



Chip-Enabled Payment Cards

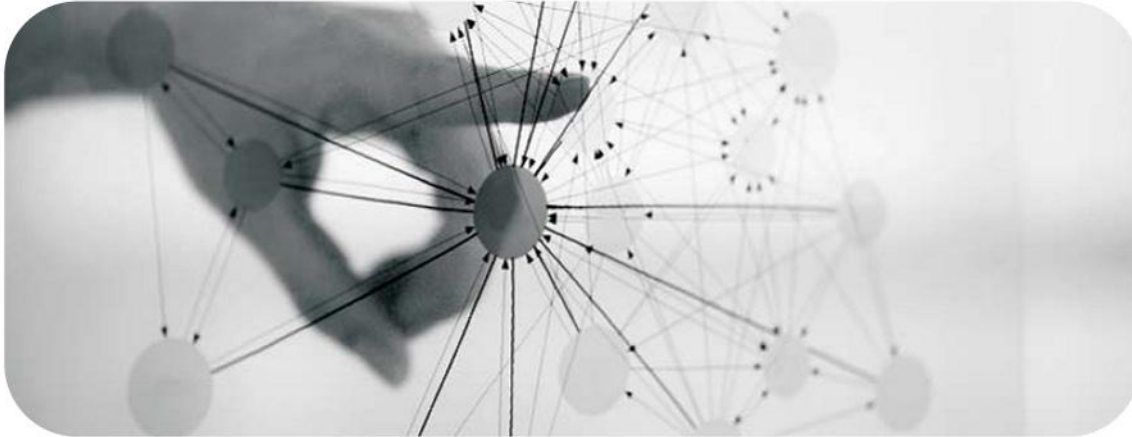
2010 AMBA Fall Workshop

September 14, 2010

Agenda



- Situation Analysis: Magnetic Stripe Card Acceptance Issues
- Chip & PIN Cards Background
- Proposed Solution: Prepaid Deployment Card Product
- Pilot Implementation Approach
- Why FIS & AFFN?



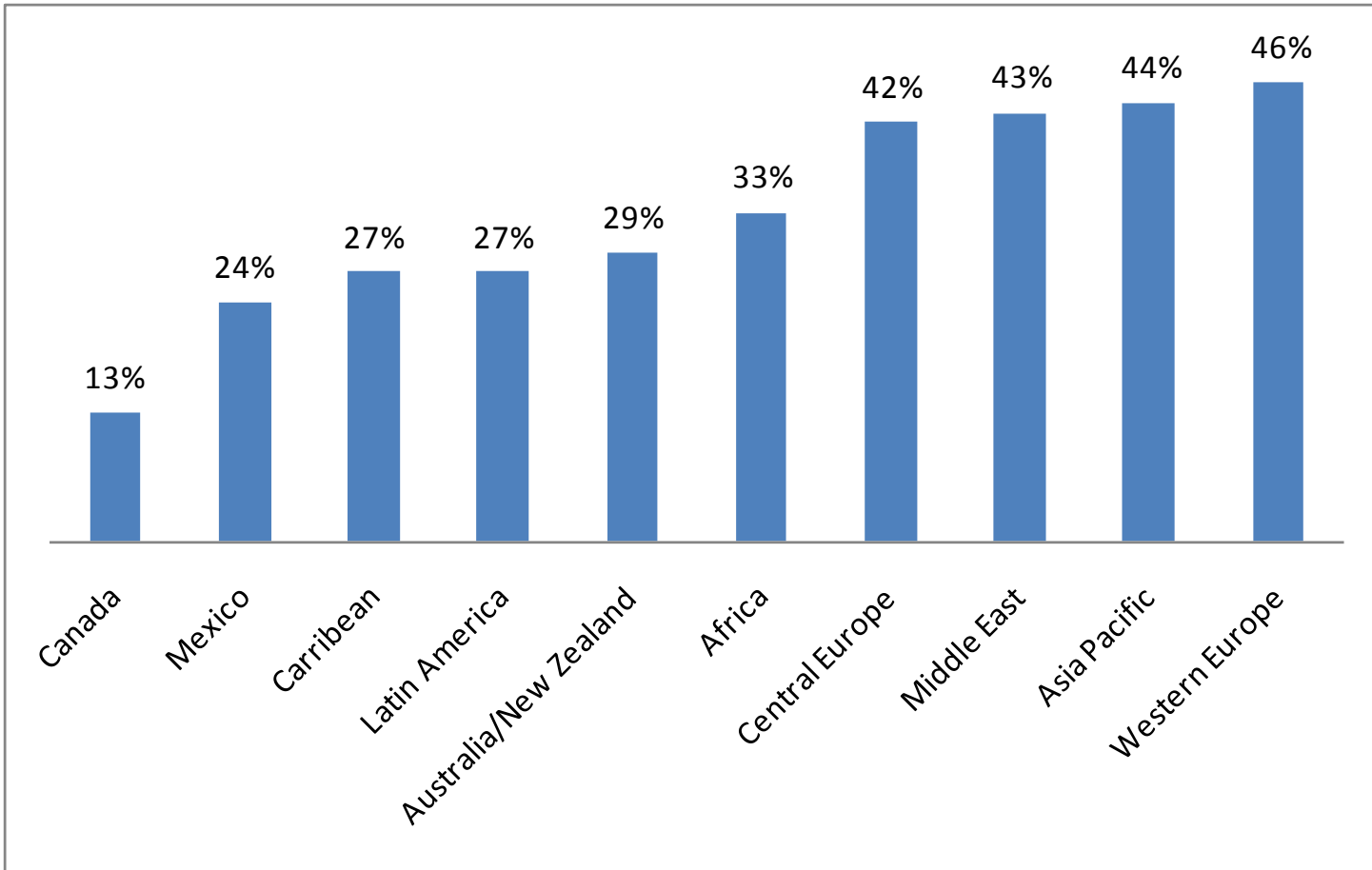
Situation Analysis

What is the Nature of the Problem?



