As technology plays a greater role in physical security solutions, IT staffs are working with public safety teams-- and together improving security on and off campus.

Melding IT With Campus Safety

- By David Raths
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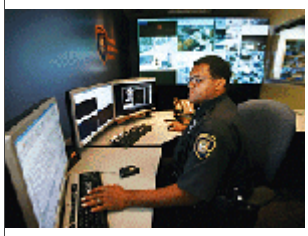
AS MORE CAMPUS security solutions-- from video surveillance to access-control systems-- involve the campus network, IT leaders are by necessity gaining more expertise about security systems.

University officials also are finding that overcoming cultural barriers between physical security staff and IT employees can be as challenging as the technological issues. Two groups that haven't had much in common in the past now find themselves working together on a regular basis.

"There has been a migration in which IT has become more heavily involved in the decision-making," says Robert Grossman, an electronic-security consultant in Egg Harbor Township, NJ. But in one sense, he adds, it doesn't matter whether IT owns the project or public safety does. "You have to get IT involved," he stresses. "If you're going to hop on the network, you have to know if you're going to cause problems. Video-surveillance installations use more bandwidth than data. Can the network handle it?"



AT MARQUETTE U, the creation of a command information center to monitor 400+ on- and off-campus security cameras challenged public safety and IT leaders to work together in ways they hadn't previously.

In some cases, IT departments are increasingly taking responsibility for security on campus. For instance, the network technicians' role in public safety at **Michigan Tech University** has grown to such an extent that Dan deBeaubien, director of information technology services and security, is considering sending his staff to evidence-handling school. When a crime on campus is suspected, often it is IT staffers who are the first to review tapes, looking for suspicious activity, so deBeaubien

believes it's important that those tapes are handled in such a way that the footage is admissible in court.

The IT team at Michigan Tech, based in Houghton, MI, became deeply involved in public safety in 2005 as deBeaubien sought to upgrade surveillance of the university data center. Public safety officials told him they were dissatisfied with the existing cameras on campus, which were monitored in a piecemeal fashion with no central system coordination. They asked deBeaubien to take charge of a project to upgrade and/or replace the current system. As with other IT projects, he did a needs assessment and helped public safety figure out its requirements. As long as cost, security, and accessibility requirements were met, deBeaubien reports, Michigan Tech's public security staff "didn't really care about the underlying technology, whether it was IPbased or digital or analog."

With an IP-based telephone system and a campuswide Ethernet network already in place, deBeaubien decided a network of IP-based cameras was the way to go. The system now uses IP cameras from several vendors in conjunction with Video Insight monitoring software. DeBeaubien says that the IT staff runs and maintains the system for public safety, whose officials have a fully functional console so they can view live and recorded video. IT staffers function as video techs for public safety, helping them learn to use the system and to find and process footage properly.

To ensure that both departments' priorities are being addressed, the two groups jointly author policy for sharing of and access to surveillance footage, camera placement (to balance between privacy and security), who has access to the footage, and other concerns.

Another issue the two teams are continually working on is how to fund the expansion of camera locations. For example, public safety pays for cameras in areas the department is concerned about, such as certain parking lots and highpriority outdoor areas, but residence halls pay for cameras out of their own budgets. "That funding issue is one thing we need to work on," deBeaubien says, adding that the relationship is an ongoing process. "We continue to work closely with [public safety] about strategy issues."

An IT Team of Its Own

In 2006, as the **University of Texas at San Antonio** police department began to upgrade the technological infrastructure supporting its security efforts, it also saw the need to make some organizational changes to better manage its resources and to communicate with the university's Office of Information Technology (OIT).

OIT already had a somewhat decentralized model, with an IT person in each department designated to support staff and work on IT security. But the police department previously had never felt a need to hire an internal IT staffer until it started making technology-infrastructure investments that impacted the campus network.

Its first hire in 2007 was Cynthia Govea, who came to work as a technician with vendor Reverse 911, to help install an enhanced phone/e-mail campus emergency system. It was soon obvious to the executives overseeing the security upgrades that she could be a valuable member of their team. "We knew we needed someone full-time on our staff rather than relying solely on IT for support," says Capt. Daniel Kiley, support services division commander.

Govea explains that "part of my job here is to be the liaison and develop very close relationships with the IT guys upstairs, so that they are involved in decisions about any new equipment or anything that might affect the network." Govea adds that she also spends a good deal of her time translating IT decisions into lay person's terms for the police department staff.

She believes that a clear IT department structure facilitates strong relationships and communication. The OIT team is broken down into role-specific groups, so she knows exactly with whom to speak when an issue comes up, and whom to include in strategic discussions when departmental projects are proposed. It's also clear to her "where the division of labor is," Govea says. She knows she is responsible for supporting the servers and specific applications the department runs, and that OIT will support the network and campuswide applications.

