

Best Practices for ID Card Issuance

K–12 schools and colleges both issue ID cards to students, faculty, staff, and visitors to campus. The logistics of creating and printing smart ID cards with technical capabilities are more complicated than you might think.

From processing times to personalization, and from software streamlining to printer hardware selection, educational institutions have a lot of factors to be mindful of before committing to a solution.

Here to break down the process are Senior Product Marketing Manager Mike Mans and Senior Director of Strategic Initiatives David O’Driscoll, both with [HID Global](#). Mike’s experience is in mechanical development, digital measurement systems and advancing technology. David, meanwhile, leads global initiatives in expanding the secure issuance business at HID into new markets and with existing customers.

This interview originally took place on the *Schools in Focus* Podcast. If you prefer to listen to the interview, [Click Here](#) for that episode.

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S4L: Guys, thanks so much for being with us today. Can you tell us a little bit about yourselves?

David O’Driscoll: Yeah, sure, I’ll go first. So, this is David. I’ve been with HID Global for a little over 15 years now. I was actually part of an acquisition way back when, so I’ve been in the digital ID space for the majority of my overall career. I came from a company called Synercard that did Asure ID Software, and now it’s morphed. And mainly what I’m handling now is our cloud-based software, so there’s been a lot to learn in the last little bit—a lot of engagement with end customers and our partners on where we’re headed, what challenges people are facing, and how we’re helping them overcome that. And a little bit personally, so I might give it away with some words here later, but I’m based up in just outside of Ottawa, in Canada. And I guess, as far as stereotypes go, I am a big hockey fan.

Mike Mans: All right, and I’m Mike Mans. Similar to Dave, been with HID for a while now. I’ve been here around seven years, so not quite as tenured as Dave is, but been in the business managing the hardware side. Primarily focusing on direct-to-card, ribbon-based card printers, now evolving into the inkjet space as well, so taking on some of those responsibilities and trying to help develop some new markets and some new opportunities to bring innovative technologies to this space. So that’s been pretty helpful and exciting for us. Not quite as far north as Dave, but I am based in the Eden Prairie office in Minnesota. And so we’ve got some hockey fans here as well. I primarily focus on the baseball side in the summertime, so that’s a little bit about me.

What challenges do you see colleges and high schools facing daily when they issue IDs for their students or faculty?

David: Yeah, maybe I’ll jump in first on that one. There’s

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actually quite a list. And a lot of it has to do with logistics. Some of it has to do with the types of credentials and how they're going to try and deploy those. But the number-one thing that we see is, it can be fairly complex as far as how you're going to process those credentials. And we look at K-12, or high schools, a lot of that is because they have these different student information systems, the applications. And so, you're trying to manage all of your students in there, and then you're trying to determine, how do I get that out of here into an application that's going to allow me to manage my templates and allow me to deploy appropriately?

So now you're managing typically two, if not three, different applications. You're having to open and close windows. You are certainly at risk of duplicating data or editing something in an area that you didn't really want to. So that would, generally speaking, be the number-one: What sort of applications are you working with, and how are you actually going to try and get that data out in a streamlined and efficient way?

You know, that ties, then, into a relatively slow onboarding process. So students come up sort of one by one, and you've got to find their record, or you're creating a brand new record on the spot.

And that kind of slows things down as far as validating who the student is—am I in the right application? An overarching piece to all of this is that, typically, again, right now, what you see is these printers—as much as we love them—they can be fairly hefty. They don't have a lot of mobility to them. Generally speaking, it has to be tethered right to a workstation somewhere with a USB cable. And it doesn't give you a lot of flexibility as to where you can actually start to queue students up, where you're going to be able to manage that, and how quickly and efficiently you're going to get it out to the masses.

So particularly right now, with COVID, as we start to be really conscious of social distancing—of making sure that we're not crowding together—forcing people to go to one central location can be very troublesome. And looking at ways to be able to overcome that and provide some of that mobility is going to be very important—on the efficiency side and also just our general safety guidelines in the new world that we have. And I know, in speaking and dealing with Mike and with some of our direct customers, smart card personalization can become fairly cumbersome, too, if you're not sure what you're doing or you're not sure what direction you're headed.