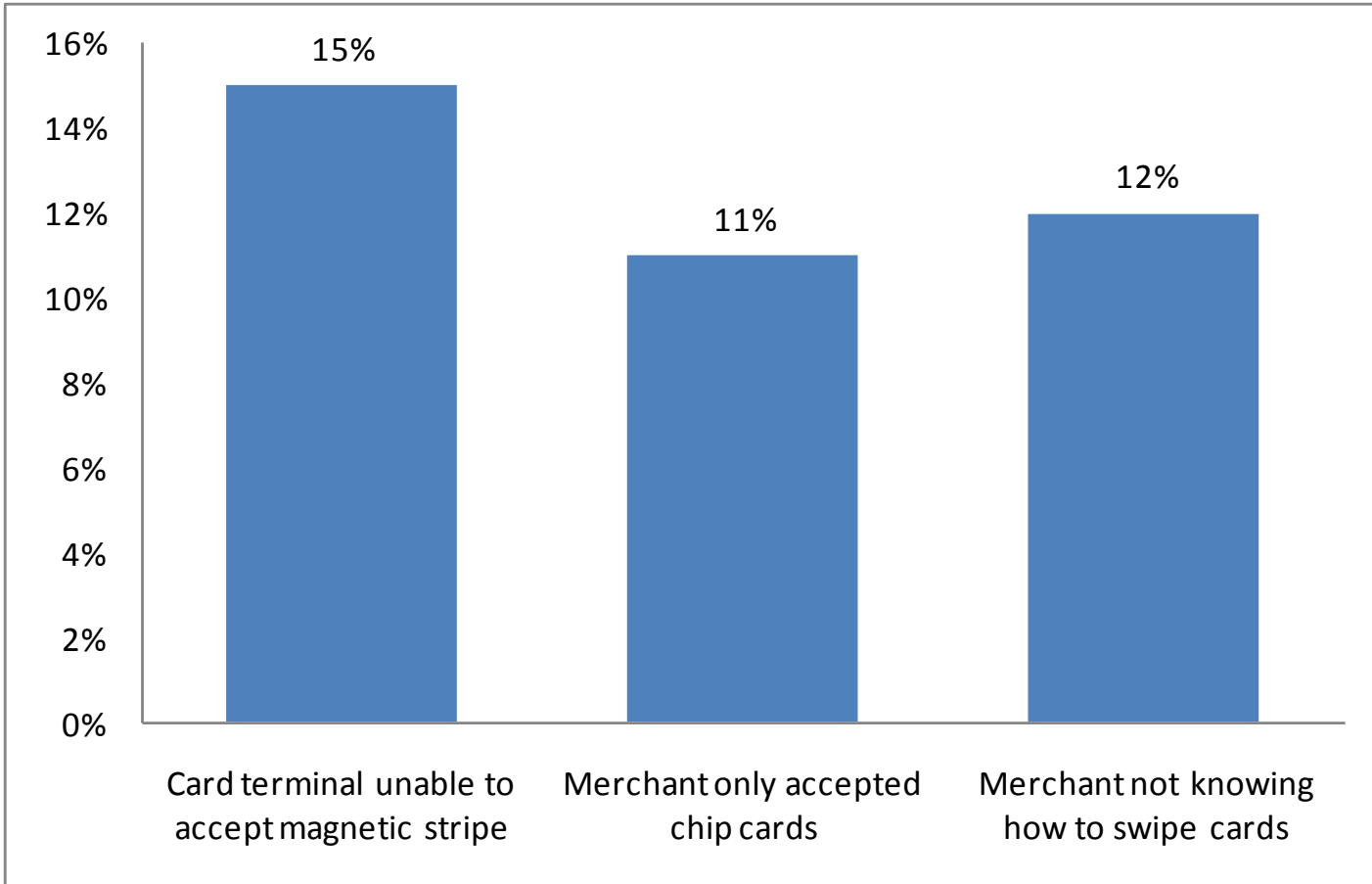
- Consumers traveling or living abroad in Chip-enabled markets
- Acceptance Issues with Traditional Magnetic Stripe Cards
 - Certain terminals only accept Chip cards (unattended)
 - Merchants unwilling to accept/process magnetic stripe cards

Incidence of Card Problems by Region



Source: Aite survey of 1,019 US cardholders traveling outside the US 2006 to 2009

