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The Need for Real-Time Payments in the US

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ABSTRACT: When compared with other payment environments around the globe, US low value payments systems are slow and inefficient. In the US, calls for innovation and modernization of the payments infrastructure to accelerate the speed of payments have gone unheeded, leaving Consumers frustrated and Businesses at a competitive disadvantage in the global arena.

This paper examines the need for real-time payments in the US. It outlines the benefits to all payment actors if such capability were to exist and examines the challenges the financial services industry faces to deliver products and services based on real-time payments.

Introduction

In a world in which instant gratification is the norm, the US payments infrastructure has not kept pace with the demands of a fast moving society. As compared with many other payment systems around the world the US payments infrastructure is slow, inflexible, and multi-layered – in a word: inefficient.

One area of special interest is the speed in which payments are cleared and funds are made “good” to the beneficiary. Presently, payments clearing and availability of funds is too slow and too much value is floated through the system rendering it unproductive. Speeding up payments could reduce payment risk while lowering the cost of low value retail payments and allowing banks the opportunity to generate additional revenues through expedited bill payments, emergency and ad-hoc corporate and government disbursements.

This White Paper puts forth the premise that the US is long overdue for the introduction of functional and efficient real-time payment systems. Corporates, retailers and governmental organizations are demanding it, Consumers need it, Financial Institutions (FIs) will benefit from it, and overall economy activity could be enhanced if such capability were available.

However, to fully accomplish real-time payments The Fed, NACHA, and FIs need to show leadership fixing the deficiencies of the US' Clearing and Settlement infrastructure. No technical obstacles stand in the way of achieving real-time payments; many models and technologies exist around the world that could be adapted for use in the US. The fundamental problem is resistance to change and the failure to develop a fair, “win-win” business model that works for FIs, Businesses, and Consumers.

This White Paper describes the market needs and opportunities behind real-time payments. It reviews examples from around the world that could guide the development of real-time payment solutions and it outlines the functional requirements for such solutions. Despite the infrastructural deficiencies, some industry players are stepping up to deliver new products and services that offer real-time credits and near real-time debits. Those with the biggest potential are solutions that can offer a “win-win” model to all players, are scalable, require minimum modification of existing systems, and can expand across the physical, mobile, and e-commerce milieus.

The Paper intends to be neither pro-Financial Institution, nor pro-Merchant nor pro-Corporate, but rather to objectively deliver thought leadership, questioning existing premises on how payments must be conducted in the US. Its aspiration is to encourage US payments industry participants to think creatively and to challenge them to innovate in order to deliver a new, cost-effective, and information-rich payments infrastructure.

What Are Real-Time Payments?

The term “real-time” is relative. In the US, different payment instruments have different degrees of “real-timeness”¹. To understand this assertion, let’s break down a real-time payment into its three different components:

- The validation process proving that an account exists and that it has enough funds to cover the payment, with a corresponding acknowledgement message back to the payment originator
- The assurance and finality of the payment ensuring that the payment will be honored, except for unauthorized use conditions
- The clearing and settlement of transactions leading to the actual transfer of value so that payment beneficiaries have “good funds”²

Using the above definitions, wire transfers are the closest form of a real-time payment. They provide an implicit validation because the payment is payer initiated and the notification to the beneficiary is almost immediate; the payment has finality, meaning the transaction cannot be disputed within the network; and the funds should be immediately available to the beneficiary. However, reality is that, even with wire transfers, the notification and delivery of funds may lag by one or several days due to cumbersome routing of transactions, lags in the beneficiary’s bank posting system, or delays due to the FIs’ risk management systems.

PIN based EFT networks are the next closest thing to real-time payments. Although not normally used in this fashion, EFT networks are able to deliver credits to accounts with “good funds” seconds after the transaction was submitted. In the case of debit transactions, the validation is instantaneous with an implied assurance of payment even though the funds transfer is not immediate (normally, it happens the next day). Under EFT network rules, payers can only dispute unauthorized transactions.

Credit cards and signature debit networks have less “real-timeness” than EFT networks because, even though the validation processes is immediate, the funds transfer is delayed until the transaction is submitted for payment by the card acceptor to the card network. This is due to the fact that these networks use two-messages (an authorization and a settlement) as compared with EFT networks where there is only one message performing both functions. Thus, if card acceptors delay submitting their settlement messages, the availability of these funds is equally delayed. Credit card and signature debit payments can be disputed through the network via chargebacks under credit card regulations for any number of reasons, making them less liked and more expensive to card acceptors.

