FLAVORS OF FAST

A TRIP AROUND THE WORLD OF IMMEDIATE PAYMENTS
Preface

It has ‘only’ been three years since we decided to publish our first Flavors of Fast survey because real-time payments were expanding from a national phenomenon to a global one with regional impact and national schemes. In 2014, we counted fourteen live schemes with one other scheme under development and another in its very early exploratory stages. Today, there are twenty-five live schemes, eleven scheme projects firmly under development and eight ‘on the radar’ as we call it, being discussed in early stages.

This clearly demonstrates that there is an increased appetite from the (central) banks and industry bodies to jointly develop real-time payments schemes, since the user adoption of immediate payments continues to rise sharply. Whereas in the early days the focus was primarily on consumer payments, we now see a proliferation of solutions based on immediate payments that cater to SME and corporate clients. And, we’re also seeing a shift from merely enabling faster to now driving smarter payments. Instant has become the new norm in the same way as open is becoming the only ‘channel’. While the access to data turns payments into relevant financial services products that bring accessibility and expediency to peoples’ and businesses’ financial lives all over the world, the drivers for real-time payments differ by scheme and region. For some, it is all about user experience and access. For others, as also many industry analysts suggest, it is more about modernization and cost savings. Nevertheless, all of the above go hand in hand with the need for revenue generation. So, it is no longer a question of whether to embrace immediate payments, but, more imminently, when and how.

We find that in all projects across all corners of the world, the pre-eminent question remains: “where is the ROI, what is the business case?” In this fourth and revised survey, we encourage you to look beyond the two-dimensional business case to the third dimension: business value. We recognize that it is the relevant data that allows you to build new services, to drive loyalty and a unique instant and relevant customer experience, enabled by new API technologies. It is the only way forward and the research clearly indicates that the schemes with the higher innovation scores enjoy a faster adoption rate.

Our teams at FIS™ enable and implement real-time payments all over the world and we are pleased to be able to share this survey and the lessons we have learned with you. We invite you to open the dialogue with us, your peers and colleagues so you can continue to drive value for your customers.

With kind regards,

Anthony Jabbour
Chief Operating Officer, Banking & Payments, FIS
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In an always-on digital world, the payment systems that underpin our daily lives cannot be any different. For well over a decade, an increasing number of fast retail payment services have been deployed across the world, and the trend is only growing in momentum with many countries currently developing instant payment mechanisms, and an endless stream of announcements from countries planning to make the upgrade.

When consumers or businesses buy products or services, they are not there to make a payment, they just want to make a purchase and pay for it in the most convenient way. The advent of instant payments is an inevitable response to the need to make time-sensitive payments quickly, wherever and whenever necessary. But the convenience of making instant payments is not the only driver. With the availability of faster payment rails comes the potential to create and launch many new enhanced services that truly add value to the payment experience, going beyond simply paying for goods and services. The overall speed, coupled with innovative services layered on top of instant payment services, goes a long way toward meeting the heightened expectations of end users that rapid changes in technology, such as mobile communication devices, have evoked. To this end, faster payment schemes are of high strategic importance for the overall modernization of the world’s payment ecosystems.

The implementation of fast payment services is a complex endeavor that demands cooperation from many stakeholders. There is a spectrum of potential models from multiple competitive but interoperable systems, to a centralized approach where a single infrastructure clears and settles payments serving a multitude of different use cases. The business case for monetizing instant payments may not be immediately justifiable in the short term, but it is important to bear in mind that many of the benefits are more intangible and are concerned with creating business value for the long term.

In many ways, simply supporting an instant payment mechanism is to miss the point, and to miss a great opportunity. The ability to open up payments to the always-on digital world requires that financial institutions also open up to new innovative service offerings – from in-house or external third parties – that expand the use cases into new territories. No longer the sole preserve of the bank, with the utilization of open API technology, new and innovative services can add tangible value to end users. This is a world where frictionless payments can be embedded into all aspects of our daily lives, generating increased commerce instantly.

The biggest success over the last few years has been the public’s appetite for faster payment schemes with strong growth in volumes globally. Access to immediate payments is undoubtedly a crowd pleaser, especially in regions where the introduction of faster payments was targeted at a largely underbanked population. We are now entering the era of smarter payments that include additional data in order to better support commercial and retail use cases. In an increasingly interconnected and open world, technology and consumer behavior
have brought us to a point where payment providers have no choice but to join the program and build out the services to take advantage of the new opportunities, or face irrelevance.

Over the coming years we can expect to see more innovative solutions being implemented on top of the new instant payment infrastructure. Consequently, when evaluating domestic payment schemes for the report, we have included the availability of open APIs as a top-level commendation in our Faster Payment Innovation Index. A primary example of the importance of innovation is the impressive rollout of India’s Universal Payments Interface (UPI) that opens up access to real-time by allowing payments to be directly integrated into external business applications. UPI is proving that open access is central to innovation and is also a strong driver of adoption. The introduction of UPI in August 2016 led to the creation of a wealth of new innovative payment solutions, and the adoption rates of UPI payments are truly spectacular: Transactions using UPI increased 100 times from a modest 92,000 to 9.2 million transactions in the first nine months of operation.

Financial institutions of all types are looking into the creation of pioneering context-sensitive services that engage more closely with consumer and business interests throughout their lives. Speed, context and openness need one another to create the relevant instant service and experience customers expect from a modern financial services organization. The speed of fast may be relative from one region to another, but the march toward the instant gratification of immediate payments looks set to continue; instant surely is the new norm. But speed is not the sole driver at play, the ability to innovate on top of instant payments in a contextual environment is what makes the difference, and keeps financial institutions relevant.
Introduction

As we enter our fourth edition of the Flavors of Fast, the most important message is not simply that the numbers of countries offering faster payments is growing; the takeaway is that the whole nature of faster payments is evolving. We at FIS have often made the point that faster payments alone are not the end game; as the world grows to embrace the joy of instant gratification, faster payments are seen as a catalyst to new ways of making payments, a way to create more relevant context for consumers, SME and corporates alike. Now things are about to get very interesting!

In parallel to the irresistible march of immediate payments are the fintech initiatives that will shape new ways in which payments are made. Real-time payments are about more than just speed. They’re about creating frictionless commerce and enabling a financial world in which the entire payment process – from the sales and invoicing to funds transfer, processing and reconciliation – occurs seamlessly and immediately. An open payments system can also provide opportunities for financial institutions to help both commercial and retail customers better understand and manage their financial picture with greater ease.

In addition to being instant, the key word for future payments is openness; open to sharing data, open to new channels, open to new applications, and open to being open. And the tools for opening up the payments world are initiatives such as providing application programming interface (API) access within financial institutions, to other financial institutions, their customers and their customers’ data. We’re not here to help build the business case for faster payments: we’re here to add real business value to commerce in all spheres of operation.

The open and instant angle

Open APIs and instant payment mechanisms are inextricably linked; only by combining both can we release the potential to bring about fundamental change. By opening up financial institutions to the outside world, faster payments can be used to drive new innovative use cases on a global scale. Third parties will gain access to account information and payment initiation capability enabling a host of new propositions to emerge.

An application programming interface – or API – is a set of functions and procedures that allow access to data or a service in order to provide greater functionality to the app’s user. An open API is a means of accessing data based on an open standard; it is a public interface. It is an open standard that is developed and maintained collaboratively and transparently, and can be accessed and used by anyone. The data accessed via an open API may be closed, shared or open data.

In practical terms, the entire payment value chain needs to be disconnected into discrete elements. This creates new opportunities and challenges, but opens the door for new business models that demand new ways of thinking. It may be the third-party application
developers who distribute payment services via their own channels, thereby changing the traditional financial institution’s direct footprint of responsibility and interaction. Banks must evaluate their position as either a pure infrastructure provider, or play an active role within the emerging ecosystem and maintain a direct relationship with customers – it’s a critical strategic choice.

**Where payments meet life**

The ever changing nature of technology has enabled individuals, whether acting as consumers or businesses, to feel that they need everything available now, in real time. Payments must be an enabler in an increasingly networked world, and consequently need to be an integral part of the context of everyday life.

When walking into a store, browsing a website or using a smartphone app, customers are not there to make a payment, the transaction is just a part of the bigger experience. When ordering supplies or selecting business services at work, company employees are not primarily concerned with the transactional moment of the interaction. By opening up payments to a larger contextual world, the customer experience is primary as the payment is simply built into the application. Over time it will likely become all but invisible.

Definitions of what constitutes a merchant are evolving. With innovative person-to-person (P2P) payment solutions being launched worldwide, everybody can become a merchant. From garage sales and street markets, to paying the plumber or decorator, instant P2P payments open up a world of possibilities. The ability to pull payments from customers allows the service seller to add vital remittance data to payments thereby simplifying invoice reconciliation as the data is replicated within the payment itself.

Banks need to remain nimble and flexible. The provision of API services empowers application developers to create and deliver services that go beyond just the underlying payment. Immediate payments underpin these value-added services in a way that traditional credit transfers or card payments cannot. By embedding immediate payment mechanisms into otherwise purely non-transactional offerings, business value is enhanced and everybody wins; an instant messaging app can become a means to resolve the restaurant bill; payday loan applications can provide instant access to funds; insurance services can make instant payouts; takeaway establishments can transform order-ahead services into order-and-pay ahead services.

On a larger scale, the advent of immediate payments coupled with API-based services has enabled government agencies to speed up their own operations. Consider a ship entering port on a Friday. Normally they would have to wait until after the weekend to get the relevant duties paid to customs officials. Instead, by coupling the payment mechanism with the customer’s application, the end-to-end service can be completed in minutes. Similarly, in the commercial world, consider the potential interplay
between distributed ledger technology being used to track shipments where immediate payments can effect instant settlement on the basis of smart contracts.

**Open up to fast**

Open access to accounts running on faster payment rails goes much deeper than simply smoothing the way for additional merchant services. The customers of a bank create a massive amount of data that often goes underutilized; technology can now give customers access to refined and usable data so they can improve their personal financial situation. With open access, apps can directly enquire about consumer behavior and payment history (assuming the owner approves) and add real business value that will result in more immediate payments. Third-party lenders could have access to historic transactional data to determine a borrower’s risk level, hence, customers will have access to better loan terms.

Open APIs offer significant opportunities and challenges for the industry and although the changes involved go much wider than simply faster payments, the payments sector is well placed to take a leading role in their development and implementation. Open APIs could have a fundamental impact on the customer-bank relationship and significantly alter the landscape of players and providers.

Instant payments are the new norm and are consequently on the agenda of every bank around the world. Instant goes beyond the payment: all the processes around payments also need to happen in real time – including reconciliation, testing and fraud monitoring. To succeed in an immediate payments world, banks must deliver a full digital service and meet client expectations in this evolving ‘always-on’ landscape.
Real-time Renaissance –
Moving to the Third Dimension

From business case to business value

Having done research into global real-time payment schemes since 2014, our team has spoken to numerous scheme providers, payment associations and banks around the world. The number one question in every meeting was and is: “What is the business case?” What are customers willing to pay for, which service can we offer at which price? How will this impact our cost model and where can we leverage this investment. After three years, the business case for investing in faster payment rails remains elusive for many of the people we have engaged globally on this topic. Universally, the barriers to deployment appear to stem largely from the fact that extensive capital has already been invested to build and maintain legacy infrastructures for money movement. Enabling a new money movement rail is considered cost prohibitive in the absence of a definitive plan for monetizing the additional payment options. Additionally, the lack of demand from consumers (you can’t love what you can’t see) makes this investment one that could be easily deferred for a period as user adoption evolves. However, some countries partake in regulatory driven schemes and do not have the option to delay the debate.

Also, organizations who opt to wait for demand are at risk of becoming irrelevant to their current customers. A bold statement to be sure, but a reality seconded by most bankers we have spoken to. As consumers ourselves, we have all experienced that rapid paradigm shift where we didn’t conceive of wanting something until it was there. A classic example is in

how we have adopted to shifts in telecommunications. In case of emergency, carrying around coins for a payphone was meeting our needs just fine – until cellphones became pervasive and affordable. Now, payphones are increasingly obsolete and many of us have multiple cellphones in our household to ensure our children, ourselves and our aging parents all have access to communication in case of an emergency. In a similar fashion, open and instant payment capabilities are driving a shift in consumer expectations around the world. Identifying the value case that goes beyond a monetary business case is vital.