Some Key Factors Affecting Acceptance

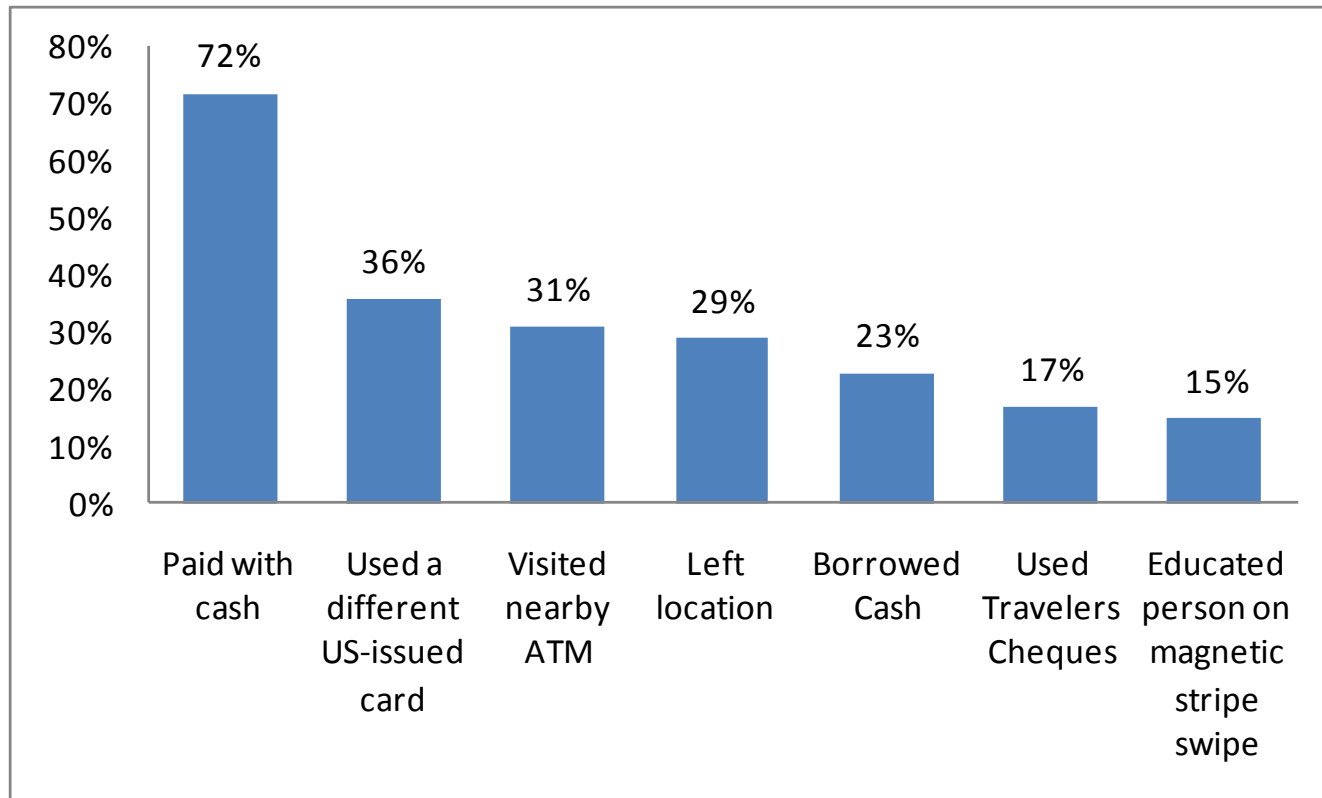


Source: Aite survey of 1,019 US cardholders traveling outside the US 2006 to 2009

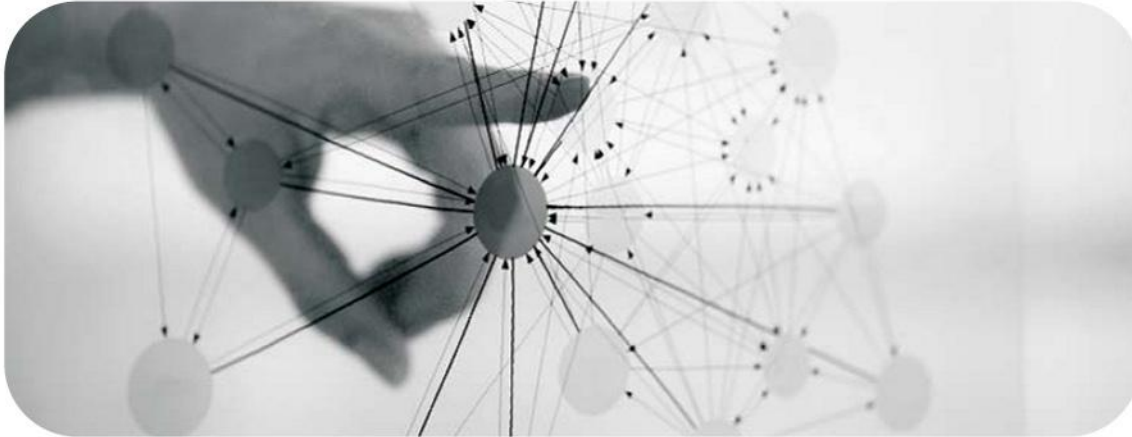
How do Cardholders React when Faced with Acceptance Problems?



Pay with Cash is # 1!



Source: Aite survey of 1,019 US cardholders traveling outside the US 2006 to 2009



Chip & PIN Cards

Technology Overview



- What is EMV? - defines the interaction at the physical, electrical, data and application levels between Chip Embedded cards (referred to as IC cards) and Chip card processing devices for financial transactions (ATM, POS, etc)
- What does EMV Provide?
 - Interoperability
 - Common standard for all major payment networks
 - Contact, Contactless or Both
 - Enhanced Security
 - End to end authentication of the card and the issuer
 - Offline PIN validation capabilities
 - Issuer Control
 - Issuer risk control at the acquiring terminal
 - Issuer scripts to modify card parameters post issuance
 - Operating Savings
 - Reduced chargebacks & fraud losses
 - Liability shift in favor of EMV adopter
 - More offline transactions



What is the Primary Driver for EMV?

