The lifeblood of any business, data is outgrowing today’s storage systems in terms of both quantity and sophistication. At the same time, that data has become even more important for your business—especially in this age of “big data” and analytics.

In today’s environment, however, many businesses are hitting a wall with legacy storage. These systems are often based on architectures that were originally designed more than 20 years ago. As a result, they are straining under the demands of modern requirements, threatening to have a negative impact on business operations and ultimately revenue. Modern data centers require storage that is more fluid, flexible and easier to manage than the data silos many businesses are dealing with today.

The virtualization of servers and clients means that primary storage has to be flexible enough to work with applications more closely than ever. Even innovations such as IT as a service (ITaaS) and widespread adoption of mobile devices have had an impact on storage. IT departments need to be able to deploy applications quickly and seamlessly and provide primary storage that can handle applications independent of data type (object, file or block) as well as storage that works with any delivery mechanism (physical, virtual or cloud).

Just five years ago, IT deployed applications that ran essentially unchanged for several years. Today, IT departments need to be able to deploy applications nearly instantaneously. That requirement is driving organizations to adopt service-oriented architectures through virtualization and cloud computing, which enable IT to turn virtual machines and applications on and off at will. Although these capabilities help your company be more agile, they add a new element of unpredictability that makes consolidating workloads for efficiency very challenging.

With greater dependence on having access to so much information across the IT infrastructure, the repercussions of downtime have a higher impact on your business. Applications such as e-mail—considered a productivity application a decade ago—are now business-critical. Large amounts of data—sometimes petabytes’ worth—have to be continuously available yet accessible, and all in a cost-effective way.

In short, what worked in storage yesterday is not necessarily effective for today or tomorrow. Legacy storage is too complex and not well aligned with today’s business strategies and objectives. Many storage platforms are not up to the challenge of today’s unpredictable workloads and unconstrained data growth. They don’t offer the adaptability, agility and consolidated management capabilities IT requires, which means that IT needs a future-proof storage architecture.

**The next generation in storage**

The need for a more flexible IT infrastructure is driving the industry to rethink its approach to storage. IT must be able to quickly configure and then reconfigure storage to meet your changing business demands. The ability to expand capacity and easily and securely manage, migrate and rebalance data and workloads is critical. To meet the requirements
To reduce exposure to risk, IT needs an architecture that delivers information protection that uses deduplication for efficient and high-speed backup and recovery.

To derive more value from the business's information, IT needs information retention and analytics capability for archiving and searching within massive big data content repositories.

Such an infrastructure will enable IT to focus less on operational complexity and more on the innovation your business demands.

HP Converged Storage enables organizations to handle the growth in data today and in the future. This portfolio of scale-out platforms meets the needs of entry-level to enterprise and service provider businesses with common data services for block, object and file workloads. It delivers optimized performance to meet your primary storage needs and provides information protection, retention and analytics.

Based on standard x86 platforms—specifically HP ProLiant and HP BladeSystem servers—HP Converged Storage uses scale-out and federated storage software and common management. This software enables nondisruptive data growth and mobility among systems for more-efficient storage. Management software promotes orchestration of data across servers, networking and storage to lower operational expenses, including power and cooling costs, and accelerate delivery of services.

HP Converged Storage is a portfolio that delivers simple and streamlined but high-performing storage so you can achieve what HP calls ROI³, meaning higher returns on:

- Information: more value for better business decisions
- Infrastructure: lower costs, greater agility and higher utilization
- Individuals: reduced time and complexity, along with increased simplification

Software-Defined Data Center

HP Converged Storage supports the software-defined data center, built on a standards-based, converged infrastructure that includes shared storage. This infrastructure is overlaid with advanced data and control services on the application layer and delivered across servers, storage and networking.

Software-defined storage enables your business applications and underlying storage services to share hardware resources. Although the term is
For more than six years, HP has been helping customers substantially reduce their costs and footprint with HP Converged Storage. With more than 170,000 HP StoreVirtual VSA licenses distributed to date, HP offers proven, robust and flexible software-defined storage solutions that deliver advanced features not available with less mature solutions. The HP StoreOnce VSA extends HP’s software-defined storage leadership to federated deduplication and information protection.

