



# Digital Wallet Operators & Alternatives

## Merchant Authorization Approval and Fraud Prevention Impact

Speaker Steve Bauer, Vortex Payments LLC, Principal

# Digital Wallet Operator & Alternatives


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## Agenda:

- Introductions
- Overview: Digital Wallet Operator & Alternative Providers
- Flows: Digital Wallet Operator & Alternative Providers
- Alternative Provider Features
- Alternative Providers Impact on Auth Rates & Fraud
- New Options for Merchants
- Conclusions & Key Takeaways

# Key Takeaways

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-  1. Increase Awareness on how DWOs and Alternatives are used for Card Not Present Purchasing
  
- 2. Show how DWOs & Alternatives streamline the Customer Experience
  
- 3. Streamlining the Customer Experience maximizes the opportunity to Merchants to increase Auth Approval Rate and decrease Chargebacks

# Digital Wallet Operator (DWO) Overview

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- **Digital Wallet Operator (DWO):**

- “A Third Party Agent that operates a Pass-Through Digital Wallet or Staged Digital Wallet” – Visa
- DWO program service that operates to offer a Staged Digital Wallet and/or Pass-through Digital Wallet - MasterCard

- **Staged DWO**

- MasterCard – Operate within a “Consumer-Assigned Payment Account” or “funding account” other account issued by DWO or Issuer
- Setup: Staged DWO sends Authorization Request to Issuer of Consumer’s funding Account
- Examples: PayPal, Venmo, Zelle (bank transfers), AliPay, TenPay
- MasterCard MCC Restrictions to identify Staged DWO: 6540, 7801, 7802, 7995, 5967, 5122, 5912, 5993, 4816

- **Pass-through DWO**

Visa: “Used to complete a transaction by transferring the account number or token to Merchant without interrupting the flow of funds” – *paraphrased; examples: Apple Pay, Samsung Pay, Android Pay, etc.*

MasterCard: Cardholder Data provided to DWO by Cardholder for purposes of effecting payment initiated by Cardholder to Merchant by transferring Account Data - *paraphrased*

# Alternative Provider Overview

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Manage site credentials/cardholder data outside transaction flow to Streamline the Checkout Experience

## Password Managers\*:

- Store Cardholder data and not part of the transaction flow (i.e., submit order for authorization)
- Local/Remote: a file or database of site credentials and/or cardholder data to access sites and make purchases
- Online: site credentials/cardholder data credentials protected using browser extensions, Master Password, PW safe
- Examples: LastPass, KeePass, 1Password, DashLane, SwitchMe, Roboform


## Extend Payment Automation Provisioning:

- Automatically provisions new and updated cards to Merchants to connect Issuers, Merchants, and Cardholders
- Protects against phishing and pharming using automated login scripts to verify the stored and current site URL
- Provides a zero-Merchant cost alternative to Account Updater and 3D-Secure
- Robot Processing Automation (RPA)/Site Harvesting: UIPath, Blue Prism, WorkFusion
- Gartner Group Classification: "Automation arbitrage"

\* *On The Security of Password Manager Database Formats, Paolo Gasti and Kasper Rasmussen, UC Irvine*

