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Spring 2007
Storage Special Edition

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Storage for business outcomes

Mark Gonzalez, Americas Vice President
Enterprise Storage and Server Sales

With a growing emphasis on using IT to adapt to rapid industry change, many companies are re-evaluating their storage strategies as a way to achieve a more adaptive infrastructure and drive business outcomes.

To that end, storage consolidation is becoming a priority initiative. By planning storage strategically from a business perspective, companies are finding new opportunities to improve business continuity, mitigate risk and promote system efficiency (page 6).

This edition highlights how storage consolidation can drive business outcomes. For example, Philips Lighting Electronics North America (page 3) used storage consolidation to achieve IT self-sufficiency through lower costs and better management. CitiStreet (page 8) leveraged virtualized storage to focus on higher value business tasks and improve data management.

On page 10, we examine how network attached storage consolidation using iSCSI can help companies achieve the benefits of Storage Area Networks (SAN) at a different cost profile. By leveraging existing IP network investments, companies can improve application performance and end user satisfaction.

If you are interested in how you can use IT in innovative ways to drive business outcomes, I’m certain that this edition will provide excellent insight. By changing your storage strategies, you can move one step closer to transitioning toward IT for business outcomes. As always, we welcome and encourage your feedback.

To provide feedback by rating the articles in this edition, or making suggestions for future articles, visit: www.hp.com/go/transformIT.

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Proactive monitoring and management promote IT self-sufficiency

For companies looking to improve IT management and deliver greater value to the business, it is critical to examine how they are investing IT dollars. With capabilities including proactive infrastructure monitoring, centralized storage and common global processes, companies can lower total cost of ownership and increase business-focused IT reinvestments.

Business executives are constantly asking how much of the bottom line is going towards IT. When IT executives answer that question, they try to delineate between what is spent on managing infrastructure (total cost of ownership) and what is spent on reinvesting in business-focused IT projects.
It is precisely this perspective that Julius Tomei, CIO, Philips Lighting Electronics North America, takes when approaching his own infrastructure. Tomei measures value by the amount of computing power he is able to integrate into his environment relative to the reduction in operating costs. “Our business looks to me to manage the IT investment wisely and to ensure that I’m directing money to where it makes strategic sense,” says Tomei. “In my view, if you’re not monitoring your environment, you can’t measure it, and if you can’t measure, you aren’t managing. So that is my approach to IT management, and I look for solutions that enable me to achieve that.”

The path to IT self-sufficiency
In 1999, Philips Lighting Electronics North America implemented SAP and wanted an infrastructure to support it. The company chose HP hardware, software and processes with the ultimate goal of running a lights-out data center in North America.

From 1999 until today, Tomei has integrated several different HP products and services into his environment. “Everything we have done to date focuses on making our environment more effective from both a cost and performance perspective,” says Tomei. “My specific emphasis was on infrastructure insight, operational costs for elements including power and cooling and system availability. With all of those components in place, we can truly realize self-sufficiency in how we manage IT.”

To achieve proactive management, Tomei chose HP Management Software and Service Desk. Operations staff uses those tools to help ensure system availability. Formerly reactive in how it managed IT, they can now identify problems right away and fix them quickly. “We are able to have around the clock systems, without around the clock staffing,” says Tomei. “And that is a huge savings for us. Our monitoring system is running all of the time, even when I don’t have staff here. If there is problem, the system sends an alert to either the operator or the technician so it can be resolved right away. As a result, we have a reliable environment that runs 7/24/365.” With consistent insight into the environment, Tomei can also ensure optimum accountability to business management about the status of the infrastructure at any given time.

Consolidating storage, prioritizing data
Tomei’s efforts to achieve IT self-sufficiency also led to a significant emphasis on storage. “We had storage everywhere, and as a manufacturing company, we treated all data at the same priority level,” says Tomei. “We wanted to architect a solution that evaluated data and tiered it based on priority while removing the costly optical disk-space solution that we were using.”

Instead of having storage in multiple locations, it was consolidated into one place with a HP Storage Area Network (SAN). To complement the new storage infrastructure, Tomei worked with HP to devise a utility-based model for the company’s data. Tier-one information received prime disk space and tier two and three data were archived. “With storage, our biggest concerns were cost and performance,” says Tomei. “The more data we tried to keep available, the bigger our databases became, which ultimately impacted end user performance. Having consolidated storage has definitely improved the way we work. Before, the systems that provided data to our factories were all localized, holding sizeable engineering drawings that we accessed during production. With storage centralization, we’ve eliminated the need for those local systems while improving access and performance.”

