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## **Pan-European instant payments in euro: definition, vision and way forward**

### **1. Rationale for ERPB involvement, definition and “layered” approach**

“Instant payments” attract increasing attention in the debate on retail payments, not only from the perspective as being “next deliverable” after SEPA migration, but also from the perspective that innovation should not result in new European fragmentation. As explained in this note, the issue is relevant to different stakeholders, be it from the public and the private sector, or from the demand and the supply side of the payments industry. It is therefore brought to the consideration of the ERPB.

The concept of instant payments is generally, intuitively clear. Instant payment solutions should be understood as “cashless cash”: in the era of e-commerce and digital communication users expect such solutions to be available and to deliver the same payment experience as cash, i.e. not only provide immediate confirmation that funds are available on the payer’s account, but also immediate *availability* of such funds to the payee. This also explains why it appears more appropriate to discuss about “instant” payments instead of “fast” or “faster” payments: “instant” more clearly reflects that such retail payments are processed in real-time or near-real-time, not only faster than is currently the case<sup>1</sup>. Moreover, the transfer of value should be possible whenever a (web) shop is open or a person needs to receive money, implying 24/7/365 availability.

#### ***Definition***

*“Instant payments” are hence defined as electronic retail payment solutions available 24/7/365 and resulting in the immediate or close to immediate interbank clearing of the transaction and crediting of the*

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<sup>1</sup> In the EU “faster” might still mean after several hours on the same day, since Directive 2007/64/EC on payment services in the internal market (referred to as Payment Services Directive, PSD) mandated “D+1” as the maximum execution time for credit transfers as from 2012 (where the execution time is intended as the time between receipt of the payment order and final crediting of the payee’s account).

*payee's account<sup>2</sup> (within seconds of payment initiation), irrespective of the underlying payment instrument used (credit transfer, direct debit or payment card) and of the underlying clearing and settlement arrangements that make this possible<sup>3</sup>.*

Both demand for and offer of instant payment solutions as defined above have been emerging. On the one hand, consumers and corporates increasingly ask for immediacy in retail payments, be they person-to-person, e-commerce and government payments. On the other hand, payment service providers show interest in this new segment of the retail payments market, in order to acquire market share if they are new entrants or not to lose out to innovative new entrants if they are incumbents. Moreover, instant payments solutions are of interest to public authorities (including central banks), in relation to their institutional functions; in the case of central banks promoting the smooth operation of payment systems, but also – in a wider perspective – the financial inclusion of the unbanked and underbanked population<sup>4</sup>.

In fact, instant payment solutions have been or are being developed in several countries around the world and in Europe<sup>5</sup>, often with strong encouragement from public authorities. Until now, however, no instant payment solutions are available in euro at the pan-European level, whereas most of them have developed outside the euro area on a national (or even more restricted) scale.

### ***Vision***

*In a competitive market, providers should not adopt a “silo” approach offering closed-loop non-interoperable instant payment solutions, but a “layered” approach developing a scheme<sup>6</sup> for end-users to make payments with increased speed leveraging the current payment instruments (first layer) and the underlying clearing and settlement infrastructures (second and third layer). Such solutions should take advantage of the harmonisation and integration already achieved with the SEPA project. The expectation is that (at least) one pan-European<sup>7</sup> euro instant payment solution should become available to end-users in the short term, consisting of a common scheme cooperatively developed on the market<sup>8</sup> or of multiple (ideally interoperable) schemes competitively developed on the market, and mainly based on credit transfers. The interface would preferably be multichannel. The actual technical aspects of instant payment solutions should be left to the industry, under the assumption that 24/7/365 availability, immediate or close to immediate crediting of the payee's account, Europe-wide reach and*

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<sup>2</sup> With the payer receiving confirmation thereof and the payee being able to use the amount credited.

<sup>3</sup> Solutions like MyBank, Ideal, Sofort and similar ones are not seen as instant payment solutions according to the definition in this note, as they imply use of online banking applications, but do not offer immediate clearing and crediting of the payee's account, with concomitant availability to the payee of the funds credited.

