

Overview

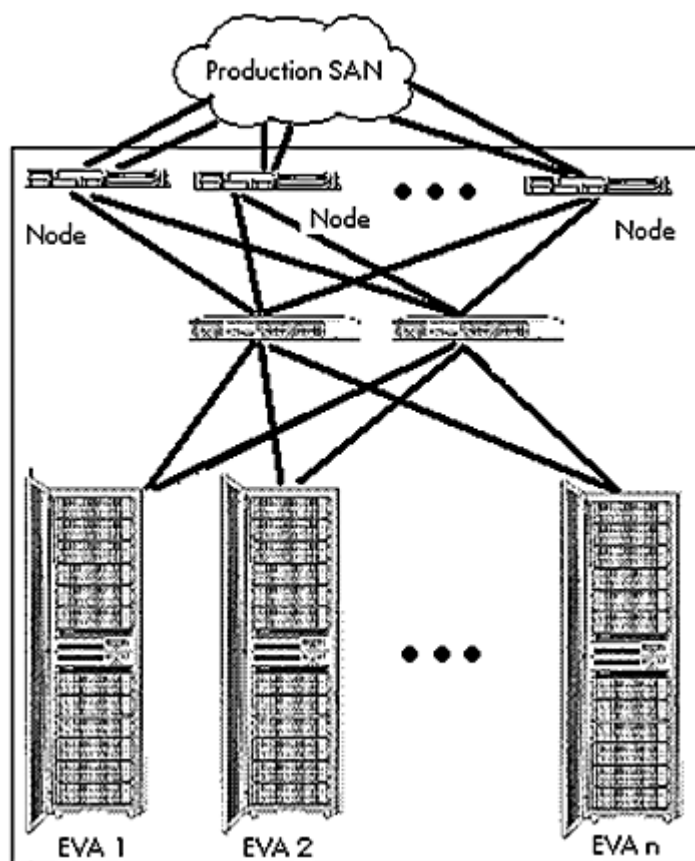
Looking for a way to utilize your HP Enterprise Virtual Array in a data protection environment?

The HP 12200 4Gb Gateway Virtual Library System EVA Gateway offers fast data protection and backup in complex SAN environments using HP Enterprise Virtual Arrays as the storage pool. The VLS12x00 EVA Gateway is a multi-node gateway solution for the EVA/P6x00 that offers industry-leading performance and scales in performance and capacity to 2.2 TB/hr/node and 1080 TB of useable storage with 2:1 hardware compression. Accelerated deduplication delivers fast backup performance as the deduplication occurs after the backup completes. Deduplication-enabled replication enables fast, low-cost disaster recovery between remote sites.

The VLS12x00 EVA Gateway integrates seamlessly into existing backup applications and processes and as storage needs grow it matches the environment by scaling both in capacity and performance. It is a highly available solution using HP ProLiant servers with redundant subsystems.



HP VLS12200 EVA Gateway node



HP VLS12200 Gateway System

What's New

New ProLiant DL360 G7 server platform with increased memory, new 6.0.0.2 firmware release that provides increased reliability and availability of the VLS system and an optional Secure Erasure license that allows you to permanently erase data on disk.

Overview

Models

HP Virtual Library System EVA Gateway Models	HP 12200 4Gb Gateway Base Virtual Library System	BW403A
	HP 12200 Virtual Library System 4Gb Gateway Expansion Kit	BW404A
	HP Virtual Library System Capacity Expansion License	T4430A
	HP Virtual Library System Gateway Capacity Expansion E-LTU	T4430AAE*
	HP 12000 Virtual Library System Data Deduplication Capacity LTU	T9709A
	HP 12000 Virtual Library System Data Deduplication Capacity E-LTU	T9709AAE*
	HP Virtual Library System Secure Erasure LTU	TC336A
	HP Virtual Library System Secure Erasure E-LTU	TC336AAE**
	HP Virtual Library System Low Bandwidth Replication LTU	T5537A
	HP Virtual Library System Low Bandwidth Replication E-LTU	T5537AAE*

NOTE: EVA storage is purchased and installed separately

*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

Standard Features

12x00 Virtual Library System EVA Gateway Customer benefits

- Seamless integration into current backup and recovery processes
 - Fast data restoration and backup performance
 - Your valuable data is protected by HP, your trusted and experienced storage vendor.
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Key Features

- Accelerated deduplication and deduplication-enabled replication can be licensed for the VLS12x00
- A multi-node gateway solution for the EV/P6x00 that offers industry-leading performance and easily scales in performance and capacity to 2.2 TB/hr/node and 1080 TB of useable storage, with 2:1 hardware compression
- Emulates popular tape libraries and tape drives with up to 16 libraries and 176 drives emulated per node
- Certified with popular backup software packages through HP Enterprise Backup Solution - www.hp.com/ebs
- A highly available solution using HP ProLiant servers with redundant subsystems: fans, power supply units, hardware-mirrored systems disks.
- Ships with Automigration software included with the VLS GUI which simplifies moving cartridge data from the VLS to a tape library or another Virtual Library System.
- The VLS12200 supports up to 50,000 slots per library
- The VLS12200 supports 8,000 cartridges per 10 TB LUN with a 64,000 limit

