# Is the mobile phone the new campus ID?

- **Text messaging alerts students in emergencies**
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- **Educating students about financial offerings**
- **Securing card printing environments**
- **Goodbye to a campus card icon**

Sept. 29, 2007    11:36 pm

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# Contents

# Perspective

## Cell phones enable emergency notification, payment … but will they replace the ID card?

**Chris Corum**
*Executive Editor, AVISIAN Publications*

There is no need to tell you that cell phones are everywhere on college campuses – you live and breathe it everyday. A friend shared his experience working a recent orientation card issuance describing an incoming student standing in front of him to be trained on how to activate her new ID card. As the detailed instructions were presented, the young lady was clicking away at a text message on her cell … eyes moving rapidly between the phone and him. When my friend inquired who she was really paying attention to, she simply replied, "both," and when prodded, she repeated the card activation instructions verbatim and added that she had made plans with friends to meet that night.

In this issue, we look at several initiatives that are aligning the student ID card and the cell phone as complementary technologies. In the wake of the shootings at Virginia Tech, new attention is being paid to the long standing challenge of notifying students in the event of emergencies. Storms, infrastructure outages, class cancellations and unfortunately, criminal activity are not new events, but the manner in which some administrators are communicating with their populations are very new indeed. Phone-based messaging is one of the hottest new additions to campus and both campus card system providers and other vendors are offering solutions.

Using the cell phone as a payment vehicle has also become reality as students at Pennsylvania's Slippery Rock University are proving.

But is this just the tip of the proverbial iceberg? I think so. I see a day in the not-too-distant future when the handset will "be" the card. Push a button and call up your student ID screen … complete with all relevant card-style information (e.g. photo, ID numbers, signature). This visual representation is an easy functional addition to a device that is already capable of global wireless communication, mass data storage, processing and more.

Other industries are already capitalizing on the handset as an identity tool. It serves as a payment token as well as a full-blown point of sale reader in numerous high-profile projects around the world. It authenticates doctors and patients to health care networks, tracking time spent and services rendered. It controls physical and logical access at corporate buildings and upscale hotel rooms. And these are just a few of the many powerful applications already underway.

I have always tried to stress that a card is simply a carrier and that we are all in the identity business. I believe our value is in the secure provision, management and revocation of unique IDs – be those numbers, biometric templates, or encrypted keys. How they are stored – mag stripe, barcode, chip or cell phone – is transient and only marginally significant.

So will the cell phone replace the ID card? Maybe, maybe not. We may always provide a piece of plastic as a part of issuance, but I do believe the handset will become a more important tool in the identification of and service delivery to student populations.

The young lady my friend described, and millions of other incoming students, have their 'texting fingers' ready to go. They are just waiting on us to catch up.

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# Student notification systems enhance campus security with mobile phones and card systems

**Andy Williams**
*Contributing Editor, AVISIAN Publications*

Providing campuses with the ability to instantly notify their students in the event of a disaster or emergency was on most campus card vendors' to-do lists. But the Virginia Tech incident quickly moved what had been a mid-tier suggestion all the way to the top.

The deadliest shooting in US history occurred on April 16, 2007 when Seung-Hui Cho killed 32 people and wounded 25 others before killing himself on the campus of Virginia Tech in Blacksburg, Virginia. Since then, colleges around the country have been investigating ways that students, faculty and staff could have been notified quicker.

Tasked with the need to develop a system that can get emergency messages out quickly, campus card and other technology providers have been investigating what's available and what needs to be done.

Since a cell phone today is like a third appendage to most students, the most obvious solution is an instant messaging service that would notify students within seconds of a possible disaster or "gunman on campus" type of scenario. Easier said than done, however. Not only do you need every student's cell phone number, whatever system you use has to be compatible with numerous mobile phone carriers–not just the AT&Ts or Verizons, but the smaller ones as well.

"This is one of those projects we had on the list to do," said Niles Dally, vice president, sales and marketing for NuVision Networks' One Card System. "We've been looking at it (emergency notification) at various times but with the advent of Virginia Tech, we pretty much decided this is something we really needed to implement immediately. It's now in our testing facilities in Lebanon, PA."

"Pages, cell phones, emails and other systems are all being investigated," said Jeff Zander, vice president of campus card provider General Meters. "We're looking at the capability of sending pages to alphanumeric pagers—any device they (colleges and students) want to register."

"You would have been hard-pressed to find a college with any organized, documented notification system in place before April 16," commented Read Winkelman, national sales manager, colleges and universities for Ithaca, NY-based The CBORD Group, which serves Virginia Tech.

CBORD had a number of planned enhancements pushed to the front burner after the Virginia Tech shooting. "We had the concept for it brewing a couple of years ago but other things came to the forefront. We react accordingly to the requests we get from our customers and we only had one actual comment about this in the past. After Virginia Tech, we got a few more," said Mr. Winkelman.

"It's a tall order which requires a tremendous amount of buy-in from administrators, parents and especially students," adds Mr. Winkelman. "What we have been focusing on is a dialogue with customers and looking at existing and potential access control and electronic security products, cameras, etc."

**Text messaging powers instant alert networks**

Perhaps the most obvious choice for rapid student notification is cell phone-based instant messaging.

"The single biggest challenge for something like a text-based message for cell phones," said Mr. Winkelman, "is getting the cell phone numbers. Institutions need to encourage students to provide this information and for parents to get on board. It will probably never be 100%, but you'll see that more and

more students will supply their emails and cell phone numbers."

That's the problem with any text messaging service. Should students have the option of providing their cell phone numbers, or should they be required? "I would urge the university to make it mandatory," said Mr. Zander. "It shows that this institution will do everything in its power to make sure students are safe. We're not using it for marketing or promotions. It's a threat alert system and won't be used for any other purpose. It should be the university policy. The student should not be able to opt out."

He said a General Meters' campus "can have an unlimited number of contacts for the individual. If the student is hearing impaired, you could send the message to the parent who could then contact the student."

At a few CBORD campuses, presidents have already contacted parents to encourage them to have their sons and daughters share their cell phone numbers with the university. This, said Mr. Winkelman, would fall under the heading of: "We'd like to have a way to contact your students in an emergency situation."

Mr. Winkelman said CBORD isn't "promoting a school-wide messaging service at this time. You'd see the message on a POS terminal, etc., but it wouldn't go to your cell phone. We are currently exploring options for text messaging on cell phones."

Mr. Zander said General Meters "currently offers a number of automated features to broadcast select responses or other time sensitive security information. This includes alphanumeric pagers, cell phones, email and a myriad of text messaging options."

Messaging is available to all students at a General Meters-supported school, via the General Meters OneCard, but an expansion is planned "to allow multiple cell phones, emails or text messaging. From a central system, a security officer could key in the code and send it one time and it would run through the database and hit all these people. We hope to have this completed in 2007. The ability to alert security personnel is available today. We're going to take it to the next level, and staff would physically type the information that will be sent out to the students," he added.

He explained that when a student sets up a General Meters account, his information is fed into a database that can then automate delivery to his cell phone, email, etc. From that the college can also broadcast to a number of devices including a fax machine. Any device that can receive a communication, even a landline telephone, is eligible, he said.

He calls this an automated threat alert response, automating the alert or indication of a possible breach of security. "Let's get everyone the notice. Or at least everyone who signs up."

The system will include pull-down menus covering all the wireless providers, Verizon, Cingular (now AT&T), etc. "Let them select their carrier because not all text messaging systems are the same," he added.

"The client (the college) should be able to determine how to alert its students, whether by group, text message, cell phone," he said. A sample message could read: "Lock-down, security breach, assailant unknown, please stay in your room."

"It should be sent by a security officer but anyone with access to a keyboard could do it … but we're reserving it to security officers only. It could be sent to every device registered to that student. For example, all card holders could receive a message instructing them to remain in their dorm rooms," he added. "We would have to have the cell phone or pager number or the email address."

NuVision's emergency notification system will be piggy-backed onto the company's existing One Card System known as iAMECS Advanced.

NuVision's messaging system uses the iAMECS Advanced SQL Server databases to provide the right messages to the appropriate individuals. "iAMECS is installed at the college, not at a remote location," said Mr. Dally. "This is important because it's under the control of the college. Someone there doesn't have to call an off-campus location to get the messages out to students."

He said the new service will provide messages in three tiers.

