

A dynamic photograph of basketball players in action, wearing white and blue jerseys, set against a background of blue and green neon lights. The players are in mid-air, holding basketballs, creating a sense of movement and energy.

fis

FLAVORS OF FAST 2020

The global real-time payment trends
transforming money movement



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WELCOME TO THE 7TH EDITION OF FLAVORS OF FAST

The year 2020 has made us all keenly aware of the impact the global pandemic has had on nearly every aspect of life, professionally and personally. Among many other things, it has highlighted the critically important role that moving money instantly and digitally plays for individuals, businesses and corporations. Faster payments aren't only about money; they are also about instant connectivity. They are not just about speed; they are equally about precision, transparency and certainty. Eventually we will move back to a time when the pandemic is in our collective rear-view mirror, but the value real-time payments offer and their adoption will prove to be lasting.

This year marks FIS™ seventh edition of our annual Flavors of Fast report, which was originally inspired to capture the early influences we saw faster payment schemes making around the world. When we published our very first Flavors of Fast report in 2014, we counted a total of 14 live schemes. This year, 56 countries are now live with real-time payments. With the proliferation in faster payments infrastructures, real-time capabilities have become more sophisticated, supported by the innovation overlay services and APIs fuel, and that enable new business cases to continually emerge. It is a world that is in constant motion, and consequently, the scope and focus of Flavors of Fast 2020 have evolved as well.

In this year's report, you'll find exclusive interviews with global leaders of real-time payments systems who are playing a critical role in shaping the present and future of faster payments. **Claus Richter**, chief operating officer of P27 in the Nordics, which is preparing to launch the world's first real-time, multicurrency cross-border system; **Adrian Lovney**, chief executive officer of Australia's New Payments Platform, which will soon release its Mandated Payments Service (MPS); **James Colassano**, senior vice president, RTP product development and strategy at The Clearing House, who spoke about RTP's continued expansion in the United States, and **Jit Ng**, payment industry interface manager at Transport for London, who shared his perspective on the unique role real-time payments can play for merchants.

Past editions of Flavors of Fast have consistently recognized India's Immediate Payments System (IMPS) as a world leader in real-time payments innovation.

Clearly evidenced by a doubling of real-time payments volume and value compared to last year, the potential to add a New Umbrella Entity (NUE) to further move the country's digital payments forward and other initiatives in the pipeline, India looks set to remain the real-time payments capital of the world. Flavors of Fast 2020 includes an in-depth feature on the country, including exclusive insights from these financial services insiders who have been directly involved with real-time payments initiatives across India: **Challa Sreenivasulu Setty**, managing director, State Bank of India, **Satish Kumar Gupta**, MD & CEO at Paytm Payments Bank, **A. P. Hota**, former, CGM, RBI and former MD & CEO, National Payments Corporation of India, **Prateek Roongta**, MD and partner at Boston Consulting Group, **Abhishant Pant**, founder of The Fintech Meetup, **Anand Kumar Bajaj**, MD and CEO at PayNearby, **Rishi Gupta**, MD & CEO at Fino Bank.



As we've long said in Flavors of Fast, the real story isn't only about the speed of payments, but also about what can be done on the real-time rails to add tangible and meaningful value that is felt at every step in the value chain. This year's report further explores that message with a region-by-region look at the evolution of request-to-pay services— often called the missing puzzle piece that's needed to fuel significant increase in activity on the real-time rails.

You'll also find exclusive commentary from FIS' **Andrew Bateman** and **Daniel Mayhew**, who offer their expert views on the influence of real-time payments in corporate treasury, and how cross-border payments will move into a real-time environment to remove longstanding hurdles associated with cross-border transfers made via correspondent banks.

As you explore this year's report, you'll also find bold predictions from FIS' **Aman Cheema** and **William Wied** on what the future holds for real-time payments, and what every payment provider must know to ensure they're poised to keep up with this ever-evolving and unyielding world of faster, smarter, better global money movement. FIS is strategically focused on building an innovative, global SaaS platform using a network-of-networks approach that will propel real-time payments further forward.

We fully embrace our role as a fintech leader dedicated to helping every client advance their future today, and I sincerely hope you find these insights valuable.

I'd like to personally thank all of the experts—within FIS and outside of it—who dedicated their knowledge, time, expertise and thought leadership to this year's Flavors of Fast report.

It has never been more important to remove the barriers to trade by building open, sustainable and instant payment services across the globe working with all participants whether they are banks, merchants, corporates, technology partners or fintechs.

FIS has been directly involved in the deployment of faster payments schemes around the globe for many years.

We are strategically committed to actively expanding the role we play in enabling consumers, businesses and banks to move money in real time.

We invite you to be a part of the real-time payments conversation with us and hope you'll enjoy the report.

**LET'S ADVANCE THE
FUTURE TOGETHER.**

Sincerely,
Raja Gopalakrishnan
executive vice president,
FIS' global real-time payments business unit

WHAT'S NEXT FOR REAL-TIME PAYMENTS

And what no payment provider
can afford to ignore

Insights by Aman Cheema, FIS' senior vice president, strategic initiatives and William Wied, chief technology officer for FIS' global real-time payments business unit.

1. The pandemic accelerated the shift to digital payments; its impact will be permanent

The global pandemic has temporarily redefined accepted norms for how we collectively work, interact and connect, but its lasting role in money movement cannot be understated. "The permanent digitization of payments was due to happen, but with COVID-19 and individuals becoming hyper-aware of physical interactions, the inevitable has been accelerated. The shift to digital payments will be permanent," says Aman Cheema, FIS' senior vice president, strategic initiatives.

He cites the retail sector as an example of just how influential the pandemic has been on payments: "About 15 percent of retail business happens digitally today, and that number was projected to increase to about 50 percent in three years. Retailers now need to be ready to make that transition within the next 12 months and should expect that it will be permanent."

For some payment mechanisms, 2020 may even be the year that marks their march to a permanent end. "Paper check use has been steadily decreasing by four percent per year from 2015 to 2018, but the pandemic has highlighted how laborious and cumbersome checks and physical payments, in general, can be," says Cheema. William Wied, chief technology officer for FIS' global real-time payments business unit, says that the global financial strain brought on by the pandemic has also increased the perceived and tangible value immediacy offers when moving money.

2. Real-time payments systems are evolving beyond speed

Increasing real-time payment adoption rates and continual development and evolution of real-time infrastructures around the globe speak to the staying power of real-time and indicate the true potential that is just beginning to emerge. Cheema points to Australia's New Payments Platform, which has seen 277 percent year-over-year growth just two years after launch, as one example. In 2019 alone, China processed an astonishing 16 billion+ real-time payment transactions. In Europe, Cheema predicts that open banking, SEPA and the European Payments Initiative (EPI) could all come together to increase the adoption and transformation of real-time payments, and notes that innovation in the United Kingdom has further accelerated with the development of Pay.UK. He adds that central bank digital currencies (CBDC), which can provide banks with more transparency, security and monitoring capabilities, are another piece of the real-time evolution that has emerged in 2020. "Additionally, the peer-to-peer nature of blockchain technology reduces fees and transaction times significantly. As such, 70 percent of banks are engaged in or about to start CBDC work. Of these, more than half are exploring both general-purpose and wholesale CBDCs. The primary motivations are payments safety and domestic efficiency," says Cheema.

"As unemployment has grown and businesses have been challenged to change the way they operate, the need for faster payments has become critical. As more companies (both big and small) move to distanced and contactless modes of business, the payment methods follow. Governments are taking a leading role in contactless payments, including providing financial relief disbursements, tax refunds and other remittances in a more real-time manner," - says Wied.

While the pace at which real-time capabilities will evolve varies greatly by market, Wied expects that continued change will become rapid as governments and private industry work together to discover new ways to propose and test different solutions that fuel greater real-time payment efficiency and innovation. For example, the Reserve Bank of India's (RBI) New Umbrella Entity (NUE) effort, was announced in early 2020 to address which private companies are able to contribute and compete in real-time payments. Brazil's PIX initiative, The Central Bank of Brazil's instant payment functionality that's scheduled to launch in November 2020, will open the world of account-to-account and real-time payments to private industry and competition and eliminate intermediaries, thus reducing transaction costs.

To optimize impact of the newly created payment methods, financial service providers need to take a holistic approach across markets and payment types as much as possible. "Part of the challenge for payment providers is to provide a unified and consistent view to the varying payment capabilities they provide across the markets they serve. Although there are separate efforts within each one of these markets (with likely very different implementations) there is a common attribute, which is ISO 20022," says Wied. "In short, ISO 20022 provides a consistent messaging format and protocol common to all financial service providers."

3. Monetization opportunities for real-time payments are increasing

The question of how to monetize real-time payments has long been a topic of debate, but Cheema says answers have emerged, particularly when it comes to wages in the gig economy and the increased use of takeaway and delivery services amid COVID-19: "Globally, 85 percent of gig economy workers would work more often if they could get paid faster. In Singapore, Grab was able to dominate the ride-sharing market partly by paying drivers in real time, while its competitors paid every few days. They did this by leveraging the existing real-time payments infrastructure in Singapore."

Given that a hallmark element of so many global real-time infrastructures is the ability to foster innovation, Cheema says admirable use cases are emerging, particularly when it enables immediate payouts to those in direct need of funds. "In the Netherlands, real-time monetization can be seen with insurance disbursements, particularly in healthcare," says Cheema. "Given that administrative complexity accounts for up to \$389 billion in total U.S. healthcare spending per year, the use of real-time infrastructures could also eliminate such financial demands and allow spending to be allocated elsewhere."

FIS' future-thinking focus for fueling real-time payments



Creating an ecosystem with a collaboration mindset that enables adoption to increase and become stronger



Bringing cross-border payments into true real time with our enhanced network of networks and increased adoption



Central bank digital currencies and self-sovereign ID

“There are also new use cases supporting those adoptions, including B2B treasury payments, person-to-person real-time cross-border payments, emergency insurance remittances and many more fueling real-time initiation, clearing of funds and the overall economy,” says Cheema.

4. Cybersecurity attacks and data-privacy regulations highlight weaknesses in aged payments systems

Wied says that traditional security practices have focused on vulnerabilities such as weak user credentials/passwords, application vulnerabilities, malware, social engineering and insider threats but have largely failed to stem the tide of breaches.

In the first half of 2019, data breaches (most of which were financially motivated) exposed 4.1 billion records. Gartner predicts that by 2022, worldwide cybersecurity spending will reach nearly \$134 billion. Despite these investments, Wied says providers with disparate or outdated payment systems still may not have adequate protection.

“The focus needs to be on greatly limiting and eliminating the need for handling the most prized assets, like card and account numbers. The more platforms and systems these card and account numbers reside on, the greater the overall risk of exposure.

Technologies such as EMV and tokenization have made these assets far less available, but adoption is still slow,” says Wied. “In addition to cybersecurity standards, data protection and privacy regulations are quickly evolving. Global Data Protection Regulations (GDPR) in the EU have led to a worldwide surge in new regulations. This represents a challenge and opportunity to companies who are looking to provide payment services across the globe. The ability for financial service providers to offer compliant solutions across the various markets they serve provides tremendous value to their clients. The alternative is for payment service users to piece together many different solutions across the markets they serve.”

Wied also predicts that the steady investment in public cloud development that has taken place over the last five years will accelerate, representing a significant shift in capital investment within the payments industry.



5. Big tech companies will leave the financial products to financial institutions

The past few years have seen big tech becoming involved in a number of financial products that span deposits, loans and credit cards, and Cheema predicts that involvement will continue. “Google plans on launching a consumer bank account in collaboration with Citibank because they are interested in sitting on top of their financial infrastructure and expertise with their Google Pay technology.

In 2019, Apple debuted a credit card created in partnership with Goldman Sachs. Like Google, the company has left much of the financial legwork to its bank partner, while designing the card and integrating it with its digital wallet app,” says Cheema.

Big tech players will focus on maintaining the customer relationship, experience and capturing more customer activity, searching and buying behavior, but will remain a distributor, essentially leaving the business of financial products to the financial institutions.

6. Banks and acquirers' roles in the ecosystem will shift

“Banks and acquirers hold both risk and the product. They will most certainly remain relevant as real-time payments become increasingly prevalent, but how they interact with the ecosystem will change,” says Cheema. “Lessons learned from early schemes and that are built into the newest platforms highlight that payments players need to combine a real-time and open-API strategy and solution.” The flexibility to meet all transaction and payment types, API calls and the ability to work with companies like Google and Apple is critical in driving the value-added services that are required to deliver a return on investment.

7. Artificial intelligence will have two core purposes in payments

Wied says there are two main areas where artificial intelligence will impact the payment solutions provided: Predicting user behavior and optimizing recommendations for payment services. “Data analytics are being used more and more to predict future customer behavior and identify emerging trends. These analytics can help payment providers plan and prioritize future product road maps,” says Wied.

“As the number of payment vehicles and schemes continue to grow, they add to the already cluttered set of choices a customer has to make. Most personal and corporate users lack the subject matter expertise to decide which payment scheme is best to use. An intelligent payment platform can use a rule-based engine, data analytics and other intelligence tools to help route transactions to either the lowest cost or fastest payment scheme available,” says Wied.

8. Payment providers will seek microservice systems to future-proof

“Change in product capability is inevitable. The key to future-proofing payment platforms lies in how it is built, not its current capabilities,” says Wied. “Microservice design is one key to providing platforms with the ability to grow and evolve.” A microservice design approach is in direct contrast to the highly brittle monolithic design of many payment platforms today, which make small changes very expensive and introduce risk in parts of the platform that were unchanged.

“Microservice design aims to enable software development teams to introduce continuous incremental change, while minimizing impact to the overall platform,” says Wied.

What to look for in a microservice system

Wied says there is no single definition of microservice, but it typically includes the following attributes:

- A simple and discreet business purpose organized around a specific business capability
- Messaging enabled to communicate over a network to fulfil a specific goal and communicate with other services with a well-defined messaging protocol
- Autonomously developed using a variety of programming languages, database, hardware and software environments
- Independently deployable and in conjunction with other services
- Released in an automated fashion that requires minimal hands-on human interaction

Expect these four radical changes in the next three years

Aman Cheema, FIS’ SVP, strategic initiatives



The influence of COVID-19 has accelerated the need for more collaboration between countries for services like cross-border and supply-chain finance. This will lead to more harmonization of rules and regulation globally and will greatly reduce friction in global trade. Where digital commerce friction remains, governments will start to align on global policy and standards to make a more seamless global economy.



The world of payments and banking will become more converged for retail, commercial and wholesale.



There will be a stronger emphasis on the distribution and manufacturing of financial products underneath innovative, customer-centric technology from big tech companies.



The data economy will mature further, removing the emphasis on financial products or services. Data is the core driver of value.



REAL-TIME MOVERS AND SHAKERS ACROSS THE GLOBE

56 countries now live with real-time payments

Compared to 2019, six countries more than doubled the volume of real-time payments; four doubled the value transacted.

“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.”