So, Mike, maybe I'll let you take that a little bit, if you want to elaborate on where we're headed with the hardware and the printers to be able to manage that.

Mike: Yeah, absolutely. So I think, you know, a lot of what Dave said is absolutely true, from even what we're seeing in the hardware space. You know, as you mentioned, as these campuses, as schools, as institutions as a whole are looking to utilize their credentials to do more, you know, there's more opportunity to leverage the hardware to perform more of those tasks in reality. So, you know, smartcard personalization, we've been doing this—we, as an industry, have been doing this—for many, many years.

And unfortunately, I would say there still appears to be a gap in understanding that, you know, we can send down an entire job data set with the right components inside the printer, to personalize those, print those cards / credentials with a printed image—but also with that personalized programming data or read/write data from the card, depending on how you're trying to utilize those credentials. So smart card personalization is really something that we can help customers perform all of those activities in one simple step: really

trying to minimize errors, issues and punching in incorrect data manually, and really trying to streamline that process.

As Dave said, right now, you're probably looking at one or two times a year where you've got your primary bulk of card issuance, where you've got potentially long lines, a lot of credentials to issue in a relatively short period of time. And so, we're trying to help educate anybody that's looking to either expand or increase the efficiency of their systems to utilize some of these technologies and these capabilities. And really, some of that will bleed into (from a budgetary perspective), how do I most effectively manage the dollars that I have available? And in many cases, you know, instead of buying multiple individual pieces of componentry—desktop card readers, programmers, etc.—like I said, you can have these pieces integrated into your card-printing issuance solutions, and try and do that in a very efficient manner, and help with that streamlining effect, and helping from a cost perspective as well as a timeline perspective.

David: Yeah, I'll just add on. That's a good point on the budget side, Mike. I think as the pace of technology never slows down—Right? Continues to speed up—what we certainly have seen, both right from the

credential standpoint, down to the hardware piece, and then software, is this convergence of IT with physical access. So, while budgets are always being—particularly in education space, we know they're just pinched, it's almost unfair what they have to try and do with the budgets that they get. But being able to share that across different departments is something that is now far more capable than it was previously.

Now, you still need to be able to work well, and you have to communicate. But one significant piece we've seen is, as you bridge that gap to the IT space and understand what it is they're looking to do, what are their costs already, you can maybe open up your budget a little bit. And so it really is an overall eye to where do we want to go? What are the trends that we see? And what do we want to be able to provide to our students? So, there's always an element that we see. I would encourage any of the listeners to just consider, how can I work more efficiently with other departments? Because there's probably a fair bit of overlap as we start to see this convergence between IT space and the physical access space, too.

What are some of the best practices that you've seen card offices implement to reduce the impact of complex and slow

onboarding processes?

David: Yeah, that one certainly, again, going back to the current pandemic, has been something that has really come into sharp focus over the last 12 months or so. And the big one is, how can we—in streamlining the process I mentioned before, generally, you're going to have a lot of different applications. And the first one is how can we start to centralize that? How can I ensure that I have my one source of truth, where my data is, in particular on campuses and with their one-card system? And, you know, I guess, selfishly from our side—on the HID side—we've really listened to that. And our best practices now really surround, well, let's see if we can do some integration. Is there a way to take the application that you live and work in day-to-day, that you understand, and really drives your overall workflow, and how can we have an integration piece to allow you to get some flexibility, and have that peace of mind of knowing that you have that one source of truth? And no one is able to go in, another third-party application is trying to manage that and edit it. But really, you're just able to push that data to where you really need it to be.

So being able to integrate was probably the number-one piece as far as removing that complexity, and certainly



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that opportunity for significant error. And we've noticed, you know, with some of the schools that we've dealt with directly, that's had a real, strong, positive impact on reducing the amount of time and the amount of errors: follow-up calls that they get because a student has been locked out, because their number was entered incorrectly or was put into the wrong spot. So that's had a real, strong, positive impact in the last little while.