Recent acquisitions in the North American business had inevitable implications to the storage environment. With consolidated storage systems on site, Tomei had the flexibility to on-board acquired systems and data in a repeatable way. He also had the freedom to grow or shrink his storage capacity as business needs dictated.

Improving service management
Service management was also an integral component to achieving IT self-sufficiency. The integration of ITIL-based tools has enabled Tomei to institute a common language for everyone responsible for service management. Working with HP, Tomei adopted a common language, process approach and way of working across the North American organization. The success of that initiative has led to a global rollout, so that anyone dealing with service management worldwide will be using the same tools and set of processes.

“We leverage HP in many different ways — servers, storage, software, services,” says Tomei. “Achieving self-sufficiency in IT management within the North American organization has had tangible benefits — I have been able to reduce my TCO year over year. Currently, we are tracking operating expenses at just under two percent of sales from three and half percent in 1999. With a lower TCO, we are able to self-fund IT projects that reinvest in the business without having to tap into departmental budgets.”

But more importantly, the ability to achieve IT self-sufficiency in the North American organization through proactive monitoring, consolidated storage and common processes is benefiting the entire business on a global level. Currently, Tomei is heading up the global office of enterprise architecture for Philips Lighting. His mandate is to translate his IT management approach based on monitoring and measurement using a combination of servers, software and services for worldwide efficiencies.

For a free book “Defining IT Success through Service Catalog” available in limited quantities and a IDC white paper on the value of HP IT Service Management, visit: www.hp.com/go/transformIT
Storage issues top many IT to-do lists, whether it’s designing disk-based recovery solutions or configuring and migrating data to storage servers. These are just two of 36 sessions focused on storage solutions during the HP Technology Forum & Expo in Las Vegas from June 18-21st.

Additional storage related sessions include understanding strategic concepts of storage area networks, enabling SAP adaptive computing using HP Storage Essentials and migrating OpenVMS storage environments without interruption/disruption.

More than 500 break-out sessions and 300 hands-on labs will target everything from database technologies to mobility and wireless topics as well as security, messaging and collaboration, and application development. Attendees can customize their specific training and knowledge-building conference experience using HP’s online session scheduler. For information visit: www.hptechnologyforum.com

Why tape backup is still “cool”

Despite what some industry reports may claim, tape backup hasn’t lost its shine. While disk-based systems may be grabbing more attention, tape is still a viable, economical and innovative solution.

For example, tape systems use less power and cooling than disks, are more environmentally friendly and more viable as a long-term storage solution for data you don’t access often. And the technology continues to evolve as an innovative backup option.

While tape and disk options excel at different tasks and in different environments, tape backup clearly meets the needs of new storage and “green computing” mandates. Regulations in some industries require e-mails be stored for seven years. Some health care facilities must keep data for the life of the patient. Even companies in unregulated industries require backup solutions for preserving data.

Tape backup is also small in size and easy to transport—an important consideration when moving data to and from an off-site storage location. Innovation in tape systems is continuous. For example, vendors such as HP have not stopped developing new tape technologies that feature faster backup speeds and larger capacity. That means the total cost of ownership of tape solutions is decreasing—giving IT a greater array of options in designing and implementing backup plans for their business’ unique needs. For more, visit: www.hp.com/go/transformIT

· A “greener” backup alternative
· Lower heat output means space efficiency
· Better long-term storage option
· Innovation continues

HP acquires PolyServe

HP has acquired PolyServe, a maker of scalable NAS systems and database server consolidation technology. HP plans to leverage its new partner’s solutions to broaden its storage products and build a portfolio of NAS products.

The Oregon-based software provider makes solutions aimed at helping companies consolidate servers and storage stacks into manageable, scalable and available database and file serving utilities. Its shared data clustering software virtualizes industry-standard servers and storage into a single system. Such consolidation can cut operations costs, and provide high availability database protection.

For enterprises with high-performance computing (HPC) environments the acquisition will prove valuable as PolyServe’s solutions perform well in HPC systems, says PolyServe’s General Manager Todd Behrbaum.
Making cents of consolidation

It’s about more than money. Storage consolidation projects are your chance to transform IT.

Have you ever packed up your family for a road trip? If so, chances are you’re familiar with that gut-wrenching moment of surprise when you realize you’ve forgotten something vital.