Contrast all the above with payments made through the Automated Clearing House (ACH) which has no validation process and a delayed funds transfer, sometimes as long as 3-4 days. With ACH there is no finality; payers can dispute the transaction through the network for many reasons and, since there is no validation process, there is ample opportunity to introduce

¹ In Europe, there are several payment instruments that could be called “real-time” that use online banking applications for e-commerce purchases where the Consumer’s account is debited and the Merchant’s account is credited on a real-time basis. This requires both Consumer and Merchant accounts to be hosted by the same bank, however

² “Good Funds” is defined in this paper as unencumbered financial value which the payment beneficiary can withdraw or use in any way s/he sees fit without any conditions or limitations imposed by the depository financial institution

fraudulent transactions. Checks are similar to ACH regarding the lack of positive validation and the possibility of returns due to Not Sufficient Funds (NSF) or fraudulent reasons. From this perspective, ACH and checks have the least amount of “real-timeness” of all available forms of payments in the US.

Who Needs Real-Time Payments?

A survey by the Association of Finance Professionals (AFP) indicated that faster speed of payments is the most desired enhancement that Corporate Treasurers and Cash Management practitioners would like to see implemented in the US payments system³. They have indicated that they would use some form of real-time payments for cash concentration, payroll of hourly or part time employees, and replace checks when making payments to other businesses or when accepting payments from other businesses, reducing the risk and float time.

Although check volumes as a whole continue to decrease, it is estimated that Businesses will use checks for nearly 75% of their payments in 2013 with an annual value of \$49 Trillion USD estimated⁴. Even though some checks are now clearing faster than ACH transactions due to the check image clearing aspects of the Check21 Act, these checks still need to be handled and deposited. This means that, counting mailing days and weekends, every day there are nearly \$135 Billion USD “in flight” that cannot be used or invested by the beneficiaries of these payments - a considerable waste of capital.

Payment assurance is the most critical function for many smaller retailers as long as “good funds” are available next day. However, large retailers are now demanding intra-day access to sales proceeds in order to invest or replenish inventory. They would like these proceeds paid, not on a transaction by transaction basis, but as a result of a clearing and settlement processes occurring multiple times per day.

In addition to businesses and retailers, Consumers also want to increase the speed of their payments. Surveys have shown that Consumers value the immediate completion of a payment transaction. They appreciate the value of making last minute payments without incurring exorbitant late fees such as payments to mortgage or credit card companies. As beneficiaries, Consumers also desire real-time payments and immediate access to funds in emergency situations. These types of payments include payday lending, insurance claims payments, and governmental disbursements.

In other cases, the availability of a service or a product is dependent on the irrevocability of the payment as much as the speed with which a payment is cleared. For example, good and irrevocable funds are expected when making the initial payment when renting an apartment or when buying a used car. To address this, landlords and car dealers demand cashier’s checks which are both expensive and inconvenient to the Consumers.

For many young Consumers, check writing – and thus, tracking expenses with a checkbook – is a vanishing skill, resulting in overdraft fees because of “phantom money” in their bank accounts (e.g. money covering payments already made but not cleared). These Consumers, accustomed to “instant everything”, would like to see their payments immediately posted to their bank accounts, and are willing to trade off float for better financial control.

³ AFP Payments Survey, May 2011

⁴ WTO, US Census Bureau, Phoenix-Hecht, Deloitte, Paystream

FIs can also benefit from real-time payments. First of all, is the potential for increased revenue from “good funds” transactions - both credits and debits. Secondly, FI’s can offer additional revenue generation services such as payroll and other planned disbursements in real-time giving their customers improved cash management capabilities. Further, FIs could use new real-time payment services as a way to integrate multiple payments “silos” and channels into a seamless Consumer experience while reducing back-office cycles and costs. More important than the execution of the payment, FIs will also have an opportunity to generate revenue from delivering value-added information about the payment (e.g. Consumer profile and usage) allowing for better marketing and merchandising by the retailer.

A concern usually voiced by FIs whenever a new approach to payments is discussed is that they do not want to become commodities. The opposite is true. With real-time payments, FIs have an opportunity to develop revenue-generating, FI-branded products and services revolving around payment data that will increase customer loyalty and retention as Consumers will be better able to associate their payments with their own FIs. These services may include accounting and budgeting reporting which could be uploaded into Personal Financial Managers, expense categorization, account and transaction analysis services, etc.

Finally, Governments and overall economic activity would also benefit from real-time payments. With the introduction of robust, real-time payment alternatives Consumers could start using mobile phones as a payment instruments for low value and person to person payments, replacing cash and checks. As more payments become electronic they provide better auditability and more efficient tax collections. Secondly, and most importantly, real-time payments directly increase the Money Velocity⁵, which helps economic growth as money that arrives faster can be spent faster.