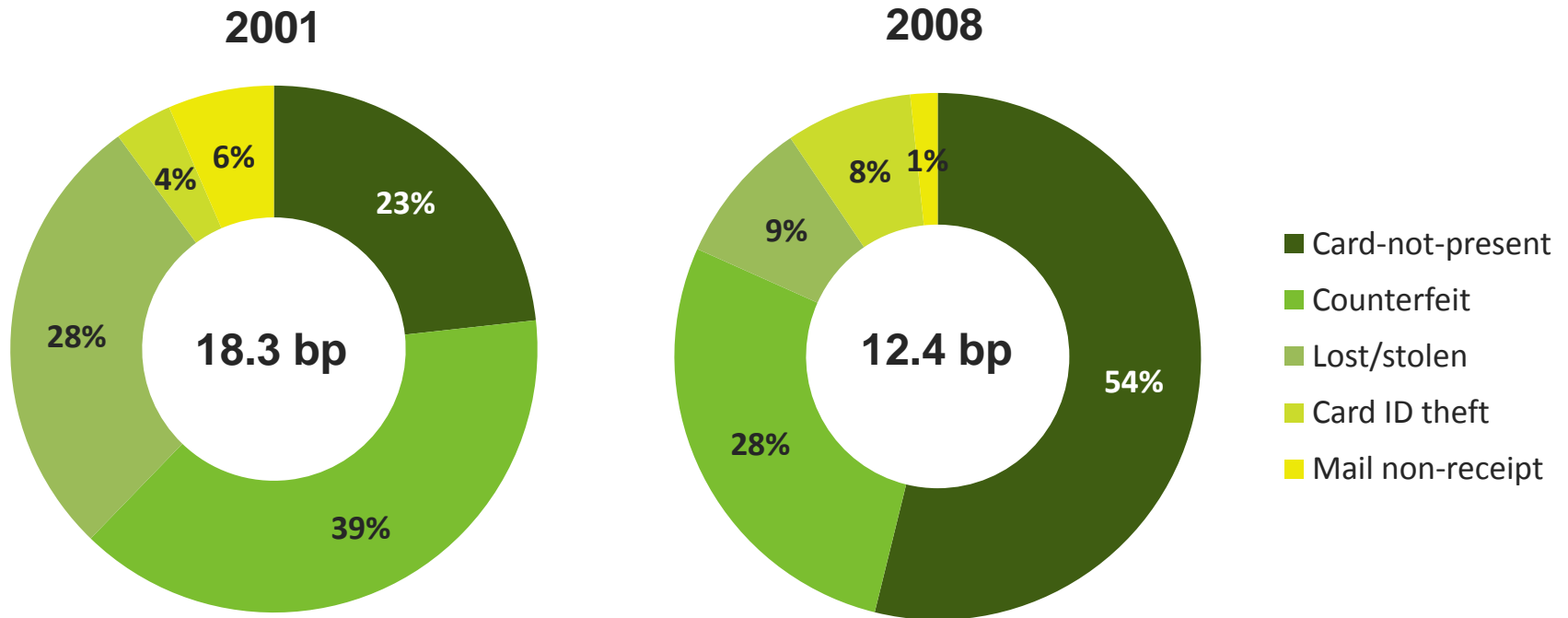


- The number one driver for EMV is to combat Fraud!
- Magnetic stripe card problems...
 - Copying cards (skimming)
 - Creating random card numbers used in card-not-present, mail order/telephone order/internet transactions.
 - Card theft
- Most of the world's chip devices today are in Europe (2/3)

Fraud Loss Results



Card Fraud Losses in the UK



Source: APACS Research

Chip and PIN, Often Misunderstood...



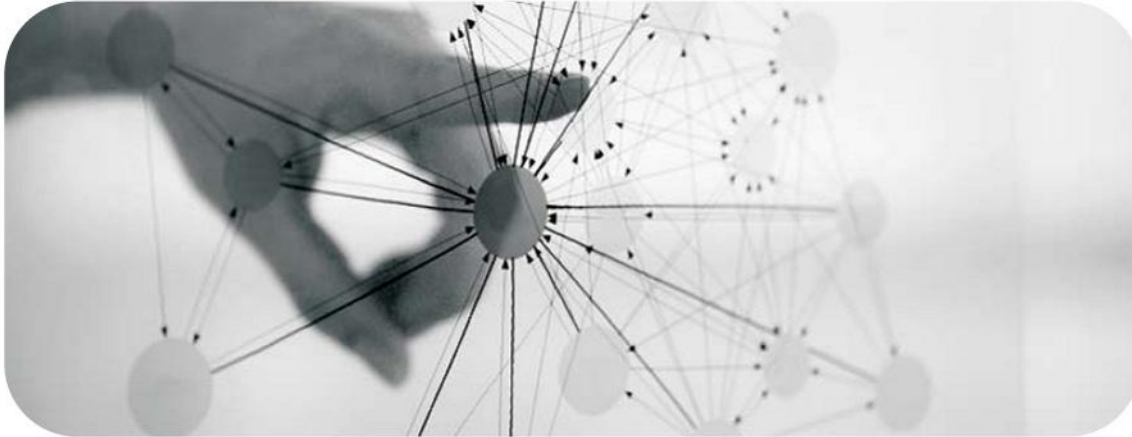
- EMV Consumer Authentication Standards
 - Online PIN: sent online to host for validation by issuer or their processor
 - Offline PIN: validated directly with the chip. PIN never sent to the host.
 - Signature Only: card determines if PIN is required based on terminal and transaction characteristics
- ATM's Usually Online PIN Verification
- Chip protects counterfeit by enabling more robust 'card' authentication
- PIN protects cardholder from unauthorized use when lost/stolen, friendly fraud, etc.

Regional Compliance/Mandates for EMV



- VISA Issuance/Liability Shift Mandates
 - APAC (Asia/Pacific): January 2011
 - Canada: October 2010
 - EU (Europe/UK): January 2011
 - LAC (Latin America): TBD
 - CEMEA (Central Europe/Middle East/Africa): TBD

- MasterCard Issuance/Liability Shift Mandates
 - APAC (Asia/Pacific): January 2011
 - Canada: October 2010
 - EU (Europe/UK): January 2011
 - LAC (Latin America): TBD
 - SAMEA (South Asia/Middle East/Africa): TBD