<sup>4</sup> This is relevant not only to developing countries, but also to the EU, and results in the “social good” factor of instant payments being more and more acknowledged.

<sup>5</sup> See annex.

<sup>6</sup> The term “scheme” refers to a set of agreed rules and technical standards to execute instant payment transactions, without prejudice to the possibility that such transactions ultimately be SEPA Credit Transfers.

<sup>7</sup> Where a “pan-European” solution is intended as a solution based on standards, business rules and governance that allow for its adoption by any payment service provider at EU level.

<sup>8</sup> One could see a natural role for the EPC in contributing to set up the required rules and standards for an instant payment scheme based on the existing SEPA Credit Transfer scheme, and the respective clearing and settlement infrastructures.

*interoperability should be ensured. Clearing and settlement infrastructures should support this evolution providing the required availability and capacity.*

Finally, the expectation is that more and more instant payments solutions will be available the period ahead, offered by individual PSPs or by PSPs in a more collaborative, but still national effort. However, a European market for instant payments characterised by fragmentation and competing, non-interoperable solutions will be sub-optimal and would require a harmonisation and integration effort soon. This calls for action from the supply side of the market. As retail payments are a network industry, a reinforced cooperative approach - between incumbent and new PSPs - would help achieve an open and competitive market for instant payments at a pan-European level.

## **2. Description of the layers and features of instant payment solutions**

In order to facilitate the emergence of safe and efficient instant payment solutions, progress in all layers mentioned is needed.

To be noted, the initiatives already undertaken in and outside Europe show similarities especially in regards to the first two layers (i.e. the scheme layer and the clearing layer). They share the objective to provide solutions accessible to end-users via mobile and online channels for extended hours (ideally 24/7/365), with immediate (or close to immediate) crediting of the payee's account and confirmation of payment execution to the payer, which rely on immediate (or close to immediate) interbank clearing of the transactions. Differences can be identified in the actual implementation of these common features<sup>9</sup>. More substantial differences can be seen in the settlement layer.

This paragraph provides details on and general expectations for the layers of which instant payment solutions consist.

### **a. Scheme layer (type of transactions, end-user interfaces and payment instruments)**

Similarly to cards, instant payment solutions should enable both "person-present" and "person-not-present" transactions, of varying value and frequency.

Focusing on the interface to end-users, instant payment solutions - besides cards - lend themselves to facilitate internet and mobile payments, and the mobile and online initiation channels are expected to be prevailing. Channels should ideally be multiple, in order to deliver an optimal user experience, while avoiding fragmentation and increasing efficiency.

Instant payment solutions are in principle neutral in regards to the underlying payment instrument, but in Europe they are understood to be mainly based on SEPA Credit Transfers and thus make use of the ISO

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<sup>9</sup> E.g. availability of instant payment solutions in Mexico is now 22.5/7, with extension envisaged to 24/7 by end 2014; in the UK the Faster Payments Service guarantees crediting of the payee's account within two hours of payment initiation (but delivers in practice a much faster service).

20022 standard<sup>10</sup>. Routing of payments is expected to be initially based on IBAN. As a value added, functionalities such as the association of IBANs with mobile phone numbers or email addresses may become available also.

If developing an instant payment scheme, the market is expected to do so at a pan-European level, i.e. based on standards, business rules and governance that allow for its adoption by any payment service provider in the EU.

### **b. Clearing<sup>11</sup> layer**

Instant payments require instant clearing. Clearing should be carried out in a matter of seconds of payment initiation. It might or not rely on current or new ACHs, where current ACHs could possibly need to upgrade their availability and capacity.

Intrabank and interbank clearing carried out independently of ACHs has also provided a possibility to clear instant payments, and should therefore be taken into account when examining the topic and designing future-proof solutions. However, it is crucial that Europe-wide integration and reach be ensured in a safe and efficient way.

### **c. Settlement layer**

As regards interbank settlement, it can take place in commercial bank money or central bank money.

Two main models can be identified, each with pros and cons in terms of efficiency and risk: deferred net settlement of instant payments (accompanied with cash or securities collateralisation) and real-time gross settlement of instant payments as individual transactions (in the RTGS system<sup>12</sup> or in a dedicated module thereof). Actual implementations of each model may vary.

