When it comes to security, the adage “leading edge not bleeding edge” is often cited. Integrators need to walk the line between the two, making sure to future-proof their end users, but without sacrificing performance and security.

A stroll around recent tradeshows revealed some of the hottest reader technologies today: wireless, NFC (or Bluetooth) and biometrics. The process of introducing these technologies to end users and implementing them in real-world projects are where many integrators find themselves today. And they are walking that leading/bleeding line carefully, finding the best fit for the new and blending with the old where possible.

“I consider the cost of the credentials and the security level of my customer,” says Gregory Cope, owner, AddTech Controls, South Jordan, Utah. “I am very in tune with putting in equipment that is going to be future proof. At the same time I don’t want to sell my customer a $300 reader when I can sell them a $125 reader that would be fine for their needs.”

Today’s customers are more savvy when it comes to technology and what they want, adds Michael Elkin, sales and marketing manager, Marcomm Systems Group Inc. (MSGI), Ottawa, Canada. “In 2014 you have to provide the customer exactly what they want regardless of how you do it. We are seeing customers who are more educated and actually have an idea of what they want.”

SDM spoke with a variety of integrators, who shared their most recent or ongoing projects that feature the latest reader technologies.

**WIRELESS READERS**

When it comes to the newer reader technologies, wireless is definitely the success story. While it has been around for several years in stand-alone form, advancing to the point where it can be an online, fully integrated system has allowed it to really blossom.

“Wireless is opening up a market that integrators haven’t seen in the past, which is interior doors,” says David Alessandrini, vice president, Pasek Corp., Boston, Mass. “We always protect perimeter doors, but only do about 5 to 10 percent of the doors. Now that the other 80 or 90 percent is open to us, including IT closets, classrooms, etc. They are very easy to install as long as you have WiFi.”

Wireless is very strong in the college and university market for dormitory doors, he adds. “It
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is an economical way to have a high concentration of access control readers on a lot of doors for a third of the cost of wired.”

While many integrators are using wireless as a complement to a wired system where they install a few wireless readers in difficult to reach areas, other integrators working in the wireless realm are starting to do bigger and bigger projects.

Alessandrini is working on a couple of large projects, including one university that is using 8,000 wireless locks.

Elkin was brought on board by his company specifically to sell wireless products. One market he is tapping successfully is condominium developers.

“I am only pitching wireless solutions to my customers. When I am dealing with condo buildings they typically only secure perimeter doors with hardwired access. I am going in and pitching doing the entire building with wireless. It effectively turns a condo building into a hotel-style system, which is extremely attractive to them because it marries functionality with marketing. They can sell that.”

Elkin is currently working on the planned Brigil 460 building in Ottawa, Canada, a 13-story luxury condo getting ready to break ground. The project will employ 232 Salto wireless locks, using full integration with Genetec. “Builders are really excited about wireless because they don’t need to run conduit to a door,” he shares.

Cope uses wireless almost 70 percent of the time now. “I know there are integrators out there that don’t trust it, but I love it. The more doors I can do, the better for my bottom line. Every time I can use it and the customer feels comfortable with it, I do it.”

One such customer was the screen protector company, Zagg, who has corporate offices in Salt Lake City. “They are a technology company so they wanted to get in the swing of the 21st century,” Cope says. Even so, they took it one step at a time, first doing about five doors that were single door controllers using ZigBee chips from ProdataKey.

“Everything was close together and we probably could have wired it, but knowing their future expansion plans we tried to future-proof things,” Cope says. Sure enough after about 60 days the CEO loved having the credential so much he started expanding it to executive areas and customer service areas. Zagg now has 55 wireless doors.

Another selling point to wireless locks is the ability to use them on non-traditional openings, a feature that helped Todd Jackson, access control division manager, Tull Brothers, Jackson, Miss., with a project at the Biloxi Public Works facility.

“We are in the process of completing a project for them using ASSA ABLOY’s Aperio locks. It was a new construction project and the owner was very interested in doing it wirelessly to keep his cabling down. They are in a hurricane-rated zone on the coast of Mississippi and realized after Katrina that putting their servers on higher floors was necessary to prevent future damage from water. After meeting with the owner, he was also excited to put in some of the cabinet locks. He liked the idea they could expand to non-traditional openings like data racks, file cabinets and cash drawers.”

