Are you ready for Oct 1, 2020?

Part 2: Practical Considerations for Implementing Outdoor EMV

December 12, 2019
Agenda

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

This webinar is being recorded and will be made available in about 7 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
• Our webinars may be used toward PCI continuing education credits. Please contact arussell@conexxus.org for questions regarding a certificate of webinar attendance.

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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
# 2019-2020 Conexxus Webinar Schedule

<table>
<thead>
<tr>
<th>Month/Date</th>
<th>Webinar Title</th>
<th>Speakers</th>
<th>Company</th>
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<tbody>
<tr>
<td>November 14, 2019</td>
<td>Impending Consumer Privacy Laws</td>
<td>Alan Thiemann, Paige Anderson</td>
<td>Conexxus NACS</td>
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<tr>
<td>November 21, 2019</td>
<td>Applicability of PCI DSS requirements for Merchants and MNSP’s</td>
<td>Sam Pfanstiel</td>
<td>ControlScan</td>
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<tr>
<td>December 5, 2019</td>
<td>EMV Part 1: EMV Fundamentals and the Risk of Not Upgrading</td>
<td>Brian Russell, Linda Toth, Robert Alandt</td>
<td>Verifone, Conexxus Visa</td>
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<tr>
<td>December 12, 2019</td>
<td>EMV Part 2: Practical Considerations for Implementing Outdoor EMV</td>
<td>Gray Taylor, Russ Haecker, Dan Harrell, Dan Witkemper</td>
<td>Conexxus, Dover Fueling, Invenco, Gilbarco</td>
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<tr>
<td>January 23, 2020</td>
<td>How to Elevate Your Business Through Digital Transformation</td>
<td>TBD</td>
<td>Cybera</td>
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2020 Conexxus Annual Conference

April 26 – April 30, 2020
Loews Ventana Canyon
Tucson, AZ

More about Sponsorship Opportunities & Registration: www.Conexxus.org

Conexxus thanks our 2019 Annual Diamond Sponsors!
Today’s EMV Takeaways…

- EMV will change how merchants do business and maintain their equipment
- EMV is about fraud prevention and cost avoidance (insurance against chargebacks)
- Waiting to upgrade to EMV may result in undesired consequences
Outdoor liability shift begins Oct. 2020

Card brands confirm deadline will not shift

Some large retailers already on upgrade path

High dollar investment required

60% of U.S. market are “Single Site Owners”

“Some” SSOs nervous about chargebacks …others not

Hardware suppliers must be ≥ PCI 4.x by April 2020

EMV L3 certification is gating step…

No incentives from refiners or MOCs for to upgrade

EMV-ready hardware on ~35% of installed base

ASO tech deficit for upgrade support by deadline

Labor costs will increase closer to deadline

...but is driven by customers and POS vendors

North America (U.S.)
Fraud at the Dispenser

What it may cost you and how to fight it
The Fraud is Very Real

$400M+

In outdoor CC fraud every year using skimming devices

Secret Service alone recovers 20 to 30 skimmers a week, each holding information for about 80 payment cards

Gas pump skimmers are getting worse because there’s more technology to look for skimmers in ATMs, so bad actors move towards gas pump skimmers.”

Matthew O’Neill, Agent, Secret Service
The Costs are Real

“Gas stations are the lowest-hanging fruit for bad guys when it comes to skimming.”

Matt Schulz, Chief Industry Analyst, CompareCards

### Real-World Examples...

- Florida Jobber, 2 Sites, April-May 2019 Chargebacks – $15,000
- Chicago Site Owner, August 2019 Chargebacks – $5,500
- Phoenix Site Owner, September 2019 – $3,600

<table>
<thead>
<tr>
<th>Fuel Transaction Value</th>
<th>$75</th>
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<tbody>
<tr>
<td>Transaction Fee (4%)</td>
<td>$3</td>
</tr>
<tr>
<td>Product Cost (71%)</td>
<td>$53</td>
</tr>
<tr>
<td>Marketing &amp; Operational Costs (25%)</td>
<td>$19</td>
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<td>Chargeback Fee ($35-50+)</td>
<td>$35</td>
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**Total Cost to Retailer** $185

