

**Meeting Between Federal Reserve Board Staff
and Representatives of PIN Debit Networks
November 7, 2013**

Participants: Louise Roseman, Stephanie Martin, Jeffrey Marquardt, Susan Foley, David Mills, Samantha Pelosi, Mark Manuszak, Krzysztof Wozniak, Tyler Standage, Aaron Rosenbaum, and Linda Healey (Federal Reserve Board)

Terry Maher (Baird Holm LLP); Leah Work (CO-OP Financial Services); Jonathan Genovese and Rob Rankin (Jeanie Network); Cathy Morrissey (NETS); Robert Woodbury (NYCE Payments Network); Judith McGuire (PULSE); Scott Dobesh and Terry Dooley (Shazam Network); Nancy Loomis (Star Network); Paul Tomasofsky (Two Sparrows Consulting)

Summary: Representatives of several PIN debit networks met with Federal Reserve Board staff to discuss their observations of market developments related to deployment of EMV (i.e., chip-based) debit cards in the United States. Issues discussed included (i) technological aspects of EMV payment cards with a focus on methods for enabling multiple networks on an EMV card, and (ii) the network participants' views of issuer, merchant, and payment card network concerns related to EMV deployment, particularly as those concerns pertain to Regulation II's prohibition on network exclusivity and merchant routing restrictions. In particular, the network representatives stressed the importance of industry adoption of an EMV model that best facilitates merchant routing choice, and expressed concern that the current approach advocated by Visa and MasterCard does not meet this objective.

A copy of the presentation the network representatives provided to facilitate the meeting discussion is attached.

The Debit Issue

US EMV Deployment

Federal Reserve Board of Governors

November 7, 2013

Agenda

- **Industry Views on Debit EMV Deployment**
- **Comparison of Solutions**
- **Regulatory Considerations**
- **Global Brand Solutions Are Not Aligned With Current Regulations**
- **Regulatory Influence To Rectify Situation**
- **Appendix**

Executive Overview

Debit Networks want ...

- **Access to EMV chip technology as equals and the ability to compete as we do today with the opportunity to provide choice, innovation, and value to our participants without restriction.**
- **Common governance of the solution for both POS (including all channels) and ATM.**
 - Interoperable implementation
 - Standardized testing and certification processes
 - Preservation of existing cryptography procedures
- **Support for all CVMs and access to full technology feature set of Chip and Pin technology**

U.S. Debit Complications

- **U.S. Debit Network Environment**

- Eighteen (18+) individual debit networks
- Most other deployments internationally have been with single, or minimal, domestic networks (Interac Association in Canada, Link in the UK)
- MasterCard and Visa are domestic networks unlike anywhere else globally

- **Regulations in the U.S. (Regulation II)**

- All U.S. issuers must participate in at least two unaffiliated debit networks, and many choose to participate in more than two
- Merchants have been given debit transaction routing choice

- **Complicates both the issuer and acquirer support of EMV in the U.S. from a business perspective**

U.S. Issuer Concerns

- **Issuer card programs are created by choosing their signature debit brand**
 - Addition of a second network is required to comply with Durbin
 - Must provide merchants the ability to route to either network regardless of the technology
 - Many issuers add additional debit programs (another debit brand, surcharge free, etc.)
- **Issuers require portability to add and/or delete debit networks without requiring card re-issuance**
 - Card must include an Application ID (AID) that is supported by the network the card participates in
 - Card can not include AIDs that are from networks that it does not participate in as the terminal-card interaction could choose that AID option
 - Any type of “dynamic” card configurations regarding available AIDs on a card have been discounted as unworkable
 - Issuers believe supporting more than one application on a chip adds cost and additional administration overhead
- **EMV technology requires that the processing AID be chosen at the terminal**
 - This does not allow for re-routing to an alternate non-supporting network if a network path is unavailable which may impact transaction approval rates and customer experience

Merchant Concerns

- **The AID for the transaction to process under, is chosen in the initial terminal-card interaction**
 - Unlike magstripe, the AID that is chosen is specific to Network(s) that can process the transaction, due to either technology or business rules
 - Merchants want to make routing choice at their host based on specific criteria and not at terminal level as EMV is designed to function
- **Merchants and their processors currently route transactions based on many factors**
 - Networks available for the specific BIN
 - Whether card issuer is regulated or exempt under the Durbin amendment
 - Dollar amount of transaction
- **Merchants and their processors cannot dynamically change routing choices performed at the terminal level**
 - Impossible to obtain the same flexible transaction routing logic in POS devices or keep that logic current
- **Merchants share the same concerns as issuers regarding re-routing restrictions if a network is unavailable**
 - Negatively affecting transaction approval rates and customer satisfaction

