

Industry Trends in Commercial Payments

Sept, 2015

Orson Morgan

Visa Inc.
Senior Account Executive
Commercial Specialized Sales

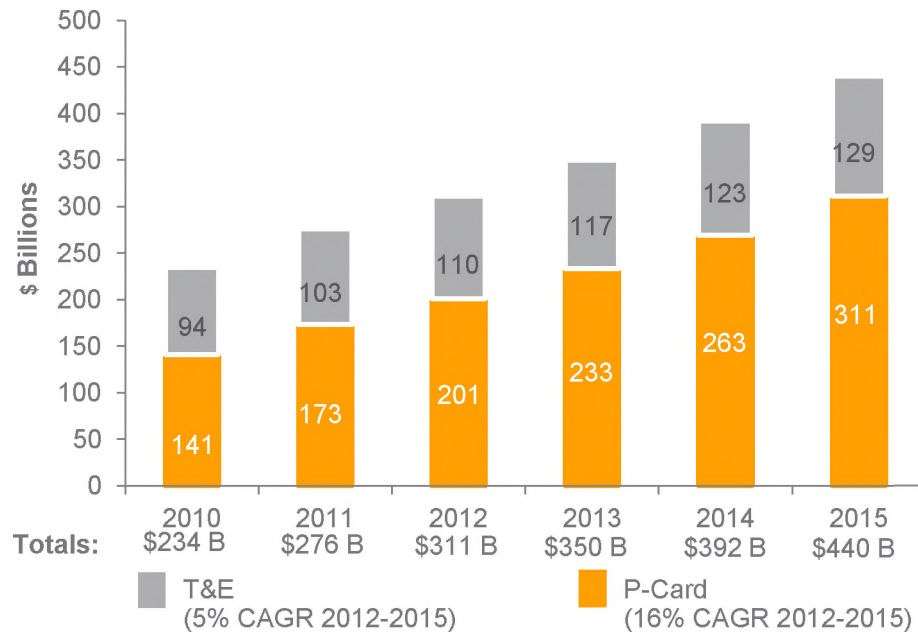


VISA

Payment Trends

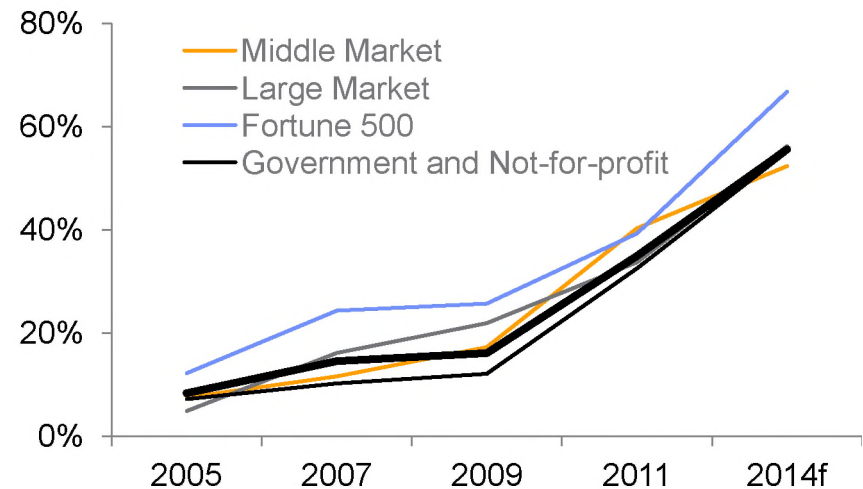
U.S. Growth Driven by Purchasing Cards

Commercial cards are expected to grow \$90B over the next 2 years with purchasing cards representing 87% of this jump. Virtual cards are the engine driving the P-card increase.



