USER REQUIREMENTS

MANAGEMENT SUMMARY

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

T2S is a technical platform to support CSDs by providing core, borderless and neutral settlement services. The objective is to achieve harmonised and commoditised delivery-versus-payment settlement in central bank money in euro (and possibly other currencies) in substantially all securities in Europe. T2S thereby supports the Lisbon agenda in securities markets.

This management summary addresses **high-level executives** of financial market participants, issuers and CSDs. These institutions were invited to assess the impact of T2S at a very senior level, considering all aspects of their securities business (lifecycle management, custody operations, funding and collateral, retail and wholesale client servicing, market-making, new issues, etc.) in order to determine the extent of their support for this potentially transformational change.

Purpose and expectations

The user requirements posted on the ECB's website[1] define the features required by CSDs and financial market participants for core, borderless and neutral settlement of securities in Europe. They are the result of six months of very intensive cooperation involving hundreds of experts from CSDs, banks and central banks (see the list of contributors), with the ECB coordinating the work and drafting the results.

The requirements were published on 18 December 2007 and were subject to consultation until 2 April 2008. During these three months the T2S team at the ECB actively facilitated discussion so that all financial market participants and CSDs had the opportunity to gauge the impact of, and opportunities offered by, T2S.

The Eurosystem invited CSDs, issuers and financial market participants to provide in-depth analysis of the user requirements, all of which were open for review during the consultation period.

After the consultation period, the ECB Project Team analysed the responses and revised requirements where appropriate. The requirements have been reviewed within the framework of the current governance structure, involving the Technical Groups, the Advisory Group and, ultimately, the Governing Council. The ECB Project Team has actively provided feedback to respondents, including stakeholders not represented in these groups .

The final user requirements - together with an updated economic and business case analysis, a legal analysis, an action plan for harmonisation, an evaluation of the market support for the project and the governance structure for the next project phase – form the supporting documentation for the ECB Governing Council decision, expected in summer 2008 as to whether to build T2S.

[1] http://www.ecb.europa.eu/paym/t2s/html/index.en.html

The context – completing the single market in financial services

The European financial services industry has made considerable progress in reducing cost and risk, as well as in promoting competition within the single market, since the establishment of the euro. But there can be no doubt that significant further improvement is required, particularly in securities markets.

Progress towards a mature single market has been achieved by a combination of market forces and action undertaken by the public sector to enable market forces to be effective. Some of this action has been legislative, to stimulate harmonisation across national borders, and some has involved the creation of core infrastructure to support the competitive market. The Eurosystem has been active in the payments industry by providing core borderless infrastructure for real-time settlement in central bank money (i.e. TARGET2) and by supporting the banking industry in delivering pan-European payment instruments (i.e. SEPA). Further support for the single market will come from the streamlining of its collateral management systems (i.e. CCBM2).

Much less progress has been made in integrating national securities markets, largely because of the much greater intrinsic complexities of securities, which has permitted the development of national differences both in market practices and in legal, regulatory and fiscal regimes. Thus, although Europe is comparable to the United States in terms of its economic size, its post-trade sector is fragmented into numerous national markets. Whereas firms in the United States can operate in a single, large domestic market, in Europe they have to operate across many smaller, national markets and bear the higher costs of doing so. Because of this lack of integration, Europe lags behind the United States in terms of both the volume of transactions and the cost of those transactions[2].

The cost gap is particularly large for cross-border settlement. The result is a significant cost burden for cross-border wholesale transactions and very significant limitations for retail transactions. The Lisbon agenda recognises the need to eliminate these gaps, to promote the welfare of European citizens by achieving fully efficient capital markets.

The gap in the trading area is being forcefully addressed, in particular by the Markets in Financial Instruments Directive (MiFID), which is stimulating competition between trading platforms, whether traditional stock exchanges or new multilateral trading facilities.

On the post-trading sector, the European Council recently concluded[3] that "the continuous fragmentation of the sector leads to unnecessarily high costs, especially for cross-border securities transactions in the EU, which constitutes a considerable competitive disadvantage for European capital markets."

Two significant measures are already being implemented in order to achieve progress. First, a great deal of work is under way with a view to harmonising practices, legislation, regulation and tax in order to remove the

[2] See, for example, "The Direct Costs of Clearing and Settlement", Nera Economic Consulting, June 2004.

[3] Council Conclusions on Clearing and Settlement, Luxembourg, 9 October 2007: http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/ecofin/96349.pdf

"Giovannini barriers". Second, all exchanges, central counterparties and CSDs have undertaken, under the "Code of Conduct for Clearing and Settlement", to abide by various measures designed to stimulate fair and open competition. These include access rights, as well as seeking to ensure that clients are offered appropriate and transparent prices for unbundled services in order to put an end to cross-subsidies and the locking-in of clients.

One missing element is **core, borderless and neutral securities settlement** to crystallise the gains from harmonisation and to provide support for competition between service providers in the securities industry. T2S is neutral in that it will not favour or discriminate against specific countries, market infrastructures or groups. It will foster the required transformation in intermediation between issuers and investors by stimulating the development by financial market participants of a competitive and efficient European market.

Although there have been successful mergers between European CSDs in the past – and there may be more in the future – it seems that this process of consolidation by merger is unlikely to deliver an integrated market infrastructure for Europe. Accordingly, given the importance of progress in this area, it is necessary to find a way of establishing **a single settlement process involving a large number of CSDs**.

T2S will meet this need.

What is T2S?

T2S is a platform for core, neutral and borderless securities settlement to support the Lisbon agenda.

It will provide harmonised and commoditised delivery-versus-payment settlement in central bank money in euro (and possibly other currencies) in more or less all securities circulating in Europe.

Settlement will be extremely **safe**, because it will involve payment in central bank money. Reliability, scalability and robustness (as provided by TARGET2) are also vital, in view of the huge volumes of transactions to be settled even in today's fragmented markets (with two million settlement instructions being processed every day), and will become more vital still as volumes increase.

Much of the growth will be in cash trading and in collateral markets, which contribute greatly to liquidity but are low-margin activities. Such trades are only viable in risk/return terms if settlement is both timely and reliable.

Settlement also needs a sound legal basis. T2S will build on a set of European initiatives in this area (following the implementation of the Settlement Finality Directive, the Financial Collateral Directive, MiFID and other measures), and the Eurosystem will seek to foster further harmonisation.

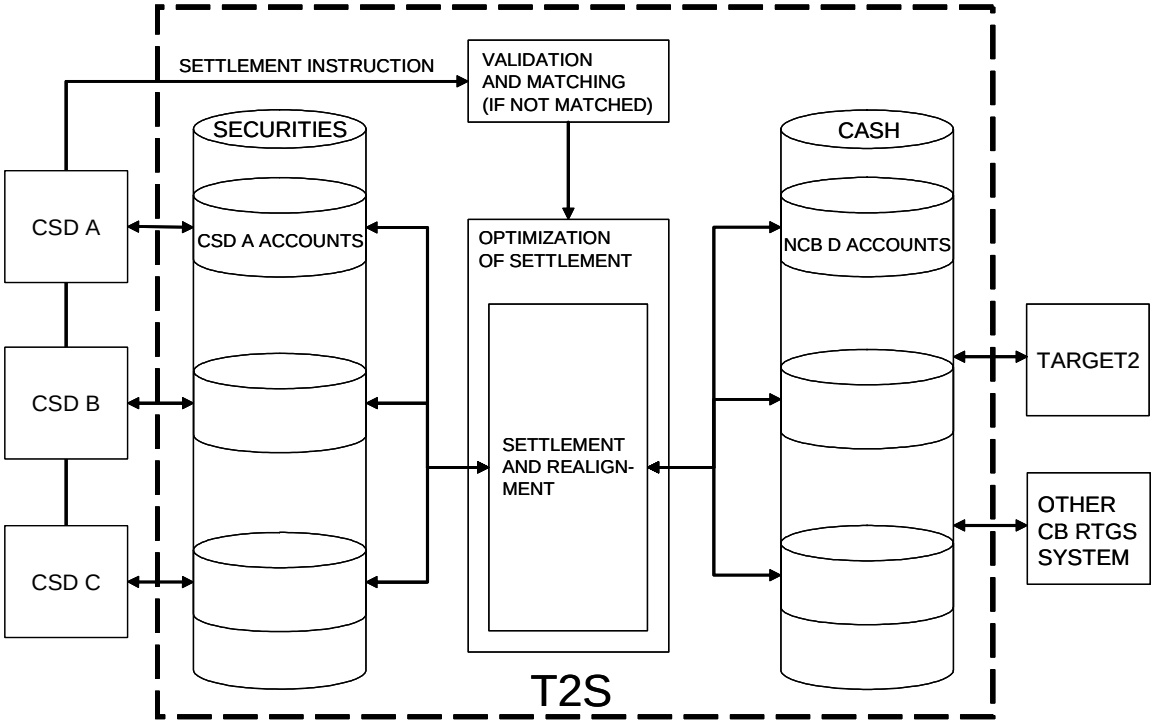
CSDs are the gateways through which market participants can access T2S services. Participants will continue to contract with one or more CSDs for the settlement (across the accounts of those CSDs) of securities eligible for such settlement. Moreover, it will be the CSDs – not market participants – that contract with the Eurosystem for T2S services.

Each CSD is invited to agree to move its settlement to T2S and offer its clients borderless settlement of trading and collateral operations. Most CSDs should be able, over time, to reduce their internal costs by restructuring and downsizing their own settlement processes.

CSDs will continue to operate, provide and improve efficient and safe services – particularly in relation to national requirements in areas such as registration, taxes, regulatory reporting, and some aspects of direct holdings by retail investors – at prices which are (as required by the Code of Conduct) a transparent and fair reflection of the cost of providing those services.

T2S will create opportunities for CSDs and market participants to develop their businesses in new ways in order to exploit efficiencies or to offer new services. As core, neutral infrastructure, T2S will support the different business models adopted by CSDs and market participants without discrimination.

Some CSDs may wish to consider **investing in asset servicing** in order to support their clients' growing operations in securities Europe-wide. This may imply significant changes to their current business model. While T2S provides the core functionality to make cross-border settlement as simple as domestic settlement, access to European securities via any individual CSD is dependent on that CSD being able and willing to accept securities issued in other CSDs. To use a railway analogy, T2S provides the "tracks" for cross-border settlement, but requires changes to the "trains" (i.e. the CSDs) to meet the demands of their "passengers" as regards this service. While T2S is, in itself, not sufficient to meet these passengers' demands, it creates incentives for train companies to make these changes. Such incentives barely exist today, since the necessary shared tracks have not been created by a neutral player.



As the diagram indicates, CSDs will keep all of their clients' securities positions in T2S, which will map to each CSD's **account structure** (including direct holdings), without accommodating all of the ancillary account information maintained by CSDs for their clients. Thus, each securities account held in T2S will be attributable to only one CSD.

Similarly, T2S will maintain **dedicated central bank money** accounts representing a CSD client's claims in central bank money on that client's chosen national central bank. Each account may be used to settle transactions relating to the client's security accounts in one or more CSDs. This cash account structure will foster efficiency improvements for clients that use more than one CSD.

When a CSD client does not have access to central bank money, it may be authorised by a payment bank to operate a dedicated cash account in T2S. This will provide CSD clients with a choice of payment bank.

T2S will provide **DvP settlement in real time** with auto-collateralisation and optimisation procedures, irrespective of which CSD and NCB provide the respective underlying securities and central bank money accounts. It will be able to do so by providing realignment in real time when securities issued in one CSD are settled in another CSD.

CSDs joining T2S will thus be able to offer their clients cross-border settlement in central bank money – a service that is hardly available today.

T2S will enable **direct connectivity** by CSDs' clients and CCPs. These will be able to input settlement instructions directly into the T2S platform and receive information on the results where the relevant CSD allows such a connection under its general terms and conditions. For other services that are not available in

T2S, they will connect to the relevant CSDs. Direct connectivity can make it easier for market participants to operate direct memberships of multiple CSDs and for CSDs to reach a wider set of international clients.

The decision on direct or indirect connectivity will depend, inter alia, on the pricing of such services by the CSDs and on whether or not the user finds it possible to concentrate its activities in fewer CSDs as the market develops. Offering both direct and indirect options provides maximum flexibility for financial market participants, entails no significant additional cost for T2S and may well be a driver towards harmonisation.

T2S will **match settlement instructions** relating to cross-CSD settlement, as well as those input directly into T2S. It will also accept matched instructions from other infrastructures which apply the same matching rules. Since multiple matching facilities might exist, there needs to be a rule to determine the location of matching. Where CSDs cannot match both sides of the trade, the matching will take place in T2S.

T2S will deliver settlement at **low cost**, reflecting the very significant economies of scale in such services. Once T2S is serving all EU countries, these economies of scale should make the unit cost considerably lower than the lowest price charged by a European CSD at current volumes. If volumes rise (stimulated by the reform programme set out above) to US levels, the cost is expected to fall very significantly, towards US levels.

The low projected unit cost applies to both cross-border and domestic settlement. There are no borders within T2S.

T2S will be a Europe-wide core securities settlement platform, since its design will accommodate settlement in **central bank money in other currencies** where the relevant central bank and the market wish to support such services. The sooner these central banks and markets make such decisions, the better the prospects of accommodating them in the build phase. Where non-euro currencies join, T2S will interact with the RTGS system of the relevant central bank in the same way as it will with TARGET2.

T2S is expected, in time, to become the **single provider** of core securities settlement platform for CSDs. This model of a single provider of “backbone” services is one that some countries have adopted for distribution networks in other industries (e.g. telecoms). Such core infrastructure is tightly controlled as regards reliability and pricing, and is available to all producers on equal terms. Provision of core settlement services by the Eurosystem fits with this model.