FLAVORS OF FAST 2020

USA

TCH completes request for payment pilot program on RTP, with plans to expand in 2021

UK

Request to Pay overlay service piloted in May 2020

Bahrain

Largest percentage volume growth of 657%

Malaysia, Singapore and Thailand

Announced cross-border multicurrency payment initiative

Brazil and Mexico

Strong volume growth of more than 140%

Vietnam and Hungary

Launched real-time payments in 2020

Europe SCT Inst

56% of European payment service providers joined

India

Most daily real-time transactions, with 41 million payments per day

Republic of Korea

Most transactions per capita with 75 transactions per year, per citizen

Sweden, Denmark and Finland

P27 cross-border multicurrency service to launch in 2021

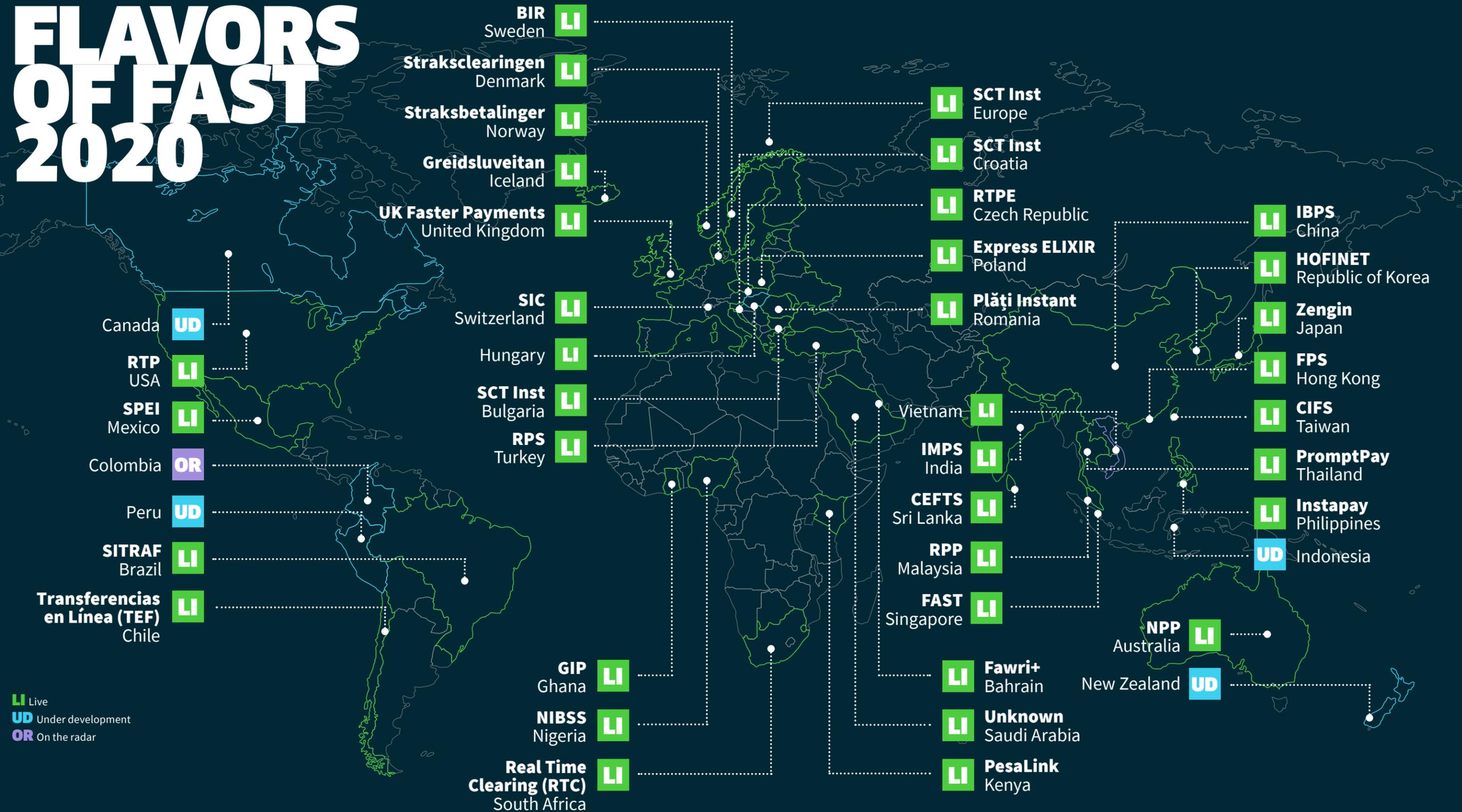
The Philippines

Largest percentage value growth 482%

Australia

New Mandated Payments Service to launch in 2021

FLAVORS OF FAST 2020



LI Live
UD Under development
OR On the radar



Name

NPP (New Payments Platform)

Year live

2018

Average daily volume

940,625

Average daily value

AUD 932.37 M

Payment applications supported

P2P, P2B, B2P, B2G, B2B, G2P through online and mobile banking.

Open Access API interface (y/n)

Yes

Overlay Services

Account alias service, payments, and corporate payments. Planned for 2021-22: Mandated Payments Service (direct debit request to pay), cross-border payments, social and tax compliant invoicing, enhanced business requests, payments/ requests with documents and insurance claims.

Commentary

NPP has seen transaction volumes and values more than double in last 12 months (214 percent & 231 percent respectively). In March 2020, NPP Australia (with SWIFT) launched a new version of the NPP API sandbox to meet the evolving needs of the expanding NPP ecosystem.

Name

Fawri+

Year live

2015

Average daily volume

17,260 (2019)

Average daily value

BHD 1.49 M (2019)

Payment applications supported

P2P, P2B, P2G through internet banking, mobile banking, benefit pay and branch channels.

Open Access API interface (y/n)

No

Overlay Services

Direct debits and e-wallet (with QR code)

Commentary

Bahrain has seen a six-fold increase in transaction numbers and a tripling of the value being transferred. By continuing growth similar to what was demonstrated from 2018 to 2019, it has become the country with the largest annual percentage volume growth.



BRAZIL

Name

SITRAF

Year live

2002

Average daily volume

3.8 million (May 2019 - April 2020)

Average daily value

BRL 24.2 billion (May 2019 - April 2020)

Payment applications supported

P2P & P2B through online and mobile banking.

Open Access API interface (y/n)

No

Overlay Services

Replacement service (PIX) to offer P2P, P2B, B2B, P2G & B2G, with account aliases, QR code initiation and use of NFC technologies at POS.

Commentary

With strong growth in volumes and values transacted (140 percent & 111 percent respectively), the long-established service is upgrading to ISO 20022 in late 2020, with an ambitious new instant payment scheme, called PIX. It will allow citizens, companies and government entities to make instant payments 24/7 through mobile phones, online banking and ATMs with open banking capabilities.



BULGARIA

Name

SCT Inst for local currency

Year live

2018

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P

Open Access API interface (y/n)

Planned option

Overlay Services

NA

Commentary

SCT Inst rule-book-based service in local currency (the lev), overseen by the Bulgarian national bank and settled through TIPS.

CHILE

Name

TEF (Transferencias en Línea)

Year live

2008

Average daily volume

811,788 (Q1 2020)

Average daily value

NA

Payment applications supported

P2P, P2B & B2B

Open Access API interface (y/n)

No

Overlay Services

NA

Commentary

TEF payment service is built on an RTGS service and is based on the ISO 8583 format. There are no plans for ISO 20022 migration.



CHINA

Name

IBPS (Internet Banking Payment System)

Year live

2010

Average daily volume

38.3 M (2019)

Average daily value

RMB 303.5 B (2019)

Payment applications supported

P2P, P2B & B2P

Open Access API interface (y/n)

No

Overlay Services

P2P, POS (NFC tap), bill payment, QR code, wealth management, direct debits and internal corporate transfers (sweeps).

Commentary

China has seen strong growth in volumes and values transacted (115 percent and 124 percent respectively) as a broader array of services like wealth management and e-wallet support become available. China's digital payments landscape is dominated by Alipay and WeChat Pay; the two wallets combined hold about 90 percent market share.



CROATIA

Name

SCT Inst for local currency

Year live

2020

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P, P2B, B2P & B2B

Open Access API interface (y/n)

NA

Overlay Services

Alias service linking mobile phone number or email to IBAN.

Commentary

SCT Inst rule-book-based service in local currency (the kuna).



CZECH REPUBLIC

Name

RTPE

Year live

2018

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P, B2B & P2B

Open Access API interface (y/n)

NA

Overlay Services

NA

Commentary

Based on the SCT Inst rulebook and using ISO 20022 formats, the Czech immediate payment service also supports Hungarian florins as well as local Czech koruna.

DENMARK

Name

Straksclearingen

Year live

2014

Average daily volume

NA

Average daily value

DKK 0.9 B (2017)

Payment applications supported

P2P, P2B, B2B & e-wallet through online and mobile banking channels

Open Access API interface (y/n)

Yes

Overlay Services

Alias service (phone number or email), mandate management (approve on behalf of debtor), request to pay, with built-in detection of fraud patterns and anti-money laundering screening.

Commentary

The Danish payment service is not currently part of the SCT Inst but is planning to join Scandinavian neighbors on the P27 service in 2021.

EUROPE SEPA - 20 COUNTRIES

Twenty countries: Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, Portugal, Slovakia, Slovenia & Spain. Excludes nine non-euro countries (Bulgaria, Croatia, Czech Republic, Hungary, Iceland, Norway, Poland, Romania & Sweden) and two opt-out countries (Denmark & United Kingdom).

Name

SCT Inst (SEPA Credit Transfer Instant payments)

Year live

2017

Average daily volume

106.35 M Transactions (2018)

Average daily value

NA

Payment applications supported

P2P, P2B, B2P, B2B & B2G with mobile and internet including pull-payments and POS payments capability.

Open Access API interface (y/n)

Planned option

Overlay Services

Available services vary per SCT Inst implementation but include account aliases (mobile number), request to pay (launching November 2020), retail POS, NFC initiation, QR code payments, bill payment, government payments, payee confirmation and identification, etc.

Commentary

The European Payments Council (EPC) created the regional Instant SEPA Credit Transfer scheme called SCT Inst. Each service provider is free to choose when they participate, and 20 countries are now live. Multiple clearing and settlement options for increased flexibility and competition including RT1, STET, TIPS (Target2) and Equens. In July 2020 the ECB took steps to harmonize the SCT Inst landscape by mandating that TIPS be reachable, and other CSMs must offer interoperability.

As of July 2020, the SCT Inst transaction limit increased, from 15,000 to 100,000 euros, to drive higher-value business-to-business and business-to-consumer transactions.



GHANA

Name

GIP

Year live

2007

Average daily volume

1,921.46 (1H 2019)

Average daily value

3.24 GH¢'M (1H 2019)

Payment applications supported

P2P, P2B, B2P, B2B, P2G, B2G & G2G through Internet banking, mobile banking and branch transfers

Open Access API interface (y/n)

No

Overlay Services

QR code-based payments, bill payment and alias capability USSD code or mobile number.

Commentary

GIP again shows strong growth, quadrupling volume and more than doubling value. This has been accelerated by almost 100 percent of all G2P and G2G payments on transacting on GIP.

Name

FPS (Faster Payment System)

Year live

2018

Average daily volume

HKD 163,149 & RMB 711

Average daily value

HKD 2.63 B & RMB 40 M

Payment applications supported

P2P, P2B, B2P, B2B, P2G & B2G

Open Access API interface (y/n)

No

Overlay Services

Account alias (mobile number or email), QR code interoperability, e-wallets, request to pay and direct debit payment.

Commentary

The dual-currency service (HKD and RMB) saw strong growth in its first full year of operation, demonstrated by a near doubling of daily volume and a 40 percent increase in value for HKD transactions. RMB volume and value both dropped.



HONG KONG



HUNGARY

Name

GIRO RealTime24/7

Year live

March 2020

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P & P2B through internet banking, mobile banking and phone banking

Open Access API interface (y/n)

NA

Overlay Services

Request to pay, account aliases (mobile number, email or tax identifier), direct debits and bill payments, multiple IDs per account. Corporate batch payments due to launch in Q3 2020.

Commentary

The central bank (MNB) introduced instant payments in March 2020. Thirty-five payment service providers (PSPs) had to prepare for the launch and delivered more than one million successful transactions in the first three days.



ICELAND

Name

Greidsluveitan

Year live

2001

Average daily volume

1 million (2018)

Average daily value

NA

Payment applications supported

P2P, B2B & B2P

Open Access API interface (y/n)

No

Overlay Services

NA

Commentary

Iceland is currently upgrading from a legacy mainframe operation to a new service based on ISO 20022 formats. It is expected to join Scandinavian neighbors on the P27 service in 2021 (multi-currency with krona and euro).



INDIA

Name

IMPS (Immediate Payment Service) and UPI (Unified Payments Interface)

Year live

2010 (IMPS) & 2016 (UPI)

Average daily volume

41.4 M (2019-20)

Average daily value

INR 122.5 B (2019-20)

Payment applications supported

P2P, P2B, B2B & P2G

Open Access API interface (y/n)

Yes

Overlay Services

Balance enquiry, payee confirmation, bill payments, POS payments, split bill payments, foreign inward remittances, account alias services, request to pay, direct debits, mandate authentication, recurring payments, QR based payments, NFC, BLE (Bluetooth low energy) and UHF (ultra-high frequency), payments through WhatsApp, Google Pay and others, and extended business payment services.

Commentary

India continues to grow its real-time activity, with volume more than doubling this year, coupled with an 80 percent increase in transaction value. The UPI (Unified Payments Interface) encourages and facilitates payment innovation with now overlay services growing in sophistication.



JAPAN

Name

Zengin

Year live

1973

Average daily volume

3.93 M (2019)

Average daily value

JPY 8.1 T (2019)

Payment applications supported

P2P, P2B, B2B, B2P, P2G & B2G

Open Access API interface (y/n)

No

Overlay Services

Remittances, collections, government payments, bonuses, stock dividends, bulk payments, pension funds, health insurance funds, state tax refunds, etc.

Commentary

The growth in numbers remains static year over year, but after almost fifty years of operation and evolution (originally a RTGS service), Zengin offers real-time payments across the personal, retail, corporate and government sectors.



KENYA

Name

PesaLink

Year live

2017

Average daily volume

14,000

Average daily value

NA

Payment applications supported

P2P, P2B, B2B, B2P, B2G & P2G through mobile, internet banking, ATM & branches

Open Access API interface (y/n)

No

Overlay Services

Account alias service (mobile number) with USSD, government payments for eCitizen services.

Commentary

PesaLink continues to grow with new mobile overlay services, especially state payments (P2G & B2G), and the ability to send money to someone not registered on PesaLink.



MALAYSIA

Name

RPP (Real-time Retail Payments Platform)

Year live

2019

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P, P2B, B2B and B2G payments through mobile and internet banking

Open Access API interface (y/n)

Yes

Overlay Services

Account alias, request to pay, e-mandates direct debit, cross-border (Singapore and Thailand) and QR code payments at POS (national QR Standard).

Commentary

After a successful launch last year, RPP has experienced the progressive introduction of new payments services, including QR code payments, pull payments, e-mandates, real-time debits and cross-border payments.



MEXICO

Name

SPEI (Sistema de pagos electronicos interbancarios)

Year live

2004

Average daily volume

2.52 M transactions (Apr 2019 - Mar 2020)

Average daily value

MXN 739 B (Apr 2019 -Mar 2020)

Payment applications supported

P2P, P2B, B2B & B2P

Open Access API interface (y/n)

No

Overlay Services

Account alias (mobile or debit card number), request to pay, QR code, NFC and POS terminals and recurring payments.

