



# Eurosystem's vision for the future of Europe's financial market infrastructure

## RTGS services—consultative report

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## Introduction

The launch of TARGET2-Securities (T2S) as a new platform for securities settlement provides an ideal opportunity for the Eurosystem to develop a vision for evolving its market infrastructure services. The Eurosystem's vision (1) analyses the benefits of further integrating and harmonising cash and securities services, (2) assesses the future need for the current services that the Eurosystem provides, (3) identifies potential new services which could support the financial markets in Europe, and (4) elaborates upon the modernisation of the market infrastructure. This vision has to be placed in the context of the capital markets union, which the European Commission is pursuing in parallel.

The Eurosystem's considerations are based on three main pillars. The first aims to explore synergies between TARGET2 and T2S. The second will support the development of a pan-European instant payments solution. The third will assess the possibility of harmonising Eurosystem collateral management arrangements and making the mobilisation by counterparties of collateral for use in Eurosystem credit operations more efficient. The present consultative report only focuses on the first pillar. In view of the second pillar related to instant payments, the support that RTGS services could offer is not part of this consultation but considered within the respective discussions with market participants alongside the Euro Retail Payments Board (ERPB).

Concerning RTGS services, the guiding principle is to reap benefits from the proximity the Eurosystem vision will create between TARGET2 and T2S, the above-mentioned first pillar. These benefits may be broken down in three categories:

Firstly, the technical consolidation of the two platforms will bring about various synergies and may eventually decrease the running costs for the Eurosystem.

Secondly, bringing the two platforms together could allow TARGET2 to benefit from the state of the art approaches/technologies offered by T2S. In that context one could refer *inter alia* to the multi-currency capability of T2S, the possibility of accessing the platform via different network service providers or the extensive and systematic usage of ISO20022 standards.

Thirdly and lastly, the strategy also provides the opportunity to consider the development of new services for market participants or to adapt existing ones to the changing needs of the large value payments business.

The Eurosystem acknowledges that the success of its two existing infrastructures, namely TARGET2 and T2S, owes a lot to the considerable involvement of the market and its valuable contributions in the design and rollout process. For this reason, the Eurosystem intends to closely associate market participants in its ongoing strategic reflections. The specific purpose of the present report is to seek market participants' views on the provision of RTGS services in the future.

The different statements or ideas presented in this report should under no circumstances be understood as a commitment by the Eurosystem to deliver specific services. They should be taken as avenues of discussion to foster an open and constructive exchange with all stakeholders. The objective of this consultation is therefore to better grasp the market needs without focusing at this stage on the concrete form that a technical solution or service may eventually take.

**The deadline for providing feedback on the report is 04/04/2016.** TARGET2 participants are invited to contribute to the discussion in the context of existing users' fora, namely the National User Groups and the TARGET Working Group. Feedback from individual institutions, including those which are not TARGET2 participants, is also welcome. At this stage of the investigations, the contributions should focus on business needs and not be too solution-oriented. Feedback will be collected by the national central banks as well as by the ECB at [target.hotline@ecb.europa.eu](mailto:target.hotline@ecb.europa.eu) and subsequently assessed by the Eurosystem. An information session on the consultation will be held on 22 March 2016 in Frankfurt. More details about the event will follow soon. The main findings and conclusions drawn by the Eurosystem will be publicly shared in due course. The consultative report is structured in three parts in order to clearly distinguish between:

- i. technical synergies directly deriving from the technical consolidation, which are presented for information only (section 1);
- ii. functional opportunities arising from the Eurosystem's vision, which are shared in order to consult the market's views (section 2); and
- iii. business opportunities (section 3) of possible new or aligned RTGS services, which the strategy could provide.

## 1 Technological opportunities

This section outlines the synergies that the technical consolidation of TARGET2 and T2S will bring through the reuse of technical architecture, software development standards or external connectivity models. A number of very concrete benefits can be expected for the Eurosystem and, as a result, for the whole user community, as highlighted in this section.

