



Real-time payments race ahead

Infrastructure projects around the world are racing to deliver faster payments to the retail customer

Introduction

Real-time (or 'immediate' or 'instant') payment systems have been delivered in several countries in recent years, with more in preparation today. In this article we take a look at some recent and ongoing developments as of April 2018.

The story so far

Since the year 2000 a dozen countries* have successfully implemented real-time payments systems. These are central infrastructures which clear and post relatively low value sums to mainly retail and corporate beneficiary accounts within a few seconds, usually with deferred net settlement of interbank positions.

This wave of real-time payments systems deployment can be seen as 'part two' of a longer process which initially delivered high-value inter-bank RTGS systems in the 1990's.

* The following table lists the main real-time payments systems launched between 2000 and 2015:

Country and system	Deployed
Brazil – SITRAF	2002
Chile - TEF	2008
Denmark – Realtime24/7	2014
India – IMPS	2010
Mexico – SPEI	2004
Nigeria – NIP	2011
Poland – Express ELIXIR	2008
Singapore – FAST	2014
South Africa – RTC	2006
South Korea – EBS	2001
Sweden – BiR	2012
UK – Faster Payments	2008

A few examples are much older than these. Japan's Zengin system, which caters for both high and low-value payments, was launched in 1973.

In line with consumer and business demand most of these systems operate on a 24/7 basis, and most though not all use ISO 20022 messaging to deliver such benefits as fuller remittance information.

Now let's take a look at some current ongoing projects:

Australia

Australia's New Payments Platform (NPP) was launched to the general public in February 2018. Supported by a growing roster of banks, it provides businesses and consumers with 24/7 services. The NPP initially enables customers of three of the 'big four' banks - Commonwealth Bank, National Australia Bank and Westpac - to make payments via a service called PayID, which requires users to enter only the recipients' mobile phone number or email address. Other financial institutions, including ANZ, will follow. During this year more than 60 financial institutions will begin rolling out services to customers.

In what is becoming a common strategy in the real-time payments space, the basic infrastructure (built and operated by SWIFT) will support several overlay services - tailored services which individual financial institutions may choose to offer their customers. Bill payment system provider BPAY contracted to deliver the first overlay service.

A slightly unusual feature of the system is that rather than use deferred net settlement at the interbank level – the choice of most real-time payments systems to date – in Australia the central bank settles NPP payments individually in real time. The Reserve Bank of Australia has built the Fast Settlement

Service (FSS) for this purpose, as a new component of the Reserve Bank Information and Transfer System (RITS), Australia's high-value payments system. Other countries using real-time settlement include Mexico, Sweden and Switzerland.

Europe

When SEPA Instant Credit Transfers became operational in November 2017 almost 600 Payment Service Providers began participating in the scheme, located in Austria, Estonia, Germany, Italy, Latvia, Lithuania, the Netherlands and Spain. Customers from these PSPs – individuals, businesses, corporations and administrations – can now make and receive instant euro credit transfers within their national borders as well as cross-border.

A growing number of clearing and settlement mechanisms (CSMs) for SCT Inst payments operate both at single country and Europe-wide levels. France's STET, Spain's Iberpay, and Holland's equensWorldline (in development) are examples of country level CSMs. Nets A/S, the providers of Denmark's CSM were recently contracted to provide a solution for Hungary's GIRO service.

At the Europe-wide level, EBA Clearing's pan-European real-time payments solution RT1 began live operation in November 2017. SIA Group was contracted to deliver the real-time payment infrastructure. (SIA is, among other things, the technical operator of STEP2, EBA Clearing's pan-European ACH). On 21 February EBA Clearing announced that RT1 had processed 500,000 transactions to date via 20 directly connected participants.

Meanwhile the European Central Bank is developing TIPS, the Target Instant Payment Settlement service. TIPS will offer final and irrevocable settlement for instant payments in central bank money on a 24/7/365 basis. It will allow participating banks to set aside part of their liquidity on a dedicated account opened with their central bank, from which instant payments could be settled around the clock. TIPS is scheduled to commence operations in November 2018.

Elsewhere in Europe, a consortium of Dutch banks announced plans to build an instant payments system by 2019. The design of the infrastructure has been completed and the building phase continues into 2018, after which testing is scheduled to take place, with a go-live date in 2019.

In December 2016 the National Bank of Hungary announced plans to introduce a real-time payments system by 2019, with payments in line with the SCT Inst Rulebook mentioned above. Full details of functionality are not yet available, but it will be a 24/7 service and it will support alternative account addressing, with ISO 20022 messaging including 'Request to Pay' messages. The aim is for a go-live date in the second half of 2019.

