

# Mastering Digital Payments

Navigating B2B Solutions to Optimize Cash, Efficiency and Security

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President & CEO  
PaperTrl

# About PaperTrl

- AP Automation platform focused on the middle-market
- Based in Columbus, OH
- Strategic partners include:
  - Visa, national and regional banks throughout the US
- Customers in multiple sectors including:
  - Automotive dealerships
  - Energy
  - Not-for-profit
  - Hospitality
  - Local government
- Work with member firms of CPA societies
  - Developing practices spend management and AP Automation
  - Providing tools & technology to deliver back-office solutions from Integrated Payables to AP automation for your clients

# What you should walk away with...

- A good understanding of the various digital and legacy payment options available for B2B payments
  - ACH, Wire, RTP, FedNow, Virtual Card, and P2P payment methods
- Insight into the intricacies of each **[DIGITAL]** payment method, including their functionalities, advantages, and potential pitfalls as well as necessary components to implement each
- Practical strategies for selecting and implementing digital payment solutions to minimize transaction costs, enhance security measures, and improve overall efficiency
- As much love, passion and enthusiasm for digital payments as the presenter

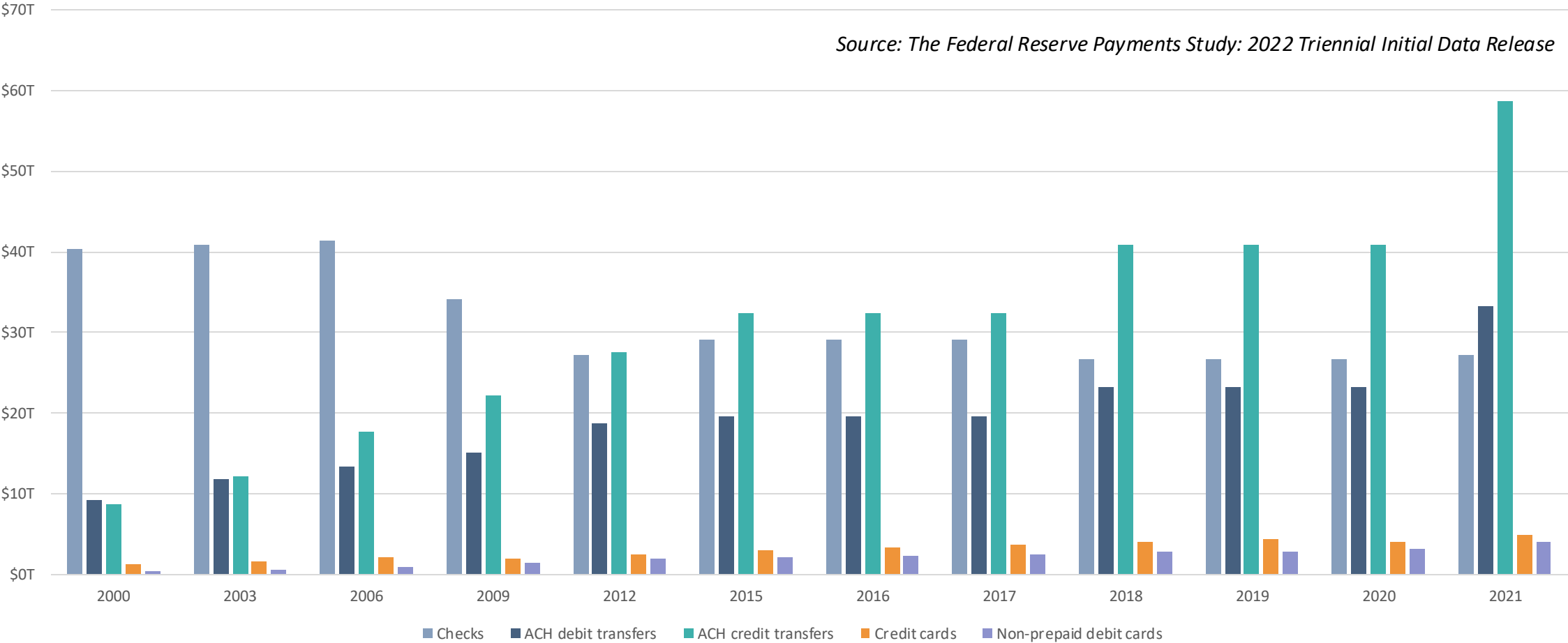
# Some Definitions

- **Electronic Funds Transfer (EFT)** – Overarching, generic term that refers to any exchange of funds that happens electronically
- **For Benefit Of (FBO) accounts** – Allows a company to manage funds on behalf of—or for the benefit of—one or more of their users, without assuming legal ownership of the account
- **PCI Compliance** – Demonstration of conformity with a set of rules or Data Security Standards (PCI-DSS) set by the Payment Card Industry (PCI) to govern how sensitive cardholder information is to be collected, stored and transmitted
- **Merchant** – The term used by the payment card industry to refer to any organization that accepts payment cards
- **Issuer** – A financial institution, usually a bank, that issues and underwrites credit and debit cards for one or more card brands like Visa or Mastercard
- **Processor** – Also called a merchant service provider, is a company that sits between a merchant and issuer to direct, authorize and capture (process) card transactions
- **Token(ization)** – A token is an alias (think: codename) used to identify a card between two parties in a trust relationship - usually a merchant and a processor. Tokenization is the process of converting card information into a token. Tokenization is usually performed by the processor.

