

TARGET 2 – THE NEW EU INNOVATION AND TRANSFORMATION RTGS SYSTEM

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Abstract. Since its inception TARGET has formed a benchmark for processing euro payments in terms of speed, reliability, opening times and service level, and has contributed to the harmonization of business practices in the European Union. TARGET 2 is on track from 19 November 2007. In TARGET 2, all banks in the EU, irrespective of where they are located will be offered high – quality services, functionality and interfaces, as well as a single price structure. This will level out the playing field for banks across Europe. TARGET 2 will ultimately benefit from, and evolve with, its users' expectations and requirements.

Keywords: single technical platform, flexible liquidity management services, operational day, multi - addressee access, core pricing scheme, migration groups.

1. The initial TARGET system

TARGET is the Real Time Gross Settlement system (RTGS), offered by the Eurosystem. It is used for the settlement of the central bank operations, large value euro interbank transfers as well as other euro payments. It provides real time processing, settlement in central bank money and intermediate finality. TARGET stands for **T**rans-European **A**utomated **R**eal-time **G**ross settlement **E**xpress **T**ransfer system and it was created by interconnecting national euro RTGS systems and the ECB payment mechanism. It went live in January 1999. The launch of the single currency necessitated a real-time payment system for the euro area.

With €1.9 trillion settled every day, TARGET, is one of the three largest wholesale payment systems in the world, alongside Fedwire in the United States and Continuous Linked Settlement (CLS), the international system for settling foreign exchange transactions. The TARGET system has a decentralized structure consisting of 16 national RTGS systems and the ECB's payment mechanism (EPM), which are interlinked to provide a uniform platform for the processing of inter-Member State euro payments. TARGET began operations on 4 January 1999 at the same time as the launch. Since then, TARGET has provided real-time payment processing and intraday finality to almost all credit institutions in the EU. Moreover, TARGET serves the monetary policy needs of the Eurosystem and promotes the integration of the euro money market. With its special focus on large-value payments related to inter-bank operations, TARGET helps to reduce systemic risk. TARGET has long operating hours, being open from 7 a.m. to 6 p.m. CET on each of its working days, with a cut-off time of 5 p.m. for customer payments. TARGET is a highly reliable system. In 2005 the overall availability of TARGET was 99.83%, compared with 99.81% in 2004 (TARGET availability is defined as the ratio of time during which TARGET components are fully operational to TARGET opening hours).



The decentralized structure of TARGET

2. The new features of the TARGET 2

TARGET2, which will replace the current decentralized infrastructure, has a single technical platform and features new functionalities designed to meet the future needs of financial markets. In building this new system, the Eurosystem is aiming to:

- provide a harmonized level of service on the basis of a common technical platform;
- achieve a high level of cost recovery and have a single price structure applicable to both intra-national and cross-border payments;
- meet the new demands of users, as well as those resulting from the future connection to TARGET of the countries that joined the European Union on 1 May 2004.

The Eurosystem has developed the features and services of TARGET2 in close cooperation with TARGET users. In November 2005 the Eurosystem published the User Detailed Functional Specifications (UDFS, version 2.0), which give TARGET users the information they need to start the technical development and implementation work related to TARGET2. The principal innovations of TARGET2 are as follows:

1. *A single technical platform* - the most important innovation is the consolidation of the technical infrastructure. TARGET2 will replace the decentralized technical structure of the current TARGET system with a single technical platform, known as the Single Shared Platform (SSP). Three Eurosystem central banks – the Banca d'Italia, the Banque de France and the Deutsche Bundesbank – will jointly provide the SSP and will operate the platform on behalf of the Eurosystem.
2. *TARGET – WIDE flexible liquidity management services* - There is increasing demand among payment system users for enhanced liquidity management services and liquidity-efficient RTGS systems. In response, TARGET 2 will offer state-of-the-art liquidity management tools, such as prioritisation of payments, liquidity reservation (also for the settlement of payments in ancillary systems), definition and implementation of sender limits and active queue management.
3. *Support for payments with a debit time indicator* – TARGET 2 will take into account the increased time-criticality of payments, particularly in the context of CLS, by making it possible to submit transactions with a debit time indicator.
4. *Pooling of intraday liquidity* - Liquidity pooling will be achieved by grouping a number of accounts. TARGET2 will offer two variants for liquidity pooling: i) the virtual account; and ii) consolidated information. In the virtual account option, a payment order submitted by a participant belonging to a group of accounts will be settled if the payment amount is smaller than or equal to the sum of the liquidity available on all accounts (including any credit lines) in the group. Otherwise the payment order will be queued.