Moreover, competition between CSDs (and the resulting benefits) has been very limited. For many securities there are hardly any alternatives to the local market CSDs. CSDs were set up not to compete with one another, but to be the central infrastructure within each country, with tight regulation so as to keep a low risk profile. A shift to competition with other CSDs in order to be the preferred gateway to T2S may thus require changes in the mandates and/or regulatory structures of some CSDs. The provision of core services by T2S, by lowering the barriers to entry to new markets, has the potential to create new opportunities for competition.

The Eurosystem has decided that T2S will be run on a full cost recovery and not-for-profit basis. T2S will ensure the full accountability and transparency of costs and prices, in full compliance with the industry Code of Conduct, so that the market can scrutinise operating and investment efficiency. These factors support the

Eurosystem's decision to **control T2S via its ownership** rights. It will, of course, continue to keep the market involved, building on the open and cooperative culture developed in preparing the current user requirements.

The ownership decision also establishes clear accountability for the important task of managing the risks inherent in the creation of systemically important infrastructure that could become a single Europe-wide point of failure. These risks are not new: every current CSD is a systemically important single point of failure for its own market. Nevertheless, there is no doubt that the scale of the risks will be larger in T2S. It is important that the Eurosystem should not be constrained in its ability to manage those risks, alongside those relating to the equally important TARGET2 system, which will be operationally coupled to T2S.

The impact of T2S

Designing a common settlement platform is in itself a driver in promoting **harmonisation**. The impact of T2S on harmonisation is already being felt, building on valuable work by CSDs. (An annex provides details of the points already harmonised and those where further work is needed.) The Euroclear Group's experience in bringing together several national CSDs has created valuable impetus in this regard.

There has been considerable support for keeping T2S lean. The temptation to develop specific functionalities in T2S to support national specificities has been resisted. Instead, processes for CSDs and users have been identified that allow markets to continue to support national specificities using a basic T2S functionality. The provision of an internal technical account for "direct holding markets" will allow bulk stock exchange transactions undertaken by brokers acting for retail investors to be allocated for settlement individually by buyer and seller without re-matching each split. This functionality should support, at very low cost, the desire of several markets to allow the recording of each individual investor's holdings.

Each national market will need to come to a decision on whether or not it wishes to retain its existing specificities. Where a national specificity is not perceived to provide value, the development of T2S will increase the incentives to remove it. One such incentive is the greater likelihood of part of the activity in domestic securities shifting to another CSD which does not oblige international users to incur the costs of extra processes to accommodate the national specificity. Moreover, where there are implicit subsidies which support national specificities, the transparent and uniform charging policy of T2S will make the true costs more apparent, in a way which properly reflects (in line with the Code of Conduct) the resource costs of choices made by intermediaries, issuers and markets. This transparency may well lead to a reduction in the divergence of practices across market segments.

T2S will, in cooperation with financial market participants, facilitate further harmonisation in market practices at the European level in relation to the use of T2S. During the consultation phase, a list of areas was identified where harmonisation would facilitate the use of T2S by market participants. It is likely that this work will expose further barriers of the kind already identified by Giovannini, as well as helping users to identify the irreducible costs of unresolved barriers in the new efficient borderless settlement environment. The Eurosystem

is now proposing an action plan to assist ongoing harmonisation initiatives, making use of the features of T2S, the fact that the market is well represented in the Advisory Group, and its own influence.

Adoption of T2S will, as noted above, reduce pure settlement costs – particularly for what are today cross-border trades. This is expected to increase cross-border volumes.

This shift to borderless markets in T2S will, in turn, deliver significant benefits to end-users, particularly in smaller countries. Issuers will have access to deeper markets for fund-raising without needing to consider issuing in a different country, and investors will be able to benefit from portfolio diversification at lower cost. These benefits will require little or no adjustment by intermediaries, especially on the capital-raising side.

T2S will also create a single pool of assets – substantially all the securities held by participating CSDs – exchangeable for each other via central bank money at low cost, in real time, and in an extremely reliable settlement system. Market participants will also be able to centralise liquidity in a single central bank cash account. Together, these features will create valuable new options for commercial and investment banks in terms of managing collateral, optimising their funding costs and avoiding failed deliveries. These gains will include the benefits of enhanced competition among third-party collateral managers and liquidity providers, since it will be easier to unbundle such services from custody provision. From the indications given by market participants, the reduction in costs is likely to be very substantial. This will feed through to reduced trading spreads and lower service prices, thereby improving welfare.

There will be other effects on, and gains through, enhanced competition, specifically in the areas of custody and securities trading.

Some CSDs will want to enhance their asset servicing abilities both for their “domestic” securities and for securities which they wish to offer their clients but are “domestic” to another CSD. Others may choose to specialise in issuer services and/or services for individual investors. This will reinforce the competition-enhancing effects of the Code of Conduct.

Banks providing custody will need to consider their strategy, since their wholesale customers in particular (but in time also their retail clients) are likely to wish to reduce their number of suppliers by seeking partners with pan-European, or at least regional, services.

The outcome of this process is very likely to be favourable in terms of service quality and price, particularly in the context of real progress on harmonisation through the Giovannini process.

What’s next?

T2S will provide a core neutral and borderless securities settlement platform to support securities markets in Europe. The requirements for T2S spell out in sufficient detail the vision of the hundreds of market participants that have worked with the T2S team to produce a design to meet this need.

The T2S team at the ECB wishes to thank all respondents in the public consultation phase for their considerable efforts and the ongoing dialogue.

USER REQUIREMENTS

CHAPTER 1

GENERAL INTRODUCTION

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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1 General introduction

1.1 Introduction

Following the decision of the ECB Governing Council in March and late April 2007, the ECB has been mandated to organise a governance structure around a team of experts to prepare the definition of the User Requirements for TARGET2 Securities (T2S). The user requirements set out below are the result of six months of very intensive co-operative work by hundreds of experts from CSDs, banks and central banks under the leadership of the ECB (see annex 1: list of contributors). They define the characteristics of a core, borderless and neutral infrastructure for settlement of securities in Europe: T2S.

The attached user requirements were issued to the market on 18 December 2007, for the start of a three-month consultation period that ended 2 April 2008. All replies received after this deadline were handled with due consideration. The ECB's T2S team actively facilitated discussion during this period so that each market intermediary had the opportunity to gauge T2S's impact and opportunities.

Firms provided a technical analysis of these user requirements. All user requirements were potentially subject to review during the consultation period. All comments received were made public on the internet, unless it was clearly indicated that the author did not consent to such publication.

During April and May 2008 the ECB Project Team analysed the responses, revising the requirements where appropriate. This was done under the current governance structure including the Advisory Group and the Technical Groups.

This result, together with an updated economic and business case analysis, revised timetable for implementation and governance proposals, constitutes the documentation supporting ECB decision-making bodies for their decision of whether to build T2S. Once approved, the entire URD and its annexes will be subject to strict change-control management.

As a general introduction, this chapter presents the principles established by the ECB Governing Council to define T2S User Requirements and the governance structure put in place for this phase of the project. In addition, this chapter presents the method for organising and presenting user requirements in subsequent chapters and directs readers to the glossary of terms and to the conventions used for the illustrations.

1.2 General Principles of T2S

The general principles constitute the main cornerstones of T2S. They were approved by the Governing Council of the ECB on 26 April 2007. Though it was not asked to endorse the principles, the Advisory Group agreed in its meeting of 31 July – 1 August 2007 to suggest some clarifications of the principles to the ECB Governing Council. The revisions mainly affected the supplementary text on the principle. The modification of the principle itself was the exception. The Governing Council has agreed to the clarifications

suggested by the Advisory Group. The following list documents the final version of the T2S general principles.

Principle 1: The Eurosystem shall take on the responsibility of developing and operating T2S by assuming full ownership

In line with the Governing Council's decision of July 2006, the proposed platform will be fully owned and operated by the Eurosystem. A governance structure has been set up to define user requirements. It allows for a wide involvement of market participants. The Eurosystem is committed to keeping market participants closely involved in the different phases of the project.

Principle 2: T2S shall be based on the TARGET2 platform and will hence provide the same levels of availability, resilience, recovery time and security as TARGET2

The Governing Council decided that T2S will be developed and operated on the TARGET2 platform. Four Eurosystem central banks (the Deutsche Bundesbank, the Banco de España, the Banque de France and the Banca d'Italia, otherwise known as the 4CB) are ready to develop and operate T2S on TARGET2 via the Single Shared Platform. Use will be made of the valuable experience and knowledge that is available in the market. The intention is to exploit synergies and provide an efficient solution to central securities depositories (CSDs) and users. In addition, enhanced liquidity management mechanisms will be provided as a result of the proximity between T2S and TARGET2. The existing operational structures and support organisation, telecommunications infrastructure, business continuity and disaster recovery arrangements shall be reused to the maximum extent possible.

"T2S on TARGET2" must be understood as an open concept that will not impose constraints on the user requirements.

Principle 3: T2S shall not involve the setting-up and operation of a CSD, but instead will serve only as a technical platform for providing settlement services to CSDs

T2S is purely an IT settlement service operated by the Eurosystem and provided to CSDs for the benefit of their customers. Therefore, it neither constitutes a CSD in itself, nor is it intended to become one in the future. The scope of T2S is restricted to settlement, including settlement instructions resulting from corporate actions or portfolio transfer, for example. This therefore excludes the possibility of T2S engaging in any asset-servicing businesses (such as event set-up, computation of benefits and response management of corporate actions).

Principle 4: The respective CSD users' securities accounts shall remain legally attributed to each CSD

Each CSD will continue to be legally responsible (under their applicable laws) for opening, maintaining and closing the securities accounts of its users in T2S and, where relevant, those of the clients of these users as well. The securities account balances will be stored within the T2S platform and will be available to CSDs and their users on a real-time basis.

Principle 5: The T2S settlement service will allow CSDs to offer their participants at least the same level of settlement functionality and coverage of assets in a harmonised way

The aim of developing a common settlement platform is to enable CSDs to use T2S to perform their entire settlement processing in a harmonised way. The centralised platform should cover the full functionality needed for such a harmonised service and should enable enhanced liquidity management. If this is not achieved, CSDs will be forced to maintain duplicate settlement infrastructures, with a cost impact through both duplication and reduced economies of scale. The objective of T2S is to provide a level of functionality that frees CSDs from maintaining securities balances on a separate platform or from duplicating processes.

The scope of instruments eligible for T2S shall be all securities that have an International Securities Identifying Number (ISIN) and are held by a CSD operating in T2S.

Principle 6: Securities account balances shall only be changed in T2S

T2S will process all changes on securities account balances that relate to settlement activities of CSDs on the basis of the instructions it receives. Examples of this are settlement instructions generated via primary and secondary market transactions, corporate actions, and lending and collateral management activities.

Principle 7: T2S shall require participating CSDs to be designated under the Settlement Finality Directive (SFD) in their respective jurisdiction

Participating CSDs will have to be designated as securities settlement systems under the SFD and notified by the competent national authority to the European Commission in order to benefit from protection under the SFD. Consequently, transfer orders processed in T2S will acquire adequate protection under the relevant laws and rules of the individual CSDs that are designated under the SFD. Furthermore, the proprietary aspects and the finality of transfers of securities will be determined in accordance with the laws of the country in which the CSD that has opened the securities accounts is located.

Principle 8: T2S shall settle exclusively in central bank money

As stated above, T2S is a service for enhancing the efficiency of securities settlement across Europe while at the same time keeping central banks' cash account management within the central banks. Its scope is therefore limited exclusively to central bank money and does not extend to the settlement of commercial bank money.

Principle 9: The primary focus of T2S shall be settlement services in euro

The primary focus of the Eurosystem is to ensure efficient and sound settlement services in euro. As a result, the focus of T2S is to provide settlement services in euro central bank money. The extension of T2S to other currencies is possible (see Principle 10).

Principle 10: T2S shall be technically capable of settling currencies other than the euro

T2S will be technically capable of providing settlement not only in euro central bank money but also in non-euro central bank money. An explicit request by the relevant non-Eurosystem central bank(s) in coordination with the local market community is required to activate this service. Non-Eurosystem central banks would be expected to adapt to a harmonised, standardised interface.

Principle 11: T2S shall allow users to have direct connectivity to its platform

CSDs will retain the business and legal relationship with their participants. All securities account balances will be stored in T2S, irrespective of the choice of connectivity. From a T2S point of view, the connectivity choice refers solely to the way in which users will interface with T2S in order to send and maintain settlement instructions and access reporting facilities. Irrespective of the way in which they connect to T2S, users' instructions will be subject to equal processes within T2S. The connectivity choice will also be neutral to CSDs, since all the necessary information, even from directly connected users, will be available to CSDs.

Principle 12: CSDs' participation in T2S shall not be mandatory

CSDs' participation in T2S is a business decision on the part of the CSDs and their local market community. When deciding whether or not to join T2S, CSDs are expected to follow the interests of their shareholders and users.

Principle 13: All CSDs settling in euro central bank money shall be eligible to participate in T2S

All CSDs settling in euro central bank money and designated under the SFD are invited to join T2S, regardless of their location inside or outside the euro area.

Principle 14: All CSDs connecting to T2S shall have equal access conditions

The criteria for CSDs to access T2S will be public and non-discriminatory. All participating CSDs will have access to all T2S services. A single, transparent and publicly available fee schedule will be applied (see also Principle 19 on compliance with the Code of Conduct). In line with European principles of competition, the Eurosystem will provide its services to connected CSDs on a non-discriminatory pricing basis (in a similar manner as for other existing Eurosystem infrastructures, such as TARGET2).