Source: 2013 US Commercial Card Update – Mercator Advisory Group

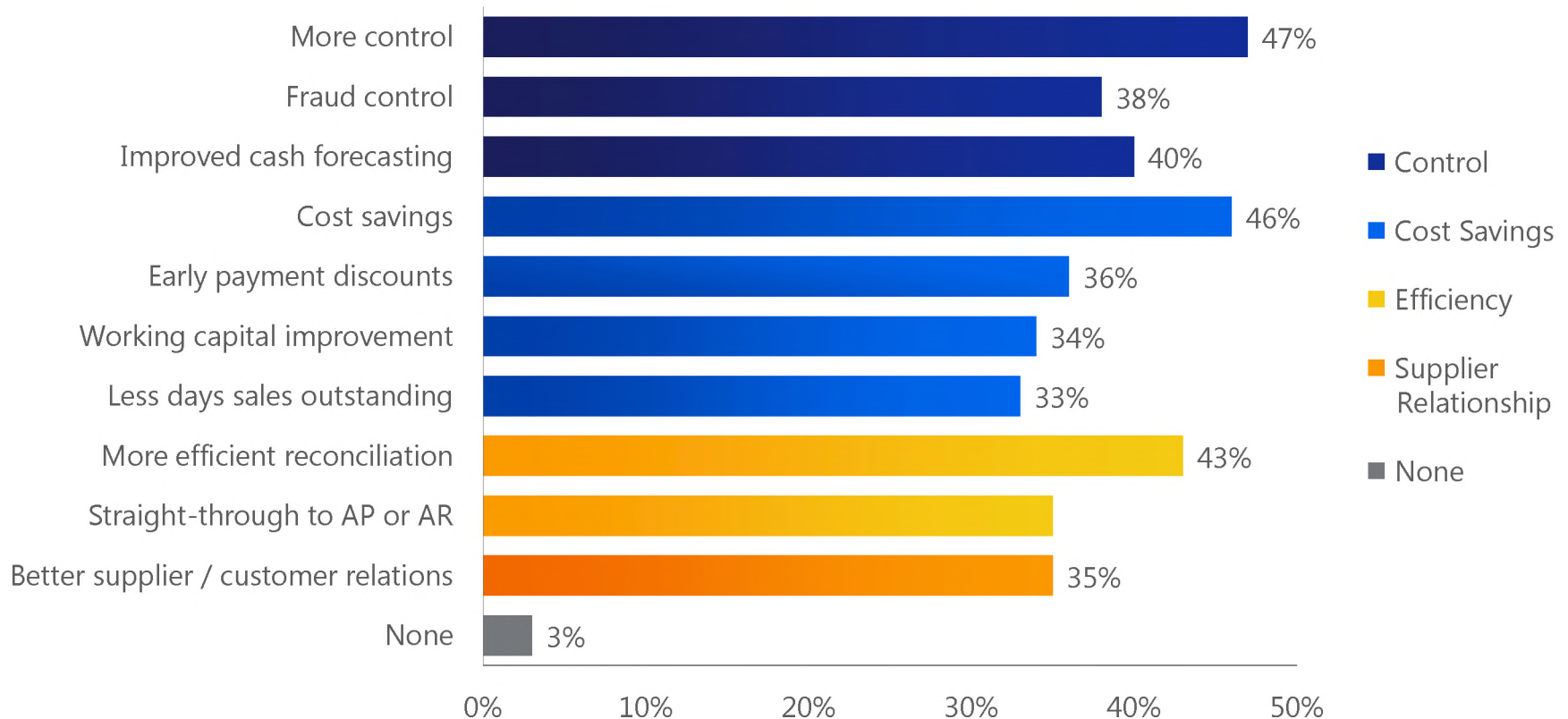
Percent of organizations using EAP¹ accounts



(1) EAP = Electronic Accounts Payable and represents virtual accounts of all flavors that run on card rails.
Source: 2012 RPMG Electronic Accounts Payable Benchmark Survey Results; n=4,375 survey respondents.

Why Are Organizations Automating Payments?

Organizations can achieve benefits from automating P2P
(e.g., improved control, efficiency, and supplier relationships)



For data on this page, at 90% confidence, a variance of 3% is needed to indicate a significant difference

Source: 2011 Visa Global Cash Management Survey: Q20. **What value do you see a card-based accounts payable automation solution providing?**

Sample: Mid and large companies

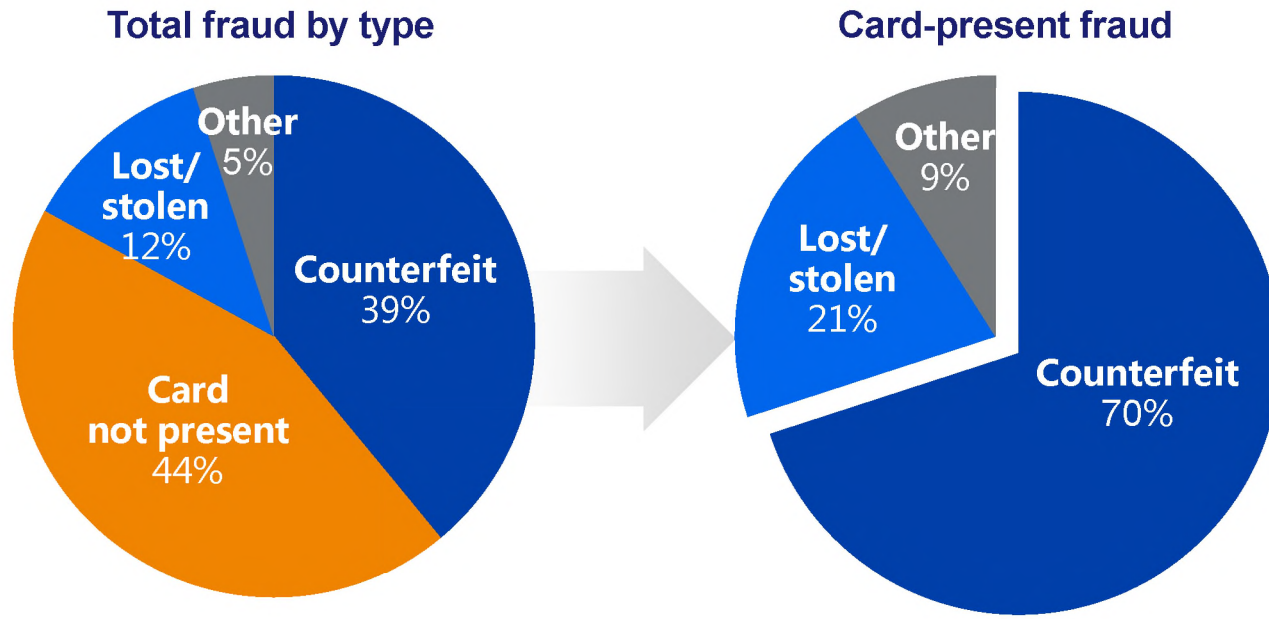
Visa Accounts Payable Automation Overview 2012