The consolidated information option is an information tool: it will give comprehensive information to the participant subscribing to the service about the liquidity position of all of the entities of the group at any given moment. Such information will also be provided in the virtual account option. However, payment amounts will be checked only against the liquidity available on the individual RTGS account of the sending participant. The liquidity available on other accounts in the group will not be used to settle the payment. In the event of insufficient liquidity on the sending bank's account, money will need to be transferred to that account.

5. *Interaction with ancillary systems* - TARGET2 will provide cash settlement services in central bank money for all kinds of ancillary systems (ASs), including retail payment systems, large-value payment systems, foreign houses and securities settlement systems (SSSs). The main advantage of TARGET2 for ASs is that they will be able to access any account on the SSP via a standardized interface.
6. *Strengthened the business continuity measures* - TARGET2 will offer the highest possible level of reliability and resilience, as well as sophisticated business contingency arrangements commensurate with the systemic importance of the TARGET2 infrastructure. The business continuity concept of TARGET2 consists of a multi-region/multi-site architecture. There will be two regions. In each region, there will be two sites some distance from each other. This

will be combined with the principle of region rotation in order to ensure the presence of experienced staff in both regions.

7. *Information and control module* - TARGET2 users will have access, via the information and control module (ICM), to comprehensive online information and easy-to-use liquidity control measures appropriate to their business needs. Users of the ICM will be able to choose what information they receive and when. Urgent messages (e.g. system broadcasts from central banks and warnings concerning payments with a debit time indicator) will be displayed automatically on the screen. Through the ICM, TARGET2 users will have access to the payments module (PM) and the static data (management) module. Depending on the decision of the relevant central bank with regard to the use of the optional modules offered by the SSP, participants may also have access to the home accounting facility of the central banks and the applications for reserve management and standing facilities.
8. *TARGET 2 directory* - the TARGET 2 directory will contain information on each institution that can be addressed in the TARGET2 system, and will be updated on a weekly basis to support system participants in their routing of payment instructions. The directory will use TARGET2-specific information provided by TARGET users during the SSP registration process in combination with SWIFT-related information. The TARGET2 directory will be an electronic product/service provided to the direct participants by the Eurosystem.
9. *Operational day* – in order to better meet users’ business needs, the operational day in TARGET2 will be longer than that of the current TARGET system. TARGET2 will start the new business day on the evening of the previous day. The night-time window will be available from 7.30 p.m. to 6.45 a.m. the next day, with a technical maintenance period of three hours between 10 p.m. and 1 a.m. The night-time window will facilitate the night-time settlement of the different ancillary systems in central bank money with finality, and will also support cross-system settlement during the night. Settlement of ASs will take place in dedicated accounts. During the night-time window, liquidity transfers via the ICM between RTGS accounts and the dedicated sub-accounts will be possible. Ancillary systems and their participants will be able to choose whether or not to enable this liquidity transfer functionality, or to limit the functionality. Banks may alternatively decide not to participate in night-time settlement. The Eurosystem believes that the night-time window will generally increase the efficiency of night-time settlement and will favour initiatives such as cross-system delivery versus payment.

	Time	Description
Daytime	6.45 a.m.-7 a.m.	Preparations for daytime operations
	7 a.m.-6 p.m.	Day trade phase
	5 p.m.	Cut-off for customer payments
	6 p.m. + 15 min.	General cut-off for the use of standing facilities
End of day	6 p.m. + 30 min.	Cut-off for the use of standing facilities on the last day of a minimum reserve period
Start of day	6.45 p.m.-7 p.m. (1)	Start-of-day processing
	7 p.m.-7.30 p.m. (1)	Provisioning of liquidity (from standing facilities, intraday credit, home accounts) until start of procedure for ASs
Night-time window for AS	7.30 p.m. (1)-10 p.m.	Automated start of procedure message to set aside liquidity until start of cycle message of ASs, and ancillary system night-time processing (ancillary system settlement procedure 6)
	10 p.m.-1 a.m.	Technical maintenance period of 3 hours. The system is shut down
	1 a.m.-6.45 a.m.	Night-time processing (ancillary system settlement procedure 6)

Opening day for TARGET 2

3. Access for TARGET 2

A number of options are provided for the access to TARGET 2. These include direct or indirect participation, “addressable BICs” and “multi-addressee access” to the system, also known as “technical BIC access”.

