



Benefits of a One-Card Campus Solution: Making the Transition

Transitioning an existing University ID card system to one using contactless, one-card technology is an important security decision providing a leap in user convenience – and is less difficult than you might expect.

Growing concerns about the security of the common magstripe ID card coupled with the anticipated convenience of linking multiple applications together is causing Universities to seek out more efficient, secure solutions. According to a recent survey, approximately 50 percent of today's higher education campuses are turning away from the traditional magstripe card technology in favor of high-frequency, contactless one-card technology to simplify and streamline the on-campus credential experience.

Even so, many Universities are wary of moving to the contactless technology due to perceived challenges surrounding the migration process. While these challenges are valid, universities may not be aware that there has been dramatic improvement in the underlying technologies available to support a successful roll out and sustain the one-card solution long-term.

In this brief, we:

- Discuss the current card technologies available today
- Cover the benefits of moving to a contactless, smart-card solution
- Demonstrate how to integrate smart-cards with systems that are already in place
- Share best practices and advice from Universities who have successfully migrated to a one-card solution.







One Card, Many Uses.

Did you know? Contactless cards can be used for far more than just student identification:

- Facility access
 - Cashless payments
 - Parking and transportation
 - Asset check-out (campus library)
 - Time and attendance monitoring
 - Integration of debit card uses
 - Cost and sustainability initiatives
 - e-Tickets
 - Data security
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Options in Card Technologies

To begin, this table outlines differences between the main card technologies in use today.

Magstripe	Contactless, Low-frequency	Contactless, High-frequency
<p>The most common technology in use today, the magnetic stripe card must be swiped through a reader. It employs an older technology similar to what is used in barcodes.</p> <p>Cost - \$ Security - </p>	<p>This card is read by tapping the card to a reader. Employs radio frequency to basically mimic what a magstripe does—taking the number that would be in the magstripe (or put into barcode)—and putting that onto a contactless chip that can be read by a variety of readers.</p> <p>Cost - \$ \$ Security -  </p>	<p>This card is also read by tapping the card to a reader, but utilizes additional card memory, allowing for multiple applications and use cases (i.e. door access and cashless vending on the id card).</p> <p>The card also includes encryption technology that can prevent the unauthorized interception of the card's data.</p> <p>Cost - \$ \$ \$ Security -   </p>

Downsides of Magstripe Card Technology

Many organizations—not just universities—are experiencing the downsides to the magstripe card technology. Due to the absence of security protections on the card itself, magstripes are very susceptible to fraudulent use. The only actual security is that the number itself is not written onto the card, however it is becoming increasingly easier to lift the numbers off the card through the magstripe. Due to the swiping required by magstripe technology, the maintenance of magstripe readers can be expensive and inefficient and the general cleaning and upkeep on them is difficult. Finally, the pressure placed on the magstripe deteriorates the card itself over time.

Benefits of Contactless Card Technology

Greater Security. Secure information embedded on the card makes it more difficult to replicate the card or “lift” information reducing the chance of ID fraud. The high frequency card offers the highest security features due to the ability to place a “key” that “locks” the information onto the card. Each unique piece of data on the card has its own key, therefore if one key is compromised, the rest of the information on the card is still safe. If there is a compromise in one area, card services can simply rewrite one area instead of having to re-program or re-encode the entire card.

Reduced Maintenance. Contactless readers require far less maintenance because tapping the reader as opposed to physically swiping a card eliminates the risk of contaminants — the most common culprit of damage to reader heads. This results in a reduction in costs and service calls. Contactless readers can be especially beneficial in all-weather circumstances where exposure to drastic temperatures, heavy rains or ice formation could affect a magstripe reader’s ability to read cards altogether.

Increased Flexibility and Convenience. Several unique applications or information can be stored on the card—student banking, library privileges and dining plans, to name a few. New applications can be added at any time, which saves card services staff time and money by not having to re-print, re-personalize and reissue an entirely new ID each time a new application is required.

Tips for a Successful Migration from other Universities

Despite the growing trend toward contactless card technology usage in higher education, many universities are still wary of upgrading due to perceived challenges surrounding the migration process.

Concerns include uncertainty over how to continue operating applications that do not support contactless cards—such as library checkout services that still utilize the magstripe or barcode—and the assumption that it's not possible to support old *and* new technologies at the same time. Others worry that printing contactless cards is too complex and will slow down the issuance process.

