Overview

HPE StoreVirtual VSA Software

HPE StoreVirtual VSA Software provides complete storage array functionality for virtualized environments without the need for external array hardware. Built on proven technology, HPE StoreVirtual VSA delivers software-defined storage by virtualizing up to 50TB of disk capacity on a server running VMware vSphere, Microsoft Hyper-V or Linux KVM. The HPE StoreVirtual VSA eliminates the need for external shared storage required to implement advanced hypervisor features.

HPE StoreVirtual VSA uses scale-out, distributed clustering to provide a pool of storage with enterprise storage features and simple management at reduced cost. Multiple StoreVirtual VSAs running on multiple servers create a clustered pool of storage with the ability to make data highly available by protecting volumes with Network RAID. Adding more StoreVirtual VSAs to the cluster grows the storage pool. With Network RAID, blocks of data are striped and mirrored across multiple StoreVirtual VSAs, allowing volumes and applications to stay online in the event of disk, storage subsystem or server failure. iSCSI connectivity on HPE StoreVirtual VSA support the use of the storage pools by hypervisors as well as other applications. HPE StoreVirtual VSA fully supports 1GbE and 10GbE environments.

Businesses can lower their IT infrastructure costs and enable higher levels of protection for business critical systems without the purchase of additional hardware. Easy to use installations wizards guide through the deployment of HPE StoreVirtual VSA on VMware vSphere or Microsoft Hyper-V. StoreVirtual VSA deployed at remote sites are managed as virtual storage systems using the same Centralized Management Console which is used to manage all HPE StoreVirtual Storage products.

What's New

- Sub-volume auto-tiering across two storage tiers with Adaptive Optimization
- Para-virtualized SCSI drivers for lower CPU utilization and more performance on VMware vSphere
- New REST API interface streamlines scripting and automation, and provides mainstream CRUD functionality
- Updated Cinder driver for OpenStack, includes support for Flocker
- VMware Multi-pathing Extension Module support reducing latency with intelligent data-route management
- Maximize storage capacity with Space Reclamation to conserve and recover allocated capacity to volumes
- Achieve high availability and lower storage costs with new 2-node Quorum capability that scales as needed
- Expanded open-source virtualization platforms now supports KVM versions: CentOS, RHEL, and Ubuntu
- Split Networks separates iSCSI volume access with dedicated network connectivity providing enhanced security

Features and Benefits

Benefits
- Gain the benefits of an array without requiring a physical storage infrastructure by virtualizing storage resources on a server
- Same enterprise level storage features and full interoperability (incl. Peer Motion) with HPE StoreVirtual-based appliances
- Take advantage of hypervisor advanced features such as vMotion and Live Migration without purchasing external storage system
- Create a storage pool which is available to hypervisors and other applications via iSCSI
- Leverages storage resources in the server saving money, space, power, cooling and managing another system
- Enables super-efficient configurations in terms of power, cooling, space requirements
- Comes complete with all storage management features - no additional software needed
- Easily build a clustered, highly available array without buying additional hardware
- Utilize internal (SATA, MDL, SAS, SSD, PCIe Flash) and external (iSCSI, FC, SAS) storage options supported by VMware, Microsoft or Linux as back end storage
- Enable disaster recovery (DR) solutions for remote or branch offices that do not have budget, space, or power for servers and a traditional array

Product Features
- Easy to deploy and manage with the HPE StoreVirtual Centralized Management Console
- Installs easily on any x86 server supported by VMware vSphere, Microsoft Hyper-V or KVM with few system requirements
- Scale storage by clustering disks in multiple servers into single pool of storage
- Network RAID protects data across systems for redundancy
- Asynchronous replication for data replication to remote sites
- Snapshot capability for data protection
- Thin Provisioning for efficient storage utilization
- Certified SAN/Storage on the VMware Certified Compatibility Guide
- Qualified iSCSI storage on the Microsoft Windows Server Catalog
- Certified with VMware Site Recovery Manager for a simple and affordable DR solution
- Certified as VMware Metro Storage Cluster