"Tier 1 is an emergency message, which would be a major incident on campus," said Mr. Dally. "Based on that, you can send text and email messages to select groups of people, for example, a specific dormitory. Or you could text message the RA (resident assistant) to get people out. Or you could text message all people in the dorm, telling them to get out. You can break down messages anyway you want. Notification is virtually instant. It all can be handled on campus. No one needs to email a third party. It's based on demographics in the database, which has almost always been populated by the Student Information System (Banner, Peoplesoft, Datatel, etc)."

Tier 2 would be priority, not necessarily an emergency message, like the area is subject to severe thunderstorms or the school is closed today, he added. "Tier 3 would be a general broadcast, like there's a rally for the football team."

He said there's no message limit. Minimal fees will be assessed per cardholder per year. "We're hoping to have a beta this fall in one or two colleges. It then will be available to all clients after that. We will need to have cell phone numbers of cardholders. Those numbers need to be in the database."

It will have a web interface that allows students to manage their accounts. "We call it the Campus Center. There will be a page that allows cardholders to enter their cell phone numbers. We have the communication protocols for all the different systems. That's what the beta is for … to find out if there are any systems out there we don't know about," said Mr. Dally.

"We also have to know the cell phone carrier. The Campus Center will have a page to allow the cardholder to inform us of that info or inform us of their changes when they change carriers. Any marketing campaign (offering special discounts and the like) can be used and if you tie this in, you'll have more people sign up," he added.

He said the system can be installed "in a couple of days. We can do video training if necessary. This is all part of the beta testing."

He said some colleges have similar systems, but they're hosted off campus. "The beauty of
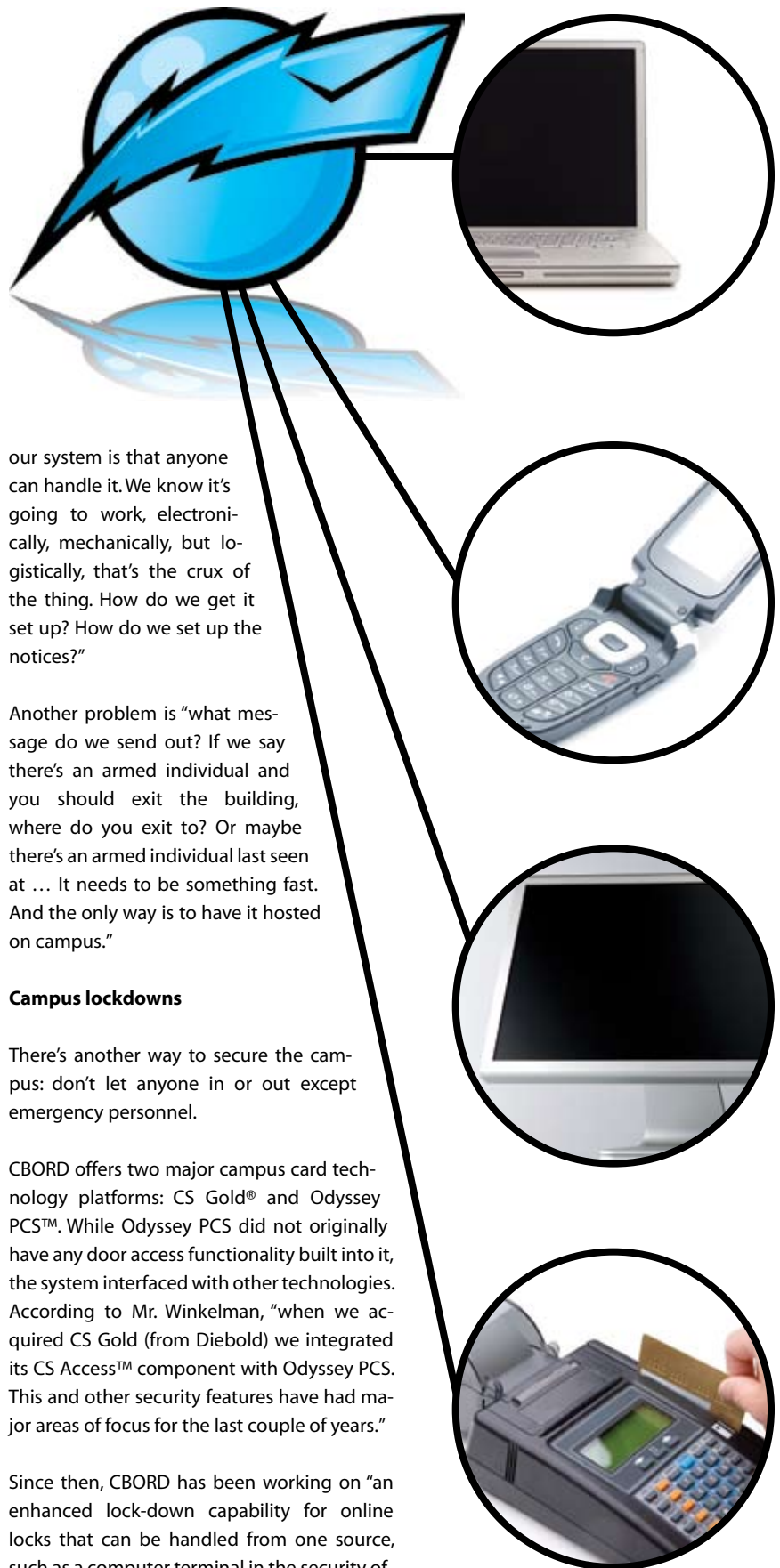
our system is that anyone can handle it. We know it's going to work, electronically, mechanically, but logistically, that's the crux of the thing. How do we get it set up? How do we set up the notices?"

Another problem is "what message do we send out? If we say there's an armed individual and you should exit the building, where do you exit to? Or maybe there's an armed individual last seen at … It needs to be something fast. And the only way is to have it hosted on campus."

**Campus lockdowns**

There's another way to secure the campus: don't let anyone in or out except emergency personnel.

CBORD offers two major campus card technology platforms: CS Gold® and Odyssey PCS™. While Odyssey PCS did not originally have any door access functionality built into it, the system interfaced with other technologies. According to Mr. Winkelman, "when we acquired CS Gold (from Diebold) we integrated its CS Access™ component with Odyssey PCS. This and other security features have had major areas of focus for the last couple of years."
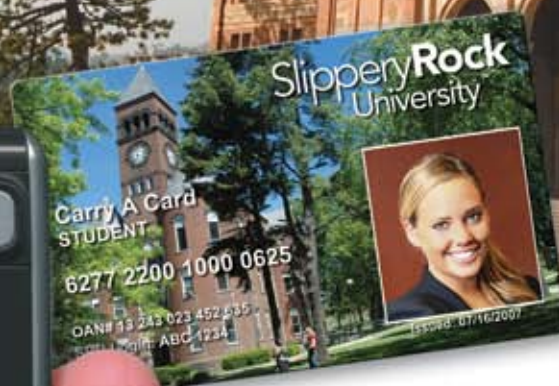
Since then, CBORD has been working on "an enhanced lock-down capability for online locks that can be handled from one source, such as a computer terminal in the security office," said Mr. Winkelman. There would also be

an emergency capability for offline locks that could be activated with the swipe of a card. But in this instance college personnel, such as a security guard, would have to physically visit each door to lock it.

## POS notification

Another method campus card providers are exploring is utilizing online terminals to get the word out. "Universities have terminals all over campus – vending machine readers, POS readers, etc. – that make it easy to display certain patron messages at the time of purchase," said Mr. Winkelman. "We can create an emergency message to display at the beginning of the message (on the transaction slip) that is delivered at the time of sale. We can also set the emergency message to display when terminals are idle. So when the readers aren't in use, the message can continually flash across terminal screens," he added.

This could be used in the event of inclement weather, natural disasters, or criminal activity – it could be a tornado warning or a message to check the campus web site. "You would get that message when you pay for a tray of food, for example. The message would come at the end of the transaction or when you buy a Pepsi from the vending machine," added Mr. Winkelman.

But this should not be the sole means of getting the word out to students. It is one mechanism used to augment schools' other notification engines," he stressed.

Like CBORD, General Meters has proposals in the works that would revolve around POS devices. Mr. Zander said the company is "currently investigating a number of other technologies that will provide automated threat response messaging enhancements. As an example, this would include sending a message to certain

card readers and/or POS devices. When a card is swiped it would say there is a security concern and that the cashier (and student) should go to a certain location," he added.

