Tytuł szkolenia: Managing HPE 3PAR StoreServ I: Management and Local Replication

Kod szkolenia: HK902S

Wprowadzenie

The Managing HPE 3PAR StoreServ I course is designed for the new or entry-level HPE 3PAR administrator. The goal of the class is to acquaint the 3PAR administrator with the most common day-to-day tasks and best practices associated with administration of the 3PAR array. The levels of provisioning storage are emphasized. This training reflects the newest release of the HPE StoreServ Management Console. The course is approximately 50% lecture and 50% hands-on labs using HPE 3PAR arrays. NOTE: Hosts used in the lab environment are MS Windows.

Adresaci szkolenia

This course is intended for StoreEasy customers, HPE Services field engineers, call center personnel, Presales and Channel Partners and other field personnel who provide installation and/or operational support assistance for HPE StoreEasy and 3PAR StoreServ File Controller Serverst

Prerequisites
- An understanding of general storage concepts including fibre channel technology and RAID
- Operator level functionality in a Windows environment

Cel szkolenia

After completing this course, the student should be able to:

- Explain the HPE 3PAR current hardware offerings: 20000 series, 8000 series and 7000 series
- Explain the numbering schemes for the HPE 3PAR hardware components: controllers, ports, and physical disks
- Use the StoreServ Management Console (SSMC) GUI and the CLI to perform administrative tasks
- Create and work with a Common Provisioning Group (CPG)
- Administer Virtual Volumes using the SSMC and the CLI
- Understand the advantages of Thin Provisioning and create a Thin Provisioned Virtual Volume (TPVV)
- Understand the advantages of Dedup and Compression for storage allocated from SSDs
- Export and un-export virtual volumes from hosts
- Use HPE 3PARinfo to analyze luns presented to hosts
- Use Host Explorer to simplify addition of hosts
- Use Host Sets and Volume Sets to simplify provisioning storage
- Create a Snapshot and promote (restore) from a Snapshot
- Create a Clone and promote a Clone
- Convert a Virtual Volume (i.e. from fully provisioned to thin provisioned or thin provisioned to thin dedup or vice versa)
- Use the SSMC reporting feature to monitor capacity and performance

Czas i forma szkolenia

- 21 godzin (3 dni x 7 godzin), w tym wykłady i warsztaty praktyczne.

Plan szkolenia

1. H6LH4AAE Pre Study for Managing HPE 3PAR StoreServ I
 • Register here to access to the Pre-Study WBT course

2. HPE 3PAR Solution Introduction and Review
 • HPE 3PAR Hardware Current models
 • Hardware overview for the 7000, 8000, and 20000 models: controllers,
 drive cages, and disks
 • Controller port number naming conventions for the 7000, 8000, and 20000
 models
 • Disk number naming convention for disks in the HPE 3PAR arrays
 • ASIC chip functionality
 • HPE 3PAR virtual storage architecture benefits
 • Big Picture HPE 3PAR component connectivity
 • SSMC GUI introduction and functionality overview
 • HPE 3PAR CLI overview and introduction

3. Storage Concepts and Terminology
 • HPE 3PAR provisioning terminology
 • HPE 3PAR concept of a disk chunklet and Logical Disk (LD)
 • HPE 3PAR concept of a Common Provisioning Group (CPG)
 • HPE 3PAR Virtual Volumes (VV) types: full provisioning and thin   provisioning

4. Storage Configuration
 • CPGs using SSMC and the CLI
 • Working with virtual volume templates
 • Working with fully provisioned and thin provisioned volumes using SSMC
 and the CLI

5. Host Connectivity and Storage Allocation
 • How to prepare a host to access an HPE 3PAR storage array
 • HPE 3PAR Port Persistence
 • Adding hosts in an HPE 3PAR storage array
 • Adding FC ports to a host
 • Export virtual volumes to hosts as VLUNs
 • Unexport VVs/VLUNs from a host
 • Using SSMC and CLI to work with hosts and storage
 • Working with Smart SAN
 • Use Host Explorer to add hosts and explore host details
 • Use HPE 3PARInfo to gather storage information

6. Host Sets and Virtual Volume Sets
 • Host and virtual volume sets advantages
 • Host and virtual volume sets use cases
 • Creating and maintaining host and volume sets using SSMC and the CLI
 • Host and volume sets guidelines and rules

7. Thin Features: A Deep Dive
 • Benefits of the Zero Detection/Thin Persistence
 • Zero Detection use cases
 • Space reclamation: UNMAP and other utilities
 • Compaction ratio explanation and thin overprovisioning
 • Thin provisioning: seeing what is allocated vs. used by a host
 • Online Virtual Volume conversion: converting volumes from full to thin or
 thin to full using SSMC and the CLI
 • Compacting a CPG to free up space

8. Adaptive Data Reduction for Flash: Dedup and Compression
 • Thin Dedup: saving space using deduplication and dedup detail
 • Thin Dedup: what to dedup: good candidates and bad candidates

• Compression and how it works

• Compression: what to compress--good candidates and bad candidates

• Data Packing: packing data for space and cost savings

• DECO: Dedup and Compression together

• Working with Dedup and Compression using the SSMC GUI and the CLI

• Performing a Dedup Estimate and a Compression Estimate

• Seeing if Dedup and Compression are working

• Analyzing Adaptive Data Reduction ratios: Dedup ratio, Compression ratio   and overall Data Reduction ratio

• Online Virtual Volume conversion: converting volumes to thin-dedup,   compressed or DECO

9. Snapshots and Clones

• Snapshots and Clones: benefits

• Creating, exporting, unexporting, and deleting a snapshot

• Rules and relationships regarding snapshots

• Restore from a snapshot

• Scheduling the creation of a snapshot

• Using the Virtual Lock feature to delete outdated snapshots

• Resynchronize a clone to a base volume

• Promote a clone to a base volume

• Use SSMC and the CLI to manage snapshots and clones

10. Reporting: Performance and Capacity

• The on-node database: the .srdata database volume

• Using SSMC reports to analyze capacity needs and trends

• Using SSMC reports to analyze performance

• Using SSMC default reports and creating custom reports

• Scheduling and emailing reports

• Using the Excel client

• Using the CLI stat commands to analyze performance and capacity

• Using the CLI sr* commands to analyze performance and capacity

• App volume sets and Topology Insights

• Topology Insights: Analyzing the entire stack

• Topology Insights: Color-coded time slider

11. Introducing HPE InfoSight

• HPE Infosight

• InfoSight customer use case

• Gain visibility with InfoSight

• How do we close the App-Data Gap?

• See once, prevent for all

• Cross-stack analytics for VMware

• HPE Primera and HPE 3PAR - Dashboard

• Where to get more Info on InfoSight

Lab 1 – vLabs Access

Module 2 Lab – Installing and Working with SSMC and the Command Line (CLI)

Module 4 Lab – Storage Configuration

Module 5 Lab – Host Configuration and Storage Allocation

Module 6 Lab – Host Sets and VV Sets

Module 7 / 8 Lab – Online Virtual Volume Conversion and Dedup Estimate

Module 9 Lab – Snapshots and Clones

Module 10 Lab – Reporting Appendix A Lab – Virtual Domains

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