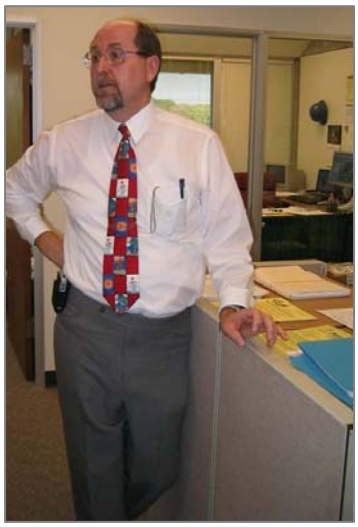
Kansas school district protects students, staff and property with a Milestone-Axis networked video surveillance solution.

"Our monitoring needs are mainly after hours, especially for covering the rooms with large amounts of equipment, all entrances and exits, as well as for students during school hours. The buildings are open late with faculty working and custodians on duty till 11:30 at night. We are protecting against the possibility of vandalism, theft, and other such behaviors very typical for high schools." - Larry Schmidt, Dir. Business Operations USD 475



Challenges

The nearby Fort Riley military post creates a transient – and growing – student population for USD 475. A security system was required that could scale with the demands to build new facilities, be cost efficient, effective, and allow for both central and local management of multiple locations.

Solution

ISG Technology installed Cisco switches, Milestone XProtect Enterprise IP video surveillance software, Axis 213 PTZ and 211 auto-iris fixed network cameras, plus Axis 241Q video servers to re-use existing Pelco and Panasonic analog cameras in multiple school buildings and the central administration site.

Advantages

The administration offices for the school district have central monitoring control, while each school's principal and security teams have local management of the surveillance. School Resource Officers assigned to each secondary school also have access to the system for faster response to incidences and exporting evidence. Adding new cameras and locations is fast and easy with the network approach, with previous investments retained and upgraded to the newest technology.

Homeland Security funds for a region due for major expansion

As part of the Bush administration's reorganization of international military posts after the Iraq invasion, one of the main U.S. brigade installations in Germany called 'The Big Red One' is being moved back home to the heart of America: Fort Riley by Junction City, Kansas.

The military post itself will double in size from 11,000 to 20,000 troops over three years, and many will have families with them. The local economy experiences a boost from new jobs and additional income, but the increase also creates immediate demands on the surrounding towns in terms of housing, shopping, medical facilities, and schools.

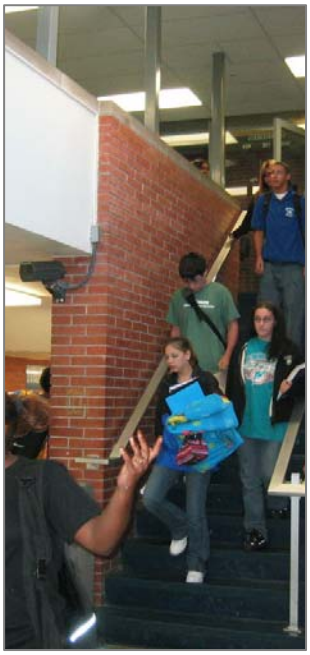
USD 475 is the Unified School District to handle the bulk of this influx of new students, and bonds were being issued in 2005 to prepare new facilities through renovating existing buildings and constructing new ones. 'Secure Our Schools' grants as part of the Homeland Security funding were secured through the help of the local police, for including the newest technology to ensure the best protection of the properties and personnel.

As of September 2005, the number of students throughout the district totalled 6,300 with another 1,300 employees including faculty, administration and other support personnel. These numbers were to increase by 50% in the near future.

To handle the security and safety needs of these institutions, USD 475 in Geary County installed IP video surveillance. ISG implemented Cisco networking and provides all the IT support and hardware for the district's technology needs. They also installed Milestone XProtect Enterprise software with Axis network cameras in the High School, two Middle Schools, the Administration Building, and an Alternative Learning Center.

"We are protecting against vandalism, theft, and other student misbehavior that is typical for high schools," explains Larry Schmidt, Director of Business Operations at USD 475.

