A Roadmap for Improving the U.S. Payments System

Navigating Payments Conference

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- Serves on the Minneapolis Bank’s senior management committee
- Provides executive oversight to operations, customer service, technology & payments functions, as well as to the Financial Services Policy Committee Support Office
- Conducts industry relations on behalf of the Federal Reserve System, serving as a liaison to selected national banking & business associations
- Vice Chair, Accredited Standards Committee X9, Financial Industry Standards

Federal Reserve Banks

- Provide financial services to depository institutions & U.S. government
- Establish & execute U.S. monetary policy
- Supervise & regulate financial institutions
- Maintain a stable financial system & contain systemic risk
Today’s Agenda

• The Road to U.S. Payment System Improvements
• Desired Outcomes & Potential Strategies
  – Ubiquitous, Faster Electronic Solution(s)
  – Enhanced Payments Safety & Security
  – Improvements in Cross-Border Payments
  – Improved Efficiency
  – Strategic Industry Engagement
• Next Steps
New End-to-End Strategic Focus on Speed, Security & Efficiency

Retail Payments Study

ISO 20022 Business Case Assessment

Faster Payments Assessment

Payments Security Landscape Study

The road we traveled...

The road we traveled...

Q3 2012

Q4 2013

Q3 2014

Q2 2014

Q1 2014

Q1 2014

Q2 2014

Q2 2014
Desired Outcome

Ubiquitous, Faster Electronic Solution(s)

- A ubiquitous, faster electronic solution(s) will exist for making a broad variety of business & personal payments, & the Federal Reserve will provide a flexible & cost-effective means for private sector arrangements to settle their positions rapidly & with finality.
Faster Payments Assessment
What Did the Fed Do?

• Identified target use cases for faster payments, drawing from other countries’ experiences

• Considered potential “design options” for improving the speed of the U.S. payment system

• Assessed at high level each design option including business & technical requirements, business case & impact on stakeholders

• Described possible plan to move forward
Faster Payments Assessment

Global Case Studies

- Impetus to launch faster payment system mainly strategic, not financial
- Diverse stakeholder engagement powerful tool for building industry support
- First applied typically to P2P (speed) & B2B (speed, remittance data), followed by development of new services, which helped increase adoption
- Real-time settlement not required for real-time availability
- Faster payment information to end users has also been key
- Countries studied:
  - The UK’s Faster Payments Service
  - Canadian Payments Association
  - Poland’s Express ELIXIR
  - Singapore’s G3
  - Finland’s Finvoice
  - Australia’s New Payments Platform
  - Brazil’s Transferências Electrônicas Disponíveis
  - South Africa’s Real Time Clearing
  - The EU’s Single Euro Payments Area
  - Mexico’s Sistema de Pagos Electrónicos Interbancarios
## Faster Payments Assessment
### Options Targeted for Full Evaluation

<table>
<thead>
<tr>
<th>Option</th>
<th>Details</th>
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<tbody>
<tr>
<td><strong>Evolve ACH</strong> to provide increased batch clearing windows</td>
<td>May be quickest to implement with fewest changes required. But only achieves near real-time notification &amp; clearing.</td>
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<tr>
<td><strong>Evolve ATM/PIN debit infrastructure</strong> to leverage existing real-time functionality</td>
<td>Has existing real-time capabilities but presents challenges of aligning 18 different networks, integrating corporate cash management systems at FIs, expanding credit capability &amp; changing economic model.</td>
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<tr>
<td><strong>Direct clearing</strong> between FIs using common protocols over public IP networks</td>
<td>Leverages low-cost communications networks used by millions worldwide, but assuring stakeholders that system is safe may be challenging even if required security exists.</td>
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| **Build new infrastructure** to support faster payments; multiple options | Build single-item clearing infrastructure leveraging legacy infrastructures for settlement or build completely new infrastructure for retail payments or for all payments.  
Options vary in flexibility to meet future needs, cost & time to implement. |
Faster Payments Assessment
Overview of Business Case Findings

• Conservative business case through 2025 for a faster payments solution for main use cases is net neutral to somewhat negative

• Payments migration estimates are conservative: Cash – ~1%; Check – 27%; ACH – 11%; Wire – 7%

• Faster payments solution may include improved information capabilities (e.g., e-invoicing) that enable more efficient AR/AP systems, $10B to $40B in business back office efficiencies can be captured annually, making the business case positive

• Doesn’t include latent demand estimates from new uses & innovation
# National Settlement Service (NSS)

## Potential Enhancements

### Current NSS

- The Fed’s NSS is a multilateral settlement service offered to FIs that settle for participants in clearinghouses, financial exchanges & other clearing groups.
- Settlement agents act on behalf of participant FIs & submit settlement files which are processed on receipt with entries automatically posted to participants’ Fed accounts.
- Current business hours, 8:30 AM ET to 5:00 PM ET, align with traditional banking day on East Coast.