In April 2016 Switzerland went live with its upgraded SIC service, which handles both high value transactions and also retail direct debits and card payments.

USA

In the USA, The Clearing House (TCH) has gone live with a real-time payments system delivered by Vocalink, and known as TCH RTP. This is an enhanced version of the 'Immediate Payments Solution' that was originally deployed in the UK's Faster Payments Scheme and then Singapore's FAST.

Functions include Request to Pay, Request for Refund, Request for Information and Remittance Advice. RTP allows third-party service providers to offer PSPs access to the service as an alternative to being sponsored through a major bank.

Canada

Payments Canada is building a completely new service to provide 'instant payments', using ISO 20022 messaging, and this will support overlay services using ISO 20022 based APIs. Its working title is the Real-time Payments Rail (RTR). In common with other real-time payments systems the RTR will support such features as Request to Pay messages, and aliasing, e.g. using an email address to identify a target payee. The first release of the new system will occur in mid-2019.

Further developments in the UK

The UK launched its highly-regarded Faster Payments Scheme (FPS) in May 2008, using a technical infrastructure provided by Vocalink.

FPS was originally designed to use a bespoke form of the ISO 8583 standard, popular in card processing systems. On 10 January 2017 it published official conversion mappings between the ISO 8583 based message set and ISO 20022.

An ambitious roadmap for FPS was sketched out in the Payment Standards Forum report of November 2016, which included a proposal to replace FPS and several other systems with a completely new architecture (for more on this see our article 'Shaking up the UK Payments Infrastructure'). This would be a layered architecture with provision for overlay services and supporting additional message types such as Request to Pay messages.

The emerging consensus

The projects developing real-time payment systems today attempt to satisfy current customer needs while attempting to future-proof the solution in a world of ever-accelerating innovation by providing open-ended architectural features.

Using a layered architecture allows any number of additional services to be layered over the basic payment transaction. Provision is increasingly made for non-bank participants to access the service (for example the UK's New Access Model), though in general participants will still need a relationship with a sponsoring deposit-taking institution in order to carry out the final settlement with the central bank.

Alternative addressing allows for a variety of aliases to be used in place of the account number, including phone number, email address and business tax reference.

The ISO 20022 standard supports data-rich messaging with remittance information either being provided with the payment or as a separate message, and importantly allows for new functions such as Request to Pay.

Capabilities of Transformer

Trace Financial and Transformer are world leading when it comes to the challenges of working with diverse and complex messaging standards. Organisations such as SWIFT, Earthport, Currencies Direct, global banks and market infrastructures all rely on Transformer to address challenges such as cross-border payments, diverse ACH formats, standards interoperability (MT-MX); ISO 8583 and faster payments; evolution of ISO 20022 and canonical models.

Transformer uniquely allows analysts or developers to address all aspects including mapping, validation, enrichment, testing and maintenance without resorting to coding or scripting. In the

scenarios described above the challenges largely centre around transitioning from variants of ISO 8583, SWIFT MT and other standards to ISO 20022 over a period of time and during which organisations will need to support legacy and new standards simultaneously.

Transformer offers PSPs and infrastructure providers the tools they need to create, model and work with multiple ISO 20022 based message definitions as well as to build transformations between ISO 20022 and other formats. Transformer's libraries capture all of the details of an ISO 20022 based standard in a highly business-friendly way, including user-friendly names and full descriptions for all fields, components, and data range values, and fully support cross-validation rules. In a similar way Transformer's ISO 8583 library captures every detail of each ISO 8583 variant down to a sub-field level and presents it in a way that is meaningful to the analyst.

Transformer dramatically shortens the time taken to build solutions involving complex standards. The analyst using Transformer creates solutions directly in the intuitive Design-Time GUI. There is no coding stage, even when the required data transformation is highly complex. In this way projects remain clearly articulated and easy to maintain, and removing the old-fashioned 'spec handover' from analyst to developer eliminates a major source of risk and delay. Testing is fully integrated at all stages.

Once configurations are complete and tested they are deployed into any runtime architecture that suits the client. A Transformer configuration can be deployed into the multitude of technical infrastructures found at a client site including Java, .NET, RESTful services, etc.

Transformer is a truly strategic solution to all the challenges and delivers one best-of-breed solution for any messaging standard; for deployment in any technical infrastructure; for integration in any version control system and automated testing environment; and can be used by analysts or developers without any need to resort to coding or scripting. Transformer is an essential tool for coping with these evolving and complex demands.

About Trace Financial

Trace Financial Limited are leading specialists in financial message transformation and have been designing, implementing and supporting mission critical solutions to the financial industry for over 30 years. Trace Financial is part of the privately-owned Trace Group.