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Harland Clarke Webcast 04/27/16

EMV Conversion Made Simple

TRANSCRIPT

Presenter: Greg Kuyava, Key Account Executive, Harland Clarke Marketing Services

Jeb:	Good day, and welcome to Harland Clarke's webinar, EMV Conversion Made Simple. This webinar is being recorded and will be provided to you along with the presentation recording and deck within a few days. If you have questions at any time during this webinar, please use the chat box located in the webinar control panel. Your questions are private and are only seen by the presenters. I'll now turn today's call over to Greg Kuyava, Key Account Executive for Harland Clarke Marketing services. Greg, you have the call.
Greg:	Thank you, Jeb, and thank you to everyone who is attending today's webinar on EMV and how to simplify the conversion process. As Jeb mentioned, my name is Greg Kuyava. I am an account executive within Harland Clarke Marketing Services. I spent the last ten years as a senior product manager for the card services division, implementing such programs as our EMV product as well as Card At Once and a whole host of other products and services. I've got a long history of dealing with cost-effective card programs, marketing brand awareness, and I'm excited to speak with you today about how you can take a look at your EMV migration and simplify it. With that, let's take a look at how we're going to handle today's call.
	We'll talk a little bit about update to trends in the market. Let's take a look at how the market was predicted to be at the end of 2015, and where it actually ended up and what kind of penetration we have. We'll then set a basis for EMV and really what you're looking at in the EMV program, and then we'll transition into how we can make this conversation, this migration to EMV, easier.
	Last but not least, we will open it up to any questions. I do highly recommend and wish that if you do have questions feel free to send those through the chat capabilities in your panel on the right, and we may stop from time to time to answer that. We'll also have some poll questions. Throughout our presentation today, so please be ready for those and answer those. With that, let's get into EMV and update trends in the market.
	The first slide that we're going to look at shows a survey that was conducted back in 2014, so it was a little bit over a year before the 2015 liability shift date

was put in place, and it was a predictor of where cards were going to be into the market. What we're looking at are three different surveys that were conducted. The blue line represents the penetration of credit cards into the market. The yellow line, the penetration of the debit cards, and back in 2014 when we zeroed in most of these were somewhere between a very low single digit for debit cards and approaching double-digit 20s for the credit cards.

By the end of 2015, this survey predicted that we will have debit card penetrations somewhere in the 30-40% range, and we will see credit cards closer to the 60-70% range. As we are able to do at this point, being we're in 2016, we are able to look back and see how financial institutions did in migrating their programs to EMV and what kind of penetration that we did.

What we're seeing is that the predictors were right on. We ended 2015 with right around 40% of the debit cards that were being distributed, having an EMV chip on them, and then about 70% of the credit cards. There is still some work to be done, and I imagine that's why many of the folks that are on the phone today are on the phone as they are some of those that have to do that work and are trying to figure out what they need to be doing and how they can simplify it, but we also want to take a look at what's going to be at the end of 2016 as we kind of close out the last three quarters of this year.

You can see that the debit card penetration is going to jump significantly from 40% all the way up to almost doubling to the 70-80%, and credit cards will almost be to a full 90-100%, and then certainly by 2017, we will see almost 100% penetration in many of these areas. It's not surprising that debit cards lag behind and we still see it lagging behind, simply because of the Durbin Amendment and having to have dual networks or multiple networks to be chosen in an EMV environment led to complications, so many financial institutions were able to start their credit card program early instead of waiting for the debit card program to also be started at financial institutions and went ahead with the credit cards and then once debit was figured out, they started with that.

The exciting thing is we've got heavy penetration in the market. I believe I heard someone speak recently at an EMV migration forum that already from sheer volumes that the United States is one of the top markets as far as volume goes as the number of Visa and a debit cards with EMV chips being presented, and our percentages are going to be there real soon.

What's going on and why is this EMV migration so different? First and foremost is the United States payment market is extremely unique where it has by far the largest number of issuers, acquirers, merchants, ATM operators, and

cardholders. If you compare it to many other markets around the world, we've got a vast number of players that are involved in this. We have two international networks, Visa and MasterCard, and then 16+ debit networks that all have to coordinate their efforts in getting EMV ready.

The Durbin Amendment, as I mentioned in the last slide, certainly did add complications to this transition, but because of this number of merchants, the number of debit networks that we're dealing with, card associations, and the Durbin Amendment, all have added obstacles to the conversion to EMV.

