Modern surveillance in old buildings.

How urban DePaul University installed Axis network cameras in renovated student housing.

Organization:
DePaul University

Location:
Chicago, Illinois, USA

Industry segment:
Education

Application:
Campus and dorm security

Axis partner:
Pace Systems, Inc.

Mission

As DePaul University, located in urban Chicago, Illinois, began purchasing and renovating city blocks of privately-owned apartment buildings to house its growing student population, it began maxing out the capacity of its DVR-based analog surveillance systems. The Public Safety Department wanted to establish a centralized recording system that would run over the university's existing fiber optic backbone and be easier to manage, maintain and scale as the university acquired more buildings.

Solution

The university contracted with Axis partner Pace Systems, a Naperville, Illinois-based electrical contractor and systems integrator, to install fixed dome network cameras from Axis Communications in the lobbies, hallways and exteriors of the residential buildings at its Lincoln Park campus. Pace Systems replaced the individual DVRs at each dormitory with a centralized array of dedicated video storage servers and a video management system from Milestone Systems all housed at the Public Safety building.

Result

The network video technology gives Public Safety the ability to review incidents occurring at any residence hall from a single, centralized security office. Though the video recordings are primarily used in forensic investigations, a dispatcher can monitor select cameras live. And in case of emergency, senior security staff can access camera views from any authorized PC attached to the campus network.

Thinking creatively about aesthetic deployment strategies

Maintaining security on an urban campus like DePaul can be especially challenging when student housing is a mix of traditional residence halls and renovated historic apartment buildings. Bringing modern network video technology into 70-year-old brick-faced walkups pushed the ingenuity of the Public Safety Department and Pace Systems to the limit. "We had been using analog cameras tied to DVR technology," explains Bob Wachowski, director of public safety for DePaul University.

AXIS COMMUNICATIONS

"Beyond deterring crime and unruly behavior, the high image clarity and ease of video retrieval from our new system has enabled us to successfully identify perpetrators, reduce campus crime and make our students feel safer."

Bob Wachowski, Director of public safety for DePaul University.

"But each unit could only support 16 cameras, which meant we had to install multiple DVRs per building." Wachowski wanted to centralize recording, making it easier to maintain video archive security and add capacity as needed.

The deployment timetable was extremely tight. Pace Systems had only 10 weeks to complete the project – from mid-June when students vacated the residence halls – to the end of August when they returned to campus. With no building blueprints to guide them, integrators relied on DePaul's chief electrician, Marty Murphy, to identify alternate pathways for stringing the Cat6 cable that would power the Axis network cameras. The solution was to use the many existing wireway chases to minimize visible cabling and preserve the aesthetics of the dorm rooms and hallways. Leveraging the Power over Ethernet (PoE) feature of the Axis cameras allowed the systems integrator to use the same cable to provide both electricity and network connectivity. This helped to reduce the cost of the installation and simplify implementation.

Keeping a low, yet visible profile
Pace Systems recommended two models of Axis network cameras for the campus: AXIS 216FD Fixed Dome Network Camera for interior locations and AXIS 225FD Fixed Dome Network Camera for exterior deployment. "We chose these ruggedized fixed dome models because of their very small footprint," explains Gene Prorwicz, director of special systems at Pace Systems. The Axis cameras allowed the university to maintain the aesthetics of the residence halls and provide a visible, but inconspicuous surveillance presence on campus. "They didn't want the cameras to be intrusive," says Prorwicz. "But they did want the student body and faculty to have a sense of security that someone was watching over them. The point is: you don't want an institute for higher learning to look like a correctional facility."

Bob Wachowski says that the university has been pleased with image quality of these low-profile cameras. "I've been very happy with the clarity of the images from the Axis cameras and the ease of information retrieval provided by the Milestone XProtect® system for investigation."

Though the system has not been in place for long, Wachowski has already noticed a reduction in thefts and vandalism in the residence halls.

Balancing bandwidth demands
Because DePaul University chose to stream video back to a central hub instead of putting servers out near the cameras, Pace Systems needed to take care that the surveillance system did not put undue strain on the fiber optic network. Pace Systems set the cameras to transmit at five frames per second at a resolution of 640x480, more than sufficient for forensic investigation. Public Safety currently archives 30 days of recordings streamed live from all the network cameras on campus. But as the university continues to grow, Wachowski plans to put smaller servers at secure sites out in the field to store the video and then stream it back to the main recording center at night when there is less demand on the network.

Planning for the future
Wachowski feels the new network surveillance system gives the university more than sufficient room for expansion. As an interim step, the university is attaching its existing analog cameras to Axis video encoders, converting the analog transmission to digital and streaming it over the network. Eventually, Wachowski plans to gradually retire all the analog cameras at Lincoln Park and replace them with IP technology. Once all 60+ buildings on this campus are incorporated into the network, he will begin migrating analog technology at the Loop campus and adding that cluster of buildings to the university's surveillance network.

In addition to replacing the remaining analog cameras on campus, Wachowski is considering a wireless system that will give campus security access to video from their patrol cars. Axis pan/tilt/zoom network cameras are also in the plans to enable security staff to do live monitoring of high traffic areas in and around campus. These cameras will be integrated with Chicago's 9-1-1 system so that in an emergency, Chicago police can immediately view the area in question.