A business case is essentially a two-dimensional phenomenon. What is my cost and at what price can I charge it out to how many customers? A more strategic approach is to also consider the more intangible – but very measurable – business value. In addition to understanding the investment required and how or if you can monetize it, consider the value proposition and benefits the new payment experience will offer your customers. Will it drive loyalty to my brand? Will it render their payments more secure? Will it entice them to migrate other purchases to my brand? This way one creates a three-dimensional discussion where more partners can add value to the relationship.

We know that loyalty can be a difficult and costly thing to cultivate with customers. It is an emotional tie to an experience rather than a product. It is derived from an occurrence or encounter that makes their life easier at that particular moment in time. Banks who adapt their payment models to enable real-time
recognition of customer needs will win the day! To get there, we should stop calculating and start the dialogue with customers to uncover the pervasive problems or frustrations we can tackle with an open and instant payment strategy. For small business customers, perhaps they need help with cash flow management or driving more business in the door. Immediate payments and reconciliation coupled with real-time merchant offers driven through an API portal to your existing systems could be the answer. When it comes to consumer customers, they already have many choices in how to make payments. Most often, they are looking for a solution that offers better security and convenience to fit their busy lives. What are the universal value propositions that will propel open and instant banking around the globe?

The first may well be security. In this age of the internet of things, we have embraced solutions that render us able to collect, store and share information instantly. Trading that ability for security and protection of our financial lives isn’t acceptable. For that reason, it is imperative that banks empowering digital engagement with customers ensure money movement becomes more secure as latency in the payment process disappears. We can look back at the UK to see why this is so critical. While adoption of faster payments moved quickly throughout the UK, online payment fraud more than doubled in the first year of its rollout. As payments become real time, fraud detection solutions must adapt. Enabling real-time alerts to allow customers to be part of the monitoring process has proven highly effective in a number of regions and is fast becoming ‘table-stakes’ in terms of the layers of risk management banks are deploying in the last twelve months. An emerging focus on digital authentication and identity verification is also top of mind globally. These are solutions that employ biometrics, geolocation and device detection technology to verify the originator of a payment in real time. When end-to-end payment security is implicit, innovation in the way open and instant solutions serve the market will thrive.

Innovation that drives loyalty is another universal value proposition to tackle. Loyal customers are made – not born. It is incumbent upon financial institutions to continually create experiences that keep their brand top of mind with customers. As a new generation of consumers have matured and entered the workforce, we are just beginning to experience the influence of their increasing purchase power. They are predisposed to seek out solutions that are both individualized and allow a high degree of self-service capability. As consumers, our expectations around banking and payments are increasingly informed by the way we are engaging with other industries and digital services. In its best form, open banking pairs developers who offer agility and an inherent understanding of consumer behaviors with a banking partner to co-create branded payment solutions that are best in class. A great example of this comes out of Sweden with Swish. Swish is a Swedish fintech company that was created by a group of six banks from the region in 2012. They are making tremendous strides in removing cash from
the payment ecosystem due to the ease and security of their real-time P2P payment app – that is free to consumers! If you need to split the check with friends over dinner, you are most likely to hear “Just Swish it to me.” All you need is your friends mobile number and you are good to go! Much the same can be said for business customers, who increasingly behave in their professional roles as they do in private with similar expectations around ease of use and transparency when it comes to financial services.

Security and better payment experiences are the most prevalent paths to loyalty. They also translate to our business imperative of growth. Transaction-based revenue is realized from increased payment velocity when customers are exposed to a more secure and user-friendly payment solution. Additionally, there is value to be found on the other side of the balance sheet considering the expense reductions in operational support of existing customers and the cost to acquire new ones. Embracing open and instant means adopting a digital-first approach in how customers are acquired and serviced. This is already the most cost effective channel available. Using faster payment rails as a framework on which new products and add-ons via SDKs or toolkits can be introduced means the start of the capitalization on the investments faster than ever before.

While the maturity and adoption of faster payment solutions vary greatly by country and region, the benefits of adopting open and instant payments to improve payment security and easier money movement are universal truths. Working together to identify gaps in the current ecosystem and the value propositions that would be most impactful to global consumers we can accelerate this transformation. By sharing the value cases we build we will drive investments into the development and adoption of open and instant payments. Be inspired, be brave and be relevant. Lift your customers and yourself into this third dimension of banking.
A Definition of ‘Fast’

The Flavors of Fast definition of a faster payment:

“Inter-bank fully electronic payment systems in which irrevocable funds are transferred from one bank account to another, and where confirmation back to the originator and receiver of the payment is available in one minute or less.”

We may consider faster payment schemes to be a modern phenomenon, but the first retail schemes to embody real-time characteristics date back to the early 1970s. Japan had an operational payment system in 1973 with Korea and Switzerland up and running in the 1980s. However, the last decade has seen dramatic growth in the deployment of fast retail payment services worldwide.
On a simple level, fast payments can be defined as payments in which the transmission of the payment message and the availability of final funds to the payee occur in real time, or near real time, and ideally on as near to a 24/7 basis as possible. As we move from fast payments, to faster and onto the inevitable instant payment world, other factors need to be considered; the perception of real time, from a customer perspective, may be the ultimate goal, but it is not the only concern. Consequently, faster payments do not need to be strictly real time, immediate nor instant.

Currently, all operational faster payments operate within nation states in a single national currency. This is set to change with the imminent emergence of SEPA Instant Payments later this year where euro payments will go across borders. Looking ahead, it is likely that established domestic faster payment systems will be interlinked in order to create multiple cross-border faster payment systems.

Need not apply

While faster payment schemes are not necessarily new, especially outside the bounds of a retail world, we have explicitly excluded a number of long-established payment mechanisms that would normally be thought of as fast. These include any card-based transactions and niche real-time global settlement (RTGS) systems. We also do not consider any payment system that includes any paper origination. The advent of many alternative currencies and mechanisms such as BitCoin, Ripple, LiteCoin, etc. have significant impact on the banking market, but we have consciously excluded cryptocurrencies from this research. Faster payments may be credit transfers or direct debits, so long as the confirmation messages and the funds are available quickly. Note, while a digital origination is critical, batch payments are also included.

Beyond just retail

Originally, faster payment systems were primarily focused on the retail market (P2P and P2B), but increasingly business payments (B2P and B2B) are taking advantage of the benefits that faster payments offer. But the use cases continue to widen with payment to and from government services (P2G, G2P, B2G and G2B) becoming increasingly common. Faster payment schemes will likely continue to become progressively more egalitarian as they evolve toward offering faster payments for all sectors and user demographics.

Other factors of interest

The requirement for a faster payment scheme to operate 24/7 throughout the year is not mandatory. We do accept schemes that accept payments 24/7 but have a delayed availability of funds outside normal working hours/days.
The Faster Payment Innovation Index

The Faster Payment Innovation Index (FPII) was first established by FIS (then Clear2Pay) in the first edition of Flavors of Fast back in 2014. The aim was to create a comparative rating system where diverse payment schemes from around the globe could be easily compared and contrasted. We intended to highlight the fact that the speed of the payment was not the only factor that contributes to the quality and innovativeness of a payment scheme. While inclusion in the FPII demanded only some basic requirements (electronic payments between accounts available quickly), a higher FPII score requires more demanding criteria, and ideally, opens up the road to innovation on top of a faster payment service. Consequently, the FPII measures not only the speed with which transferred funds become available, but how the scheme in question is applied in its local market.

Four years is a long time in payments. Since the first edition in 2014, new market initiatives have gained ground, often as a direct result of the availability of an underlying faster payment service. We have therefore re-evaluated our criteria. In addition to standard credit transfers (push payments), we have included the ability to pull payments. A pull payment could take two distinct forms: a real-time direct debit or a request to pay. Both services add value to the overall offering, and the provision of either increases a country’s FPII rating.

The move toward open access to bank accounts through application programming interfaces only really makes sense given an ability to make immediate payments. Therefore, we have added a new element to the FPII that indicates whether the domestic schemes under review have also made use of faster payments to champion open access and an API layer. It should be noted that the open API element may be part of the overall instant payment scheme itself, or it could originate from a separate source.

Such openness to innovation takes faster payments out of the classic retail use cases and introduces more business- and even government-related possibilities. The addition of pull payments whereby merchants and authorities can send out payment requests, typically with additional remittance and reconciliation data embedded in the payment, opens up faster payment schemes to a whole new world of possibilities.

The higher the FPII score, the stronger the possibilities for innovation.
FASTER PAYMENT INNOVATION INDEX

Innovation above and beyond simple fast payments:

- **Open Access API interface**

**5 Optional features maximizing customer value**
- Remittance information
- Alternative identifier (aliases)
- Batch and individual payments
- Fast settlement
- Push and pull payment capability

**4 Highly desirable features enhancing customer value**
- Universal access
- ISO standard (ISO 20022 or 8583)
- 24/7 availability

**3 Required features**
- Interbank
- Account to account
- < 1 min end-to-end
- Irrevocable

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Nordea: Instant is not a trend; instant is in everything

CLAUS RICHTER
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Nordea

Since the early days of measuring internet adoption, Scandinavians have been earmarked as “internet natives.” Is it their zest for design and anything new, the wide open spaces and long distances, the cold long winters? With the average adoption in Europe hovering around 77 percent, the Nordic countries stand out at 95 percent. It is therefore no wonder that “we have an incredible advantage when it comes to the new open banking era, with a technologically advanced user base, across all ages,” according to Claus Richter, SVP and Head of Customer CM Solutions at the Nordea Group. “We see a little drop in online behavior at around 80, but many people still primarily use internet-based channels at that age. With adoption rates and usage so high, it is no surprise that we have driven an STP-centric business for many years. When I recently engaged with a Canadian colleague on real-time payments, she asked me when or whether we had to move any check processing to instant. I told her I had never owned a check book in my life, apart from my years in the UK and the US.”

Nordea

Nordea’s family tree includes some 300 banks in the Nordic countries, founded from the 1820s onwards. Today, Nordea Group holds leading positions in corporate and institutional banking as well as in retail and private banking. They are also the leading provider of life and pensions products in the Nordic countries. Nordea is among the ten largest universal banks in Europe in terms of total market capitalization and serves around 11 million customers, counts 30,000 employees and approximately 600 branch office locations.

A NORDIC BANK

When you combine these interesting regional demographics with a bank that has grown exponentially through acquisition and that is currently in the midst of a large transformational IT program with clients in both euro and non-euro countries, Nordea makes for a compelling story when it comes to combining the “open and instant” paradigm into a single vision and strategy. According to Richter, instant is not even a trend; it is a base requirement in everything as much as “open”, because without open access there is no data and
no relevance to make the instant experience meaningful. Asked whether banks will be affected in the same disruptive way as in other industries, he acknowledged that, in principle, that will be the case but it will take another two to three years. “There is one significant difference from an industry point of view between banks and, say, mobile or hospitality: trust is paramount. Giving up all your money to someone you don’t trust is difficult. New parties that step into the space have an extra barrier in creating transparency and trust. It will happen, but it will take time and this gives banks the opportunity to co-create new models that we have not seen in other heavily disrupted industries. There will be much more collaboration with fintech, and that offers customers the best of both worlds: trust and choice.”

“I believe that the biggest change in open banking will take place in the corporate space. Consumers have long been used to instant and open services in nearly every walk of life. On the corporate side we see how technology changes the way merchants and non-

merchant corporate customers interact with banks. Here too we will see that our corporate customers want to move toward one point of entry into their bank for all banking services: payments, account statements, credit lines and more. Also e-commerce and big data developments have a huge impact on merchants in that they improve their understanding of how and when their consumers shop, and this has an impact on their commercial rates. Large merchants already apply these technologies today, but for smaller corporate customers, banks will be able to do some data crunching and offer them additional insights and services that can impact their business model and behavior in a positive way.”

“We specifically asked our corporate customers throughout the bank what they would like to see most in terms of real-time services and they came back with a clear requirement for instant account opening and KYC. They also see a clear benefit for instant payments, for example, by means of improved liquidity planning and in dealings with their end customers. One Finnish insurance company that wants to adopt SCT Inst sketched a customer case whereby an insurance customer on a road trip through Italy could be better serviced when the car breaks down. They go to a garage, the insurer pays for the service in real time and they can continue their holiday without any hassle, plus a superb experience from their insurer. This is a clear case where the value of the experience is of more importance than the pure monetized business case.”
RUNNING AN ‘ALWAYS-ON OPEN’ BANK

The impact of real-time payments and an open API environment reaches far beyond the products banks offer. A lot of time is spent developing business cases and imagining what services customers will perceive to have truly added value and are willing to pay for. Running a truly instant and open operation, however, is new for most banks. Operations gets a different “around the clock” dimension that is already the norm for other industries such as airlines and hospitality.

