



HP P6000 Enterprise Virtual Array

The HP P6000 Enterprise Virtual Array (P6000 EVA) is an enterprise class virtual storage array family for midsized organizations at an affordable price. With built in virtualization, the P6000 EVA is designed to improve capacity utilization and be easy to manage, which lowers the cost of ownership compared to traditional arrays. These arrays have high performance, scale easily, and are highly reliable and available. The P6000 EVA is a trusted platform for enterprise application consolidation with solutions for Microsoft Exchange and SQL, Oracle, and SAP. It also offers integration with virtual server platforms from VMware, Microsoft, and more, plus broad operating systems support.

The HP P6000 EVA family is the next generation of EVA with two new models: the P6300 EVA and P6500 EVA. The P6000 EVA family supports Serial Attached SCSI (SAS) disk drives with a wide range of Small Form Factor (SFF) SAS drives, Large Form Factor (LFF) SAS drives, or combinations of both, to better match your storage capacity, performance, power, and availability needs. The P6000 EVA models are available with Fibre Channel (FC) host ports only, or FC and 1 Gb Ethernet iSCSI host ports, or FC and 10 Gb/iSCSI/Fibre Channel over Ethernet (FCoE) host ports. The P6000 EVA is also very energy efficient, with high efficiency power supplies for both the controllers and disk drive enclosures, and temperature sensing, self-adjusting variable speed fans.

HP P6000 Command View software now includes Thin Provisioning, which helps reduce the storage capacity required, to help you reduce the number of disks needed, and thus reduce power and cooling costs. The P6000 EVA also offers robust local and remote replication capabilities with HP P6000 Business Copy software and HP P6000 Continuous Access software. P6000 Business Copy software supports Dynamic LUN and RAID migration, where in one step, you can change the characteristics of an existing LUN, such as size, RAID type, disk type while the host I/O operation is active. This feature is useful, for example, to move data to more space efficient storage tiers or to move a heavily accessed LUN to a different disk group to improve performance.

P6300 EVA Combo Kits and Starter Kits are also available to help you with limited storage administration resources in affordable packages that are simple to order, simple to deploy, and simple to manage. The kits are available for both factory configuration and for field installation.

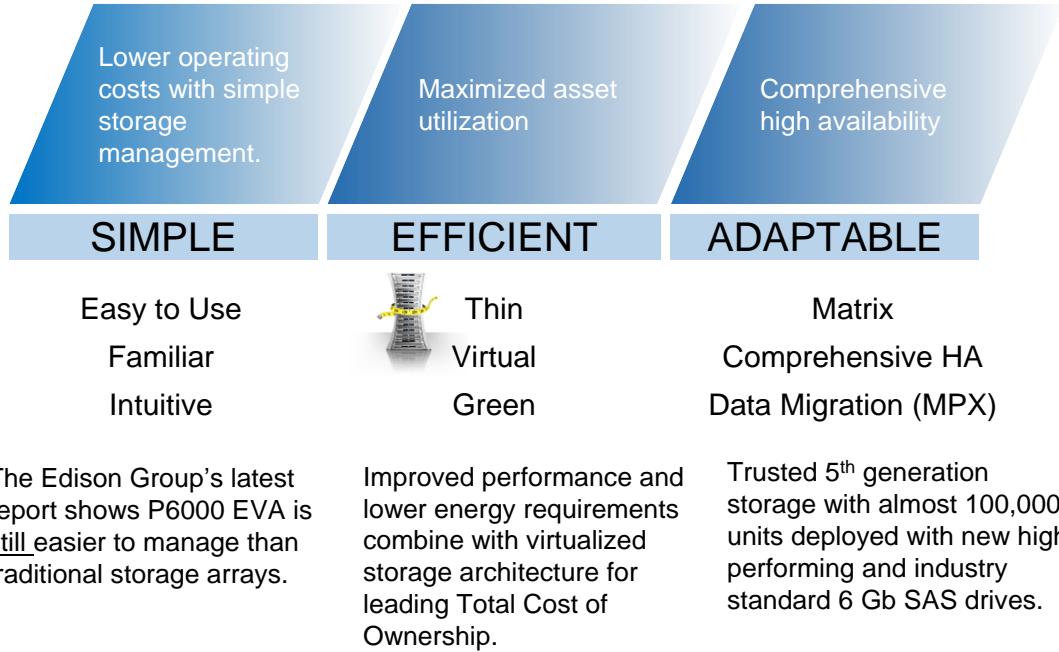
Simple, Efficient, and Adaptable

The P6000 EVA is a 5th generation array which means it takes advantage of everything that worked best with the previous generations. With that evolution, the P6000 EVA has become simple to administer, efficient using thin and virtual technologies as well as green technology to save energy, and lastly, it is adaptable for use in HP BladeSystem matrix configurations, highly available configurations, and perfect for environments taking advantage of data migration to different storage tiers.





