

HP StorageWorks 4000/6000/8000 Enterprise Virtual Array (EVA)

Family data sheet



EVA4000



EVA6000



EVA8000



Today's business climate requires that you do more with less, are available 24x7 and have all relevant information available at the click of a button. To be able to respond to the demands of your business, you need IT processes that manage costs, mitigate risk, increase quality of service and enable enterprise agility. HP takes a horizontal, integrated approach to designing, implementing, measuring, monitoring and operating business processes. This approach provides simplicity without compromise, change without chaos and growth without limits. The HP StorageWorks Enterprise Virtual Array (EVA) family of products provides the power and simplicity that you need to respond to the more demanding and changing needs of your users, customers and applications.

Responding to today's challenges

With increasing numbers of customers and users accessing more information through more sophisticated applications, storage capacity is at a premium. Applications such as e-mail, digital imaging and databases are taking more and more storage space.

The challenges that you face on a daily basis continue to be more demanding. You need scalability to be flexible and able to quickly and easily add or modify your capacity in real-time when your users need it – this also means that you need to implement automation and consolidation into your IT environment. Total

storage needs for your organisation continue to grow, yet you are being asked to work with reduced budgets, reduce total cost of ownership (TCO) and have an IT staff that is more efficient in order to reduce costs in a very competitive business environment. You also need ease-of-use as your IT staff has little opportunity to participate in expensive systems training.

With increasing regulatory requirements across many industries, you benefit from solutions that help you adhere to these regulations. Additionally, you must implement business continuity and disaster tolerance programmes as your organisation cannot afford for systems to go down – thus you have a higher need for redundancy within your systems.

With HP you get a winning team

Through a thorough understanding of your organisation and by bringing together the right combination of best-in-class services, hardware, software, systems, partners and financing, HP delivers the best solution for your specific business and IT needs.

HP is your partner and will work with you to fully understand your business and implement a solution that will make your life easier, be cost-effective and provide a good return on your investment, while delivering value to your business.

HP combines storage virtualisation and software in the HP StorageWorks Enterprise Virtual Array (EVA) family, to provide you with the simplest storage management experience, compared to traditional arrays.

HP provides total end-to-end solutions including server, storage, software and services. Customers recognise the business value of working with one enterprise-class vendor to provide a complete solution. When considering acquisition and management costs, such issues as reduced array set-up time, fewer training requirements and high rates of capacity utilisation lead to a total cost of ownership of an HP StorageWorks EVA solution that is significantly less than that of a traditional array.

By working closely with you to fully understand your needs, HP can design and implement a customised solution that works for you because:

- HP has deep knowledge and expertise in storage systems
- HP provides a seamless, heterogeneous integration
- IT performance and resources will be at its peak
- HP provides a more robust environment
- HP solutions work better together with your existing infrastructure
- HP provides EVA and server solutions consolidated into one rack

HP solutions are cost effective in that they:

- Require lower operating costs
- Are in a virtualised environment
- Provide customised financing
- Utilise portfolio planning
- Provide superior investment protection and evolution
- Are the right technology at the right price

The right solution for today and tomorrow

HP combines storage virtualisation and software in the HP StorageWorks Enterprise Virtual Array (EVA) family, to provide you with the simplest storage management experience, compared to managing traditional arrays. This allows you the flexibility and scalability to respond to specific business needs instantly, providing your IT staff with the focus they need to manage other daily IT tasks, not just storage.

Virtualisation enables capacity pooling, simplified management, automatic performance load balancing and dynamic configuration and re-configuration. The HP StorageWorks EVA, automates storage by requiring fewer steps to manage the array and aggregates storage with fewer pieces to manage.

The virtualisation features of the HP EVA continue to provide unique capabilities that help you in several areas:

- ROI – better utilisation of storage
- Ease of management – simple point-and-click set-up and expansion
- Business agility – expand storage without major reconfigurations
- Cost reduction – do more with fewer IT resources, less equipment and less storage space
- Consolidation – exceptional performance allows more data to be stored and accessed by more servers

With affordable, easy to deploy EVA4000 Starter Kits for small SAN use, XCS software, 4 Gb Host Bus Adapters and switches support; the EVA4000, 6000 and 8000 arrays provide a comprehensive server/storage/service solution for simplified management and increase performance.

