Moving Towards Outdoor EMV

August 23, 2018
Agenda

• Housekeeping
• Presenters
• About Conexxus
• Presentation
• Q & A
Housekeeping

This webinar is being recorded and will be made available in approximately 30 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 or webinars@conexxus.org
Presenters

**Conexxus Host & Moderator**
Linda Toth, Director of Standards, Conexxus  
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**Speakers**
Simon Siew, Director of Payment Solutions, Dover Fueling Systems  
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Willie Nelson, Payment Marketing Manager, Gilbarco Veeder-Root  
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Dan Harrell, Chief Innovation Officer, Invenco Group Limited  
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About Conexxus

• We are an independent, non-profit, member driven technology organization
• We set standards…
  – Data exchange
  – Security
  – Mobile commerce
• We provide vision
  – Identify emerging tech/trends
• We advocate for our industry
  – Technology is policy
<table>
<thead>
<tr>
<th>Month/Date</th>
<th>Webinar Title</th>
<th>Speaker</th>
<th>Company</th>
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<tbody>
<tr>
<td>May 24, 2018</td>
<td>QIR in the World of Retail Petroleum</td>
<td>Chris Bucolo Todd Rosen</td>
<td>ControlScan</td>
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<tr>
<td>June 21, 2018</td>
<td>How can we leverage data science to more effectively detect security threats?</td>
<td>Thomas Duncan Ashwin Swamy</td>
<td>Omega ATC Omega ATC</td>
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<td>July 26, 2018</td>
<td>Roadmap to a Vulnerability Disclosure Program</td>
<td>Joe Basirico</td>
<td>Security Innovation</td>
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<td>August 23, 2018</td>
<td>Moving Toward Outdoor EMV</td>
<td>Linda Toth Willie Nelson Simon Siew Dan Harrell</td>
<td>Conexxus Gilbarco Dover Invenco</td>
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<tr>
<td>September 20, 2018</td>
<td>Your Systems Are Talking to You!</td>
<td>George Sconyers</td>
<td>Omega ATC</td>
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<td>November 2018</td>
<td>Building a Scalable Security Engineering Team</td>
<td>Joe Basirico</td>
<td>Security Innovation</td>
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NACS Show
October 7-10, 2018
Las Vegas, NV

Conexxus thanks our 2018 Annual Diamond Sponsors!
What is EMV?

EMV is a set of international standards that defines interoperability of secure transactions across the international payments landscape.

- EMV transactions introduce dynamic data specific to the card and the transaction, with the goal of devaluing transaction data in flight and reducing the risk of counterfeit fraud.

EMV has become the world-wide standard and both U.S. neighbors, Canada and Mexico, have EMV mandates effecting U.S. multi-national retailers.

EMV is the stepping stone to the future of payments due to its dynamic data authentication (Contactless, Mobile, QR Code).

In the context of EMV, encryption is only used to protect the PIN.

- Does not encrypt all of the transaction data
A primary goal of EMVCo and the EMV Specifications is to help facilitate global interoperability and compatibility of chip-based payment cards and acceptance devices. This objective extends to new types of payment devices as well, including contactless payment, mobile payment and QR Payment Code.
## PCI PTS Regulatory Roadmap

<table>
<thead>
<tr>
<th>Requirements Version Used During Evaluation At Laboratory</th>
<th>Expiration of Requirements</th>
<th>Approval Expiration Of Device Models</th>
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<tr>
<td>Version 5.x of PCI PTS POI Security Requirements</td>
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<td>April 2026</td>
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<td>U.S.</td>
<td>Card</td>
<td>Terminal</td>
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<tr>
<td>Prior to October 1:</td>
<td>Mag stripe only</td>
<td>Mag stripe only</td>
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<tr>
<td>- 2015 POS</td>
<td>Mag stripe only</td>
<td>Mag stripe only</td>
</tr>
<tr>
<td>- 2017 AFD XBorder</td>
<td>EMV chip</td>
<td>Mag stripe only</td>
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<tr>
<td>- 2020 AFD US Dom</td>
<td>Mag stripe only</td>
<td>EMV chip</td>
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<tr>
<td>After October 1, 2015</td>
<td>EMV chip</td>
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<td>For POS In-store</td>
<td>EMV chip</td>
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<td>For AFD XBorder</td>
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<td>After October 1, 2020</td>
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<tr>
<td>For AFD US Domestic</td>
<td>EMV chip</td>
<td>EMV chip</td>
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There is no EMV liability shift on contactless or lost/stolen fraud transactions.
Contactless