*This section is provided for information purposes only and presents contextual information, which is relevant for the rest of the consultative report. For that reason, market participants are not expected to (directly) comment on it.*

### 1.1 Migration of RTGS services to ISO 20022

ISO 20022 is a single standardisation approach (methodology, process and repository) that should be used by all financial standards initiatives<sup>1</sup>. Its business modelling approach allows users and developers to represent financial business processes and underlying transactions in a formal but syntax-independent notation. In the past five years, financial market infrastructures (FMIs) and market participants have been progressively adopting ISO 20022 not only for securities post-trade processing, but also for payment services.

The benefits of migrating RTGS services to ISO20022 have already been assessed and acknowledged on the occasion of the various consultations with TARGET2 participants. The consolidation of infrastructures is the right moment for a fully-fledged implementation of ISO20022. Fully utilising ISO 20022 in the field of large-value transactions may offer (end) users manifold business opportunities (see chapter 2.3), e.g. by allowing them to optimise end-to-end business processing, or transporting richer information such as with regard to remittances or other key payment-related data together with the payment instruction. Such functionalities would enable greater integration with participants' and end users' internal applications. Migrating RTGS services to ISO20022 would result in the use of one set of standards for different types of payment transactions, as the industry employs ISO20022 in the field of retail payments, in particular for SEPA payments and in the envisaged scheme for instant payments.

The Eurosystem stands ready to develop, jointly with market participants and standardisation bodies, a set of ISO20022 compliant messages which would correspond to the business needs of the large-value market segment, with the objective of using ISO20022 for all communication between the platform and external parties. Both the know-how acquired during the T2S project phase as well as the technical implementation of this standard for T2S-related features will ease this strategic evolution of euro-denominated large value payments.

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<sup>1</sup> Definition of ISO 20022 on [ISO20022.org](https://www.iso20022.org)

## 1.2 Independence vis-à-vis network service providers

In 2004, the decision to select SWIFT as the sole network service provider for TARGET2 was motivated by the considerable time constraint and following the preference expressed by the vast majority of market participants, who had already established connections to this provider. As a consequence TARGET2 relied heavily on a number of specific/proprietary solutions developed by SWIFT (e.g. InterAct, FileAct, RBAC roles).

The approach adopted for T2S was different. First of all the design of the platform was “network provider agnostic” i.e. it did not rely on any service specifically provided by one provider. Moreover, it was seen as a necessity to increase competition among network service providers and to select two providers via a public tender. The technical consolidation will allow RTGS services to become network agnostic as well. Benefits will include fiercer competition amongst network providers, which should translate into service and/or cost benefits for end-users, as shown in the T2S context. Further benefits might be expected in terms of resilience, in particular if participants connect to the system via more than one provider<sup>2</sup>. Finally, a choice between different network providers and technologies may lower the technical entry barrier for an eligible participant to directly participate in TARGET2. . For this reason the opportunity of maintaining today’s Internet-based connection would have to be reassessed, giving due consideration in particular to (cyber) security requirements. The Eurosystem is in any case keen to keep its RTGS infrastructure directly accessible to a wide range of participants, including small to medium-sized ones.

## 1.3 Enhanced information security and cyber resilience

While information security levels are already very high in TARGET2, the Eurosystem will maintain its efforts to further enforce the resilience of its RTGS services. Beyond information security, consideration is currently being given to strengthening protection against cybercrime, in line with the expectations of regulators and overseers. The consultative report recently published by the Committee on Payments and Market Infrastructures (CPMI) and the Board of the International Organization of Securities Commissions (IOSCO) entitled “Guidance on cyber resilience for financial market infrastructures<sup>3</sup>”, provides a basis for these reflections. The merger of the two platforms as part of the work on the Eurosystem’s vision will entail a number of opportunities to meet these expectations

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<sup>2</sup> Such a connection, using more than one network provider, may result either from a voluntary decision on the part of the participant itself or from possible future system rules applicable to certain categories of (critical) participant.

