

Security goes according to plan at Kutztown University

By developing a comprehensive access control plan that addresses its evolving needs, Kutztown University has been able to move successfully from improving key control through integrating electronic access control with its one card program. With its latest move into the newest version of electronic access control, the University's approach continues to ensure consistent, reliable security solutions.

Located on a 325-acre campus midway between Reading and Allentown, Pennsylvania, Kutztown University comprises four colleges: Business, Education, Liberal Arts and Sciences, and Visual and Performing Arts. Founded in 1866 as Keystone State Normal School, it achieved university status in 1983. Currently, it serves 10,700 students from 26 states and 51 nations, with 330 full-time faculty members.

Over the years, the University has built its approach to many areas of operation on industry best practices, refining and developing them to meet its needs. For example, its grounds program has won national awards for the past two years. In developing an access control program, it has followed the same path.

Key Control Beginnings

Previously, many different key systems had been used on campus, resulting in a lack of key control. Beginning with the basic organizational structure, the key and lock shop was moved several years ago from being a segment of the carpentry shop to the business services part of the facilities department, to more effectively implement and control a new key and lock policy. As part of the move, a new lock shop was built and fully equipped, including cabinetry, equipment and tools.



Kutztown University's Sheradin Arts Building incorporates a variety of electronic access control solutions.



Schlage CM993 wireless lock controls classroom access.

AD-Series lock in brass finish also incorporates both card reader and keypad for more access control options. Key is used only for emergency override

When renovations began with the large Old Main building, a key hierarchy was developed and the building was re-keyed, marking the beginning of a comprehensive physical security program. Director of Facility Business and Campus Services Kim Rhode says, "Before, too many people had grand masters, so we transitioned to one master key program on a key hierarchy, with a meaty key and lock policy behind it. That gave us control over the grand master issue."

She says the campus uses two grand masters, one for residence halls and another for academic and general buildings. Sub-masters are used under each area for smaller operating areas. Rhode says it took close to 10 years to implement the key program fully. "At the time," she recalls, "we probably had about 18,000 doors on campus, so it was a large fiscal commitment to rekey them all."

At the same time, tracking and accountability for keys issued was moved to an administrator, as well as control of key blank inventory. "That added a layer of security for the University and minimized some liability issues," Rhode notes. Today, keys are being replaced by electronic access controls as the campus moves to upgrade security through a comprehensive plan.

Eventually, keys will be used only by emergency and service personnel for bypass needs. Once a person has an electronic credential, he or she will no longer hold a key. When discussing security needs with a department head or other individual, Rhode helps them select the best type of lock for their situation by pointing out the trade-off between convenience and security.

Moving to the Next Level

The features and functions available with electronic access controls help to meet these sometimes conflicting needs more closely. Although electronic access was introduced on campus several years ago, it was limited in scope and effectiveness. Rhode notes, "It was only used on one building, and one person ran it, so it had no impact across campus." In addition, it was installed by an outside contractor and there was no central area of responsibility for servicing on campus. A problem might involve an electrician, an IT technician and a locksmith, each from a different department,

Another problem was that the early electronic controls were operating on a transaction-based system, which incurred fees based on usage. While this might have worked for operations such as the bookstore or food service, which generated cash transactions, it was not feasible for housing, which would have become liable for the cost of its percentage of card swipes. Between the cost of initial installation and ongoing charges, a better solution was needed for the housing applications, as well as one that would apply to other uses. Campus growth made it both practical and necessary to consider a broader role for electronic access controls. Student population had doubled, new buildings were being built, and two locksmiths were handling all key and lock issues. The time and cost of changing locks when keys were lost was becoming prohibitive, especially in the case of a sub-master.

The initial interest in electronic locks as a possible solution was precipitated in part by a magazine article on another university's solutions to a similar problem. The article described how the C.W. Post campus of Long Island University used Schlage offline CM locks with PIN codes to secure its residence facilities. Further investigation led Kutztown University to explore a broader range of electronic access control solutions.

To make the transition to electronics work more smoothly, Rhode proposed consolidating responsibility for the technology under the facilities department. Proposals were then requested based on a five-year contract. Rhode says, "We wrote a contract that allowed us to itemize options. We were looking for manufacturers and vendors that could bid by item pricing so we could use it like a shopping list, with prices guaranteed for five years. Products had to be available through multiple vendors to keep the bids competitive, and the products had to 'play well with others' so they could supplement what we already had." Labor rates for technicians and other support people were also included in the bid to provide flexibility when help was needed on specific projects. As part of the solution, software needed to be an SQL (Structured Query Language) program that was ODBC (Open Database Connectivity) compliant so it could grow with the University's needs well into the future. After bids were received, final vendor selection was made by a committee that included representatives from all interested departments, including IT, the onecard office, administrative services, housing, facilities, construction and public safety.