Or it could be as simple as alerting a student this his chemistry book is waiting for him at the bookstore. "You can send messaging of any nature to anyone who has a card. A text message could be dropped onto a directory that could be sent to every student. If you don't carry a cell phone, you might have a pager or email. Ideally, you would want to use at least two or three methodologies. That way, we could double up to assure that the message gets delivered."

## What to do in the event of…

CBORD is continuing to talk to its customers about what they'd like to see, said Mr. Winkelman. "We've done webinars to get some feed-

# Startups rush to deliver phone-based alert systems to campuses

Colleges have other options for cell phone alerts, of course. They could go off campus and hire a company specializing in text messaging. That's what Rave Wireless and Mobile Campus are offering to universities.

Rave offers what its COO, Raju Rishi, calls "an alert solution, which basically gives the university the ability to get emergency broadcasting to the entire school or a subset of the school (like students who live on campus), whether it's about a gas leak or orientation. The university pays us for that capability yearly. We tie into Blackboard (campus card solution)," he added, "so we don't have to recreate the lists."

This alert solution costs a college about $10,000 a year. "It gives students unlimited text messaging plans," added Mr. Rishi.

He said the plan works with all cell phone carriers, email, and web mail. So if the student doesn't have a cell phone, he can still receive an email alert.

Rave also offers a full-blown cell phone solution called Rave Campus that is tied to a specific carrier. At Mercer University's Atlanta and

Macon campuses, Rave Campus recently announced a tie-in with Sprint. "With this you get additional features like really reduced phone rates and other options," said Mr. Rishi. And of course, the program includes the emergency text notification feature.

"Rave Alert is designed to work with any cell phone. Rave Campus is designed around a (specific) phone model (and carrier)," he added.

The company currently serves about 25 campuses, about half which use just Rave Alert and the other half Rave Campus. By the end of the year, Mr. Rishi said he expects to have 60 or 70 campuses in one or the other program.

While Rave's alert feature is nice, said Michael Belote, Mercer's vice president of information technology, that's not the reason the Macon, Georgia-based school went with Rave. "Most students are into instant communication instead of email. They're using MySpace, Facebook and text messaging. We're just adapting our communications technologies to meet the needs of today's students."

back from our clients. We'll also be having sessions at our user group conference on disaster preparedness or other emergency situations that might arise on campus, whether weather- or people-related. There are many bases to cover and questions to ask. For example, if the campus loses power, what happens to security? And if you need to have a lock-down, how do you control it?"

One of the latest webinars CBORD held with its customers was to let them know about new security features of CS Access, including the enhanced lock-down application, an emergency access plan category, messaging on CBORD terminal devices with displays (vending readers, POS devices, some types of door readers), and integration of housing assignments and access plan assignments. "The terminal messaging is just one of the features we are rolling out as part of an effort to improve our already robust integrated security solutions," added Mr. Winkelman.

He said customer feedback to the webinar "was very positive," but emphasized that these were sessions CBORD already had in the planning stages and were not a reaction to the Virginia Tech situation.

After the Virginia Tech shootings, Mr. Winkelman said CBORD "quietly provided our contacts there as much assistance as they needed. Anything we could do to help. After it happened there really wasn't a lot for us to do other than some database queries they needed us to make that weren't standard reports. So we built some custom reports for them. They did have a lock-down procedure. The doors were controlled by CS Gold."

As is obvious, a perfect text notification system probably isn't available yet. One system not mentioned is old-school technology … word of mouth. "If you have five people standing there and three cell phones go off simultaneously, you'll never get everyone but those two

without cell phones will still get the message," said NuVision's Mr. Dally.

"Generally, though, those without cell phones will receive emails," he added. Another suggestion, he said, has been to implement a reverse 911 system, "where students actually get a phone call (on their landline). The problem is there is no methodology that one instrument can dial out to multiple phones instantly. You would need to have a bank of phones dialing out," he said.

It seems there is no perfect solution to instant student notification, and even if there were, it would be unlikely to stop a tragic event from occurring. The goal can only be to minimize the extent of the damage through rapid communication

In fact, the decision to go with Rave, and its enhanced text messaging features, came in March, about a month before the Virginia Tech shooting.

"There is certainly a safety component of Rave Wireless but we see a lot of value in some of the applications that Rave provides in building the community, enhancing student learning as well as the safety features," added Mr. Belote.

The phones are free to students and the $32.50 base plan includes unlimited text messaging, free nights and weekend calls and unlimited calling using Mercer's Mobile Network, explains Mr. Belote. Full deployment is expected to take place this August, in time for fall enrollment.

He said if a student decides to keep his existing phone, he can still sign up with the college to receive emergency or other types of text messaging alerts.

**Mobile Campus uses advertising to support free alert messaging**

Another option is Mobile Campus, Atlanta, GA. It offers free text messaging to university students in exchange for the students agreeing to receive advertisements a couple times a day.

Jim Ryan, president and CEO for Mobile Campus, said the company gives university administrators a web-based interface to communicate with students.

"The first thing you need is for students to opt in to receive the messages. Probably the most effective means to reach your students is via

SMS," said Mr. Ryan, former head of AT&T's wireless data services division. "When Virginia Tech happened, people became more interested in SMS as a way to communicate with their student bodies, and we got a lot of calls."

In a perfect world, that would be all that's needed. But cell phones aren't perfect. "The challenge is we don't own the SMS infrastructure," said Mr. Ryan. "All we can do is place the message out there for delivery. But (carrier) capacity and various other challenges will determine how long it will take to get the message to the individual," he said.

Text messages delivered around the country shouldn't be a problem, "but when you're delivering SMS in a given geography, when you try to send 30,000 messages through one cell site, that's when you run into capacity (problems)," he added.

That's why he believes universities should concentrate on delivering "something that's multi-modal – text messaging and email – so if one fails, the other works," he said.

While Mobile Campus' text messaging service can reach "a significant portion of the student body," says Mr. Ryan, "we don't have to reach 100% of the students to get the message out. Even if you hit 40%, the rest will know pretty quickly simply by word of mouth."

He said 14 universities have signed so far with Mobile Campus, and "we're actively seeking to serve another 11. We expect in the fall to have quite a large constituency signed up."

# San Diego State pioneers webinar-style card education

If you want your incoming freshmen and other new students to learn how to use their new campus card, manuals and brochures won't cut it anymore. Today's students don't bother with them. The next choice is perhaps a workshop during orientation. But that will be crammed with students with other things on their minds: What classes will I get? Where's the cafeteria? Plus, if they have a question about the campus card, it might be difficult to ask in a room full of their peers. There's a third option: create a hands-on style webinar that students and their parents can access at their leisure.

Such a program has been pretty successful at San Diego State University and its creator, Paul Carlisle, SDSU's card program administrator, says he's gotten quite a few inquiries about it.

"When we were marketing simply an ID card without services attached to it, we did it (education) conventionally through orientation or open house week," said Mr. Carlisle. "Orientation takes place just before the fall semester; and we found that was really too late because we had to compete for time" with everything else that goes on during orientation. "They're here for just 12 hours and they're bombarded with all sorts of information."

There was another problem: Some parents couldn't speak English and had to rely on translators during orientation.

So Mr. Carlisle and his card office developed an online orientation webinar geared to introducing to the student and parent the SDSU-Card program.

"We wanted students and parents to be able to access this information anytime they chose," said Mr. Carlisle. "We also added Spanish, primarily for parents."

The webinar was up and running this April, but the first major test won't come until the fall

when SDSU's 33,000 students return to school. However, if early results (from summer classes) are any indication, he has a winner. "It was my idea, and I came up with it when I was looking at other webinar type pieces … I thought it might be very good with what we're doing here," he said.

It shows students how to use the card "and how to interact with the card, specifically with US Bank (the college's banking partner). It will take students directly to the bank site to demonstrate the web transfer of funds to their on-campus checking account, how to actually get the card," and everything else the student needs to know about his new ID card, said Mr. Carlisle.

The card can be used as an ATM card off campus and as an on-campus debit card. It is also used for what Mr. Carlisle calls entitlements. "You swipe the card at various locations for whatever rights you have, checking out a book, taking tests, meal plans."