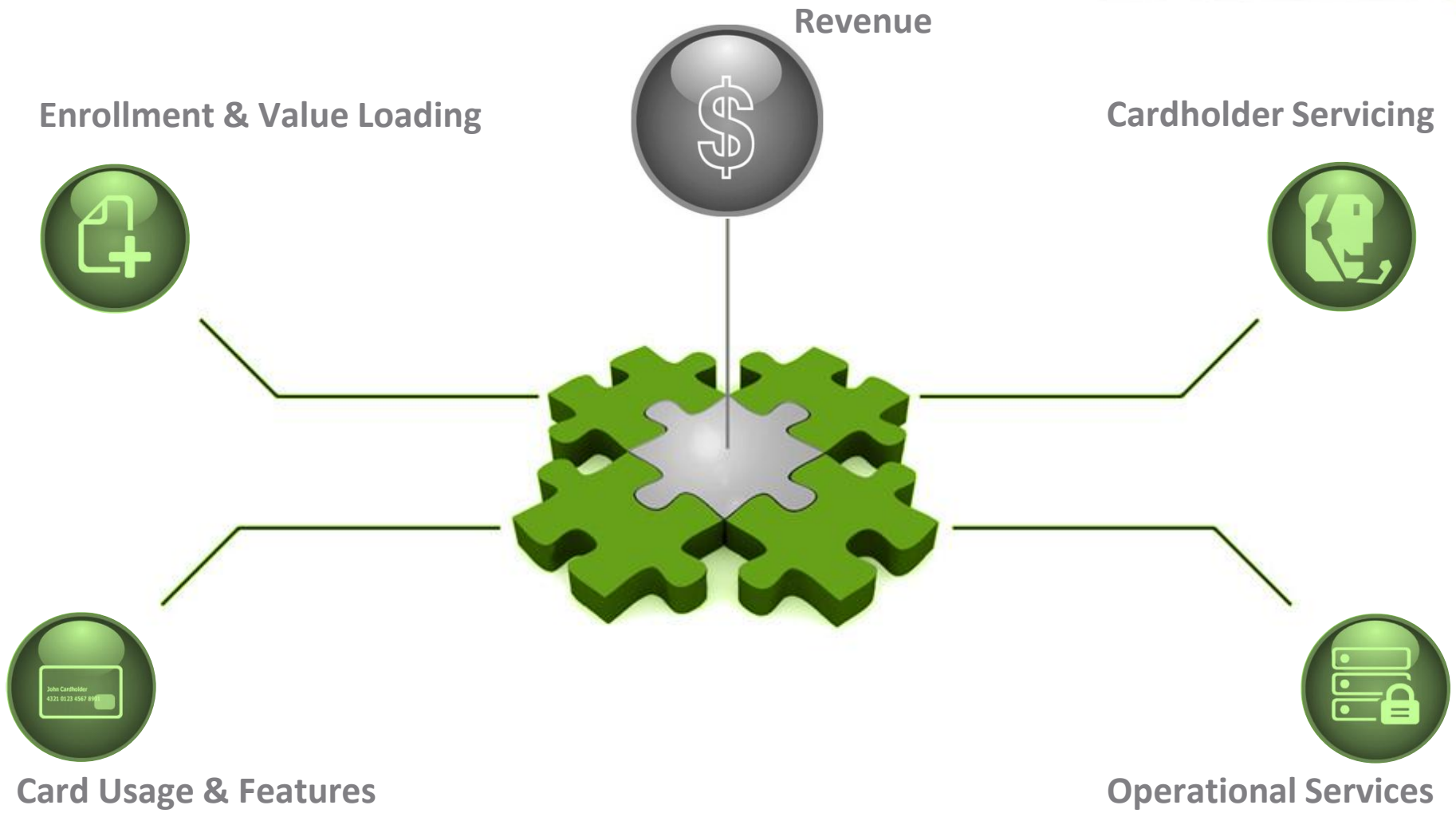
Solution: Prepaid Deployment Chip Card

Deployment Card Summary

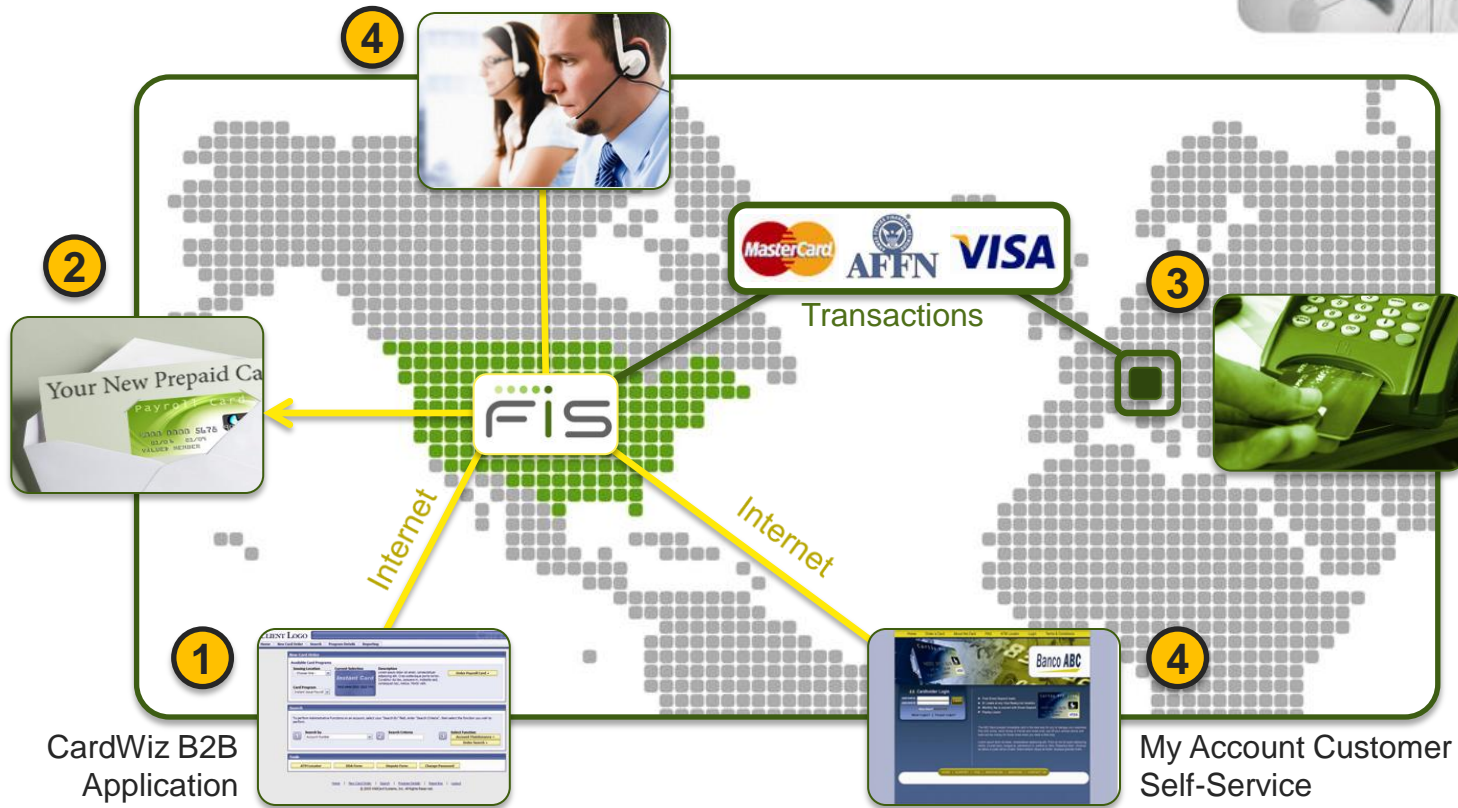


- Issued to Service Members, DOD civilians and their dependents in chip-enabled markets
- Turnkey Chip/PIN Prepaid Card Product/Service Offered to Military Financial Institutions
- AFFN with MasterCard or Visa
- Personalized and Fulfilled to US Mailing Address
- Loaded via ACH or Payroll Allotment
- Web, IVR and Live Agent Support
- AFFN to act as Program Manager

Prepaid Card Solution/Components



Prepaid Card Components & Life Cycle



1 Account is created in CardWiz B2B application using cardholder info.

2 Card(s) are fulfilled and shipped to location in the United States or APO/FPO

3 Cards can be used anywhere VISA/MasterCard/AFFN is accepted

4 Cardholders can get customer service online or via phone (IVR and live agent)



Enrollment and Value Loading



- **Account Creation, Card Issuance & Initial Load**
 - B2C web site (MyAccount)
 - Face-to-face via B2B web application (CardWiz)
- **Card Fulfillment & Package Customization**
 - Plastics, card carrier and materials
 - Interface with domestic Chip-enabled manufacturer and fulfillment house
- **Card/Account Reload and Unload**
 - Face-to-face reload via B2B application (CardWiz)
 - Payroll allotment reload
 - Web reload/unload via ACH (MyAccount)
- **Risk/Fraud & Customer Validation**
 - Cardholder & regulatory validation (OFAC, CIP/KYC)
 - Transactional fraud tools



Cardholder Servicing Contact Channels



- **IVR**
 - Multiple functional modules (e.g. balance, transactions, activation, load value)
- **Cardholder Contact Center**
 - CSRs (FIS employees) in Brazil, India, United States & UK
 - Customer service licensable application available
- **Consumer Self Service Website**
 - FIS My Account modular site available
- **SMS Text Messaging**
 - Inbound (Cardholder-initiated): Balance, Help, Opt-in/out
 - Outbound (System-triggered): Transactions, Load Value, Low Balance
- **In-person support**
 - FIS B2B web-based tool (CardWiz) for face to face support



