



HP LeftHand P4000 SAN Solutions Family

Data sheet

Reduce costs with an all-inclusive software management feature set that simplifies management in a virtual environment. Minimize risk and increase business agility with non-disruptive scalability

Your storage needs are growing. You need a SAN for virtualized servers, and you want your next investment to have a long term payoff.

The HP LeftHand P4000 SAN Solutions are optimized for database and e-mail applications, as well as virtualized servers. With a pay-as-you-grow, all-inclusive pricing model, and intuitive storage management software, the HP LeftHand P4000 SANs are perfect for the budget-minded. Do high availability and disaster recovery seem out of your reach? The HP P4000 eliminates single points of failure across the SAN with an innovative approach to data availability, reducing risk without driving up costs. Unsure that current storage can meet your future needs? Built on a storage clustering architecture, the HP P4000 SAN allows you to scale capacity and performance linearly without incurring downtime or performance bottlenecks, or forcing expensive upgrades. Need creative ways to stretch your IT budget? Reservationless thin provisioning substantially increases your storage efficiency.

Key features and benefits

All inclusive feature set enables enterprise functionality at an affordable price

- **Storage Clustering simplifies scalability:** Storage Clustering allows a customer to consolidate multiple storage nodes into pools of storage. All available capacity and performance is aggregated and available to every volume in the cluster. As storage needs increase the HP P4000 can scale performance and capacity on-line.
- **Network RAID delivers new level of availability:** Network RAID stripes and mirrors multiple copies of data across a cluster of storage nodes, eliminating any single point of failure in the HP P4000 SAN. Applications have continuous data availability in the event of a power, network, disk, controller, or entire storage node failure.
- **Thin Provisioning increases storage efficiency:** Thin Provisioning allocates space only as data is actually written without requiring pre-allocation of storage. This raises the overall utilization and efficiency of the HP P4000 SANs, reduces costs, and ultimately increases the ROI.
- **Snapshots simplify data protection:** Snapshots create thinly provisioned, instant point-in-time copies of data on a per-volume basis. Administrators can access the Snapshots to recover individual files or folders from the volume, or rollback an entire volume to a prior state.



Ideal for	Implementing high availability or disaster recovery for an IT environment embracing virtualization
Number of drives	16 Note: Starting
Capacity	4.8 TB Starting
Storage expansion slots	Use storage clustering to expand storage capacity with additional storage systems
Host interface	1 Gb iSCSI Optional upgrade to 10 Gb iSCSI (CX4)
Supported Operating Systems	Microsoft Windows Server 2003 R2 Standard Microsoft Windows Server 2003 R2 Enterprise Microsoft Windows Server 2003 X64 Microsoft Windows Server 2008 Server Microsoft Windows Server 2008 Server Core Microsoft Windows Server 2008 Hyper-V Microsoft Windows Server 2008 X86/X64 Novell NetWare 6.5 SUSE Linux Enterprise Server 10/10.1/10.2 SUSE Linux x86/x86-64 Architecture Red Hat Enterprise Linux AS 4.6; 4.7 Red Hat Enterprise Linux 5.0; 5.1; 5.2 HP-UX 11i v1 (PA-RISC 11.11); v2 (PA-RISC 11.23) Fedora 6; 8; 9; 10 IBM AIX 5L Version 5.3 ML2 VMware ESX/ESXi 3.5 VMware Site Recovery Manager Citrix XenServer 5.0 OS X Leopard 10.5.4; 10.5.5
Clustering support	Yes Hyper-redundant clustered storage
Availability	Hot plug power supplies, Hot plug hard drives, Integrated storage controller w/battery-backed DDR2 cache, RAID 5, 6, and 10, Hyper-redundant clustered storage, Hardware RAID Levels 10, 5, and 6, Network RAID Levels (per volume) 0, 2, 3, 4 protect against double disk, system, and site failures
Thin Provisioning support	SAN/iQ Thin Provisioning
Snapshot support	SAN/iQ Snapshot
Replication support	Remote Copy Asynchronous Replication with Bandwidth Throttling Multi-Site/DR Solution Pack with Synchronous replication
SmartClone	SAN/iQ SmartClone

QuickSpec URLs http://h18000.www1.hp.com/products/quickspecs/13254_div/13254_div.pdf

