EMV Adoption

What does this mean to your ATMs?

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June 2013

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Today's Agenda

- EMV Overview
- Transaction Flow at the ATM
- Applications and AIDs
- What this means for ATMs
- CO-OP Readiness
- Developing an ATM roadmap for success

EMV
OVERVIEW

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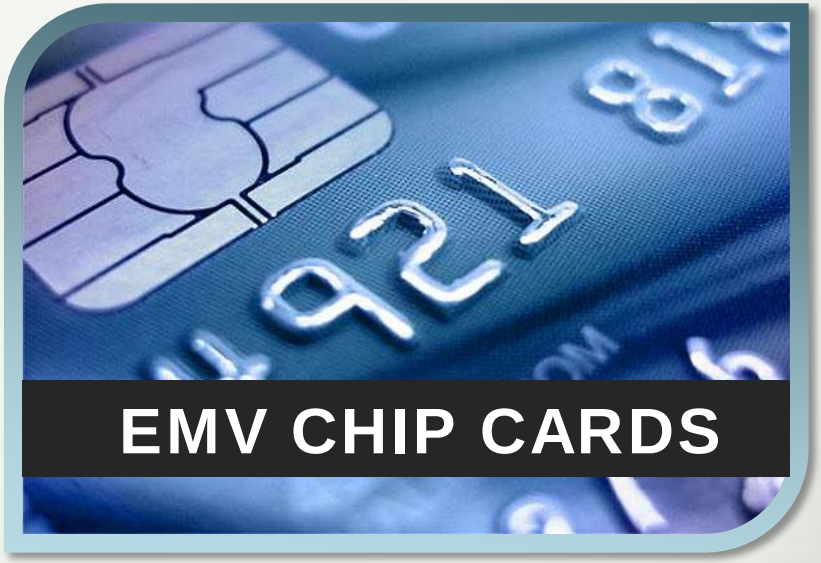
What is EMV?

- **The terms EMV and chip are used interchangeably**
  - EMV is the global specification which supports smart card/ terminal/processing interoperability
  - It is an open, industry-wide specification, developed in 1994 by Europay, MasterCard, and Visa
  - Maintained by EMVCo LLC

- **EMV provides strong security features not possible with traditional magnetic stripe cards**



What is a chip card?

- A chip card has a **magnetic stripe** and a small **microprocessor** embedded into it

- The chip contains an **operating system** and one or more applications

- The microprocessor and contact plate are mounted **on the front** of the card

The microchip is encrypted, which means that it is extremely difficult to copy or counterfeit