Based on the different scenarios above, there seems to be two different market needs related to the “real-timeness” of payments based on the availability of “good funds”: Let’s call them RT1 and RT2. RT1 is a payment where the beneficiary has immediate “good funds”, either to withdraw or invest, upon the receipt of payment notification. RT2, on the other hand, is less demanding in that the payment beneficiary gets an immediate notification and assurance of payment (e.g. no possible NSF’s) but “good funds” are available the following day or sooner. RT1 implicitly demands individual transaction settlement, whereas RT2 could be batch oriented, delivering funds from many transactions on a single credit. In addition, there are also differing market needs depending on whether someone is initiating a payment (“originator”) or receiving a payment (“beneficiary”) and also whether the payment is a credit or a debit to someone’s account.

Table 1 below contains a non-exhaustive list of possible real-time payment examples with a projected need for immediate funds using the RT1 and RT2 definitions noted above.

⁵ Velocity is a ratio of nominal GDP to a measure of the money supply. It can be thought of as the rate of turnover in the money supply--that is, the number of times one dollar is used to purchase final goods and services included in GDP.

THE NEED FOR REAL-TIME PAYMENTS IN THE US

Beneficiary Payment Type	RT1	RT2	Comments
Retail Payments		✓	Some large retailers would like to see “good funds” available intra-day but not every payment needs to be immediately credited to merchant
Expedited Bill Pay		✓	Some large billers would like to see “good funds” available intra-day but not every payment needs to be immediately credited to biller
Insurance Claims Disbursements	✓		Beneficiaries would like to see “good funds” available immediately, especially in emergency cases
Payday Loan Disbursements	✓		Beneficiaries of these loans are usually in dire need of funds and would like to see “good funds” available immediately
Corporate B2B Payments	✓	✓	Depending on the specific type and amount of the payment, some corporates would like to see immediate “good funds”, either to ship goods or to invest capital
P2P Payments or Money Order Replacements	✓	✓	Depending on the specific type and amount of the payment, some beneficiaries may like to see immediate “good funds”, and may be willing to pay for this benefit
Pre-Paid Cards / Top Up Balances	✓	✓	Cards or other pre-paid instrument may need to be used immediately so issuers would like to have “good funds” available to fulfill commitments made by these instrument
E-Commerce Payments Physical Goods		✓	Most online merchants (particularly the smaller ones) tend to manage their liquidity and cash management on a daily basis, so immediate “good funds” is not as important as the assurance of payment. However, some larger e-merchants would like to see intra-day deposits of “good funds” in order to invest and/or replace inventory
E-Commerce Payments Digital Goods	✓	✓	Digital goods implies an “immediate delivery” and, although a payment assurance could be adequate in the short term, these merchants will want “good funds” available immediately, especially if there is any chance that the payment sender can rescind the payment
Corporate payouts and disbursements (B2C)	✓		These tend to be one time large value payments to Consumers which are initiated by a Business and include payments such as disbursement on the sale of stock, bonuses, relocation or termination expenses, and travel advances
Interbank transfers	✓		These include large one time or non-recurring large value payments initiated by individuals, transferring assets from one financial account to another (e.g. from a savings account to a 401K account) and where the individual does not want to lose 2-3 days’ worth of interest
Instant Rebates	✓		In an age of instant gratification, recipients of instant rebates want to be able to use their funds immediately for additional purchases
Legal or Escrow Payments	✓		When legal or escrow conditions occur, it is critical to have access to “good funds” immediately, especially if there is any chance that the payment sender can rescind the payment
Government Disbursements & Collections (G2P/G2B – P2G/B2G)	✓	✓	These could include disaster cash relief, income and corporate tax refunds, loan disbursements or business assistance. Collections include Sales and VAT Tax collections, tolls, fines, tickets, licenses, etc.

Table 1 – Real-time Payment Requirements for Selected Payment Types

What about Card Payments?

Yes, the elephant in the room is credit card interchange revenue. It is not the intent of this White Paper to discuss the merits of interchange. It is worthwhile, however, to make a couple of observations with regards to card payments. First of all, while recognizing that card interchange is a considerable source of FI revenue, recent developments such as the Durbin Amendment seem to indicate that interchange will not be a guaranteed source of income in the future and it is wise for FIs to consider alternative revenue streams. An executive from a large financial institution called it the “inevitable erosion of interchange revenues”.

Secondly, cards are not universally accepted. For example, Consumers cannot accept them as form of payment. Similarly, cards are not suitable for all the use cases shown in Table 1 above (e.g. for payouts or for irrevocable payments). However, it has been publicly stated by both card brands that their strategy is to make their cards the default Low Value payment instrument in the US, replacing checks and cash and most forms of Consumer and Corporate payments. Given their marketing muscle and deep pockets this is not an unrealistic goal.

