FASTER THAN A SPEEDING PAYMENT

THE RACE TO REAL-TIME IS HERE

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EXECUTIVE SUMMARY

It is easy to fall into so many linguistic traps when trying to convey the sense of change that the banking industry is seeing relating to real-time payments: real-time is really happening; real-time payment adoption is accelerating; the speed at which a bank needs to adopt is changing.

In 2013, Celent wrote two reports (Real-Time Payments: Dispelling the Myths and Real-Time Payments: Case Studies from Around the World) as a result of a surge in interest in real-time payments. At that time many bankers thought that real-time was exotic and limited to just a handful of countries, and levels of understanding were low or none existent. At least one senior US banker stated at the 2013 Nacha conference that real-time payments were unnecessary and they didn’t foresee them happening in their working lifetime.

A lot has happened since those reports.

In the intervening period The Clearing House has gone from deciding (via a poll of its members) that there was no business case for a faster payment system to planning to pilot their own solution in Q1 2017. Our list of countries that have or are committed to real time has swollen in numbers from 32 to 39, and the numbers of actual real-time systems (as opposed to just countries) has grown even further.

Given the level of changes, bank’s plans need to change too. This report addresses three key research questions:

1. What is the pace of real-time payment adoption?
2. Why should our bank plan for real-time payments?
3. What should a bank do regarding real-time payments?

The answers to these questions aren’t just of interest to those who are planning real-time systems, but also those who already have systems, as two things clearly emerge from the report.

First, that the real-time payment market is evolving. It isn’t just that there are an increasing number of real-time payment solutions but that they are becoming increasingly sophisticated, and so are the customers who use them. This takes a number of forms, from increasingly sophisticated schemes, to how businesses use them, to the emergence of cross-border real-time systems. Banks who stand still will simply fall behind.

Second, that real-time payments are becoming more than just real-time. They are increasingly becoming tools that enable other digital, real-time activities. Imagine an
instant offer, instant delivery interaction … with a payment that may not be guaranteed as final for up to 10 days later! It’s not just the speed, but the other aspects as well, from the potential to add remittance data, to the fact that they are usually good funds and are available 24/7. They become tools in a digital toolbox.

What this means for banks is a very real need to start transforming not just the payment systems, but the bank, to become real-time. There are elements that are specific to payments. For example, real-time also implies many other things, many of which are fundamentally different for many banks, each of which has implications:

- Most systems operate 24/7, 365 days a year; that means a bank no longer has maintenance periods in the traditional sense.
- All real-time systems are single message, while all the high volume payment systems in the bank will be batch processes.
- Anything and everything that touches the payment needs to be real-time as well.

Yet there are more fundamental changes as well that will be required for all banks. These are building blocks that first truly enable a bank to deliver real-time payments, but then extend to allow the bank to fully utilize real-time. These build outwards from payments into the rest of the bank. They include:

- Real-time fraud monitoring and control.
- Real-time analytics.
- Bank-wide real-time rails.

The latter reflects how real-time is evolving. Countries that are planning a real-time payment system not surprisingly spend a lot of time looking at use cases. These use cases often fall into two categories — replacing an existing payment with something faster, and creating an opportunity because it is faster. This may be a subtle distinction, but it is an important one. Typical use cases, such as instant loans, hide a simple fact in plain sight: the entire process, end-to-end, is real-time. The payment isn’t a discrete item, but an integral part of the process. Furthermore, it implies that each transaction is done individually: the decisioning on the loan isn’t done in batch, overnight, but there and then. That is why a bank needs to build bankwide real-time rails. They have built part of the solution, which it is providing to its customers, such as Fintechs, yet they are unable to leverage that solution itself! Banks are enabling their own competitors. By building the rails today, as the bank continues its journey to becoming a digital entity, it will already have the digital payment rail to utilize. Payments underpin everything a bank does — banking is ultimately about the movement and management of money. Without payments, there is no bank.

Banks therefore need to ensure that they are embracing a real-time future. Without it, the bank will surely fall of its aspirations.

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REAL-TIME PAYMENTS: NOW WHEN, NOT IF

The current state of real-time payments globally has come a very long way in a very short period of time. Countries that only a few years ago that saw no need for real-time payments are less than a year away from piloting a system, and some have over a dozen competing systems racing to market.