# The Payments Landscape



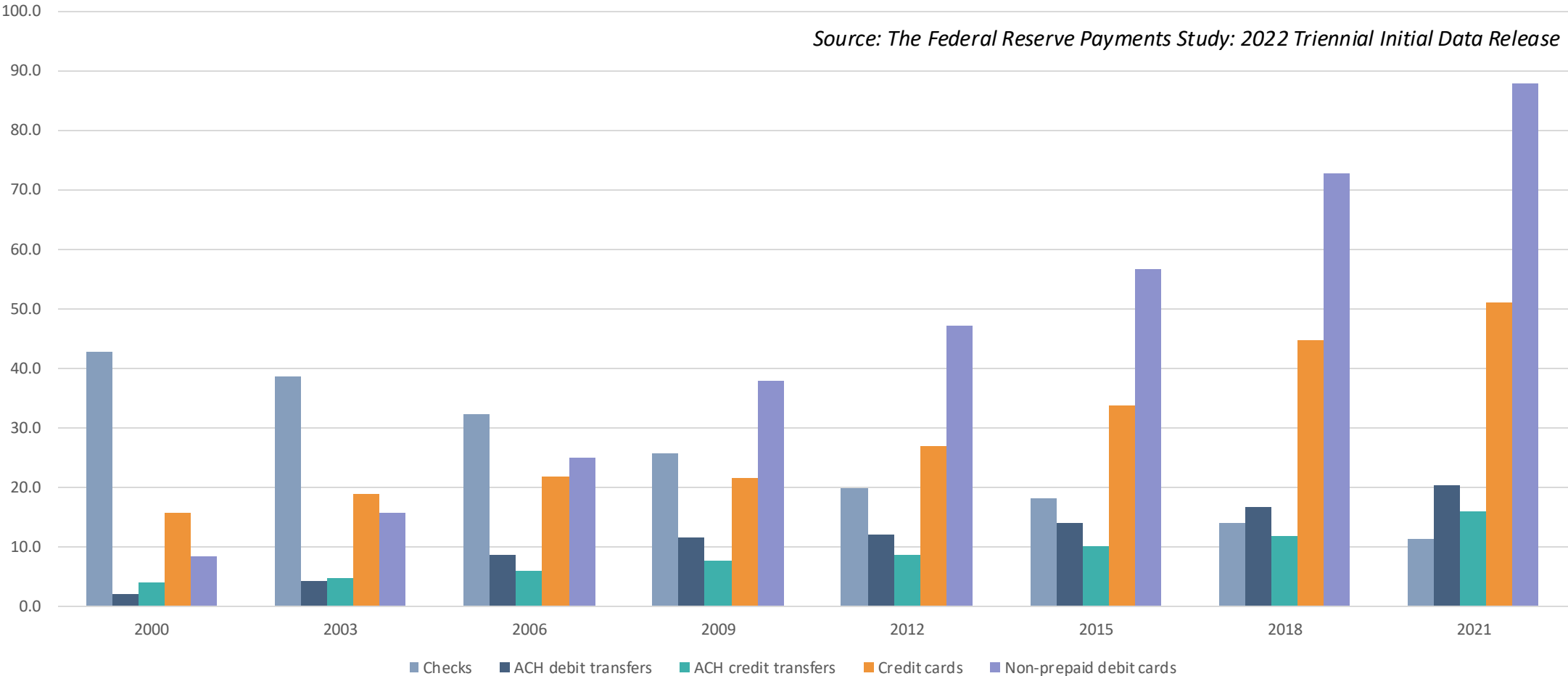
Trends in noncash payments, by dollar value  
(in Trillions)



Federal Reserve Note: All estimates are on a triennial basis. Card payments were also estimated for 2016, 2017, 2019, and 2020. Credit card payments include general-purpose and private-label versions. Flat p/p indicates where no new data are available.

# The Payments Landscape

Trends in noncash payments, by transaction count  
(in Billions)



Federal Reserve Note: All estimates are on a triennial basis. Credit card payments include general-purpose and private-label versions. Flat p/p indicates where no new data are available.

# Why Still Paper Checks?

- **Familiarity and Tradition:** Entrenched habits and familiarity among businesses, particularly in certain industries
- **Integration Challenges:** Many companies find it challenging to transition away from paper checks due to existing infrastructure
- **Cost Considerations:** Some companies still find paper checks cost-effective, despite the growing expenses associated with manual processing
- **Trust and Reliability:** Paper checks continue to be perceived as a trusted and reliable
- **Coexistence with Digital Solutions:** Businesses are integrating digital payment methods alongside traditional checks, acknowledging the importance of coexistence

## Middle Market Acceptance Behavior

|                      |     |            |
|----------------------|-----|------------|
| Check                | 99% | acceptance |
| ACH                  | 91% | acceptance |
| Wire                 | 83% | acceptance |
| Business Credit Card | 63% | acceptance |

*Source: Visa-commissioned Middle Market Study: Barlow Research Associates panel of 207 middle market companies fielded Jan 28<sup>th</sup> / 29<sup>th</sup> 2021 and VisaNet results*