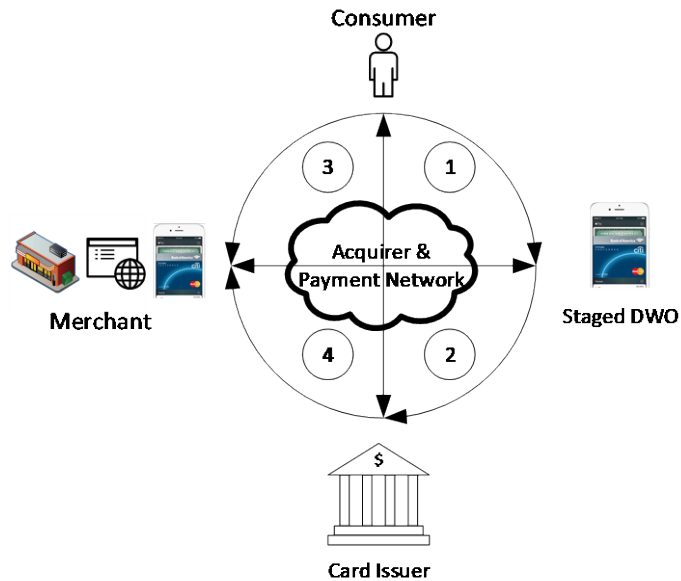
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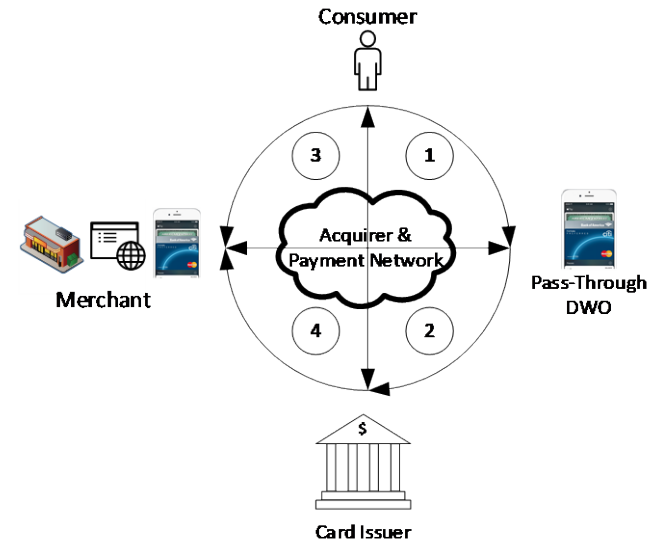
# Digital Wallet Operator Flows

## Staged (S-DWO) Flow



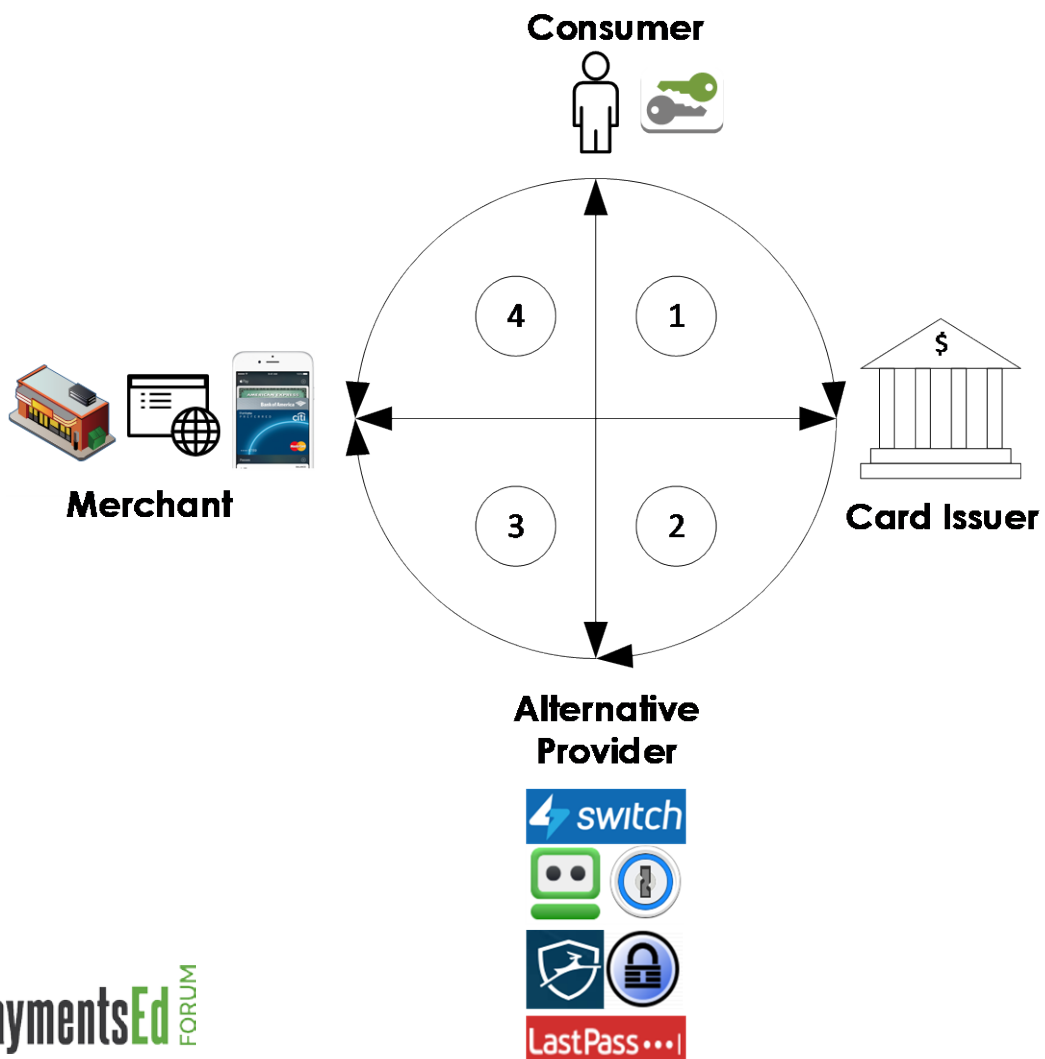
1. Consumer creates Funding Account
2. S-DWO creates Consumer Payment Account; links to Funding Account
3. Consumer selects Payment Account in Purchase Flow to buy
4. Merchant processes payment using Consumer Payment Account; Funding Account debited