As little as two years ago, this paper would have started with trying to explain what real-time payments were and why they were important; now it starts with the story so far simply to show the speed and trajectory of the market and to underline why banks need to be thinking about the next level of maturity of the real-time market. Just as we have gone from talking about mobile banking to an assumption that mobile is the default channel for most, banks should now be thinking and planning for a real-time future. Within a similar timeframe to mobile banking adoption, banks are likely to face real-time everything.

THE STORY SO FAR
Celent has been discussing real-time payments for many years, but they have existed for far longer. The oldest, the Zengin system in Japan, has been in existence for more than 40 years. Yet, until recently, for many markets, real-time payments has been seen as something exotic, and viewed as limited to just a handful of countries. Not surprisingly, knowledge of the systems was very limited.

In 2014, the United States Federal Reserve expressed a desire to see a real-time system. At that time, many bankers in the US in particular were skeptical that a real-time system was needed. Indeed, many tales exist of senior bankers firmly stating “not in my lifetime” at public conferences. Given the Federal Reserve’s lack of mandate to force the industry to build and adopt a system, and the plans by Nacha to bring Same Day ACH to US banks, the likelihood of a real-time system was seen by many as slim at best.

To support this real-time debate, Celent wrote several papers to provide a base level of understanding about what a real-time payment system was (and wasn’t). One example is Real-Time Payments: Dispelling the Myths, August 2014.

One of the myths that the paper set out to dispel was that real-time payments were limited to just a handful of countries. Indeed, at that time, most US bankers would have been hard pressed to name any other countries that had a real-time system other than the UK and Singapore, and the upcoming Australian system. The paper only counted:

- Those that met the Celent criteria of what a real-time payment system was.
- That were in the public domain, because there were a number of others that were widely rumored, but not explicitly stated;
- At a country level. That is, a number of these countries have multiple systems in operation that meet the criteria.

The original paper highlighted 32 countries where there was a real-time system live or under way, far higher than most bankers had anticipated. A further paper studied 14 countries’ approach to real-time payments (Real-Time Payments: Case Studies from Around the World, September 2014).

In that same first paper, Celent noted the acceleration in growth in systems, and suggested that in the next decade a tipping point would be reached, and that the US
risked being left behind should it chose not to build a real-time payment system. Given that in many other countries the system was mandated, it wasn’t obvious how consensus could be built in the US.

Key Research Question 1

What is the pace of real-time payment adoption?

Even since our 2014 report, plans for real-time have accelerated faster than we had predicted – countries representing more than 70% of ACH volume have or plan real-time payments.
REAL-TIME PAYMENTS TODAY
When predicting trends, even Celent did not foresee the level of growth that has been witnessed in just a few years. The current list of countries that have or are committed to a real-time payment system is shown in Table 1.

| Table 1: Countries with Real-Time Payment Systems in the Public Domain (May 2016) |
|-----------------|----------------|----------------|----------------|
| LIVE            | LIVE (CONT.)   | COMMITTED      | EARLY STAGE    |
|                 |                | (BEING BUILT, LATE STAGE RFP, ETC.) | (RFI/RFP)      |
| Argentina       | Nigeria        | Australia      | Bahrain        |
| Brazil          | Palestine      | Canada         | Colombia       |
| Chile           | Poland         | European Union | Netherlands    |
| China           | Saudi Arabia   | Finland        | Norway         |
| Czech Republic  | Serbia         | Indonesia      | Portugal       |
| Denmark         | Singapore      | Kazakhstan     | Spain          |
| India           | Slovakia       | Thailand       | Turkey         |
| Ireland         | South Africa   | USA            |               |
| Japan           | Switzerland    |                |               |
| Korea           | Sweden         |                |               |
| Malaysia        | Taiwan         |                |               |
| Mexico          | U.K.           |                |               |

Source: Celent

There are now 39 countries on this list, including several countries that have multiple real-time systems, such as India. For clarity, this list isn’t strictly a direct comparison to the previous list from two years ago. First, and perhaps most importantly, these are those systems that are either in the public domain, or that have been verified by sources external to Celent. We are aware of several countries not shown on the list, and have heard persistent rumors about others. We believe that the actual number is really in the mid to high 40s.