<sup>3</sup> <https://www.bis.org/cpmi/publ/d138.pdf>

## 1.4 Single gateway

The technical consolidation provides an opportunity to harmonise access to the different services provided by the Eurosystem and to eventually implement a single gateway for accessing them. The single gateway would allow these different systems/services to share connectivity and security components, thus reducing running costs for both the Eurosystem and its participants. The single gateway would allow for an extension of the connectivity options, use the same authentication methods and comply with the principle of independence vis-à-vis network service providers (cf 1.2).

## 1.5 Openness to new technologies

The emergence of new technologies such as “blockchain” or “distributed ledger technologies” is currently giving rise to many talks, studies and publications and a number of actors in the industry are already evaluating the impact that such innovations may have on the provision of financial services. As part of its vision, the Eurosystem intends to assess their relevance for the different services it provides to the banking communities (payments, securities settlement as well as collateral). This investigation will identify opportunities that these new technologies may provide, as well as the challenges that they create.

## 2 Functional opportunities

The strategic review gives rise to functional opportunities, which the Eurosystem may further investigate if it receives support from the market. These opportunities are described in this section and the Eurosystem is seeking participants' views on each of them.

### 2.1 Harmonised interface(s) to Eurosystem services

Both TARGET2 and T2S provide their participants with specific interfaces, namely the Information and Control Module (ICM) of TARGET2 and the T2S Graphical User Interface (GUI). While these interfaces present some similarities, from a technical point of view they are two distinct services.

The technical consolidation envisaged in the context of the vision would make it possible to further harmonise these interfaces, offer fully-aligned graphical user interfaces that are fully modernised, and offer monitoring as well as control features. If supported by the market, this harmonisation may even lead to the provision of a single interface for Eurosystem services. Applied to the services currently provided by the Eurosystem, this would mean for instance that the TARGET2 ICM and the T2S GUI would be consolidated and become a single graphical interface .

Such an approach would be supported by the implementation of a single gateway (cf 1.4) and would be network agnostic (cf 1.2). It would also reduce the operational complexity and adaptation costs for both the Eurosystem and market participants.

### Questions

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1. Should the Eurosystem harmonise the user interface for Eurosystem services? If so, what would you identify as the specific benefits to your institution? If not, what would be your reason for not harmonising the user interface?

2. Are there further considerations that the Eurosystem should take into account in deciding whether or not to harmonise the user interface?

### 2.2 Multi-currency services

T2S is set out as a multi-currency platform on which both securities and dedicated cash accounts can be held in currencies other than the euro<sup>4</sup>. If the Eurosystem were to reform its RTGS services and further exploit possible synergies with T2S, we might take into consideration the potential benefit that may also be accrued by

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<sup>4</sup> Holding cash accounts in currencies other than the euro in T2S requires that the central bank of issue formally decides to join T2S and signs a Currency Participation Agreement with the Eurosystem.

developing these RTGS services in a multi-currency context. Using this approach, a central bank of issue that was interested in this service could decide to provide RTGS services to its banking community from this shared platform.

The main target for this offer would clearly be the EU central banks that have not yet adopted the euro. The respective domestic communities would gain access to a state-of-the-art RTGS service and at the same time their central banks would not need to be concerned with developing and maintaining their own RTGS platform. Moreover, it may also facilitate the preparation of these domestic communities for the subsequent adoption of the euro. As a by-product, a further possibility may be to provide payment-versus-payment (PvP) settlement services among those currencies settled on the platform. Should the market express an interest, the Eurosystem would assess the policy and oversight implications of developing such a service.

## Questions

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3. Do you agree with the listed findings on the provision of multi-currency RTGS services? If not, please explain.
4. Would you expect your institution to use multi-currency RTGS services?

