

Questions

How can I get more information and/or a quote on the P4000 G2 SAN Solution?

Contact your local SYNEX Sales representative, or email RobertCas@SYNEX.COM

How can I arrange a demonstration of the HP P4000 G2 SAN solution for my customer?

HP has regular schedule WEB demonstration on the P4000 solution presented by their Technical Marketing organization. Partners are welcome to register with their customers at www.hp.com/go/lefthand/overview

Why would I sell HP StorageWorks P4000 G2 SAN Solutions over another SAN?

HP P4000 G2 SANs offer an all inclusive feature set that enables enterprise functionality at an affordable price. A pay-as-you-grow, all-inclusive pricing model (incl. 3 year support for all SAN models) and intuitive storage management software built into every HP P4000 G2 SAN or System makes it perfect for small to mid-sized deployments where you wrestle with sophisticated storage requirements while being constrained by tight budgets and limited storage management expertise.

In traditional storage architectures, a controller manages arrays of disk drives. Any data that flows into and out of the traditional storage system passes through the controller. As more disk drives are added, the controller requires more processing resources and bandwidth to keep up with the data flow, eventually reaching its limit. Faced with this bottleneck, customers are forced to either upgrade their controller, which is expensive and requires application downtime, or purchase a new system, which is also expensive and increases management complexity.

HP P4000 G2 SAN Solutions are composed of storage systems that can be added to the system without bringing applications down. Each storage system increases IOPs, aggregate bandwidth, processing power, RAM, cache, capacity and redundancy of a HP P4000 G2 SAN Solutions.

How do you scale the capacity of the HP StorageWorks P4000 G2 SAN Solutions?

You scale capacity by adding nodes to the SAN. With HP P4000 G2 SAN performance increases along with capacity. By clustering all of the resources, not just capacity, the overall performance of the SAN increases each time a storage system is added.

What is Storage Clustering and what are its benefits?

Storage Clustering allows a customer to create pools of storage by consolidating storage nodes on the network into clusters. Storage Clustering provides online scalability, both within a volume and across the entire storage pool. All available physical capacity is aggregated and available to the volumes created on the SAN.

In order to scale capacity and/or performance, the IT administrator simply adds nodes to the storage cluster.

All the capacity, processing power, and bandwidth included in each node are aggregated into the entire SAN, ensuring an increase in performance as the SAN grows. To make the process even easier, HP P4000 G2 SAN Solutions let IT administrators expand volumes and add storage nodes online, without taking the volumes offline or causing application downtime.

What is Network RAID and how does it work?

Network RAID stripes and protects 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.

SAN administrators can manage redundancy on a per-volume basis to optimize storage utilization and match the data protection of the volume to the application data on that volume. Customers can choose the level of protection for each volume/LUN separately. They can choose between Network RAID 0,5,6,10,10+1, and 10+2 for up to four copies of data protection across the storage nodes, only allocating additional storage space for data that warrants additional protection. For increased protection, Network RAID can also be integrated into environments where application servers are clustered, enabling true, seamless, geo-cluster solutions that provide both application and Storage Clustering across geographies.

Built-in self-healing technology allows Network RAID to proactively repair bad blocks on the SAN before applications encounter them. Network RAID automatically optimizes the data layout of a volume over time insuring that performance remains optimal no matter how old or full the volume becomes.

What advantage does the HP StorageWorks P4000 G2 SAN Solutions bring to customers who are implementing virtualization?

Customers implementing virtualization require shared, highly available storage to take full advantage of advanced capabilities of hypervisors. HP StorageWorks P4000 G2 SANs deliver the performance and features required to simplify storage, provide application high availability, and scale your storage while it remains online. HP P4000 G2 SAN Solutions offer efficient storage utilization, optimized performance, simple management, and cost-effective disaster recovery. The tight integration e.g. with VMware SRM, DRS, etc. make the P4000 G2 SAN ideal for those environments

What are Snapshots and what are its benefits?

The P4000 G2 SANs offer Application Integrated Snapshots which create instant point-in-time copies of data on a per-volume basis. Snapshots can be created in a variety of ways to meet business or application requirements. Administrators can create them manually ad-hoc, on a scheduled or scripted basis. Microsoft VSS based applications can be quiesced before snapshot is taken to ensure application

integrity. Administrators can then access these point-in-time snapshots to recover individual files or folders from the volume, or rollback an entire volume. Unlike most SAN vendors that require a snapshot reserve, HP's Application Integrated Snapshots are always thin provisioned for efficiency, only consuming storage space on the SAN for the data written to the Snapshot, eliminating any upfront space reservation or guesswork that could lead to Snapshot and backup job failures. Unlike other vendors, the Application Integrated Snapshots do not require extra hardware, software, training.

What is Remote Copy and what are its benefits?

Remote Copy lets customers replicate thin provisioned snapshots between primary and remote locations. Because HP P4000 G2 SAN Solutions Remote Copies are thin provisioned no space reservation at the remote location is required. Remote Copy is used for centralized backup and disaster recovery and can be set up on a per-volume basis. Remote copies placed on a recurring schedule allow customers to achieve point-in-time asynchronous replication of the data between locations, sites, or data centers.

Integrated into the Remote Copy software is intelligent bandwidth management ensuring that the data traffic can be sent across shared WAN links without adversely impacting other network traffic. Administrators simply set the bandwidth limit for remote copies between the two sites and the SAN/iQ software holds that limit.

A failover/failback wizard is also included with Remote Copy for step-by-step, easy to execute disaster recovery procedures when needed most.

What is Thin Provisioning and what are its benefits?

The Thin Provisioning feature of the P4000 G2 SANs allocates space only as data is actually written to that volume. SAN/iQ Thin Provisioning allows customers to purchase only the storage needed today and then add more storage to the clusters as application data grows. This raises the overall utilization and efficiency of the SAN and ultimately increases the ROI associated with the SAN.

What is an Application Integrated Snapshot?

Application Integrated Snapshots use Microsoft VSS to automatically quiesce applications for snapshots. Application integrated snapshots are built into the Centralized Management Console and require no additional software or hardware. Because the application is quiesced at the time of the snapshot, the data in the snapshot is consistent with the application's "view" of the data and is easier to recover.

Application integrated snapshots are built into every SAN feature. Snapshots, Remote Copy, SmartClone, and all scheduling are integrated to make application integration surprisingly simple.

Volume sets are automatically managed by the SAN. Snapshot sets of data from the same application, such as Microsoft Exchange or SQL logs and databases, are generated automatically and easily managed as a set.

What is the difference with P4000 G2 compared to previous generation P4000?

HP P4000 G2 SANs are based on industry standard technology – just like the previous generation P4000 SANs. P4000 G2 SAN Solutions represent an evolutionary step. P4000 G2 SANs, previous generation HP P4000 SANs and LeftHand Networks SAN nodes will interoperate and can be combined in the same management groups. For optimum SAN performance, nodes in a given cluster should all operate with disk drives of the same type, capacity and RPM.

What is the HP StorageWorks P4000 Unified NAS Gateway?

HP StorageWorks P4000 Unified NAS Gateway boosts the value of P4000 SAN environment by adding Windows-powered IP-based gateway services. When you consolidate to a single, unified storage pool that can serve files to your clients and blocks to your servers, you get a better return on your SAN investment with less effort and time. Industry-standards offer protection by providing compatibility with your network and applications, and a Microsoft Cluster Server (MSCS) license is included to provide high availability and reduce downtime.