Second, there are some countries on the list that have been discussing a real-time payment system for many years. They recognize the problem, but the path forward is not clear to them.

Third, and perhaps most notably, there are new systems actively being planned that are cross-border. This can be coupled with the work that standards working groups are doing around ISO 20022 for real-time payments to ensure interoperability between systems. In
fact, some systems have been designed to be multicurrency (most notably, FAST of Singapore). This is surely a sign that the real-time market is not just expanding, but maturing too.

This is a critical point for banks. There are many demands on a bank in terms of investments, from regulatory to maintenance to the evolving market. There is likely to be a temptation for banks to do just enough for real-time payments, rather than think about it more strategically and long-term. Yet there are a couple of points that are worth highlighting.

First, real-time payments are no flash in the pan. Most of the systems in the previous table are more than five years old, with some older than the ATM fleets that many banks operate. Payment networks have existed for decades, and so it would seem obvious that any system being built today is likely to be in existence for many years to come.

Second, unlike perhaps ACH or wire, there will be significant changes to the systems. They continue to evolve. The Swiss SIC system has just completed its seventh iteration. Even recently built systems such as Faster Payments in the UK have both made changes in rules and access and are planning significant technical changes too.

It’s therefore worthwhile for banks undertaking a real-time project to at least understand the likely trajectory of the market. While building the bare minimum required for today’s solution may save money in the short term, a long-term vision may produce a different solution that not only saves money over the longer term but also generates more revenue opportunities. Understanding the likely developments then becomes much more critical to the long-term success of a bank’s real-time project.
REAL-TIME PAYMENTS — EVOLUTION UNDER WAY

Historically, countries’ payment systems have developed in unique ways to meet the demands of that market. That is, they serve and operate a way that makes sense to that individual market, and differ substantially from even their near neighbors, other than at a high level. That was the reason for SEPA and the challenges in delivering it. Many of these payment processes both precede the electronic networks that serve them, and all are deeply embedded in the value chain, including corporates.

Real-time payment networks are often green field opportunities for countries — a blank piece of paper as nothing similar existed before. Perhaps as a result, there are tending to be more significant changes as well, as the real-time systems are perhaps less embedded than some of the older systems. In most cases, the real-time system has seen greater change in a shorter period of time than many of the more traditional systems.

Celent has grouped these into three broad areas, to highlight just some of the changes and developments that have occurred.

SCHEME PROPERTIES
There are (at least) two key aspects to a payment system. Most people will think of the infrastructure element that processes the payment. Less obvious are the rules and coordination that orchestrate what actually happens, which is known as the scheme.

It is these changing scheme rules that are starting to change how real-time payments are viewed, and more importantly, used. The first, and perhaps most fundamental, are the values processed. Many schemes are viewed as retail payment systems — that is, low value. Indeed, many have caps on the maximum value processed in a single transaction or day. As a result, they have rarely competed with wire systems, and have been utilized more by consumers. In the UK, the average wire transaction is £10,000. It is notable then that limit of a Faster Payment transaction was raised from the original £10,000 to £100,000 in 2010, and then £250,000 in 2015, with plans to exceed £1 million in the near future. This clearly moves Faster Payments into a very different category than “just” a consumer payments system.

There have been two other changes in Faster Payments that sit alongside this. Although separate, together they highlight a change that will be increasingly reflected in scheme design elsewhere.

First, something that was less a scheme change, and more a change driven by demand. While the original scope of Faster Payments was both business and retail customers, all bar Barclays de-scoped connecting Faster Payments to their business banking platforms. The demand from corporates saw them switch their business to Barclays, and very quickly all the commercial banks began work to offer Faster Payments to their clients too.

The second was more regulatory driven, and that was providing direct access to much smaller organizations. To date, smaller banks could access Faster Payments, but via an agency relationship with one of the main banks. The new regime sees the smaller banks given a choice of continuing or connecting directly themselves.