Principle 15: All CSDs connecting to T2S shall do so under a harmonised contractual arrangement

With reference to their contractual relationship with T2S, all CSDs receiving the same service level will be subject to a harmonised contractual arrangement. This means that all CSDs willing to participate in T2S will adhere to the same harmonised conditions for the platform's core functions. For specific optional services to be provided to a CSD, they would need to be covered by a specific contractual arrangement. Any other CSD willing to use such specific services would also be eligible to apply under the same harmonised conditions for the specific optional services.

Principle 16: All CSDs connecting to T2S shall have a single calendar of opening days and harmonised opening and closing times for settlement business

The participating CSDs shall adopt the T2S calendar. This will be the same as the TARGET2 calendar. Settlement (delivery versus payment (DvP) as well as free of payment (FoP)) via T2S shall not be possible outside this calendar. Within the T2S calendar, a CSD which closes due to a national holiday would need to provide a minimum level of service (e.g. to allow the realignment of settlement carried out in other CSDs).

The opening and closing times will cover daytime and night-time settlement. They will be compatible with, though perhaps not identical to, TARGET2 operating hours. Further consultation will be conducted on the exact cut-off times within the single T2S operating timetable – different cut-off thresholds might for instance be required for specific operations (DvP notification submission, automatic lending operations, etc.).

Principle 17: T2S settlement rules and procedures shall be common to all participating CSDs

To minimise costs and simplify processes, T2S will aim to harmonise all rules and procedures related to the services it provides.

For example, T2S will provide a single set of harmonised matching rules and procedures which must be observed by instructing parties. These will be based on the European Central Securities Depositories Association (ECSDA) report on matching standards. In addition to these harmonised rules, CSDs may maintain additional domestic rules, provided that such rules do not conflict with those of T2S.

Principle 18: T2S shall operate on a full cost-recovery and not-for-profit basis

The Eurosystem will price the development and operation of T2S on a full cost-recovery and not-for-profit basis. While delivering a very high level of service in terms of quality, security and availability, T2S will also seek to be as cost-efficient as possible.

Principle 19: T2S services shall be compatible with the principles of the European Code of Conduct for Clearing and Settlement

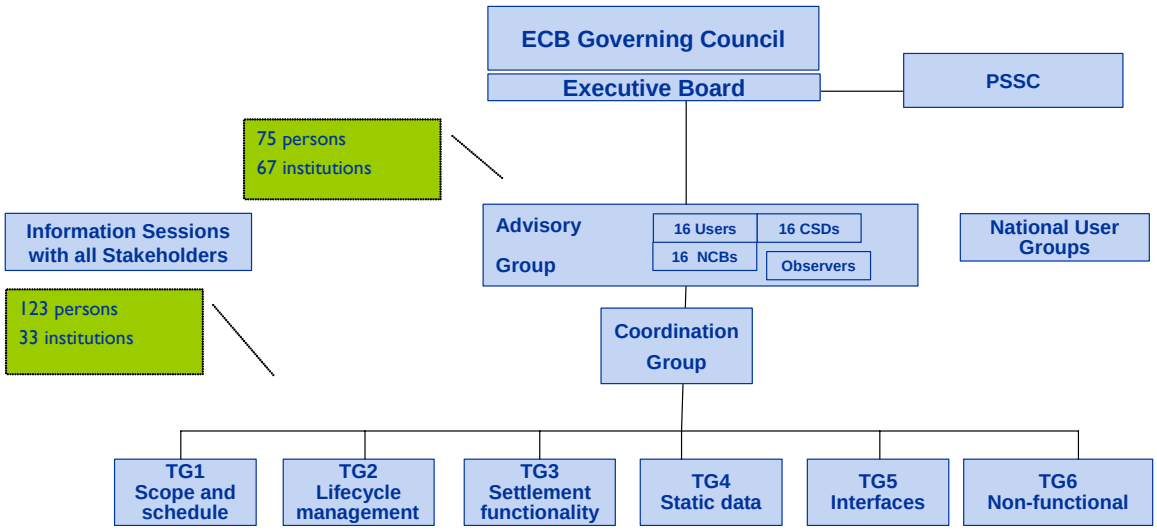
T2S will be compatible with the principles of the European Code of Conduct for Clearing and Settlement with regard to price transparency, the unbundling of services and accounting separation. Compatibility with the Code of Conduct will enable CSDs also to remain compliant.

Principle 20: T2S shall support the participating CSDs in complying with oversight, regulatory and supervisory requirements

T2S will be set up in such a way as to allow participating CSDs to comply with the relevant regulatory, supervisory and oversight requirements, as well as to strive for a high degree of harmonisation in meeting those requirements.

1.3 Governance structure for preparing User requirements

An ad-hoc Governance structure was set up by the Governing Council for preparing the T2S User Requirements (see below). CSDs, market participants and central banks have invested considerable resources by involving themselves (among others) in the Advisory Group and the six Technical Groups that have been set up. Approximately 190 persons from 80 institutions have participated in these groups, working in a co-operative spirit under the very tight deadline that was set by the Governing Council. The ECB has led this process in an open and transparent manner. All decisions have been taken by means of consensus.



1.4 Organisation and presentation of the user requirements

The T2S User Requirements document is organised into chapters presenting the various aspect of the T2S project.

- Chapter 1: General Introduction – describes the purpose of this document; recalls the principles approved by the Governing Council, which are the main pillars of T2S; and provides guidance on how to read this document.
- Chapter 2: Scope – aims at identifying the T2S stakeholders, presenting the overall context diagram and requirements on securities categories, types of transactions, settlement currencies and interaction with external CSDs.
- Chapter 3: Processing Schedule and Calendar – identifies requirements for the main periods of the daily schedule, the processes which will be available within each period and the calendar of opening days.
- Chapter 4: Role Requirements – aims at describing the role of the various actors interacting with the T2S environment.

- Chapter 5: Instruction Life cycle Management and Matching Requirements – identifies requirements for the life cycle of an instruction prior to settlement: validation, instruction maintenance, matching and settlement eligibility.
- Chapter 6: Provision of Liquidity, Collateral Management and Monitoring of Liquidity – identifies requirements related to the use of central bank money in the T2S environment.
- Chapter 7: Settlement Processing Requirements – identifies requirements for the core aspects of the settlement processing in T2S.
- Chapter 8: Settlement Optimisation and Auto-collateralisation Processing – identifies requirements for the main features of the optimisation routine in the T2S environment, including the auto-collateralisation process.
- Chapter 9: Specific Settlement Processing requirements – identifies requirements for processing specific categories of securities and settlement procedures; focusing in particular on corporate actions settlement, cross-CSD settlement and in/out settlement.
- Chapter 10: Securities Positions and Cash Balance Holdings – identifies requirements for recording securities and cash balances and for managing limits by the relevant parties.
- Chapter 11: Configuration Requirements – identifies requirements concerning the configuration information that needs to be stored for smooth processing in T2S.
- Chapter 12: Interfaces and Connectivity Requirements – identifies requirements related to the technical communication of the T2S interface with the different T2S actors, other T2S components, and other systems owned by NCBs.
- Chapter 13: Messages and Reports Requirements – identifies requirements for the subscription requirements, message flows, and reports that T2S will provide.
- Chapter 14: Queries Requirements – identifies requirements for the queries that are available in T2S
- Chapter 15: Statistical Information and Billing – identifies requirements for the information to be stored in T2S for statistical and billing purposes.
- Chapter 16: Static Data Requirements – identifies requirements pertaining to the management of all static data in T2S. Static data mainly concern reference data about CSDs and TARGET2 Parties, securities and cash accounts, currencies.
- Chapter 17: Volumes and Performance Requirements – contains the volumetric calculations and aims at describing the scalability and archiving requirements and performance and response time requirements.
- Chapter 18: Information Security Requirements – identifies requirements for the processes necessary to ensure an appropriate level of security in the system.
- Chapter 19: Technical Architecture – aims at describing general design principles and, more specifically, resilience requirements.
- Chapter 20: IT Service Management and Business Continuity – aims at describing the services that will be available from the IT provider and the business continuity requirements.
- Chapter 21: Migration – aims at describing the processes for the data relocation from a CSD to the T2S infrastructure and the associated changes in the processes and technical environment of a CSD.

These chapters are complemented by annexes that present the elements featured in the document in greater detail. These annexes are either part of the User Requirements, when presenting elements associated with specific requirements, or general information to provide more details or examples to the market. The list of annexes is:

- Annex 1: List of Contributors to the User Requirements
- Annex 2: Glossary and Standards
- Annex 3: T2S Proposals
- Annex 4: The T2S on TARGET2 Concept
- Annex 5: Use cases
- Annex 6: Mapping Examples for Account Structures
- Annex 7: Issue note – Cash Accounts
- Annex 8: Issue note – Conditional Securities Deliveries (COSD)
- Annex 9: Issue note – Night-Time Settlement Options in T2S
- Annex 10: Issue note – Cross-CSD Settlements and External CSDs
- Annex 11: Issue note – Direct Technical Connectivity
- Annex 12: Issue note – Corporate Actions
- Annex 13: Issue note – Interactions with Regulated Markets and CCPs
- Annex 14: Issue note – Settlement of Direct Holdings in T2S
- Annex 15: Issue note – URD harmonisation
- Annex 16: Issue note – T2S Opportunities for further Harmonisation
- Annex 17: Issue note – National Specificities in T2S
- Annex 18: Issue note - Functions for Liquidity Management
- Annex 19: Issue note - REPOs in T2S

1.4.1 Presentation of the requirements

Individual requirements are grouped according to topic and in principle each requirement is presented with attributes.

The different user requirements have following attributes:

Requirement short text

Reference ID	The unique reference is contained in this field.

Requirement label

- Requirement short text: this is a way to identify the topic that is covered by the requirement. It helps the reader to quickly find a requirement within a document.

- Reference ID: The identification of the requirement is a unique number, which will be valid for this requirement throughout the project. After agreement, it will be possible for any party to refer to this requirement via this ID. Requirements' substance and wording will evolve over time. Using the identification number, users will be possible to trace any modification of the requirements. Furthermore, the acceptance tests will be related to the user requirements.
- Requirement label: This is the requirement, formulated in an unambiguous way. Requirements must be clear, concise and measurable. The words "shall" "will" or "must" in a requirement indicate a compulsory feature of the system. The words "may" and "should" indicate options.

1.4.2 Glossary

A number of concepts are used in a specific context throughout the document. Sometimes, these words are used with a slightly different meaning by some market players. To fully understand the user requirements, it is therefore recommended to ensure that a common vocabulary is available. The glossary at the end of the document defines the words or the concepts that are not otherwise defined in the document.

1.4.3 Graph and model conventions

In the course of the document, dataflow diagrams and data models help the reader understand the requirements. These diagrams and models are made according to standards that are described in annex 2.

USER REQUIREMENTS

CHAPTER 2

SCOPE

T2S Project Team

Reference:	T2S-07-0352
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENTS

2 Scope

Chapter 2 provides an overview of the business scope of T2S. The analysis uses the general principles of T2S (Chapter 1) as a starting point.

Section 2.1 presents the **stakeholders** of T2S. As defined in the glossary (Annex 2), these include any entity that has a valid interest in the operation (or simply the outcome) of the T2S project and the T2S platform.

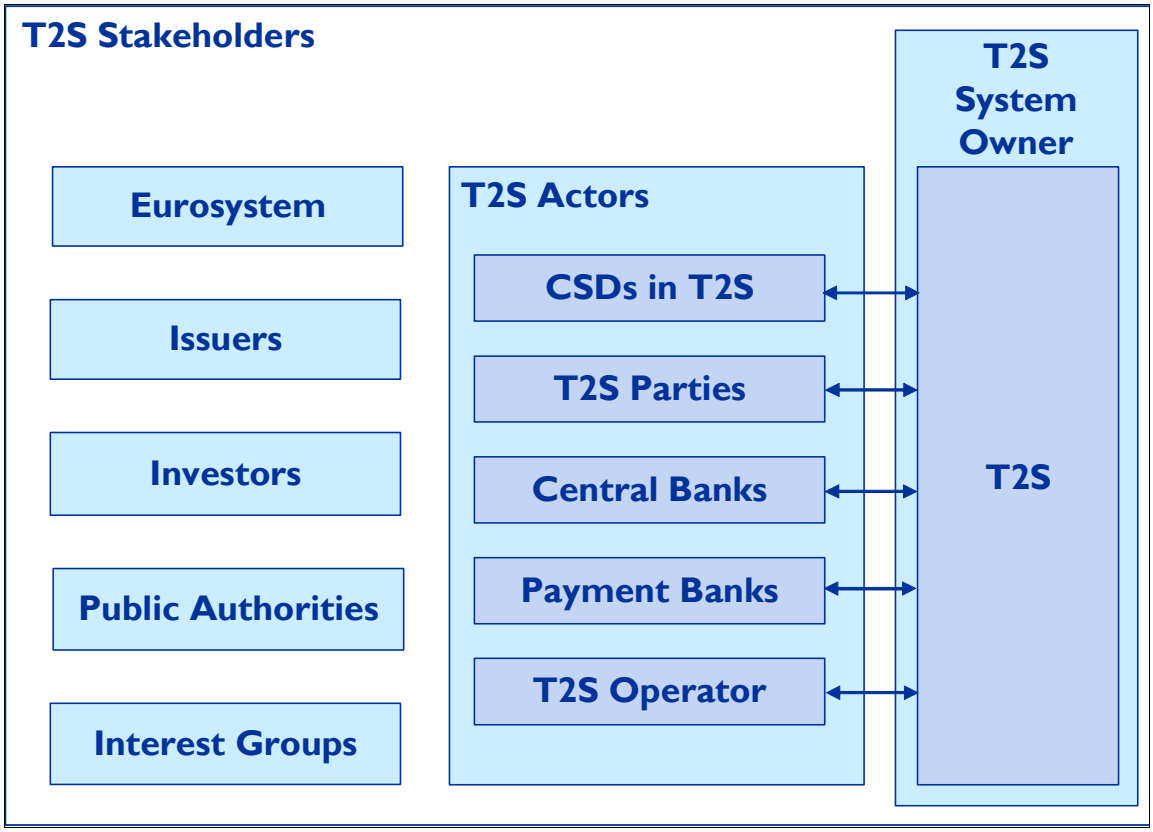
Section 2.2 presents a high-level **context diagram** of the technical interactions between the T2S actors and the T2S system. No reference to the business or contractual relationships between these actors is included (as for example on the relationship between CSDs and their clients). Neither does the diagram predicate any specific decision on the IT architecture of the T2S platform. Both aspects form the subject of analysis to be conducted in the next stage of the project.