### Enhanced NSS

- Expand Fed’s NSS hours to support West Coast/foreign-based FI & other needs outside current hours
- Phase in expanded service hours
  - **Phase 1** - Expand hours to 7:30 AM ET to 5:30 PM ET
  - **Phase 2** - Accelerate opening to 9:00 PM ET to coincide with opening of Fedwire® Funds Service
  - **Phase 3** - Explore changes needed for weekend &/or 24x7 operating hours
- Enhance to attract private sector arrangements & reduce risk through settlement in central bank money
Desired Outcome

Enhanced Payments Safety & Security

- U.S. payment system security is very strong, public confidence in it is high, & protections & incident response have kept pace with the rapidly evolving & expanding threat environment.
Fed conducted *Payment Security Landscape Study* to better understand end-to-end payment security & how Fed can improve its work with the industry.

### Confidentiality
- Preserving restrictions on payment information access & disclosure

### Integrity
- Guarding against improper payment message modification or destruction

### Authentication
- Ensuring authenticity of counterparties & devices, & that the links in the chain that authorize, clear & settle payments are all genuine
Key Findings from Study Interviews

- The payment system faces persistent & ever-changing threats.
- Priorities include improving authentication, protecting sensitive information & limiting its use & availability for perpetrating fraud.
- The complexity & number of endpoints introduce coordination challenges in development & adoption of improved security technologies.
- Fraud & threat information sharing & data analysis are in high demand.
- As new payment methods & players emerge, regulators are reassessing their supervision & enforcement approaches.
Key Takeaways from Case Studies

- Importance of incentives – payment security is the result of efforts of all parties based on their assessment of private costs & benefits
- Fraud cost allocation & consequence of data breaches
- Key technology (development/selection by networks & adoption by other participants)
- Competition & collaboration on payment security; how standards & practices are established
- Legal & regulatory uncertainty
Payments Security Landscape Study
Improvement Opportunities

- Improve industry coordination on timely adoption of technology, standards & protocols
- Improve protection of sensitive data by devaluing or eliminating it from payments process
- Strengthen authorization & authentication of parties & devices across payment methods & channels
- Improve collection & reporting of aggregate data on fraud losses & avoidance
- Broaden access to actionable security & fraud threat information to payment system participants
- Enhance communication & collaboration among public authorities to clarify supervision, regulation & enforcement for various participants, payment methods & channels that reflect an end-to-end view
Enhancing Payments Security
Potential Strategies

Establish executive level industry advisory council on payment security with Fed leadership & representation from all payment stakeholders to discuss issues & ideas on how best to address them.

Work with payment system stakeholders to speed up development & adoption of payment security standards.

Collaborate with stakeholders to improve quality, consistency & value of payment fraud data collected & reported publically.

Expand selected Federal Reserve payment security research that is useful to policy makers & industry stakeholders.
Desired Outcome

Improvements in Cross-Border Payments

• Consumers & businesses have better choices in making convenient, cost-effective & timely cross-border payments from & to the U.S.
FedGlobal® Payments Expansion

- Considering a new service for Fedwire Funds customers to allow initiation of cross-border wires through their normal Fedwire connection, payable in either U.S. dollar or foreign currency to recipients world-wide.

- Investigating plans to expand FedACH network beyond current 35 countries & offer new features.
ISO 20022 Implementation

What is ISO 20022?

• ISO 20022 is a harmonized set of XML messaging standards across major financial services domains (cash, securities, trade, card & FX) based on a shared data dictionary & business process model. It allows room for added payment-related information from sender to receiver.

Should the U.S. adopt?

• Fed, X9, NACHA & The Clearing House completed a business case assessment in 2014 on whether U.S. ACH & funds transfer systems should adopt ISO 20022.

What was assessed?