Together, these show that there is a demand for much wider access to Faster Payments. It’s not seen as a niche product, but an essential payment type.
BUSINESS ENABLEMENT

It’s worth perhaps adding one overarching theme that influences all of the above trends. That is a general move away from being another payments product, towards being a building block for other products. As such, there are a growing number of examples where, rather than thinking a payment that happens quicker, what a quicker payment might enable. A number of ecommerce sites such as EBay and Amazon use it — faster payment means faster shipping. Yet it’s not just speed, but the certainty of payment as well. Whilst in most real-time systems settlement takes place at a later point, most provide good, irrevocable funds to the end recipient.

Another well-used example is that of instant loans. Wonga, a short-term loan specialist in the UK, integrated Faster Payments into its solution as a selling point. Using just a few pieces of information, customers could build a bespoke loan for themselves, get an instant offer, and get the money paid into their account, all in less than a few minutes. Compared to the tradition loan “one size fits all” process that takes a bank weeks to execute, its instant popularity is no surprise.

Similar developments stand out elsewhere. CBW Bank in the US is a small bank that has been transformed by its new owner, an ex-Google executive. Their achievements are profiled in more detail as a result of them being a Celent Model Bank winner (Celent Model Bank 2016, Part IV: Case Studies in Corporate Payments and Infrastructure Modernization). In short, CBW created a way to deliver real-time payments to any US bank account using the debit card rails. In addition they built the capability to control each transaction individually as well, and a customer interface that gave the client complete control. CBW’s clients have built numerous interesting applications as a result. For example, one employer, keen to help his staff avoid using payday loans, has set up the systems to be “pay me till now.” That is, it calculates what that person has earned until that specific point in time and uses a real-time payment to give them the money instantly.

Perhaps the most advanced market is Australia. Here the New Payments Platform has a number of interesting features. For example, there will be varying levels of remittance data available, from none to extensive. However, the fundamental approach is that the platform is set of tools that the regulator explicitly expects the banks to individually innovate with the platform rather than at an industry level.

This creates a different dynamic. In the US, CBW believes it has an advantage because they can both make real-time payments and innovate; in Australia, banks that can’t both make real-time payments and innovate will be at a competitive disadvantage.

CROSS-BORDER

To date, real-time payments have been domestic. This has been for many reasons, not least that the majority of volume is domestic (and therefore takes priority), coupled with the complexity of doing something faster that was already very difficult. Yet the next evolution of real-time payments is likely to be cross-border.

Here there are some very different but very concrete examples.

The first is domestic schemes thinking for the longer term. While built to serve the Singaporean market, the FAST system was also designed to be currency agnostic. With Singapore’s aspirations to be both a Fintech hub and financial centre, this makes much sense when starting from scratch.

Second are those systems that are cross-border in nature, that are seeking to speed up. The collaboration between Earthport and Ripple allows real-time payments, as do networks such as PayCommerce.
The final example is in Europe, with the creation of a SEPA Instant Payment Scheme. Although still in the early stages — the European Instant Payments Board only endorsed the approach in November 2015 — it is being aggressively pursued, with an expectation that it will be live by November 2017. There are some obvious barriers that other clusters of countries will face that this project won’t (for example, the SEPA scheme will all be in the same currency), but this project is still a massive undertaking.
Discussions around payments tend to be held in isolation. That is, they tend to be seen through the lens of that specific payment type, and through the eyes of the bank rather than the wider changes in the market. This has traditionally perhaps made sense. It’s a very technical industry which has worked hard almost not to be noticed. Perhaps the analogy is the highway system. Users tend to think about how it gets them from A to B, rather than how it got there, who pays for it, and how it all neatly fits together with other infrastructure. Only when it goes wrong do they really care.

Yet elsewhere in the wider world there are significant changes under way relating to the changing needs and demands of the market. This is why banks need to think about the “payment highways” of the future. Not only are the demands upon them changing, but new ones are appearing, and the people who use them are becoming much more savvy.

This in itself is a significant change that will impact the payments industry. At the same time, there are the usual changes happening, most notably technology and regulation. What is happening, and why banks need to do something, is that these trends are not so much overlapping, but interwoven, and catalyzing other trends. Rather than standing alone, they are combining to have a much greater impact.

As a result, for it to make sense, it’s important to understand the constituent parts, and then how they come together.

