

EMV – Beyond October 1, 2015

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Housekeeping

This webinar is being recorded (posted in about 10 days)

- YouTube (youtube.com/conexxusonline)
- Website Link (conexxus.org)

Slide Deck

- Survey Link – Presentation provided at end

Participants

- Ask questions via webinar interface
- Please, no vendor specific questions

Email: info@conexxus.org

About Conexus

**We are an independent & non-profit
Volunteers**

We set standards...

Data exchange, Security, Payments

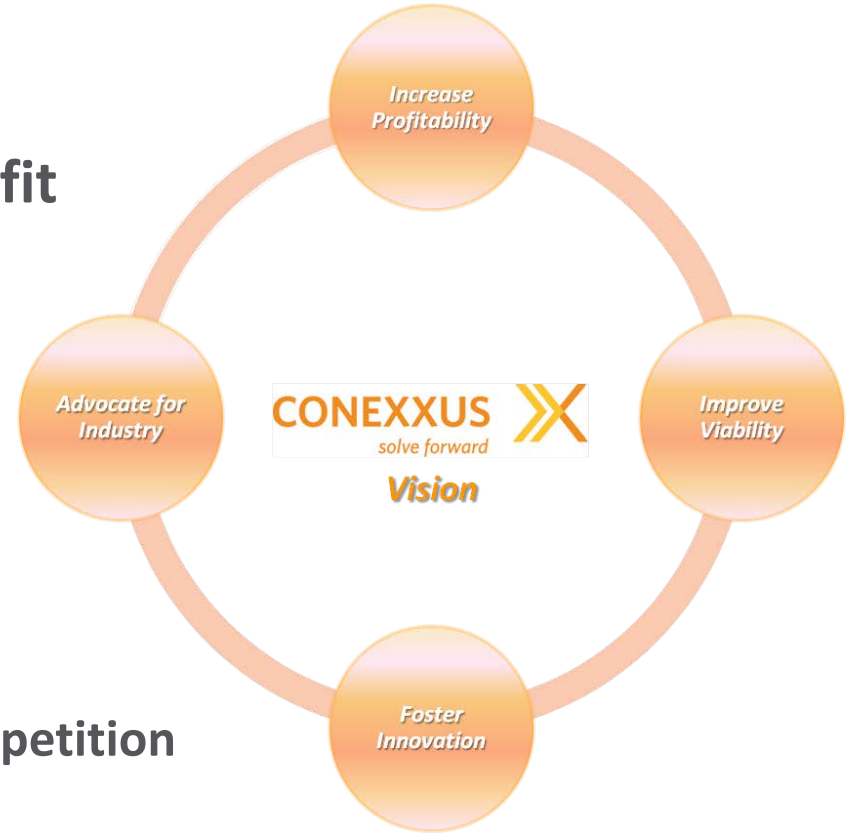
We provide clarity

Identify and Educate
Emerging tech/trends

We advocate for our industry

Open standards, innovation and competition

We improve profitability



2016 Conexxus Annual Conference



May 1 – 5
Loews Ventana Canyon
Tucson, AZ

Registration is open

Conexxus.org/AnnualConference

Conexus Data Security Standards Committee



Agenda

- EMV overview
- Timelines
- EMV numbers
- Considerations
- Liability shift



What EMV is...

EMVCo

Owned & operated by



Improved security

=

Decreased fraud



**Global payment
standard**

=

**consistent experience
worldwide**



**Building block
for**

future technology



What EMV is not...

EMV **≠** Mandated / required

Merchant choice to implement!

EMV **≠** Protection against all chargebacks

Liability shift is for counterfeit & lost/stolen only.

EMV **≠** Secure cardholder data

EMV does not protect or encrypt card numbers.

EMV **≠** PCI DSS

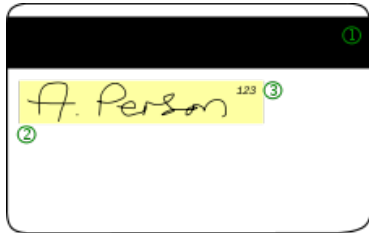
EMV protects against fraud, PCI focuses on security of sensitive data.

