Our network barely had a wireless presence before, and now it’s designed to handle up to 10,000 devices. It’s like we’ve gone from a Model T to a Ferrari in one year.”

–Kameron Ball, Director of Technology, Clinton Public Schools

A leader in the Mississippi and the greater Southeast education landscape, Clinton Public Schools takes a step into technology leadership with a new wireless network and BYOD initiative. The HP Networking solution, deployed by HP partner Next Step Innovation, takes the district from Scantron forms to simultaneous, district-wide online testing, and brings wireless capacity from zero to 10,000 in a year’s time.
Excellence is not optional

Clinton Public School District has a motto: Where Excellence is the Only Option. It’s a statement that applies to what goes on in the classroom as well as the data center. Recognized for leadership in education in its home state of Mississippi as well as the greater Southeast, the K-12 district is now leading the way in a new field: technology.

The district recently announced a digital learning initiative to foster a holistic approach to personalized, digital learning, where technology skills are built into the foundation of education. Phase one of the initiative saw Clinton Public School teachers and certified staff enabled with Apple MacBook Pro laptop computers preinstalled with applications and software key to the schools’ curriculum.

Phase two, now underway, sees the district’s students equipped with portable digital devices—Apple iPads for younger students and Apple MacBook Air laptops for students in higher grades.

Preparing for the big test

For a school district that had no wireless network coverage until last year, the initiative meant building a network infrastructure from scratch to handle traffic from district-issued devices as well as a multitude of personal wireless devices such as smartphones and iPods.

According to Kameron Ball, director of technology for the district, one of the drivers for the initiative was an upcoming deadline for the Common Core State Standards Initiative, which aims to clarify and unify student and teacher expectations across the country. “Each state has tests for accountability standards and graduation,” Ball says. “The problem is that all the states use different measurements—there’s no way to compare Mississippi to Alabama.”

With a 2015 deadline, the district knew it needed to begin piloting the testing platform—similar to an online SAT test—in the 2013-14 school year. “We don’t want to roll out a new network and technology initiative three months before we need to go live,” Ball explains.

From Scantron to networked testing

So the district evaluated its technology environment and didn’t like what it discovered. “We found out that 75% of our computers were older than our lower elementary school students,” Ball says. “With the environment we had, it would have taken four and a half weeks just to rotate all our students through the computer labs in order to complete the testing. That’s a bad testing profile from a number of perspectives. We know that gaps in testing lead to unfair conditions. It would mean the kids at the end of the alphabet would literally have a month of extra instruction before they took the test.”

Ball knew the district was going to have to make the leap from Scantron forms to simultaneous, district-wide online testing, so they turned to technology company Next Step Innovation for answers. The team looked at solutions from Xirrus, Brocade, Cisco and HP with varying reactions. “We had some Cisco switches in our network, so we thought we should consider what they had to offer in the wireless space,” Ball recalls.

The district and Next Step Innovation performed evaluations of the gear based on the Mississippi State Information Technology Services standards. “We’re not an enterprise business, but we wanted the best technology for our needs, and it seemed to us that Cisco took their position as a networking leader for granted,” Ball explains. “When we looked at offerings from HP, we discovered we could achieve the performance we wanted at a quarter of the cost”
From zero to 10,000 network endpoints in one year

Initially, Next Step Innovation and Clinton Public Schools installed small wireless networks at four of its nine schools. Recently, the team deployed a major hardware upgrade to distribute wireless access to all the campus and office buildings in the district with the idea of building them up to accommodate a total of 4,700 students and 350 staff members.