## **3. Stakeholders' involvement**

Instant payments are relevant to the public and the private sector, to the supply and the demand side of the retail payments market. Among other things:

- from public authorities' perspective, they can represent an instrument to enhance smooth, safe and efficient retail payments as well as financial integration and inclusion, e-government,

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<sup>10</sup> It should be analysed to what extent the SEPA Credit Transfer Scheme Rulebook and the technical specifications that will govern instant payments solutions will or should be mutually consistent. This could form the subject of discussions with the EPC.

<sup>11</sup> Clearing is defined as the process of transmitting, reconciling and, in some cases, confirming transfer orders prior to settlement, potentially including the netting of orders and the establishment of final positions for settlement.

<sup>12</sup> A real-time gross settlement (RTGS) system is a settlement system in which processing and settlement take place on a transaction-by-transaction basis in real time. RTGS systems are typically operated by national central banks.

competition between banks and non-banks, and competition in a broader sense for the benefit of end-users;

- from merchants and providers' perspective, they can potentially boost growth by facilitating e-commerce and physical point-of-sale purchases, possibly ensure revenue streams for payment service providers and strengthen their relationship with clients;
- from consumers' perspective, they can ensure an experience of paying comparable to e-mail communication.

In order to be ahead of market developments, (at least) one pan-European euro instant payment solution should become available to end-users in the short term<sup>13</sup>. To reach this goal, it is also crucial that all stakeholders involved from both the supply and the demand side of the market cooperate, and the ERPB is well placed for these purposes. In fact, such issues as instant payment solutions in a wide sense lay within its mandate.

Especially the first layer of instant payment services in euro (the scheme layer) might deserve the attention of the ERPB to identify the barriers and the necessary conditions for the emergence of (at least) one pan-European instant payment scheme. Moreover, the ERPB is setting up a working group on person-to-person mobile payments to analyse the high-level requirements for the development of pan-European solutions in this field. This ERPB work stream is strongly related to the first layer of the instant payment solutions, as the latter are most often associated with person-to-person payments initiated with smartphones<sup>14</sup>.

The second and the third layer of instant payment solutions (the clearing and the settlement layer) raise issues that lay within the scope of the Eurosystem's functions as catalyst for change, overseer of payment systems and operator of the RTGS system, TARGET2.

#### 4. Conclusions

Instant payments are attracting more and more attention at national, European and global level. The debate seems to have moved beyond the discussion on the existence of a business case, to the acknowledgement of the "social good" nature of instant payments and the users' expectation that relevant solution should be available.

In order to facilitate the emergence of safe and efficient instant payment solutions in Europe, progress in the scheme layer, the clearing layer and the settlement layer is needed and, in order to avoid fragmentation, efforts should be put in attaining greater harmonisation and standardisation; other relevant

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<sup>13</sup> According to the understanding of "pan-European" outlined above.

<sup>14</sup> In fact, in the case of both the already operating and planned instant payment solutions (e.g. SE, UK, AU) the dominant initiation device is or is expected to be the smartphone (via an application designed for this purpose). The smartphone is more and more widespread, it is used to send and receive emails and messages easily and immediately, and is expected to be used to send and receive money just as easily and immediately. Moreover, it has to be noted that in developing countries the mobile phone, thanks to a higher penetration and ease of use than traditional banking, has offered a means to make cashless retail payments at higher speed and lower cost. Of course, instant payments might be initiated with other devices, such as computers, smart cards and phones, or even using biometrics.

issues are to be addressed as well. The actual way to deliver instant payment solutions to end-users in the short term will be shaped by the interaction between public authorities and the demand and supply side of the market. The ERPB is well positioned to address issues related to the scheme layer of the instant payment solutions and develop a stance, which the underlying clearing and settlement layers should support.