**Fintech Focus Accelerating**

While much has been written about Fintech being the threat to banks, the reality is that there is an ecosystem in which they exist, and in which there are dependencies. The Celent report *Banks, Retailers, and Fintech: Reimagining Payments Relationships, Part Three: The Fintech Perspective* explores this in detail. In short, it notes that Fintechs both don’t want to be banks (they neither wish to be regulated nor to carry out the range of services a bank does), but are also heavily reliant on banks. They are, after all, corporates, and require banking services. Furthermore, virtually all Fintech payment systems require bank payment rails to run on. For example, the vast majority of PayPal
transactions are card or ACH. Indeed, PayPal is one of the biggest users of Faster Payments in the UK.

The report points out that there are a range of Fintechs rather than one homogenous group. Indeed, some of the new challenger banks should be considered more as Fintechs, as should some of the very large technology firms. Yet many banks are still not clear as what their Fintech position is.

It is arguable that this is an existing trend, albeit one that is accelerating and one that has come to the fore much more in the last year. Indeed, it would seem that no payments conference is complete without a session on Fintechs!

SEPA Continues to Develop
The second change of note is the latest developments of the SEPA programme. This trend would seem at first glance solely European in focus, yet just as SEPA did, it creates as many opportunities for any bank or corporate outside of Europe dealing with Europe as it does for those banks based in Europe. Furthermore, there is evidence that some of these trends will be replicated in some form elsewhere as well.

After SEPA went live, one body, known as the SEPA Council, changed its name and mandate, and became the European Retail Payments Board in December 2013. Its mandate is:

"Contribute to and to facilitate the further development of an integrated, innovative and competitive market for euro retail payments in the EU"

Their only output of any note to date is to demand a pan-European Instant Payments system.

They have mandated:

"... that at least one instant payment solution in euro be available to all payment service providers in Europe. At the same time, irrespective of the payment instrument on which they are based, multiple instant payment solutions may help achieve the objectives of competition, innovation and integration in this market segment, provided that they allow for pan-European reachability. For these purposes, it is expected that solutions be developed at the pan-European level or, if developed at the national level, that they become mutually interoperable at least with solutions based on the same payment instrument."

The timeline for this is extremely aggressive — the design outline was agreed in November 2015, with an expectation that the scheme itself would be launched by November 2017.

The second SEPA strand is the Payment Services Directive 2. This came into force in January 2016, though the critical piece for this report doesn’t come into force until at least September 2018 at the earliest, and most likely, Q2 2019. This part is known as Access to Accounts (often referred to as XS2A). One belief the European Commission, in its role of regulator, has is that the lack of competition that persists after PSD I came into force was that the banks own the account and the payment systems. Rather than forcibly changing the ownership of the latter, the PSD2 gives any third party the ability to become a body who can access account-level information at any bank (an AISP) and/or the ability to initiate a payment from any account (a PISP). The way this will be done is through an API referred to under a banner term of RTS (Regulatory Technical Standards).
The regulator perceived that Fintechs would use the API to offer innovative services. Given the very low bar to become an AISP or a PISP, this is very likely. But it isn’t limited to Fintechs. A number of merchants are exploring the opportunities, and they apply to banks as well.

Implications

There are implications for each trend individually, but equally, there are new ones created when combined.

The ERPB mandate means that the prospect of every bank in Europe being connected to a real-time payments solution is on the horizon. It also means that some banks will be connected to more than one real-time system, if not multiple solutions, and may have to choose which real-time solution (or solutions) to use. Central to this is remembering that SEPA is supposed to be one market, not a collection of domestic markets. Therefore, the question will be one driven by both price and reach. No new solution will be able to offer 100% reach (that is, every bank in Europe) on day one, or even for the foreseeable future. While the systems being proposed have to be interoperable, other reasons may dictate that larger banks support a domestic real-time solution, and two or three ERPB schemes to reach the banks they need to.

The XS2A provision potentially significantly increases the volumes of real-time payments. While few organizations have formally announced their plans, it’s easy to imagine some potential scenarios. For example, a merchant, whether physical or digital, could become a PISP itself. They could get the customers to give them permission to make payments from the customers own account. Given that many, if not most, consumers in Europe don’t pay for payments, there is an assumption that the PISP would choose the method that would get them the money quickest — a real-time payment.

