With HP LeftHand SANs, storage is no longer a limited resource at Mojave Water

"The HP LeftHand SANs have removed the restrictions we used to face with conventional server storage, and have really opened our eyes to what we're capable of accomplishing with our storage."
– Jesse Shelby, Information Systems Manager, Mojave Water Agency

Industry: Government, public utility

Solution: HP LeftHand SANs

Objective:
Upgrade storage infrastructure to deal with rapidly growing storage needs and improve data protection

Approach:
Install HP LeftHand SANs in two locations

Business technology improvements:
- Increased storage capacity and scalability
- Enhanced backup and recovery capabilities
- Ability to upgrade and expand storage "on the fly" – without taking systems off-line
- Worry-free platform migration
- Thin provisioning and Snapshots capabilities

Business outcomes:
- Can now take leadership role for critical projects without storage capacity restrictions
- Able to support large-scale projects with great volume and variety of information

Overflow of data generates thirst for more storage

Founded in 1960, the Mojave Water Agency (Mojave Water) is responsible for managing the water resources within a 4,900 square mile service region in San Bernardino County, California to ensure a sustainable supply of water for present and future use. To fulfill its mission, Mojave Water is continually engaged in a number of large-scale infrastructure projects. With each project comes a veritable tidal wave of information that needs to be managed – including large files such as environmental studies, aerial photos, CAD (computer-aided design) drawings and GIS (geographical information system) data.

"The amount of information can be quite voluminous," says Jesse Shelby, Mojave Water Information Systems Manager. "As a result, we needed to move beyond the storage limitations associated with conventional server storage and improve our ability to do backups and recovery. We didn't want to be limited by our storage technology."

Buoyed by HP LeftHand SANs storage solution

Mojave Water began looking for a new storage solution in 2006. They enlisted the help of technology reseller CDW-G who suggested they look at HP LeftHand SANs. Recalls Shelby, "We were seeking a virtual storage solution so we could move away from direct attached storage to a SAN. We were presented with three or four different approaches. Our network administrator saw the HP LeftHand SANs and fell in love with the functionality. He thought it was the best thing since sliced bread.

"As a public agency, we had to conduct due diligence and evaluate a number of different storage vendors. But once we saw a demo of HP LeftHand SANs and all of its functionality, we were blown away – and it has continued to live up to that initial impression. In fact, it's only gotten better!"

Running storage without limits

HP LeftHand SANs provide a powerful storage solution that easily scales performance along with capacity. They also offer an integrated enterprise-class feature set that enables Mojave Water to significantly enhance its backup and recovery as well as provisioning capabilities.

"With the HP LeftHand SANs, we are doing all the things we hoped to do," says Shelby. "We are creating a storage capacity pool that lets us slice and dice storage the way we want, with no limitations. We have identified HP as our sole source for virtual storage to support our virtual server environments.
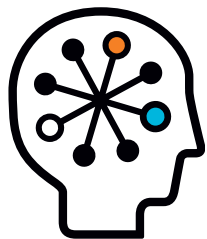
Customer solution at a glance

That makes life easy because now we just go to our board and say we need more of the same. We don't have to justify and explain everything every time we want more storage, because this low-cost storage solution works."

The unlimited capacity provided by HP LeftHand SANs helps Mojave Water fulfill its mission as a regional resource. "We are in a better position to share data with a wider regional audience," notes Shelby. "One city by itself may not be able to afford to deliver data to support a large project. That's where we can step in and provide the storage capacity to spearhead large projects. One example is the R-Cubed (Regional Recharge and Restore) Project. This huge engineering project involves building a well field of about 30 wells, which requires an enormous amount of data storage; that's where our HP LeftHand SANs can really help."

No longer just stemming the tide, scalability meets storage demand

HP LeftHand SANs enable Mojave Water to expand storage quickly and easily. "We are no longer limited by the number of hard drives we can fit onto a server," said Shelby. "We can upgrade and expand a storage partition on the fly, without having to take the system off line. That ensures that the agency can provide as much storage as needed for projects, without having to place size restrictions on the various files associated with each project."

The volume of storage required has kept growing since the agency implemented HP LeftHand SANs, particularly for digital imaging. "We get imaging from the consortium of agencies and government entities we work with," says Shelby, "and we also commission aerial imaging flights to acquire new images. All that imaging creates very large data sets. We not only need to be able to store data, we also need to be able to deliver data to external and internal users. We are now up to more than 30 terabytes [TB]."

Rapid backups and safe migrations

HP LeftHand SANs enable Mojave Water to provide much more robust backups and faster restores. The agency maintains duplicate HP LeftHand SANs in two separate locations – one at their operations center, and a duplicate, disaster recovery infrastructure at a second location – in an active/active setup. "If the primary center goes down," says Shelby, "nobody even notices it. If we need to restore a server, it's ready to go immediately, based on the Snapshots we do."

Shelby continues, "Even as we increase the volume of storage, we can be more responsive on restores. We use the Snapshots feature of the HP SAN/iQ Software to take snapshots of entire servers, including operating system and applications and everything. With Snapshots, we can restore a server in minutes, versus conventional restores from tape that can take hours."

Additionally, platform migrations, once a daunting undertaking, are now a worry-free procedure thanks to the Snapshots functionality. "If something goes wrong during a platform upgrade, we can just revert back to a copy of the environment that we made in advance with our HP SAN/iQ Software," says Shelby. "That saves us hours and hours of time."

"We've been able to accomplish a lot with HP LeftHand SANs in just a short amount of time," notes Shelby. "We look forward to continuing to use HP LeftHand SANs as one of our core technologies."

About Mojave Water Agency

The Mojave Water Agency (www.mojavewater.org) is one of 29 California state water contractors with access to state water projects. It was created by High Desert voters in 1960, and is governed by a seven-member elected Board of Directors. The Agency, in cooperation with other water districts, is responsible for managing the region's water resources to ensure a sustainable supply of water for present and future use.

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