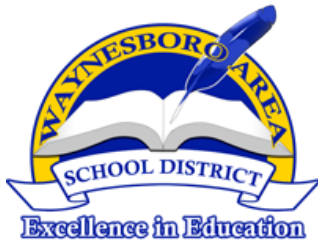# COMMSCOPE®

Waynesboro Area School District

District showcases innovative digital programs on CommScope Ruckus edge networks

OVERVIEW

Waynesboro Area School District in Pennsylvania educates about 4,400 K-12 students. The district views technology as an integral part of its instruction models. Every Wednesday, the IT team, administration and faculty leaders meet to discuss current and future educational initiatives that depend on technology. For over a decade, Waynesboro has used Ruckus, now part of CommScope, to provide reliable, high-performance Wi-Fi across the district. But its switch vendor failed to live up to the same standard. After evaluating other vendors, IT chose Ruckus ICX switches, which met all of its requirements for reliability, flexibility and redundancy.

CHALLENGES

· IT, administration and faculty agreed that a reliable network infrastructure was vital for supporting a wide variety of digital curriculum projects

· The existing edge switches suffered from spotty performance and lacked redundancy

· Network management was too resource-intensive for a small IT team

SOLUTION

· 150 Ruckus indoor APs

· 100 Ruckus ICX switches

· 2 Ruckus SmartZone network controllers

BENEFITS

· The Ruckus edge network supports cutting edge programs, such as a mobile robot with telepresence and Kerbal Space Program flight simulator

· Ruckus switches deliver flexible capacity to schools and redundancy across the district

· The IT team now has end-to-end visibility and unified management across APs and switches

· The district can investigate integrating operational and informational technology, such as running building automation systems over the Ruckus edge network

Collaboration of IT and educators makes network a vital part of instruction models

A robot glides down the hallway and into a classroom. Students wave, not at the robot but at the monitor. They're saying hi to a house bound student who has battled a chronic disease for three years. The robot enables him to attend his classes without leaving his home. Perhaps, just as important, he's interacting with his teacher and classmates rather than studying in isolation.

"This is very cutting edge for a small suburban school district," says Nicholas Erickson, Director of Technology Services for the Waynesboro Area School District. "The mobile robot uses telepresence high-definition videoconferencing to enable instructors to interact with the student. Our Ruckus Wi-Fi supports live streaming video throughout the school day. There's no signal loss, throughput problems or connectivity issues as the robot roams through the halls and classrooms."

That's just one example of digital innovation you'll find in this district. If you visit the library, you'll see eight workstations dedicated to the Kerbal Space Program (KSP). This space flight simulator enables players to direct a space program, from designing and building a rocket to calculating orbits to launches. Unlike other online gaming applications, KSP is designed so that students can complete an assignment within a class period.
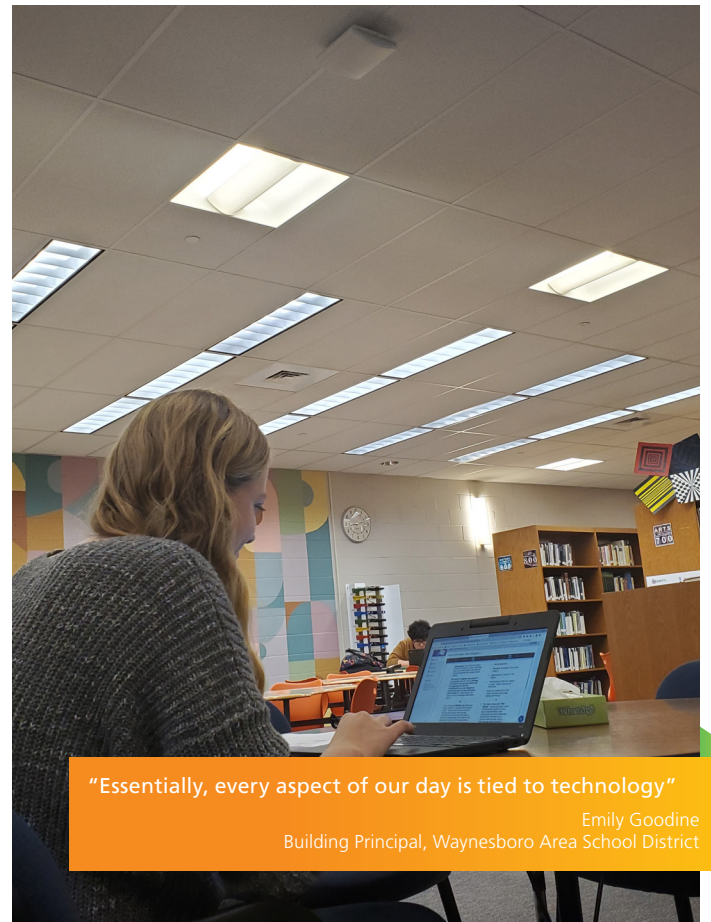
"Essentially, every aspect of our day is tied to technology," says Emily Goodine, Building Principal, Waynesboro Area School District in Pennsylvania. "Our network has become a vital part of our instruction models across the district. Teachers count on walking into their classrooms and diving into their lesson plans without worrying about connecting to the Wi-Fi. It's always there and always operating at peak performance levels."