All-inclusive feature set enables enterprise array functionality

- **Storage Clustering simplifies scalability**
  Storage Clustering allows a customer to consolidate multiple StoreVirtual VSAs into pools of shared storage. All available capacity and performance is aggregated and available to every volume in the cluster. As storage needs increase, HPE StoreVirtual can scale performance and capacity on-line.
- **Network RAID delivers higher levels of data availability**
  Network RAID stripes and protects multiple copies of data across a storage cluster, eliminating single points of failure. Applications have continuous data availability in the event of a disk, server, storage subsystem, power, network, or site failure. Choose the appropriate Network RAID level for each volume in the cluster based on capacity and performance needs.
- **Thin Provisioning reduces costs by increasing storage efficiency**
  Thin Provisioning allocates space only as data is actually written without requiring pre-allocation of storage. This raises the overall utilization and efficiency of HPE StoreVirtual Storage, reduces costs and ultimately increases the ROI.
- **Application Integrated Snapshots for VMware and Windows simplify data protection**
  Snapshots create thinly provisioned, instant point-in-time copies of data on a per-volume basis. Administrators access

Features and Benefits

snapshots to recover individual files from the volume, or rollback an entire volume. Built-in application integration provides automated quiescing for VMware and Hyper-V VMs and Microsoft VSS applications.

- **Remote Copy reduces costs for disaster recovery**
Remote Copy replicates snapshots between two StoreVirtual-based systems. Copies are thinly provisioned with no space reservation required. Remote Copy enables centralized backup and disaster recovery on a per-volume basis and leverages application integrated snapshots for faster recovery.

Superior availability and disaster recovery

- **Integrated replication for disaster recovery**
HPE StoreVirtual VSAs includes integrated replication simplifying management with simple failover and failback.
- **Change configurations without incurring downtime**
Administrators can add capacity, increase performance, grow and migrate volumes between HPE StoreVirtual clusters on the fly with no application downtime.

Scalable Performance

- **Purchase only what you need today**
Avoid up-front cost and the potential performance constraints. Purchase only what's needed today, then grow the performance, capacity, and redundancy of your StoreVirtual array online as storage requirements evolve. Buying storage only when needed simplifies planning and relieves budget pressures.
- **Scale performance and capacity simultaneously**
Each time a storage node is added to the StoreVirtual cluster, the capacity, performance, and redundancy of the entire storage solution increases.
- **Automated tiering**
Adaptive Optimization provides two storage tiers and balances blocks of data transparently between them accelerating unpredictable and changing workloads in virtualized environments. Adaptive Optimization is available on 10TB & 50TB licenses, allowing cost-effective combinations of rotational media and Flash storage.
- **Avoid disruptive upgrades**
Add resources to the StoreVirtual cluster non-disruptively as capacity and performance requirements increase. Applications remain online during maintenance events (adding nodes, updating software or firmware) for best in class availability.

Easy to manage storage for virtualized environments

- **Centralized Management Console**
Multiple data centers and sites can be managed from an all-inclusive "single pane-of-glass". All StoreVirtual storage features are managed from the Centralized Management Console (CMC) for easy management.
- **Business continuity with integrated HA and DR**
StoreVirtual includes integrated synchronous and asynchronous replication at no additional cost. This reduces costs and simplifies management of high availability/fault tolerant and disaster recovery storage solutions.
- **Industry leading VMware integration**
vStorage API for Array Integration (VAAI) offload integration, HPE OneView for vCenter, vSphere native MPIO support, Site Recovery Adapter for Site Recovery Manager (SRM).
- **Best practice analyzer**
Ensuring best-in-class operation with built-in best-practice analyzer which automatically recommends storage best practices and how to implement those.

Hardware Prerequisites

HPE StoreVirtual VSA Software requires a vSphere, Hyper-V or KVM server with at least

- Server supported to run Hyper-V, vSphere or KVM
    - Microsoft Windows Server 2008, 2008 R2, 2012 and 2012 R2
    - VMware vSphere 5.x and higher For LeftHand OS 9.5 or later; VMware vSphere 6.0 for LeftHand OS 12.5 or later
    - Linux CentOS 6.6/6.7/7.0, RedHat Enterprise Linux 6.6/6.7/7.0, UBUNTU 14.04
- Supported block storage option on Windows Server Catalog or VMware Compatibility Guide
- Up to 50TB total per StoreVirtual VSA (see license options below)
- Reservation of 2 virtual CPUs with 2GHz
- Memory requirements for StoreVirtual depend on virtualized storage capacity and use of Adaptive Optimization and/or Space Reclamation

Total virtualized capacity (TB)	Total memory required (GB)	Total memory required with Adaptive Optimization and Space Reclamation (GB)
Up to 4 TB	5	5
4 TB to 10 TB	7	8
10 TB to 20 TB	9	12
20 TB to 30 TB	12	17
30 TB to 40 TB	15	21
40 TB to 50 TB	18	26

- A virtual switch with dedicated at least 1GbE connectivity. Full support for 10GbE.
- For detailed hardware prerequisites, go to **http://www.hpe.com/storage/docs/storevirtual** and review the "HPE StoreVirtual VSA Installation and Configuration Guide" document.