## Pass-through (PT-DWO) Flow



1. Consumer enters Card into Digital Wallet
2. PT-DWO verifies Cardholder Data; Issue PAR
3. Consumer selects card in Purchase Flow to buy
4. Merchant processes Payment with PT-DWO provided credentials

# Alternative Provider Flows



## Password Manager Flows

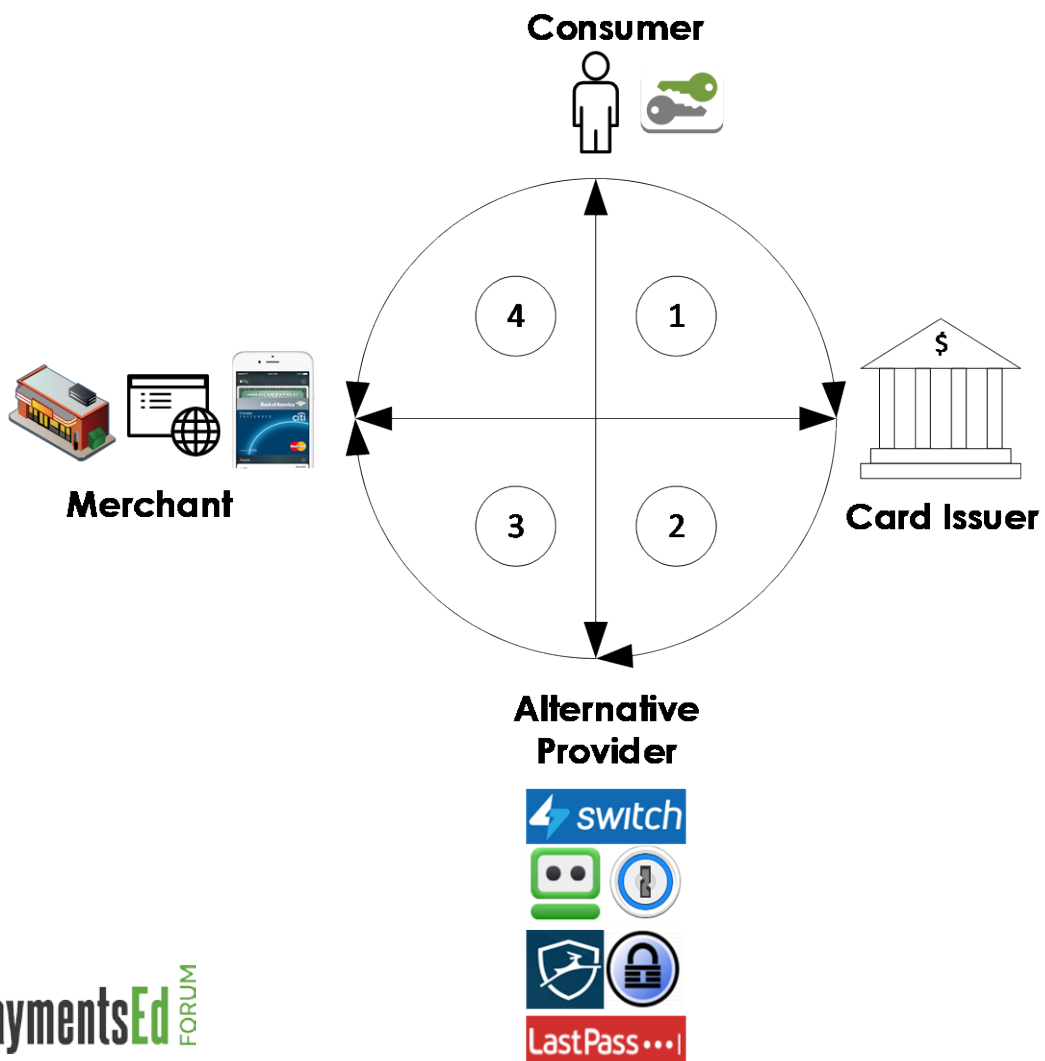
1. Card Issuer issues card to Consumer
2. Consumer adds Cardholder data/Site Credentials in PWM
3. Consumer navigates to Site; PWM may one-click login and autofill Cardholder data checkout
4. Consumer buys and Merchant processes payment