Back in 2013, there was actually talk of pushing out that liability shift, and then the breach happened at one of the major retailers over the holiday season and all discussions of that were put aside and it really did motivate the financial institutions to get their EMV program up and running based up on the request of their cardholders. There are also some complexities in how every card program within your financial institution can be handled, and it's going to be very different from financial institution to financial institution.

The magnetic stripe program was very static and it was a set of every card program within an FI, and from FI to FI, the set of features were just more common. Because there are different profiles, different operating systems, and different chip types, all these different elements, which we'll talk about in just a moment, can be different from financial institution to EFT processor, to card production or issuing provider to manufacturer, so there needs to be a coordination that needs to happen.

What this does is it adds a level of, as I mentioned in the last slide, complexity, but it needs a much better cooperation between all of the card partners. Card manufacturing and personalization need to be linked together. They no longer can be separated in different silos working on their own project. They need to make sure that the operating system and the applications that are loaded on the cards are the ones that match. They need to be certified with one another in order to be able to have one card manufacturer, manufacturer inventory that can be processed in a personalization vendor.

Every card also needs its own personalization setup and the chips have to have the needed certification with an expiration date, which are things we will talk about in greater detail. This means that the implementation takes a lot longer, and when you're coordinating multiple entities or multiple partners needing to be linked together on the same cause, moving the project along at the same time, means that start dates have to be coordinated. That means that all certifications need to be done ahead of time and that the testing and approval

processes can no longer be done by individual companies but need to be done at the same time in cooperation with one another.

What happens oftentimes is that late decisions create bottlenecks. Back in mid-2015, we saw a huge bottleneck from both manufacturing and personalization with many financial institutions being told that it would take six months or longer for them to even start their process. The early adapters, I'll call them, those that started in late 2014 and early 2015, even they were seeing two, three, or four months before they could start their project.

The nice thing is now that we're approaching the 50% and greater mark in most of these cards that are being distributed out in the market, we're seeing some of those bottlenecks loosen up, and we're seeing a much more standard timeframes on (1) the project can be started; and (2) when certain elements like how long does it take once the project has started for that program to be up and running; and (3) how long does this take to get card manufacturing inventory?

I believe next we are going to get into our first poll question of the day. We are going to pop this poll question of for all of you to answer and consider, so who have you contacted to start your EMV project? We'd like you to check all those that apply – EFT processor; card production; manufacturing partner; or the card issuing personalization partner. I'll take a few moments and let you answer those questions.

Thank you, Jeb. It looks like we are ready to share the report, so for those who have started and those who are starting, it looks like that 80% of us have already contacted our EFT processor, our card production manufacturer partner, as well as our issuing partner. It looks as though the manufacturing partner comes in at the lowest percentage, although it's still very high at 73%.

When we did similar polls within 2015, as you can imagine, we saw those numbers being very low, so it's encouraging to see that the numbers have increased significantly over time. I will tell you that card manufacturing and production is an essential role for you, so you want to get them involved if you haven't already for those 27% that are still waiting on that.

In order to be able to test the program correctly so you can start distributing cards, that manufacturing needs to happen, and manufacturing really does fluctuate based on the amount of issuers that are in queue at your card manufacturer waiting for cards to be produced. You can see standard times from seven to ten weeks, but it could be as many as 16 weeks, so if you have not started, I would highly encourage you to do that.

We'll continue with our presentation. With that, we're going to go to a second poll question. This poll question is going to deal with when you plan on starting your EMV project, so what we want to find out is, for those that are on the phone, see where you are. You are going to be starting your EMV project next month; June; July or later; you've already started; or your cards are already in the market. Take a couple of minutes to answer that question.

Perfect, this is encouraging and that makes perfect sense as to why we have so many folks on the phone today is that we are the ones waiting and trying to get our project going, so it makes sense that 0% are already in the market, although it looks as though many of you have already started, so you're certainly getting closer to getting cards into the market, and even though many of the elements that we talk about today, in particular, over the next couple of slides, might be things that you've already made decisions on. There is a communication piece in the back of this presentation that I think you'll find extremely valuable. July or later certainly brings up the biggest point, so we still have over 50% of the folks on our call today that still have to wait about three months before they can even start their project. The encouraging thing is, is that you've made the right contacts by going out with the EFT processor, talking to your card manufacturer, and talking to your card personalization. I cannot stress enough the coordination that needs to occur between those three companies. Then, there is the lowest percentage that is just about to start pretty soon. We will continue with our presentation.