Fortunately, many universities have executed successful roll outs of contactless card technology. Follow their recommendations below—learned through trial and error—to ensure your school's migration will be a success.

Recently, the University of Arizona successfully migrated from magstripe to secure, contactless cards, eliminating the problems they were experiencing with magstripe damage and demagnetization.

Immediately, the new contactless cards were capable of supporting multiple applications—secure facility and dorm access as well as meal plan purchases—with other applications being phased in over time (sign-on logical access, e-ticketing for Wildcat sports, attendance and even voting!).

Essential Pre-Migration Steps:

- ✓ **Begin by ensuring that all stakeholders are included in the process.** IT, Card Services, Food Services, Safety Certification Compliance, Outside Vendors, etc. Include *everyone* that could potentially take advantage of this technology to help shape how the new card service will be activated and used. This is critical as the lack of stakeholder inclusion was reported as the number one obstacle to successful adoption.
 - ✓ **Create a baseline evaluation of your current campus card solution.**
 - ✓ **Complete a Security Assessment.**
 - ✓ **Clearly define the goals of your campus card solution.**
 - ✓ **Identify Card to Reader Ratio.** This is important as you consider the technology implementation itself. The size of your student population and the number of card readers you have will help you determine whether you should implement a complete overhaul and reprint new cards for everyone at once, or slowly migrate the student population over time. Evaluate your unique situation to reach the right solution.
 - ✓ **Leverage outside support to tie services together.** Many universities have sought the support of an outside technology consultant to help tie these services together or have reached out to university peers who have worked through similar migrations.
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Common Migration Challenges and How to Overcome Them

Do I need to swap out all affected technology at once, or can I plan the transition over a period of time?

It is a best practice to choose readers that support both magstripe and contactless technologies, permitting gradual migration.

This enables you to retain your existing student ID numbering system as you migrate to new, contactless card platforms and to migrate facilities to contactless technology at your own pace. These multi-technology readers increase flexibility, enabling an organization to develop a migration plan that serves its unique requirements. The readers can be used to provide access to multiple types of credentials, including the ones the organization is migrating from, and the ones it is migrating to.

Organizations that want to upgrade from magstripe or low frequency to contactless, high frequency solutions, for example, can replace all of their magstripe/low frequency readers with combination low and high frequency readers. Then, rather than switching out all of the cards at once, high frequency cards can be issued to new employees and as replacements for lost cards with existing employees. This will offset the cost of swapping out all of the cards at once. The organization can then replace all of its low frequency cards with high frequency cards after a transition period, and by then the cost impact will be lower because many of the employees will have the new cards already.

How do I support legacy applications during the course of migration?

Utilize a Keyboard Wedge Reader to transition legacy applications that do not have embedded support for contactless cards.

As your migration gets underway, you will have legacy applications still in use that do not support contactless readers. This type of reader operates in a wedge mode—it takes the number listed in the barcode or magstripe and populates it into the legacy application (most commonly things like gym or library access)—providing a solution for continuous use of older applications that do not support contactless readers during the transition to the contactless card technology.

HID Global offers the OMNIKEY® Keyboard Wedge Reader, which has eased the migration process at a number of universities.

What can be done to speed up and streamline the process?

Implement Pre-Printed Cards to Speed ID Distribution.

Another best practice is to leverage the services of an outside identity services firm to pre-print and pre-encode large numbers of student and employee cards with static graphics and data such as school logos and standard access privileges applicable to all cardholders. HID Global's Secure Identity Services has successfully partnered with universities to pre-print cards offsite putting less pressure on card services teams—who often operate only a few local printers for individual student personalization and issuance—enabling them to focus on other aspects of the new card distribution process that will create a better experience for students and staff through the transition.



Operate Printers that Enable Seamless Inline Personalization of Cards.

A final best practice regarding the actual issuance process, is to utilize onsite printers equipped with internal contactless encoders with read/write capability, enabling electronic and graphical card personalization in a single step. Unique information is electronically stored onto the card *during the print process* in one step, enabling efficient card production so that staff can quickly and easily produce more cards in the same amount of time while reducing the chance of encoding errors.

HID Global's Asure ID® card personalization software provides full integration with HID FARGO® card printers and HID cards for a hassle-free issuance process.

HID Global is the trusted source for innovative products, services, and solutions related to the creation, management, and use of secure identities for millions of customers around the world. HID Global has been partnering with Colleges and Universities providing secure issuance solutions meeting their customization needs for more than 20 years.

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