Industry Response

- **Initially, a number of EMV working groups were created in the industry, those have consolidated into two main groups dealing with the debit issue**
 - Secure Remote Payment Council (SRPc) Chip and PIN Working Group, representing PIN Debit Network concerns. Networks of WG are: AFFN, ATH, CO-OP Financial Services, Jeanie, NETS, NYCE, Presto!, PULSE, SHAZAM and STAR
 - Smart Card Alliance EMV Migration Forum (EMF), diverse industry group (Global Networks, Domestic Networks, Issuers, Merchants, Hardware and Software Manufacturers, etc.)
 - Several PIN Debit Networks participate in the EMF
- **The SRPc and EMF groups have been exploring the “US EMV Debit Issue” for over a year**
- **The EMF group has recommended that a single Common US Debit AID per card is the only option**
 - The industry worked for 6+ months to find technical solutions to address more than one
 - Major merchants have now stated that they will not accept a card with more than one Common US Debit AID option
 - There are basically two solutions for the Common US Debit AID put forward in the industry, both that meet the industry requirements, **BUT BOTH SOLUTIONS REQUIRE THAT ALL DEBIT NETWORKS PARTICIPATE IN THE SPECIFIC SOLUTION**

Comparison of Current Solutions

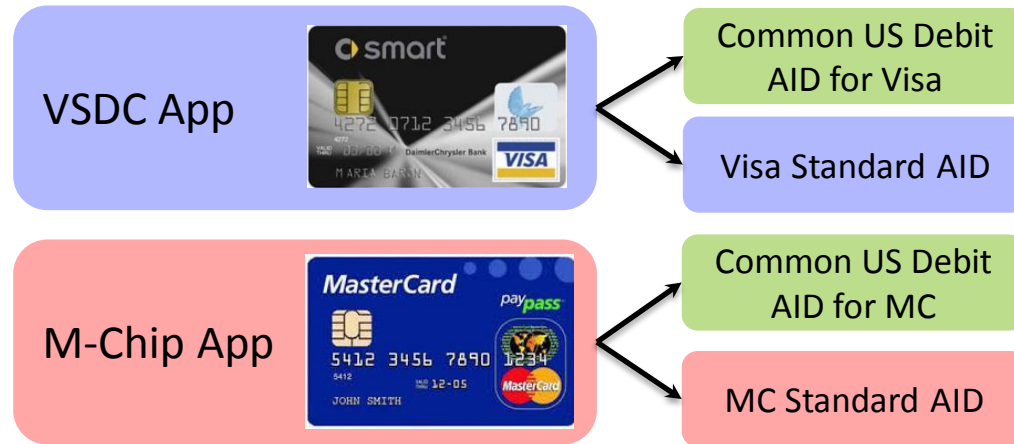
MasterCard and Visa Proposals



- MC and Visa proposed allowing access to **their proprietary** “Common US Debit AID” option to other debit networks
- All debit networks would be required to enter individual licensing agreements with MC and Visa
- MC cards would use the M-Chip4 Application and the Maestro AID and Visa cards use the VSDC Application and the VISA US AID

Comparison of Current Solutions

US Debit Network Consortium Proposal



- Propose that the Common US Debit AID on every card is owned by a consortium of all US Debit Networks, including MC and Visa
- Uses the single Application on the card, MChip4 on a MC card, VSDC on a Visa card, D-PAS on a Discover card
- Potential that the consortium would be the entity licensing the use of the underlying applications rather than individual Networks