Has the card-issuance software changed also?

David: Generally, yes. And I'll say I mentioned at the top of that, you know, I've been...previous to HID, I'd worked for another company, and we did digital ID software, and it was all client-based. And back then, you know, there was—you had to have your CD; you had to have it installed locally; in some cases, there was software, or you had to have a dongle. Those days are past. Now, while those softwares still exist, and they're out there, there is so much opportunity to move to something that is web-based, or cloud-based. And some of the benefits that you get really speak to that first question that we discussed, you know, how do I speed up my onboarding process?

Well, now I don't have to force people to go to one particular area. With cloud-based software, I can really open up from any device, from anywhere. I can access the software. That gives me mobility that I'd never experienced before. Also, not having to be tethered to a workstation allows me to move that printer where it needs to be. So now you can imagine, we're seeing school set up, whether it's in the quad or outside of the card office, and you can have as many queues as you want. You can have seasonal student workers that are coming in and helping

you enroll people, capture photos, send it off to wherever that printer is going to be. And now you're not clustering people together. So it's having a really significant impact. And that ability to access from anywhere at any time, the visibility to an administrator to see in real time, how is our onboarding processing going?

Again, Mike mentioned with the schools, you know, we have these real significant flow times, and then it might subside a little, but it's a really large undertaking to get—whether it's orientation week or you're dealing with undergrads, how do I ensure that I get everyone taken care of as quickly and safely, now, as possible? And that cloud application or that web-based application is really starting to allow for that. And there's significant cost savings based on that, as well, that we're starting to see. There's less time spent managing the printer, and it's more time spent managing the flow, and making sure that those patrons and those students are taken care of as quickly as possible.

And the reality is, we're all used to, you know—whether it's Netflix or whatever streaming service—you're used to being able to have anything on your phone at any time. And quite frankly, the printer side was fairly archaic in that stance. So being able to give people that flexibility is... it's just what they're used to doing now. They expect it. So, from that standpoint, we're seeing a big change, just because that's what people certainly want, to be able to have that ability.

You mentioned earlier that while cards are getting smarter, the issuance of these cards is getting more difficult. What can schools do to make the issuance process as smart as their ID cards?

David: Yeah, so maybe I'll jump in first on this one. So, absolutely. The cards are continuing to get smarter, they're continuing to be able to do more and more. I would say at the very beginning of this, though, there's gonna be lots of different ways to be able to streamline that process. But where things really start to get to become a bit of a bottleneck is when I'm going to transition from one to another.

So, as we see in the higher education space, or the K-12, maybe you have a card that doesn't have any technology, or maybe I'm using barcode, or a mag stripe, and how can I efficiently migrate over to this new...or even if I'm going from Prox to an iClass, or any of the different technologies that are out there? And a lot of that is going to be about capturing the data appropriately, sharing that data with the new application, and making sure that the relevant—whether it's the card number, or if I'm coding something to it—can be done in line, and that I can ensure that that data gets put in the appropriate place.

So, look, as an example, a lot of schools are doing this: Now they have an encoder or reader embedded within the printer itself. As you are designing your card, you recognize the types of technologies that you're going to have. And it can be more than one. Sometimes you've had Prox and iClass, or you still are using a barcode or a mag stripe, so you need to be able to efficiently get that data in there. Having an encoder in line, embedded in that printer, allows for you to determine that right from your card design.

Say the moment that I print off that particular individual's credential, I want to be able to read the data on that spot that I'm selecting, and feed it back to my core database. Again, going back to not having to have multiple applications, not having to have multiple steps to address

The technology is moving quickly—which, in a sense, sometimes it can feel a little intimidating. But the positive side of that is you can jump over a whole bunch of technologies. So, you don't have to play catch-up. If you understand where you want to go, and your ideal situation, you can find those pieces.



this. I can verify that that card technology is the technology that I want; I verify that it read that information correctly. And it gets sent back down to that particular user's profile, or the record before I even begin the printing process. So I'm also making sure that I'm not wasting prints on a credential that didn't read, maybe, for whatever reason—antenna's broken or something, who knows?