Product Highlights

Accelerated deduplication

The data deduplication capacity LTU will be licensed by the # of EVA/P6x00 LUNS presented to the VLS. The customer must know how many LUNS the VLS is using before ordering. (use Command View VLS (CV-VLS)). One license per 2 TB LUN, T9709A or T9709AAE (Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent) is required. Accelerated deduplication retains up to 20 times more data readily available on disk by replacing redundant blocks of data with pointers to the original block. Accelerated deduplication delivers fast backup performance since the deduplication process does not impact the backup. Accelerated deduplication delivers fast restore performance since the latest backup copy is always retained in its entirety while data reduction occurs on the previous backups. The VLS12x00 can scale data deduplication performance by simply adding additional nodes. Accelerated deduplication needs to recognize the specific backup application being used since it initially strips out the cartridge headers in order to decompose all the files and data types in order to do file-level comparisons to previous backups.

Investment protection through scaling both capacity and performance

As environments and needs change, so does the VLS12x00 EVA Gateway - capacity and performance can be scaled by provisioning additional storage from existing EVA/P6x00 arrays, or a new HP 12x00 Virtual Library System can be designed using dedicated EVA/P6x00 Storage Arrays.

Seamless integration

The HP 12x00 Virtual Library System EVA Gateway is deployed, managed and operated just like a tape library minimizing disruptions to your environment. Emulations include the HP ESL E-series and MSL tape libraries as well as 1/8 G2 tape autoloaders. The HP VLS12x00 EVA Gateway also emulates the HP Ultrium 230 tape drive (LTO-1), HP Ultrium 460 tape drive (LTO-2), HP Ultrium 960 tape drive (LTO-3), HP Ultrium 1840 tape drive (LTO-4), DLT 7000, DLT 8000, and SDLT 320 tape drives.

Fast data restoration and backup performance

A multi-node gateway solution for the EVA/P6x00 that offers industry-leading performance and easily scales in performance and capacity to 2.2 TB/hr/node and 1080 TB of useable storage, with 2:1 hardware compression without impact on performance. Accelerated deduplication (an optional license) retains up to 20 times more data readily available on disk. Accelerated deduplication delivers fast backup performance since the deduplication process does not impact the backup.

Reliability

While the HP 12x00 Virtual Library System EVA Gateway server contains reliable hardware featuring hot plug disk drives, standard redundant power supplies and fans, the real reliability is for your data protection process. Support for IRS (Insight Remote Support) allows HP to be notified in the event there are issues with your VLS12x00. Simplifying the process by which storage is shared means fewer errors occur, allowing your process to run more smoothly and faster.

Deduplication-enabled Replication

All sites involved with deduplication-enabled replication must be fully licensed for Accelerated deduplication. The number of VLS deduplication-enabled replication licenses, for target sites only, is determined by the number of VLS12x00 nodes. One license per node is required. Target sites are those sites that receive replicated data from one or many sites. If replicating in both directions (Active-Active) both sites need to be licensed for deduplication-enabled replication. This application allows these VLS systems to synchronize via low cost IP-WAN connections by only sending the changes (after data deduplication) across the wire. Deduplication-enabled replication provides an improved disaster recovery solution that allows customers to reduce or eliminate off site vaulting of tapes (including associated services) and reduce or eliminate media handling costs.

Automigration

The HP 12x00 Virtual Library System EVA Gateway supports Automigration. There are two

Product Highlights

versions of Automigration. The first is in the form of a "disk cache to tape", called "echo copy", which allows copies of data to be moved off the virtual library to a physical library or another VLS under the control of the VLS, not the backup application. The second allows full integration with ISVs via SMI-S 1.3 specifications supporting what is called "smart copy". HP Data Protector 6.1 supports smart copy. Automigration is an HP developed intellectual property and does not require licensing.

NOTE: If taking advantage of automigration, additional Small Form-factor Pluggable (SFP) transceivers will be needed and can be ordered via part number AJ718A

Automigration - Echo Copy

Echo copy can streamline the process and reduce the costs of making physical tape cartridges from virtual tape cartridges, for vaulting and off-sitting purposes. Echo copy is run through the Automigration software (a tab on the VLS GUI), not the backup application. It acts as a transparent disk cache to the physical library, so that the backup application writes to virtual cartridges in the virtual library, and Automigration then automatically schedules the copies from virtual cartridges to their matching physical cartridges (with the same barcodes) based on the Automigration policies the user establishes.

Since echo copy is managed through the Automigration software, not the backup application, the destination library is not visible to the backup application; therefore, no licensing is required. Copy traffic is no longer routed through the SAN which speeds up the copy process. Since the tape library is dedicated to the VLS no copy servers are required. Echo copy also eliminates the need for tape-to-tape copy administration since this is automated through copy policy management. All destination tapes created by echo copy are in the native tape format, so they can be easily restored directly from any tape drive or library that is visible to the backup application.

Automigration - Smart Copy

Smart copy provides the same capabilities with one important exception. Smart copy allows the backup ISV to initiate the copy with the VLS12x00 actually implementing the move. The cartridge bar codes between the two copies are different and the backup ISV is able to track the move. SMI-S 1.3 support is required by the ISV in order to be able to implement smart copy. Smart copy is supported with HP Data Protector 6.1 (minimum required version).