Comparison Summary

- **Both solutions meet the Issuer requirements of portability between Networks without re-issuing cards**
- **Both solutions technically meet the Merchant and ATM owner requirements of a single Common US Debit AID on each card, allowing for AID selection, and host routing decisioning**
- **Significant differences exist between the solutions: ownership, control of the Common US Debit AID and associated application functionality**
 - The MasterCard/Visa solution limits the licensing term of the technology and controls the functionality available to competing networks that are inherent in the underlying application
 - The MasterCard/Visa solution restricts ability for competitors to innovate and bring new solutions to the market
 - MasterCard/Visa supports selection of their application both through the Common US AID as well as the global AID. Debit networks limited to Common US AID access
 - Consortium solution represents shared governance of the Common US AID and opens access to application functionality
 - Consortium approach eliminates constraints on technology and allows for innovation
 - Common governance promotes development of common business terms and chip program administration as well as shared testing and certification requirements across the networks, reducing the impact on the industry

Regulatory Complication

- **The industry was in the process of deciding between the two solutions when the NACS vs. Board court ruling was recently published regarding the Federal Reserve Board Regulations implementing Regulation II**
- **The VISA/MC existing solutions do not have provisions to support “two signature” options that may be required if the ruling is upheld**
 - MC and Visa have not offered to any other Network the EMV signature capability
 - The proposed solutions require merchants to choose the MC or Visa proprietary AID for a signature transaction, the Common US Debit AID for a PIN or “no-CVM” transaction
- **Any card created by an issuer today represents a potential re-issue if the ruling is upheld and Regulation II is changed**
- **Any merchant terminal programmed for AID selection based on the existing proposals would need to be re-programmed if the ruling is upheld**
- **This event has created a “freeze” in some of the activities of the industry**

Global Network EMV Plans Not Aligned w/ FRB Rules or Intent of the Durbin Amendment for Debit in the US

<p>Issuers want less cost and portability</p>	<ul style="list-style-type: none"> ❑ Visa/MC each have a proprietary chip application; 18+ debit networks deploying their own specification is not feasible in the US due to cost, complexity; changing networks will require Issuers to mass reissue cards – Issuers have called for networks to agree on only one chip application per card ❑ High cost of re-issuance and challenges of supporting multiple applications provide market leaders with extreme advantages
<p>Merchants Want Mag Stripe Simplicity</p>	<ul style="list-style-type: none"> ❑ EMV designed for POS terminal to select network based on Issuer preference – NOT merchant choice ❑ BIN-based routing (used today for mag stripe) not viable at terminal level due to lack of sophistication and memory ❑ Merchants have called for one application/card, providing ability to use host-based BIN routing
<p>Anti-PIN</p>	<ul style="list-style-type: none"> ❑ Despite proven strength and world precedent of PIN, Visa guidelines require “Signature”; new licensing proposals to debit networks do not include “Signature” which restricts merchant choice
<p>Requiring Top Priority; leverage International AID</p>	<ul style="list-style-type: none"> ❑ Visa/MC both require issuers to make their chip application top priority ❑ As Visa/MC share their applications, they will have two AIDs (Application Identifiers) which will allow them to encourage merchants to adopt the international AID – which can shut out regional networks
<p>Debit Networks Lose Ability for Innovation and Control of Destiny</p>	<ul style="list-style-type: none"> ❑ Each global network has a proprietary implementation of EMV that cannot be shared across networks without agreeing to constraints of licensing agreement ❑ Sharing applications ability to innovate, no control over payment destiny; especially concerning as EMV does not solve for mobile payments, license of Visa/MC applications, which portends the demise of network competition

Additional Concerns

Payment Network Duopoly?	<ul style="list-style-type: none">❑ Current direction of EMV Migration in the US puts all control at the hands of the two dominant networks❑ Other debit networks are relegated to accepting terms, conditions, timeframes of the dominant networks, with severely limited ability to direct their own future❑ As debit networks are marginalized, limited choice is likely to drive prices back up in the long term
Arbitrary Dates Pressure Issuers to Choose a Dominant Network	<ul style="list-style-type: none">❑ October, 2015 liability shift dates have not been revised; both Issuers and Merchants indicate they cannot risk accepting full liability for payment fraud by not adopting Visa/MC EMV solutions❑ Since the debit EMV solutions have not been finalized – and once they are significant time will be needed to sign agreements and prepare technology – Issuers and Merchants may be pressured to support the “known” solutions, leaving the regional debit networks without clients
Global Networks Resisting Common Governance	<ul style="list-style-type: none">❑ Regional debit networks of the SRPc WG have publicly reached out to both Visa and MasterCard to join on equal footing to create common governance of a US Common application identifier (AID)❑ Although common governance would benefit the entire industry, Visa and MasterCard have not agreed to such governance
Active Sales to Issuers to adopt Duopoly	<ul style="list-style-type: none">❑ Several FIs have stated their intention to chose a combination of Visa and MasterCard membership to comply with unaffiliated network requirement❑ Visa/MC sales efforts continue to push their solutions for EMV, with a valid argument that they are the only ones that have licensed their chip applications to each other❑ Although D-PAS was chosen by the SRPc WG debit networks, both Visa and MasterCard continue to hold out / not respond to requests that this chip application could be used by Issuers as the common debit application❑ Visa / MC sales efforts have driven an industry perception that the debit dilemma for EMV has been solved – just adopt the Visa and MC combination and Issuers will be ready to go