He presented the webinar idea at meetings of the National Association of Campus Card Users (NACCU) and at user meetings of the college's campus card provider, CBORD. "The lights went on with a lot of folks at these meetings," said Mr. Carlisle.

**Benefits of a web-based, updateable education program**

"It's so easy to manage. We can put together a DVD but if you have changes the next day, then the DVD is no longer current," he said. With the webinar running on a web site controlled by SDSU, "we can centrally manage any changes. That makes sense to a lot of people."

The 110-year-old college didn't have to go outside to get the web site designed and developed. "We had one graphic publications expert and we did it all in-house," he said.

He said the university sent out about 8,000 letters initially, showing students how to access the web site that will walk them through use of their campus cards.

If other universities want to utilize his ideas, "we're willing to let them use our design however they want. If they have questions, they can call us, and we'd be happy to help them," he added.

He has one caveat for those thinking of doing something like this. "Make sure it's ADA (Americans with Disabilities Act) compliant so anyone is able to use it."

To meet ADA rules, he has both audio and text versions available. "This is where you expend a lot of effort," he said. "You need to determine the needs of your students. You need to have colors that are easy to see. The script and audio has to match the text exactly. All of this is where the most expense lies."

In the meantime, new students will be pouring into SDSU, and Mr. Carlisle will see first hand whether the college's self-training webinar on campus card use was successful.



SDSU card — Dedicated, Mary — Undergraduate — 41 — ID# 123456789 — 6220111000222333

# Slippery Rock University breaks ground with its contactless cell phone payment

## Leading payments processor, Heartland Payment Systems, joins the ranks of campus card providers

**Andy Williams**
*Contributing Editor, AVISIAN Publications*

Contactless technology is coming to the 8,600-student strong Slippery Rock University in Pennsylvania. But it won't be a card. It's coming via cell phone, thanks to a small tag not much bigger than a postage stamp.

When Slippery Rock's students arrive for classes this fall, they'll be greeted with a new campus card and an accompanying 13.56MHz contactless token designed to stick to the back of any cell phone.

Both tag and card are being delivered by Heartland Payment Systems, the sixth largest payment processor in the world. It has been processing Slippery Rock's credit and debit card transactions for the past 10 years, so it seemed a natural fit when the university decided it wanted to introduce a new technology for the college's campus card. Dr. Robert Smith, the university's president, wanted to involve the cell phone in the new program because of its ubiquity among students.

Barry Welsch, manager of IT priorities for Heartland and the project manager for the Slippery Rock implementation, is also vice chairman of the SRU Foundation Board. He recalled that one day Dr. Smith, "wrote me a letter asking if I knew of any products that could make their current on-campus Rock Dollars program (the university's declining balance program) more robust" while enabling off-campus merchants to accept the card.

As Dr. Smith explained later: "We want to leapfrog the current technology and go to the cutting edge, and we want to add value to our student's experience at Slippery Rock. We believe this is the future and want to be educators of our students in the management of this technology … to take a responsible role in helping them learn to manage it."

Once the scope of the initiative was developed and deliverables were identified, the university solicited competitive bids from a variety of potential vendors. With its advanced technology and visionary approach to the future of campus payments, Heartland earned the right to be Slippery Rock's exclusive provider of this service.

Dr. Smith added: "We needed a partner who was courageous enough to bring it to the US and work with us on the introduction of this application. We knew we couldn't do this by ourselves, and frankly, there wasn't anyone we could have more confidence in than Heartland to do this for us."

Mr. Welsch consulted with Heartland's chairman and CEO, Bob Carr, and the two decided Dr. Smith's request was very feasible. "He (Dr. Smith) wanted to leap past the current mag stripe technology … and give students exposure to new technology they will be seeing when they leave the university. He also wanted to raise the image of the institution," said Mr. Welsch.

CR80News

"It was Mr. Carr who suggested contactless," said Mr. Welsch. "We talked about using the cell phone as the access device because it's the most commonly carried item by far."

A student focus group drove that point home. "We asked the students several questions: 'How many of you have at least one dollar in change in your pocket?' Only four of about 50 in that group had at least a dollar," recalled Mr. Welsch. "About 75% had their student ID cards. But every single student, except one, had a cell phone. And that student had lost his the day before. It was very clear to us that a cell phone goes with a student everywhere. Mr. Carr told me later that students know they've lost their cell phones four times quicker than if they've lost a wallet."

To make this happen, the most obvious choice would have been near field communication, a technology developed several years ago by chip makers NXP and Sony that gives cell phones RFID capability, allowing them to be read by contactless readers. But the technology is still new and not yet widely available in the US. So Heartland went the next best step: producing contactless-enabled tags that can be affixed to the student's cell phone.

Why tags? Heartland and SRU got some reinforcement for this decision from the same focus group. "Another thing quite interesting we learned," said Mr. Welsch, "is that students said when they visit with family members and friends and someone pulls out a credit card branded with a university name rather than a vanilla Visa card, they felt envious. Students were really excited about the fact that students from other universities won't have this. President Smith loved this idea."

## How does it work?

Students, faculty and staff this fall – about 10,000 of them in all – will be receiving a half inch wide by 1.5 inch long contactless token with a strong adhesive backing they can attach to their cell phones. It then works like any contactless card, meaning that it can communicate with the reader without physically touching it. The readers have lights that indicate whether the tag is being read or not.

"We tested it on the outside of the phone, and you can scan within an inch and a half. When inside the phone, you need to be about an inch closer," said Mr. Welsch. He suggested that some students may want to remove the phone's battery cover and insert the tag there.

If a student changes phones, he can remove the tag and reattach it to the new phone. If the tag won't come off, the student can apply for a new tag.

The tag "has a very durable exterior. It can't be scratched, and it seldom will show signs of wear," he added.

Heartland is also issuing new student ID cards since the company will, for the first time, be processing the student Rock Dollar accounts. Before, Heartland processed only the traditional credit and debit charges students and parents use to pay tuition, room and board and to buy books, Mr. Welsch said. "We've not had anything to do with Rock Dollars. It's something the university has maintained on campus with proprietary readers and terminals."

The Heartland-issued ID cards, however, are still equipped with mag stripes rather than contactless chips. Dual technologies mean making sure the university has readers that can handle both. "Everything we're building – the laundry, vending machines, merchant-attended POS terminals – will all have readers that can read the contactless token" as well as the mag stripe cards," Mr. Welsch continued.

"As far as we can tell, this dual technology is unique. It's the first application in a higher education institution in the US to go this way."

Once the new cards are issued, Heartland will transfer the old Rock Dollar balances to new accounts. In this manner, students can seamlessly migrate from their prior cards to the new system without losing deposited funds or having to maintain two accounts.

"On Track Innovations (OTI) is supplying the tags, and we manufacture the readers through our micro-payments division," said Mr. Welsch. That division includes longtime campus card reader manufacturer Debitek, a company Heartland purchased in 2005. "Heartland has
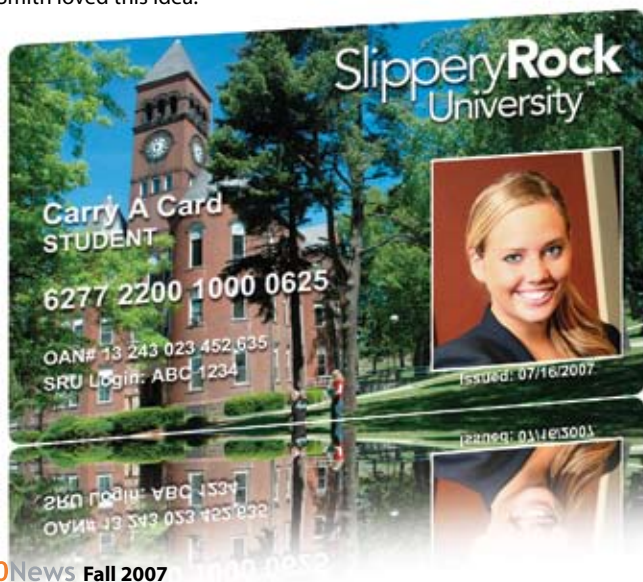
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re-engineered the (Debitek) technology," added Mr. Welsch, "bringing it up to state of the art."

**Taking Rock Dollars off campus**

The second phase of the project is recruiting merchants off campus to accept Rock Dollars. Initial reaction has been positive, reported Mr. Welsch, stressing it's a winning combination for both the university and the merchants. The university doesn't have to process merchant accounts or cut them checks, and merchants get paid daily.