Commentary

The surge in overlay services on SPEI (an established RTGS service) has seen a 40 percent increase in transaction volume in a traditionally cash-heavy market. New request to pay services and emerging QR code, NFC and real-time payments at retail outlets are expected to maintain this growth.



NIGERIA

Name

NIP (NIBSS Instant Payment)

Year live

2011

Average daily volume

3.4 M (2019)

Average daily value

NGN 299.5 B

Payment applications supported

P2P, P2B & B2B through internet banking, mobile, ATM, POS and branch.

Open Access API interface (y/n)

No

Overlay Services

Currently developing picture authentication, account alias (NIP Central Listing), chat banking, merchant mobile services, bill payments, name enquiry and transaction status query.

Commentary

Growth remains strong with almost 50 percent increase in volume, moving 25 percent more value compared to 2018. The growth in overlay services continues with new bill payments, photo identification and proxy payments.



NORWAY

Name

Straksbetalinger

Year live

2012

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P through internet and mobile.

Open Access API interface (y/n)

No

Overlay Services

Mobile payments solution, currently developing bill payments, mobile commerce, in-store payments, in-app payments, etc.

Commentary

Straksbetalinger is a domestic real-time payments scheme, launched by a consortium of banks. Current service is upgrading to an ISO 20022 service based on the SCT Inst rulebook but does not yet plan to join Scandinavian neighbors on the P27 service.



PHILIPPINES

Name

InstaPay

Year live

2018

Average daily volume

136,263 (Apr 19 to Mar 20)

Average daily value

PHP 969M (Apr 19 to Mar 20)

Payment applications supported

P2P, P2B, P2G, B2P, B2B, B2G, G2P, G2B & G2G through mobile apps and internet banking.

Open Access API interface (y/n)

Yes

Overlay Services

QR Code payments (national standard), account alias (phone number or email) and government payments.

Commentary

After its first full year in operation, InstaPay has tripled transaction numbers and seen an almost five-fold increase in the value being transferred. As of early 2020, 45 financial institutions offer InstaPay; the central bank strives to increase the value of e-payment transactions by 30 percent by the end of 2020.



POLAND

Name

Express ELIXIR

Year live

2012

Average daily volume

93,000 (2019-20)

Average daily value

PLN 138.85 M (2019-20)

Payment applications supported

P2P, B2B, P2B, P2G & B2G through mobile and internet

Open Access API interface (y/n)

Yes

Overlay Services

Payment confirmation, government and tax administration payments, account alias (phone number), bill payments, split payments.

Commentary

Faster payments are widely used to make instant loan repayments and bill payments, which are settled in real time. With transaction numbers doubling and a 50 percent increase in the value being transferred in a country where credit cards are less prevalent, real-time payments are targeted at driving e-commerce. Plans to introduce a euro instant payment service are underway.

Name

HOFINET

Year live

2001

Average daily volume

12.17 M (2018)

Average daily value

KRW 51.8 T (2018)

Payment applications supported

P2P & P2B through internet and mobile banking.

Open Access API interface (y/n)

No

Overlay Services

Bill payments, insurance premiums and newspaper fees.

Commentary

With modest but strong growth in the volume and value in transactions in what is an already highly digitized economy, South Korea has launched an open banking service to boost convenience and lower transaction costs for customers.



REPUBLIC OF KOREA



ROMANIA

Name

Plăți Instant

Year live

2019

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P, B2B & B2P

Open Access API interface (y/n)

Yes

Overlay Services

Account alias (phone number) in development, retail POS, bill payments, electronic invoices, employee remuneration and urgent B2C payments for needs like disaster relief/aid.

Commentary

Romania launched instant payments in April 2019. Many banks are in the process of offering instant payment services to their customers. Currently, instant payments can be made only in lei, but planning SCT Inst payments in euros.



SAUDI ARABIA

Name

Real-time payments

Year live

2019

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P, P2B, B2P & B2B

Open Access API interface (y/n)

No

Overlay Services

NA

Commentary

Saudi Arabia conducted its first real-time payment trials last year, and plans widescale pilots this year with rolling launch into 2021.



SINGAPORE

Name

FAST

Year live

2014

Average daily volume

220,994

Average daily value

SGD 377.5 M

Payment applications supported

P2P, P2B, B2B & B2P

Open Access API interface (y/n)

Yes

Overlay Services

Payee confirmation (nickname), joint account holders (ID and/or mobile numbers), payment scheduling, direct debits, bill payment, standardized QR code based payments, account alias (mobile number or Singapore NRIC/FIN number), cross-border payments (Malaysia and Thailand), student grants, pension payments, insurance claims, etc.

Commentary

FAST continues to see strong growth with another 50 percent increase in volume and value matching previous year, driven mostly by emerging, innovative open API-enabled services.



SOUTH AFRICA

Name

RTC (Real Time Clearing)

Year live

2006

Average daily volume

86,000 (2018)

Average daily value

ZAR 1.2 B (2018)

Payment applications supported

P2P, P2B, B2B & B2P

Open Access API interface (y/n)

No

Overlay Services

Developing replacement with QR code standardization mobile payments, account alias and request to pay.

Commentary

Despite strong growth of more than 60 percent in volume and 30 percent in value, real-time payments make up only two percent of total retail payments, largely due to high fees, use of ISO 8583 messaging restrictions, narrow use cases, and customer lack of awareness. An updated ISO 20022 version is currently in development, planned to go live in 2021.



SRI LANKA

Name
CEFTS
(Common Electronic Fund Transfer Switch)

Year live
2015

Average daily volume
21,918

Average daily value
LKR 2.25 B

Payment applications supported
P2P, P2B, P2G & B2B through mobile,
internet, ATMs and POS

Open Access API interface (y/n)
No

Overlay Services
Bill Payments, merchant payments, direct
debits, request to pay, account alias
(mobile number or unique nicknames),
credit card settlement, national QR code
standard and e-wallet.

Commentary
With a steady growth of 11 percent in
volume and 25 percent in value being
transferred, CEFTS is seeing new services for
smaller retail payments and pull payments,
and the new QR code service will likely drive
mobile usage.



SWITZERLAND

Name
SIC (Swiss Interbank Clearing)

Year live
1987

Average daily volume
2.6 M

Average daily value
CHF 158 B

Payment applications supported
P2B, B2B & B2P (not P2P)

Open Access API interface (y/n)
No

Overlay Services
NA

Commentary
Swiss Interbank Clearing (SIC) is a business-
oriented service and cannot support P2P
payments, but does focus on real-time B2B,
B2P and P2B payments, credit transfers and
bill pay.



THAILAND

Name

PromptPay

Year live

2017

Average daily volume

7.03M (2019)

Average daily value

THB 36.1 B (2019)

Payment applications supported

P2P, P2B, G2P, P2G, G2B & B2G through ATM, mobile and internet banking.

Open Access API interface (y/n)

No

Overlay Services

Request to pay, standardized QR code payments, account alias service (phone number, Thai ID or company registration), request to pay, payee confirmation, corporate payments, cross-border payments to Singapore and government payments (tax, VAT, pension, welfare, fines, etc.).

Commentary

With strong growth of almost 250 percent in volume and value, PromptPay continues to roll out additional overlay services for consumer, retail, business and government payments. Full ISO 20022 support is planned for 2021.



TURKEY

Name

Retail Payment System (RPS)

Year live

2013

Average daily volume

2.8 M (2019)

Average daily value

TRY 77.7 B (2019)

Payment applications supported

P2P, P2B & B2B

Open Access API interface (y/n)

No

Overlay Services

NA

Commentary

RPS continues to grow steadily with a 25 percent increase in volume and value over the last year but has no plans for ISO 20022 migration.



UNITED KINGDOM

Name

Faster Payments

Year live

2008

Average daily volume

7 M (2019-20)

Average daily value

GBP 5.4 B (2019-20)

Payment applications supported

P2P, P2B, B2B, B2P, G2B and G2P through mobile or online.

Open Access API interface (y/n)

No

Overlay Services

Request-to-pay service (pilot May 2020), account alias (mobile number), Confirmation of Payee, third-party beneficiary payments, standing order payments, forward dated payments, return payments, direct corporate access (bulk payments, just-in-time payments, emergency payouts, insurance, payday loans, etc.)

Commentary

U.K. growth is steady at 20 percent and the New Access Model ensures service provider and new entrant participation, without significant investment. New Payments Architecture under development will be ISO 20022-based.



USA

Name

RTP (Real-Time Payments)

Year live

2017

Average daily volume

NA

Average daily value

NA

Payment applications supported

P2P, P2B, B2B, B2P, A2A & G2P through mobile and internet.

Open Access API interface (y/n)

No

Overlay Services

Payment confirmation, request for payment (e-invoice or e-billing), payment queries, remittance advice, scheduled payments.

Commentary

The Clearing House is working to ensure U.S. institutions of all sizes can access the RTP network but other schemes competing for real-time payments include Zelle® (live with P2P only) and the Federal Reserve's FedNow (reports intentions to go live in 2023 or 2024), while the Faster Payments Council (FPC) is working with Industry stakeholders to support the widespread use of faster payments.

VIETNAM

Name
NAPAS
(National Payment Corporation of Vietnam)

Year live
2020

Average daily volume
NA

Average daily value
NA

Payment applications supported
P2P & P2B through internet, mobile banking, ATM, POS

Open Access API interface (y/n)
No

Overlay Services
Account alias (mobile number) and e-wallet support.

Commentary
In a cash-heavy market, the switch to electronic real-time payments is growing, as evidenced by the number of interbank transfers last year. These accounted for nearly 50 percent of all transactions, indicating moves away from cash.

Under Development

Canada
The Real-Time Rail (RTR), managed by Payments Canada, is expected to launch in 2022. Payments Canada's original plan for the RTR launch consisted of multiple releases, with the first in 2020, and future releases to deliver additional functionality. Following consultation with key industry partners, Payments Canada determined that a single later release was the more efficient implementation approach.

It will operate 24/7 and ensure near real-time delivery of low-value payments in seconds. RTR supports overlay services as a platform for payments innovation. To complement RTR, the government is exploring open banking, also known as consumer-directed finance. The intent of open banking is to give customers greater control of their financial data and safe access to a wider range of financial services, while reducing costs. RTR will support the development of overlay services to serve as a platform for innovation for consumer, commercial and government payment services.

New Zealand
The New Zealand payments industry is a light-touch regulatory environment, preferring a cooperative model driven through stakeholder members at Payments New Zealand. The open banking initiative for real-time payments was launched in 2016 and is driven by the need to provide a modernized payments system and more open banking environment that offers scope for innovation. The real-time payments service, currently named FastAs, initially had a placeholder live date of 2025, but that is likely to be brought forward.

Peru
The new immediate payments service will be fully real time and operate 24/7, but there is no proposed live date. Currently, payments can be cleared in under 30 seconds, but only during bank working hours. The real-time payment capability will be augmented with the potential for multiple overlay services. Top priority is a request-to-pay service and the use of account aliases with a proxy lookup service. The service will cater to government, consumers, businesses and financial institutions.

Indonesia
Indonesia's central bank announced extensive plans to improve the country's payment infrastructure over the next five years. The Indonesia Payment System Vision Blueprint 2025, launched on November 2019, aims to open access to financial services for 91 million people and 62.9 million small to medium-sized enterprises. Bank Indonesia launched a QR Code standard for payments through server-based e-money applications, electronic wallets and mobile banking known as QR Code Indonesian Standard (QRIS) as a part of the roll-out.

On the Radar

Colombia
Colombia has announced the plan to move toward a real-time payment service offering instant credit, debit transfers and e-commerce. These consumer and business payments would cover low-value credit transfers which typically include payroll, pension, supplier and tax payments.

REAL-TIME PAYMENTS AND CORPORATE TREASURY

In a recent survey conducted by FIS about corporate liquidity, executive-level respondents ranked real-time treasury as a higher-priority digital initiative than robotic process automation and artificial intelligence. But in the wake of COVID-19, Andrew Bateman, executive vice president for FIS capital market solutions buy-side, says intraday and real-time liquidity reporting has become even more important as chief financial officers seek out more frequent and accurate reporting of working capital. Here's a closer look at the impact real time has already had on corporate treasury functions and what role real-time payments could play in redefining what the future looks like for corporate treasury.

The opportunities real-time payments bring to corporate treasury

Despite all the opportunity that real-time capabilities can offer, Bateman says the typical corporate treasury function still operates on a 9-to-5 basis. While large global companies typically have a number of treasury centers in different time zones, these centers are focused on regional treasury activity. The introduction of real time in corporate treasury could transform the entire cadence and transparency of a treasury operation.

“They’d gain the ability to look at global treasury activity with changes in account balances and currency positions happening in real time across all regions. The on-demand nature of real time could mean a change to forecasting processes or daily cash processes, and they would need the ability to adapt and respond to changes in balances throughout the day,”

says Bateman.

While Bateman says real-time payments have been slower to emerge in corporate treasury compared to the business-to-consumer space, there are two business sectors—insurance and airlines—that have already put real-time payments to use in the claims payment process and issuance of refunds.

“We have a number of insurance customers looking at using real-time payments through our payment factory solution. In this case, a policy holder making a lower-value claim could be assessed and settled in real time. We recently completed a project with a leading insurance company wanting to settle real-time claims for its business in Asia, where we integrated into the claims management process and used the local instant payment network to initiate a real-time payment into the client’s account.”

As real-time uptake increases, Bateman predicts that the next phase of emerging use cases will likely apply to the collections or accounts receivables process, particularly where instant payment terms could lead to a discount.

The role of real-time cross-border in treasury

Given the evolution of technology facilitating cross-border payments and opportunity for significant cost savings, cross-border payments also rank high on the radar for many multinationals.

“From a treasury perspective, larger enterprises are complex. They have international business, foreign exchange, global operations, inter-company loans, external borrowings and interest rate hedges. That’s where SWIFT gpi comes in,” says Bateman.

“Our payments solutions teams partner closely with SWIFT and offer great tools such as GPI dashboards to provide greater insight into cross-border payments.”

He notes that mid and smaller-sized customers who are not using SWIFT could use FIS’ Bankout solution, integrated with FIS’ SaaS treasury solution, to facilitate real-time cross-border payment needs.

How APIs will influence real-time treasury adoption

For a corporate treasury to implement 24/7 instant payments, there is a need to invest in modern cash management technology that operates in real time, supporting real-time position updates, API connectivity for bank data and real-time cash positioning and forecasting.

“Treasurers expect treasury technology providers like FIS to offer solutions that optimize a cash forecast and help navigate continued market and economic uncertainty,” says Bateman. “I believe this is a huge opportunity for treasury departments to contribute to the digital footprint and digital user experience of the company.”

He explains that although all treasury departments know how to handle urgent transactions or wires, real-time payments are leveraging new technologies that are typically based on API connectivity, which is usually not supported by older payments infrastructure.

“Over the next five years, APIs will drive adoption of treasury solutions, like those from FIS, that provide the ability to have a real-time view. Wider adoption will provide the opportunity to take advantage of other API-based services. Real-time payments are a natural opportunity to be able to respond to either high-value, urgent or B2C payments, if you’re in an area where you need to satisfy customers’ demand instantaneously or gain visibility of what’s coming into your account,” says Bateman.