## 2.3 Remittance and other key payment data

The move to ISO20022 will, as outlined above, allow for end-to-end transportation of further payment data in a structured manner. In this context, payments could transport information containing remittance data (such as invoicing references, customer references, tax references), and key payment data (such as LEIs, purposes of payments, ultimate debtor/creditor, customer identification related to KYC etc). Such information can then be used for manifold purposes such as straight-through processing in connection with the real economy or other business for which a payment is made, customer services, data analytics etc. This enrichment also facilitates greater integration and harmonisation. The feedback collected from the market would provide input for future discussions on the definition of messages compliant with the ISO20022 standard that would be exchanged between the participants and the platform.

## Questions

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5. Would you expect your institution to use the additional fields that ISO 20022 payment messages support? If so, please describe the types of additional payment fields, and the purpose for which they would be used.

## 2.4 Accounts management

Aside from the RTGS account that participants presently hold with their respective central banks, they may also hold other accounts for the purpose of dedicating part of their liquidity to a specific usage. For instance, the liquidity reserved on a sub-account for the settlement of a specific ancillary system via ASI model 6 or the balance maintained on the T2S dedicated cash account (DCA) for the settlement of securities transactions.

In the context of an infrastructure technical consolidation, it is expected that this approach would remain valid. In other words, it is expected that the RTGS account would remain the “pivot” account where the participants would centralise the management of their liquidity while other account types would be used for setting aside part of their liquidity for a dedicated use.

### Questions

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6. Do you agree with the Eurosystem's expectations in terms of participants' accounts management?

## 3 Business opportunities

The Eurosystem's vision is not limited to the technical consolidation of Eurosystem infrastructure. It is also an opportunity to reconsider the services that the users' community expects from the Eurosystem to support their large-value businesses and, more generally, the management of their euro liquidity in central bank money. Developing such a strategic review requires not only analysis of the current needs of stakeholders, but also anticipating as much as possible future business contexts, opportunities and challenges, which the stakeholders are likely to face in the years to come. For this reason nobody will be bound to the present functional perimeter of TARGET2: current services may be discontinued while new ones may be developed.

### 3.1 Assessment of the use of current services

The Eurosystem made a study of the actual usage of services currently provided on the Single Shared Platform of TARGET2.

While in general this study confirmed the need to maintain most of the services presently offered, it would appear that in some cases their relevance should be reassessed by market participants, also with regard to their strategic relevance:

- Most TARGET2 core services, including the processing of interbank payments or customer payments<sup>5</sup>, are extensively used.
- Liquidity saving features are less used than initially anticipated (e.g. liquidity reservations and priorities, offsetting mechanisms and optimisation algorithms). This is largely attributable to the specific liquidity conditions under which participants operate their accounts. However, these services remain essential in times of liquidity stress and have to be maintained or even strengthened to cope with more stringent liquidity conditions (cf section 3.2).
- Even though the recourse to ancillary system services is likely to decrease owing to the migration of CSDs to T2S, it is expected that the provision of final settlement services to ACHs, in particular in the context of the emergence of instant payments, will at least partly offset this negative effect.
- Over the years, a growing number of central banks have made use of the optional modules complementing the pure RTGS features e.g. Reserve Management, Standing Facilities, Home Accounting and Billing modules.
- The liquidity pooling features were less used than initially expected. Some banking groups appear to have found alternative ways to integrate their liquidity management, such as limiting the amount of direct participation within their

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<sup>5</sup> Payments remitted or received by a bank on behalf of its non-bank clients.

groups, having recourse to other features such as the multi-addressee BIC, or using internal (software) solutions.

- The bilateral and multilateral limits are hardly used. It seems that most banks have internalised the management of these limits in their back-office applications. However, there may be good reasons for maintaining this functionality, in particular in less favourable liquidity conditions.
- The TARGET2 interface to T2S, implemented in June 2015 to ensure the proper connection between the two platforms, will become obsolete when the two technical platforms are merged.

## Questions

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7. Could you indicate which services TARGET2 must retain or enhance regardless of their usage?

8. Conversely, could you indicate which services should be reassessed or not be considered in the context of the Eurosystem's vision?