HPE Storage recommends HPE ProLiant Servers for best results.

Ordering Information

HPE StoreVirtual VSA SKUs

Model Description

HPE StoreVirtual VSA Software

HPE StoreVirtual VSA 2014 Software 4TB 3 Pack 3-year LTU   TC484A

- 3 licenses for HPE StoreVirtual VSA Software
- Up to 4TB capacity per StoreVirtual VSA
- Up to 3 StoreVirtual VSAs per cluster
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 4TB 3 Pack 3-year E-LTU   TC484AAE

- 3 licenses for HPE StoreVirtual VSA Software
- Up to 4TB capacity per StoreVirtual VSA
- Up to 3 StoreVirtual VSAs per cluster
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 4TB 3 Pack 3-year Stock LTU   TC485A

- 3 licenses for HPE StoreVirtual VSA Software
- Up to 4TB capacity per StoreVirtual VSA
- Up to 3 VSAs per cluster
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 4TB 3-pack 5-year LTU   D4U01A

- 3 licenses for HPE StoreVirtual VSA Software
- Up to 4TB capacity per StoreVirtual VSA

Ordering Information

- Up to 3 StoreVirtual VSAs per cluster
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 4TB 3-pack 5-year E-LTU   D4U01AAE
- 3 licenses for HPE StoreVirtual VSA Software
- Up to 4TB capacity per StoreVirtual VSA
- Up to 3 StoreVirtual VSAs per cluster
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 4TB 3-pack 5-year Stock LTU   D4U02A
- 3 licenses for HPE StoreVirtual VSA Software
- Up to 4TB capacity per StoreVirtual VSA
- Up to 3 VSAs per cluster
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 3-year LTU   TC486A
- 1 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

Ordering Information

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 3-year E-LTU   TC486AAE
- 1 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 3-year Stock LTU   TC487A
- 1 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 5-year LTU   D4U03A
- 1 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-
  user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 5-year E-LTU   D4U03AAE
- 1 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from

Ordering Information

hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 5-year Stock LTU   D4U04A
- 1 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 3-year LTU   TC499A
- 1 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 3-year E-LTU   TC499AAE
- 1 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 3-year Stock LTU   TC500A
- 1 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity

Ordering Information

- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 5-year LTU   D4U07A
- 1 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 5-year E-LTU   D4U07AAE
- 1 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 5-year Stock LTU   D4U08A
- 1 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

Ordering Information

HPE StoreVirtual VSA Large Deployment Packs	HPE StoreVirtual VSA 2014 Software 10TB 500 Pack 3-year LTU	TC497A

- 500 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 500 Pack 3-year E-LTU   TC497AAE

- 500 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 500 Pack 3-year Stock LTU   TC498A

- 500 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 500-pack 5-year LTU   D4U05A

- 500 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from

Ordering Information

     hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 500-pack 5-year E-LTU   D4U05AAE
- 500 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 10TB 500-pack 5-year Stock LTU   D4U06A
- 500 license for HPE StoreVirtual VSA Software
- Up to 10TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 300 Pack 3-year LTU   TC501A
- 300 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 300 Pack 3-year E-LTU   TC501AAE
- 300 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity per StoreVirtual VSA

Ordering Information

- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 300 Pack 3-year Stock LTU   TC502A

- 300 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 300-pack 5-year LTU   D4U09A

- 300 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software 50TB 300-pack 5-year E-LTU   D4U09AAE

- 300 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

Ordering Information

	HPE StoreVirtual VSA 2014 Software 50TB 300-pack 5-year Stock LTU	D4U10A

- 300 license for HPE StoreVirtual VSA Software
- Up to 50TB capacity per StoreVirtual VSA
- Includes Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA Capacity Upgrade Licenses	HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 10TB 3-year LTU	TC503A

- Extends the licensed capacity from 4TB to 10TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

	HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 10TB 3-year E-LTU	TC503AAE

- Extends the licensed capacity from 4TB to 10TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

	HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 10TB 3-year Stock LTU	TC504A

- Extends the licensed capacity from 4TB to 10TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Stockable by the channel

