About Eastern Upper Peninsula Intermediate School District

The Eastern Upper Peninsula Intermediate School District (EUPISD) is the largest geographic district in Michigan, covering approximately 4,000 square miles, serving 3 counties and 19 school districts. It collaborates with its member districts, 3 local colleges, human services providers, and business and industry to offer quality educational opportunities to all citizens.

The situation

To protect students and school employees against the spreading coronavirus, Michigan’s governor issued an executive order closing all Michigan K-12 public and private schools and requiring that students’ education must continue as fully and effectively as possible. However, at least one-third of EUPISD students live in homes with limited or no internet connectivity. As teachers began preparing online lessons, district officials looked for ways to supply internet connectivity.

Business needs - A way to enable K-12 students without home internet access to continue their schoolwork when COVID-19 closed schools.

Networking solution - Drive-up regional Wi-Fi® access points enable students to download lessons, submit homework, and continue their education.

Business value - The ability to continue teaching and learning while limiting exposure to the coronavirus.

Industry focus - Public education

Size - 6,500 students
Solution

AT&T Business helped the school district design a strategy to bring internet connectivity to its communities. EUPISD created drive-up internet access locations in schools, community centers, and other locations throughout the district. Each location has mobile routers equipped with AT&T SIMs and Meraki access points. EUPISD will continue installing Wi-Fi access points closer to where their students live. When the deployment is complete the district will have an additional 100 access points in the 3 counties it serves. Once the pandemic is over, the district will move the mobile router equipment to school buses, enabling students to access the internet to and from school. Having the access will also enhance student safety.

Sprawling district creates transportation challenges

The Upper Peninsula (UP) is the northern of the two major peninsulas that make up the state of Michigan. Its extensive coastline on the Great Lakes and large tracts of state and national forests provide opportunities for camping, boating, fishing, snowmobiling, hunting, and hiking.

The Eastern UP contains nearly 30% of Michigan’s land area but just 3% of its total population. This creates challenges for EUPISD, a consortium of 19 school districts.

The district’s 6,500 students live across 4,000 square miles, including 3 islands. “It’s 110 miles from one end of our district to the other and 65 miles north to south,” said Jason Kronemeyer, EUPISD Director of Technology. “That’s about 1.6 students per square mile.” The sheer size means that some students ride the school bus up to 90 minutes each way.

Kronemeyer knows the area well, having grown up on a UP dairy farm. After serving 4 years in the Air Force as a signals intelligence analyst, he began working as a computer technician for EUPISD. He worked on remote distance learning in 12 high schools interconnected by a regional network with AT&T services as its backbone. In that role, he helped EUPISD transform from analog to digital distance learning.

Internet access is vital for success

Nearly 50% of EUPISD students are socially or economically disadvantaged or are eligible for the national school lunch program. Many have inadequate connectivity at home. “A research study by Michigan State University showed that nearly 10% of our students do not have any internet access at home. Plus, 30-40% do not have adequate connectivity to support remote learning when away from school,” Kronemeyer said.

1 https://quello.msu.edu/broadbandgap/
Students from homes without connectivity tend to have more challenges in the classroom. “The research shows that they tend to score lower on standardized tests, have a lower overall GPA, and are significantly less likely to be interested in science, technology, engineering, or math (STEM)-related career fields,” he said.

When Michigan Governor Gretchen Whitmer closed all K-12 schools to help prevent further spread of COVID-19, the district needed to find a way to ensure that students had access to broadband internet services to continue their learning until schools could reopen.

EUPISD has a reputation for going the extra mile to benefit its students. “The work that our 650 educators are doing to ensure the well-being of our students across this region is phenomenal,” Kronemeyer said. “With regard to technical solutions, we tell the teachers, ‘We’re going to do our best to keep the technology out of the way so you can focus on the well-being of students.’”

**Leveling the playing field**

Before the pandemic struck, the district had been working with AT&T on a plan to add Wi-Fi connectivity to its buses. Even though much of the UP is undeveloped land, the infrastructure AT&T built is able to help UP schools’ technology and safety initiatives. One current plan would help level the playing field for students with no internet access at home by adding Wi-Fi connectivity to about 100 district school buses. “With mobile Wi-Fi, students could use that hour-and-a-half bus ride back and forth to school for learning,” Kronemeyer said.

