

The Deloitte logo, consisting of the word "Deloitte" in a bold, blue, sans-serif font, followed by a small green dot.

Real-time payments are
changing the reality of
payments



A close-up photograph of a hand holding a gold credit card over a laptop keyboard. The card is tilted, and the hand is positioned as if about to use it. The background is blurred, showing the laptop's keys and a white surface.

#paynow

The mass adoption of real-time payment systems around the globe has contributed to an environment in which many consumers, merchants, and financial institutions expect to be able to pay friends and customers, settle bills, and transfer money at the drop of a hat. While the concept of “paying now” is not a new one — cash is an immediate payment transaction instrument after all — the growth of “real-time payment” options has helped build a new standard among consumers. This new standard is driving change for traditional payment types — checks, credit, debit, prepaid, and the like — as consumers have generally come to expect faster settlement periods, notifications and consolidated reporting. The question for financial institutions is whether they’re ready for #paynow?

Why cash may be a thing of the past



Ever since money was invented in the 7th century BC, the exchange of paper, metal, and other forms of hard currency has generally been the most convenient way to pay in real-time for every day purchases. Even with the introduction of checks and credit cards, cash is still used to conveniently exchange funds in an immediate fashion.

However, the ease of use of cash has also faced several challenges. For instance, cash is an expansive instrument, requiring printing storage, circulation logistics and costs, making it difficult to store and transport. Moreover, many transactions no longer occur in person, which require other methods of payment. Cash can also incur costs, such as check-cashing and ATM fees. According to the

European Central Bank, the total cost of cash in the European Union is 1% or more of GDP.¹ Similarly, the cost to support cash in the US is \$200 billion annually.²

The growing ubiquity of smart devices and booming online retail commerce in markets outside of the US is driving the rapid adoption of real-time payments. Increasingly, demanding consumers may be turning to their smartphones when they need to pay merchants, billers, peers and others. While the private sector has typically driven adoption to promote commerce, governments tend to lag behind; yet increased usage of real time payments could help them increase tax collection and enhance fraud prevention.

Faster payment schemes

There are many “faster payment” schemes available around the globe aimed at expediting the availability of funds by creating a workaroud for underlying Clearing & Settlement mechanisms. Yet a single approach for the industry has not yet evolved. One such example of faster payment is the Interbanking Electronic Payment System, SPEI, of the Banco de Mexico which clears low value transactions every 20 seconds during working hours. Other countries have chosen to implement “multiple batch” systems with clearing cycles that are designed in the same manner as traditional systems, but repeated many a times a day.

¹ Press Release-New ECB report examines the costs of making payments in the European Union. European Central Bank, October 1, 2012.

² "The Cost of Cash in the United States," Bhaskar Chakravorti and Benjamin Mazzotta, The Fletcher School – Tufts University, 2013

How do real-time payments work?

Most existing real-time payment systems offer an instant, 24/7, interbank electronic fund transfer service that can be initiated through one of many channels: smart phones, tablets, digital wallets, and the web. In such a scheme, a low value real-time payment request is initiated that enables an interbank account-to-account payment fund transfer and secure transaction posting with immediate notification features.

The main aspects of most real time payments are:



Authorization
Certification of payment



Posting
Funds are made immediately available to of the transaction



Settlement
Instant settlement of outstanding obligations between financial institutions



Notification
Payee receives the funds and payer receives confirmation of the status of the transaction



Potential benefits of real-time payments

Real-time payments can benefit financial institutions (FIs), merchants, consumers and society by offering enhanced visibility into payments, by enabling better cash management and by helping businesses better manage day-to-day operations by improving liquidity. The liquidity improvement can be especially impactful to small merchants who may be used to waiting days for their settlement, possibly creating a positive impact on their cash flow and daily sales outstanding (DSOs).

Five categories of real-time payments

When considering the real-time payment landscape, there are five common categories of payments. Each in turn has great potential to disrupt the existing payment ecosystem in the next 2-3 years

Category of Payment	Descriptions	Size of Transactions	Key Considerations
1. Business to Business (B2B)	Supplier payments	Low	
2. Business to Consumer (B2C)	<ul style="list-style-type: none">• Legal Settlements• Insurance claims• Contingent Employee wages	Medium to High	<ul style="list-style-type: none">• Real-time authorization/clearing
3. Consumer to Business (C2B)	<ul style="list-style-type: none">• Bill Pay• Hospital Co-pay• Pay at POS	Low to Medium	<ul style="list-style-type: none">• Intra-day availability of funds• Intra-day interbank settlement• Late-day interbank settlement
4. Domestic Peer to Peer (P2P)	Repayment to Friends/Family	Low to High	
5. Cross Border Peer to Peer (P2P)	Remittance to Family/Friends	Medium to High	

Source: Deloitte analysis

One example is the Peer to Peer (P2P) space, where there are currently more than twenty applications in the US market, enabling payments on smartphones, using bank accounts or debit cards. Forrester forecasts that P2P payments will reach up to \$17 billion by the end of 2019 from \$5 billion in 2014.³ We believe this rapid growth of P2P is largely driven by accessibility, and an attractive user experience that focuses on speed and convenience for both domestic transfers and cross-border remittances.