“Delivering aggregated services through one point of entry will require considerable change at the bank side in how we run and service these, particularly for us as a large but regional bank. Global banks are used to trading through time zones in terms of operations, staffing, and so forth. As a regional bank we have not had these experiences historically and so the jump to go 24/7 is so much larger. Also, moving towards real time does not always mean a constant 24/7 for 365 days a year. Staffing and operations will still vary as there is a big difference in terms of usage between business hours and overnight.”

Running an open bank also means managing relationships with more non-bank, i.e., fintech, parties and running a broader technology environment. Richter concedes that this adds a dimension, but also states that API life cycle management is very much like product life cycle management. “Just because we have new technology which enables other parties to supply our customers with solutions, we still have to conduct product management much like we do with our own products today.”

Concluding, he states: “We are currently involved in a major transformational program because we have long realized, having grown so heavily through acquisition, that continuing to manage a myriad of platforms made no sense. As a bank we have to be agile, resilient and scalable in every aspect, not just technology. It has to be connected to processes, and more importantly our culture. By removing different systems and ways of working we can truly become one bank. Ultimately it is my dream that in the not too distant future both our retail and corporate customers have access to a financial products app store where they can pick and choose solutions from providers as they see fit, powered by Nordea!”
FLAVORS OF FAST - LIVE
The list of live countries offering instant payment services is growing. In the next sections we list the countries that are already live with solutions, the countries that are at various stages of development, and finally a list of countries that have made announcements stating their intentions to kickoff projects to move toward instant payment services.
Bahrain

Fawri+
2015

The Fawri+ is a fully automated near real-time funds transfer payment solution operating 24/7 throughout the kingdom. With just the beneficiary IBAN and the amount, the fund is credited to the beneficiary account within 30 seconds. The service is available through three main channels: Branches and financial malls, internet banking and mobile banking apps.

The Fawri+ service operates on the existing electronic funds transfer service and targets both consumer as well as corporate payments.

Although there is no limit to the number of transfers made, there is a daily limit of 1,000 Bahraini Dinar (just over USD 2,600), and transfers are free – although larger transfers can incur a modest fee of BHD 0.10 (USD 0.25). All transactions use an SMS text message to both parties to confirm transactions. The primary driver for FAWRI+ was to reduce the reliance on cash that dominates the payment market throughout the economy. With settlement twice a day, in addition to credit transfers, the service promotes bill payments and also some government payments.
Brazil

Funds Transfer System - SITRAF
2002

As one of the early faster payment systems, SITRAF led the way with a service that was driven by low adoption rates for checks and other paper-based payment mechanisms. Sheer geographic size and poor infrastructure made postal services slow and unreliable, so the national bank set an automated nationwide financial infrastructure as a top priority.

SITRAF uses two mechanisms of settlement: Real-time gross settlement (RTGS), which is the most used, and continuous clearing of obligations. Because of the use of both mechanisms, SITRAF is considered to be a hybrid settlement system. Currently, SITRAF uses an XML-based messaging system but will be moving to the international ISO 20022 standard in the near future.

SITRAF uses a mechanism of prefunding so the balances of participants are derived from the deposits made and orders received from the other participants. Participants send payment orders that are settled in the accounts held at SITRAF by debiting the issuing participants’ accounts and crediting the beneficiary participants’ accounts. Overnight, the participants’ accounts are passed to the Banco Central do Brasil to reconcile the accounts held at SITRAF.
Chile, was the second South American country to implement a digital faster payments service. The current infrastructure launched almost a decade ago was built on an earlier online payment service that has been operational since 2002. Today, consumers and businesses can initiate payments that are acknowledged within 10 seconds. Payments can be initiated online or through mobile devices.

The TEF fast payment system was implemented by a private sector organization, the Centro de Compensacion Automatizado (CCA), at the request of the government regulators. The products and services any bank offers on the CCA faster payment infrastructure is not dictated; Banks are free to offer innovate applications to meet their customers’ demands.
China's Internet Banking Payment System (IBPS) is part of an established 2nd generation payment system developed by the People's Bank of China. IBPS connects the online banking systems of the various commercial banks. Payments between banks can be received in near real time, with acknowledgments within 20 seconds. China offers credit transfers (push payments) and considers direct debits as pull payments. IBPS is ISO 20002 based and is the latest service to operate on the foundation of the China National Advanced Payment System (CNAPS II) interbank clearing platform.

Over recent years, the use of IBPS has skyrocketed. By the end of 2016, there were 195 institutions with direct access to the online payment interbank clearing system. In 2016, the internet inter-bank settlement systems handled around 4.453 billion payments to the tune of about 37.46 trillion Yuan. This represents a growth of over 50 percent in volume and 35 percent in value. Going forward, expectations are that banks, and more interestingly third-party organizations, will develop new and innovative products and services on top of the IBPS platform leading to higher market penetration and dominance.
NETS operates the near real-time payment service in Denmark allowing consumers and businesses to make credit transfers of up to DKK 500,000 (USD 75,000) instantly. Payments can be initiated either online or through mobile applications 24/7. The immediate payment solution is a major part of the larger modernization of the Danish payments infrastructure undertaken across the Danish financial sector and promoted by the Danmarks Nationalbank.

The main target in Denmark are mobile payment transactions due to the high consumer adoption of mobile and increasing rejection of cash in the economy. Volumes are increasing rapidly with over 90 percent of the adult population on board – currently over three million users out of a total population of 5.6 million. Longer-term, the real-time payment scheme ensures that Danish payments infrastructure is prepared for the new mobile payment solutions that are entering the market and already feeding user expectations for the instant transfer of payments.

The cornerstone of the faster payments initiative is the Straksclearing system. The system is pre-funded as participating banks need to provide liquidity at Danmarks Nationalbank in advance so instant settlement takes place between the banks. At fixed times of each banking day, the participants’ net positions in the Straksclearing are posted at Danmarks Nationalbank.
Siirto is a multi-bank platform for mobile and internet initiated P2P payments. The service includes both push and pull transactions allowing payments to be requested as well as standard credit transfers. The service includes extensive transaction notifications and payment reminder functionality within the applications. Driven primarily from the high smartphone penetration of Finland, the open interface includes support for aliases (i.e., phone numbers) bypassing the need to share long bank account numbers.

Siirto allows money to be transferred instantly between banks with funds immediately available for use. The service went live in March of 2017 with a smartphone app for consumer credit transfers and bill/cost splitting capabilities. It is promoted as a PSD2-ready platform with an open API interface to connect to third-party service providers earning Siirto the coveted “+” rating.

Currently the four main Finnish banks offer the service, but this will likely expand as merchant and business support is expected to be added later in 2017. Siirto is a ISO 20022 based and is fully ready for the European PSD2 regulations due to its open interface.
Ghana

Ghana Interbank Payment and Settlement Systems (GhIPSS) / GIP
SUMMER 2016

Ghana is primarily a cash-based economy and the legislators initiated GhIPSS to help reduce the cash reliance and move toward a more digital financial economy. GhIPSS is initially a consumer service allowing P2P payments with credit transfers acknowledged within 60 seconds. The service is fully ISO 20022 based.

In a continent that has seen the mobile payment initiative taken by telco operators offering purely phone-based money transfers, GhIPSS is looking to reclaim the space for the regional banks. Currently, 18 banks are part of the instant pay scheme through participation in the central clearing infrastructure.

Bank of Ghana
http://www.ghipss.net/index.php

No data Not available
Less than 1 minute Deferred net funds available settlement
Not available No data
System operates P2P 24/7

ACC. SET.
Iceland

Greidsluveitan
2001

Being a very early adopter of faster payment schemes, Iceland is currently in the process of upgrading the established proprietary solution to an ISO 20022-based platform in 2018. Currently, only P2P payments are accepted, but this will expand to include retail and business users.

Iceland operates a central infrastructure system that can handle orders for payment in Icelandic krónur to be transferred between financial institutions in real time for payments over 10 million krónur (USD 100,000). For low and medium value transactions, a netting settlement process is used. The system is based on a centralized infrastructure where all participating banks have mirrored accounts, thus enabling real-time clearing and settlement of transactions. The system also supports real-time claims, allowing beneficiaries to send claims (invoices presented through online banking for example).
India

Immediate Payment Service - IMPS
2010

The Immediate Payment Service (IMPS) in India is an instant interbank electronic fund transfer service that is available through mobile phones and internet banking applications. Originally designed as an instant mobile-only remittance solution, IMPS now offers an instant payment service for online and mobile devices, available 24/7, that provides a safe and economical service for consumers and merchants to make and request (pull as well as push) payments. Under IMPS, the beneficiary account is credited immediately when a fund transfer request is made. The IMPS service, based on ISO 8583 standards, makes use of a centralized identification scheme where aliases can be used as an alternative to bank account numbers to simplify the transaction experience. With as much as 40 percent of India’s total population being unbanked, providing universal access to basic payment services is a critical function for the future health of the banking industry.

India has made great steps by offering innovative solutions on top of IMPS with the use of the Unified Payments Interface (UPI). Launched by the National Payments corporation India (NPCI), UPI is an overlay on IMPS giving an API interface to enable applications to initiate and collect payments from smartphones. The originator does not need to know the bank details of the beneficiary and security is ensured by combining the virtual address plus mobile (possession) and mobile PIN (knowledge). UPI is marketed as a new payment method, but in fact it is a combination of real-time payments with open interfaces and is intended to replace cash, POS and wallets.

This combination of open and instant payment capability has seen the service rocket in usage beyond simple P2P payments. Many new services are cropping up that take advantage of the UPI capability. Ola, an Indian taxi aggregator similar to Uber, use the UPI API in their app to allow real-time payments for journeys. Jet Airways, the second largest domestic carrier, has introduced a similar scheme allowing customers to make instant payments for flights, all through their smartphone app. WhatsApp in India has even introduced their own P2P mechanism. The Government of India has now launched the Bharat QR Code payments transfer mechanism for cashless electronics payments based on smartphones. UPI payments are now used by e-commerce players across India as they look to add more users through a completely seamless payment mechanism.

National Payments Corporation of India (NPCI)
www.npci.org.in/aboutimps.aspx

Central Bank settlement
2.2 million
18 billion INR

Real-time settlement
3x day

Individual & batch payments

Mobile payments, Internet Banking, P2P, Merchant payments, Bill payment & ATM payments

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Japan’s Zengin is truly the godfather of faster payments schemes. It’s now in its forty-fourth year of operation and continual evolution has ensured it remains a leading service. The Zengin system allows consumers and businesses to initiate instant domestic payments and collections (direct debits) originated online or from a mobile device. The service covers credits, debits, payroll, remittance, collection, credit advice, claim advice, bonus, dividend, benefits, pension and tax refunds. Currently the service is limited to normal business hours, Zengin plans to operate 24/7 in 2018.

Money transfers from banks are forwarded by the Zengin Center to the recipient’s bank in real time. To settle accounts at the end of day, the Zengin Center delivers the payment totals of credits and debts between banks to the Bank of Japan, who then credits or debits the current accounts of each bank accordingly.

Currently, the sixth generation of Zengin is undergoing a series of upgrades to increase transaction volume capability, improve security and enhance system flexibility in anticipation of future business expansion. As a home of innovation, Zengin is currently looking toward the use of open APIs as they realize the potential to provide high value-added financial services to satisfy the needs of consumers and business customers alike. Zengin has announced plans to move to the ISO 20022 standard to support additional remittance information in the near future.

| **Central bank** | **6.5 million**  
| **ACC.** 6.5 million  
| **Real-time** 12.8 trillion JPY  
| **End of day net settlement ACC.** | **Individual & batch payments**  
| **JPY 100 million**  
| **Operating between 08:30 – 16:40**  

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Japanese Banks’ Payment Clearing Network (Zengin-Net), association owned by banks  

www.zengin-net.jp
Kenya

PesaLink
2017

Kenya is one of the newer members of the faster payments family with their PesaLink service launched in February 2017. The service from the traditional banking community comes as a response to the meteoric growth of phone-based telco-led P2P payment systems such as M-Pesa; a closed-loop service using telco billing as P2P payment mechanisms. PesaLink is a real-time P2P money transfer service launched by the Kenyan Bankers Association. The primary goals are financial inclusion through lower switching fees by offering customers a low price and a convenient payment mechanism that brings more of the underbanked population into the financial mainstream.

