-S35</th>
<th>Sections/Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>8%</td>
<td>Fundamental server architectures and technologies</td>
</tr>
<tr>
<td></td>
<td>• Compare and contrast processor technologies and usage</td>
</tr>
<tr>
<td></td>
<td>• Identify blade architecture &amp; technology benefits</td>
</tr>
<tr>
<td></td>
<td>• Identify current server OS &amp; virtualization solutions</td>
</tr>
<tr>
<td></td>
<td>• Define disaster recovery concepts and technologies</td>
</tr>
<tr>
<td></td>
<td>• Identify and define data center components design</td>
</tr>
<tr>
<td>19%</td>
<td>HP Server products, solutions and warranty/service offerings</td>
</tr>
<tr>
<td></td>
<td>• Differentiate HP server products, technologies, processes</td>
</tr>
<tr>
<td></td>
<td>• Describe health and fault technologies</td>
</tr>
<tr>
<td></td>
<td>• Identify and define HP datacenter and rack infrastructure solutions</td>
</tr>
<tr>
<td></td>
<td>• Compare and contrast I/O connectivity options</td>
</tr>
<tr>
<td></td>
<td>• Compare and contrast HP storage options</td>
</tr>
<tr>
<td></td>
<td>• Identify HP management tools &amp; solutions</td>
</tr>
<tr>
<td></td>
<td>• Differentiate HP standard warranties for server solutions</td>
</tr>
<tr>
<td>32%</td>
<td>Solution implementation (install, configure, setup)</td>
</tr>
<tr>
<td></td>
<td>• Install the rack and accessories</td>
</tr>
<tr>
<td></td>
<td>• Install and configure server hardware, infrastructure, options</td>
</tr>
<tr>
<td></td>
<td>• Install and attach HP external storage</td>
</tr>
<tr>
<td></td>
<td>• Configure server and related options</td>
</tr>
<tr>
<td></td>
<td>• Install HP supported operating system</td>
</tr>
<tr>
<td></td>
<td>• Install, configure HP management software</td>
</tr>
<tr>
<td></td>
<td>• Validate, test, and document the solution</td>
</tr>
<tr>
<td>13%</td>
<td>Solution enhancement (performance-tune, optimization, upgrade)</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>• Set performance thresholds</td>
</tr>
<tr>
<td></td>
<td>• Reestablish new baseline</td>
</tr>
<tr>
<td></td>
<td>• Perform system upgrades</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>13%</th>
<th>Solution troubleshooting, repair, and replacement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Gather troubleshooting information and data</td>
</tr>
<tr>
<td></td>
<td>• Evaluate data to determine problem</td>
</tr>
<tr>
<td></td>
<td>• Execute the plan</td>
</tr>
<tr>
<td></td>
<td>• Test if fault is resolved using appropriate tools</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>15%</th>
<th>Solution management (administrative and operational tasks)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Configure HP Systems Insight Manager</td>
</tr>
<tr>
<td></td>
<td>• Use HP Server Management</td>
</tr>
<tr>
<td></td>
<td>• Manage/maintain components using appropriate tools</td>
</tr>
<tr>
<td></td>
<td>• Manage/maintain operating system</td>
</tr>
</tbody>
</table>

**Tips for taking HP exams**

Rather than emphasize simple memorization, HP exams attempt to assess whether you have the knowledge and skills that an IT professional requires on the job. Therefore, many test items present a scenario, which outlines a particular network environment or problem. Some test items also include exhibits, which might show:

- Network diagram for cable connections to interconnect module
- Enclosure rack placement and configuration
- Screenshot showing the results of executing a command
- SIM Web browser interface screenshot

You will need to use the exhibit to complete the test item successfully. The test may include:

- Multiple choice questions that have a single correct response
- Multiple choice questions that have two or more correct responses
- Drag and drop questions that require you to match items
- Point-and-click questions that require you to click on the correct answer

As Table 2 shows, you will have less than two minutes per question. Some questions will take much less time, and some will require a bit more. If allowed by the system you are using to take the exam, you might want to answer the questions about which you are sure first and then move back to the others.

