

HPE ASE – Server Solutions Architect V4

OFFICIAL CERTIFICATION STUDY GUIDE

(EXAMS HPE0-S54 AND HPE0-S55)

First Edition

Radek Zima

HPE Press
660 4th Street, #802
San Francisco, CA 94107

HPE ASE – Server Solutions Architect V4
Official Certification Study Guide (Exams HPE0-S54 and HPE0-S55)
Radek Zima

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Published by:

Hewlett Packard Enterprise Press
660 4th Street, #802
San Francisco, CA 94107

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ISBN: 978-1-942741-85-5

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Publisher: Hewlett Packard Enterprise Press

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Introduction

This book is based on the Designing HPE Server Solutions course, this self-study guide helps you prepare for the HPE ASE - Server Solutions Architect V4 certification exam (HPE0-S54) and delta exam (HPE0-S55). The certification validates you can expertly plan, design and recommend server solutions based on HPE ProLiant Gen 10, HPE BladeSystem, HPE Apollo, HPE SimpliVity and Synergy composable infrastructure solutions.

Note: This certification also requires the HPE OneView product certification or delta exam. Please visit the certification page for details: <https://certification-learning.hpe.com/tr/datacard/Certification/ASE-ServSolArchV4>

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This book is designed for presales technical specialists with at least three years' experience who plan and design HPE server and composable infrastructure solutions.

Typical candidates for this book include consultants, pre-sales engineers, sales engineers, systems engineers and solutions architects.

Assumed Knowledge

The HPE ASE - Server Solutions Architect V4 certification is an advanced-level certification. It is expected that candidates will have industry-standard server knowledge from training, hands-on experience, or participation in other technical events.

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The prerequisite for the HPE ASE - Server Solutions Architect V4 certification is either the HPE ATP - Server Solutions V4 certification or the HPE ATP - Data Center Solutions V1 certification.

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After you pass these exams, 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 Certification Exam (HPE0-S54)

This self-study guide does not guarantee that you will have all the knowledge you need to pass the certification 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.

Preparing for the Delta Exam (HPE0-S55)

The Designing HPE Server Solutions delta exam (HPE0-S55) is available for candidates who already hold the HPE ASE - Server Solutions Architect V3 or HP ASE - Server Solutions Architect V2 certifications and who wish to upgrade their certification to V4. It is recommended that candidates read this study guide in its entirety to prepare for the delta exam.

Recommended HPE 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.

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Exam Registration

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1 HPE and the Future of Compute

LEARNING OBJECTIVES

After completing this chapter, you should be able to:

- ✓ Introduce HPE Data Center Infrastructure Group and their strategy.
 - ✓ Explain the changing economy and the role of IT.
 - ✓ Describe Hewlett Packard Enterprise (HPE) Transformation Solutions.
 - ✓ Explain what a Composable Infrastructure is and how it helps customers.
 - ✓ Provide a high-level overview of HPE ProLiant Gen10 server innovations.
 - ✓ Provide a high-level overview of the HPE server portfolio and market share.
 - ✓ Position HPE Pointnext services in the new compute era.
-

Prelearning check

1. You are approached by a customer at a trade show and they challenge you with the statement “Composable Infrastructure is just a new marketing name for converged infrastructure and is intended to get customers to buy into upgrading their server, storage, and networking hardware.”

How should you respond?

Activity: Navigating the HPE Certification and Learning Portal

Verify you have valid credentials and login to HPE Partner Ready Portal. Answer the following questions:

1. Which menu option contains a link to the learning center?

2. How many certifications do you currently hold?

3. What are the requirements for achieving the Accredited Solution Expert (ASE) Architect certification?



Note

To access the HPE Certification and Learning Portal, go to:
<http://certification-learning.hpe.com/tr/index.html>