The journey to a new storage architecture

HP Converged Storage reduces the complexity resulting from deploying siloed storage solutions and can be implemented in stages as needs grow and budgets allow. HP has simplified storage by providing common data services to organizations ranging from small and midsize businesses (SMBs) to enterprises and service providers, so there is a seamless upgrade path and data mobility, from small environments to large deployments. For small organizations, HP Simply StoreIT is a program that enables organizations to evolve their IT environment along a set of maturity models, giving them the right solution today while future-proofing their infrastructure for tomorrow (see sidebar).

Regardless of where your organization is in its journey, HP will work with you to help you choose the best storage technology available for your budget. HP will also help prepare your infrastructure for the continued growth in the volume, variety and velocity of the data that is critical for your business. By gradually standardizing hardware, adding software innovations and integrating the right software and tools, you can develop a storage environment that supports virtual and cloud computing. Along the way, you will be able to deploy storage faster, deliver IT services more quickly, reduce operational expenses and cut the time it takes to manage your storage.

To find out more about HP Converged Storage, go to www.hp.com/go/ConvergedStorage.
HP adds purpose-built all-flash array to 3Par lineup
The StoreServ 7450 is designed to get the full benefit out of flash media

By Stephen Lawson
Computerworld, June 2013

Hewlett-Packard will extend its 3Par enterprise storage line into flash-only territory this week, promising to combine higher speed with familiar software.

The HP 3Par StoreServ 7450 Storage system, being introduced on Tuesday at the HP Discover conference in Las Vegas, was designed from the ground up just for SSDs (solid-state drives). It includes enhancements to 3Par software and the 3Par ASIC (application-specific integrated circuit) to better take advantage of the speed of SSDs, according to Craig Nunes, vice president of marketing for storage at HP.

SSDs retrieve data faster than spinning HDDs (hard disk drives) and can improve speed and latency even in storage arrays that have not been built around this type of drive. But systems that were designed for HDDs can become bottlenecks if enterprises fill them with SSDs and expect the full benefit of the faster media, according to Enterprise Strategy Group analyst Mark Peters.

“It’s not about supporting it, because anything can support it. It’s whether you can make good use of it,” Peters said.

The StoreServ 7450 can take full advantage of the faster reading and writing operations of SSDs, according to HP. Internal testing has shown the array can operate at more than 550,000 IOPS (in/out operations per second) with a latency of between 0.4 and 0.7 milliseconds, Nunes said.

The 3Par StoreServ 7000 series is designed to serve medium-sized and large enterprises. The 7000 series systems use the same operating system and management console as all 3Par StoreServ platforms, including the higher end 10000 series. Existing 7000 series arrays already can be filled with SSDs, but the 7450 was designed with those drives in mind. Software enhancements include features for moving data between the platform’s cache and its flash drives. The ASIC built into each 3Par controller, which accelerates the functions of the array, has also been enhanced for flash, HP said.

CASE STUDY
Johnson Memorial Hospital re-architects IT infrastructure
Healthcare provider improves operational efficiency, lowers costs and elevates service levels with HP infrastructure solutions for MEDITECH environment

HP Converged Infrastructure delivers best-in-class benefits
Dynamic growth had created an expensive and aging IT environment with a silo’ed application-centric architecture, yielding inefficient results and causing concern about Johnson Memorial’s ability to support future goals. Johnson Memorial Hospital partnered with HP and Park Place International to create a converged infrastructure providing radical improvements with tangible benefits for doctors, staff and patients.

CHALLENGE Not a good prognosis
Following his move into the role of VP and CIO for Franklin, Indiana-based Johnson Memorial Hospital, Scott Krodel seized the chance to objectively take stock of his new employer’s environment. “I conducted an analysis of our whole IT infrastructure and although we had some solid individual components, there were many areas that needed attention and reworking. Our number one priority is always ensuring great patient care and the data center environment was clearly unable to support this objective; it was also totally inadequate to support our suite of MEDITECH applications which are critical to delivering exemplary levels of healthcare service. On top of all of this, our disaster recovery capabilities were particularly concerning.”

The findings for the single data center were typical for an organization that has continually embraced new technologies and outgrown its original charter: Portable air-conditioning units used to supplement overwhelmed built-in cooling, poor rack utilization, inadequate power feeds, and temporary cabling that had long become permanent were just a few of the symptoms that needed to be addressed.

The existing architecture was based on physically allocating resources to specific applications. Krodel recalls, “Each one of our critical systems had a dedicated, aging EMC SAN and none were linked together in any way. Maintenance costs were escalating and we just weren’t getting the benefits of all the terabytes we owned.”

Download the full Case Study