What we're going to do now is get into the different elements of the EMV card. We'll roll through this fairly quickly. First and foremost, what can you expect? When we talk about EMV or a smart card from time to time, as it's called, what are the elements that are in this particular card, and what's actually happening? First and foremost, as you can see in the upper left hand corner, the card will have an EMV chip, which his represented by the gold plate, as well as the magnetic stripe. Until the merchants get to 100% EMV ready, the magnetic stripe will still be relevant, and the EMV cards will still be produced with the magnetic stripe. Now, if you ask the industry experts on when that's going to happen, most will probably say to you anywhere within the next five or plus years, we will still have the magnetic stripe.

The EMV chip that you see is actually a gold faceplate. There is a second element to this gold faceplate, a chip that actually gets glued on to the back, so you have the faceplate, which is really a contact plate, and then the chip itself, which is a microcomputer. We'll talk a little bit about what that chip does. It actually represents the EMV card. Now, these two faceplates and chips, these two elements, need to be actually embedded into the card itself, and so you can

see how it's represented. There is a cutout and that chip and faceplate are actually embedded and situated into the card.

I get the question all the time about the thickness of the card and if the cards actually need to be thicker than what a standard, magnetic striped card is. I will tell you that the card association still has the same set of standards and specifications on the thickness of cards that they had when it was just a magnetic stripe; however, what card manufacturers are doing is, they are setting the thickness of the plastic on the higher scale of those specifications in order to allow for that chip to be embedded.

We also get the question, "Can I use the existing magnetic stripe inventory and just go ahead and embed the chip in there?" The short answer is no, and it's not feasible because without knowing the actual thickness of that card, there would have to be additional testing, and that costs additional money. The thickness would have to be right in order for it to work correctly. There are too many complications that come along with it, so best practice is if you have existing magnetic stripe only card inventory, more than likely, that is just inventory until your EMV program is up and running that will need to be destroyed.

What we're looking at here is two options. You have a contact only chip, which means that that chip, the way it functions, is when it comes in contact with the point of sale reader. The other option is called dual interface. Dual interface should not be confused with chip and magnetic stripe. What dual interface refers to is both a contact allowing the chip to come in contact with the point of sale reader, which is one way they can do it as well as contact that is kind of a touch and go where you can just touch the chip up to a point of sale reader and allow that transaction to occur.

In most cases, the market is leaning toward the contact only type of chip, as it's going out to the market. Some of the reasons for that is it's less expensive than the dual interface, but probably more important is when it comes to the merchants, merchants are not updating their software this first time through to be EMV ready to handle contact with or touch and go type of chips. There are a few merchants out there that do provide this type of touch and go, but by and large merchants are going with the contact only type of reader within their bricks and mortar.

From best practices, when you look at it, you certainly could go with a dual interface. It requires a larger chip. It requires more memory. It's certainly more expensive, and you'd be adding a feature to your EMV card and an expense that

isn't necessarily available in the market, so for that reason, we're seeing a large percentage of our cardholders going with a chip only contact card.

You also want to check with your EFT processor. Many of the EFT processors out there right now can only handle a contact only type of transaction. Also on these cards because they are microcomputers, you have things like the operating platforms, the certifications from the different card associations, and the chip itself holds encrypted cardholder data, they keys, and the certifications of those. Let's move on to the next slide.

A very easy comparison to make with this chip is to compare it to a computer. The chip itself, the faceplate, the chip that goes in there, is every similar to the shell or the hardware that you purchase when you purchased a new computer, whether you buy a PC from HP or Dell or an Apple, what you have is just the hard shell. The chip itself would be very similar. It doesn't necessarily have any functionality to it until you start loading it with things, and the first thing that needs to get loaded on to that chip is an operating system, something that will allow that microcomputer to work. Just as you would load your Apple or your PC with a DOS or Windows type of operating system, there are three operating systems that are available when it comes to chip cards, Native, Java, and Multos. We'll talk about those in just a moment.

The next layer is the application. Now that you have your operating system on your PC, you may want to run an Excel, Word, Lotus Notes, or different applications that are available to help enhance the overall functionality of your computer. Applications also need to be loaded on to the chip card itself. Now the application itself is predicated by which card association you have; Visa, MasterCard, or American Express.

