





Presentation materials and video replay will be provided within one week.

Have questions? Use the questions panel  – we'll field them as we go and during the Q&A recap at the end of the call. Click "Raise Hand"  to ask your question by phone.

EMV Defined

Today's Speaker



Greg Kuyava,
Senior Product Manager, Card Services

Experienced speaker on a variety of Card Services topics, including:

- Creating an efficient, cost-effective program
- Marketing and brand awareness
- Instant card issuance
- Obtaining primary financial status with cardholders
- Enhancing cardholder engagement

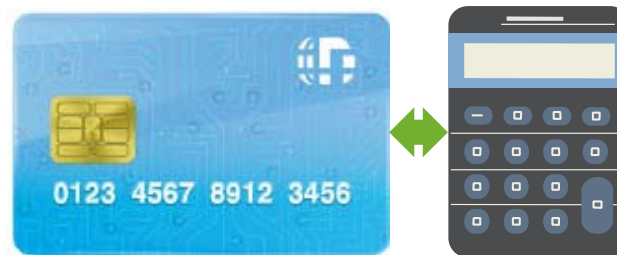
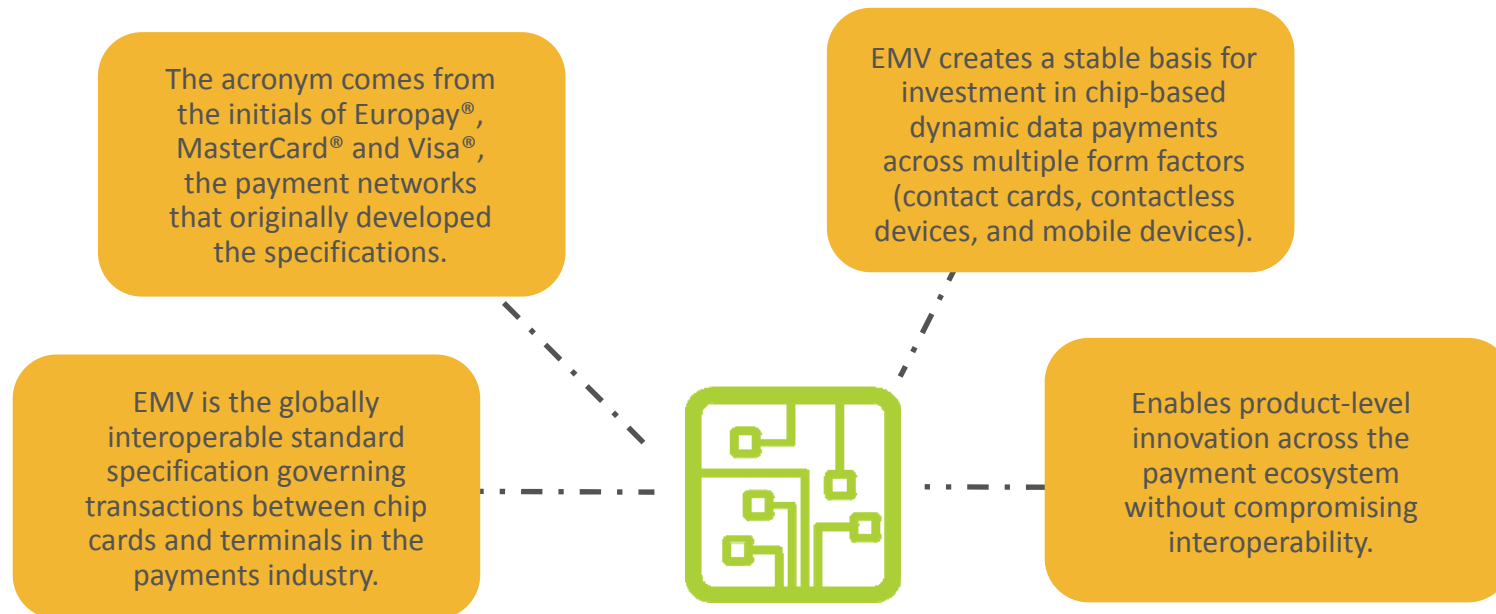
Agenda

- EMV – A Card Overview
- EMV – Trends in the Market
- The EMV Card
- Road to EMV
- Q&A

EMV Overview



What is EMV?



What is EMV?