Cell Phone Readers

 Manufacturers, integrators and end users alike are excited by the prospect of being able to use the cell phone as the credential, implementing technology built into the phone either through NFC or Bluetooth.

“We are seeing the use of the cell phone as credential whether with NFC or increasingly Bluetooth,” Ladd says. He is working on a project for Chester County Emergency Services at their cell towers using Bluetooth card readers from EcKey.

“More and more manufacturers, particularly smaller ones, are coming out with technology to use their reader for Bluetooth,” he says. Larger manufacturers are getting on board, too (See “How Are Manufacturers Approaching ‘State-of-the-Art Reader Technologies?’” on page 76).

The seeming reluctance on Apple’s part to add NFC to its phones is hindering that technology’s adoption into the market, but Bluetooth is universal in most if not all current devices.
When it comes to newer reader technologies, HID Global and Allegion are two of the manufacturers at the forefront. Allegion is a leader in the wireless access control space, and recently introduced an NFC technology called AptiQmobile. HID has been the pioneer of many readers over the years, most recently smart card and NFC enabled readers. They are now introducing both Bluetooth and (through their recent acquisition of Lumidigm) biometrics to the mix. SDM spoke with Richard White, vice president and general manager, electronics, Allegion, Carmel, Ind., and John Fenske, vice president of product marketing, HID Global, Austin, Texas, to find out what is new.

Q: Where is NFC at right now?
WHITE: NFC is where wireless was a few years ago. The biggest challenge is Apple doesn’t support it. On the Android platform there is varying hardware and revisions. Getting to a more communized or homogenized user experience will be critical to move it from ‘that is cool’ to ‘we have to have this on every application.’ We launched AptiQmobile in November. Since then we have seen significant number of end user driven pilots in bigger numbers than I expected for this stage of the game.

FENSKE: This idea of using the mobile phone as a credential is the latest thing for us. Our iClass Seos platform allows us to manage multiple technologies. In the past the credential has been the card. Now we are moving into a device that people change every 18 months. That requires a very dynamic platform and the ability to be flexible in the way you implement things. Security has never been known as a nimble industry.

Q: How will Bluetooth figure into the equation?
FENSKE: NFC is a bit immature at this point because of the business model. We see that it will be a choice moving forward. But in the near term Bluetooth seems to be a more viable option for customers.

Q: What about biometrics?
WHITE: Biometrics have precise measurements. How much does it irritate people to use it? Biometrics has work to do in terms of becoming more passive for the user.

FENSKE: Biometrics have been very niche in the past. It is about balancing convenience with security. If you make a biometric more convenient it is less secure and vice versa. The Lumidigm technology allows us to lower that trade off. As part of our Seos platform we want to add as many new applications as possible and that is one of the options.

Q: Where do you see these all technologies heading in the future?
WHITE: Wireless is where we see double digit growth year after year. NFC, the stars are still coming into alignment, but I think they will. Biometrics is an interesting discussion.

FENSKE: Integrators and end users are having different conversations with us now. It is less about the features of the reader and more about the flexibility and is the reader dynamic. We are being asked more about choices down the road, forcing us to make decisions. The security industry at the reader level will have to be more dynamic and adaptable.

“Bluetooth is a good technology for now,” Ladd says. “It is a little lower cost. In the long run it will be interesting to see how it goes.”

On the cell tower site, Ladd won that project because of the Bluetooth technology. “The site isn’t the easiest to get to and they had no network communications between the towers. With some of the other technologies, if they had to add or delete someone they would have to send a person out to each site to program it locally. There isn’t even a phone line. The way the Bluetooth works is the reader accepts any valid code that is programmed. They are doing it offline. All they have to do is get a phone, download the app, load in the individual number and it works on the reader it is associated to work with.”

Despite its lack of universality, many integrators do report interest in NFC.

“In today’s world where everyone has a cell phone in their pocket it is ‘gadgety’ to be able to go up to the door and use your phone,” Elkin says. “Our job is to manage expectations. But there is definitely a lot of interest in NFC.”

Matt Buydos, director of sales for identification solutions, Elliott Data Systems, Chesterfield, Mo., says the job of educating the end user about NFC is up to the dealer right now. One market he has had success with is emergency services, particularly those with volunteer or part-time staff.