## Observations:

- Cost: No Card Brand Benefit; Unclassified Provider
- PCI/DSS: Cardholder Data Environment varies by Provider
- Customer Experience: One-Click Login varies by Provider
- Site Harvesting: varies by provider
- Issuer Card Updates: varies by provider
- Issuer Card Tokenization: varies by provider




# Alternative Provider Features



Feature	Dashlane	1password	Roboform	LastPass	KeePass	SwitchMe
<b>Cost</b>						
<b>Free Version Available</b>	Trial	Trial	✓	Trial	✓	✓
<b>Consumer</b>	✓	✓	✓	✓	✓	✓
<b>Business</b>	✓	✓	✓	✓	✓	
<b>Usability</b>						
<b>Dormant Support</b>	✓	✓		✓		✓
<b>Search</b>	✓	✓	✓	✓	✓	✓
<b>Client Download</b>	✓	✓	✓	✓	✓	
<b>Browser Extension</b>	✓	✓	✓	✓	✓	✓
<b>Receipt Management</b>	✓					
<b>Multi-Device Support (e.g., mobile)</b>	✓	✓	✓		✓	
<b>Folder Management / Hierarchy Support</b>		✓	✓	✓		
<b>Other Support: Credit Card, ID</b>	✓	✓	✓	✓		✓
<b>Security: Cardholder Data Environment (CDE)</b>						
<b>Password Sharing</b>	✓	✓	✓	✓		
<b>Strong Password Check</b>	✓	✓	✓	✓	✓	✓
<b>Hardware (U2F) TFA</b>	✓	✓		✓	✓	
<b>One-Time Password TFA</b>	✓	2SKD	✓	✓	✓	✓
<b>MasterPassword Derived Key</b>	✓	✓	✓	✓	✓	✓
<b>Password Safe</b>				?	✓	✓
<b>Encrypted CDE: Local DB File/On-Premis</b>	✓	✓	✓		✓	
<b>Encrypted CDE: Cloud Service</b>	✓		✓		✓	
<b>Encrypted CDE: Browser Session Memory</b>	✓	✓	✓	✓	✓	✓
<b>Recovery</b>	Business	✓		✓		
<b>Security Alerts</b>	✓	✓		✓	✓	✓
<b>AdvancedPayment Features</b>						
<b>Site Harvesting (anti-phishing)</b>				✓		✓
<b>One-Click Login</b>			✓			✓
<b>Auto Login</b>	✓					✓
<b>Auto Capture</b>			✓			✓
<b>AutoFill Checkout</b>	✓		✓	✓		✓
<b>Issuer Automated Card Updates</b>						✓
<b>Issuer Consumer Virtual Card Support</b>						✓
<b>Issuer Card Tokenization</b>						✓
<b>Ease of Use</b>						
<b>Streamline / Frictionless</b>	✓		✓			✓

# Key Takeaways

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# Proven Strategies to Increase Auth Rates...

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## Update Cards...

