



BANK OF ENGLAND

# Speech

---

## **A new RTGS service for the United Kingdom: a Platform 9<sup>3</sup>/<sub>4</sub> for sterling payments?**

Remarks given by

Andrew Hauser, Executive Director, Banking, Payments and Financial Resilience

On the panel 'Towards a single platform for all payments' at SWIFT's SIBOS conference,  
Geneva

28 September 2016

People wanting to travel north out of London by train are spoiled for choice. Spread along a half-mile stretch of the city's Euston Road are no less than three major stations: Euston, King's Cross and St Pancras. Each provides slightly different facilities, with trains ferrying passengers at different speeds to different locations. But the basic service – train travel – is much the same in all three cases, and many of the destinations served by different stations are within a few miles of each other. Indeed some are identical. There are for example nearly 100 trains a day to Newark Northgate, split equally between King's Cross and St Pancras!

The reasons for such an apparently complex system are of course historic, dating back to the period of intense competition between train lines in Victorian times. Euston was built in 1837 for the London and Birmingham Railway, King's Cross in 1852 for the Great Northern Railway, and St Pancras in 1868 for the Midland Railway. Given a free hand, it is inconceivable that anyone would design such arrangements from scratch today. Yet tens of millions of passengers use each station every year: business is booming.

The situation in UK payments today is rather similar. Customers wishing to make a domestic retail payment can choose between physical cash (drawn from their bank, or via the LINK system of ATMs), a paper cheque, a credit or debit card via the Visa or Mastercard systems, a real-time payment over FPS, or a batch payment across Bacs. Wholesale payments may be made through the CHAPS high-value scheme, operated on the Bank of England's Real-Time Gross Settlement System (RTGS) or through the embedded payment schemes of CREST or LCH. Those making cross-border payments may use their correspondent bank, a direct link to an overseas RTGS system or CLS the foreign exchange settlement service. Taken together, one can easily list 10 or 15 payments pathways without even trying.

Each of these systems is devoted to meeting the needs of their customers, which vary materially. Yet at their most basic level, all involve a simple transfer of value. The fragmented way in which that core service is delivered poses at least three types of economic challenge. First, those having to make different types of payment over time must bear the direct costs of meeting multiple different payments protocols, technological requirements, fees and governance standards. Second, those costs create potential barriers to entry for would-be payments providers, holding back innovation and competition. And, third, it is a potential challenge for system-wide resilience, if payments meant for one system cannot easily be rerouted through another in the event of a system outage.

Those challenges have been with us for some time. But the pressure for change is intensifying from a number of directions. First, consumers are increasingly demanding a more seamless payments experience – in real time, and indifferent to time zone, country or currency. That pressure has been most evident in retail markets – but is spreading to corporate and larger-value markets too. Second, intense cost pressures on traditional business models since the financial crisis have pushed banks and other financial institutions to look for more radical ways to find efficiency savings, particularly in back office and ancillary services such as payments. Third, advances in technology have made it much easier to deliver or contemplate genuinely mobile payments platforms and distributed payments and database systems. Fourth, new regulation –

building on the painful lessons of the financial crisis – has increased the need for financial firms to be able to mobilise significant stocks of highly liquid assets quickly and seamlessly across systems. And, fifth, the growing threat of cyber-attack and reduced tolerance for operational outages driven by the move to real-time payments has made users ever more demanding in terms of the resilience of payment ecosystems.

All of these forces are pushing towards greater convergence in payments systems. But that convergence could take a number of different forms. At its most radical, it could imply a single universal payments system, run on a single platform, and handling all payment types. Or it could mean retaining separate systems, but with a common ‘backbone’, including a shared language, operating standards and access protocols.

Before discussing these alternative models in greater detail, I should say a word about why central banks like the Bank of England have such a central interest in the outcome. Our primary role is to maintain stability in sterling payments arrangements – and we do that in two key ways. First, by ensuring that as many payments as possible settle in (or are backed by) central bank money, we aim to minimise so-called ‘settlement risk’: the risk that a payment fails to reach its destination because the intermediary fails, or confidence is undermined in the payments medium. Central bank money, whether physical (banknotes) or electronic (reserves) in form, is the ultimate risk-free means of final payment. And, second, central banks seek to maximise the operational resilience of core payments systems, by operating high-value payment systems directly and supervising the other systems through our regulatory powers. Although public debate about operational resilience has, rightly, intensified in recent years, payments systems have a generally good track record: for instance, most operated flawlessly throughout during the financial crisis, unlike some other key bits of the financial system.

It is sometimes claimed that central banks’ focus on stability stands in the way of innovation or consumer interests. But neither needs to be true. Efficiency-enhancing innovation and competition has an important part to play in promoting financial stability, through reducing market concentration, identifying new risk-reducing technologies, and increasing the scope for electronic settlement in central bank money. And surveys regularly identify resilience and safety as being at the very top of consumers’ demands for payments services. So we do want to enable innovation, but only where that can be done without impairing stability.

