success story

hp invent

schools improve
reliability,
cut costs with hp
thin client solution

"standardizing, streamlining and centralizing
were among the main advantages we saw
by moving toward the compaq evo
thin client t20 on hp proliant servers.
we are fully committed to this solution."

ray reitz,
chief technology officer

The Chapel Hill-Carrboro City Public School system serves more than 10,000 K-12 students with two high schools, four middle schools and eight elementary schools. Located near the main campus of the University of North Carolina and the Research Triangle Park, the school district is recognized among the highest achievers in the U.S.

To help maintain that elite status, Chapel Hill-Carrboro City Public Schools knew it needed to create a high-achieving computing infrastructure — accessible and efficient without busting budgetary constraints.

challenge

"We were looking at ways to increase reliability within the district, standardize applications and desktop configurations, and centralize our support and maintenance. We also wanted to reduce the labor needed to support our IT environment," says Ray Reitz, chief technology officer, Chapel Hill-Carrboro City Public Schools.

"Unfortunately, the IT environment we had was what I called 'The Smithsonian Institution of Computing' — anything from 286s to the latest Pentium," Reitz says. "Some of our technicians were supporting buildings with 20 or more computer operating systems and more than 30 models of desktop computers, and it just became very difficult to support that kind of environment."

solution

To complement and extend its educational leadership, the district chose a technology solution that Reitz believes will bring significant savings in time and money to the district: thin client computing featuring Compaq Evo T20 thin clients connected to HP ProLiant DL360 servers. Today, Chapel Hill-Carrboro City Public Schools is one of a growing number of K-12 school systems in the U.S. to adopt the thin client platform.

"We have been very satisfied with the reliability of our server technology and wanted to continue with that platform. The ProLiant servers have a proven track record and are very scalable." Reitz says. A conference on technology and learning that coincided with the district's strategic technology planning effort convinced Reitz and others to focus on solutions that were simple, reliable and supportable.

"When we saw the thin client model demonstrated, it fell in line with all of our goals," Reitz says. "An overriding determinant was finding a system for students and teachers to connect to their work and applications from home. With the addition of Citrix Systems' server application software, we were able to provide that linkage."

Connecting to the district's server farm through an Internet Service Provider, faculty and students enjoy the same desktop functionality available at the schools, with exact replication of files and available applications. Each user's files are password protected, and the data are backed up every night. "It's very secure and we stress that to increase the comfort factor with our students and teachers," Reitz says.

From a two-school pilot program begun in late 2001, the district's thin client rollout currently encompasses all of its secondary schools — two high schools and four middle schools — as well as an elementary school and remote administrative offices. Approximately 220 Compaq Evo T20 thin clients are in use. More than 1,000 thin clients and legacy computers are connected to more than 40 HP ProLiant DL360 servers for applications and 10 HP ProLiant DL370 servers for data storage. The district has also standardized on HP LaserJet printers, and relies on local HP authorized service partner 4Front Systems to help keep things running smoothly.

"We have 15 people on the district's technical staff and about 4,000 computers," Reitz notes. "If you go by the industry standard of 50 to 75 workstations per technician, we'd require 40 or more technicians. But it's difficult to justify additional staffing in the current economic climate, so our approach was to address what was causing this great need for tech support. And we knew about the reliability of the ProLiant servers and that they would run for months and months without any downtime."

results

For faculty, students and administrators used to traditional desktop computers, the small size and sleekness of the Evo thin client were eye openers. "When we showed them all the Evo can do, people

were impressed," Reitz says. "We are fully committed to this solution and pushing the envelope on what you can do within the thin client environment."

Establishing home connectivity and the capability to share resources were top priorities for the district as it evaluated the thin client platform, and Reitz says they've accomplished those goals while also achieving the highest-available levels of reliability and access. "There have been no significant issues on the hardware configurations — they have been rock-solid," Reitz says. "The thin client platform has provided a new level of reliability for the school environment."

"When I first came here, people talked about having to reboot servers every couple of days — it was just accepted," Reitz says. "From my experience in other computing environments and collaboration with HP in the past, I knew it was possible to achieve 99.9 percent reliability on servers — the NASDAQ system doesn't need to be rebooted every week. The HP ProLiant DL360 and DL370 servers are certainly meeting that level and with the T20 thin clients having no moving parts, there's just not much that can go wrong."

Even an ice storm that paralyzed much of the region for more than a week didn't phase the HP ProLiant servers. "There was no power, and most schools were closed for several days," Reitz says. "Our servers are configured to smoothly shut down when power is lost, and as soon as the power came back, so did the servers. Power came back on a Saturday, and when we came in on Sunday all of the servers were back up and ready for students."

teachers see advantages

That level of reliability and availability is helping the district's teachers do their jobs better, too. "I'm able to do a lot of work from home as well as at school and that's been very advantageous," says Paulette Scott, a Smith Middle School social studies teacher.

"Space-wise, the thin clients are very convenient because they don't take up a lot of room in the classroom, so students can easily write as well as use their keyboards," says Berkeley Gadbaw, a Smith Middle School science teacher.

"The advantage of the system is that all of the students have their own folder. As a teacher I am able to access those folders in case I need to check on a project or edit something," says Mary Ann Maney, a Smith Middle School math teacher. "If I could set up all of my teaching from a computer I would probably do that, because it's fun for them and it's fun for me."

"With the old computers, the technology was never up to date," says Amy Herring, a Culbreth Middle School social studies teacher. With Evo thin clients, free firmware upgrades for the life of the device enable IT managers to keep up with the latest technology. Applications and storage, all at the server level, can be upgraded just as easily by the network administrator. "Students now have better access, at school or at home, and this has improved their knowledge base and the types of projects they can do," Herring says.

cost cutters

The anticipated cost savings are also being realized, even in the early stages of deployment. "By mid-year it was already very clear to us that there were fewer trouble tickets coming from the thin client schools compared with the schools that had fully loaded workstations," Reitz says.

"There was a big reduction in what can go wrong with the individual workstations, and our techs are able to solve most of the issues at the server level. Sometimes they can solve issues remotely and not even have to go to the school, which is very efficient," he says. "It's clear the thin client solution is reducing our support costs and increasing the uptime of the applications for our users."

The Compaq Evo Thin Client T20 also makes the grade when it comes to power consumption. A study demonstrating that thin clients require just 25 percent of the power of a fully loaded desktop PC was a factor in deploying the units at the district's new Smith Middle School — an environmentally friendly facility complete with solar lighting and water reclamation systems. "Increased efficiency and decreased support and power requirements are extremely important to us," Reitz says.

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