Card Features & Usage



- Card Transactions
 - Visa/Plus or MasterCard/Cirrus
 - AFFN ATM and POS Network
- Key Program Features
 - Personalized Chip & PIN Card
 - Robust cardholder fee engine
 - Multiple program parameters to define card usage, risk, velocity, load limits, etc.

Chip Card Specific Features



- VISA Chip – Base I VSDC (Visa Smart Debit/Credit)
- MasterCard Chip – BankNet M/Chip 4 Lite
- Fully EMV Compliant
- Full Grade EMV Support
- FIS Prepaid Program Support:
 - POS Purchase with offline PIN validation (and online PIN validation if PIN sent)
 - ATM with online PIN validation
 - Cryptogram validation (ARQC – Authorization Request Cryptogram)
 - Cryptogram generation (ARPC – Authorization Response Cryptogram)
 - PIN Change/Unblock @ the ATM
 - SDA & DDA – Static or Dynamic Data Authentication
 - iCVV - VISA (Integrated CVV) or CVVChip – MasterCard

NOTE: FIS Prepaid does not recommend chip settings in support of offline PIN validation



Operational Components



- **Financial Operations**
 - Reconciliation reporting & settlement
 - Chargeback processing
- **Reporting & Data Services**
 - Standard reports delivered via URL
 - Standard reporting data feeds
- **Fulfillment & Inventory Management**
 - CardWiz used for enrolling cardholders
 - FIS will send files to manufacture and fulfill in the United States
- **Client Services**
 - Dedicated representatives for client servicing
 - Account & project management
 - 24x7 technical support desk



MyAccount B2C Web Application



- Web-based consumer application with multiple functional modules
- Used for multiple product types
- Content supplied by top level client specific to product type
- Consumer can create account online
- Cardholder can update demographics online
- Cardholder can set up funding account for reloads if allowed
- Full design customization, branding and content available
- Multi-lingual capable



- Card activation
- Current balance
- Transaction history
- On-line statements
- Load funds
- Unload funds
- ATM locator
- Terms & Conditions

