Case study

Gilbert, Arizona manages growth by upgrading storage infrastructure

Replaces legacy municipal storage appliances with HP 3PAR StoreServ Storage, HP 3PAR StoreServ File Controller, and HP StoreOnce Backup

Industry
Government

Objective
Create cost-effective and scalable storage infrastructure while improving performance and supporting data replication

Approach
Deploy HP 3PAR StoreServ Storage for primary storage, with HP 3PAR StoreServ File Controller clusters providing file services and HP StoreOnce Backup supporting replication

IT matters

- Aggressively deployed virtualization to reduce IT costs and increase agility
- Data safety is secured via file storage back ups every 10 minutes and the back ups of virtualized storage every four hours
- Non-intrusive 3PAR StoreServ File Controller data deduplication delivers an average 50-60% in space savings and provides robust security
- As a native Microsoft® Windows® solution, 3PAR StoreServ File Controller enables simplified management in a Windows Storage Server environment

Business matters

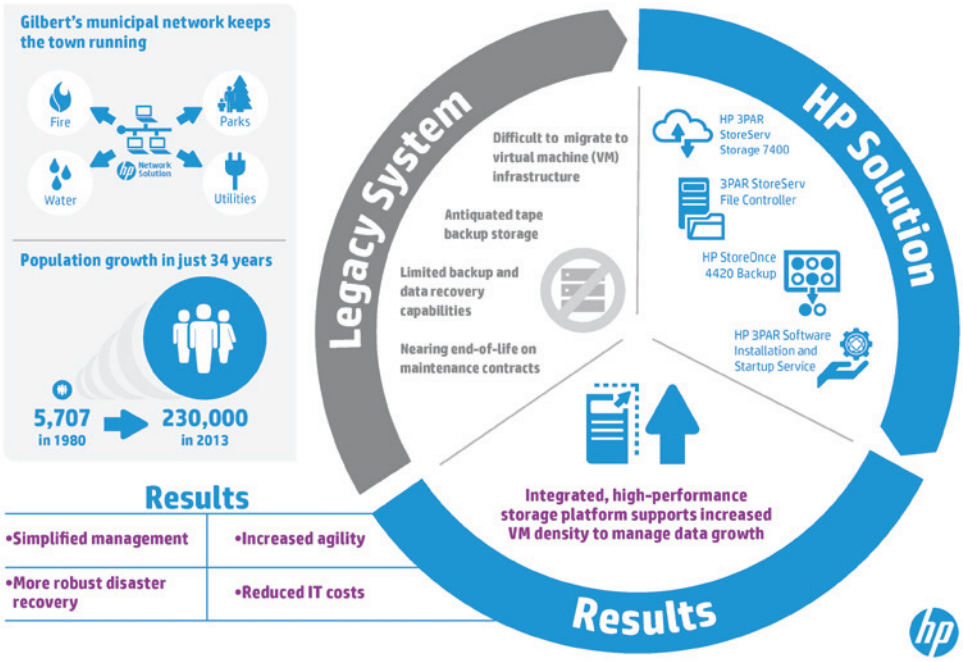
- Increased storage performance allows the town to more efficiently provide local services
- Increased VM density on its physical servers for greater consolidation and cost savings while lowering application deployment costs
- Powerful recovery options enable IT to work with application owners to develop application-specific data replication requirements

"Gilbert, Arizona is growing rapidly and we were reaching the end-of-life for our legacy storage equipment. The integrated storage solution from HP is allowing us to efficiently increase capacity while improving storage performance and implementing a robust and innovative data replication initiative. I like the clustering and higher availability of this solution, and that the 3PAR StoreServ File Controller is a nice, integrated package with 3PAR StoreServ."

– Chris Majoue, Infrastructure Administrator for Gilbert, Arizona

Located just southeast of Phoenix, Gilbert, Arizona has quickly evolved into one of the fastest-growing communities in the United States. Gilbert's IT team recognized the need to increase storage capacity and performance to support a scalable, virtualized environment capable of supporting the town's continued growth. After a careful review process, Gilbert selected HP 3PAR StoreServ Storage, HP 3PAR StoreServ File Controller, and HP StoreOnce Backup to support capacity expansion, improve storage performance, and enable efficient data replication.

