HP Networking technologies help Gilbert Public Schools connect to millions in savings

After careful competitive analysis, Phoenix-area school district selects HP to bring benefits of reliable broadband networking to students, teachers and administrative staff

GPS EXPECT SUCCESS Gilbert Public Schools

"Given the two competitive options, the choice to go with HP Networking was crystal clear."
– Barbara VeNard, Assistant Superintendent of Educational Services, Gilbert Public Schools

HP customer case study: HP E8200 zl Switch Series, HP E5400 zl Switch Series, HP E3500 yl Switch Series, HP Networking E-MSM760 Mobility Controllers, HP Networking E-MSM422 Access Points, HP Networking E-MSM317 Access Devices, HP PCM Plus 3.1

Industry: education

Objective

Upgrade aging network throughout schools and administrative facilities to increase bandwidth, improve security and expand wireless coverage for easier and more reliable access to advanced teaching and administrative applications and digital tools

Approach

Conduct competitive vendor analysis using disciplined requisition process

Business technology improvements

- Increased network bandwidth from 1 Gb/s to 10 Gb/s
- Established ubiquitous wireless broadband access at all locations with 802.11n standard
- Gained multicast capabilities for broadcasting video and other media throughout network
- Acquired "single pane" view of network for easier management

Business outcomes

- Saved more than $2 million compared to project quote from Cisco Systems
- Improved network dependability for critical teaching and administrative tasks
- Provided "anytime, anywhere" broadband access to multimedia for students and teachers
- Increased access to online multimedia for teaching and advanced applications for efficient administrative operations

As Barbara VeNard found out, upgrading a network can sometimes require changing direction.

VeNard, the assistant superintendent of educational services at Gilbert Public Schools in Gilbert, Arizona, oversees the school district's technology operations. In 2009 Gilbert had the money to upgrade its school network, thanks to a seven-year, $49 million voter-approved technology investment fund.

Gilbert, a suburb of 200,000 people southeast of Phoenix, was named one of the best places "to live and learn" by GreatSchools.org. Its school district is the fourth largest in the state with 38,000 preschool, elementary and high school students, 2,300 teachers and 110 administrative employees.

In 2009 it was evident to all that the school district needed to modernize its eight-year-old local area network (LAN) that supported Gilbert's 40 schools and two administrative sites. Occasional network outages, dated software, security concerns and spotty wireless coverage was keeping the district from taking advantage of the many communications advances of the past few years.

"It was frustrating for teachers to plan a great lesson and then not have the access to the network they thought would be there," VeNard says.

Getting competitive

What was less clear, however, was which networking vendor the school district should use.

When it came time to determine the networking vendor for the upgrade, Gilbert's technology services department initially wanted to stick with Cisco Systems, their current supplier. After eight years, the IT staff was comfortable with Cisco products.

But VeNard, a veteran district administrator, knew all too well that major purchases made with the public's dollar cannot be done without careful, comparative analysis. "We don't even buy textbooks without checking at least two vendors," she says.

And with the original rough estimate for the project at $8 million, VeNard reasoned the network upgrade absolutely warranted investigating another competitive option.

In addition, when discussion of the project began, school spending was a particularly sensitive issue. Though voters approved the special technology funding, the school district faced a $26 million deficit because of the recession. "These were taxpayer dollars, so we had an obligation to ensure we were getting the best deal possible—even if we already had the money in hand," VeNard says.

Selecting due diligence

After discussing the issue, VeNard and the school district's technology services director decided that HP would provide a comparable alternative to Cisco's offerings. The technology staff was impressed with the quality and reliability of the HP products it already used, such as its servers and printers.

To assess the two companies, VeNard set up a review committee that included members from the technology and curriculum departments and district administration. She also hired an outside consultant to provide a third-party assessment, as well as referencing reports from leading technology consultancies, including Gartner. In addition, VeNard checked with other school districts that had switched to HP Networking equipment.

"After looking at all the information, it was apparent that there would be no 'material difference' to the end-user whether the network ran on HP or Cisco gear," VeNard says. "So given the two proposals, the choice was crystal clear."

HP's price on the equipment costs for the project was $2 million less than Cisco's, roughly a 60 percent savings. Combined with HP's lifetime equipment warranty and free firmware and software upgrades, the school district was also able to lower its projected total cost of ownership (TCO) for the new network.