³ Forrester Research Mobile Payments Forecast, 2014 to 2019, Susan Wu, Forrester Research, January 30, 2015

Real-time payments go global

Faster and near real-time payments are catching on across the globe in places like Mexico, the UK, Sweden, India and Singapore.⁴ Technology, high speed data networks and consumer behavior are among some of the factors fueling this demand for speed, and the typical result in most countries has been the Central Bank's involvement in driving the transition to a real-time system, largely through industry consultation and the identification and move toward a national payments roadmap.

Representative Real-Time Payments Schemes

Catalyst	Company	Domestic P2P	C2B	B2C	B2B	Cross border P2P
Central Bank	SPEI Mexico	●	●	●	◐	◐
Central Bank	IMPS India	●	●	●	○	○
Competition Authority	Faster Payments UK	●	●	◐	◐	◐
Major Banks & Central Bank	bankgirot Sweden	●	●	◐	◐	◐
Central Bank & Infrastructure Institution	Express ELIXIR Poland	●	●	◐	◐	◐

Strong
 Weak

In the U.S., the Federal Reserve believes that the U.S. payment system is in the midst of its own modernization transformation.⁵ They have urged US banks to look at what is happening around the world, including evolving consumer payment preferences, and begin to create a real-time ecosystem that has the ubiquity, safety and convenience of legacy payments networks.

⁴ Mexico's SPEI, the UK's Faster Payments Scheme (FPS), Sweden's Immediate Payments Scheme (BiR), India's IMPS and Singapore's G3 system all provide good case studies into the major players, catalysts & type of use cases (See Fig 2). UK's Faster Payment Service payment volumes grew by 14.2% and values by 18.9% annually, when comparing Q3 2013 to Q3 2014 as per UK's national payments council report.

⁵ "Strategies for Improving the U.S. Payment System," The Federal Reserve Banks, January 26, 2015

What is driving the growth of real-time payments?

We have witnessed tremendous technological and business model changes over the past decade. From new payment platforms and solutions, to updated regulations addressing payment effectiveness and security, to — maybe most significantly — higher expectations from merchants and consumers.

Technology innovation: Smartphone adoption has reached 70% in developed countries,⁶ while in various developing economies feature phones are often replacing wallets and cash. New domestic person-to-person (P2P) payment providers are popping up on a regular basis, due to catalysts like social platforms, digital currencies and near-field-communication (NFC) based payments. Rapid technological change is driving rapid change in the industry.

New players and business models: While the traditional financial industry once controlled the world of payments, new start-ups, spin-offs, and partnerships are introducing new options for the payments sector. In the last few years numerous new FinTech startups have launched with a focus on mobile payments.⁷ The focus tends to be on new services, for instance, security with fraud detection and authentication, improved customer experience or making funds available quickly to small businesses when their line of credit is approved. The next step for these organizations may be determining whether real-time payments becomes a core business element and ways to design an operating model to help optimize that service delivery.

Merchants' expectations: In addition to payment assurance and lower fees for transactions, many small businesses and large retailers alike are looking at real-time payment to enhance their cash flow management, reduce fraud activity and provide incremental value to their customers.

Consumers' expectations: Due to rapid technological change, many consumers now expect almost everything to be available in real-time — but payments often seemed stuck in the past. The age of instant gratification is here to stay. Paying bills or friends should not be more than a few clicks or touches away, and the same expectations tend to apply to accessing funds as soon as they are available.

The Tipping Point for Real-Time Payments



Regulatory pressure: Regulators across the globe are leading efforts to accelerate payments. The Federal Reserve Bank⁸ and the National Automated Clearing House Association (NACHA) are working on a roadmap and incentives to accelerate real-time payments in the US. Regulations in some developed countries are supporting real-time payments. This can benefit consumers and the government, which can efficiently trace activity and help increase the fluidity of the overall economy.