The business implications for banks of this development are significant. First, there is the large loss of card issuing and card acquiring revenue. While in a different division of the bank, it still matters. It creates potentially a significant increase in payment volumes without any corresponding revenue increase. Indeed, the increase in volumes may result in upgrades being required in several parts of the value chain. For example, if just 10% of the retail card transactions switched to an API initiated Faster Payment in the UK, Faster Payment volumes more than double to over 2 billion a year. In other countries, a similar percentage would be equivalent to more than 10 times the existing volume.

There are other implications as well. Fraud happens in every payment type, but real-time payments have two specific issues. First, most obviously, is the speed. Many systems are designed so that the recipient receives funds in seconds. In order to do so, the scheme is designed so that the majority of checks that are done at the sending bank — once it’s left the bank, it’s considered irrefutable. That means most of the process has to be done in just a fraction of the end-to-end time. An increase in volume makes this that much harder.

Second are the newness of the scheme and/or use case creates challenges. Most fraud solutions work on pattern recognition. Yet a new payment system has no pattern to work from. This is going to apply in this new paradigm, even to existing real-time payment schemes. There are two aspects. There are the transactions themselves. Many real-time transactions require two-factor authentication of some sort. The question of how that might work in this PISP domain is unclear, particularly as the PSD2 introduces much higher levels of payment security, but is also somewhat vague as to what it’s securing. Yet there is also the question of the PISP themselves. If the largest retailer in the country requests a payment at roughly the same time every week, for roughly the same amount, there is a reasonable assumption to be made. Yet as the bar for being a PISP is very low, and unlike most ACH-like transactions, these retail transactions are likely to be a one-off. For example, searching online to find the cheapest seller of a specific item may show up
as a small shop in, say, Estonia. There will be no pattern to match against, nor will the bank know who this organization is, nor will the bank know which organizations that the consumer has given permission to. Fraud checking has therefore become massively more complex. To add to the woes, PSD2 changes the liability for fraud. To paraphrase to a large degree (but not inaccurately): if in doubt, the bank is liable.

Furthermore, the whole scenario above doesn’t even touch upon how this now works with both multiple real-time schemes and the new cross-border ones. An extremely complex situation already, the possibilities and permutations are actually far more complex.

Not Just Europe
Much of this would seem to be Europe only, but there are interesting aspects to consider, most centering around PISPs. The ease of becoming a PISP means that many organizations have already, and many more will. This, we believe, will include organizations based outside Europe, and furthermore, will include banks. The details of quite how this would work are not yet clear, but consider this simplistic example. A US bank could open a single account with a European bank. It could then register as a PISP and use the API to connect to the bank where their account is held and initiate all their payments directly from that account. It doesn’t kill correspondent banking, but it does alter the model. Equally, a large multinational could also become a PISP and use the same approach to manage its own accounts across all its banking providers in Europe. The advantage here is that there should be a greater level of consistency of internal process for making a payment, and less need for proprietary software from each bank.

Now couple both of those scenarios with real-time payments, and the potential game-changing opportunities become apparent. In theory in less than 24 months, a non-European bank could offer almost a near real-time cross-border solution to most accounts in Europe, at a lower cost than they do their current payments business.
So what does this all mean? Celent believes it means two things in particular.

First, real-time is no longer an “if” but a very clear “when.” If a system is not in place already (or planned), for the majority of our clients, there will be in the next five years. Celent believes that the tipping point when countries with real-time systems outnumber those without is likely to happen very shortly. Yet by volume of payments, the countries listed in Table 1 already account for 70% of global ACH volume — real-time payments are here already. Furthermore, those with systems already are likely to find that they will have an increasing number of them, not just one. In some countries, such as the US and India, this is by design; elsewhere, rather than just being domestic systems, real-time cross-border networks are emerging. An increasing number of banks will therefore have the complication of managing multiple systems, that are, at least for the moment, similar in label only.

The second is that real-time payments are evolving and is so much more than “faster ACH” already. The next generation of real-time systems make real-time more than just a payment type. Indeed, the title of the report (that is, omitting payments) was deliberate, because it reflects that banks have to think about real-time in multiple dimensions.