**In light of the above, the ERPB is invited to reflect and possibly agree on:**

- **the need for the development and implementation of at least one instant payment scheme for euro payments open to any payment service provider in the EU;**
- **inviting the supply side of the industry (with the active involvement of the EPC as a potential scheme developer) to make a feasibility assessment of an instant payment scheme in euro to be presented at the ERPB meeting in June 2015.**

## Annex: Examples of instant payments solutions<sup>15</sup>

At global level, many initiatives have been undertaken to increase the speed of retail payments. There follow some prominent examples<sup>16</sup>.

Among the first who introduced real-time clearing of retail payments were the **South Africans** in 2006. The service is available 24/7/365, for transactions limited in value, with funds credited to beneficiaries within 60 seconds of initiation. This is made possible by the Real-Time Clearing (RTC) system being integrated with the central bank's settlement service, which supports multiple daily cycles.

**Canada** relies on an infrastructure where real-time means either confirmation of good funds or availability of funds to the beneficiary, depending on the type of payment. Canadian institutions in some cases provide funds to their clients in advance of final settlement based on trusted network relationships.

**Mexico** processes instant payments in the RTGS system, SPEI, especially via participants' e-banking systems. The system was developed by Banco de México and commercial banks, and enables participants' clients to transfer money within a maximum execution time of 60 seconds from initiation by the payer to crediting of the payee's account. SPEI is not open around-the-clock<sup>17</sup>, but participants are required to make their e-banking systems available to clients at least during certain hours each day. On 17 March 2014 also **Singapore** went live with a platform for instant payments, FAST (formerly G3), available 24/7/365. The project counts on the support of the central bank. The provider is VocaLink Ltd, already running the Faster Payment Service in the UK. Different to the UK, G3 is set to use ISO 20022 XML standards, as with SEPA payments. G3 will gradually replace the existing payment infrastructure.

In **Australia**<sup>18</sup>, the Reserve Bank (RBA) has engaged in close dialogue with the market with a view to making instant payment solutions available to end-users by end 2016. The strategy encompasses not only increased speed of payments, but also richer data and addressing services<sup>19</sup>. To achieve these goals, a "layered" approach has been taken: instant payment solutions will consist of so-called "overlay services" (i.e. tailored services offered by payment service providers for end-users to initiate payments)<sup>20</sup>, relying on a common "utility" for clearing operated as a mutual body (New Payments Platform - NPP)<sup>21</sup> and on a

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<sup>15</sup> This annex relies on information available from public sources at the time of writing, which may not always be assumed to be official or complete. Enhancements to many of the described solutions are in progress.

<sup>16</sup> Further solutions are reported to be available or to have been planned, with different degrees of payment immediacy, e.g. in Brazil, Chile, China, Costa Rica, India, Korea, Japan and Switzerland.

<sup>17</sup> Availability of instant payment solutions in Mexico is now 22.5/7.

<sup>18</sup> Reference documents on the Australian experience with instant payments can be found on the website of the Reserve Bank (<http://www.rba.gov.au/payments-system/resources/publications/australia.html>).

<sup>19</sup> Initially based on account numbers, at a second stage also on other addressing information (such as mobile phone numbers).

<sup>20</sup> The Australian and European notions of "overlay service" do not coincide. In fact in Europe they are understood as services offered to end-users by third party providers that access the users' accounts held at other institutions, in order for end-users' to receive account information or initiate payments.

<sup>21</sup> A tender is underway to appoint the provider of the utility, which may host competing instant payment schemes.

dedicated module of the RTGS system for settlement (Fast Settlement Service - FSS)<sup>22</sup>. The first overlay service would be cooperatively developed by the industry as an “initial convenience service” for consumers to make P2P mobile payments, but others may follow in the competitive space. From a technical perspective, ISO20022 (the standard used also in SEPA) will be used.

Focusing on Europe, many solutions – among which the following – are reported especially outside the Euro area and in northern and eastern countries.

The solutions in **Denmark** are the result of a debate that started in 2009, with the national central bank and the Ministry of Commerce pushing the banking community to pursue the objective of instant payments, despite the related costs. Express credit transfers are to be implemented by November 2014. Settlement will take place in central bank money; fees are expected to be set at low levels especially for retail clients. Instant payment solutions are also expected to foster the use of mobile P2P payments, with the common platform open to competing apps. Users will get immediate access to the funds, while payment service providers (PSPs) will get a payment guarantee through automatised collateralisation (in the form of reserved liquidity, kept for real-time payment transactions, for instance over the weekend until the first settlement cycle of the new week).