Card branded payments are certainly an important component in the US payments mix and have made huge contributions to the developments of markets such as e-commerce. Yet, the question that must be asked is whether the US payments industry truly wants to turn over control of its infrastructure to a private duopoly which establishes its own regulations and is only regulated with difficulty.

Lack of Courage?

There have been many calls by industry experts to modernize the US payments infrastructure and to introduce real-time payments. Bruce Summers, a recently retired member of the Board of Governors of the Federal Reserve Bank, took the US payments industry to task by stating that “...the US payment system is not keeping with the rest of the digital economy in providing new methods of payment that give Consumers immediate access to and use of their deposits held in accounts and other deposit-taking institutions”⁶.

However, despite these calls and clear market demands, real-time payments continue to falter in the US, the most recent example being the failure of Same Day ACH, also known as Expedited Processing and Settlement (EPS). In the event, the measure failed to get the 75% super majority needed to pass because a small number of large banks opposed it. Unfortunately, those are the circumstances that lead governments to step in and mandate change and innovation.

US Government intervention in payments is not without precedent. Congress has acted to drive significant reforms in the US payments system when there is a clear concern about the quality or cost of payment services, the most recent example of this being Regulation II (a.k.a. the Durbin Amendment). Congress looks to the Federal Reserve System (The Fed) as the principal authority for payments regulation but The Fed has been hesitant to assert itself in this role or even in its larger role to define payments policies and the long term strategic direction for Clearing and Settlement systems.

⁶ “Facilitating Consumer Payment Innovation in the U.S. through Changes in Clearing and Settlement: A Public Policy Perspective”, Bruce J. Summers, March 2012

The obstacles to modernize the US payments infrastructure are not technical in nature. Technologies do exist for posting payments to bank accounts in real-time and for faster Clearing and Settlement Mechanisms (CSM) that work – whether they operate every 5 seconds or 5 times a day (see sidebar below). The major challenges to develop real-time payments are the dearth of innovation demonstrated by the financial services industry and its lack of courage to experiment with new payment models that could threaten current revenue streams.

Developing Real-Time Payment Systems

There are two aspects to implementing real-time payments in the US. The first one relates to how quickly payment beneficiaries have access to “good funds”. Presently, many FIs are not able to post transactions as soon as they are received. This is because forty-year old banking technical architectures use stand-in and memo posting systems with delayed batch posting to their core systems. Thus, it is impossible for FIs still using these old systems to deploy RT1 systems until these core systems are upgraded. Fortunately, market forces will help drive adoption of RT1-capable systems as those FIs unable to change will become uncompetitive and lose customers.

The second aspect is more complex as it involves national infrastructure and national payments policy because it includes upgrading the clearing and settlement of payments between FIs. Besides managing the risk of individual payments, FIs and the Fed also have to manage “counter-party” risk which is a vital function in any payment network. Failure to manage this risk could introduce systemic risk which could cause the failure of the entire US financial system.

In the US today, this type of real-time risk management can be found only in High Value Transfer Systems such as Fedwire, which clears all the wire transfers in the US using a Real-time Gross Settlement (RTGS) system. No such capability exists for Low Value Payments such as ACH or even cards. Consequently, it would be very difficult to implement RT1-capable systems without a major change in the clearing and settlement infrastructure - a proposition that could take some time.

Managing Real-Time Payments’ Risk

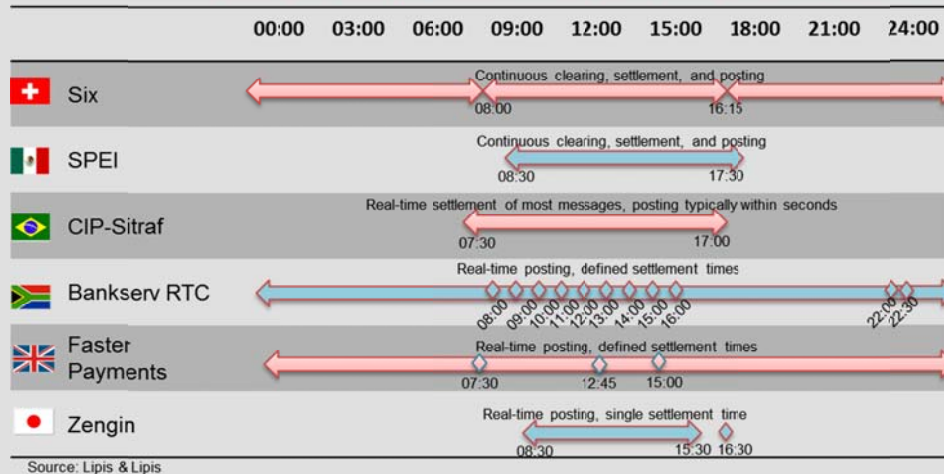
Real-time payments can reduce fraud risk from fraudulent currency and checks as Consumers and businesses migrate to more electronic payments. Real-time payment information can be used by FIs to detect fraud faster by analyzing aggregate usage patterns regardless of payment channel. This is in contrast with the current environment where FIs must wait for stand-in and memo posting systems to report their activities to the core back-end system.