Ordering Information

- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 10TB 5-year LTU   D4U11A
- Extends the licensed capacity from 4TB to 10TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 10TB 5-year E-LTU   D4U11AAE
- Extends the licensed capacity from 4TB to 10TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 10TB 5-year Stock LTU   D4U12A
- Extends the licensed capacity from 4TB to 10TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

Ordering Information

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 50TB 3-year LTU   TC505A
- Extends the licensed capacity from 4TB to 50TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 50TB 3-year E-LTU   TC505AAE
- Extends the licensed capacity from 4TB to 50TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 50TB 3-year Stock LTU   TC506A
- Extends the licensed capacity from 4TB to 50TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 50TB 5-year LTU   D4U13A
- Extends the licensed capacity from 4TB to 50TB
- Requires an installed and valid 4TB license

Ordering Information

- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 50TB 5-year E-LT   D4U13AAE
- Extends the licensed capacity from 4TB to 50TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 4TB to 50TB 5-year Stock LTU   D4U14A
- Extends the licensed capacity from 4TB to 50TB
- Requires an installed and valid 4TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 10TB to 50TB 3-year LTU   TC507A
- Extends the licensed capacity from 10TB to 50TB
- Requires an installed and valid 10TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**

Ordering Information

- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 10TB to 50TB 3-year E-LTU TC507AAE
- Extends the licensed capacity from 10TB to 50TB
- Requires an installed and valid 10TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 10TB to 50TB 3-year Stock LTU TC508A
- Extends the licensed capacity from 10TB to 50TB
- Requires an installed and valid 10TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 3 year term license
- Includes 3 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 10TB to 50TB 5-year LTU D4U15A
- Extends the licensed capacity from 10TB to 50TB
- Requires an installed and valid 10TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Not stockable by the channel, must order as drop ship and have single end-user quantities represented on the order
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from **hpe.com/storage/downloads/storevirtual**
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 10TB to 50TB 5-year E-LTU D4U15AAE

Ordering Information

- Extends the licensed capacity from 10TB to 50TB
- Requires an installed and valid 10TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Electronic HPE StoreVirtual VSA entitlement
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 2014 Software Upgrade 10TB to 50TB 5-year Stock LTU   D4U16A

- Extends the licensed capacity from 10TB to 50TB
- Requires an installed and valid 10TB license
- Removes the maximum cluster limit
- Enables Adaptive Optimization feature
- Stockable by the channel
- Installable on VMware vSphere, Microsoft Hyper-V or Linux KVM
- Installation media and documentation downloadable from
  hpe.com/storage/downloads/storevirtual
- 5 year term license
- Includes 5 years of software support for each license

NOTE: For system requirements, see Hardware Prerequisites.

HPE StoreVirtual VSA 1TB   HPE StoreVirtual VSA 1TB (3 year limited free version)

- Up to 1 TB capacity per StoreVirtual VSA
- If deployed in production environment, sufficient capacity is required
- Support not included
- Download at **hpe.com/storage/tryVSA**
- Complete documentation downloadable from
  hpe.com/storage/downloads/storevirtual

NOTE: For system requirements, see Hardware Prerequisites.

Service and Support, HPE Support and Warranty Information

Services Included with the Product

HPE StoreVirtual VSA includes HPE Software Support that matches the license term (three or five years), standard 9x5 business hours phone support (software technical support and software product and documentation updates) and a 90 day media replacement only warranty.

Including software updates and comprehensive support enhances the performance and availability of your software. Experienced Response Center engineers provide trustworthy advice on issues such as software features and use, problem diagnosis and resolution, and software defect identification.

Software Licensing Terms

HPE StoreVirtual VSA licenses and upgrade licenses come with a three or five year term license. License keys enable all features of the HPE StoreVirtual VSA, including storage clustering, managed snapshots and remote copy. Adaptive Optimization is only available in 10TB and 50TB licenses. 4TB licenses are limited to a cluster size of three StoreVirtual VSAs. Each individual StoreVirtual VSA instance requires a license key; license packs come with a specified number of license keys.

For increased uptime, productivity and ROI - HPE Support packaged services for Storage

These days, you need to get the most out of your storage investment-you can't afford not to. When you buy HPE storage products and solutions, it's also a good time to think about what levels of service and support you may need. To help take the worry out of deploying, designing, maintaining, and managing your environment, we've designed a portfolio of service options that are as: flexible, reliable and scalable as your storage. Unlike storage-only vendors, we take a holistic approach to your entire environment, bridging storage, servers, blades, software and network infrastructures with our HPE Support packaged services for Storage.