The last but not least part of this, which we aren't stating here, is the profiles. Profiles allow the financial institution, along with their EFT processors, to determine what type of cardholder verification, transaction verification that you want to be able to run when it comes to the actual card itself. MasterCard has over 19 different profiles to choose from, although there are very few that are more standard than others. Visa has four different profiles that are available with, again, only one or two of them being very standard where most are going out into the market.

For the most part, as a financial institution, you won't be making a decision necessarily on the type of chip that you're going to put on your card. That will be determined by the certification between your card manufacturer and your personalization vendor, which chip they have certified with one another. The operating system will also be determined by your personalization vendor

because in order for them to properly encode the chip, it needs to have the correct operating system on there.

The application, again, is not necessarily a decision you're going to have to make because that will be determined by the card association that you have. The one thing that you will get to make a decision on and have discussions around is the type of profile that you want to have on the chip card. We will go to the next slide.

How does EMV provide security? What's going on here? Well, there are a number of elements that help make an EMV transaction more secure than a regular, static, magnetic stripe type of transaction. There are three levels of certifications that are going on. First is the card authorization. The chip will actually go with the point of sale reader, and what this does is it protects against a counterfeit card in a card present type of transaction, so the chip itself will help validate that this is a good card and that the transaction should continue.

We then have the cardholder verification. It's very similar to what we do with signature transactions right now or a PIN transaction possibly at an ATM or even at a point of sale machine. There is a cardholder verification that goes along with the transaction, protecting it against a lost or stolen card. The financial institutions get to have a decision on what type of cardholder verification method they want, otherwise known at CVM. You can allow for the card to be satisfied for verification when the merchant is online and they enter a PIN. You can offer it as an offline PIN transaction as well. Signature is also very common or in some cases where the transaction amount is very low, you may say that you don't need a card verification method on this.

How do you decide which way to go? Most card associations are recommending that you follow your basic behavior that you had in magnetic stripe in order to mirror the type of transaction. A good example is if you think about credit cards, credit cards are mainly signature transactions in a magnetic-stripe world. A PIN transaction on a credit card typically means a lending or borrowing of credit off of that credit card amount that's available, and then there is obviously the interest rate that comes along with that. On the other hand, debit cards in a PIN transaction is money that's coming directly out of an account with no lending to it. PIN transactions are more common with a debit card; PIN transactions are less common with a credit card in a magnetic-striped world.

We are seeing financial institutions make similar decisions on cardholder verification when it comes to migrating to EMV. They are doing signature transactions as verification for credit cards and they may be introducing a PIN verification method as well as signature on their debit card. The decision on

whether you want to allow a PIN to be accepted if that merchant is online or offline, once again, kind of comes down to a financial institution's decision on how they want to look at the risk and assess the risk that's involved with a merchant that isn't online but they accept a PIN transaction and then it gets verified later.

Lastly, security on the EMV transaction comes into transactional authorization. Again, this gets in to whether it is allowing for that transaction to happen in real time, because that merchant is online, or if the financial institution is going to allow the chip within the card to make a decision on whether this transaction should go through or not and be approved if that merchant happens to be offline. Again, these are discussions that you are going to want to have with your EFT processor and figure out which is the best method for you. Moving on to the next slide –

This conversion and all of these elements in bringing them together along with the different partners can be a very difficult journey, and what we are going to introduce and talk about now for the remaining time is how Harland Clarke has handled this. Back in early 2015, we introduced a fully, go-to-market, turnkey solution called Chip Complete. It takes all of the major elements of an EMV migration from the training and education of not only yourself, but your fellow employees, design of the card; you still want a chip in the middle of that design, so you want to make sure that it looks okay and it doesn't cover up your brand; the manufacturing and coordination of the manufacturing; the issuing and the personalization side of the card; making decisions between what type of chip you're allowed to have; what operating system you need to put on there; your application, and what your profile is. All those things need to be coordinated between the manufacturer and personalization.

Then, there's the issuing of the card, getting the card into their hands and what type of strategy you're going to use in order to do that. We'll talk about the different strategies that financial institutions are currently implementing and then last but not least, what certainly is important to anything that you're going to do in this program, the marketing communication. How are we going to educate our cardholders on what's going on with their card program, and how are we going to allow this transition to be as seamless to them as possible?

Let's get into this a little deeper with some more details with the next slide. When we look at Chip Complete, we look at this turnkey solution as really three elements. You have the education, the implementation, and the communication side. When you look to Harland Clarke and you look to us to help support your EMV migration, you could certainly use any one of these pieces a' la carte, or

you could come to us for every single one of these pieces. Chip Complete is the turnkey, all inclusive support of all three of these.