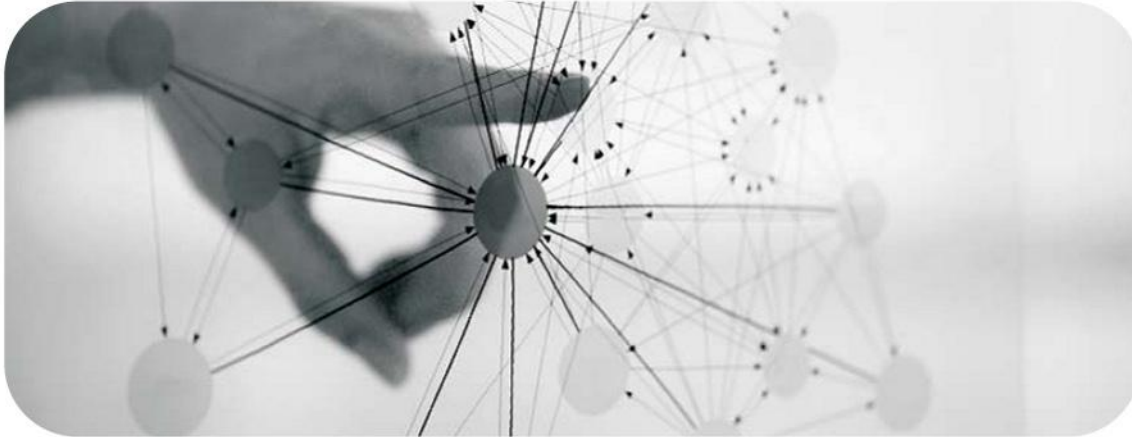


CardWiz B2B Web Application



- Web-based B2B application with multiple functional modules for card issuance and light servicing
- Username and password protected – typically IP restricted
- Capable of issuing multiple card types and both fulfilled and instant issue cards
- Used by client or client’s agent banks or corporate clients for:
 - Enrollment
 - Value loading
 - View end-of-day reports
 - Manage accounts (“light” Cardholder servicing)

The screenshot displays the CardWiz web application interface. At the top, there is a navigation bar with a 'CLIENT LOGO' on the left and 'CardWiz' on the right. Below the logo, there are several menu items: 'Home', 'New Card Order', 'Search', 'Program Details', 'Reporting', 'Preferences', and 'Logout'. The main content area is titled 'New Card Order' and contains a section for 'Available Card Programs'. This section includes two dropdown menus for 'Issuing Location *' and 'Card Program *', both with '- Choose One -' as the selected option. A yellow 'Order »' button is positioned to the right of these dropdowns. Below the dropdowns, there is a 'Current Selection' section featuring a small image of a blue credit card and a 'Description' section with placeholder text. The bottom section of the interface is titled 'Search' and contains instructions: 'To perform a search, first select the Search Type. Then choose which field you want to search on and then enter the criteria you are looking for.' Below the instructions, there are three numbered dropdown menus: '1 Search Type *' with '- Choose One -', '2 Search By *' with '- Choose One -', and '3 Search Criteria *' with an empty text input field. A yellow 'Search »' button is located to the right of the search criteria field.

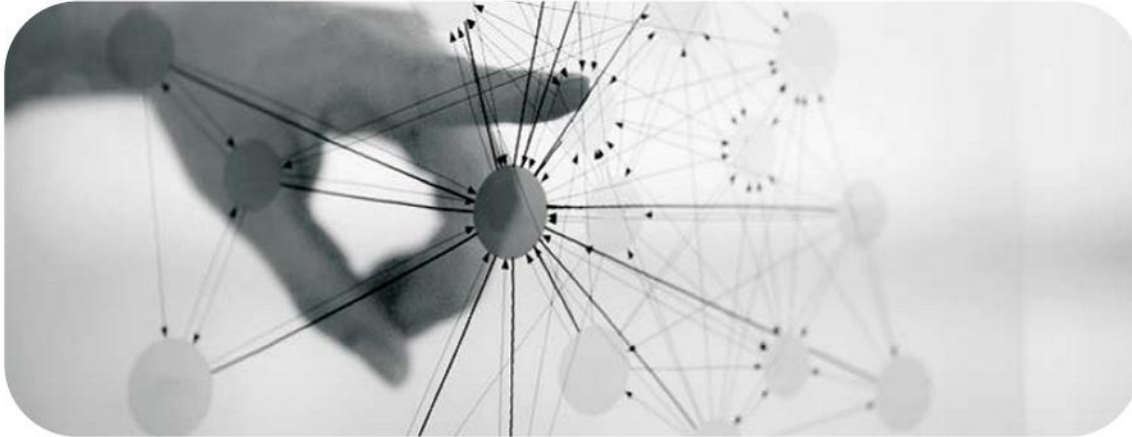


Implementation Approach

Recommendation



- Pursue Agent approach through AFFN Deployment Card Program
 - Leverage AFFN investment in building program – lower entry cost
 - Reduced risk for participants
 - Opportunity to pursue direct issuer model in the future
- Financial Institution-branded cards & consumer website
 - Consumer-facing components have Financial Institution branding
- Settlement through AFFN BIN Sponsor (TBD)
 - Shared BIN leverages Chip costs across participants



