Enhancing the educational experience in the White Plains School District

IBM Global Technology Services designs a scalable, reliable and secure network that can reduce costs

Overview

The need
Provide a robust, scalable network to support a growing number of devices and applications used by students and staff. Control the costs of installing and operating the network.

The solution
The district worked with IBM® Global Technology Services® (GTS) to design a new network based on Gigabit Passive Optical Network (GPON) technology, replacing the outdated copper network.

The benefits
The new network enables the district to save money, streamline administration, improve availability and tighten security while providing the scalability for a full range of current and future uses.

The White Plains School District serves more than 7,000 students and employs more than 1,100 staff members in a suburban community north of New York City. The district's Management and Information Systems (MIS) group supports greater than 4,000 networked devices across the district's nine schools and three office locations.

Supporting a broad range of networked technologies

"Technology is vital to our school district, and we continue to implement new technology that can help enhance the educational experience," says Ron Velez, MIS director for the White Plains School District. "For example, we plan to provide all students with tablets or laptops so they have the freedom to learn, study anywhere within campus and collaborate throughout the day, not just during their limited hours in computer labs."

"A robust, scalable network is essential for supporting a rapidly growing number of devices, users and educational applications," says Ron Velez, director of MIS for the school district. "The new network designed by IBM GTS provides the strong backbone we need for enabling new ways to teach and learn, now and in the future."

"The IBM GTS team led us through each phase of the project, including connecting with the right vendors, designing the network and setting up a proof of concept in a high school classroom. This is new technology to us, so having an experienced, knowledgeable team to help oversee the project was critical."

—Ron Velez, Director
   Office of Management and Information
   Systems, White Plains School District

The district's local area network (LAN) plays a crucial role in supporting the variety of technologies used in schools. "Everything is connected to the network, from tablets and PCs to projectors and HVAC systems," says Velez. "We need a robust, reliable network infrastructure that can provide the bandwidth for these technologies plus a growing number of devices and applications."

The district wanted to enhance its wifi network to improve mobile connectivity. But before doing so, the MIS group needed to refresh or replace the LAN. "Upgrading the existing copper-based network was going to be too costly," says Velez. "We needed a new approach that could deliver scalability, reliability and security while avoiding the high costs of a copper upgrade."

Implementing a new optical network

The MIS group learned about Gigabit Passive Optical Network (GPON) technology from IBM. Implementing a GPON offers several advantages over upgrading a copper-based LAN. "A GPON uses less equipment than a copper network, so we can reduce installation costs and avoid expenditures for switching, cooling and battery equipment," says Velez. "Using fiber also gives us better flexibility and scalability. Making changes or increasing bandwidth does not require replacing fiber, just changing the equipment at either end."

The district turned to IBM GTS to design a new network based on GPON technology. "IBM designed our original network, so we are confident that they understand our needs," says Velez. "After investigating offerings from other vendors, it was also clear that IBM GTS was the only organization that could design a complete solution for our large, complex network."

To see and hear more about this IBM GTS project with the White Plains School District, view the video.

Solution Components

- IBM GTS — Networking Services
- Gigabit Passive Optical Network (GPON) solution

The IBM GTS team eliminated the burdens of project management. "The IBM GTS team led us through each phase of the project, including connecting with the right vendors, designing the network and setting up a proof of concept in a high school classroom," says Velez. "This is new technology to us, so having an experienced, knowledgeable team to help oversee the project was critical."

Reducing costs and preparing for the future

The district anticipates significant cost savings from implementing the new network. "Installing a fiber network requires far less work than a copper network. We expect a savings of 30 to 50 percent in construction costs alone," says Velez. "With less equipment, we can reduce capital costs as well as ongoing electrical and cooling costs. Saving money will help us make a better case for investing in other new technologies, such as tablets and laptops for students."

The new network should help streamline administration. "There is less equipment to manage," says Velez. "In addition, our staff can now configure and manage the entire network from a single console."

The new network should also help improve availability and security. "With a decentralized architecture, the network can keep running even if one classroom or one building goes down," says Velez. "GPON also uses the Advanced Encryption Standard (AES), which was adopted by the federal government in 2002 for most of its classified data. Using AES enables us to comply with student data privacy policies."

The district now has a network that is ready for the future. "The demand for network resources will continue to grow, and the schoolwork will continue to change," says Velez. "The new network gives us more flexibility and scalability to accommodate that change. After working with IBM, we are much better prepared for whatever lies ahead."

For more information

To learn more about IBM GTS, visit:
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