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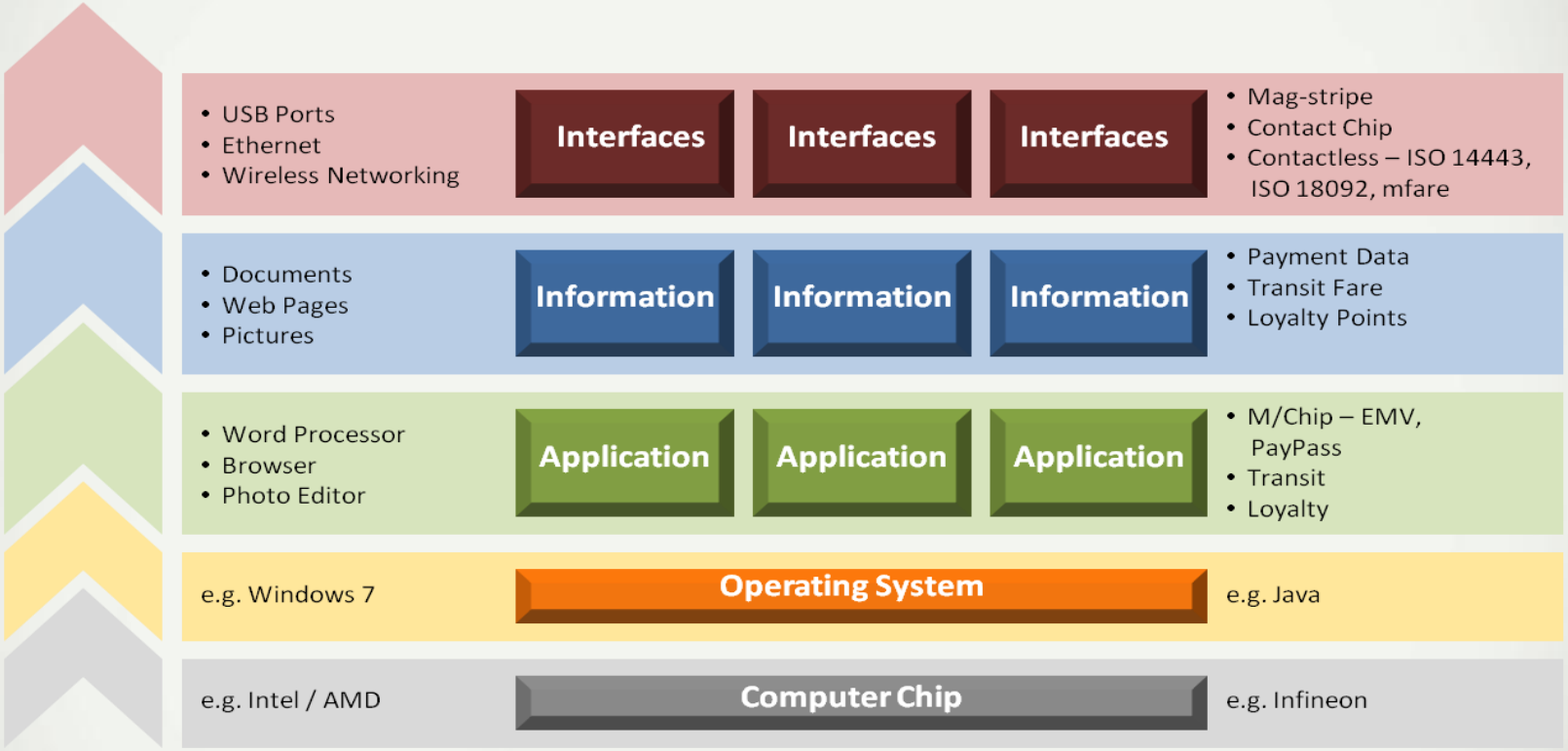
How does it work?

- Chip cards are miniature computers with an operating system and multiple interfaces and applications



