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Your Guide to Navigating Debit Card Highways

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Today we will

- Analyze how debit card payments work
- Compare single-message & dual-message transactions
- Define net interchange
- Outline Reg II requirements
- Apply fraud detection & mitigation techniques

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Analyze how **debit card payments work**

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Financial **Institutions**

Acquirer

- Maintains merchant relationship
- Terminals connect to an acquirer processor
- Acquirer processor connects to available networks
- Sets fees that are passed on to merchants

Issuer

- Cardholder relationship
- Core/data center connects to an issuer processor
- Issuer processor receives transaction messages from available networks
- Incurs processor & network expenses
- Earns interchange revenue

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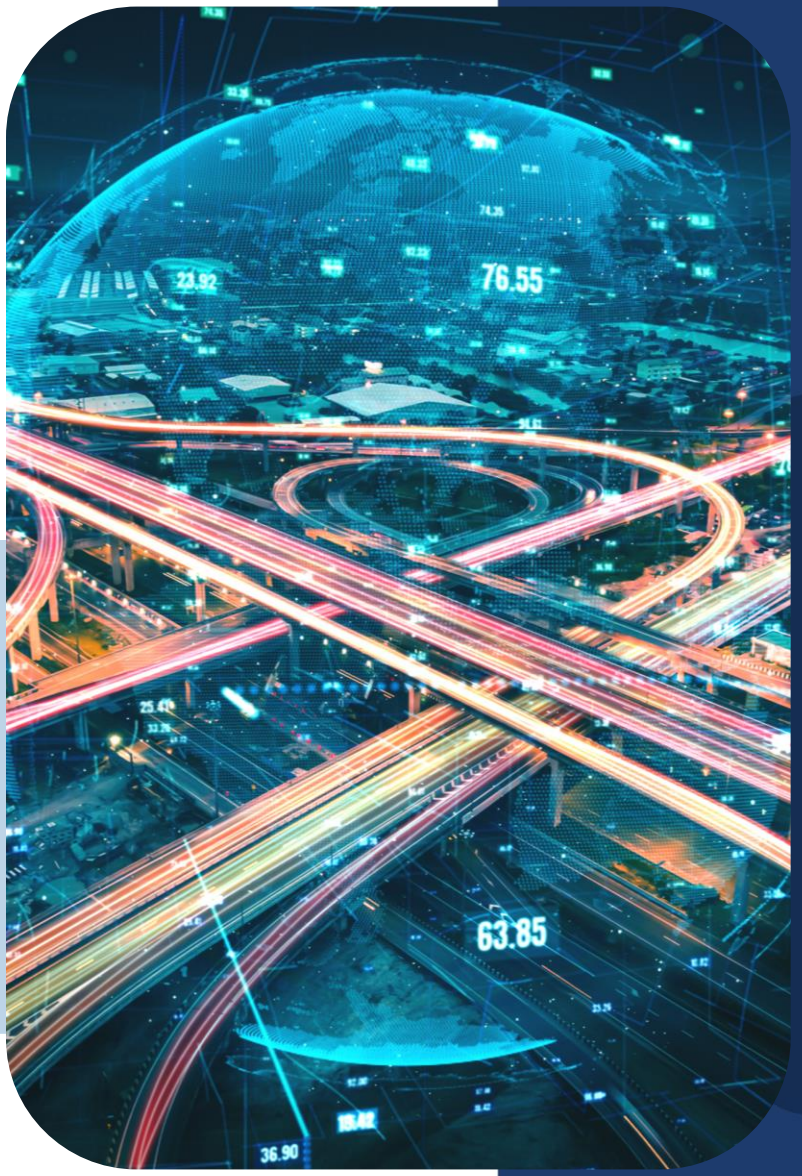
Debit **Processor**

- Also known as EFT processor or issuer processor
- Computer data center, the infrastructure to perform
  - Card validation/authorization
  - Fraud detection
  - Settlement
- A cost center/expense to issuer
  - Switch fees, transaction costs
  - Periodic assessments, industry mandates
  - Fraud mitigation tools



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Examples of EFT/Debit Processors

SHAZAM	Fiserv	FIS	Visa
SHAZAM	**Fiserv First Data®**	**FIS Culiance®**	**Visa DPS**

- CSI

Resellers of Fiserv or FIS include:

- Jack Henry, CO-OP, PSCU, TransFund and others

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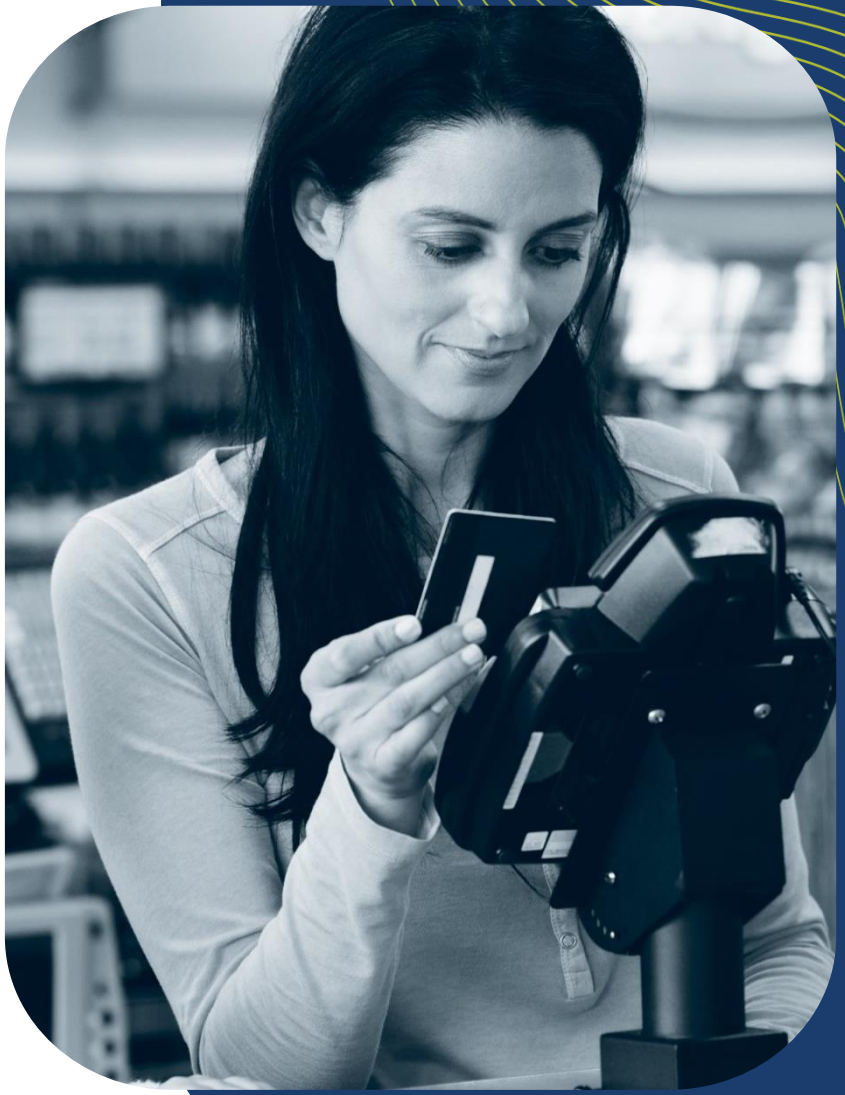
EFT/**Debit Network**

- A recognizable brand
  - At a terminal
  - On a card
- A brand & name recognition
- Each network's rules govern its transactions
- Interchange rates
  - The income stream for payments on the card rails



