Case Study

KELTRON

Keltron Provides a Mission Critical Solution for Con Edison

Overview

For more than 180 years, Consolidated Edison (Con Edison) has maintained an unwavering commitment to delivering the energy that keeps New York City and Westchester County running. The Con Edison electric distribution system, the most reliable in the country, serves nearly nine million residents. The company also provides natural gas to more than one million customers in Manhattan, the Bronx, parts of Queens and most of Westchester County. In addition, Con Edison delivers steam to Manhattan.

How, then, do you seamlessly upgrade one of the world's largest utilities' security monitoring systems in a post-911 world? Breaches in security that could interrupt electric, gas or steam service are not an option.

The challenge

Con Edison's Corporate Security team acknowledged that its infrastructure and customer demands provided challenges and after researching and reviewing the systems available, Keltron Corporation provided the best and most cost-effective solution, said Scott M. Gross, systems specialist for Corporate Security.

Keltron's experience in fire and life safety and its understanding and adherence to the codes and standards that guide the industry gave them a definite advantage. Con Edison requires that level of competency and compliance throughout the company, said Gross.

"We wanted to bring the benefits of a fully supervised, redundant monitoring system for our intrusion detection," he said.

Life safety and more

The Keltron LS 7000 Life Safety Event Management System monitors all Con Edison's divisions, substation operations, transmission operations and area substations that serve its customers. The system provides fast, dependable and universally compatible life safety and security event management. It met Con Edison's critical needs with the fastest, most direct and efficient access to security information at Con Edison's new security operations system.

"The Keltron LS 7000 system's ability to respond quickly to events is extremely important to Con Edison as they rely on Keltron's equipment to help them efficiently respond to incidents," said Keltron's product manager Ron Tino. "The ability of the Keltron LS 7000 to increase efficiency by providing dispatchers with precise, detailed and relevant event information is a major system benefit."

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The Con Edison electric distribution system covers more than 600 square miles in New York City and Westchester County. Customers in the Con Edison service area are using 20 percent more electricity than they did 10 years ago. They expect demand to rise another 10 percent in the next decade.

The company also provides natural gas to more than one million customers and the average amount of gas that travels through Con Edison's gas system annually could fill the Empire State Building nearly 6,100 times.

In addition, Con Edison delivers steam to more than 1,800 customers in Manhattan, from the Battery to 96th Street. Steam traveling through Con Edison's system is used to heat and cool some of New York's most famous addresses - the United Nations complex, the Empire State Building and the Metropolitan Museum of Art among others.

Because of its diversity of services, Con Edison's presence at ports requires the company to adhere to the U.S. Coast Guard's three-tiered system of Maritime Security (MARSEC) levels consistent with the Department of Homeland Security's Homeland Security Advisory System (HSAS). MARSEC levels are set to reflect the prevailing threat environment to the marine elements of the national transportation system, including ports, vessels, facilities and critical assets and infrastructure located on or adjacent to waters subject to the jurisdiction of the U.S.

There are the residential customer needs as well. In 2007, Con Edison delivered a record amount of electricity to customers in New York City and Westchester County. Last year's usage of 62,591 gigawatt hours (GWh) eclipsed the record of 61,608 GWh set in 200, and is more than 23 percent higher than the 50,837 GWh used in 1997.

Just as Con Edison easily breaks down electric use to gigawatt hours, the Keltron LS 7000 provides its operator with the essential details of event type, location hazards, and other critical information. The Keltron LS 7000 can interface with most fire and security panel models and brands and can monitor alarms using any combination of communications infrastructure from direct wire to distributed multiplex, active network radio and even Ethernet. Based on previous installations, dispatchers have found the Keltron LS 7000 intuitive to use - it uses standard Windows UI - and appreciate the layout of the user interface.

Engineering experience

"We have been working on a security monitoring system for a number of years but the events of September 11, 2001 deemed it necessary to increase our efforts three fold. That led to the creation of the security operations center for Con Edison," said Gross. He was part of the team that evaluated the monitoring systems available in the marketplace.

The Keltron LS 7000 system provides the Con Edison system operators with event type, location, hazards and other critical information. It also offers the most appropriate event response strategy. Also fitting Con Edison's security needs was the Keltron LS 7000's ability to provide centralized on-site monitoring of remote facilities.

"The biggest benefit to Con Edison was the system's ability to receive alarms from their existing infrastructure - its universal compatibility," said Tino. "Of nearly equal importance was being able to configure the system for full redundancy and the efficiency and accuracy of the dispatcher information."

History of security needs

In planning its improvements, Con Edison developed an engineering specification that included compliance with New York City Building Codes, electrical codes and the requirements of the Americans with Disabilities Act. Initially, their system was single vendor/sole source for fire, burglary and access control. "Their corporate security department design and implementation team wanted everything standardized so that all new construction would have the same systems as the existing buildings," said Gross.

The first standardized systems were digital video recorder (DVR) based. In 2001, they added access control accountability and developed roll call and evacuation systems. Then they added unmanned environments and substations to the monitored divisions. All of Con Edison's facilities are backed up by generators and internal uninterruptible power supplies.

"Highly important to our customers are the flexible and multi-dimensional dispatching features, the streamlined programming features and the system's universal compatibility with a wide range of existing panels and signaling technologies," Tino said. "Most of our customers find enormous value in the system's ability to direct different types of events to different dispatchers depending upon their origin, jurisdiction, or type (alarms versus troubles or supervisory conditions)."

When it came time to tie the entire system into a central monitoring system, the Keltron LS 7000 fit Con Edison's diverse needs. Specifically, the system monitors Con Edison's intrusion alarm system that includes its entire system of access control and motion sensors at its properties and the panic and duress alarms at Con Edison's Irving Place corporate headquarters. "That's between 150 to 200 points," added Gross, "and we see that expanding."

"The system's ability to interface with diverse signaling equipment from many otherwise incompatible manufacturers and technologies to create a single system was highly valuable," Tino commented. "The Keltron LS 7000 also enables various stakeholders to view the system information using multiple workstations. Neither option was possible with the existing equipment."

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The Keltron Life Safety Event Management System is situated in a command center that is operational 24/7/365 and has five separate workstations, which provide multiple levels of redundancy. The multiple workstations also assist the dispatchers in their work. For example, if the system receives many alarms at once a dispatcher acknowledges a given alarm, he/she owns it and therefore no one else needs to work on it.

Future needs and plans

Future expansion of the system will likely include fire and life safety monitoring with the new security operations center and throughout the corporation. Keltron's system complies with NFPA 72 the National Fire Alarm Code requirements for fire and life safety.

Keltron Corporation has a unique understanding of market requirements and technology and long-term relationship with Underwriters Laboratories which enables Keltron to provide fully UL-listed systems to the municipal market.

This solution is flexible and will easily transition into a fire system when Con Edison is ready. "Con Edison can use all the same equipment, making only minimal changes to the programming," Tino said.

For Con Edison and a host of other high-end users, the Keltron LS 7000 meets the mission critical needs of the life safety industry by providing direct and efficient access to event information and enabling the fastest response to critical fire and security situations.

Keltron develops and manufactures universally-compatible, UL listed life safety event management systems for the municipal and proprietary markets. Solutions include Ethernet signaling systems, active network radio systems, distributed multiplex systems, digital communicator/receiver systems, and direct wire systems. This document is not intended for installation or maintenance purposes. For more information visit www.keltroncorp.com or contact us at 781-894-8710.

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