# Security: Traditional Payment Methods

## Vulnerability Scoring (lowest is least vulnerable)

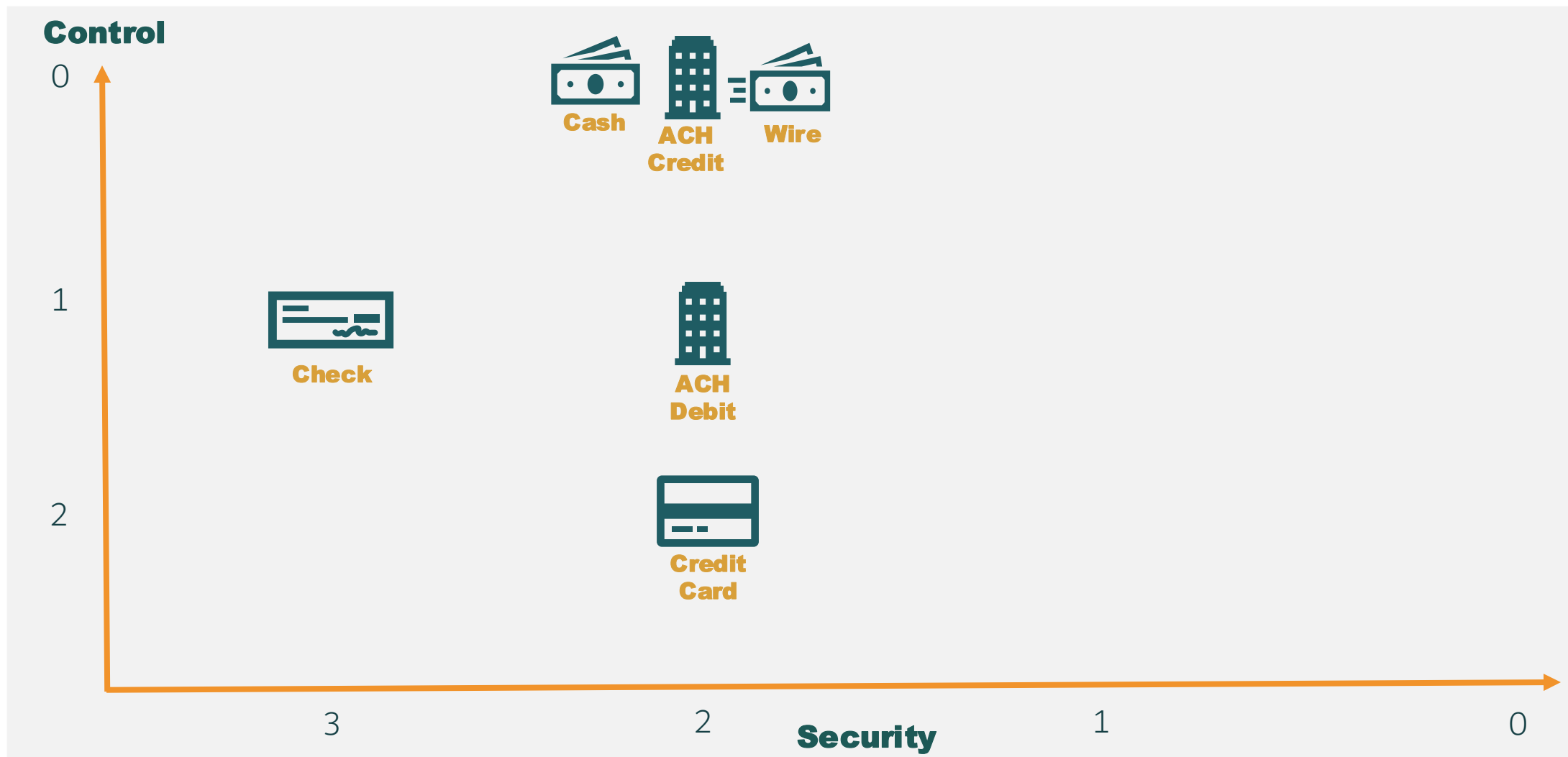
| Security criteria                                    | Cash     | Credit Card | Wire*    | ACH Credit* | ACH Debit* | Check*   |
|--|----------|-------------|----------|-------------|------------|----------|
| Require payer to share information with payee        | 0        | 1           | 0        | 0           | 1          | 1        |
| Require payee to share information with payor        | 0        | 0           | 1        | 1           | 0          | 0        |
| Require payer to share information with third party  | 0        | 0           | 0        | 0           | 0          | 1        |
| Require payor to share information with third party  | 0        | 0           | 0        | 0           | 0          | 0        |
| Have unchecked exposure once information is breached | 1        | 1           | 0        | 0           | 0          | 0        |
| Allow third-party to aggregate payer information     | 0        | 0           | 0        | 0           | 0          | 0        |
| Allow third-party to aggregate payee information     | 0        | 0           | 0        | 0           | 0          | 0        |
| Do not offer payer protection against fraud          | <u>1</u> | <u>0</u>    | <u>1</u> | <u>1</u>    | <u>1</u>   | <u>1</u> |
|  | <b>2</b> | <b>2</b>    | <b>2</b> | <b>2</b>    | <b>2</b>   | <b>3</b> |
| <b>Control criteria</b>                              |          |             |          |             |            |          |
| Do not allow payer to control debit amount           | 0        | 1           | 0        | 0           | 0          | 0        |
| Do not allow payer to control moment of debit        | <u>0</u> | <u>1</u>    | <u>0</u> | <u>0</u>    | <u>1</u>   | <u>1</u> |
|  | <b>0</b> | <b>2</b>    | <b>0</b> | <b>0</b>    | <b>1</b>   | <b>1</b> |

\* Assumes payer uses Positive Pay



# Security: Traditional Payment Methods

## Scorecard: Put a finger UP if...



Assumes payer uses Positive Pay for treasury transactions

# Why digital payments?

## Security

- Greater security
- Far greater control of payment execution

## Control

- Easier to integrate into internal process
- Easier to audit, easier to reconcile
- Real-time execution

## Cost

- Lower cost per transaction than check
- Reduced impact of fraud

## Treasury

- FedNow
- Real-time Payments (RTP)

## Card

- Virtual Card
- Visa Direct
- Straight-through Processing

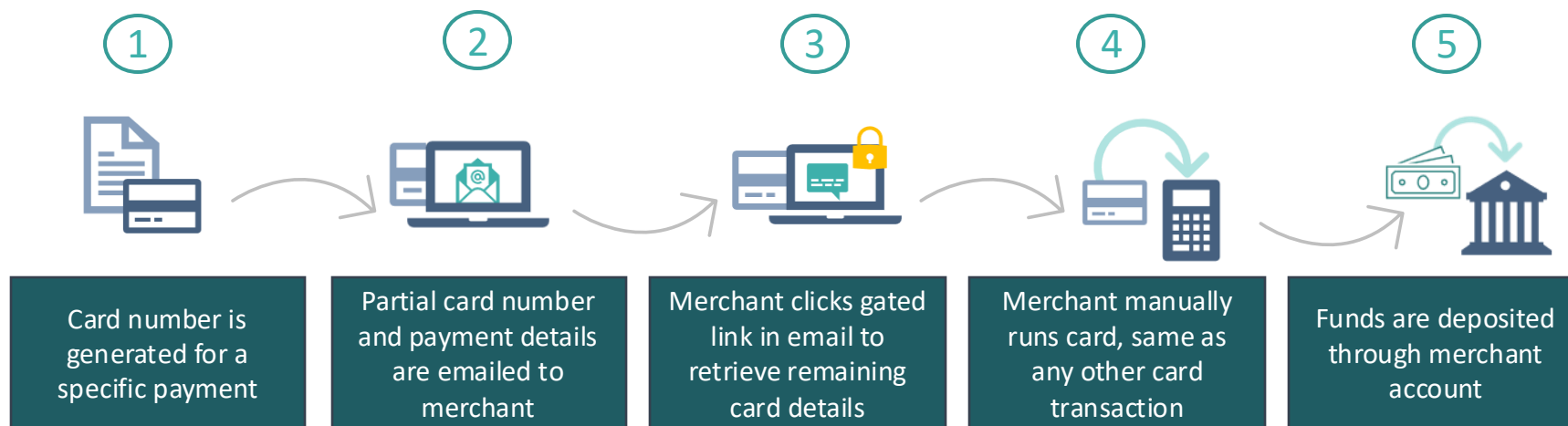
## P2P (peer-to-peer)

- PayPal
- Venmo
- Zelle

# Emerging Payment Solutions

## Card Solutions: Virtual Cards

How it works:



# Emerging Payment Solutions

## Card Solutions: Virtual Cards

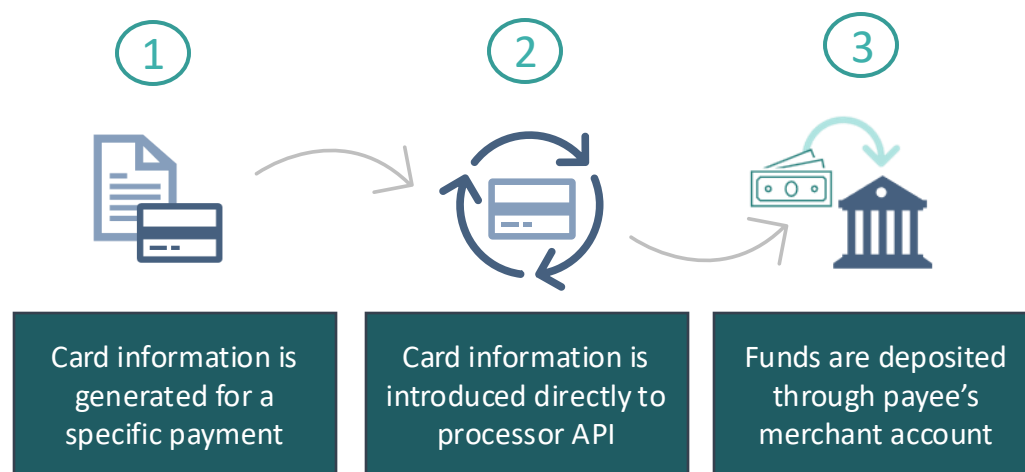
### What you should know:

- Virtual cards are....virtual
  - Typically used for a single transaction, but can be configured for recurring payments
  - Can either be pre-funded or tap a credit line
  - Credit lines may be larger, but often have shorter repayment terms
- Security
  - One of the safest & most secure payment methods
  - Not a very attractive target for hackers or employee theft
- Benefits
  - Often come with up to 1% rebate on purchases
  - Full credit card purchase protection (chargebacks, etc.)
  - Multiple AP automation solutions in the market available to enable virtual card and integrate with ERP/accounting platforms
  - Can be used for international payments
- Pitfalls
  - Variable transaction fees – typically starting at 2.7%
  - Typically fewer than 25% of payables vendors (by total spend) will accept card
  - Often requires use of additional software to implement
  - Some shady practices by AP solution providers

# Emerging Payment Solutions

## Card Solutions: Straight-Through Processing (STP)

How it works:



# Emerging Payment Solutions

## Card Solutions: Straight-Through Processing (STP)

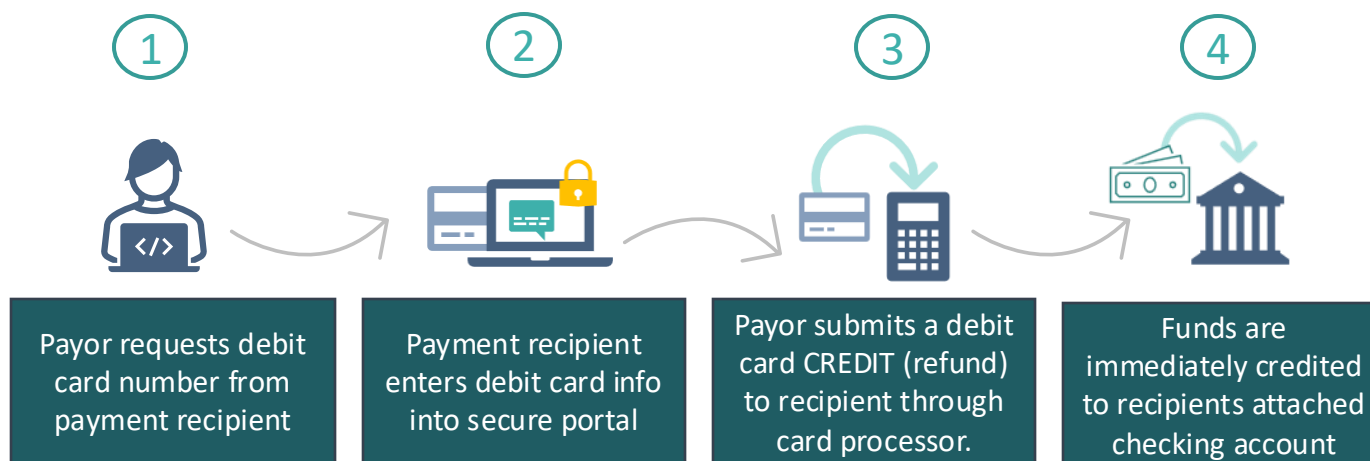
### What you should know:

- Almost all the benefits of virtual cards
  - With 10 times the security
- Security
  - Gold standard in safe & most secure payment methods
  - Card information is never exposed to any human and lives only seconds before quietus
- Benefits
  - May (or may not) come with up to 1% rebate on purchases
  - Lower underwriting fees since vendor and merchant are known entities
  - Full credit card purchase protection (chargebacks, etc.)
  - Can be used for international payments
- Pitfalls
  - Requires coordination between card issuer and card processor
  - Not many software vendors provide STP support
  - May require custom code to deploy
  - Both buyer and merchant must be underwritten on same bank/processor
  - Your bank's credit card rep might try to talk you out of STP

# Emerging Payment Solutions

## Card Solutions: Visa Direct

How it works:



# Emerging Payment Solutions

## Card Solutions: Visa Direct

### What you should know:

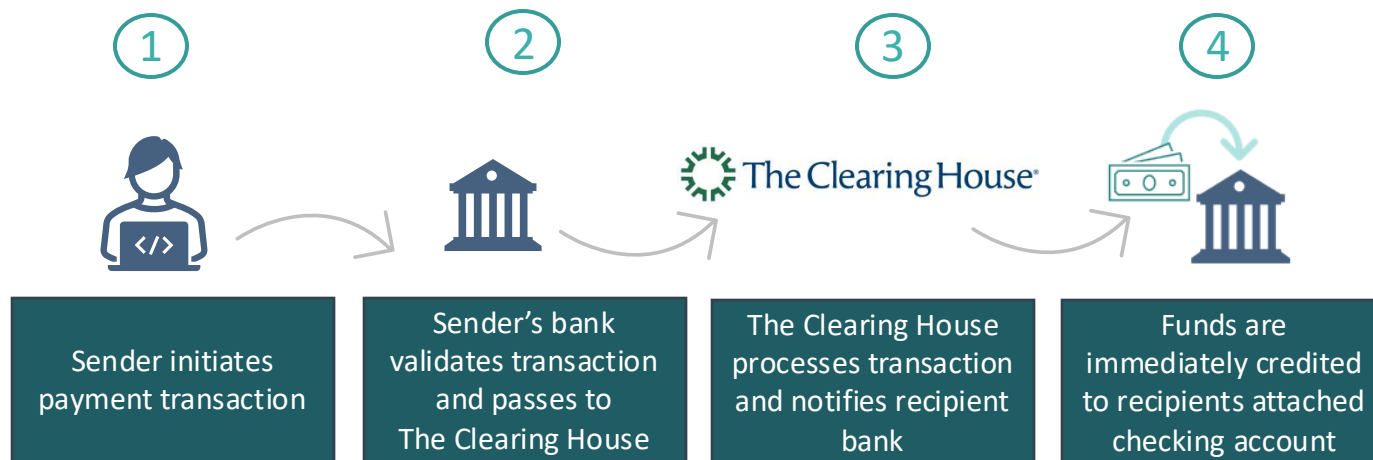
- Visa Direct is not intended for every payment type
  - 1099 contractors – OK; large vendors – not so much
- Security
  - Requires strict adherence to PCI compliance guidelines
- Benefits
  - Speed – payments happen instantly
  - Very low fees – often flat per transaction
  - Can be used for international payments
- Pitfalls
  - Not many software vendors provide Visa Direct support
  - May require custom coding to deploy
  - Visa limits the types of payments that can be made via Visa Direct



# Emerging Payment Solutions

## Cash Solutions: Real-Time Payments (RTP)

How it works:



- Released 2017
- 24x7x365 availability
- Developed and operated by The Clearing House
- Owned by 20 of the world's largest commercial banks such as U.S. Bank, PNC, and JPMorgan Chase
  - Including Ohio banks:
    - Huntington
    - 5/3
    - KeyBank

# Emerging Payment Solutions

## Cash Solutions: Real-Time Payments (RTP)

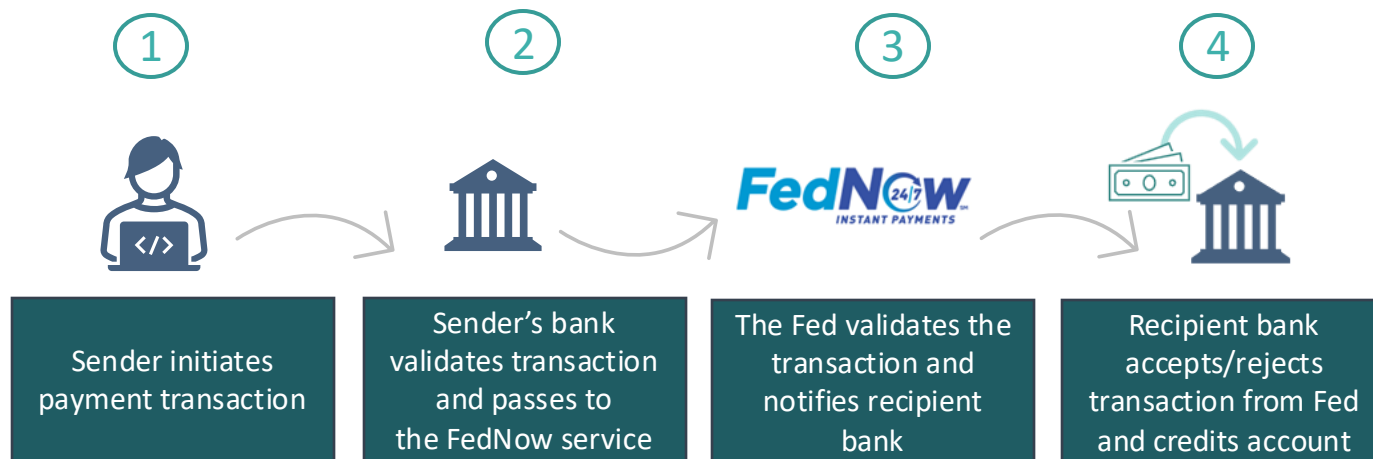
### What you should know:

- RTP was developed by The Clearing House, but not same tech as ACH
  - Credit transactions only – payor initiated
  - Supported by 90% of deposit accounts in the US
- Security
  - Similar to ACH Credit
  - Requires payor to gather payee account information
- Benefits
  - Speed – payments happen instantly
  - 24x7 processing (includes weekends, bank holidays, leap year)
  - Very low fees – often flat per transaction
- Pitfalls
  - Not supported or promoted by most AP automation software companies
  - No recourse for misdirected payments
  - US Only

# Emerging Payment Solutions

## Cash Solutions: FedNow

How it works:



- Released summer 2023
- 24x7x365 availability
- Developed and operated by the Federal Reserve Bank ("the Fed")

# Emerging Payment Solutions

## Cash Solutions: FedNow

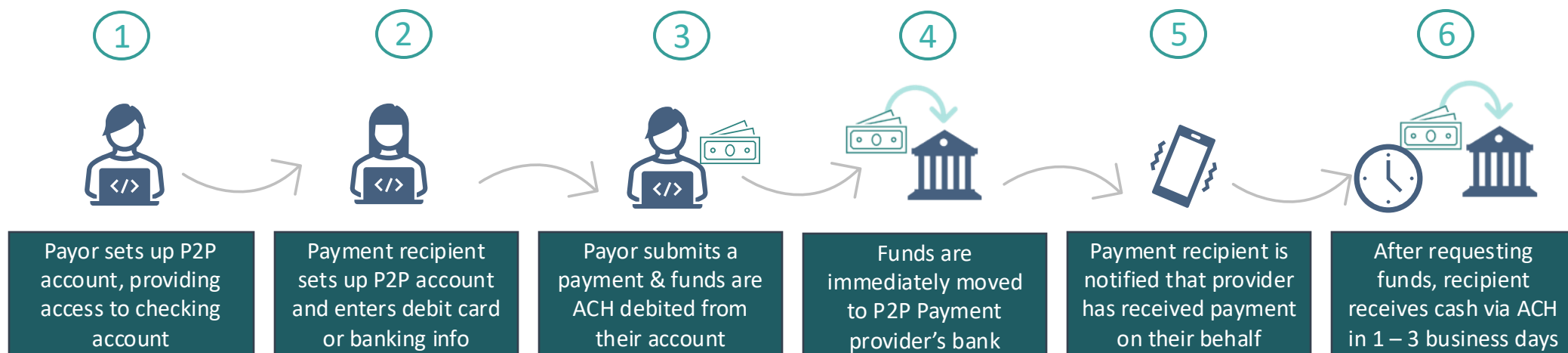
### What you should know:

- FedNow was developed by the Fed, does not replace wires or ACH
  - Credit transactions only – payor initiated
- Security
  - Similar to ACH Credit
  - Requires payor to gather payee account information
- Benefits
  - Speed – payments happen instantly
  - 24x7 processing (includes weekends, bank holidays, leap year)
  - Very low fees – often flat per transaction
  - More verification throughout the process
- Pitfalls
  - Limited support by banks
  - Not supported or promoted by most AP automation software companies
  - No recourse for misdirected payments
  - US Only

# Emerging Payment Solutions

## P2P Payments

How it works:



# Emerging Payment Solutions

## P2P Payments

### What you should know:

- P2P solutions are offered by multiple providers
  - Convenient when there is a need to send money quickly
  - Supported by 90% of deposit accounts in the US
- Security
  - All platforms aggregate sensitive information
- Benefits
  - Ubiquity
  - No fees unless you want fast access to cash or pay with card
  - 24x7
  - International payments
- Pitfalls
  - Not supported or promoted by most AP automation software companies
  - Some (possibly) undesirable social features
  - Scammers are exploiting the platform

# Security: Digital Payment Methods

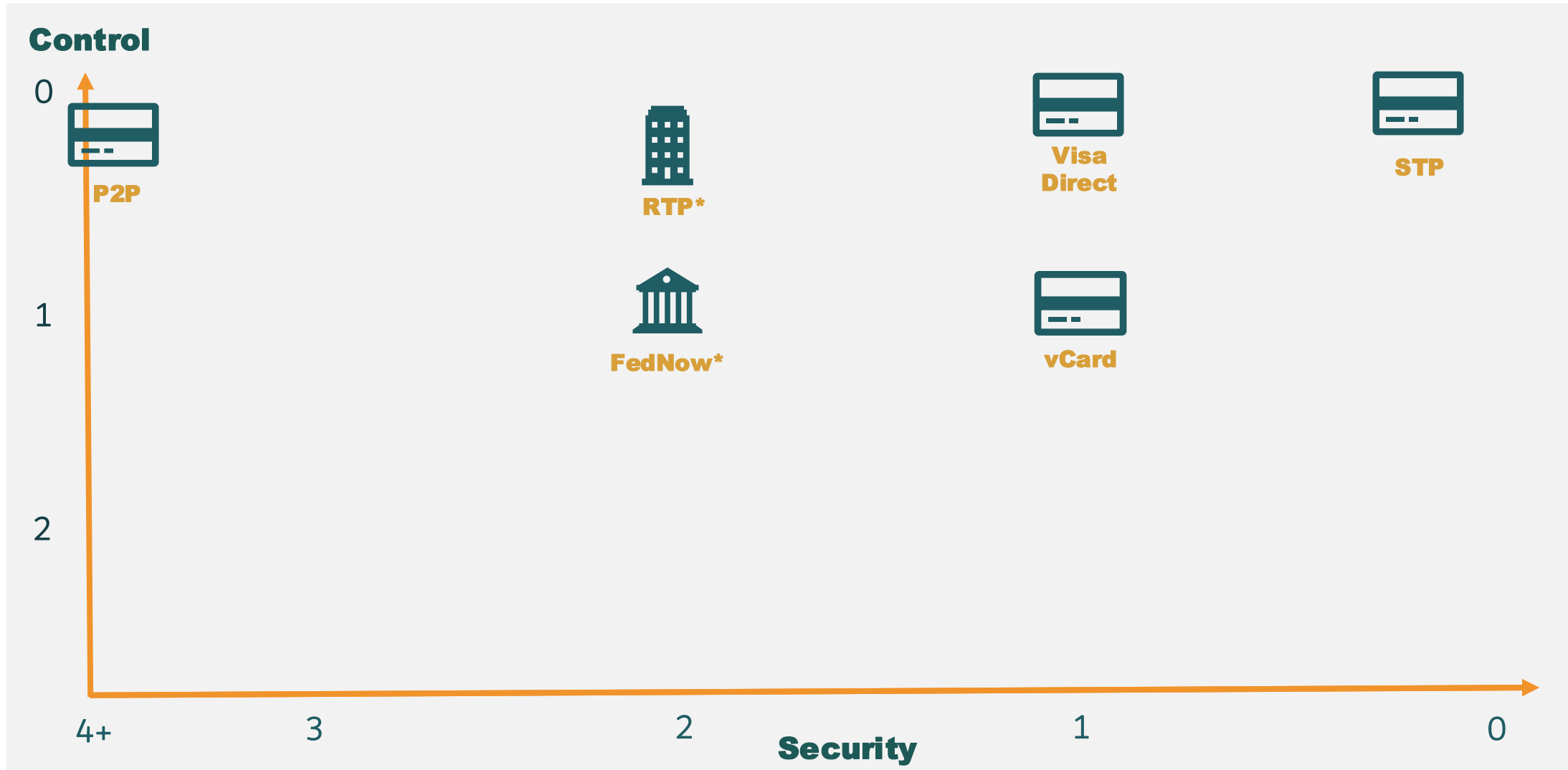
## Vulnerability Scoring (lowest is least vulnerable)

| Security criteria                                    | Straight-thru Processing | Virtual Card | Visa Direct | RTP* | FedNow* | P2P* |
|--|--------------------------|--------------|-------------|------|---------|------|
| Require payer to share information with payee        | 0                        | 1            | 0           | 0    | 0       | 0    |
| Require payee to share information with payor        | 0                        | 0            | 0           | 1    | 1       | 0    |
| Require payer to share information with third party  | 0                        | 0            | 0           | 0    | 0       | 1    |
| Require payee to share information with third party  | 0                        | 0            | 1           | 0    | 0       | 1    |
| Have unchecked exposure once information is breached | 0                        | 0            | 0           | 0    | 0       | 1    |
| Allow third party to aggregate payer information     | 0                        | 0            | 0           | 0    | 0       | 1    |
| Allow third party to aggregate payee information     | 0                        | 0            | 0           | 0    | 0       | 1    |
| Do not offer payer protection against fraud          | 0                        | 0            | 0           | 1    | 1       | 1    |
|  | 0                        | 1            | 1           | 2    | 2       | 6    |
| <b>Control criteria</b>                              |                          |              |             |      |         |      |
| Do not allow payer to control debit amount           | 0                        | 0            | 0           | 0    | 0       | 0    |
| Do not allow payer to control moment of debit        | 0                        | 1            | 0           | 0    | 1       | 0    |
|  | 0                        | 1            | 0           | 0    | 1       | 0    |