HP is changing the economics of management in the data center. By combining server and storage management, we are enabling customers to dramatically simplify their environments and significantly reduce operational costs, not just acquisition costs.

Who is using HP EVA solutions

HP EVA devices have been installed in and are now supporting a wide range of customer businesses. For a complete listing of customer references, success stories and more, please visit

<http://h18006.www1.hp.com/storage/casestudies/byproduct.html>.

HP EVA solutions support many customers across many industries, here are a few examples:

- **Retail** – Meijer Inc.
- **Financial** – Callcredit, NetBank, PREMIER Bank Card, Banco Bolivariano
- **Health care** – Aurora Health Care, Capital Regional Orthopaedic Group, Childrens' Hospital-Boston, Genesis Health System, Priority Health
- **Local, state and federal governments** – City of Fontana (CA), European Legislature, Los Angeles County Department of Registrar-Recorder/County Clerk
- **Manufacturing** – Komax AG
- **Utilities** – Genesis Energy, Scottish and Southern Energy plc
- **Airlines** – Boeing, Continental Airlines, Instituto Nacional de Técnica Aeroespacial
- **Transport** – Atkins Danmark, DaimlerChrysler Services
- **Universities/schools** – College of Saint Benedict/Saint John's University, Detroit Medical Center (Wayne State University), Pittsburgh Public Schools, University of Oslo

HP EVA solutions are supporting all types of applications, including such diverse areas as database, banking, payroll, e-mail, imaging, airline management, billing, manufacturing, scientific records and medical records.

HP StorageWorks EVA4000/6000/8000 hardware family

The HP StorageWorks Enterprise Virtual Array family is designed for mid-range and enterprise-class environments where IT challenges must be met head on. They help remove storage shortfalls that can produce a domino effect across your network.

HP EVA storage devices provide the following features and benefits:

- **High availability, no single-point-of-failure, high performance** – provides automation, simplified storage management; helps certify that business-critical data and applications are available to your users when they need them
- **Highly modular/scalable** – scales up to 120 TB, offering storage consolidation for mid-range and enterprise organisations
- **State-of-the-art virtualisation** – automatically manage the storage array, saving time and lowering overall total cost of ownership (TCO)
- **Compatibility across major operating systems** – simplifies storage management
- **Cost effective** – manage more data with fewer IT resources; provides TCO
- **Agility** – support integrated EVA iSCSI connectivity in addition to SAN

Highlights of the EVA4000/6000/8000 family include:

- New controllers providing higher performance over the EVA3000/5000 generation, so you get a more robust system for your investment
- Mid-range model allowing you to select a model that more specifically fits your organisation's needs
- Larger disk capacities so you can store more data on fewer disk drives
- A selection of disk drives so that you can use the type and size of drive that best meets your needs and you can grow easily at any time

**EVA4000****EVA6000****EVA8000**

Drive capacity	56 drives	112 drives	240 drives
Random reads bandwidth	14,500	27,600	55,900
Sequential reads	335 MB/sec	750 MB/sec	1420 MB/sec
Sequential writes	260 MB/sec	515 MB/sec	525 MB/sec
Host ports	4	4	8
Device ports	4	4	8
Loop switches	0	2	4
Drives supported	10k rpm 146/300 GB, 15k rpm 72/146 GB High Performance FC, 500 GB FATA	10k rpm 146/300 GB, 15k rpm 72/146 GB High Performance FC, 500 GB FATA	10k rpm 146/300 GB, 15k rpm 72/146 GB High Performance FC, 500 GB FATA
Operating systems supported	Windows 2000, Windows 2003, HP-UX, Linux, Tru64, OpenVMS, Solaris, AIX, NetWare, VMware	Windows 2000, Windows 2003, HP-UX, Linux, Tru64, OpenVMS, Solaris, AIX, NetWare, VMware	Windows 2000, Windows 2003, HP-UX, Linux, Tru64, OpenVMS, Solaris, AIX, NetWare, VMware
Connectivity	DAS, Integrated iSCSI and SAN	DAS, Integrated iSCSI and SAN	DAS, Integrated iSCSI and SAN

For ordering information, please see QuickSpecs: www.hp.com/go/quickspecs

HP StorageWorks EVA software solutions

HP StorageWorks Command View EVA Software Suite

HP StorageWorks Enterprise Virtual Array combined with HP StorageWorks Command View EVA software provides a storage solution that is significantly easier to manage than traditional array approaches. The Command View EVA software suite is a comprehensive, yet powerfully simple, software solution designed to manage EVA units at the lowest management cost. With one set of software, you can easily and quickly configure and provision storage when you need it, connect to proactive remote monitoring services for 24x7 availability, replicate data, depend on LUNs, create scripts and monitor a variety of performance metrics.