Why EMV?

- It is all about the Chip
- The chip contains a micro-processor that will generate dynamic data for each transaction
- Makes it harder and more expensive to steal & copy data on the card
- The chip is harder to steal & duplicate than mag stripe data



EMV CARD



SMART CARD



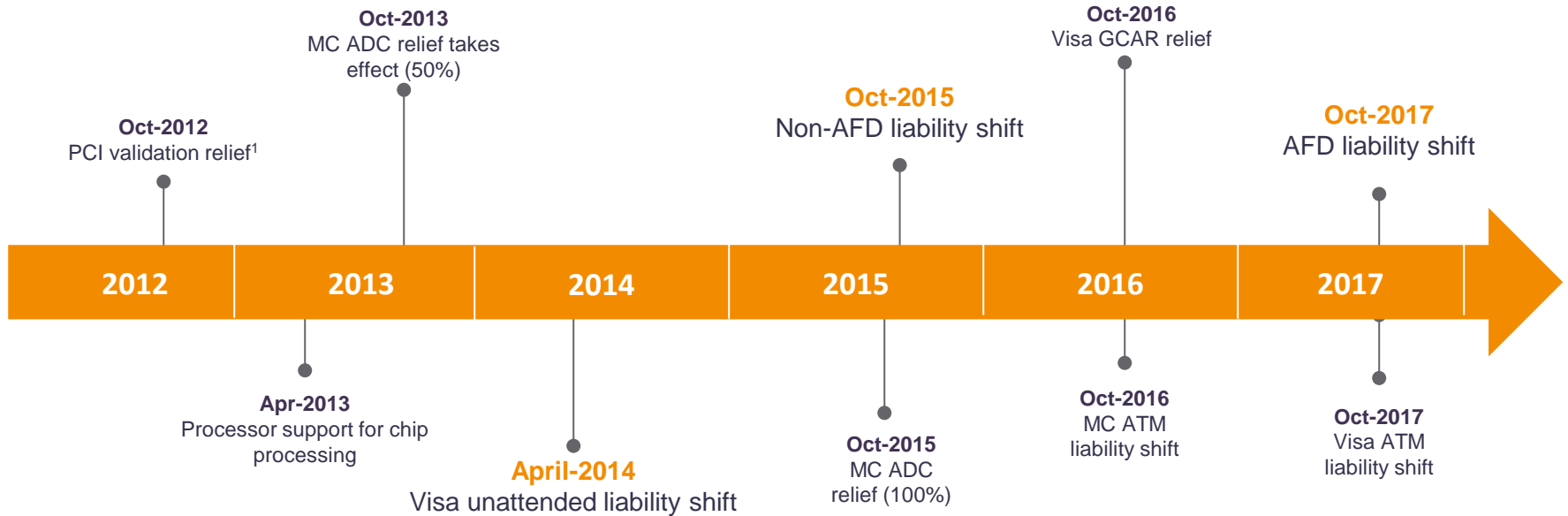
CHIP CARD



CHIP & PIN

CHIP & SIGNATURE

U.S. EMV Timelines



AFD: Automated Fuel Dispenser

Visa GCAR: Global Compromised Account Recovery

MasterCard ADC: Account Data Compromise

¹ Applies to Level 1 & Level 2 merchants where 75% of transactions come from a dual interface, chip-enabled, terminal

EMV: The Numbers

- MasterCard¹:

- 30% U.S. issued MasterCards are chip cards
 - 54% of these are credit cards
- Chip transactions at POS increased 55% Nov 2015 versus Oct 2015
- 809,417 chip active POS locations
 - 20% growth month over month
 - 65% of merchants have multiple locations

- Visa²:

- 212.7 million EMV chip cards issued
- 9% increase from Nov 2015 to Dec 2015
- 118 million EMV credit cards issued
- 94.8 million EMV debit cards issued
- 766k EMV chip activated merchants
 - 11% increase Nov - Dec