### 3.2 Liquidity management tools

Both TARGET2 and T2S provide sophisticated liquidity management tools. For DCAs on the T2S platform, participants can make use of various features e.g. client collateralisation limits, cash reservations, predefined liquidity transfers or multiple liquidity provider functionalities. As a payment system TARGET2 also offers a wide array of tools, some of which are system inherent, like offsetting of transactions, optimisation algorithms or consolidated views, whereas others are available to participants as optional tools, such as priorities liquidity reservation, timed payments or active queue management. The optional liquidity management features are used to a varying degree across the user community. The Eurosystem assumes that the existence of such features, including liquidity monitoring functionalities, provides an important support to a bank's liquidity risk management and that these services should continue to be offered. As part of the reflection on RTGS services in the future and also in view of a technical consolidation of TARGET2 and T2S, however, the opportunity arises to align and expand the current liquidity management and monitoring tools to meet the participants' demands. The Eurosystem therefore invites market participants to share their demands and expectations.

For illustrative purposes, the following list of possible new services is provided:

- configurable (automatic) liquidity adjustments between PM and DCA accounts held by the same participants;
- definition of minimum / maximum balances on RTGS accounts and triggering of alerts when these limits are breached;

- possibility for participants to authorise third parties to directly settle payments or ancillary system instructions on their RTGS accounts and definition of limits to control the usage of liquidity for each of these authorised parties<sup>6</sup>;
- dedication of liquidity for a specific payment instruction;
- dedication of liquidity for a specific ancillary system<sup>7</sup>;
- standing or predefined transactions to be executed when a specific time/event is reached.

In their feedback, respondents should not restrict themselves to the items proposed in that list, which is only indicative.

## Questions

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9. Which of the current liquidity management tools does your institution currently use?

10. Which of the current liquidity management tools does your institution intend to use in the future?

11. Would your institution require RTGS services that are not listed as potential enhancements?

### 3.3 Opening hours

A number of central banks worldwide have decided to, or are currently investigating the need and feasibility of, extending the opening hours of their RTGS systems. While there are different drivers behind this consideration, we can mention at least two of them in the context of the present report: the first could aim to facilitate access to settlement services for participants established in other time zones while the other could aim to address the requests of local financial markets that wish to extend their trading hours and push forward their cut-offs. In the specific case of instant payments<sup>8</sup>, the call for extended opening hours is even more pressing. Some market participants are even considering 24/7/365 operations for their RTGS systems.

The approach taken so far in TARGET2 has consisted of complementing the “standard” operating hours during the day with the “night-time settlement phases”, which were however restricted to ancillary system settlement activities<sup>9</sup> and excluded the settlement of payments between banks, non-banks and central banks. In the

<sup>6</sup> This service could be seen as a generalisation of the “multi-addressee BIC access” in TARGET2 (i.e. beyond the members of the same banking group), combined with credit limits similar to those currently available in T2S (i.e. secondary CMBs).

<sup>7</sup> This service could be seen as an extension of the dedication of liquidity on sub-accounts, however without the possibility of maintaining this guarantee overnight.

<sup>8</sup> As has already been explained in the introduction, the support that RTGS services could offer to instant payments is not part of this consultation but considered within the respective discussions with market participants alongside the Euro Retail Payments Board (ERPB).

<sup>9</sup> More specifically, settlement model 6 of the Ancillary System Interface and TARGET2-T2S liquidity transfers.

context of the strategic reflection on the evolution of its RTGS services, the Eurosystem would like to understand the market's view on any possible driver for extending the opening hours in two ways:

- Abolishing the differentiation between daytime trading phase and night-time phase by allowing all types of TARGET2 transactions to be settled during opening hours;
- Reducing the closing time of the system during the night (i.e. shortening or eliminating the technical maintenance window currently scheduled between 10 p.m. and 1 a.m. on normal week days) and foreseeing some windows for settlement during weekends<sup>10</sup>.