To no one's surprise, the first merchants to sign up were restaurants. "We're also looking at supermarkets, retail clothing stores, a shuttle service and nail salons," said Mr. Welsch.

Before, merchants were paid monthly. There were no off-campus merchants, but still, the on-campus bookstore and foodservice providers had to wait for their money. "Under our system, we process the transactions nightly and generate an ACH deposit to them the next day, exactly the same time as credit card (payments)," he said. Merchants can purchase or rent terminals, starting at $25 a month. The transaction fee varies depending on the amount of the purchase, but averages about 1.5%, plus 25 cents per transaction.

"We do not use proprietary terminals," noted Mr. Welsch. "The merchants like that. They only need one terminal to accept credit, debit or Rock Dollars."

Dr. Smith said the most "perplexing problem" has been the university's insistence to provide greater protection for the students by requiring a PIN when they use their contactless tokens. That's not something merchants usually expect from someone paying with a debit card, specifically at restaurants. "This is creating a challenge," added Dr. Smith.

For on-campus use, that's not an issue since all vendors have a PIN pad. But some off-campus merchants don't currently have a PIN pad. Mr. Welsch said Heartland hopes to have this problem alleviated shortly. Heartland's readers/terminals all have PIN pads, but, said Mr. Welsch, there are also other packages available that include PIN pads merchants can use. Bottom line: if merchants want the students' business, they will need to be able to accept a PIN as part of the transaction.

For smaller transactions, such as those performed at vending machines, no PIN is required.

**Managing your account on the web**

Another advantage to Heartland's program is that students can go to a web site to check their balances or their transaction history, said Mr. Welsch. The web site option is new. Before Heartland's involvement, students could only utilize a reader to find out their balances.

Students who lose their cards or tag-enabled phones can visit the same web site to get their accounts frozen until a new card and tag can be issued. They can also contact Slippery Rock's card office and receive support through a toll-free number. "The web provides 24/7 access for cardholders and doesn't limit students to having to visit the administrative office during normal business hours to have a freeze put on their accounts," said Mr. Welsch.

"One of the other great features isn't so much contactless but the whole web-enabling structure," added Dr. Smith. "The individual can review his/her account and charges – as well as reload the card from the web or via phone. It's more than just a chip. The whole concept is somewhat revolutionary for us."

All accounts are maintained in an FDIC-insured bank, Mr. Welsch emphasized.

**Changing the way financial aid is delivered to students**

Another big change is the way students receive financial aid. "Nearly two-thirds of Slippery Rock's students are the first generation (in their family) to go to college, so financial aid plays a big part," said Mr. Welsch. "When financial aid comes in now, the university will take out tuition and room and board and distribute the excess to students."

In the past, this excess was distributed by check, but now that money can be direct deposited into the student's Rock Dollars accounts. "We've gotten quite a few calls from students already excited about the new system," said Mr. Welsch. "All that's been released has been the financial aid form with a new check box allowing for the money to be direct deposited."

Additionally, on- and off-campus paychecks can be deposited directly into the same account.

**Giving something back**

Another feature involves charitable giving. Remember that 1.5% transaction fee merchants have to pay to accept the student's Rock Dollar card or contactless token? Heartland doesn't profit from it. The money goes back to the students or the charity of their choice.

"We are rebating back to the students through the Give Something Back Network," said Mr. Welsch. Students will be able to go online and select their favorite charity to have this money donated to, or they can have it credited to their own account.

"That's another important feature about our system that the university liked. Universities struggle to get their students to give something back down the road when they become successful. Slippery Rock is trying to build that thinking in their students. The Slippery Rock Foundation will be listed as the first charity they can donate to. Students will at least see the concept of giving back."

**A new player in the campus card market?**

Mr. Welsch hopes Slippery Rock is just the beginning for Heartland in the campus card business. "We're looking at doing this at other universities. It will be a product offering under our campus card product line" in the company's micro-payments division. The company, which is traded on the New York Stock Exchange, provides credit/debit/prepaid card processing, payroll and payment services to 150,000 merchants – including restaurants, hotels, and retailers – and 300 colleges throughout the US.

What will determine whether Slippery Rock University's card program is successful or not? "We're going to judge it by the number of merchants we sign up. Obviously we also want to sell them credit/debit, and payroll processing – as well as remote check deposit services," said Mr. Welsch. "We will judge the success of this project on the merchant participation and the future of selling or renting additional readers to the university."

Dr. Smith likes what he's seen so far. In fact, he has been a guinea pig, of sorts. "They gave me one (a contactless tag), and I've gone around using it. Since it was Heartland's money on an experimental card, I had a great time," he laughed.

"We're going to see where this goes," he added, "but from a branding standpoint, we couldn't be more thrilled. Heartland is out there encouraging all these retail establishments to accept these Rock Dollars, and the merchants are signing up. That means they're looking for a Slippery Rock patron."

He said the contactless tag concept has also created "quite an international buzz. This kind of reputation for us is, to borrow the MasterCard line, 'priceless.'"

CR80News

# Companies roll out lower-cost ID card printers with higher-end functionality

*Leading manufacturers offer new models to address changing needs of campus and corporate card issuers*

**Andy Williams**
*Contributing Editor, AVISIAN Publications*

A few years ago, demand among smaller organizations was limited for card printers that could print quality images on IDs with embedded technologies (e.g. smart cards, contactless cards, prox cards). But a lot has changed in just a few years with new regulations and growing demands for ever-greater security. Now, printer manufacturers are trying to keep pace, offering lower-end models that can produce high quality images on embedded technology cards at a lower price.

Major printer manufacturers including Datacard, Digital ID, Evolis, Fargo, and Magicard are all addressing this new sector with high function, high value models.

**Fargo offers lower-cost retransfer model to make secure cards affordable**

Although by no means alone in this endeavor, Fargo Electronics, which specializes in secure identification technologies, including printers that can churn out smart IDs, recently released a lower cost printer designed for small- to mid-tier environments.

Calling it "high tech for the masses," Fargo's HDP-5000 is inexpensive–at least by High Definition Printing standards, according to the company's vice president of product marketing, Steve Blake.

"We decided to do it because customers really like the print quality and they've clamored for it over the years, but the pricing was high compared to the traditional (dye sublimation) printing," he said. "With smart card growth, people are asking us more and more for High Definition Printing technology, but at an affordable price."

Fargo also hopes its lower price will enable it to gain a greater market share in the growing US market for ID cards with embedded technologies. "Smart card technology hasn't had as high a level of adoption in the US as in Europe, but it's definitely growing," he said.

The HDP-5000 uses reverse imaging technology, ideal for printing on a card with a chip because the printhead never comes in contact with the card. "We've offered this for a few years in other products and platforms, but our latest generation is more affordable. It used to be suitable for (high end projects, like) government ID programs or for other high security applications. It used to be premium priced, but with the HDP-5000, we've established new ground with a printer that fits the corporate market, or ski resorts or colleges and universities," he added.

How inexpensive is it? The HDP-5000 starts at $3,995, about half the price of the traditional high-end models. "Our component sourcing and customer-focused design have resulted in a lower cost of manufacturing so it's more affordable," he said.

This printer can also grow as the company grows. "A lot of mid-level customers want to start small and grow later but they don't have the budget for all the bells and whistles that a high end printer offers. While many card printers aren't upgradeable, the HDP-5000 was designed to be modular. Today, they may be doing single sided printing, not mag stripe or contact and contactless or lamination. But they're thinking about it down the road. They can get the platform, a single-sided base printer, and then a year from now can add a flipper module for dual sided cards. It flips the card over and brings it back to print the back side of the card. You can also add the ability to encode contact/contactless, mag stripe or prox cards."

# SECURE

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Other printer manufacturers have realized the need to serve the smaller company or college and also have developed inexpensive printer offerings. Evolis, Digital Identification Solutions and Magicard all have low-cost printers.

**Evolis offers a flexible array of printers for low- and high-end needs**

Gerardo Talavera, Evolis managing director, said there has been "a lot of demand" for low-end printers. He estimates that 85% of total sales comes in this area. Evolis has printers starting around $1,600.

He said most of the cards being produced with Evolis printers are for ID, access control, or for a loyalty program – cards that don't necessarily have to be really secure. The high-end, that 15% includes the high security printers "that come with lamination and other features," he added.

