



CHALLENGE

Outdated, undersized storage unable to accommodate multimedia files hampered the educational mission of the Shanghai Community International Schools (SCIS), while time-consuming, failure-prone data backups required the schools to look for affordable, stable, and scalable storage that could be implemented during summer vacation.

SOLUTION

The SCIS IT staff worked with Dell to deploy high-capacity storage and backup platforms based on Dell PowerEdge servers and Dell PowerVault storage arrays at each campus.

BENEFITS

- The high-capacity storage and backup doubles the available storage and provides an estimated 98 percent reduction in recovery time.
- An updated infrastructure helps reduce server administration time by approximately 60 percent.
- A smaller server footprint enables up to 40 percent faster e-mail performance and an estimated 100 percent cost payback in six months.

Related Categories:

Case study, Dell PowerEdge servers, Dell PowerVault storage, Shanghai Community International Schools

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GIVING SCHOOLS ROOM TO GROW

Dell™ PowerEdge™ servers and Dell PowerVault™ storage arrays helped the Shanghai Community International Schools enhance high-capacity data storage and backup, reducing data recovery time by an estimated 98 percent and server administration time by approximately 60 percent.

Computers and digital media have taken on an increasingly important role in education, encompassing presentations, Web pages, PDFs, spreadsheets, digital video, and podcasts. But although these multimedia resources help engage students, they can also require large amounts of storage space.

Unavailable storage was a problem for the Shanghai Community International Schools (SCIS), three college preparatory schools in Shanghai, China. By spring 2007, the schools' outdated, overburdened storage infrastructure had no space available for new data. Restoring lost or damaged files was difficult and time-consuming, with centralized data backup taking five or six hours and failing about half the time.

"Our old setup just wasn't working anymore," says Jerry Tang, systems supervisor at SCIS. "Our teachers and students always need to store things like video and audio files on the server, but the hard drive wasn't big enough. A lot of people were being disappointed." Meanwhile, he had to shuttle between the three campuses to back up data on a removable 300 GB USB hard drive, which introduced physical and security risks. Clearly, SCIS needed a more stable, scalable storage solution, at an affordable price, that would be easy to configure and ready to use before the 2007-2008 school year began in late August. The solution also needed to support a system-wide upgrade from the Microsoft® Windows® 2000 Server OS to the Microsoft Windows Server® 2003 OS.

DELL PROVIDES PLANNING AND INTEGRATION SUPPORT

In spring 2007, Tang began looking at network attached storage (NAS) solutions that could help ease management and meet his storage needs. He considered storage from both Adaptec and Dell, and soon rejected Adaptec Snap Server because it runs a version of the Linux® OS that he felt was too high maintenance compared with Windows.

The cost-effectiveness of the Dell hard drives was a key factor in his decision to choose Dell—Tang had projected data storage for SCIS growing from about

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Systems supervisor at Shanghai Community International Schools
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600 GB in early 2007 to 1 TB by the end of the year, and ultimately even up to 24 TB. But what really drove his decision was the planning and integration support from Dell and Dell partner TSI. Tang comments that in his area, storage from Adaptec and other leading vendors was sold only through distributors, who generally were not experts on the products. The Dell pre-sales support team, in contrast, had worked with SCIS before and were knowledgeable about Dell products, including whether they would support his choice for backup and antivirus software. “[Dell] had the comprehensive knowledge needed to answer all our questions,” Tang says. “They understood our needs and came to us with a plan showing which product would work for which purpose.”

In June, Tang decided on a solution. For the primary SCIS data center, he chose a Dell PowerEdge 2900 as the e-mail server and a PowerEdge 4210 rack enclosure, which took up approximately 40 percent less space in the server room. The other two SCIS campuses would use twinNAS arrays comprising a Dell PowerVault NX1950 networked storage solution and a PowerVault MD3000 Internet SCSI (iSCSI) storage array. A PowerVault TL2000 tape library at each campus supports fast, easy-to-use automated data backup, while Dell OpenManage™ Server Administrator provides remote management and

configuration and Dell Silver Enterprise Support helps troubleshoot hardware and software issues.

The products were shipped in early July and went live within two weeks. Installation and integration with the existing servers went smoothly, and Tang even had time to oversee the concurrent upgrade to Windows Server 2003.

DELL SOLUTION SIMPLIFIES MANAGEMENT AND BACKUPS

The new Dell solution has made the IT infrastructure at SCIS much simpler and easier to manage, Tang says. The Dell OpenManage software lets him remotely check work status, resource usage, and temperature levels for computers at each school. In addition to reducing his travel between campuses, Tang spends approximately 60 percent less time on storage administration, even though the storage space has doubled and the amount of data storage has increased by half.

In addition, the backup failure rate has dropped from almost 50 percent to about 1 percent. The automated features of the PowerVault TL2000 tape library and Symantec Backup Exec enable Tang to schedule full backups every two weeks and differential backups every workday, rather than whenever he could fit them in. In addition, the time required to restore an accidentally deleted or damaged file was reduced from several hours to

15–30 minutes—a metric put to the test when Tang had to perform three data restores in one day, including a principal’s vital spreadsheet for scheduling classes for the coming year. “He was quite anxious. But I felt confident and relaxed about getting it back, because I knew we had a stable tape backup,” Tang says.

DELL OFFERS SCALABLE, HIGH-PERFORMANCE STORAGE

Students and faculty at SCIS appreciate the new infrastructure. In the first month of the new school year, SCIS added another 100 GB of data to the 600 GB of data already stored. Teachers now have a central data store for an unlimited range of digital resources to plan and implement lessons because of the extra storage available with the PowerVault NX1950 and PowerVault MD3000 systems, Tang says. The storage platform also can be scaled out for years ahead, not just for terabytes of data but for future upgrades, networking, and clustering.

The value Dell provides to SCIS is not just higher transaction speeds, increased storage, and a reduced administrative burden, Tang says, but the simplicity of working with a single vendor and receiving trustworthy technical support. He expects the solution to pay for itself within six months. “Throughout Shanghai, the biggest city in China,” Tang says, “I couldn’t find another storage solution as comprehensive as Dell’s.” 

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