Planning to consolidate your storage assets can end up the same way. But instead of having egg on your face in front of your family, you could waste untold piles of cash and thousands of man-hours. Ian Selway, a Worldwide Solutions Marketing Manager for HP, describes the need to plan for any consolidation exercise. “The starting point should not be the technology,” he says. “The first place to start is to understand the business.”

When tasked with the seemingly vague directive to “consolidate storage,” technology managers have often thrown money at the problem. Bigger servers. Upgraded networks. But these are just the building blocks of a working solution. “What are the business drivers for the consolidation?” asks Selway. “Once you understand those you can comprehend how they translate into requirements for the IT organization.”

The key to a successful storage consolidation is planning. According to Ewald Comhaire, Global Practice Principal for Infrastructure Services with HP Consulting and Integration, “We’ve evolved from looking at consolidation from a technological viewpoint, with the goal of reducing cost. Now we ask, ‘how is storage delivered as a service by the IT organization?’”

Storage consolidation often happens when companies see a spike in storage costs, or when they discover bottlenecks in getting information from different sources.
And of course, when companies merge, there is often a forced requirement for some kind of storage consolidation. Whatever the immediate reason for consolidating, many companies overlook the opportunity now available to them.

“Look at the quality of service being offered,” advises Comhaire. “This is the chance to look at the issues of business continuity and risk overall, and the flexibility of your services.” While cost reduction is often a key target of storage consolidation, smart companies are using the exercise to make the whole system more efficient: delivering solutions faster, increasing the utilization of systems, and ultimately, ramping up the efficiency of staff.

Take, for example, the consolidation of Microsoft® Exchange servers (see page 10). “Typically sales organizations gather inventory information, load the information at the end of the day, and send it off to the company,” says Selway. “With Exchange 2007, you can equip the sales force with converged devices, so when they’re out with the customer, they can gather and send the information in real time.” This kind of capability is pure icing on the cake of saved storage costs.

Virtualization is another path to effective consolidation. When companies run their applications in virtual machines, they increase the utilization ratio of their hardware. “When a business has 50 servers, we go in and undertake an analysis of their server environment,” says Selway. “We can consolidate these systems down into a set of servers at much higher utilization,” he says. “A side benefit is savings on licensing fees for servers and applications, reduced maintenance fees, and less complexity.” Citistreet, one of the largest global benefits delivery firms in the United States, projects it will save $275,000 over five years on IT productivity gains alone by deploying virtual storage solutions from HP (see page 8).

But before you become too tempted to sock your cost savings back to the bottom line, consider the possibility for transforming your business. You can move people from supportive, reactive positions into those that enhance your company’s competitive advantage. For another example, Philips Lighting Electronics North America used the savings from a recent IT optimization project to drive a wide-ranging storage consolidation (see page 3).

There’s always risk when undertaking a project as extensive as storage consolidation. When merging many resources, comparative investments need to be made in network capacity, not to mention mission-critical support. After all, the net result is that more people will be depending on fewer systems. Generally, the extra investments are offset by the savings.

Also, it’s worth noting the role that politics plays in your consolidation strategy. After all, who’s going to manage your new infrastructure: the network team, the storage team, or the server team? The answers to these questions are important for determining how your storage will be managed long-term.

A complete assessment by HP can help you determine the path that will net you the most benefit: whether it’s merging 50 systems into fewer machines, enhancing your network with added critical support, or navigating the political landscape inherent in these projects. With HP as a trusted advisor, you can be assured that your car will be fully-packed on your next road trip.

For white papers from Enterprise Management Associates on simplifying management on the enterprise IT floor and from HP on strategic consolidation, and for information on how the HP Adaptive Leadership Development Program can help you manage politics in your organization, visit: www.hp.com/go/transformIT

Pictet and Cie, one of Switzerland’s largest private banks and one of the premier independent asset management specialists in Europe, tapped HP to help them move 374 servers from five old buildings down to two: a completely new headquarters and a backup facility. The key was to achieve it with zero disruption of financial service availability and assured security of the financial data. The result was exactly as advertised: no disruption, enhanced security and attendant cost savings.

Download the full Pictet and Cie story and the EMA white paper at: www.hp.com/go/transformIT
Mid-tier is ‘premier’ for CitiStreet

Global benefits provider chooses virtualized storage over traditional storage to support mission-critical applications.

As one of the largest global benefits delivery firms in the United States, CitiStreet understands the significance of protecting customer data. In fact, storing, securing and ensuring the availability of reliable information is the top IT strategy for the Quincy, Mass.-based organization. “Storage is a key part of our infrastructure right now,” says CitiStreet Systems Integration Manager Jeff Machols. “Our primary concern has been and always will be the security and reliability of our customer data.”