Gilbert, Arizona manages growth with HP integrated storage solution



During the last three decades, Gilbert, Arizona has seen tremendous growth, increasing in population from 5,717 in 1980 to more than 230,000 people. Many recent accolades, including being named the "2nd Safest City" and the "33rd Best Place to Live" in the country, explain why so many people want to live and do business in Gilbert.

Gilbert's booming housing industry is coupled with booming business. With a targeted focus in the Science, Technology, Engineering, and Math industries, Gilbert is home to many companies with focuses in Advanced Manufacturing, Aerospace and Defense, Bio-Technology, Clean Technology, and Renewable Energy. As Gilbert grows over the next decade, the estimated population is expected to reach 330,000. As one of the fastest-growing communities in the United States, Gilbert faces the ongoing challenge of building out its IT infrastructure to support the need to provide services to a fast-growing residential and business community.

Upgrading legacy storage infrastructure

Despite the rapid growth, Gilbert's legacy storage infrastructure was reaching the end-of-life on its maintenance contracts. The town had limited backup and data recovery capabilities in place and was constrained in its ability to aggressively migrate to virtual machine (VM) infrastructure by storage capacity and performance limitations.

"We needed to dramatically increase storage capacity while increasing storage performance and enabling more efficient data replication," said Chris Majoue, an infrastructure administrator for Gilbert, Arizona. "We needed to simplify and improve performance for file storage and look for a creative new approach for backup and recovery because the solution from our prior storage vendor had become antiquated."

Gilbert had been backing up to tape, but wanted to backup disk-to-disk with off-site replication to ensure continuity of operations. IT had the foresight to align the town's storage infrastructure requirements with the requirements to provide service to a growing population, and developed a request for proposal (RFP). After evaluating proposals from five vendors, IT selected an integrated storage, backup, and replication solution from HP.

"We developed a selection matrix and scored each proposal based on factors like technology differentiation, storage performance, customer support responsiveness, and length of time in the storage industry," said Majoue. "An important factor in our selection matrix was boosting the performance of our VM environment. Gilbert has a major focus on disaster recovery, and VMs provide faster data recoverability in the event of an emergency." In March of 2013, Gilbert selected HP 3PAR StoreServ Storage, HP 3PAR StoreServ File Controller[1], and HP StoreOnce Backup to support capacity expansion, improve storage performance, and enable more efficient data replication.

[1] The HP 3PAR StoreServ File Controller is built on the same hardware platform and relies on the same operating system as the HP StoreEasy 3380 Gateway; the platforms are branded differently based on the HP storage arrays to which they are deployed.

Increasing capacity, improving performance

In April, IT deployed HP 3PAR StoreServ 7400 4-node Storage Base as the primary storage platforms for its municipal network, which is used by the water, fire, parks and recreation, GIS design, public works, and waste water departments as well as by municipal utilities. Information was migrated from the legacy storage appliances, and Gilbert increased storage capacity to accommodate growth demands.

HP Storage Services offer consulting expertise and technology support know-how to help organizations make a seamless transition to the New Style of IT with HP storage products and solutions. To support the implementation, the town utilized the HP 3PAR Software Installation and Startup Service, which helps to ensure proper installation and helps organizations like Gilbert realize maximum benefits from storage investments. Complementing the HP 3PAR Storage System software, the HP 3PAR Software Installation and Startup Service provides the necessary activities required to deploy HP 3PAR software products into operation. With the assistance of a designated IT storage administrator, an HP service specialist provided deployment assistance to Gilbert to ensure a successful implementation.

The HP 3PAR StoreServ 7400 platform provide Gilbert with the performance required to increase VM density on physical servers, allowing the town to accelerate its virtualization efforts while improving performance. HP 3PAR StoreServ Storage removes storage as a bottleneck from virtualization deployment by effortlessly delivering high I/O performance and workload agility. As a result, the town has been able to increase VM density on its physical servers for greater consolidation and cost savings while lowering application deployment costs. This tightly integrated, converged solution allows Gilbert to provision file shares and block volumes from a single user interface.