Sections 2.3 – 2.6 cover the high-level user requirements for the **assets, currencies, transaction types** and **interactions with external CSDs**. These requirements are mostly of a scope-defining nature and, as such, rather generic. Where relevant, this chapter includes cross-references to later chapters of the URD, which cover further detailed requirements of a technical nature that refer to specific processes.

2.1 T2S Stakeholders

The objective of this section is to define and, where necessary, to distinguish between the terms used in the T2S governance and policy documents and in the T2S User Requirements in relation to T2S Stakeholders. A T2S Stakeholder is any organisation, legal entity, governmental institution or agency, public and private interest group or individual who has a valid interest in the governance of, policy for, or the operation of, the T2S Platform.

Figure 2-1: T2S Stakeholders



2.1.1 Eurosystem

The Eurosystem comprises the ECB and the national central banks (NCBs) of those countries that have adopted the euro.

2.1.2 Issuers

Issuers are entities such as corporations or governments that issue securities.

2.1.3 Investors

Investors are parties that make an investment in securities. These can be wholesale and/or retail investors.

2.1.4 Public authorities

Public authorities with an interest in T2S include, in particular, the EU Council of Ministers of Economic Affairs and Finance (Ecofin), the European Parliament and the European Commission. They also include national public authorities of the Member States of the EU, as well as agencies responsible for financial regulation and supervision.

2.1.5 Interest groups

Interest groups represent the interests of specific groups of society. In relationship to T2S, these are mainly, but not exclusively, financial market interest groups like the European Central Securities Depositories Association (ECSDA), the European Credit Sector Association (ECSA) and the Federation of European Securities Exchanges (FESE).

2.1.6 T2S actors

A T2S actor is any legal entity or organisation interacting either directly or indirectly through a central securities depository (CSD) in T2S with the T2S platform for the purpose of securities settlement. T2S actors are:

- CSDs in T2S;
- T2S Parties;
- T2S Operator;
- Central Banks in T2S; and
- Payment Banks.

2.1.6.1 CSDs in T2S

A CSD in T2S is a CSD that (i) is recognised under Article 10 of the Settlement Finality Directive; (ii) settles in central bank money in a T2S eligible currency; and (iii) is a legal entity that has entered into a contractual relationship for the use of T2S. The usage of this term in the context of the T2S User Requirements corresponds to the definition for T2S governance and policy.

2.1.6.2 T2S Parties

A T2S Party is a legal entity or, in some markets, an individual that has a contractual relationship with a CSD in T2S for the processing of its settlement-related activities in T2S. It does not necessarily hold a securities account with the CSD. Examples of such parties (non-exhaustive) are:

- direct and indirect CSD participants (including those acting as Payment Banks for other CSD participants);
- stock exchanges and multilateral trading platforms that route pre-match trades or settlement instructions to CSDs on behalf of trading participants;
- central counterparties (CCPs);
- central banks as CSD participants;
- CSDs as participants of other CSDs; and
- securities processing outsourcers that process securities transactions on behalf of other financial institutions.

Note: the T2S Party is a subset of the T2S User, as defined in the context of T2S governance and policy. The T2S Party in the T2S User Requirements is any T2S User of a CSD in T2S. For the definition of T2S Users, see Annex 2 (Glossary).

2.1.6.3 T2S Operator

The T2S Operator is the legal and/or organisational entity/entities that operates/operate the T2S platform.

2.1.6.4 Central Bank in T2S

A Central Bank in T2S is an NCB that provides cash account services to banks for securities settlement in T2S in central bank money.

2.1.6.5 Payment Bank

A Payment Bank is either a central bank or a private bank used to settle the cash leg of securities settlements: it provides the cash account to support the settlement of the securities transactions of another financial institution in central bank money (CeBM). The Payment Bank is a subset of the T2S User, as defined in the context of T2S governance and policy. The Payment Bank in the T2S User Requirements is any T2S User of a Central Bank in T2S.

2.1.7 T2S System Owner

The T2S System Owner is the legal or organisational entity that owns the T2S platform.

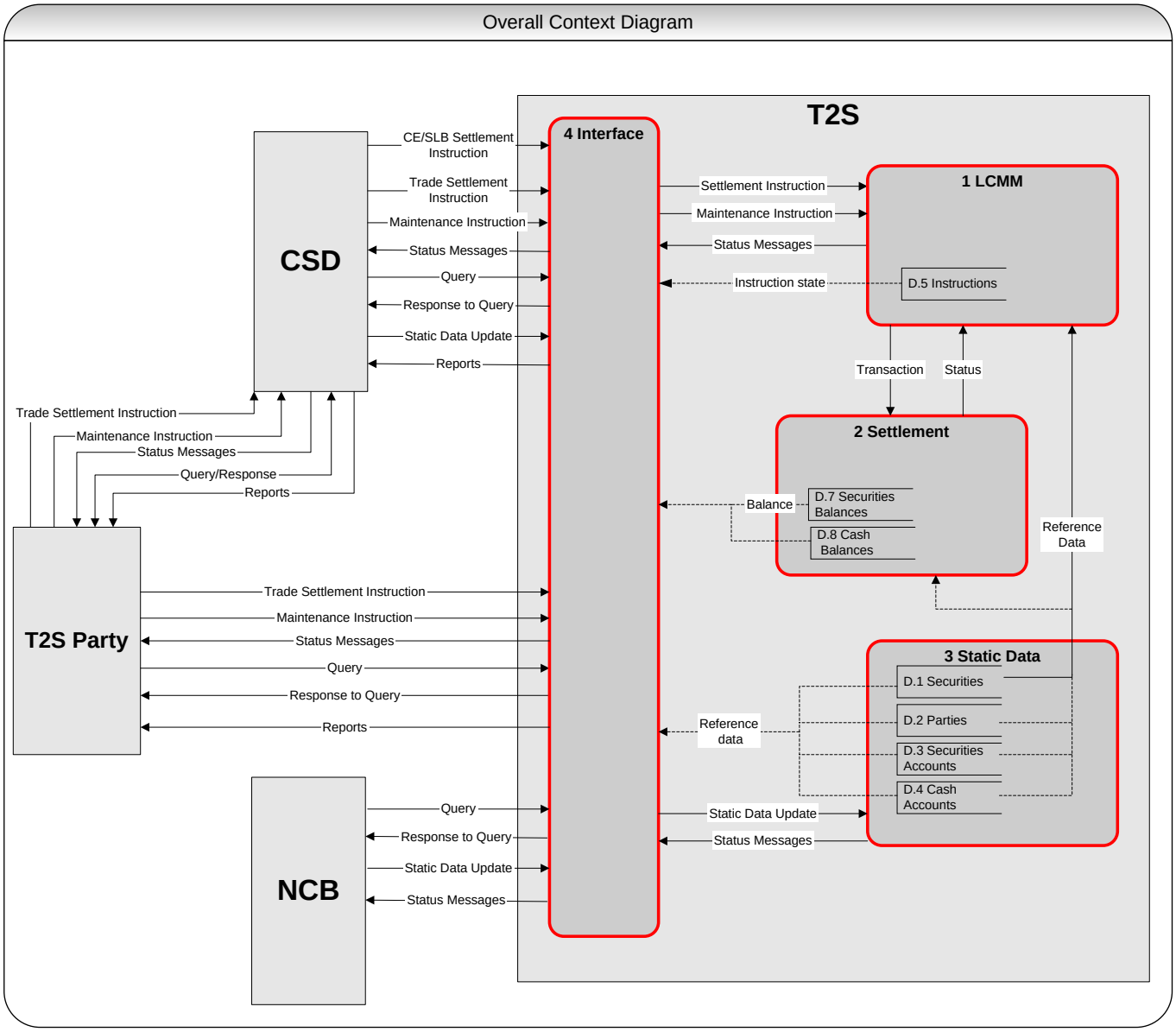
2.1.8 T2S System Users

A T2S System User is an individual or a technical process/application that can log into T2S with a login name and password. For example, a user may be an individual who has interactive access to T2S online functions, or an application programme that requests services from T2S. The term User in the T2S User Requirements is shorthand for T2S System User. Each T2S Actor may have one or more T2S System Users.

Note: T2S System User is not to be confused with T2S User. The first refers to an operational interaction with T2S, whereas the second is used in the governance and policy context (see Glossary in Annex 2).

2.2 Overall context diagram

Figure 2-2 – Overall context diagram



The overall context diagram serves as an introduction to T2S with a high-level representation of T2S data flows. It defines the boundaries of T2S in its broadest definition by illustrating the interaction with different T2S actors and the information flows involved within the system. The purpose of this diagram is to depict the flow of information among the different components of T2S, such as Life Cycle Management and Matching (LCMM), Settlement, Interface and Static Data. This diagram does not represent the business relationships between different actors and T2S (Section 2.1).

The following analysis is a high-level illustration to promote common understating of the business processes in T2S. It is not an implementation or an IT architectural proposal.

The diagram depicts the flow of information exchange between a CSD and T2S. It also depicts the flow of information that can be exchanged between a directly connected T2S Party and T2S. Solid arrows show the flow of information between the T2S actors and T2S, as well as between the different components within T2S. Dotted arrows show the reading or update of specific information from a data store.

Section 6.3 describes the role of NCBs in monitoring cash liquidity.

2.2.1 Life Cycle Management and Matching (LCMM)

LCMM manages the life cycle of the settlement instructions in T2S. This component includes instruction validation, matching, eligibility, instruction and status maintenance.

LCMM is the hub for information dissemination between T2S and the instructing parties for all processes related to the life cycle of a settlement instruction. A settlement instruction reaches LCMM via the T2S interface. This may originate from the CSD or any directly connected T2S Party. LCMM validates the instruction against the static data and the single set of harmonised validation rules, as defined by T2S. Following successful validation and subsequent matching, T2S routes the settlement instructions to the settlement component.

The LCMM in T2S captures any cancellation, amendment, or hold/release request for a settlement instruction, sent by either a CSD or a directly connected T2S Party. T2S sends a confirmation/rejection message to the CSD/directly connected T2S Party after completing the necessary validations and checks. Chapter 5 provides the details of these processes.

2.2.2 Settlement

The settlement component includes the checking of the securities positions, the updating of the positions in securities accounts and their posting to cash accounts. In order to maximise settlement, T2S applies sequencing and optimisation rules.

The settlement component sends settlement messages to the LCMM, which forwards them to the CSD and/or the directly connected T2S Party. When T2S sends the message to the directly connected T2S Party, the message subscription service provides a real-time copy of the message to interested T2S Party recipients, which may be the CSD itself or other designated recipient of the T2S Party. Chapter 13 provides additional details of the message subscription service.

The CSD needs to instruct T2S accordingly whenever an update of securities or cash accounts takes place due to a corporate action (CA), securities lending/borrowing (SLB), etc. LCMM captures and then validates this settlement instruction. Following validation, LCMM sends the instruction to the settlement component. In settlement, T2S updates the securities positions and cash balances where settlement is successful. The settlement component does not update positions and balances if the settlement attempt was not successful. LCMM sends the confirmation/rejection to the concerned CSD or directly connected T2S Party. Chapter 7 provides the detailed descriptions of these processes.

2.2.3 Static data

The static data component manages all static data necessary for processing settlement in T2S. For static data updates, the CSD (or the NCB) instructs T2S accordingly. T2S Interface captures the messages and sends them to the static data component**.** The static data component sends the confirmation/rejection via the interface to the concerned CSDs. Chapter 16 provides the detailed descriptions of these processes.

2.2.4 Interface

T2S interface is the single point of communication between T2S and instructing parties. The interface component manages the flow of all inbound and outbound T2S messages (including queries and reports). The format and the syntax checks of all inbound messages take place in this process.

For any query (on balances, transaction statuses or static data), the CSD/directly connected T2S Party shall interact with T2S as shown in the diagram. T2S also sends pre-defined sets of reports at pre-defined time/event to the CSDs and directly connected T2S Parties. Depending on the configuration of the relevant message subscription, T2S automatically provides CSDs/directly connected T2S Parties with transaction status information. Chapters 12 and 13 cover the relevant user requirements.

2.3 Securities categories

In principle, T2S shall cover all securities with an official international securities identifying number (ISIN)[1], held in book-entry form with a CSD in T2S and fungible from a settlement procedure perspective. Any related actions connected to such electronic settlement (physical delivery, registration, etc.) shall remain with the CSDs. Securities that are not part of any connected CSD's scope are not part of T2S either. The underlying principle is that T2S should provide the functionality for covering the CSDs' current service level and types of assets.

"Fungible" from a settlement perspective means that amounts/fractions of a certain security issue (designated by a specific ISIN) are interchangeable during the settlement process. This means that no additional security identifier relating to a specific balance or part of a balance is required to complete valid settlement. However, some securities may require prior or subsequent steps to the settlement procedure in order to register, to identify or to update additional codes (registration codes, reference numbers, etc.). CSDs shall execute these procedures as they do today. T2S shall only perform the settlement-processing layer associated with the ISIN.