Included with the Command View EVA software suite is a software module called HP StorageWorks Command View EVA Perf. This powerful performance monitoring tool provides you with the ability to analyse EVA array performance metrics quickly. It takes advantage of the standard Microsoft® Windows Performance Monitoring Tool (PerfMon) to graphically display EVA performance data and allows you to create your own scripts via a command prompt. Command View EVA Perf helps you more quickly identify performance bottlenecks with the ability to easily monitor EVA performance in real-time, as well as display and view historical EVA performance.

HP StorageWorks Business Copy and Continuous Access Software Suite

HP StorageWorks Business Copy EVA software delivers advanced snapshot capability for the EVA software array family. It keeps your enterprise up and running while making the most of your data by supporting crucial business continuance activities such as:

- Keeping applications on-line while backing up data
- Testing applications against real data before deploying
- Restoring volume after a corruption or data mine to improve business processes or customer marketing

HP StorageWorks Business Copy and Continuous Access software offers simplicity without compromise while ensuring your valuable business data is protected. Combining Replication Solutions Manager with both Business Copy and Continuous Access allows you to enjoy the benefits of having a single, easy-to-use, unified GUI, so your investment in training is increased and resources can be deployed more efficiently, resulting in reduced IT costs. As a result, Replication Solutions Manager improves revenue generation and drives cost savings through enhanced data availability.

For additional data replication functionality, HP StorageWorks Business Copy EVA provides support for Instant Restore. This allows for quick recovery of a source volume from a Snapclone or MirrorClone. Both Snapclones and MirrorClones are complete duplications (or clones) of the data existing on a specific disk group at a specific point in time, allowing you to have two complete copies of any given data set. A MirrorClone is a complete duplication for improved data protection.

HP StorageWorks solutions for the EVA

Advanced snapshot technology

With HP Vsnap (or space efficient snapshot) technology you can take an instant point-in-time virtual image of a source volume that allocates storage space as needed, offering the most efficient use of storage resources. With a fully allocated snapshot, disk capacity is reserved to accommodate the original size of the source volume. Snapshots are used to certify business continuance should a source volume need to be non-disruptively restored from disk or to move production data to tape.

High availability

You cannot afford to have stored data that you cannot access. HP path failover solutions help certify that you continue to have access to your data while:

- Reducing cost associated with high availability
- Discontinue proprietary failover solutions
- Reducing the complexity of adding failover capabilities
- Discontinue the need for different solutions for different arrays
- Simplifying deployment of EVA arrays into new and existing environments
- HP EVA4000/6000/8000 support industry popular multi-pathing software

HP path failover solutions help validate that your data and systems will be accessible at all times, even when you have different types of arrays or there is an issue and one of the paths goes down. Path failover is a critical component for high availability of Storage Area Networks. Path failover solutions prevent lost data or system downtime due to a failed I/O path on your network.

Infrastructure management – HP Storage Essentials

HP is changing the economics of management in the data center. By combining server and storage manage-

ment, we are enabling customers to dramatically simplify their environments and significantly reduce operational costs, not just acquisition costs.

HP Storage Essentials is the first open, standards-based suite of storage products designed to integrate into HP's unified server-storage management platform, HP Systems Insight Manager. HP Storage Essentials suite is an open, integrated family of Storage Area Network (SAN) management and storage resource management solutions that enable you to visualise, monitor, report on, provision and configure your multi-vendor storage environment through a single, Web-based enterprise console.