Globalization: Generally, consumers and corporations expect the same simple payment and transfer experience regardless of where they are in the world. More efficient payment solutions have already been effectively

⁶ "The Mobile Consumer: A Global Snapshot," The Nielsen Company, February 2013 Report

⁷ Deloitte proprietary research

⁸ "Strategies for Improving the U.S. Payment System," The Federal Reserve Banks, January 26, 2015

implemented in various countries and for a large variety of use cases (see figure 2). As the roster of countries adopting real-time payments grows, the pressure on other countries to lay the groundwork and support speedy payments is likely to increase.

Common Challenges and Opportunities for Financial Institutions

Real-time payments can present businesses with the opportunity to win, serve, and retain their customers through more efficient, secure and engaging commerce experiences. The convergence of ecommerce and real-time payments has helped attract new participants to the market who are developing convenient, easy solutions. This proliferation of players can present a number of challenges for banks, including the possibility of losing customers to new financial services providers.

Banks should consider how best to provide a similar offering that enables the monetization of associated services and stimulates consumer spend, enabling new payment channels and boosting revenue. By having a large proportion of payments originating and being received electronically, banks that get involved in real-time payments could help reduce the average end-to-end costs of payment transactions and enable innovative payment services that deliver enhanced value to consumers and businesses alike. Another example is the use of real-time payments to serve the under-banked. By building possible solutions to capture real-time payment activity, banks can engage new customer segments.

Common Challenges and Opportunities for Central Banks

Building an entirely new payment infrastructure typically enables more flexibility; however, it is also a costly endeavor. Simply improving the Automated Clearing House (ACH) does not typically resolve the problem of dealing with systems that were not designed for real-time notification and clearing. The ATM and PIN debit infrastructure would likely involve aligning many different networks, integrating with cash management systems at banks, and expanding the ability to use those networks to rely on credit push instead of the existing debit pull mechanisms, which changes the economic models behind them. Credit push systems are inherently safer for the consumer and the

bank, because consumers do not need to provide payment credentials to a third party. Credit-push systems allow the paying bank to authenticate the customer and confirm “good funds” are available to support the transaction, thus creating a more predictable payment cycle from payer to payee.

To help minimize the differences of transacting in real time around the globe, harmonized and consistent information should be present from payment initiation through reporting, regardless of region, currency, platform or channel. Adoption of global standards, such as ISO 20022 and SWIFT Corporate Access, has helped many banks to reduce integration costs, interact more efficiently with other banks and financial institutions, and more effectively leverage data to run the businesses. To build an expanded and more flexible payments solution, banks and financial institutions should search for market place synergies with third-party payments providers in order to help develop a state-of-the-art banking platform to deliver payment consistency and efficiency, while assisting in addressing global commerce challenges in new and better ways.

What are Credit Push and Debit Pull methods?

Sometimes electronic payments are perceived to be less convenient than paper checks. With a check, a payer doesn't need to know the account information of the payee. Many electronic payment types require funds to be “pushed” by the payer to the payee. Wire(s) and ACH credit payments use this “credit-push” methodology, requiring the payer to specify the account number and routing number of the payee in the payment message. To make credit-push payments, payers will typically ask the payee to provide his/her account information. However, payees do not always have ready access to these numbers and sometimes do not want to share this information for security reasons.

In contrast, with debit-pull payments, the payer supplies account information to the payee. The payee's financial institution then pulls the money out of the payer's account. Although this may be more convenient for the payer, it can expand possibilities for unauthorized parties who have access to a payer's account information to fraudulently pull funds out of the payer's account.

Credit-push allows the paying bank to authenticate the customer and confirm “good funds” are available to support the transaction, thus creating a more predictable payment cycle from payer to payee. Therefore, credit-push payments are increasingly becoming the new normal for making electronic person-to-person, business-to-business and bill payments.

What action can be taken now?

The journey toward faster, more real-time payments in the US has begun. The added support of the Federal Reserve may raise questions for financial institutions around when and how to engage in the journey. Research conducted by the Federal Reserve shows that the overwhelming majority of consumers and businesses are looking for real-time or close to real-time payments, indicating a need that is not currently being met by any of the payment ecosystem participants.⁹

The Federal Reserve System beginning of 2015, released a detailed vision and five desired outcomes (see Figure below) recently for an improved U.S. payment system.