- Implement proactive/reactive strategies to get update cards
- Visa Account Updater, Amex Card Refresher, MasterCard Automatic Billing Updater
- Provide new account number, expiration dates, real-time updates (Visa)
- Pass-Through Digital Wallet Operators may connect with Issuer In-Apps

## Manage Processing Behaviors...

- Add Decline Recycling Program: when to retry (first week, last week, on Friday)
- Align ECI with business model (e.g., recurring)
- Use Card Brand Interchange and Client Directories to pattern-match auth providers
- Apply multi-acquirer processing

# Account Updater Assessment

## In 2005 at Recurring Merchant...

- 30% lift in credit and debit card sales
- Provided prepaid data to Acquirer to help create new rules

## MRC 2016: Sunil Dixit, Vantiv reports:

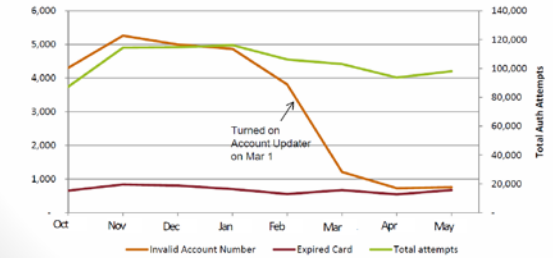
- 2% lift in credit and debit card sales using Account Updater
- 1% auth approval rate increase yields 1.2M savings
- 6% average and 30% peak declines recovered

## MRC 2014: Vantiv, MyLife.com, Netflix and Ethoca reports:

- 3% lift on recurring revenue
- 4.7 additional deposits with updated card
- \$135 additional revenue per updated card
- 216 additional days per updated card

## Immediate Reduction in Declines

Authorization Attempts and Select Responses



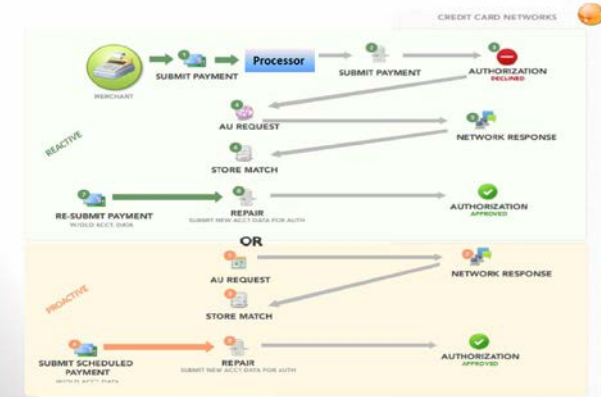
"We couldn't be happier; our hard declines dropped from 10% to 5% and our invalid account responses dropped from 4.2% to 1.3%!"  
- Web hosting services provider

2014 U.S. PLATINUM MEETING

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ethoca

## Account Updating Process Flows -- Automatic



2014 U.S. PLATINUM MEETING

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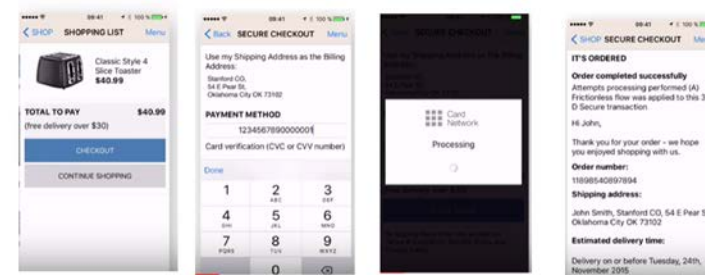
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# 3D-Secure 2.0 Assessment

## 2017 PEF 3DS: Visa, MasterCard, Discover, Cardinal Commerce Report

- 3DS aims to improve user experience & increase approvals
- Reduction in checkout time
- Move towards risk-based authentication/challenge only risk transactions
- Increase use of one-time passwords
- Device agnostic
- Increase data exchange between the merchant and issuer to enhance risk-based authentication

### 3DS 2.0 Mobile or Merchant App Frictionless Flow



Cardholder selects product from the Merchant App

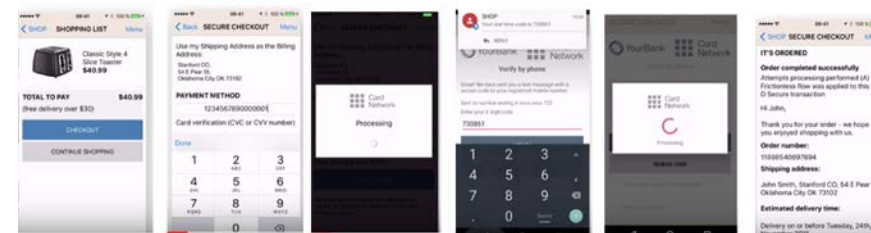
Cardholder enters payment details and checks out