Secure Erasure

Secure Erasure is an optional licensable feature for the VLS12x00 that enables administrators to destroy data on virtual tape cartridges quickly and efficiently and in accordance with NIST 800-88 guidelines. Secure Erasure destroys data while leaving virtual tape cartridges reusable, Secure Erasure is also more flexible than are other disk-based data destruction options, which require administrators to erase or degauss (demagnetize) entire disks to remove a single backup set. With Secure Erasure, administrators can erase a single cartridge or multiple cartridges as needed.

Electronic Software Delivery

Electronic software is now available in most countries. HP recommends purchasing electronic products over physical products when available for faster delivery and the convenience of not having to manage—either file away or throw away—confidential paper licenses. For more information, please contact an HP representative.

Data Protection Software & ISV support

Check the EBS website for the latest VLS and Accelerated deduplication supported backup ISVs and data types: <http://www.hp.com/go/ebs>

Product Highlights

Compatibility

HP's Enterprise Backup Solutions (EBS) assures that your HP 12x00 Gateway Virtual Library System works with leading servers, operating systems, and backup applications - and not just those sold by HP. Based on a foundation of extensive interoperability testing, EBS 1-2-3 provides a step-by-step methodology for designing, configuring, and implementing your SAN ensuring the HP VLS12x00 Gateway will work seamlessly in many environments. HP VLS12x00 Gateway is especially suitable in a mixed system environment. For the latest list of servers, workstations, operating systems, and backup software that support HP12x00 Gateway Virtual Library System, check the tape backup compatibility pages on our web site at: <http://www.hp.com/go/ebs>.

Server Compatibility

The HP 12x00 Gateway Virtual Library System is supported on many popular industry servers including HP ProLiant and HP-UX servers. For a complete list of HP and third party servers, please visit the Enterprise Backup Solution on the Worldwide web at: <http://www.hp.com/go/ebs>.

OS Support

HP provides extensive support on most major operating systems. For the most up-to-date information, please visit the latest compatibility matrix at <http://www.hp.com/go/ebs>

Backup Software Support

The HP 12x00 Gateway Virtual Library System is supported on leading backup software applications. As new certifications are achieved, they are posted on the Enterprise Backup Solution Compatibility Matrix. Please visit: <http://www.hp.com/go/ebs> for the latest compatibility information.

Service and Support, HP Care Pack, and Warranty Information

Warranty Information, HP Care Pack and Service and Support

Warranty and Services Included with the Product Hewlett-Packard provides a 1-year, next-day, on-site, limited warranty for the HP VLS12200 hardware, plus 9x5 phone support for the duration of the warranty.

HP warrants only that the Software media will be free of physical defects for a period of ninety (90) days from delivery.

For more information about HP's Global Limited Warranty and Technical Support, visit:
[ftp://ftp.compaq.com/pub/products/storageworks/warranty/en_321708-008.pdf](http://ftp.compaq.com/pub/products/storageworks/warranty/en_321708-008.pdf)

For increased uptime, productivity and ROI -HP Care Pack 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 HP 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 HP Care Pack 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 HP Care Pack Services, you can reduce downtime risks and be more certain of operational consistency for both mission-critical and standard business computing. Simply put, HP Care Pack Services normalize the warranty of combined products - helping you proactively guard against unplanned downtime.

Extending warranties with HP Care Pack Services

For cost-effective upgrading or extending your standard warranty, HP Care Pack 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 HP 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. HP 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 HP Care Pack packaged services for Storage assures help when you need it most. And for many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

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

HP Storage Services offers a full spectrum of customer care, from technology support to complex migrations to complete completely managed services. HP Factory Express provides customization, integration and deployment services for turnkey solutions. HP 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 HP Financial solutions extend innovative financing and asset management programs to cost-effective buy, manage and eventually retire your older equipment.

HP Storage Services, the trusted business technology experts who manage your technology in action, because when technology works, business works. <http://www.hp.com/hps/storage>

NOTE: Care Pack Services availability may vary by product and country.

HP Care Pack Services are sold by HP and HP Authorized Service Partners:

- Services for customers purchasing from HP or an enterprise reseller are quoted using HP order configuration tools.



Service and Support, HP Care Pack, and Warranty Information

- Customers purchasing from a commercial reseller can find HP Care Pack Services at <http://www.hp.com/go/lookuptool>

Recommended HP Care Pack Services for optimal satisfaction with your HP product.

Recommended Support3-Year HP Support Plus 24

For a higher return on your storage investment, HP Support Plus 24 provides integrated hardware and software support services designed specifically for your technology. Available 24x7, this 3-year combined reactive support option delivers onsite hardware support and over-the-phone software support around-the-clock. Leverage the full strength of HP Technology Services - customers can trust the services professionals at HP 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 HP software at a predictable cost
- Increase customer satisfaction-with no interoperability gaps

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5981-6638EN.pdf>

Recommended Deployment

HP Installation and Startup Service for HP VLS Tape Libraries

For smooth startup, HP Installation and Startup Service for HP VLS Tape Libraries- provides for the deployment of HP libraries, including library sub-components in SAN environments. In today's new era of business technology- customers can trust the services professionals at HP to work collaboratively with them, putting our strategic and technical know-how to work across their entire infrastructure.

