

Case Study

Identifying & Supporting the Evolving Network Needs of a NY School District



THE CLIENT

A New York school district first contracted with Turn-key Technologies Inc. to perform a full rip-and-replace of their wireless network. The Assistant Superintendent for Curriculum & Instructional Services, explains that a strong professional relationship soon developed between the district and TTI.

The district had been employing a legacy wireless solution utilizing 802.11n technology when they leveraged their close partnership with Turn-key Technologies to discuss an upgrade. The district was interested in implementing 802.11ac wave 1 technology by taking advantage of the Smart School program from New York State, which provides New York school systems with funding for technology upgrades.



THE PROBLEM

Between October 2013 and July 2014, the time when Mr. Yap worked as a consultant for the district, they only had four Chromebooks. But by next year, every student should have one.

The School District needed a solution that would support their technology needs for at least the next five years. As newer, faster devices attempted to use the network, they were unable to connect seamlessly because the manufacturer of the older infrastructure could not write new driver updates to the access points.

Initially, TTI was brought in to address the wireless network and the increased capacity that 802.11ac can provide. As part of their routine assessment process, TTI examined the entire network to identify any potential bottlenecks or single points of failure. They uncovered that there was only 1-gig connectivity between the existing closets, with multi-mode fiber that was unable to provide 10-gig connectivity based on the distance between the network closets. This started a discussion around the need for a whole network upgrade to support the wireless speeds that would be enabled with the 802.11ac deployment.

THE SOLUTION

TTI performed an entire network upgrade (wireless, infrastructure, cabling) for four buildings: a high school, a middle school and two elementary schools. Though the student population has decreased over the past few years, the high school is large, holding up to 2,500 people, which translates to seven different IDF and MDFs in that building alone.

The upgrade included multiple 10-gig links from the core to edge closets, which eliminated any single points of failure, while providing an upgrade path to support 40-gig throughput in the future. Because the district also decided to increase their Internet bandwidth, their existing firewall became a potential bottleneck. It was not capable of accommodating the new speeds. TTI provided a high-availability firewall solution as part of the district's new overall network design.

All edge closets were upgraded to support full PoE to the access points, 10-gig connectivity to the core, up to 40-gig connectivity to the core for future needs, additional fiber capacity and full network visibility and management software to oversee the entire network. Additionally, TTI fulfilled the original goal of upgrading the wireless network with an 802.11ac deployment.

TTI began project planning in September for a July implementation, conducting "dress rehearsals," communicating how and when everything would take place and making site visits to ensure they knew exactly what the district wanted. TTI guided the district through the entire process. When it was complete, TTI ensured that everything was up and running effectively.

The NY School District was able to use Smart School program funds to pay for the project. There was a surplus at the state level, and the district received a certain amount. The Smart School program's one-time funding opportunity provided a means for the district to upgrade their wireless infrastructure from an end-of-life/end-of-sale platform.



THE RESULTS

The district's partnership with TTI enabled them to overcome a number of challenges, including the following:

- Implementing an infrastructure that can handle the existing and future demands on the network
- Eliminating dead areas and wireless problems
- Enabling the district to expand to outdoor wireless this summer
- Enhancing speed
- Helping with the creation of a whole new media library center at the high school
- Making it possible to rival colleges in the area with regard to communications
- Allowing for a student-to-Chromebook ratio of 1:1, which eliminates latency for teachers and enables them to teach better and more quickly
- Developing an infrastructure that would support the upgraded internet speed

If your school or district is experiencing network challenges, don't wait to connect with an expert. Talk to a TTI professional today about addressing your needs.

Contact An Expert