“We did an ambulance district in a county just south of St. Louis. There have been five houses we have put access in over the past few years. They are innovators as far as technology. We approached them and demonstrated the NFC technology about six months ago. From a convenience standpoint, they have a lot of staff that have other jobs who can be called spontaneously and may not have their access card with them. But they always have their smartphone.” For them, NFC using Allegion’s AptiQmobile was a good fit.

Another logical fit for cell phones is the college and university market, with student populations who grew up on cell phones and are demanding to do more with their smartphones.

“I personally think it will be the college student body that will really drive the smartphone opening the doors,” Jackson says. “That is where we are seeing the bulk of our access control right now. Dorms are putting in hundreds of locks at a time.”

Adding the NFC or Bluetooth capability to that is a logical next step.

“I do believe NFC is going to be a big deal,” says Kevin Baker, founder and chief engineer for Entry-
Master LLC, Baltimore. We are involved with a project for a world-renowned university and they are pushing for NFC. They already have an interface to a mobile app that will freeze and unfreeze the campus card if the student loses it. Now they want to get away from the card to use NFC to do all these transactions including getting into the dorm room, buying a coke, or whatever.

While biometrics are not “new” they always have been and still are considered cutting-edge technology. And what is new is a dramatic decrease in cost for certain types of readers, opening them up to greater potential as a widely used technology.

“They are still a specialty product,” Ladd says. “However, we are finding that because prices have dropped they are being seen more and more as a viable option.”

Retina and other ‘non-touch’ biometrics are especially popular in certain scenarios — either for perceived sanitary concerns or because they need to be hands-free.

David Chritton, president Microbiz Security Company, San Francisco is talking to a local apartment building about using facial recognition systems for its tenants. “The building has high-end tenants who park in the basement and own upper floors. They do not want to carry badges. They want to walk up to a security point carrying packages and not have to stop and set them down.”

Healthcare is another logical market for biometrics. “One healthcare project we won using retina scans,” Ladd says. “Doctors wanted to be able to...
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get into clean rooms without having to touch the doors. They always have their eyes with them and all they have to do is look in the reader. The pricing of these readers has dropped so far that it is viable now for these situations. In the past you could spend $30,000 for a retina reader, but that is now in the $3,000-$4,000 range.”

Marc-Andre Dergeron, head project manager, MSGI, was involved in a large project at the new Coroner’s Complex in Toronto. Housing a courthouse, jail and full autopsy lab, the building wanted high-tech security. Dergeron fully integrated LG iris scanners into the security system to allow or deny entry to the building.

Fingerprint biometrics is another technology finding its place lately.

Jackson recently did a project for South Sunflower County Hospital using Bioscrypt from MorphoTrak fingerprint readers on the medical records and prescription drug areas. “We used RS2 as a means for the templates to be stored. There is an enrollment reader and we assign it to a card so when they walk up and present the card it activates the Bioscrypt reader.”

Texas A&M University is planning for a biometric project using fingerprint scanners, says Mark Ring, director of integration services, Xentry Systems Integration, Miamisburg, Ohio. “Most of the people I talk to like the fingerprint readers. They are easier to maintain. We are working with the university to start migrating the campus over from just proximity to a mix of proximity, dual prox and biometrics.”

Following recent tragedies involving school shootings, Baker worked with Crystal City Children’s Center, a daycare in Crystal City, Va., to install a man-trap style portal with a MorphoTrak biometric to ensure the safety of parents and children. “We used one of their readers that has a keypad and fingerprint reader. Each parent is enrolled and has to use the fingerprint to get in.”

Whatever “cutting-edge” is these days, that is bound to change in the next year, or three or five. Some of these technologies are on the fast track and others more like a slow march. But they are all getting there. Opinions vary on “how,” though.

“I think the biggest thing that will enhance and grow all these types of technologies be it wireless or biometrics or phones is as manufacturers of access control systems are able to integrate the technology directly into their software,” Ladd says. “On the retina scans, for example, you have to use a separate Wiegand output database and software to enroll. Wouldn’t it be nicer if you could do that all through the system?”

Those continuous upgrades will help integrators successfully walk the line between leading and bleeding edge technologies, providing the best systems for their customers.

Wireless is the most prevalent of the “cutting-edge” reader technologies and starting to be used in larger applications.

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