

HP Managed Services: delivering more storage value on demand



"We've taken HP's broad range of expertise and the best-of-breed storage infrastructure of HP StorageWorks XP disk arrays to the edge, proving we can gain significant scalability, efficiency, and cost benefits for our customers."

– Storage Manager Tom Moore, HP Managed Services

The expense of buying new storage systems to meet growth demands – and hiring capable staff to maintain them – is leading enterprises to outsource comprehensive solutions from HP. The HP Managed Services group offers utility access to highly available (RAID) storage through comprehensive outsourcing deals.

SAN implementations require multifaceted skills and storage-related expertise, talents sometimes scarce in customer organizations. In addition, storage managers of Fortune 100 companies must face the same IT issues as storage service providers: business demands for quick deployments, vague storage forecasting, high-rate

capacity growth, controlling and tracking storage costs, downtime when backing up revenue-generating applications, and inadequate tools to charge back storage services.

HP Managed Services has overcome these issues, while still providing high-availability storage area networks (SANs) managed according to tiered service-level agreements (SLAs). "We assume the bulk of the implementation risks for our customers," says Storage Manager Tom Moore for HP Managed Services. "Our services enable customers to shorten their application deployment time."

HP accommodates high-rate data growth with a shared, networked infrastructure of 768 TB storage capacity provided by 36 HP StorageWorks XP disk arrays. The storage platform supports approximately 1,500 customer servers, along with mission-critical HP applications, financial reporting, SAP applications, and payroll/human resources applications.

Fully loaded HP StorageWorks Disk Array XP1024, XP512, and XP256 systems provide ample capacity to accommodate the group's 100 percent annual growth. Each StorageWorks XP disk array supports the maximum



number of drives for that specific model. For example, all XP1024 disk arrays in production for HP Managed Services hold 1,024 disk drives – the highest number of disks of any high-end disk array available on the market. To provide abundant storage capacity, HP Managed Services uses multiple XP1024 disk arrays to their fullest extent. Says Moore, "Thanks to HP StorageWorks XP disk arrays, even with a half petabyte of storage we have some capacity overhead. When we must predict SAN demand, we can do so within 15 percent of actual usage – without specific customer input – based on a simple forecasting methodology. Most enterprises can't predict storage demand with such accuracy."

Conserving resources, while balancing storage demands

As a storage service provider, HP lets budget-conscious enterprises lease only the amount of storage they need. "Part of our underlying value is how we enable customers to balance their storage demands with capacity, while conserving resources," Moore emphasizes.

HP Managed Services also offers zero-downtime backups, site-to-site replication, and disaster recovery – made possible by the highest availability architecture with multiple fabrics and redundant paths. Moore explains: "HP StorageWorks XP disk arrays are rock-solid and extremely conducive to large-shared SAN infrastructures. Performance problems are unheard of with these arrays. They help us maintain high availability when we're expanding storage, adding connectivity to the fabric online, and performing backups."

The data fabric includes a mix of 8,000 HP StorageWorks fabric ports, directors, and switches – such as the HP StorageWorks 32-port Edge switch and HP StorageWorks Director. Several HP disks, backup software, and tape libraries – including 10 HP StorageWorks ESL9595 tape libraries – provide data protection and recovery.

HP Managed Services' Volume Copy service allows customers to backup their 24x7 revenue-generating applications non-disruptively. This vital service consumes just 25 percent of the immense storage capacity provided by the XP disk arrays. For those customers with smaller data sets not requiring zero-downtime backup capabilities, HP Managed Services' Ethernet-based backup solutions fully integrate into the storage service architecture.

The staff uses StorageWorks Business Copy XP to create online copies for zero-downtime backup, along with HP OpenView Data Protector backup software. To enable host-independent, remote data mirroring between XP disk arrays, the group relies on HP StorageWorks Continuous Access XP software. HP Managed Services engineers monitor the StorageWorks XP disk arrays with StorageWorks Command View XP, and use StorageWorks Performance Advisor XP to check on the hosts connected to the arrays.

Demanding more, without the complexity

Through its SLAs, HP Managed Services identifies base management, utilization, capacity changes, and reporting levels monthly. Managed Services personnel use host-

based OpenView SAM to reduce time and costs dedicated to these tasks. HP implemented applications of the SAM suite in its Boise, Idaho; Houston, Texas; and Atlanta, Georgia data centers, and installed the software for a trade customer. "With HP OpenView Storage Area Manager, we can do everything that's necessary to manage a massive storage portfolio – without increasing our staff," Moore notes.

