

Transitioning to EMV Payments Technology

Preparing today for the nationwide switch to smart cards.



While most of the U.S. still uses traditional magnetic card, swipe-and-sign technology for credit and debit card transactions, developed nations in Europe and elsewhere have moved to EMV (Europay, Mastercard, Visa): a smart-card technology involving encryption of data stored on a microchip. As the major card networks have made October 2015 an important deadline in their migration to EMV in the U.S., it's essential for merchants to support this new technology as soon as possible.

Background: How EMV Fights Fraud

The magnetic, or “mag,” stripe on the back of a traditional credit or debit card provides all the financial information required to complete a purchase, enabling a merchant to quickly process a transaction. But that same ease and simplicity make these cards highly susceptible to fraud: information on mag stripes is easily accessed, and misappropriated information can be embedded into a new counterfeit card.

To create a more secure payments system, in the 1990s founding partners Europay, MasterCard, and Visa developed EMV®. Today, EMV serves as the global standard for interoperability of smart cards with point-of-sale (POS) terminals and automated teller machines (ATMs). Unlike mag-stripe cards, EMV cards use dynamic encryption that holds unique cardholder and transaction information in an embedded microchip. As a result, an EMV smart card is highly secure and nearly impossible to copy and use for fraudulent purposes.

Key Takeaways



To fight counterfeit card fraud, card issuers are moving to EMV-based, “smart card” technology in the United States.



As of October 2015, those merchants who have not become EMV-compliant will be liable for counterfeit card fraud losses.



By working with a merchant services provider to ensure a smooth transition to EMV payments, merchants can reduce their risk of losses, enhance overall customer experience, and boost sales.

The Two Types of Smart Cards

- **Contact:** A contact card has electronic pads located on the chip that establish a connection with a card reader when inserted into a POS terminal. Information relating to authentication, verification, and authorization are communicated through the contact points. Contact cards are the most common type of smart cards today.
- **Contactless:** In a contactless system, the card communicates with the terminal via radio waves. As a result, a contactless protocol will require close proximity of the card to the card reader. Most EMV-enabled POS equipment will include technology that permits merchants to accept contactless and mobile payments.

Dual-interface cards combine both contact and contactless technologies.

Rolling out EMV in the U.S.

Major card issuers have announced their plans for moving to EMV-based payments in the United States, and recent studies show that more than 63%¹ of all cards in the U.S. will have chips before the end of 2015. Businesses accepting cards have also initiated plans to migrate to chip-reading technology, with close to 47%¹ of locations expected to be EMV enabled by the end of 2015. Major U.S. retailers, including Walmart and Kroger, have already installed checkout terminals that work with smart cards. Walmart spokesman Randy Hargrove said the company's checkout terminals are already capable of accepting EMV cards. Both issuers and merchants accepting cards agree that the technology will be more effective in safeguarding payments than the swipe-and-sign system. Other retail chains, including Jones of New York and GNC, have also ordered POS systems that meet EMV standards.²

A Shift In Liability

October 1, 2015, represents a key date for adoption and execution of the smart card technology—the date when liability shifts from the card issuer to the merchant for counterfeit cards and fraud committed at the point of sale if the merchant is not using an EMV-compliant solution.

The Card Fraud Liability Shift in October 2015³

Card	Description of change in Liability for Fraud
VISA®	The party that has made investment in EMV deployment is protected from financial liability for card-present counterfeit fraud losses on this date. If neither or both parties are EMV compliant, the fraud liability remains the same as it is today. This date excludes automated fuel dispensers.
MasterCard®	As of this date, if at least 95% of MasterCard transactions originate from EMV-compliant POS terminals, the merchant is relieved of 100% of account data compromise penalties.
American Express®	American Express will institute a fraud liability shift policy that will transfer liability for certain types of fraudulent transactions away from the party that has the most secure form of EMV technology.

¹Payment Security Task Force, estimates published May 2015

²"Retailers have already installed hardware to read safer smart cards," www.dallasnews.com, January 27, 2014.

³"EMV Chip Payment Technology: Frequently Asked Questions," Smart Card Alliance, www.emv-connection.com

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