1:MasterCard Chip Cards US Migration Trends Nov 2015

2:Visa US EMV Migration Summary December 2015

EMV Acceptance

- Issuers:

- American Express
- Bank of America
- Hawaiian Airlines Visa
- Chase
- Citi
- HSBC
- North Carolina State Employees' Credit Union
- Sam's Club & WalMart MasterCard
- US Bank
- USAA
- Wells Fargo

- Merchants:

- Wal-Mart
- Sears
- Target
- CVS
- Walgreens
- Home Depot

And growing.....

POS Considerations

Supported Cardholder Verification Method (CVM)

- PIN
- Signature
- No Signature (such as implemented at a QSR; also called no CVM)

NFC / Contactless Support



- Is speed of service a need?
- Do you serve a demographic that is looking for mobile payments?

Cardholder Verification Methods (CVM)

Point of interaction can support variety of CVMs

CVM	Defined	Pro	Con
Online PIN	PIN is encrypted and verified online by the issuer, via the auth message	Security	Requires terminal support of PIN
Offline PIN	PIN verified offline by the terminal and card, without being sent in the auth message, only the result is sent to the host	Security	Requires terminal support of PIN and management of multiple keys
Signature	The signature on the receipt is compared to the signature on the back of the card	Simple to implement	Less secure than PIN
No CVM	No cardholder verification, generally used for low value transactions	Speed	Unable to use for larger value transactions

- Issuer decides which CVMs to support on the card

Authentication / Authorization Methods

EMV transactions can be authorized ONLINE vs OFFLINE

ONLINE	OFFLINE
Authorization message sent to issuer in real time for approval or decline	Chip on EMV card and POS communicate to determine if transaction can be authorized
Online, real time	Usually occurs when there is no online connectivity
Includes unique Cryptogram that issuer can validate	Uses risk parameters contained on the card in authorization decision

- An EMV card can support both online & offline

Contact or Contactless?

- Contact:
 - Insert the card
 - Card remains in terminal during transaction
- Contactless:
 - “Tap” card or device near the terminal
 - Allows for a faster transaction
 - Fewer cards left in terminals (short term concern)
 - Building block for mobile
 - More costly for issuers to support
 - Unknown how many cards will offer contactless support



Liability Shift

→ There is no mandate for merchants to implement EMV!



Liability Shift = Potential Chargebacks

*Generally liability is going to shift
to the party using the least secure technology¹*
















¹ Rules outlined are as of September 2015

Counterfeit Card Fraud Liability Shift

American Express, Discover, MasterCard & Visa

Before October 1, 2015	Current and October 2017 for AFDs
<p><u>Issuer</u> liable</p>	<p>For chip cards, <u>Merchant</u> liable if non-chip terminal</p>