[1] For further details on the use of ISINs in T2S, please refer to Chapter 16

Scope: Securities categories – eligibility criteria

Reference ID	T2S.02.010

The T2S scope shall include all securities that comply with the following eligibility criteria, i.e. that:

- have an ISIN code, as instrument identifier;
- are held with a CSD in T2S;
- settle in book-entry form; and
- are fungible (from a settlement processes perspective).

These criteria should cover all securities currently settling in EU CSDs. Eurobonds, for example, have an ISIN code, settle in book-entry form and are fungible. Therefore, they are eligible for settlement in T2S if they are held with a CSD in T2S. In addition, certain securities, compliant with the first three criteria, but non-fungible from a settlement perspective, may still be entered in and processed by T2S under specific conditions. T2S would identify these securities as specific non-standardised securities pertaining to certain markets. Chapter 9 and Annexes 8 and 17 provide further information on the settlement procedures for non-standardised securities.

Indicative list of eligible securities

Table 2.1 presents an indicative but non-exhaustive list of the eligible securities based on information provided by the CSDs. The four broad categories follow the CFI (ISO 10962) classification[2].

Table 2-1: Indicative list of "standardised" securities

Securities categories	**Securities sub-categories (groups)**	**Examples of securities settled in CSDs**
Equities		
	Shares (common/ordinary)	Equity shares
	Preference shares	Preference shares
	Preferred shares	
	Convertible shares	
	Preferred convertible shares	
	Preference convertible shares	
	Units (i.e. unit trusts/mutual funds)	Undertakings for collective investment in transferable securities (UCITS), venture capital funds, Kuxe securities, trust-preferred securities (TruPS), mutual funds, equity funds, real property funds, index funds, forward market funds, other funds, mixed security and real property funds, hedge funds, pension funds, exchange-

[2] Eurobonds do not constitute a specific sub-category under the CFI. They are simply covered as bonds under debt instruments.

Securities categories	Securities sub-categories (groups)	Examples of securities settled in CSDs
		traded funds (ETFs)
	Equities (others)	Global bearer certificates/depository receipts, savings shares
Debt instruments		
	Bonds	Bonds, debentures, public notes, Type A federal bonds, Type B federal bonds, TPS bonds, funding debentures, participating debentures, inflation-linked bonds, other linked bonds, bonds cum warrants, bonds ex warrant, exchangeable bonds, savings bank bonds, corporate bonds
	Convertible bonds	Convertible bond,
	Bonds with warrants attached	Convertible bond cum warrant, convertible bond ex warrant
	Medium-term bonds	
	Money market instruments	Treasury notes/bills
	Asset-backed securities (ABSs)	Asset-backed securities (ABSs), asset-backed commercial paper, collateral debt obligations
	Mortgage-backed securities (MBSs)	Mortgage bonds, mortgage-backed securities (MBSs)
	Debt instruments (others)	Bonds with put option, callable bonds/puttable bonds
		Covered bonds, European covered bonds, commercial paper, municipality paper, Treasury financial paper, credit-linked notes, certificates of deposit, stripped bonds, stripped coupons, fractional interests, residuals
Entitlements (rights)		
	Allotment rights	
	Subscription rights	Subscription rights
	Purchase rights	
	Warrants	Warrants, covered warrants
	Entitlements (others)	
Others/miscellaneous		
	Certificates	Security certificates, index certificates, interest rate certificates, currency certificates, other certificates, subscription certificates, liquidation share certificates, profit-sharing certificates, registered profit-sharing certificates, profit-sharing certificates cum warrants, profit-sharing certificates ex warrant, participating certificates, savings bank certificates, land charge deeds and charge certificates, product certificates, commodity certificates, metal certificates

1

2.4 Types of transaction

Scope of services

Reference ID	T2S.02.020

T2S shall provide services for securities settlement and the related cash settlement using a number of transaction types.

The scope of T2S shall be restricted to settlement services, including the functionalities required to support settlement activities relating to the asset-servicing business. Activities that extend beyond the provision of settlement services, such as the management of corporate actions, lie outside the T2S business scope. However, the system shall process the settlement instructions in relation to those CSD processes. T2S shall settle only those settlement transactions with a CeBM cash leg (or no cash leg). T2S will not provide settlement in commercial bank money (CoBM).

Transaction types covered by T2S

Reference ID	T2S.02.030

T2S shall provide for a set of transaction types that allow transactions to be distinguished according to one or more of the following parameters:

- priority;
- deadline;
- recycling period;
- life cycle type;
- matching mechanism; and
- settlement process.

Based on these parameters, T2S will allocate a specific transaction type to each transaction for further processing.

T2S shall also process the above parameters as settings when instructing parties or CSDs update them during the life cycle of the transaction.

The list of transaction types covered by T2S is to be found in Chapter 5, Section 5.7 (Transaction Types).

2.5 Settlement currencies

2.5.1 Cash settlement in T2S

Euro CeBM

The Eurosystem's prime focus is efficiency and security in the euro area securities settlement environment. As a result and in accordance with Principles 8, 9 and 10, the focus of T2S, at least during its first production phase, is to provide settlement services in euro CeBM. The cash settlement will take place on T2S dedicated cash accounts.

The service would be available to those CSDs outside the euro area that choose to settle in euro CeBM. T2S shall cover securities denominated in foreign currency and settling in euro CeBM, provided they are held with a CSD in T2S. Settlement in CoBM is outside the scope of T2S.

Scope: Settlement currencies – euro CeBM

Reference ID	T2S.02.040

T2S shall provide cash settlement in euro CeBM.

Chapter 6 provides the detailed requirements on liquidity provisioning and monitoring.

Non-euro CeBM

According to Principle 10, T2S must be multi-currency capable from its first release. However, such a service will be provided by T2S only if the relevant non-Eurosystem NCB(s) explicitly request(s) this. The provision for settlement in non-euro CeBM requires the willingness of those NCBs to authorise the technical operation of part of their RTGS cash accounts (or T2S dedicated cash accounts) by the Eurosystem. The initiative should come from the relevant NCB, in coordination with its local market community.

In this scenario, the non-euro RTGS will need to interact with T2S according to the standard T2S interface specifications. These interface specifications will be similar to those used for T2S - TARGET2 interaction. T2S will not provide dedicated payment interfaces per currency as this would increase development and operating costs for all stakeholders.

Scope: Settlement currencies – non-euro CeBM

Reference ID	T2S.02.050

T2S shall be technically capable of providing cash settlement in non-euro CeBM.

Scope: Settlement currencies – many-to-many relationship between securities and cash accounts

Reference ID	T2S.02.060

The T2S dedicated cash account structure shall allow a CSD participant to link non-euro dedicated T2S cash account(s) to any securities account it holds through a CSD in T2S.

The T2S dedicated cash account structure shall allow a CSD participant to hold a T2S dedicated cash account in any T2S eligible settlement currency.

The settlement instructions shall include the currency codes as an attribute. ISO 20022 instruction messages include settlement currency information.

Scope: Settlement currencies – different issuance and settlement currencies

Reference Id	T2S.02.070

The system shall support the settlement of T2S eligible securities issued in one currency and settled in another T2S settlement currency.

Scope: Settlement currencies – multiple currency accounts

Reference ID	T2S.02.080

The T2S dedicated cash account structure shall support CSD participants in maintaining T2S dedicated cash accounts in more than one T2S settlement currency.

The possibility of providing non-euro CeBM in T2S does not create a multi-currency FX settlement platform. Each single settlement transaction continues to involve a single cash leg in a single currency. This does not, of course, exclude the possibility to settle the same ISIN in more that one currency (provided that there is not more than one currency per transaction).

2.5.2 Cash settlement outside T2S

Securities settlement may involve a cash leg settling outside T2S (either in CoBM or in non T2S CeBM). T2S parties maintain their securities balances in T2S and through a reservation mechanism; securities settlement in T2S requires the completion of the cash leg outside T2S.

Annex 8 describes the service called Conditional Securities Delivery (CoSD) in more detail.

Scope: Settlement currencies – cash settlement outside T2S

Reference ID	T2S.02.090

When the cash leg of a delivery-versus-payment (DVP) transaction settles outside T2S, the system shall support the associated securities settlement via the use of the CoSD service

2.6 Interaction with external CSDs

Securities issued in an external CSD (i.e. a CSD that is not a CSD in T2S) could be settled through T2S, provided a link exists between the two CSDs.

This section provides a high-level description of the different scenarios for interaction between T2S and the external CSDs. Annex 10 provides detailed information on the exact cross-CSD settlement procedures and the interaction with external CSDs.

One of the major benefits of T2S is that the settlement of cross-CSD transactions can be as efficient as domestic settlement. T2S will achieve this by bringing together the securities accounts of multiple CSDs (as well as dedicated cash accounts of NCBs) in a single platform. Settlement processing in T2S will book the transfer of securities and cash between participants of different CSDs simultaneously. This eliminates the current highly complex and costly interaction processes between various platforms, which are often not synchronised, entail delays and could pose a risk in terms of failing to achieve settlement finality. T2S will also automate the realignment process between CSDs on a real-time basis without needing to use additional procedures.

Cross-border transactions involving external CSDs will benefit from the T2S architecture. The aim in this context is to achieve real-time settlement wherever feasible, but the need to interact with external CSDs/platforms makes the settlement procedure more complex in some cases.

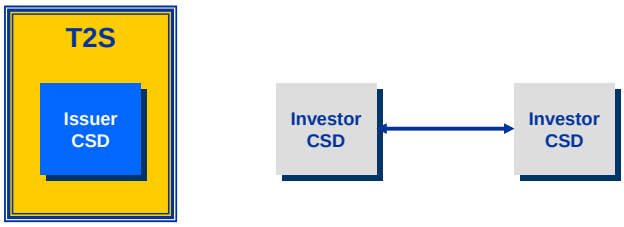
When external CSDs are involved, four scenarios need to be distinguished to explain the settlement procedure:

1. The Investor CSDs are external and the Issuer CSD is in T2S.
2. One Investor CSD is external with one Investor CSD and the Issuer CSD in T2S.
3. One Investor CSD and the Issuer CSD are external with one Investor CSD in T2S.
4. The Issuer CSD is external and the Investor CSDs are in T2S.

The following section describes these scenarios in detail.

Scenario1: the Investor CSDs are external and the Issuer CSD is in T2S

Figure 2-3 – Scenario 1: the Investor CSDs are external and the Issuer CSD is in T2S



From the perspective of T2S, this appears as a transaction between the two Investor CSDs in the Issuer CSD (Domestic Settlement). Actually, the Investor CSDs are external CSDs, but they are participants of a T2S CSD (which is the Issuer CSD since it is the CSD where they are holding their omnibus account).

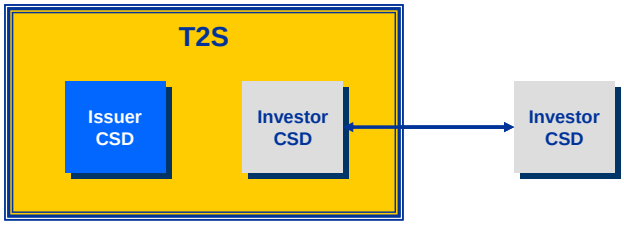
Scope: Scenario 1 interaction with external CSDs

Reference ID	T2S.02.100

When a settlement transaction takes place between two Investor CSDs that are not connected to T2S (externals) and where the Issuer CSD is connected to T2S (internal), T2S shall settle the transaction in the accounts of the Issuer CSD, as is the case in a domestic transaction.

Scenario2: one Investor CSD is external, while one Investor CSD and the Issuer CSD are in T2S

Figure 2-4 – Scenario2: one Investor CSD is external, with one Investor CSD and the Issuer CSD in TARGET2



From the perspective of T2S, this looks like a settlement between the T2S Party and the external CSD as participant of the Issuer CSD (since the external CSD is holding its omnibus account in the Issuer CSD).

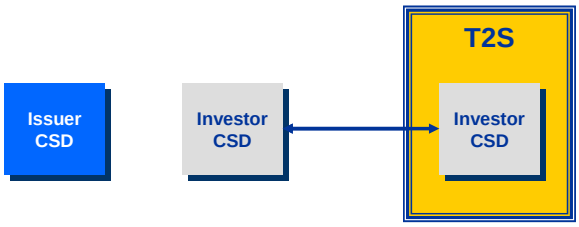
Scope: Scenario 2 interaction with external CSDs

Reference ID	T2S.02.110

When a settlement transaction involves one external Investor CSD, with the other Investor CSD and the Issuer CSD in T2S, T2S shall settle the transaction either as a domestic or as a T2S cross-CSD settlement, depending on the link arrangement.

Scenario3: one Investor CSD and the Issuer CSD are external, while one Investor CSD is in T2S

Figure 2-5 - Scenario3: one Investor CSD and the Issuer CSD are external, with one Investor CSD in T2S



T2S cannot achieve simultaneous real-time settlement in this scenario. From the perspective of T2S, settlement between the T2S Party and an inter-CSD account is conditional on the final settlement within the Issuer CSD.

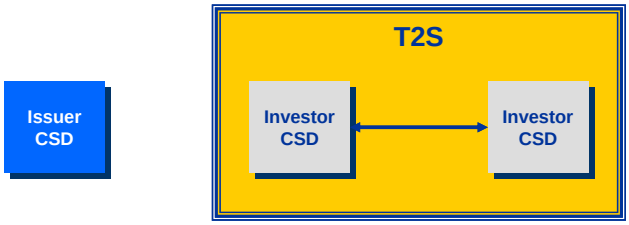
Scope: Scenario 3 interaction with external CSDs

Reference ID	T2S.02.120

When a settlement transaction involves one T2S-connected Investor CSD, while the other Investor CSD and the Issuer CSD are not in T2S (external CSDs), T2S shall settle the transaction on condition of final settlement in the Issuer CSD.