The service is based on ISO 8583 message formats and integrates with mobile phones (not necessarily smartphones). Transactions are made using aliases (the phone number) so no bank account number is required. Available 24/7, the service supports foreign currency transactions in U.S. dollars and euro. With over two million subscribers in the first three months of launch, the service looks set to champion full financial inclusion in a region where the telco-based solutions initially stole a march on traditional financial institutions.
With Mexico having the second largest economy in Latin America, a sophisticated financial system and an advanced telecommunications sector, it remains an anomaly as these facts have not led to the widespread uptake of new and innovative payment mechanisms. Partly, this is due to low financial inclusion, especially in rural areas and a very heavy reliance on cash. The SPEI payment scheme has been offering near real-time payments for well over a decade, with 24/7 availability since 2015, yet the usage numbers remain relatively low.

SPEI allows consumers and businesses to make electronic payments in seconds, originated through both internet and mobile banking applications for a broad set of payment types. Of special interest to Mexican consumers and businesses is the fact that SPEI is part of the Directo a México service that facilitates efficient cross-border payment movements between the U.S. and Mexico. There are currently plans set out by the Banco de México to extend the service to include all government payments. The Bank of Mexico provides a web interface with valuable additional services. These include transaction tracking of individual payments and the provision of electronic payment receipts.
Nigeria

NIBSS Instant Payments - NIP
2011

NIBSS Instant Payment (NIP) offers real-time payments with instant access to funds. The service is offered via banks’ internet banking, mobile and bank branch platforms for corporates and individuals for inter-bank credit transfers. The growth in the uptake of NIP has been impressive given the low levels of financial inclusion in the country. Banks in Nigeria promote NIP as a safe, convenient and efficient method for moving funds and reconciling accounts. Originally piloted by six banks in 2011, NIP is now offered by all major banks operating in the country and 2016 saw a 117 percent increase in usage.

Nigeria Inter-Bank Settlement System (NIBSS) owned by all licensed banks and Central Bank of Nigeria


System developed in co-operation with Central Bank

Real-time

Consumers limit:
NGN 1 million
(for consumers there is cumulative daily limit of NGN 5 million)

Corporate limit:
NGN 10 million

Individual payments

Deferred net settlement, once daily

Credit transfers and direct debits, P2P, P2B, ecommerce, B2B, merchant payments

850,000 trillion
154 billion
NGN

Operating between
08:00 – 17:00

NGN
1 million

Corporate payments

850,000 trillion
154 billion
NGN

Consumers limit:
NGN 1 million
(for consumers there is cumulative daily limit of NGN 5 million)
Poland

Express ELIXIR
2012

The Express Elixir faster payment solution was one of the first in Europe. It operates 24/7 and enables credit transfers from internet and mobile applications in PLN currency only. It uses a prefunded model that eliminates credit risk with an average transaction time of three seconds. There are no volume limits but consumer and business transactions are limited to 100,000 PLN (26,000 USD), but government tax and social insurance payments can be up to 250,000 PLN. The scheme is based on the ISO 20022. With the 10 biggest Polish banks all fully onboard with the service, a strong strategy of growth is predicted. Elixir has been crafted to ensure it is compliant with the SCT Inst rulebook so the expansion into euro payments across the SEPA region has been foreseen.

In terms of market penetration of internet banking, Poland ranked 6th among 19 European countries so the Express ELIXIR fast payment services is at the forefront of Poland’s payment infrastructure. Elixir uses an external alias system that bypasses the need for users to enter bank account numbers. But the most innovative element is that Elixir has adopted an open strategy to enable additional value-added capabilities. One of the most interesting innovations has been an application that allows shipping companies to make duty fee payments to the local port authorities. When a ship arrives in port, the duties can be paid instantly allowing for a streamlined and efficient turnaround for unloading and loading without the customary delays.
Republic of Korea

Interbank Home/Firm Banking Network HOFINET

2001

The Interbank Home/Firm Banking Network (HOFINET) was originally an Automated Response Service Network back in 1989. Since then it has evolved to support electronic banking functions including internet, phone and mobile banking service capabilities. The Republic of Korea has very high mobile device usage and HOFINET has proved to be the natural foundation for the mobile payments explosion, even eclipsing other payment methods. The one drawback to HOFINET is that it is not yet ISO 20022 compliant, but the Bank of Korea (central bank) has initiated the migration path for all existing payment systems.
FAST (Fast and Secure Transfers) is Singapore’s 24/7 electronic funds transfer service that enables customers of the participating banks to transfer Singapore dollar funds from one bank to another within Singapore almost instantly. In addition to credit transfers (push payments), FAST also offers real-time direct debits (pull payments). FAST is offered by 19 banks with the decision to participate left entirely up to the banks’ commercial considerations.

FAST is accessed via banks’ internet banking service through devices such as tablet, smartphone or personal computer. To transfer funds, only the recipient’s name and bank account number is required. FAST was introduced as a result of growing demand for a faster and more efficient interbank funds transfer service. Prior to FAST, interbank funds transfer could take up to three working days. Unlike many other fast payment systems, FAST allows consumers and businesses to move funds not only between conventional checking and savings accounts, but also to credit and debit card accounts where allowed by the participating bank.

The Monetary Authority of Singapore (MAS) has given impetus to further payments innovation with the publication of the “Singapore Payments Roadmap”. Their document aims to drive innovation and adoption of payment developments that will facilitate further payments growth for consumers and businesses across the island nation. Singapore has also announced their intention to implement an API access layer to operate alongside the FAST service to open up to innovative payment solutions.
In an attempt to speed up the process of immediate payments, the entire Spanish banking community and processors have worked with the central Bank of Spain to initiate the Bizum service. Bizum was initially launched based on the existing ISO 8583 infrastructure but a new SCT Inst (ISO 20022) solution is already in development. The initiative is operated with the full support of the government and the Spanish banking associations AEB ECSC and UNACC.

Bizum is initially a customer-facing mobile-only application to initiate instant payments P2P. The service also supports m-commerce both online and in-store using credit transfers between bank account numbers. The basic service (BS) is managed by the Spanish ACH and is neutral to any end-user solution that might be developed in the market. An additional value-added services (VAS) leverages the BS that facilitates instant payments for different commercial use cases without a need to recourse to the beneficiary’s IBAN using an alias and proxy database. Both layers of the Spanish program will be interoperable with other programs to be launched within the EU.
South Africa

Real-Time Clearing - RTC
2006

The RTC enables online real-time credit push payments allowing beneficiaries to receive available funds in their accounts immediately. The RTC payment system was developed by a small group of commercial banks with co-operation and approval of the Reserve Bank to establish a fast payment service for credit transfers between account holders of the participating banks. South Africa’s RTC is primarily used for consumer payments, with the addition of many last-minute salary payments when the normal transfer windows have been missed.

The system is integrated with the South African Central Bank settlement service, supports multiple settlement windows and includes the ability to force settlement when enforced exposure limits are reached. With access to a web-based transaction look-up facility, management information and intraday exposure (IDE) values are part of the offering.

The RTC service is currently ISO 8583 format based, but a full migration to ISO 20022 is planned for June 2019. South Africa offers a Pay-by-Proxy service that operates on the RTS infrastructure and is available to all participating banks. South Africa has also made a commitment to form the basis of the Southern Africa Development Community (SADC) Payment System Project, which has been established to promote regional interoperability for electronic payments among the 15 countries in the community.

Although RTC only represents a small percentage of total retail payment volumes and values, the system has seen strong growth with people consistently transacting more often and in larger value. Between 2015 and 2016 the daily volume grew by 25 percent with the value being transmitted increasing more than 28 percent. There is no new data available, but given the high level of innovation, South Africa is expected to improve its FPII rating in the near future.
Sri Lanka

LankaPay
2013

LankaPay supports online real-time fund transfers (push) and direct debit payments (pull) 24/7, enabling bank customers to make payments through ATM, mobile, POS and internet. Operated by LankaClear, LankaPay makes account postings in real time with settlement resolved at the end of day. Driven by the Central Bank of Sri Lanka (CBSL, part-owners of LankaClear), their vision was for a highly efficient and secure real-time payment system to cater for all types of retail payments, government payments, third-party fund transfers, utility bill payments, etc.

As an extension to the LankaClear’s other clearing capabilities, LankaPay is based on ISO 8583 messaging standards with no current plans to migrate to ISO 20022. However, the next evolution of LankaPay is expected to be bill payment capabilities. The extended scheme is still being rolled out with all commercial banks strongly committed to this national initiative. All the major banks are already connected, with the other commercial banks in testing and certification phases and expected to be live by the end of 2016.
Sweden

Payments in Real Time - BIR
2012

Sweden’s BIR real-time payment system has been available since 2012 with 10 banks currently participating in the scheme. Uptake of the system was slow, but saw strong growth in 2015. Real-time payments have already overtaken cash for P2P payments. BIR also offers C2B payments with e-commerce and m-commerce services planned for the coming years.

Over recent years, new applications have been launched on the real-time BIR rails, with the P2P payment app Swish being the first back in 2012. Swish, an app owned by six Swedish banks, allows consumers to make real-time payments using their mobile phone and has proved popular. Sweden is aiming to be a cashless society by 2020 and real-time payments are a vital step to achieving this goal.

Participating banks must apply for membership of the scheme and commit to provide customer access and continuous fulfillment. BIR was built on modern international format standards (ISO 20022 and SWIFTNet FIN) and operates a prefunded settlement mechanism with accounts at BIR to ensure there is no credit risk between participating banks.

Going forward, the vision is to promote and provide new innovative payment offerings built upon the BIR infrastructure. When Swedish banks join the SCT Inst scheme, customers actively using payment services in euro will have access to the same benefits as customers in euro countries. However, for most Swedish customers the use will be limited as a large majority of payments are national and will remain in Swedish Krona.
Switzerland

Swiss Interbank Clearing - SIC
1987

The Swiss faster payment service leverages the established SIC RTGS platform so no new infrastructure was necessary and it is able to take advantage of economies of scale and can pool liquidity across both types of payments. However, despite the frequent use of SIC for consumer payments, Swiss banks do not support P2P payments using the network, but extending the service for P2P payments is under review. The volumes and value transacted on SIC have been holding steady through 2015 and 2016.

With the fourth generation of the SIC RTGS platform released in April 2016, all payments utilize ISO 20022 messaging. The plan is to have all participant banks switched to SIC4 by mid-2018. SIC4 retains its high level of security, reliability, high-performance and cost-efficiency, but the new platform is intended to meet the future demands in terms of standards, functionality and compliance. In this way, the participants will be able to optimally meet their customers’ needs. SIX is positioning the Swiss domestic payment system for greater innovation, flexibility and efficiency and to enable better integration with regional and global payment schemes.
Taiwan's established RTGS system has been updated to accept smaller value credit transfers in real time. The local CBC Interbank Funds Transfer System (CIFS), operated by the central bank, offers a national instant payment service for consumer and business payments with no payment value limitations. The service is a proprietary XMS-based mechanism but there are no known plans to upgrade or migrate to a more open ISO standard.

Central bank of Taiwan


- 275,000 (2015) billion TWD
- Real-time settlement
- Individual payments
- P2P, P2B, B2B
The PromptPay service was launched in January 2017 and enables real-time payments between accounts. The service was mandated and launched by the Thai government to facilitate enhanced payments functionality across the country. PromptPay uses an alias beneficiary mechanism (AnyID) thus bypassing the need to enter long bank account numbers. The national account alias service allows bank account holders to register their nominated bank accounts against a proxy id of their National Identity Number or a mobile phone number.

PromptPay infrastructure will in time open the market to competition. Financial institutions can compete freely to develop their own money transfer applications on their preferred channels – internet or mobile – to transfer funds. Users simply enter the recipient’s mobile phone number or other identifier, and select a contact from their mobile phone contact list. Future enhancements will be a pull payment service where merchants or consumers can request payments, including additional features enabling bill information to be included in the request for simple reconciliation.

