

# EMV: Learning lessons and laying the foundation for future opportunities

*Written by an independent journalist on behalf of ACI Worldwide*



With progress to comply with the EMV (Europay MasterCard Visa) standard for smart payment cards at various stages across EMEA, what do compliant banks and card issuers plan to focus on next? What can those who have yet to start their issuing migration learn from the early adopters, to avoid the pitfalls, derive the best ROI on their initial investment, and position themselves to take advantage of higher value 'smart' applications in the future?

**We are already seeing new threats with a changing face of fraud. Phishing and identity takeover are just two of the new problem areas facing banks and consumers alike.**

In Western Europe, countries such as France and the UK are on track to meet the January 2005 deadline for issuing migration, but others are still getting there. In Eastern Europe, Africa and the Middle East, while migration is under way on the acquiring side, banks are at an earlier stage in issuer migration to meet the second-phase deadline of January 2006.

Understandably, many banks faced with the technical challenges and large investments associated with migration have looked for cheaper, easier ways to meet the mandated deadline and generate value. There is no doubt that the relative simplicity of a single application card provides the easiest, fastest and cheapest route to EMV card issuing.

With no obvious 'killer' application to justify the added expense of the much-heralded multi-application proposition, several early adopters in Europe opted to issue low-spec cards using the most primitive issuing systems possible to drive down costs.

But does the EMV story end there? Unfortunately not. We are already seeing new threats with a changing face of fraud. Phishing and identity takeover are just two of the new problem areas facing banks and consumers alike. This is adding new questions to the ones banks already need to ask themselves about how the authorisation process is best handled with EMV.

As a case in point, the international schemes are now promoting dynamic risk management for off-line transactions and are introducing innovative applications, such as the MasterCard OneSMART package which provides both M/Chip payment and secure online identification through CAP (Chip Authentication Program). These applications offer additional opportunity for new services and require a shift towards a more comprehensive application management capability.

## **Outsourcing – a cost-effective solution?**

Many early adopter banks decided it was much easier to hand off all their data to trusted card bureaus, who had previously handled their magnetic stripe card production, and ask them to generate the template and personalise the chip. Equally, others have implemented data preparation solutions around their existing in-house production facilities.

In the long-term, however, these approaches may cause more problems than they solve. In both cases, the chip data, which is critical to realising the full opportunity of the EMV proposition, either no longer resides within the bank's infrastructure or is not maintained as part of the card and application database and life-cycle process.

Outsourcing introduces more people into the production chain and therefore there is a risk it may be less carefully managed than a pure in-house process. Crucially, both the above approaches make it harder for issuers to move to dynamic risk management and take advantage of the many opportunities for offering additional services on the chip card.

The same can be said where issuers have elected to use 'stand-in' authentication services offered by the card schemes. These have been helpful in assisting migration and meeting the scheme deadlines for issuer compliance, but they could present challenges for banks looking to move to the next stage.

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## Leveraging the next stage of EMV migration

But what is the next stage? When the migration of the ATM, point of sale, acquiring and card issuing infrastructure is complete, EMV-based smart debit and credit payment products can be handled online or offline. Issuers then have an infrastructure ready to counter the threat of fraud from counterfeiting and skimming; a well thought-out issuance infrastructure will also allow them to dynamically manage the risk parameters on the card to contain and manage risk, as the example below of Nationwide shows.

Banks' effective use of the right technology can enable them to better understand their exposure by looking at what has been done offline with the card and including this in the authorisation decision. Other data needs to be considered too, as it can influence the approval decision or force a decision to adopt closer fraud monitoring for a particular transaction, merchant or customer. This can be addressed by an enhanced authorisation service that can look far wider than a single transaction for a particular customer.

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Nationwide is an early adopter actively examining how to leverage EMV to create a managed risk proposition. As an institution that prides itself on customer service, it wants to be dynamic in how it manages and changes the parameters on issued cards to enhance its service proposition and safeguard its risk exposure.

Anne Dalglish, senior consultant for payments and card strategy at Nationwide, says: "We are beginning to review the potential benefits of dynamic parameter management, so that we protect our customers against fraud by actively monitoring the spending patterns of card holders, which demonstrates to our customers that we are risk averse and aware of the issues that affect them."

