



Bethpage School District

The Bethpage Union Free School District in New York is comprised of 3,100 students and includes three elementary schools, a middle school and a high school.

Background

With telecommunications costs devouring an increasing chunk of the district's operating budget, the director of technology for the Bethpage School District took advantage of a network rewiring project to implement IP telephony. The new application promised lower costs and increased functionality, but required a new level of protection for network equipment, which would now be carrying voice and data communications.

Case Summary

Location: New York

Products/Services: Liebert GXT online mission-critical UPS systems with extended battery backup

Critical Need: Assure power quality and back-up for mission-critical IP telephony system and key IT applications

The Results

- Successful implementation of IP telephony has reduced costs and enhanced communication capabilities
- IP telephony system has weathered numerous outages and enabled a successful transition to a backup phone system during the Great Blackout of 2003

The Situation

“I view IP telephony as our most critical application, so my biggest concern was avoiding downtime.” That observation by Terrence Clark, director of technology for the Bethpage (N.Y.) Union Free School District, typifies the challenge inherent in IP telephony implementations. Clark and Bill Evans, the district’s network administrator, recommended IP telephony to replace the district’s aging PBX system.

“Our telecommunications costs were astronomical. We were rewiring for data anyway, and it made sense to incorporate our phone system into that infrastructure,” says Clark. “Our administration was very supportive of this approach, especially in light of the potential efficiencies and cost savings it offered.”

After talking with numerous vendors and visiting other school districts, the Bethpage district selected an IP telephony system from Cisco.

“The new system gave us features we never dreamed of having—unified messaging, voice mail, conference calling, and the ability for teachers to set up announcement lines for parents,” says Clark. “All at a cost that is \$80,000 to \$100,000 less than the previous system.”

However, with IP telephony the district’s phone system would now be tied to the availability of electric power, and the UPSs the district had in place simply weren’t equipped to provide the level of protection and runtimes required by IP telephony.

The Solution

Clark and Evans sought advice from Innovative Business Solutions, a Liebert solutions partner with experience in disaster recovery, power quality and IP telephony, including the Cisco system. Working with Liebert representative Jay Mohr, Jason Blank from Innovative Business Solutions reviewed the district’s application requirements and recommended installation of two Liebert GXT UPS units with extended battery backup.

“Innovative Business Solutions wasn’t interested in just selling us a UPS,” says Evans. “They helped us take a thorough look at our overall power protection situation and determine the best approach long-term.”

“We have confidence in Liebert technology and having a local representative like Jay Mohr is a huge asset,” said Blank. “He is a valuable resource for product and application expertise and that enables us to take much more of a solutions-based, rather than product-based, approach with our customers.”

The Liebert GXT is a compact, rack-mountable double conversion UPS. The system for Bethpage was configured with eight hours of battery capacity to meet the availability requirements of the IP telephony system’s core switch, routers and servers.

“Other systems could only give us less than two hours of runtime,” says Clark. “Liebert gave us four times the back-up in only a slightly larger footprint.”

UPS topology also played a role in Bethpage’s decision. “We compared Liebert’s double-conversion UPS with other UPS topologies and determined we needed the extra protection the Liebert UPS provided,” says Evans.

A double-conversion UPS converts incoming AC power to DC, and then back to AC for use by connected equipment. This removes power disturbances that other types of UPS let through. It also eliminates the “switchover effect” that occurs in other topologies when the UPS switches to battery. This switchover can create a brief power interruption that can cause highly sensitive communication switches to shut down unexpectedly.

“Online, double-conversion technology was the clear choice for Bethpage,” says Blank. “Unlike other UPS types, it completely isolates connected equipment from the outside electrical source, ensuring spikes, surges and other disturbances never reach the IP telephony equipment.”

In addition to providing back-up power for the IP telephony system, the Liebert UPSs also protect data and network servers housed in the district’s server room.

The Results

The Bethpage school district has successfully weathered several local power outages since the Liebert units were installed. During the extended power outage of August 2003, the district chose to take the IP telephony system down because of uncertainty regarding the duration

of the blackout. The eight hours of backup power provided by the Liebert UPSs enabled a smooth cutover to a backup phone system.

Clark and Evans have had no problems with the Liebert UPSs. They appreciate the internal automatic and manual bypass features and the self-diagnostics that simplify maintenance. But even more impressive than the performance of the system, has been the performance of the companies behind it

“Innovative Business Solutions and Liebert gave us much more support than we ever received from competitive UPS suppliers,” says Clark. “Even though we had a significant amount of a competitor’s equipment installed, we never once heard from them after the sale. Liebert and Innovative Business Solutions have stayed in touch with us. They even took the time to contact us after the August 2003 blackout to see if everything was okay. For us, that kind of support is important and we’ll be looking to the team of Liebert and Innovative Business Solutions to solve a lot of our future growth needs.”

Emerson Network Power.

The global leader in enabling Business-Critical Continuity™.

- | | | | |
|----------------|----------------------|-----------------------------|-------------------------------|
| ■ AC Power | ■ Embedded Computing | ■ Outside Plant | ■ Racks & Integrated Cabinets |
| ■ Connectivity | ■ Embedded Power | ■ Power Switching & Control | ■ Services |
| ■ DC Power | ■ Monitoring | ■ Precision Cooling | ■ Surge Protection |

EmersonNetworkPower.com