- Foundation for innovation and enabler for next generation payment experiences including wearables and connected devices
- Card brands heavy promotion as a secure, fast transactions and seamless implementation process (certification)

**US Contactless Card Forecast (M)**
(2 in 5 cards in the US will be Contactless by end of 2021)

<table>
<thead>
<tr>
<th>Year</th>
<th>75</th>
<th>150</th>
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<tr>
<td>Today</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
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<td>2021</td>
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Source: Juniper Contactless Payments Report, 2017-2021
Chargebacks from Visa - VFMP

Starting July 2017 to October 2020, retailers with domestic AFD fraud may be put into 2 categories:

**Standard Program**

- monthly basis thresholds met or exceeded:
  - $10K in domestic counterfeit fraud, and
  - 0.2% domestic counterfeit fraud amount to domestic sales ratio

**Merchant Actions:**
- Month 1 – notification to acquirer
- Month 2 – 4: acquirer works with merchant to reduce fraud below threshold
- Month 5: if fraud not reduced, chargebacks enforced

**Excessive Program – Starting November 17**

- monthly basis thresholds met or exceeded:
  - $10K in domestic counterfeit, and
  - 2.0% domestic counterfeit fraud amount to domestic sales ratio

**Merchant Actions:**
- Month 1 – immediate chargebacks enforced
- Must remediate: keep fraud below these levels for 3 consecutive months

If the merchant is unable to reduce its counterfeit fraud levels below program thresholds 12 months after it has entered the program, it may lose Visa acceptance privileges.
New Pump and Retrofit Options

- New pump and OPT warranty
- Must be UL certified for safety
- Fits most existing fuel pumps
- Less expensive EMV option
- New warranty on pay at pump terminal
AFD – PCI and EMV Readiness

**AFD – EMV hardware and software**
- Secure Hybrid Card Readers – EMV L1
  - Contactless Reader – EMV L1
  - EMV Contact & Contactless kernel – EMV L2
    - PCI PTS Certified Devices
- PCI PTS Devices
- POS or EPS SW
- Complete Terminal
- AFD OPT to POS/EPS on TCP/IP
  - Run new CAT 5 cables
  - Using existing wires - need TCP/IP converter
  - TCP/IP Converter – Wired or Wireless

**AFD OPT to POS/EPS on TCP/IP**

Device manufacturer

Device manufacturer + EPS provider
PCI and EMV Approval Life Cycle

**EMV L1**
- Hybrid CHIP Reader
- Contactless Reader
- EMV L1: 4 years

**EMV L2 & PCI**
- EMV L2 kernel for Contact and Contactless
- PCI PTS Devices
- EMV L2: 3 years
- PCI PTS: 10 years

**EMV L3**
- POS or EPS SW
- Complete Terminal
- PCI PA DSS: 3 years

EMVCo Approved™
Steps to Enable EMV – A long process and in phases

1. Purchase/Install EMV Application
2. TCP/IP Connectivity
3. EMV Enabled Controller
4. Host Enables EMV

Contactless EMV?
- No
- Yes

Install Contactless Reader Kits

AFD EMV Ready Configurations

EMV Enabled Site

AFD EMV Enabled

Ethernet Converter POS/EPS System EMV Payment Processor

EMV Enabled
Deployment Models - Experiences

Dual Trip: Hands On
- Hardware Deployed – only Mag Enabled
- 2nd Trip – EMV Software Installation
- EMV Enabled Site
  - Two service trips
  - Hands on monitoring
  - Increases logistical issues

Single Trip: Cloud Activated
- Hardware Deployed – only Mag Enabled
- Cloud distributed EMV Software Installation
- EMV Enabled Site
  - Single installation trip
  - Remote monitoring
  - Synchronization challenge

Single Trip: Big Bang
- Hardware Deployed – EMV software installed and turned on
- EMV Enabled Site
  - Single installation trip
  - Hands on monitoring
  - Logistical and synchronization challenge
Lessons learned

Customer User Experience
• Card insertion experience
• Authorization speed
• Combinations with loyalty and Chip Card

Network Infrastructure
• IP configuration
• Connectivity integrity – old wires problem

Training
• Employee – Managers and Cashiers
• Customers- Start advertising early
Additional Opportunities with EMV upgrade

Point to Point Encryption
- Conexxus standard protocol
- Reduce PCI scope for store systems

Media
- Drive in-store sales
- Ad revenue models
- Drive brand awareness

Assets Tracking / Diagnostics
- Conexxus Asset Standard
- Manage uptime
- Better customer experiences

Dispenser Security
- Enhance security
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• LinkedIn Profile: Conexxus.org
• Follow us on Twitter: @ConexxusOnline