AGENDA

- EMV Overview
- EMV Industry Announcements
- EMV Transaction Differences, What to Expect
- Solution Decisions
- VFI EMV Solutions
- Market Certification Considerations
- In-Field Maintenance Requirements
- Questions
WHAT IS EMV?

A joint effort between Europay, MasterCard, and Visa

It is a security framework that defines the payment interaction at the physical, electrical, data and application levels between the chip cards and the payment device.

EMVCo was founded in 1999 to bring about interoperability between the card schemes

U.S. adoption has been slow, but recent announcements from the card brands are pushing the U.S. towards EMV adoption
WHAT’S GOING ON WITH EMV?

Until recently, not much publicly…

Globally

Several organizations exist today in the U.S. and globally, all with a goal of eventually standardizing on EMV (SEPA, EMVCo, SCA, etc.)

VeriFone has been deploying EMV capable devices for many years. VeriFone has shipped EMV capable Vx and VX Evolution products to 145 countries over the past 7 years.

In the U.S.

Major retailers, like Wal-Mart, have been planning for a shift to EMV capable payment acceptance.

VeriFone has been deploying EMV capable devices for many years, though adoption in the U.S. market has been slow.

Several Chip and PIN pilots have been undertaken, mostly by small banking institutions, like credit unions.
<table>
<thead>
<tr>
<th>Date</th>
<th>Visa</th>
<th>MasterCard</th>
<th>Discover</th>
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| **October 2012** | Visa will extend the same Technology Innovation Program (TIP) to merchants in the U.S., allowing them to skip the annual PCI DSS validation for any year in which at least 75% of merchant Visa transactions originate from dual-interface EMV chip enabled devices—plus other qualification criteria such as being PCI DSS compliant. | **October 2012** – PCI audit relief takes effect. | Discover’s approach to EMV is both universal and choice-centric, meaning the company will not restrict any channel, verification process or transaction type. Discover will support:  
- All card authentication channels – including online and offline  
- All cardholder verification methods – including both chip & PIN or chip & Signature transactions  
- All commerce channels – including contact and contactless (which includes mobile)  
The media has reported that Discover will support the same October 2013 requirement for acquirers and direct-connect merchants and the same 2015 Liability Shift guidelines as provided by MasterCard.  
Note: Discover’s EMV deployment efforts are already underway domestically. In January 2012, Discover processed its first U.S. EMV card transactions at enabled Walmart locations. Walmart is certified to process D-PAS in both the U.S. and Canada. |
| **April 2013** | Acquirers/processors will be required to support merchant acceptance of EMV chip transactions. | **April 2013** – Acquirers and sub-processor mandate to fully process EMV transactions. Cross border Maestro ATM liability shift to non-EMV ATMs. |          |
| **October 2015** | The party that is the cause of a contact chip transaction not occurring will be financially liable for any resulting card present counterfeit fraud losses. Does not include automated fuel dispensers (AFD). | **October 2013** – MasterCard ADC relief takes effect (50%). |          |
| **October 2017** | Deadline for automated fuel dispensers (AFD) to comply. | **October 2015** – MasterCard ADC relief takes effect (100%). MasterCard liability hierarchy takes effect (excluding fuel). |          |
|              |                                                                      | **October 2017** – MasterCard liability hierarchy takes effect for fuel dispensers. |          |
1. Industry Adoption
   • How was EMV adopted in the Canadian Market?

2. Customer Impacts
   • As a card holder, what can you expect with EMV?

3. Solution Time to Market
   • Payment solutions have new requirements, challenges, how will this impact the number of choices going forward?

4. Training and Support
   • Merchants are self trained now, how did this change?

5. Card Requirement Changes
   • How did new card products change the landscape?
EMVCo current members are MasterCard, Visa, JCB, and American Express, each owning an equal share.

**WHO IS EMVCO?**

**ROLE OF EMVCO**

- Owns, manages, and maintains the global payment industry specifications to define interoperability requirements between chip based payment cards and acceptance terminals.
- Administers the testing and approval process for both chip payment cards and chip acceptance terminals.
- EMVCo is **not** responsible for specific card brand certifications.
- EMVCo maintains specifications for both contact and contactless payment schemes.
- EMV Contactless specification published to define a common contactless interface to be used by the card brands.
- Currently each card brand uses its own proprietary application:
  - MasterCard M/Chip, Visa qVSDC
  - Applications are similar, both follow EMVCo standards.
**What Are the Benefits of EMV?**

EMV focuses more on the **security of point-of-sale transactions**, with an end goal of reducing credit card fraud.

EMV requires **encryption** like VeriShield Total Protect, secured by RSA, to be completely secure.

### Benefits

**For Merchants**
- Fewer chargebacks
- Reduce liability for card-present transaction fraud
  - If merchant doesn’t support EMV and fraud does occur – merchant / merchant acquirer is held liable
- Will help foster the adoption and integration of other payment technologies such as contactless and NFC

**For Consumers**
- Fraud reduction
  - Reduced exposure for counterfeiting and card skimming
- Global interoperability (e.g. European travelers will be able to use their chip cards in the U.S. and vice versa)
- Will help foster the adoption and integration of other payment technologies such as contactless and NFC
# WHAT ABOUT CONTACTLESS?