Fast response and return of stolen goods



Just before school started in September 2005, an Open House was held for parents and students, where the band instructor was proudly showing off new musical equipment. That same night at 2 a.m., a set of drums and an electric guitar were stolen.

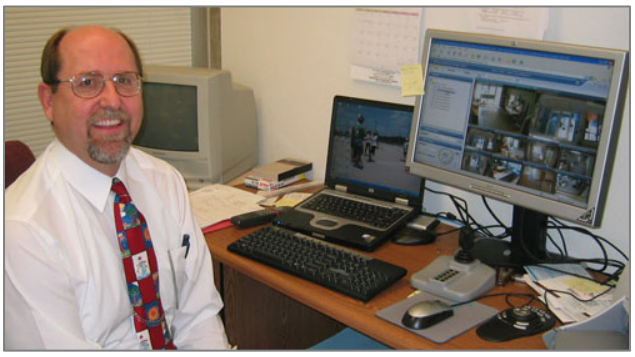
"We went into the software, quickly found the sequence of images, and tracked them climbing up a gas pipe on the East side of the building. We also had them on the video camera in the stairwell they used when leaving, carrying the trap set and guitar downstairs. We had a nice clear view of them!" recalls Schmidt. "We supplied the evidence to the police who got a warrant, and the school equipment was recovered within the week. We've also corrected the pipe access issue by installing screens around it, and found that we had to increase the lighting in a few places."

It was the first incident using the newly installed Milestone surveillance software.

"It was our very first experience trying to get video off the new system. It was really quite easy to do and to operate: the system is very straightforward," attests Larry Schmidt happily.

Efficient use of existing infrastructure and surveillance coverage of all sites

USD 475 has been wired with fiber optic network cables over 22 buildings and 18 sites since 2001. The entire school district covers 262 square miles, has 230 acres of grounds and 1.2 million square feet of facilities. The High School alone is 280,000 square feet with the Middle Schools at 130,000 and 90,000 square feet. Another now planned will be 120,000 square feet.



"We used to have network access in a frame relay setup but the fiber is much faster, which makes it easy for us to do video over the network. In fact, I can view any of the cameras in any building at any server throughout our Wide Area Network," says a pleased Schmidt. "We're looking to grow a considerable amount and our security will change as we do that. Having generalized access to the system provides us with an extra benefit to be able to monitor all of our assets all of the time."

USD 475 has also been migrating everything to Microsoft for a standardized platform that makes it easier for their technology department to handle the district's total IT needs.

Police cooperation and good partner support

"We got a grant from 'Secure Our Schools' which is part of Homeland Defense funds, in cooperation with the police department, for the initial implementations. One of the long-term plans was to allow the police to have access to our cameras and what is going on in our buildings," Schmidt states.

Each secondary school has a full-time SRO (School Resource Officer) from the police department on duty, in addition to each school's own security staff, hall monitors, and teachers who walk the halls, check doors, etc. They can see how incidents start but once the events are in progress, things can sometimes get confusing. This is where it can really help, having the system to go back and look at what actually occurred.

Historical grant funding

"We applied for another 'Secure Our Schools' grant in June 2005, having been notified the funds were available in April or May," relates Schmidt. "We have a lot of unique issues in Geary County and Junction City because of our connection with Fort Riley and its mobile population. These characteristics give us a lot of opportunities. The last bond issue in this district was in 1955, which built the High School. The new initiatives are obviously a big step for the region historically."

ISG Technology has been servicing the district's Technology Department for a number of years.

"It's important to have a good working relationship with someone in the technology area because it changes so quickly, and we're busy just trying to keep our business running. We need ISG to know what's going on out there, to keep on top of the latest technology. They are very pro-active," states Schmidt with satisfaction. "They were very good at assisting us in putting the specifications together for the funding."

Monitoring with MPEG4 versus MJPEG surveillance

The district is renovating an older building in town for use as an alternative learning center for 'extended opportunities', where about 40 'at risk' students will receive special attention.