In taking this approach, it also opens up the opportunity for Nationwide to offer new products to the customer base in an offline environment while maintaining its service and risk proposition.

"We are looking at leveraging our EMV investment to extend our services" adds Dalglish. "For example we are currently considering a number of new products where we can maximise chip technology

utilising dynamic parameter management. This will enable Nationwide to retain control from a risk perspective without the potential expense of additional card types, whilst providing our cardholders with greater flexibility based on their relationship with Nationwide, rather than the 'one size fits all'. As we build knowledge of the individual or if their circumstances change we can react to those changes.

Flexibility is crucial in meeting evolving customer needs and this kind of parameter control will also enable us to offer debit cards to people who traditionally would have been considered too high a risk.

The ability to control risk parameters on individual cards would allow Nationwide to better control individual card spend. By monitoring credit risk more closely, and proactively managing card limits and other parameters we can better understand an individual's spending patterns. We see this as a way of both better serving our customers, and reducing potential losses."

## Learning lessons from others' migration

So what about those countries that have yet to start on issuer migration? In many ways they are in an enviable position to learn lessons from the earlier EMV migrations. Due to a mandate deadline of 1 January 2006, Middle Eastern banks will be able to take advantage of the latest technologies and standards that were not available when their European counterparts embarked along the EMV path. Banks can choose which model of data preparation and personalisation would be most appropriate for their organisations and can choose from a range of proven suppliers who have already assisted many European banks' migration to EMV.

The Middle East is home to many small banks, and although EMV compliance is mandatory, the cost and difficulty of achieving ROI can make it challenging for these banks to handle everything themselves. Network International (NI), the IT subsidiary of Emirates Bank International, recognised this early on, and has deployed a comprehensive infrastructure to offer third party, chip-enabled processing. It provides card services to around 20 banks in the region, and according to Ram Chari, head of operations and finance at NI, the company had a long-term vision of how it could leverage the investment in EMV infrastructure.

"We always had the future in mind and not the short-term financial implication of the investment and that has really put us ahead of the pack," he says. "We made the decision almost four years ago, with a

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clear strategy on what we could achieve with the right infrastructure. We chose an open platform because we wanted to ensure we could efficiently provide multi applications, even though at this particular moment in time many issuers are not ready for them.”

NI's service enables smaller banks in the region to guard against fraud as it migrates to non-chip countries and use a local, dedicated bureau to personalise their cards. Through NI, the banks can issue cards in time for the mandate, safe in the knowledge that when they want to move to the next stage and take full advantage of the EMV value proposition, NI has a sophisticated infrastructure in place for maintaining and managing their application data to support future initiatives.

“That flexibility enables customers to choose whichever approach to EMV suits them best. We offer a focused, personal service – we are local to them, offer a better time to market, logistics are easier, and we understand their business needs,” he adds. “For Emirates Bank, a full roll-out of 500,000 multi-application cards began in January and is expected to be completed by March. During this time we will be visiting eight countries across the Middle East to showcase our capabilities in EMV.”

## The Multi-Application Proposition

And what of the full-value multi-application proposition so heralded by many banks and industry experts? Has its time finally arrived? The international card schemes are beginning to introduce new and innovative products that will sit on top of the basic EMV infrastructure when fully enabled. Among the opportunities, applications such as pre-authorized debit offer issuers an interesting proposition for banking the unbanked and low-net-worth customer segments. Pre-authorized debit does this by providing for secure, no overdraft electronic payments in an offline environment. Such a contained risk proposition, combined with a reduced cost of overall account management (through managing the account on the card), can make a previously non cost-effective customer segment viable.

More than this, EMV offers the opportunity to provide solutions for pension and benefits payments, micro-payments, and other variations of pre-paid cards. However, in order to offer these products, the bank needs to have the ability to store and dynamically manage the customer's account (or shadow account) via the parameters in the chip.

In the 'card-not-present' arena, the emerging chip authentication applications issue a one-time password to authenticate both the customer and card. This provides a way to secure e-commerce

transactions and a solution for access to online banking that counters phishing. Again, this is a high fraud area that basic-level EMV implementations could not address.

## Moving beyond fraud protection

South Africa was included in the group of countries given a 1 January 2006 deadline for EMV migration by the card schemes. But because of fraud problems and the high volume of cross-border transactions caused by tourism, the local smart card forum has moved the date forward 12 months.

