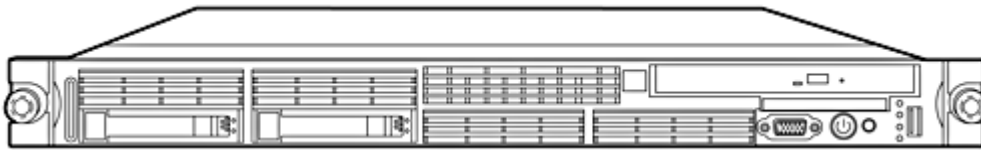


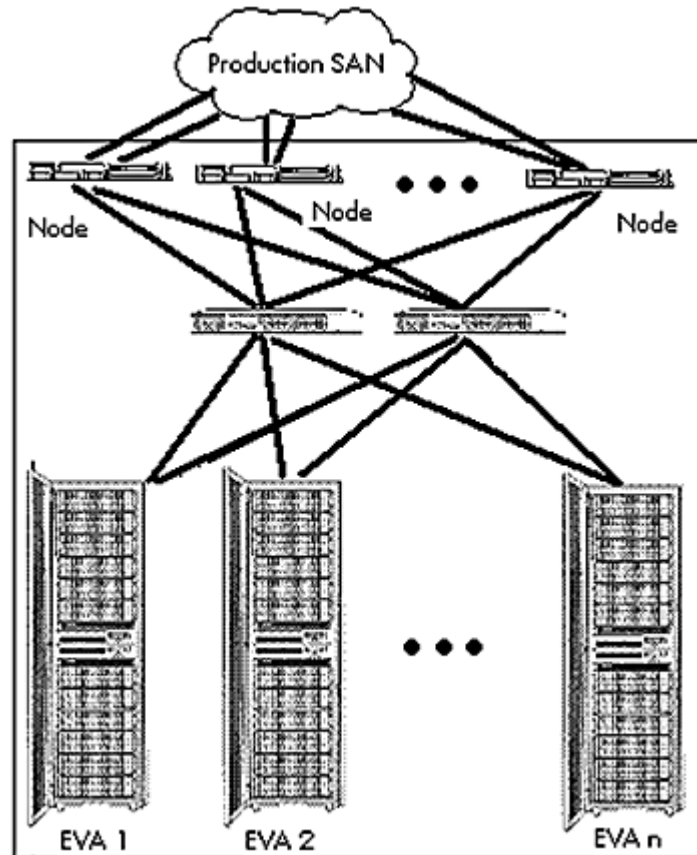
Overview

Expanding the power of the HP StorageWorks Enterprise Virtual Array (EVA), the HP StorageWorks 12000 Virtual Library System EVA Gateway accelerates backup performance in complex SAN environments while improving overall reliability. Integrating seamlessly into existing backup applications and processes by emulating popular tape libraries and tape drives, the HP VLS 12000 EVA Gateway matches the existing data protection environment, removing the need to change backup software or monitoring policies. Additionally, because the VLS EVA Gateway uses HP EVAs as the storage pool, ease of use is maintained throughout the system. By emulating multiple tape drives simultaneously, more backup jobs can be done in parallel resulting in reduced backup times and, because the data resides on disk, single file restores are exceptionally fast.

The HP Virtual Library System EVA Gateway simplifies your SAN environment by providing more virtual devices and leveraging existing switches and HP EVA infrastructure. The result is the ability to vastly increase scale yet reduce the complexity of shared storage while maintaining the manageability of the system. As your environment changes, the HP Virtual Library System EVA Gateway adapts to it - host masking and mapping ensure that only the appropriate hosts have access to the HP Virtual Library System.



HP VLS12000 EVA Gateway node



HP VLS12000 EVA Gateway System

Overview

Models

HP StorageWorks Virtual Library System Gateway Models	HP StorageWorks 12000 Virtual Library System Gateway Base Library	AH814A
	HP StorageWorks 12000 Virtual Library System Gateway Node Expansion Kit	AH815A
	HP StorageWorks Virtual Library System Capacity Expansion License	T4430A

NOTE: EVA storage is purchased and installed separately

Standard Features

Virtual Library System Gateway Customer benefits

- A multi-node VLS gateway solution for the EVA
- Seamless integration into current backup and recovery processes
- Improved backup and recovery performance over traditional tape solutions
- Investment protection through scaling both capacity and performance
- Efficient storage utilization through compression
- High availability features provide resilience in the face of component failures