Scenario 4: the Issuer CSD is external, while the Investor CSDs are in T2S

Figure 2-6 - Scenario 4: the Issuer CSD is external, with the Investor CSDs in T2S



In this case, even if the Issuer CSD is outside T2S, the settlement within T2S will not be conditional. T2S only needs to send an unsynchronised realignment to the external Issuer CSD. The fact that the dedicated cash account of the buyer and the securities account of the seller (both sides of the transaction) are maintained in T2S will allow this procedure and avoid the risk of failure within the Issuer CSD. However, the procedure may also require extensive due-diligence studies confirming that the Investor CSDs operate their accounts with the Issuer CSD in such a way that the realignment will never fail.

Scope: Scenario 4 interaction with external CSDs

Reference ID	T2S.02.130

When a settlement transaction takes place between two investor CSDs that are connected to T2S, while the Issuer CSD is not connected to T2S (external), T2S shall settle the transaction in the accounts of the Investor CSDs, as is the case in a cross-CSD T2S transaction. This settlement in T2S is not dependent on the final settlement in the issuer CSD, where only an asynchronous realignment shall take place.

USER REQUIREMENTS

CHAPTER 3

PROCESSING SCHEDULE AND CALENDAR

T2S Project Team

Reference:	T2S-07-0353
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

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3 Processing schedule and calendar

The objective of this chapter is to outline the T2S processing schedule and the T2S

Section 3.1 presents the draft schedule of the T2S settlement day. It proposes a single harmonised timeframe for the centralised settlement procedures in euro CeBM. It represents a balance between the user requirements for a pan-European timetable and the constraints and business needs of existing local schedules. This is in accordance with the market's request for harmonised post-trading practices in the EU. The planned start of T2S operations (2013) should provide enough time to review the harmonisation proposals and to facilitate the adaptation strategies required by market participants.

Section 3.2 presents the high-level requirements for the calendar of T2S. For DVP settlement in euro CeBM, the calendar is the same as that for TARGET2, which is currently followed by all euro area markets. The requirements consider the potential inclusion of other currencies (still in CeBM accounts) and the accommodation of opening days in the relevant markets.

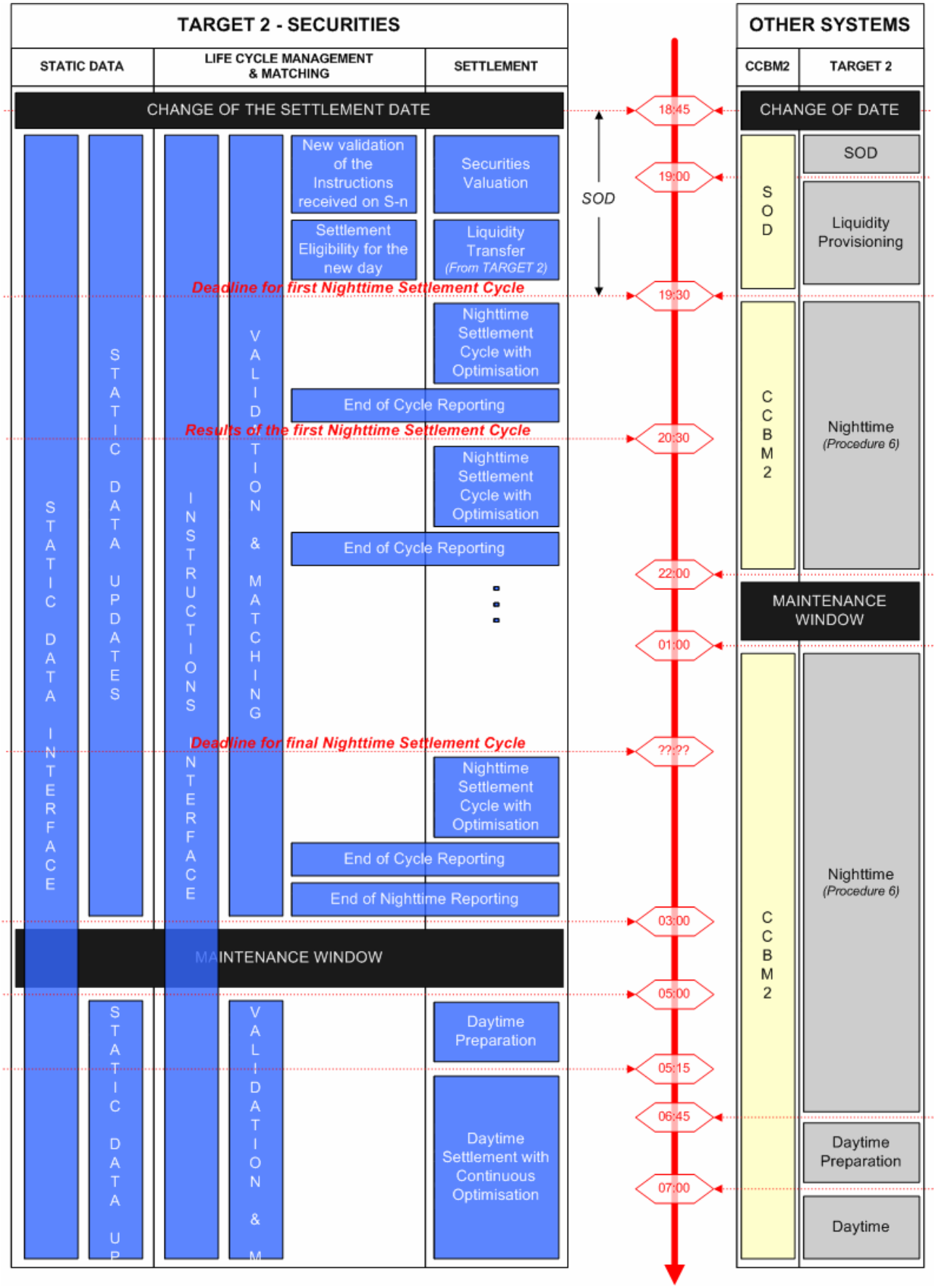
3.1 General structure of a settlement day

3.1.1 High-level T2S processing timetable

Disclaimer

The timing and deadlines of the proposed processing timetable are only indicative at this early stage of the project. The reader should therefore focus on the sequencing of events and processes, rather than on the exact timing proposed.

Figure 3-1 - High-level settlement processing timetable



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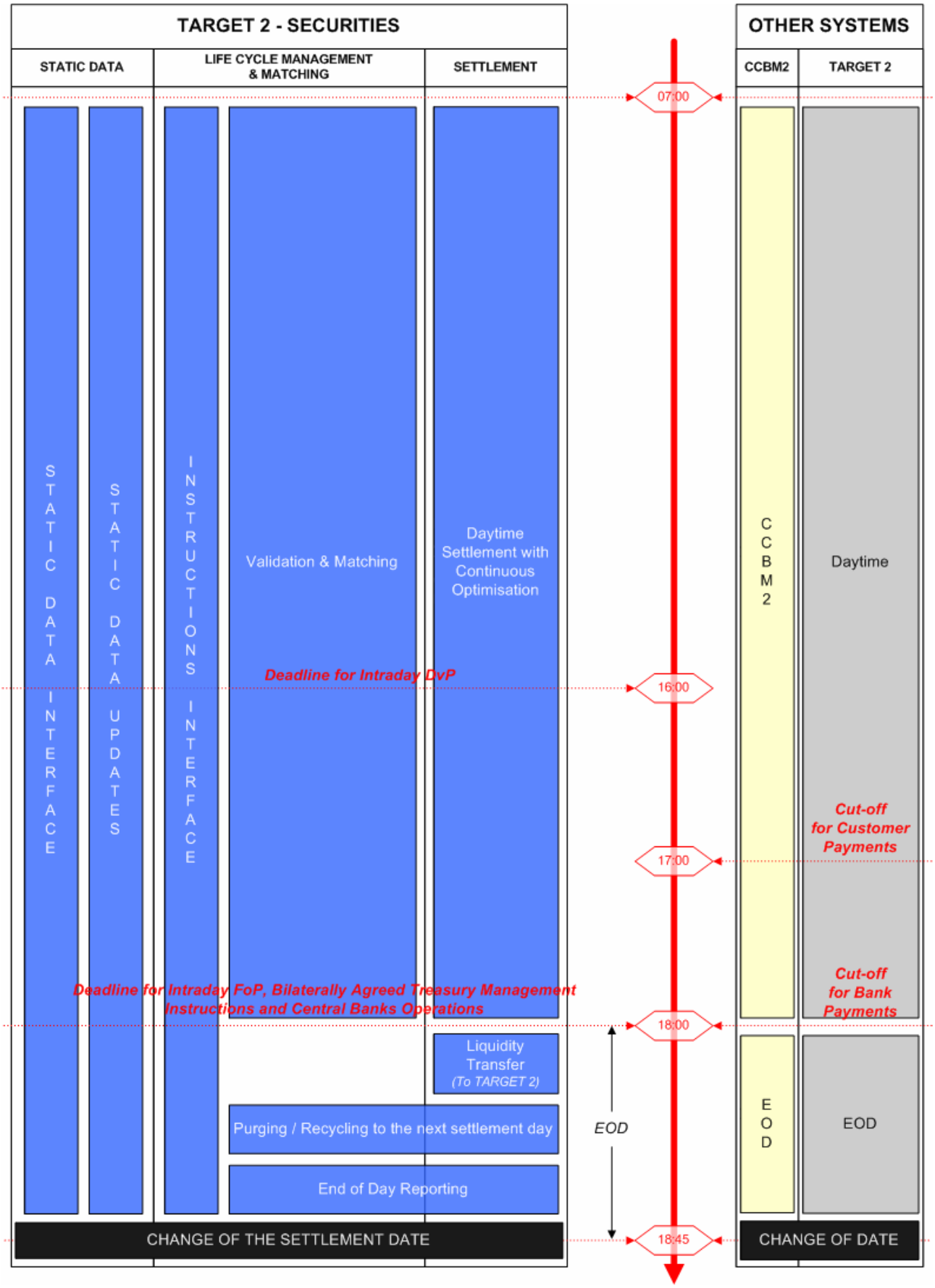

TARGET 2 - SECURITIES
OTHER SYSTEMS
STATIC DATA
LIFE CYCLE MANAGEMENT & MATCHING
SETTLEMENT
CCBM2
TARGET 2
07:00
STATIC DATA INTERFACE
STATIC DATA UPDATES
INSTRUCTIONS INTERFACE
Validation & Matching
Daytime Settlement with Continuous Optimisation
CCBM2
Daytime
Deadline for Intraday DvP
16:00
Cut-off for Customer Payments
17:00
Deadline for Intraday FoP, Bilaterally Agreed Treasury Management Instructions and Central Banks Operations
Cut-off for Bank Payments
18:00
Liquidity Transfer
(To TARGET 2)
Purging / Recycling to the next settlement day
EOD
EOD
EOD
End of Day Reporting
CHANGE OF THE SETTLEMENT DATE
18:45
CHANGE OF DATE

2

Explanations relating to the diagram:

- All times are given in Central European Time (CET).
- "S" stands for Settlement Date.
- "SOD" stands for start-of-day procedures.
- "EOD" stands for end-of-day procedures.
- The current TARGET2 User Detailed Functional Specification is the source for the current TARGET2 availability and the liquidity-provisioning period, defined in this chapter. Only settlement procedure 6[1] is currently foreseen in the TARGET2 Ancillary System Interface during night-time. Meeting the requirements for T2S night-time settlement will require the use of dedicated cash accounts in T2S;
- The availability windows of CCBM2 (Collateral Central Bank Management) are only indicative at this stage;[2]

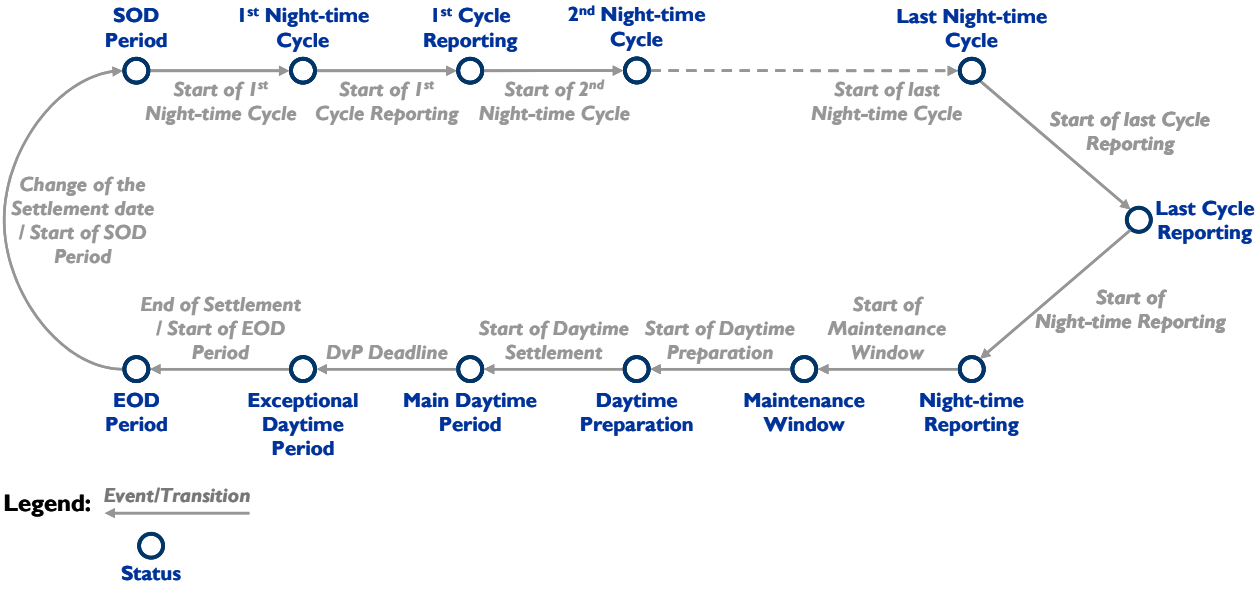
3.1.2 Main periods of the settlement day

3.1.2.1 Management of the settlement day

Management of the settlement day periods

Reference ID	T2S.03.010

T2S shall assign a status to the schedule of the settlement day. The value of this status corresponds to the ongoing period or main process of the settlement day. The following diagram represents the successive schedule statuses during the settlement day and the events triggering the change of status:



[1] The payment bank can dedicate a liquidity amount to settle balances that come from a specific Ancillary System.