How technology will drive real-time corporate treasury in the future

“Real-time payments have become a focus of the fintech market and this has accelerated the availability of B2C payment channels tremendously,” says Bateman. “The fast pace of this market clearly is a driver for corporate treasuries to invest in payment technology to keep up. As a major technology provider, we naturally work with banking partners who serve the same corporate treasury customers to improve the client experience through real-time technology. We continue to see a growing number of banks maturing their API offerings.”

Bateman predicts that APIs will be the biggest influence in the evolution of real time in corporate treasury and says their role should not be underestimated. “Some of the larger global cash management banks are driving this activity in partnership with the fintechs and these banks continue to expand their service offerings. There is a lot of work being done on integration and I think that’s where there’s an opportunity to be disruptive, with many providers focused on APIs and streamlining connectivity. Once you get that right, it makes everything else easier,” says Bateman.

Just as we’ve seen in the consumer market, changing expectations for what a payment experience should be will also contribute to the prevalence of real-time payments in corporate treasury. “You can already see it from a small business perspective where you can make an instant payment and settlement, whether you’re buying an ice cream or paying your plumber. It’s just the question of when that expectation influences larger organizations,” says Bateman.

Real-time adoption in corporate treasury may still be in its infancy, but it’s not for a lack of interest or action on behalf of those who most stand to benefit from it. “The infrastructure that operates 24/7 is costly and makes the business case important. We have seen a rapidly increasing number of corporate treasuries embarking on digitalization projects supporting the digital end-user experience,” says Bateman. “Getting payments and infrastructure ready and up to speed seems critical in order to be best positioned to maximize the opportunities from a real-time payments world.”



REGIONAL TRENDS TO WATCH

Comparing real-time payments at a regional level reveals a full picture of how they are evolving. In this infographic, we examine EMEA, APAC and the Americas in isolation: Who grew payment volumes and values the most?

Which countries processed the most transactions? Which overlay services are offered and where? What are the biggest regional stories and initiatives impacting the growth in real-time payments?

REAL-TIME PAYMENTS IN EUROPE, MIDDLE EAST AND AFRICA

39 EMEA countries live

Twenty countries are live with euro SCT Inst plus 19 non-euro domestic schemes.

Hungary joins the world of real-time payments.

2020 proves to be a year of sustained growth and consolidation with many new overlay services across the continent, both within and outside of the eurozone.

20 countries live in the eurozone:

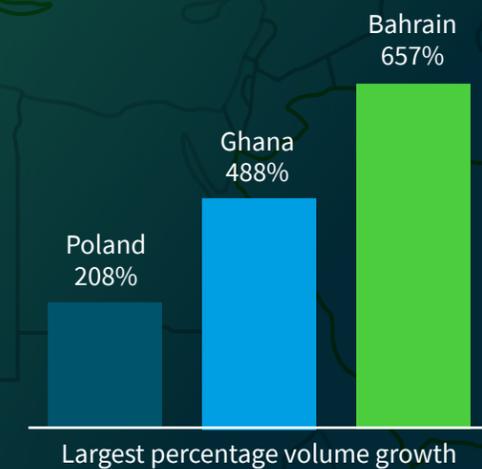
Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Monaco, the Netherlands, Portugal, Slovakia, Slovenia and Spain*

* Note, this number excludes non-euro countries (Bulgaria, Croatia, Czech Republic, Hungary, Iceland, Norway, Poland, Romania, Sweden) and also opt-out countries (Denmark and United Kingdom) who have or are developing their own services that are not directly part of the euro SCT Inst scheme.

Largest percentage volume growth

Bahrain saw the biggest growth in the number of real-time transactions compared to last year with an almost seven-fold increase (657 percent).

Ghana grew volumes by almost 500 percent, and Poland more than doubled volume.



Largest percentage value growth

Bahrain saw the largest surge in the annual value sent over its new real-time payment rails in EMEA with more than a three-fold increase (311 percent).

Other strong markets included Ghana (222 percent) and Poland (149 percent) which also had strong growth in the value being transferred in real time.



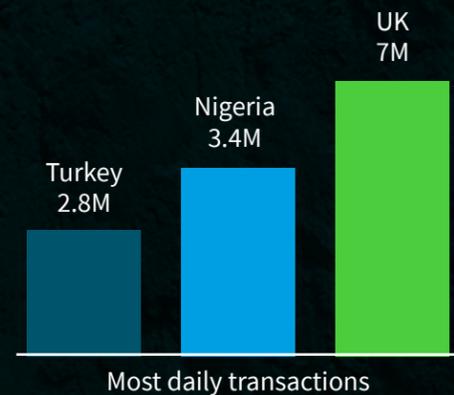
Overlay services across EMEA

	Request to pay	Account aliases (proxy)	P2P payments	Payee confirmation	Real time at POS	Corporate payment
SCT Inst	✓	✓	✓	✓	✓	✓
UK	✓	✓	✓	✓		✓
Poland	✓	✓	✓	✓		✓
Sweden	✓	✓	✓		✓	
Denmark	✓	✓				
Hungary	✓	✓				

Most daily transactions

The UK had the most total daily transactions in EMEA at seven million per day.

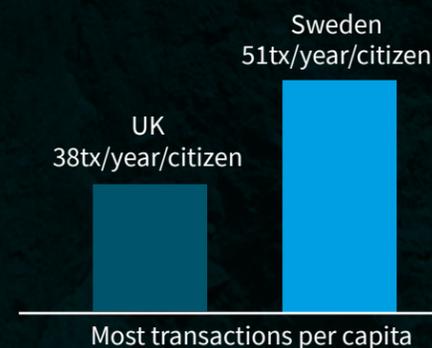
Nigeria (3.4 million daily transactions) and Turkey (2.8 million) completed the top three.



Most transactions per capita

With more than 51 real-time transactions per year per citizen, Sweden was the most utilized scheme by population size in the EMEA region.

The UK ranked second with 38 transactions per year per citizen. These numbers will likely increase as overlay services grow.



SCT Inst expands overlays

A growing number of overlay services are being developed and launched on SCT Inst later in 2020 and into 2021, including new request-to-pay overlays and many new account aliases services, with more real time at point of sale (POS) and corporate payment services emerging.

SCT Inst expands PSP subscription

As of July 2020, 2,272 payment service providers (PSP) had already joined the scheme, representing 56 percent of European PSPs.

Pay.UK pilots Request to Pay

Request to Pay, piloted by Pay.UK in May 2020, is a new secure messaging service to improve the control, flexibility and transparency of bill payments in the UK. The payer will be able to pay in full, pay in part, ask for more time or decline to pay and begin a dialogue.

P27 - Nordic cross-border, multicurrency in real time

P27 is set to become the first real-time, multicurrency, cross-border payment service across Denmark, Finland and Sweden when it launches in 2021 with open-API capability and many planned overlay services.

REAL-TIME PAYMENTS IN ASIA PACIFIC

13 APAC countries live

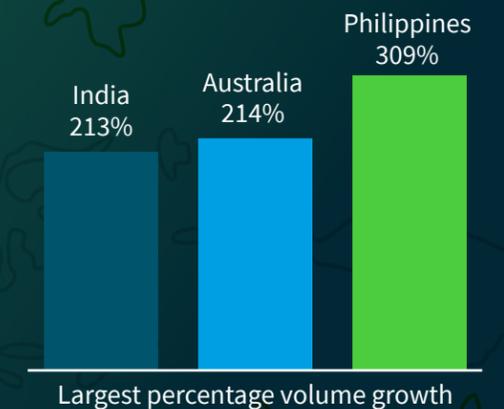
Vietnam launches real-time payments.

India maintains its leadership role in global real-time payments with over 41 million transactions per day, making it the largest market by volume.

Largest percentage volume growth

Philippines saw the biggest growth in the number of real-time transactions compared to last year with a three-fold increase (309 percent).

The top three in APAC were rounded out with Australia growing real-time transaction volumes by 214 percent and India by 213 percent.



Largest percentage value growth

Philippines saw the largest surge in the annual value sent over real-time payment rails in APAC with almost a five-fold increase (482 percent).

Other strong markets included Australia (231 percent) and India (181 percent) which both had strong growth in the value being transferred in real time.

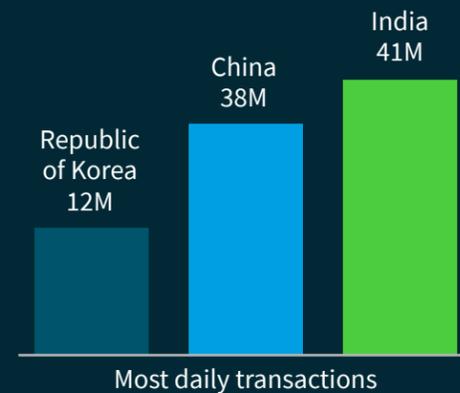


Overlay services across Asia-Pacific

Most daily transactions

India had the most total number of daily transactions on real-time rails in APAC, with more than 41 million per day.

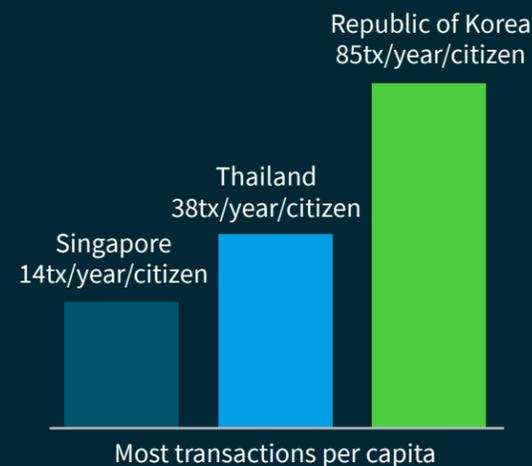
China and Republic of Korea, with more than 38 million and 12 million daily transactions per day respectively, completed the APAC top three.



Most transactions per capita

The Republic of Korea conducted more than 86 real-time transactions per year per citizen – the highest number in the Asia Pacific region.

Thailand and Singapore had 38 and 14 transactions per year per citizen respectively. These numbers should increase as overlay services grow.



	Request to pay	Account aliases (proxy)	P2P payments	Payee confirmation	Real time at POS	Corporate payment
India	✓	✓	✓	✓	✓	✓
Thailand	✓	✓	✓	✓		✓
Malaysia	✓	✓	✓		✓	✓
Australia		✓	✓			✓
Hong Kong	✓	✓	✓		✓	
Singapore		✓	✓	✓		
Sri Lanka	✓	✓	✓			

Mandated payments service for Australia

Australia's NPP prepares to launch its Mandated Payments Service (MPS) so customers can authorize third parties to directly debit their accounts.

Expanding business services in India

India continues to innovate with the launch of extensive business services on the real-time rails including IPO subscription, mandate management and invoice-in-the-box.

Asian QR code standardization

Asia has embraced the ease of payments through proprietary QR codes, and many Asian countries are now creating standardized QR codes for domestic markets including Thailand, Singapore, Sri Lanka, Philippines, Malaysia, India and Hong Kong.

Malaysia-Singapore-Thailand and cross-border payment innovation

Malaysia, Singapore and Thailand are working on a real-time payments system that will achieve interoperability between their central payment infrastructures and facilitate immediate multicurrency settlement between their real-time payment systems in the second half of 2020.

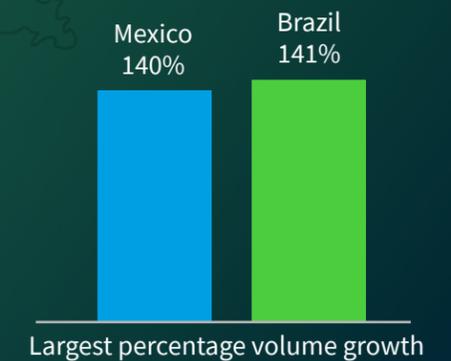
REAL-TIME PAYMENTS IN THE AMERICAS

Four countries live in the Americas

With four countries live with real-time payments (U.S., Mexico, Brazil and Chile), and three countries in the pipeline (Canada, Colombia and Peru), the Americas saw strong growth in real-time payment volumes in 2020. The U.S. now has two operational and complementary services, with another in the pipeline.

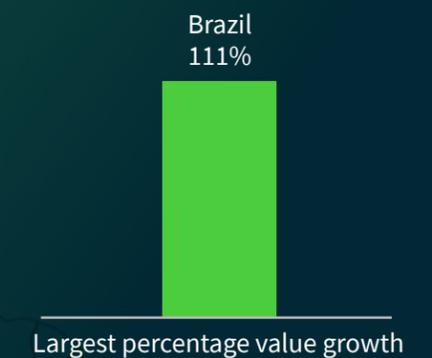
Largest percentage volume growth

Both Brazil and Mexico saw a nearly 50 percent increase in the number of real-time transactions compared to last year.



Largest percentage value growth

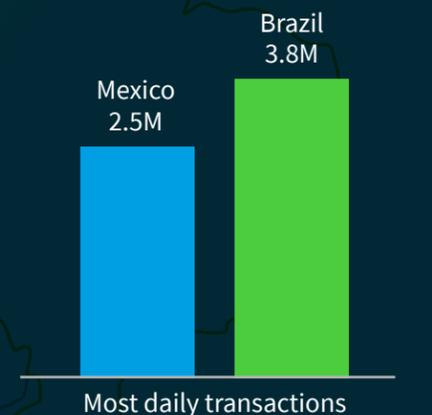
Brazil saw the largest surge in the annual value sent over new real-time payment rails in the Americas with an 11 percent increase.



Most daily transactions

Brazil had the most total number of daily transactions on real-time rails in the Americas, with more than 3.8 million per day.

Mexico, with more than 2.5 million daily real-time transactions per day came a close second.



U.S. RTP growth

P2P, B2C and B2B

use cases driving the volumes

Millions of transactions per month and growing daily

More than half of current U.S. DDA accounts can now receive real-time payments

New maximum payment limit of \$100,000 as of Feb 2020

More than 130 financial institutions are currently implementing RTP, a five-fold increase since September 2019

Four U.S. ecosystems

With two services live and others in development, real-time payment options abound in the U.S.



RTP

RTP from The Clearing House live November 2017, open to all U.S. banks, with many established overlays



Zelle

Zelle consumer P2P service (was clearXchange) backed by network of U.S. banks



Faster Payments Council

Faster Payments Council working with Industry stakeholders to support the widespread use of faster payments.



FedNow

FedNow from the Federal Reserve due to go live nationwide in 2023/24 and based on ISO 20022 standards

New state-of-the-art real-time payments for Brazil

The Central Bank of Brazil is developing an ISO 20022 based instant payment system called PIX that will replace the SITRAF service later in 2020.

Peru

The new immediate payments service will be fully real time and operate 24/7, but there is no proposed live date. Currently, payments can be cleared in under 30 seconds, but only during bank working hours. The real-time payment capability will be augmented with the potential for multiple overlay services. Top priority is a request to pay service and the use of account aliases with a proxy lookup service. The service will cater to government, consumers, businesses and financial institutions.

Next in line

Canada

The Real-Time Rail (RTR), managed by Payments Canada, expected to launch 2022.

Colombia

Announced a proposed real-time payments service offering instant credit and debit transfers and e-commerce for consumer and business payments.

Spotlight on India: **A WORLD LEADER IN REAL-TIME INNOVATION**

Experts from the State Bank of India, Paytm Payments Bank, (former) National Payments Corporation of India, Boston Consulting Group (BCG), Fintech Meetup, PayNearby and Fino Bank share insights on India's continued innovation in real-time payments.