Key Features

- Scales capacity and performance
- Up to 17.2 TB/hr (4800 MB/s) aggregate system throughput with 2:1 data compression
- Up to 1080 TB usable with 2:1 data compression
- Emulates popular tape drives and libraries
- Up to 128 libraries, 1024 tape drives and 8192 tape cartridges emulated simultaneously within a single virtual library system
- Hardware data compression
- Redundant array power supplies and cooling
- Multi-path from nodes to Arrays
- Mounts in standard 19" rack
- HP VLS 12000 Virtual Libraries can be shared amongst SANs
- Certified with popular backup software packages through HP StorageWorks Enterprise Backup Solution
- Data Deduplication ready (Deduplication available in 2008)
- Automigration

Product Highlights

Investment protection through scaling both capacity and performance	As environments and needs change, so does the VLS Gateway - capacity and performance can be scaled by provisioning additional storage from existing EVA arrays, or a new HP StorageWorks 12000 virtual Library system can be designed using dedicated EVA Storage Arrays.
Improved backup and recovery performance	Because it can receive many data streams at the same time (up to 128 per node), the VLS 12000 EVA Gateway maximizes the number of backup jobs occurring at a given time reducing the duration of your backup window.
Seamless integration	The HP StorageWorks 12000 Virtual Library System 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 autoloaders. The HP StorageWorks 12000 Virtual Library System gateway also emulates the HP Ultrium 230 (LTO1), HP Ultrium 460 (LTO2), HP Ultrium 960 (LTO3), DLT 7000, DLT 8000, and SDLT 320.
Efficient use of storage capacity	Hardware compression enables up to 2 times the amount of data to be stored in the HP StorageWorks 12000 Virtual Library System gateway
Reliability	Multiple paths to the arrays, redundant communication paths between nodes, redundant power supplies and fans complement the high availability functions of the HP StorageWorks Enterprise Virtual Array to create a highly reliable virtual library.
Advanced Features	The HP StorageWorks 12000 Virtual Library System gateway product supports Automigration capabilities. The initial release of these services is in the form of a "disk cache to tape" which allows copies of data to be moved off the virtual library to physical library under the control of the VLS system, not the back-up application. Future updates will allow full integration with ISVs via SMI-S 1.3 specifications. The VLS 12000 Gateway will also be able to take advantage of data deduplication when that feature becomes available in 2008.
Compatibility	HP's Enterprise Business Solutions (EBS) assures that your HP StorageWorks Virtual Library System Gateway 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 HP VLS Virtual Library System Gateways will work seamlessly in many environments. HP VLS Virtual Library System Gateways are especially suitable in a mixed system environment. For the latest list of servers, workstations, operating systems, and backup software that support HP Virtual Library System Gateways, check the tape backup compatibility pages on our web site at: http://www.hp.com/go/ebs .
Server Compatibility	The HP StorageWorks Virtual Library System Gateway 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 .

Product Highlights

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 StorageWorks Virtual Library System Gateway 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

HP Care Pack Services offer upgraded service levels to extend and expand your standard product warranty with easy to buy, easy to use support packages that help you make the most of your hardware and software investments. They let you choose the support levels that meet your business requirements, from basic to mission-critical. They help you contain total cost of ownership.

HP Care Pack warranty extensions can be purchased along with HP products to cost-effectively upgrade or extend your warranty. For many products, post-warranty HP Care Pack Services are available when your original warranty has expired.

Why purchase an HP Care Pack service?

Your standard warranty protects against product defects. HP Care Pack Services help you guard against unplanned downtime, which can reduce your productivity and profitability. These convenient service packages:

- Protect your investment in HP products
- Provide consistent, predictable levels of support across your entire department or business
- Ease budget planning with fixed-cost support that includes parts and labor
- Give you direct access to proven technical and problem-solving expertise
- Offer a choice of response-time and repair-time commitments
- Deliver prompt, measurable results
- Are available whenever and wherever you do business

HP Care Pack availability may vary by country and product.

Supporting your Adaptive Enterprise journey

HP Services helps you make the Adaptive Enterprise real for your organization. The breadth, depth, and quality of HP hardware and software support services can help you **improve the performance** of your IT support processes and resolve the complex software and hardware problems that tax user productivity. HP Care Pack services help you **increase IT environment stability**, efficiency, and agility from the desktop to the data center, and improve the productivity of your employees.

Warranty and Services Included with the Product

Hewlett-Packard provides a 1-year, next-day, on-site, limited warranty for the HP StorageWorks VLS Gateway hardware, plus 9x5 phone support for the duration of the warranty.