Fraud Awareness, Prevention and Mitigation

Fraud Landscape Today



Counterfeit fraud represents 70% of card-present fraud and grew 27% in 2014

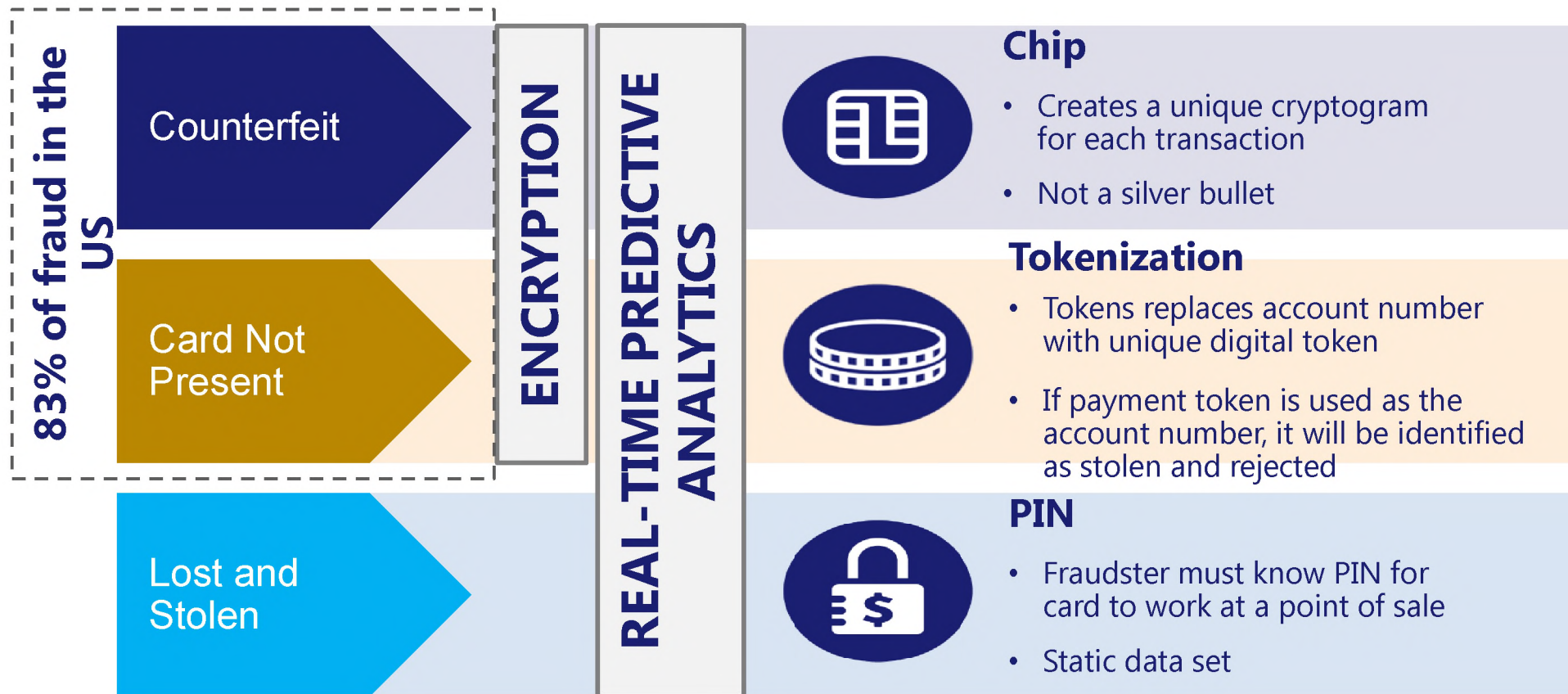


EMV chip will significantly reduce card-present counterfeit fraud

Source: Visa Fraud Reporting System (FRS) and Enterprise Data Warehouse (EDW); CY 2014; U.S. Issued / U.S. Acquired



Fighting Fraud With Layers of Security



Source: Visa Fraud Reporting System (FRS) and Enterprise Data Warehouse (EDW); CY 2013; U.S. domestic Visa debit and credit

How does EMV chip technology work?