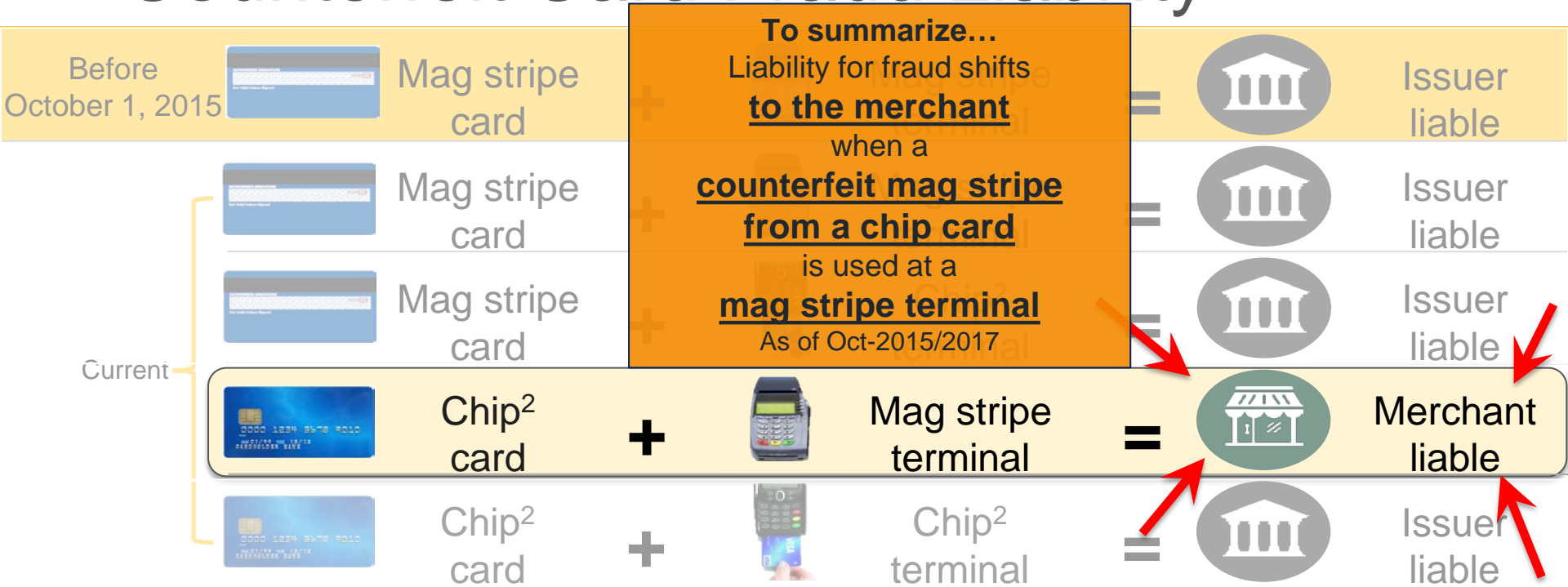
Counterfeit Card Fraud Liability¹

Before October 1, 2015		Mag stripe card	+		Mag stripe terminal	=		Issuer liable
Current		Mag stripe card	+		Mag stripe terminal	=		Issuer liable
		Mag stripe card	+		Chip ² terminal	=		Issuer liable
		Chip ² card	+		Mag stripe terminal	=		Merchant liable
		Chip ² card	+		Chip ² terminal	=		Issuer liable

¹Same applies for all brands

²With or without PIN capabilities

Counterfeit Card Fraud Liability¹



¹Same applies for all brands























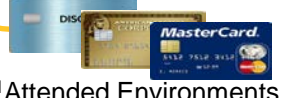


²With or without PIN capabilities

Lost / Stolen Fraud Liability Shift

American Express, Discover & MasterCard












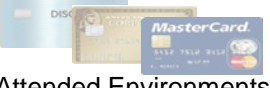


Attended / Unattended	Before October 1, 2015	Current and October 2017 for AFD
Attended	<u>Issuer</u> liable	For chip cards, <u>Merchant</u> liable, If terminal is less secure (CVM hierarchy applies)
Unattended	<u>Merchant</u> liable	

Lost / Stolen Fraud Liability: American Express, Discover & MasterCard¹

Before October 1, 2015		Mag stripe card	+		Mag stripe terminal	=		Issuer liable
		Mag stripe card	+		Mag stripe terminal	=		Issuer liable
		Mag stripe card	+		Chip terminal	=		Issuer liable
		Chip & PIN card	+		Mag stripe terminal	=		Merchant liable
		Chip & Sig card	+		Mag stripe terminal	=		Issuer liable
		Chip & Sig card	+		Chip & PIN terminal	=		Issuer liable
		Chip & PIN card	+		Chip & Sig terminal	=		Merchant liable
Current		Chip & PIN card	+		Chip & PIN terminal	=		Issuer liable