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But fraud is just one factor driving the South African move to EMV. It is estimated that two out of three South Africans are unbanked. Pre-authorized cards offer low-risk PIN-based transactions primarily in offline environments where the infrastructure is either not reliable or a full online scheme would not be economic.

“Pre-authorized cards and the potential of EMV is the really exciting part. We always viewed EMV as the starting point, laying down a platform,” says Graeme Holmes, head of credit card issuing at Standard Bank of South Africa. “With the platform in place there are a wide range of interesting things we can do off the back of it. Pre-authorized debit has huge potential and we will pilot a scheme in 2005 to examine just what we can do.”

EMV can enable new pre-authorized debit cards, giving access to banking and payment card services to those who previously were considered too high risk. Low-risk, PIN-secured debit card payments are possible from a pre-loaded account in a mainly offline, EMV environment. Pre-authorized offline debit means that alongside the customer's account, they also open a shadow account. An agreed amount is then reserved on the bank account, for offline card spending and is recorded in this account. Through EMV, scripting is mirrored on the card associated with the account. Risk management parameters prevent the card's total being exceeded and if a card has insufficient funds, a transaction can be driven online for authorisation by the issuer.

Standard Bank's approach gives cardholders full control over their available funds, avoiding overdraft situations, and if need be, top-ups of the pre-authorized total can be made at a dedicated terminal, which also provides balance statements. Eventually, the bank can leverage EMV

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as a conduit to new loyalty schemes and other services by using offline terminals. Retailers benefit from guaranteed payments with the card and reducing cash totals at their premises, while just one dial-up per day is necessary to transfer payments to the bank.

“The whole question of chip-based loyalty is one we are examining closely. We have an opportunity to do some really clever things, leveraging our investment in smart cards and EMV, for example, working in partnership with retailers who offer coupon-based loyalty programmes,” says Holmes. “Ultimately it is about adding further value for our customers.”

## Long-term flexibility is the key

What is clear is that the winners will have enabled their infrastructure for EMV from end-to-end and, having done this, will be positioned to introduce new solutions more quickly and more easily. The enablement will need to be comprehensive and, in the first instance, may cost more than the ‘quick fix’. Ultimately, however, it will reap benefits in terms of least risk and offer the best return on investment.

**“There are many possibilities that the single card could offer but we have to consider if that is what the customer wants, because they are the most important factor,” says Nationwide’s Dalglish.**  
**“EMV is a complex area, so it is worth taking advice from all of the card schemes and third-party vendors and making sure you have a plan of action. It is more important that issuers take time to ensure they have the infrastructure in place to leverage the opportunities that EMV will offer.”**

Inevitably, it is not a case of one size fits all, and timing and degree of deployment will be driven by factors such as market, size of portfolio, legacy environment and economics. However, with vendors and card schemes examining new and innovative solutions to address issuer concerns, there are plenty of options that could be well worth exploring as banks look to their next step.

## ACI Worldwide

Whether you need an end-to-end solution to meet EMV mandates and enhance transaction security, manage your smart card portfolio, or enhance your authorisation services to help you deliver greater value to your customers, ACI Worldwide can help.

The **ACI Commerce Framework** delivers a suite of products for all aspects of payments processing, which integrates with existing environments. Components of this framework will enable a flexible infrastructure to take full advantage of EMV, both today and in the future:

- ▶ **BASE24-es™**
  - multi-platform, electronic payment transaction processing
  - real time authorisation of transactions
  - flexible authorisation decisions (for example based on Merchant Category Code, region or cardholder)
  - EMV parameter update process management
- ▶ **ACI Proactive Risk Manager™**
  - risk analysis for transactions
  - real time or near real time options
  - expert defined rules and/or neural network technology
  - case management for business process creation and legacy system integration
- ▶ **ACI Card Management System™**
  - full cardholder and merchant management
  - support for EMV cards
  - support for pre-authorised debit
- ▶ **ACI Smart Chip Manager™**
  - chip card issuance, starting from single-application EMV to any level of sophistication
  - application, personalisation and parameter data retained for future real time updates or reissuance
  - central repository of EMV parameter updates for real time delivery via payment engines