Let's look at education and training. First and foremost is that we have a number of training solutions for your entire team. We did a whole series of EMV webinars last year that are available to you. They are both in this presentation and recording form. It is used to educate yourself as well as your employees and team members. We also have the education, starting with the basics of what EMV is. It talks about how to implement and put a program in place and it also talks about communication. Last but not least, we have an FAQ document for your financial institution's staff to be able to answer the most common questions and then continue their education.

The project plan and the support – what do we have available? The roadmap and the migration to EMV is a difficult one. There are a number of different moving parts. Everything from training yourself to understanding what EMV is all the way through the whole process to getting there. What we've done and what the next slide shows is that we've organized all of this, starting with EMV product training, helping you assemble what the right EMV team is, defining the internal communication strategy, getting the payment card brand registered, and starting to work with your different partners then allows you help define what your EMV product is going to look like.

What type of chip is it going to be? What is the operating system going to be? Based on your card association, the AID or application; based on your other debit networks, what are the other AIDs or applications that you need to put on to your card? We want to make sure that we have the right profiles and we want to also make sure that all the partners, manufacturer, card personalization, and EFT processor are certified with one another.

Harland Clarke comes in from a project management standpoint at about level three. We have materials that help you support number one and number two in our education side, but when it comes to implementation, we really help you in step number three. We have design expertise on this to help you make sure that the chip is placed properly and how your brand looks around that.

Then there is key management. You already have one set of keys for your magnetic stripe, but with EMV, you are producing a whole new set of keys, and you've got keys that are being produced for production or card issuance. You also have keys that are being produced for transportation when cards are being manufactured and being sent to a personalization provider. That key management and understanding of who is going to generate those keys is something that we can also help with.

We want to take a look at moving from a testing production to a live production. Many folks and many financial institutions don't understand that when they get into EMV, we're actually setting up a test production of these cards and your program first. Once we are through with all the testing and everything works correctly, we will then go into a live production of your EMV program where we will be able to do some field testing and things like that. Last but not least, we help with the issuance, which means executing the communication plan and how you are going to get those cards into your cardholders' hands. Let's go to the next slide.

Here, we are talking about the technology that is available. What we've done at Harland Clarke is we've actually simplified it. When it comes to choosing your chip, we really give you two standard options. There are many options available out there, and whether it's the color of the chip itself being gold or silver to the type of storage that you need and how much storage that you need, we really simplified it into two, easy to understand chip options that saves you a ton of time rather than having to research it going out there, and because we've simplified it, we've then also been able to go out to many of the personalization and EFT processors and have gone ahead and certified with them.

What we're doing is we're allowing you some flexibility in your memory size, some flexibility in the authentication method and operating system to meet your needs, but instead of having all of these decisions, we said, "Here's what's out in the market and here's what's the most common." Moving on to the next slide –

What we're showing here is the differences between option one and option two. As I stated in the module packaging, you have gold and silver. You have a chip interface type and how it interfaces with the point of sale machine where it is contact only as part of our standard programs. We have certification and compliance with Visa and MasterCard. The operating system on these two options is also the same where we're using a Java operating system. The biggest difference is the authentication method and the type of memory that you need.

The SDA or the DDA are the real differences, so in talking with your EFT processor and how you want to authenticate that chip, whether you want it going online or offline with a type of hard verification methodology will determine whether option one or option two is what you need. We can certainly do more than just these two options, but we standardized this as part of our program because it's the most common and it's being used in the market, and it's going to help you get your EMV cards in to the market the quickest. If you want to go with a different operating system, for example Multos, we can certainly help you manufacture Multos chip cards. If you want to use a contact

with a dual interface, we have that availability but it's going to require more time.

Moving on to the next slide, Profiles. As I mentioned earlier, there are a number of profiles that are available. What we have done is we've assessed the basic and most standard profiles that are being used by Visa and MasterCard, once again, allowing you greater speed to the markets.

Implementation: How can we support the implementation project? I stated it all along, and we're going to give a couple of visuals on how this works. No longer can the card manufacturer, the EFT processor, and the card issuer stand alone in silos and work on those individual elements of your card program. Gone are the days of that type of project management. Now, there needs to be a coordination between all three partners in order to get your EMV program up and running properly and to assure that it will function the way you want it to during the issuing process as well as in the market when transactions are occurring.