3DS Requestor App communicates with 3DS Server which communicates with the ACS

The ACS authenticated via risk-based decisioning and no challenge required



### 3DS 2.0 Mobile or Merchant (OTP) One Time Passcode



Cardholder selects product from the Merchant App

Cardholder enters payment details and checks out

3DS Requestor App communicates with 3DS Server which communicates with the ACS

Cardholder receives and enters the OTP via an SMS

OTP entered is communicated with the ACS for validation

The ACS authenticates and communicates back to the 3DS requestor application



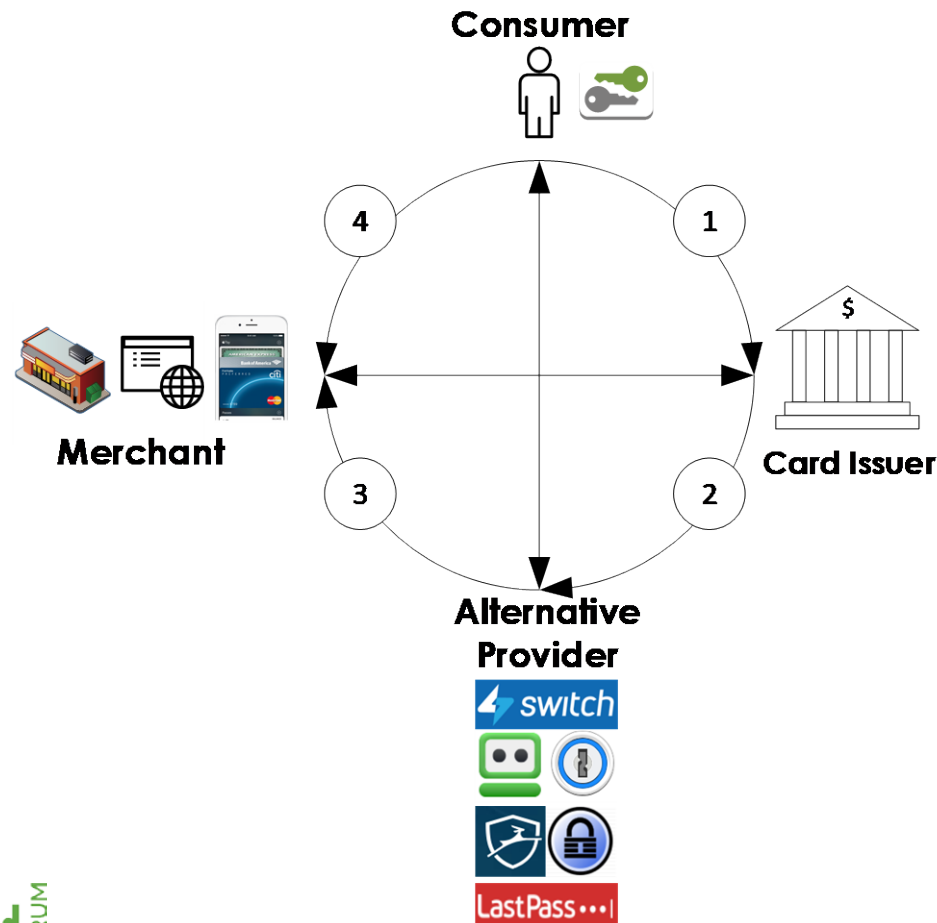
# Alternative Providers: Auth Rate & Fraud Impact

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- Alternative Providers use Master Password to protect Cardholder data from Fraud; some have recovery options
- A zero-knowledge/authentication and recovery model protect Cardholder data to reduce fraud
- Receipt management connects Cardholder with Merchant to help reduce fraud
- SwitchMe has the smallest attack surface with no downloadable application to minimize fraud
- RoboForm, DashLane, and SwitchMe "Auto" features streamline Cardholder experience
- LastPass and SwitchMe provide anti-phishing features to help reduce fraud
- SwitchMe offers a zero-cost alternative to Account Updater to increase auth rates and revenue
- SwitchMe helps reduce fraud by enabling Issuers drive tokenization, offer Consumer Virtual Cards, and provide a zero-cost alternative to 3D-Secure