The P6000 EVA offers you the best storage that is simple, efficient, and adaptable



Improved Performance and More Capacity

The P6000 EVA offers you hardware improvements designed to improve performance and offer more capacity. Available with three dual controllers, the P6000 will allow you flexible connectivity solutions. They include:

- Dual controller with eight 8 Gb FC host ports
- Dual controller with four 8 Gb FC host ports and eight 1 Gb iSCSI host ports
- Dual controller with four 8 Gb FC host ports and four 10 Gb iSCSI/FCoE host ports

The P6000 EVA can be configured using two drive enclosures that support twenty-five 2.5-inch SFF drives or twelve 3.5-inch LFF 6 Gb SAS disk drives. Disk drive support includes:

- Small Form Factor 6 Gb SAS
 - 146GB 15K rpm
 - 300GB 10K rpm
 - 450GB 10K rpm
 - 600GB 10K rpm
 - 500GB 7.2K rpm mid-line
- Large Form Factor 6 Gb SAS
 - 300GB 15K rpm
 - 450GB 15K rpm
 - 600GB 15K rpm
 - 2TB 7.2K rpm mid-line





The P6300 EVA model can support up to ten enclosures with a capacity of offering [CustomerName]:

- Up to 120 LFF drives or
- Up to 250 SFF drives or
- Combinations of SFF or LFF drives in respective enclosures up to 10 enclosures
- Storage capacity from 1.1 to 120 TB
- 35,000 Read I/O Requests per second

The P6500 EVA model can support:

- Up to 450 SFF drives (18 enclosures)
- Up to 240 LFF drives (20 enclosures) or
- Combinations of SFF or LFF drives in respective enclosures up to 20 enclosures or 450 drives, whichever limit is reached first
- Storage capacity from 1.1 to 240 TB
- 61,000 Read I/O Requests per second

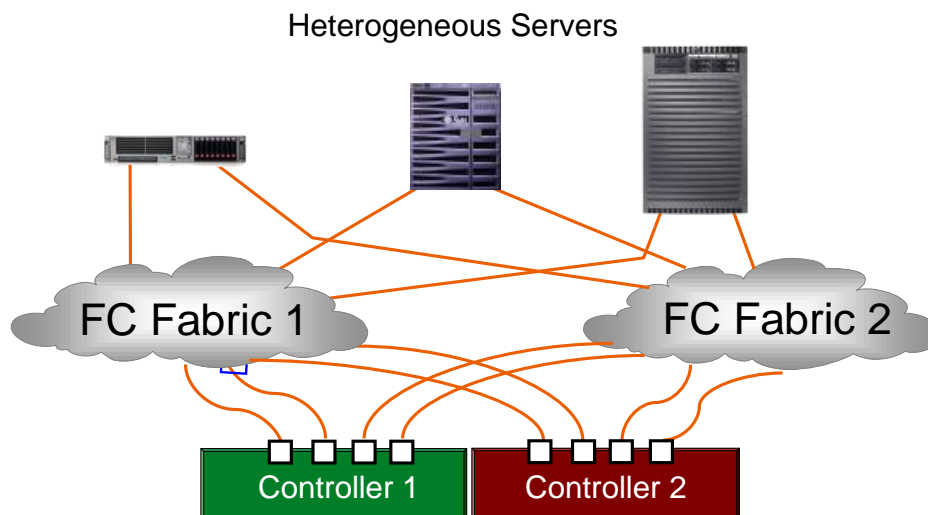
In addition, the P6300 EVA utilizes eight redundant 6 Gb SAS lanes and the P6500 EVA utilizes sixteen redundant 6 Gb SAS lanes from each controller to each SAS drive enclosure for redundant paths to dual drive lanes.

Furthermore, the controllers and drive enclosure utilize high efficiency power and cooling components. The 10K SFF SAS drive draw half the power of 15K LFF SAS drives.

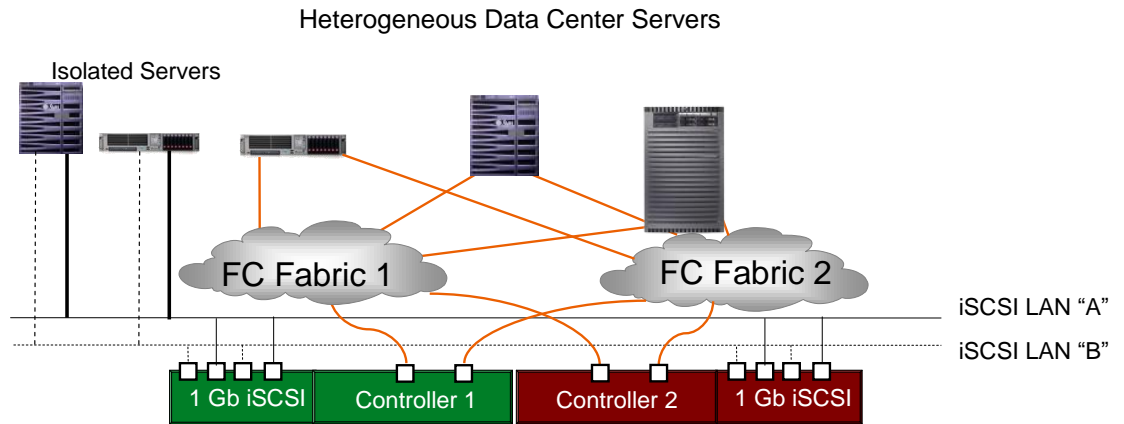
High Availability with Flexible Connectivity