"Here, we will use the surveillance cameras in the classrooms, not for security but as a monitoring tool to play back the video and show the students how their behavior affects everyone around them. It's a learning experience to help them modify their actions for more positive outcomes," says Schmidt. "Some students don't realize what they're doing and it would give them the ability to analyze."

Tim Palmquist, Account Manager at ISG, adds: "In that environment, we will leverage the flexibility of the Milestone Enterprise software coupled with the Axis 210A cameras and set these devices to view and record MPEG4 streams versus MJPEG. In this instance the fluid video will be more important than the higher quality evidence afforded by MJPEG."

Cost efficient transition from analog to digital

USD 475 had analog security equipment from the 1990's, and already then could see a significant drop in vandalism from the preventive effect of having surveillance.

"We wanted something easier to operate. With the older system we always had to go through a whole tape to find evidence. We can now just go straight to the event in the software, and burn it on a DVD for the police, or save it on a memory stick - that's beneficial for us," says Schmidt.

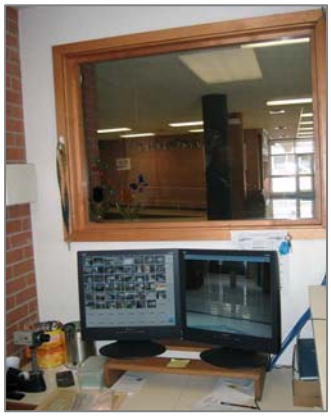
"I like the fact that the software only records when there's activity on camera - the motion detection feature – that's how we spot the times there are problems: we go back to the alert list that is based on motion detection. It's quite a system!" smiles Schmidt.

"We were also able to retain part of the district's original investment by using the Axis blade servers to IP-enable the analog cameras for archiving their video in the Milestone software," explains Tim Palmquist.

Schmidt adds: "We set up the cameras ourselves and it was very easy. We're basically using two Axis network camera models: the 211 fixed position and the 213 Pan Tilt Zoom, plus the Axis 241Q video servers for the old Pelco and Panasonic analogs."

Before and after: IP dramatically streamlines

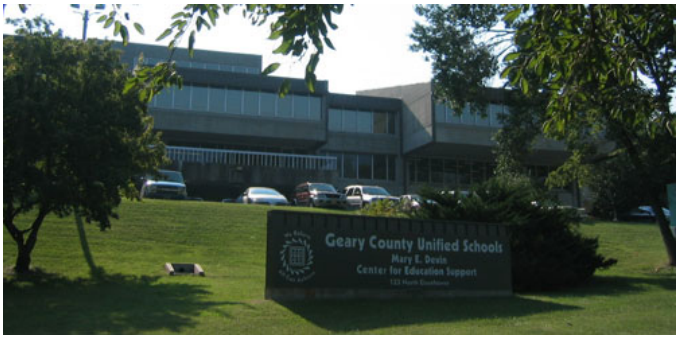
"When we did the High School installation, we had an interesting illustration: we took out about a truckload of cables, monitors, racks, and stuff for the old analog system. The new IP installation is very compact in comparison – a significant difference!" laughs Palmquist.



"Yes, the Hall Monitor's room was really full back then – and they didn't have much space to start with! So it's much better for them now," comments Schmidt. "But the fact that we can re-use some of the older cameras is very beneficial and that was important to us. Some were only a few years old, but they are black and white. The new network cameras are color. The Axis 213 PTZ model operating outside the building is a real top quality camera: it's unbelievable the image you get from it."

Tim Palmquist explains: "We had an advantage with a good quality Ethernet structure in place to build on: they were already powering their IP phones with Power Over Ethernet, so we just added some switches to power up the cameras, too. The Axis 211 camera is an auto-iris model that compensates for changes in light – it's a really good quality camera and excellent for areas like dark stairwells that have a window with bright light glaring into part of them. That stark contrast could make images very hard to see otherwise."

Dr. F. Miller, the Principal of one of the USD 475 Middle Schools, responded with this remark when asked what he thinks of the new IP video surveillance system: "I love it! It's been like moving from the Dark Ages to the 21st Century."



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