

Name: Brian Shniderman
Organization: Deloitte Consulting LLP
Industry Segment: Consulting

General

1. Are you in general agreement with the payment system gaps and opportunities identified in the "Payment System Improvement Public Consultation Paper"? Please explain, if desired.

Yes. We are in general agreement with the gaps and opportunities as outlined. However, all existing payments systems are reversible and need a party to mediate disputes. This is a key benefit of the legacy systems and has worked well to build trust in the current payments systems. The cost of mediation increases the cost of using these payment vehicles and time required to complete the payments.

1i. What other gaps or opportunities not mentioned in the paper could be addressed to make improvements to the U.S. payment system?

2. Are you in general agreement with the desired outcomes for payment system improvements over the next 10 years? Please explain, if desired.

Yes. Yes, we are in general agreement with the desired outcomes.

2i. What other outcomes should be pursued?

One should allow entities to have a low-cost, irreversible, real-time payment option with limited need for authorization of transacting parties (no account information shared; ability to remain anonymous for all transactions; no account look-ups or open-to-buy lookups; Trusted Central Authority confirms transactions.)

3. In what ways should the Federal Reserve Banks help improve the payment system as an operator, leader, and/or catalyst?

The Federal Reserve should consider US currency backed crypto-coins, much like the "Mint chip" by the Canadian Mint.

Ubiquitous near-real-time payments

4. In discussions with industry participants, some have stated that implementing a system for near-real-time payments with the features described in the second desired outcome (ubiquitous participation; sender doesn't need to know the bank account number of the recipient; confirmation of good funds is made at the initiation of the payment; sender and receiver receive timely notification that the payment has been made; funds debited from the payer and made available in near real time to the payee) will require coordinated action by a public authority or industry group. Others have stated that current payment services are evolving toward this outcome and no special action by a public authority or industry group is required.

4i. Which of these perspectives is more accurate, and why?

For a public authority or industry group to be successful in moving the U.S. to a near-real-time payments system, two factors should be addressed: 1. The model should provide incentives for innovation 2. The standards should allow for multiple value propositions If this can be accomplished, then we suggest it is possible for a public entity or industry group to be the catalyst for a real-time system.

4ii. What other perspective(s) should be considered?

Another item to consider is that the underlying assumption is that a single entity or payments system is a more efficient way to accomplish the second desired outcome. It may be more efficient to allow for multiple systems to evolve in order to encourage continued innovation.

5. The second desired outcome articulates features that are desirable for a near-real time payments system. They include:

- a. Ubiquitous participation
- b. Sender doesn't need to know the bank account number of the recipient
- c. Confirmation of good funds is made at the initiation of the payment
- d. Sender and receiver receive timely notification that the payment has been made
- e. Funds debited from the payer and made available in near real time to the payee

5i. Do you agree that these are important features of a U.S. near real-time system? Please explain, if desired.

Yes.

5ii. What other characteristics or features are important for a U.S. near real-time system?

We agree that the features described are important and desirable, but we also believe that more work is required to define the features in more detail and to include additional features. Examples include: "Ubiquity" requires further definition as it implies that all hurdles need to be removed and all consumers would need access to some type of account "Irreversibility" for transactions to occur with good funds and in real-time, consideration should be given to removing the reversibility of transactions as they occur in current card-based systems Additionally, the system should be able to exchange payment credentials between originators and beneficiaries and also verify account ownership and funds availability at the source. Real time messaging should be enabled for immediate notification and/or authorization to both parties, with standardized messaging formats across different payment instruments and channels especially considering the increasing diversity of the point of payment origination (larger corporate servers, government entities, large and small websites, individual mobile devices and tablets). Another critical feature of a real-time payments system should be the ability to support Micro-payments and large value payments on a common infrastructure but with different/tailored policies.

6. Near-real-time payments with the features described in the second desired outcome could be provided several different ways, including but not limited to:
- a. Creating a separate wire transfer-like system for near-real-time payments that leverages the relevant processes, features, and infrastructure already established for existing wire transfer systems. This option may require a new front-end mechanism or new rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions.
 - b. Linking together existing limited-participation networks so that a sender in one network could make a payment to a receiver in another network seamlessly. This option may require common standards and rules and a centralized directory for routing payments across networks.
 - c. Modifying the ACH to speed up settlement. This option may require a new front-end mechanism or new network rules that would provide near-real-time confirmation of good funds and timely notification of payments to end users and their financial institutions. Payments would be settled periodically during the day.
 - d. Enhancing the debit card networks to enable ubiquitous near-real-time payments.
 - e. Implementing an entirely new payment system with the features described in the second desired outcome above.