Protect your business beyond the warranty

When it comes to robustness and reliability, standard warranties on today's computing equipment have matured just as the technologies have matured. Good news on some fronts-but also a source of potential problems and subsequent consequences that come from depending on standard warranties alone. Standard warranty protects against product defects and some causes of downtime- but not the business. By using a standard approach to warranty uplifts, such as HPE Support Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HPE Support Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

Extending warranties with HPE Care Pack Services

For cost-effective upgrading or extending your standard warranty, HPE Support Services offer a suite of standard reactive hardware and software support services that are sold separately, or combined as with our Support Plus and Support Plus 24 services. The portfolio also provides a combination of proactive and reactive services, such as Proactive 24 Service and Critical Service. In addition, with HPE Proactive Select we offer an innovative approach to service delivery that gives you the flexibility to acquire the specific proactive services you need today, then add services as your needs evolve. HPE Proactive Select offers a broad set of technical or per-event type service options - including server, storage, and network, SAN device, and software, environment, installation and education services. Services that you can mix and match depending on your specific requirements, from preliminary planning and equipment delivery to installation, configuration, integration, and testing, through every level of ongoing support. Our HPE Support services for Storage assures help when you need it most. And for many products, post-warranty HPE Support Services are available when your original warranty has expired.

Service and Support, HPE Support and Warranty Information

HPE Storage Services: Offering reliability, flexibility and value-just like your storage

HPE Storage Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HPE Factory Express provides customization, integration and deployment services for turnkey solutions. HPE Education offers flexible, comprehensive training on storage networking, disk storage systems, and storage software to help your IT staff get the most out of your investments. And HPE Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.

HPE Storage Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. **http://www.hpe.com/services/storage**

NOTE: Support Services availability may vary by product and country.

HPE Support Services are sold by HPE and Hewlett Packard Enterprise Authorized Service Partners:

- Services for customers purchasing from HPE or an enterprise reseller are quoted using HPE order configuration tools.
- Customers purchasing from a commercial reseller can find HPE Support Services at: **http://www.hpe.com/services/ssc**

Recommended HPE Support Services for optimal satisfaction with your HPE product

Recommended Services **HPE Foundation Care 24x7 – 3 year or 5 year extended service**

For a higher return on your storage investment, HPE Foundation Care 24x7 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3- or 5-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HPE Technology Services - customers can trust the services professionals at HPE to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Improve uptime with responsive hardware and software services
- Enjoy consistent service coverage across geographically dispersed sites
- Update HPE software at a predictable cost
- Increase customer satisfaction-with no interoperability gaps

http://www8.hp.com/us/en/business-services/it-services/foundation-care-services.html

HPE Installation and Startup Service for StoreVirtual VSA Software

For smooth startup and better business outcomes, HPE Installation and Startup Service for StoreVirtual VSA Software - provides installation and configuration of your product. In today's new era of business technology - customers can trust the services professionals at HPE to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Provides increased virtual storage capacity without increasing needs for additional hardware
- Allows your IT resources to stay focused on their core tasks and priorities
- Reduces installation time, impact and risk to your storage environment
- Helps you effectively utilize HPE product by knowledge gained during onsite delivery of the

Service and Support, HPE Support and Warranty Information

service

HPE Proactive Select Service

HPE Proactive Select Service improves your IT performance and manageability through the use of cost effective flexible services. Hewlett Packard Enterprise provides technical expertise and best practices to accelerate ROI of your technology investment. Selectable proactive services span a wide range of technology and process services - a flexible way to purchase proactive services that fit your particular environment and situation.

HPE Proactive Select Service is technology agnostic and purchased in addition to your choice of underlying reactive support.

- Access to a list of flexible and customizable proactive service activities
- Enhance customers' in-house IT team with complementary assistance from HPE
- Improved time to solution
- Reduce business risk and project costs by accessing HPE specialists
- Simplify IT operational procedures by leveraging HPE best practices

http://www.hpe.com/support

Optional HPE Support Services that will enhance your HPE product experience

Optional Services   **HPE Proactive Support – 3 year or 5 year proactive care**

As an alternative to our recommended support level, for customers who want enhanced operational effectiveness and proactive problem identification:

HPE Proactive Care and Proactive Care Advanced (PC / PCA) integrates hardware and software support to help you improve the stability and operational effectiveness of your IT environment. An HPE Account Manager acts as your primary point of contact to ensure that HPE meets your support needs effectively.