Learning check

1. Name at least two recommend resources for exam preparation.

HPE Data Center Infrastructure Group

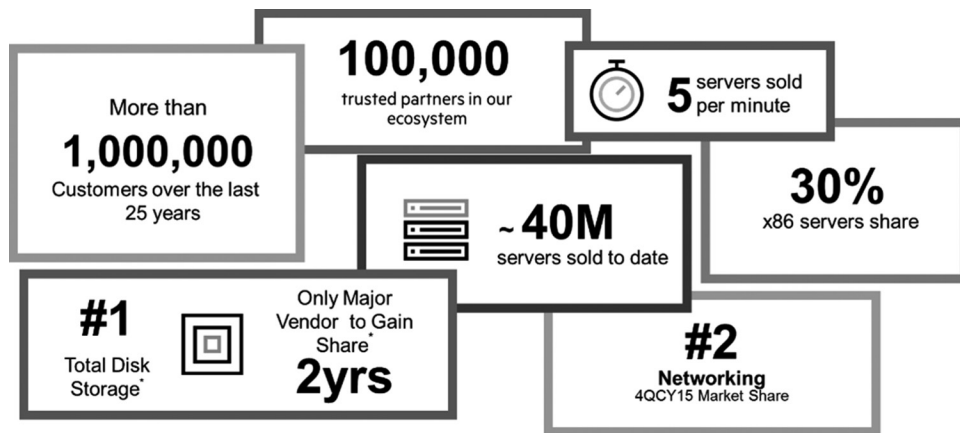


Figure 1-1 Data from 1CQ16 IDC Disk Storage System Tracker

HPE is the number one data center infrastructure vendor based on internal data collection and data provided by IDC (International Data Corporation), as shown in Figure 1-1, including:

- More than 1 million customers over the last 25 years
- 100,000 trusted partners in HPE ecosystem
- Five servers sold per minute
- Thirty percent x86 server market share
- Forty million servers sold to date (as of 1Q 2017)
- Number one position in total disk storage and only major vendor to gain share two years (as of 2016)

Demand for data center infrastructure is growing

There are various reasons for the increased demand for data center infrastructure components.

- Massive data explosion
- Need for analytics expanding
- Compute endpoints exploding
- Technology and consumption shift

The market is changing profoundly and innovation is required

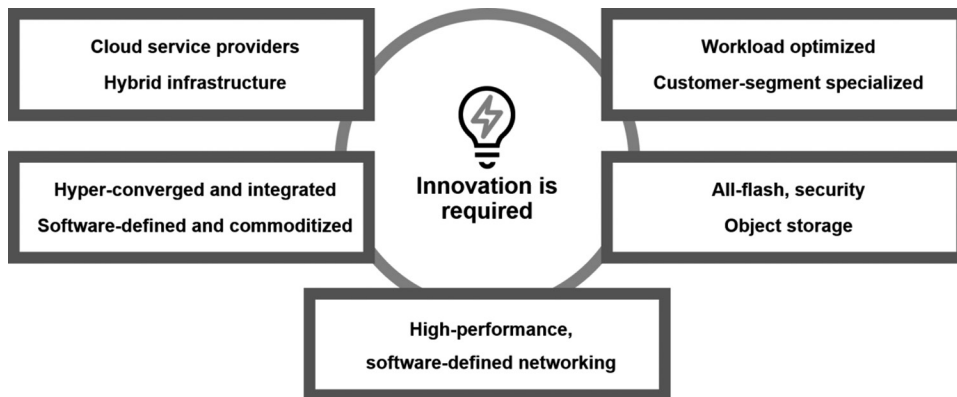


Figure 1-2 Innovation is required

As shown in Figure 1-2, the market is changing profoundly and innovation is required. New products, new technologies, and new procedures are continuing to impact customers.

- Cloud service providers have different needs for their infrastructure—hybrid infrastructure
- Hyper-converged and integrated solutions—solutions capable of a software-defined approach (abstraction of hardware and config) and previously complicated solutions, built many hardware and software components, are being sold under a single part number (commoditized)
- Workload-optimized and customer-segment specialized
- All-flash, security
- Object storage
- High-performance, software-defined networking

Innovation to help customers progress toward the future

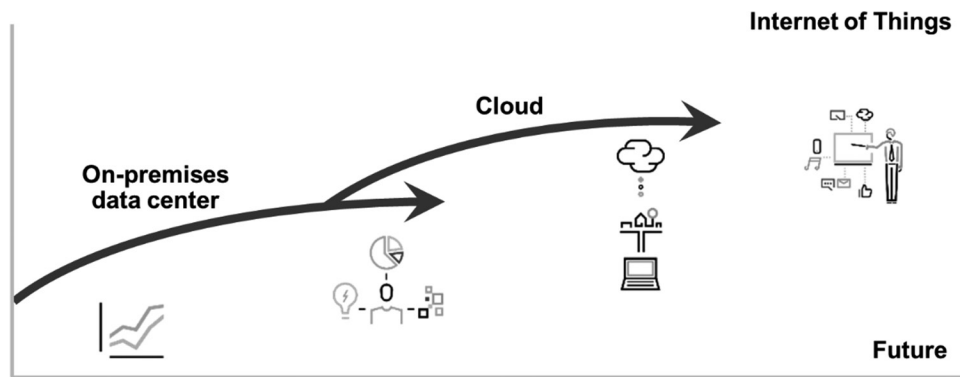


Figure 1-3 Innovations to help customers progress toward the future

HPE is pioneering many innovations to help customers progress toward the future. As shown in Figure 1-3, innovation areas include:

- On-premises data center
 - Multi-purpose and secure computing
 - Mission-critical computing
- Cloud
 - Workload specialized
 - Software defined
 - Composable Infrastructure
 - Hyper-converged systems
- Internet of Things (IoT)
 - Edge computing
 - Campus infrastructure

The HPE strategy is to build specialized solutions for target customer segments

Table 1-1 Target customer segments

Customer needs	Segment	Technology
Simplicity, subscription pricing	SMB and branch	IaaS, appliances
Hybrid, versatile, secure	Core enterprise	X86 and composable
Always on availability	Mission critical	Shift to X86 MC
Massive parallel computing	HPC	Supercomputing
Accelerate insight, data protection	Storage and Big Data	All-flash, SDS object, analytics
Extreme scale and customization	Service providers	Tier 2/3 service providers
Network agility and virtualization	Data center networking	Software-defined networking
Carrier grade, standardized	Communications	NFV, services

Table 1-1 presents a high-level mapping between customer needs in specific market segments and technology requirements.



Note

High-performance computing (HPC) clusters can be composed of large numbers of servers, where the total physical size, energy use or heat output of the computing cluster might become a serious issue. Furthermore, there are requirements for dedicated communications among the servers that are somewhat unique to clusters. Because small design differences amount to large benefits when multiplied by the number of servers in the clusters, we are seeing the emergence of server designs that are optimized for HPC. Sometimes these are designs targeted at large, public Web operators, such as search engine firms, that deliver similar benefits in HPC clusters, but they can also offer features only appropriate for HPC users. For example, if the system were designed to provide the cluster interconnect differently, there might be a significant cabling reductions possible. (Gartner IT Glossary, January 2018)

Innovation to address evolving consumption patterns

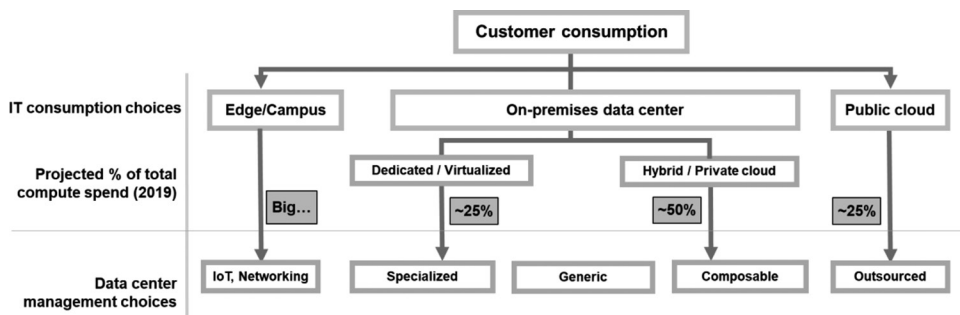


Figure 1-4 Innovation to address evolving consumption patterns

HPE offerings are based on evolving consumption patterns. Figure 1-4 shows a high-level mapping between customer consumption patterns and data center management choices.

Mapping of HPE offerings to data center management choices.

- IoT, Networking
 - Aruba, Edgeline
- Specialized
 - Apollo, HPC
 - Object storage mission critical (SAP HANA)
 - Flash storage
 - SimpliVity/HC 380/HC 250 (virtualization)
- Generic
 - ProLiant rack, ProLiant tower, BladeSystem
 - Cloudline
 - DC networking
 - 3PAR
- Composable
 - Synergy
- Outsourced
 - Partnership with Microsoft Azure
 - HPE “Sell to”



Note

The Internet of Things (IoT) is the network of physical objects that contain embedded technology to communicate and sense or interact with their internal states or the external environment. (Gartner IT Glossary, January 2018)

Activity: Navigating the DCIG portfolio at the HPE website

Open the DCIG (HPE Data Center Infrastructure Group) portfolio in a web browser and answer following questions:

1. How many product families and how many product categories are presented at the website?

2. What is the difference between the categories and product families?

3. Are there any new products on the website that are missing in this course?



Note

To navigate the DCIG portfolio, go to:
<https://www.hpe.com/us/en/products.html>