In an EMV scenario, a cardholder inserts an EMV card into the reader

- The card and terminal enter into a dialog

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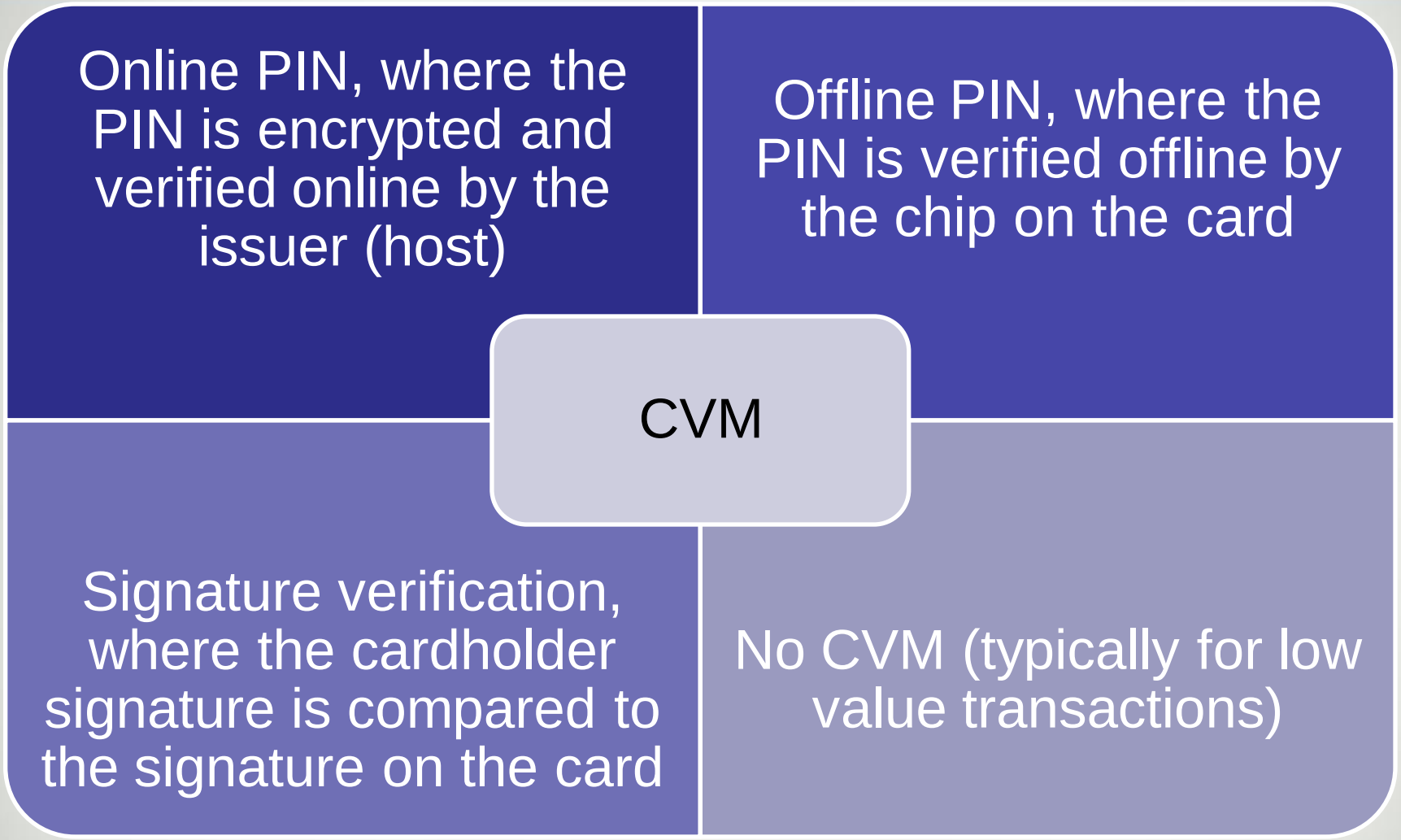
Cardholder Verification Methods



Online versus Offline

Offline means the terminal communicates with the chip embedded in the card versus the host

Online PIN, online authorization

- The terminal transmits the encrypted PIN (if applicable) and payment information to the host for authorization similar to the magnetic stripe process today.
- ATMs use this method

Offline PIN, online authorization

- PIN is validated offline, and the result is sent in the message with the payment data for online authorization

Offline PIN, offline authorization

- PIN and transaction are verified and authorized offline
- Card is synced with host the next time it goes online
- Typically only unattended terminals

EMV Transaction Flow

AT THE ATM

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Key Components

Contact Chip Card

EMV Enabled ATM Device
& Contact Chip Card Reader

Application

Host Processor

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Stepping Through an EMV Transaction

- **What does the ATM do?**

- Establish that the card has a chip
- Select the application

- Read all the data from the card
- Perform checking, verification, risk management

- Generate Application Cryptogram value
- Send this to the host

Stepping Through an EMV Transaction

- **What does the host do?**

- Validate cryptogram value
- Generate the response data (ARPC)

- Perform all the usual transaction authorization
- Sends the transaction to the issuer

- Send all this data back to the ATM

Stepping Through an EMV Transaction

- **And back to the ATM**
  - Performs the External Authenticate to check that the host is valid
  - Completes the transaction, final decision is taken decline or approve
  - Updates the ICC with Script data received by the host

Applications
AND AIDs

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EMV Applications and Routing

- EMV payment applications are **network specific**
- EMV deployment in the U.S. has **one application** on the card
- Group of 10 PIN Debit Networks forming **consortium** (SRPc) to have a common application and AID for all 10 networks
  - AFFN®
  - CO-OP Financial Services®
  - NETS®
  - PULSE®
  - SHAZAM®
  - ATH®
  - Jeanie®
  - NYCE®
  - Presto! ®
  - STAR®
- Supports **interoperability** among networks
- Leverages deployment of **D-Pass** (Discover application)