Before you answer a question, take the time to read the entire question and all of the options carefully. If the question indicates that it features an exhibit, study the exhibit and reread the question. Make sure to select the answer that correctly responds to the question that is asked — not simply an answer that includes some correct information.

If the question asks for more than one answer, remember to select each correct answer. You do not receive partial credit for a partially correct answer.

**Register**

To register for this exam, please go to the exam tab in The Learning Center and click on “Access more information”.


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To learn more about HP Servers, visit [www.hp.com/virtualization](http://www.hp.com/virtualization)

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Sample questions

Use the following questions to help to assess whether you are ready to take the exam.

1. During a system upgrade, an administrator installed a mismatched memory into an HP ProLiant Gen8 server. Which System ROM feature indicates this condition?
   - (a) Early Fault Detection Messaging
   - (b) Integrated Management Log
   - (c) Insight Diagnostic
   - (d) Agentless Management System

2. Which HP component allows a customer to centrally manage all devices in an HP c-Class BladeSystem enclosure?
   - (a) Virtual Connect Flex-10
   - (b) Virtual Connect Enterprise Manager
   - (c) iLO Management Engine
   - (d) Onboard Administrator

3. What are advantages of HP SmartMemory? (Select two.)
   - (a) validates if installed for best performance on POST
   - (b) provides enhanced support through HP Active Health System
   - (c) can disable/enable ECC mode
   - (d) offers memory mirroring within a server
   - (e) authenticates if memory is genuine HP on POST

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4. Which port on the HP BladeSystem Onboard Administrator management module shown represents the iLO/OA port?

- (a) 1
- (b) 2
- (c) 3
- (d) 4
- (e) 5
- (f) 6

5. Which Fibre Channel technology allows multiple Fibre Channel HBAs to use the same HP Virtual Connect Fibre Channel uplink?

- (a) Logical SAN
- (b) N_Port ID Virtualization (NPIV)
- (c) IEEE 802.3n
- (d) Link Aggregation Control Protocol (LACP)

6. In an HP ProLiant server with a Smart Array controller, which hard drive can be removed without any risk of data loss?

- (a) any drive configured as a hot spare
- (b) any drive in a hot-swap storage system that is configured in a RAID 5
- (c) any drive in a hot-swap storage system that is configured in a RAID 1
- (d) any drive in a hot-swap storage system that is configured in a RAID 0
7. Several disks of a RAID 5 running on the embedded HP Smart Array P220i on a BL460c Gen8 have no LED indications. The RAID appears to be fully operational and all data is accessible without any performance issues.

What is a possible cause for the missing LED indications?

- (a) The drives might not be authenticated by Smart Carrier authentication.
  - (b) The Supercaps of the FBWC are disabled.
  - (c) There is an uncleared error in the Event Log.
  - (d) The AUX power supply to the drives is not operational.

8. A customer tried to install Windows 2008 on a BL460c Gen 8 Blade. The Smart Array failed, and the system module has been replaced. Without Windows loaded, what is the fastest way to check the firmware level of the Smart Array?

- (a) Firmware DVD
- (b) iLO
- (c) HP Smart Update Manager (SUM)
- (d) BladeSystem Release Set


Which Virtual Connect configuration allows for the maximum cable consolidation in this two-enclosure configuration?

- (a) Enclosure Link
- (b) Multi Enclosure Bridging
- (c) Multi Enclosure Stacking
- (d) Virtual Connect Enterprise Manager

10. What is the most secure method for controlling data center access?

- (a) access card
- (b) security guard station
- (c) push button code lock
- (d) retinal scanner

Conclusion
HP wishes you success in passing the exam and joining the HP ExpertOne program.

HP ExpertOne