



## ► Making the Grade

*Hoboken School District resolves network issues with upgrade from Emtec.*

Computers, networks and the Internet have had a profound effect on public school education, offering teachers a multitude of opportunities to enhance classroom activities and learning. The Hoboken School District has made a strong commitment to infusing technology throughout the curriculum to increase student achievement and create 21st century learning environments.

For example, the Brandt Middle School is a technology themed school featuring a state-of-the-art science lab, an automated library, a computer lab and a computerized career lab. The school's Paxton Action Technology Lab includes educational modules for aerodynamics technology, biotechnology, career research, environment, ecology, robotics, and structural and flight technologies.

However, such technology-intensive curriculum had recently begun to place a strain on the district's aging network infrastructure. With technology initiatives on the rise, network availability and shared bandwidth were reaching crisis proportions.

*"Our existing network was designed and installed about eight years ago at a time when the district had about 500 computers. It was designed to handle around 1,000 to 1,500 computers, which was fine at the time," said Matt Burakowski, Systems Administrator for the Hoboken School District. "But coming into this year, we were topping just over 3,500 workstations with a user base of about 4,500.*

*"In a very real sense, we were at a point where we couldn't expand our network anymore. Not only were we out of network ports, but the gear we had in place wouldn't have been able to handle the load even if we could expand."*

### Emtec's Expertise:

When evaluating technology vendors to provide a network upgrade, Emtec, Inc., stood at the head of the class. As a contract vendor for the state of New Jersey, Emtec is among a handful of approved solutions providers eligible to provide IT-related services to school districts as well as a variety of state, county and local government agencies. With its strong networking and education experience, Emtec was also well qualified to develop and implement a network infrastructure that will serve Hoboken School District's needs for years to come.

Like any good student, Emtec understands the importance of doing homework before a major project. The Emtec team, headed by project manager Larry Fondacaro, began with an assessment phase, which included a site survey and interviews with key members of the school district staff to get a detailed view of the existing network infrastructure, likely bottlenecks and critical problem areas.

The Emtec team found that the old Avaya/Lucent gear was inadequate for the district's current needs. In addition, firewalls and network patch cords needed upgrading and there was no backup power supply or network monitoring capability. None of this was a surprise to Burakowski.

*"It was a constant battle to keep up with maintenance," he said. "We just didn't have nearly enough capacity, and we were having problems with shared bandwidth and port issues with the old equipment. The business office was being disconnected from the accounting servers on a pretty consistent basis. We tried to roll out a small pilot project for some online curriculum, and we couldn't even connect to it on a daily basis. Two students would log on and the network would die in that building."*

### Built for Speed:

Emtec recommended a complete overhaul using Cisco gear. The school district approved, and the Emtec team implemented a network refresh featuring Cisco Catalyst switches and Cisco PIX firewalls to ensure high-speed, redundant Internet connectivity. Redundancy for high availability is built into the Cisco architecture — the two Catalyst 6506 switches at the core of the school district's network have dual routing capabilities. Emtec also installed Catalyst 4507 switches at each of the six school buildings and the administration building, and a mix of Catalyst 3750 and 2960 switches in various locations (seven sites) for a total of 39 switches. In addition, Emtec installed a pair of Cisco PIX 525 firewalls and a half-dozen uninterruptible power supplies.

Finally, Emtec implemented CiscoWorks, a suite of powerful management tools that will simplify the configuration, administration, monitoring and troubleshooting of the network going forward.

From start to finish, the implementation phase lasted only three days — a fact that amazes Burakowski.

*"This was a huge project for us — we literally tore out our entire network and replaced everything with all new Cisco gear," he said. "It took us about a year and half of planning to get going on this, but then Emtec came in and completed the entire job in only three days. That was very impressive."*

### Impressive Results:

The homework and planning Emtec did up front was key to completing the project so quickly. Based on the knowledge they gained during the site survey, Emtec was able to design a solution and have all the new gear shipped to its Springfield location in advance of the actual start date.

*"We were able to unbox everything, configure it all, rebox it and then deliver it all to the right location, preconfigured," said Fondacaro. "That was huge in terms of being able to minimize downtime to the client."*

Best of all, said Burakowski, is that the new gear works even better than he had anticipated. He estimates he has added 70 percent to his port capacity, giving him plenty of room for future network expansion. The timeout issues with the accounting servers have disappeared, as have communication delays with the Web and e-mail servers.

*"The leap in the effectiveness of our network has been striking," he said. "From a functional standpoint, we have no internal delays anymore — which is incredible."*

*"I was impressed and very happy with Emtec. This was a difficult job, and they just dove right in and blew through it all. They dropped in a significant amount of equipment in just a few days, and I haven't had any problems with it. It was painless and very fluid. Overall, I just can't say enough good things about the Emtec folks."*

**About Emtec:** Established in 1964, Emtec, Inc. is a systems integrator that provides IT services and products to the federal, state, local, education and commercial markets. Our market leading value-based management methods, coupled with best-in-class IT technology, consulting and development services, address a wide range of specific client needs, as well as support broader IT transformation initiatives. Emtec's service capabilities span the United States, Canada and countries around the globe.