WHAT'S IN
THE CARDS

For access control cards and readers, the slow but seemingly inevitable march to smart technology is gaining momentum.

By Karyn Hodgson, Contributing Writer

Anyone who works with the government sector is well aware of the ongoing saga of the smart card. This perennial "up-and-coming" technology is finally here. But how long will it take to truly make its presence known in a proximity-saturated access control market? *SDM* spoke with several leading manufacturers to find out where this technology is headed next and what it will mean for dealers and integrators.

"It's a learning curve right now," says Steve Dentinger, director of marketing, Keyscan, Whitby, Ontario, Canada. "A lot of consumers are just now learning about [smart cards]. With the emergence of FIPS 201 and HSPD-12, there is a lot of talk about secure technology, and that technology is on a smart card base."

Beth Thomas, product marketing manager, Honeywell, Louisville, Ky., sees a growing emphasis on smart card technology as well.

"Most of the innovations and new trends in cards and readers right now are in the smart card area," Thomas says. "We are seeing more adoption of government standard cards, not just in the federal government but also by first responders and companies that provide services to government contractors.

"At the same time we are seeing more emphasis on smart card technologies in general. Large organizations are taking a look at it and seeing how secure a technology it is. They want something less prone to hacking and other issues that lower frequency cards have been plagued with."

All of the interest in smart cards doesn't mean that proximity, or 125 KHz cards are going away any time soon, however. "I think smart cards are still somewhat at an early adopters' stage," says Andy Bulkley, product manager, access hardware, GE Security, Bradenton, Fla. "They are just beginning to move up the product adoption curve to the early majority stage."

CARD TRENDS

Access control cards today are overwhelmingly low frequency 125
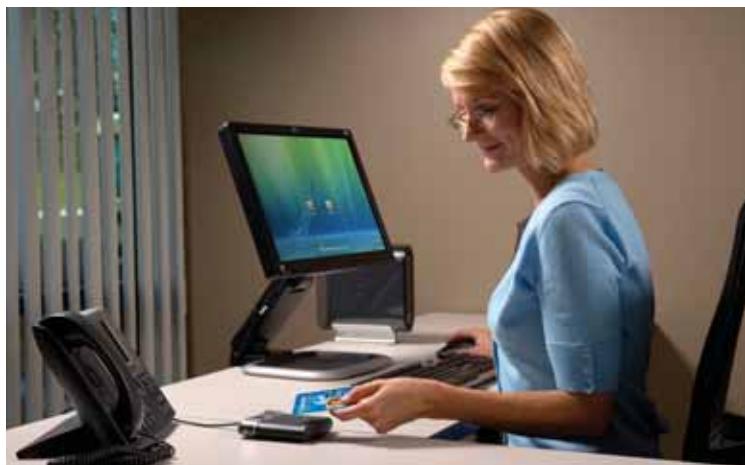
Logical access is one trend driving smart cards into business settings. Multi-technology readers allow companies to read both smart card and proximity so the transition can happen at the user's preferred pace.

KHz proximity technology, with some legacy magnetic stripe cards thrown in as well.

For many applications, proximity is no longer enough, however. In an increasingly technologically complex world, customers want more. "I think there are significant numbers of 125 KHz cards and readers deployed and there will always be a need to support

Considering Biometrics

Any talk of smart cards often brings up the subject of biometrics as well. For dealers and integrators wanting to sell the smart card benefit to an end user, this is a future-proofing discussion that should occur.

"A lot of companies overlook biometrics," says Beth Thomas, product marketing manager, Honeywell. "There are some open standards for fingerprints, but even the way an open standard template is put on a card could vary a little bit. When you encode data on a smart card, if you don't have the knowledge to know what goes where, it could cause you problems later on when you choose a biometric reader."

If biometrics is something a customer might want in the future, one option is to choose a product that already marries to a specific biometric.

Keyscan has recently partnered with a fingerprint biometric manufacturer, for example. "We have done some unique integration with our Smart Gate reader," says Steve Dentinger, director of marketing for Keyscan.

But, he adds, adding any biometric onto a smart card should be doable as long as you have the right kind of space on the card. "As long as you have a continuous block of data that a biometric template can be stored on, it can be done."

However it's achieved, the goal is a smooth and easy process for the end user.

"When you add biometrics to the system, you want the capturing and encoding on the card to be a seamless process for that customer," says Andy Bulkley, product manager, access hardware, GE Security.

that," Dentinger says. "But as consumers become more aware of newer, more secure technologies such as 13.56 MHz smart cards with built-in encryption, we will start to see more migration to more secure cards."