Serving more than 12 million participants and administering more than $230 billion in assets worldwide, CitiStreet has accumulated over 200 terabytes of information between its two data centers. Faced with a situation in which its storage was growing faster than its existing infrastructure could handle, the company was beginning to experience performance bottlenecks and needed to find a better way to manage its data.

“We needed to find a storage solution that was affordable, could be easily managed, and was easily scalable so that it would meet our constantly growing storage needs,” notes Machols.

After considering several storage offerings, CitiStreet found its answer in the HP Enterprise Virtual Array 8000 (EVA8000) with HP Storage Essentials management software, a high-performance, high-capacity and high-availability virtualized...
storage solution. Compared to traditionally architected storage, the EVA8000 saves time, space and cost while allowing IT staff to be more productive. It also fits well with CitiStreet’s plan to migrate all legacy applications to an HP BladeSystem c-Class infrastructure by year-end, while transitioning from server-based replication to frame-based replication for disaster recovery.

“When we moved to the EVA8000, we saw significant performance increases due to the virtualization; basically 95 percent of our applications are running twice as fast,” says Machols.

In addition, the 12-member CitiStreet systems integration (SI) team—responsible for the design, architecture and implementation of all servers, including the storage-area network (SAN) and back-up environment—no longer has to spend as much time performing relatively small tasks such as allocating more space to a server.

“In a traditional array, there is a much higher potential for impacting performance when you add servers, carve more space or make even the smallest changes,” he explains. Now, new servers can be added to the array without necessitating huge design meetings between a team of engineers, and instead of relying on custom reports from SAN specialists, UNIX® experts and Windows experts in order to get a view into its storage—IT now has the benefit of “a single pane of glass” using HP Storage Essentials.

“HP Storage Essentials really allows us to get a holistic view of our entire environment—across the SAN, switches and servers—to see exactly how our storage is being allocated,” shares Machols.

In terms of improved business outcomes, the virtualized storage environment is also making business units happier by speeding up overall performance. One aspect to CitiStreet’s business is the management of contribution plans, a process that relies on overnight batch processing in order to meet critical customer service level agreements. “Our business units are definitely a lot happier now that we’re seeing these massive performance gains,” says Machols. “The job times are cut in half, giving us a larger cushion in our processing times, and it really frees them up to do a lot more.”

By standardizing on the HP EVA8000, CitiStreet has found a better, faster fit for its organization. The cost of adding new storage is one-quarter the previous cost, performance has doubled and its multiple operating system environment—including HP-UX, Linux®, Windows® and Solaris—is easier to manage.

According to Machols, CitiStreet’s move to HP Enterprise Virtual Arrays has a return on investment of 512 percent over five years and a payback period of four months. Benefits will be driven by productivity increases, easier storage management, performance improvements and the avoidance of additional storage disk purchases, and IT productivity gains alone will amount to $275,000 over the same five-year period.

“Really, what we’re doing is moving to more of a commodity-based server solution,” says Machols. “It really makes that part of my life much simpler since we can scale out very quickly at a significantly lower cost. The increased performance allows us to focus on other value added tasks in our organization, instead of worrying about tuning,” he says.

For the full CitiStreet ROI case study, a free book “Resilient Storage Networks: Designing Flexible Scalable Data Infrastructures” available in limited quantities, and a Storage Essentials kit that includes demos and resources, visit: www.hp.com/go/transformIT
Consolidating Exchange and application storage—leveraging network attached storage and iSCSI

With expanding numbers of applications and exploding volumes of files, companies are looking for cost-effective ways to improve their storage efficiencies. For many medium to large enterprises, the diversity in storage protocols between Microsoft® Exchange and other application/file servers make disk space, back up tape space and storage management costs key priorities.

“For a long time, the industry was telling companies that SAN was the only way to consolidate into a central storage environment and to improve storage efficiencies,” says John Haro, HP Product Marketing Manager for network attached storage (NAS) in the Americas. “But companies that aren’t fiscally ready for a SAN solution or lack the resource sophistication still want the cost benefits and management efficiency of consolidation. They want a transitional solution that will enable them to leverage existing investments and improve their storage capabilities while they ready themselves for a SAN initiative.”

Most companies rely on the storage capacity of application servers, but they are only tracking approximately 50-60% utilization. From cost and space perspectives, it’s not the most effective storage strategy. It’s also especially problematic if one server goes down as a result of human error, which is common. If an application server goes down, and it is also being used for storage, users can’t access the application or the files, resulting in significant business disruption.