PromptPay is just a few months old but already boasts 20 million registrations by April 2017. With 40 million bank accounts in Thailand, PromptPay has certainly sparked consumer and business interest. Transactions are free for low value transactions of under 5,000 THB (150 USD), and a maximum fee of 10 THB (0.30 USD) is set for the maximum transaction limit of 100,000 THB (3,000 USD).
The Central Bank of Turkey established the Retail Payment System (RPS) in late 2012 as a response to the growing use of the RTGS system (TIC-RTGS) for retail payments. RPS offers instant consumer and retail payments with settlement within one second. All the major banks in Turkey participate in the service but the instant settlement is only available during normal business hours and all messaging is based on proprietary formats with no current plans to offer ISO 20022-based transactions.

As RPS was developed to mitigate the risk to high-value RTGS payments, there has not been much in the way of payment innovation on the RPS system. But demand for real-time payments remains high. No new data has been made available since 2015.
The UK’s faster payment system was the first of the new generation of instant payment services. It has seen steady double-digit growth since its launch in 2008. The UK Faster Payment service allows banks to access the central infrastructure in three different ways. Banks can connect directly to the central infrastructure itself or interface indirectly through a sponsor bank agreement (that may or may not offer the full 24/7 faster payment capability). However, a third option is available called the New Access Model whereby a payment provider can connect to a technical aggregator that combines demand from multiple participants, creating economies of scale. The third connectivity option is aimed at increasing access for smaller operators who may have insufficient volume to cover the initial fixed costs of a direct connection, or want a real-time, 24/7 service that is not currently available through a sponsor bank. Additionally, the New Access Model assists challenger banks build their business case for faster payments. Payment providers get a guaranteed real-time payment service, 24/7, but at a lower per transaction cost than the PSP can achieve by connecting directly to the central infrastructure itself. Under the new scheme, fintechs can gain accreditation and a ‘trust mark’ as technical aggregators.

The UK government’s Competition and Markets Authority is driving the creation of a set of banking APIs called Open Banking. The initial focus of the first soft launch has been on account information and publically available data (i.e., ATM locations), but the intention is to add payment initiation capabilities and other value-added services over time.
FLAVORS OF FAST - UNDER DEVELOPMENT
ASL was formed in 1993 as a mutual organization by its founding Members to provide settlement services and allow them to participate in the various Australian financial sector clearing streams. ASL’s members include major mutual sector financial institutions.

In 2014, along with the major banks, ASL became an initial program participant in the New Payments Platform (NPP). As a program participant, ASL is a key player providing guidance to the NPP Steering Committee on the development of the platform. ASL has partnered with FIS to deliver the service-based NPP solution to ASL Member Institutions by delivering the ASL connection into the NPP Basic Infrastructure.

The Australian banking landscape is dominated by the big four major banks that jointly cover about 85 percent of the market, and another 100+ Approved Deposit-taking Institutions (ADI) that cater for the financial needs of consumers and businesses throughout the vast continent, often in remote locations. Many of these are members of ASL: credit unions, mutual banks, building societies and regional or community banks.

ASL: Going Instant for Innovation

Australian Settlements Ltd.

DAVID JAY
CEO
ASL

GUY MCINTOSH
Senior Solutions Consultant
APAC
FIS

“... the recurring theme throughout the project is trust the expert and work collaboratively”
David Jay, ASL
INTRODUCTION

Around five years ago the Reserve Bank of Australia undertook a Strategic Review of Innovation in the Payments System and in January 2013 the Payments System Board approved the New Payments Platform (NPP) proposal, which had been developed by members of the banking industry in response to the findings of this review.

The collaborative effort will create an innovative environment for immediate payments services in 2017 and beyond, opening up the market for more competition in the future. SWIFT will build and operate the NPP’s ISO 20022-based Basic Infrastructure (BI) and each participating financial institution will implement its own solutions to connect back-office systems to the BI. For ASL, this means that they connect their back-office system to the NPP Basic Infrastructure using OPF by FIS, thereby enabling ASL Member financial institutions to offer their clients an immediate payment service. The NPP Program is running to schedule and industry testing with SWIFT connectivity is progressing well.

ASL started testing with the industry in Q4 2016, followed by testing the connection with its members (known as Identified Institutions). In January 2017, interactive ‘buddy’ testing commenced with all participants across the entire chain including clearing and settlement. Due to the nature of the ASL business model, many ASL Members operate in regional locations, which adds delivery challenges to the project. Couple this with the incredibly high-availability requirements and one can see why ASL is establishing a highly available solution with its IT partners across multiple data centers. All the signs indicate that Australia is ready for instant payments. ASL already settles five times a day in Australia, check usage is in decline, and ‘tap & go’ contactless transactions in Australia have the greatest uptake in the world.

WHAT WILL CUSTOMERS CARE ABOUT?

Jay: “We believe that our customers want fast and secure payments. These payments can be performed 24/7, which also means that our customers will want 24/7 support. ASL will respond to this by implementing a high-availability infrastructure through

HOW DO YOU DEFINE ‘REAL TIME’?

Jay: “For me there is only one definition: near instantaneous clearing and settlement. And yes, this brings a lot of challenges around fraud, etc., but this is part of a larger modernization scheme and I believe there will be a return in that other schemes, such as checks and RTGS, will be replaced by NPP. How will this work and what does it mean? It will all depend on the pricing. As soon as NPP prices move toward direct entry, the direct entry rails can go too.”

McIntosh: “The convergence story will emerge over time. Customers do not really care, people simply want to purchase something and pay for it in the most convenient way. With mPOS and “tap & go”, entities have already lost market share, yet customers do not know nor care.”
a 24/7 support model with our Members. We will support our Members with the delivery of this model, including additional fraud detection solutions that are specifically tailored to detect potential fraud in fast, real-time payment transactions.”

ARE NPP PARTICIPANTS OPEN TO DISCUSSING INNOVATION INSIDE THE PROJECT WITH OTHER BANKS AT THE TABLE?

Jay: “At ASL, we punched reasonably above our weight to get some of the things we felt we needed. Early on, for instance, there was talk of not including the agency model and we were able to turn that around. This would have disengaged a large amount of our members and customers from innovation. Innovation discussions take place at all kinds of levels. Inside NPP we, the scheme participants tend to focus on the project. We have had a lot of benefit from the dialogue with FIS and its participants, including one very large bank and one fairly large international bank. FIS had organized these exchanges and they have been highly beneficial. The Members inside ASL view the project at this stage primarily as delivering an infrastructure for the future. They are convinced this has to happen but are more focused on delivery and cost for now, rather than long term innovation.”

“ Apart from some of the obvious thinking around transaction migration from established channels such as Direct Entry, our Members see NPP as a ticket to the future payments game.”

David Jay, ASL

DOES THIS MEAN THAT THEY SEE INSTANT AS A SEPARATE ISSUE FROM INNOVATIONS LIKE API BANKING?

McIntosh: “NPP is now an industry project with a deadline and a cost, that is where the focus lies when you speak to banks on a daily basis. At the same time, banks realize that they need an open and modern infrastructure in order to be a player in the future banking landscape, either in-house or through a highly modern bureau service. They know that the real value is in the data, with data one can create context. Banks and their business and corporate clients know they need an open solution API to put payment instrument and payment data together. Digital banking means opening up to accept and process more data across multiple series of channels, including data coming in and going out through APIs. If you combine that with the ability to deliver an instant service, banks can create great new services – instant, and enriched with data – to their customers.”

SO WHAT USE CASES ARE BEING DEVELOPED?

Jay: “Apart from some of the obvious thinking around transaction migration from established channels such as Direct Entry, our Members see NPP as a ticket to the future payments game. It will ensure their relevance as their customers will leverage modern payment solutions as well as encourage innovations in payment services that are relevant to rural Australians.

One example is Regional Australia Bank. It has its roots in regional New South Wales and started from humble beginnings as the New England Staff Credit Union in 1969. Over the last two decades it has grown and reinvented itself through a series of mergers and now sees NPP as necessary to further support and grow its customer base, as well as positioning itself as a player in the future.

Other use cases being thrown around the industry include streamlined superannuation payments processing, car buying end-to-end services and payroll enhancements.”
YOU ARE SOUNDING VERY DOWN TO EARTH AND REALISTIC, WHAT WOULD EXCITE YOU ONCE IT IS LIVE?

Jay: “We realize that the effects of this will trickle down the value chain. The NPP participants are all focused on delivery and, secondly, on the possible innovation, simply because that is how the project works from an operational perspective. Certainly we think about innovation and how our Members can benefit, but we have to deliver the platform first, without that we do not play in the future. Our Members already see this as more than regulation and I would be very excited if they say post going live: ‘We had to do this, but I am glad we did and I am glad I am here’.”

McIntosh: “We see the same turning point. To me NPP has been a discussion around plumbing, and collectively we are moving it to a discussion around innovation.”

WHAT – IF ANYTHING – HAVE YOU LEARNED FROM OTHER LIVE SCHEMES?

Jay: “We spoke to immediate payment schemes in other countries and although the way we approach it in Australia is different, the key recurring theme for me was ‘trust the expert and work collaboratively’. This scheme is exceptionally expensive for all participants and it is key that we get it in on time and deliver what it is supposed to do so we can start recovering the money invested. That can only be done by working with the best in their field and by working together. Secondly, be strict about your design principles – build them in early on and be very critical of scope extensions. Make sure that you only add elements that are absolutely essential for the delivery. All else can be done post going live.”

McIntosh: “We learned a lot about the wider scope of the infrastructure, interfacing specs and protocols. Potential unnecessary infrastructure hiccups can really slow the project down.”

AND CENTRAL ORCHESTRATION VERSUS CONSULTATION ONLY?

Jay: “In the case of NPP, our central bank set a mandate and this has been a good thing. It forced people around the table to act. The bank did not designate the project but they made it very clear that this was going to happen. And they were a very strong participant in driving it forward, the insistence and persistence of our Reserve Bank has proven to be a good thing. Obviously, once you get more people involved, there is the risk of getting waylaid around the edges. We stuck to our guns: design for the core and get that operational. Build the frills later, which can be done on a flexible infrastructure.”

FINALLY, WHAT IS YOUR PERSONAL TAKE AWAY SO FAR?

McIntosh: “From our perspective, bringing clients together who normally compete, to talk about central infrastructure for the common benefit, has been an excellent experience, yet very unusual and daring. Our user groups demonstrated that clients could put politics aside and focus on the benefits for their customers. ‘Your benefit is ours too’ became the norm in those meetings, which in turn is good for FIS as well. We also benefited as a group from working with some very large banks, which reduces the risk to other participants and really helped to define and refine the requirements.”

Jay: “My biggest lesson was a reaffirmation of how important it is to trust in experts. We have to partner with experts in order to deliver an expert solution, so I have to focus on building the partner relationship. Not in knowing as much as they do, but in having that working relationship and trust. Once the contract is signed it goes to the bottom drawer and the real work begins. All our partners, from FIS on our platform to IBM for the stack and our data center providers for the hot sites – we need them all. If you go in with a level of suspicion it never gets there, you have to learn to trust.”
Pan-European Perspectives

The case for instant payments within Europe deserves a little more observation and perspective. In addition to a handful of national schemes, some within the Eurozone and some outside, there are also a number of Pan-European initiatives that qualify as faster payments.

In November 2016, the European Payments Council (EPC) published a rulebook for an instant credit transfer scheme applicable throughout the Single Euro Payments Area (SEPA), known as SEPA Instant Credit Transfer (SCT Inst). The scheme aims to provide consumers and businesses with the ability to make payments, with certainty of fate, within a matter of seconds. Under the SCT Inst scheme, the services must be available 24/7 and ensure that the beneficiary will have immediate use of the funds.

The EPC rulebook is the basis for several local as well as truly Pan-European solutions. Most of these implementations add additional local flavors and details around the final settlement. Additionally, in some cases, the rules as outlined in the EPC rulebooks have been adapted to meet specific domestic requirements. These local adaptations are mainly concerned with the maximum execution time of a payment as most of the local initiatives are aiming for a faster end-to-end processing time, typically around five seconds rather than the ten seconds set by the EPC rulebook. Other schemes are looking to overrule the maximum allowed limit of €15,000.

A number of domestic solutions are already in development in Europe. These are in addition to the Pan-European solutions of EBA, STET and TIPS (see below) that each provide a centralized infrastructure that is not limited to a specific country but aim to serve a broader market. Where we originally anticipated that banks would be likely to connect to multiple clearing and settlement mechanisms (CSM) for their instant payments, it now looks like most banks are planning to connect into just one CSM and leverage interoperability between different CSMs instead.

