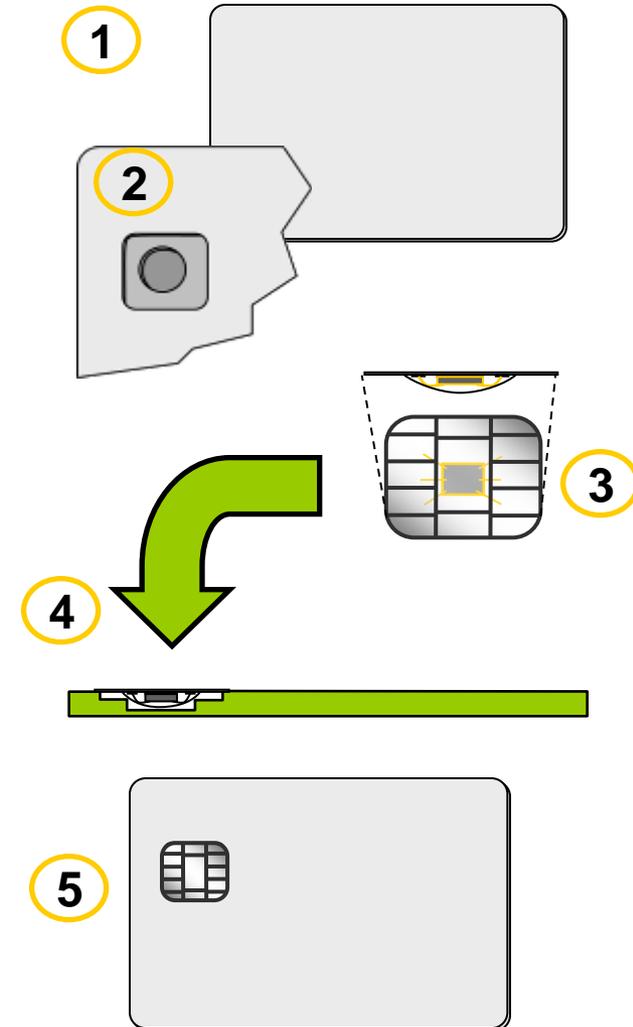
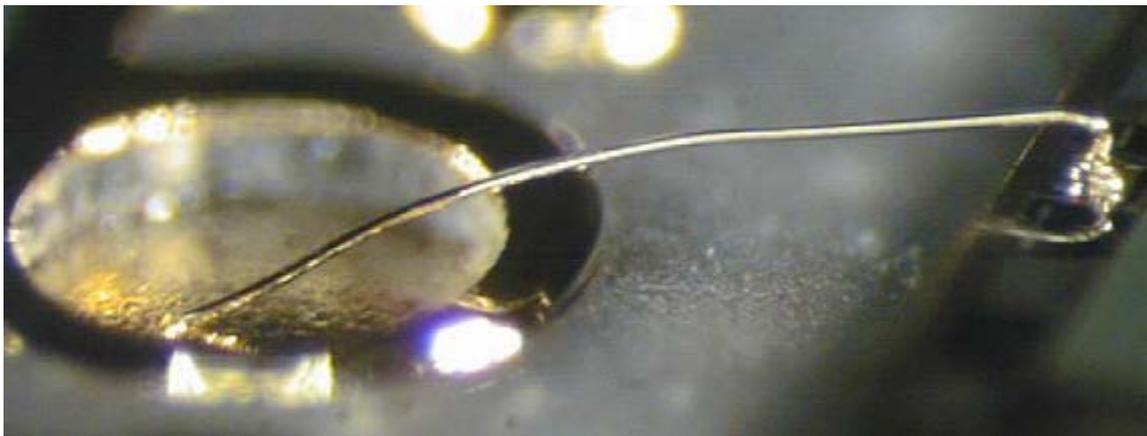
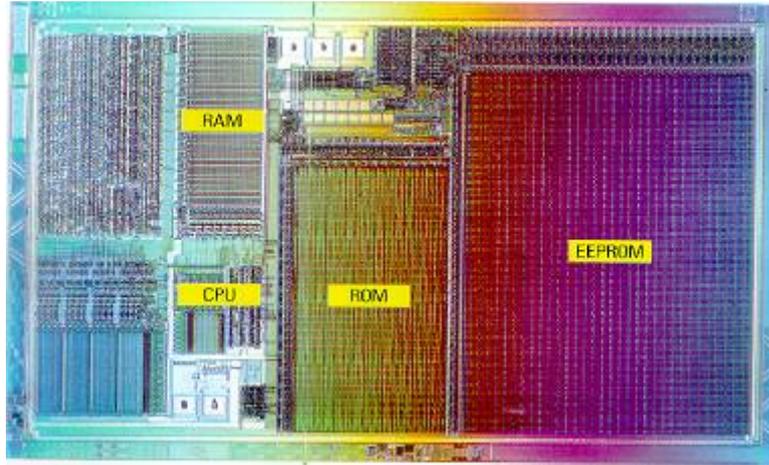
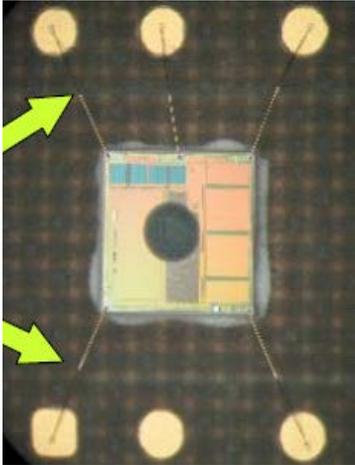