[2] The CCBM2 project is currently in the phase of user requirements specification. A final timetable has not yet been defined, but it has already been recognised in principle that the opening hours will be in line with those of TARGET2 and T2S.

Management of settlement day events

Reference ID	T2S.03.015

T2S shall associate an event to each transition between the statuses (periods) of the settlement day. For each event, T2S shall manage a *planned time*, a *revised time* and an *effective time*.

Planned time

Reference ID	T2S.03.016

The planned time is the time of the standard schedule that T2S applies by default for every settlement day. The T2S operator shall update the planned time only when there is a permanent change in the regular schedule.

Revised time

Reference ID	T2S.03.017

The revised time corresponds to the time foreseen for the current settlement day. It is normally identical to the planned time when the schedule corresponds to regular processing without delays. It is different only on exceptional circumstances, i.e. when the regular processing in accordance with the schedule is delayed (e.g. in cases of contingencies). The T2S operator in that case updates the revised time; the planned time remains unchanged.

Effective time

Reference ID	T2S.03.018

T2S automatically assigns the effective time when an event actually occurs. The effective time will always be identical to the revised time when the event refers to a deadline (e.g. DVP deadline). However, the effective time could differ from the revised time when the event refers to the start of a window that is conditional upon the completion of previous processes (e.g. the maintenance window can only start after the completion of night-time reporting, even if the revised time for the event “Start of Maintenance Window” has been reached).

3.1.2.2 Change of settlement date

Change of settlement date

Reference ID	T2S.03.020

T2S shall change its settlement date before the start of a new settlement day.

At this stage of the project, 18:45 is the proposed, indicative time for the change of the settlement date.

Following the change of the settlement date:

- T2S shall validate settlement instructions against static data valid as of the new settlement date; and
- T2S shall settle instructions on the new settlement date.

3.1.2.3 Start-of-day procedures

Start-of-day period

Reference ID	T2S.03.030

The T2S schedule shall include a start-of-day ("SOD") period. This period shall start after the change of the settlement date and shall end prior to the start of night-time settlement.

This period includes processes that are critical for the smooth preparation of the night-time settlement procedures, such as the identification of eligible instructions.

Start of day – eligible instructions identification

Reference ID	T2S.03.040

The "SOD" period shall include the identification of the instructions eligible for settlement in the course of the new settlement day.

Settlement eligibility for the new settlement day shall:

- include instructions eligible for the upcoming settlement day (including recycled fails from previous settlement days); and
- disregard instructions with a future settlement date.

Start of day – settlement instruction validation

Reference ID	T2S.03.050

The "SOD" period shall include the validation of all settlement instructions received by T2S by the end of S-1.

T2S shall validate settlement instructions against static data valid as of the new settlement date. The requirement shall also apply to settlement instructions already validated on S-n: Settlement instructions received and previously validated against static data on S-n, may not be valid for the new settlement date. Therefore, the change of settlement date shall trigger a new validation check of settlement instructions.

Start of day – securities valuation

Reference ID	T2S.03.060

The "SOD" period shall include the securities valuation for the new settlement day.

CeBM auto-collateralisation requires the valuation of securities positions. The calculation of valuations shall apply the prices valid for the new settlement day S (generally S-1 market prices). During the "SOD" period, T2S shall calculate the initial value of the balances in securities eligible for CeBM auto-collateralisation. Once the settlement starts, the valuation shall run continuously as a fully integrated procedure in the

settlement process to provide a continuous up-to-date valuation of the balance for changes in the amount (but not in the price) after every debit or credit.

Start of day – liquidity transfer

Reference ID	T2S.03.070

The "SOD" period shall include the liquidity transfer from CeBM payment systems (TARGET2 or other RTGS system).

This process shall provide T2S dedicated cash accounts with liquidity from payment systems. The instructions of the payment banks shall initiate these transfers in the payment systems either manually or automatically. Although important for this period, the functionality shall be available throughout the settlement day.

3.1.2.4 Night-time settlement

Night-time settlement period

Reference ID	T2S.03.080

The T2S schedule shall include a night-time settlement period. It shall start after the end of the "SOD" period and end prior to the maintenance window.

The night-time period mainly processes settlement instructions that were input on previous days with an intended settlement date that corresponds to the current settlement date. With the change of settlement date, T2S shall identify these settlement instructions during the "SOD" period. Therefore, T2S shall perform night-time settlement on existing settlement instructions that are collected and prioritised at the start of the process and subsequently placed in a settlement queue for settlement.

The night-time cycles shall operate in line with the T2S sequencing and optimisation rules described in Chapter 8.

Sequencing rules for night-time settlement will typically start with the settlement of corporate actions by dedicating a settlement window for these instructions.

- For these corporate actions, which require the blocking of the settlement of other transactions before the completion of the corporate action process, the CSDs will use the tools that allow them to block settlement at an ISIN level or on balances. Night-time settlement shall first process transactions that are not relevant for corporate action processing. T2S shall attempt the settlement of transactions that affect blocked balances, or balances pertaining to a blocked ISIN (including those resulting from the corporate action), only after the CSD releases or removes the block on the related ISIN and/or balances.

- T2S shall not restrict any transaction type to the night-time settlement period. T2S shall process the transactions that miss the first night-time cycle during the second night-time cycle or during the first settlement opportunity (including daytime settlement) that follows their receipt by T2S.

At this stage of the project, 19:30 is the proposed and indicative time for the start of night-time settlement.

Night-time settlement continuous service

Reference ID	T2S.03.090

T2S shall process settlement instructions received during the night-time settlement period and eligible for settlement at the first settlement opportunity, i.e.:

- during the night-time settlement cycle that follows their receipt by T2S; or
- during daytime settlement when they are received while the last night-time cycle is running.

Night-time settlement cycles

Reference ID	T2S.03.100

The night-time settlement shall include several settlement cycles with minimal time gaps between them.

The exact number of night-time cycles and their duration remains undefined. It shall depend on estimated volumes for 2013 and on business requirements, e.g. constraints that could result from the maintenance of links with external (I)CSDs. In this context, 20:30, the time by which T2S shall provide the results of first night-time cycle, is purely indicative.

Night-time settlement recycling

Reference ID	T2S.03.110

At the end of each night-time settlement cycle, T2S shall carry over all eligible settlement instructions that have failed to the next night-time settlement cycle (or to daytime settlement if it is the last night-time cycle).

Night-time settlement cycles reporting

Reference ID	T2S.03.120

T2S shall report the results of each night-time settlement cycle at the end of that cycle, as defined in Chapter 13.

Night-time settlement period reporting

Reference ID	T2S.03.130

T2S shall report the results of the entire night-time settlement period (with all cycles included) at the end of night-time settlement, but before the maintenance window.

3.1.2.5 Maintenance window

Maintenance window

Reference ID	T2S.03.140

The T2S schedule shall include a technical window for system maintenance.

Maintenance window in less critical timing

Reference ID	T2S.03.150

T2S shall undertake system maintenance during the period in which the lowest volumes and least critical settlement activity are expected. This period shall be between 03:00 and 05:00, based on today's business activity.

Since T2S and TARGET2 will run on the same technical infrastructure, the T2S/TARGET2 operator shall consider the possibility of aligning the TARGET2 maintenance window with the T2S maintenance window in order to reduce the cost of these procedures.

3.1.2.6 Daytime processing

Daytime settlement period

Reference ID	T2S.03.160

The T2S schedule shall include a daytime settlement period. It shall start after the end of the maintenance window.

The daytime settlement period is used mainly for T+0 (same-day or intraday settlement). In addition, this period is available for resolving failures from night-time settlement. The current draft schedule foresees the start of daytime settlement at 05:00 and a completion in accordance with the harmonised end-of-day deadlines.

3.1.2.7 End-of-day procedures

End-of-day period

Reference ID	T2S.03.170

The T2S schedule shall include an end-of-day ("EOD") period. It shall start after the end of the daytime processing and shall finish prior to the change of the settlement date.

The "EOD" period will permit CSDs and their participants to perform critical end-of-day activities, such as fulfilling reporting requirements.

From the start of the end-of-day procedure (indicative time: 18:00), securities and cash positions will be stationary since no settlement can occur until the start of the next settlement day's night-time settlement.

Transfer of liquidity in the end-of-day period

Reference ID	T2S.03.180

The "EOD" period shall include the automated liquidity transfer from the T2S dedicated cash accounts to TARGET2.

End-of-day period – cancellation and recycling

Reference ID	T2S.03.190

The "EOD" period shall cancel T2S transactions that have past their last recycling day.

End-of-day internal securities account consistency check

Reference ID	T2S.03.195

T2S will ensure that the end-of-day securities position for the current business day for every securities account is equal to the previous business day's position plus the movements of the current business day. In case of an inconsistency, T2S will follow the Problem Management Procedures as outline in Chapter 20.4.

End-of-day period reporting

Reference ID	T2S.03.200

The "EOD" period shall include end-of-day reporting, e.g. statements of holdings and instructions.

3.1.3 Service availability

T2S shall provide very high service availability during settlement days. However, T2S shall restrict service availability during the maintenance window.

Availability of life-cycle management and matching services

Reference ID	T2S.03.210

T2S life cycle management and matching shall be available continuously during settlement days, except during the maintenance windows.

Availability of static data services

Reference ID	T2S.03.220

T2S static data services shall be available continuously during settlement days, except during the maintenance windows.

Availability of interface services

Reference ID	T2S.03.230

T2S interface services shall be available continuously during settlement days. However, T2S shall restrict the availability of interface services during the maintenance window.

- T2S shall queue settlement instructions that are received during the maintenance window, for processing at the end of the maintenance period.
- T2S shall queue static data updates that are received in application-to-application mode during the maintenance window, for processing at the end of the maintenance period.
- The static data interfaces in user-to-application mode shall not be available during the maintenance window. Queries shall not be available during the maintenance window.

T2S actors should evaluate the proposed availability in the context of the whole schedule. T2S shall report all results and data of the previous processes to the CSDs and the directly connected T2S parties just before the maintenance window. These results and data will not change until the end of the maintenance window.

During the next phase of the project, the advantages of having an ongoing availability of interfaces and an ongoing matching of incoming instructions during the maintenance window needs to be balanced against the cost.

Availability of settlement services

Reference ID	T2S.03.240

T2S settlement services shall be available continuously during the night-time and the daytime settlement periods.

There shall be no settlement outside the night-time and daytime settlement periods.

3.1.4 Specific deadlines

The following T2S settlement day deadlines or "cut-off" times shall be applicable in T2S (the timing is indicative). The fine-tuning of these deadlines will take place at a later stage, on the basis of the work initiated within the scope of the efforts to harmonise market practices (see Annexes 15 and 16). For example, the introduction in the T2S schedule of a common period for end-of-day fail procedures will be re-assessed by the T2S stakeholders in the light of the agreement on an overall framework for the management of fails in T2S.

Deadline for intraday DVP

Reference ID	T2S.03.250

T2S shall set a deadline (16:00) for receiving DVP instructions for same-day settlement.

T2S shall attempt to settle all DVP instructions, eligible for settlement and arriving before the expiry of the deadline, on a same-day basis. T2S shall move all non-cancelled DVP instructions that arrive after this deadline to the night-time settlement period of the next settlement day. In addition, T2S shall stop the recycling of same-day settlement DVP fails resulting from earlier settlement attempts after this deadline. After this deadline, T2S shall recycle the remaining non-cancelled DVP fails to the next settlement day.

This fulfils the requirement of allowing one hour for treasury management before the 17:00 TARGET2 deadline for customer payments.

Deadline for bilaterally agreed treasury management instructions

Reference ID	T2S.03.270

T2S shall set a deadline (18:00) for receiving bilaterally agreed treasury management instructions for same-day settlement.

T2S shall attempt for settlement on same-day basis all bilaterally agreed treasury management instructions that are eligible for settlement and arrive until this deadline. T2S shall not re-use the cash potentially generated by bilaterally agreed treasury management instructions for other settlement purposes (i.e. recycling of DVP failures).

Deadline for intraday FOP

Reference ID	T2S.03.280

T2S shall set a deadline (18:00) for receiving FOP instructions for same-day settlement.

T2S shall attempt to settle all FOP instructions, eligible for settlement and arriving until this deadline, on a same-day basis. T2S shall move all non-cancelled FOP instructions that arrive after this deadline to the night-time settlement period of the next settlement day. In addition, T2S shall stop the recycling of same-day

settlement FOP fails that result from earlier settlement attempts after this deadline. After this deadline, T2S shall recycle the remaining non-cancelled FOP fails to the next settlement day.

Deadline for central bank operations

Reference ID	T2S.03.290

T2S shall set a deadline (indicative at or some time prior to 18:00) for receiving settlement instructions for same-day central bank operations.