For more information about HP's Global Limited Warranty and Technical Support, visit:
<http://h18006.www1.hp.com/products/storageworks/warranty.html>

Service and Support, HP Care Pack, and Warranty Information

Deployment and Per Event Service Descriptions HP Installation & Startup for HP StorageWorks

- Provides for the implementation of the HP StorageWorks VLS products in SAN environments (ESL/ESL E/EML/MSL service also available), including the installation of all VLS hardware.
- Minimizes implementation-related disruptions to your environment and helps ensure increased system reliability and more effective data management

Due to the complexities involved with the initial installation of a HP Virtual Library System into a SAN environment, Hewlett Packard recommends that the SAN Implementation Service (HA114A1) is purchased. This service covers pre-installation preparation activities (excluding EVA configuration), installation and configuration of VLS hardware, configuration of hosts (up to 5, additional hosts handled via HA124A1 5B1) and switches, verification testing and customer orientation.

For more information please visit: http://www.hp.com/hps/storage/ns_info.html#related

Recommended Services In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett Packard recommends:

3 years 24 x 7 Hardware Support

- Guards against downtime, which reduces productivity and profitability
- Eases budget planning with fixed-cost support that includes parts and labor
Direct access to proven technical and problem-solving expertise

Installation Services via HP Direct and HP authorized enterprise resellers

Description	Band	Part Number
HP StorageWorks 12000 Virtual Library System EVA Gateway base Library (AH814A)		
Tape Library Installation And Start Up	5KG	HA114A1
Tape Installation HW Installation Only	5K9	HA113A1
HP StorageWorks 12000 Virtual Library System Gateway Node Expansion Kit (AH815A)		
Tape Library Installation And Start Up	55Z	HA114A1
Tape Installation HW Installation Only	552	HA113A1
Each additional library on the same site		HA124A1

NOTE: If the additional library is to be configured at a different site the customer must purchase an additional instance of HA114A1 #55Z

NOTE: New system node must include installation and startup (HA114A1 #552)

Service and Support, HP Care Pack, and Warranty Information

Description	Part Number
HW, "3-year", "next-day", "13x5", "on-site"	HA101A3
HW, "3-year", "4-hour", "13x5", "on-site"	HA103A3
HW, "3-year", "4-hour", "24x7", "on-site"	HA104A3
HW, "3-year", "6hr CTR", "24x7", "on-site"*	HA105A3
HW Only, Support Plus, "3-year", "13x5"***	HA109A3
HW Only Support Plus 24, "3-year", "24x7"***	HA110A3
HW Only, Proactive 24, "3-year", "24x7"***	HA111A3
HW Only, Critical Service, "3-year", "24x7"***	HA112A3

* 6hr CTR 'standalone' service is not offered in Latin or North America.

** Support Plus covers 4hr Hardware response (Software support is not applicable).

*** Both Proactive 24 & Critical Service only relate to 'reactive elements', work is ongoing to offer the 'proactive elements' in the near future (Software support is not applicable).

The HP Care Pack information quoted above relates to 3 year offerings only, 1yr, 4yr and 5yr packs are available for each offering (replace A3 with A1, A4, A5 respectively).

In order to maximize ROI and product uptime, and minimize the cost of ownership, Hewlett Packard recommends the 3-year, 24x7 service options. These offerings will ensure that any product issue can be tackled when they occur (most back up issues will occur outside standard business hours) and that the service coverage regarding period, covers the minimum expected life of the host system.

To find HP Care Pack Services available via HP authorized commercial resellers, visit
http://h30125.www3.hp.com/csn/salesmktg/elfpack/elf_nonlkup_ctrylang.asp?code=ELNL

