

Name: Lyle Elias

Organization: ATMIA Integrated Payments Alliance

Industry Segment: Other

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. The ATM Industry Association (ATMIA) advocates payments industry collaboration on non competitive issues that promote security, innovation and market driven choice in payments. The Integrated Payments Alliance is an ATMIA global payments industry outreach initiative that focuses on the interaction between differing and sometimes competing payment channels, particularly as they relate to the challenges facing cash intensive businesses. To this end we are reaching out to government, payments industry associations and businesses in developing an Intermodal Money Framework that is based on the same concept that revolutionized modern transportation, by standardizing the containerization of freight, and subsequently common transportation modes. We believe that this same principal can be applied to near-real-time payments in a manner that will achieve the objectives of the Federal Reserve Banks Payment System Improvement initiative, by developing an Intermodal Money Framework for the standardization of monetary transportation that is inclusive of all financial instruments and payment channels in a manner that takes into account the needs of all participants including the unbanked, and can serve as a global model for universal payment systems interoperability. In various countries around the world the unbanked are utilizing ATM cash services by performing cardless transactions. There are various technologies that have been developed to both send and receive cash via an ATM without the need for a branded bankcard. ATMIA/IPA has recently published the Best Practices for Cardless Transactions at the ATM concluding that despite its maturity, or perhaps because of it, the ATM industry has an opportunity to adapt to competition from disruptive technologies, including the rise of mobile commerce. Cash remains a significant and growing payment instrument, and the proliferation of ATMs, in combination with the ubiquity of mobile devices, creates the potential for a synergistic relationship to bridge the divide between the digital and physical payments worlds. Major manufacturers have announced technology that integrates mobile devices with ATM functionality, and ATM networks in several countries are providing cardless transaction services.

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

An additional gap and opportunity that we have identified is the improved role of cash in the payments ecosystem. Various reports in the media and some academic studies have vilified cash as being inefficient, costly and even dirty. Some believe that currency in the form of cash should be eliminated completely. We believe that this type of dialog is neither productive nor conducive to improving the lives of the billions of people around the world that rely on cash as an integral part of

their lives. A better approach in our opinion is to focus our efforts on how to make the transportation of money through electronification more efficient and secure, with cash serving a vital role at the end points of a global digital payments system. There are currently many gaps in cash payments that are rooted in social, practical and political considerations. The opportunity as we see it is to move toward addressing the systemic issues associated with cash printing, handling, processing and distribution within the digitized payments world. Furthermore an additional gap and opportunity is to consider the interests of the unbanked population which are often overlooked in the design and interoperability of payments systems. The unbanked are often from access to financial services or forced to pay high fees to access financial services that are either free or offered at a lower cost to bank account holders. Any improvements to the U.S. payment system should consider the inclusion of the unbanked and the Money Services Businesses (MSB) that cater to their financial needs. The Intermodal Money Framework has the inclusion of all relevant participants as its main objective by recognizing the importance of all financial instruments, and the needs and preferences of all consumers.

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

Yes. We are in general agreement with the desired outcomes for payment systems improvement over the next 10 years with a greater national focus on payments system architecture, frameworks, solutions, cooperative ventures, strategies and products. We also believe that governmental rule making and regulatory oversight must be taken into consideration in the evolution of more efficient payment systems.

2i. What other outcomes should be pursued?

An additional desired outcome is for government and the public sector to work together in developing a more streamlined and standardized regulatory framework that will reduce the cost of compliance, while still achieving the objectives of the regulations. Lowering the cost associated with regulatory compliance can substantially reduce the cost of payments to the end user.

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

The Federal Reserve Banks can play a pivotal role in bridging the gap between the public and private sectors in a way that no government agency or business organization can. The Federal Reserve Banks leadership and rule making capacity can insure that an improved payment system achieves the stated objectives of developing a ubiquitous near-real-time payments solution that is convenient, secure and addresses the gaps in the current payments ecosystem in a way that is universally accepted.

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?

A coordinated action by public authorities and industry groups will be essential, because the public and private sectors all have a vested interest in the outcome. The appropriate government agencies, industry associations and standards organizations can play key roles in identifying the challenges and opportunities of achieving the stated objectives.

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

All participants in the payments ecosystem and all legitimate financial instruments should be considered.