	HP LeftHand P4500 21.6 TB SAS Multi-Site SAN Solution	HP LeftHand P4500 10.8 TB SAS Virtualization SAN Solution	HP LeftHand P4300 4.8 TB SAS Starter SAN Solution	HP LeftHand P4300 12 TB SATA Starter SAN Solution
Part Number	AT012A	AT011A	AT017A	AT016A
Ideal for:	Simplify high availability with a cost effective P4500 Multi-Site SAN. Avoid downtime in the event of a site failure with a fully automated, synchronously replicated storage system	For virtualized environments, the P4500 Virtualization SAN provides optimized shared storage enabling cost effective high availability, scalable performance, and non-disruptive configuration changes	Perfect for first time virtualization projects, the P4300 SAS Starter SAN delivers the performance and features required to simplify storage and grow non-disruptively with your environment	Perfect for consolidating storage for Windows or Linux servers, the P4300 SATA Starter SAN delivers all features required to simplify storage and grow non-disruptively with your environment
Number of Drives:	48 Note: Starting	24 Note: Starting	16 Note: Starting	16 Note: Starting
Capacity:	21.6 TB Starting	10.8 TB Starting	4.8 TB Starting	12 TB Starting
Storage Expansion	HP LeftHand P4500 10.8 TB Multi-Site SAN Expansion Node AT021A	HP LeftHand P4500 5.4 TB SAS Virtualization SAN Expansion Node AT020A	HP LeftHand P4300 2.4 TB SAS Starter SAN Expansion Node AT019A	HP LeftHand P4300 6 TB SATA Starter SAN Expansion Node AT018A

- **Remote Copy reduces costs for disaster recovery:** Remote Copy replicates Snapshots between HP P4000 SANs at primary and remote locations. Copies are thinly provisioned with no space reservation required at the remote location. Remote Copy enables centralized backup and disaster recovery on a per-volume basis.

Superior availability and disaster recovery

- **Data remains available during site failures:** HP P4000 SANs stripe and mirror multiple copies of data across a cluster of storage nodes, eliminating any single point of failure in the SAN. Applications have continuous data availability in the event of a power, network, disk, controller, or entire storage node failure.
- **Integrated replication for disaster recovery:** HP P4000 SANs include integrated replication at no additional cost that simplifies management with simple failover and failback.
- **Change configurations without incurring downtime:** Administrators can add capacity, increase performance, grow, and migrate volumes between HP P4000 SAN clusters on the fly with no application downtime.

Scalable performance

- **Purchase only what you need today:** Avoid up-front cost and the potential performance constraints. Purchase only what’s needed today, then grow the performance, capacity, and redundancy of your HP P4000 SAN online as storage requirements evolve. Buying storage only when needed simplifies planning and relieves budget pressures.
- **Scale performance and capacity simultaneously:** Each time a storage node is added to the HP P4000 SAN, the capacity, performance, and redundancy of the entire storage solution increases.
- **Avoid disruptive upgrades:** Add resources to the HP P4000 SAN non-disruptively as capacity and performance requirements increase. Applications remain online during maintenance events for best-in-class availability.

Easy-to-manage SANs for virtualized environments

- **Centralized Management Console:** Multiple data centers and sites can be managed from an all inclusive “single pane-of-glass.” All of the HP P4000 SAN features are managed from the Centralized Management Console (CMC) for simple, easy-to-manage storage.
- **Business continuance with integrated HA and DR:** Every HP P4000 SAN includes integrated synchronous and asynchronous replication at no additional cost. This approach reduces costs and simplifies management of high availability/fault tolerant and disaster recovery storage solutions.

Service and Support

Factory Express

HP Factory Express is designed to help you get a better return from your IT investment by providing customization, integration, and deployment services along with your storage and server purchases. It provides predictable, trusted, and tested IT solutions tailored to your business needs. We allow you to customize hardware to your exact specifications in the factory—helping to speed up deployment and free up internal resources. www.hp.com/go/factoryexpress

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 onsite training customized to your needs or online.

www.hp.com/learn/storage

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

HP Services

Put the strategic and technical know-how of HP Service experts to work for you: When you buy HP LeftHand SAN Solutions, it's a good time to think about other levels of service and support you may need. You can trust the service professionals at HP to collaborate with you to make technology the difference in your business.

Recommended Services

- **HP Support Plus 24 Service:** For around-the-clock, reactive onsite hardware support and over-the-phone software support.
- **HP Installation and Startup for HP LeftHand SAN Solutions:** Fast, reliable startup, for enhanced server virtualization and business continuance with SAN solutions.

Related Services

- **HP Proactive 24 Service:** Integrated proactive and reactive services, for businesses looking to achieve better performance, higher availability, and greater stability.
- **HP Proactive Select Service:** Improve IT performance and manageability, for businesses looking for services flexible enough to cover the IT product lifecycle and adapt to changing needs.

When Technology works. Business works. For more information, contact your HP sales representative or HP-authorized Channel Partner or, visit www.hp.com/hps/storage

Technology for better business outcomes

To learn more, visit www.hp.com/go/p4000

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