However, true real-time payments (RT1) will impact systemic risk in a manner not previously dealt with by the US payments industry. New risk management approaches will be needed – either through more frequent clearing cycles or by layering of the organizations having access to the Clearing and Settlement Mechanisms (CSM). This is where the US Payments Industry can look abroad and see how other countries manage these risks (see sidebar below). There is really no perfect model. Each approach to faster CSM has its pros and cons. The indisputable evidence, however, is that many countries and economies are moving towards faster CSMs.

Global Real-Time Clearing and Settlement Systems Around The World

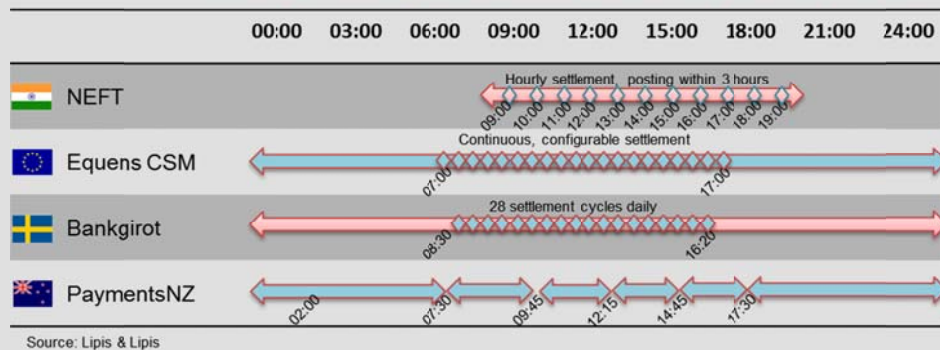
When looking outside of the US, changes to the payments infrastructure in a country have most often been driven by governmental intervention; the most famous case being the UK's Faster Payments. Initially driven by the "Cruickshank Report, Competition in UK Banking", a report commissioned by UK Treasury, this report highlighted many deficiencies in UK banking, one of which was the length of time required to clear low value payments. The report led UK Treasury and the Office of Fair Trading (OFT) to instigate the creation of the Payment Systems Task Force which drove the development of Faster Payments. Many other examples exist around the world where governments, counseled by organizations such as the World Bank and the Bank for International Settlements (BIS)⁷, have moved towards upgrading their payments infrastructure in order to expedite payment delivery.

Chart 1 - Sample Real-Time CSMs Around The World



Despite a general movement globally towards faster payments and upgrading the underlying Clearing and Settlement Mechanisms (CSM), a single standard approach has not evolved. For example, SPEI in Mexico clears Low Value transactions amongst its participants every 20 seconds during working hours, whereas SIX in Switzerland operates a continuous clearing cycle. Other systems like Zengin in Japan also provide real-time clearing capabilities but only during working hours (see Chart 1). Other countries have chosen to implement what is known as "fast batch" systems where clearing cycles are processed in the same manner as traditional batches but these cycles are repeated many times a day. Bakgirot in Sweden and ACH Colombia (not shown below) are good example of that approach (see Chart2).

Chart 2 – Sample Fast Batch CSMs Around The World



⁷ "Core Principles for Systemically Important Payments Systems", Committee on Payments and Settlement Systems, Bank for International Settlements, January 2001

Key Functional Requirements

Until such time when new Low Value RTGS are developed, it may be possible to use RT2 services to deliver RT1 “good funds” availability. For example, by leveraging EFT networks’ functionality to validate the payment and obtain payment assurance, the beneficiary FI can make “good funds” available immediately even though they themselves have not received these funds (in essence, offering intra-day credit).

There are many ways to “connect the boxes” to deliver RT1 and RT2 functionality. However, before starting such a process, some basic and high level requirements must be laid out to guide the development of any new real-time payment offerings (as well as serve as template to evaluate current offerings).

✓ Payment Credentials

Any new payment system must support a diverse but secure set of payments credentials to access the accounts that hold the funds or receive the payment. These credentials could be as simple as the ABA/RTN and bank account number (the raw account number), a card number, a telephone or mobile phone number, an e-mail address, or even a digitized token such as a QR code or other similar form.