The P6000 EVA offers you powerful connectivity options. The controllers in the P6000 provide a great deal of flexibility as well as redundancy.

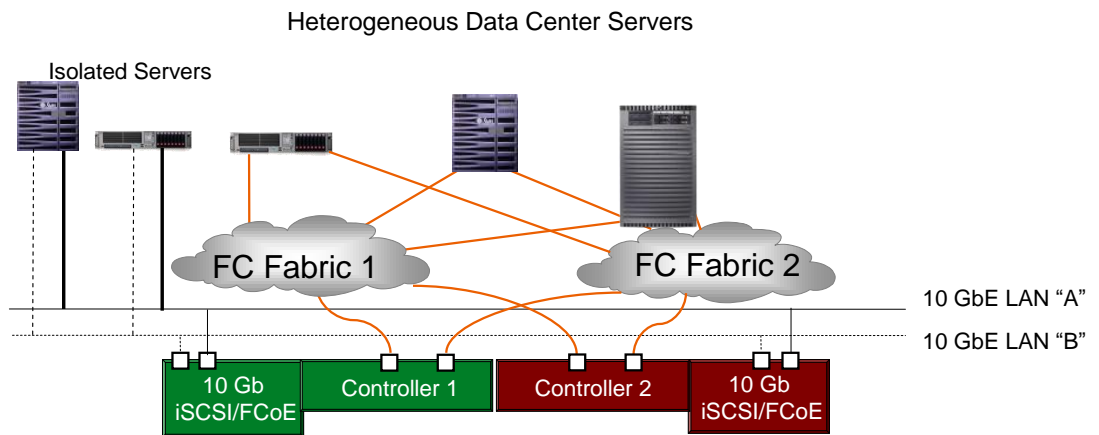
you can use FC only



you can use FC and iSCSI



you can use FC and iSCSI/FCoE



Easy Installation and Startup

The P6000 EVAs is easily installable in a few to several hours. The P6300 EVA is designed to be Customer Self Installable.

For Windows 2003 and 2008 application servers, HP P6000 SmartStart software installs HBA drivers, Multi-pathing I/O (MPIO) drivers, the Storage System Scripting Utility (SSSU) for Windows, P6000 Command View software and optionally, installs P6000 Command View software on a Windows Server 2003 management server and will help you provision the storage.



Comprehensive Management Software Suite

HP P6000 Command View software manages EVA storage easily, and provisions storage quickly to address your changing business requirements. P6000 Command View provides you a comprehensive software suite that includes everything you need to manage an EVA from provisioning data quickly, to adjusting LUNs, while creating Vdisks and RAID groups. All generations of EVAs can be managed from a single image of P6000 Command View software. The P6000 Command View software provides both server-based management and/or array-based management for simplicity and cost savings. P6000 Command View simplifies all the administration tasks by providing a centralized view of EVA storage via a single management console.

P6000 Command View software improves the efficiency of IT administration, for faster EVA configuration by creating, documenting, and automating the EVA commands into powerful scripts. It can help you quickly pinpoint performance bottlenecks so that applications run at optimized performance and quality of service (QoS) is maintained.

P6000 Command View software also provides improved security that would allow you to take advantage of user defined domain groups and local groups. Furthermore, P6000 Command View also provides audit logging capability of user actions and events that change the system state. P6000 Command View software also provides secure storage (LUNs) against unauthorized access so business data assets are safe.

Powerful Capacity Management

HP EVA Dynamic Capacity Management software is a comprehensive software solution that automates storage provisioning and improves capacity utilization on the P6000 EVA. Designed for the enterprise market, EVA Dynamic Capacity Management software uses advanced automation to automatically "right-size" the file system and storage volumes to ensure the highest levels of capacity utilization are achieved while reducing ongoing storage administration needs.