1. Direct participation - the criteria for direct participation in TARGET2 is the same as for the TARGET system. Direct participants will hold an RTGS account in the PM of the SSP with access to real-time information and control features, and will therefore be able to: i) submit/receive payments directly to/from the system; and ii) settle directly with their national central bank. Direct participants will be responsible for all payments sent or received on their account by any TARGET2 entity (i.e. indirect participants, addressable BICs and multi-addressee access entities as described below) registered through them. To connect to TARGET2, direct participants will require a direct connection to SWIFT's secure IP network via their own SWIFT interface or via a SWIFT Service Bureau. For the exchange of payments information, TARGET2 will use the SWIFTNet FIN service, while the SWIFTNet services "InterAct", "Browse" and "FileAct" will be used for information and control services.
2. Indirect participation - implies that payment orders are always sent to/received from the system via a direct participant. Payments are settled in the direct participant's account in the PM of the SSP. Indirect participants will be registered by and under the responsibility of the direct participants, acting on their behalf, and will be listed in the TARGET2 directory. Only supervised credit institutions established within the EEA can become indirect participants.
3. Addressable BICs – another category of access already available in the current TARGET system is that of TARGET2-addressable BICs. Any direct participant's correspondent or branch that holds a BIC is eligible to be listed in the TARGET2 directory, irrespective of its place of establishment. Moreover, no financial or administrative criteria have been established by the Eurosystem for such addressable BICs, meaning that it will be up to the relevant direct participant to define a marketing strategy for offering such status. It will be the responsibility of the direct participant concerned to forward the relevant information to the appropriate national central bank for inclusion in the TARGET2 directory (for technical reasons, an indirect participant/addressable BIC can be linked to only one direct participant). Addressable BICs will always send and receive payment orders to/from the system via a direct participant, and their payments will be settled in the account of that direct participant in the PM of the SSP. Although technically there is no difference between an indirect participant and an addressable BIC (The TARGET2 directory will distinguish between indirect participants and addressable institutions) in legal terms, only indirect participants will be recognized by the TARGET2 system and as such benefit from the protection of the Settlement Finality Directive (in those countries where such protection has been granted).

4. The TARGET Core Pricing Scheme

The Eurosystem has set up a pricing structure for the TARGET2 core service which will eliminate the current differences in pricing between intra-national and cross-border transactions, as well as increase cost-effectiveness for its users. The price of a TARGET2 payment will range between €0.125 and €0.80.

Option A			
Monthly fee	€100		
Flat transaction fee	€0.80		
Option B			
Monthly fee	€1,250		
Band	Transaction volume		Transaction fee
	From	To	
1	1	10,000	€0.60
2	10,001	25,000	€0.50
3	25,001	50,000	€0.40
4	50,001	100,000	€0.20
5	above 100,000		€0.125

The pricing scheme for the TARGET 2

Payments settled on the accounts held in the national central banks' proprietary applications, also known as "proprietary home accounts", will be charged more than the TARGET2 fee (i.e. more than €100 + €0.80

per transaction). This will serve as an incentive to shorten the transition period and move to the PM of the SSP as quickly as possible.

The Eurosystem has decided that ASs interacting with TARGET2 should be subject to a pricing scheme comprising a transaction fee plus a separate fixed fee charged to each system, irrespective of where settlement takes place (e.g. in the PM or in proprietary home accounting (PHA) applications). A fixed fee of €12,000 per year will be charged to each ancillary system that settles in central bank money, irrespective of whether it settles in an account held at the SSP or in an account held in the central banks' home accounting application. A second fixed fee in the range of €5,000 to €50,000 per year will be charged to each ancillary system depending on the size of the system. In addition, all transactions that are settled for ASs will be charged according to a degressive transaction fee scale still to be specified in detail by the Eurosystem.

The liquidity pooling service (virtual account option and consolidated information option) is an optional and separately priced core service. The charge for liquidity pooling services will be €1,200 per account per annum for the consolidated information option and €2,400 per account per annum for the virtual account option (which includes the consolidated information option). Furthermore, within a group of accounts (with either the consolidated information option or the virtual account option) group pricing will apply, which means the degressive transaction fee will be applied to all payments by members of the group as if they were sent from one account.