6i. What would be the most effective way for the U.S. payment system to deliver ubiquitous near-real-time payments, including options that are not listed above?

A potential opportunity that was not discussed is to move toward an irreversible real-time payment mechanism much like crypto-currencies. This could reduce the friction generated by the reversible systems and put electronic payments on par with cash in terms of acceptance and allow for real-time payments (see Q1).

6ii. What are the likely pros and cons or costs and benefits of each option? What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

Until a digital currency mechanism is developed, existing networks can be leveraged. More cooperative rules should be defined to drive interoperability required for instant notification/payment assurance (EFT / SWIFT networks) and settlement (ACH).

6iii. Is it sufficient for a solution to be limited to near-real-time authorization and confirmation that good funds are on their way, or must end user funds availability and/or interbank settlement take place in near-real time as well?

In several scenarios, real time notification and assurance may be more important than the settlement itself (for example, cashier checks used for Rental payments). However, for other use-cases, such as emergency funds disbursement, real time settlements must go hand in hand with "good funds" assurance notification. Near real time settlements may not be on a per transaction basis " multiple transactions can be batched to settle on an intra-day basis, multiple times during the day.

6iv. Which payment scenarios are most and least suitable for near real-time payments? (B2B, P2P, P2B, POS, etc.)

There are various payment scenarios suitable for near-real time payments: B2B and POS - Large retailers/businesses would benefit from intra-day settlements to effectively manage cash-flow requirements and fund inventory. P2P and B2C - consumers may choose real-time payment feature to send emergency funds (P2P) and/or avoid late fees on bill payments (B2C).

7. Some industry participants have said that efforts to make check payments easier to use, such as by enabling fully electronic payment orders and/or by speeding up electronic check return information, will incrementally benefit the payment system. Others argue the resources needed to implement these efforts will delay a shift to near-real-time payments, which will ultimately be more beneficial to the payment system. Which of these perspectives do you agree with, and why?

The shift to near-real-time payments should be prioritized, but this cannot be pursued exclusively. Instead, both efforts should be pursued simultaneously. Aside from the high cost of fraud, checks must be handled and deposited, resulting in additional costs and significant value floated through the system. Checks lack the ability to validate proof of funds by the beneficiary. Migration to electronic forms of payments would help in improving transparency and enable more efficient tax collections. Consumers write checks for many reasons including lack of payment acceptance alternatives for the payee (e.g., payments made to the school PTA) and to increase their float. Time and investments would be well-spent on encouraging electronic acceptance, but this does not preclude the need to make check payment more efficient and effective.

8. How will near-real-time payments affect fraud issues that exist with today's payment systems, if at all?

Real time transactions should minimize fraud driven by instant notification and availability of good funds. However, as the transactions are cleared in real time, new counter-party risks must be addressed.

8i. Will near-real-time payments create new fraud risks? If yes, please elaborate on those risks.

Yes. Consumers have increasingly indicated that security is a significant concern with regard to emerging payments systems. Key risks will include identity theft, mobile device hacking, and other forms of theft and fraud. The current payments systems have significant fraud safeguards as well as regulations to protect consumers. In a real-time system, the central issue that must be solved will be who owns the fraud risk.

9. To what extent would a ubiquitous near-real-time system bring about pivotal change to mobile payments?

Mobile payments may benefit from the instant payment authorization and increasingly money velocity - support use cases of P2P, mobile purchases etc. Additionally, mobile payments could benefit by the industry adopting one standard which could be driven by the real time system initiatives. Concurrently, mobility will drive adoption of a near-real-time system, as system participants have access to the payments system in more places and through more channels than they do today.

10. What would be the implication if the industry and/or the Federal Reserve Banks do not take any action to implement faster payments?

Real time payments will likely support new innovations and potentially drive new sources of revenue or cost reductions for the participants. Examples include:
• Faster access to funds will enable merchants and consumers to improve cash flow and fund inventories
• Financial institutions could potentially reduce the cost to serve customers by streamlining the authorization and settlement processes along with lowering fraud costs
• Removing barriers that exist with the current network model will likely spur innovation among participants and potentially be the catalyst for mobile payments

10i. What is the cost, including the opportunity cost, of not implementing faster payments in the United States?

We recommend conducting a study to understand the true opportunity cost implications of not implementing a faster payments system. Key areas to include in the study would be: â€¢ Current cost of check and cash handling â€¢ Fraud losses â€¢ Returns losses and potential reduction in interchange â€¢ Benefits from improved cash flow â€¢ Reduced processing costs

11. To what extent will the industry need to modernize core processing and other backend systems to support near-real-time payments?