Network attached storage consolidation using iSCSI addresses these issues and delivers the benefits common to a SAN implementation. Companies no longer have to focus on managing data storage at the application level; they can consolidate storage for targeted block-based applications including Exchange and files onto one storage server, shifting the focus from data to application management on their general purpose servers.

“It’s a logical step for companies that want a new storage approach, but aren’t..."
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quite ready for a full blown SAN,” says Haro. “The biggest advantage is that iSCSI leverages current network investments to deliver lower capital and operational costs and ease of management. For companies that are budget sensitive, the iSCSI approach can provide a solution for as low as $5,000.

Haro stresses that network storage strategies should be viewed as a starting point for eventual growth into a SAN environment. They are an effective way to realize the opportunities of improved storage capability without the cost concerns. And once the opportunities begin to deliver benefits, concurrent business growth can fuel the progression into a SAN environment.

“If a company consolidates using network attached storage and iSCSI (HP’s ProLiant Storage Servers running Microsoft’s iSCSI Software Target), application downtime will no longer have the same dire consequences,” notes Haro. “If the files are removed from the application and stored centrally, they are still accessible by other applications so users can still get to the data if an application goes down. This capability is especially critical for Exchange or general business applications including accounting or customer management.”

Network attached storage also reduces disk space and backup tape space. In the traditional application storage model, data and applications live together, so the same file can be stored multiple times on the same server. This scenario requires large volumes of storage space and results in higher storage costs.

Conversely, network attached storage (HP’s ProLiant Storage Servers running Microsoft Windows Storage Server 2003 R2) enables the functionality of Single Instance Storage (SIS). Single Instance Storage recovers disk space by identifying identical files and storing only a single copy of the file, with pointers, in the SIS common store.

Internal Microsoft studies have shown that SIS can save more than 35 percent of disk space. Recognizing the potential of network storage, Microsoft IT used SIS on its own network to realize significant reductions in number of servers and disk space. Using SIS, Microsoft IT was able to reduce its number of servers for areas including localized products, archived products and public products by 269 servers. That reduction equaled a total space savings of 14,542.0 GB. For storage on 36 GB drives, these reductions equal a hardware savings of up to $116,416.

Using SIS, Microsoft IT was able to reduce its number of servers for areas including localized products, archived products and public products by 269 servers.

Microsoft is an excellent example of a company that leveraged the simplicity of its existing network investments to improve storage capabilities and realize business advantages in terms of efficiency and cost savings.

“Network storage strategies are all about today,” says Haro. “It’s a smart yet simple solution that enables companies to save costs by using their current network investment for storage efficiency while improving storage utilization and end user application efficiency.”

For a free book “Designing Storage Area Networks: A Practical Reference for Implementing Fibre Channel and IP SANs” available in limited quantities, and a Microsoft white paper “Windows Unified Data Storage Server 2003,” visit: www.hp.com/go/transformIT
Assessment of data retention policies key to improving backups

Performing data backups might be a costly, unreliable and complex operation today, but many companies are starting to change all that by taking a good look at their legacy data retention policies and consolidating their infrastructure.

If you’ve been asked to take care of backing up the company’s data, then there’s a good chance that you’re spending lots of money trying to cope. Wouldn’t it be great if you could find a way to cut costs? Some industry experts say you can do that and more with the right mix of planning and analysis as well as new technologies that give you the bandwidth flexibility you need to keep up.

“You can really cut down on a lot of operational costs by doing a very careful assessment of your data retention policies. What people are likely to find when they do the assessment is that a lot of their policies go back to the days when fault tolerance and resiliency were concepts reserved only for the mainframe and supercomputing worlds,” says Jeff Kato, Director of the StorageWorks Automation Business at HP. “You need to find out where you have resiliency through replication and expand your backup window to 24 hours a day on those systems. If you do that, then you will likely need less dedicated backup resources. You can free up bandwidth to finish other backups in less time and reduce the amount of tape you need to take offsite. Some tape rotation policies have not been updated since the early 1990’s.”

According to Kato, backup resources in many data centers today are strained to the limit. In many cases, multiple backup failures still occur since compute and bandwidth resources are in short supply. At the same time the size and complexity of many enterprise data backup environments just keeps on growing. Chances are too that some of the ways managers have tried to keep up have only made their environments more complex.

