

Fiber-Optic Case Study:

Clarksville Montgomery County Schools

CASE STUDY

The challenge

Serving about 30,000 students, the Clarksville Montgomery County School System located 40 miles northwest of Nashville was not exactly cruising along on the Internet superhighway in 2005. Although it is the seventh-largest district in the state, it was relying on a wireless wide-area network (WAN) supplied by the local telephone company partnered with a fixed wireless provider. The result was a network that provided a slim 6Mbps to 12Mbps connection to each of the district's 30-plus school and administrative buildings.



When David Holman took over as Chief Technology Officer in the spring of 2005, the wireless network “was not functioning very well,” he said. “The uptime was very poor. On any typical day I would lose a school somewhere in the system anywhere from 3 minutes to up to an hour.”

On a 24-hour basis, the network managed a mediocre 96% to 98% uptime, but during the school day when demand and need was the highest, that dropped to an unacceptable 92%. The fixed wireless provider promised to install a second backhaul line to boost uptime and throughput, but promise was more than a year overdue. “I was here four or five months and decided Plan B was going to have to happen if we were going to ever have any kind of reasonable, reliable service across the network,” Holman said.

“Charter understands that it’s not just business — that it’s a partnership, and they’ve lived up to that portion of the partnership. And they’ve always exceeded our expectation.”

DAVID HOLMAN — CHIEF TECHNOLOGY OFFICER
 CLARKSVILLE MONTGOMERY
 COUNTY SCHOOL SYSTEM

The solution

So the district issued a request for proposal looking for solutions. Charter Business responded with a Gigabit Ethernet fiber optic backbone feeding 100 Mbps internet connection to each district building. Charter Business won the contract. In early 2006 Charter began construction, extending fiber optic connections to all 34 schools plus administrative buildings in the district. In

July the new district fiber optic network came online, and came in on time. The benefits were immediate, starting with the price. The school district had gained a tenfold-plus increase in bandwidth, but “overall price on our new network was actually better than the old network used to be,” Holman said.

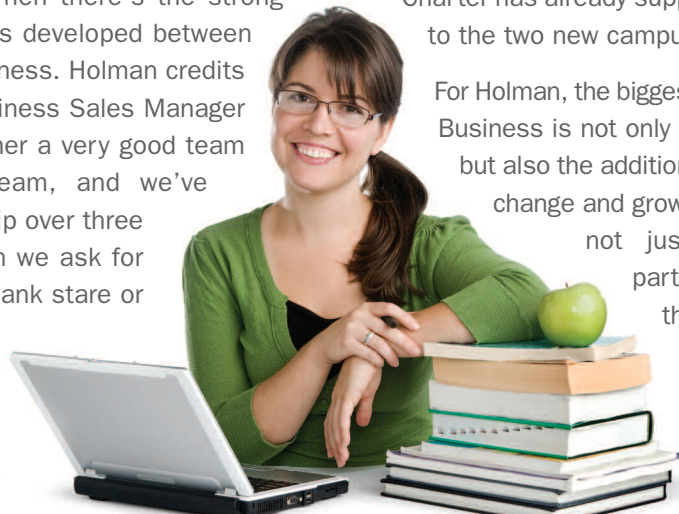
Usage booms

Of equal importance is the fact that the network became a far more useful resource for teachers and administrators. Usage on the older wireless network had dropped so much that some district officials thought even 50 Mbps connections to the schools was overkill. But Holman suspected that was not the case.

“In my opinion, in having conversations with schools, the reason they had stopped using it was because it was unreliable,” he said.

“And if it became reliable, there would be exponential growth.” He was right. In the first year, average bandwidth usage climbed to more than 50 Mbps per building connection, and that ramped to 75 Mbps in the second year. Now in year three, the district buildings are pushing up to 100 Mbps usage.

“The key is, our uptime has been phenomenal,” Holman said. In contrast to daily disruptions with the wireless network, Charter’s fiber optic network has seen rare disruptions, and “that’s only happened a couple of times. That has been pleasing.” Then there’s the strong working relationship that has developed between the district and Charter Business. Holman credits much of that to Charter Business Sales Manager Bob Belvin. “He’s put together a very good team and he works with my team, and we’ve developed a good relationship over three years,” Holman said. “When we ask for something, we don’t get a blank stare or somebody wondering why we are asking for it. They understand our educational goals and needs and work with us to accomplish them.”



“overall price on our new network was actually better than the old network used to be.”

DAVID HOLMAN

A provider and partner

That was the case in 2008, when nearby Fort Campbell Army Post saw a major deployment of soldiers to Iraq and Afghanistan. Many of those soldiers were parents of graduating seniors, and the deployment meant they would have to miss the graduation ceremonies. So the district worked with Charter Business, and the nearby Austin Peay State University to produce a live Webcast of the graduation ceremonies, allowing the parents stationed in Afghanistan and Iraq to see their seniors graduate from half a world away. For its part, Charter agreed to lift the 100 Mbps bandwidth cap during the graduation ceremonies, thereby assuring there would be no problems if the online turnout was substantial.

“The good thing was that they came in, and they understood what we were trying to do and they were willing to do it,” Holman said, adding that the events were such a success that the district sponsored the Webcast this year as well, even though the troop deployments had lessened.

Going forward, it also is likely the district will be raising the connection speeds to the schools in the near future — and given the fiber optic connections that will be a matter of a simple adjustment at Charter’s network operations center. The district also is building a new high school and elementary school this summer for a fall opening, and Charter has already supplied the fiber optic connections to the two new campuses.

For Holman, the biggest benefit to working with Charter Business is not only a more reliable network service but also the addition of a partner to help the district change and grow. “Charter understands that it’s not just business — that it’s a partnership, and they’ve lived up to that portion of the partnership,” he said. “And they’ve always exceeded our expectation.”