

CASE STUDY


320 APs deployed across rural school district, boosting 1:1 and remote learning







Industry

 K-12 Education

Location

 Wayne County, Pennsylvania

Products

-  Wireless LAN (MR)
-  Switching (MS)
-  Security & SD-WAN (MX)
-  Mobility Device Management (SM)

Highlights

- Deployed 320 access points across school district classrooms
- Launched a one-to-one learning environment
- Connected rural campuses within school district

Overview

Wayne Highlands School District, located in Northeastern Pennsylvania in the Pocono Mountains, borders both the New York state line and the Delaware River. At 465 square miles, the school district is about a third the size of Rhode Island.

Challenges

Due to its size and rural profile, many schools in Wayne Highlands require scalable, easy-to-manage technology. Getting fiber optics to rural areas has historically been a challenge for the school district. Wayne Highlands' Director of Technology, Scott D. Miller, arrived at the school district in 2014 and made it his mission to redesign the district's technical infrastructure and bring advanced technology to education. "Two years ago the district had many goals we wanted to realize," says Miller.

“We wanted to implement a one-to-one learning environment, and we wanted to provide robust, reliable service to students who might not have a connection at home; however, our existing network was 10 years old, and could only support basic coverage.”

Solution

Collaborating with administrative and educational leaders, Miller put together a vision for a stronger, outcome-oriented education technology environment from the ground-up.

Wayne Highlands needed a new wireless network and began to look for a holistic solution that could simplify otherwise complex configuration changes and provide a unified management interface.

The vision came to life when Miller and his colleagues discussed the district’s usage of E-rate funding. Wayne Highlands was going to receive the first year of Category Two funding, and earmarked those funds for a new, comprehensive wireless environment. Because part of the vision for Wayne Highlands was to become a “smart” school district with multiple touch points in the classroom, E-rate was the answer to bolstering their technological environment. “Our largest goal after kicking off our search was to give students and teachers cutting edge technology, no questions asked,” says Miller. “In addition to our one-to-one goals, we wanted to make sure that K to 8 children had valuable technology—in particular, wireless laptop carts—to give them more exposure to smart operating systems.”

Wayne Highlands had already established a “flipped-learning” program in its classrooms, where homework is done in the classroom, and reading and lessons (such as videotaped lectures) are conducted at home. This approach, when blended with a strong wireless network provides students with a more collaborative environment to solve problems and enables teachers to engage students more deeply.

Miller traveled to a K-12 education technology conference and noticed Cisco Meraki – a cloud-managed networking solution that delivers out-of-the-box security, scalability, and management to enterprise networks. Because he worked with Cisco for 20 years in his prior role, Miller was confident that Cisco Meraki was the best market offering for the school district. “We needed a long-term commitment from a technology partner,” says Miller. “In reality, the genius of a strong cloud-based dashboard is that you can troubleshoot with one click and move on (even from a distance), which is extremely powerful. We have a small IT team, and Cisco Meraki stood out as a solid system.”

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Director of Technology,

Wayne Highlands School District

Miller also valued the role that Meraki support staff played as the school district looked for a new network. Starting from the first meeting at the K-12 conference, the Cisco Meraki team worked closely with Miller on Wayne Highlands's technology vision. The school district decided to deploy Cisco Meraki access points, switches, security appliances, and endpoint management to supply students and teacher with a robust wireless network—all while providing IT staff with unparalleled visibility, ease of management, and control.

Thanks to the Meraki cloud-based dashboard, Miller and his staff were able to program the district's core switching and wireless access points before the products even arrived in Miller's office. Miller uploaded configurations to the dashboard, ensuring that the switches were ready to launch when the products arrived. "At the very first month, as soon as our switches were connected, the core network came alive," says Miller. "It was instantaneous—and we were ready to go." Three months later, the new network was completely ready for the next school year. Maintaining switches from the cloud meant that instead of laborious travel through the Pocono Mountains, Miller was able to manage the systems no matter his location, and his technicians could plug in necessary equipment from the other end.

Wayne Highlands deployed 320 access points—one in every classroom—to achieve high-density coverage wherever learning was taking place. Cisco Meraki radios in each AP further enabled this process by analyzing bandwidth requirements and preventing any and all bottlenecks. On top of this new classroom functionality, Miller and his team deployed voice over Internet Protocol (VoIP), eliminating long-distance calls and extra transport costs.

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Having a robust network and knowing that everything connects is priceless. We don't need manual interpretations or changes. The Cisco Meraki system is invisible, and that's what makes us so excited.

SCOTT D. MILLER

*Director of Technology,
Wayne Highlands School District*

Results

From an IT perspective, Miller and his team refocused on other priorities. Now, because access to the Internet is fast and reliable, most of the team's time is spent discussing new learning applications and curriculum, and is less consumed with network issues. "While we're thrilled with what our staff can do, the benefits extend way beyond our team," says Miller. "Our new system allows us to call a home and touch base with a faculty member, staff member, or student's family. The return on investment for children is just remarkable. Our students no longer have to plug in to the network. Now, they can be wireless instantly."

Inside the classroom, learners at all grade levels have benefited from Wayne Highlands' newly controlled network. Faculty have incorporated new, vigorous education technology curriculum into K-12 lessons and have added online videos, digital worksheets, and remote access to instructional content. With these new benefits, elementary learners can now trace letters and read stories remotely.

Next up for Wayne Highlands is an expansion of the school district's one-to-one program, which is being fueled by the new network.

"While we are making progress in new areas, like one-to-one learning and security, our primary focus is ensuring that our students have what they need to succeed," says Miller. "We want to provide our students with everything that's available in technology and curriculum, and allow them to make great decisions for their future, and ultimately, their career path."

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