

Iowa School for the Deaf streamlines its infrastructure with the System i platform

“C” is for Consolidation

BY JIM UTSLER

The K-12 educational experience is filled with precocious preschoolers and serious soon-to-be grads. Many look back upon this odyssey with nostalgia, remembering that first day in class—the new kids, the new teachers, the new tasks. Things are no different for deaf students attending specially designed schools. Although they may be unable to hear their teacher’s voice or the ringing of the end-of-class bell, they experience the same joys and challenges as their hearing counterparts. And the learning experience is much the same—with whiteboards, textbooks and pop quizzes.

Similarly, the behind-the-scenes IT infrastructure that supports their efforts is essentially the same. There are servers, clients and desktop computers, all running software that aids in creating and presenting hands-on experiences during the learning process. The Iowa School for the Deaf (ISD), for example, has standard desktop systems to help students as they learn, but the school also has an IBM* System i5* 520 working in the background.

Up close

Customer: Iowa School for the Deaf

Headquarters: Council Bluffs, Iowa

Business: Preschool-12 education provider serving deaf students from Iowa and Nebraska

Hardware: An IBM System i5 520, three Integrated System x Servers, an Integrated System x Adapter and a TotalStorage 3581 Tape Autoloader Express Model

Software: Backup Recovery and Media Services (BRMS) for iSeries, CMBS/Jenzabar campus-management software, Pearson/AltonaEd Student Information and Performance Systems, Windows Active Directory, SMTP gateway software

Challenge: Streamlining the infrastructure to enable it to be run by a single IT person

Solution: Upgrading its AS/400 server for a System i5 520, replacing its old Windows servers with Integrated System x Servers and an Integrated System x Adapter and automating backup operations with the 3581 Tape Autoloader

This System i* platform has helped simplify operations for the organization's single IT manager, allowing her to administer what could be a clunky IT infrastructure. Since adopting the System i platform, with its three IBM Integrated System x* Servers (IXSs), an IBM System x platform attached via an Integrated System x Adapter (IXA) and an IBM TotalStorage* 3581 Tape Autoloader Express Model, ISD's maintenance and support costs have been reduced by 30 percent and its backup times by 50 percent, according to Guadalupe Knight, the school's former IT specialist. (Note: Knight left the school's employ shortly after this interview was conducted.) By any measure, that's a great sign.

The Go-Ahead

Established 151 years ago, ISD is a specialized school in Council Bluffs, Iowa. As part of the Board of Regents of three Iowa colleges (Iowa State University, the University of Iowa and the University of Northern Iowa) and two special schools, it services about 110 Iowa and Nebraska students from preschool through 12th grade.

Wanting to serve its students, faculty and staff more efficiently, the school began looking at alternative IT solutions. These potential solutions included not only the System i platform, but also Windows* technology-based systems. But as Knight researched various options, she came down on the side of the System i solution. "I was looking at it from a return-on-investment point of view," she recalls. "For us, that return on investment came in the form of stability and ability. So it wasn't simply a matter of money, but also the capabilities of the System i platform." These capabilities allowed ISD to operate in a single-view environment, with the System i platform acting as the administration and management hub.

Before moving to this new IT environment, the school used two stand-alone Intel* processor-based servers and an older AS/400* model. One of the Intel servers, according to Knight, "was used for the syslog to hold all of the files from the firewall, and the other one was used as an SMTP gateway." The older AS/400 system hosted the school's e-mail system and business programs, which, Knight says, "were very critical for us."

And, indeed, access to the school's systems is critical to its operations. This applies not only to its back-office applications, including the CMBS/Jenzabar campus-management software, but also its Web-based applications, including e-mail, voice over IP (VoIP) and an Internet site. Because ISD is a residential school, these Web-based services are vital to its operations, with students and their parents, and teachers and staff needing to keep in touch with one another on an ongoing and persistent basis.

Unfortunately, this environment was somewhat unwieldy—especially the Windows servers. "They were always going down," says Knight, who, following the loss of a backup IT

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staff member, was the school’s only IT employee before she left her full-time position to become a consultant for the organization. “It was one of those situations where I couldn’t even take a vacation,” she says. Similarly, “I was coming in almost every weekend to make sure the infrastructure was up and running and people could get access to it,” she recalls. “So, because I’m only one person, I needed to centralize all of my applications on a main server, and I needed to be able to manage the system both from my office and remotely.”

A New Solution

Working with IBM business partner MSI Systems Integrators, the school quickly moved from its older operating environment to the new one, jettisoning the stand-alone Intel technology-based servers in favor of the IXSs and System x platform integrated with the i520. “All it took was for me to explain to the superintendent that all the money we wasted on downtime could be saved by moving to the System i platform. With that decision made, it only took about a month to get everything switched over,” Knight says.

This included a new storage environment. Concurrent with its consolidation effort, the school decided to deploy an IBM TotalStorage 3581 Tape Autoloader Express Model storage device equipped with two data cartridges. The new tape drive’s storage capacity is 1.6 TB, which gives the school plenty of room to flex, especially when compared to the paltry 2 GB of storage it previously had.

And because all of ISD’s storage management is handled from the System i platform, the school no longer has to jump through hoops to perform backups. Whereas in the past, each server had to be backed up individually, all of the Windows data can now be backed up centrally from the System i platform. This, coupled with the addition of a faster tape-storage device, has allowed the organization to cut its backup times in half. “I don’t have to go to each server and tell it, ‘I need to back up this system to this tape.’ Instead, I can have BRMS (Backup Recovery and Media


Services for the iSeries* system) do it all at once for me,” Knight says.

The IXSs and the IXA are used for a variety of purposes. Of the IXSs, one runs Microsoft* Windows Active Directory and file-print and syslog software. A second supports the school’s external Web site. And the third runs school-dedicated software, such as Pearson/AltonaEd Student Information and Performance Systems (SIPs), as well as SMTP gateway software. The IXA runs terminal services and may eventually be deployed as a Citrix server.

After the migration to this new and updated System i environment was completed, which was in late 2004, Knight received nothing but kind words from users. According to her, “I had so many people come up to me and ask, ‘What have you done? The system hasn’t gone down, and we haven’t had any problems.’ You can’t get many better compliments than that.”

Around the Clock

As a result of all of these IT changes, the school has significantly reduced its maintenance and support costs, trimmed its backup window, improved its overall total cost of ownership and freed up half of its computer-room floor space.

“What we’ve created,” says Knight, “is an environment that one person can manage. And this is important because we have to be up all day, all the time. Our students, being campus residents, need to have access to e-mail and applications around the clock. Learning, here, doesn’t end just because the school day is over—it goes on around the clock.” 

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