# **EMV Basics and the market...**



- **EMV is the globally adopted international standard for adding a chip on a payment card**
- **A chip is a small computer built into the plastic of the card**
- **It is often used with a PIN ("chip and PIN") to provide two factor authentication, or maybe chip and signature as UK started**
- **All EMV cards also carry a magnetic stripe for backwards compatibility (at least for now)**
- **Everywhere it has been used chip has proven to be extremely efficient against fraud (*see recent Atlanta Fed Report*)**

- **MasterCard and Visa have set up liability shifts to encourage migration**
- **Liability for the chargeback loss shifts to whichever party (issuer/acquirer) hasn't yet upgraded to chip**
- **No impact on the customer**
- **May have impact on the merchant depending upon the terms and conditions between that retailer and its acquiring bank**
- **Liability shift programs were mostly intra-regional**
  - Both the issuer and the acquirer must be located in the same region
- **Trend has been toward more inter-regional**
  - End of 2011 liability shift became global on credit cards with the *exception of the US*
  - By end of 2012 debit card liability shift will become global *except for US*

- **UK Card Fraud Reduced by 34% since 2004**
- **UK Fraud Losses from counterfeit cards reduced by 62% since 2004**
- **French Card Fraud Reduced by 35% from 2004 to 2009**
- **Canadian Fraud Loss Already Down 5%**
- **Australian Card Fraud Loss Already Down 15%**
  
- **Cross Border Fraud Increases as Fraudsters use Mag Vulnerability**
  - Statistics show EMV cards being counterfeited for US fraud
- **Fraud Losses Reduced Significantly More With Chip & PIN**
- **Fraud Migrates to Card Not Present (CNP) Transactions**

- Why have US payment card Issuers resisted EMV migration?
  - A. US has a more robust online (network) infrastructure
  - B. US payment technology shift to contactless failed
  - C. The perceived economics haven't justified it
- The perceived economics haven't justified the move to EMV

## EXAMPLE:

- 2009 estimated cost of US debit card fraud = \$1.34B \*
- 2009 estimated debit card revenue = \$16.5B \*
- Fraud losses less than 9% of revenue & issuers use fraud loss to justify higher fees

*\* Source – Board of Governors Federal Reserve System*



## 1. US Payment Standard (Mag) Isolation

- A. Global Interoperability/ Off Shore Acceptance Causes Client Inconvenience
- B. Global FIs begin to exert pressure to secure EMV investments (as non-US card data is defrauded in the US)
  - **SEPA for Cards**
    - *Time to Prepare the Eulogy - 'Six Feet Under' for the Magnetic Stripe in SEPA Eurosystem recommends migration to chip-only cards*



## 2. US Government Intervention/Regulation

- A. Durbin Law / Federal Reserve changes the economics

### EXAMPLE:

- Assume estimated cost of US debit fraud (same as 2009) = \$1.34B
- *Pre-Durbin estimated debit card revenue = \$16.5B*
- Post-Durbin estimated debit card revenue = \$9.0B
- Now fraud losses jump to at least 15% of revenue!



- Durbin law seeks to cap payment interchange
  - Merchants looking for ~\$0.12 cap on debit fees (average fee \$0.44)
  - Law leaves cap ? open pending Fed Reserve recommendations
  - The Fed recommends \$0.21 + 0.05% + \$0.01 (for fraud prevention)
  - GPR & Credit not included but it's coming...
- Initial reaction has US Financial Institutions looking for ways to recover lost interchange revenue.
- Should they be looking for ways to increase profitability by decreasing fraud losses?
- EMV and online authentication tools can help!