- **HP Storage Essentials Enterprise Edition** serves as the base management console for the suite. It is architected using the latest in industry standards such as SMI-S, WBEM, WMI, JBOS and J2EE.
- **HP Storage Essentials Provisioning Manager** consists of a centralised wizard for allocating and managing the pools, volumes, LUNs, zones and zone sets in your SAN. Using the built-in job queue and scheduler, you can quickly create and schedule provisioning jobs.
- **HP Storage Essentials Oracle Viewer** allows you to manage the utilisation and availability of your Oracle infrastructure.
- **HP Storage Essentials Exchange Viewer** automatically discovers Microsoft Exchange Server instances, storage groups and message stores and graphically depicts their dependencies on the SAN.
- **HP Storage Essentials Sybase Viewer** graphically depicts the path that each Sybase element takes through mount points, host servers, volume management software, HBAs, fabric switches and storage systems.
- **Storage Essentials File System Viewer** automatically discovers your file systems, logical volumes and user shares. Conducts high performance scans to collect age, size and type statistics on every file.

HP is a complete IT solution provider, with a portfolio including servers, storage and services.

- **HP Storage Essentials Chargeback Manager** offers two options for managing the costs of storage services.
- **HP Storage Essentials Global Reporter** extends base Enterprise Edition report features with powerful roll-up reporting capabilities that provide aggregated views of distributed data center storage.
- **HP Storage Essentials Report Designer** extends base Enterprise Edition reports with powerful custom reporting capabilities that satisfy your unique audit, service level management, planning and communications needs.

The benefits of implementing HP EVA storage

HP StorageWorks EVA solutions offer a number of advantages to your organisation. HP StorageWorks EVA products offer you unparalleled simplicity. They are simple to configure, use, provision, manage and protect. You can manage your HP StorageWorks EVA storage with the ability to easily provision basic snapshots and create remote mirrors via an intuitive, easy-to-use graphical user interface (GUI) and powerful common language infrastructure (CLI). You can also:

- Quickly pinpoint performance bottlenecks so applications run at peak performance
- Greatly reduce the user workload and errors in configuring and managing both local and remote replication environments with an easy-to-use common user interface that utilises job engines, wizards and host integration
- Manage EVA high performance disk and EVA low cost/high capacity FATA drives as one

HP Services

HP Services has end-to-end expertise in delivering solutions that help you improve your business agility. From initial assessment and design to technical integration and ongoing support, HP Services can be your single point of contact and accountability.

HP related services:

- **SAN Solution Service** – Provides for the implementation of Fibre Channel switches in a storage area network (SAN) environment. The tier and level of SAN Solution Service is determined by the size and complexity of the SAN environment.
- **HP Data Replication Solution Service for Continuous Access EVA Implementation** – Provides implementation and verification of the Continuous Access feature of the EVA storage array. The service is offered at three service levels, ranging from basic installation to more comprehensive implementation that can be tailored to meet the specific needs of your storage environment.
- Other applicable HP storage services include:
 - Backup and Recovery Solution Service
 - Disaster Tolerant Management Service
 - Electronic Vaulting for Enterprises
 - Storage Essentials Solution Service
 - HP Vdisk/LUN Design and Implementation Service
 - HP Data Migration Service
- **HP Care Pack Services** – a comprehensive portfolio of services for maintaining the highest levels of IT availability
 - Critical Service
 - Proactive 24 service
 - Support Plus 24 service
- **Instant Support Enterprise Edition (ISEE)** – remote monitoring and support solution for your servers, storage and networks
- **Business Continuity Services** – protect and reduce disruption to IT infrastructure and associated business processes against site outages, disasters and environmental events

Across the globe, enterprise customers rely on HP Services to design, deploy, manage and support the IT systems that run their businesses. HP Services capabilities cover consulting and integration, outsourcing and support services. With more than 69,000 services professionals operating in 170 countries, acknowledged technology leadership and a heritage of innovation in services, HP Services can point to an extensive track record of helping customers improve their ability to support their changing business needs.

For further details, contact your HP sales representative or visit: www.hp.com/hps/storage

HP StorageWorks EVA storage solutions provide unmatched capacity, thus providing better ROI and data protection with immediate access to replicas using unique Snapclone and Vsnap local replication technologies.