Most banks are still using older legacy systems with delayed batch postings to their core banking systems. FIs will require upgrade to their core banking platforms to enable real-time postings.

11i. What is the likely timeframe for any such modernization?

This modernization is likely to be very slow as it requires upgrading and/or replacing very complicated and entrenched systems. The time frame for replacement will be largely driven by the financial business case. There would need to be a compelling business case to drive FIs and processors to make the investments required to accommodate real time payments. It would be a similar scenario for the acceptance side of payments, and may only be catalyzed by a centrally-driven mandate. For example, the EMV standard was developed and agreed to by the payments networks in the late 1990s and will be adopted in the US in 2015. EMV was mandated in other countries and adopted quickly, while adoption has been slower in the US, where no central authority has mandated the standard. The adoption of EMV illustrates that a mandate by a central authority may be required to drive a shift to a near-real-time payments system.

12. Some industry participants suggest that a new, centralized directory containing account numbers and routing information for businesses and/or consumers, to which every bank and other service providers are linked, will enable more electronic payments. A sender using this directory would not need to know the account or routing information of the receiver.

12i. What are the merits and drawbacks of this suggestion?

While a central directory may enable increases in seamless, real-time payments and reduce friction in the system, the risk of fraud and data theft would be especially high in such a directory. In order to ensure security of the system, it would be advisable to keep account information distributed among financial institutions. A system modeled after some of the leading peer-to-peer networks, for instance, would enable payment between institutions without the need for a central directory. Such a model would require agreement among institutions, reinforcing the need for a central mandate.

12ii. What is the feasibility of this suggestion?

Feasibility is not the critical barrier to a centralized directory. The security risk inherent in such a system would render it too risky to pursue.

Electronification

13. Some industry participants say that check use is an enduring part of the U.S. payment system and that moving away from checks more aggressively would be too disruptive for certain end users.

13i. Is accelerated migration from checks to electronic payment methods a high-priority desired outcome for the U.S. payment system? (Accelerated means faster than the current trend of gradual migration.) Please explain, if desired.

Yes. Paper checks not only keep the cost of payment from falling, but their cost affects participants across the payments value chain: 1. Consumers: Increased cost of payments passed on by merchants, and delayed payment posting 2. Merchants: Uncertainty of funds availability, delayed posting, and fraud risk 3. Financial Institutions: Inflated processing costs 4. Regulators: Reduced transparency from delayed settlement Check 21 has helped reduce some of these costs, with estimated annual savings of over \$3 Billion for financial institutions, merchants, and consumers, as published by the Federal Reserve Bank of Philadelphia in 2012. Further elimination of checks would continue to reduce the cost of payment and settlement. Given the societal costs of paper checks, the push toward electronic payments should be accelerated.

13ii. Should the Federal Reserve Banks establish a target for the percent of noncash payments to be initiated via electronic means, by a specific date? For example: "By the year 2018, 95% of all noncash payments will be made via electronic means." If Yes, what is the appropriate target lever and date?

Yes. Many in the industry believe that by 2022, 95% of all noncash payment transactions will be via electronic payment vehicles.

14. Business-to-business payments have remained largely paper-based due to difficulties with handling remittance information. Consumer bill payments also are heavily paper-based due to the lack of comfort some consumers have with electronic alternatives. In addition, many small businesses have not adopted ACH for recurring payments due to technical challenges and/or cost constraints. The payment industry has multiple efforts underway to address these issues.

14i. To what extent are these efforts resulting in migration from checks to other payment types?

Efforts to migrate payments from check to electronic means can be successful only when value to the payer and recipient is clearly demonstrated, and where the cost of migration can be offset by the benefits as the costs are incurred. For B2B payments, these efforts are successful when driven by large buyers that can both declare a mandate to migrate payments to electronic means, and can provide financial incentives for migration.

14ii. What other barriers need to be addressed to accelerate migration of these payments?

Barriers remain for small payers and recipients, which may lack the infrastructure to support electronic payment without additional investment. In this case, the mandate and financial incentives that are available on a larger scale are not available. However, the benefits of migration are especially relevant for businesses. This is illustrated by savings from Check 21, of which nearly half was realized by businesses.

14iii. What other tactics, including incentives, will effectively persuade businesses and consumers to migrate to electronic payments?