- Installation and startup by an HP technical specialist
- Availability of an HP service specialist to answer basic questions during the delivery of this service
- Delivery of the service at a mutually scheduled convenient time
- Verification prior to installation that all service prerequisites are met
- A project manager to manage the implementation of the service engagement (Implementation Service only)
- Service performed by an HP technical specialist
- Delivery of the service at a mutually scheduled time
- Product installation according to the product specifications
- Deployment activities designed to bring the Fibre Channel-based tape library into operation
- Improved performance
- Higher value of the HP VLS libraries due to leveraging of HP knowledge in implementing Fibre Channel-based systems and solutions
- Fewer implementation-related disruptions in the IT environment
- Increased system reliability and more effective data management
- Installation that adheres to the product specifications and supports business configuration requirements

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA1-1971ENW.pdf>

Service and Support, HP Care Pack, and Warranty Information

Related HP Care Pack Services that will enhance your HP product experience.

Related Services

HP Data Replication Solution Services for HP Virtual Library System

For businesses looking to support data replication between data centers for disaster recovery:

To help you safeguard your critical business information, HP Data Replication Solution Service provides implementation of the replication feature of the VLS product family. This service provides the analysis, design, implementation, and testing services necessary to deploy optimal functionality of real time data replication on a VLS product. This service provides comprehensive implementation and test plans for data replication at the Customer location. With special consideration for data availability, consistency, currency, and I/O performance, our storage specialist will collaborate with the Customer designated IT storage administrator to plan, design, and optimize the configuration.

<http://h20195.www2.hp.com/v2/GetPDF.aspx/4AA2-4818ENW.pdf>

HP Backup and Recovery Solution Service

For customers who need help implementing their backup software:

Rapid recovery from system downtime can hinge on the efficiency of your backup and recovery management environment - and on how well that environment is integrated with your storage infrastructure. But integration processes can be time-consuming and complex, and your IT resources are already stretched thin. Where can you find the expert help you need?

For fast, effective integration of your backup solution into an existing or new storage infrastructure, turn to the storage experts at HP Services. Our Backup and Recovery Solution Service (BRSS) provides end-to-end management of your backup integration process. The BRSS team works with you to analyze your business and IT environment; develop a comprehensive integration plan and timetable; design an architecture that suits your critical requirements; install backup software; implement your solution; and validate your configuration.

<http://h20195.www2.hp.com/V2/GetPDF.aspx/5982-7441EN.pdf>

eSupport

HP 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 HP 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 HP service agreement. To access the support portal, visit: <http://www.hp.com/support>

HP Insight Remote Support software delivers secure remote support for your HP Servers and Storage, 24 X 7, so you can spend less time solving problems and more time focused on your business. You can have your systems remotely monitored for hardware failure using secure technology that's been proven at thousands of companies around the world. In many cases, you can avoid problems before they occur.

Service and Support, HP Care Pack, and Warranty Information

Customer Technical Training

Consider education as an integral part of your strategy to get the best return on investment for your HP storage solution. HP 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. www.hp.com/learn/storage

HP Services Awards

HP 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. For a list of all our awards, please visit <http://h20219.www2.hp.com/services/cache/433028-0-0-225-121.html>

Additional Services Information

For more information about HP Care Pack Services for Storage, please visit: <http://www.hp.com/hps/storage>

If you have specific questions, contact your local HP representative. Contact information for a representative in your area can be found at "Contact HP" <http://www.hp.com>

Kit Contents

Model	Description	Part Number
HP 12200 4Gb Gateway Base Virtual Library System	HP 12200 4Gb Gateway Base Virtual Library System Supplied with each Virtual Library System <ul style="list-style-type: none"> • Two HP 12200 Virtual Library System Gateway libraries - each enabled for 20 TB [10 LUNS] • Five HP Virtual Library System Capacity Expansion Licenses [10 TB] (T4430A) • One HP ProCurve E6600 Switch • Includes 48 GB of RAM • Installation Poster • HP 12200 Gateway Virtual Library System Documentation and System recovery DVD 	BW403A
<p>NOTE: EVA/P6x00 storage purchased and installed separately NOTE: Total EVA/P6x00 capacity enablement = 50 TB (25 LUNS) NOTE: #0D1 will appear after the part number if factory racking is desired</p>		
HP 12200 Virtual Library System 4Gb Gateway Expansion Kit	HP 12200 Virtual Library System 4Gb Gateway Expansion Kit Supplied with each Virtual Library System <ul style="list-style-type: none"> • HP 12200 Gateway Virtual Library System - enabled for 20 TB [10 LUNS] • Includes 48 GB of RAM • Installation Poster 	BW404A
HP Virtual Library System Secure Erasure LTU/E-LTU	HP Virtual Library System Secure Erasure LTU/E-LTU <ul style="list-style-type: none"> • The Secure Erasure license is one license per node and all nodes in a device must be licensed. 	TC336A/ TC336AAE*
HP 12000 Virtual Library System EVA Gateway Capacity Expansion License	HP 12000 Virtual Library System EVA Gateway Capacity Expansion License Supplied with each Virtual Library System Capacity Expansion License <ul style="list-style-type: none"> • enables 2 TB [1 LUN] 	T4430A/ T4430AAE*
<p>*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.</p>		
HP VLS12000 Data Deduplication Capacity LTU/E-LTU	HP 12000 Virtual Library System Data Deduplication Capacity LTU/E-LTU <ul style="list-style-type: none"> • The data deduplication capacity LTU will be licensed by the # of EVA LUNS presented to the VLS. The customer must know how many 2 TB LUNS the VLS is using before ordering. (Use Command View VLS (CV-VLS)). One license per LUN (T9709A or T9709AAE*) is required. 	T9709A/ T9709AAE*
<p>*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.</p> <p>NOTE: In addition to the capacity deduplication licensing for VLS here are key considerations:</p> <ol style="list-style-type: none"> 1. You will need to reference the following website for configuration, capacity and performance considerations for sizing VLS Accelerated deduplication configurations and usage models: www.hp.com/support/vls_dedup 2. Accelerated deduplication needs to recognize the specific backup 		