After more than a decade of real-time payments flowing through India's Immediate Payments System (IMPS) and four years of innovative payment services built on the open Unified Payments Interface (UPI), India is maintaining its position as a world leader in instant payments and the overlay services that drive them, evidenced by a doubling of real-time payments volume and value compared to last year. With new initiatives in the pipeline, India looks set to remain the real-time payments capital of the world.

A coordinated, pragmatic and ambitious agenda from the government, regulators, the central bank and the National Payments Corporation of India (NPCI) has created a nationwide ecosystem that encourages private-sector banks and fintechs to overlay innovative new payment services for consumers, merchants and corporations. This all contributes to the national long-term digitization goal of attaining a cashless society. India remains an example to others, and all eyes are on it.

In July 2020, FIS asked a panel of financial services insiders who have been directly involved with real-time payments initiatives across India – Challa Sreenivasulu Setty, MD at State Bank of India, Satish Kumar Gupta, MD & CEO at Paytm Bank, A. P. Hota, former CGM, RBI and former MD & CEO, National Payments Corporation of India, Prateek Roongta, MD and partner at Boston Consulting Group, Abhishant Pant, founder of The Fintech Meetup, Anand Kumar Bajaj, MD and CEO at PayNearby and Rishi Gupta, MD & CEO at Fino Bank – to share their insights on innovation in real-time payments in India.

FIS: How do you see the new umbrella entity (NUE) initiative changing real-time payments in India? Will increased competition accelerate innovative services, increase adoption, streamline commerce, improve financial inclusion and reduce costs?

Setty (SBI): The Reserve Bank of India's (RBI) idea of inviting private players to set up a pan-India NUE for retail payment systems is primarily to ensure there are checks and balances to prevent monopoly and any concentration of risk in the hands of a single player. Without doubt, NUE will drive competition, innovation, better service and lower costs in the retail payments space, which will further drive the adoption of digital payment in India. The NUE is a welcome step taken by the regulator to enable diversification of the payment rails and boosting innovation. While NPCI has achieved a lot over the last decade, there is enough room for new players to compete and develop the Indian retail payments space.

Gupta (Paytm Payments Bank): NUE is a welcome step that will further democratize the Indian digital payments ecosystem. We will witness the development and launch of some exciting services aimed at solving the problem of financial inclusion at the grassroots. The NUE will be authorized to develop new payment methods, standards and technologies, monitor related issues in the country and internationally, and deliver on developmental objectives such as enhanced awareness. All this will bring in new innovations and services that will grow the overall ecosystem.

Hota (former NPCI): There is certainly space for more institutions like the National Payments Corporation of India (NPCI). However, because high-transacting segments like retail real-time payments, bill payments, toll payments, bulk and repetitive payments are already under NPCI, there are concerns about financial viability unless the RBI advises all large banks to join NUE to minimize concentration risk. Given that the promotion of financial inclusion is high on the government agenda, the RBI and government must ensure that the NUE reflects this, assisted by receiving the same kind of nurture and support which was available to NPCI during its growth.

Roongta (BCG): Although NPCI's UPI is one of the most advanced systems globally, there are gaps and whitespaces which can potentially be tapped into by NUE with innovative solutions. NUE, when combined with interoperability with UPI and a strong API platform for value-added services, would greatly enhance real-time payments in India. These efforts, along with the provision of overlay services, can potentially aid in enhancing both reach and adoption, thereby helping streamline commerce and driving financial inclusion.

Pant (Fintech Meetup): Despite all the hype, it is prudent to remember that NUE is still a long way from launch; we have just started a two-to-three-year journey. But the excitement is justified given the fact that India remains heavily reliant on cash and therefore, the opportunities to disrupt the status quo with digital payment ecosystems is something worth getting excited about. There are some doubts as to whether the NUE ecosystem is necessary in India, however, service distribution will be the key to success. The many big international technology companies looking at NUE certainly have the capital resources for the technology part, but service distribution of the value chain is harder.

Bajaj (PayNearby): NPCI has achieved ground-breaking innovations in India's payments platforms. However, there is a lot of space waiting to be filled with deeper possibilities, especially driven by other pillars of finance, i.e., insurance, lending and investments. Filling such wide gaps would need collaboration at a very high level, and another organization of NPCI stature can help speed up the process; the opportunities to harness data with account aggregation and the Open Credit Enablement Network need centralized platforms as proposed by the regulator.

Gupta (Fino Bank): The NUE will foster growth in the same way that NPCI triggered a revolution in the country. There will be no concentration of power, risk or IP within one single entity, therefore encouraging innovation. The promise of increased speed, innovative services, lower prices, better service levels and improved dispute management look set to radically change the market. The NUE can play a key role in driving financial inclusion as digital-only business models tend to alienate a large section (often the most disadvantaged) of society.

FLAVORS OF FAST 2020

FIS: How have digitization and real-time payments promoted financial inclusion and engaged with more rural communities, and do you see the trend of very high growth in real-time payments continuing for the coming years?

Setty (SBI): In order to bring the poor, and particularly women, into banking fold, the government announced a major scheme called Pradhan Mantri Jan Dhan Yojana (PMJDY) in August 2014 as a national mission for financial inclusion. This scheme, along with Aadhaar card and a major push for digital and real-time payments is continuing to play a vital role in promoting financial inclusion and wider engagement with rural communities. While Jan Dhan accounts have become the default channel for delivery of digital and real-time financial solutions to rural communities, the UPI has arguably done more for digital India and financial inclusion than many other standalone projects. COVID-19 could be the “demonetization moment” for digital services delivery in India, but while there is still a difference in adoption between urban and rural communities, the growth of digital payments has been driven by increasing financial literacy, convenience, robust digital infrastructure, etc.

Gupta (Paytm Payments Bank): Over the last few years, people in semi-urban and rural locations are quickly adopting digital payments for their regular business transactions. They are realizing the benefits of joining a digital payments ecosystem as it is opening the gateway to financial and banking services which were unavailable until now. Almost 40 percent of our user base are from these locations. The growth trend will continue not only for IMPS/UPI, but for every digital payment mode. For example, wallets continue to post strong growth and register substantial transactions every year.

Hota (former NPCI): As adoption of digital technology improves in day-to-day life - urban and rural - the preference for real-time payments will also grow. Everybody would like to pay, receive and complete transactions instantly.

Availability of real-time payment methods like RTGS, NEFT, IMPS, UPI and card payments have helped micro, small and medium-sized enterprises (MSME) or small traders collect funds faster, with less cost and effort. Similarly, millions of beneficiaries under various government schemes have been able to realize the benefits by using Aadhaar Payments Bridge and AePS. However, we have touched only the tip of the iceberg.

Roongta (BCG): Financial inclusion has been one of the core focus areas for Indian regulators, policy makers and financial institutions over the past many years. The trinity of Jan Dhan, Aadhaar and Mobile reach (JAM) has been a key enabler for driving financial inclusion among under penetrated segments such as rural customers, MSME and the urban poor, driven by mobile-based real-time payments, especially those powered by UPI.

In a recent consumer sentiment survey (BCG in May 2020), it was observed that 42 percent of respondents had used UPI for the first time post-COVID, signifying the migration of new users towards the channel.

Pant (Fintech Meetup): The Indian market is growing fast; the total number of daily transactions is expected to grow to over 200 million within a few years from around 42 million today, partly fueled by social media payment services from WhatsApp, Google and others becoming much more active. And all this before NUE is even defined. But we must guard against creating closed-loop ecosystems or islands of digital connectivity that are disjointed and isolated – competing rather than complementing. Today’s UPI is an ecosystem that cooperates, but as more closed-loop services emerge the market could become deeply fragmented.



Bajaj (PayNearby): More than the technology, it is the widening distribution reach that has been established over the past few years that helps India to access financial liberation. India is increasingly upgrading from an assisted to a fully self-service model. While cash remains in heavy use, the momentum from UPI and other public infrastructure built on real-time payments will accelerate digitization faster than planned. It is encouraging that all stakeholders remain committed to building the national infrastructure to ensure frictionless, resilient, highly scalable services; India will surprise the world with innovations developed locally and deployed worldwide.

Gupta (Fino Bank): The ongoing COVID-19 lockdown has emphasized an increasing trend for consumers to summon the bank to their doorstep using digital tools. Previously, these were services only available to privileged banking customers, but thanks to digitization we have seen the same service level offered to all. The high growth in IMPS can be attributed to the sheer simplicity of the idea and a sense of security around it. The release of Aadhar Enabled Payment Services, and hence the ability to access a bank anywhere using biometric authentication, has been a great driver to financial inclusion as it provides easy and secure access to banking.

FIS: As we increasingly process payments faster and in a more open business environment, how can we meet the growing technical challenges of maintaining security when information sharing has become part of the business model?

Setty (SBI): Information sharing and third-party collaboration are vital to ensure a wider coverage for financial services. But the security of the overall payment ecosystem could be adversely impacted if not handled securely. With the increasing drive for speed and convenience, payment ecosystems must ensure overall security. The measures should include the adoption of industry accepted cryptography, strong server-to-server authentication, comprehensive security-role SLAs with third parties, interconnectivity security agreements between parties, strong multi-factor authentication, threat detection/monitoring and employing risk-based payment processing using behavior, limits and past usage.

Gupta (Paytm Payments Bank): The success of the digital payment ecosystem depends upon the security of transactions, and each and every transaction is guided by the standards and rules laid out by the RBI. We believe that any new technology is good as it opens up new possibilities. However, as far as cryptocurrencies and blockchain technology are concerned, we look to the regulators to lay down guidelines and frameworks. It is not necessary to assume that blockchain technology will help improve security; in India, we already have stringent security measures in place, and with UPI, we already have a proven, world-class digital payments service that can easily be internationalized.

Hota (former NPCI): Despite numerous technical solutions and tools being widely available on the market, security and fraud remain a problem. As digital transaction volumes grow, the risks are perceived to have also grown. The tables need to be turned and make security awareness and the stringent implementation of cybercrime provisions the answer. It is so important that cybersecurity should become part of the school curriculum.

Roongta (BCG): Security is undoubtedly the most important facet of payment systems and is topmost on RBI's payments agenda. However, public perception and comfort towards digital payment does remain an area of concern and needs to be addressed through awareness/education programs by intermediaries. Enhancing security requires the adoption of modern technologies by the payment platforms and intermediaries. While it is still in early stages, multiple intermediaries, including India's NPCI, have been working towards leveraging blockchain technology.

Bajaj (PayNearby): Physical currency has no tutorials, but users understand how important it is to keep it safe. Human beings understand this, and this wisdom has evolved over thousands of years. Unfortunately, no amount of technology evolution can surpass human greed and stupidity; many would agree that most of the frauds can be attributed here. Good payment system technologies will need to evolve with a better user experience to help mitigate frauds in the transaction flow itself. Experiences like two-factor authentication, recent changes in UPI flows (collect prompt) and "Positive pay" as announced by RBI recently are good examples.

Gupta (Fino Bank): Often, risk and security issues are triggered by the customer's lack of awareness and not realizing the implications of what they are doing. The COVID-19 pandemic will result in higher instances of things going wrong – more first timers using digital transactions reducing the chance for algorithms to detect issues and more people requesting others to transact on their behalf. Public education and awareness are important and need to continue, but the best tool is sound, mathematical models to identify fraudulent transactions that need to be checked with the customer. This is a cultural thing and brands which invest in this will always face lower risk situations.

FIS: With India leading the world in real-time payments for the last few years, how can India best make use of its position, and where do you see real-time payments in India over the next few years?

Setty (SBI): The renewed interest of foreign tech players in India, with the recent spurt in investment, is a testimony to the growth potential in India. India is unique in terms of a combination of intellectual capital, innovation ability and huge headroom for growth. One of the major themes for 2020 will be a deepening of the conversation around overlay services; propositions that directly leverage real-time payments infrastructure as part of a new value proposition to users. Overlay service are increasingly popular with corporations; the introduction of real-time request to pay means they can initiate payment requests via their banks directly to the payee. With real-time payments growing, digital transactions in India could be worth USD 1 trillion annually by 2025, with four out of every five transactions being made digitally – driven by convenience, ease, simplicity, no fees and higher internet adoption.

Gupta (Paytm Payments Bank): The developed western economies are heavily dependent on card transactions, with many of the European countries still dealing in checks. UPI is simpler to implement, easy to scale up and provides complete security for user data. The Indian digital payments ecosystem is an example for the world to emulate. Increasingly, customers are expecting an easy, secure, real-time experience for cross-border payments too.

They want instant and affordable settlement 24/7. We expect Indian companies to develop and launch innovative solutions to address these concerns. Real-time payments will continue to grow at a similar pace. In the first phase we witnessed growth in urban centers, but this is now being led by semi-urban and rural areas. We also expect the adoption of digital payments to also expand the scope of other banking and financial services.

Hota (former NPCI): While there is certainly appreciation and interest from abroad for India's progress with real-time payments, this has not yet significantly translated into exporting solutions to other markets. The continued expansion of services offered with built-in real-time payments – bill payments, remittances, fee payments, transit payments, etc. – will certainly improve this, driven by competition and regulatory intervention to speed up and reduce the costs of digital payments.

Roongta (BCG): Owing to the success of UPI, the Indian central bank has directed NPCI to facilitate the transfer of UPI technology to other countries. Key areas which require interventions include ramping up of QR code-based acceptance, enhancing smartphone affordability, enabling B2B payments, driving digital awareness and offering a breadth of innovative value-added services to help meet more use cases. Although multiple different customer segments are being tapped into, significant potential still exists to expand the breadth, especially focused overlay services for rural and MSME sectors.

Bajaj (PayNearby): It is likely that payment systems will move towards charging people for the service. Until now, only merchants are levied a fee for accepting real-time digital payments. Soon there would be possibilities where customers would want a certain assurance and security and would be willing to pay a subscription fee for it. This said, there is still a lot to be covered when one sees that half of the subsidies disbursed by the government remain inaccessible in the hinterlands. Success depends on taking high-end technology to the common man in a tech-oblivious manner.

Pant (Fintech Meetup): The biggest growth potential for Indian real-time payments is from the B2B sector with a likely eight-fold increase in volume in the coming years. Education, transport and medical sectors are also seeing a radical change in payment behavior; where once cash and checks were the norm, increasingly, digital payments are the only way. The insurance market has now become pull-based not push-based as citizens request assistance directly through digital channels, the only option under COVID-19. Access to services is now easier as the underlying payments provide the rails to digitize the whole economy.

Gupta (Fino Bank): There is absolutely no dispute about the opportunities in the Indian payments space. However, to make investors feel safe we would need stable, regulatory governance, consistency in rules, and an environment where entrepreneurs can prosper. Remittance and cross-border transactions are now a part of routine transactions, almost commoditized. This is good and reflects the journey travelled in making them customer friendly. Nobody can really predict anything except that people demand that payments be faster, cheaper and safer.

CLAUS RICHTER ON THE P27 NORDIC PAYMENTS PLATFORM

Scheduled to launch in 2021, the P27 Nordic Payments Platform will become the world's first real-time, cross-border, multi-currency payments platform. Using a streamlined domestic central infrastructure, it will enable real-time, batch, domestic and cross-border payments within the Nordics. The platform will initially streamline payments between Denmark, Finland and Sweden and can expand to serve the entire Nordic region. Participants benefit from streamlined infrastructure, a holistic view across payment types, lower processing costs and improved efficiency.