Today’s reality is that most backup environments include multiple systems running multiple applications over multiple hardware and software platforms. “Most sites are doing every type of backup under the sun, including network backup for some servers, direct-to-tape backup for others in a Storage Area Network, and array technology to replicate servers to another data center,” Kato adds. “That’s why you need to do an assessment and take a long hard look at retention policies.” He adds that performing a retention assessment will help free up available resources and can cut costs by helping to sort out mission-critical from other data and by determining what needs to be replicated to where and how often.

What else can you do to lessen your costs and deal with resource constraints? Certainly backup consolidation might be one option. Take the case of SA Eagle, an insurance company based in South Africa. Like all insurance companies, SA Eagle relies heavily on its customer and data records to stay in business. The company recently had reliability problems backing up its data. To solve the problem, SA Eagle chose an HP StorageWorks 6000 Virtual Library System, which backs up to virtual tape drives and accelerates backup performance in complex SAN environments while improving overall reliability. Backup success rates have now improved from 98.32 percent to 99.99 percent at SA Eagle. As well, the system will reduce the amount of time IT staff spends managing backups and help cut costs by reducing the need to buy as many expensive tapes. “What was particularly impressive about the HP solution is that we had multiple vendors involved and the virtual tape drive was able to work with our existing hardware and software,” says Keith Newman, Manager ISP at SA Eagle. “It worked without a hitch.”

The combination of HP services, hardware and software gives customers an end-to-end solution that can simplify data protection and cut IT costs. “A lot of people might be tempted to say that they can’t afford to do this. But you have to look at how much you will save over the long term,” Kato adds. “If you do the assessment right and then measure your resources in terms of how many tape drives and additional libraries you might need to buy in the future then there is a good chance you will come out ahead.”

View a webinar on taking the first step in a backup consolidation: www.hp.com/go/storagewebinar
Archiving solution raises bar on patient care

Oregon medical provider reaps a 230% return-on-investment as well as improved patient care using HP’s Medical Archive Solution.

Asante Health System is a community-owned not-for-profit that provides state-of-the-art medical care in Oregon with 3,800 employees. To provide services that help their patients thrive, Asante gave their information management system a check-up. One issue was the growing physical space to house patient films—X-ray images, MRIs and CT scans. Additionally, the delivery delays and potential for loss of data that accompanied the physical film storage and retrieval method was resulting in unacceptable wait times and mounting delivery costs.

In 2005 Asante launched an initiative to move from traditional film to digitized images by implementing the Picture Archiving and Communication System (PACS). Asante needed a data storage solution that could accommodate a PACS data growth rate of approximately five terabytes per year, and sought a solution that could handle this explosive growth, reduce retrieval times and meet regulatory requirements for image availability (long-term storage). Asante also required a solution that would provide high levels of availability to support critical care, and ensure appropriate fault tolerance and disaster recovery to protect vital medical records.

Asante originally considered their own SAN, but determined that migration issues would be too costly, constrain growth, and create backup issues.

Asante selected the HP Medical Archive Solution (MAS) as it met Asante’s requirements for manageability and the ability to “grow as you go.” Other considerations were HP MAS’ ability to offer standards-based technology for easier document exchange, and seamless failover for business continuity.

HP MAS is providing faster retrieval times—up to 900% faster—of critical patient information. Asante’s healthcare providers now have instant access to images, which contributes to better collaboration and patient care, and clinicians now have a more reliable and efficient system. In addition, the costs of labor-intensive backup and administration have been eliminated. The results show a 230% return-on-investment in five years.

“I am twice as confident [using digital images] and it takes me half as much time,” says Mack Bandler, MD, a consultant for the Medford Radiology Group.

HP MAS enables Asante to meet the archival demands of the Health Insurance Portability and Accountability Act. HP MAS is also able to help Asante meet federally regulated requirements for security, access and privacy compliance.

The solution also provides built-in disaster recovery and self-healing. MAS automatically detects any data corruption, and automatically replaces the corrupted data with a known good copy to help ensure data consistency. Two copies of each PACS image are written simultaneously to multiple sites, which provides business continuity and availability. With its built-in compression and centralized management features, Asante had no need to migrate data, which saves 70 to 80 labor hours plus an estimated minimum six months for conversion, eliminating the need to migrate data as technologies evolve.

MAS eliminates the need to manage or migrate data; Asante saves about 80 hours of labor per week (2 full-time employees) by not having to manage their storage. The solution has delivered an impressive ROI of 230%, with a very high internal rate of return of 34% which demonstrates the quality of the investment. The benefits of the HP solution exceeded costs, with the investment reaching breakeven in five months.

