LOCKED UP

Trends in hospital access control devices and technologies

BY NEAL LORENZI

SECURITY

The need to encourage an "open environment" for the community while maintaining rigorous security precautions to discourage transgressors has challenged hospital access control device makers like never before. However, manufacturers are responding with a wide array of technology-enabled solutions that are proving both effective and practical for health care facilities.

WIRED SARGENT's Internet protocol-enabled solutions take advantage of existing network infrastructure to provide enhanced security and easier, more cost-effective installations.
ASSA ABLOY Americas International

SAFE APPROXIMATION Sandhills Regional Medical Center in Hamlet, N.C., uses Schlage wireless proximity card readers in tandem with a Schlage web-enabled security system to access, monitor and manage its system from any computer running a standard web browser.
Ingersoll Rand Security Technologies

LOCKER ROOM The XS4-Locker is a lock designed to bring the advantages of electronic access control to lockers and cabinets.
Salto Systems Inc.

Users and providers of access control systems in hospitals are about to enter a brave new world of technology while keeping their focus on the practicality of meeting budgets in the quest to improve security. Areas of focus include total integration, implementing Internet protocol (IP) network-based systems and maintaining an accounting trail through electronic auditing of human activity. At the same time, biometrics is coming into play.
Health Facilities Management recently discussed these trends with experts who share their ideas on both industry trends and technological innovations.

Making it easier
Joseph Bellino, president of the International Association for Healthcare Security & Safety (**www.iahss.org**), Glendale Heights, Ill., says that access control is becoming more popular because systems are easy to use and they eliminate the need to carry traditional keys. Smart cards offer total integration, serving as ID, access and time cards all in one. Also, access control systems now provide an accountability trail that hospital administrators can audit.

"We've learned how to make it easier for everybody," says Bellino, who is system executive for security at Memorial Hermann in Houston, where he oversees 12 hospitals. "Sometimes, we in security get labeled as being obstacles; however, the easier you make it for people, the more they will accept and use the system."

Matt Conrad, health care director, Ingersoll Rand Security Technologies (**www.ingersollrand.com**), Carmel, Ind., agrees. "The adoption of smart cards is one of the top security trends in health care right now," he notes. "Hospitals that are looking for optimized security and improved efficiency through consolidating credentials are adopting smart cards not only for physical access control but also logical access control and applications such as time and attendance."

Tom Griffin, principal consultant at Thomas Griffin and Associates LLC, Detroit, says multitechnology card readers can provide a migration path from one technology to another and can accommodate multiple card holder groups with different technology at a single reader without reissuing new cards. Also, lock power can now be provided via network connection, which can be cost-effective because it reduces the need for power supplies in some door applications, he adds.

"We see more interest in proximity readers being used to control access to various

> ## "We see more INTEREST in PROXIMITY readers being used to CONTROL access."

locations," says Gregg Stokely, sales manager for Essex Electronics (**www.keyless.com**), Carpinteria, Calif. "The controls associated with the readers are heading more toward IP network-based systems that allow quick updates to controlled information via the Internet. Access logs [showing] who enters a hospital and when are becoming more important."

Of course, budgetary concerns in today's economic environment are a key factor. Kevin Smith, product manager, Stanley Healthcare Solutions (**www.stanleyhealthcare.com**), Indianapolis, notes, "One major trend is dominating the entire health care industry: finding ways to handle more patients and improve care without access to more funding. We're hearing this not only from hospitals in the United States as

GETTING CLOSER
A DKS Proximity Card Reader grants access to a restricted medical area. **DoorKing Inc.**

QUICK CHANGE Cyber-Lock electronic cylinders convert standard mechanical locks into an access control system. **Videx Inc.**
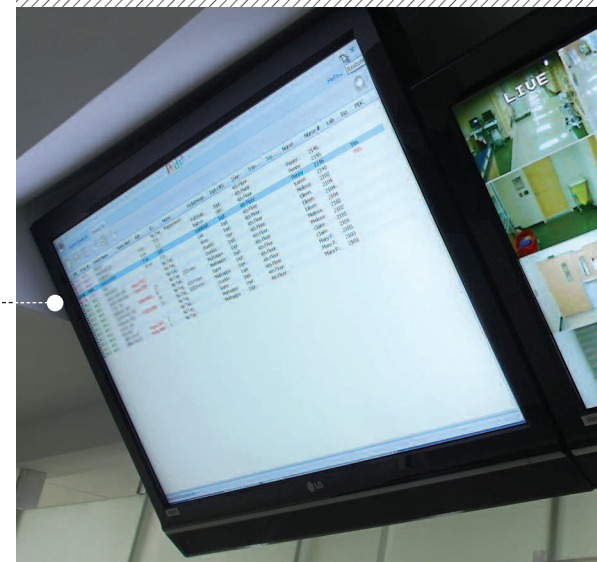
KEEPING TRACK
The Pedz Pediatric Protection system's customizable patient census view contributes to clinical efficiency as well as patient safety. **Stanley Healthcare Solutions**

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they grapple with the implications of health care reform, but in other countries as well."