Kit Contents

application being used since it initially strips out the cartridge headers in order to decompose all the files and data types in order to do file-level comparisons to previous backups. Check the EBS website for the latest Accelerated deduplication supported backup ISVs and data types:
<http://www.hp.com/go/ebs>

NOTE: The entire VLS device (provisioned by the EVA) must be licensed for deduplication - no partial licenses supported. Deduplication licenses will be installed via the VLS GUI license plug-in.

HP VLS Low Bandwidth Replication License

HP Virtual Library Systems Low Bandwidth Replication LTU/E-LTU

T5537A/
T5537AAE*

Supplied with license

- One VLS license T5537A or T5537AAE* is required per VLS12x00 node for target sites only - none required on source site for active-passive configurations. For active-active configurations involving bi-directional replication, each site requires a license. Multi-node VLS12x00s require multiple licenses - one per node.

*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

NOTE: In addition to the deduplication-enabled replication licensing for VLS here are other key considerations:

1. All VLS systems involved with replication (whether a source or target) must all be licensed for Accelerated deduplication. In addition they have the same HW requirements and considerations as for Accelerated deduplication (see above).
2. Minimum of VLS firmware level 3.2 (for legacy VLS12000 systems) or 6.0.0.2 (for VLS12200 systems) must be used to support deduplication-enabled replication. This replication firmware can be activated through licensing.
3. Four modes of deduplication-enabled replication will be supported including: two-site active-passive (replication in one direction), two-site active-active (replication in both directions) many to one supporting up to four sites all replicating to a fifth site and N-way with four sites (similar to two-site active-active). Each site is a source and target.
4. C&I services will provide analysis, design, implementation and testing necessary to deploy a VLS solution with Accelerated deduplication and deduplication-enabled replication.

Feature Comparison (for previous VLS QS versions please visit:

<http://h18004.www1.hp.com/products/quickspecs/Division/Division.html#12666>)

Kit Contents

VLS Firmware Level ¹	6.0.0.2 (VLS NOT running Accelerated deduplication)	6.0.0.2 (VLS running Accelerated deduplication)
Supported Platforms	VLS12200	VLS12200
VLS12200 node support	Up to 4 nodes*	Up to 4 nodes with supported ISVs*
Backup ingest performance per node	2.2 TB/hr per node	2.0 TB/hr per node
Number of slots	50000 per library	50000 per library
Number of libraries	16 per node	16 per node
Number of cartridges/10 TB LUN	8000 (64,000 limit)	8000 (64,000 limit)
Automigration - Echo Copy ²	Yes	Yes
Automigration - Smart Copy ²	Yes with DP 6.1	Yes with DP 6.1
Delete Cartridge	Yes	Yes
Replication support	High-bandwidth via Ethernet	Deduplication-enabled via Ethernet
Hot Add Arrays	Yes	Yes
Hot Add Nodes	Yes	Yes
Storage pool support	Multiple storage pools	Multiple storage pool
Virtual LUN Support	192 per node	192 per node
LTO4 Emulation (no encryption)	Yes	Yes
LUN Masking usability, Command line interface enhancements	Yes	Yes

*Limited to 4 node support at release

¹For P6x00 support you will also need to apply patches. For 6.x customers with VLS12200 Gateway products the patch is [hp_6.0.0.2_reboot_374.zip](#) and for legacy 3.x customers using a VLS12000 Gateway the patch is [hp_3.4.0_reboot_373.zip](#); both of which are available through HP support.

²If taking advantage of automigration, additional Small Form-factor Pluggable (SFP) transceivers will be needed and can be ordered via part number AJ718A. Data Protector 6.1 is the minimum revision to support Smart Copy.

Related Options

HP Disk Arrays support P6x00, EVA4x00, EVA6x00 and/or EVA8x00.