Upgrading to EMV will potentially deliver:

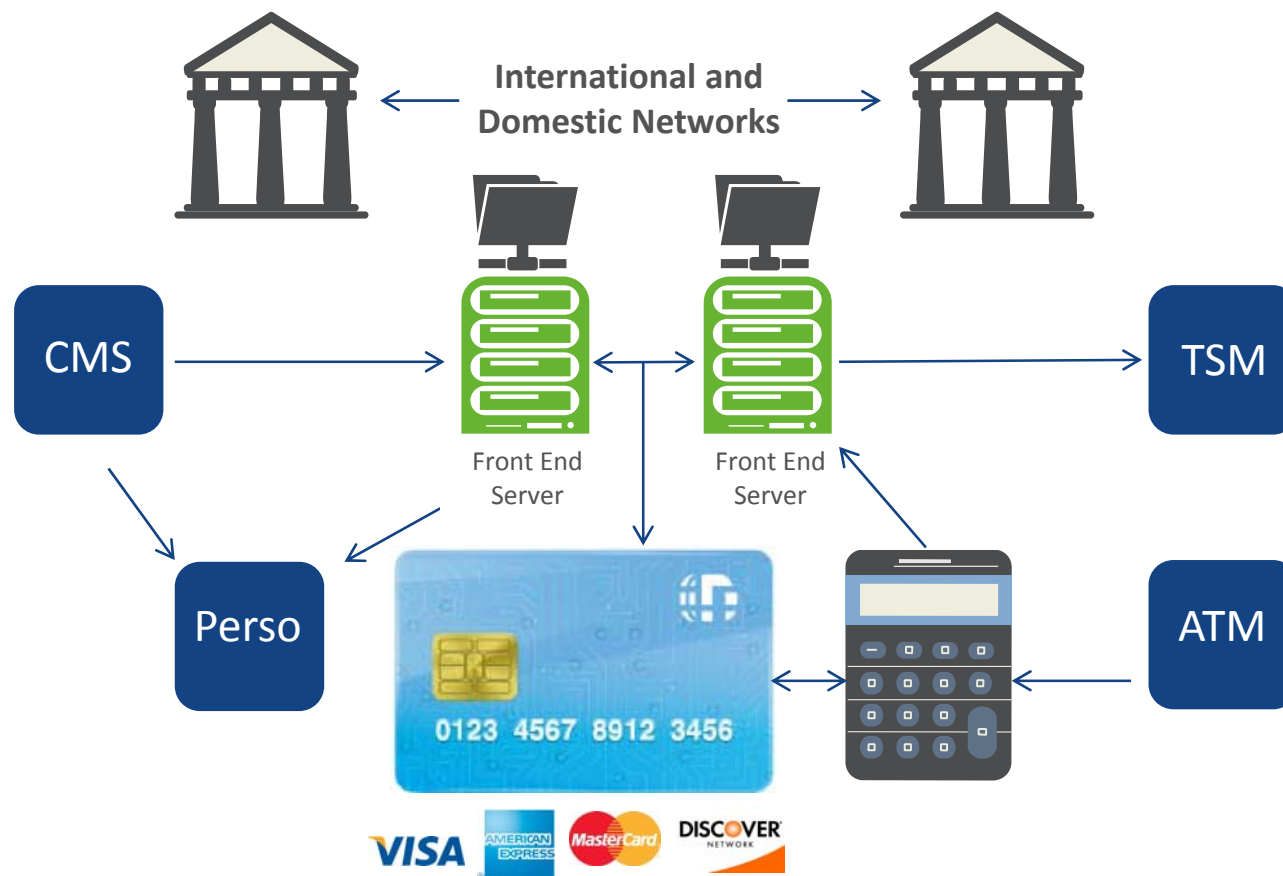
- Fraud reduction
- Reduced operational costs
- Improved risk management
- Increased card usage
- A wide range of value-added opportunities

Cardholder verification features:

- Still supports traditional methods
- CVM – Issuer can define multiple CVM's in the cards and define the conditions under which the CVM must be applied
- Offline PIN (plaintext or enciphered)