Kit Contents

Model	Description	Part Number
HP StorageWorks 12000 Virtual Library System Gateway Base Unit	<p>HP StorageWorks 12000 Virtual Library System EVA Gateway Base Library</p> <p>Supplied with each Virtual Library System</p> <ul style="list-style-type: none">• Two HP StorageWorks 12000 Virtual Library System Gateway libraries - each enabled for 20 TB [10 LUNS]• Five HP StorageWorks Virtual Library System Capacity Expansion Licenses [10 TB] (T4430A)• One HP Procurve 2824 Ethernet switch• One HP Procurve 2524 Ethernet switch• Two USB to LAN converters• Command View Tape Library Software CD• Installation Poster• HP 12000 Virtual Library System Gateway Documentation CD• HP Command View Tape Library Software Documentation CD• System recovery CD <p>NOTE: EVA storage purchased and installed separately NOTE: total capacity enablement = 50TB (25 LUNS) NOTE: #0D1 will appear after the part number if factory racking is desired</p>	AH814A
HP StorageWorks 12000 Virtual Library System Gateway Node Expansion Kit	<p>HP StorageWorks 12000 Virtual Library System EVA Gateway Node Expansion Kit</p> <p>Supplied with each Virtual Library System</p> <ul style="list-style-type: none">• HP StorageWorks 12000 Virtual Library System Gateway library - enabled for 20 TB [10 LUNS]• USB to LAN converter• Installation Poster	AH815A
HP StorageWorks 12000 Virtual Library System Gateway Capacity Expansion License	<p>HP StorageWorks Virtual Library System Gateway Capacity Expansion License</p> <p>Supplied with each Virtual Library System</p> <ul style="list-style-type: none">• enables 2 TB [1 LUN]	T4430A

Related Options

HP StorageWorks Disk Arrays	EVA4100, 4400, 6100 and/or 8100, as well as, EVA3000, 4000, 5000, 6000 and/or 8000 arrays For details please visit http://www.hp.com/go/eva	
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 24A Model - mPDU, 24A, High 40A Model - mPDU, 40A, High 40A Model - mPDU, 40A, High (power cord attached)	252663-B24 252663-D72 252663-B21 252663-D73
Power Cords (for connection to standard wall outlets)	Power Cord, North American C13, 10A, 1.83m Power Cord, Euro, C13,10A , 1.83m Power Cord, UK, C13,10A , 1.83m Power Cord, Danish, C13, 10A , 1.83m Power Cord, Swiss, C13,10A , 1.83m Power Cord, Italian, C13,10A , 1.83m Power Cord, South Africa, C13,10A , 1.83m Power Cord, Taiwan, C13,10A , 1.83m Power Cord, China, C13,10A 1.83m Power Cord, Japan, C13,10A , 1.83m Power Cord, Australia, C13,10A , 2.5m Power Cord, Argentina, C13,10A , 2.5m Power Cord, Brazil, C13,10A , 1.83m Power Cord, Korea, C13,10A , 1.83m Power Cord, Israel, C13,10A , 1.83m Power Cord, India, C13,10A , 2.0m	AF556A AF568A AF570A AF566A AF565A AF571A AF567A AF561A AF557A AF572A AF569A AF558A AF559A AF560A AF564A 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 OpenView Storage Data Protector Backup Software	LTU (license-to-use), media and manuals	
	Data Protector Starter Pack Single Drive, for Windows	B6961AA
	Data Protector Starter Pack Single Drive, for HP-UX	B6951AA
	Data Protector Starter Pack Single Drive, for Sun Solaris	B6951DA
	LTU only	
	Data Protector Starter Pack Single Drive, for Windows LTU only	B6961BA
	Data Protector Starter Pack Single Drive, for HP-UX LTU only	B6951BA
	Data Protector Starter Pack Single Drive, for Sun Solaris LTU only	B6951CA
	Media	
	Data Protector Media	B6960MA
	Manuals	
	Data Protector Manuals	B6960LA
	Drive Extensions	
	Data Protector drive license for Windows, NetWare, or Linux (Intel)	B6963AA
	Data Protector drive license for UNIX, NAS, or SAN	B6953AA
	Data Protector Library Extension, 61-250 Slots	B6957BA
	Data Protector Library Extension, unlimited Slots	B6958BA
	Functional Extensions	
	Data Protector on-line extension for Windows	B6965BA
	Data Protector on-line extension for UNIX	B6955BA
	Data Protector open file backup license for 1 server	BA153AA
	Data Protector open file backup license for 10 servers	BA153BA
	Data Protector open file backup license for 5 workstations	BA154AA
Data Protector open file backup license for 1 Enterprise Server	BA155AA	
Data Protector open file backup media. no license	BA152AA	
Data Protector Manager-of-Managers extension for Windows	B6966AA	
Data Protector Manager-of- Managers extension for UNIX	B6956AA	
Advanced backup to disk license, 1 TB	B7038AA	
Manuals for Functional extensions	B6960EA	

Configuration Information

NOTE: For rack-mount units only.