And I'm not printing out a card that is going to be dead eventually. Because generally, what we see now is people will take a card, they print it, then they handle the card, they tap it onto a ... if they're lucky, they tap it onto a third-party reader, and then that acts as like a keyboard wedge, and then they've got to go ahead and try and enter that in. Or they're legitimately flipping the card over and reading that little number off the back of the card, and manually typing that in again, hoping that they've got it all right. And when the student's ready to go, or faculty are ready to access a particular area, that's going to be completed and entered appropriately.

So the big one really is determining the type of technology that you want. If you're trying to migrate, it really is much simpler

now by having an encoder reading one or two different types of technology and being able to send that data back, really hands-free, from the operator standpoint.

Mike: I think it was really well said, and the great part in today's environment is—like Dave touched on—you can have multiple programming devices within a piece of hardware. So within a printer, you could have the ability to program a chip card, you can have the ability to program a contactless technology card, as well as a mag stripe. So you could do all of those in that same process, which really helps minimize the time it takes, the effort, multiple devices afterwards. As Dave said, it's a great opportunity to streamline that process and simplify what is becoming more and more complex.

Are there any other best practices relative to the printer hardware?

Mike: Yeah, I can start off on this one. So I would say in today's environment, there's more options than there really ever have been. And I think over time, those options will start finding their key vertical, their key areas of focus. But today, you've got multiple ribbon-based, print-up print

solutions. You've got direct-to-card, which is really kind of as it sounds: You've got a printhead sandwiching a print ribbon between a card and the printhead, putting that image directly onto the card. There's another ribbon-based technology called retransfer, in which we're printing to a transfer film, creating a really high-quality image, and that image is then bonded to the card with heat and pressure. And then, finally, some of the newest technologies, you've got an inkjet-based printer on more of an entry-level side that does use a solvent-based ink. And so that ink is applied directly to the card, it tears onto the card pretty quickly. And it creates a really nice, high-quality image. And that's more of at an entry-level space.

And on the higher-end space we do, there's also some new opportunities to utilize inkjet in a different form. So, utilizing UV-cured inks. And these are primarily, today, focused on really high-issuing solutions. So, places that are going to issue a lot of cards, perhaps on a combination university space, where they've got a few campuses that utilize the same equipment to issue solutions, if

something like that might be an opportunity to use that, too. So, there's a huge array of technologies, but they really all have their purpose.

So I would say in today's world, the biggest successful hardware, especially in the education or campus space, is very focused around retransfer, that does utilize lamination. And also on the higher-end, direct-to-card printers that are also using lamination, primarily for security of the card to validate something that might be using a holographic overlamine to create really authentic, very difficult-to-reproduce cards, as well as increasing the durability of that card. So, perhaps you want that credential to last the full tenure of a student's stay at that university or campus. And so you want that card to last many years. And those technologies will really help achieve that goal. And really, I would start with, what are you looking for? Do you want a card to last a certain duration of time? That'll help point you towards something that's going to offer lamination. Do you want something that's, you know, maybe it has a shorter lifespan? And there's card print solutions that are going to help you get to those goals, perhaps at a lower cost point. So there's, there's a wide array of technologies that that offer different print techniques, if you want certain looks and feels of the card as well as encoding within the cards, and also durability at additions.

David: Yeah, I might add just ... and those are all great points. And it's actually been really fascinating to watch, you know, the transition of the printers and what some of the technologies are that are coming out. But I can't help but think—in a different life, I did some tech support, and a lot of what's gonna also help you determine is, you know, what's the type of credential that you want to use? If you're using a technology card, and it's got a coil and a chip in it, as Mike pointed out, you're going to want to use a retransfer. It's going to give you a smoother finish, instead of that direct-to-card where potentially that printhead is going to be bumping up and down. And then you start to have some technical issues.