These credentials should be easily exchanged between payment originators and beneficiaries and they must verify ownership of account and validate that there are enough funds in account to cover the payment. Different from today’s world where payment silos exist (e.g. credit cards can only access a specific credit line account), new payment systems should be indifferent to the credential used to initiate the payment.

✓ Conversion Maps

These systems must be able to convert any payment credential to any of the financial accounts linked to that credential. This means being able to convert from e-mail or telephone number to bank account, or from bank account to a Primary Account Number (PAN), etc. Although the majority of the time only one account will be accessed, these systems must be able to connect multiple accounts to multiple credentials and mask the “silos” that FIs have developed over time.

✓ Real-Time Messaging

These systems must have real-time messaging which allows for the prompt delivery of messages requesting payment authorization from an originator or delivering a payment notification to the beneficiary (and their corresponding FIs).

This messaging must support credits, debits, and balance inquiries and must have a response time to the origination point measured in single digit seconds. Further, the message formats to be used in these transactions must not be specific to a particular payment instrument (e.g. cards) or application (e.g. wire transfers) and must support the transmission of remittance data or equivalent.

This means that the message formats to be used in the future should evolve to be more closely aligned with XML-based ISO Standard 20022 rather than old standards like ISO8583's 100/200 messages or Swift's MT103 messages.

✓ **Real-Time Posting**

As noted above, receiving FIs must be able to post the transactions sent by the messaging system on a real-time basis and, if posted to a memo-post environment, these must be committed transactions that cannot be later dishonored (save for fraudulent transactions).

✓ **Real-Time Gross Settlement**

In order to achieve full RT1 capabilities, the US needs the equivalent of a Real-time Gross Settlement (RTGS) system for low value payments to ensure that no systemic risk is introduced. In certain countries, a layering of risk is obtained by allowing certain "retail market settlement agents" access to Real-time Gross Settlement (RTGS) systems. Australia is in the process of developing a new Low Value Real-time Clearing System that may be worthwhile to study as it develops.

✓ **Business Model**

As new real-time payments systems come about, the Financial Services industry will have an opportunity to rebalance the pricing equation and create new payment offerings at a pricing level that is fair to the Consumers, reasonable for payment acceptors, and equitable for FIs.

✓ **Legal Framework**

Real-time payment services must be offered under a legal framework that recognizes that money is moving fast and that opportunities for fraud will be plentiful. Therefore, the system must be protected through strong validation and verification requirements while also making sure that these requirements are not so burdensome that innovation is stifled.

Similarly, rules and procedures must also protect payment originators from abuse due to frivolous returns, such as the friendly chargebacks encountered with card based payments.

Evaluating Currently Available Real-Time Payment Solutions

There are a few vendors that offer versions of RT1 and RT2 payments in the US which are worth reviewing. Of these, systems based on EFT networks may hold an advantage over other alternatives because they already have Clearing, Settlement and risk management infrastructures in place.

✓ PayNet™

Introduced by the Network Group of FIS, PayNet is the first of these offerings. PayNet is reminiscent of UK's Faster Payments in that it initially combines the functionality of both the ACH and EFT networks. PayNet converts ABA/RTN and bank account or any other account credential information to an "unassociated" PayNet Identifier.

PayNet and FIS leverage its core processing capability and its NYCE® EFT network customers to make real-time debits or credits to beneficiaries' bank accounts. PayNet offers RT1 services for credits as payment beneficiaries have immediate access to "good funds". For debits, the service is considered RT2 because the originator receives "good funds" the next day.

Some observers may contend that using the ABA/RTN/Account Number is risky because there is no real-time validation or authentication processes associated with these credentials. Moreover, it will take time for FIS to develop a registry of "unassociated" credentials such as e-mail or phone numbers. Fortunately, FIS has other validation and account verification services such as Certegy and Debit Bureau which can minimize the risk of fraudulent transactions. FIS should bundle these services into PayNet to address these concerns.

Fewer and fewer people carry their checkbooks with them and even fewer have bank account numbers memorized. Thus, originating payments at the physical point of sale using only ABA/RTN/Account Number will be challenging since there is no way presently to enter this information into POS terminals. Once again, the depth of FIS could make a huge difference as sister companies Paydient and MFoundry could provide supporting platforms to carry alternative payment credentials that boast stronger authentication and verification services.

PayNet supports multiple payment types and, although they do not cover all the payment cases in Table 1, they go a long way towards that goal. PayNet has also developed something close to a "win-win" model: FIS get revenue from all PayNet transactions; for retailers, pricing of debits is competitive with Durbin-regulated debit cards and certainly highly competitive to the cost of check acceptance for any kind of bill payment application. PayNet credit pricing is more expensive than an ACH credits but it also offers the Originator the opportunity to generate additional revenue for expedited disbursement or to gain competitive advantage through better services.