Step 1 – Select a Configuration

HP StorageWorks 12000 Virtual Library System Gateway Base Library

AH814A

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

HP StorageWorks 12000 Virtual Library System Gateway Node Expansion Kit

AH815A

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

HP StorageWorks Virtual Library System Gateway Capacity Expansion License

T4430A

NOTE: To determine the number of licenses required (T4430A) 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 2TB. 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.

Step 3 - Select appropriate EVA (optional)

- Add additional HP StorageWorks Enterprise Virtual Arrays (EVAs) or expand existing EVAs.
 - See the EVA QuickSpecs at <http://www.hp.com/go/eva>
-

Step 4 - 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.)
-

Configuration Information

Step 5- 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 StorageWorks 12000 Virtual Library System EVA Gateway Base Unit		HP StorageWorks 12000 Virtual Library System EVA Gateway Node Expansion Kit		HP StorageWorks 12000 Virtual Library System EVA Gateway Capacity Expansion License	
Capacity Enablement	50 TB	25 LUNs	20 TB	10 LUNs	2 TB	1 LUN
Throughput	600 MB/s (1200 MB/s with 2:1 compression)	2.16 TB/hr (4.32 TB/hr with 2:1 compression)	300 MB/s (600 MB/s with 2:1 compression)	1.08 TB/hr (2.16 TB/hr with 2:1 compression)	n/a	n/a
	2 nodes		1 node			
Power Consumption	1070 W (total)		535 W		n/a	
	NOTE: Input Power specifications are maximum values and apply to worst-case conditions at full rated power supply load. The power for your installation will vary depending on the equipment configuration.					
Interface	Two 4Gb front-side ports; Two 4Gb back-side ports (each VLS 12000 Gateway node requires 4 FC switch ports)		Two 4Gb front-side ports; Two 4Gb back-side ports (each VLS 12000 Gateway node requires 4 FC switch ports)		n/a	

NOTE: 1MB = 1,000,000 bytes

		Number of VLS12000 EVA Gateway Nodes with uncompressable data						
		2	3	4	5	6	7	8
Number of EVA3000 or 5000 Arrays (assumes 56 drives per array controller)	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2	200 MB/s	n/a	n/a	n/a	n/a	n/a	n/a
	3	300 MB/s	300 MB/s	n/a	n/a	n/a	n/a	n/a
	4	400 MB/s	400 MB/s	400 MB/s	n/a	n/a	n/a	n/a
	5	500 MB/s	500 MB/s	500 MB/s	500 MB/s	n/a	n/a	n/a
	6	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	n/a	n/a
	7	700 MB/s	700 MB/s	700 MB/s	700 MB/s	700 MB/s	700 MB/s	n/a
	8	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s
Number of EVA4000 or 4100 Arrays (assumes 56 drives per array controller)	1	200 MB/s	200 MB/s	200 MB/s	200 MB/s	200 MB/s	200 MB/s	200 MB/s
	2	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s
	3	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s	600 MB/s
	4	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s
	5	1000 MB/s	1000 MB/s	1000 MB/s	1000 MB/s	1000 MB/s	1000 MB/s	1000 MB/s
	6	1080 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s
Number of EVA6000 or 6100 or 4400 Arrays (assumes 112 drives per array controller for 6x00 and 96 drives per	1	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s
	2	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s
	3	1080 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s
	4	1080 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s
	5	1080 MB/s	1620 MB/s	2000 MB/s	2000 MB/s	2000 MB/s	2000 MB/s	2000 MB/s