**EBA Clearing**

EBA clearing is currently the most prominent SCT Inst-based initiative. EBA Clearing’s RT1 solution is currently supported by 39 funding banks but 70 others have shown strong interest giving a footprint of 19 countries. This clearly illustrates a growth of interest, and early adopters are already actively testing and planning to go live before the end of 2017.

The EBA solution performs time checks and the EBA is currently looking into value-added services (VAS) on top of the RT1 solution, but these are yet to be formally defined. These VAS include addressing services (aliases) or centralized fraud monitoring, and the EBA IPS also allows the support of closed user groups (CUG), allowing a group of banks to agree on additional rules, such as, alternative maximum transaction amounts, time out variations, etc.

**TIPS**

The introduction of TARGET Instant Payments System (TIPS) from Eurosystms is making some payment service providers (PSP) reassess their current instant payment projects. TIPS extends the central bank
money settlement (CeBM) to 24/7 availability in order to facilitate the emergence of instant payments. The participation criteria are identical to TARGET2 (the established European RTGS system), and given the existing wide-scale participation in TARGET2, TIPS would greatly ease the reachability of PSPs. This solution would, however, compete directly with commercial Pan-European solutions such as EBA and will consequently cause PSPs to reconsider any instant payment projects that are already underway. In order to differentiate, those providers will need to create additional value-added services on top of their CSM in order to remain relevant and competitive. The availability date of TIPS is currently set for the end of 2018, therefore, banks with a more ambitious time to market strategy will likely opt for other more readily available solutions.

**STET**

STET is also aiming to be a Pan-European CSM, but initially it is focused on France and Belgium. It is important to note that STET is the only instant payment scheme that is currently talking actively about the Payment Services Directive (PSD2) and the use of application programming interfaces (API) as part of their value proposition. Also, STET has added community-oriented functionality and governance in order to support specific requirements such as shorter exchange times and alternative maximum amounts.

Beyond clearing and settlement, STET is looking at related services to support PSPs in the areas of risk mitigation, security and facilitating the launch of new payment services. They are working on features such as a directory service for mobile number to international bank account number (IBAN) look up, scoring instant payments for fraud (similar to card payments), supporting anti-money laundering screening, and developing APIs to give third-party payment service providers (TPP) access to the customers’ payment accounts in the context of the revised PSD2.

**Local initiatives**

Despite the availability of the Pan-European solutions above, there are several countries that are actively rolling out a domestic implementation of SCT Inst:

**Iberpay:** The Spanish banking community has put forward much more aggressive timelines and already launched their Bizum (https://bizum.es/) service ahead of SCT Inst availability that is built upon existing card infrastructure. They will move to an SCT Inst-based solution later. Timing was one of the key drivers to launch a domestic initiative as Spain aims to launch much sooner than other Pan-European solutions will become available.

**Dutch Payments Association:** The Dutch Payments Association worked closely with all their primary stakeholders to formulate requirements for the Dutch market. In addition to a shorter end-to-end processing time, they introduced the notion of “ASAP payments” where the timing of payment execution is less critical. They also explicitly mention bulk payments as part of the scope of instant payments.

**Febelfin:** The Belgian banking community also defined community rules around a time out of five seconds end to end, with no maximum amount as opposed to €15k EUR for the EPC scheme.

In addition to some Eurozone countries looking to adopt their own SCT Inst rules on top of the EPC scheme, we also see that the scheme is being used as a basis for non-Eurozone instant payments solutions. Hungary, for example, is aiming to roll out an instant payment solution in 2019. They are planning to follow the rules for SCT Inst even though the SCT Inst is for euro payments only. The Hungarian system will be processing payments of up to HUF10 million. This would be a first example of a non-euro flavor of SCT Inst. The basic rules of the model are in line with SEPA’s rules and are applicable to instant payment services (SCT Inst). However, in certain cases, differences and supplementations may exist due to the special features of the Hungarian market.
Expert Opinions

“The establishment of national instant payments solutions in a majority of European countries - as the SEPA instant payments scheme nears its realization - is a healthy sign of adoption. It shows banks and banking communities have realized that the instant world is about much more than just a basic Pan-European scheme as the foundation for interoperability which anyway seems difficult to achieve through the current stakeholders initiatives.”

Stig Korsgaard
Chief Sales Officer, Clearing Services
Nets Denmark A/S

“We are convinced that, as the digitalization of our economy and society progresses, the EPC’s SCT Inst scheme will be a turning point in the way Europeans pay. Their payment service providers (PSPs) showed with the migration to SEPA that they could offer harmonized, convenient, and cost-efficient solutions. At this exciting juncture, time has come for PSPs to go a step further, and adhere to the SCT Inst scheme as early as possible to give it momentum. Some of them plan to go beyond the SCT Inst’s speed and amount targets. This is a possibility allowed by the scheme that shows how eager some PSPs are to start proposing this groundbreaking method of payment.”

Javier Santamaría
Chair of the European Payments Council
“The question is no longer if instant payments will happen. We see already a lot of community driven initiatives. I hope they will not be too different from each other so that –after the interoperability will be in place– also our global clients can have access to this new EU-wide payment instrument.”

Francis De Roeck  
Head of Sepa offering, Global Cash Management  
BNP Paribas

“The Dutch banking sector has embraced Instant Payments as the new normal from the start of the program early 2015.

The infrastructure we are building will cater for both volume (250 TPS) as well as value, to ensure that all market segment use cases can be served: consumer, business and government. We will process instant payments within five seconds and will not impose an amount limit per transaction in order to service the market needs, while complying with the EPC SCT Inst rulebook. European levels are a bit less ambitious today, but may be updated in the future.

Ensuring reach for end users and a level playing field for all PSP’s (existing or new, small or large) has been a key starting point for the Dutch. PSPs should need only one CSM to obtain full SEPA coverage efficiently, so interoperability is paramount and should be provided for rather sooner than later.

In summary, we believe instant payments will help foster innovation and competition, leading to better products and services for the end users.”

Piet Mallekoote  
Chief Executive Officer  
Dutch Payments Association
Australia

New Payments Platform - NPP

The Reserve Bank of Australia (RBA), the central bank, first highlighted the need for innovation in the Australian payments environment back in 2012. In response, the local banking industry initiated the New Payments Platform (NPP) with a scheduled launch toward the end of 2017. The aim is to provide businesses and consumers with a fast, versatile and data-rich payments system.

The first step was to establish the basic infrastructure, built and operated by SWIFT, enabling the exchange of messages between participants and links to the RBA for final settlement of individual payments. Based on ISO 20022 messaging, NPP will create a flexible and fast payments service to support innovation through the development of multiple overlay services that can be tailored to payment needs over time. Initially, the focus was on consumer transactions through internet or mobile access, but expectations are that market drivers will expand the service with additional overlay services on top of NPP.

The first new products scheduled to run on the NPP are collectively known as Osko and are created by BPAY, owned by the Australian banks. The first service, simply called Payment, will be a service for funds transfer and will use the national alias scheme called PayID to simplify payments for consumers and businesses with funds available in less than one minute. Under the service, bank customers will no longer need to worry about long and unmemorable account numbers when transferring money. Instead, they will only need to know the recipient’s PayID code. Osks will then roll out a Payment with Document service allowing governments and organizations to send documents attached to payments in near real time. A final Osko service called Requests is planned to allow pull payments to be requested with a description from one or more parties; recipients can then respond with a payment in near real time. Osko will be available from 70 financial institutions from the day it goes live, including all of the major banks.

Belgium

Belgium has selected STET to build the central infrastructure with a solution based on the EPC SCT Inst rulebook. The main difference is that Belgium will add a five second time limit end-to-end, and remove limits on the transaction amount. The Belgian banks aim to start testing in September 2017 with a full launch scheduled for the end of 2018. See the Pan-European Perspectives section above for more details.
Canada

Last year’s Flavors of Fast had Canada as a country on the radar: they were in the process of defining a response through the Canadian Payments Association and local banks. However, in late 2016 Payments Canada made announcements on the next steps toward the implementation of a multi-year initiative to develop an industrywide modernization to include real-time payments based on ISO 20022 standards.

It was unclear whether Canada would look to their existing infrastructure of Interac or opt for a complete refresh of the payment rails as seen in many other countries. The long established Interac has been Canada’s debit network for over 30 years. It has a money transfer platform, called e-Transfer, that connects all major banks in Canada to process (typically) P2P payments. Interac partners, including merchants and FIs, can interoperate seamlessly with the Interac e-Transfer service to offer real-time money transfer capabilities to their customers and commercial clients. Recent developments suggest a complete overhaul is the way forward.

Canada has now moved into the planning and analysis phase, examining international modernization initiatives, the capabilities of the existing solutions operating domestically, deliberating on approaches to funding, global regulatory standards and related requirements. The modernization program from Payments Canada has identified eight needs of a modern payments system: faster payment; data-rich payments; transaction transparency; easier payments; cross-border convenience; activity-based oversight; open and risk based access; and platform for innovation.

There is soon to be a detailed multi-year plan for various initiatives. From this, additional research will be conducted in collaboration with the wider industry, before a complete set of requirements can be gathered and assessed. Transforming Canada’s core clearing and settlement system in order to drive innovation will position Canada favorably in the long term.
France

France is implementing a solution based on the SCT Inst rulebook. See the Pan-European Perspectives section above for more details.

Hong Kong

Faster Payment System - FPS

The Hong Kong Monetary Authority (HKMA) is aiming to launch the new Faster Payment System (FPS) in late 2018. HKMA is cooperating with Hong Kong Interbank Clearing Limited (HKICL) to prepare local banks for the launch. The FPS will be a multicurrency service allowing consumers to make retail payments and fund transfers 24/7 in real time. The target is to enhance consumer and company payment convenience and efficiency, but the HKMA also aims to promote healthy competition between banks and encourage non-traditional payment service providers through the provision of innovative services on top of a faster payment service.
Hungary

Hungary, through the leadership of the Magyar Nemzeti Bank, the central bank, is targeting an instant payment service in the second half of 2019. Under the proposed system, consumers will be able to initiate payments 24/7 up to the amount HUF 10 million (USD 33,600) using the mobile phone number or email address of the payee. Funds will be available to the payee in a matter of seconds. These aliases or secondary account identifiers will be registered centrally with initiating banks looking up the references at the time of initiation.

The new instant payment service will be based on the European’s SCT Inst scheme – the first non-euro flavor of SCT Inst – but euro transfers will not be offered. The service will be mandatory for all Hungarian banks and payment settlement will be continuous using the RTGS system. Discussions are still ongoing concerning whether the timestamping should be from the point the payment instruction is received as opposed to just before submission to the CSM as is the case with SCT Inst.

The aim is to support innovation in retail payments and stimulate competition across the payments market in order to stimulate economic growth. Consumers will be rewarded with a cheaper services offering a better customer experience and enhance commerce for merchants and companies.

Italy

Italy is implementing an immediate payment service based on the SCT Inst rulebook. See the Pan-European Perspectives section above for more details.
Latvia

Latvia is marching quickly into the immediate payments club. From an initial requirements gathering phase beginning in November 2015, the Latvijas Banka (central bank), is planning to be operational by August 2017 – from planning to implementation in less than two years.

The aim is to promote an increasingly cashless economy and promote the development of innovative payment solutions across the financial sector.

The solution is based on Europe’s SCT Inst payment scheme and will allow instant settlement of euro fund transfers on the Latvijas Banka’s electronic clearing system (EKS). Consequently, the service will ensure total interoperability with other Pan-European solutions promoting the integration of Latvia’s payment market into the larger euro area.

Customers of all Latvian payment service providers will have access to instant payments and their mutual reachability will be ensured. Instant payments will be launched in August 2017 and a full connection to the EBA clearing solution is expected in November 2017.

The Netherlands

The Dutch Payments Association is implementing an SCT Inst-based service, working closely with all primary stakeholders in order to formulate requirements for the Dutch market. In addition to a shorter end-to-end processing time, they introduced the notion of “ASAP payments” where the timing of payment execution is less critical. They also explicitly mention bulk payments as part of the scope of instant payments. See the Pan-European Perspectives section above for more details.
The Federal Reserve Bank’s (the Fed) ten-year plan to modernize the payment systems in the U.S. with immediate payments is now almost at the halfway point. Significant progress has been made but the end result is far from clear. With the Fed as a catalyst and facilitator rather than an enforcer, the Faster Payment Task Force of industry stakeholders is still deliberating.