PayNet's biggest challenge is coverage. To be truly successful PayNet must be ubiquitous. To accomplish this FIS must reach wide penetration across the transaction originators and the top 10 US banks. In FIS' favor, their competitive pricing will get them the originators the likelihood of Top 10 banks participating in PayNet is higher because: a) they receive revenue from each transaction, b) there are fewer changes required of their systems as the transactions arrive as POS or ATM transactions, and c) because of FIS' long term relationships with these institutions.

✓ Dwolla

Dwolla offers RT1 capabilities to its customers only when both the sending and receiving financial institutions participate in Dwolla's FiSync. FiSync is an API that leverages online banking services to effectively deliver "good funds" to payment beneficiaries. At the moment, the number of participating FI's is very small (i.e., a group of Iowa credit unions mainly associated with TMG Financial Services). If the beneficiary banks with a FI that does not participate in FiSync, it takes 2-3 days to process the payment via ACH.

At \$0.25 per transaction (when the transaction is over \$10.00, it is free below that amount), pricing is competitive comparable to interchange on a Durbin-regulated debit card. The fee is paid by the payment beneficiary, although senders have the option to assume the fees. No part of the fee is shared with the sending or receiving FIs.

The biggest challenge for Dwolla is scalability. Without any revenue, FIs have little incentive to implement FiSync. Without FiSync, Dwolla is only an ACH-based P2P service with all the attendant risk and delays. Additionally, the service does not support remittance information and only limited types of payments can be carried (e.g., no B2C disbursements).

What remains in question is Dwolla's financial depth and whether Dwolla (and its financial backers) will have the capital and credit worthiness to carry the financial counter party risk associated with large payment volumes. In brief, Dwolla offers a glimpse into the future but a great amount of work still needs to be done.

✓ ClearXchange

ClearXchange (CXC) is a bank owned and operated payment address "directory" launched in 2011 dedicated to supporting P2P payments. Its owners and members are the three largest ACH originators and receivers in the US: J.P. Morgan Chase, Wells Fargo Bank, and Bank of America, with additional bank membership participation being sought. Customers of these banks can use online and mobile banking to initiate send-money transactions using the payee's e-mail address or phone number only. No financial information or bank account information sharing is required.

However, even though CXC payments have account independent credentials and support instant message notification, payments are routed through the ACH and access to "good funds" can be delayed by as much as 3 days from the origination of the payment, defeating the purpose of real-time payments.

✓ Other EFT Networks

STAR[®], Pulse[®], and Accel/Exchange[®] which, along with NYCE[®], are the largest EFT networks in the US, either have or are planning to introduce real-time payment features that go beyond POS and ATM withdrawals. STAR[®], for example, has offered real-time bill payment for many years and it also offers a real-time credit push function. Fiserv, another large financial services provider, is using its EFT network, Accel/Exchange[®], as the underlying rails to deliver real-time transactions for P2P (Popmoney[®]).

All these offerings have been developed as extensions of the existing EFT network and, as such, they suffer from the common drawbacks: they are driven by debit card numbers as the only payment credential accepted, and they are still unable to support the many of the payments types listed in Table 1.

✓ Other Initiatives

There are a number of other initiatives that may get mentioned within the context of real-time payments, including the FedACH Same Day Service, Secure Vault Payments, and PayPal. A quick review of these initiatives demonstrates that they do not advance the cause of real-time payments based on the criteria defined above.

FedACH Same Day service indeed reduces the time to clear and settle transactions. However, there is no messaging to advise the originator or beneficiaries of the success or failure of the payment. Further, adoption is low. The service, launched in 2010, is opt-in and, as of April 2013, only 39 financial institutions have joined in – none of them being a top originator or receiver.

Secure Vault Payment (SVP) could be called a good example of RT2 payments for e-Commerce purchases. It has a messaging capability that tells the merchants if the payment was approved; the merchant receives “good funds” the next day via ACH credit (most of the time). However, SVP does not support any of the payments listed in Table 1 other than e-commerce purchases so its applicability is limited. FIs have been very slow to adopt it because of the many changes required of their online banking systems. Further, pricing to merchants is just slightly better than credit cards, resulting in little merchant interest.

PayPal. Whereas it is true that PayPal delivers an “immediate transfer”, this is done only within the PayPal eco-system and only when a transaction has passed PayPal’s inscrutable risk models. The issue for PayPal is lack of “fungibility” because it is not accepted everywhere, so beneficiaries have “good funds” only when they can use them at an entity accepting PayPal. The alternative is to request a withdrawal to a bank account, a process that takes 2-3 days through the ACH network. This is a problem endemic of all account based wallets and the reason why electronic wallets that utilize a traditional payment instrument as the underlying payment tool need not apply for a role in real-time payments.