What do we make, then, of those two alternative models for payments convergence I mentioned a moment ago? An all-encompassing payments platform hosted on a single IT system has clear appeal from the point of view of simplicity and clarity of purpose. And there are some important case studies globally – including in Mexico, whose central bank is represented on the panel today. But it would be a big change from the model we have in the United Kingdom today, and poses at least three significant risks. First, it would involve putting all our eggs in one basket operationally: if the system and its backups were to go down, for any reason, all payments in the UK would stop. So, just as it would be unwise to try to channel all 100m passengers a year to Euston, King’s Cross and St Pancras through a single train platform, diversity has

some operational merits! Second, it would be potentially very complex to ensure that all of the different functions currently offered by the various payment systems were replicated on the single system. In all probability this would end up being impossible, and compromises would be made – what started as being everything to everyone could end up being much less. Third, someone would need to pay – and there is a good chance that such a large project might fall to the public authorities. That is not the model that has developed for UK retail payments – and such a single dominant infrastructure could well have negative implications for innovation and competition.

Over the medium- to long-term, it is possible that some of these challenges may be overcome as new technologies – including the distributed ledger – mature. Central banks could themselves have a role to play in the operation or underpinning of any such system, through the issuance of a Central Bank Digital Currency or otherwise. But there are so many big questions around such a scheme – policy, legal, technological, even social – that this is still very much in the realm of research rather than implementation<sup>1</sup>.

In the nearer term, the UK is therefore embracing the second convergence concept – that of joining separate systems together around a common backbone, embracing so-called ‘interoperability’. Underpinning that, I would pick out two key drivers – the first in wholesale payments, and the second in retail.

The first driver is the Bank of England’s consultation on a new medium-term vision for its high-value RTGS service, which we published just a few days ago<sup>2</sup>. RTGS has delivered an extended period of stability in sterling payments, has a range of risk-mitigation features that is at least the equal of other systems globally, and is generally well thought of by its users. But, after two decades of operation, its capacity to deal with the accelerating pace of change in payments that I described earlier is limited. That poses three risks to the achievement of the Bank’s mission over the medium term. First, we could see a reversal in the proportion of payments settled in central bank money if systems develop outside the RTGS net, harming financial stability. ‘Ubering’ for central banks, if you like. Second, we may end up impeding stability-enhancing innovation and competition. And, third, we risk a future diminution in service quality, whether in terms of meeting user needs or operational continuity.

Our consultation paper sets out a vision for responding to that change – retaining the core risk-mitigating functions of the current generation of RTGS, but fundamentally refreshing the technological base of the service and delivering strategic change in four key areas: broader access (including for smaller banks, and non-banks); even greater resilience (in particular to cyber-threats); stronger inter-operability (including through the adoption of ISO 20022); and better user functionality (including true or near-24x7 operating capability, better liquidity management tools and richer data provision). Further detail is given in Table A. Taken together, these changes aim to safeguard stability in a rapidly-changing payments ecosystem whilst

---

<sup>1</sup> The Bank of England is actively engaged in this work through its digital currency research programme (<http://www.bankofengland.co.uk/banknotes/Pages/digitalcurrencies/default.aspx>) and its fintech accelerator (<http://www.bankofengland.co.uk/Pages/fintech/default.aspx>).

<sup>2</sup> <http://www.bankofengland.co.uk/markets/Documents/paymentsystem/cp160916.pdf>

enabling that innovation to take place: by putting a modern and responsive RTGS service at its heart. We are seeking feedback on these proposals by 7 November, and will publish a final blueprint in early 2017.

Alongside that change to RTGS, reform is also underway in the sterling retail payment systems. In many respects, the UK starts from a good position: for instance, we have high rates of mobile and internet banking access, and have had real time retail payments available on a 24/7/365 basis since 2008, when Faster Payments was introduced. But, as I noted at the start, the landscape is quite a fractured one, using different messaging standards and technology platforms, with relatively high levels of tiering. Last year saw the establishment of a Payments Strategy Forum, drawing together a wide range of industry and user participants to plot a new vision for retail payments. The forum's own consultation on a future strategy has just concluded, and includes a number of recommendations for the simplification and streamlining of both the governance and technology underpinning retail payments. This touches on some of the same themes as the Bank's proposals, including in particular a recommendation to move to a common interoperable messaging standard.

An important and as yet not fully answered question is whether interoperability in retail payments means just the adoption of common messaging standards, governance and access criteria by otherwise-separate retail technologies – or whether it also means limited technological convergence, for example with multiple 'overlay' services using a common 'pipe' to receive and transmit payments. Such a model would be consistent with the increased use of Application Programming Interfaces (or APIs) and regulation such as the Second Payments Services Directive. But significantly further thought is required about the form any such pipe might take, how it could be designed in a general enough way to accommodate multiple different payment services, and who would pay and operate it. A high-volume retail payments pipe would have a number of characteristics of a public utility – but, unlike in some other countries, we would not envisage that the Bank of England would build or operate this type of infrastructure.