Regulatory Influence To Rectify Situation

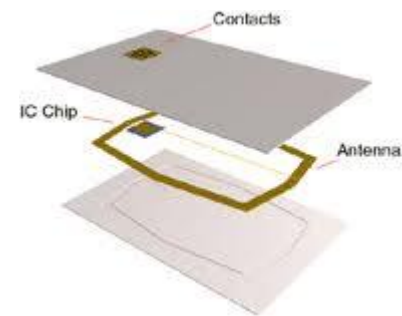
- **Regulatory pressure to engage the industry in a structured discussion about how open, consensus standards can complement the EMV/ integrated chip (IC) card implementation underway in the U.S.**
- **Influence creation of a U.S. common debit solution governed by all debit networks**
- **Clearly stated guidance that Regulation II was intended to foster innovation and enrich market competition**
- **Clearly stated guidance that EMV implementation dates should be determined by project implementation milestone agreements and not arbitrary dates**

**THANK YOU,
Questions?**

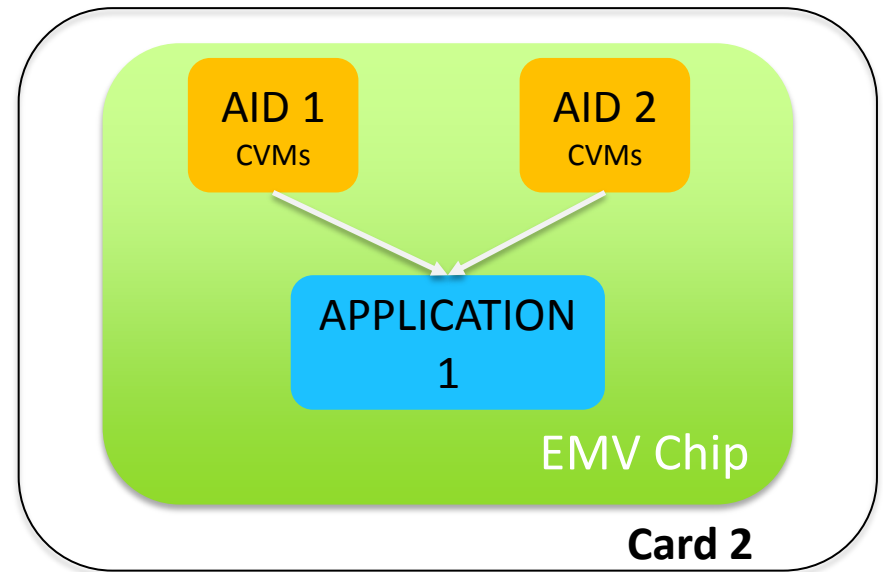
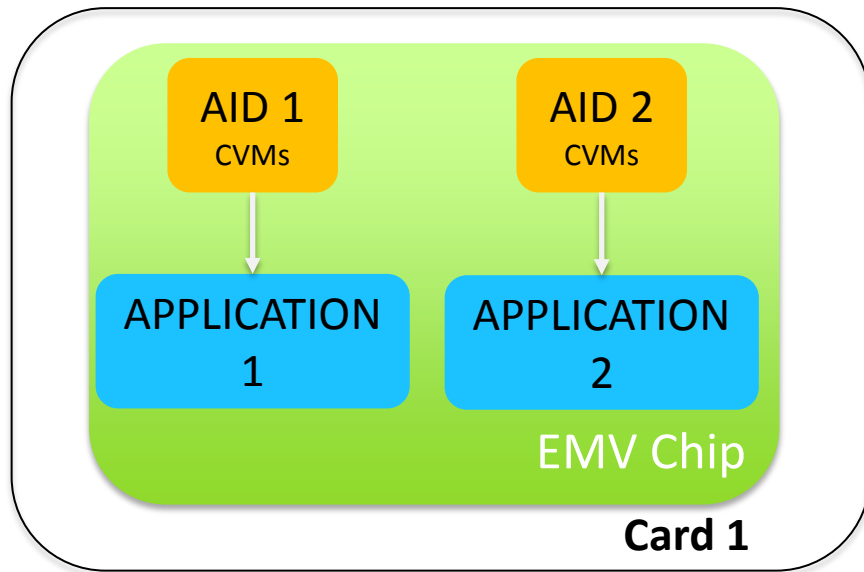
Appendix