Local Replication Solutions

HP P6000 Business Copy software is a local replication application for the P6000 EVA family. It incorporates Virtually Capacity-free Snapshot (Vsnaps), standard snapshots, and Snapclone capabilities. P6000 Business Copy creates point-in-time copies of storage volumes, called Business Continuance Volumes (BCVs) using the snapshot and cloning capabilities of the array firmware and provides multi-array local mirror management. This functionality is indispensable for critical data center operations such as non-disruptive backups, frequent snapshots of high value databases, and data mining. The bottom line benefits for you include improved disk capacity utilization, increased business continuity, data availability, and productivity savings. Additional features include licensing based on replicated (not total raw) capacity and a new improved management interface.

Remote Replication Solutions

Remote FC SAN Replication

HP P6000 Continuous Access software provides disaster tolerant replication across a FC SAN. P6000 Continuous Access performs real-time replication between P6000 EVA of the current and earlier generations. P6000 Continuous Access can provide you the highest level of FC SAN data protection in order to meet disaster tolerant business continuity implementation goals. Through the use of MAN/WAN FC SAN extensions, P6000





Continuous Access provides 24x7 protections against disaster like scenarios, in campus, metro or continental networks.

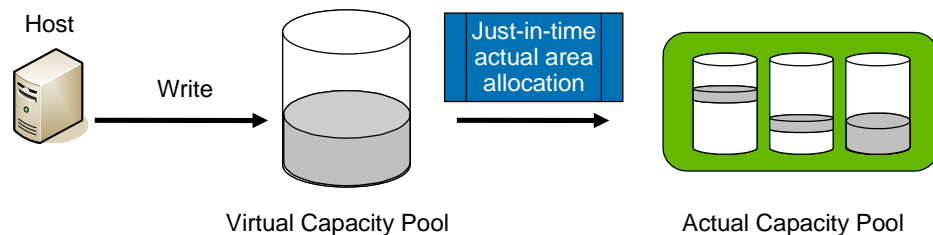
Remote Long Distant SAN over WAN Replication

FC SANs have limited distance capabilities (10km). HP IP Distance Gateway provides SAN over WAN connectivity for protecting and replicating data between EVA systems over long distances. By connecting islands of SANs over WANs, the IP Distance Gateway enables Continuous Access replication (Asynchronous and Synchronous), SAN device sharing, data migration, and other long distance data services. At the core of providing long distance data services is the ability to copy, move, and replicate data locally and over long distances. The IP Distance Gateway uses the FCIP (Fibre Channel Internet Protocol) standard to extend SAN connectivity over the WAN.

Thin Provisioning

HP P6000 Thin Provisioning software provides a host with virtual capacity volumes, allocating *just-enough* actual area in the volume from a pool of physical capacity and *just-in-time* for a write request from the host.

Thin Provisioning will allocate storage when you needs it—minimizing wasted space



Reduced Total Cost of Ownership

The unique virtual architecture of the P6000 EVA allows up to twice the normal effective capacity utilization of traditionally architected storage offerings. And with Vsnap and Thin Provisioning, significant duplicate capacity requirements can be eliminated resulting in fewer/smaller storage acquisitions.

Warranty and Services

The P6000 EVA comes with HP's 3-year Global Limited Warranty and Technical Support, which includes 3 years 9x5 hardware support, with next business day response. HP warranty and support features:

- Online Business Support Center and IT Resource Center
- Remote Support
- Technical Phone Support
- Customer Self Repair (see list below)
- Software Limited Warranty
- On-site Warranty Service

P6000 EVA SAS and midline SAS drives are 3 years, parts only.





Online Support

HP online support capabilities include a variety of self-help tools, troubleshooting assistance, and access to the patch database, firmware/software update packages and documentation. Register with the HP Business Support Center and the IT Resource Center to receive product specific and proactive notifications for P6000 EVA.

Remote Support

HP designed P6000 EVA with support capability to facilitate remote monitoring and email notification of array errors/events. Additional fault monitoring software is included in the P6000 EVA software media kit.

Technical Phone Support

24x7 telephone technical support is available to assist with hardware warranty related troubleshooting and issue resolution. Qualified technical resources will be your first point of contact to assist with your service request.

Customer Self Repair

HP designed P6000 EVA to enable the highest degree of customer self repair and parts replacements. This feature enables maximum support flexibility, while minimizing unit down time. Customer self repair parts come with step by step instructions with additional assistance available online or by phone.

Additional Support Services

HP offers an addition set of support services to fit you specific needs. These can all be purchased based on you desired level support.

Configuration Assistance, Storage Network Visio's & Ordering

For P6000 EVA configuration assistance and discount pricing, contact Storage Networks, a leading HP Authorized Business Partner. Certified Integration Engineers assist small and large organizations in product selection, customization, integration, and support.

Visit storagenetworks.com or contact Storage Networks directly to obtain detailed Visio network diagrams depicting how the HP P6000 EVA products can be integrated into your infrastructure.

Dial 855-NET-STOR, then Press 1

http://storagenetworks.com/hp_p6000.php