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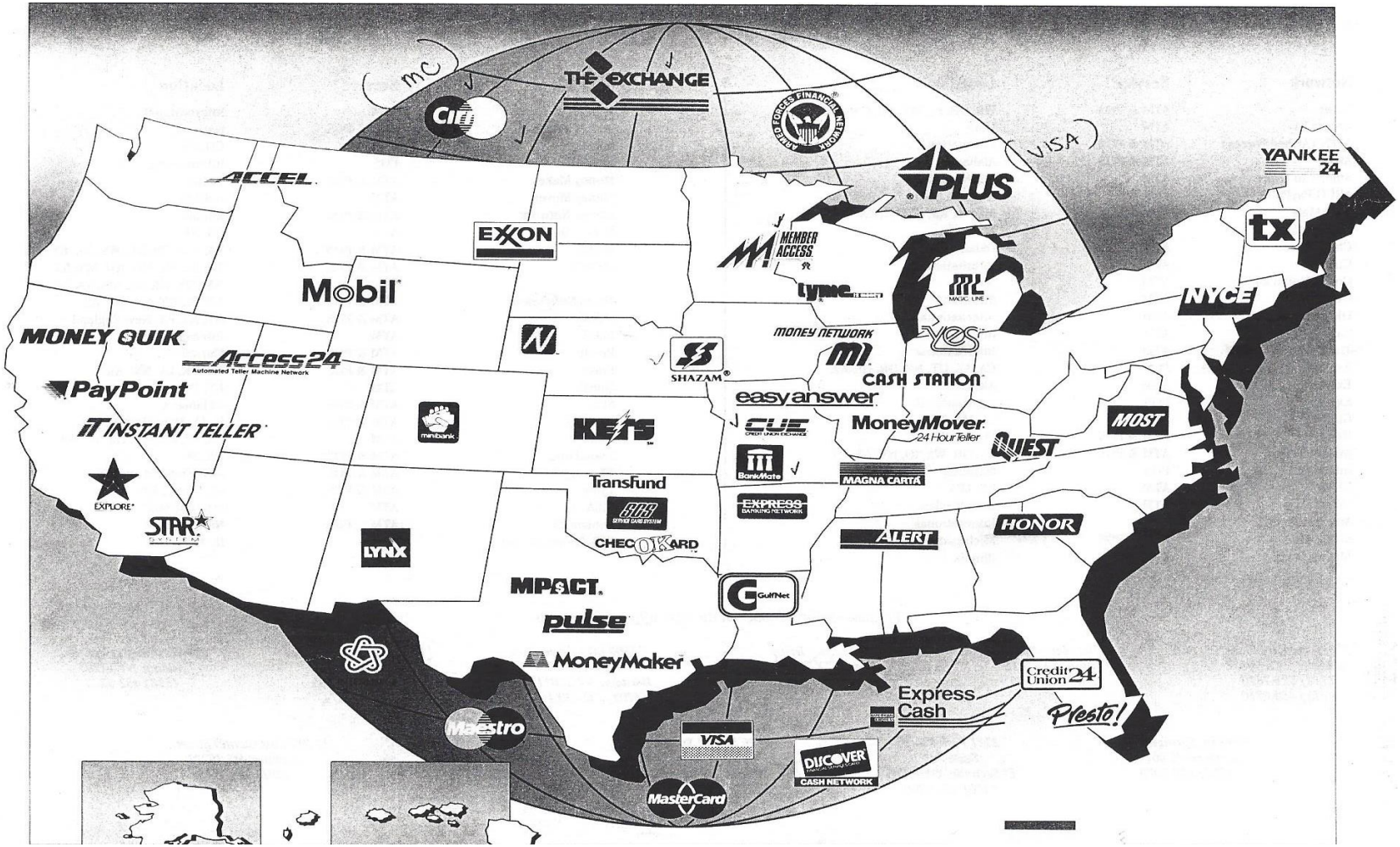
Debit Networks **in 1995**



Examples of Debit Networks

Identify Unaffiliated Network Options

SHAZAM	Fiserv	FIS	Discover
SHAZAM	Star Accel	NYCE Jeanie (Worldpay®)	Pulse

- Global Networks
  - Visa® / Plus® / Interlink® / PAVD®
  - MasterCard® / Cirrus® / Maestro®
- How the unaffiliated network pairs with the global network will determine the starting line for your interchange income.

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Networks on Debit Cards

Current Regulations Require Two Unaffiliated Networks on Debit Cards

1. Global network

Global Network

MERCHANT'S CHOICE ON WHICH NETWORK TO SEND THE TRANSACTION

2. National — unaffiliated network

PAVD® or Maestro®

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Compare **Single-Message & Dual Message Transactions**

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Single Message **vs. Dual Message**

Cardholder makes a purchase at a terminal

Acquiring entity acquires the transaction from the merchant and sends to the network

The network routes transaction to issuer

Issuing entity will approve or decline the transaction

Authorization Request

Single-message transaction

Authorization Response

Dual Message Completion

Dual-message transaction

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How Transactions **Are Routed Today**

- Approximately 60% of debit card purchases have no cardholder verification method (CVM)
  - No PIN or other identity authentication
- Most are routed by merchants to the global networks as dual message
- Types of these transactions include
  - In store PIN by-pass, below floor limit
  - Automated fuel dispensers
  - E-commerce
  - Full-service restaurants
  - Quick service restaurant
  - T&E (airlines, car rentals, and hotels)

Most are dual-message transactions across the global network “credit rails” and have no CVM

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Your Cards and the **Choices You Make**

- The networks you choose determine how merchants will route your transactions
- Subsequently, the routing choice, will determine:
  - How much net interchange income you're paid
  - Your transaction processing costs
  - Which network's rules & regs, cardholder liability limits, and dispute & chargeback rights apply

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Define **Net Interchange**

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Merchant Chooses **Routing Option**