\* Assumes payer uses Positive Pay

# Security: Digital Payment Methods

## Scorecard: Put a finger UP if...





# Threats & How to Defend

## PREVENT DATA BREACH

- Adopt the PCI “out of scope” posture
  - Do not **collect, store or transmit** sensitive data
- Conduct phishing security tests
  - Phishing simulators help you find/address vulnerabilities
- Explore virtual cards
- Avoid ACH/Card debit transactions
- Use Account Validation Service match for ACH transactions













## LIMIT BREACH EXPOSURE

- Implement positive pay
- For the checks you must print, consider using a third-party printer
- Replace plastic with digital cards
  - One-time use
  - Discreet transaction
  - Set credit limits
  - Control activation period
- More frequent reconciliation

## PROTECT VENDOR DATA

- See **PREVENT DATA BREACH**
- Keep business transactions inside trusted financial applications
  - Email is not a trusted app
  - Adopt a vendor portal
- Manage employee/1099 reimbursement as vendors

# SUMMARY: Emerging Digital Payment Solutions

|   |    |                      |    |    |               |                                |
|---|---|--|---|---|--|---|
|   | <b>Virtual Card</b>   | <b>VISA Direct</b>   | <b>Straight-Through Processing</b>  | <b>Peer-to-Peer Payments</b>  | <b>Real-Time Payments (RTP)</b>  | <b>FedNow</b>   |
| <b>Benefits</b>                                 | <ul style="list-style-type: none"> <li>- Security</li> <li>- Control</li> <li>- Rebates</li> <li>- International</li> </ul> | <ul style="list-style-type: none"> <li>- Security</li> <li>- Speed</li> <li>- International</li> </ul> | <ul style="list-style-type: none"> <li>- Security+</li> <li>- Control</li> <li>- Efficiency</li> <li>- International</li> </ul> | <ul style="list-style-type: none"> <li>- Control</li> <li>- International</li> </ul>  | <ul style="list-style-type: none"> <li>- Speed</li> <li>- Low cost</li> <li>- Control</li> </ul> | <ul style="list-style-type: none"> <li>- Speed</li> <li>- Low cost</li> <li>- Control</li> <li>- Audit</li> </ul> |
| <b>Funding</b>                                  | <ul style="list-style-type: none"> <li>- Pre-fund</li> <li>- Credit line</li> </ul>   | <ul style="list-style-type: none"> <li>- Pre-fund</li> </ul>   | <ul style="list-style-type: none"> <li>- Pre-fund</li> <li>- Credit line</li> </ul>   | <ul style="list-style-type: none"> <li>- Treasury funds</li> </ul>                    | <ul style="list-style-type: none"> <li>- Cash</li> </ul>   | <ul style="list-style-type: none"> <li>- Cash</li> </ul>  |
| <b>International</b>                            | Yes   | Yes  | Yes   | Yes   | No   | No  |
| <b>Speed</b>                                    | 24 – 48 hours   | Instant  | 24 – 48 hours   | 24 – 48 bus hours   | Instant  | Instant   |
| <b>Cost</b><br>Most vary be financial instition | 2.7% plus*  | Varies per program   | From small xaction*<br>< \$7k: 2%+\$0.10<br>To large xaction<br>>\$100k: 0.8% + \$35  | Free unless:<br>Pay with card or<br>request instant xfer                              | \$0.25 - \$1 per transaction   | \$1 - \$2   |
| <b>Transaction Limits</b>                       | Can vary  | Can vary   | Can vary  | \$5,000   | \$1,000,000  | \$100,000   |
| <b>Implementation</b>                           |    |                    |    |  |             |                              |
| <b>Software Support</b>                         | Multiple Vendors  | Custom   | Few Vendors   | Custom  | Few Vendors  | Few Vendors   |

# What about crypto?

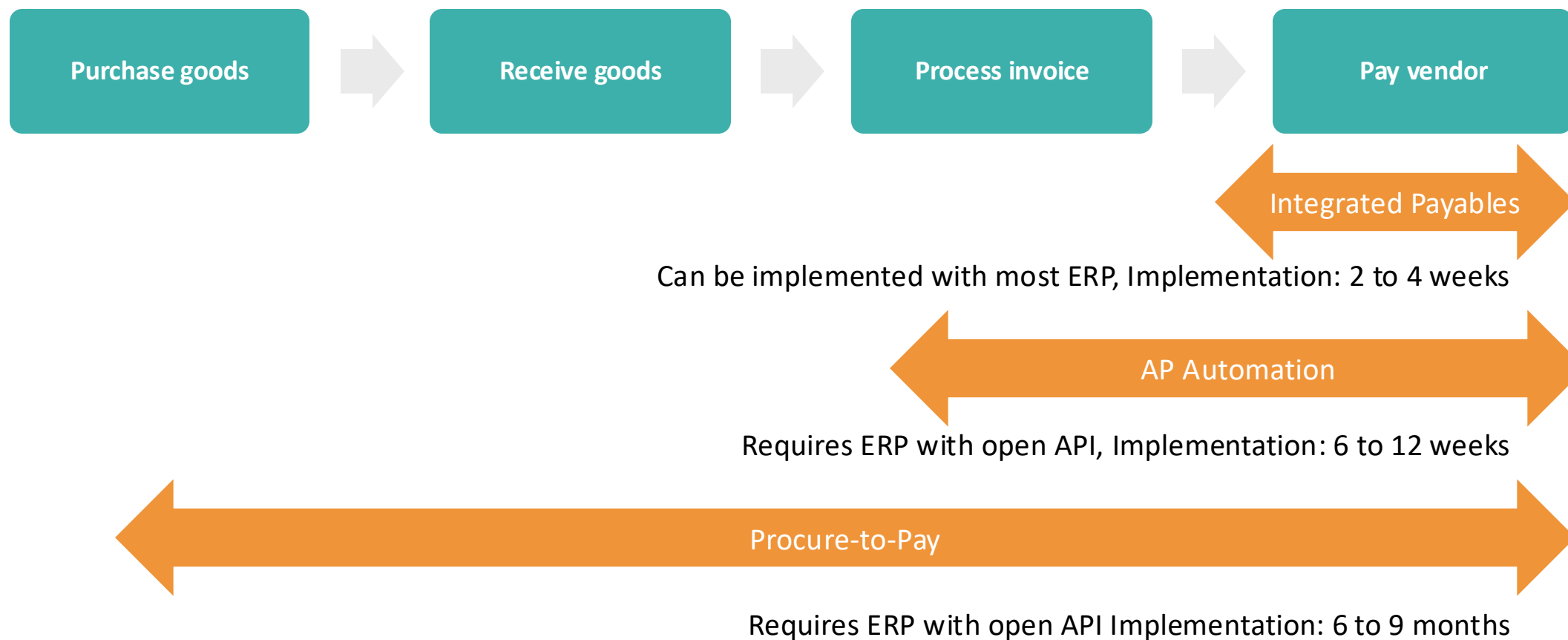
There's more going on than just Bitcoin

## *Central Bank Digital Currency (CBDC)*

*In President Biden signed an executive order tasking the Federal Reserve with looking into a CBDC for the U.S. financial system.*