**Drive-up internet access points**

When COVID-19 closed schools, EUPISD rapidly reconfigured the Wi-Fi networks in 29 school buildings for drive-in access for students and community members. The initial mobilization was possible largely due to the collaborative and innovative spirit of a consortium of schools, longstanding partnerships with AT&T for network transport, and Cisco Meraki for Wi-Fi access for student learning in the school building. Although a great first response, it is unrealistic for many students to drive to a school building. The district needed to get access to the edges of the school district where the students live.
“Our AT&T Business account rep was the first to reach out to EUPISD and ask what he could do to help during this pandemic,” Kronemeyer said. “We brainstormed ideas with AT&T about how to redefine the edge of the school network. We wanted to connect and help protect students as close to their homes as possible. One idea was to use buses as hotspots. AT&T proposed a mobile LTE router that could be installed on buses to further the EUPISD’s strategy of the ‘connected bus’ and create internet access points throughout the district.”

Following initial conversations with AT&T representatives, Kronemeyer saw a different way to use the equipment he had planned to install on buses to support remote learning. The district’s long relationship with AT&T Business made it easy to shift quickly and use the equipment intended for buses to set up a series of Wi-Fi hotspots. These are now referred to as Community Access points. They’ve been installed at up to 100 community centers throughout the district.

It was a simple matter to install the mobile routers equipped with AT&T SIMs along with Meraki wireless access points on a 2x2 foot piece of plywood and deliver them to community centers. “We power it on, the router connects to the AT&T network for data services, and the Meraki access point behind it provides safe access for our students,” Kronemeyer said. This extends the school network to the new edge of the network, closer to where students live.

The technology delivers fast connections with a 100 to 150-foot range that can support access for many users. Students or their parents just drive into the parking lot and log in from their cars to maintain appropriate social distancing.

The Wi-Fi access points are available to all community members, not just students. “Just like drive-in movie theaters, our schools and community centers have now become drive-up internet access points!” the EUPISD website proclaims. “Drive in, connect, enjoy the access from your car, and drive out.”

Enhanced productivity and safety

AT&T is also helping the district further extend the free end user Wi-Fi to additional locations. “Since the start of the pandemic, AT&T has been very supportive and strategically involved in helping us develop short-term implementation and a long-term strategy to develop more access across our region,” Kronemeyer said.

The district has moved beyond the 29 schools and has the goal of installing another 100 mobile routers in community centers such as township halls, churches, and recreational centers throughout Chippewa,
Mackinac, and Luce Counties. When schools reopen, EUPISD will transfer the mobile routers to nearly 100 school buses to provide internet access to students as they travel to and from school.

Kronemeyer sees student productivity and safety as the biggest benefits of the project. Making connectivity ubiquitous will give all students a way to compete academically, even if they don’t have broadband service at home. “With the solution that AT&T Business helped to create we will be able to use existing networks and technologies to extend the protected school network into students’ homes,” he said. “Our safety-net continues to the edges of our district, into our students’ homes, giving parents the heightened reassurance that their children are protected when online, just like they are at school.”

And once the mobile routers are installed on buses, Kronemeyer says, student safety will also be enhanced. “A connected bus allows the transportation directors to monitor what’s happening on the bus,” he said. “The ability to provide Wi-Fi helps students stay safer and continue learning as they travel back and forth to school. When this pandemic is over, the help AT&T gave us will make our buses safer and more connected in the future.” The district’s investment for the short-term crisis will provide long-term benefits to its communities.

Total connectivity

Twenty years after Kronemeyer began working on a distance-education infrastructure for the EUPISD, he is still working hard to ensure that technology is never a barrier to student learning. Connectivity for students, wherever they may be learning, has always been a top priority. “Right now, the only barrier I can work to remove is the connectivity barrier,” he said. “We want to move toward our long-term goal of connected buses for student learning and student safety.”

He credits the strategic relationship the district has built with AT&T and other technology providers with helping EUPISD create value for its students. He has been contacted by school districts from around the nation that are interested in creating their own connected school bus fleets. “This is already being replicated in Michigan and beyond because we’ve shared the idea,” he said.

Kronemeyer believes the continuing relationship with AT&T holds the promise of building a brighter future for students in the Eastern Upper Peninsula of Michigan and far beyond. “By working with our legislators and the FCC, we can come up with a long-term educational service solution that uses existing networks to connect students in their homes, classrooms, buses, and everywhere,” he said. “end-to-end connectivity, with a safety net.”

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Jason Kronemeyer
Director of Technology, Eastern Upper Peninsula Intermediate School District