Executive Summary

Industry

- K-12 Education

Environment

- 7,500 Students
- 900 Staff
- 3 IT Techs
- 8,000 Guests
- 19 Buildings

Technology Needs

- An efficient, reliable network infrastructure
- Exceptional network monitoring capabilities
- Scalable infrastructure built to support 1-1 computing
- Insight into network performance and usage and allow better, more proactive troubleshooting

Extreme Solutions

- ExtremeSwitching™
- ExtremeWireless™
- ExtremeCloud™ IQ
- ExtremeAnalytics™

Results

- Reduction in operating costs
- Reliable Wi-Fi connectivity with the ability to support its new digital learning programs
- Effectively and efficiently monitor the network
- Educational continuity during the COVID-19 pandemic

Walker County Schools Switches to Digital Learning

The Walker County Board of Education manages a district of 16 schools with 7,500 students and more than 900 employees in the foothills of the Appalachian Mountains in Alabama. Its goal is to foster an educational environment that provides students the tools they need to be successful in life in the 21st century.

That's a challenging mission under normal circumstances, but the pandemic that swept the world in early 2020 created an entirely new set of challenges. School systems everywhere had to develop new technology-driven learning models to support health and safety guidelines while maintaining a high-quality educational environment. In many cases, that meant accelerating their digital transformation plans to be able to adjust rapidly.

The Challenge

For Patrick Gann, technology director for Walker County BoE, and his team of four other IT techs, that included procuring and setting up thousands of new digital devices for students to ensure all students would have access to the same content and experiences. When the pandemic began and students were sent home in March of 2020, many students were left to work off of paper packets because the system only had about 2,500 Chromebooks available. It was a project the Board of Ed had planned to implement in stages, starting with the high schools, but the pandemic forced its hand. Fortunately, with help from some Federal funding, the system was able to purchase an additional 5,000 devices to support the entire student population before the new school year began.

The bigger challenge, though, according to Gann, was on the network side because the system's existing infrastructure and tools weren't capable of supporting more than 8,000 students and staff accessing network resources during the course of each school day, along with other connected devices. That includes other digital learning devices, like Promethean boards, Viewsonic panel displays and digital learning applications, as well as surveillance systems, printers, HVAC systems, and more. It also included users in three additional facilities, including the central office, transportation building, and a storage facility.

Knowing the existing Extreme Networks' 1-Gig switches wouldn't be able to handle the new network load, the system quickly developed a plan to upgrade to a new, next-generation infrastructure from Extreme.

The Solution

While the county put the project out for bid, Gann says that, Extreme Networks ended up being the only solution that made sense from a technology perspective and also because of the outstanding service and support his team had always received.

The board of education put in a new Extreme Extended Edge switching solution, including V400 edge switches that were tied into X590 and X465 aggregation switches.

It also added new Extreme Wi-Fi access points and now has about 750 APs on the network, including newly added outdoor coverage to support students in parking lots and other areas around the schools to provide students increased connectivity options.

"The biggest challenge was being able to view everything on the network and making sure all the switches and VLANs were working properly. We got good service out of our existing Extreme switches, but they were limited in their speed and bandwidth because they were older. We needed to prepare to increase our bandwidth."

Patrick Gann,
Technology Director, Walker County Schools

To support the new Wi-Fi network, Walker County migrated from a legacy Wi-Fi controller to the ExtremeCloud IQ cloud-based network monitoring and management solution. With ExtremeCloud IQ, Gann's team is able to see everything that's happening on the network and can drill down into individual users and devices, and even block access for specific devices or users, or certain sites or applications if needed.

"Internet usage will continue to grow from year to year and we need to be prepared. That's why we decided to change everything out – to support our increased use of technology and allow for future growth."

Patrick Gann,
Technology Director, Walker County Schools

Gann says his team is also in the process of deploying and learning to use the analytics capabilities Extreme provides, which will give his team increased insight into network performance and usage and allow better, more proactive troubleshooting.

The Results

Walker County Board of Education was the first in the state to implement a full managed services program through e-rate, as well as the first to implement Extreme's Extended Edge solution. The move to the cloud was also a first for the county.

Since launching its new network infrastructure at the start of the school year, the school system has seen an immediate improvement in its network infrastructure and ability to support its new digital learning programs. With the time savings it gains from the new ExtremeCloud IQ monitoring and management capabilities, the IT team is now able to dedicate more time to helping students and teachers with their devices, and managing learning software systems and generally support a positive experience. The network service has also proven more reliable with the new switches and access points.

The IT team has seen a reduction in operating costs, and has been able to use its limited resources more effectively, with three IT techs managing a total of 19 locations.

It wasn't an easy task by any means. Any network change can be difficult, but considering the circumstances and time frame under which Walker County had to implement a new infrastructure, it's almost unimaginable.

Gann says that, in addition to the products, service and support and service from Extreme – which he says is second to none – his team couldn't have accomplished the migration with the help of IT consulting firm Synergetics. In addition to the implementation itself, Synergetics was helpful in offering services that would be eligible for E-rate programs.

"Synergetics has been a valuable partners and I can't say enough about them. I couldn't imagine having another partner for this. I would give them a 10 out of 10 perfect score."

Patrick Gann,
Technology Director, Walker County Schools

Ultimately, in terms of Walker County's mission, is an ability to deliver improved user experiences with the ability to more effectively manage those experiences.

The Future

Now that the school system is functioning efficiently under its new learning structure, with the support of its new Extreme Networks technology, Gann says his work isn't over. Along with an advisory group comprising representatives from the different schools, he will continue to assess the environment and determine how they can deliver and even better experience for students and teachers. It will start with replacing some of the older Chromebooks – 2,000 new ones are on the way – but as teachers start to work more with 3D printing, virtual and augmented reality, and other digital teaching tools, he knows he has the infrastructure in place to enable any new innovative technologies the system decides to leverage.