



## Europay/MasterCard/Visa (EMV) Smartcard Payment System

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Replacing the almost 40 year old magnetic stripe card transaction processing method is the EMV smartcard payment system, which stands for Europay, MasterCard and Visa. EMV is a global standard for interoperability of IC (Integrated Circuit also known as “chip cards”) and IC card-capable point of sale (POS) terminals and Automated Teller Machines (ATMs) for authenticating credit and debit card transactions. The goal of this standard is improvement in security that will ultimately benefit all — including the merchant, banks and consumer — with decreased fraud and overall costs to all parties.

To solve security flaws, the associations are leading other industry players to replace traditional magnetic stripe equipment with smartcard technology. Smartcard technology credit and debit cards contain an embedded microchip and are authenticated automatically using a personal identification number (PIN). Although this adds a few additional steps to the process, the impact on the payments industry’s infrastructure is significant.

### Consumers Spurring Adoption of EMV, with Walmart Leading the Way

Twenty-two countries, including most of Europe, Mexico, Brazil and Japan, have accepted EMV technology, according to the Smart Card Alliance. About 50 other countries, including China, India and most of Latin America, are in various stages of migrating over the next two years. In 2010, Canada began rolling out chip-and-PIN cards and plans to stop accepting magnetic stripe payment cards at ATMs after 2012 and at POS terminals after 2015.

A major factor impeding EMV adoption in the U.S. market has been the merchant community as well as card issuers, but the current environment is changing. Terminal upgrades to support EMV will require merchants’ to expend capital, and to date there has been no compelling business case to do so from many merchants’ perspectives. Most of the terminal companies are including the hardware but are not activating the software until the merchants’ requests the increased functionality. There are estimates that it may take up to 6.5 years to replace existing terminals, but with Visa pushing to move towards EMV, a significant portion of the market could be EMV ready by 2015.

Nonetheless, there are a few highly dominant merchants, such as Walmart, that are vocal proponents of bringing EMV to the U.S. Walmart has been making the terminal improvements to support EMV in its stores. Walmart has expressed the belief that EMV brings the highest level of security to POS payments. This statement carries a lot of weight in the industry.

Another major roadblock to EMV has been the fact that signature-debit interchange fees have been considerably higher than PIN-debit interchange fees. Issuers have worked hard to capitalize on the volume of transactions that are transacted without a PIN. The price disparity will disappear in the aftermath of the Durbin Amendment, and with it one obstacle to the U.S. market migration to EMV. The Durbin Amendment may serve as a mechanism for a quicker migration to EMV, given that issuers will be looking to recoup the estimated 50% reduction in debit card interchange revenue that will take effect October 2011.

A way that this could be achieved is for FIs to create incentives for PIN-based transactions so as to reduce their fraud exposure. This could be accomplished by pushing consumers toward using PIN, or it could be achieved by increasing the liability of merchants in



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Signature-debit transactions. Effective October 1, 2012, Visa will expand its Technology Innovation Program (TIP) to the U.S. TIP will eliminate the requirement for eligible merchants to annually validate their Visa compliance with the PCI Data Security Standard for any year in which at least 75 percent of the merchant's Visa transactions originate from chip-enabled terminals.

### EMV in the Acquiring Industry — Next Steps

Over the next three to four years, the Acquiring industry will slowly adopt the EMV standard, but for Acquirers and ISOs, the benefits may be few. With the major POS device Makers including the EMV acceptance in every new model, merchants will slowly gain the ability to use EMV technology. Acquirers are relying more and more on fee-based services due to the modest transaction growth, changes in debit interchange and intense competition. If EMV can reduce the amount of fraud, the number of chargebacks and eliminate PCI non-compliance fees, merchants will see a tremendous upside at the expense of Acquirers.

EMV may be only the first step. With the utmost certainty, criminal elements will find holes in this standard as well. The Acquiring industry needs to look for other technologies to ensure that the consumer making the purchase is legitimate and authorized to make the purchase. Acquirers will make operations more efficient (out of necessity) and will need to significantly lower the risk of the proverbial "death sentence" to merchants and Acquirers. This will take the shape in many forms including the near-term adoption of encryption and tokenization and, in the long term, new techniques like biometric authentication.

### What new technologies will EMV require?

EMV will require new hardware and software changes at the point of sale but the biggest advances in the Payment industry will come through the product strategy convergence through the development of gateway functionality and connectivity. Gateways will provide increased functionality, a wide array of connectivity, mobile wallet acceptance and better security. Many processors have open APIs and SDKs for VARs and ISVs to connect directly to their platforms. These gateways will connect not only to the associations' networks but also various debit networks, alternative payment sources and to FIs. Mobile wallets will also be adopted at a faster rate because the merchant can use EMV to collect payment for multiple payment types and more favorable rates. Security will be improved due to the PAN, and other identifiers will be encrypted and/ or tokenized from the start to the end of the transaction. Since Visa's purchase of CyberSource (a gateway) and its subsequent actions including the open API, mobile wallet and push for EMV, Visa has clearly shown that this is the way of the future of technology in the Acquiring industry.

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