Led by the government standards and adoption, smart card technology has much to offer, particularly in campus environments that want multi-use cards.

"It spans outside of government use in getting to a single credential and leveraging existing infrastructures through the use of one card technology," says Dave Adams, senior product marketing manager, for IAM (Identity and Access Management) products in physical and logical control products, HID, Irvine, Calif. "In the government sector, smart cards help identify people and make things more secure. In other areas, such as healthcare, it is more about efficiencies."

Colleges and universities are another likely adopter of smart card technologies, adds Brad Jarvis, vice president of product marketing, HID. "Wherever there is a desire to extend access control credentials to applications such as dining, snack and beverage or laundry — a lot of the drivers seem to be about significant improvement in conveniences as well as revenue drivers. We see a lot of that beginning to occur."

Another driver for smart cards is the increasing trend to marry physical and logical access control. "Corporate businesses are faced with all of these identity issues around their logical access so it just makes sense to tackle both at the same time," Bulkley adds.

Finally, the evolution of smart card technology itself as well as card technologies in general will help the trend along.

Scott Schramme, vice president of sales, Continental Access Control, Amityville, N.Y., says, "The standard card today is a 26-bit card. Smart cards are now jumping to 75 bits, and in time they may expand to as much as 200 bits. Technology has improved. It has become cost effective to go to the new technology."

READER TRENDS

Like smart cards themselves, readers have undergone some upgrades and changes recently that make the transition to smart cards very much a *when*, not an *if*.

"One of the things we see in our sales numbers is a continuous shift of purchases towards migration readers — readers that accept more than one technology such as proximity with smart card, for example," Jarvis says.

In fact, HID recently added mag stripe to its migration reader line to accommodate the govern-

ment mandates that call for all cards, including the formerly mag-stripe-based CAC (common access card) cards to meet the FIPS 201 smart card standard. "There is a potential in government, but also in the campus sector as campuses go more towards one-card solutions and migrate off of mag stripe technologies," Adams says. "Another market is healthcare, which is heavily dominated by mag stripe cards and readers."

Readers are an integral, if not the pivotal part of an access control system. And in any migration to smart cards, readers will play a crucial role.

"It's not just a matter of changing out the reader," says Scott Wiley, product manager for the Americas, GE Security. "There is a whole population of readers with cards. You can't talk about readers without also talking about cards. You can change the reader on the wall, but the bigger step is thinking about what employees are carrying around. With a transition reader, you can change the reader because it reads both the old proximity and the new smart card technology and you can phase one group over at a time."

Multi-tech readers cost about the same as their 125 KHz counterparts. "If the reader costs the same, but can also read smart cards, why wouldn't you buy it?" says Gary Staley, national sales manager and partner, RS2, Munster, Ind. "It's like buying a TV that isn't HD-ready. That's a great way to sell a product. Have it ready. It doesn't change anything in the way it's installed, wired or programmed, but if the customer decides to ever go over to smart cards, the dealer can just deploy new credentials."

Just as important as the communication between the card and reader is the one between the reader and the panel. On this front there are definitely changes coming soon, largely as a result of smart cards.

"For 20 or 30 years, when doors got installed with access control, the majority of them were probably installed with Wiegand wiring or communication," Bulkley says.

Staley sees things changing rapidly on this front. "One big thing that has happened in the last year is the entrance of open supervised device protocol (OSDP). OSDP will increase the distance from reader to panel from 500 feet with Wiegand to 4,000 feet. In addition, there will be a lot more functionality with the data being transferred."

PUTTING EVERYTHING TOGETHER

What does this all mean for the dealer, installer and integrator? Will this require new skill sets? Different sales techniques?

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Colleges and universities are using smart card technologies in multiple applications, allowing students to use the cards for everything from meal plans to purchasing text-books.

There are simply more choices and more to consider today.

"The integrator in the past didn't have to worry about a proximity reader's security level and requirements to protect the data on the card," says Cal Yacoub, technology leader with ISP Access Hardware Development, GE Security. "But when you move to a secure sector smart card/reader, now you have to worry about the data, the level of encryption and the level of protection. The integrator has to understand the differences and what the product offerings are."

Adams agrees. "They really have to understand more than just the security portion of a customer's business in order to make important decisions about what they want to do with their one card. Understand what the end user's business does and identify areas where that card can enable the end user to be more efficient."

If they can do that, smart cards will be a positive change for dealers and integrators, Jarvis adds. "It will increase their options as well as be a value-add they can offer to the end user. It will allow them to leverage their install base and expand applications.

"Many dealers understand that the world is accelerating in a lot of areas, and card technology is certainly one of those." ∎