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 are in general agreement on the second desired outcome and the points stated. However, due to the nature of interbank funds settlements, all payments are liabilities until they are cleared and settled. Achieving the desired outcome of a near-real-time payment will require Systemically Important Payments Systems (SIPS) such as the Federal Reserve System to insure that funds are cleared and settled between payer and payee accounts. a. Ubiquitous availability rather than participation is the key because you can't enforce participation. However, if it is available everywhere and priced right it will be used by everyone. b. Anonymity of recipients account details is more of a good feature than a necessary feature for real-time payments. If adequate rules and

processes are in place it should not be a systemic problem for account details to be known. c. Yes “ whether it is on a single message pair debit before credit basis, or a dual message pair authorize then debit basis. d. This depends on the definition of timely. Similar facilities exist in many countries. In the case of generic P2P transactions. The transaction initiation (the debit) is usually in real-time under the control of the payer (who therefore needs no further notification) and the transaction completion (the credit) is the advice to the payee, it is the notification. In a non-bank environment where wallets, mobile money and emailed value (CashMail) are all involved there is usually an extra layer of payment mechanism (a commercial layer over the bank clearing layer) and the actual debit and/or credit may be time-displaced from the apparent debit/credit, and in this case additional actual debit/credit synchronized notifications (e.g. via mobile) may be desired. e. This is the fundamental definition of a real-time (or near-real-time) payment. An additional desired feature would be that the transactions are treated as electronic cash payments similar to an ATM transaction, where in addition to having 24/7/365 access to cash from demand deposit accounts, end users can have the ability to move funds from in a secure real-time online environment.

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?

We are advocating an Intermodal Money Framework that is inclusive of all legitimate payment systems and financial instruments. The old card-versus-cash paradigm is becoming less relevant, as paperless and cardless transactions gain acceptance, even the definition of currency is evolving with rise of virtual and math based crypto-currencies. A universal payment system needs to take all of these realities into account in order to provide a ubiquitous solution. Wire transfer systems, card

networks, ACH providers, financial institutions, and money services businesses all play a useful and vital role in the various payment schemes. What has been lacking is practicable interoperability between payment systems, particularly with online payments and cross-border remittances. Bricks-and-mortar retail payments have been primarily dominated by cash and bankcards, although prepaid access and mobile channels have gained ground over the last decade. The ATM networks for the large part still do what they have done for decades with very little adaptation to new technological innovations, outside of the basic cash access and remote deposit capture functions. However, the ATM delivery channel (e.g. PIN Debit) affords all of the necessary features that have been thus far articulated. The challenge is that the shared ATM networks evolved from a core banking perspective and therefore have excluded non bank financial services provider participation. There are security issues associated with the management of PINs and Terminal Keys that can benefit from evolving technologies such as tokenization and universal strong authentication. However, on the whole the global ATM infrastructure is one of the safest and most reliable money transport systems ever created. It is our considered opinion that the existing global ATM infrastructure can support a secure near-real-time electronic cash transaction that can be physical or virtual, depending on the nature and circumstances of the transaction, and can provide a universal solution that could be implemented in a cost effective and timely manner. A ubiquitous near-real-time electronic cash payment channel can be achieved by enabling not just ATM cash withdrawals from demand deposit accounts, but to also include a send and receive payment capability that already exists online in account-to-account systems. As a practical matter any customer facing electronic device can be converted into a functioning ATM to both send and receive cash payments in near-real-time. The technology already exists to accomplish this with a simple software modification and the use of tokens, so that the real account numbers need not be shared. A high degree of transaction authentication certainty combined with online verification and blocking of funds makes the ATM delivery channel a very effective means of providing a ubiquitous near-real-time payments processing, clearing and settlement solution. In several parts of the world ATM networks are being utilized for cash distribution to individuals that either do not have bank accounts or are in need of immediate access to cash. Carefully structured networks of intermediaries including financial institutions, financial services providers, mobile telephone operators and their agents are facilitating the end point cash management, but in most cases these networks lack interoperability due to competing business models and the lack of global standardization. Beyond the cost savings and increased efficiency of automated cash processing and handling, there is the social value of increased access to financial services for the unbanked and the possibilities of one-to-many cash disbursements for emergency and disaster relief. Virtual account (e.g. temporary account) management systems are being employed along with tokenization and strong authentication technology to process these electronic cash transactions through online and mobile channels for the unbanked. The ATM transaction has one of the lowest costs of processing for near-real-time financial transactions, when not viewed in the context of shared network interchange and convenience fee surcharging for cash dispensing and deposit acceptance. The bulk of the cost is incurred at the end points of the transaction in managing and processing cash inventories, but those costs are inherent in any cash handling and distribution environment. The ATM transaction as a pure transport mechanism is the same as any debit transaction. The McKinsey Global Payments Map; Bill & Malinda