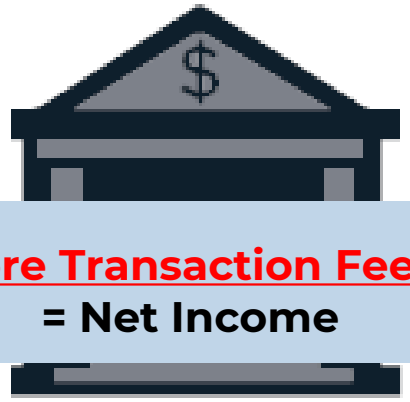
Merchant

Gross interchange income

Selects debit network with lowest interchange

Debit Network
Switch Fees
Assessment Fees
Compliance Fees

Debit Processor
Processor Fees
EMV Fees
Other Fees



Core Transaction Fees
= Net Income

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What is **Net Interchange?**

Example: $50 purchase	Network 1	Network 2
Interchange rate	$0.15 + 1.05%	$0.15 + 1.00%
Gross interchange paid	$0.675	$0.650
Minus		
Payment network issuer fees	($0.060)	($0.015)
Net interchange income to issuer	**$0.615**	**$0.635**

Looking at Gross Interchange only, Network 1 appears to pay better

When calculating net interchange by subtracting network issuer fees, Network 2 is better for the issuer

Interchange rates and switch fees used in this comparison are BASE published rates subject to change

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Outline **Reg II Requirements**

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The History

- Durbin Amendment (Reg II) was passed in 2010
- Became effective in 2011
- Main provisions
  - Routing choice for debit card transactions
  - At least two unaffiliated networks
  - Interchange cap that applies to regulated FIs
    - ➢ Those with over $10B in assets

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Reg II Clarification

"The Board is adopting amendments to § 235.7(a)(2) and the commentary to § 235.7(a) that are substantively consistent with the proposal, but with certain changes to address issues raised by commenters. Specifically, § 235.7(a)(2) of the final rule provides that an issuer satisfies the prohibition on network exclusivity only if the issuer enables at least two unaffiliated networks to process an electronic debit transaction, where such networks satisfy two requirements. First, the enabled networks in combination must not, by their respective rules or policies, or by contract with or other restriction imposed by the issuer, result in the operation of only one network or only multiple affiliated networks for a geographic area, specific merchant, particular type of merchant, or particular type of transaction."

Board of Governors of the Federal Reserve System
October 3, 2022

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Routing Choices **Example**

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Issuer **Requirements**

- All transaction types must provide routing choices
  - Including Card-not-present (CNP)
- May not disable capabilities of a network if doing so would result in fewer than two unaffiliated networks to process a debit card transaction
- Not required to ensure that merchants have two unaffiliated networks available for every transaction

Common Misconception

- Dual-message transactions, also known as signature or credit transactions, make more money than single-message or PIN transactions

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Merchant Routing Choice

The Desired Outcome

$50 PURCHASE	NETWORK 1	NETWORK 2
Interchange rate	$0.15 + 1.05%	$0.15 + 1.00%
Gross interchange paid	$0.675	$0.650
Payment network issuer fees	($0.060)	($0.015)
Net interchange income to issuer	**$0.615**	**$0.635**

Results in better net interchange to the issuer

MERCHANT ROUTING	NETWORK 1	NETWORK 2
Gross interchange paid to issuer	$0.675	$0.650
Payment network merchant fees	$0.025	$0.040
Total cost to merchant	**$0.700**	**$0.690**

Merchant chooses Network 2 because it's lower cost

Interchange rates and switch fees used in this comparison are BASE published rates subject to change

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Merchant Routing Choice

The Undesirable Outcome

$50 PURCHASE	NETWORK 1	NETWORK 2
Interchange rate	$0.15 + 1.00%	$0.15 + 1.00%
Gross interchange paid	$0.650	$0.650
Payment network issuer fees	($0.060)	($0.015)
Net interchange income to issuer	**$0.590**	**$0.635**

Results in lower net interchange to the issuer

MERCHANT ROUTING	NETWORK 1	NETWORK 2
Gross interchange paid to issuer	$0.650	$0.650
Payment network merchant fees	$0.025	$0.040
Total cost to merchant	**$0.675**	**$0.690**

Merchant chooses Network 1 because it's lower cost

Interchange rates and switch fees used in this comparison are BASE published rates subject to change

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Apply Fraud Detection & **Mitigation Techniques**