# Alternative Providers Options to Account Updater

## Connecting Issuers, Merchants, and Consumers with Updates



### Alternative Provider Flow

1. Consumer enrolls and provides merchant site(s) & credentials
2. Issuer calls Alternative Provider to add new/updated card numbers
3. Alternative Provider adds new/updated card numbers to Consumer Merchant Sites with Machine Learning or API
4. Consumer buys from Merchant w/o action

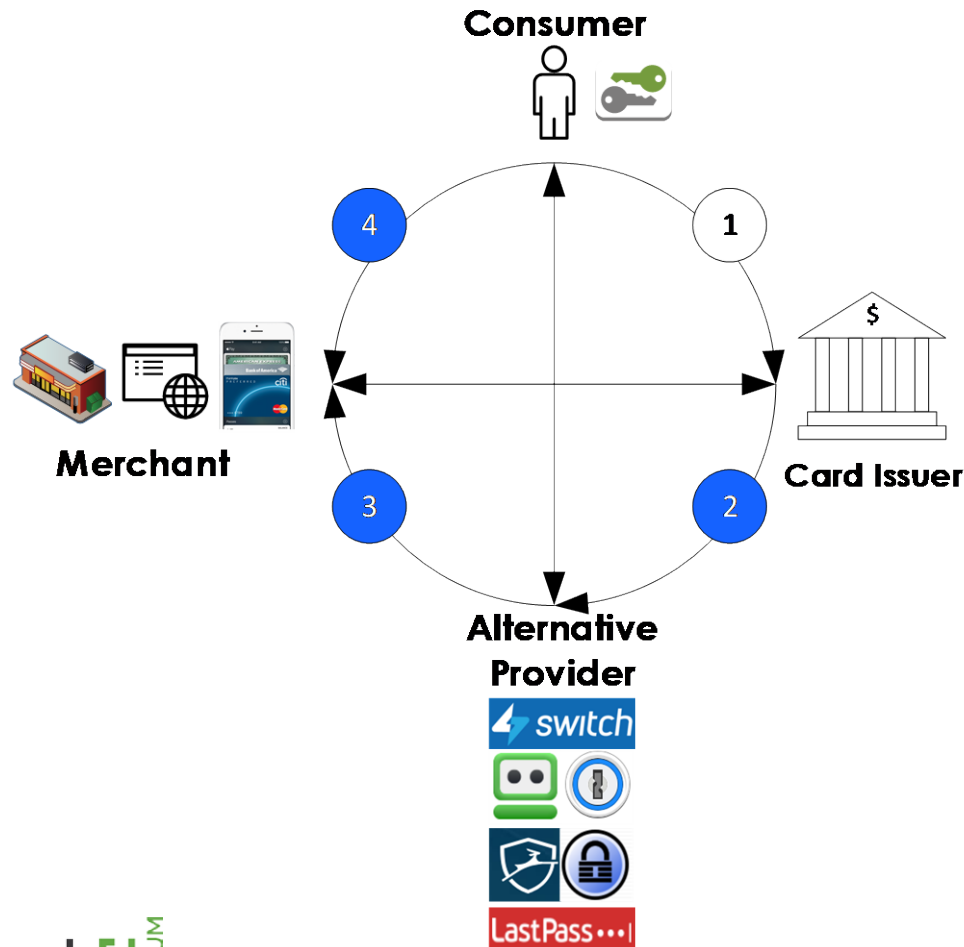
### Benefits

- No Cost to Merchant
- Issuer Risk Reduced
- Lower Merchant Costs\*

\*Payment Network

# Alternative Providers offer Options to 3D-Secure

## Linked Cards Connect Issuers, Merchants, and Consumers



### Alternative Provider Flow

1. Consumer enrolls; provides merchant site credentials
2. Issuer links card to Consumer and Merchant prior to sale and outside of transaction flow to add new/updated card number to Merchant Site
3. Alternative Provider adds new/updated card numbers to Merchant Sites using ML or API to create link
4. Consumer makes purchase(s) with linked card




### Benefits

- No Cost to Merchant
- Issuer/Cardholder Authentication before sale
- Uninterrupted Sales Experience
- Issuer-Consumer-Merchant link reduces risk
- Lower Merchant Costs\*



# Summary & Key Takeaways

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# Thank you

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- Don't forget to submit your session evaluation!
- Steve Bauer, Vortex Payments LLC, Principal