Waynesboro Area School District has been working with Ruckus, now part of CommScope, for over 14 years. Waynesboro educates about 4,400 students annually. It has a faculty of about 500 teachers plus support staff. There's one high school, one middle school and four elementary schools. The district is in the process of adding an early learning center, employee day care, as well as a health clinic that's open to students and staff.

Like many schools, Waynesboro Area School District struggles with budget pressures. So how does its small IT team support this wave of growth and innovative digital programs?

Every Wednesday, Erickson attends a meeting with the Superintendent, Assistant Superintendent, Director of Special Education and Business Administrator. "My team is kept informed of every initiative and program that depends on technology. With E-Rate, the funding can be slow, so we have to plan as far ahead as we can," says Erickson. "But it's impossible to anticipate every type of project that might pop up, like a teacher earning a grant for a new edtech project. Which is why it's crucial that we partner with vendors that have solutions that will support us years into the future."

While the IT team has been a satisfied Ruckus Wi-Fi user for years, it was a different story with the D-Link switches. "The switches were constantly dropping packets. We didn't have the redundancy we needed," says Erickson. "And the management system was terrible."

"Essentially, every aspect of our day is tied to technology"
Emily Goodine
Building Principal, Waynesboro Area School District

Erickson's team went through an evaluation of new switches, but other vendors required that they replace their Ruckus APs. "We were in the process of upgrading our Ruckus APs, building by building. We weren't about to throw them all out and start over. It would be cost-prohibitive," says Erickson. "And, frankly, we had Ruckus for over 10 years and the reliability, performance and support was outstanding. Why would we give that up?" In the end, the IT team decided to go with Ruckus ICX switches. "The ICX switches were technically superior to anything else we evaluated. So, we ended up with the best of both worlds with Ruckus APs and switches."

Ruckus ICX switches and SmartZone simplify management while boosting power

A fiber optic network connects the entire district with a 10 GB connection to the core. Each of the seven buildings is allocated bandwidth based on need. "We can turn on 5 GB for the high school, 2 GB for the elementary schools and 1 GB for the administrative offices. If we want to change that, it takes minutes. We can do most management tasks from the central dashboard without touching the switches," says Jason Cornell, Network Administrator.

Ruckus SmartZone gives the IT team visibility from the edge to the core, which they've never had before. "We can manage the switching networking and the APs through one dashboard,"

says Cornell. "The D-Link switches used a web-based interface and CLI commands. It was a pretty antiquated, time-consuming management system. In our experience, Ruckus is definitely ahead of the curve on unified, simplified management."

The Ruckus ICX stackable switches also provide the redundancy that IT wanted. "If a switch fails, the stack automatically moves that load to other switches in the stack to handle the data. We also have redundant stacks at the core, which have automatic failover," says Cornell.

The Ruckus edge network supports major digital initiatives

Access for All is the district's name for its 1:1 Chromebook project. "Three years ago, we started in the middle schools, grades 6-8," says Cornell. "That's probably unusual, but for us it was a good learning experience. Now we're 1:1 from grades 6-10. Next year we should be deployed in grades 11-12. If you've tried to implement 1:1 on a poor network, you know it's a recipe for frustration and even failure. Our Ruckus network is taking the new demands without so much as a hiccup."

There's another innovation that IT actually suggested to the administration at the Wednesday meeting. "We have 9th - 12th grade students manning the help desk. They're like an in-house geek squad. They handle all the basic questions about the Chromebooks. That offloads IT and provides valuable experience for students," says Erickson. "In fact, students can get credit for this internship-style program."

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Nicholas Erickson
Director of Technology Services
for the Waynesboro Area School District

With its robust CommScope Ruckus network, the district is able to pursue both operational and informational technology projects. For example, Waynesboro just applied for a safety and security grant that will enable IT to install a vape detection system. The IP-based system will run over the Ruckus network. "Moving forward, we'll probably look at additional building automation integration opportunities, like wireless door locks," says Erickson.

The other initiative that launched three years ago is called First Choice, and it encompasses a bold vision for personalizing the learning path for each student. "First Choice isn't just about a new curriculum, but new learning and teaching models. With the Ruckus infrastructure we have in place, we're confident that we can support First Choice, however it evolves," says Erickson. "The company's technology and support is top notch. With the reliability of Ruckus and the wireless and wired infrastructure working together 24/7/365, we don't drain resources, we feed progress."

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