Meeting Between Federal Reserve Board Staff and Representatives of Visa
January 8, 2014

Participants: Louise Roseman, Stephanie Martin, Jeffrey Marquardt, David Mills, Mark Manuszak, Geoff Gerdes, Krzysztof Wozniak, Joshua Chadwick, Clinton Chen, Tyler Standage, Aaron Rosenbaum, and Linda Healey (Federal Reserve Board)

William Sheedy, Alex Miller, Kimberly Lawrence, Ky Tran-Trong (Visa); Oliver Ireland (Morrison & Foerster, LLP)

Summary: Representatives of Visa met with Federal Reserve Board staff to discuss their observations of market developments related to the deployment of EMV (i.e., chip-based) debit cards in the United States. Topics discussed included an overview of their current EMV roadmap and Visa’s proposed common application for enabling multiple networks on an EMV card while preserving merchant routing and choice.

A copy of the presentation Visa representatives provided to facilitate the discussion is attached.
U.S. Debit EMV
Discussion with the Federal Reserve

January 8, 2014
Timeline

EMV is the first major innovation requiring agreement among networks to facilitate Durbin compliance. In August 2011, Visa announced a U.S. EMV roadmap, leading to the following milestones:

- **Network Roadmaps**: Networks with EMV capabilities separately announced U.S. roadmaps by mid-2012; to date PIN debit networks have not publicly announced roadmaps.

- **EMF Commences**: The EMV Migration Forum is developed in the summer of 2012 with cross industry participation, including a Debit Working Committee to solve for Durbin compliance.

- **Visa and MA Announcements**: Visa and MasterCard separately announced common solutions using their own proprietary technologies, in January-February 2013.

- **SRPc Announcement**: The Secure Remote Payments Council, representing 14 PIN debit networks, announces a common solution using Discover’s technology in March 2013.

- **Visa and MA Solution Adjustments**: Based on PIN debit network feedback in April-May 2013, Visa and MasterCard each separately adjusted their common solution offerings.

- **Visa/MA Solution Adoption**: In July 2013, Visa and MasterCard agree to adopt each other's common solutions.

- **DNA Forms**: In December 2013, the SRPc formalizes as the Debit Network Alliance (DNA) to facilitate governance over the SRPc solution.
Current U.S. Visa EMV Roadmap

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>Technology Innovation Program (TIP)</td>
</tr>
<tr>
<td>2013</td>
<td>Acquirer Chip POS Processing</td>
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</tbody>
</table>
| 2015 | POS Liability Shift  
U.S Domestic & Cross Border  

Acquirer Chip ATM Processing¹ |
| 2017 | AFD Liability Shift  
ATM Liability Shift  
U.S Domestic & Cross Border |

¹Requirement for third-party processors only; AFD – automated fuel dispenser
EMV Migration and Debit

Set Up

Configuration

Routing

Current Offerings

Multi-Access

Visa

Common

Multi-Application

Visa

Network AID

Network Specific App(s)

Visa

Terminal

Requires new/modified infrastructure

DNA (recent proposal)

Visa & MasterCard

uses existing technology & infrastructure; governance facilitated through license agreements

DNA

requires new governance, new technical development, network participation in DNA & adoption of DNA technology
Multi Access Transaction Origination

Issuer configures network participation by enabling BINs in appropriate networks’ BIN routing infrastructure.

Terminal reads the card.
- Selects merchant’s preferred AID.
- Prompts cardholder for CVM, unless No CVM is selected.

Acquirer routes to network based on merchant preference using current BIN routing infrastructure.
Network Solution Objectives

<table>
<thead>
<tr>
<th>Visa Position</th>
<th>DNA Position</th>
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<tbody>
<tr>
<td>• Minimize cost and streamline deployment</td>
<td>• Industry level governance</td>
</tr>
<tr>
<td>• Utilize proven technology that has been tested,</td>
<td>• Access to “signature” as CVM</td>
</tr>
<tr>
<td>certified and deployed</td>
<td>• Access to international transactions</td>
</tr>
<tr>
<td>• Preserve investment, IP and institutional</td>
<td>• License in perpetuity</td>
</tr>
<tr>
<td>knowledge</td>
<td>• Promise of any new developments or technologies that Visa develops</td>
</tr>
<tr>
<td>• Manage and protect the brand</td>
<td></td>
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