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▶ **CASE STUDIES IN SUCCESS**



**NORTHERN
ARIZONA
UNIVERSITY**

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UNIVERSITY

STREAMLINES BACKUPS

WITH QUALSTAR'S

XLS ENTERPRISE

LIBRARY SYSTEM

XLS



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▶ **WE HOLD THE WORLD'S RECORDS**



Davis has been impressed with the reliability and speed of the XLS library and its LTO 4 drives. He also likes knowing he can cost-effectively expand the system.

THE UNIVERSITY



Flagstaff-based Northern Arizona University (NAU) has built a strong reputation in education that now encompasses roughly 20,000 students at its main campus, its 35 sites throughout the state and its growing curriculum of online education offerings. With a firm commitment to student success, NAU offers strong undergraduate, graduate and research programs that extend from forest health to bio-terrorism.

THE CHALLENGE

Sitting at an altitude of 7,000 feet, NAU's main campus has seen its share of weather extremes. But, nothing quite prepared Senior System Administrator Clark Davis – or the university's Quantum P7000 tape library – for the recent flash flood that sent a torrent of water crashing through the doors of the campus data center where the tape library resided.

At risk were over 3,000 weekly backup jobs and an added 30TB of weekly data, much of which consists of backups for the organization's critical databases containing past and present student records, and its financial system information.

One glance at the aftermath told Davis to waste no time in finding a replacement tape library. Although the library itself barely escaped getting wet, he proved to be right. NAU's insurance company quickly authorized replacement as well. "After drying out the room and cleaning up after the flood, the tapes and tape drives in the P7000 just started running worse and worse," he said. "By the end of two weeks, the library just totally gave up the ghost. Everything quit working: No drives, no robots, nothing."



THE SOLUTION



Thankfully, Davis was able to seek advice from IoDynamix, a value-added reseller who had helped the university with its original Quantum library. Beyond solving his immediate post-flood crisis, Davis was hoping any replacement tape library would reduce the increasing number of tape drive failures NAU had been experiencing for some time before the flood hit.

After going through a variety of options with IoDynamix, Davis opted to transition away from the current library's SDLT technology to a library using the market-leading LTO 4 tape format. He also became sold on the unusually compact design, scalability, speed and affordability of the Qualstar XLS-812300 enterprise library system.

During the two weeks immediately after the flood, Davis' first priority was to get over 200TB of backup data off the damaged library and onto non-contaminated tapes. For the transition, he used a Qualstar TLS-6430 multi-drive library with SDLT drives and a capacity to handle 30 tapes at a time. Operating it across the network via an iSCSI connection, he was able to get the data off every contaminated tape just in time.

He replaced the Quantum P7000 library, equipped with twelve SDLT tape drives and 700 slots, with a more efficient Qualstar XLS-812300 system. Instead of using eight



drives with 700 slots, Davis found the Qualstar library would provide both faster performance and much more capacity using just four LTO 4 drives and 300 slots. Based on that configuration, the library was installed smoothly in just a day. He said that the support he received from Qualstar was highly professional, although he noted that he'd had little need to contact them.

Davis used the upgrade as an opportunity to also incorporate a more streamlined disk-to-disk-to-tape backup strategy with Symantec NetBackup for disk staging to two new disk-based Nexsan SATAbeast storage systems. In turn, the disk systems now stream a 24x7 flow of backup data directly to the XLS-812300 tape library.

After watching the Qualstar system in action over the past several months, Davis is more



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THE SOLUTION, CONTINUED

convinced than ever that he made the right move. "Since we put this equipment in, we haven't had one single failure. It's been seven months or so, which is a decent amount of time to get a record of how the equipment works. So far, we've been batting 1000," he said.

At a pace he now estimates approaches roughly 500 to 1,000 backup jobs a day, Davis has been impressed with the simple reliability and rapid speed of the XLS system and its LTO 4 drives. He also likes knowing he can cost-effectively expand the system later to accommodate up to 12 drives or add more capacity. One or two 120-slot Expansion Pods or, alternately, one or two 535-slot MEM II (Memory Expansion Module) storage units can be installed to raise the total capacity up to 1,365 slots in just 19 square feet.

"It's an excellent, compact design that gives us plenty of room for expansion at a great price/performance. You just bring on these Expansion Modules without adding more electronics or more power supplies," he said. "It's a very cost-effective way to expand."

Davis also gives high marks to the XLS system's X-Link worldwide management

interface that allows both local management from an easy full-screen display on the system as well as remote, Web-based management. "The Web interface is very sophisticated. It was one of the things that drove our original decision to go with the XLS system," said Davis. "It really helps our technicians if there's ever a question about what's going on with a backup job or the tape library."

Today, he believes adding the Qualstar tape library to NAU's data center has easily saved him and his team about 15% of their total pre-flood system administration time by

eliminating hardware issues associated with the former library. These are now a thing of the past.

What advice would he offer another organization looking to upgrade their tape library

system? "I would tell them they need to adopt a backup-to-disk strategy with staging to tape using high speed drives like the LTO 4s. We've been very happy with the capacity and speed of these in our Qualstar library. We had twelve SDLT drives before. Now, with just four LTO 4 drives and the disk staging we do, the Qualstar library has had no trouble keeping up with the load. It just really works," he said

THE FUTURE

Davis purposely chose the Qualstar XLS-812300 because it offers plenty of storage expansion and extra throughput capacity. This allows him to handle the inevitable growth in backup data but also accommodates doing more extensive data archiving along with his current backup and disaster recovery efforts.

Outside of the needs of Davis' own Computer Administration department, other university departments have begun to rely increasingly on the backup services also offered by Davis and his team. Some, like the library and a future university-wide Exchange e-mail application, may well make the need for expanded archiving a reality in the near future. In that case, Davis is confident that the XLS-812300 library can address that need as well.

Based on his own experience, what would he advise as far as making the case for upgrading to a tape library like the Qualstar XLS system? "The process works so well, I'd tell someone looking to upgrade that the cost will probably pay for itself just in the amount of administration manpower it reduces," he said.

The XLS Enterprise Library Systems are available exclusively through Qualstar's worldwide network of Authorized Resellers. For more information contact Qualstar, one of Qualstar's Resellers or visit: <http://www.qualstar.com/xls>



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