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ATM Impact

- ATM routing will go to the application loaded on the card and terminal
- On – Us transaction will *likely* still stay within the host network
- Other transactions will be routed to the network with the matching application
- So if the terminal has Visa and MasterCard applications only and the card has a Visa application plus the U.S. Common AID (SRPc), the match will be for the Visa application and the transaction will be routed to Visa

ATM Application Match

Card Applications

1) Visa (VSCD) ✓

2) ~~U.S. Common AID~~ (SRPc)

ATM Applications

1) Visa (VSCD) ✓

2) ~~MasterCard (Mchip)~~

Why a Common Solution is Important

- Preserves **credit union's routing choices**
- Preserves **network choice**
- **Simplifies** complexity
- Once implemented, makes it **more economically feasible** to move forward with EMV

Implications for ATM upgrades

- Deployment of the Common U.S. AID will take time
- Industry still working out details
- Budget now, but understand implications of going back to ATM twice to support the routing you want
- No mandates for acquirers
- But there is light at the end of the tunnel

What this means
FOR ATMS

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ATM Fraud and EMV

- ATMs are the most frequent targets of skimming attacks
- ATM skimming constitute 92 percent of ATM fraud losses annually
- High-tech skimming crime waned as Europe reached nearly full EMV compliance.

"The EMV rollout in Europe continues to be effective, although international losses are expected to continue while criminals are able to illegally withdraw cash from ATMs abroad that are not EMV compliant,"

Lachlan Gunn, *EAST director and coordinator*

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Liability Shifts for ATM Acquirers

– April 19, 2013

- For (cross-border) ATM Maestro transactions.

  ATM Acquirers will assume counterfeit fraud-related liability if a non-U.S. issued EMV card is used at a non-EMV enabled ATM.

– October 2016

- Liability shift applies to all MasterCard branded products across all transactions initiated at U.S. ATMs.

– October 2015

- Liability shift for counterfeit ATM fraud will be assessed to the party that did not enable the chip-to-chip (EMV) transaction

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Inter-Regional Maestro Liability Shifts

- With the migration to EMV technology, fraud liability for ATM transactions is shifting to non–chip-compliant parties per the expansion of the Inter-Regional Maestro ATM Chip Liability Shift Program in certain region

  - **Issuers assume counterfeit fraud related** liability if a **non-chip card is** used at a chip-compliant ATM (hybrid or magnetic-stripe reading) terminal.

  - **Acquirers assume counterfeit fraud related** liability if a chip card is used at a **non-chip-compliant ATM (magnetic stripe** reading only) terminal.

MasterCard Fraud Rules

- Protect ATM transactions from fraud until ATMs are chip-compliant
  - Effective April 19, 2013
- Provides risk assessment and decisioning of inter-regional Maestro ATM transactions at non chip-compliant ATM terminals
- Enables MasterCard to evaluate and decision ATM transactions for fraud risk on a temporary basis until acquiring ATM terminals are upgraded for EMV technology

ATM Acquirer Participation

- **Optional participation**
  - For acquirers whose ATM terminals have not yet been upgraded for EMV technology
- **Automatic enrollment**
  - Acquirers do not need to do anything to participate. Contact MasterCard to opt-out
- **No incremental fee**
  - This is a free service provided by MasterCard

Financial Considerations

- Potential hardware and software upgrades or replacements
- Minimum ATM requirements for EMV
  - Integrated Chip Card Reader (ICC)
  - Application software
    - EMV Kernel
    - Supported Application IDs (AID)
- Other technology considerations

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Member Experience

- Understand EMV impact on the member experience
- Chip card must be in contact with the card reader throughout the entire transactions
- Different contact card reader styles
  - Motorized/insert
  - Dip
- Motorized/insert smart card reader
  - Operationally, no difference in functionality and experience from an insert card reader