The company's best-selling printer has been the Pebble, "a basic single-sided color printer, one of the most successful in the industry," he said.

But, he added, "there's really not much security on the low end." The Pebble lists for around $2,000. "The first generation came out seven

years ago (when the company was first started) and we've been developing different generations since then," he said.

While Evolis' lower-end printers have encoding capabilities for "RFID (contactless), contact, mag stripe without them having to buy several printers," the company also offers "low-cost generic overlay holographic images that will give you some security because it's adding more to the card."

"…Instead of spending the money on holograms, (many organizations choose to) pre-print the cards with another company which allows them to add different security features. They then just use the printer to personalize the card," said Mr. Talavera.

**Digital ID reminds clients to choose based on total cost of ownership, rather than initial price**

Shane Cunningham, inside sales and marketing manager, Digital Identification Solutions, believes that some inexpensive printers may cost more in the long run. "A system with a large price tag can actually be very cost effective without being considered cheap," he said. "Reliability, flexibility, and scalability can play a major role as to whether a system is worth

the expense or not. Just because a printer may cost (little) initially, it doesn't mean that it won't cost you more in repairs, man-hours and headaches in the near future. It all comes down to real value, which can only be determined by the user, not the price tag."

"When we opened our doors (in 2003), we started with retransfer printers, but added the value line in 2005."

Digital ID's value line, direct-to-card printers starts with introductory level hand-fed printers that do one card at a time, he said.

"There is a certain perception as to what's affordable. Even our higher-end printer, with all the options for anything you want to do, ends up being cheaper than a regular direct-to-card printer," he added. He maintains that a high-end printer going to film rather than directly to a card can outlast the printhead on direct-to-card printers by a factor of 15. In other words, "you'll replace 15 direct card printers in that time. However, if someone is only printing 500 cards a year, that's probably overkill."

The DCP 360i, a direct-to-card printer with all the features (e.g. options for chips, contactless, dual sided printing) lists for about $4,200. "The 360 is the lowest end of our professional line,"

he added. But the company also offers its value line starting with the DCP 100 ($1,500), explains Mr. Cunningham. "It offers a single sided hand-fed direct-to-card printer." Higher up is the 340 ($3,900) "which prints double sided and is designed to be inexpensive."

"If all you need is an ID card, the value line is for you; if you need a secure credential, then the professional is for you," he added.

He agrees with Evolis' Mr. Talavera that "if you want some truly secure cards for your organization, but you need less than 500, you can get around that by going to a service bureau. They can produce the cards for you without you buying the hardware."

Sometimes, however, perception is everything. In at least one instance, recalls Mr. Cunningham, price wasn't as much an issue as how the card looked–specifically the picture on the card. "A small cosmetics college in Nevada purchased our 570i retransfer printer (a high end product that retails for about $7,800). The reason they bought it is that students liked their pictures produced by the retransfer printer. The students were willing to pay for a more expensive ID card."

**Magicard offers a full range of options ... from Opera to Tango to Rio**

Andy Matko, marketing manager for UK-based Magicard, said that a number of years ago, ID badges were for the larger companies. If a small company wanted badges for its employees, it sought out a service bureau. "Now everyone is buying printers rather than badges from a service bureau. We're all impatient. You have a new employee, you want to badge them that day. But it's not just companies, but things like sports clubs." This is one of the markets Magicard is reaching with its low cost – some under $1,000 – printers.

Magicard's low-end printer, Opera, retails for less than $1,000. "It's a small hand-fed printer that can produce ID cards," said Mr. Matko. "We're finding a lot of small companies or small organizations of 50 or 100 people will buy this type of printer. Opera is good for the Internet market, and it comes with badging software."

He added: "We saw there were a lot of people that weren't able to get into badging, essentially due to price. They needed a simple printer, an entry-level package, which opened up the markets for us."

These lower-end direct-to-card printers "are not designed for high volume." They will print on smart cards, but not encode them," explains Mr. Matko. "So there isn't a lot of security there."

If you want security, Magicard's Rio – about $3,000 – will produce a customizable visual security-type watermark that the company calls Holokote. "It puts a watermark on the card which means your card can't be copied," said Mr. Matko.

In the $4,000 arena is Magicard's Tango. "It offers a range of encoders that are built into the printer," said Mr. Matko. "Tango can print hundreds of cards a day, you can network them and include visual security on the cards."

He added: "We saw the need for low cost printers from end users. People were saying they couldn't afford a printer, too much money. It's a rapidly-evolving industry. While we started in 1993, it wasn't until the late 90s that these printers became common, and even then you couldn't buy them for anything less than $7,000."

"Companies are badging people for the first time and they're looking for value and simplicity. That's what we're trying to tap into."

# Choosing between reverse image and direct-to-card ID printers

When shopping for an ID card printer, you're liable at the outset to be hit with two choices: direct-to-card or reverse image transfer? Making an informed choice depends on what kind and how many cards you're trying to print.

Direct-to-card (DTC) printing is the most common technology used in desktop ID systems to print images directly onto the surface of a plastic card. It does this by heating a special print ribbon beneath a thermal printhead, resulting in the transfer of color from the ribbon to a blank card.

With reverse image technology, the printer first prints images onto a special film that is then fused into the surface of a blank card through heat and pressure. Because the graphics and text are printed on the underside of the film, the image is "sandwiched" between the film and the card. This process produces excellent print quality, is durable, and provides the ability to print with a wide variety of card technologies and on many card types.

Both of these printing technologies share two printing methods: dye-sublimation and resin thermal transfer.

Dye-sublimation is the process used to print smooth, continuous-tones that bear photographic-like realism. This process uses a dye-based ribbon that is partitioned by a number of consecutive color panels. The panels are grouped in a repeating series of colors – cyan, magenta, yellow, and black (CMYK) – along the length of the ribbon. During printing, a printhead containing hundreds of thermal elements heats the dyes on the ribbon that vaporize and diffuse into the surface of either the card or the film. A separate pass is made for each of the different color panels. By com-

bining the colors and varying the heat used to transfer them, the printer is able to produce up to 16.7 million colors.

Resin thermal transfer uses a single-color ribbon to print sharp black text and crisp barcodes that can be read by both infrared and visible-light scanners. This process uses the same thermal printhead as dye-sublimation; however solid dots of color are transferred rather than a combination of colors.

When you're printing contact or contactless smart cards, the "printing technology of choice" is reverse transfer, says Fargo's Steve Blake, vice president of product marketing.

Why? Smart cards have embedded chips. "Anything with electronics embedded in the card doesn't always end up with a flat surface. A dye sub process … creates some issues (with print quality). By printing to reverse transfer film instead of the card surface itself, you have none of those problems. It's very forgiving with electronic cards," said Mr. Blake.

The dye sublimation process is also known as direct-to-card printing. As Mr. Blake explained it: the ribbon comes in direct contact with the card. "If you have a contact chip in a smart card, that chip is supposed to be flush to the card, but that's not always the case. There might be a little ridge or bump and if the printhead contacts the chip on the card, it can blow a pixel out (on the printhead)." Then you have the costly problem of a damaged printhead that, in many cases, costs about half (or more) of the printer's original purchase price to replace.

What's more, a DTC printer can leave blotchy white spaces around the chip. You therefore end up with a bad card that you "have to throw

away. That might be a $4 card so you're damaging an expensive inventory item," he said.

Reverse imaging technology "really doesn't care whether the card is smooth or not because the printhead is contacting the ribbon which contacts the film. The film is then attached to the card in a single pass through the printer," said Mr. Blake. "The film can produce a much better image – the colors are truer, you have a higher resolution and a crisper, cleaner, truer look. It resembles a preprinted card that you get from a card manufacturing plant."

Reverse imaging also makes it easier to produce secure cards equipped with a hologram. "Historically, holograms had to be put on by a lamination module attached to the printer," explained Mr. Blake.

But reverse transfer film can be produced with an embedded holographic image. "You don't need a laminator module. This is wonderful news for the middle and entry level (organization)."

"With smart card growth, people are telling us more and more that they want that high definition printing technology, but at an affordable price," Mr. Blake said. Reverse image has become the technology of choice for both its superior image quality and its ability to print high-quality images on contact and contactless smart cards. In most cases, these printers cost more than their direct-to-card counterparts, though many printer professionals suggest that reductions in the total cost of ownership outweighs the additional upfront costs.