In its main data center, the team deployed a HP 8212 zl core switch with unified wired and wireless management capabilities courtesy of the HP MSM765 zl Premium Mobility Controller, and scalable flexibility based on HP’s Intelligent Resilient Framework technology, which allows Clinton Public Schools to flatten its network and view its various network components as a single, logical device. Campuses received HP 2910 al switches—intelligent edge switches and routing via HP 5406 zl switches. Wireless access is provided by HP MSM460 Dual Radio Access Points—432 in total, both indoors and out, giving wireless coverage to all offices, classrooms and public outdoor areas of the district. “In a year, we’ve gone from a Model T to a Ferrari,” Ball says. “Our network barely had a wireless presence before, and now it’s designed to handle up to 10,000 devices. We’re just trying to stay a step ahead of the kids.”

Secure VLANs on the fly

The network was designed to be as flexible as it was secure—a concept that was quickly put to the test months after full deployment. In early 2013, the district’s Eastside Elementary School hosted an episode of celebrity chef Rachel Ray’s television show that featured a very special special guest: First Lady Michelle Obama.

The challenge put the district’s new network in the spotlight in a big way. “We had hosted special functions before, but nothing like this,” Ball relates. “The White House contacted us and said ‘We want a private VLAN set up, and we need it done in four hours,’ so the guys at Next Step Innovation helped us with the configuration and we had a secure VLAN set up in four hours.” The event went off without a hitch. “Afterward, a White House staffer said to me, ‘I don’t know who designed your network, but this is great,’” Ball recalls. “That really validated the flexibility and security we knew we’d gotten in our HP wireless network.”

Preparing for the BYOD onslaught

During day-to-day operations, the network is built to deliver separate VLANs for students, teachers and support staff. When a 1:1 initiative launches at the beginning of the next school year, the network will be put to the test of another kind.

“We’re used to thinking of end users as separate endpoints on a network, but today’s students are changing that,” Ball says. “We call them ‘screenagers.’ There is really a digital bombardment going on for teens today. Kids are surrounded by screens—televisions, desktops, laptops, tablet computers, smartphones, gaming consoles—sometimes all at once. So building bring-your-own-device (BYOD) capabilities into our network means being ready for multiple devices per-student.”

Another kind of security network

When the team announced its wireless network to the community, the district received a request from the Clinton Police Department to allow officers to access the district’s wireless services from school parking lots. “On the face of it, it seemed like a good, practical idea,” Ball says. “Police officers are always looking for a place to pull over and fill out a report, check email or get some paperwork done, so we said yes.” The gesture had the side benefit of providing additional security presence at Clinton Public Schools campuses. In light of the recent national discussion over school security, the move turned out to be a smart one. “The same wireless access points that give parents and students access to the Internet on our sports fields are now a source of extra campus security, and it doesn’t cost us anything. With all the concern about school security, it’s great to have that extra police presence on our campuses, and the officers like it too.”
A sense of ownership

Even though Clinton Public Schools entered the modern computing age in a relatively short period of time, the wide-ranging benefits of a flexible and secure network from HP have quickly proliferated. Parents can register their students online in about half the time it used to take to fill out the 20 pages of paper forms; teachers are uploading and streaming videos of lectures so students can re-watch them from home; and students are learning in an immersive technology environment full of new possibilities.

"Taking this step into a new world of wireless networking really opens up the education process to students," Ball says. "Students are already using technology in their lives outside of school. By bringing personal technology into the education process, we’re allowing them to have a sense of ownership in their education. HP and Next Step Innovations are giving us the tools and the expertise to deliver that value to our students."

Company Profile

The Clinton Public School District has long held the motto – “Where Excellence is the Only Option.” As one of only three Star school districts in Mississippi, Clinton is an educational pioneer by integrating technology into the curriculum of its nine K-12 schools. The district is in the midst of launching a 1:1 Digital Learning Initiative, which is serving as a model for other school districts throughout the Southeast. Our technology philosophy is based on a holistic approach where personalized, digital learning and technology skills are infused throughout the daily teaching and learning process.

Customer at a glance:

Applications
- Pearson PowerSchool Student Information System

Primary hardware
- HP 8200 zl Switch Series
- HP 5400 Switch Series
- HP 2910 al Switch Series
- HP MSM-802.11n Dual Radio Access Point Series

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