Gates Foundations Financial Services for the Poor “ Fighting Poverty, Profitability (2013) estimates that the global average ATM transaction cost is approximately \$.17 USD and a digital credit transfer is \$.16. However, the foundation estimates that the cost of purely digital transactions through a mobile channel can be as low as \$.05, if they are done efficiently. The Intermodal Money Transport Framework model does not differentiate between the two types of transactions, except for at the cash-in and cash-out end points, where the cost of cash processing and handling must be factored into the equation. It should be noted that many of the cost arguments that relate to the various financial inclusion schemes for the unbanked are spurious, because they are often not made in the context of the whole payment chain, such as using mobile phones to send someone money, does not bring down the total cost of payment unless that mobile money value can be directly used to buy something, in most cases it is not and instead is converted to cash at an agent location or ATM. The lower cost of digital money is frequently taken on its own, out of context to justify a position. There is ongoing collaboration between various industry groups and standards organizations promoting open standards and the adoption of industry best practices that touch on multiple aspects of the proposed underutilized ATM payment channel. The Integrated Payments Alliance in partnership with ATMIA through its various committees and working groups seeks to play a contributing role in reaching out to interested parties in the public and private sectors and work toward common standards and best practices for electronic cash transactions. This collaboration should include all relevant stakeholders including standards organizations. It should be noted that the recent announcement by VISA, MasterCard and American Express of a proposed framework for a new global token open standard to enhance the security of online payments could facilitate universal acceptance of digital payment tokens to replace traditional account details for online transaction processing and storage.

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?

As previously stated in Q4 and Q5 the improved payment system solution will require public and private sector collaboration, and a SIPS central authority for rule making and settlement. The various payment systems that have been outlined all have certain aspects that can be leveraged in implementing a solution, but none of them can provide the complete solution without major modifications to the underlying systems and operating rules.

6iia. What rule or regulation changes are needed to implement faster payments within existing payment processing channels?

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?

Online PIN Debit transactions do not settle in real-time but the funds availability is verified and the transaction request is authorized in real time, if there is no stand-in authorization the funds are blocked in real-time thus clearing the transaction for settlement after-the-fact.

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

All payment scenarios are theoretically suitable for near-real-time payments. However, there are consumer protection regulation, charge back, and dispute resolution considerations. In fact, only cash or cash equivalent transactions are appropriate, in that once the transaction is validated and authorized it would be irreversible, because there is no guarantee that the funds would be available for an after-the-fact transaction reversal.

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 ACH (e.g. Direct Debit) has become the defacto standard for electronic funds transfers in the U.S. However, the batch file process and delayed posting of electronic checks makes near-real-time clearing and settlement difficult to manage, as is the case for signature based bankcards and card-not-present transactions.

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

Real-time, or near-real-time, services provide for value exchange that is instant and irreversible. There are, therefore, generally concerns raised that fraud can be more rapidly undertaken and is far more difficult to recover from. Hence, this sometimes is seen as a psychological barrier to entry. In reality, if the entire payment process from validation of payer to authentication of recipient is considered as a whole, and implemented according to acceptable norms and standards, with all of the necessities of authorization, clearing rules and data security, then near-real-time payments should not have significantly greater risk than an existing debit card transaction. Risk management and mitigation needs to be viewed holistically, taking into account practical value and usage limits, the obligations and accountability of parties, appropriate pricing, and existing rules and regulations. Taken as a whole, as for any other service, the product constructed and offered must satisfy a need and suit its intended purpose. Current technology and fraud mitigation systems, particularly when tokenization and strong authentication techniques are employed, should reduce fraud significantly. In environments where cardless payment systems are viable, fraud could be virtually eliminated, if properly managed and monitored.

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

Yes. Cyber security is and will continue to be a risk factor for online payments. The reversibility of near-real-time cash or cash equivalent transaction needs to be viewed as cost-to-benefit proposition with built-in regulatory safeguards for consumer protection.

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

We believe it would bring about significant and pivotal change for mobile payments. It could potentially change the entire business case of mobile payment services by removing the need for time delays between the apparent payment and the real payment, “as there would no longer be a payments-based need (as opposed to commercial and marketing needs) to have an account with the mobile service provider. The mobile service (theoretically) becomes a token carrier between a real-time debit to the payers account and a real-time credit to the payees account. Within the Intermodal Money Framework mobile payments made through a mobile device is one of several payment channels that utilize a customer facing electronic device interface like online computers, ATM and POS terminals. Mobile phones and Tablet PCs act as data transmitting form factors that can be linked to accounts like cards.

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

We are not qualified to opine on the implications not taking action to implement faster payments.

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

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

We do not have sufficient data to estimate the cost and time frame to modernize core processing and back-end systems to support ubiquitous near-real-time payments, but the ATM/POS PIN Debit infrastructure already exists and is capable of efficiently processing large numbers of transactions.

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

The cost and time to develop the compliance and operating rules, and to upgrade and certify the systems to more robust online payments technology, should be less than that of building out a whole new payments mechanism.

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?

This is a basic definition of Tokenization. The pros and cons of this approach depend entirely on how it is approached, conceived and implemented. It is all about the level of co-operation (or co-opetition) that can be achieved. A centralized directory can be conceptually real or virtual, for example. Real in

terms of a central server operated by a central authority or Virtual in terms of it being a set of definitions and standards and rules that can be implemented in the Cloud.

