Securing the Growth of Payments

Darren Muise
Head of Commercial Sales, Bank of America
Visa Inc.
Securing our growth requires us to balance convenience and security.
The amount of data is enormous and growing

<table>
<thead>
<tr>
<th>Platform</th>
<th>Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>204,166,667 messages</td>
</tr>
<tr>
<td>Google</td>
<td>2,000,000 search queries</td>
</tr>
<tr>
<td>Facebook</td>
<td>684,478 posts</td>
</tr>
<tr>
<td>Twitter</td>
<td>100,000 tweets</td>
</tr>
<tr>
<td></td>
<td>644,444 phishing emails sent</td>
</tr>
</tbody>
</table>

Source: [www.domo.com](http://www.domo.com), [www.phishing.org](http://www.phishing.org)
What’s driving the massive data creation?

**In 2015....**
4.9 billion connected devices

**In 2020....**
25 billion connected devices

Source: Gartner
More sophisticated devices deliver more valuable data to the criminal

- In-store fraud
- E-commerce fraud
- Identity theft

1.9 million records stolen every day

53% involved identities

Source: Gemalto 2015 Data Breaches Report
Breaches and fraud cost time and resources and can have a serious impact on business performance.

- **3 days** for attackers to gain access
- **146 days** to detect the average breach
- **$3.5 million** average cost of a breach

Over last 60 years, global fraud has declined

Data compromises and the resulting fraud threaten that trend
Fraud Landscape Today

Relative to overall payment volume growth, lost/stolen fraud has dropped by 5%, while counterfeit fraud has increased by 15% from 2013 to 2014

Source: Visa Fraud Reporting System (FRS); CY 2014; US Domestic Card Present Fraud as of April 15, 2015

EMV chip will significantly reduce card-present counterfeit fraud
Keeping Things in Perspective

*Research indicates that card-based payments are the most secure of common payment methods*

<table>
<thead>
<tr>
<th>Payment Method</th>
<th>% Organizations Reporting Fraud</th>
<th>Average Fraud $ per Incident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check</td>
<td>85%</td>
<td>$1,221</td>
</tr>
<tr>
<td>ACH</td>
<td>26%</td>
<td>$730</td>
</tr>
<tr>
<td>Commercial Card*</td>
<td>20%</td>
<td>$130</td>
</tr>
</tbody>
</table>

*Overall fraud rates average <7 basis points (internal, external, misuse)*

Source: RPMG, PayTech 2014
Compromise Events by Market Segment

- Restaurants and retailers are leading market segments for 2015
- Lodging incidents have increased over the past two years
- Integrators and resellers implementing insecure remote access and poor credential management
North America largest source of fraud activity

N.A Data Breaches
- 73% of global compromise events
- 913 reported breaches
- 91% of compromise events at brick-and-mortar stores

% Fraud Amount YE 4Q15

CANADA
- 6% YoY growth 17.3 bps

US
- 61% YoY growth 14.5 bps

LAC
- 9% YoY growth 15.7 bps

Europe
- 18% YoY growth 6.4 bps

CEMEA
- 1% YoY growth 3.2 bps

AP
- 6% YoY growth 2.7 bps

Source: Visa's Fraud Reporting Q3'15. Excludes cash.
Visa Payment Security Roadmap
Visa Asia Pacific Security Summit

Darren Muise
Head of Commercial, Bank of America
Visa Inc.
Our future depends on building layers of security to protect and harness data

**Devalue Data**
Render data useless for criminals, reducing incentive for payment breaches

**Empower Consumers**
Engage cardholders as an underutilized resource in fighting fraud

**Protect Data**
Safeguard payment data

**Harness Data**
Identify fraud before it occurs and increase confidence in approving good transactions
Securing our growth requires us to balance consumer expectations of convenience and security.

• Advance more secure technologies that devalue, protect and harness data
• Empower consumers with information to detect fraud and take action
• Continued industry collaboration and engagement with regulators and policymakers
What’s driving the security landscape?

Innovation
- New entrants
- New technologies
- New business models

Data Compromises
- Concentrated in North America
- Leading to card-not-present as well as counterfeit fraud

Government
- Security mandates
- Domestic payment schemes
Security Roadmap: Where have we been?

EMV roadmaps have been deployed around the world

Europe
- AP¹ CEMEA
- Brazil
- Mexico

AP²
- Australia
- Canada

USA
- 2015


¹Interregional liability shift ²Domestic (ex Japan and China) and intraregional liability shift ³Domestic only
Global chip card adoption is on the rise

Note: Percentage of card-present transactions that originated from chip terminals between January 2016 and March 2016.
Source: As of March 2016, VisaNet clearing and settlement counts. Visa Europe is the exclusive licensee of Visa Inc. in the territory covered by the European Union.
Our future depends on building layers of security to protect and harness data

**Devalue Data**
- Tokenization
- EMV

**Protect Data**
- Encryption
- PCI

**Empower Consumers**
- Transaction Alerts
- Spend Controls

**Harness Data**
- Risk-Based Authentication
- Biometrics
- One-time Passcode
- Dynamic CVV2
- Breach Response
Mitigating fraud with dynamic data

Dynamic CVV2

First Name: John  
Last Name: Doe  
Address: 123 Maple Way  
City: Peoria  
State / Province: Illinois  
Zip Code: 61601  
Country: United States of America  
Card Number: 4000 1234 5678 9123  
CVV2: 833  
Expiry: 01 / 2018

Bringing EMV Security to New Channels

One-time Passcode

Travel.com

User ID

Password

Remember my User ID

Purchase

Token: 4000 1234 5678 9123  
Name: 01 201 201 386 583 681 27  
Token Expiry: 01 / 2018  
Service code:  
iCVV:  

Visa Asia Pacific Security Summit 2016
Opportunities to apply biometrics to payments

Mobile
Furthering contactless and strengthening e-commerce

Card
Replicating the current experience with stronger security

Cardholder
Defining a complete new authentication experience

Now
Emerging
To Be Defined
Translating analytics into actionable threat intelligence to bolster cyber security

**Anticipate**

Anticipate attacks based on a deep understanding of who is attacking you

**Act**

Take action to prevent and prepare for known and emerging threats

**Respond**

React and prepare for threats, reducing the danger of breaches

**Intel Briefings**

Detailed, curated, current and expert intelligence regarding key cyber and payment threats, what they mean and how to take action.

**Indicator Fields**

Up-to-date and comprehensive intelligence on both established threats and high-risk behavior patterns, enabling the immediate detection of the latest and most sophisticated threats.

**Community Circles**

Controlled, invite-only platform for company alliances and partnerships to share knowledge on threats and collaborate to better defend against attackers.
Thank you