- **August 8, 2011 Visa announces plan to encourage US adoption of chip technology!**
- **Three Key Initiatives:**
  - 1. Merchants that have POS terminals for contact & contactless chip acceptance don't need annual PCI validation – Oct 1, 2012**
    - \* 2008 data shows level 1 retailers paid \$237K in PCI assessment costs
  - 2. US Acquirers/Processors must accept chip transactions – By Apr 1, 2013**
  - 3. US domestic and cross border liability shift (card present) – Oct 1, 2015**



Visa's plan to encourage the U.S. adoption of dynamic chip authentication technology includes the following three initiatives:

- **Expand the Technology Innovation Program to Merchants in the U.S.** -- 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 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. To qualify, terminals must be enabled to support both contact and contactless chip acceptance, including mobile contactless payments based on NFC technology. Contact chip-only or contactless-only terminals will not qualify for the U.S. program. Qualifying merchants must continue to protect sensitive data in their care by ensuring their systems do not store track data, security codes or PINs, and that they continue to adhere to the PCI DSS standards as applicable.
- **Build Processing Infrastructure for Chip Acceptance** -- Visa will require U.S. acquirer processors and sub-processor service providers to be able to support merchant acceptance of chip transactions no later than April 1, 2013. Chip acceptance will require service providers to be able to carry and process additional data that is included in chip transactions, including the cryptographic message that makes each transaction unique. Visa will provide additional guidance as part of its bi-annual Business Enhancements Release for acquirer processors to certify that their systems can support EMV contact and contactless chip transactions.
- **Establish a Counterfeit Fraud Liability Shift** -- Visa intends to institute a U.S. liability shift for domestic and cross-border counterfeit card-present point-of-sale (POS) transactions, effective October 1, 2015. Fuel-selling merchants will have an additional two years, until October 1, 2017 before a liability shift takes effect for transactions generated from automated fuel dispensers. Currently, POS counterfeit fraud is largely absorbed by card issuers. With the liability shift, if a contact chip card is presented to a merchant that has not adopted, at minimum, contact chip terminals, liability for counterfeit fraud may shift to the merchant's acquirer. The liability shift encourages chip adoption since any chip-on-chip transaction (chip card read by a chip terminal) provides the dynamic authentication data that helps to better protect all parties. The U.S. is the only country in the world that has not committed to either a domestic or cross-border liability shift associated with chip payments.

## MasterCard Introduces U.S. Roadmap to Enable Next Generation of Electronic Payments

January 30, 2012



### Defining the Framework

Elements of the MasterCard roadmap include:

**EMV** – Solidifying EMV as the foundation of the next generation of payments

**Immediate focus on acquirer infrastructure** – Working with acquirers to ensure infrastructure readiness by April 2013

**Encouraging greater security and cardholder verification** – Providing consumers with greater control and to reduce fraudulent transactions

**Provide benefits for merchant terminalization** – Providing true financial benefits for merchants as they implement EMV-compatible terminals

**Cover all channels** – Addressing all touch points where consumers will interact with MasterCard, including ATMs, the physical point-of-sale, online and mobile commerce

**Commitment to leadership and collaboration** – Fostering industry collaboration to deliver the next generation of payments into the U.S. marketplace

- **American Express Announces U.S. EMV Roadmap to Advance Contact, Contactless and Mobile Payments**

NEW YORK, Jun 29, 2012 (BUSINESS WIRE) -- American Express today announced its network roadmap to advance EMV chip-based contact, contactless and mobile payments for all merchants, processors and issuers of American Express-branded cards in the U.S.

American Express will work alongside other industry participants to drive interoperability across the U.S. and other countries and support chip-based technology for chip and PIN, chip and Signature, contactless and mobile transactions. The company's key policy requirements and dates are:

- By April 2013, processors must be able to support American Express EMV chip-based contact, contactless and mobile transactions.
- Beginning October 2013, merchants will be eligible to receive relief from PCI Data Security Standard (DSS) reporting requirements if the merchants' point-of-sale (POS) acceptance locations, where 75% of their transactions occur, are enabled to process American Express EMV chip-based contact and contactless transactions.
- Effective October 2015, American Express will institute a Fraud Liability Shift (FLS) policy that will transfer liability for certain types of fraudulent transactions away from the party that has the most secure form of EMV technology. U.S. fuel merchants will have an additional two years, until October 2017, before the FLS takes effect for transactions generated from automated fuel dispensers.

"The payments industry is continuing to evolve rapidly, and American Express recognizes the growing demand for chip-based contact and contactless payments in the U.S.," said Suzan Kereere, Senior Vice President and General Manager, American Express Global Network Business. "We also fully recognize the complexities involved in migrating to EMV chip-based technology, and our first priority is to provide choice and flexibility for merchants and our card-issuing partners so they can adopt the EMV solution that best meets their needs."

"As a global payments network, we understand the benefits associated with EMV-based technology, and we are committed to continue enhancing security at the point-of-sale for both merchants and American Express Cardmembers," added Kereere.

American Express plans to begin issuing EMV-compliant cards in the U.S. in the latter half of 2012.

As an early adopter of EMV technology on its global network, American Express today already processes millions of EMV transactions. American Express is one of four major payment organizations that is an equity member in EMVCo, which is an organization committed to driving secure and interoperable payments globally for chip card transactions.