Users will have the ability to accommodate ACH payments, ISO 20022 for high-value payments, open APIs for enhanced payment services and overlays to further fuel innovation on the real-time rails.

Planning for P27 began in 2017, and Mastercard signed on to operate the platform in 2019. In June 2020, FIS spoke with Claus Richter, chief operating officer for P27, to learn more about the infrastructure that has yet again brought the Nordics into the payments-innovation spotlight.

FIS: What are your expected core services at launch?

Richter: We are focused on the core clearing and settlement services and are progressing with two different currency and schemes: Swedish krona (SEK) batch and euro instant payments. Right now, it looks like Swedish krona batch will hit the market first.

FIS: Is that driven by the participants or is the core development driving the sequencing?

Richter: We started with Swedish krona batch originally because there is a need to replace the existing infrastructure in Sweden, and it is the largest volume market in the Nordics. Then, we would like to get instant payments live in all countries as quickly as we can; that's where the real new innovation options sit.

FIS: P27 is going to be initially be rolled out in Denmark, Finland and Sweden. Are there plans to expand into Norway or other markets?

Richter: We've had an intensive dialogue with Norway all along the way and in the beginning of the project it was included. They chose to step out for a number of reasons, but we have a continued good dialogue with the banks in Norway, the central bank and other authorities. There is no immediate plan for Norway to join, but we very much hope they will in the medium term.

FIS: You're looking at a release plan for different currencies. Is there a sequencing that's already mapped out? Are there lead banks participating?

Richter: We are furthest ahead in SEK batch. We have four banks that we call front-runner participants: Swedbank, Handelsbanken, Danske Bank and Klarna. Euro instant is the next scheme, but we are not ready to name the front runners just yet. Following that, we have the Danish krona batch starting in the autumn.

FIS: What kind of access options do you have for participants?

Richter: We work with two concepts: Liquidity-providing participants and liquidity-served participants. Liquidity-providing participants have a direct account in the central bank of that particular market and have liquidity there. Liquidity-served participants have liquidity provided by another bank in the central bank account system.

FIS: Are you expecting to see an increase in the number of participants in payment services?

Richter: We are hoping and planning to have all the banks in the country where we operate reachable on our service. Non-bank providers will be what we call reachable participants; they are not direct parties, but they are connected through one of the banks. We continuously look at participation requirements, but this is where we have landed for the initial phase.

FIS: What is the core operation you envision with European Central Bank (ECB) and how do you see interaction with TARGET instant payment settlement (TIPS) for P27 real-time multi-currency payments?

Richter: We are looking at TIPS in several aspects. The Swedish central bank (Riksbank) has announced they will use TIPS for RIX-INST, and we have agreed that we can operate towards TIPS in Sweden as a single-instruction party (SIP) on behalf of the banks. In Norway and Denmark (where TIPS might get introduced), we will follow those developments closely. On the European and euro scale we have not had formal dialogue with the Finnish central bank, but we envision there might be developments. If that happened, the SIP service would be valid for the full European market. We are also looking at having an overflow service towards EBA Clearing, both for their instant payments/RT1 scheme and batch payment processing.

When you look at the Nordic market, they trade a lot with other European countries. Together with the dollar as one of the large trading currencies, it's very natural for us to have a clearing and settlement connection into that currency to create European reach.

FIS: How do you see the added-value, level-2 services built on top of the core infrastructure developing?

Richter: We have started work on our first level-2 service, which is bill payments. We ran an RFI throughout the spring and have prepared material to go into an RFP in late autumn. The purpose is to create a harmonized bill-payment service throughout the Nordics and look into new use cases, which could be ecommerce scenarios or in-store services where a bill-payment process rather than a direct credit transfer could be an option. You could also see this combined with credit services underneath. The request-to-pay scheme would be the underlying messaging flow for this; we'd look to build services on top of that.

FIS: Will your request-to-pay scheme use the European standards or are you developing your own?

Richter: We have a declared goal in P27 to stay as close to international standards as possible. We plan on following the European standard and we will have to adjust it for Nordic needs like different currencies and different letters in the alphabet.

FIS: When do you expect to introduce the new bill payments service?

Richter: We haven't set a formal time frame yet, but it's probably in the first half of 2022. Unlike clearing and settlement or normal credit-transfer payment processing, bill payments have very strong traditional roots per domestic market, and this is the case in the Nordics. Trying to streamline across the countries and being able to facilitate and harmonize one model is a much bigger challenge than for credit-transfer systems; migrating corporates and consumers to one service is another factor to consider.

FIS: The Nordics are world leading in technology, particularly when it comes to payments. Are you seeing new ideas for the products, services and business models banks are already working to, or is the focus on the basics first?

Richter: From a P27 perspective, we have a laser focus on delivering our current scope, because that's our license to be able to do future development. However, we have future-oriented dialogues with our owners and market participants, and a key area is the financial crimes space. We all have the same objective to prevent crime and that whole space is one we see as a next area to step into.

FIS: Do you see cards becoming seriously under threat in the future?

Richter: In the near future, no. But I do think domestic card transactions are likely to be significantly impacted in the Nordic region within five to ten years. If we look at cross-currency and card transactions executed outside of a home country, I think it's probably a longer time horizon of ten or more years.

FIS: Have the banks been talking about any new areas they'd move into beyond replicating what's in P27 today?

Richter: We will create a real-time cross-currency service for the first time globally. About 20 percent GDP in the Nordics is intra-Nordic trade, so businesses and corporates in the Nordics will significantly benefit from that innovation.

On the consumer and eCommerce side, we'll see if we can get the mobile schemes of the different countries to have interoperability based on the P27 service. That would mean the mobile wallets that we have in the Nordics (like MobilePay, SWISH and VIPPS) would start to work in the different countries in eCommerce, P2P and in-store scenarios.

Tourists, border-region trade and eCommerce would all benefit. It would also be one of the steps towards replacing card transactions in this space.

FIS: If you look to the future, do you think P27 will drive significant differences in how payment providers compete?

Richter: In real-time cross currency, we will provide a foundation for payment providers to do something new and I think we'll also see corporates start to look at this from a liquidity perspective. When everything becomes instant, they'll have different liquidity options, and that applies to the whole bill-payment space. If you look at large billers like electricity and phone companies that may have hundreds of thousands (if not millions) of bill payments, the flexibility of a bill-payment system and assurance of receiving a payment bring a different level of liquidity management into play for them.

FIS: Do you think there will be convergence across payment types as we're seeing so much movement in enterprise payments? Do you foresee more competition?

Richter: In the long term (20+ years), I think we'll see a harmonized global scheme for account-to-account transactions that will provide a real alternative to cards. The platform will be the basis of future innovation and take away the need for the costs of corporate and non-corporate schemes. Those will converge. Politically, the interesting question then becomes who owns and controls the new scheme of the future.

Providers of payments services will have to look at all the services that sit around the payment because that's where the revenue sits in the future. Revenue generation is not going to be from payment processing itself. It will be everything from the credit facilitation that sits around the payment to the interesting insights gained from payment data and the ability to derive services from that.





IS REQUEST TO PAY THE MISSING PIECE OF THE REAL- TIME PAYMENTS PUZZLE?

Widely viewed as a key element to driving adoption, use and engagement of real-time payments infrastructures around the world, Request to Pay (R2P) offers a convenient, flexible way for people, businesses and governments to request a payment while reducing process and cost inefficiencies for businesses.

While varying iterations of R2P have been developed over the past decade by providers like Swish, MyBank, Ideal, Bizum and Paym, all have used a closed-loop infrastructure. In turn, reach has been limited; both participants must be registered with a central authority in order to use it.

Today's R2P options have evolved into an overlay service that uses real-time payments rails to accommodate existing relationships between banks and customers, making R2P accessible for a much larger user base.

Here's a closer look at how, when and why various regions plan to introduce R2P to market and why it has the potential to significantly drive more global activity on the real-time rails.

How R2P Functions

Each R2P transaction has the capability to include details from the payee to a payer, which may include payment amount, purpose, destination account, timing, a unique reference field and a link to an invoice, to simplify cash reconciliation. Typical use cases include bill payment, invoice payment, ecommerce, payment at point of sale and installments. Although real-time payments are driving the development of the new wave of R2P services, it can also be applied to other payment types including direct debits, ACH and even card payments.

Regions with mature faster payments infrastructures like India are already offering R2P for person-to-person payments and business-to-consumer use cases, but many others are currently preparing to bring R2P to market with the intent to shift away from batch processes and toward real time.

PAN-EUROPEAN REQUEST-TO-PAY INITIATIVES

EPC/SEPA & EBA Clearing

In November 2019, the European Payments Council (EPC) Request to Pay Multi-Stakeholder Group delivered its proposed way forward for R2P functionality using real-world use cases. Recommendations included the creation of an R2P scheme to be made compatible with SEPA payment schemes (SCT and SCT Inst), guidelines for how R2P could apply in both physical and remote transactions, and the publication of a SEPA Request to Pay (SRTP) scheme rule book by November 2020. In June 2020, the EPC launched a three-month public consultation on the draft of the rule book it developed for SRTP; it intends to release the final SRTP rule book by November 2020. Much like Pay.UK, the EPC describes SRTP as a messaging scheme, not a form of payment. Its overall intent is to streamline end-to-end payments and reconciliation, allow the flexibility to pay now or later, enable digital payments and evolve functionality as payments further develop.

In December 2019, EBA Clearing, a pan-European payment infrastructure provider owned by 49 major European banks, released R2P specifications for 11 countries in partnership with 27 financial institutions. Scheduled to go live in November 2020, EBA Clearing's R2P fully aligns with the R2P scheme currently being delivered by the EPC and can be used across Europe.

A pan-European R2P approach has often been called the missing piece of the puzzle to enabling innovative payment products and services that fully leverage real-time messaging, SEPA schemes and existing cost-efficient payment infrastructures across Europe. R2P has been called a key element in creating a pan-European payments ecosystem that can further transform real-time messaging, instant payments and R2P services into sustainable end-user solutions that will increase payments convenience and transparency while easing reconciliation and reducing risk.

Australia

Australia's New Payments Platform (NPP) Mandated Payments Service (MPS) was designed to provide a broad, scalable approach to third-party payment initiation for real-time account-to-account payments. It allows customers to authorize third parties to initiate payments from their bank accounts using the NPP, which had more than 68.5 million accounts enabled to make/receive payments on the platform as of June 2020. Though third-party payment initiation could give consumers a better alternative to direct debit payments and enable use cases like merchant-initiated e-commerce, in-app payments and "on behalf of" services conducted by a third party, it's also expected to reduce credit card use in the region.

Because the MPS capability empowers customers to give consent for payments to be initiated from an account by a specified third party, they'll have more access and control over the digital payments they've authorized and can move authorized payment arrangements between accounts held at different financial institutions. Because the MPS requires third parties have just one access point to the NPP infrastructure to initiate payments to use R2P, they needn't integrate with multiple financial institutions to initiate payments from customers' accounts.

All NPP participating financial institutions are required to implement elements of the MPS capability by December 2021, with an expected early 2022 rollout. As volumes increase, the NPP expects to offer payments at a lower cost compared to incumbent networks run by the U.S. card schemes Visa and Mastercard.

Malaysia

In the second half of 2020, Malaysia's real-time payments platform, DuitNow, will roll out its R2P functionality on a pilot basis as part of its DuitNow 2.0 Payment Solutions. Its R2P capabilities will offer a secure, convenient and fast way for consumers to pay in both e-commerce and mobile commerce channels. In either case, participating merchants who offer R2P functionality could offer a customer an R2P payment option, so the customer can pay simply by approving the payment. In February 2020, Shopee, an e-commerce platform serving Southeast Asia and Taiwan announced that it will be the first e-wallet of an e-commerce platform to join DuitNow and its pilot programs, allowing customers to transfer funds instantly between ShopeePay e-wallets, bank accounts and other participating e-wallets.

UK

Though Pay.UK postponed the originally planned launch of its R2P framework to avoid placing additional pressures on banks amid the global COVID-19 pandemic, it **formally launched the framework for the development of R2P services on May 29, 2020**. That same month, Visa successfully tested more than 100 biller and consumer use cases and over 40 exceptions using standards developed by Pay.UK. It confirmed that all participants involved in the pilot would have the full accreditation needed to join the R2P service at go-live. Pay.UK is currently using a proof-of-concept approach to encourage use of its sandbox to develop and test services for account-to-account and card payments.

Pay.UK describes R2P as an overlay messaging service that sits atop its existing payments infrastructure and not a new method of payment.

The expectation is that financial institutions, fintechs, utilities and retailers will all be interested in offering the option to customers, who can sign up to use the service via an R2P app. Once that step has been completed, the two parties can connect directly with one another, similar to how a private email exchange might function. For each request made via Pay.UK, customers can pay in full, pay in part, ask for more time, communicate with the biller or decline to pay.

The service can also be used by consumers to split payment for bills and manage all bills in one place. For billers and nonprofits, Pay.UK says R2P offers a more transparent way to discuss bills, payments and donations while reducing reconciliation costs and improving cash flow visibility. The payments operator estimates that its R2P services could save billers an estimated £1.3 billion per year.

US

Launched with the goal of making faster payments ubiquitous in the United States by 2020, The Clearing House's (TCH) real-time payments network (RTP) now reaches more than half of all demand deposit accounts (DDAs) in the United States. In an exclusive interview with FIS conducted in August 2020, James Colassano, senior vice president, RTP product development and strategy at TCH, explained that they are currently working with a number of banks and select large billers to develop the capabilities to present a request for payment, or RFP (the term used in the U.S. instead of request to pay) to their customers through the banks' online bill-pay platforms. The RFP would be delivered to the customer, who can then respond through their bank bill-pay platform.

Foundational testing to confirm that messages can be delivered and paid on receipt of the request was successfully concluded in July 2020. TCH is also conducting initiatives with the banks around business-to-business RFP.

It will soon execute a small-scale pilot later in 2020 that would involve a subset of billers and early adopter banks, with the intent to expand and grow the program in 2021.

"We typically don't use real-time payments overlay services and we don't create a broad-based application that we expect all the banks to sign onto. But in the case of RFP, we are doing that in overlay services for bank bill pay," explained Colassano.

He also predicted that the recent global pandemic should accelerate future RFP activity on RTP. "Cashflow from billers has been impacted dramatically as a result of the pandemic, and folks have realized that when you start to work from home and start to close down operations in the marketplace, lockbox operations no longer work at full capacity. The RFP is one area where you're going to be able to see digitization of the actual collection process, and we've seen a lot of interest from billers around the use of RFP. We expect that's going to extend well beyond the pandemic and the current economic crisis."

India

India's Unified Payments Interface (UPI) is a real-time payments system that takes advantage of India's high smartphone ownership to power multiple bank accounts into a single mobile application for any participating bank. The application merges banking features, fund routing and merchant payments into one always-on mobile location. In mid-2018, it launched UPI 2.0 which included person-to-business payments and merchant payments that made scanning a QR code and approving a request for payment through UPI simple. UPI 2.0 also introduced "Invoice in the box," which allows the payer to view an invoice associated with a request to pay through a link and verify details before paying.

The interoperability of UPI has moved digital payments to the forefront in India, provided the underbanked with a feasible and inexpensive means of transferring money and moved India closer to becoming a cashless society.