Technical Specifications

Number of EVA8000 or 8100 Arrays (assumes 112 drives per array controller)	6	1080 MB/s	1620 MB/s	2160 MB/s	2400 MB/s	2400 MB/s	2400 MB/s	2400 MB/s
Number of EVA3000 or 5000 Arrays (assumes 56 drives per array controller)	1	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s	400 MB/s
	2	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s
	3	1080 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s
	4	1080 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s
	5	1080 MB/s	1620 MB/s	2000 MB/s	2000 MB/s	2000 MB/s	2000 MB/s	2000 MB/s
	6	1080 MB/s	1620 MB/s	2160 MB/s	2400 MB/s	2400 MB/s	2400 MB/s	2400 MB/s
		Number of VLS12000 EVA Gateway Nodes with 2:1 compressable data						
		2	3	4	5	6	7	8
Number of EVA4000 or 4100 Arrays (assumes 56 drives per array controller)	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2	400 MB/s	n/a	n/a	n/a	n/a	n/a	n/a
	3	600 MB/s	600 MB/s	n/a	n/a	n/a	n/a	n/a
	4	800 MB/s	800 MB/s	800 MB/s	n/a	n/a	n/a	n/a
	5	1000 MB/s	1000 MB/s	1000 MB/s	1000 MB/s	n/a	n/a	n/a
	6	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	1200 MB/s	n/a	n/a
	7	1200 MB/s	1400 MB/s	1400 MB/s	1400 MB/s	1400 MB/s	1400 MB/s	n/a
	8	1200 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s
Number of EVA6000 or 6100 or 4400 Arrays (assumes 112 drives per array controller for 6x00 and 96 drives per array for 4400))	1	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s
	2	1200 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s
	3	1200 MB/s	1800 MB/s	2400 MB/s	2400 MB/s	2400 MB/s	2400 MB/s	2400 MB/s
	4	1200 MB/s	1800 MB/s	2400 MB/s	3000 MB/s	3200 MB/s	3200 MB/s	3200 MB/s
	5	1200 MB/s	1800 MB/s	2400 MB/s	3000 MB/s	3600 MB/s	4000 MB/s	4000 MB/s
	6	1200 MB/s	1800 MB/s	2400 MB/s	3000 MB/s	3600 MB/s	4200 MB/s	4800 MB/s
Number of EVA8000 or 8100 Arrays (assumes 112 drives per array controller)	1	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s	800 MB/s
	2	1200 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s	1600 MB/s
	3	1200 MB/s	1800 MB/s	2400 MB/s	2400 MB/s	2400 MB/s	2400 MB/s	2400 MB/s
	4	1200 MB/s	1800 MB/s	2400 MB/s	3000 MB/s	3200 MB/s	3200 MB/s	3200 MB/s
	5	1200 MB/s	1800 MB/s	2400 MB/s	3000 MB/s	3600 MB/s	4000 MB/s	4000 MB/s
	6	1200 MB/s	1800 MB/s	2400 MB/s	3000 MB/s	3600 MB/s	4200 MB/s	4800 MB/s

Technical Specifications

HP 12000 Virtual Library System EVA Gateway

Number of Virtual Libraries	1 to 16 per node, up to 128 per system
Number of Virtual Tape Drives	1 to 128 per node, up to 1024 per system
Number of Virtual Cartridges	Up to 8192 per system

NOTE: The maximum number of virtual devices is dependent on the number of nodes, not the capacity. The maximum number of virtual cartridges is dependent on the amount of capacity (number of LUNs) with 1024 cartridges per LUN. The EVA currently supports 2TB/LUN, therefore, maximum of 8192 cartridges would be reached with 16TB.

Dimensions and Physical Characteristics	HP StorageWorks 12000 Virtual Library System Gateway Base Library			
	Form Factor	4U (total installed form factor - base unit)		
	Physical Dimensions (HxWxD):	Node	1.7 x 16.8 x 27.8 in (4.3 x 42.6 x 70.5 cm)	
		Procurve 2524 Ethernet Switch	1.8 x 17.4 x 8.0 in (4.57 x 44.2 x 20.32 cm)	
		Procurve 2824 Ethernet Switch	1.75 x 17.32 x 14.4 in (4.45 x 43.99 x 36.58 cm)	
		Shipping (HxWxD)	48 x 40 x 40 in (121.9 x 101.6 x 101.6 cm)	
	Out of Box Weight	Node (each)	37 lb (16.78 kg)	
		Procurve 2524 Ethernet Switch	6.0 lb (2.72 kg)	
		Procurve 2824 Ethernet Switch	10.2 lb (4.63 kg)	
	Shipping Weight	100 lb (45.4 kg)		

HP StorageWorks 12000 Virtual Library System Gateway Node Expansion Kit

Form Factor	1U (total installed form factor - base unit)		
Physical Dimensions (HxWxD):	Node	1.7 x 16.8 x 27.8 in (4.3 x 42.6 x 70.5 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	37 lb (16.78 kg)	
Shipping Weight	46 lb (20.9 kg)		

HP StorageWorks 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)		

Technical Specifications

Environmental	Operating temperature range	10° to 35° C (50° to 95° F)
	Shipping temperature range	-40° to 66° C (-40° to 150° F)
	Operating Humidity (non-condensing)	10 - 90% RH

Worldwide Product Safety and EMC Approvals Safety: Worldwide compliance to 60950-1

[For country specific compliance contact your local sales representative](#) VLS 12000 Gateway Nodes: Regulatory Model Number HSTNM-2105, RSVLC-0207, RSVLC-0303, CISPR 22, CISPR 24, & FCC

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