*Fraud losses = 2-3X of sale*
## Counterfeit Fraud Can Occur Without Warning

### Actual examples of counterfeit fraud from US Forecourts

<table>
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<tr>
<th>Sites</th>
<th>Months</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>9</th>
<th>10</th>
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<td>C-Store #4</td>
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<td>$4,263</td>
<td>$10,180</td>
<td>$8,918</td>
<td>$23,361</td>
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<td>C-Store #5</td>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
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<td>$0</td>
<td>$48,032</td>
<td>$53,147</td>
<td>$101,179</td>
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</table>

*Secret Service seeing foreign crime organizations move across Mexico border, trained to commit white-card fraud*

Waiting until the counterfeit fraud is 'bad enough' is not a plan!
Mag-Stripe Card Skimmers

Prevention
- Physical inspection
- Dispenser electronic door access security
- Upgrade to Secure Hybrid (EMV) Card Readers

Gas Pump Skimmers
https://learn.sparkfun.com/tutorials/gas-pump-skimmers
Prevention – Door Security

- Wayne Smart Secure Access™
- Gilbarco Veeder-Root’s Insite360™ + Door Entry Detection System
Prevention – EMV Chip Card Reader

Comprehensive Security Protections:
- Unauthorized removal detection
- Device authentication
- Encrypted interface and data links with chip and mag stripe data encryption

Mag-Stripe Only Mode
Most POS support disablement of chip mechanism until EMV software is ready
EMV Chip Reader – New Attacks

External Skimmers
- Molded replica of hybrid card reader front with built-in mag-stripe reader

Internal Shimmers
- Paper-thin film with mag-stripe reader
- Draws power from chip power contacts

Prevention
- Visual inspection:
  - Reader should be flush-mounted; no external devices
  - Use flashlight to inspect card reader slot
  - Listen to cues from customers
EMV Enablement
6 Steps to Enable Forecourt EMV

1. Site survey to understand current equipment
2. Replace or Upgrade to EMV-Ready Dispensers
3. Add Contactless? (if not included)
   - YES: Install Contactless Reader
   - NO: Continue
4. TCP/IP Connectivity to Forecourt
   - Ethernet
   - Converter
   - High-speed data throughput is required for EMV
5. EMV Enabled Controller
   - POS/EPS System
   - Often just a POS Software Update
6. Payment Host EMV Enablement
   - Your payment host may need to be contacted to setup EMV for your site.

EMV Payment Processor
EMV Site Activation

Dual Trip: Hands On
1. Hardware Deployed (Mag Only)
2. EMV Software Installation

Single Trip: POS Activated
- Hardware Deployed (Mag Only)
- POS-Distributed EMV Software

Single Trip: “Big Bang”
- Hardware Deployed
- EMV Software installed and activated

- Hands on monitoring
- Increases logistical issues
- More uptime during conversion

- Remote monitoring
- Synchronization challenges

- Hands on monitoring
- Logistical and synchronization challenges
Outdoor EMV: Network Considerations

- Network security and compliance just got **more complex**
  - New Ethernet/IP interfaces extended out to the forecourt for EMV solutions
  - Need **secure connections** to Internet and public cloud

- IP network enablement of dispensers “changes the rules”, e.g.,
  - Some solutions have very restrictive network firewall configurations and may require a Managed Network Service Provider to be in place

- EMV updates and enhanced capabilities
  - Payment kernels likely to require updates over the lifetime of the terminal
  - Similar network provides remote diagnostics, prompt management, and media capabilities
Lessons Learned
Special Considerations - Permitting

- Don’t underestimate the time required to receive a permit when updating your sites to Forecourt EMV
  - **California:** Permits can take anywhere from a couple of weeks to a year to obtain
    - Location dependent (Large metro areas take longer)
    - Scope of work dependent (Which areas of the site are being modified)
  - **All Other States/Districts:**
    - May also have similar permitting challenges – plan accordingly

There are no provisions in the liability shift to deal with “I’m waiting for a permit”
Waiting to Upgrade Will Cost More

Project Costs for EMV Implementation…

Installation Costs (Labor) Tend to Increase Due to High Demand Leading up to an Industry-Wide Change

Historical Increase in Installation Cost During Major Industry/Regulatory Changes

- 6-Mos. Before Deadline: 14%
- 3-Mos. Before Deadline: 23%
- At the Deadline: 33%
- 3-Mos. After Deadline: 31%