The Task Force fielded and commissioned an independent assessment of 22 faster payment solution proposals, 19 of which progressed onto the next stage of evaluation. The service proposals were analyzed against potential challenges focusing on interoperability, governance, safety and security. In January 2017, the Task Force published the first part of a report providing a high-level overview of the process, the landscape and the potential benefits of immediate payment services. The next step is the publication of a second report that overviews the top proposals.

The services under consideration include The Clearing House who continues to push their own proposed instant payment service based on ISO 20022 standards. Their solution includes provision for pulling payments with requests for credit as well as push credit transfers. But importantly they recognize the need for including remittance and invoice information with the payments. They have strong support from their owner banks as well as other non-affiliated institutions. The designs and specification are nearing completion and the service could be live with over 10 financial institutions offering real-time payments by the end of 2017. Meanwhile, Zelle (rebranding of the P2P clearXchange service) continues to be a significant contender as more financial intuitions join their closed network. They already have operational P2P payment mechanisms and are already actively chasing C2B and B2C targets too.

It is likely that the U.S. payments landscape will change and evolve over the coming months and years as significant players join forces. It is up for debate whether the many faster payment schemes are actually complementary or conflicting. With so many initiatives at play, schisms could be created between creating an entirely new infrastructure or building on top of what exists. As new payment rails are deployed, the biggest question is who actually owns them? Does ownership lie with the clearinghouses, the Fed or even the card networks? FIs in the U.S. are trying to sort through what to do because they have limited resources and can’t invest in building multiple capabilities to make it all possible, which may further confuse and delay the faster payments progress.

The Fed continues its hand-off position with them intentionally not becoming a network operator. Their role continues to be foreseen as one of facilitator to ensure the criteria outlined are maintained, with particular emphasis on safety and security for the wider financial ecosystem. However, there are certain industry groups, including small to mid-sized financial institutions, that will push the Fed to evaluate their role as a network operator. The Fed will also evaluate the need to make changes to their Net Settlement System in order to satisfy the broader always-on payment objectives of a truly 24/7 operation.
FLAVORS OF FAST
- ON THE RADAR
The appeal of open and instant payments continues to drive an increasing number of countries to accept their inevitability. Every year, more countries launch and develop instant payment systems, and every year, more countries announce their intentions to implement. The drivers may vary; maybe it is a drive to a cashless economy, or a need for more financial inclusion in territories with a large underbanked population, or even to stimulate innovation in a well-established financial sector. But whatever the reasoning, the success of instant payments on every continent has ignited a passion for payments across the globe. In this section we highlight a few countries that are embarking on their journey toward instant payments services.

Czech Republic

Across Eastern Europe, an increasing number of countries are using the buzz around instant payments as an impetus to modernize their infrastructure and try to move away from a traditionally cash-based economy. The Czech Republic is no exception, and consequently, the Czech National Bank is preparing to announce plans for a domestic instant payment scheme. Initial indicators suggest that, like other countries in the region, it will be based around the European SCT Inst rulebook to enable closer European integration, but based on the Czech koruna rather than the euro.

Malaysia

The Bank Negara Malaysia, the central bank, has announced plans to offer real-time retail payment services through its subsidiary MyClear. The multi-year initiative to modernize the incumbent infrastructure recognizes the need to offer instant payment mechanisms to act as a stimulant for innovation in Malaysia, opening up opportunities and new sources of growth in all sectors of the economy. The plan is to enhance the established RTGS system (RENTAS) to cater for multiple messaging formats including ISO 20022 to support enhanced remittance data and foster connectivity with other countries in the region. The hope is to create a multi-currency service in line with the faster payment mechanisms in the UK and Singapore.
Unlike their Australian neighbors, New Zealand has assigned instant payment systems to lower priority. This is not due to the fact that they see no demand for such services, it is more to do with the fact that established electronic funds transfer systems, of which New Zealand were a very early adopter many years ago, already provide comparable services with quick (but not instant) funds availability. With multiple daily exchanges of legacy batch interchanges, New Zealand has been conspicuously silent on instant payment mechanisms. However, the need to provide a more open banking environment with scope for innovation has led the New Zealand financial services sector to rethink their strategy.

Norges Bank, the central bank, announced in late 2016 that they intended to launch an immediate payment system. Although the payment infrastructure in Norway is highly modernized, it is primarily card based, and there is increasing demand for instant payment services operating seamlessly. Given the geographical location, the Norges Bank is conscious of the payment innovations happening with their neighbors in Scandinavia. So consequently, the move towards an immediate payment service, likely based on the SCT Inst rulebook but using the local krone currency rather than the euro, is becoming a high priority.
Like its Czech neighbor, Slovakia has also recently announced plans to implement an immediate payment service. However, given the Slovakian economy adopted the euro in 2009, the proposed service will be based on the SCT Inst rulebook and use EBA for all clearing and settlement mechanisms. There are currently no formal live dates.

Under the guidance of the Saudi Arabian Monetary Authority, the central bank, a new instant payment mechanism is planned for 2018. Although still in the planning phase, the new scheme will adapt and extend the existing RTGS service (SARIE) to accept lower-value retail payments in near real time. The aim is to reduce cash usage and promote efficiency and innovation in the financial sector. The new service, named Future Ready ACH or FR-ACH, will be based on ISO 20022 messaging standards and use a deferred net settlement mechanism.
The Philippines

In March of 2017, the Bangko Sentral ng Pilipinas, the central bank, announced the commitment to launch a new real-time low-value payment service called InstaPay. The Bancnet ACH will facilitate real-time electronic fund transfers by enabling the payer to send payment transactions to financial institution to irrevocably transfer funds held to any payee. The funds will be received in full immediately. The service will be available 24/7 and credit to account of beneficiary will be instant. InstaPay is a significant milestone in the implementation of the National Retail Payment System that aims to transform the Philippines payment systems in a bid to move away from cash to a more digital economy. This is a significant challenge in a country with high rates of unbanked citizens and many small regional banks across the archipelago.

Vietnam

In early 2017, the National Payment Corporation of Vietnam (NAPAS), the operator of the interbank payment switch system, announced a real-time e-commerce payments service for merchants for online and mobile channels. The aim is to drive growth in e- and m-commerce across the country and reduce a dependency on cash. The current payment infrastructure in Vietnam is highly diversified in nature, with multiple proprietary solutions operated by different banks across the country. With a unified service with strong adoption rates, the hope is to drive innovation and bring more of the relatively underbanked population into the financial mainstream.
Lessons from the field

From design to implementation and going live

As has been well established, the various incarnations of immediate payment systems around the globe all have unique requirements and drivers based on local conditions. However, there are a number of other factors that all faster payment schemes need to contend with, many of which may not be obvious to the casual observer.

The need for payment systems to operate in real time is a new and demanding requirement with consequences that reach deep into the payment processes of financial institutions. How can we measure payment performance to ensure the service level agreements are met? Can institutions adequately test payments systems with 100 percent confidence before a high-profile launch? What is the impact on fraud and risk positions? These and other factors may not be the primary focus when evaluating immediate payment systems, but without forethought, they can easily become showstoppers.

Real time is different

Today, while many banking operations are real time from an end-user perspective – card and ATM processing and authorization – the reconciliation and final settlement may be time deferred. The reality is that many banks do not operate a fully real-time payment service. Even transfers within a single institution through modern internet banking services or ATMs rarely complete in real time but rely on overnight reconciliation. The infrastructure needed is just not ready for the modern world of instant gratification. But it is not just the payment systems, the impact is felt on all the surrounding and supporting systems that make up the larger payment ecosystem. From the perspective of traditional payment processing rails within the bank, systems such as core banking, accounting, fraud, AML, etc. rarely offer the responses needed to meet an SLA measured in seconds.

A single immediate payment initiated on a customer channel has many touch points and will impact many services and applications. The recipient bank needs to validate the account, funds need to be debited, transactions need to be cleared, and then acknowledged to the issuing bank to confirm all is okay – in seconds – before the bank can approve the debit. This can seem unsurmountable. Of special importance is the impact on the accounting systems. The first thing a bank needs to do when an immediate payment is received is to validate the account. On arrival, the minimum requirement is that the account is correct and that payments can be made and/or received from it. This simple yes/no decision needs to be made in a few seconds.

Even in an era of instant payments, many banks will not action the payment in real time. Instead they will check the validity of the account and make the actual payment at a later time, maybe within the minute, but the acknowledgement that the account is valid does need to be instant or the immediate experience is lost. Once the confirmation of validity is accepted, then the funds transfer proper can go ahead. Scheme rules need to acknowledge the varying capability of banks to achieve true real time given many are restrained by legacy architectures.
The multi-leg nature of real-time payments changes a bank’s computing profile. In an instant world, instead of scaling hardware in terms of transactions per second, a bank needs to think in payments per second – with multiple transaction messages per payment. Banks with a more retail focus will feel this pain more than those with a more business-based clientele as the volumes will be much higher. Therefore, the implications for supporting immediate payments could demand a large increase in processing power to handle the inevitable peaks in demand. The use of stand-in services can take the load off core banking systems, but even banks with modern real-time back offices may need significant upgrade in processing just to handle account checking.

A further wrinkle is the need for banks to be able to quickly recover from a disaster or a system failure. This may be twenty or thirty minutes, but this is a huge challenge in a historically batch-oriented payment infrastructure. The core issue, however, is the need to provide the customer with a real-time experience in the way that established channels such as internet banking and ATM services simply cannot match.

**Where to start, test and debulk?**

By committing to meet a scheme’s SLAs, banks need to be able to measure their service response times. This may not be a mandatory regulated obligation, but it is better to know than to not know. The first question when measuring response times is to understand what it is you are measuring. Which parts of the scheme’s SLA apply? Where do you start and stop the clock? Some schemes SLAs start when the bank submits the payment to the central infrastructure and ends when the confirmation is received. Others measure the full end-to-end payment; from customer initiation until the customer receives the confirmation of successful processing. Regardless of how the measurement is done, it is vital to have the appropriate tools and dashboards available.

Testing the overall end-to-end process is a larger issue, and the need for automated testing is critical given the ever-increasing number of use cases that a faster payments scheme will throw at banks. In the batch world, payment input volumes can be regulated and throttled back to ensure system integrity (typically overnight). But in the real-time world, stress testing becomes a major factor to success.

Similarly, debulking batches of payments into individual transactions can cause issues for many systems. As the business world becomes increasingly engaged with instant payments, banks need a consistent migration strategy to convert customers who traditionally sent large batch files of payments into single payments. Once again, the volumes of incoming transactions could be problematic without prudent planning. This situation is exacerbated by the addition of government use of immediate payment mechanisms. However, many schemes, Singapore and the Netherlands amongst others, mandate that bulk transaction files must be processed instantly in line with one-off payments so bulk processing is not eradicated.

“Minimizing risk positions and ensuring the appropriate fraud prevention measures are taken is vital, especially as we approach real-time clearing and settlement.”
Risky business

Minimizing risk positions and ensuring the appropriate fraud prevention measures are taken is vital, especially as we approach real-time clearing and settlement. Fraudsters are moving toward the initiation point rather than later in the process so a lot of activity is needed to monitor and manage at the initial authentication and origination level.

Instant payments are an attractive vehicle for potential fraudsters. The ability to make high volumes of low-value transactions could result in money laundering operations slipping under the radar. By utilizing layering techniques, money launderers could potentially move funds from bank A to bank B to bank C, etc., making tracking problematic. Add to this the ability to move funds from mobile phones that could be stolen and therefore untraceable, or sent using an alias that utilizes a non-verified email address, and the situation worsens. The problem is that banks need to maintain an instant customer experience while managing their own risk position: even a sixty second window may not be enough to apply full AML checking. AML and KYC issues are increasingly part of the bank regulations, and cover domestic as well as cross-border transfers, but may vary by country. Banks need to be aware of their position and plan ahead to ensure they meet, or better, exceed, mandated requirements.

Consequently, with faster payment volumes expected to grow quickly, it is crucial to get this element right from the start, so plan to be able to do it on an industrial level. The risk and fraud resolution point is negotiable: the place in the payment chain where banks do this may be defined by the scheme, or it may be bank specific. Some banks may choose to build this internally and interface with established internal systems, others may cut to the chase and outsource the service. It is also likely that hybrid risk and fraud prevention solutions will be utilized in many cases, but this may depend on the volumes of payments a bank will likely expect.