And the really great thing is all of these can be used in conjunction with one another. So we'll see schools that maybe have a non-technology card, and they use them for day passes or visitor passes. And in that case, then, maybe you go with one more entry-level printer that is still robust, can still get a lot of those prints done. But it's a little more cost-efficient on a per-print basis, because essentially, you're going to be throwing those cards away.

"We've all had to navigate the challenges that have come with our new world and new era of working in the past year. And the card issuance process was not immune to these challenges. Learn how to level up your onboarding workflows and badge your entire organization or student population quickly and securely, wherever you or they may be. HID Fargo Connect is a secure, cloud-based ID card printing platform that brings together all the elements of a secure card-issuance program into a centralized and integrated system. This solution simplifies the operation and support of a high-volume ID card issuance office, while increasing control and security. With HID Fargo Connect, you can have a connected experience, issue from anywhere and guarantee secure remote printing."

And then you would use the different type of printer for your faculty or your students. As Mike mentioned, you're making sure that it's going to be more durable, that it's going to have a better look to it. It's going to have some additional security features. So all of these are interchangeable. That's one of the really nice things as well, that you don't have to pick one and standardize across; you really can make it fit for the needs that you have and the type of credential that you're going to be printing.

In today's environment and with card office budgets being squeezed, how do you see card offices solving that problem?

Mike: That's a great question that I think I kind of bounced right back to a little point that Dave brought up earlier in the conversation. We see universities or any opportunity, for that matter, to incorporate multiple facets of use. So, you know, in most cases, perhaps you're issuing to a general body of students, employees, things of that nature. But maybe you're also issuing visitor passes, such as day passes for your visitors or your maintenance teams, somebody coming on site to fix something. You may want to issue a credential for that person, or



Right now, you're probably looking at one or two times a year where you've got your primary bulk of card issuance, where you've got potentially long lines, a lot of credentials to issue in a relatively short period of time. And so, we're trying to help educate anybody that's looking to either expand or increase the efficiency of their systems to utilize some of these technologies and these capabilities.

that attendee. And so, you've got multiple opportunities to utilize the same hardware, the same solutions.

So as we kind of talked about earlier, bringing all of these departments in to help No. 1, hopefully achieve the same goal with less spend, if possible, but also utilizing multiple potential budget areas to really make sure that you can accomplish that goal with that upfront purchase. And I would say many times, as we've kind of touched on here, there's a variety of use cases. Perhaps even, you know, one that people may not think of is the different operating systems that are within the different departments. So one thing that web-hosted solutions are really helping to bring to the forefront of efficiency is, in the historical—the legacy—world that we lived in, where it was all client-based, every printer was connected to a local PC. In most cases, you were very tied to a specific driver. And I would say in today's world, drivers certainly have to go through a number of updates on a pretty regular cadence. So you know, the Mac systems, Apple computers, they update their drivers very regularly, Windows can create some pretty big requirements in terms of driver updates to maintain currency, or maintain

current status with their operating systems. And then you can certainly dive into the Linux-based operating systems that have their own set of challenges and needs.

And when you bring in a web-based style solution, you really become pretty agnostic. You're not tied to a specific operating system, which many times can tie you to a specific piece of hardware. And so, I think that's one of the other things that really brings into focus is, how do we leverage this across many areas, many departments? And how can we do that really efficiently? And I think tying that hardware with some of these new issuance solutions really creates a pretty big value proposition for any opportunity.

David: You actually touched on a really great point there, Mike. I think one of the things that we've seen, and it's not happening overnight, but there clearly is a trend to get away from desktop workstations as much as possible. And we know, and there's all kinds of studies that are out there. And they range pretty

widely. But there is a cost simply to maintain a workstation every year, and it can be anywhere from, you know, \$2,500 to \$5,000. And that includes all the IT maintenance, as Mike mentioned, operating system, system maintenance, downtime, IT, you know, password login, there's all kinds of different items that start to nickel and dime you and cost you year over year.