Average Historical Project Cost Increase
Avoiding Increased Costs

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>Reach out to your Equipment Supply Companies and Service Technicians</strong></td>
<td>• Ask if your equipment is ready to Process Forecourt EMV Transactions, or if it requires upgraded hardware (note – this often will require a site survey)</td>
</tr>
<tr>
<td>2.</td>
<td><strong>Order your equipment early</strong></td>
<td>• The key to locking in an installation slot before costs rise is to order the necessary hardware</td>
</tr>
</tbody>
</table>
| 3. | **Schedule the Technician(s) to Perform the EMV Upgrade (Q1 2020)** | • Remember – costs tend to increase six months prior (that’s March 2020)  
• One Visit, Two Visits. Depending on the hardware and software at your site you may have a choice. |
Training – Staff & Consumers

- Guided Messaging on the Dispenser’s Display
  - Can be helpful; but requires the consumer to read the prompts

- Staff Training
  - Make sure your staff understands what changed
  - Ask them to look for consumers struggling at the forecourt

- Consider using 'EMV Ambassadors’ at your sites
  - Bring the assistance to your customers on the forecourt
  - Be mindful of safety on the forecourt – bright safety vests
EMV Solutions

- Invenco
- Wayne
- Gilbarco
Invenco EMV Solutions
Invenco EMV Retrofit Solutions

Invenco’s OPT retrofit kit options include barcode readers and NFC contactless as standard:

**G6 – All in one, EMV option**
- Gilbarco Encore 300 / 500 / 700
- Wayne Ovation I & II
- Gilbarco Advantage
- Wayne Vista
- Tokheim - Premier B & C
- Wayne Helix

**G7 – 8”, 12”, 15” color touch screens**
- Gilbarco Encore 300 / 500 / 700
- Wayne Ovation I & II
- Wayne Helix
Invenco Network Solutions

Options...

- Ethernet Switch & CAT-6
- Invenco Link high-speed two wire Ethernet (AES encrypted)
Invenco Purchase Options

Buy retrofit EMV solutions up front
- Experienced EMV outdoor retrofits
- Screen options / service models to fit your business

Or sign up for EMV Pay @ Pump as a Service:
- Up front installation
- Small fee per terminal per month
- All service and warranty included
Better ROI on EMV Investment

**Media Advertising**
- Ad revenue share
- Self-managed options
- Several media partner options

**Food/In-Store Ordering**
- Drive higher margin sales
- Streamlined customer experiences

**Gamification Apps**
- Lottery sales
- Fuel discounting
- Instant rewards

**Personalization Apps**
- Personalized Experiences
- Loyalty auto-enrollment
- Beacon mobile engagement
PCI DSS Cloud Management

- Mobile Payment Enablement Services
- Payment Host Integration
- Device SaaS management
- Device prompt/screen management
- Managing Assets/Keys
- Device/Asset Dashboard
- Device Remote Upgrades
- Device Configuration Management
- Device Reporting
- 3rd party media integration and distribution
Wayne EMV Solutions
Wayne iX Pay™ EMV Upgrades

- iX Pay T7, 2/ & 3/Vista
- iX Pay T7, Gilbarco Advantage
- iX Pay T7, Encore 300/500

- Wireless options available
- Encore S ECIM added (Bezel and component replacement)

- 2/ & 3/Vista
- Complete bezel upgrade to 4/Vista solution
- Includes SPM PIN Pad, soft keys, EMV card reader, new grade selects & UPDs

- iX Pay kits for Ovation…
  - qCAT replacement
  - iX boards
  - SPM PIN Pads
  - Mag-stripe card readers

  - Wireless options available
iX Pay™ Encore 500/S & 700S ECIM

- Mid panel replaced, matching existing bezel
- Sales / Volume display, Push-to-Start buttons removed / reused
- Paper roll accessed through separate panel
- New power supply included
- New decal for Unit Price Displays needed