Given these two pieces, and the short time horizon for some of these, banks need to start thinking now about how they start enabling themselves today for a real-time future. The list of things that a bank ought to think about is long, but there are some foundational elements that a bank can do today. These are less discrete items and more building blocks needed for the future.

**Real-Time Payments End-to-End**

Real-time is more than just the payment. It requires as much as possible across the value chain to be real-time as well. Some banks have “solved” this by utilizing debit card technology. Yet this doesn’t solve the long-term problem. The debit card rails and standards don’t support the speed required by real-time (which increasingly is measured in milliseconds) nor many of the business aspects, such as extended remittance information.

Banks therefore need to build two key things. First, anything and everything that touches the payment needs to be real-time as well — and by implication, single message. The process will be no faster than its slowest part, and a payment touches on many other
systems in a bank as well. Second, internal rails that are real-time enabled as well, linking all the systems. This will allow the linking to new systems in the future.

There is an operational aspect to this as well, because it’s not just about speed. The majority of real-time payment systems operate 24/7, 365 days a year. Indeed, the majority of payments, some 70% of transactions, take place outside of banking hours. That means there is no such thing as down time. Maintenance windows in the traditional sense are going to become fewer, if not fundamentally different.

Combined, that creates a very different operating environment to a bank’s traditional way of working, which typically operates in batch, overnight processes, with staffing and resources arranged appropriately.

Real-Time Fraud Monitoring and Control
In some real-time payment systems, such as the UK, once the payment has been sent to the central infrastructure by the originating bank, it is deemed to be irrefutable, with virtually all messages being processed immediately by the receiving bank. That means the originating bank carries all the risk and all the responsibility but only a portion of the time to decide whether to process the payment. There is a perception among some banks that real-time payments are riskier because of the speed the payment moves. This is misleading. In reality, it is like any other payment, but without the time available to catch things.

This poses two requirements. First, a real-time fraud solution. Many fraud systems work on patterns, but if the real-time is being newly established, then it is difficult to build the patterns in the first place. Solutions operating in other countries will help address this issue. While the patterns will differ, the underlying principles may be sufficient to teach the system quickly.

The second is ensuring that the up-front process is as robust as it could be. One UK bank lost a significant sum of money because the processes to initiate a payment online were vulnerable. That is, it wasn’t the fault of Faster Payments, but that it exposed the risk and exacerbated it. As a result, most banks use some form of two-factor authentication when a customer wants to both set up a recipient, but also send a payment.

Real-Time Analytics
Fraud detection is an obvious example of the need for real-time analytics, but real-time payments are going to drive a number of other use cases. Take, for example, smart routing. The customer shouldn’t — and won’t! — care about how the payment gets to the recipient, just that it does. Yet as the previous sections have suggested, there will increasingly be alternative routes for a payment to travel along. Increasingly, a payment between two large European banks will likely have their local domestic scheme and a pan-European one at the very least.

When smart routing has been discussed before, it has been seen as a set of business rules, such as the pricing of transactions, that could be applied to filter and sort a batch of payments. These still hold true, but are likely to have to be far more sophisticated rules that change on a potentially second-by-second basis. The previous routing rules could often be validated and checked by an operator. Given both the speed and 24/7 nature of real-time, these smart routing rules will solely be automated rules.

The rules will have operational aspects, such as the monitoring of the speed of response of the various routing options (e.g., there is no point routing a real-time payment to a network that is down for some reason). But there are more sophisticated aspects that need to be considered, not least liquidity issues. The different systems will settle at different times, in different places, and with very different rules. For example, the UK scheme is now fully liquid — that is, the settlement account has a minimum level of pre-
funding, and the use of collateral is no longer allowed. A bank therefore has to understand the cost of having that money tied up, what the optimum amount is between settlement windows, what its obligations are and could be, etc. Going forward, this complexity will be multiplied by the number of systems available. There may therefore be good reason to route a payment via a different network, depending on the liquidity implications of one or more other networks. And all this needs to be carried out automatically, in real-time, and still meeting the banks’ legal obligations around capital. In short, end-of-day liquidity no longer exists as a concept, and even “all day, every day liquidity” perhaps underplays the significant shift required.