"There it was in black-and-white," VeNard says. "I couldn't justify recommending we spend an extra $2 million just to stick with our previous vendor. For every dollar we can save by using HP Networking technologies, another dollar is available for classroom technology that goes into the hands of students and teachers."

Ubiquitous broadband

The project work started in May 2009 and lasted 13 months. The network is made up of HP Networking E8212 switches for core connections, E5400zl and E3500yl switches for edge functions, and E-MSM422/317 wireless access points with HP E-MSM760 wireless controllers.

The HP team upgraded one school at a time, swapping out old gear for new over a weekend. On the following Monday, when students and teachers returned to their classrooms, the new network was waiting for them.

Powered by HP Networking E-Series switches, Gilbert Public Schools' network is now providing a host of benefits, including increased bandwidth from 1 Gb/s to 10 Gb/s. Such speeds support lightening-quick access to most any kind of application or communication option, such as video, interactive graphics, and audio streaming.

The network project also included a new wireless system at all sites, providing ubiquitous broadband connections anywhere on each campus. Based on the new 802.11n standard embedded in HP Networking MSM series access points and controllers, the wireless network can even support high-quality video streaming on mobile devices, including laptops and smart phones.

With the new network in place, Gilbert's students, teachers and administrators are using the Internet and digital communications to their full potential. Now, students and teachers can easily view multimedia course material online, listen to podcasts, or video-conference with scientist or students around the globe. Some high school teachers, for example, are looking into developing "flat classrooms" that make use of Web 2.0 technologies to integrate courses with classrooms in other countries.

Administrators are also benefiting from the new network. Thanks to HP's full-featured switches, the network supports multicast technology, which allows the school district to easily "broadcast" video programs and podcasts throughout the district or run videoconferences, such as providing administrative updates to teachers and staff, or explaining new policies to students.

Also, thanks to the network's reliability and bandwidth, the school district has been able to begin upgrading its student information system from an aged command-line "green screen" application to one with a graphical user interface and modern database design, making it much faster and easier to process and access student records.

The expanded security features on the HP network are allowing the school district to establish a "guest" network for teachers – and someday possibly students – to safely log-on using their personal laptops, smart phones or iPods. Such access will help teachers better balance work and home lives by making it easier for them to work outside of the classroom.

"We simply couldn't support any of these capabilities with our old network," says Ward Heinemann, network manager for Gilbert Public Schools.

Heinemann adds that the HP network is making life better behind the scenes for his staff. Besides greatly improving reliability and minimizing operational headaches, the new network includes other benefits. For example, HP's sophisticated centralized management application, HP PCM Plus Network Management, offers a "single pane" graphical interface for easily monitoring, analyzing and controlling the district's entire network.

"That alone was a huge improvement from our old network," he says.

VeNard adds that the HP engineering team's great efforts during the project helped everyone become more comfortable with the school's new networking vendor.

HP engineers, for example, discovered a problem with the chip set of some of its wireless access points. Without reservations, the team pulled all the affected access points and replaced the chip sets immediately and without any cost or inconvenience to the school district.

Though finding the best network vendor for her school district required extra effort, VeNard says the choice of HP has paid off – literally – for tax payers, the school district, and, most importantly, its students.

Company Profile

Gilbert Public School District serves the surrounding area of Gilbert, Arizona (pop. approximately 200,000), a southeastern suburb of Phoenix. The district includes almost 40,000 students, 2,300 teachers and 110 administrative employees in 40 schools from kindergarten through high school.

Customer solution at a glance:

New, highly reliable wired and wireless broadband school district network for anytime, anywhere access to the latest advances in computing and communications applications and services for students, teachers and administrators.

Primary applications
- Educational media and communications tools
- Teacher, student and parent communication tools
- Administrative systems for employee, teacher and student management

Primary hardware
- HP E8200 zl Switch Series
- HP E5400 zl Switch Series
- HP E3500 yl Switch Series
- HP E-MSM760 Mobility Controllers
- HP E-MSM422 Access Points
- HP E-MSM317 Access Devices

Primary software
- HP PCM Plus v3.1 Network Management

HP Services
- Provided through Classic Networking, an HP Networking Master Partner

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