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# Industry icon Bruce Lane to depart CBORD after 22 years

*After growing company to major market leader, Mr. Lane announces retirement*

When Bruce Lane signed on with campus card system provider CBORD 22 years ago, it was still a small company. As he explains it, he was "employee No. 14." But today, CBORD has some 475 employees and serves hundreds of colleges and universities, primarily in the US and Canada, but also in Australia, New Zealand, and South Africa.

He had a lot to do with that growth, but now the 53-year-old Lane is planning to call it quits by the end of this year, retiring, at least from CBORD, but not from business life.

"Bruce was the first manager I hired at CBORD," recalls John Alexander, the company's founder and chairman. "Before Bruce, we were just a gang of techies. He brought a real sales focus to the card systems business, and brought a real enthusiasm for entrepreneurial behavior within this organization."

"I'm a little sad to see him go," added Tim Tighe, CBORD president, "because he took the company from a small upstart company to a leading provider in the college card systems world."

Mr. Lane jokes that he was hired as vice president and "for 20 years or so I was the person at CBORD the longest who never got a promotion!"

Discussing Mr. Lane's life is difficult without talking about the company that has occupied nearly half of it.

CBORD has been around since 1975, but Mr. Lane, CBORD's Executive Vice President and Chief Operating Officer, did not join until ten years later when, as he explained it, "John (Alexander) was trying to grow the business and needed some help. John had been an MBA student at Cornell, working his way through school. He had written a program to manage the school's food production and inventory control and later bought the rights to it, creating CBORD," said Mr. Lane.

What does CBORD stand for? As the company defines it on its web page: "We're proud of our company name, but it's not an acronym or an abbreviation. The letters have no hidden meaning…"

"There are lots of stories about what it stands for," said Mr. Lane. But the company had 200 bucks and it had to come up with a name and that's what we got for $200, he jokes. "We wanted to pick a name that sounded like something but had a nonsense spelling so we wouldn't have to do a trademark search. In fact, it took us 20 years to get around to trademarking the name."

**A circuitous path to CBORD**

Mr. Lane took a rather circuitous route to Ithaca, NY, CBORD's home. He had earned his Master's in international relations from Johns Hopkins.

Why international relations? "When I was in high school I went to Argentina as an exchange student, so I had a second language under my belt. It just seemed like a natural progression. I got through Johns Hopkins' program. I think I was qualified to be secretary of state but that job was already taken," he laughed. "When I was done, it was my wife's turn to get her degree."

She was seeking her PhD at the University of Wisconsin, and that's where the Lanes ended up. Mr. Lane got a job running the state's international programs primarily promoting the export of Wisconsin products and attracting foreign investment to the state. "The hardest work I've ever done is working for the government. It's challenging work, but fun," he said.

He said he worked for the governor's office in two capacities: growing agricultural and manufactured exports and attracting foreign investments. "I then decided to go off on my own and do export development and I got involved with running an export business in Milwaukee."

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By the time he was 30 he had run manufacturing and service companies while traveling all over the world.

"When we moved to Ithaca, my wife had completed her PhD. I was at the point of selling a packaging business. My original idea when I moved to Ithaca (home of Cornell University) was to find professors with great ideas, but with no idea of how to market them."

Later, "a friend introduced me to John who needed someone to write a business plan. I had experience running different types of companies, but I wasn't a computer guy. I usually ask my kids when I need computer help. My skill set was in business organization and management … and some selling skills. It was just sort of general growing-the-business skills," he added.

"John has always been the idea guy and Tim's, and my role would be to beat on them. He would churn out ideas and we would decide what we could turn into hits. It's been an excellent partnership." Mr. Tighe actually joined CBORD a year after Mr. Lane.

### Building the company into a major market player

"We brought in people with the kind of skills that are needed as CBORD becomes a larger company. We've grown CBORD from a small company to a medium sized one and now we want to move to that next level," he added.

Still privately held, CBORD has grown both through its sales efforts and its acquisitions. For example, about two years ago it purchased Diebold's Card Systems Division, inheriting the company's card system and the colleges that were utilizing it. In 2005, the company purchased Student Advantage, a student discount membership business and this year acquired Off-Campus Advantage, a provider of outsourced off-campus card programs.

The Diebold purchase was what pushed CBORD to the next level, adding significantly to the company's business. "That was a lot of hard work for our whole team," he recalled. "We had been talking periodically with Diebold; we would touch bases with them, and when they got to the point that their campus card business didn't fit into their ATM business, they finally said, 'lets talk.'"

Diebold added about 200 clients to CBORD's customer base. The $38 million transaction involving Diebold's access control and security expertise also addressed a gap in CBORD's product line – the lack of an access control offering. In addition,

Diebold's CS Gold was optimized for large institutions while "Odyssey (CBORD's card system) has a sweet spot among smaller and medium-sized schools," said Mr. Lane a few months after the purchase.

"I enjoyed greatly growing the CBORD campus card user base to the largest in the industry," he said. "We have outgrown our own office building and have expanded to an office building next door. We have facilities in Waco, Texas, a help desk in Canton, Ohio, a training facility in Farmington, New York, a manufacturing facility in Cypress, California, and a sales and support office in Sydney, Australia," he said. The company now totals 475 people.

He said CBORD's card systems originally focused on the college world, but "we've had good success at extending it into the corporate world. We now service a lot of big name company clients like Gannett, Daimler Chrysler, New York Life, Kaiser Permanente and Mass General, where employees use their badges to purchase goods and services in the company cafeterias and stores. The corporate world and healthcare world are where the college world was 15 years ago using card systems," he said.

"Bruce built up our Card Systems Division from a fledgling competitor to the dominant market leader, and most of the work was done using internally generated capital, no IPOs, no financing," said Mr. Alexander. "His attention to the details of his business, and his respect for our clients combined to make us into a terrific business partner for our many clients in several markets."

### An overriding customer service mentality

Mr. Lane also considers himself "a very competitive person." He'll get no argument from Mr. Alexander. "Bruce would never, ever, give up on a sales prospect. It was not a question of 'if', it was merely a question of 'when,'" he said.

Added Mr. Tighe: "Bruce lives every day with a customer service mentality which has helped this company grow. He has a very strong sense of customer service. We think we have customer loyalty because we do a great job of providing customer service. Bruce has been one of the critical individuals to make sure that happened."

Yet, with the growth CBORD has undergone and the new products it has introduced during Mr. Lane's tenure, none of these makes his list of accomplishments. "The thing that makes me feel the best is to look around at all the people that have been employed by CBORD, as compared to 20 years ago," he said. "I look at the economic engine that CBORD has become for so many families. It's very exciting to see that we've created an organization that's been very stable and has provided a livelihood for a lot of people."

One of the things he's going to miss is the "even keel relationship we have with so many college folks. While it's a hard business (in which) to make money, and we are providing colleges with mission critical sys-

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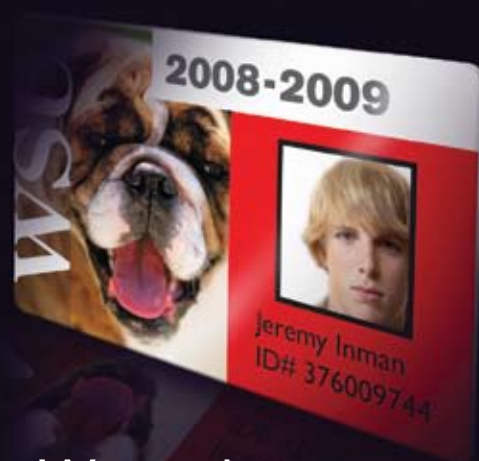
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tems for handling student funds, our customer service focus at CBORD has yielded us a customer base that knows us for working hard to meet their needs," he said.

"It's pretty rare that we come up with a great idea," he added. "Usually schools say to us that 'it would be nice if your system did this or that' and we'd scurry back to Ithaca and figure out how to do it. That innovation always will come from the customer side. And the companies trying to jam it down the university's throat will continue to have a rough ride."

One of those ideas that has taken off came from students, not the university itself. Now called Webfood®, "it first came to John's attention" in 2001, said Mr. Lane. "It was developed by Cornell students who had created an online food ordering system, because they were tired of waiting in line to order and receive their food. We worked with them over a span of about a year and a half and bought the company in 2003. Four of the five Webfood founders are now CBORD employees. That business has grown very well and is used by restaurant chains, corporations, hospitals and universities."