- Fiat currency vs. crypto (open digital ledger)
- Federal Reserve exploring digital money with New York Innovation Center
- Regulated Liability Network (RLN)
- Still proof of concept

# Digital Payment Solution Options



# Implementation Options

**Integrated Payables:** Ideal for companies with very large payment volumes and/or proprietary ERP

- All vendor input, invoice approvals are performed in ERP
- “Check run” file is exported from ERP system
- Payment platform “decisions” payment method for vendor (check, ACH, virtual card)

**AP Automation:** For organizations with distributed budget and invoice approval responsibilities

- Invoices are pulled into AP platform
  - Via email, vendor entry or scan/PDF upload
  - Invoice is read via OCR, usually includes some “AI” or machine learning to aid in coding
  - Invoices are routed within the system for approval
- May include vendor portal
- Payments can also be approved, then platform “decisions” payment method for vendor

**Procure-to-pay:** For organizations requiring procurement process compliance

- Includes purchase order, receiving & 3-way match capability
- Product catalog for approved/repeat purchases

# Implementing Digital Payment Solutions

- Evaluate digital payments providers, but start with your bank
  - Your greatest opportunity for upside (rebates, interest premiums) comes from maximizing assets & credit facilities with few financial institutions
  - Most current solution providers
    - Do not offer or charge a premium for real-time payments (up to 1%)
    - Are incented to hold on to your cash longer
- Payment pre-funding vs. direct funding
  - Pre-funding requires payment 3 – 10 days in advance of due date
  - Direct funding issues payments with 1 day, but requires a platform with embedded banking capability
  - Embedded banking allows bring-your-own-bank vs. vendor exclusive
- Programs to help migrate vendors to digital payments are offered by banks and payment providers
  - Some will only implement virtual cards
  - Have been known to be aggressive with vendors
- May be limited by your ERP system
  - Require use of their payment stack
  - Integrated Payable programs are quick way to get started

# SUMMARY: Implementing Digital Payment Solutions

|                             | Manually<br>(through your bank)  | Direct<br>Integration                                 | Embedded Banking<br>Solutions  | AP Automation/<br>Payment Platforms  |
|-----------------------------|--|---|--|--|
| Ideal For                   | Fewer than 50 payments per month   | 10s of thousands of payments per month                | More than 50 payments per month                                      | More than 50 payments per month  |
| Costs to Implement          | Cash: Per xaction fees<br>Card: Vendor pays ~2.7%<br>Payer earns rebate on spend | Development costs exceeding \$250k<br>Bank fees apply | Monthly subscription<br>Cash: Per xaction fees<br>Card: Same as bank | Monthly subscription<br>Per user fees<br>Cash: Per xaction fees<br>Same-day payment fees<br>Card: Same as bank |
| ERP Integration             | Not required   | TBD   | \$2k to \$20k  | \$5k to \$20k  |
| Funding                     | Direct   | Direct  | Direct   | Pre-Fund   |
| Straight-Through Processing | Yes  | Yes   | No   | No   |
| Visa Direct                 | Yes  | Yes   | No   | No   |
| RTP                         | Yes  | Yes   | Some   | No   |
| Virtual Card                | Yes  | Yes   | Yes  | Yes  |
| Rebate on vCard             | Yes  | Yes   | Yes  | Yes  |
| Check & ACH                 | Yes  | Yes   | Yes  | Yes  |
| Vendor Adoption Programs    | vCard Only   | vCard Only  | All payment methods  | vCard Only   |
| Providers                   | Most commercial banks  | Most commercial banks                                 | Bottomline Technologies,<br>PaperTrl                                 | Bill, Tipalti, AvidXchange,<br>CorPay, Coupa, Stamplicy  |

# Conclusions

- New digital payment solutions are *emerging* and usually running alongside traditional methods
- ACH has taken the greatest share of check volume, and has become a favorite target of fraudsters (phishing)
- Only card payments provide seller protection against fraud
- FedNow & RTP are up and operating, but adoption has been slow
- Virtual cards are ready for prime-time and offer significant security and control improvements over plastic
- Straight-through processing virtual card payments are in their infancy, but offer superior security



# Recommended Next Steps

## If you're an internal CPA:

- Talk to your bank (and several others)
- Ask for a vendor payment analysis to determine payment preference/acceptance
- Evaluate AP Solution providers – expect a rebate pitch

## If you're a public accountant:

- Consider adopting a spend management practice, to include:
  - Spend audit
  - Vendor payment analysis
  - Outsourced Accounts Payable
  - Technology and automation needs assessments

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# References

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- **Treasury Fees:** <https://www.moderntreasury.com/questions/what-is-the-maximum-amount-for-fednow>
- **Check Volumes:** <https://www.pymnts.com/news/b2b-payments/2021/deep-dive-why-paper-checks-still-factor-into-b2b-firms-payment-optimization-plans/>
- **Real-Time Payments:** <https://www.theclearinghouse.org/payment-systems/rtp/institution>
- **Federal Reserve triennial payments study:** <https://www.federalreserve.gov/paymentsystems/fr-payments-study.htm>
- **Payments Glossary:** [https://www.newyorkfed.org/banking/payment\\_glossary.html](https://www.newyorkfed.org/banking/payment_glossary.html)
- **Digital Dollar:** <https://am.jpmorgan.com/us/en/asset-management/adv/insights/market-insights/market-updates/on-the-minds-of-investors/will-the-us-dollar-go-digital/>
- **PCI Security Council:** <https://www.pcisecuritystandards.org/>
- **Payment fraud:** <https://seon.io/resources/which-online-payment-methods-have-the-highest-fraud-risk/>