To use R2P services via UPI, a user must log in to their bank's UPI application and select "collect money" (the term used to activate request for payment on UPI). The user then enters the remitter/payer's virtual ID, amount and account to be paid. Upon confirmation of those details, the payer receives the request for payment on their mobile device and can review the payment by opening their bank's UPI app. If the payer decides whether to accept the request, they enter their MPIN to initiate the transaction. Once complete, the payer receives confirmation that their payment (or declination of the request to pay) has processed; the requester then receives confirmation that their bank account has been credit in the requested amount.

While digital payment use reportedly decreased amid the country's spring 2020 lockdown as a result of the COVID-19 pandemic, National Payments Corporation of India COO Praveena Rai said that 50 lakh new users onboarded to UPI in April 2020, and that merchants were also moving from QR codes to UPI.





Adrian Lovney on
**AUSTRALIA'S
NEW PAYMENT
PLATFORM'S
MANDATED
PAYMENTS
SERVICE**

Launched in February 2018, Australia's New Payments Platform (NPP) was specifically designed to allow consumers, businesses and government agencies make and receive data-rich payments, in real time between bank accounts, at any time. More than 68.5 million accountholders can now make or receive payments via the NPP, representing 90 percent of all accounts eventually expected to be connected. During the month of June alone, an average of 1.5 million NPP payments worth an average of \$4 billion transacted each day, representing about one in five account-to-account credit payments.

Its Mandated Payments Service (MPS) is currently in build phase, and will give customers the ability to authorize third parties to initiate real-time account-to-account payments for an unprecedented level of financial control and convenience. MPS will also enable third parties to initiate safe and secure payments with customer authorization, while requiring only one access point to the platform.

In June 2020, FIS spoke with Adrian Lovney, chief executive officer of NPP Australia, about how MPS will further shape the evolution of real-time payments in Australia.

FIS: Do you expect that the increased customer convenience and financial control MPS will enable will rev up competition in the marketplace and drive financial providers to generate new value propositions?

Lovney: The MPS was originally designed to provide a better solution for traditional account-based direct debit payments, but it's grown to become so much more. We see it opening a broad range of use cases, which include payments that might be initiated in a fintech application, merchant-initiated payments such as e-commerce or recurring/subscription-based payments, or payments initiated on behalf of the debtor, rather than the creditor. For example, rather than a merchant initiating the payment, I could authorize a cloud-based accounting software package to initiate payments (with my consent), from my account on my behalf.

MPS can be used by existing financial institutions that connect to the NPP today (either directly or indirectly), and by third parties that connect to the NPP via one of those financial institutions. They can use the building blocks we've created (payment initiation message, the rules framework, the centralized mandate management system and the customer authorization approach) to deliver a digital customer experience. The MPS will provide the Australian market with a broad, scalable approach to third-party payment initiation, which can be used by a range of different parties.

FIS: What approach have you taken to access?

Lovney: One of the distinguishing features in Australia compared to other markets was that the system in Australia went live with a really large number of smaller institutions: About 50 smaller institutions went live with the NPP from day one, and today there are more than 90 organizations connected to the NPP. Eighty of the 90 organizations connected to the NPP today do so indirectly because it suits their business model. Ensuring the platform is accessible by a range of organizations is one of our key areas of focus. There's a spectrum of access options available, including gateways, direct and indirect connections, to both financial institutions and non-financial institutions, such as fintechs. Increasingly, we see third parties looking for connectivity via APIs. While we don't provide APIs directly, we have defined an API framework to try and drive consistency in how APIs are being developed across a range of different access points.

FIS: In terms of third-party access, your approach is different from what's happening in Europe around open APIs. What led you to look at MPS as a way of offering a single access point?

Lovney: We will enable a fintech or a merchant to access the entire span of 68.5 million accounts that will be reachable via the service through one connection. This means that if a third party wants to initiate payments from a customer's bank account, they can route the payment initiation message to the financial institution holding the customer's bank account via that one access point, eliminating the need to have multiple connections to different financial institutions.

One access option could be for a third party to connect as a "Connected Institution." This option, which is in our rule set today, enables an organization to have their own direct connection to the technical infrastructure without the need for a banking license. If they don't want to do that, they could still access the MPS and the 68.5 million accounts indirectly with one connection point, via one of the existing aggregators, a retail bank or a commercial bank.

Combined with the rules framework, the MPS offers consistency of customer experience, fraud protection and privacy protection, while enabling third parties to decide which way they want to connect.

FIS: What are some of the interesting use cases in which you're seeing MPS develop new ideas in the market?

Lovney: It's still early days but payment initiation is the number one request that we get from the marketplace, so we know there is a lot of interest in the capability. There's a lot of focus around retail and interest from fintechs, but with the ISO data standard that underpins our system, there is increasing interest from businesses and corporates. There's progress being made here locally around the rollout of the European e-invoicing standard in Australia starting this year, so we're also expecting to see e-invoicing and procure to pay use cases.

Moving further, there's activity involving distributed ledger technology (DLT), smart contracts and DLT-based solutions that transfer ownership of assets, for example, with fiat currency in real time.

For government, we're seeing use cases around collections, receivables management and increasing focus on faster, always-available payments in line with increasing moves toward digital service delivery of government services.

FIS: Have you seen much interest from retailers in using this at point of sale or in e-commerce?

Lovney: There is considerable focus around e-commerce, subscription and recurring payments as we see more consumers prefer to pay with an account-based solution for a recurring payment, in-app payments and funding from wallets.

PayPal recently announced the ability to pay using a PayPal wallet at the point of sale using a QR code worldwide, including in Australia, so we expect that we might see more activity in the QR code space over time.

FIS: What do you think are the biggest barriers at this moment to enabling corporate payments to flow in a more systematic way?

Lovney: We've tried to drive some standardization in the ecosystem and play a role in defining data message standards for specific payment types, whether they're for e-invoicing payments, salary payments, tax payments or pension payments. Like many other jurisdictions, banks in Australia have focused on their retail customers first, in terms of rolling out real-time payment solutions, but are increasingly making that functionality available to institutional and corporate customers to receive and make payments, either individually or in a bulk form.

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As we've largely moved all individual single-attended payments from the batch system to the NPP, the focus now is on debit payments and bulk payments that might be produced in a large file, and then submitted into the real-time payment infrastructure. We're doing a lot of work to make sure that we're geared up for that, in terms of the central infrastructure, file formats, data mapping and the availability of those big enterprise resource systems and other software vendors that produce those files.

FIS: The business rules and liability model that you're developing alongside MPS is quite a differentiating factor compared to other schemes. Can you tell us more about that?

Lovney: A common rules and liability framework provides a consistent and scalable approach about how messages are managed and responded to in real time, how authorizations are recorded and stored, and about how disputes and investigations are managed. The building blocks we've put together can be accessed by a range of different parties, regardless of their size; issues like liability for successful transactions and unsuccessful or unauthorized transactions can be dealt with in a consistent and agreed upon way. It ensures a consistency of balance between the interests of creditors and the interests of debtors and removes some of the manual processes. It also makes it easier for customers to be in control of their payment arrangements, while giving creditors visibility when a customer has changed, suspended or canceled an authorization or mandate linked to their account.

Providing a consistent framework where liability and processes are clear on both sides helps to build confidence in the system, and drive take-up. Offering consistency between financial institutions in terms of how the service works will give customers a sense of familiarity when moving mandates between different accounts held at different financial institutions.

FIS: What best practices do you think that MPS could offer other regions in terms of fraud and risk management, and how do you see that evolving?

Lovney: The processing of a payment initiation message under the MPS framework requires that the mandate record is validated by the creditor's bank before the request is sent. This ensures the mandate record exists and is valid, and that the payment has been initiated in accordance with the customer's instructions and authorization, which is really at the core of the process. The capture of that authorization extended into the channels is a matter for each individual bank, according to their own authentication and risk management policies and processes. For some, that could be a thumbprint with biometrics, with a PIN, device-based or using two-factor authentication. I think that's where the room for future innovation may occur, depending on the marketplace.

FIS: Are you seeing evidence that NPP is displacing other payment mechanisms?

Lovney: Single "pay-anyone" payments made by consumers and businesses have largely moved over to the NPP, and now there's a focus on debit and bulk payments. Two years after the go live of NPP, some Australian banks are already talking about retiring the bulk payment system within the next five to 10 years.

There's a real impetus around simplification, increased resilience, additional regulatory protections included in terms of "know your customer" authorization and the providence of data that can be supported by the ISO system. For international payments, the ability to specify the purpose of the payment or have the identity of the LEI incorporated into the payment is important. There's a real drive from some corporates and businesses for 24/7 faster payments availability, and demand for that migration to occur – but that's also matched by the banks who are keen to retire some legacy systems. Particularly post-pandemic, there's more general focus on digitizing experiences, providing customers greater control over payments, doing things remotely, and for small businesses, finding different ways of accepting payments. That sits at the core of what we're doing here.

FIS: Do you see cross-border coming along anytime soon, or do you think it's going to be a little while before the world is ready for full cross border?

Lovney: We've designed the NPP to support the inbound leg of an international foreign transaction. We're completely agnostic about the way that that transaction occurs, whether it's a classic SWIFT MT message, a DLT-based solution or a disruptor. Our interest is in ensuring that the information about the original creditor and the purpose of payment is transmitted through the process end-to-end, and that transactions are separately identifiable so that recipient banks can subject them to enhanced due diligence and screening.

We haven't seen enrollment into that service yet because in many cases, banks haven't enabled their existing screening technology to connect to their real-time systems so they can screen those messages with confidence. I think we'll see it being used for the inbound leg of a cross-border payment within the next 12 to 24 months, by some banks. For outbound cross-border payments, we're already seeing a lot of NPP usage to fund the initial domestic leg.

Transport for London Perspective: **WHAT REAL-TIME PAYMENTS OFFER MERCHANTS**

Transport for London's Jit Ng on
What Real-time Payments Offer Merchants

Now that the core real-time rails are in place, stakeholders from multiple industries are looking at how to extend the reach of real-time payments (RTP) into new areas. Transport has been a hugely influential industry in driving adoption of new technologies and presents one of the most demanding environments in terms of speed, accessibility and complexity. However, success in transport reaps real rewards, rapidly establishing new payment habits and accelerating take up.

As the integrated transit authority that runs the day-to-day operation of London's public transport network including London Underground, Overground rails, trams and buses as well as the cycle hire and congestion charge, Transport for London (TfL) has established a reputation not just for moving London's residents and visitors, but for influencing payments on the world stage.

Established in 2000, TfL has a long history of innovation and played an instrumental role in driving the removal of cash to the adoption and use of contactless payments in 2012 on its buses, as London became host to the Olympics.

In 2014, it further extended contactless payment options to include the Tube, London Trams, the DLR, London Overground and some National Rail stations. In an August 2020 interview with FIS, Jit Ng, payment industry interface manager at TfL, said it is the second largest contactless merchant in the U.K, and further explained the important role payments play in transit for provider and traveler when it comes to both experience and payment habits.

Payments and the passenger experience

“From the passenger perspective, payments are the end of the line in the process. They assume it will work correctly and quickly, every day. They will choose the form of payment that is most convenient to them, and that fits their risk appetite,” said Ng.

“Our job [at TfL] is to deliver the right range of payment options to our customers while also reducing TfL’s cost of payments. Assuming the experience is always the same, the only variable left is cost. Real-time payments could meet that need.”

While TfL’s customers have successfully used contactless payments for years, Ng said the costs of accepting them has continually increased for merchants. “We [TfL] need more openness and choice on the back-end payment rails, and genuine innovation and competition on the front end. We have a responsibility to seek out the most cost-effective way to process payments without jeopardizing any performance, service-level standards and fraud protections,” said Ng. In that regard, he thinks RTP could deliver both customer convenience and lower merchant costs.

“RTP are a really good solution for low-value, high-volume merchants. Generally, card payments today cannot compete; no scheme today has a business model for merchants which don’t really need or benefit from the added protections that are baked into card rail costs,” said Ng. In addition to business models like TfL, he predicts that RTP could offer considerable opportunity to three specific merchant segments, at least in the first phase of its introduction to the masses: supermarkets, pharmacy and parking.

“Once those goods are consumed, they are gone. To make their mark with consumers, RTP should start with those segments. Aim for a strong, secure, basic service on low-value and high-volume. Over time, RTP could add in the bells and whistles needed for other sectors.”

For merchants facing cost challenges associated with card rails, Ng said that moving from one acquirer to another is no longer an effective solution; it merely delivers incremental cost savings. Yet, RTP could deliver the perfect mix of convenience, immediacy and step-change cost savings “Once a payment habit is formed, breaking it is very challenging,” said Ng. “RTP still needs to address how to become a habit. But TfL is unique in that we can change the habits of individuals, our consumers.”

He explained that in the current state, there’s a correlation between how the customer chooses to pay (their habit) and, as a result of that choice, how the merchant (like TfL) must process the payment. “As a merchant, I want to break that correlation,” said Ng. “It’s about breaking down the payment chain so there is more choice. If the customer wants to initiate the payment with a card, why should the merchant have to process it on card rails? It introduces greater competition. Customers should be able to choose the initiation and merchants should be able to choose how to process it in a way that is optimized for them.”

The predicted game changer for RTP and merchants

Ultimately, Ng’s belief is that an open payments infrastructure of the future, a breakdown in the value chain and a reduction in the siloes that have created the current inefficiency will benefit the traveling public and become the proverbial golden goose for RTP from the merchant point of view.

“If you can truly break the correlation between consumer choice and merchant choice that will be the game changer for RTP.”



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EXCLUSIVE CONTENT

THE CLEARING HOUSE'S JAMES COLASSANO

On real-time payments
in the United States

In 2017, The Clearing House (TCH) launched the RTP network, the first real-time payments system in the United States (U.S.), with the goal of connecting the country's 10,000+ financial institutions to a network that would enable payments to clear and settle individually in real time and fuel further innovation.

Now that more than half of all demand deposit accounts (DDAs) in the country are connected to the RTP network, TCH is focused on enabling core providers like FIS to make it as easy as possible for the financial institutions they serve to connect to the nation's newest payments system.

In August 2020, FIS spoke with James Colassano, senior vice president, RTP product development and strategy at TCH, to learn about the RTP network's continued evolution in the U.S..



FIS: The RTP network has seen somewhat unexpected demand for capabilities like real-time employee expense reimbursement and instant payroll. What do you think is driving this, and what other key capabilities are users interested in?

Colassano: Since the pandemic has come into play, the need to manage cash flow down to the day and minute has become critically important to small and large businesses, as well as individuals. In this challenging environment, supply chains are also fragile. Being able to make a payment and know supplies are coming immediately because that payment has been made with finality are extremely critical elements of the basic payment flow in the environment we are in today.

We have seen some new use cases being developed on the RTP network, such as instant payroll applications. For the most part, ACH has become a standard for payroll as customers have moved from being paid by check to getting paid by direct deposit. We didn't think that was an area in the near term that a lot of organizations and companies would see as a place to start with real-time payments, but we've seen a lot of uptick in the short term. We're also seeing use cases for gig economy workers and remote work environments really start to take off. People need to get paid immediately more than ever before.