### Looking to the future …

With retirement looming, what are his plans? "When I started working on my ideas to retire, Tim and I began assembling a really good coterie of senior managers," said Mr. Lane. "The plan is well in place" for business as usual after he steps down. Max Steinhardt is CBORD's new Senior Vice President of Operations and Randy Eckels has now been with the company for over a year as Senior Vice President of Sales and Marketing. Rick Libby is at the helm of Student Advantage and Shawn McCarthy has joined CBORD as Managing Director of Off-Campus Advantage. "This is a team of very seasoned managers with skills that CBORD needed to grow further," Mr. Lane explained.

As to life after CBORD, "I'm sure I will find other things to do, I'm just not sure they'll be in the college and university world," said Mr. Lane. "We own some real estate, a couple of buildings, I'd like to develop. I've had a good time at CBORD, but I figured this was a good time to do something different."

And then, there's always ice cream. "My wife (Heather) and I own an ice cream company

and we have a couple of other projects that we plan to get involved with," he said.

It's called Purity Ice Cream and the Lanes bought it in 1998. "It is a fun company with a great product, but not much in the way of financial viability, although it has gotten a lot better with my wife's hard work," said Mr. Lane. "We ceased our own manufacturing last year and now have our own unique recipes produced by a larger dairy in Syracuse. Purity is distributed in Central New York. My wife, Heather is the president, and I change the light bulbs and cut the lawn."

"I take a little responsibility (and a little credit) for Bruce's most important life decisions," commented Mr. Alexander. "My wife, Elaine, introduced Bruce to his bride Heather, while Heather was working with us in our restaurant (my night job). Bruce and Heather are a real entrepreneurial team, and my wife and I have enjoyed working with them over several decades."

Most importantly, thanks to a second marriage, he has two young children, ages six and eight, that he intends to enjoy. He also has two other kids from a previous marriage, ages 17 and 24 .

Added Mr. Tighe: "I'm excited for him that he's getting to this stage in his life and very excited about the business he helped build at CBORD, particularly the people he helped recruit."

Maybe he'll also establish a travel agency. His time at CBORD, he said, has allowed him to accumulate a lot of frequent traveler miles. "Alaska is the only state I haven't been to," he said. "If there's one thing I can figure out, it's how to salvage a trip."

Regrets? Mr. Lane doesn't have many. "One night, I'm emailing a colleague at 2 a.m., and we were complaining about how there aren't more hours in the day. But I don't have a lot of regrets. CBORD has been a great place to work and it continues to be a great place. Right now, we're a hiring machine and it's just a wonderful thing to see a company grow like this."

What has helped it grow, Mr. Lane believes, is its understanding of the industry it's trying to serve. "What I've seen over the years are times when big companies came lurching into the campus card business," he said. "They all thought the business was simply grabbing hold of the students and shaking a lot of money out of them and that the campus card business was a great way to get students to buy other products. Today, they're all gone. The college market moves slowly and it doesn't adopt new technologies really quickly. Colleges like to use techniques that are proven, and students are more sophisticated than these companies gave them credit for."

He compares CBORD's university clients to a three-legged stool representing "parents, students and administrators. If a new product or service doesn't fit the needs of all three constituencies, then it's not going anywhere."

That's what some of the larger companies that have now left the industry didn't see. "The marketplace needs to understand that when we implement a campus card system, our focus is on keeping that card safe, convenient, and easy to use. Any other services that tie into it are great, but they are secondary," he said.

Perhaps this recognition will be another of Mr. Lane's many legacies left to the campus card world. If anyone has dedicated his life's work to making campus cards secure, convenient, and easy to use, he's the man.

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# Should your campus card use ISO numbering?

**Chris Corum**
*Executive Editor, AVISIAN Publications*

Perhaps the most important feature of any credit or debit card is the 16-digit number unique to that card. It is called an ISO number, and it is the key for linking each transaction conducted with the card to the account and account holder responsible for the transaction. In the early 1990's, these numbers began appearing on student ID cards, replacing earlier numbering schemes like Social Security Numbers or randomly generated digits.

But what makes these 16 digits so important? Why would an institution choose this numbering scheme over another? And how does one go about getting an ISO number? Read on.

## What is an ISO number?

The International Organization for Standardization (ISO) is a global federation of standards bodies that works to create standards on nearly every imaginable topic. Its subcommittee on information processing systems, called Technical Committee 97 (TC 97), issued its specification ISO 7812 in the mid-1980s. ISO 7812, entitled *Identification cards: Numbering system and registration procedure for issuer identifiers*, prescribed the format for a standardized card numbering scheme.

The importance of the standard is that it was a precursor to any attempt to build an infrastructure of card reading devices capable of accepting meaningful data from cards provided by multiple issuers. The infrastructure was necessary for mass cost-effective development of point of sale (POS) and ATM networks. In reality, this number was required for transaction routing and control while a standard placement of the number on the magnetic stripe was needed to ensure that card readers knew where to look for the ISO number on the card. This latter goal was accomplished by the American Bankers Association (ABA) magnetic stripe encoding standard.

## What do the digits mean?

The first digit in an ISO number is called the Major Industry Identifier (MII). This number indicates the category best describing the

## Components of an ISO 7812 Standardized Number

| MII | ISSUER IDENTIFIER | | | | | INDIVIDUAL ACCOUNT NUMBER | | | | | | | | | CD |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 5 | 5 | 8 | 1 | 2 | 9 | 8 | 4 | 6 | 5 | 2 | 8 | 3 | 4 | 9 | 5 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

**\* MII = Major Industry Identifier; CD = Check Digit**

card issuer owning the ISO number. The MII is broken down as follows: 1 = airlines, 3 = travel and entertainment, 4 = banking/financial, 5 = banking/financial, 6 = merchandising and banking, 7 = petroleum.

With limited exceptions, the Issuer Identifier encompasses the single digit MII and the five digits following it—for a total of six digits. In general, each card generated by an issuer starts with the same six digits. Giant card issuers such as the major financial institutions and credit card issuers will often have multiple Issuer Identifiers as they run out of unique numbers in one and must utilize others.

The next nine digits form the Individual Account Identifier. In the same way that the first six digits name the card issuer, the next nine digits name the cardholder. Actually, the issuer can choose to use between nine and 12 digits for this section, resulting in an ISO number that is between 16 and 19 digits. The generation of these numbers is left up to the issuer. A skip factor or pattern is used to avoid issuing sequential numbers and thus making it overly simple for a person to guess at other valid card numbers by looking at one actual card.

The final digit is a check digit, calculated by applying a simple mathematical formula to the preceding digits. This check allows a card reader to perform the calculation based on the first 15 digits it read from the magnetic stripe and check it against the final digit read. If they match, it is likely a valid read. If they do not compute, then the reader knows that the read was bad and requests that the card be swiped again.

## Why go ISO?

Many campus card programs are utilizing the ISO numbering scheme. The main reason for

this is its requirement if the card is to be used in the established financial networks. If you plan to enable financial functionality within the banking networks, ISO numbering is a must.

While many campus card systems utilize numbering schemes other than ISO numbers, virtually all card readers and manufacturers can use the ISO number as the identifier. If you never plan to add financial capabilities to your card program, this standardization may not be necessary. However, there seems to be little reason not to go to ISO numbering for new programs and card reissuances.

## How does one obtain an ISO number?

You do not have to be a bank to get an ISO number. Many schools that utilize the scheme own their own numbers while others have looked to their banking partner to obtain this number on their behalf. In the past, many believed that the campus had to own their number so that it could be ported from one bank to another if contracts were moved. In reality, most schools that have switched banking partners have been forced to recard and utilize a new ISO number, making the ownership issue less significant. Many financial institutions are unable to utilize an ISO number that is not their own as their internal systems are geared to accept only these numbers. If you have a banking partner or are in the review process, ask for information.

The application process to obtain a number is simple and costs only $600. The process takes four to six weeks. In the US, applications are processed by ISO's member body—the American National Standards Institute (ANSI). Application materials can be requested from ANSI by calling 212- 642-4992 or v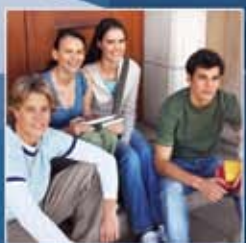isiting them on the web at ansi.org.