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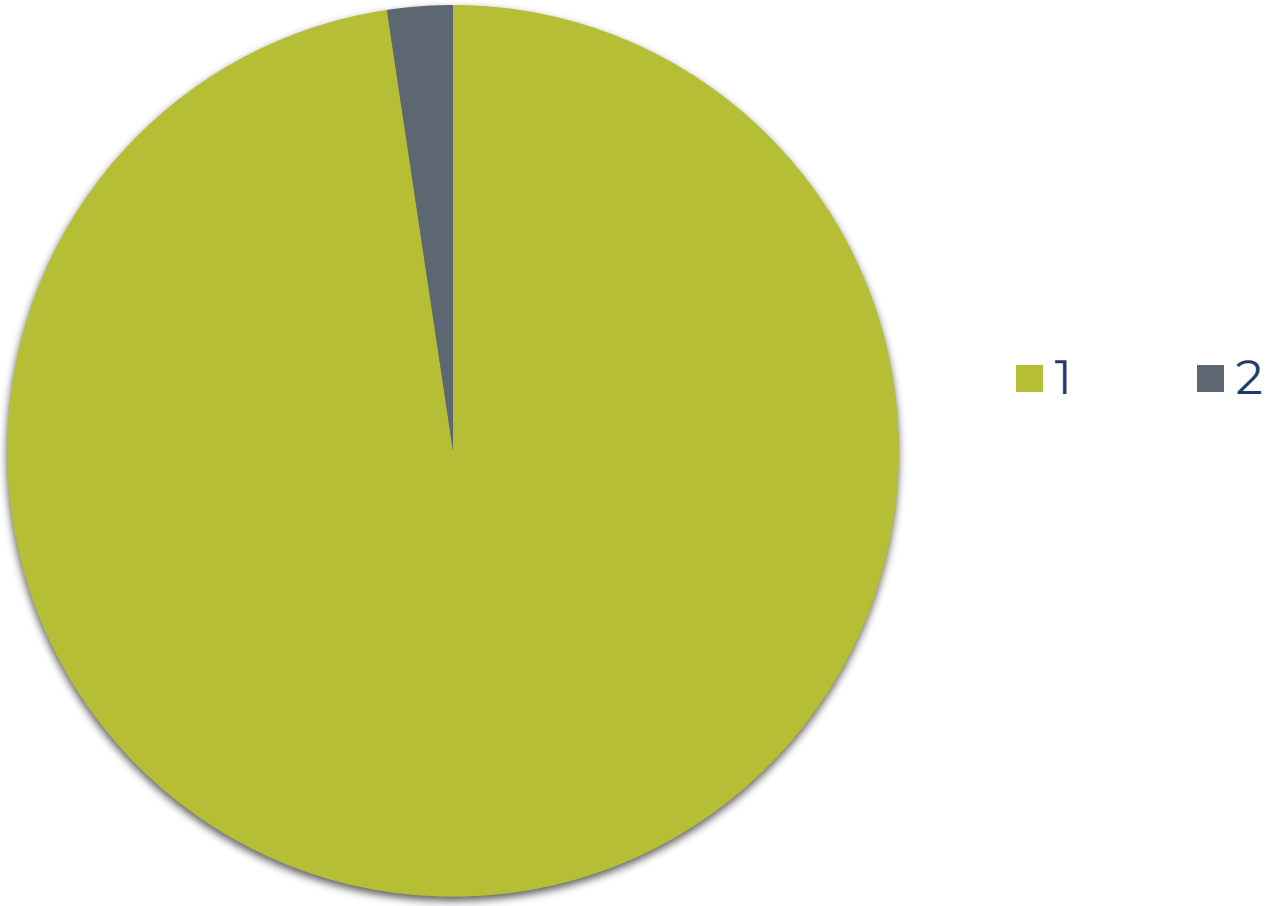
Share of Fraud **Reported by Issuers**



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Common **Fraud Tools**

- Neural network
- Card blocking, ongoing and temporary
- Reasonable daily limits
- Cardholder-controlled alerting and transaction management
- Card activation
- Merchant address verification service
- Visa Secure®/Mastercard® Identity Check™
  - Both use risk-based authentication
- CVC/CVV, CVC2/CVV2 and iCVC/iCVV

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Navigating **Risk**

- Today most fraud coming through online and mobile channels
- Dual-message, PINless and other POS transactions with no CVM are already commonplace
  - Most are routed through a global network
- Risk profile of any transaction not requiring a CVM is the same regardless of routing
- Any network can only apply risk controls to activity routed through them, activity they ‘see’
- Your debit processor sees and supports authorization on all transactions

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Take **Action**

- Dialogue with your processor and other vendors
- Map out your network choices and routing
- Determine volumes and value for each
- Analyze the gross interchange & costs for each to arrive at net interchange
- Identify what fraud tools are used universally versus only for some transaction types
- Analyze your data

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Questions?

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Thank You!

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