HP 3PAR StoreServ 7400 presents volumes for file storage to clustered HP 3PAR StoreServ File Controller platforms. With 3PAR StoreServ File Controller, Gilbert is benefitting from optimized, efficient, secure, and highly available file storage gateways. 3PAR StoreServ File Controller has non-intrusive data deduplication that provides an average 50-60% in space savings and provides the town with security through features such as built-in encryption, sophisticated access controls, online snapshots, and the ability to run endpoint protection and backup software onboard so that data is protected at rest and in flight. 3PAR StoreServ File Controller is highly available with turnkey clustered configurations, transparent failover, and online maintenance to deliver near continuous availability of data to users, servers, and applications for all departments.

The 3PAR StoreServ File Controller simplifies management and offers a Networking Configuration Wizard that guided IT through network configuration for faster migration from the legacy storage appliances. As a native Microsoft Windows solution, 3PAR StoreServ File Controller allows organizations like Gilbert, Arizona to simplify IT management in their Windows Storage Server environments. This was crucial for migrating from the legacy storage appliances. “HP’s Networking Configuration Wizard has a pretty nice interface, it made it easy to create clusters and migrate from our legacy appliances,” said Eugene Mejia, an infrastructure administrator for Gilbert.

The integration of HP 3PAR Storage and 3PAR StoreServ File Controller was a major factor in the selection of the HP storage solution. “Gilbert is growing rapidly and we were reaching the end-of-life for our legacy storage equipment,” said Majoue. “The integrated storage solution from HP is allowing us to efficiently increase capacity while improving storage performance and implementing a robust data replication initiative. I like the clustering and higher availability of this solution, and that 3PAR StoreServ File Controller is a nice, integrated package with 3PAR StoreServ.”

Customer at a glance

Application
- Storage, backup, and data replication

Hardware
- HP 3PAR StoreServ 7400
- HP 3PAR StoreServ File Controller
- HP StoreOnce 4420 Backup

HP Services
- 3PAR Software Installation and Startup Services

Implementing data replication

In early 2014, Gilbert, Arizona expanded the deployment by focusing on a more robust data replication implementation. The town purchased additional HP 3PAR StoreServ 7400 platforms and an additional HP 3PAR StoreServ File Controller cluster and deployed them in a municipal building located 12 miles from the primary site, with the two locations connected via fiber. Gilbert also deployed the HP StoreOnce 4420 for replication.

"We replicate everything and can recover quickly," Majoue explained. "We utilize 3PAR StoreServ and StoreOnce Backup to replicate across the fiber connection. File shares are replicated every 10 minutes, and since the virtual infrastructure files are larger, we replicate them every four hours. StoreOnce constantly replicates changed data, and the reason we selected both 3PAR StoreServ and StoreOnce replication is our need to manage bandwidth on the 1 Gbps fiber line. This solution allows us to restrict 3PAR StoreServ and StoreOnce to 400 Mbps each so we can avoid oversaturating the fiber line with storage traffic."

The secondary location is a public works facility, so the HP 3PAR StoreServ 7400 platforms and HP 3PAR StoreServ File Controller cluster that were primarily deployed as replication targets are also used locally for production storage. The local production data that is stored in this facility is therefore replicated back to the primary location.

Derek Whitfield, another infrastructure administrator for Gilbert, Arizona, said, "HP has provided us with the support we've needed to deploy mission-critical storage while improving storage and replication performance. I've worked with other hardware vendors and storage companies and I've been impressed by HP's overall level of engineering and technical abilities to understand our goals and address the needs of a municipal government."

Gilbert's critical municipal storage infrastructure is now ready to accommodate the demands expected to be placed on it by continued population growth. The next step for the Gilbert is to conduct additional recovery testing with application owners. "We want to make sure each department is prepared to recover in the event of an emergency," said Majoue. "We have the infrastructure in place to conduct the testing necessary to make sure that all of our applications can recover from a disaster, and IT will work with application owners to guide them on recovery management."

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