Because the cryptogram changes with every transaction, even if the card data is stolen, the information can't be used to create counterfeit cards because the cryptogram would have already "expired"



4 0 0 0 1 2 3 4 5 6 7 ^ J O H N D O E ^ 0 1 2 0 1 2 ^ 1 0 1 ^ 2 1 7 ^ ...

Card number Name Expiry Service code CV (STATIC)



4 0 0 0 1 2 3 4 5 6 7 ^ J O H N D O E ^ 0 1 2 0 1 2 ^ 2 0 1 ^ 3 8 6 ^ 5 8 3 6 8 1 2 7 ^ ...

Card number Name Expiry Service code iCVV Cryptogram (DYNAMIC)



4 0 0 0 1 2 3 4 5 6 7 ^ J O H N D O E ^ 0 1 2 0 1 2 ^ 2 0 1 ^ 3 8 6 ^ 7 3 2 5 6 0 0 3 ^ ...

Card number Name Expiry Service code iCVV Cryptogram (DYNAMIC)

Tokenization

Mobile **NFC + Tokenization**

Key entered, Card
on File



- Token replaces static account numbers for use in specific domains
- Token may use EMV rails
 - EMV cryptography for card authentication and transaction security
 - NFC payment enabled

Card Not Present **Tokenization**

Key entered or Card
on File



- Token replaces static PAN for use in specific domains
- Enables refined risk management

U.S. EMV Migration – Client readiness report



Credit

- **141.9 million** EMV chip cards issued, **86.1 million of which are credit**
- The U.S. now has more chip cards than any other market in the world



Debit

- **55.7 million EMV debit cards issued**; a 21% increase from July to August
- **7% of ATMs** in the United States are capable of accepting chip transactions

U.S. EMV Chip Migration Forecast¹

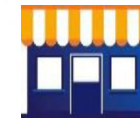
Credit cards	70%
Debit cards	41%
Activated terminals	47%

By the End of 2015



Acquirers / Terminals

- A few hundred EMV terminals are now capable of routing PIN debit EMV transactions **using the common debit AID**
- Domestic EMV PV increased 65% from \$2.1B in July to \$3.4B in August



Merchants

- **301 thousand** EMV chip activated merchant locations, a **2% increase** from July to August
- Wave 2 of the merchant EMV survey shows upward trends in all areas. According to the study 95% of merchants are aware of chip technology today

Sources: Current cards based on MARS data through August 31, 2015; credit / debit card forecast per Aite Report – EMV: Lessons Learned and the U.S. Outlook (June 2014); activated terminal forecast per Payment Security Taskforce Acquirer projections press release (October 2014) ¹Forecast based on information currently available to Visa. Actual results may vary significantly.

- http://visatv.trusted.visa.com/viewerportal/webcast/home.vp?programId=esc_program:7513&contentAssociationId=association:18347
- <https://www.youtube.com/watch?v=tUkdqDARuEU>
- <https://www.youtube.com/watch?v=Nw2iTbEptHI>

Fraud & Card Compromise Discussion

Bank of America
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Data compromises are constantly in the news



- **Sony Pictures**
100 terabytes of data
- **Home Depot**
56 MM customer records
- **JPMorgan Chase**
76 MM account holders
- **eBay**
145 MM user records
- **Target**
56 MM credit card records

Source:

<http://www.informationisbeautiful.net/visualizations/worlds-biggest-data-breaches-hacks/>

⁽¹⁾ Wall Street Journal : [White House Cybersecurity Event to Draw Top Tech, Wall Street Execs](#) (Feb. 11, 2015)

⁽²⁾ The Province: [Cyber Crime: Fake email from the boss is a popular fraud](#) (March 30, 2015)

⁽³⁾ CNN: [Insurance giant Anthem hit by massive data breach](#) (Feb. 6, 2015)

⁽⁴⁾ The Washington Times: [Despite evidence, FBI insists North Korea to blame for Sony hacking](#) (Dec. 30, 2014)

White House Cybersecurity Event to Draw Top Tech, Wall Street Execs¹

Obama convenes top executives, including Bank of America, to help improve information sharing as breaches get more sophisticated.

Our response...

- ✓ Identify potentially compromised cards
- ✓ Prioritize and replace compromised cards as needed to reduce payment fraud risk
- ✓ Work closely with impacted clients to streamline the replacement process
- ✓ Replace cards with Chip & PIN enabled cards whenever possible
- ✓ Remain up-to-date with industry trends and best practices as the fraud landscape evolves

#1

**FRAUD PROTECTION
AND IDENTITY
SAFETY**
CARD SOLUTIONS

Source: Javelin Strategy & Research, 2014



In advance of the October deadline to issue only Chip & PIN cards, fraudsters are **increasing attempts** and becoming **more aggressive**.