Some of the key elements that the different partners have to worry about is the card manufacturer will determine a preferred chip and a preferred operating system in an AID application, but they will consider what they need to be when they are coordinating who is going to be your actual chip issuer. The chip issuer or the card issuer will then also say, "Okay, if you're using such and such card manufacturer, we need to make sure that we are certified for whatever chip is going to be used. We need to make sure that it has the same operating system and the same ID applications."

The card issuer then takes their responsibilities a step further and they now need to, when it's time to encode this chip, put the profiles onto it. That's when they will start coordinating with the card EFT processor. The card EFT processor wants to make sure that the correct AID and applications are on the card as well as the correct profiles so that they can actually handle the transaction correctly and that that transaction will go through.

As you can see, they don't all overlap one another 100%, but there are one or two elements within each partner that actually needs to be coordinated. In the next slide, I will also show this in a little different way where some of those are overlying. The one area that they all still have a responsibility to is loading the AIDs and applications onto the card. In other areas, there is still some overlapping, but you can see the importance of the personalization provider being able to properly and correctly coordinate between the manufacturer and the link between the EFT processor. Continuing on –

This is a complex process. There are a lot of moving parts. One of the things that Harland Clarke can help you do is assign a manager that can help coordinate all of this. Harland Clarke, being a full, turnkey solution can provide card manufacturing and card personalization or card issuance assistance. With our Chip Complete program, we can also handle things like education and communication elements.

Additional services that add value is our graphic design capabilities. If you manufacture your chip chard with Harland Clarke, we will provide you free graphic design capabilities. We do handle key management, whether it's us having to generate those keys on your behalf or simply receiving the keys in and still being able to load them into them. We handle all of that, so we take that messiness out of your hands.

Then, of course, how is that card going to look? What is the chip? What is the profile? What is the operating system? What is the application? Making sure that no matter who your EFT processor is and understanding where we're certified and which is the best way to guide this EMV project.

A perfect example of this is I had a call this morning with a financial institution that is just starting with their EFT processor. Now, the EFT processor was aware that Harland Clarke was involved in this, but they weren't sure which elements they were going to do and which elements Harland Clarke was going to do. During that phone call, what I was able to construct for both the bank as well as the EFT processor was I know that Harland Clarke is certified with this chip and this operating system and that you guys utilize this profile. Because of that, we'd like to implement this program for this financial institution and move forward.

That turned what could have been a half hour to 45-minute discussion into a 15-minute discussion. The EFT processor agreed. They did acknowledge that there was certification for these elements, and because of that, we were able to move this project along much quicker, knowing exactly how this program is going to be handled.

That's what we can provide as a project management resource; understanding who the different players are, where the certification lies, and then getting you out with your EMV cards much quicker. Let's continue to the next slide.

One of the things that many financial institutions may not realize is that all the chips that we are producing right now, the chip manufacturers are putting into the market need to be certified by the card associations. Part of that certification is to stamp a lifecycle date on those chips, so if a chip manufacturer gets a certification from Visa for a chip, and we'll just call it chip 123, chip 123 then gets a lifecycle stamp put on it that starts with a three-year lifecycle.

If that chip was born and certified this year, it would have an April 2016 lifecycle stamped on to it. That means that in 2019, three years from now, those chips can no longer be distributed by that chip manufacturer. In other words, a newer version of that chip would have to be certified and then manufactured by that manufacturer. What that means for the financial institution is once a chip becomes past its lifecycle and can no longer be distributed, you have a certain amount of time after that final date in which you can distribute cards. You may reach a point that some of your card inventory is no longer available to distribute to your cardholders.

What you need to do is partner with a card manufacturer and a personalization provider that can help you track the lifecycle of these different chips, not only when their end date is, but did they renew their lifecycle; was their lifecycle extended? If it was not extended and this chip that you're currently using is no longer going to be able to be distributed after a certain date, what's your next option for your new chip and how long do you have to distribute cards that you currently have? You want to be able to handle that inventory to get those chips out in the market.

Once those chips are out in the market and distributed to your cardholders, they'll continue to function just perfectly fine, it's just that Visa and MasterCard are stating that after a certain date they no longer want the chip manufacturer to create cards with these chips and then at a later date, typically a year later, they no longer want the issuers to issue cards with these chips. Think of it as you could still have an iPhone 4 or an iPhone 5 right now; they certainly still work, but you couldn't go into an Apple store and get an iPhone 4 or 5; they're selling only newer products. Chip lifecycle management is going to be key as you continue on with your EMV program.