For details please visit <http://www.hp.com/go/eva>

You will need to apply patches for P6x00 support - For the VLS12200 with 6.x code please use the patch [hp_6.0.0.2_reboot_374.zip](#) and for the legacy VLS12000 with 3.x code please use [hp_3.4.0_reboot_373.zip](#); both available through HP support at this time

Power Distribution units

NOTE: For more information on power distribution units, please consult the QuickSpecs on the Worldwide web at http://h18000.www1.hp.com/products/quickspecs/11041_div/11041_div.html

Low Voltage Modular PDU Model, 100 - 127 VAC

24A Model - mPDU, 24A, Low

252663-D71

High Voltage Modular PDU Model(s), 200 - 240 VAC

16A Model - mPDU, 16A, High

252663-B24

24A Model - mPDU, 24A, High

252663-D72

40A Model - mPDU, 40A, High

252663-B21

40A Model - mPDU, 40A, High (power cord attached)

252663-D73

Power Cords

(for connection to standard wall outlets)

Power Cord, North American C13, 10A, 1.83m

AF556A

Power Cord, Euro, C13,10A , 1.83m

AF568A

Power Cord, UK, C13,10A , 1.83m

AF570A

Power Cord, Danish, C13, 10A , 1.83m

AF566A

Power Cord, Swiss, C13,10A , 1.83m

AF565A

Power Cord, Italian, C13,10A , 1.83m

AF571A

Power Cord, South Africa, C13,10A , 1.83m

AF567A

Power Cord, Taiwan, C13,10A , 1,83m

AF561A

Power Cord, China, C13,10A 1.83m

AF557A

Power Cord, Japan, C13,10A , 1.83m

AF572A

Power Cord, Australia, C13,10A , 2.5m

AF569A

Power Cord, Argentina, C13,10A , 2.5m

AF558A

Power Cord, Brazil, C13,10A , 1.83m

AF559A

Power Cord, Korea, C13,10A , 1.83m

AF560A

Power Cord, Israel, C13,10A , 1.83m

AF564A

Power Cord, India, C13,10A , 2.0m

AF562A

FC Host Bus Adapters

For more information on FC HBAs please consult the EBS connectivity matrix at <http://www.hp.com/go/ebs>.

Related Options

HP Data Protector software

LTU (license-to-use), media and DVD

Data Protector Starter Pack Single Drive, for Windows	B6961AA/E*
Data Protector Starter Pack Single Drive, for HP-UX	B6951AA/E*
Data Protector Starter Pack Single Drive, for Sun Solaris	B6951DA/E*

LTU only

Data Protector Starter Pack Single Drive, for Windows LTU only	B6961BA/E*
Data Protector Starter Pack Single Drive, for HP-UX LTU only	B6951BA/E*
Data Protector Starter Pack Single Drive, for Sun Solaris LTU only	B6951CA/E*

Media Only

Data Protector Media	B6960MA/E*
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Manuals Only - Starter Pack

Data Protector Manuals - English	B6960LA
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Drive Extensions

Data Protector drive license for Windows, NetWare, or Linux (Intel)	B6963AA/E*
Data Protector drive license for UNIX, NAS, or SAN	B6953AA/E*
Data Protector Library Extension, 61-250 Slots	B6957BA/E*
Data Protector Library Extension, unlimited Slots	B6958BA/E*

Functional Extensions

Data Protector on-line extension for Windows	B6965BA/E*
Data Protector on-line extension for UNIX	B6955BA/E*
Data Protector open file backup license for 1 server	BA153AA/E*
Data Protector open file backup license for 10 servers	BA153BA/E*
Data Protector open file backup license for 5 workstations	BA154AA/E*
Data Protector open file backup license for 1 Enterprise Server	BA155AA/E*
Data Protector open file backup media. no license	BA152AA/E*
Data Protector Manager-of-Managers extension for Windows	B6966AA/E*
Data Protector Manager-of- Managers extension for UNIX	B6956AA/E*
Advanced backup to disk license, 1 TB	B7038AA/E*
Manuals for Functional extensions - English	B6960EA

*E denotes electronic delivery LTU options

For more information on HP Data Protector software please visit
www.hp.com/go/dataprotector

Configuration Information

NOTE: For rack-mount units only.

Step 1 – Select a Configuration

HP 12200 4Gb Gateway Base Virtual Library System

BW403A

Step 2 - Add additional nodes and enable additional capacity (optional)

HP 12200 Virtual Library System 4Gb Gateway Expansion Kit

BW404A

NOTE: Consult the tables in "Technical Specifications" to determine the optimal number of nodes for the amount of storage in your system

HP Virtual Library System EVA Gateway Capacity Expansion License

T4430A/
T4430AAE*

NOTE: To determine the number of licenses required (T4430A or T4430AAE*) use the following equation:

$(\text{Total number of EVA LUNs desired}) - (25) - (10 \times \text{the number of expansion kits}) = \text{the number of additional licenses required}$

NOTE: Recommended configuration is for each LUN to be 2 TB.

Configurations with LUNs configured to less than 2 TB are supported; however, the licensing is per LUN resulting in less than optimal utilization of licenses. VLS Gateway systems also do not support greater than 2 TB LUNs at this time.