¹Attended Environments























Lost / Stolen Fraud Liability: American Express, Discover & MasterCard¹

	Before October 1, 2015		Mag stripe card	+		Mag stripe terminal			
	Current		Mag stripe card	+		Mag stripe terminal			
			Mag stripe card	+		Chip terminal			
			Chip & PIN card	+		Mag stripe terminal	=		Merchant liable
			Chip & Sig card	+		Mag stripe terminal	=		Issuer liable
			Chip & Sig card	+		Chip & PIN terminal	=		Issuer liable
		Chip & PIN card	+		Chip & Sig terminal	=		Merchant liable	
		Chip & PIN card	+		Chip & PIN terminal	=		Issuer liable	

To summarize...
Liability shifts
to the merchant
when a
lost or stolen chip & PIN card
Is used at a
less secure terminal
As of Oct-2015

¹Attended Environments
Conexus: EMV – Beyond October 1, 2015
(presented by Heartland)




















Lost / Stolen Fraud Liability: American Express/Discover/MasterCard Unattended¹ (AFD)

Before October 1, 2015		Mag stripe card	+		Mag stripe terminal	=		Merchant liable
 <p>Current unattended & after 10/2017 for AFD</p>		Mag stripe card	+		Mag stripe terminal	=		Merchant liable
		Mag stripe card	+		Chip terminal	=		Issuer liable
		Chip card	+		Mag stripe terminal	=		Merchant liable
		Chip & Sig card	+		Chip & PIN terminal	=		Issuer liable
		Chip & PIN card	+		Chip & no-PIN terminal	=		Merchant liable
		Chip & PIN card	+		Chip & PIN terminal	=		Issuer liable

¹Unattended includes car washes, vending, laundry, etc.

Lost / Stolen Fraud Liability: American Express/Discover/MasterCard U

To summarize...
Liability for fraud shifts
to the issuer
when a
lost or stolen card
is used at a
more secure AFD terminal
after Oct-2017

Before October 1, 2015		Mag stripe card	+		Mag stripe terminal		
Current unattended & after 10/2017 for AFD		Mag stripe card	+		Mag stripe terminal		
		Mag stripe card	+		Chip terminal	=	 Issuer liable
		Chip card	+		Mag stripe terminal	=	 Merchant liable
		Chip & Sig card	+		Chip & PIN terminal	=	 Issuer liable
		Chip & PIN card	+		Chip & no-PIN terminal	=	 Merchant liable
		Chip & PIN card	+		Chip & PIN terminal	=	 Issuer liable



Current unattended
& after 10/2017 for
AFD


























¹Unattended includes car washes, vending, laundry, etc.

Lost / Stolen Fraud Liability Shift















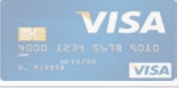





	Before Apr-2014	Current
Attended	<u>Issuer</u> liable	No Change
Unattended	<u>Merchant</u> liable	For chip cards, <u>Issuer</u> liable, If chip terminal

A variety of factors play into liability, such as if the full track data was provided, but for simplicity purposes using the current general scenario

Lost / Stolen Fraud Liability: Visa – Attended Environment

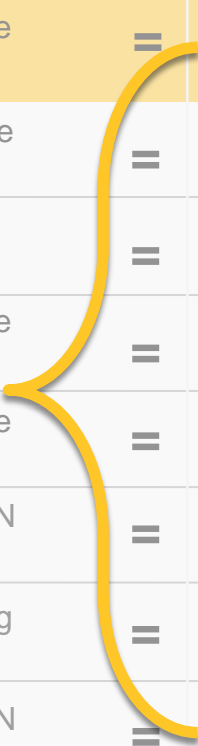
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Lost / Stolen Fraud Liability: Visa – Attended Environment
















Before October 1, 2015		Mag stripe card	+		Mag stripe terminal	=		Issuer liable
Current		Mag stripe card	+		Mag stripe terminal	=		Issuer liable
		Mag stripe card			Chip & PIN terminal	=		Issuer liable
		Chip & PIN card			Mag stripe terminal	=		Issuer liable
		Chip & Sig card			Mag stripe terminal	=		Issuer liable
		Chip & Sig card			Chip & PIN terminal	=		Issuer liable
		Chip & PIN card	+		Chip & Sig terminal	=		Issuer liable
		Chip & PIN card	+		Chip & PIN terminal	=		Issuer liable