For the full Asante Health System ROI case study and more on HP archiving solutions, visit: www.hp.com/go/transformIT

Bountiful benefits

The business and patient care advantages Asante is gaining with the HP Medical Archiving Solution are numerous:

Business Gains:
- More efficient access to medical images
- Improved medical collaboration
- Increased security, access and privacy compliance
- Medical practitioners no longer have to wait for film to be located and delivered
- Images are available virtually instantaneously to anyone, anywhere in the network

Financial Benefits:
- 230% return-on-investment over five years
- Payback within six months
- $1.8 million net savings over five years vs. former solution

Tech Benefits:
- Built-in disaster recovery and self-healing helps ensure data is available and correct
- Immediate failover capability provides business continuity
- Automatic detection and replacement of corrupt data helps ensure data consistency
- Eliminating manual intervention required to manage files saves thousands of dollars per day

Operational Benefits:
- Archival storage can grow easily and economically
- Users have quick access to information
- MAS eliminates departmental barriers to integrated patient records
- System management costs are reduced through storage consolidation
Information is everywhere. And it’s growing. Video, images, rich media content—all are being created and distributed more than ever. Not only are enterprises storing and managing more data than in the past; they also face regulatory requirements to retain data longer.

When addressing data storage needs and adding capacity, many enterprises turn to Storage Area Networks (SANs), which effectively share capacity and relieve rapid application data growth. Despite their notable benefits, however, the words “costly” and “difficult” have both been associated with SANs. Also, at a time when many organizations need both application and file share storage, SANs don’t always automatically integrate file shares.

SANs ultimately deliver a robust storage environment, but adding capacity and connecting disparate servers and clients can be challenging. Applications need to be disrupted, data must be backed up, the environment has to be reconfigured and everything must be rebooted. It’s time consuming, complex and can result in a loss of business while systems are down. This process becomes even more difficult in decentralized and remote office environments, where technical resources and IT budgets are sometimes limited.

Putting it all together
“Companies need a way to more intuitively link servers, clients and storage systems—especially when it comes to remote sites,” says Al Madden, All-in-One Storage Product Manager for HP. “The ability to add storage capacity without taking down all applications and without negatively impacting business operations is also vitally important.”

He points to HP StorageWorks All-in-One Storage Systems, a tool that facilitates the addition and connection of new storage systems—both application and file share—within a SAN. It features an intuitive wizard that provides helpful guidance as a network manager installs new storage hardware, establishes linkages with servers and clients, migrates Microsoft® SQL Server and Exchange data and configures the updated environment. The language used in the wizard is familiar and understandable, related to applications within the environment versus particular disks and storage jargon.

“In a matter of minutes, All-in-One Storage helps the user locate applicable servers, select and protect the data to be moved and choose when to perform the migration,” Madden explains. “Along the way, it offers best practice recommendations for accessing, backing up and moving the data in question.”
Tampa-based Salem Law Group is one organization that has reaped the benefits of All-in-One Storage. As the firm began implementing a comprehensive document management strategy, it quickly realized a need for more storage capacity. In addition, with its headquarters on the shores of Tampa Bay and near misses from major hurricanes, the company was concerned about business continuity and wanted a co-location site in a hardened facility roughly 20 miles away.

“We used the quick set-up instructions that came with the All-in-One [Storage system],” says David Lay, IT Director of Salem Law Group. “It took about 20 to 30 minutes to complete the entire installation—from racking it to consolidating Exchange and SQL Server file shares onto the system. In fact, it was so easy that we didn’t think we did it correctly at first. A Rapid Startup Wizard connected the system to our network, and then we used the [All-in-One] Storage Manager interface to do the rest. With about eight mouse clicks, it was ready.”

Five easy steps
An extensive and easy to use solution, All-in-One Storage enables enterprises to better manage and protect their data without having to understand storage technology. It supports application data through iSCSI SAN and file share storage through Network Attached Storage (NAS) to provide a unified storage solution. By decoupling application servers from the data, the software facilitates “serverless backup” and enables the addition of new storage capacity without taking down enterprise applications. All-in-One Storage also takes integrated storage a step further by simplifying Microsoft SQL and Exchange data migration to as few as five simple steps. In these five steps, All-in-One Storage sets up the iSCSI connection, migrates the mail stores or databases and protects the data that has been migrated.

“All-in-One Storage provides an easy to use and affordable platform that can make SAN coverage a reality, particularly in areas that typically do not utilize SANs today, such as branch offices or remote sites,” notes Madden. “As storage needs push outside of the network core to these decentralized locations, hosting storage networks cannot continue to be expensive and technically challenging.”