The committee selected a solution by Allegion that included mechanical hardware as well as electronic access control and software integration. An important factor was the availability of products from multiple distributors and integrators, which facilitated the competitive bidding necessary for a public institution while preserving the components of the basic solution selected by the committee.

Because the University's existing one-card system was used for credentials, purchases and other functions, the access control software had to be easily integrated with it. Part of the initial program included writing an interface between the one-card system and the Schlage SMS system that was selected. According to Rhode, this makes the information easily available for access control without the need for massive data entry. She says, "We partnered with the one-card office, and we are able to serve our students seamlessly without requiring additional action on their part. If a student's card is suspended through the one-card office, that information comes over to us and automatically suspends that student's access privileges."

Electronic access control provides a higher degree of security with greater flexibility. Once a student's demographic information is available in the SMS system, he or she automatically gets access rights to the front door of his or her residence hall. Currently, two residence halls are equipped with card readers on all interior doors as well. In these cases, the student's card also controls room access. Rhode states that other buildings will be upgraded to include interior door control as budgets and renovation schedules permit. When installation of card readers and electronic hardware is not in the budget for a project, wire runs will be included in the building to simplify later hard wiring.

Electronic Hardware Choices

Although some doors will continue to be secured with mechanical locks, primarily where usage and security risks are low, the use of electronic access control opens up a broad spectrum of hardware choices that can be tailored to specific needs. For areas where usage and turnover are relatively low but higher security is needed, the University uses Schlage CM offline locks, in which access data is managed by computer and transferred to or from the device by using a PDA. This eliminates the cost of rekeying when users change. Because these locks are battery powered, they require no wiring and are easy to install in existing buildings.

In applications where an online solution is needed but the cost of hard wiring might be prohibitive, the use of wireless locks is especially beneficial because they eliminate the need to pull wiring and provide power supplies for each controlled opening. Instead, these locks are battery-powered but linked to the network for real-time control by wireless data transmission. Two different types of Schlage wireless locks are used. Standard WA Series wireless locks are used on applications such as classroom, storage and equipment room doors, while WA993 locks are used where exit devices are required for egress.

For new construction or major renovations where door openings can be hard wired, Schlage online locks and card readers are used. Online devices can be monitored constantly and offer a range of features such as door position monitoring. They provide a high degree of security for exterior doors and other critical applications. The main and rear entrances of all twelve residence halls are equipped with Schlage hardwired electronic access control.

Some classrooms and the Beck House residence building are already using the new Schlage AD Series locks, which will be installed on most new applications. They are built on an open architecture platform that lets the University leverage its “one-card” solution to provide safe and secure passage throughout the campus. With them, administrators can provide seamless integration with their present software, customize today’s access control solution, and easily migrate to future needs when required. The modular design of AD-Series locks makes it easy to change configurations or upgrade credentials, networking options or software without replacing the locks. Such upgrades can be as easy as changing a module.

These locks also will be easier to configure as the campus moves toward using hotel-style locks in residence buildings. Rhode says, “What we’d like to see as a standard for residence hall interior doors is a hotel-style lock with a self-service kiosk. If a student moves to a different room or get a new card, they can handle the change themselves by using the kiosk.”

Working the Plan

A master Campus Expansion Plan controls the choice of hardware for each type of opening, which helps match security solutions to security needs. “Our users don’t decide what kind of lock is installed on their door,” says Rhode. “Even if they are paying for it under their own budget, it has to meet our minimum standards. They can go beyond these standards, but the minimum level of security must be met.” In fact, she notes, many users are paying for their installations out of their own budgets when funds aren’t available in the facilities budget.

By following the plan, the University is able to prioritize security needs and match solutions within available project budgets. “We believe that every building on campus should have its exteriors secured as a first priority,” Rhode explains. “Where we can’t afford the ideal solution, we identify the areas that need the highest security first. We take into account the level of transient occupancy, the number of key losses, the sheer volume of users involved and factors such as whether the building includes cash or contract operations, such as dining or a bookstore.”

This approach pays off and leads to more electronic solutions and the benefits they provide, both for residence and academic buildings. The new Sheradin Arts Building, for example, includes some type of electronic access control on every door. Depending on the application, solutions include offline computer-managed, wireless and online hardwired locks.

Well into the five-year contract, Rhode is looking ahead to the next bidding cycle. She says, "We don't need the startup project next time, and we don't have to select the products. We spent the last year on an assessment program, and the users are very happy with how things are working."



Kutztown University of Pennsylvania, a member of the State System of Higher Education, was founded in 1866 as Keystone State Normal School, became Kutztown State Teachers College in 1928, Kutztown State College in 1960, and achieved university status in 1983. Currently, 10,700 students are enrolled at the university from 26 states and 51 nations. Kutztown University offers a diverse range of excellent academic programs to prepare individuals for successful careers.

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