*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

Step 3 - Add optional features - Accelerated deduplication, deduplication-enable replication or Secure Erasure

HP 12000 Virtual Library System Data Deduplication Capacity LTU or E-LTU

T9709A/
T9709AAE*

- The Accelerated deduplication capacity LTU will be licensed by the # of EVA LUNS presented to the VLS. The customer must know how many 2 TB LUNS the VLS is using before ordering. One license per 2 TB LUN (T9709A or T9709AAE*) is required.

*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

HP Virtual Library Systems Low Bandwidth Replication LTU or E-LTU

T5537A/
T5537AAE*

- One VLS license T5537A or T5537AAE* is required per VLS12x00 node for target sites only - none required on source site for active-passive configurations. For active-active configurations involving bi-directional replication, each site requires a license. Multi-node VLS12x000s require multiple licenses - one per node. VLS12x00 must also be licensed for Accelerated deduplication.

*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

HP Virtual Library System Secure Erasure LTU or E-LTU

TC336A/
TC336AAE*

- One license per node and all nodes in a device must be licensed.

*Electronic software is available in all countries except China and Japan. For China and Japan should order the physical equivalent.

Configuration Information

Step 4 - Select appropriate EVA/P6x00 (optional)

- Add additional HP P6x00s or Enterprise Virtual Arrays (EVAs) or expand existing EVAs. **For the most accurate sizing of the solution necessary for your environment please be sure that your sales rep or partner utilizes the HP Sizer tool. This is especially important when considering Accelerated deduplication and deduplication-enabled replication.**
- See the EVA/P6x00 QuickSpecs at: <http://www.hp.com/go/eva>

Step 5 - Select appropriate Services/Support

- Installation and Startup for SAN based libraries is required. (Details of specific part numbers in service section.)
- Choose support uplift type. There are different service uplifts uplifting years of service, hours of availability and response time. HP recommends three year 24X7 support uplifts for SAN libraries. (Details of specific part numbers in service section.)

Step 6- Select the Appropriate Rack (optional)

HP Rack 10000 G2 Series (Graphite Metallic)	HP Rack S10614 (14U) Rack Cabinet - Shock Pallet*	292302-B22
	HP Rack 10842 (42U, 800mm wide) - Pallet	AF041A
	HP Rack 10842 (42U, 800mm wide) - Shock Pallet*	AF042A
	HP Rack 10647 (47U) - Pallet	AF031A
	HP Rack 10642 (42U) - Pallet	AF001A
	HP Rack 10642 (42U) - Shock Pallet	AF002A
	HP Rack 10642 (42U) - Crated	AF003A
	HP Rack 10642 (42U) - with Extension -Shock Pallet*	AF004A
	HP Rack 10636 (36U) - Pallet	AF011A
	HP Rack 10636 (36U) - Shock Pallet*	AF012A
	HP Rack 10636 (36U) - with Extension -Shock Pallet*	AF014A
	HP Rack 10636 (36U) - Crated	AF013A
	HP Rack 10622 (22U) - Pallet	AF021A
	HP Rack 10622 (22U) - Shock Pallet	AF022A
	HP Rack 10000 G2 Series QuickSpec :	
	http://h18000.www1.hp.com/products/quickspecs/12402_div/12402_div.html	
	HP Rack 10000 Series QuickSpec:	
http://h18000.www1.hp.com/products/quickspecs/10995_div/10995_div.html		
* It is mandatory to use a shock pallet in order to ship racks with equipment installed.		
NOTE: -B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels)		
Rack kits	Universal Rail Kit	356906-001
	NOTE: This kit is for installation into HP 9000 racks.	

Technical Specifications

	HP 12200 Gateway Virtual Library System Base Unit		HP 12200 Gateway Virtual Library System Node Expansion Kit		HP 12000 Virtual Library System EVA Gateway Capacity Expansion License	
Capacity Enablement	50 TB	25 LUNs	20 TB	10 LUNs	2 TB	1 LUN
Throughput	2.2 TB/hr (4.3 TB/hr with 2:1 compression)	2.2 TB/hr (4.3 TB/hr with 2:1 compression)	1.08 TB/hr (2.2 TB/hr with 2:1 compression)	1.08 TB/hr (2.2 TB/hr with 2:1 compression)	n/a	n/a
	2 nodes		1 node			
Interface	Two 4 Gb front-side ports; Two 4 Gb back-side ports (each VLS 12200 Gateway node requires 4 FC switch ports)		Two 4 Gb front-side ports; Two 4 Gb back-side ports (each VLS 12200 Gateway node requires 4 FC switch ports)		n/a	