Rather than by top-down mandates, businesses and consumers can be persuaded to migrate if convinced of cost, security, and reliability advantages of electronic payment. For each of these dimensions, strategies to incent migration would include: 1. Cost: Opportunities to amortize migration costs over time 2. Security: Standards and participant education to reinforce fraud mitigation 3. Reliability: International standards to ensure stability of electronic payment systems

14iv. Which industry bodies should be responsible for developing and/or implementing these tactics?

Both central banks and private sector participants (e.g., Financial Institutions, Industry Consortia) should develop and implement these strategies to equip and educate payers and recipients with common payment standards across the world. This cross-border, cross-sector collaboration is critical to accelerate migration to electronic payments and is consistent with the Federal Reserve's desired outcome 1: collective identification and implementation of payment system improvements.

Cross-border Payments

15. To what extent would the broader adoption of the XML-based ISO 20022 payment message standards in the United States facilitate electrification of business payments and/or cross-border payments?

With ISO 20022 being rolled out in the UK, Europe, and potentially Canada and Australia, it is quickly becoming a de facto standard within financial services and payments. The US/Federal Reserve should continue encourage the adoption of this standard within the US banking environment. While we are already seeing some banks move toward this standard, broader discussion and adoption will help highlight the benefits. While broader adoption by US banks will help, originators and receivers will still require changes to accounts payables and receivables systems, which will slow initial usage, but should not deter the push for such a change. In adopting the ISO 20022 standard, it is also critical that the industry is kept together on consistent interpretation and implementation of the standard. This will avoid introduction of various "flavors" of the standard that increase the cost and complexity of the ecosystem and prevent interoperability.

16. What strategies and tactics do you think will help move the industry toward desired outcome four - consumers and businesses have greater choice in making convenient, cost-effective, and timely cross-border payments?

To attract businesses and consumers to change how cross border payments are made, barriers must be removed. The primary strategies are: 1. Enable payments to be instrument and channel agnostic and based on originator and receiver preference 2. Accelerate messaging for receipt of funds, particularly in use cases related to consumer initiated cross border transfers 3. Create a significant cost difference per transaction, with minimal switching costs to a new system, to drive adoption 4. Enable solution to be offered both through FIs and through third party payments processors, creating incentives for all parties to adopt 5. Ability to operate with dominant international payment standards and ecosystems especially in the context of the US regulations

Safety

17. Payment security encompasses a broad range of issues including authentication of the parties involved in the transaction, the security of payment databases, the security of software and devices used by end users to access payment systems, and security of the infrastructure carrying payment messages.

17i. Among the issues listed above, or others, what are the key threats to payment system security today and in the future?

Corporate participants in the payments eco-system have the incentives and means to ensure security and are subject to regulation and industry standards, e.g. PCI, to take measures to prevent security breaches, leaving the area of greatest vulnerability with the consumer.

17ii. Which of these threats are not adequately being addressed?

If we focus on the consumer, the main threat to the security of the payments system is caused by issues related to authentication. For online and mobile transactions, the biggest risk is account takeover.

17iii. What operational or technology changes could be implemented to further mitigate cyber threats?

A tested method to improve authentication accuracy, as witnessed by a reduction in fraud losses, is the use of a Personal Identification Number (PIN). A PIN can provide additional security in an environment where all authentications are obtained on-line. In an environment where transactions may be processed off-line, additional verification factors will lead to an increase in security, namely adoption of EMV technology. Establishing a standard for all wallets to support multi-signature (m out of n) addresses transactions is a key way to preventing account takeover. A multi-signature address is associated with n private keys, with m being necessary to complete a transaction. These m keys are resident on m devices associated with the customer, thereby making it difficult to take over accounts.

18. What type of information on threat awareness and incident response activities would be useful for the industry?

There is a need for a universal threat awareness and response system.

18i. How should this information be made available?

Near real-time announcement of emerging and new threats, potential implications of the threats, guidance on how to respond, guidance on communications to impacted customers and the media, and actions to be taken by industry groups are essential components of this system.

19. What future payment standards would materially improve payment security?

The EMV standard has proven to greatly increase security, if fraud losses are used as a proxy for security. In markets where EMV has been rolled out and adopted by banks, retailers, and consumers, fraud has been greatly reduced at the Point of Sale.

19i. What are the obstacles to the adoption of security-related payment standards?

The main obstacles for adoption of EMV in the U.S. are the high costs to upgrade merchant terminals and the higher ongoing cost for banks of providing chip cards to consumers.

20. What collaborative actions should the Federal Reserve Banks take with the industry to promote the security of the payment system from end to end?

Mandate EMV compliance in line with timelines laid out by the payment networks.

21. Please share any additional perspectives on U.S. payment system improvements.