12ii. What is the feasibility of this suggestion?

A centralized database of business and personal bank account numbers could raise legitimate privacy concerns and would present a daunting management challenge. More importantly this approach would not address access for the unbanked.

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.

No. We feel that checks, like cash, have a legitimate place in the payments ecosystem, and ultimately the end user will decide whether to adopt purely digital payments over paper or plastic based financial instruments. Moving away from checks is an evolutionary process; other countries that have tried to stop checks have usually had to fall back on to a migratory strategy. How aggressive the process is to manage down checks depends on the needs of the market and the business cases of the participants. However, it makes no sense to improve the product to the extent of encouraging its use in an environment of increasing costs and improving alternate forms of technology. It is not about the physical product, it is about the business cases and vested interests. There are participants that have invested heavily and will be naturally reluctant to change. There are also customers that rely on the process, float and physical attributes of the product, and they will also be reluctant to change.

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?

No.

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?

Businesses and consumers will adopt payment methods that are convenient and cost effective. The ultimate inducement for migrating to digital payments will be ubiquity of acceptance and convenience.

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

The common problems associated with migration to paperless systems are resistance to change and lack of desire to commit resources, but businesses do successfully convert to electronic remittance information, consumers do adopt electronic bill payment successfully (provided education, transparency and trust exists), and small business do willingly use recurring payments. These changes do significantly impact on the use of checks.

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

Both barriers and incentives are normally cost related, with trust and transparency playing a large role.

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

The Fed can play a leadership role working with industry associations and government regulators, but all aspects of the payments ecosystem should be considered including the benefits of certain paper based systems such as checks.

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 electronification of business payments and/or cross-border payments?

We are supportive of the IFX/EPASOrg ISO 20022 ATM Messages initiative. Although not XML based, ISO 8583 provides for the passing of advice messages. Regardless of the protocol used, transaction code standards can support multiple forms of payments. The online digital payments environment can convert payment requests and instruction into tokens such as QR codes that in turn can be linked to the debit transaction. Cross border payments are currently supported via the ATM networks and can support Dynamic Currency Conversion the same manner as POS systems.

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?

The main challenges for ubiquitous cross border payments are the lack of global regulatory compliance standards and complex inter-bank clearing and settlement processes. We advocate for education, transparency and sensible appropriate regulation. In the Intermodal Money Framework model, an electronic cash payment would move in the currency that was selected at the time of the authorization of the transaction. SIPS authorities or other appropriate clearing house intermediaries would handle the foreign exchange clearing and settlement. Cross-border payments would be near-real-time just like domestic transactions.

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?

We will address safety only from the perspective on ATM/POS PIN based transactions, and not on payments system vulnerabilities and security on the whole. The global ATM/POS PIN system has a stellar performance when it comes to safety and soundness. The vast majority of fraud is associated with card compromises that originate from stolen card credentials. Two-factor authentication is employed through the use of a card with encoded data and a personal identification number which makes the ID theft more difficult than signature based cards. The transactions are processed as real-time online transactions, so unless stand-in-authorization is enabled only the issuer can authorize the transaction. PIN Debit transactions can be structured to only allow transaction where the funds are automatically validated and blocked to prevent the possibility of negative balances in the account. Non-sufficient-funds (NSF) transactions are denied unless the card management system is programmed to allow over-drafts. These safe guards reduce incidents of friendly fraud.

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

The interception or eavesdropping over communications channels can be address through end-to-end encryption that is increasingly being advocated by acquiring processors, and software virus attacks can be mitigated through hands on network monitoring and intrusion detection.

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

New technologies are emerging that can further harden the defenses of the payments infrastructure, and the use of tokens combined with strong authentication techniques should make for a very safe and reliable payments system.

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

This is a question best answered by network security experts. However, within the scope of the ATM/POS PIN infrastructure and the proposed Intermodal Money Framework model, the current card network fraud monitoring systems have adequate safeguards and provide for threat notification and incidence response.

18i. How should this information be made available?

Industry and law enforcement cooperation, fraud alerts and responsible information sharing.

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

There are various standards group addressing different aspects of online payments security. It is our considered opinion that a holistic approach would be required to support a truly secure end-to-end interoperable payment ecosystem. Collaboration between the various security standards groups could result in a unified framework for a digital intermodal money transportation system.

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

The lack of centralized coordination and information sharing between standards organizations.

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?

We believe that adoption of standards and best practices can make secure and regulatory compliant universal interoperability in payments a reality and the Federal Reserve Banks can take a leadership role in helping to develop and promote them.

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

As a nonprofit industry association working group, we feel that U.S. payment system improvements initiatives should be focused on deriving the maximum benefit to the payments ecosystem as a whole, and should create a level playing field, based on the development and adoption of open standards and best practices that promote integrity, security, innovation, competition and market driven choice.