Some of the more recent use cases are merchant settlement applications, especially for small and midsize businesses with cash flow needs. There are existing options available to merchants when they're trying to settle, but none provide the level of immediacy and finality that the RTP network does. So, now we are seeing a bank specializing in differentiating this merchant settlement space, while another HR services provider is specializing in immediate payroll. These are the types of applications that we've seen start to see build momentum over the last year.

FIS: Have you seen any shifts in the competitive environment among the banks that are now on the RTP network? What are some of the more compelling value propositions driving customer engagement?

Colassano: The additional functionality built into the RTP network allows immediate feedback and a complete end-to-end digital experience. We are finding that the predictability of that experience is something that's valued by the sender of the transaction as well as the receiver. Our research has shown that consumers appreciate the consistent experience, regardless of who they bank with. We've done a lot of work with the banks around digital experience and user experience, and we've made all that information public on our website. Even though banks are going to be competing on services, they're not competing in the same way that they have before. They are collaborating on the user experience because they want to make sure that they understand what the experience is going to be not only for their customer, but for their customer's customer when they send an RTP transaction through the network.

With that said, once you know what the predictable end experience is going to be within the network, you can start to construct services to sell to clients with certainty in terms of how it's going to operate within and across the network. Banks are carving out niches in terms of industry verticals or use cases where they've developed deep expectations.

They are advising customers on how they can use real-time payments or request for payment (RFP) to solve problems they are experiencing today, and there's a lot of information sharing and collaboration on the end design to make sure clients have an excellent experience.

FIS: How is the ISO 2022 standard utilization applied for a business-to-business (B2B) payment?

Colassano: There is typically more information involved with a B2B payment, and we are finding it's also unique by industry. Some industry verticals are straightforward and look very much like a consumer payment. For example, B2B utility payments are relatively straightforward and can probably follow a similar RFP model to that of consumer bill pay with very little adjustment; others, like healthcare payments, can be extremely complicated.

We're trying to deconstruct the B2B payments, look at them by industry and see what unique elements can be built into the messages to create real value. More complex use cases do require more extended remittance detail. Right now, we are working on how to deliver that information seamlessly, without requiring every bank in the network to create specialized reporting once they receive the message. We are also looking at a document and data repository which would store the information between two counterparties in a central place and be easily retrievable by the receiving party via the RTP and RFP messages. There's a lot to unpack in the B2B space, but we're taking a very pragmatic approach. The ISO message set allows us the flexibility to start with industry verticals and targeted solutions and then build out broadly and rapidly from there.

FIS: What about interoperability between the RTP network and the other payments rails? How are you driving the messaging to allow for a potential shift from ACH and wire rails to the RTP rail?

Colassano: With ISO 2022, we have attempted to work with a core set of messages that the global operators are going to be deploying, and so that global standard should help facilitate message interoperability (when we get there) for RTP messages. We're taking the same approach in the U.S. to make sure that the RTP network is going to be using the messages that the wire transfer systems will be using. We are harmonizing them so it will not be difficult when customers are looking to migrate.

As we do more work on the B2B side, we're finding that payments aggregated in batches create a major challenge to straight-through processing (STP) at many companies. With most enterprise resource planning (ERP) systems today, a company might take 100 different invoices that need to be paid, aggregate them all into one and then make one bulk payment. If one item in that batch doesn't reconcile, the entire payment is thrown out of sync; and additional data is required because someone needs to reconcile that one payment.

In a real-time environment, you can make payments precisely on the day they're due, for a relatively modest cost. Many of the customers we are talking to say they would make more frequent payments on more invoices on the day they're due, as opposed to bulking, batching and paying them once a month or once every few weeks. Once that dynamic changes, you will start to see these STP rates increase. That will also start to minimize the need for bulk data going from one counterparty to the next.

As we look at different industries and different challenges within those industries, we're starting to see how more frequent payments made on payment dates can be beneficial to both buyers and sellers. The precision that comes along with making an RTP payment allows a buyer to take advantage of early payment discounts more readily and predictably than they can in the current environment. For the seller, the finality of the RTP payment allows them to release goods immediately on receipt and benefit from the improvement in cash application. I don't think we're going to have a one-size-fits-all solution for B2B, but we can solve a lot of problems for a large number of businesses simply by standardizing some of the RFP messaging without going back and forth with bulk amounts of data from one party to the other. These are things we are now learning because it's still early stage.

FIS: What is TCH's strategy to support ubiquity and onboard more community banks on the network?

Colassano: There are two ways that you can connect to the RTP network as a financial institution: a direct technical connection, which we expect the top 50 or top 100 banks to do, or connection through a third-party processor such as FIS. We work closely with third-party providers – many of whom own the banks' core underlying DDA platform – to enable them to connect to the RTP switch and rapidly onboard their banks in many instances as part of a turnkey solution. With the strategy we are deploying, we've connected just about all of the TCH owner banks to the network, and about 50 percent of the DDA deposits nationwide are currently accessible. We expect to have several hundred financial institutions connected by the end of the year through this methodology.

To facilitate rapid onboarding, we're also developing some utility services to make it easier for banks to onboard, such as a standardized testing package that banks and third parties can use to test and pre-certify when they come onto the network. We've also enabled a funding agent capability through the RTP network so that banks who do not want to manage their own settlement activities can work with third parties to provide funding agent capabilities; we are constantly working to streamline our onboarding process to make it as easy possible for financial institutions to join the network.

FIS: How influential do you feel RFP will be in driving real-time use and adoption in the U.S.? Where do you currently stand in bringing these capabilities to the RTP network?

Colassano: The ISO 20022 messaging framework being used for the RTP network in the U.S. and most countries around the globe allows participants to start to use non-financial messages that have never been available in the marketplace before, and these messages have the potential to really transform the end-to-end payment experience. RFP functionality is in the early stage of deployment in the U.S.

Because of the connectivity and the audit trail between the non-financial RFP message and the RTP payment (credit transfer), the seller should be able to take that payment back and immediately apply it to the customer's account. We feel that there's going to be an incredible value proposition associated with that. TCH is now working closely with our banks to bring a new bank bill pay model to market which will be using that RFP message in 2021 and there is a great deal of excitement and anticipation about it.

FIS: Do you have any predictions that we could start to see the RTP network displace some of the other common payment mechanisms in the U.S.?

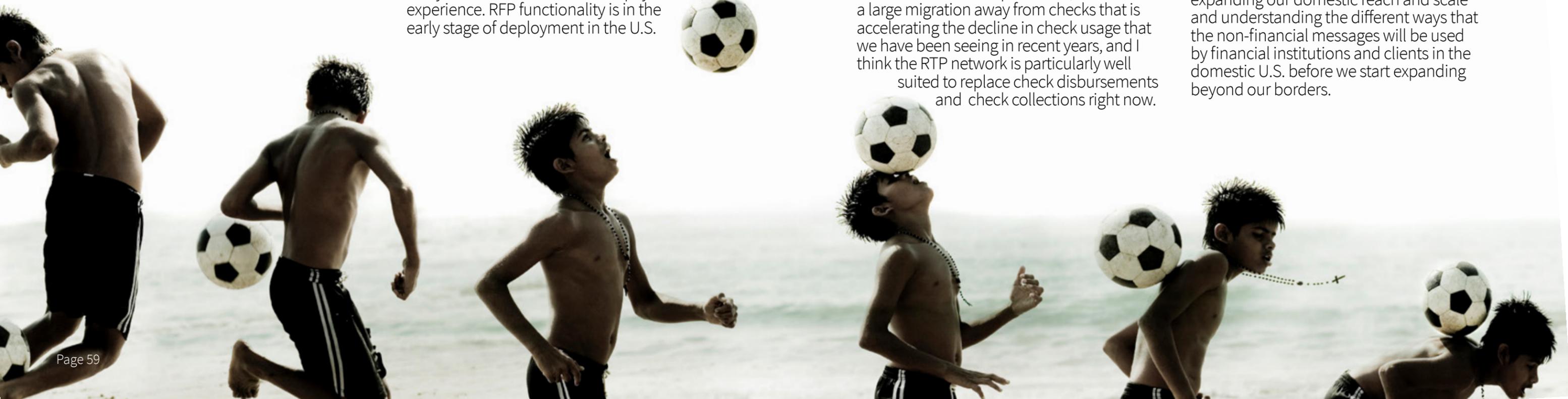
Colassano: In the early days, you're probably going to see the RTP network complementing and augmenting other U.S. payment mechanisms services. There will likely be some very targeted opportunities as businesses become more comfortable with the real-time experience and where the traditional mechanisms may not be well suited, but I don't believe you're going to see mass displacement of wires or ACH anytime soon. Because of the pandemic, we do see a large migration away from checks that is accelerating the decline in check usage that we have been seeing in recent years, and I think the RTP network is particularly well suited to replace check disbursements and check collections right now.

We're also seeing companies sending out RTP payments after hours when Fedwire is closed, or on the weekends. So, it is displacing some wire activity, but mainly because of the 24/7 model in place right now.

The RFP may present an interesting alternative to some direct debit applications, particularly as an option for those individuals who may need to pay at the last minute and require the certainty that a payment has been received on the day it's due, without the risk of an overdraft. On the B2B side, we may start to see some migration to more frequent and less bulked payments.

FIS: What is your expectation regarding cross-border use cases? Where does that fit in the current roadmap?

Colassano: Right now, the RTP network is a domestic U.S. payment infrastructure; only U.S. dollar payments to U.S. banks can be made within the current network. But we are using the ISO 20022 standard for RTP, RFP and the other nonfinancial messages. We did that with an eye toward doing cross-border payments somewhere down the road. For now, our priority is focused on expanding our domestic reach and scale and understanding the different ways that the non-financial messages will be used by financial institutions and clients in the domestic U.S. before we start expanding beyond our borders.





OPPORTUNITY

A GOLDEN WINDOW OF OPPORTUNITY FOR CROSS-BORDER REAL-TIME PAYMENTS

Insights by Daniel Mayhew, FIS' senior vice president, cross-border payments

It has never been more important to remove the barriers to trade by building open, sustainable and instant payment services across the globe.

Since the 1970s, money has been transferred internationally on legacy inter-bank cross-border payment rails. However, in a global banking world where trade is borderless, routing cross-border payments using traditional mechanisms is not always the right solution for today's "always-on" world.

Removing barriers to international trade is essential for corporate success, and the time has come for payment service providers and central banks to support the cross-border growth of businesses around the world. The need for a new, modern, open network that includes banks, corporations, financial institutions, merchants and fintechs is no longer just nice to have; it's mission critical.

A closed loop in an open world

Because cross-border payments involve bridging the closed loops of multiple currency and domestic payment systems and the complexities presented by the world's many regulatory jurisdictions, they are inherently more challenging to resolve than domestic ones. Non-real-time cross-border payments take a day or more to reach their destination, only happen during business hours and have cut-off times or deadlines. At initiation, the exchange rate can be unknown and transaction fees vary. Payments may be routed through many banks before reaching the destination, causing further delays and fees. Unless it is a repeating payment, current methods don't even guarantee certainty that the payment is valid for the destination account.

Because of these limitations, payment providers are demonstrating the need for alternatives, as evidenced by the investment dollars that are now dedicated to cross-border initiatives. Not only does such an alternative stand to improve availability of liquidity, visibility and capital risk ratio, screening would drastically improve with real-time capability. The COVID-19 pandemic has further accelerated the reality that real-time digital payments that can move money globally aren't a luxury; they're fundamental to our entire financial ecosystem.

Remove barriers to international trade to support the much needed cross-border growth of businesses around the world; we all need to support one another and play our part.

Ecosystems – compete, collaborate and co-invent

The future is open. The future is for everyone. The future is multi-ecosystems. It is worth stressing that modern ecosystems are not monoliths, they are more like constellations; there is not one box that does everything for everyone. Instead, ecosystems are built on interoperability between stakeholders, with multiple roles to play for banks, fintechs, regulators, merchants and corporations, at different parts of the value chain. The goal is self-supporting ecosystems that empower all parties to sell globally and give everyone a piece of the action. Participants need to understand their position and not forget that they are part of larger ecosystems, not the owners of them.

Several cross-border payment services have been launched over recent years; Ripple, SWIFT gpi and other providers have made considerable inroads into the slow and unreliable correspondent banking networks. In parallel, fintech disruptors such as Revolut, TransferWise and Starling Bank are successfully winning market share from incumbents with simple-to-use, competitive cross-border and domestic payment offerings. SWIFT gpi has rapidly become the standard mechanism within the network for cross-border payments. More than 60 percent of all cross-border payments on SWIFT now travel via gpi, representing more than \$300 billion USD in daily value; half of these gpi payments reach their destination within minutes, and nearly all within 24 hours. While blockchain-based services like Ripple allow banks to facilitate transfers without the need to hold correspondent relationships abroad, they must contend with the regulatory implications of their business model in multiple jurisdictions. By contrast, SWIFT can operate from a trusted position as a legacy system.

Opening up real time to interoperability

Markets are primed and ready for a total refresh in cross-border payments in the form of a new, open network for all types of payment stakeholders that can move money instantaneously, with improved traceability.

Domestic markets already promote real-time services but achieving interoperability in cross-border is the core issue. To address it, central banks need to embrace the opportunity to cooperate by answering fundamental questions like “how could the United Kingdom’s Faster Payment scheme and infrastructure “talk” to the RTP scheme in the United States?” or “how could Australia’s real-time payments payment platform NPP feed directly into Germany’s SCT Inst.?” These questions can play a critical role in ensuring that the friction and pain points of cross-border payments are removed. If all parties commit to cooperating, international markets will get a new opportunity to flourish.

In some parts of the world, this has already been accomplished. Thailand, Malaysia and Singapore, for example, are showing the way as their central banks work together to enable a real-time payment service across the Malay peninsula. P27 in the Nordics is an imminent multicurrency service for cross-border payments between Denmark, Finland and Sweden made possible by central banks interconnecting; Australia, France and India are also making moves in this direction.

The European Payments Initiative (EPI), with the support of 16 banks in five countries, will offer a unified pan-European payment solution leveraging SEPA Instant Credit Transfer (SCT Inst), that includes a card for consumers and merchants across Europe, a digital wallet and P2P payments. The solution aims to become a new standard means of payment for European consumers and merchants in all types of transactions including in-store, online, P2P and even for cash withdrawal. In addition to existing international payment scheme solutions, EPI promises to rival credit card giants and tech companies including Google, Apple, Alipay and WeChat Pay.

At the crossroads – go open or closed?

Whether domestic or cross-border, the goal for real-time payments is to become ubiquitous for all users in all use cases, irrespective of destination.

By providing the most efficient route for the customer when trying to execute the payment, the current growth of cross-border, real-time payment providers is a major step toward this goal. However, there are still two possible destinations for cross-border real-time payments: to remain in a series of closed loops or open across markets to respond to real-time needs worldwide. Our vision is certainly the latter, and we are strategically focused on building the network of networks that will propel real-time payments further forward.

The future is open: Modern multi-ecosystems are not monoliths; they are more like constellations.

About FIS

FIS is a leading provider of technology solutions for merchants, banks and capital markets firms globally. Our more than 55,000 people are dedicated to advancing the way the world pays, banks and invests by applying our scale, deep expertise and data-driven insights. We help our clients use technology in innovative ways to solve business-critical challenges and deliver superior experiences for their customers. Headquartered in Jacksonville, Florida, FIS is a Fortune 500® company and is a member of Standard & Poor's 500® Index.

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