"The reporting capabilities of HP OpenView Storage Area Manager help us maintain the depth of our service-level agreements and provide our customers real-time reporting access. Without Storage Area Manager, we would have to hire contractors to develop our cost-billing reports."

– Storage Manager Tom Moore, HP Managed Services

For example, the Storage Node Manager utility within OpenView SAM provides real-time, health monitoring of devices in the environment. "It prevents us from having to pay a full-time employee to develop documentation," Moore adds.

HP Managed Services is a charge-back utility model in which customers pay monthly based on actual storage capacity usage. "The reporting capabilities of HP OpenView Storage Area Manager help us maintain the depth of our SLAs and provide our customers real-time reporting access," declares Moore. "Without SAM, we would have to hire contractors to develop our cost-billing reports."

Attaining a better return on IT

HP Managed Services adds further value in the area of storage resource management. By determining recoverable and wasted storage using the resource usage views of SAM, the group helps customers effectively use their storage resources. "The beauty of our HP management tools is that they work hand in hand with HP OpenView to measure a server's capacity and utilization rate," notes Moore. "Armed with this information, we provide our customers with better knowledge about the type, age, and utilization of their data."

The staff uses OpenView as the enterprise management tool for all of its data centers. OpenView integrates optimally with OpenView SAM, which performs event monitoring and forwards those historical events to HP OpenView for fault/problem management. Moore says, "This application pays for our availability portion of the SLA, because any alert messages go directly to the right people on staff."

HP Managed Services achieved a 60 percent reduction in costs over the past 12 months – even with twice the amount of storage under management. This cost reduction reflects a highly trained, qualified team of experts and innovative management tool set. In fact, HP Managed Services' full-time equivalent (FTE) or headcount efficiency rate is approximately 54 TB/FTE, versus the industry standard of 20 TB per person of mature SAN storage under management. "We've taken HP's broad range of expertise and the best-of-breed storage infrastructure of HP StorageWorks XP disk arrays to the edge, proving we can gain significant scalability, efficiency, and cost benefits for our customers," Moore concludes.

Profile:

The HP Managed Services group offers utility access to highly available (RAID) storage through comprehensive outsourcing deals. The group helps internal and trade customers realize measurable business value from their IT investments.



Challenge

- Enable quick deployments
- Manage high-rate capacity growth
- Back up data without downtime
- Provide high availability SANs with defined service-level agreements
- Attain peak levels of infrastructure efficiency

Solution

Hardware

- 36 HP StorageWorks XP Disk Arrays, including models XP1024, XP512, and XP256. Each array is fully loaded with the maximum number of drives per specific model.
- 8,000 HP StorageWorks fabric ports on Fibre Channel directors and switches, including the StorageWorks 32-port Edge switch and StorageWorks Director
- 10 HP StorageWorks ESL9595 tape libraries
- HP Surestore 4/40, 6/60, and 10/180 tape libraries

Software

- HP StorageWorks Command View XP, Performance Advisor XP, Continuous Access XP, and Business Copy XP
- HP OpenView Storage Area Manager, Data Protector, and enterprise management tools

HP Services

- 24x7 remote storage management
- Online storage provisioning
- Capacity management
- High availability
- SAN Volume Copy
- Remote data replication
- Backup and media management
- Performance management and reporting
- Real-time data views through a secure Web portal
- Services priced on a gigabyte-per-month basis

Results

- HP Managed Services effectively meets customers' rapid deployment needs, due to the flexibility, scalability, and manageability of HP StorageWorks XP disk arrays, fabrics, switches, tape libraries, and management software.
- The HP Managed Services infrastructure affords 768 TB of capacity to accommodate high data growth.
- The HP OpenView management tools and HP OpenView Storage Area Manager allow HP Managed Services to maintain an expanding storage portfolio without increasing staff; to reduce costs by 60 percent over the past 12 months; and to forecast SAN demand within 15 percent of actual usage.
- HP Managed Services' Volume Copy service enables zero-downtime without affecting customer applications, while remote replication services enable customer disaster-recovery plans.
- HP's best-of-breed storage infrastructure and storage management tools easily afford high availability, defined tiered service-level agreements, and peak levels of infrastructure efficiency.

For more information on how working with HP can benefit you, contact your local HP representative, or visit us at www.hp.com.

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