The following pricing will apply to the various ways of participating in TARGET2, in addition to TARGET2 transaction fees. In addition, direct participants will be charged a one-off registration fee of €20 for each registration of an indirect participant and €5 for each registration of an addressable BIC (including BICs of branches of direct and indirect participants) in the TARGET2 directory.

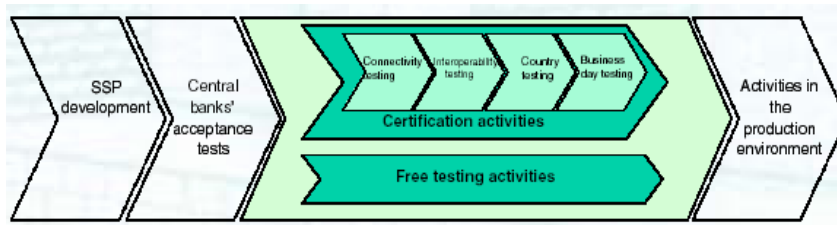
Type of participation	Monthly fee per account/BIC
Direct participation	€100 or €1,250 depending on the scheme chosen (see the TARGET2 core pricing scheme above)
Multi-addressee access	€80 per BIC address in addition to the BIC of the account of the direct participant
Unpublished account in the PM of the SSP	Direct participants who do not want their BIC to be published in the TARGET2 directory will pay €30 per account (BIC) per month in addition to the monthly fee above

Other pricing elements

5. User testing and migration groups

The objective of user testing is to ensure that users have made the necessary technical, procedural and operational adjustments to be ready for TARGET2. User testing started in May 2007 after the acceptance tests performed by the national central banks and will closely reflect the organisation of the migration groups (details below). Both structured tests and free tests are organised at institution, country and European level. In addition, the testing strategy will give due consideration to the specific situations faced by multi-country players. For each migration group, TARGET2 user testing are divided into two main activities, taking place in parallel:

- *Certification activities* – certification tests comprise four distinct steps, which have to be completed in a specific sequence. Tests first of all involve individual institutions (certification and interoperability tests), then national banking communities (country tests) and eventually the whole TARGET community (business day tests). Certification tests are compulsory for all TARGET2 users.
- *Free testing activities* – when the system is available for free testing, TARGET 2 users can perform any kind of testing activity. Free tests are optional, but TARGET 2 users are encouraged to make use of this option in order to be fully prepared for certification tests.



TARGET 2 user testing

The Eurosystem is defining TARGET2 test cases and scenarios. In parallel, a TARGET2 user test guide is being prepared to inform TARGET2 users about the testing procedures. A TARGET2 test-related information system (T2TRIS) is being developed to facilitate coordination and communication between all stakeholders during the testing phase. This web-based application will provide TARGET2 users with all the information needed for the preparation, planning and performance of, and reporting on, TARGET2 user testing activities. The T2TRIS is available to all TARGET2 users via the TARGET2 website from the last quarter of 2006.

The migration to TARGET2 will be carried out by “country groups”, allowing TARGET users to migrate to TARGET2 in different waves and on different pre-defined dates. Each wave will consist of a group of national central banks and their respective national banking communities. The number of migration groups will be limited to four. TARGET users will be allocated to the first three groups, while the fourth group will be held in reserve as a contingency measure. The total migration period will be limited to six months (or ten months if the fourth group is used).

Group 1	Group 2	Group 3	Group 4
19 Nov. 2007	18 Feb. 2008	19 May 2008	15 Sep. 2008
Austria	Belgium	Denmark	Reserved
Cyprus	Finland	ECB	for
Germany	France	Estonia	contingency
Latvia	Ireland	Greece	
Lithuania	Netherlands	Italy	
Luxembourg	Portugal	Poland	
Malta	Spain		
Slovenia			

Composition of the migration groups

Different tools are being designed to facilitate the migration to TARGET2, e.g. the national migration profiles and ancillary system profiles, operational workshops, registration and changeover procedures.

6. Conclusions

Since its launch, TARGET has made a significant contribution to the integration of the financial markets in Europe by providing its user with a uniform payment and settlement infrastructure. Given the wide ranges that TARGET 2 will offer, the Eurosystem expects to see even greater progress once the transition to the new system is complete.

TARGET 2 will contribute to the harmonization of the business practices of its user and can therefore be seen as a stimulus for further consolidation. Moreover, TARGET 2, is expected to help consolidate the internal process such as treasury and back office functions and promote the harmonization of the ancillary systems interfaces throughout Europe.

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