Impact of EMV

EMV migration affects all parties involved in payment transaction processing



EMV – Key Market Information



Consumer Data Breaches

2 billion

accounts **compromised** in 2014





708 breaches as of 12/3/14



NORDSTROM



Liability Shift Dates

	2011	2012	2013	2014	2015	2016	2017
	EMV Liability Shift Announcement	Launch of Vista Tech Program VTP (aka EMV)			EMV Liability Shift: Cards aligned on date Debit/Credit	ATM Liability Shift	Automated Fuel Dispensers liability shift for EMV transactions
	EMV Liability Shift Announcement			Merchant Acquiring Processors: POS align on EMV compliant date	EMV Liability Shift: Cards aligned on date Debit/Credit Liability shift Signature to PIN CVM	ATM Liability Shift	Automated Fuel Dispensers liability shift for EMV transactions
			Processors Support Amex EMV transaction. Merchants eligible for relief from PCI Data Security Standard (DSS)		Fraud Liability Shift (FLS) policy (on issued cards)		Automated Fuel Dispensers liability shift for EMV transactions
			Processors & merchants must be EMV certified & support network data in contact & contactless EMV chip card transactions		October 2015, there is a card issuance liability shift		Automatic Fuels Dispensers liability shift for EMV transactions

EMV Liability Shift

- EMV has proven to reduce card fraud in markets it's been introduced
- Windows closing for hackers to profit from attacks on bricks and mortar merchants
- Larger retailers will be/are more prepared
- Smaller vendors are much slower to adopt the new security
- 60% of merchants will be ready for the shift – *EMV Migration Forum 2015*

The market is expecting a **RISE** in criminal activity in the coming months before the more secure payments are implemented.

Poll Question #1



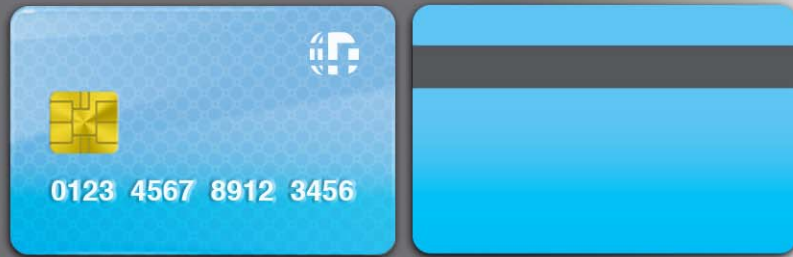
Please indicate when you will have EMV cards distributed to your card holders:

1. Currently in the market or by the October liability shift
2. 4 to 6 months
3. 7 months or longer
4. Undecided

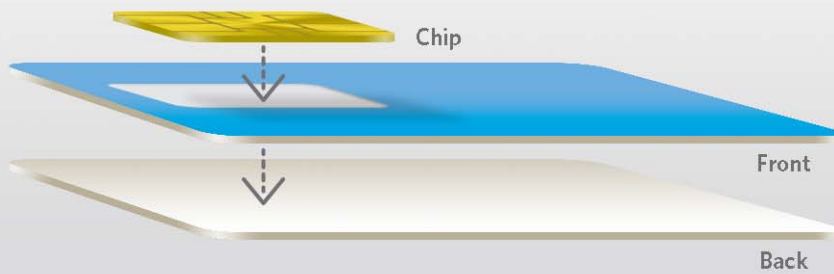
EMV Card Structure



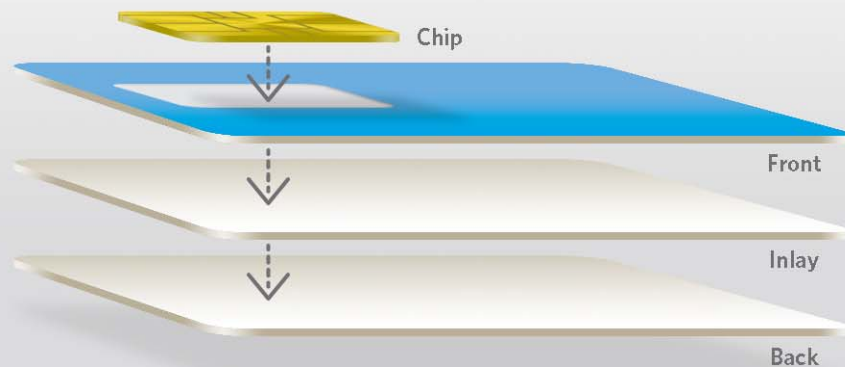
The EMV Card



Chip Only Card Construction



Dual Interface Card Construction



Card Platform



Card Certification

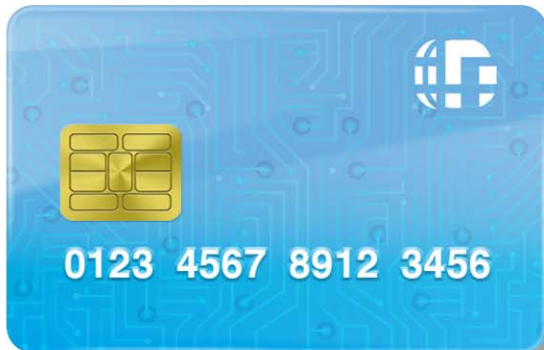


The Chip Holds

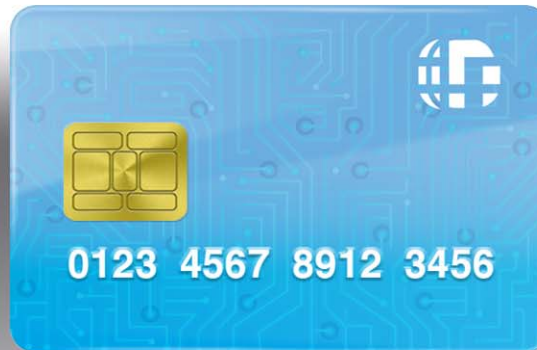
- Cardholder Data
- Keys
- Certificate

EMV Card Types

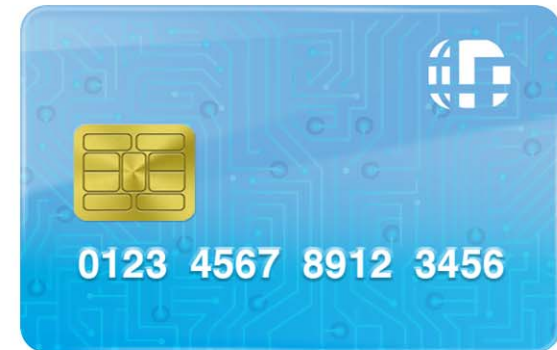
Eight Contact



Six Contact



Dual Interface

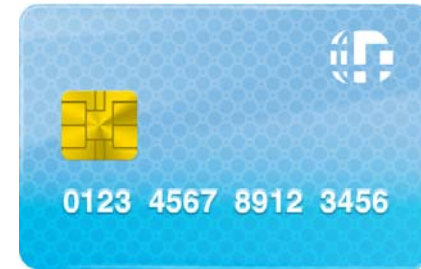


These cards are inserted into a reader. The communication happens through the chip's contact plate.

*Eight contact chip only

Card can function in dual modes, communicating both 'contact' and 'contactless' by means of an antenna (using RFID to communicate).

How Similar Is a Smart Card to a Computer?



Hardware

PC from HP®, Dell®,
Apple®, ...

Chip from ST, Samsung,
NXP, Infineon, ...

Operating System

MS DOS, Windows,
Mountain Lion

Native, JAVA, Multos

Application

Excel, Safari, Word,
Lotus Notes, Outlook

Visa VIS 1.5, PIV, M/Chip
Advance, AEIPS, ...

Operating System Technologies

NATIVE

Native Operating System Technology

- The operating system is locked in the ROM
- Unique personalization script
- Multi-application possible
- Production lead time
- Competitive cost

OPEN

Open Platform Technologies (Java GP, Multos)

- The operating system is shared between locked in ROM and EEPROM
- Interoperability
- Time-to-Market
- More open personalization setup
- Coast-Java Static versions

Applications and AID

- **Applications:** the payments networks' card and terminal specifications defines the requirements for the software in the card and how the terminal will employ the EMV tool kit
 - Visa – VIS
 - MasterCard – MChip
- **AID (Application Identifier):** A data label that differentiates payment systems and products.
 - The issuer uses the AID to identify an application on the card or terminal.
 - Cards and terminals use AIDs to identify which applications are mutually supported (must be mutually supported to initiate a transaction)
 - Cards and terminals will support multiple AIDs

The Security of an EMV Transaction

Why are EMV credit/debit card and EMV payments transactions secure?