So if we can help schools start to move away from their reliance on a desktop, and then simply through attrition—as they start to get ready to replace them and they realize I don't—not only are you having that capital expense go away, but longer term, you don't have that ongoing expense. So as we look and continue to see this move more towards the cloud and device flexibility, that ultimately becomes a pretty significant impact to different schools' budgets, as well. So that would be something I would suggest to keep in mind is, can we reduce simply the number of workstations? Because there are ongoing yearly costs for those.

Did either of you have any final words of advice for schools who are looking to level up their card issuance process?

Mike: I can chime in real quick, I would say a little bit of what we touched on throughout the conversation today is, there's a lot of great options available today. There's certainly a printer for every need. There's an issuance solution, but really, you know, take a look at your whole need from a high level. What are you looking to achieve as an end goal? You want to make sure it's something that you've got a solution that can live with your organization, and certainly grow. I think there's a lot of opportunities to purchase—or, you know, get into a hardware space that you can grow with—that are very modular. You can add on technologies as your needs grow and evolve. Look for those things; there's great opportunities to find printers and solutions that maybe heat up faster. So the first time you walk in, in the morning, you get printers that print cards, you know, immediately instead of a few minute wait, perhaps if they need to warm up and get the lamination systems ready.

There's new technologies that enable things to be faster in that sense, maybe not always faster cost-per-card, because we're all getting pretty much the limit of how fast you can spit out cards in like a batch form. But, you know, there's little ways to differentiate there. There's certainly ways to ease that interactive story. When you're working with a printer, you know, the new inkjet technologies are really bringing a familiar-use case to the card issuance space, something that, you know, I would say most people have interacted with a home office-based paper printer that's utilizing inkjet technology.

And I think really, what's being brought to the market today is very similar to that. So it helps minimize that onboarding time, minimizing troubleshooting, you don't create the very familiar use case there. So by all means, you know, take a look around, see what you need. And I assure you, you can find a solution. Hopefully it's HID's, but there's many of them out there that can help solve your problems.

David: Yeah, that's a that's a good point, Mike. I mean, I think the holistic view is really important. And I'll say, taking a step back, having been able to engage really directly with the education space for the last three-and-a-bit years, one of the things that has struck me the most is how open everyone is to communicating and sharing their best practices.

So for me, one of the first things that I would do is, you know, leverage your network. Who are the contacts that you have? There's some schools that are very, very forward-thinking and progressive about where they want to go. I would start to ask there, but what are things that have worked? What are things that haven't worked? You know, we're fortunate enough, I think, on our side, that we have 25-plus schools, a part of an advisory council that we deal with. And so, we have these really good, open discussions on what they're using, what trends that they see, obviously cost sensitivities, and what are things that would truly be effective for them?

You know, it's always difficult from the manufacturer standpoint, I think, to try and suggest what someone needs. Certainly, we put a lot of time and effort into understanding the market and into R&D. But the core is us understanding and talking to the folks that deal with this day-to-day, and how can we actually have a positive

impact with them? So, I'd kind of start there.

And then to Mike's point, you know, where do you want to be three and five years from now? The technology is moving quickly—which, in a sense, sometimes it can feel a little intimidating. But the positive side of that is you can jump over a whole bunch of technologies. So, you don't have to play catch-up. If you understand where you want to go, and your ideal situation, you can find those pieces. And they can be future-ready as well, to be able to set you up now and then in the near and medium future.

So that's what I think my suggestion would be, is see what your peers are doing. Get some honest, candid feedback. And then within your own group, we already mentioned, you're bringing in some of the other areas within your entity—like an IT space, as an example. What's the direction the entire area wants to go? And you'll be able to find some solutions and take it step-by-step to get there.

Again, before we wrap up, is there anything that I didn't touch on? Or maybe anything that you thought of during the conversation that we didn't circle back around to?

David: Not from my side? I thought the questions were great. I certainly appreciate the time that you provided us here. And I don't know if this works, but we're, you know, we're open books, too. I mentioned the education community at large. But we are happy to carry this further. So, if any of your listeners have any comments or questions, we would love to hear that, and we're happy to get back to anyone if we didn't address something that someone out there is feeling that they need to have addressed. ■