

Storage Solutions Specialists, Inc.

The Riverside County Office of Education (RCOE) manages electronic data for 27 school districts including payroll processing for 36,000 school employees in a centralized location monitoring \$1.5 billion in budgets.

Sean Peacock, a RCOE network manager, is directly responsible for protecting RCOE's more than 200GB of data distributed across their 400 user Windows NT network including 7 databases and 6 file and print servers. Peacock was facing a critical issue: RCOE's existing backup scheme was becoming unmanageable, inefficient, risky and expensive.

As a network backup company, Storage Solutions Specialists, Inc. (SSSI) understands what criticality and reliability mean to their customers like RCOE. Based in Colorado Springs, Colo., SSSI provides custom and turnkey network backup solutions through distributors and resellers throughout the United States. SSSI's flagship product, STORServer Distributed Storage Manager (SDSM), centralizes all backup management and restore tasks.

"We've been very successful in implementing backup solutions around the country using AIT tape and drives," according to Bill Smoldt, Executive Vice President at SSSI. Most configurations of SSSI's STORServer product now have AIT as the recommended drive.

"AIT is the perfect combination of speed and capacity for our STORServer Distributed Storage Management software," Smoldt continued. "AIT is filling the gap at the mid-level for high performance, highly reliable network backup. The mid level market for network backup didn't have an appropriate drive with this combination of cost/capacity/speed. AIT is perfect in that segment," Smoldt added.

SSSI solutions feature both Sony AIT-1 and AIT-2 tape drives in Qualstar automated tape libraries. These libraries offer scalable storage ranging from 2 drive, 12 slot configurations up to 12 drive, 360 slot configurations.

The Riverside County Office of Education (RCOE) needed to make the migration from nine DAT tape autoloaders and libraries and two different software tools distributed throughout their enterprise, including a remote site 77 miles away in Indio, California.

At SSSI's suggestion, RCOE centralized backup operations to a 4-terabyte AIT tape drive and a Qualstar 4-terabyte tape library and standardized on a single backup application – SSSI's STORServer implementation of IBM's ADSM backup software.

RCOE went from having 2 or 3 people managing 9 backup devices to 1 person managing 1-device part time. RCOE also eliminated several hundred hours of backup administration by keeping a full backup always on-line using a "complete incremental" technology.

Users can now retrieve files almost instantaneously, without help desk intervention, because most recent backed up data is kept in a disk cache.

The speed of loading and mounting the AIT tape is "far superior to DLT," Smoldt observed. "We require fast load speeds and a tradeoff between speed and cost. The DLT drives mount time is far too long, and the high capacity is often too much for a mid-sized network backup solution. As a backup provider, my main issue is always reliability above all else, and I trust AIT to give me back the data that I put there. If it doesn't, I'm out of business."

RCOE today is better prepared for a disaster because off-site data is no longer a week behind but kept current everyday, Smoldt noted.

Sony's unique Memory-in-Cassette (MIC) feature built into the 3.5-inch form factor provides quick media load and fast access to user files – ideal features for customers such as RCOE. Since the AIT tape systems log is stored on the MIC chip, this eliminates the need to read the information off the tape itself, thereby reducing the average media load time to under 10 seconds, or one-fourth to one-half that of competing technologies.

Furthermore, the AIT drive creates a search map within the MIC, allowing the drive to search the user's data at twice the speed of the usual search speed, enabling average file access times of 27 seconds, or one-third to one-half those of competing technologies.

Advanced Intelligent Tape (AIT) enables higher density recording than traditional technologies in a tiny, 3.5" form factor. AIT tape benefits – higher capacities, greater reliability and faster transfer rates – are the result of Sony innovations in high-density recording technology, media and drive design.

AIT's Auto Tracking Following (ATF) Servo System is a closed-loop, self-adjusting tape tracking system, which permits precise tape motion control for reliable recovery of customer data on tape. The system continuously adjusts for tape flutter, so the read/write head is perfectly centered on the tape track. Any off-track position is detected and corrected immediately, allowing reliable data recording at much higher track densities than conventional linear drives.

Advanced Metal Evaporated (AME) Media with its diamond-like carbon coating offers extraordinary durability, performance and reliability – a head life of 50,000 hours, 30,000 media uses, and virtually no periodic head cleaning. These features make AIT an ideal solution for high duty-cycle library automation use such as Qualstar's.

Qualstar's TLS – 4000 Tape Library Systems feature an open architecture with pre-wired drive mounting slots that allow for upgrades and expansion up to 12 drives and up to 360 tape cartridges, while maintaining a very small footprint.

Qualstar's tape library systems are known in the industry for:

- Reliable, intelligent robotics
- User friendly interface
- Inventory sentry features
- Security.

Qualstar's unique robotic mechanism is simply better, by design. Lead screw robotics using brushless DC motors and closed-loop servo control systems provide precise positioning and flawless media handling for years of dependable operation. It even automatically calibrates the insertion point when new drives are added.

An intuitive menu-driven LCD panel displays configuration and operational information. Operating temperature levels, real-time voltage readings, and an audible alarm provides immediate monitoring of status messages, door open notification, low power conditions and other critical operating functions.

Bar code scanning enhances throughput and controls the media inventory. An I/O port allows software application control over importing and exporting of individual tapes, eliminating the need to stop operations and open the library. An exclusive Qualstar "Inventory Sentry" senses whether the tapes or the magazine have actually been removed if the door is opened. If they haven't, operation is resumed without causing a time-consuming re-inventory like most other systems.

Tape media can be secured within the library by locking its front access door while a window allows visual monitoring of operation. Filtered positive air pressure within the unit eliminates airborne contamination for extended tape and head life. Multiple SCSI buses allow a single library to switch tapes for several servers.

The SSSI STORServer/Sony AIT/Qualstar tape library backup solution was delivered by reseller Automated Network Backup, Santa Rosa, Calif., 2 weeks after receipt of order and fully installed, including knowledge and skills transfer, in just 2 days.

SSSI is no stranger to what customers are facing today. In fact, SSSI's own server and storage has quadrupled each year. With Sony AIT tape technology and tape drives and Qualstar libraries, SSSI has automated its backup operations for a reasonable cost. Its own in-house solution consists of two Qualstar AIT Libraries and four DLT libraries on four SDSM/ADSM servers. SSSI intends to add several more Qualstar AIT libraries to replace the DLT libraries and to accommodate growth over the next two years. Ten company sites backup about a third of a Terabyte of data to the four centralized backup servers. Disaster recovery copies are located between the different backup server sites.

Business benefits resulting from new technology are hard to quantify and prove. But in the backup and storage industry, there is one clear standard: data loss. "In every company where we implement a turnkey network backup solution, you can pick almost any business benefit and we've seen it. Elimination of loss of data is the most important, however. Companies that lose data go out of business," Smoldt stated.

SSSI's Smoldt, who has been in the backup business more than 11 years, has seen every kind of backup solution ever made. "Of all the drives I've used, AIT is the one I could grow to love. Our customers are quite happy with AIT. This makes our job simpler."

SSSI was incorporated in January, 1995 with the goal of providing high quality products and consulting in the enterprise storage management marketplace.

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