## How does EMV Contactless differ from EMV Contact?

### DIFFERENCES

<table>
<thead>
<tr>
<th><strong>EMV CONTACT</strong></th>
<th><strong>EMV CONTACTLESS</strong></th>
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<tbody>
<tr>
<td>• Cards are inserted into the chip card (ICC) reader and remain until the</td>
<td>• Contactless cards must be placed in close proximity to the contactless reader</td>
</tr>
<tr>
<td>transaction is completed</td>
<td>(typically 1/2 to 3 inches and remain only momentarily)</td>
</tr>
<tr>
<td>• Different from what consumers are accustomed to today</td>
<td>• Transaction is completed after the card has been removed from the contactless field</td>
</tr>
<tr>
<td>• Data is read from and written to the chip during a transaction so the card</td>
<td>• Dual interface cards access the same chip for processing via contact or</td>
</tr>
<tr>
<td>is updated each time it is used</td>
<td>contactless read</td>
</tr>
<tr>
<td>• Transactions will likely be processed online in the U.S. but offline</td>
<td>• Contactless card usage is typically used for transaction speed and convenience</td>
</tr>
<tr>
<td>transaction processing is possible</td>
<td></td>
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- What About Contactless?
### NFC and EMV Contactless are not synonymous

**EMV CONTACTLESS VS. NFC**

<table>
<thead>
<tr>
<th>NFC</th>
<th>EMV Contactless</th>
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<tr>
<td>Both use short range wireless technology allowing communication between devices at close proximity</td>
<td>NFC Shares a core technology with RFID tags and contactless smartcards, but there are differences</td>
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<tr>
<td>Contactless is typically a one-way transaction between a passive device (contactless card) and an intelligent reader (contactless capable POS device)</td>
<td>Multiple ISO standards govern NFC cards</td>
</tr>
<tr>
<td>NFC-enabled transactions involve two-way communications whereby an NFC capable device (such as a smartphone) exchanges data with an NFC enabled POS device</td>
<td>ISO/IEC 14443 is a group of four standards covering card type variations – Type A and Type B</td>
</tr>
<tr>
<td></td>
<td>• Reader / Writer mode governed by ISO/IEC 14443 standard</td>
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<tr>
<td></td>
<td>• ISO/IEC 18092 – Near Field Communications Interface and Protocol</td>
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<tr>
<td></td>
<td>• Peer-to-Peer mode governed by ISO/IEC 18092 standard</td>
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NFC and EMV Contactless are not synonymous.
PRODUCT DECISIONS FOR THE U.S.

Stand Alone Devices
- Customer total amount verification, EMV card insertion, and CTLS tap
- Speed of transaction
- Hand over, external pin pad (with Contact/CTLS/Mag-stripe Delivery support)

Integrated
- Customer facing, Communication options, USB, RS232, IP
- Register software changes to drive the device differently (Amount first, no walk up and swipe)

Semi-Integrated
- Light cash register integration
- Direct to host for processing, removing register knowledge of EMV or transaction data
EMV CAPABLE DEVICES – VX & VX EVOLUTION SOLUTIONS

Countertop series

Portable series

Consumer Facing series
EMV CAPABLE DEVICES – MX SERIES SOLUTIONS

MX 800 series

MX 850
MX 860

Consumer Facing series

MX 870
MX 880

MX 900 series

MX 915
MX 925
MARKET SOLUTION CERTIFICATION CHANGES

Certification Criteria

- Level 1, Level 2 Certifications
- Brand Testing
- Card Scheme testing, individual tests vary by scheme
  - Each card scheme has their own specification (based on EMVCo)
- Contact and Contactless testing require specialized tools
  - Tools updated frequently to provide necessary scheme simulation

Results of New Criteria?

- Certification will take more time to accomplish at the acquirer levels
- Ongoing certification work must be maintained for solutions
- Ongoing investment is required to keep up to date on tools and certification process
- Specialized training will be required to accomplish this new solutions delivery
FIELD UPGRADES, HOW EMV IS DIFFERENT

Today
- Devices are deployed, and in some cases, not touched for years
- Merchants are reluctant to be reprogrammed, to give time for the activity
- Infrastructure (dial lines, ..etc) not setup to handle large download projects

Tomorrow, EMV Differences (Contact and Contactless)
- EMV components, kernels for contact and contactless can and will change
- New cards issued with new functionalities happen, require downloads to accept the card
- Interoperability will be impacted if devices are not kept up to speed
- CTLS software components, EMV and for NFC initiatives, will require updates and changes to remain field-ready for new cards
Merchant Device Support

- Need for more frequent download will require more merchant interaction, either in a manual or automated manner.
- Devices will need to “phone home” to check for updates at a defined frequency.
- Updates can, and should be, delivered to the POS in an automated manner to ease this new market requirement.

VeriFone Estate Management Solutions

- VFI can provide end to end solutions for management of these software components, along with other application requirements.
- Solutions can be delivered as “host it yourself”, or through VFI Managed Services.
  - Allowing for management of your own portfolios, maintenance of your portfolios, and real time dashboards of your status.
- VeriCentre look and feel can be provided to ease adoption.
To learn more about EMV and VeriFone’s hardware, software, training and support solutions that can smooth the EMV migration process, please go to www.verifone.com/emv-us and www.verifonezone.com.
THANK YOU!