• Scope of study included current landscape of U.S. participants, ISO 20022 adoption activities in other markets, impact analysis for U.S. participants (adoption vs. lack of adoption) & competitive impact analysis.
ISO 20022
Potential Implementation Approach

**Phase 1**
Planning & Education
Promote ISO 20022 education & develop national strategy for ISO 20022 adoption

**Phase 2**
Cross-Border Payments
Enable ISO 20022 for cross-border wire payments; followed by cross-border ACH payments

**Phase 3**
Domestic Payments
Assess value proposition & timing for adoption of ISO 20022 for domestic wire & ACH payments

**Additional Consideration**
Use ISO 20022 as standard messaging format for new products & services
Desired Outcome

**Improved Efficiency**

- Greater electronification of payments originated & received has reduced the average end-to-end (societal) costs of payment transactions & resulted in innovative payment services that deliver improved value to consumers, businesses & governments.
Enhancing Efficiency Through Directories

Electronic options for P2P & B2B payments are challenging today largely because sender needs to know recipient’s bank account information or both sender & receiver must be members of same network.

More widely adopted set of directory & messaging tools can help achieve ubiquity & improved efficiency.
Potential Directory Strategy

Convene diverse stakeholders to develop shared vision & implementation approach for national payment directory or directories

<table>
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<tr>
<th>Enable storage, management &amp; look-up of electronic payment identities of payees, including accepted payment methods &amp; requested remittance information</th>
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<td>Open, trusted &amp; secure &amp; focused on enabling interoperability with closed-loop directory providers</td>
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<td>Enable multiple payment types, providing institutions &amp; end users with choice</td>
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Enhancing Efficiency
Electronification of B2B Payments

B2B transactions are a large portion of remaining payments processed in U.S. that still rely on the check. Why?

• It’s difficult to implement electronic payments vs. checks
• Acceptance of ePayments isn’t as ubiquitous as checks
• Small companies struggle to obtain support needed from FIs & other service providers to implement ePayments
• Difficult for payers to find, manage & use payees’ ePayment identities
• Challenging to exchange payment-related information electronically (e.g., invoices)
Potential B2B Electronification Strategies

- Collaborate with stakeholders to develop industry-wide, non-proprietary B2B directory
- Partner with industry to develop & implement education for small businesses
- Work with industry to develop & promote simplified, common guidelines to make it easier to implement & use B2B-focused standards
- Implement a Vendors’ Council to promote interoperability & adoption of new B2B-focused standards
- Lead an industry effort to evaluate development of a straight-through-processing, B2B electronic payment invoice & processing service
FedACH® SameDay Service
Expansion & Adoption

Collaborate with industry to achieve ubiquitous, same-day ACH settlement capability for all ACH network transactions

Increase adoption of FedACH SameDay Service through education & promotion

Enhance FedACH SameDay Service in alignment with network initiatives & rule changes
Desired Outcome

Strategic Industry Engagement

• Key improvements for the future state of the payment system have been collectively identified & embraced by a broad array of payment participants, & material progress has been made in implementing them.
Strategic Industry Engagement

Improving the U.S. payment system will require partnerships with industry stakeholders to drive action. A multifaceted engagement approach will be used to seek input, promote outcomes & secure participation & shared ownership of initiatives.

• Industry meetings, speaking engagements & Fed events will keep the industry aware of progress & promote outcomes & adoption.

• Standing Fed- & industry-sponsored groups will be leveraged to support strategy work & provide input.

• New advisory councils & workgroups will be established to support specific strategic initiatives where there is need for sustained engagement & industry collaboration on decisions & deliverables.
Potential Industry Advisory Groups

Industry advisory & working groups could be formed to assist with execution of specific roadmap strategies:

1. **U.S. Payments Advisory Council** to help guide industry direction on strategic issues & influence successful implementation of the Federal Reserve’s “roadmap” for payment system improvements.

2. **Faster Payments Council** to develop a detailed roadmap & execution plan for ubiquitous real time payment capabilities in the U.S.


5. **Payments Security Council** to discuss security issues & seek consensus on how to address.
Next Steps

Prepare & Share Roadmap
Using industry input & research insight, prepare & share a roadmap for payment system improvement initiatives that advance the speed, efficiency & security of payments

Collaborate to Achieve Desired Outcomes
Engage industry stakeholders in advisory roles & working groups to design & implement roadmap initiatives

Visit FedPaymentsImprovement.org to stay connected!