To whom it may concern

Most faster payment schemes enable, or even mandate, the support of aliases that can be used in place of account numbers. This is primarily seen as a mechanism to simplify the payment process from the user’s perspective as remembering long and unintuitive bank account numbers could be a hindrance to acceptance. Most European schemes, including SCT Inst, only suggest aliases as an add-on service, but elsewhere, alias usage is the norm, typically using email addresses or phone numbers which are linked to an account number.

The debate centers on where is the best place to resolve the alias. It could be resolved at the channel level as part of the origination process, or within the payment platform itself. It may be scheme specific mandating a centralized repository/look up, or it may be left up to the financial institution offering the payment services. Alias resolution is not strictly a payment processing issue, but institutions may be free to choose where and when in the process the resolution is done.

Show me the money?

Given the considerable investment needed to implement an instant payment infrastructure, one can forgive financial institutions for wondering how long it will take before they see a return on investment. But immediate payments do not necessarily provide immediate returns. It can even be questioned whether they will generate any significant monetized revenue, so building a conventional business case that highlights a mid-term ROI is to ask the wrong question.

The biggest price tag is not the implementation of a real-time architecture; the major potential cost is NOT implementing an immediate payment capability and the significant handicap and consequences this would bring. Offering a real-time digital payment mechanism is not an optional service, financial institutions need to embrace instant payments sooner rather than later in order to support a wider long-term – customer value-driven – strategy.
The payments market is awash with challengers and disrupters that are threatening the business model of banking and the payments that underpin the business. To succeed and remain relevant, instant payments must be used as an enabler: they are not simply an end in themselves. Immediate payments allow banks to embrace the new open environment that will form the basis of banking going forward. So instead of looking for ways to monetize immediate payments, look to instant and open payments as an onramp for banks to create real business value by matching the needs of merchants and their customers.

How to win

Finally, while the march to instant payments seems inevitable, there are degrees of winning. Gaining large-scale user uptake in as short a time as possible is vital to reaping the benefits of faster payments quickly. All stakeholders need to market their solutions effectively to the consumers well in advance to ensure the market is ready.

A strong brand identity is important to ensure the new scheme is front and center in the customer’s mind when payment decisions are being made. This starts with a memorable name, ideally one that translates into a verb. How much more compelling is it to “Swish me”, or “Osko me”, or “InstaPay me”, than to “instantly transfer funds to me” or “pay me with that smartphone app”? Branding in the 21st century has distinctively moved away from describing the act, to delivering the promise.
In addition to the websites referenced in each country profile, the following sources were used in the development of this paper:

GENERAL/MULTIPLE COUNTRIES
“Fast payments – Enhancing the speed and availability of retail payments”, November 2016, Committee on Payments and Market Infrastructures, Bank of International Settlements
“World Payments Report 2016”, Capgemini, BNP Paribas
“Real-time payments for real-time banking - How banks can seize the full opportunities of immediate payments”, 2015, Accenture Payment Services
“The ISO 20022 Adoption Initiatives Report”, March 2015, ISO 20022 Registration Authority
The future of global payments, November 2014, McKinsey & Company
“Blockchain Technology – How banks are building a real-time global payment network, 2016, Accenture”
“Innovation in Retail Payment Services in Major Economies”, November 2014, Bank of Japan Review, Retail Payment Systems Group, Payment and Settlement Systems Department.
“Faster Payments: Models & Retail Payments Innovation”, April 2013, NACHA Payments Conference, presented by Glenbrook Partners, BCG, Kir, Vocalink, Banco de Mexico NACHA
“How Fast do Payments Need to Be”, April 2013, NACHA Payments Conference, presented by Clear2Pay and Vocalink

AUSTRALIA
“A new way for Australians to pay”, 2017, Osko by BPay

“Towards a New Payments Platform”, March 2015, NPP Australia, Ltd.

BAHRAIN
“Electronic Funds Transfer System”, 2016, Bahrain’s Electronic Network for Financial Transactions

BELGIUM
Information Session on Instant Payments”, November 2016, Febelfin

BRAZIL
“SITRAF - TEDs Aprovadas - Evolução Total Mensal”, May 2017, CIP bancos
“Manual de Operações”, 2017, CIP bancos
“Payment, Clearing and Settlement Systems in Brazil” (Red Book), 2011, Bank for International Settlements

CANADA
“What Canada Can Teach the World About Faster Payments”, March 2017, Payments.com
“Modernization - Payments Drive our Economy”, 2017, Payments Canada
“Payments Canada to Support Industry-Wide Modernization Program”, March 2017, Payments Canada

CHILE
“Movimientos del mes”, May 2017, Centro de Compensacion Automatizado ACH Chile

CHINA
“Development of Retail Payment Services in China”, undated presentation delivered by Chen Xue, Payments and Settlement Department, People’s Bank of China from worldbank.org

DENMARK
“Faster Payments in Denmark”, Monetary Review 3rd Quarter 2012 Part 1, Dansmark Nationalbank
“Report on New Payment Solutions”, March 2014, Danish Payments Council

“Real-time Clearing in Denmark”, March 2015, Presentation delivered by Stig Korsgaard, Engagement Director, Nets at SWIFT Nordics Regional Conference
EUROPEAN UNION
“SCT Inst and CSMs: an interview with José M Beltrán of STET”, 17 March 2017, European Payments Council
“TARGET Instant Payments Settlement (TIPS)”, 9 February 2017, DG-MIP Market Infrastructure Development European Central Bank
“ECB consults on development of pan-EU settlement service for instant payments”, January 2017, Finextra

“Pan-European instant payments in euro: definition, vision and way forward”, November 2014, European Central Bank

“From Instant Payments to Instant Commerce”, March 2015, presentation delivered by Vincent Brennan, Deputy chair of EBA electronic payments working group at 14th EPCA Payment Summit

GHANA
“Electronic Payments in Ghana”, 2016, Ghana Interbank Payment and Settlement Systems (GhIPPS)

HONG KONG
“Hong Kong Monetary Authority Annual Report 2016”, HKMA

HUNGARY
“Operational model of the instant payment service in Hungary”, December 2016, Magyar Nemzeti Bank

“MNB’s Executive Board decided – development of the instant payment system commences”, 2017 press release, Magyar Nemzeti Bank

“Hungary’s central bank endorses instant payment infrastructure plans”, December 2016, Banking Technology

ICELAND
“Financial Market Infrastructure and Operations, 2016, Sedlabanki Islands

“Payments stream - Real-time payments”, Presentation at Nordic conference March 2015, SWIFT

INDIA
“Unified Payment Interface - API and Technology Specifications” April 2015, NPCI

“Retail Payment Statistics on NPCI platform” March 2017, NPCI


“UPI use rises 100x since launch”, 8 June 2017, The Economic Times

JAPAN

“Summary of the Conference on Retail Payments on May 12, 2016”, August 2016, Bank of Japan

“Implementation of ISO20022 XML on Zengin-System”, May 2010, presentation delivered by Mamoru Mitsuhashi, Japanese Bankers Association and Yusuke Yanagida, NTTDATA Corporation


KENYA
“Overall Communications Strategy”, 2015, Kenya Bankers Association

“FAQ on IPSL pre-launch”, 2015, Kenya Bankers Association

LATVIA

“Instant Payments”, 2017, Latvijas Banka

MALAYSIA
“Bank Negara unit MyClear to set up new retail payment platform”, April 2016, MyClear

“Deputy Governor’s Remarks at the Malaysian E-Payments Excellence Awards (MEEA)”, April 2016, Bank Negara Malaysia

MEXICO
“Real time settlement systems – Sistema de Informacion economica”, April 2017, Banxico

“SPEI: The Real Time Funds Transfer System in Mexico”, September 2011, presented at Symposium on Immediate Funds Transfer for General-Purpose Payments, Federal Reserve Bank of Chicago,

NIGERIA

“NIBSS Big Data – Electronic Payment Fact Sheet “, April 2015, Nigeria Inter-bank Settlement System PLC

“NIBSS Instant Payment (NIP)”, Nigeria Inter-bank Settlement System PLC.

“NIBSS Instant Payment (NIP) eFact Sheet”, Q1 2015, Nigeria Inter-bank Settlement System PLC.


POLAND
“Instant payments – the landscape in Poland” 28 April, 2017, Instant Payments Summit, Brussels

“Real-time Payments with Krajowa Izba Rozliczeniowa S.A.” – Express ELIXIR Service, 2014, Capgemini

“Rules of processing Express Elixir real-time payments”, Citi

“Poland Payment Systems”, HSBC Global Connections

“KIR 2013 Annual Report”

“Real Time Payments with Krajowa Izba Rozliczeniowa S.A. – Express ELIXIR Service”, 2014 Cap Gemini Case Study
REPUBLIC OF KOREA
“Korea Financial Telecommunications & Clearings Institute 2013 Annual Report

THE PHILIPPINES
“Banks and Non-Banks to Establish PESO Net and InstaPay”, March 2017, Bangko Sentral ng Pilipinas

SAUDIA ARABIA
“Doubling Digital Payments in MENA”, 2016, Booz Allen Hamilton
“Monthly Statistical Bulletin”, Saudi Arabian Monetary Authority, April 2017

SINGAPORE
“Fast and Secure Transfers (FAST) FAQ”, March 2014, The Association of Banks in Singapore

SPAIN
“Instant Payment Programme in Spain”, 9 May 2017 presentation at Open Forum on Pan-European Instant Payments, Spanish Bankers Association

SOUTH AFRICA
“Real-time Clearing (RTC)”, Bankserv Africa
“Payments Association of South Africa (PASA) Annual Report 2013”, 2013,
“National Payments Plan 2014”, Payments Association of South Africa
“Real-Time Clearing (RTC) Brochure”, Bankserv Africa

SRI LANKA
“Common Card & Payment Switch (CCAPS) / LankaPay Common Electronic Fund Transfer Switch (CEFTS)”, LankaClear

SWEDEN
“The view of Swedish instant payment players on the SCT Inst scheme”, May 2016, European Payments Council
“Payments in Real Time”, Bankgiro
“Real-time payments in Sweden: one million users and still counting”, August 2014, Equens
“Participant requirements Payments in real time”, Bankgiro
“Immediate payments Payments in real time Betalningar i Reallid – Bir”, May 2015, Bankgiro
“Bankgiro 2013 Annual Report”, 2013, Bankgiro
“Financial Infrastructure Report 2013”, Sveriges Riksbank
“The payment behaviour of the Swedish population”, 2014, Results of survey conducted by Sveriges Riksbank

SWITZERLAND
“SIC” go-live: SNB also gives the green light”, Feb 2016, SIX
“Payment transactions via Swiss Interbank Clearing (SIC)”, May 2017, Swiss National Bank
“The SIC franc payment system”, SIX
“Swiss Interbank Clearing (SIC) Monthly Statistical Bulletin”, May 2017
“P2P payments soon possible via SIC?”, March 2015, Clearit: The Swiss Professional Journal for Payments
“Migration to ISO 20022 In Progress”, March 2015, Clearit: The Swiss Professional Journal for Payments

THAILAND
“PromptPay Launch”, 2016, The Thai Bankers Association
“PromptPay nears tipping point”, May 2017, Bangkok Post
“Thai e-payment system to use ‘any ID’ feature”, March 2016, The Nation

TURKEY
“Payment Systems in Turkey, September 2011”, Central Bank of the Republic of Turkey

UNITED KINGDOM
“Quarterly Statistics Report”, May 2017, Faster Payments Scheme Ltd.
“Transaction Limits”, January 2016, Faster Payments Scheme Ltd.
“Open Banking and the CMA remedies for retail banking”, August 2016, Payments UK
“Open Banking and PSD2: clarifying the differences”, May 2017, Payments UK
“Usage Statistics and Transaction Limits”, Faster Payments

UNITED STATES
“About the Faster Payments Task Force”, 2016, The Federal Reserve Bank
“Strategies for Improving the U.S. Payment System”, January 2016, Federal Reserve Systems
“Preparing for Zelle and The Clearing House’s Real-Time Payments”, November 2016, Level
“In Pursuit of a Better Payment System”, February 2015, Federal Reserve Financial Services
“Payment System Improvement Public Consultation Paper”, September 2013, The Federal Reserve Banks
“Payment System Improvements Initiative,” April 2014, NACHA Payments Conference, presented by Federal Reserve Banks
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