12” Touch Screen Option!
## EMV TCP/IP Connectivity

<table>
<thead>
<tr>
<th>Available Solutions</th>
<th>Recommended…</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Ethernet Switch (for CAT 5/6 Cable)</td>
<td>• Sites w/ existing CAT 5/6 cable</td>
</tr>
<tr>
<td></td>
<td>• CAT cable can be easily pulled</td>
</tr>
<tr>
<td></td>
<td>• Pump within 300 ft of store</td>
</tr>
<tr>
<td>2 Wayne Connect™ IP-485® network solution</td>
<td>• Pulling cable costly or impossible</td>
</tr>
<tr>
<td></td>
<td>• EMV payment traffic only OR</td>
</tr>
<tr>
<td></td>
<td>• EMV + iOTV media</td>
</tr>
<tr>
<td>3 Wireless encrypted TCP/IP communication solution</td>
<td>• Pulling cable costly or impossible OR</td>
</tr>
<tr>
<td></td>
<td>• Not enough conduits/wiring</td>
</tr>
<tr>
<td></td>
<td>• EMV + New Media solutions</td>
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Cloud Services

The iSense™ Remote Monitoring and Management Solution is an end-to-end solution that enables remote management of gas station dispensers.

- Keep dispensers up and running
- Simplify service and reduce maintenance costs
- Boost security and systems integration
A variety of innovative features automate and streamline remote dispenser management. You get more security, more scalability—and more data you can do something with.

- Protect against skimmers & card fraud with remote updates
- Remotely access security reports via user-friendly interface
- Easily export *PCI asset management reports*
- Scalable ability to easily add as many dispensers as you need
- Gain centralized, easy access to all your site-level information
Gilbarco - EMV Migration Checklists

To streamline the upgrade process, we compiled a checklist for dispenser models already deployed in the field

**Encore® 700 S Dispensers**
- EMV hybrid (chip and magnetic stripe) card reader
- High-speed site connectivity
- EMV software upgrade

**Advantage, Encore® 300, 500, and S Dispensers**
- Purchase
  - New Encore® 700 S, or
  - FlexPay™ IV CRIND® retrofit
- High-Speed site connectivity
- Future EMV software upgrade (in conjunction with POS)
- Reimage Kit Options (applies to retrofit kit only)
**Gilbarco - EMV Hardware Options**

**New Dispenser**
Gilbarco Encore 700S

- Reduced Total Cost of Ownership
- Future Proof with Cloud Services
- Fuel Flexibility – Including E25 & E85
- Enhanced Security

**Upgrade Kits**
Gilbarco FlexPay IV

<table>
<thead>
<tr>
<th>The Advantage</th>
<th>Encore® 300</th>
<th>Encore® 500</th>
<th>Encore® S</th>
<th>Encore® S ECIM</th>
</tr>
</thead>
</table>

- Dispenser
  - Prod Years: 1990-2003
- FlexPay™ IV Retrofit Kit
Gilbarco – Connectivity and Point of Sale

**FlexPay Connect V2**
- **Option1:** Use FlexPay Connect v2 with existing wiring
  - Eliminate the cost of breaking concrete
  - Works with existing legacy 2-wire

- **Option2:** Install Ethernet CAT5e/CAT6 cabling
  - Length limitation of 300 ft.

**Passport Point of Sale**
- Forecourt EMV support for nearly two years on many networks
- Talk to your local Gilbarco ASC or Distributor about the EMV software update or to quote a new system
Insite360 Cloud Services

Cloud Based Software Suite
Increase Efficiency, Lower Costs and Prevent Loss in Your Fueling & Retail Operations

- Customer Experience
- Site Maintenance
- Environmental Compliance & Alarm Management
- Fuel Management Services
- Profit Optimization
- Fleet Communications & Tracking
- Inventory Management
- Fuel Logistics & Procurement
Gilbarco - Additional EMV Information

EMV Migration Guide:
• https://www.gilbarco.com/us/emv-migration-guide

Products:
• https://www.gilbarco.com/us/products/retail-fuel-dispensers
• https://www.gilbarco.com/us/products/forecourt-payment
• https://www.insite360suite.com/
Resources

Conexxus.org

- Resources/EMV Resources (Resource Guide, Survey Results)
  Coming soon: Risk vs Reward Tool
- Webinars (webinars@conexxus.org)

Secure Technology Alliance/US Payments Forum

https://www.emv-connection.com/emv-resources/

Visa.com

- Visa Payment Acceptance Best Practices for US Retail Petroleum Merchants
• Website: www.conexxus.org
• Email: info@conexxus.org
• LinkedIn Profile: Conexxus.org
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