**To summarize...
The merchant is
never liable
for
lost and stolen
card fraud**



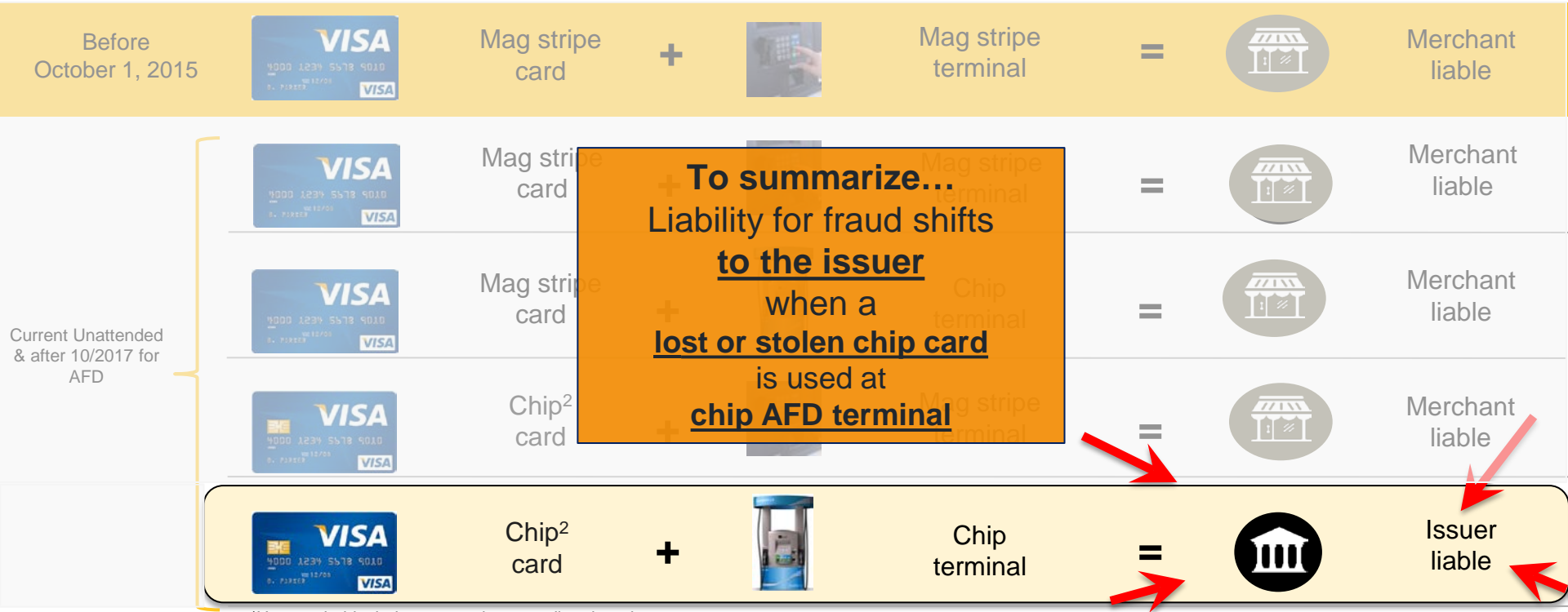
Lost / Stolen Liability: Visa – Unattended¹

Before October 1, 2015		Mag stripe card	+		Mag stripe terminal	=		Merchant liable
Current for unattended & after 10/2017 for AFD		Mag stripe card	+		Mag stripe terminal	=		Merchant liable
		Mag stripe card	+		Chip terminal	=		Merchant liable
		Chip ² card	+		Mag stripe terminal	=		Merchant liable
		Chip ² card	+		Chip terminal	=		Issuer liable

¹Unattended includes car washes, vending, laundry, etc.