- ✓ Offer accurate contact information for your cardholders – including email address and phone number(s)
- ✓ Determine the best centralized replacement process for your company's needs
- ✓ Identify established pre-authorized debits to update with new account numbers

1 out of 3 companies were a target of cyber attack over the past 18 months

companies surveyed in 2015 AFP® Risk Survey

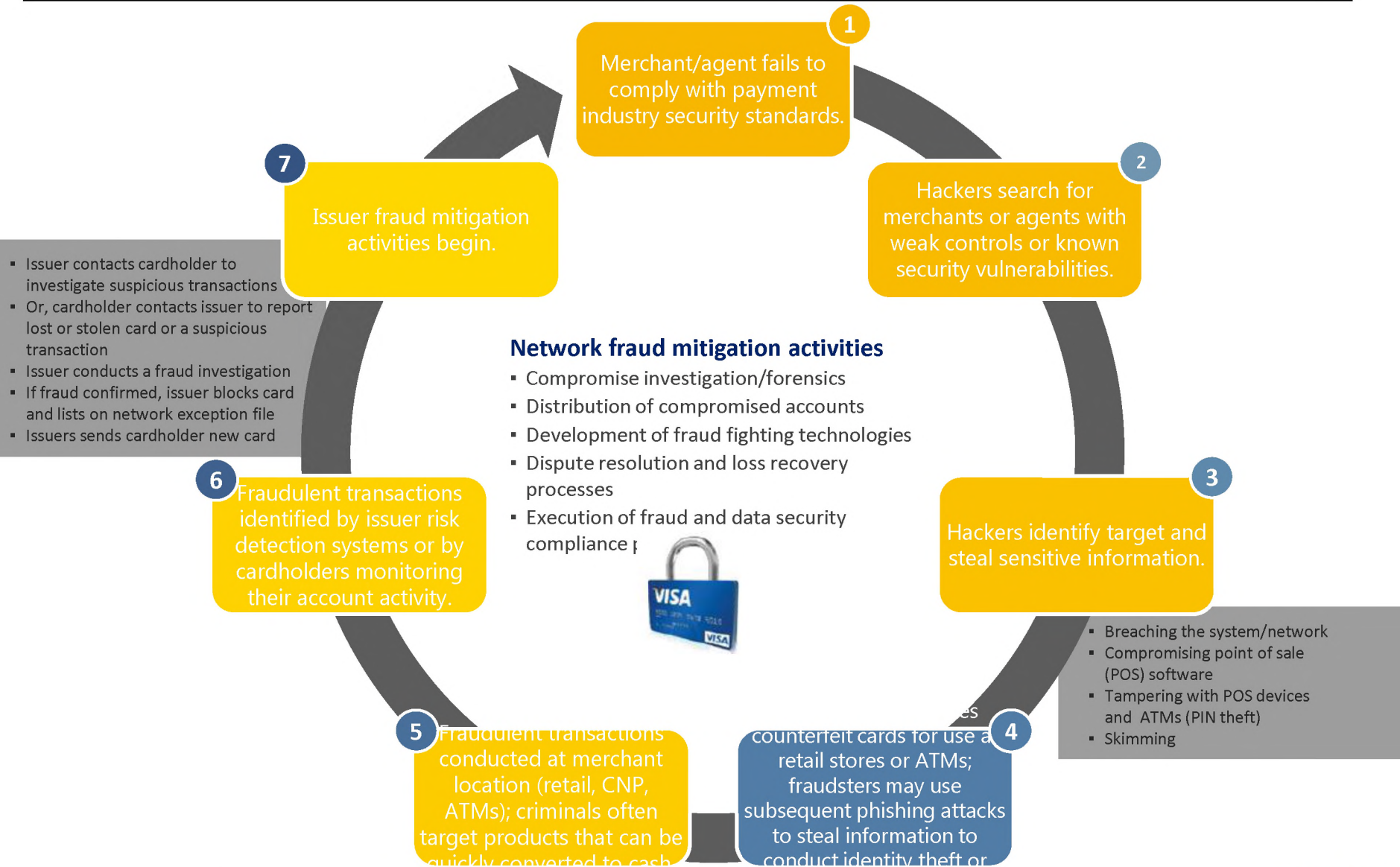
Managing fraud risk website



Bank experts and industry leaders share trends, tools and tactics for all business segments through video vignettes, case studies, podcasts, and featured white papers.

Learn more: [managing fraud risk website](#)

Typical data breach and fraud cycle



Common Causes of a Breach or Compromise

There are the three basic types of data security breaches that can lead to a data compromise:

Physical breach – theft of documents or equipment

Electronic breach – electronic breach of a system or network environment

Skimming – capture of card magnetic stripe data using an external device

Causes:

- Not changing the vendor-supplied password upon installation
- Trivial and common passwords for POS systems
- Outdated antivirus software definitions
- Phishing
- Use of vulnerable or non-compliant software
- Remote access to systems by third-party providers
- Not using 2 factor remote access
- Firewalls not properly configured

The Costs of a Data Compromise are High

- **Financial impact:** You may be subject to significant fines and losses arising from such fraud and from not properly protecting card account information
 - Potential for significant monetary losses related to a data compromise:
 - Card organization fines and assessments passed through to you
 - Fraud experienced on compromised cards
 - Other reimbursements for fraud losses
 - Forensics, card replacement, PCI non-compliant fines, etc.

