The Federal Reserve Bank of Chicago Payments Conference

May 20th, 2011
VeriFone

The leading global provider of technology that enables secure electronic payment transactions

- VeriFone Systems, Inc. (“VeriFone”), NYSE: PAY
- Founded in 1981
- 2,500 staff
- $1 billion Revenue in FY2010
- Active in over 110 countries
- No. 1 or No. 2 share in all our markets
- Systems installed in over 20 million locations globally
The Transformation of “Payments”

Point of Sale

- One-Way Communication
- Simplistic
- Anonymous

Point of Interaction

- Two-Way Dialogue
- Complex
- Personal
The Transformation of “Payments”

Point of Interaction

+ Knows who you are (opt in)
+ Know where you are
+ Knows your coupons
+ Is trusted, safe, secure
+ Single User Interface
+ Clean Seamless Experience

Point of “Intelligent checkout”

= Intelligent Checkout
Who Wants In?

Consumer Marketing

Search

Social Media

Coupons/In-store Marketing

Alternative Payment

Loyalty

Intelligent Checkout
Mobile Drives the need for Intelligent Checkout
The Sales Funnel of the Future Converges at POS

Sales Funnel

Awareness/History
Consideration/Evaluation
Preference
Shopping
Purchase

Intelligent Checkout

Consumer Marketing
Search
Social Media
Coupons / In-Store Marketing
Alternative Payment
Loyalty
VeriFone already has the real estate at checkout and the strong relationships with retailers.
Understanding the Architecture

Wallet Application & Secure Element

NFC Firmware

POS H\W & Application

Retailer System

Payment Processor

NFC Service Host

Discover Zip

Partner v1

Open-Media Spec

SoftPay Connect

Mx Connect

Forms-Agent

SIM

TIM

Gateway

TMS

Cloud-Connect API
Understanding the Architecture and management challenges
Contactless & NFC Software Update Roadmap

1/2007
- 
- 
- 
- 
- 

EMV
- Wave 3.1
- VCPS 2.0.2
- EMV EP 1.0

Visa
- VCPS 2.0.2
- M/Stripe 3.3
- Perf Test 1
- M/Chip 2.0
- Amex EP 1.0
- CabCharge
- Interac 1.0

MasterCard
- VEU TIG 1.1
- Wave 3.1.1
- M/Chip 1.3 AN10
- Perf Test 2
- M/Chip 2.0
- Amex EP 1.0
- gPBOC 1.0
- Interac 1.1

Others
- Discover Zip 1.0
- JCB 1.0
- CEPAS 2.0
- Interac 1.2

1/2009
- -
- VCPS 2.1
- Perf Test 1
- M/Chip 2.0
- Amex EP 2.0
- gPBOC 2.0
- PBOC 2.0

1/2010
- -
- VCPS 2.1.1
- Perf Test 2
- M/Chip 2.1
- Amex EP 2.0.1
- gPBOC 2.0
- Calypso
- Italy miniB
- 0.8

1/2011
- -
- VEU TIG 1.2
- -
- M/Chip 3.0 subset
- M/Chip 3.0 (est)
- M/Chip 3.0 (est)

1/2012
- -
- EMV EP 2.0 (est)
- V/MAJ/JCB update for EMV (est)
- GeldKarte (est)
- Mifare Contactless (est)
- NFC OpenAPI
- Google App
- LLGP NFC-F Peer to Peer (est)

VeriFone. THE WAY TO PAY.
Managing Multiple New Services at Checkout

- Cards
  - VISA
  - payWave
  - MasterCard
  - PayPass
  - DISCOVER
  - Zip
  - AMERICAN EXPRESS
  - ExpressPay

- Wallets
  - Google
  - ISIS
  - PayPal
  - Groupon
  - Facebook

And so on....
Understanding the Architecture and security challenges
Solving for Credit/Debit Payment System Vulnerabilities

- CRIND-tampering
- Wireless access
- Network access
- Unencrypted data
- Network access
- Chargeback files