Member Experience

- **Dip smart card reader**
  - **Card Read on Removal**
    - Insert & Remove Card
    - If magnetic stripe, continue as normal
    - If chip, customer is prompted to insert the card for the full lifecycle of the transaction
    - Animation displays and gates lock on card
  - **Card Read on Insert**
    - Insert and gates will close and lock on card
    - If magnetic stripe, gates release and cardholder is prompted to enter PIN
    - If chip, gates remain locked throughout the full lifecycle of the transaction

Education and Training

- ATMs are designed for use in a completely unattended environment and therefore present unique member experience and education challenges
- Develop strategies and best practices to implement and ensure consistent member experience
  - Potential challenges of implementing EMV with DIP card readers
- Develop best practices in EMV implementation that provide the best member experience for both EMV and Magstripe cardholders
  - Messaging and signage
  - Member communication
  - Staff Training

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READINESS

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CO-OP Readiness

CO-OP Phase 1

MasterCard Application for Maestro only

NCR EDGE loads

Diebold Agilis loads

Target – August 2013

CO-OP Phase 2

- Other ATM types and loads
- Target Q4-2013

Future Phases (2014 – 2015)

- Support all MasterCard Brands
- Visa Support
- D-PAS Support
- AMEX Support

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CO-OP EMV Support

ATM Manufacturer	Hardware Supported	Software Version	Kernel Version	Target Availability
DIEBOLD	Opteva ATMs	Agilis 2.4 (Windows XP)	EMV Kernel 5.0	July 2013
		Agilis 3.0 (Windows XP/7)		TBD
NCR	Self Serv and Personas ATMs except 56XX, 530X, 50XX, 5840, 5888 and 5870 are not upgradable	Edge 4.0 (Windows XP)	EMV Kernel 6.0	August 2013
		Edge 5.0 (Windows 7)		TBD
		AANDC 3.04.20	EMV Kernel 3.0	
WINCOR NIXDORF	Procash ATMs	Proflex 3.0 (Windows XP/7)	EMV Kernel 3.0	TBD
Triton	All models including the 9100, 8100, 9600, 9700, RL/FT/RT series (except for Mako and 9500)	V3.2		TBD
NAUTILUS HYOSUNG	All FI ATM models including 7700, 7600, 5300 and 5600 series machines	MoniPlus 02.03	EMV Kernel	TBD

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Developing an ATM
ROADMAP FOR SUCCESS