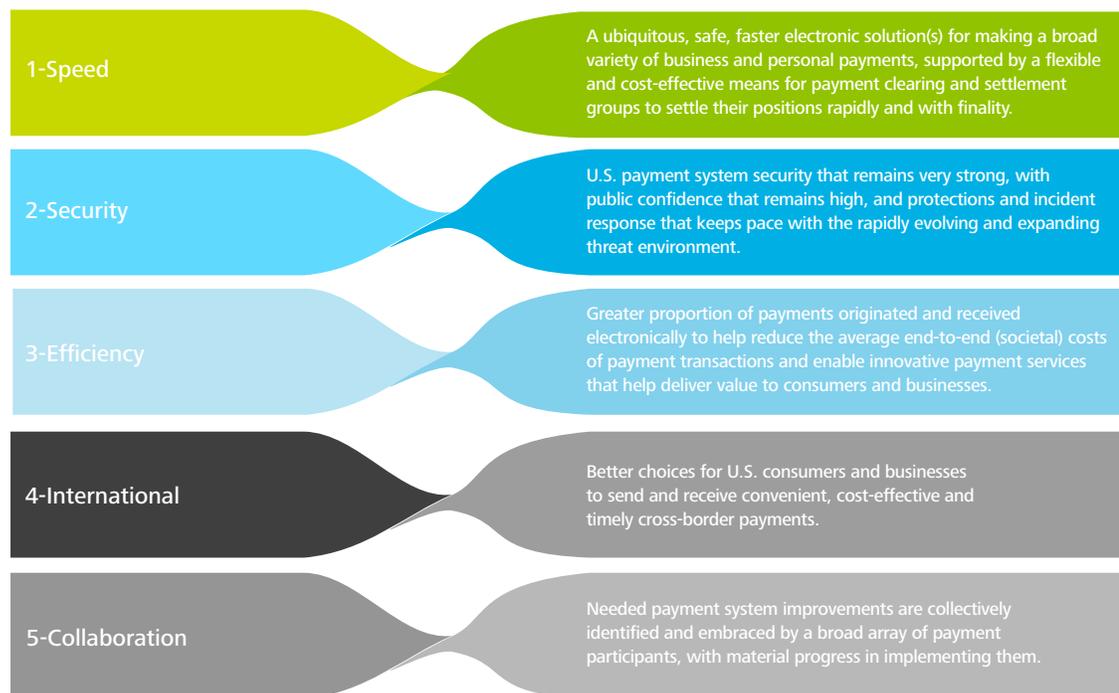
Underlying this expressed need are two main components:

- **Confirmation of good funds:** Validating that the account exists and has sufficient funds to cover the payment. Along with this validation there should be an assurance that the payment will be honored, with the exception of unauthorized use conditions.
- **Speedy payment clearing and settlement:** Making funds available in the payee's account in real-time.

The report¹⁰ lays out following options for building a faster payment system:

- Evolving the existing PIN debit infrastructure, which is currently used in retail stores and at ATMs, to enable real-time payments
- Using common protocols and standards to facilitate the clearing of transactions over the Internet
- Building a new payments infrastructure that would build on existing technology and only have limited uses
- Building a new payments infrastructure that would process a wider range of transactions

The Federal Reserve's five desired outcomes for an improved payment system



⁹ "Payment System Improvement – Public Consultation Paper," The Federal Reserve Banks, September 13, 2013

¹⁰ "New on FedPayments Improvement: Small Business Payments Toolkit – Top 5 Takeaways," May 26, 2015

The report states that the four options will be studied further. The Fed said that early this year it plans to establish a task force on faster payments, which will get input from stakeholders, and then by 2016, identify one or more approaches for implementing faster payments.

However, there are other, parallel efforts, such as NACHA's¹¹ same Day ACH clearing & settlements are about to become a reality. Recently NACHA's membership, which consists of most financial institutions in the US directly or through regional associations, voted in favor of a change to NACHA operating rules that adopts Same Day ACH settlements. NACHA's Same Day ACH will help expand and improve the next-day ACH Network capabilities, as well as help pave the way for same-day clearing and payments settlement via ACH.

All types of ACH payments, including both credits and debits would be eligible for same-day processing. Only international transactions and high value transactions above \$25,000 would not be eligible. Eligible transactions account for approximately 99% of current ACH volume. Same Day entry fee has been estimated of 5.2 cents for each same-day transaction to help RDFIs to recover their cost for enabling and supporting same day ACH.

Same Day ACH will be rolled out in a three-phase process, starting September 23, 2016 which includes:

- **Phase 1** – Focusing on ACH credit transactions will be eligible for same day processing, supporting use cases such as hourly payroll and person-to-person (P2P) payments and same-day bill pay
- **Phase 2** – In this phase same day ACH debits will be added, allowing for a wide variety of same day consumer bill payment use cases like utility, mortgage, loan and credit card payments.
- **Phase 3** – Finally introduction of faster ACH credit funds availability requirements for RDFIs (Receiving Depository Financial Institution); funds from Same Day ACH credit transactions will need to be available to customers by 5 PM RFI's local time.