Issuing and how you want to distribute that card out into the market: There are a number of different strategies that are available and one of the most common one is instant issuance. Instant issuance is a great way for a financial institution that is looking to distribute their cards over a longer period of time. Very commonly, it's also referred to as cards are about to expire, which means that you'll be distributing EMV cards out to your cardholders for the next two maybe three years. Instant issue is a great way for you to implement an environment within one or all of your branches, and for those customers that want an EMV card immediately, they can simply go to their branch and have it available to them that exact day. It saves the financial institution a lot of time and hassles on having to overnight and the cost that comes with expediting a chip card.

Card at once can also handle all new customers on account opening to provide them an EMV card immediately at that new account opening. From a distribution standpoint, the early trend for getting EMV cards in the market was all about mass reissuance, either over a very short period of time or all at once. What we saw toward the middle and end of 2015 is that more and more financial institutions were waiting until the card actually expires in the wallet and then they will distribute a new card with an EMV chip on it, partly because the adoption rate of merchants aren't at 100% so there's not a true rush to get those cards out there.

There is no right or wrong answer when it comes to distribution, it's just how comfortable you are with a mass distribution with all your expense up front, and as a card is expiring type of distribution strategy spreads that distribution expense over many years.

As we get into the communications side of it, it seems to be the one piece that most financial institutions kind of forget about. They get so engrossed with trying to understand what they need to do with EMV that they forget that there is this other element that once the cards get into the market, or even prior to getting into the market, your cardholders need to be educated and updated about the change that is coming. This cardholder education and communication is critical for a successful transition to EMV in making it a positive cardholder experience. There are three strategies that need to go into your communication plan.

The first one is going to be communication that's going to go prior to the issuance. Letting your cardholders know that you are migrating to EMV, why you're migrating to it; and what your card is going to look like. Education at the time of issuance – oftentimes in the form of the card carrier – it might be an insert, or it certainly could be messaging on your website.

Once that card gets into that individual's hands, you need to educate them on what they need to be doing; if it's a different 16-digit account number; other things than just besides activating the card; automatic payments; automatic things that come off of this card need to be switched, so you need to educate them and tell them what to do on that.

You also want to give them education on what the experience is going to be like. This chip is going to have to be inserted into a point of sale machine. That machine is going to hold on to that card for the duration of the transaction. No longer are you going to be able to swipe the card and put it back into your wallet. Maybe folks get a little bit nervous and they insert the card and try to

take it out right away and they don't understand why the transaction isn't going through.

Some merchants aren't EMV ready. You might go to Target one time and use your EMV card and then go to a mom-and-pop gas station and use the magnetic stripe. All of these types of education and behaviors that are going to happen, if you are able to communicate them out ahead of time, will be key.

Once the card is into the market, you want to continue to remind them that this was for security purposes; this is why it's happening; this is what you're going to experience; when to use PIN; when not to use PIN if that's part of your program. You want to give pieces that not only illustrate but also educate and explain how this is happening.

What type of marketing solutions or communications do we want to use? The next slide starts listing out a bunch of them. There is a multichannel or omni channel that are always the best. Anything that's branded from your financial institution will get paid attention to, so you could do things such as direct mail or e-mail, but I would recommend messaging out on your website as well.

Harland Clarke in our Chip Complete program, as long as you do personalization with us, can help you support in putting together a full strategy around your EMV communications. We will help you with the messaging up front, prior, as well as during issuance and ongoing issuance. We can put all those pieces together for you.

The next phase talks about different areas that you also want to consider when it comes to developing your cards. Number one is the placement of the chip and how that looks within the brands. Our designers can certainly help you do that. Also, do you want to change up your cardholders, your card carriers in order to give the proper instructions? These are all a part of programs that you're going to want to consider and then if you were to go with Harland Clarke, we could certainly help with those products.

Last but not least, as we look at the next slide, is the contact center. In a recent EMV migration forum, there was a group of industries from ATMs to networks to card associations to issuers to merchants that all came together – Wal-Mart, Target, Chase, Wells Fargo, Co-op networks – everyone is included on this, and it's a forum that comes together and we talked about the issues around EMV and what the next steps are.

One of the things in Q3 of 2015 right as we were approaching and getting past the liability shift date of October 2015, they were all talking about how the increase in call volume into their call centers and into their branches was so

much larger once they started distributing those EMV cards. Those that did math issues saw a huge spike in that volume over that time; whereas those that were doing it more as cards were expiring, so they were putting EMV cards out in the market every month, they saw this continuous rise in call volume based on the number of cards that they were issuing.