HP All-in-One Storage systems ease the process of adding capacity to a SAN, provide data protection and help maintain business continuity when addressing data growth and storage challenges. Weaving a fully integrated storage network has never been easier.

For resources on HP StorageWorks All-in-One Storage System, visit:
www.hp.com/go/transformIT
To view a 5-minute product video, take a 3D product tour, or watch a Webcast, visit:
www.hp.com/go/transformIT3
It's a long-standing conundrum: IT organizations are always striving to reduce infrastructure costs and improve efficiency while pushing their businesses forward. They often lament their limited budget, the complexity of their infrastructure, the burden of implementing new technologies and the ongoing pressure to do more with less. Yet just as frequently, they add new hardware systems and capacity to the mix, increasing the strain on the aforementioned concerns.

Maybe, suggests J.P. Lavigne, Business Manager for Storage Essentials at HP, these organizations should take a different tact. “Companies can continue adding to their problems, or they can enhance the systems and processes they already have in place,” he says. “Few realize that 80 percent of a typical IT budget is doled out to systems management, while 20 percent is dedicated to systems acquisition. Nevertheless, IT teams routinely focus more on the 20 percent—the new stuff—than they do on existing systems that eat up the vast majority of their budget.”

Indeed, buying new systems generally contributes more to budget and complexity inflation than it does to cost cutting and operational efficiency. So why don’t more IT organizations focus on what they have versus what they can acquire?

“You can’t enhance what you don’t know about,” points out Roger Boss, Marketing Manager of Value Storage Programs at HP. “As systems have become less expensive, companies have continued to add to their computer room to the point where they don’t know exactly what’s in there.”

What does the data center contain? How is it all connected? Is it backed up? And what are the utilization rates? These are the questions that many organizations have difficulty answering. Both Lavigne and Boss agree that this circumstance pushes IT groups into a downward spiral of blindly adding capacity through low-cost hardware.
acquisition. This tactic doesn’t drastically strain a budget initially, but can be detrimental from a long-term complexity, management and cost perspective.

“Many companies just want to throw budget at new hardware, and this is clearly the quickest and easiest way to add capacity—but it’s not always the best way,” Boss claims. “The smarter company will manage and use what they have more efficiently versus throwing more hardware onto the pile. This is especially true when it comes to consolidation and virtualization technologies.”

He explains that for these popular and increasingly prevalent virtualization solutions to be effective organizations must know exactly what they have, how it is connected and how it is operating from an availability and capacity standpoint. “Consolidation and virtualization solutions help organizations maximize their IT resources,” Boss explains. “But just as you can’t plan a direct route without a decent map, you can’t fully maximize your resources until you have a complete grasp of your environment.”

“Customers regularly approach us and say, ‘I need five terabytes of storage.’ My first reaction is, ‘okay, that’s fine, but maybe you already have it and don’t know it,’” says Lavigne. “Simply adding capacity doesn’t always solve the problem; in fact, it often adds to the problem. What’s needed is a type of technology glue that puts all the hardware pieces together—a glue that provides a view of the entire environment, how it is interlinked, how it is operating and how it is managed.”

He offers a typical example: “I was recently in contact with a customer that was having problems related to the availability and performance of their Microsoft® Exchange environment. They instinctively added hardware capacity and faster CPU’s to resolve the issue, but it didn’t help. I had them implement HP Storage Essentials, which immediately mapped the environment, identified that the problem was related to Inter Switch Links (ISL) connections and advised them that four new connections were needed. Without the visibility and ‘glue’ of Storage Essentials, they never would have pinpointed the root cause of the problem.”

HP Storage Essentials delivers a heterogeneous, multi-operating system server and storage management solution that improves operational efficiency and reduces costs.

HP Storage Essentials is an open, standards-based suite of storage products designed to integrate into HP Systems Insight Manager, says Boss. It delivers a heterogeneous, multi-operating system server and storage management solution that improves operational efficiency and reduces costs by enabling IT teams to holistically monitor and control their environment (see related article, page 3).

Be smarter. Be more efficient with what you have. Manage the environment more holistically. Lavigne and Boss suggest these three pieces of advice for growing IT organizations. And it all starts with some “Essential” glue.

For a Storage Essentials kit that includes demos and resources, and white papers from IDC “Driving Down Complexity: Making Storage Simple” and from Enterprise Strategy Group “The Quantified Benefits of Storage Resource Management Software,” visit: www.hp.com/go/transformIT
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