

COX BUSINESS METRO ETHERNET

Deploying a new infrastructure for Mesa Unified School District in record time

20,000 devices to be migrated. 16,000 cables to be installed. 3,600 classrooms to be outfitted. 4,000 teachers to be retrained.

Those would be staggering numbers for any organization undergoing a technology change, but for the Mesa Unified School District, the pressures were extraordinary. The district's infrastructure needed a complete overhaul, and the opening of the 2014-15 school year, looming just 120 days away, was a hard-stop deadline that was intended to minimize disruptions significantly.

The problems to be addressed were numerous. Bandwidth between facilities was inadequate. The network couldn't support an increasingly mobile user community with BYOD demands. Teachers couldn't take advantage of new applications or technologies. There was no easy way to monitor the health of the system, which took a toll on the limited IT staff. Patches and fixes took precedence over strategic projects.

To complicate matters, teachers were using a wide variety of devices. This dated back to an internal innovation grant that disseminated 13 small awards district-wide. The vision of the district was to allow teachers to investigate a variety of technologies to see what worked best in their classroom. Teachers were able to purchase the technology they desired, from

Androids and Macs to Chromebooks and Kindles. It became a struggle for an enterprise as large as Mesa to support all of the technologies.

For their upgraded infrastructure, the district had a specific wish list in mind, the first being scalability for future growth. A 2012 district-wide bond included \$47 million for classroom technology and \$20 million to update the aging technology infrastructure. "We wanted to put more devices out in the schools, eventually 50-60,000 devices in students' hands," explained David Sanders, Director of Information Systems for the district. "So I looked at that goal and worked backward. How can I best support that? A gig might be OK for now, but not for long. I went in with the mindset that we should be able to go to whatever bandwidth we needed on a short notice."

That also meant that Sanders needed complete infrastructure insight, with 24/7 monitoring and reporting. That's something he didn't have with his existing network, and his small staff spent their days chasing problems. "When I arrived in 2013, I realized what an incredible opportunity I was given, but implementing our plans wouldn't be easy. It would take a proactive approach and would mean that we have to give even more support to our staff throughout the process."

With a lot on the line, Sanders selected Cox Business for the project. For flexibility and reliability, Cox Business deployed its Metro Ethernet solution.

Given the tight schedule, the project wasn't without its challenges. All 20,000 devices had to be upgraded from Windows XP to 8.1, meaning that 4,000 teachers had to be trained to use their new laptops. The switch to 8.1 also meant migrating 4,000 printers that only spoke XP. There were thousands of cables, access points and switches to touch. All with an internal IT staff of 15 working alongside Cox Business techs.

The project began in April of 2014. It was a huge undertaking and, truth be told, the teachers and administrators were skeptical. "They were saying the end date will be pushed out until December," said Sanders. "But it was done the first week in August."

Metro Ethernet Enables the Success of Future Generations

School districts like Mesa's are under tremendous pressure to meet the growing demands of a tech-savvy user community, all within extraordinarily tight budget constraints. And it's not unusual to have the additional challenge of deploying new technologies during the short, summer break timeframe.

As Mesa discovered, it could be accomplished successfully, with an added bonus: the infrastructure overhaul saves the district \$750K annually. More importantly, teachers now have access to advanced technologies that have "untethered" them from their desks, enabling personalized engagement with the students and a richer learning experience.

Metro Ethernet supports the district's top three demands:

1. Increasingly mobile community with advanced technology needs:

Metro Ethernet enables cost-saving programs like video conferencing, which allows one teacher to instruct students at several facilities simultaneously. Mesa has deployed video conferencing with its Mandarin Chinese curriculum.

2. Scalable components to accommodate

long-term growth: With Metro Ethernet, WiFi in every classroom supports a BYOD initiative at Mesa that is beginning with the high schools and will expand next to the junior high schools. More devices take up more bandwidth, but Metro Ethernet is up to the challenge.

3. Simple and reliable user experience:

Metro Ethernet seamlessly supports a variety of legacy technologies, which is critical for Mesa. Additionally, expanded bandwidth has enabled new applications like the Canvas Learning Management System that encourages teacher-student interaction and better performance feedback.

Cox Business Metro Ethernet allows you to cost-effectively connect multiple locations together by combining the simplicity of Ethernet with our reliable optical fiber network. You can securely extend the reach of your network without the cost and complexity of traditional WAN technologies. Cox Business Metro Ethernet is designed to effectively carry all of your converged services such as data, voice over IP and video over IP.