EMV Background

- **Global standard for payment cards and terminals using chip card technology**
- **EMV abbreviation for Europay, MasterCard® and Visa®**
 - Initiated development of the EMV standard in 1994
 - Europay merged with MasterCard in 2002
 - Principal members of EMVCo are now Amex, Discover, JCB, MasterCard, UnionPay, and Visa
- **EMV chip-based payment cards, also known as smart cards, contain an embedded microprocessor. The microprocessor chip contains the information needed to use the card, and is protected by various security features.**
- **On-line and off line uses are supported**



Terminology - What's on the Card



- **EMV Application**

- EMV compliant program on the chip on the card
- The number dictates the size of the chip needed

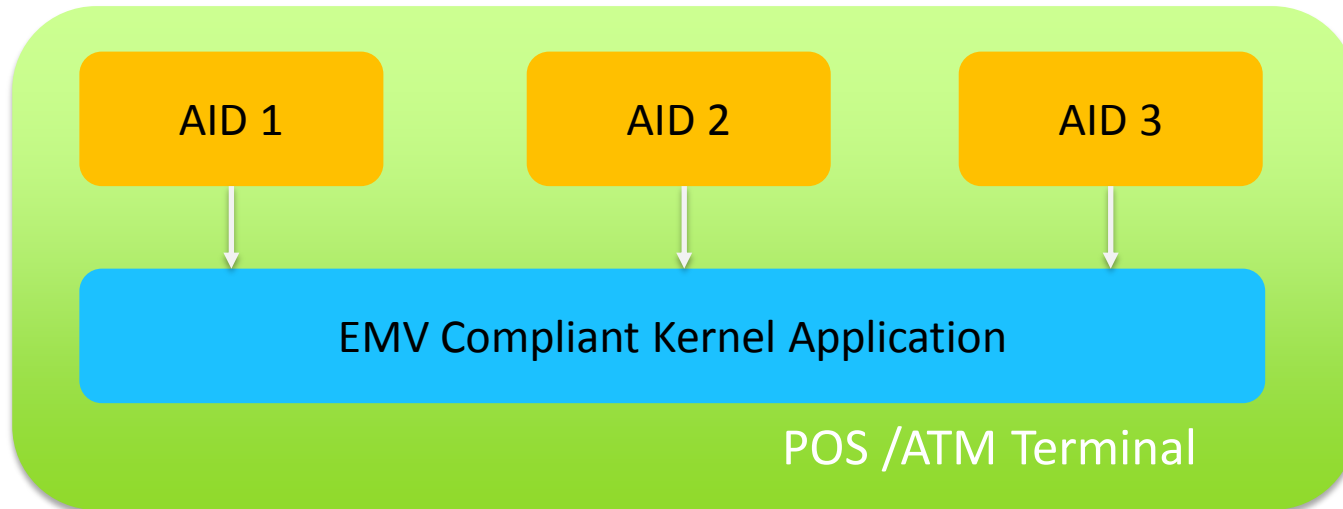
- **EMV Application ID (AID)**

- Specific reference number (AID), registered with ISO, used in terminal-card interaction
- AID specifies which application to use, encryption keys and contains parameter lists
- Multiple AIDs can use the same program on a chip (Card 2)

- **Cardholder Verification Methods (CVMs)**

- Methods required to be used between that card and EMV device for that EMV AID

Terminology - What's on the Terminal



- **EMV Compliant Kernel Application**

- The terminal application that is EMV compliant

- **EMV Application ID (AID)**

- Specific reference number, registered with ISO, that is used in terminal-card interaction
- AID specifies which applications are accepted

How It Works at an EMV Device