²With or without PIN capabilities

Lost / Stolen Liability: Visa - Unattended¹



¹Unattended includes car washes, vending, laundry, etc.

²With or without PIN capabilities

Terminal Certification

- Non-EMV process
 - Certification between equipment provider & processor
- EMV process
 - EMVCo Level 1 Type Approval and Level 2 Approval
 - Only valid for 4 years
 - E2E certification between equipment provider, processor and each card brand
 - Expect significant impact to time & cost



EMV +PLUS

EMV

Chip based authentication is used to eliminate counterfeit, lost and stolen fraud.

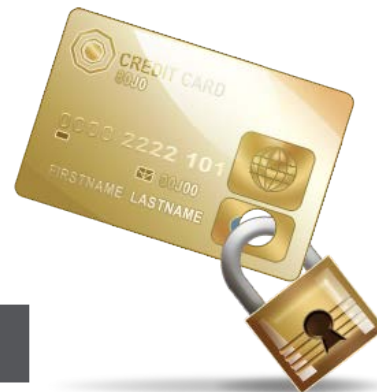


Token

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+Encryption

End-to-end encryption is used to protect sensitive card data in transit.



+Tokenization

Tokenization replaces sensitive card data with “tokens”, which have limited value.

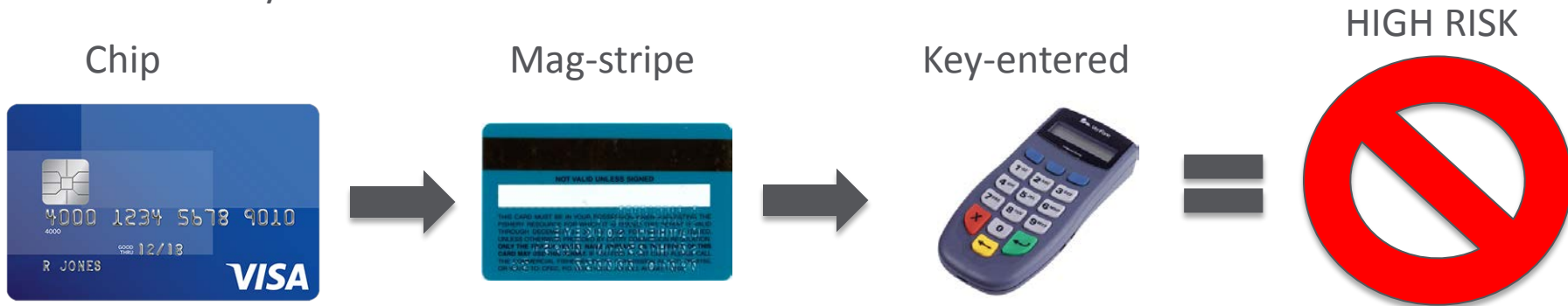
Process Adjustments

- Staff training
- Customer Verification Method
 - Do you need a customer facing PIN pad?
- Cardholder training
 - Tap, swipe, or insert?
 - Forgotten cards – terminal message and beep
 - Consumer confusion and mistrust
- Additional timer per transaction
 - Perception is that it takes longer



Fallback

- Problem with chip cards or POS terminal that results in transaction being completed with a magnetic stripe
- Issuers and card brands monitoring – may lead to fines
- Issuers may start to decline



EMV: In Discussion

- Fleet and EMV
 - Visa and MasterCard Fleet
 - Wright Express
 - Voyager
- PIN Bypass
- End of life for mag-stripe

Next Steps

- Monitor industry news
- Seek education and updates from a trusted advisor...
 - Processor, acquirer
 - POS terminal / dispenser provider
 - Industry associations {Conexus, NACS, EMV Migration Forum (EMF)}
 - GoChipCard.com
- Evaluate existing environment
 - POS – can it be updated and the cost to do so?
 - Location
 - Chargeback ratios
 - Competitive landscape
- Consider budget





Questions?

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Heartland

CONEXXUS 
solve forward