In **Poland** two different solutions for small value immediate payments are now available: 1. The Express ELIXIR system, operated by the National Clearing House (KIR SA), went live in June 2012. Express ELIXIR enables the immediate exchange of messages between participants in 24/7/365 mode in XML formats. The number of transactions is increasing, as is the number of participating banks – however, still constituting 0.1% of all ELIXIR<sup>23</sup> transaction values and 0.05% of ELIXIR transaction volumes. The transaction amount limit is PLN 100,000 (around EUR 24,000). Settlement takes place in central bank money; participating banks have to deposit funds on their settlement account based on their individual estimated transaction volumes and have access to real-time information on their internal account balance after each single transaction. 2. In November 2012 the BlueCash system was launched by Blue Media SA, a company licensed by the Narodowy Bank Polski (NBP) to operate the BlueCash payment system and by the Polish financial services authority (Komisja Nadzoru Finansowego) to provide payment services. Around thirty, mainly small cooperative banks are currently participants of BlueCash. The system provides exclusively clearing of payment instructions, while settlement takes place in commercial bank money on D+1.

Instant payments initiatives in **the UK** were prompted by the Treasury. Since May 2008 four types of Faster Payments Services (FPS) have been available: 1. Single immediate payments (SIPS), for clearing payments 24/7/365 within seconds or minutes (max. two hours). 2. Forward-dated payments. 3. Standing orders (available Monday through Friday on bank working days). 4. Corporate Bulk payments. The central infrastructure is provided by VocaLink Ltd. Risk mitigation includes net sender caps to limit

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<sup>22</sup> The RBA owns and operates the Australian RTGS system, RITS (Reserve Bank Information and Transfer System).

<sup>23</sup> ELIXIR is the main retail payment system in Poland.



individual members' net debit positions and a liquidity loss share agreement (LLSA) where the other members cater for the defaulting one. The Bank of England serves as the secure trustee of the LLSA and is the settlement agent (with three daily multilateral net settlement cycles at 7 h, 13:05 h, 15:45 h). A steady increase in volume and value of transactions has been observed.

The origins of instant payments in **Sweden** date back to 2008/2009, with the UK FPS as a trigger and an example. In November 2012 "Payments in real time" (BiR) was launched by the ACH in cooperation with the NCB. The service delivers 24/7/365 instant payments, and is open to any PSP fulfilling a set of requirements. The ACH administrates the prefunded special accounts and ensures settlement in central bank money via a connection to the RTGS system (liquidity is reserved in the RTGS system for this purpose). The NCB has set a limit for overnight settlement of EUR 100 million. The platform can host different payment schemes, according to a layered model. One example of payment solutions built on BiR is Swish, a mobile app-based P2P instant payment solutions owned by the six largest Swedish banks. Further potential usage fields are being explored, e.g. in other currencies, in e-commerce, to speed up credit transfers. The service started without user fees. It has remained free of charge for households, save the freedom for each provider to apply its own pricing (in competitive space).

In **the Netherlands**, DNB sketched a first feasibility analysis on instant payments in September 2013, concluding that it would be conceptually possible, although further research would be needed into the practical possibilities. Meanwhile, authorities had asked the National Forum on the Payment System to explore the scope for immediate payments, in order to answer requests from the retailers' organisation. The Forum conducted analysis with the participation of the Dutch organisations of retailers, corporates and consumers. Recommendations were then published: a working group should elaborate the possibilities for implementing a framework for instant payments in the SEPA context, and explore the cost and benefits under aspects of risk, need and social nature.

In **Finland** the banking community has launched a request for information to potential suppliers with a view to replacing the local system for urgent payments, and offering a 24/7/365 system for instant payments with SEPA-wide reach.

Finally, also **Norway** announced plans to design instant payment solutions at the icci conference of 2012.