Best Practices in Support of EMV Instant Issuance

Philip Andreae, Jennifer Cristallo, Randy Vanderhoof
About the EMV Migration Forum

Why Are We Here?

“to address issues that require broad cooperation and coordination across many constituents in the payments space to ensure the successful adoption of EMV-enabled cards, devices, and terminals across the US market and to ensure that migration in the US market is efficient, timely and effective.”

Implementing EMV in the U.S.: Best Practices in Support of EMV Instant Issuance
Agenda

Introduction
  Value of Instant Issuance

Instant Issuance EMV Upgrade Phases
  Planning
  Development
  Go-Live

Questions?
Financial Institution Assumptions

- Magnetic Stripe Instant Issuance
- EMV cards in-market*

Target Audience

*Or about to go live with service provider
Instant Issuance — Customer & Branch Perspective

1. Customer visits a branch location

2. Branch CSR takes application or account information – confirms identity

3. Desktop printer produces activated card

4. Customer walks out with full purchasing power
Webinar Presenters

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Instant Issuance — Customer Perspective

Why Customers Like Instant Card Issuance

1. Acquire new credit, debit cards
2. Replace lost, stolen, damaged cards
3. Same-day replacement after breach
4. Add personal touches to my cards
5. Add new users to my accounts
Benefits Delivered to Branch Banks

1. Increase activation rates
2. Cross-sell other products
3. Build goodwill with consumers
4. Gain share of wallet
5. More cards in force
The Value of Instant Issuance

The EMV Migration Forum Instant Issuance white paper includes industry-recommended best practices:

- Key risks and suggested risk mitigation steps
- Key considerations during each of the planning, development and go live phases
- Sample timeline for an instant issuance project
- Payment network references on instant issuance


“Despite the costs, financial institutions should aim to keep instant issuance in play as part of their migration to EMV.”

Randy Vanderhoof, Don’t Let EMV Quash Cardholders’ Instant Gratification, 12/14/15
Contributors

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- David Worthington, Bell ID
Planning Phase
Who should be involved in my EMV upgrade project?

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMV chip card manufacturer</td>
<td>Produce high quality chip cards</td>
</tr>
<tr>
<td>Instant issuance hardware vendor</td>
<td>Set up and install personalization hardware</td>
</tr>
<tr>
<td>Instant issuance software vendor*</td>
<td>Set up and install personalization software and personalization script</td>
</tr>
<tr>
<td>Issuer</td>
<td>Successfully implement the upgrade project</td>
</tr>
<tr>
<td>Issuing processor</td>
<td>Ensure all EMV application elements are included in the personalization script</td>
</tr>
<tr>
<td></td>
<td>and implement the upgrade project on behalf of the issuer</td>
</tr>
<tr>
<td>Payment network</td>
<td>Card compliance with brand standards</td>
</tr>
<tr>
<td>Personalization bureau</td>
<td>Support EMV issuance from the central environment</td>
</tr>
<tr>
<td>Personalization certification lab/agent</td>
<td>Verify chip personalization is correct</td>
</tr>
</tbody>
</table>

*Also could be completed by a SaaS/hosted supplier
What steps do I need to take with my card vendor and instant issuance equipment equipment vendor?

<table>
<thead>
<tr>
<th>KICKOFF AND PRE-INSTALLATION</th>
<th>Customer</th>
<th>II Vendor</th>
<th>Vendor Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schedule/conduct customer kickoff call</td>
<td>X</td>
<td></td>
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<tr>
<td>Provide customer documentation bundle and project plan</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Schedule recurring status calls</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Send EMV Test Cards to Customer</td>
<td></td>
<td></td>
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<tr>
<td>Procure and install new server</td>
<td>X</td>
<td></td>
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<tr>
<td>Install HSM with IP address</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Request and install SSL Certificate(s)</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Complete and return Pre-Installation Checklist</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Identify Key Custodians</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locate/obtain required Keys</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport key and EMV Keys</td>
<td>X</td>
<td>Card Manufacturer</td>
<td></td>
</tr>
<tr>
<td>Issue Master Keys</td>
<td>X</td>
<td>Switch Vendor</td>
<td></td>
</tr>
<tr>
<td>Complete and return Key Check Value (KCV) Worksheet</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Provide card formats</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide card proofs for artwork</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Order EMV test cards and production stock</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Example project plan for on-premise solution.*
How do I pick an EMV profile?