- **Reputational impact:** Potentially more damaging than the financial impacts, public trust and confidence in your organization can be negatively impacted by this type of data security breach

Authorizations that need to be

- Outbound call to primary contact listed on account to verify activity
- If no answer, outbound call to secondary contact listed on the account
- If no answer at either telephone numbers or phone attempts can not be made, email sent to primary contacts to ask for a return call

Posted fraud charges that require an account

- Following fraud confirmation, the account will be closed and each transaction transferred to new account
- All transactions will appear on the new account number billing statement or your reporting tool
- Fraud will send a fraud statement to the Program Administrator or cardholder via email, fax or regular mail
- Program Administrator or cardholder may be asked to complete Fraud Affidavit to comply with VISA and MasterCard regulations
- Credits for individual fraud transactions will appear on new account for balance reconciliation
- Once the credit is applied to the account, the claim is resolved



Client action

Call the Fraud department at 866-500-8262 or collect 509-353-6656. The department is available 24/7 to assist with questions or verification.

Managing Fraud Risk

Fraudsters are increasingly targeting clients that conduct online business, employing sophisticated tools designed to compromise your system and surrender control of your computer.

DOCUMENT an action plan now

Develop a sound internal process for transactions using the highest industry standards. Communicate and enforce the plan across the organization.

Create a separate plan to respond to an information compromise event. Keep in mind that an information breach may impact treasury activities.

EDUCATE your team on best practices

Establish other communication channels such as telephone calls, to verify significant transactions.

Do not use the "reply" option to respond to an email with transaction activity or approvals for payments.

TAKE ACTION

To understand actions you can take to help your dealership reduce the risks associated with fraud, review [online security tips and best practices](#) to get started today.



Bank experts and industry leaders share trends, tools and tactics for all business segments through video vignettes, case studies, podcasts, and featured white papers.

Learn more: [managing fraud risk website](#)

Consider solutions to help reduce your exposure to fraud.

- **Account Reconciliation**
- **MCC Restrictions**
- **Transaction Limits**
- **Two Way Alerts (Q1, 2016)**

#1

FRAUD PROTECTION AND IDENTITY SAFETY

CARD SOLUTIONS

Source: Javelin Strategy & Research, 2014

#1

AMONG ONLINE BANKING SERVICES PEERS

Fraud prevention and monitoring
Security administration and compliance

Source: Greenwich Associates Online Services Benchmarking, 2014

Chip & PIN / EMV

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What is EMV chip technology?

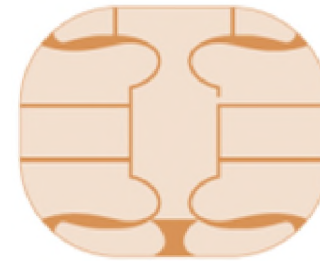
- Chip Technology allows data to be stored and processed in a microchip
- A chip has 3 key functions that help to create a more secure payment solution:
 - Data storage
 - Cardholder identification and authentication
 - Cryptographic processing
- EMV (Europay, MasterCard and Visa) is the global standard that defines how the chip card and terminal communicate



Magnetic stripe vs. chip technology



Magnetic stripe



Chip

- **Magnetic stripe technology:** the technology acts as a passive carrier of card data, which is read and used by terminals, according to the rules programmed into the merchant device.
 - The data is static and the card is passive in the transaction
 - Issue: while U.S. fraud rates are statistically low, static data can be more easily captured by fraudsters and then used in fraudulent transactions without being detected
- **Chip Technology:** a card with a chip can be configured to make authorization decisions, based on scenarios. For example low dollar, low risk transactions can be completed offline to increase acceptance
 - Security: chip transactions are uniquely encrypted 100% of the time

- US has 23% of card transactions, and over 47% of fraud, and growing
- Industry forecast is for slightly less than half of terminals EMV-enabled by Oct., 2015
- How card usage will work:
 - No chip card - use mag stripe like we do now
 - Chip card, but no chip terminal – use mag stripe like we do now
 - Chip card and chip terminal – use chip function with PIN
 - Chip terminals may be present, but not functional in short-term
- Chip & PIN / Chip & Signature
- PIN environment:
 - PIN mailers sent out separate from mailing of cards
 - Cardholders must know PIN number
 - PIN check website
 - PIN numbers currently cannot be changed – looking to a potential future enhancement to allow this
- Clients being converted in waves
 - Natural reissue / forced reissue
 - Impact with logos, custom cards, and line characters

Online PIN Check Cardholder Quick Reference Guide



You're never without your PIN.

As you travel, you will find that Chip and PIN terminals are becoming more common and require the use of a Chip and PIN enabled card. To complete a purchase at these terminals, you will need to enter a PIN rather than provide a signature. The chip supplements the magnetic stripe on the card, providing you with greater access to points of sale and improved acceptance around the globe.