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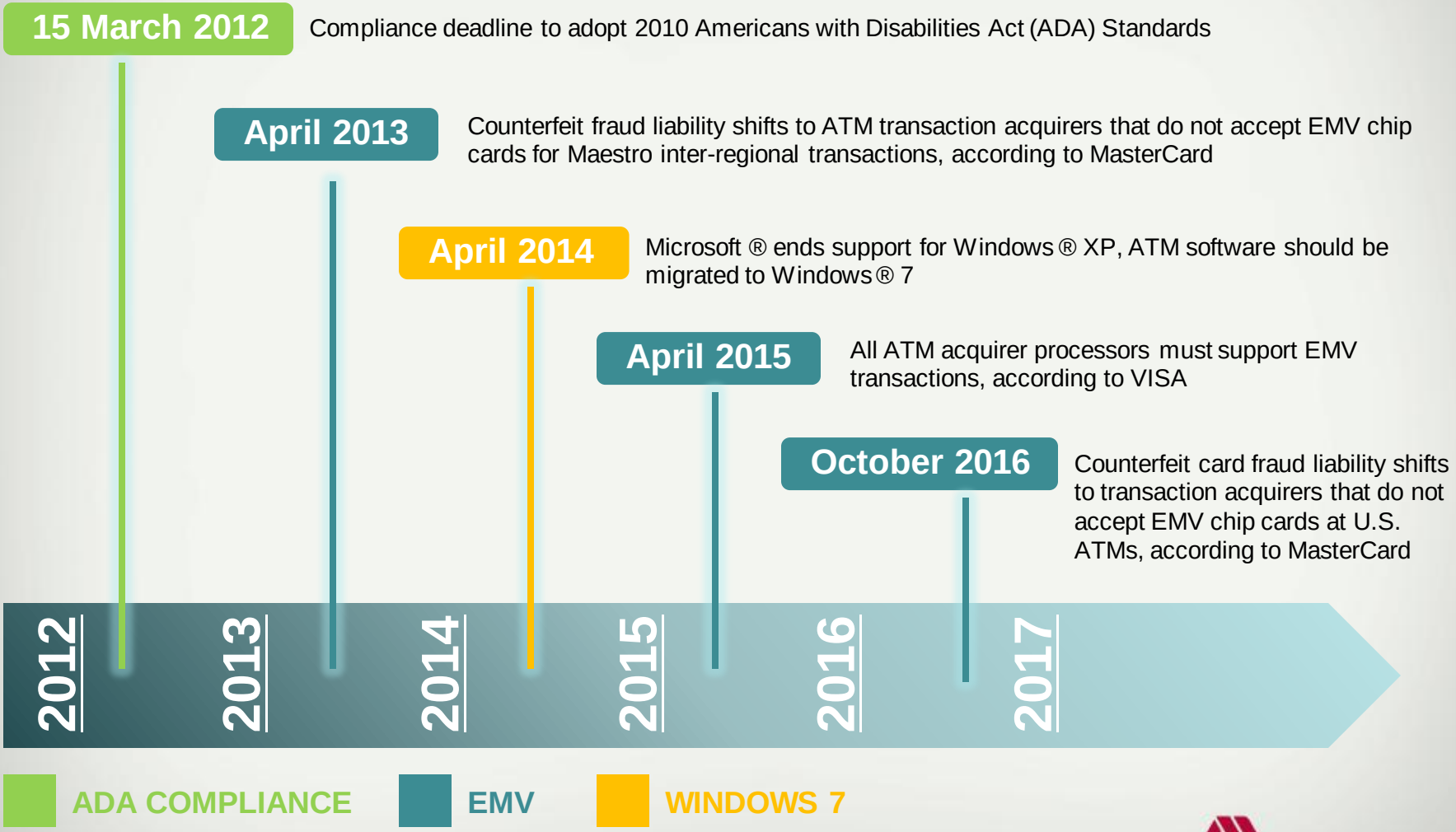
Implementation Considerations

- Define what is driving your EMV at the ATM program
  - Business objectives
  - Scope of the project
  - Risk assessment
  - Hardware & software evaluation
  - Project team and resources
- Budget planning
  - Depends on the scope of the project
  - Hardware and software upgrades/replacements
  - Staffing, training, testing, etc.
- Work with vendor partners and colleagues and understand their timelines and roadmaps
  - Stay proactive and stay informed

Develop an ATM Roadmap



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Next Steps for Your Credit Union

- Engage directly with your ATM vendor providers or local sales representative to assist with performing an inventory of your ATM hardware and software
- Understand your risk exposure for International Maestro transactions at the ATM
- Implement a migration plan that documents your strategy to support the EMV requirements and other technology upgrades
  - Budget
  - Roadmaps
  - Migration schedule
- When you are ready, submit an work order request via the CO-OP website Extranet or Pricing Request

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CO-OP Support and Resources

- Leadership
  - Active participation in EMV industry groups, such as the SRPc
- Business Case Support
  - Estimates of migration today $25,000 – $60,0000 and up
- Next Phases in 2013 – 2014
  - U.S. debit application support
  - Offline Visa and MasterCard support
  - Falcon integration
  - Credit Card
  - Continued ATM certifications
- Timing dependent on industry actions

More resources at www.co-opfs.org/emv

Visit the CO-OP EMV Resource Center (www.co-opfs.org/emv) for up-to-date information

- ✓ **White Papers**
- ✓ **Blogs**
- ✓ **Ask the Expert**
- ✓ **Links to other resources**
- ✓ **Webinars** – download the slides or listen to the recording from the first in our series of EMV webinars. Today's webinar will be made available in the same location.

Slides

EMV Webinar Recording

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QUESTIONS?

More resources available at the
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