NACHA predicts that Same Day ACH will support nearly 10 primary use cases, and a total of 63 sub-use cases. Significant use cases for Same Day ACH include,

- **Same-day payrolls** supporting business' needs to pay hourly workers, and providing flexibility for late and emergency payrolls and missed deadlines; and enabling employees to have faster access to their pay in these cases
- **Expedited bill payments** using both ACH credits and debits, enabling consumers to make on-time bill payments on due dates, and providing faster crediting for late payments
- **B2B payments** enabling faster settlement of invoice payments between trading partners, and including remittance information with the payments
- **Account-to-account transfers** providing faster crediting for consumers who move money among various accounts they own

NACHA's move towards same day settlement is a major move that can help businesses and consumers move money faster and provides an immediate solution for moving payments faster and creates a foundational platform for tomorrow's products and services.

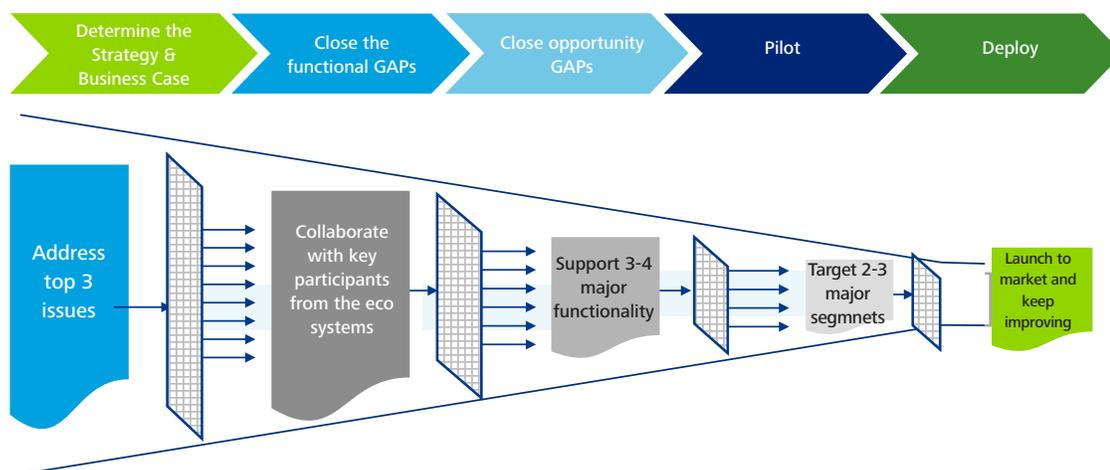
As they decide how to respond to the current payment environment, financial institutions should assess how their current product set addresses each of these consumer and corporate customer needs. Our experience suggests that specific solutions may exist in parts of the organization, e.g. a P2P real-time payments solution. However, often this is a predominantly siloed approach across different payment types such as ACH, checks, wires or cards. The increased focus on faster payments represents a great opportunity for many financial institutions to bring together all payment stakeholders and assess ways to jointly build out the roadmap to faster payments, including modifications to existing lines of business, operating models, processes and systems.

¹¹"Same Day ACH: Moving Payments Faster," NACHA – The Electronic Payments Association

Developing a roadmap

There are many different back-end solutions in the marketplace that have the potential to enable faster payments. It is likely that banks will be distracted by those ongoing developments if they do not start with the customer in mind. In our experience with innovation in the financial services sector, effective organizations start with the customer's need, develop value propositions that are clearly differentiated against competitors, and then put in place the infrastructure needed to support those value propositions.

Getting started now



Source: Deloitte proprietary model

When defining a new operating model, the opportunity can also be used to bring together capabilities from across the organization, to develop an action plan that enhances the consumer experience and the ubiquity, cost effectiveness, and security of the payment options in the short-term and long-term.



#startnow

Real-time payments are likely to completely affect the way we transact and conduct business. When that time comes, consumers could enjoy the convenience of paying their bills at the last minute without penalties. Businesses could benefit from increased availability of funds. Financial institutions could be able to provide better services. Economies around the globe could be more fluid than ever before. While challenges remain to reaching this utopian future state, we predict that real-time payments will likely generate new consumer behaviors and spending patterns, thus increasing revenue for the payment players who are well-positioned to capitalize on this evolution. So what are you waiting for? #realtimestartnow

References

Federal Reserve (2015). Strategies for Improving the U.S. Payment System. Union., N. E. (n.d.). Press Release.

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