It is important that you remember your PIN and do not share with others. You can retrieve a forgotten PIN online at any time by visiting www.baml.com/PINCheck after a one time registration. The instructions below will help you get started.

Cardholder Login Page

Cardholder Login Page

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Online PIN Check

Login to Online PIN Check

* User ID:

* Password:

LOGIN

[Forgot your Password?](#) [Register New User](#)

Enter user ID & password to login in if already a registered user.

Click "Register New User" link to register for first time user setup.

[Privacy & Security](#) [Settings for Optimal Performance](#)

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First Time Registration

You'll need to register before gaining full access to the PIN Check site and retrieving your PIN.

1. After clicking on the „Register New User“ link from the Login screen, enter your card Account Number and then click „Submit“.

The screenshot shows the 'Online PIN Check' page for Bank of America Merrill Lynch. It features a 'New User Registration' section with a form. The form has a label '* Account Number:' followed by a text input field. Below the input field are two buttons: 'SUBMIT' and 'CANCEL'. A blue arrow points from the input field to a callout box on the right that says 'Enter your account number without spaces.' At the bottom of the page, there are links for 'Privacy & Security' and 'Settings for Optimal Performance', and a copyright notice: '© 2012 Bank of America Corporation. All rights reserved.'

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Online PIN Check

New User Registration

* Account Number:

Enter your account number without spaces.

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2. After entering a valid Account Number, you'll be required to provide additional account information to complete your registration and then click "Submit".

Bank of America Merrill Lynch

Online PIN Check

New User Registration

* Account Number:

* Name on Card:

* Expiration Date:

* Zip Code:

* Security Code: ?

* Verification ID:

SUBMIT **CANCEL**

Security Code: 3 digits imprinted on the right hand side of the signature panel on the back of your card.

Verification ID (also known as Activation ID): A 9 to 15 digit code provided by your company's card program administrator during your card implementation. Contact your administrator if you've forgotten this number or call cardholder customer service at 1.888.449.2273.

[Privacy & Security](#) [Settings for Optimal Performance](#)

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- Next, you'll need to define your User ID, Password and select three security validation questions and answers. This information will be used to verify your identity. Once you have completed this section, click „Submit“.

The screenshot shows the 'New User Registration' form on the Bank of America Merrill Lynch 'Online PIN Check' page. The form includes fields for User ID, Password, Confirm Password, Email, and Confirm Email. Below these are three security validation questions, each with a dropdown menu for the question and text input fields for the answer and its confirmation. The questions are: 'What is your favorite sport or hobby?', 'Which city was your youngest brother born in?', and 'Who was your first babysitter?'. At the bottom of the form are 'SUBMIT' and 'CANCEL' buttons. The footer contains links for 'Privacy & Security' and 'Settings for Optimal Performance', and a copyright notice for 2012 Bank of America Corporation.

Bank of America Merrill Lynch Online PIN Check

New User Registration

* User ID:

* Password:

* Confirm Password:

* Email:

* Confirm Email:

Please select three security validation questions and enter your answer for each question. This information will be used to verify your identity.

Question 1:

* Answer 1:

* Confirm 1:

Question 2:

* Answer 2:

* Confirm 2:

Question 3:

* Answer 3:

* Confirm 3:

SUBMIT **CANCEL**

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- The final step in registering is to accept the Terms and Conditions.

Retrieving Your PIN

Retrieving Your PIN

Once your registration is confirmed, you will be able to view the navigation bar. Click on the „PIN Check“ tab to get started.

1. Enter your cards' security code and then click „Submit“.

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Welcome, **Jenn Shifflett** - [Log Out](#)
Your last log in was August 2, 2012, 1:13 PM CDT.

Online PIN Check

[PIN Check](#) [User Profile](#) [Contact Us](#)

Security Code Form

When you click on the below link, you will be transferred to the secure PIN site where your PIN will then be displayed one digit at a time. Please ensure that your screen cannot be viewed by anybody else as your PIN is displayed.

* Security Code: ?

SUBMIT

Security Code: 3 digits imprinted on the right hand side of the signature panel on the back of your card.

[User Guide](#) [Release Notes](#) [Privacy & Security](#) [Settings for Optimal Performance](#) [Bank of America](#)

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2. You will be transferred to the secure PIN site where your PIN will then be displayed one digit at a time. Please ensure that your screen cannot be viewed by anybody else as your PIN is displayed.

Bank of America Merrill Lynch

Welcome, ANGIE GRAHAM - Test - Log Out
Your last log in was August 1, 2012, 5:24 PM CDT.

Online PIN Check

PIN Check User Profile Contact Us

To view your PIN again, select the Back button and reenter your Security Code.

Online PIN Check

Your PIN is :

BACK

Your PIN is displayed one digit at a time. If you miss any of the numbers, you can hit the Back button on your browser to view your PIN again.