Why AFFN & FIS

FIS Prepaid Overview



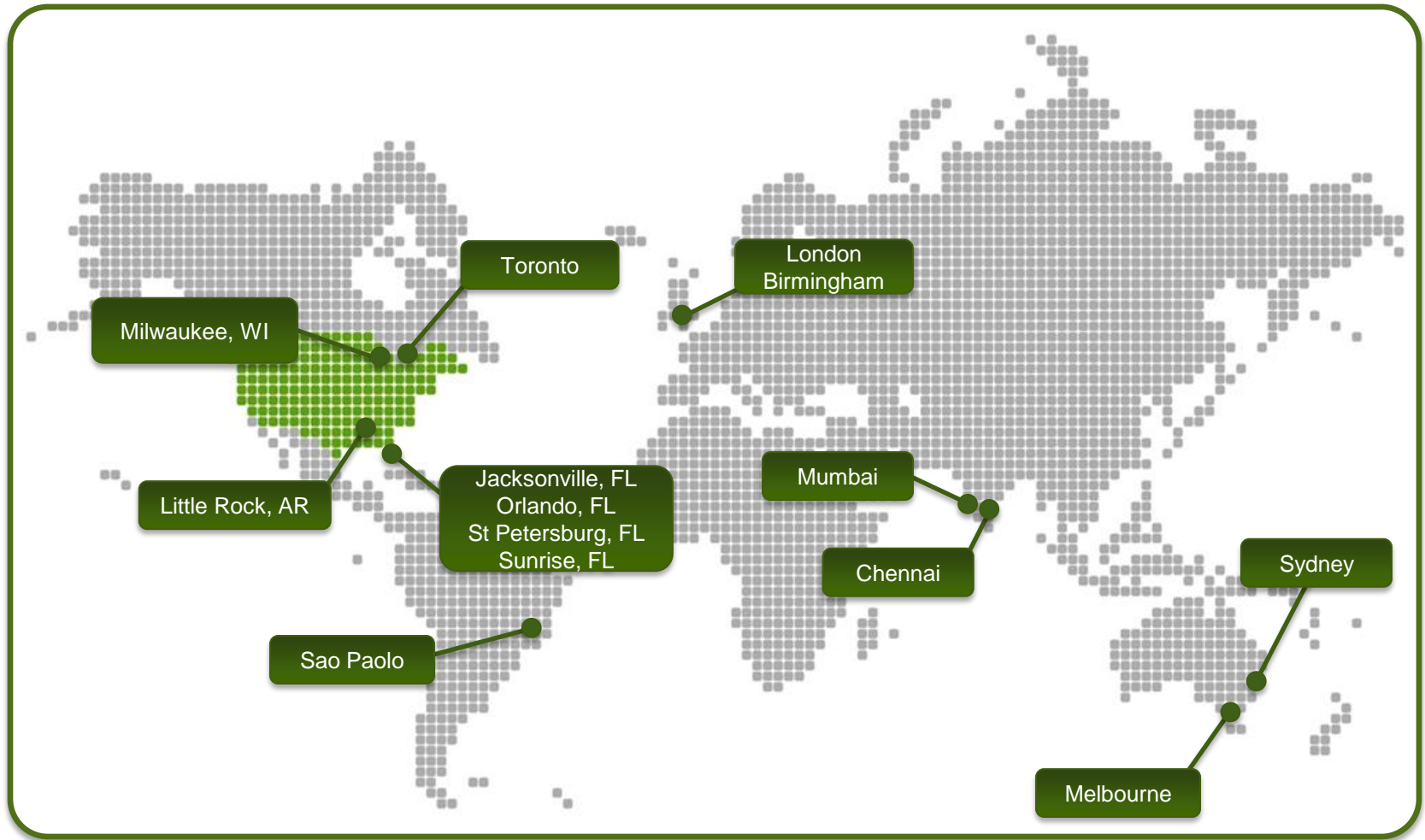
Industry leading third party processor

- Multiple platforms for maximum flexibility
- Over 180M active accounts on file
- Authorize and process more than 750M transactions annually
- Support Visa and MasterCard Chip and PIN in Europe with expansion planned in 2010 for Australia/New Zealand, Brazil and Canada
- Process in 14 different settlement currencies in 36 countries
- All currencies settled on a single platform
- Personalized more than 100M cards in 2009

FIS processes for both financial & non-financial institutions

- Provides FIS a very broad look across the debit card industry and enables the expertise to offer a wide array of products
- Functionality developed specifically for prepaid
- Flexible and customizable
- Industry leading experience & competency in multiple vertical markets
- International, global processing capabilities

Global FIS Prepaid Locations



International Prepaid Clients



Clients with Global Presence



Vancity



BARCLAYS



Westpac

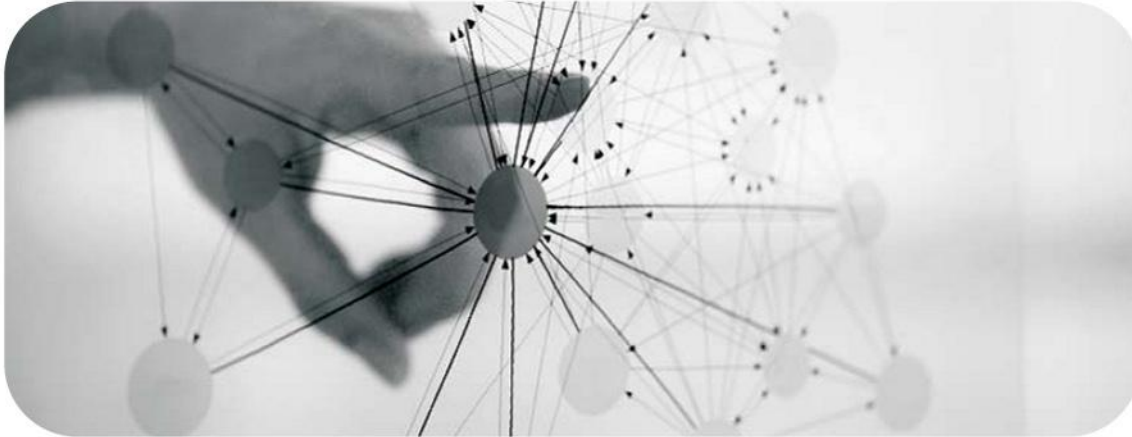
Why FIS & AFFN?



- **Experience**
 - Ability to help our clients manage complex products in order to deliver the right solution for their market
 - Global prepaid payments experience; Australia, Brazil, Canada, Europe, India and the United States
- **Comprehensive Products & Services**
 - FIS can deliver an entire ‘end-to-end’ solution, including processing, card personalization, rewards/loyalty, call center, IVR, mobile, bill payment, multi-currency, multi-lingual, local market expertise, etc.
 - All services are performed by FIS associates
- **Flexibility**
 - Wide range of prepaid offerings available and flexibility within those offerings
- **Scalability and Reliability**
 - Ability to grow with a client and support high card and transactional volumes
- **Commitment**
 - FIS considers prepaid a strategic business and continues to invest accordingly

“Enabling Payment Innovation Through Prepaid Card Products and Services”





Questions & Answers