In 2009, the UTSA police department hired David De Los Santos as the director of security systems, to oversee issues related to information technology, security cameras, and access services. He reports that among his responsibilities is "getting involved in construction projects in the planning stage." As more new buildings are planned, incorporating cameras and card-reader technology into the design of projects is cost-effective, he says.

Michigan Tech is considering sending IT staffers to evidence-handling school to ensure that surveillance videos are handled in such a way that the footage is admissible in court.

In addition to Reverse 911, UTSA has installed a Cooper Notification system, designed to deliver indoor/outdoor mass notifications in an emergency. UTSA also has replaced outdated black-and-white cameras with color cameras from DVTel that possess greater visual and pantilt- zoom capabilities, along with video-management software from Salient Systems. To augment its traditional foot and vehicle patrols, the university now has more than 400 cameras on campus, each with at least 30 days' worth of video stored on a server, so detectives can travel back in time electronically to review physical locations where a crime may have been committed.

Donovan Agans, UTSA director of business continuity and emergency management, calls these separate installations the "technological cohesion in policing" project, because he sees it as a concerted effort to use all of UTSA's public safety technology and employees to form a united approach to crime prevention. "To do this, we had to have greater team cohesion internally, but we also had to reach out to engage the university community," he says, "especially those in IT to help us look at these technologies."

Reaching out Into the Community

Lt. Brian Joschko uses the term "force multiplier" to describe some of the ways technology upgrades have enhanced security at **Marquette University** (WI).

As the support services coordinator for the Milwaukee campus's department of public safety, Joschko is enthusiastic about the university's 2007 expansion of video surveillance to the neighborhood surrounding campus. Twelve cameras have been added on a wireless network, using Cisco's outdoor wireless mesh network solution.

"The idea is to expand the students' overall comfort level and supplement officers on the street," he explains. "We thought we could minimize cost by adding cameras to offcampus areas. It's like having an officer on patrol 24/7 who doesn't blink and who is always recording information. And, with the accompanying signage about video surveillance, it's a crime deterrent."

The outdoor wireless network project, and another to create a command information center to monitor more than 400 cameras located on and off campus, challenged public safety and IT leaders to work together in ways they hadn't previously. But Dan Smith, senior director of IT services, credits

a disciplined project-management methodology for keeping the project on track.

"When we implemented PeopleSoft a few years ago, we set up a project-management office, and we realized one of the success factors was having a partnership between an IT staffer and a functional team leader," Smith recounts. "That carried over to this project, so the department of public safety defined the requirements, and the IT people reviewed what that would mean for the access points, the campus network, and looking at the vendors." For the outdoor wireless network, staffers chose Cisco equipment because they believed integration with the existing Cisco network infrastructure would be smoother, and that maintenance of the infrastructure would be easier with a homogeneous vendor.

The project did present some challenges and surprises, both managerial and technical. For example, the two system integrators hired both were purchased by larger companies during the middle of the project, but Smith says that turned out not to be a big problem because the staff assigned to the Marquette project did not change. On the other hand, Marquette officials say they were surprised at how readily members of the local community welcomed the cameras. When they approached landlords in the adjacent community to ask for permission to place the equipment on their properties, nearly all were enthusiastic, and many were even willing to commit to providing electrical power.

On the technical side, the first generation of outdoor wireless access points were not adequate and had to be replaced, and some network switches had to be upgraded. During deployment, there were issues with throughput and resolution. "You had to adjust the settings on the components and make compromises on resolution to get adequate speeds," explains Sean Samis, a project manager in IT services.

"Before this project, Marquette had cameras in and outside residence halls and other public buildings, but [the wireless network] allows us to integrate our camera system with our access-control system," Samis adds. The command information center features digital video recorders and network video recorders that display on a programmable 134-inch "video wall" in the public safety dispatch area. The video is integrated on-screen with information from a C-Cure 800/8000 access-control system.

Resources

- **Cisco** (wireless mesh network solution)
- **Cooper Notification** (mass notification system)
- **DVTel** (security cameras)
- **Reverse 911** (phone/e-mail emergency notification systems)
- **Salient Systems** (video-management software)
- **Software House** (C-Cure 800/8000 access-control system)
- **Video Insight** (video-monitoring software)

Marquette officials say they already have seen tangible results, including recording an attempted robbery at an offcampus business. Video surveillance was used to capture the perpetrators' vehicle, which ultimately led to a confession by the suspects.

As Joschko notes, the use of video surveillance on urban campuses is not unique to Marquette, but the ability to extend its reach to off-campus locations is unusual and has received applause both from students and from people who live in the neighborhood, as well as from the Milwaukee police department. More cameras are being added both on and off campus. "We looked at adding more

officers," he says, "but this is like adding an officer who never sleeps."

About the Author

David Raths is a Philadelphia-based freelance writer focused on information technology. He writes regularly for Computerworld and other IT-focused publications.