These types of challenge are eminently solvable – and are in no way unique to payments. To return to where I began, the UK railways have explored ways to combine common ownership of the track network and timetable with competing rail service providers whilst making use of those old, eccentrically-located stations. And energy and telecommunications have found their own solutions to similar problems, including across national borders. But the history of those industries suggests it will not be entirely plain sailing: and the stakes in payments are particularly high. That is why the Bank of England and the Payment Systems Regulator are working very closely together to ensure that their twin statutory objectives of systemic stability and enhancing competition are met by whatever structure ends up being proposed.

I said earlier that I thought that a genuinely single technology platform for the UK was unlikely to be feasible in the near term, drawing an analogy with having a single platform for those three train stations. If a spread of platforms, drawn together through a common set of standards and norms, is a more plausible target, how does RTGS fit in?

Those of you particularly familiar with London's King's Cross station will know that there is a spot (ironically between platforms 8 and 9), where a half-submerged luggage trolley commemorates the mythical 'Platform 9¾' from Harry Potter. Platform 9¾ is of course the gateway to the magical secrets of Hogwarts – but is invisible to 'muggles' (ie normal human beings), requiring travellers to fling themselves head first at a potentially unyielding wall to gain entry. If there may have been some parallels between this fictional construct and the role of RTGS in the past – both in the vital role it plays, and in its relative obscurity – it is our firm intention that there should not be in the future. The vision we have just published is designed to underscore and throw new light on the special role that RTGS has, of maintaining stability by providing final settlement in central bank money for all payments, and on a real-time gross basis for those that are most systemically important. But it also recognises the need to broaden access to RTGS and improve its ability to communicate with a wide range of other systems seamlessly and resiliently if it is to keep pace with a changing environment. We look forward to hearing the responses to our consultation.

Thank you.

**Table A Proposed shape of next generation of the RTGS service**

Service characteristic	Retained from current generation of RTGS	Enhancements for consultation
<p><b>Access:</b> Facilitate greater direct access to central bank money settlement for institutions and infrastructures.</p>	<ul style="list-style-type: none"> <li>• Broad range of settlement models for payment systems and securities settlement platforms.</li> <li>• Direct access to CHAPS required for institutions above value threshold.</li> </ul>	<ul style="list-style-type: none"> <li>• Non-bank Payment Service Providers eligible for RTGS settlement accounts (subject to appropriate safeguards).</li> <li>• Streamlined testing, connectivity and onboarding requirements enabling much wider direct access for banks and broker-dealers.</li> <li>• Costs of access reduced by streamlined connectivity and contingency requirements.</li> <li>• Third-party aggregators able to provide technical connectivity for institutions seeking direct access to CHAPS.</li> <li>• Institutions of systemic importance required to access CHAPS directly.</li> </ul>
<p><b>Resilience:</b> Strengthen resilience of RTGS and flexibility to respond to emerging threats.</p>	<ul style="list-style-type: none"> <li>• Well-defined recovery objectives.</li> <li>• Day-to-day dual-site operation.</li> <li>• Third settlement platform for contingencies.</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthened resilience framework.</li> <li>• Additional messaging channel (either in contingency or in regular operation).</li> </ul>
<p><b>Interoperability:</b> Promote harmonisation and convergence with critical domestic and international payment systems.</p>	<ul style="list-style-type: none"> <li>• Strategic focus on settlement of high-value payments.</li> <li>• Securities ledger remains outside RTGS.</li> </ul>	<ul style="list-style-type: none"> <li>• ISO 20022 messaging.</li> <li>• Payment synchronisation functionality.</li> <li>• Promote alternative processing arrangements for time-critical retail payments.</li> </ul>
<p><b>User functionality:</b> Support emerging user needs in a changing payment environment.</p>	<ul style="list-style-type: none"> <li>• Liquidity Saving Mechanism and collateralised intraday liquidity.</li> <li>• Broad-based reserves account functionality for monetary policy implementation.</li> <li>• Simple Business Intelligence interface.</li> </ul>	<ul style="list-style-type: none"> <li>• True or near-true 24x7 operating capability.</li> <li>• API interface for richer access to payment and liquidity data.</li> <li>• Functionality for tracking CHAPS payments in RTGS.</li> <li>• Forward-dated payment submission.</li> <li>• Greater queue visibility in Liquidity Saving Mechanism.</li> </ul>

Source: 'A new RTGS service for the United Kingdom: safeguarding stability, enabling innovation', available at: <http://www.bankofengland.co.uk/markets/Documents/paymentsystem/cp160916.pdf>