<table>
<thead>
<tr>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Simplicity</strong>: use the personalization bureau’s standard EMV profiles</td>
</tr>
<tr>
<td><strong>Consistency</strong>: instant issuance profile the same as the central issuance profile</td>
</tr>
<tr>
<td><strong>Supported</strong>: issuer processor needs to be able to support the chosen profile</td>
</tr>
</tbody>
</table>
EMV Instant Issuance cards must be re-certified through payment brand Direct to card EMV printing awareness:

- Need recessed chip
- OR
- White area around the chip
Does EMV affect my secure environment?

Physical Security Remains the Same

Existing Instant Issuance environment and issuing processes remain the same
How long will the EMV upgrade process take?

4-6+ months

Shorter: copying a certified profile

 Longer: new chip and certification
How much will the Instant Issuance EMV upgrade project cost?

- Hardware
  - Printer update or replacement
  - PIN pad
  - HSM (in-house solution only)
  - Card validation tool

- Software
  - Update or migration

- Personalization script(s)

- Project management, education or training courses

- Data transmission, validation, key creation, test cards
Do I have to replace my printers or update my software?

Maybe

Some printers are EMV capable, but may require firmware updates

If you are using a server solution – expect software upgrade/update
What information should be prepared to educate my customers on EMV?

- Free resources
- Communication tips
- Social Media posts
Development Phase
What is the best EMV issuance strategy for Instant Issuance?

- All Cards
- Reissuance Only
What does the typical installation process look like?

Readiness/Planning
- Obtain test cards
- HSM installation **server solution only**
- Obtain keys

Installation Phase 1
- Test server install (software) **server solution only**

Installation Phase 2
- Printer replace/firmware update
- Software configuration changes: profiles, formats, data prep

Installation Phase 3
- Pilot
- Project signoff
- Branch deployment coordination
What are the Key Management changes?

In addition to the keys utilized for a magnetic stripe transaction (e.g., CVV/CVC and PIN Encryption Key), there are **additional keys for EMV transactions** (e.g., MDK/, IMK) that support the creation of the EMV cryptogram that is authenticated in the transaction process to offer **greater security** from counterfeit.

In addition, your instant issue hardware vendor will require **keys to lock and unlock the chip on the card**, prior to in-branch personalization of an EMV card.

The keys will need to be loaded into the hardware security module (HSM), either on premise or hosted, utilized by the instant issuance system.
What is the Key Exchange/Key Ceremony?

To prevent eavesdropping on the communication between the card and the device:

- Host Based
- Secure Protocol
- Secured Circuit
- EMV Master Derivation Keys
- Encryption
Who will perform the required chip certification?

**Card Personalization Validation (CPV)** is a process designed to ensure that the “personalization” of a chip card or other chip payment device meets card brand requirements.
When do I need to execute a new chip certification?

- Migrate existing BIN to chip or add new BIN to existing chip program
- Use new chip card
- Change personalization process such as: data prep process change, bureau switch personalization solution change
- Add an application into existing approved chip card product
- Amend personalization characteristics (excluding cardholder data and expiration date)
What should my pilot look like?

Who?
- Friends and Family (employees)
- Card Management/Fraud departments

How Long?
- Varies, 4-8 weeks suggested

When?
- Prior to go-live
Go Live Phase
How do I manage my in-branch chip inventory?

Work with Card Manufacturer/Processor

- Reference chip manufacturer roadmap
- Utilize card provider established process
- Centralize inventory processes
  - Remove out of branch (manage daily/weekly/monthly)
How do I know cards are working?

- Handheld Verification
- Hardware Installed
- ATM with EMV
Questions?
EMV Migration Resources

- Wealth of EMV resources to help with education and implementation
  - White papers
  - Infographics
  - Webinar recordings
- Information about EMV Migration Forum activities and membership

http://www.emv-connection.com
Thank you!