

CASE STUDY



OVERVIEW

The Wilton Public School district wants its 4,000 children—from preschoolers to 12 graders—to think beyond the walls of their classrooms. The District is committed to developing “high achieving, socially responsible and civic-minded” leaders who are citizens of the world. Despite efforts to embrace digital learning to support these goals, a weak network foundation impeded progress. The district decided to put together a curriculum and technology team to develop a digital learning plan. The success of the Ready Access plan rested on a reliable, forward-looking infrastructure based on Ruckus wired and wireless solutions.

CHALLENGES

- An unreliable Wi-Fi network made faculty way of digital learning
- The infrastructure was costly to own and required a lot of IT support
- There was no centralized management of the network, making it difficult for IT to troubleshoot problems

SOLUTION

- 220 indoor 802.11ac Ruckus APs
- 100 Ruckus ICX Switches
- SmartZone Network Controller

BENEFITS

- Adoption of digital learning has accelerated because everyone trusts the reliability and performance of the network
- The new infrastructure has eliminated substantial costs and freed up IT for other projects
- IT can manage the wired and wireless networks through a single pane of glass

DIGITAL LEARNING GOES FULL STREAM AHEAD

A third grader in Wilton, Connecticut, begins class by plucking an iPad from a mobile cart in her classroom. She’s learning about New England’s indigenous people, the Native Americans. As part of the assignment, she’ll create an archaeological artifact to represent life of indigenous people, record an audio description using an online voice recorder and create a QR code for an interactive museum. In another year or two, the curriculum will undoubtedly incorporate virtual reality, adding yet another dimension to the digital learning experience.

Down the hall, fifth graders are video chatting with a peer class in Africa. Students are teaching each other about contemporary energy issues in their respective countries. They’ll also collaborate on designing and building a product prototype to solve an energy-related problem.

These paint such an inspiring picture of the power of digital learning. But the reality was quite different three years ago at Wilton Public Schools.

Like many schools, Wilton Public Schools was struggling to embed technology into the school curriculum. A major stumbling block was an unreliable network infrastructure. All four schools in the district (pre-school through 12th grade) were equipped with Wi-Fi, but connections were slow and crashes were frequent. In fact, an attempt at online testing brought down the entire middle school Wi-Fi network.

Fran Kompar, Director of Instructional Technology and Digital Learning, says this kind of frustrating experience makes a lot of teachers sour on digital learning. “Teachers spend a lot of time creating their lessons plans and classroom time is precious. You can’t imagine how frustrating it can be to wait for applications to load on a slow network. And then lose connections halfway through a class. These kinds of failures can cause more resistance to digital learning. Which is why a digital learning curriculum has to stand on a solid network foundation.”

Dr. Charles Smith, Superintendent, hired Kompar and Erik Haakonsen, an IT manager, to work together to create an integrated plan for digital learning. “As students prepare to enter a “VUCA” world, the skills they need are best developed in 21st century ready access environments where a wide array of digital and other tools are at their disposal. Such environments maximize student agency and reinforce critical capacities like making meaning and matching medium, message and audience. Ready access environments empower students and enable them to unleash their creative capabilities,” states Smith.



“We knew that if we did our job right, the new infrastructure would be invisible. We’ve moved from constant challenges with using technology to a problem-free infrastructure. The speed with which students and faculty are adopting digital learning is, in part, a testament to the solid—yet invisible—foundation we’ve built.”

ERIK HAAKONSEN

IT Manager
Wilton Public Schools

Kompar is an expert in digital learning curriculum design and Haakonsen has overseen infrastructure design and operations at two other school districts. “This was the first time I had seen curriculum and technology development woven together like this,” says Haakonsen. “It showed amazing foresight by the school district.”

Kompar and Haakonsen agreed on the principle requirements for a network infrastructure. “A technology infrastructure should be like the air that you breathe—teachers and students shouldn’t have to think about it. Which means reliability and performance are paramount,” says Haakonsen. “The infrastructure also has to support an unknown future, stretching out years. We can predict more devices and applications, of course, and even technologies like virtual reality. But the infrastructure has to take us beyond what we can even imagine today.”

Looking to update the network with the best solution, Wilton Public Schools turned to partner, TBNG for help in deploying the Ruckus products. “Ruckus met all of our requirements for performance, reliability and scalability. They were also far more affordable than anyone else. And Ruckus is the only vendor that offered a unified infrastructure of APs and switches that we can monitor and manage through a single pane of glass.”

THE RUCKUS INFRASTRUCTURE SAVES, SCALES AND SPEEDS THINGS UP

“The existing wired infrastructure was based on chassis switches, which should provide a lot of flexibility. But these chassis switches just gave us headaches. They cost too much to own and took too much time to manage,” says Haakonsen. The district had to stock expensive spare blades in every location and the cost was only partially reimbursable through the e-Rate program. “Ruckus stackable switches give us the equivalent of a virtual chassis. We can keep one spare anywhere and use it with any switch.”

Then there’s cabling savings. The Wi-Fi network uses Ruckus R720 802.11ac APs. IT was able to connect every Ruckus AP at 2.5 Gbps using the district’s existing Cat6 cabling. The ICX switches provide higher PoE (up to 90 watts per port), which saved on new Wi-Fi wiring. The savings more than funded coverage in areas that had no Wi-Fi previously, like the gymnasium. “Ruckus technology handles open spaces like no one else,” says Haakonsen. “We have three Ruckus APs in the gym, which easily covers a normal crowd of 500 people. But we’ve had more than twice that number of people with capacity to spare.”

Haakonsen had to meet a tough schedule—only three weeks to install the new infrastructure. “My experience with Ruckus has been fantastic. We deployed about a hundred switches in 27 closets across the district, as well as APs in every classroom, the gym and other common areas. Everything was in place before the new school year began.”

DIGITAL LEARNING GOES FULL STREAMING AHEAD

Within the first two weeks, over 1,000 Chromebooks were given to all students in the middle school (to use in class and take home). All of the younger grades had carts of Chromebooks and iPads in every classroom to use on a daily basis. The high school has district-provided devices as well as a Bring Your Own Device (BYOD) policy. “We already have over 9,000 personal devices and over 14,000 wireless devices registered across the district,” says Haakonsen. And each month, students produce about half a million documents using a wide variety of



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Director of Instructional Technology and Digital Learning
Wilton Public Schools

Google suite applications, all flowing smoothly across the network.

Most of the hands-on work with switches and APs is a thing of the past. “We can remotely configure almost everything using the Virtual SmartZone network controller,” says Haakonsen. “Our network is larger and more powerful, but managing it takes very little of IT’s time.”

Which frees up time to focus on other projects. “We’re moving ahead with projects that we thought were years in the future,” says Haakonsen. The team is in the process of putting IP surveillance cameras and building automation systems on the new network, replacing old equipment and siloed systems. “We can use the new infrastructure to strengthen security and student safety, as well as better reduce energy consumption.”

The district can now support online testing in one day—not just in a single school but district-wide. The Ruckus network handles everything with ease. “Before Erik and I put together Ready Access, there were constant complaints about connectivity, wait times and crashing. Now we have a foundation that everyone can trust,” says Kompar. “When students and teachers have confidence that everything just works, they’re willing to take risks and go outside their comfort zones.”

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