Card Authorization – method used to determine the card is not counterfeit

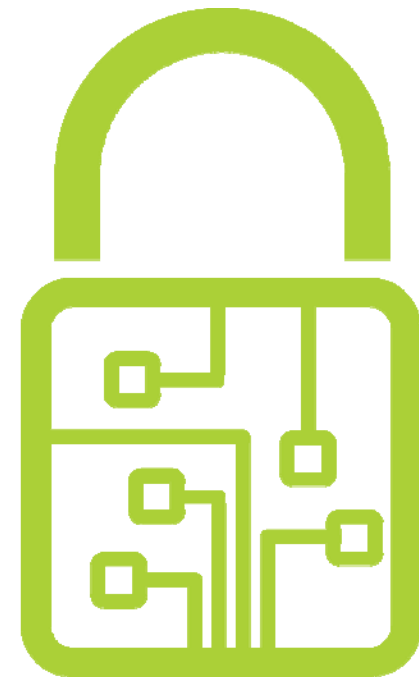
- protects against counterfeit cards in **card-present** transactions

Cardholder Verification (CVM) – validates the person presenting the card is the valid cardholder

- protects against lost or stolen cards
- Online PIN
- Offline PIN
- Signature
- No CVM
- **Merchants decides which CVMs they support**
- **Issuers set prioritized list of methods on the chip for verification**

Transactional Authorization/Authorization Controls

- Offline risk parameters
- Card acts on the issuers behalf at the point of transaction



Poll Question #2



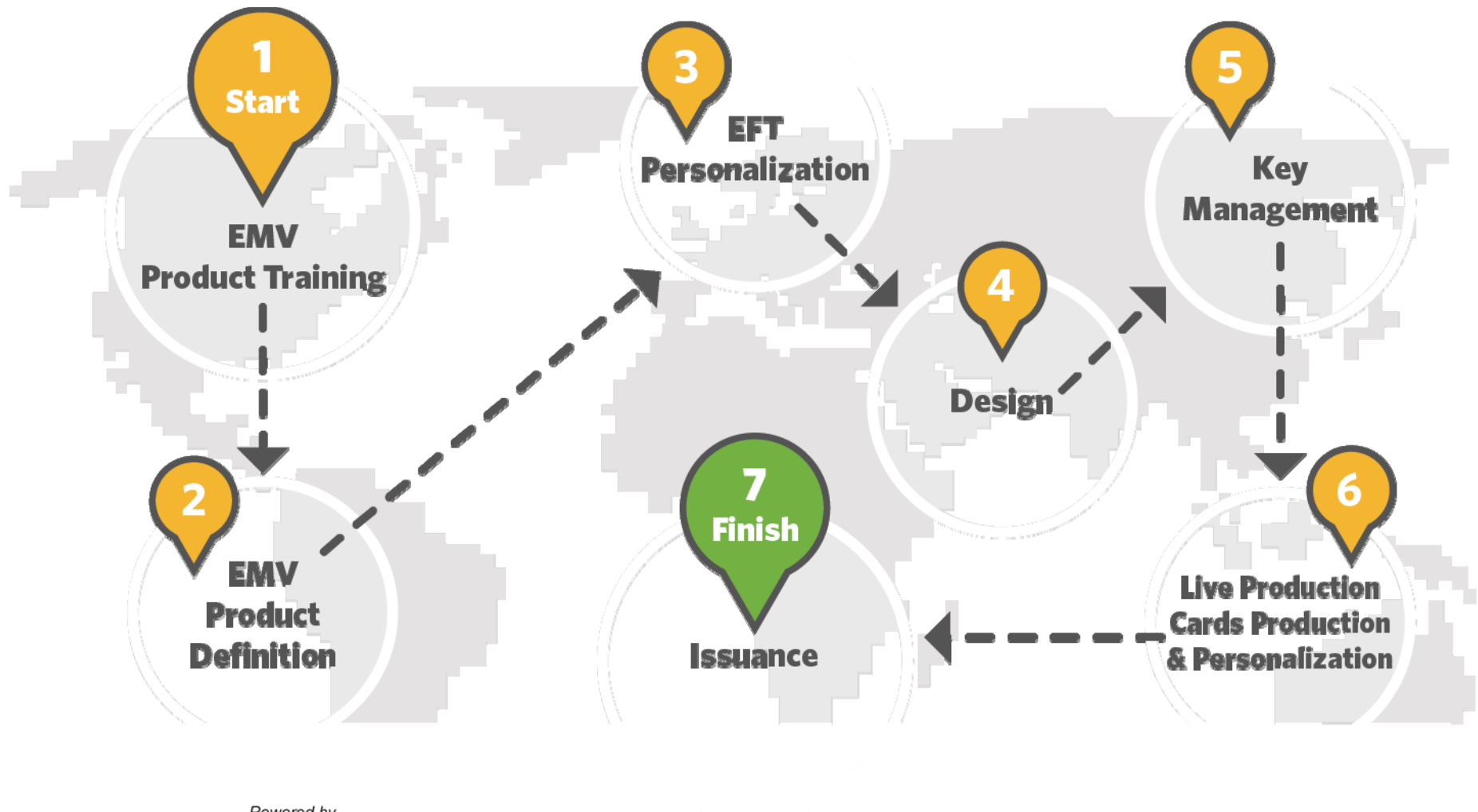
What is your Financial Institution's preferred Cardholder Verification Method:

1. Signature only
2. Online PIN
3. Offline PIN

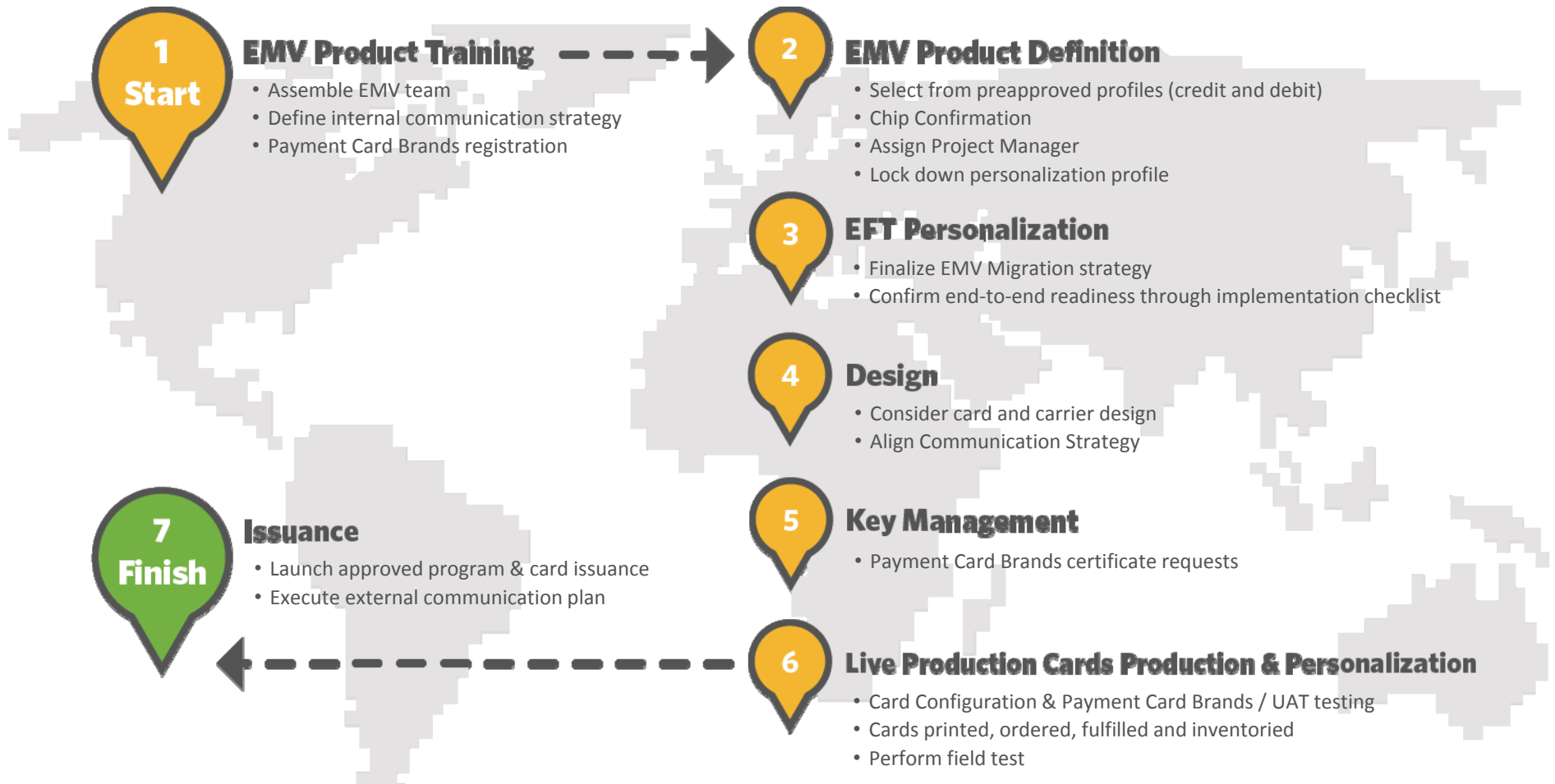
EMV Card Migration Project



The Road to EMV Has Many Twists and Turns



Chip Complete Simplifies Your Journey



Managing the Key Partners

Card Manufacturer

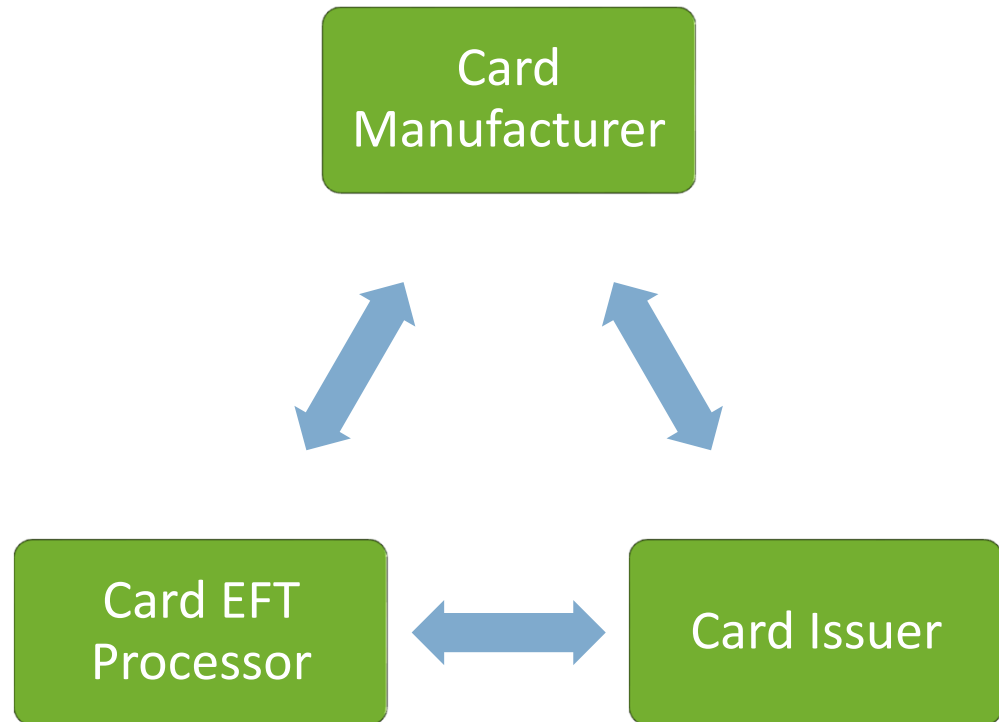
- Chip
- Operating System
- AID/Application

Card Issuer

- Chip
- Operating System
- AID/Application
- Profiles

Card EFT Processor

- AID/Application
- Profiles



Managing the Key Partners

	Manufacturer	Personalization	EFT Processor
Chip	X	X	
Operating System	X	X	
AID/Applications	X	X	X
Profiles		X	X
CVM		X	X

When to Migrate to EMV

Reasons for waiting

- Cost increase to card program
- Availability of internal resources
- Availability of POS EMV-operable machines
- Timing of implementation – bottleneck

The cost of waiting

- Fraud finds the weakest points
- Added risk to card portfolio
- Market presence and consumer awareness



EMV Cardholder Communication and Education



Why is EMV Consumer Education and Communication Critical?

- Create a positive customer experience
- Demonstrate the financial institution's commitment to customer security and convenience
- Increase card activation and usage
- Reduce attrition caused by confusion and/or frustration with new EMV card
- Minimize impact to financial institution's internal resources
 - Turnkey deployment of multifaceted communication campaign
 - Comprehensive contact center services to manage increased consumer demand

EMV Migration Recommended Best Practices

Cardholder experience is critical to a successful transition to EMV



The elements of the cardholder experience focus on three key communication phases of EMV card issuance via a multichannel deployment including direct mail, contact center and digital.

- Communication **prior** to issuance
- Education at time of **issuance**
- **Ongoing** continual education



Your new card will contain an embedded micro-chip for added security

Q&A Wrap Up

Type your question in the questions panel 
Raise your hand to ask questions by phone 

Greg Kuyava
Senior Product Manager, Card Services

Presentation materials and video replay
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Thank you