You will want to consider what your strategy is around your call center and handling those calls coming in. You will want to create a script. You'll want to create and education for those folks that are handling that. If that's not something that you can currently handle or you could handle a large spike in call volumes coming in, I would highly recommend you looking at Harland Clarke and their call center solutions. We have a specific solution just around EMV.

Let's get to our next slide, which is poll question number three, and what we're asking here is what phase your financial institution is currently in for cardholder education and communication – phase one, the prior communication phase – are you letting them know that the card is coming? Are you in the during distribution phase? You're getting your cards in the market and you're helping to educate them, or have you already had the cards in the market and are in the continued education phase side of it? Last but not least, have you not even started or even thinking about it?

It looks like we are ready to share the results. They have not started communicating or educating; again, based on where the folks were in earlier polls, it would only stand to reason that we have not started communicating or educating anyone yet, but I will tell you that regardless of where you are in your EMV project, it's never too early to educate and send out a communication. If you have not started those discussions, I would include members on your EMV team to do that. The next greatest percentage is those that are doing prior communications at 22%, and then lastly during distribution looks like we are at 15%. Nobody is at continued education.

I believe that brings us to the end of our presentation today. There are a number of questions that I want to spend the last couple of minutes going over. If we do not get to all of the questions, what we will do is capture the questions and then we will send those out to all participants.

Jeb: As a reminder to everyone on the phone, if you would use your chat window on the right side of the control panel you can submit your questions.

Greg: Thank you, Jeb. Some of the questions are what additional liability does my bank incur if we are not upgrading our ATMs for EMV compliance? It's going to be a similar liability shift that any type of fraud that occurs in an ATM machine or that occurs at an ATM machine that is not EMV ready when an EMV card is

present. Whatever you are currently responsible for or liable for, that will continue on. It's very similar to the liability shift that the merchants are facing.

We have another person that asked we have a significant number of customers who only want an ATM card without any association – in other words, a Visa or MasterCard logo, or what we'd also call a debit card. What liability am I exposing our bank to by not upgrading these cards to EMV standards? What you have to look at is what kind of exposure and risk you have in your ATM users. I'm reading this question as do you want to upgrade your ATM cards or not upgrade your ATM cards to EMV for the portion of your cardholders that only want ATM cards? I would tell you that my impression would most likely be that ATM usage in most financial institutions is pretty low where debit usage would be pretty high. Your exposure is really going to depend on the amount of volume and how many ATM transactions you have on a monthly basis. By and large, we do not see a lot of fraud within the ATMs themselves; the one that you hear about typically occur at merchants, but that's anecdotal and certainly not any type of legal or consulting type of position, but at the end of the day, whether you're still deciding whether you want to update to an ATM or even a debit or credit card EMV program, it all really kind of depends on your liability shift.

I'll give an example of another financial institution that I talked to today. They feel that their risk of not going to EMV is extremely low. They have a debit card that doesn't get a lot of usage; however, they don't allow for transactions that are over $500 off their debit card, and if you want a transaction that's over $500, you have to actually call the financial institution in order to get that approved. They also don't allow their debit cards to be used overseas, so in their mind, the migration to EMV isn't really going to help them all that much; however, they see it as a customer service issue and they see it as, "We might as well just implement it now, because at some point merchants are going to get to 100% EMV and we're going to have to get to an EMV, so we might as well do it now."

One of the last questions here as we get to the end of our hour is if an FI goes with PIN only, doesn't that mean their interchange income becomes obsolete? You're going to want to talk with your EFT processor on how that contract is actually set up and your card association when it comes to your interchange because there are going to be different rates and there are going to be different negotiations, but you are going to actually change.

Are the cards-at-once machines able to issue a PIN for all processors? Yes, we can. There is method within the card at once where we are able to issue a PIN at

the time of that new card order being submitted to the card-at-once machine using our PIN pads, and then those PINs are all processor friendly.

With that it looks like we've come to the end of our hour. We did manage to get through all the questions. I want to thank everyone for your time and I appreciate you joining us. If you have any additional questions, certainly feel free to contact your Harland Clarke account executive. Jeb, back to you.

Jeb: As a reminder, we will be sending out a recorded version of this within the week. You'll have one last poll question as you exit, if you'd take the time to answer that one question, we'd appreciate it. Thank you for your attendance today.