User Guide Release Notes Privacy & Security Settings for Optimal Performance Bank of America

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Cardholder Fulfilment Rebrand

Overview

September 2015

**Bank of America
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Overview

- The Bank of America Merrill Lynch Commercial Card organization is implementing exciting new changes to our U.S. Chip & PIN card fulfillment. Both changes are effective August 31, 2015 on a go-forward basis.



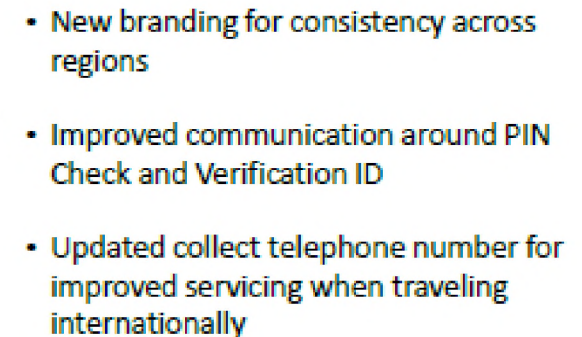
1. U.S. Chip Card Production

- All U.S. Chip & PIN cards are now produced at our internal production facility in the Dallas, TX area. This relocation provides a number of efficiencies, including the ability to send true overnight expedited cards when needed.
 - + Please note: all bulk card deliveries will now be sent via UPS rather than FedEx.

2. Rebranding Scope

- All cardholder materials have been rebranded, delivering an enhanced experience and global consistency.
 - + Card plastics and printed materials reflect updated branding.
 - + A newly-launched online Cardholder Reference Guide allows cardholders to obtain important program and contact information any time they need it by visiting www.baml.com/globalcardus.
 - + Given the ongoing conversion of the U.S. portfolio to Chip & PIN, magnetic stripe plastics and collateral will remain in their current branding.

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- QR code & URL directing cardholders to the online reference guide

- Reminds cardholders of the benefits of their card.
- Includes the URL and QR Code for the Cardholder Reference Guide.

- We will continue to print and insert this brochure until the U.S. market matures from an EMV standpoint.
- Utilizes most current branding elements and provides more concise direction around Chip terminal usage and OPC registration.

Bank of America Merrill Lynch

U.S. Cardholder Reference Site

- The U.S. Cardholder Reference Guide is a hosted PDF accessible at www.baml.com/globalcardUS
- The Guide provides cardholders with efficient access to all of their product information, including card activation and customer service contact detail.
 - Most of the collateral previously included in card packages is now delivered digitally in a downloadable and printable format, including the insurance T&Cs and the Cardholder Guide To Benefits details.^
 - Custom client inserts and account Agreement terms will continue to be printed and incorporated into our card fulfillment packages. They will not be hosted online.

U.S. Commercial Cardholder Reference Guide

U.S. CARD PRODUCT DETAILS

- [Commercial Card ▶](#)
- [Corporate Card ▶](#)
- [Purchasing Card ▶](#)
- [Executive Card ▶](#)

Welcome To the U.S. Commercial Card Reference Site

We appreciate your business as a Bank of America Merrill Lynch Cardholder. This online site will provide you with valuable user information any time you need it. We recommend you bookmark this site for ongoing reference to our most current contact information, benefits, Terms & Conditions¹, and more.

For specific card product information, please use the navigation bar on the left (based on product name on the front of your plastic).

Activating your Chip & PIN Card*

Before your card can be used, it must be activated by calling 888.645.2273. Please verify the name on your card is correct and sign the back like you do to destroy any old cards.

Bank of America Merrill Lynch Global Card Services

Our Global Card Services Team is available 24 hours a day to assist you with general program or card related questions, as well as problem solve with card activation, transaction or balance inquiries, lost/stolen cards or transaction disputes.

- Telephone: 888.645.2273
- Toll-free U.S., call collect at 802.297.9455
- Support is available in English, Spanish, and French

Note: Please make your account number, Verification ID² and statement approval code visible in all member prompts.

Important Notes & Disclaimers:

- Serve transactions may have multiple expiration or serial Cardholder benefits. For specific details about your organization's coverage, please consult your program administrator.
- Insurance benefits are provided by B.A.M. Dollar One Service Cards, A.B.C. Dollar One Service cards and the U.S. Small Business or International programs of the company that either maintains or has been assigned by contract to manage.
- Class grouping rules are subject to change without notice. City, LTR#, Issuer, Account Number & Global Card Services member card name.
- If you determine card usage is incorrect, you may cancel the card or request its card use be stopped on your behalf. The merchant(s) may require you complete your company's card payment acknowledgment. The ID registered domain by using Bank of America Merrill Lynch Global Card Line Item a 888.645.2273.

[Full Open Enrollment Disclosure](#) ©2011 Bank of America Corporation

[U.S. Cardholder Reference Guide | 1](#)

- http://visatv.trusted.visa.com/viewerportal/webcast/home.vp?programId=esc_program:7513&contentAssociationId=association:18347
- <https://www.youtube.com/watch?v=tUkdqDARuEU>
- <https://www.youtube.com/watch?v=Nw2iTbEptHI>