**Bankwide Real-Time Rails**

This is perhaps the most important of all the building blocks in the long term and reflects the change in thinking of real-time payments: from being faster ACH to being a component or a set of tools for something greater. One of the more widely discussed questions has been around the use case for corporates. Most have focused around use cases, with a couple of examples being widely considered innovative. The first is that of Wonga, a UK short-term lender in the UK. They automated the end-to-end process of application, approval, and disbursement of the loan into the applicants account, so that the entire thing was both tailored to the customer (value and duration primarily) and took no more than a few minutes. The second is that of a Southeast Asian Insurer that used geolocation tools to identify travelers who were at airports. They sent them texts offering micro-travel insurance, lasting just the duration of their flight, by clicking on a link to initiate a payment.

Two things that banks should particularly note and aspire to.

First, neither organization looked at real-time payments as a discrete item; it was an essential, integrated element of the proposition. Without it, the proposition wouldn’t work, and it needed to be seamless.

Second, both organizations could execute the rest of the process in real time. Virtually all banks offer loans, and many offer insurance, yet most banks have been discussing how they provide real-time payments to others to offer this, rather than how they can integrate real-time payments into offers that they create.

That then is the need for bankwide real-time rails. Celent believes a true digital bank ought to be offering similar services, if not actually leading the way. That requires the bank to be able to generate instant offers and execute them in real time. Banks will increasingly need to assume that most products will need to be delivered in real time, rather than batch, long after the customer has left the website. Ensuring that the real-time payment system is connected to all these elements will be critical to ensure that the right data is passed between systems, and that the fraud and analytics are integrated into the process, so that the customer experience is truly real-time and seamless.
PATH FORWARD

To date, banks in many countries that have adopted a real-time payment system have tried to limit the scope of the system. This is not surprising, given the leap into the unknown, coupled with the complexity of delivering the solution. However, the world has moved on. Real-time is firmly here, and an increasingly being seen as the payment system of the future. Banks that try to limit the scope of projects today then may be saving themselves money in the short term, but they are likely to creating more work, more costly work, in the future.

There are many things a bank ought to be doing, but ultimately they can summarized very succinctly:

Building a digital bank without building and integrating digital payments is futile.

Digital can be defined in many ways, but one definition is a shorthand way of encapsulating how we live today. We expect any time, anyplace instant service, tailored and personalized to us. Without real-time payments, this vision simply isn’t attainable.

Banks therefore need to see real-time payments less as a payment type and more as a means to allow things to happen. It becomes a platform that enables things throughout the bank, as much as it is about a payment. The one thing that unites every customer of every type is the need to make payments.

The journey to this digital destination is undeniably far longer and more complex than just payments. However, the journey has already started in payments. Smart banks will look at the move towards real-time payments and think much more broadly.

Every industry has tipping points. The banking industry’s’ real-time tipping point is upon us.

Was this report useful to you? Please send any comments, questions, or suggestions for upcoming research topics to info@celent.com.
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If you found this report valuable, you might consider engaging with Celent for custom analysis and research. Our collective experience and the knowledge we gained while working on this report can help you streamline the creation, refinement, or execution of your strategies.

SUPPORT FOR FINANCIAL INSTITUTIONS
Typical projects we support related to real-time payments include:

**Vendor short listing and selection.** We perform discovery specific to you and your business to better understand your unique needs. We then create and administer a custom RFI to selected vendors to assist you in making rapid and accurate vendor choices.

**Business practice evaluations.** We spend time evaluating your business processes, particularly in payments. Based on our knowledge of the market, we identify potential process or technology constraints and provide clear insights that will help you implement industry best practices.

**IT and business strategy creation.** We collect perspectives from your executive team, your front line business and IT staff, and your customers. We then analyze your current position, institutional capabilities, and technology against your goals. If necessary, we help you reformulate your technology and business plans to address short-term and long-term needs.

SUPPORT FOR VENDORS
We provide services that help you refine your product and service offerings. Examples include:

**Product and service strategy evaluation.** We help you assess your market position in terms of functionality, technology, and services. Our strategy workshops will help you target the right customers and map your offerings to their needs.

**Market messaging and collateral review.** Based on our extensive experience with your potential clients, we assess your marketing and sales materials—including your website and any collateral.
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