PC / PCA provides the maximum value when multiple technologies in the environment (e.g. servers, storage, SAN and the network), are all covered. It provides an environment-wide view and consistent support of all of these components which affect stability of your key applications.

Choose Proactive Care services when you want to:

- Partner with technical experts who help coordinate support, provide hands-on assistance, and share knowledge with your staff
- Rapidly access support and expertise spanning your environment
- Obtain personalized services tailored to your business environment and critical success factors
- Anticipate necessary change - and execute it correctly the first time
- Efficiently manage infrastructure resources to meet your performance objectives

http://www8.hp.com/us/en/business-services/it-services/proactive-care-services.html

Service and Support, HPE Support and Warranty Information

eSupport HPE eSupport is a portfolio of technology-based services that assist you with managing your business environment - from the desktop to the data center.

Support Portal
The HPE support portal provides one-stop access to the information, tools and services you need to manage the daily operations of your IT environment.

Features include:

- Access to self-solve tools (including search technical knowledge base)
- Efficient logging and tracking of support cases
- Collaboration with other business and IT professionals
- Download of patches and drivers
- Access to diagnostic tools
- Proactive notification of relevant information

Access to certain features of the support portal requires an HPE service agreement. To access the support portal, visit https://www.hpe.com/us/en/services/it-support.html

Customer Technical Training Consider education as an integral part of your strategy to get the best return on investment for your HPE storage solution. Hewlett Packard Enterprise offers a variety of training courses on storage software, networking, archiving and disk storage systems. Our classes are available in many delivery modalities from traditional instructor-led courses at one of our 80 training centers worldwide to on-site training customized to your needs or online. **http://www.hp.com/learn/storage**

HPE Services Awards HPE Services continues to be recognized for service and support excellence by customers, partners, industry organizations and publications around the world. Recent honors and award reflect our services team's dedications, technical expertise, professionalism and uncompromising commitment to customer satisfaction.

Additional Services Information For more information about HPE Support Services for Storage, please visit:
http://www.hpe.com/services/storage
If you have specific questions, contact your local HPE representative. Contact information for a representative in your area can be found at "Contact HPE" **http://www.hpe.com**

Additional information online

HPE StoreVirtual software and documentation downloads **hpe.com/storage/downloads/storevirtual**

HPE StoreVirtual Compatibility Matrix **hpe.com/storage/StoreVirtual-SPOCK**

HPE StoreVirtual VSA 1TB version **hpe.com/storage/tryVSA**

- HPE home page **hpe.com**

- HPE Storage products home page **hpe.com/storage**

- HPE Services home **http://www.hpe.com/services**

Service and Support, HPE Support and Warranty Information

page

Summary of Changes

Date	Version History	Action	Description of Change
19-Feb-2016	From Version 9 to 10	Changed	HPE Rebranding and software feature update
10-Jun-2014	From Version 8 to 9	Changed	SKU´s Descriptions Updated Changes were made throughout.
30-Sep-2013	From Version 7 to 8	Changed	Changes were made throughout.
01-Sep-2013	From Version 6 to 7	Changed	Correction was made to the title.
	tober 12, 2012- From Version 5 to 6	Changed	Change made to URL in Service and Support, HPE Care Pack, and Warranty Information section.
	ptember 24, 2012- From Version 4 to 5	Changed	Changes made throughout the QuickSpecs.
09-Jun-2011	From Version 3 to 4	Removed	Mentions of StorageWorks were removed.
27-Sep-2010	From Version 2 to 3	Changed	LeftHand was replaced with StorageWorks NOTE the title has changed Service and Support, HPE Care Pack, and Warranty Information were completely revised HPE P4000 management software and compatibility information and trial software were added to Additional information online
19-Jun-2009	From Version 1 to 2	Added	vSphere to the Introduction section Up to 4.5 TB capacity per Virtual SAN Appliance (VSA) to HPE LeftHand P4000 Virtual SAN Appliance Software - Demo and Evaluation Versions in the Models section ESX 3.5 or ESX 4 to Hardware Prerequisites in the Models section
		Removed	Infrastructure from VMware throughout the QuickSpecs HPE LeftHand P4000 Virtual SAN Appliance Software for Integrators only from the Models and Ordering Information sections

Summary of Changes

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For hard drives, 1 GB = 1 billion bytes. Actual formatted capacity is less.

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