The approaches listed above are not mutually exclusive. Should any of them be supported by the market, further discussions would have to be held to define the level of support which participants may expect from the central banks during these extended operating hours.

## Questions

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12. Does your institution have a requirement of extended opening hours for RTGS services? If so, for what purpose would the extended opening hours be required? What would be the required extended opening hours?

### 3.4 Enhancing data analysis and business intelligence services

The demand for near-time data analysis based on actual transaction level data is ever-increasing. On the supply side the analysis capabilities are growing fast, allowing for the provision of input about various cash-related aspects such as liquidity and payment indicators, interdependencies, time series developments, intraday liquidity patterns, benchmarking or liquidity management improvement areas. Moreover, the demand for such data analysis is increasingly fuelled by regulatory compliance requirements, in particular in relation to the monitoring of participants' liquidity risk. For these reasons, high-quality and quickly-available data analysis is a powerful tool for a bank to manage risks, assess and monitor compliances and identify areas for optimisation.

In the past the Eurosystem invested in the analytical capacities of its payment data and derived meaningful information on the above-listed aspects at system level. The current strategic review initiated by the Eurosystem would create an opportunity to expand these analytical capabilities and to develop business intelligence services for participants. One concrete usage of this business intelligence could be linked to

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<sup>10</sup> These would be similar over a TARGET holiday.

reporting on participants' compliance with the Liquidity Coverage Ratio (LCR) and the upcoming intraday liquidity reporting requirements.

If supported, such services would have to be further specified, based on banks' requirements, and set in a way that does not infringe banks' and central banks' confidentiality obligations.

## Questions

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13. Does your institution have analytical requirements that could be provided as services? If so, please provide a brief description.

### 3.5 Regulatory compliance

Banks are facing increasing numbers of regulatory requirements related to, e.g., compliance with anti-money laundering (AML), counter-terrorist financing (CTF) or know your customer (KYC) issues. For each bank, complying with the various sets of requirements can be very challenging and any breach could lead to legal and pecuniary repercussions. Without discharging participants from their legal, supervisory and regulatory obligations, the Eurosystem stands ready to develop specific services to support banks in complying with these requirements, for instance by establishing standardised profiles of participants for identifying possible direct or indirect country exposures or counterparty exposures as a contribution to KYC obligations. Another example may be the real-time screening of participants' incoming or outgoing payments against a configurable list of sanctions. Such services would be provided on an optional basis to participants, possibly with a certain degree of parametrisation.

## Questions

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14. Are there services that the Eurosystem should provide as part of its RTGS services to support the compliance of your institution with regulatory requirements? If so, please list them. If not, are there specific reasons that such services could not be provided?

### 3.6 Settlement of ancillary systems

Today more than 80 financial market infrastructures (FMIs) are using TARGET2 as ancillary systems to settle their participants' positions on TARGET2 accounts in central bank money. So far, TARGET2 offers six different settlement models for ancillary system settlement in order to meet the different business models of the FMIs via the so-called Ancillary System Interface (ASI). The ASI provides a number of optional services such as guarantee mechanisms, information periods or standing orders allowing an ancillary system and its participants to manage the cash

settlements. As the six models currently in place were implemented almost 10 years ago and the business and regulatory environment has evolved since then, the strategic review of RTGS services provides an opportunity to revisit the models and services that are offered to FMIs in particular from the perspective of the respective FMIs but also from a view of banks as FMIs' customers. Examples of such services should include a review of whether the six settlement models still fit the needs of the various ancillary systems or whether additional/modified models could serve an ancillary system better. Beyond the settlement models, tools supporting ancillary systems (and their participants) in contingency/business continuity situations and tools supporting banks in meeting/monitoring their ancillary system obligations/claims as well as increased levels of data transported with an ancillary system payment could also be considered, in particular in view of exploiting ISO20022 to the maximum extent possible.

## Questions

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15. Have you identified an additional functionality that the settlement procedures for ancillary systems should cater for? If so, please describe.

16. Are there additional optional services that the Eurosystem should provide for ancillary systems?