NOTE: 1MB = 1,000,000 bytes

		Number of VLS12200 Gateway Nodes with uncompressible data or deduplication enable			
		2	3	4	
Number of EVA4000 or EVA4100 Arrays (assumes 56 drives per array)	1	0.7 TB/hr	0.7 TB/hr	0.7 TB/hr	
	2	1.4 TB/hr	1.4 TB/hr	1.4 TB/hr	
	3	2.2 TB/hr	2.2 TB/hr	2.2 TB/hr	
	4	2.9 TB/hr	2.9 TB/hr	2.9 TB/hr	
	5	3.6 TB/hr	3.6 TB/hr	3.6 TB/hr	
	6	3.9 TB/hr	4.3 TB/hr	4.3 TB/hr	
Number of EVA6x00 or EVA4400 Arrays (assumes 96 drives per array)	1	1.4 TB/hr	1.4 TB/hr	1.4 TB/hr	
	2	2.9 TB/hr	2.9 TB/hr	2.9 TB/hr	
	3	3.9 TB/hr	4.3 TB/hr	4.3 TB/hr	
	4	3.9 TB/hr	5.7 TB/hr	5.7 TB/hr	
	5	3.9 TB/hr	5.8 TB/hr	7.2 TB/hr	
	6	3.9 TB/hr	5.8 TB/hr	7.8 TB/hr	
Number of EVA8x00 or P6x00 Arrays (assumes 96 drives per array)	1	1.4 TB/hr	1.4 TB/hr	1.4 TB/hr	
	2	2.9 TB/hr	2.9 TB/hr	2.9 TB/hr	
	3	3.9 TB/hr	4.3 TB/hr	4.3 TB/hr	
	4	3.9 TB/hr	5.7 TB/hr	5.7 TB/hr	
	5	3.9 TB/hr	5.8 TB/hr	7.2 TB/hr	
	6	3.9 TB/hr	5.8 TB/hr	7.8 TB/hr	

Technical Specifications

		Number of VLS12200 Gateway Nodes with 2:1 compressible data or deduplication disabled		
		2	3	4
Number of EVA4000 or EVA4100 Arrays (assumes 56 drives per array)	1	1.4 TB/hr	1.4 TB/hr	1.4 TB/hr
	2	2.9 TB/hr	2.9 TB/hr	2.9 TB/hr
	3	4.3 TB/hr	4.3 TB/hr	4.3 TB/hr
	4	4.3 TB/hr	5.7 TB/hr	5.7 TB/hr
	5	4.3 TB/hr	6.5 TB/hr	7.2 TB/hr
	6	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
Number of EVA6x00 EVA4400 Arrays (assumes 96 drives per array)	1	2.9 TB/hr	2.9 TB/hr	2.9 TB/hr
	2	4.3 TB/hr	5.7 TB/hr	5.7 TB/hr
	3	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
	4	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
	5	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
	6	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
Number of EVA8x00 or P6x00 Arrays (assumes 96 drives per array)	1	2.9 TB/hr	2.9 TB/hr	2.9 TB/hr
	2	4.3 TB/hr	5.7 TB/hr	5.7 TB/hr
	3	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
	4	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
	5	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr
	6	4.3 TB/hr	6.5 TB/hr	8.6 TB/hr

HP 12200 Gateway Virtual Library System

Number of Virtual Libraries 1 to 16 per node
Number of Virtual Tape Drives 1 to 176 per node
Number of Virtual Cartridges Up to 8000 per 10 TB LUN (64,000 limit)

NOTE: The maximum number of virtual devices is dependent on the number of nodes, not the capacity.

Power Consumption by VLS12200 Node (each component) 250W
VLS12200 Ethernet Switch Kit 204W

Dimensions and Physical Characteristics

HP 12200 4Gb Gateway Base Virtual Library System

Form Factor 4U (total installed form factor - base unit)

Physical Dimensions (HxWxD):

Node (each) 1.70 x 16.78 x 27.25 in (4.32 x 42.62 x 69.22 cm)

ProCurve E6600-24XG Ethernet Switch (each) 1.7 x 21.5 x 17.42 in (4.3 x 54.6 x 44.25)

Shipping (HxWxD) 48 x 40 x 40 in (121.9 x 101.6 x 101.6 cm)

Out of Box Weight

Node (each) 39.5 lb (17.92 kg)

ProCurve E6600 Ethernet Switch 43.89 lb (19.9 kg)

Shipping Weight 146 lb (66.41 kg)

HP 12200 Virtual Library System 4Gb Gateway Expansion Kit

Form Factor 1U (total installed form factor - base unit)



Technical Specifications

Physical Dimensions (HxWxD):	Node	1.70 x 16.78 x 27.25 in (4.32 x 42.62 x 69.22 cm)
	Shipping (HxWxD)	11.3 x 23.3 x 35.7 in (28.6 x 59.2 x 90.7 cm)
Out of Box Weight	Node	39.5 lb (17.92 kg)
Shipping Weight		48 lb (21.77 kg)

HP 12000 Virtual Library System Capacity License

Shipping (HxWxD)	8.5 x 11.0 in (21.6 x 27.9 cm)
Shipping Weight	1 lb (0.5 kg)

Environmental

Operating temperature range	50° to 95° F (10° to 35° C)
Shipping temperature range	-40° to 158° F (-40° to 70° C)
Operating Humidity (non-condensing)	10 - 90% RH

Worldwide Product Safety and EMC Approvals

Safety: Worldwide compliance to 60950-1

VLS12x00 Gateway Nodes: Regulatory Model Number HSTNM-2105, RSVLC-0207, RSVLC-0303, CISPR 22, CISPR 24, & FCC

NOTE: For country specific compliance contact your local sales representative.

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