What this means from an access control or patient security perspective is that all security systems must actively contribute to clinical workflow and better patient care, Smith explains. This is done by designing systems that adapt to the clinical environment — through a customizable patient census view, for example — and increase staff efficiency by relieving caregivers of the burden of watching over patients one-on-one.

"The handling of data from all these systems is another area where change is happening," Smith adds. "The current generation of products relies on servers on-site in a secure environment. In the future, hospitals may opt for a hosted solution, to benefit from the higher levels of security and more proactive management of events. This is a model that is already well-established in the security industry."

Planning ahead

Bret Tobey, product manager, ASSA ABLOY Americas International (**www.aanai.com**), sees two major trends in access control today. The first is design. It is important to consider access control at the beginning of the planning process, he notes. By incorporating various requirements throughout a facility, access control can support the mission of the hospital and improve efficiency for enhanced patient care.

Legislative and regulatory initiatives such as the Health Insurance Portability and Accountability Act (HIPAA) drive the second major trend: the need for accountability and security throughout a facility. "Access control is no longer limited to exterior openings," Tobey says. "Beyond simple ingress and egress control, facilities need audit trails in areas that didn't previously require them, such as the behavioral health unit,

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maternity and pharmacy."

Joseph Kingma, director of business development, Medeco High Security Locks (**www.medeco.com**), Salem, Va., agrees that hospitals are under increasing pressure from regulatory bodies such as The Joint Commission to provide auditing of access to restricted areas such as pharmacies and patient record storage areas. Auditing access improves materials management, controls loss and ultimately improves patient care, he notes. Adds Michael Mahon, vice president commercial sales, Salto Systems Inc., Atlanta: "There is a growing need to secure pharmaceutical cabinets and mobile medication carts in hospitals."

Stand-alone or retrofit?

Are the most effective access control systems stand-alone devices? Can they be retrofitted to any security system? Experts agree these are both viable options but that connectivity is becoming ever more important.

Because newer devices are IP-addressable, most can be used as either a stand-alone solution or as part of a larger integrated solution, according to Bryan Warren, director, Carolinas HealthCare System Corporate Security, Charlotte, N.C. "The ability of these devices to communicate across brands and technologies is still not as robust as security practitioners would like, but some third-party solutions are emerging that actually take these separate devices and integrate them at a centralized command and control station," he remarks.

Conrad of Ingersoll Rand believes that proprietary systems are a thing of the past. "The philosophy of open architecture solutions, meaning they can work with multiple existing standards-based systems, is at the core of our product offerings," he notes. "Many hospitals can't afford and don't want to rip out their entire system. They want products that work with their current systems and give them a migration path to future networking options."

Richard Sedivy, director of marketing and regulatory affairs, DoorKing Inc. (**www.doorking.com**), Inglewood, Calif., says access control systems can act as stand-alone devices or as part of a larger security system. "In regard to retrofitting, that depends on the system, its features and age. Given today's economy and budget constraints, retrofitting may be a viable alternative to replacing a complete system," he says.

Kaba Access Control (**www. kaba-ilco.com**), Winston-Salem, N.C., offers card-connected systems that use smart cards to form a network so that intelligence is updated to the card daily or hourly at a few wired access points, according to Mark Allen, marketing manager. Stand-alone locks are installed at other doors. "The stand-alone locks read the card and write audit logs that are then picked up by wired readers as people move through doors around the facility," he notes. This provides the functionality of a wired system without the need to run wires or install a radio-frequency infrastructure.

Warren says biometrics have begun making inroads into health care because of technological advances that have lowered costs while increasing the systems' efficacy. Several federal grant programs also have helped in this regard, such as

the Global Threat Reduction Initiative from the Department of Energy and the Nuclear Regulatory Commission, which has targeted health care institutions that store radioactive material, he adds.

Steve Nibbelink, CHPA, program director, health care security, for Schneider Electric Buildings Business (**www.schneider-electric.com/buildings**) in Carrollton, Texas, notes, "There are many developmental projects under way by a variety of organizations to incorporate voice and facial recognition technology into access control and video surveillance solutions."

How do access control systems manage the data they collect? Networked and offline solutions each have their advantages and disadvantages, experts agree, and as technology changes, data may be stored in different media forms down the road.

"The trend I've seen that best fits the needs of hospitals is to have more networked access control," says Conrad. "This allows for a central

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source to collect audit trails, edit access permissions and, of course, lock down that opening. The advent of wireless electronic locks has made this more cost-effective, especially in retrofit situations."

Jim McGowan, vice president of sales and marketing for Videx Inc. (**www.videx.com**), Corvallis, Ore., says that previous stand-alone systems are now components of a larger integrated security platform. "In the past, when a [closed circuit television] monitoring system captured a security-related event, it had to be manually compared to access control logs in order to synchronize the facts of the event. Now, it is possible to gather all evidence of a security event through one system."

Interactive future

In the arena of access control, wireless technology and web-based applications are gaining acceptance and appear to be the way of the future, experts agree. In addition, it appears that biometric readers, edge devices and real-time asset and personnel tracking devices will make up a brave new world of hospital security systems.

"We will continue to see the convergence of security and IT," predicts Conrad. "In health care, this means that security systems will interact more with business, building and potentially clinical systems. In the near future, clinicians and hospital staff will have a more seamless interaction with security technology." **HFM**

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