You receive total cost of ownership value by implementing HP StorageWorks EVA solutions. These solutions use virtualisation technology to automatically manage the storage array and save time. You can save disk space and money when using the HP StorageWorks Business Copy EVA software suite with your HP StorageWorks EVA devices. This solution helps you:

- Increase capacity utilisation based on virtualisation technology
- Enable storage consolidation for mid-range and enterprise organisations, scaling up to 120 TB
- Decrease training and costly errors with powerfully simple management and replication features

The HP StorageWorks EVA4000/6000/8000 family of products has increased performance and greater flexibility. They meet the performance needs of the most demanding mission-critical applications with state-of-the-art technology and design. You will be able to reduce IT downtime, cost and complexity while increasing productivity. HP is a complete IT solution provider. HP has a portfolio including servers, storage and services. By purchasing an HP storage solution you will realise:

- More accountability
- More agility
- A better return on your IT investment

Utility Pricing solutions for StorageWorks EVA

HP provides a spectrum of offerings allowing customers to align their payments according to the usage of storage capacity.

- For customers requiring assistance in managing their storage infrastructure, Managed Storage Solution (MSS) meets that need while providing the option to acquire storage on a utility model. Customers have the ability to choose other options like Backup/Restore, Data Availability, Local Copy and Remote Copy services. All of these capabilities are offered at a \$/GB/Month fee.
- For customers that want to build and manage their own storage utility, Utility Ready Storage (URS) provides customers with storage that does not run out, priced as the customer uses it and is easy to procure. URS pricing is based on \$/GB/Month of average allocated capacity over the customer's limited commitment. URS provides a unique opportunity to allow customers access to storage when they need it, permitting them to adapt to their changing business needs.
- For customers whose need is best described by predictable growth, pay per forecast (PPF), offered from HP Financial Services, is an ideal fit. It is a step lease based solution where the payments are structured up-front according to the customer's forecasted growth.
- For even further demanding financial needs of customers, HP Financial Services are ready to craft a customised solution for them.

Please contact your local HP representative.

Warranty and included services

The HP standard warranty for EVA4000/6000/8000 includes Array Installation and Startup Service, two-year hardware support with four-hour response on a 24x7 basis, as well as two-year 24x7 XCS firmware phone-in support and updates. HP StorageWorks EVA4000 Starter and SAN starter kit provides a two-year 9x5 next business day warranty, two-year XCS firmware phone-in support and updates. HP warrants only that the Software media will be free of physical defects for a period of ninety (90) days from delivery. In countries where available, your HP Warranty includes support for Customer Self Repair and Customer Self Upgrade. Please refer to HP's Limited Warranty Statement for further details: <http://h18006.www1.hp.com/products/storageworks/warranty.html>.

HP Care Pack services

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. For more information on these services, contact your local HP representative, authorised HP business partner or visit: www.hp.com/go/storage/carepacks.

HP Factory Express

HP Factory Express is a portfolio of more than 50 flexible and robust pre-priced, customised and integrated factory configuration and deployment services—supporting HP products from the desktop to the data center with Microsoft® Windows®, Linux and HP-UX 11i.

HP Factory Express is designed to help you get more from your technology investment, extend your valuable resources and accelerate your business results. It provides predictable, trusted and tested IT solutions designed to enhance your productivity. With Factory Express, you can customise hardware to your exact specifications at the HP factory – helping you plan and meet budget goals, cut costs, speed deployment and free up internal resources. To learn more, visit: www.hp.com/go/factory-express.

Additional HP support services

HP Services provides a broad spectrum of services to commercial and enterprise customers, including performance and availability services such as proactive mission-critical services, as well as support management services for deployment of the entire IT infrastructure, including HP and multi-vendor environments. For more information on these services, contact your HP representative, authorised HP business partner or visit: www.hp.com/hps/storage.

Education services

HP offers a variety of training methods to fit your needs including traditional instructor-led courses at one of our 120 training centers worldwide, on-site training customised to your needs, in your facility or even Remotely Assisted Instruction Learning that combines the best of traditional classroom training (including its live instructor and labs) with the best of online training (no travelling required). And if you like learning on your own schedule, at your own pace, make use of e-learning opportunities on the award-winning HP IT Resource Center, a “learning community” with extensive on-demand resources that can be accessed 24x7. For more information on these services, contact your HP representative, authorized HP business partner or visit: <http://education.hp.com/curr-storsan.htm>.

Financial services

HP Financial Services provides innovative financing and financial asset management programs to help customers cost-effectively acquire, manage and ultimately retire their HP solutions. For more information on these services, please contact your HP representative or visit: www.hp.com/go/hpfinancialservices.

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To learn more, visit www.hp.com/go/storageworks/arrays

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