That said, there is something interesting about PayPal that needs to be noted and that FIs should be concerned about. PayPal holds value. If PayPal can syphon enough value from FIs by convincing Consumers to load money to their PayPal account or use Bill Me Later’s line of credit to fund their payments, it could create a self-sustaining eco-system, able to deliver RT1 payments which, in turn, will entice more Consumers and businesses to move more of their value to PayPal.

Concluding Thoughts

When it comes to speed of payments, the US is at a disadvantage compared with other payment infrastructures around the world. The delays in clearing and settling payments harms US businesses and the US economy by making billions of dollars unavailable for investment every day. The need to enhance the US payments infrastructure is clear but, to modernize it, a number of parties must actively contribute and leadership is required from The Fed, NACHA, and FIs. Failure to do so could result in government regulation and intervention, similar to what happened in the UK with Faster Payments. In such a scenario, functionality and delivery dates will be mandated, not driven by market demand and competitive forces.

The Fed needs to step up to its responsibilities of promoting an efficient nationwide payment system. This duty was reaffirmed by Congress with the passage of the Monetary Control Act of 1980 and the Expedited Funds Availability Act of 1987. Optimally, The Fed needs to define a payments vision and a strategy for US payments projected over the next 20-30 years; minimally, it needs to lead the debate on whether the interval between clearing and settlement cycles needs to be reduced and, if so, what degree of “real-timeness” is required and which model (e.g. continuous settlement, multiple clearing cycles a day, etc.) could or should be adopted.

The National Automated Clearing House Association (NACHA), the organization in charge of defining the rules for the ACH network, also needs to expand its contribution despite its disappointing experience shepherding Same Day ACH which was only a short-term solution. If the Same Day ACH had succeeded, how long before the industry would have clamored for a second, third, or more, intra-day clearing cycles? Why not continuous clearing?

This is the time to employ unfettered creativity to define and promote more initiatives, not fewer. NACHA should develop more “cooperative” rules leveraging the Clearing and Settlement robustness of the ACH network with external capabilities offered by other services. For example, NACHA may cooperate with EFT networks or SWIFT to create immediate notifications of payments which are to be settled by the ACH.

Financial Institutions need to break through their “Innovator’s Dilemma” and earnestly explore alternative ways for Consumers and Businesses to access the value with which they have been entrusted with speed, ease, and convenience. There will be significant opportunities to generate revenue and enhance the brand by delivering value-added information about the payment rather than by just executing the payment. Financial Institutions still hold the financial value used to fund payments but customers have been known to take their value outside the financial industry when better products and services became available elsewhere.

Finally, Payment Originators and Beneficiaries – merchants, billers, corporates, etc. – must continue to demand more efficient payment solutions. FIS’ PayNet is on the right path offering real-time, “good funds” payments across multiple use cases and just needs to expand its reach; Dwolla has a creative solution but needs to expand the number of use cases and banks connected. More new offerings will be coming into the market delivering RT1 or RT2 capabilities and the business case for adopting them will be easy to make. Thus, it behooves all US Payment Originators and Beneficiaries to learn about and adopt these new payment alternatives as a way to reduce costs, enhance services, and increase market competitiveness in order to foster a vibrant and innovative payments market in the US.

About the Author

René M. Pelegero founded Retail Payments Global Consulting Group LLC (RPGC Group – www.rpgc.com) in 2002, as a specialized consultancy practice in “customer not present” payments and cross-border/international payments. René brings to his Clients all the experiences accumulated from working for PayPal and Amazon.com and providing consulting services to some of the best known web properties like Google and Microsoft and payment industry key players such as Visa International and First Data.

René has also held senior management positions at Electronic Payment Services, Inc., a leading electronic funds transfer (EFT) processor; GE Capital, an international consumer lending group; and Tandem Computers, a hardware manufacturer of fault tolerant systems heavily used by the payments industry worldwide.

Quoted and published in many industry related publications, René's opinions are highly sought. He has been quoted in publications such as the Wall Street Journal, American Banker, Credit Card Management, USA Today, The Green Sheet, Digital Transaction, and many more. He has also contributed to specialized payment publications such as Association for Finance Professional's "The Exchange", the Canadian Payments Association "Forum", and Wiley Financial Series book "The Future of Finance after SEPA". During his tenure at eBay/PayPal, René filed for patents with the US Patent and Trademark Office for "Unified Identity Verification" and for "Payments Using Funds Pushing".

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