**VISA DATA FIELD ENCRYPTION BEST PRACTICES**

<table>
<thead>
<tr>
<th>Security Goal</th>
<th>Best Practice</th>
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<tbody>
<tr>
<td>1.</td>
<td>Clear text cardholder and authentication data shall only be available at the point of encryption and decryption.</td>
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<tr>
<td>2.</td>
<td>All cardholder data shall be encrypted using only approved encryption algorithms (e.g., AES, TDES).</td>
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<tr>
<td>3.</td>
<td>Sensitive authentication data shall not be visible to users.</td>
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<tr>
<td>4.</td>
<td>Keys shall be managed according to international and/or regional standards.</td>
</tr>
<tr>
<td>5.</td>
<td>All keys and key components shall be securely stored and transported.</td>
</tr>
<tr>
<td>6.</td>
<td>Keys used in the encryption of data shall be protected from unauthorized access.</td>
</tr>
</tbody>
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**ENCRIPTS CARD DATA TO PREVENT COMPROMISES**

- PINpad-tampering
- Skimmers
- Overhead cameras
- Rogue applications
- Passwords

**PCI Security Standards Council**

- Eavesdropping on store or corporate networks
- Eavesdropping on the wireless access to corporate network
- Network intrusion
- Unsecured ports
- Wireless access to corporate network
- Network access
- SQL injection
- Unencrypted data
- Network access
- Chargeback files

**VeriShield Protect**

- Vastly Simplifies Retailer’s Security
  - Eliminates usable cardholder data from POS applications, networks, and servers
  - Encrypts cardholder information, at the exact instant of acceptance, inside a secure, trusted VeriFone payment device and keeps it encrypted throughout your enterprise
  - Compliant with VISA’s best practices for data field encryption
  - Brings you closer to PCI DSS compliance and may reduce costs of auditing
  - Supports broad range of card payments, whether they are magnetic, contactless or EMV-based

Cardholder data is never exposed with VeriShield Protect. VNS protects the raw cardholder data received by the POS device so that it never at risk and is safely transmitted to the DA. The DA can be managed at the retailer, offline or at the acquirer/processor.
Mobile Introduces a whole new world of data to protect...

- Consumer Marketing
- Search
- Social Media
- Coupons / In-Store Marketing
- Alternative Payment
- Loyalty

Consumer DATA

- Where Purchased/Items Purchased
- Loyalty Number
- Coupons Applied
Beginning to Enable Intelligent Checkout in Taxis

From...

- Securely Processing Traditional Payments
- Providing advertisers with a truly captive audience with significant “dwell time”
- Targeting demographics, psychographics, time of day, and real-time location

...to...

- Enabling social and location-based interactivity between marketers and consumers
  - NFC, SMS & QR codes
  - Digital & paper coupons/receipts
  - Customer acquisition and data capture

...to...

- Letting consumers search for and purchase goods while inside the taxis
  - Daily deals
  - Movie and show tickets
  - Lottery Tickets
In Markets Throughout the US and UK
But Taxis are Just the Beginning

Intelligent checkout is being enabled in multiple verticals through the VeriFone Digital Network

- Over 10,000 taxis in 10+ markets today
- Continuously upgrading functionality
- Further global expansion underway

- Leveraging PCI upgrade to media enable the pump
- Allow geographic and daypart targeting
- Opt-in personalization
- Couponing
- Pay-at-Pump purchasing

- Advertising and merchant promotions
- Integration with loyalty and 3rd party apps
- Social and location-based media
Six Rules of Mobile Commerce Success

1. Deployment and management of complex NFC technologies will require significant ongoing services from the retailer’s payment systems provider.

2. Mobile commerce must add value to the consumer.

3. Mobile commerce must be streamlined with existing POS services and managed well for the retailer.

4. Mobile commerce must become ubiquitous to be successful.

5. Mobile commerce must be integrated with other forms of payment.

6. Mobile commerce must be ironclad secure.
Making Checkout Intelligent

Building the architecture

Bringing the players together

Powering marketing and interactivity

Providing value to consumers