T2S shall attempt to settle on a same-day basis all central bank operations (FOP or DVP) that are eligible for settlement and arrive until this deadline. T2S shall not re-use the cash potentially generated by central bank operations for other settlement purposes (i.e. recycling of DVP fails).

Deadline for the first night-time settlement cycle

Reference ID	T2S.03.300

T2S shall set a deadline (19:30) for receiving settlement instructions for settlement in the first night-time settlement cycle.

T2S shall attempt to settle all settlement instructions that are eligible for settlement and arrive until this deadline in the first night-time settlement cycle. T2S shall move settlement instructions that arrive after this deadline to the second night-time settlement cycle.

3.2 Calendar

T2S calendar – Opening and closing days for free-of-payment settlement

Reference ID	T2S.03.305

T2S shall be open for settlement of FOP transactions from Monday to Friday every week.

The settlement of FOP transactions will be possible, for example, on TARGET2 closing days.

T2S calendar – Opening and closing days for euro CeBM in T2S

Reference ID	T2S.03.310

T2S shall be open for settlement of transactions against payment and/or free-of-delivery transactions in euro CeBM on the opening days set out in the TARGET2 calendar.

This is already the case today for euro area markets settling in CeBM.

T2S calendar – Opening and closing days for non-euro CeBM in T2S

Reference ID	T2S.03.320

T2S shall be open for settlement of transactions against payment and/or free-of-delivery transactions in non-Euro CeBM according to the opening days of the relevant Central Bank.

When T2S offers non-euro CeBM settlement, the system shall accommodate the relevant opening days for these currencies.

The inclusion of non-euro currencies in T2S (CeBM) implies that T2S shall accommodate the working days applicable for such non-euro currencies, which may differ from those in the TARGET2 calendar.

T2S calendar – Weekends

Reference ID	T2S.03.340

During weekends, T2S shall move to the settlement date of Monday after the end of the Friday settlement day (at 18:45 on Friday) and perform the related schedule until the end of night-time settlement period (at 03:00 on Saturday). On Monday, T2S shall start performing the schedule at 05:00 with the preparation of daytime settlement as the continuation of the same settlement day.

T2S calendar – Standard service availability

Reference ID	T2S.03.350

T2S interfaces and processes shall not be available on regular basis during weekends.

T2S shall not be available from 03:00 on Saturday to 05:00 on Monday.

T2S calendar – Technical capability for extending standard services

Reference ID	T2S.03.360

T2S shall ensure the technical capability to provide for the availability of interfaces and processes on seven days a week.

It shall be possible, based on specific needs (migration, issuance in direct holding countries), to make T2S interfaces and processes available to CSDs on weekends whenever this is required. In these cases, the service availability of T2S shall be tailored to the specific request.

USER REQUIREMENTS

CHAPTER 4

ROLES REQUIREMENTS

T2S Project Team

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Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

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4 Role requirements

The aim of this chapter is to describe requirements concerning access rights of T2S actors to business functions and data, based on their role and responsibilities in the marketplace and in T2S.

Each section of this chapter describes the roles available for one of the following T2S actors: T2S operator (4.1), CSD (4.2), T2S party (4.3), NCB (4.4) and payment bank (4.5). Furthermore, each section differentiates between two different roles for each T2S actor: system administrator (for users responsible for management and configuration tasks within their own organisation) and business user (for users in charge of business operations).

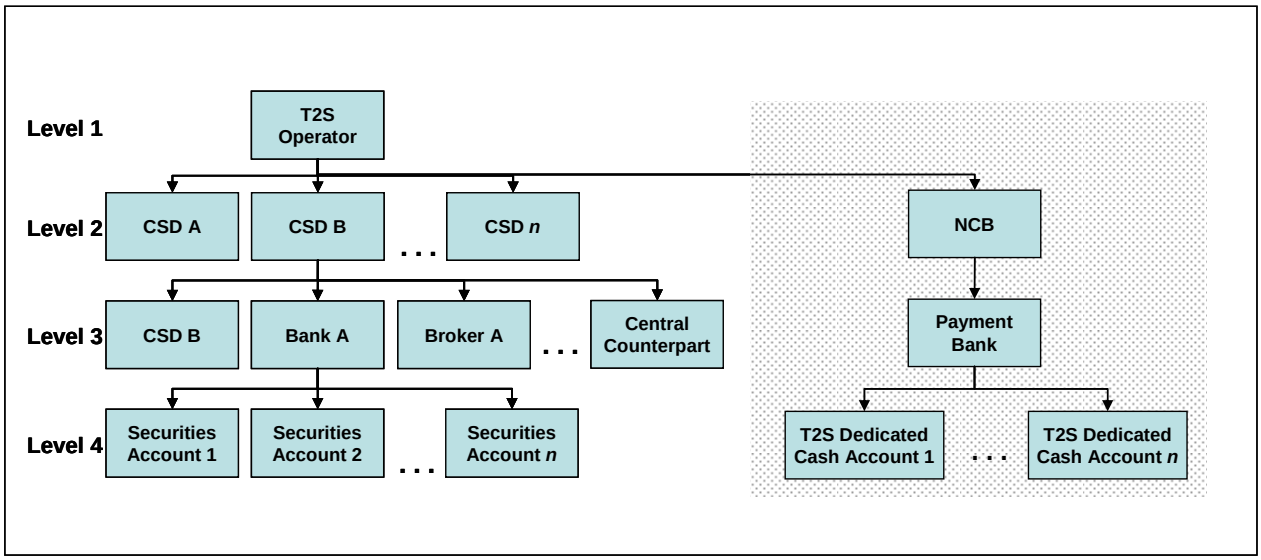
Reference ID	T2S.04.010

Access to data and applications in T2S will be dependent on the T2S actor's business role. At this stage in the project, it is too early to define the specific applications and functions that a role will include. However, the broad categories of functions and data to which a T2S actor must have access, or to which its access must be restricted, are definable based on the T2S actor's business roles and responsibilities in the marketplace and in T2S.

T2S shall place no restriction on the possible roles that a T2S system administrator (section 4.1.1) can configure for T2S actors. The legal, regulatory and contractual requirements of and between the T2S actors will define the necessary constraints on the access to functionality within T2S. Some CSDs may configure different roles for their participants in order to provide a differentiated service offering. Some CSDs may want to offer direct connectivity to T2S while others will not, and it will be feasible for a CSD to allow users with direct connectivity online access to positions and transactions in T2S, as provided in some markets today.

The business requirements for roles establish the principles that will govern access to sets of functions and data in the system. The model below defines the hierarchical configuration of relationships between T2S actors, as defined in the T2S static data. It does not predicate a specific technical configuration of roles for T2S.

Figure 4-1 - Hierarchy of T2S Roles in T2S



T2S shall support a hierarchical model of roles and access rights to ensure the segregation of both functions and data. The area of the slide shaded in grey represents the data set-up for T2S dedicated cash accounts required in the static data of T2S. An NCB, acting as a CSD in its home country and providing dedicated cash accounts in T2S, will have the role of NCB and CSD and will exist in T2S as both a CSD and an NCB.

4.1 T2S Operator

Reference ID	T2S.04.020

The T2S operator is the top level of the hierarchical role and access rights model. The T2S operator role classification includes all T2S system users of the entity, which will be responsible for the day-to-day operation and management of T2S. The T2S actors managed by this entity shall be CSDs and NCBs participating in T2S. At the highest level, the T2S operator shall have access to all data and functionality in the subordinate level.

4.1.1 T2S system administrator

Reference ID	T2S.04.030

The T2S system administrator role shall be responsible for

- the user administration for all T2S system users of the T2S operator;
- the user administration for the CSD system administrators;
- the user administration for the NCB system administrators;

- the day-to-day monitoring of system operations, applications, processes, and communication channels;
- the configuration of privileges and privilege classes in T2S (refer to chapter 11 for more information);
- the configuration of roles for the T2S system users of the CSDs and NCBs;
- the configuration of roles for T2S business and operations support users;
- the archiving of production data and the retrieval of archived data;
- contingency operations, e.g. starting and stopping processes outside of the normal operating schedule, in T2S;
- and the configuration of CSDs and NCBs as system entities (refer to chapter 11 for more information).

4.1.2 T2S business and operations support

Reference ID	T2S.04.040

The T2S business and operations support role shall be responsible for:

- maintaining T2S party static data, excluding securities accounts, for CSDs participating in T2S;
- maintaining T2S party static data, excluding T2S dedicated cash accounts, for NCBs participating in T2S;
- providing business and operations support to CSDs and NCBs;
- maintaining T2S domains for global and CSD-specific attribute lists, i.e. the valid list of values for a field (refer to chapter 11 for more information);
- technical support (e.g. network and communications) for directly connected T2S parties;
- and query and maintenance privileges for business functions and data of all T2S actors for provision of business and operations support.

Maintenance and query privileges of CSDs, the CSDs' participants, and NCBs with respect to business data, such as securities and cash positions and transactions, shall be limited to contingency response situations only. The T2S system administrator shall restrict access to maintenance and query functionality to a subset of T2S business and operations support users, based on the support requirements of CSDs and NCBs. For example, maintenance privileges in relation to a CSD could be limited only to the business support user for that specific CSD.

Staff on the T2S Service Desk shall have the role of T2S business and operations support. Chapter 20.2.1 of this document further describes the responsibilities of the service desk function for T2S.

4.2 Business role CSD

Reference ID	T2S.04.050

The CSD role classification shall include all T2S system users of a CSD participating in T2S. It does not

include the T2S system users of the CSD's participants. T2S makes no differentiation between the roles of Investor CSD and Issuer CSD. Most CSDs take on both aforementioned roles. With the exception of possible national specificities, T2S will provide the harmonised scope of services to CSDs.

4.2.1 CSD system administrator

Reference ID	T2S.04.060

The CSD system administrator role shall be responsible for

- the user administration for all of the CSD's T2S system users, including the assignment of roles;
- the configuration of roles for the T2S system users of the CSD's T2S parties;
- and the day-to-day monitoring of system applications, processes, and communication channels at the CSD.

CSDs shall be responsible for defining for their T2S parties the functionality that those parties can use. Therefore, it shall be possible for CSDs to configure roles and access rights for their T2S parties to functionality, based on their business requirements.

4.2.2 CSD business user

Reference ID	T2S.04.070

The CSD business user role shall be responsible for:

- maintaining the CSD's securities account static data in T2S;
- the parameterisation of its securities account structure;
- maintaining T2S party static data, including securities accounts, for its participants;
- maintaining CSD-specific instrument static data and, where applicable, the instrument static data across all CSDs;
- maintaining any settlement restrictions;
- the possibility of querying T2S dedicated cash account balances linked to the securities accounts of its participant at that CSD, when granted this privilege by the relevant NCB and payment bank;
- maintaining privileges for all positions, settlement instructions and static data for the CSD and its participants that are required for business support.

4.3 Business role T2S party

Reference ID	T2S.04.080

The T2S party role shall include all T2S system users that a CSD maintains for the legal entities with which it has a legal relationship and which have direct connectivity to T2S. The model shall support two types of role: T2S party system administrator and T2S party business user.

4.3.1 T2S party system administrator

Reference ID	T2S.04.090

The T2S party system administrator role shall be responsible for user administration for all T2S system users of the T2S party of a specific CSD, including the assignment of roles.

4.3.2 T2S party business user

Reference ID	T2S.04.100

The scope of functions and processes that a T2S party business user can access shall depend on the business services provided by the CSD. However, the data access of a T2S party shall be limited to its own accounts, positions and transactions.

4.4 Business role NCB

Reference ID	T2S.04.110

The NCB role classification shall include all T2S system users of a NCB as a liquidity provider through T2S dedicated cash accounts.

4.4.1 NCB system administrator

Reference ID	T2S.04.120

The NCB system administrator role shall be responsible for

- the user administration for all T2S system users of the NCB, including the assignment of roles;
- and the configuration of roles for the T2S system users of the NCB’s participating payment banks.

4.4.2 NCB business user

Reference ID	T2S.04.130

The NCB business user role describes all T2S system users in NCBs that require access to the static and transactional data of payment banks operating T2S dedicated cash accounts. The role shall enable the T2S system user of the NCB to:

- maintain the payment banks with dedicated T2S cash accounts as T2S parties;
- maintain the limits for payment banks on T2S dedicated cash accounts;
- query all T2S dedicated cash accounts for which the NCB is responsible;
- query the credit line utilisation on T2S dedicated cash accounts;
- grant a CSD the privilege of querying T2S dedicated cash account balances;
- identify the postings resulting in the utilisation of liquidity;
- identify the expected postings of cash on a T2S dedicated cash account;
- identify the owner of every T2S dedicated cash account;
- identify the cash leg of a settlement instruction(s), posted on the T2S dedicated cash account by providing a unique transaction reference;
- and query the balances and postings on T2S dedicated cash accounts for which the NCB is responsible.

However, it will not be possible for the NCB to query the settlement instructions, securities transactions and securities positions of a T2S securities account unless the CSD participant and the CSD have granted this privilege explicitly to an NCB for the securities account. This also includes the securities leg associated with a cash posting.

4.5 Business role payment bank

Reference ID	T2S.04.140

The payment bank role includes all T2S system users of payment banks that require access to the T2S dedicated cash account balances and postings of the T2S dedicated cash accounts they provide for the purpose of securities settlement.

4.5.1 Payment bank system administrator

Reference ID	T2S.04.150

The system administrator role for payment banks shall be responsible for the user administration of the T2S system users of the payment bank, including the assignment of roles.

4.5.2 Payment bank business user

Reference ID	T2S.04.160

The business user role for payment banks includes all T2S system users of payment banks providing a T2S dedicated cash account for securities settlement. The role shall enable the T2S system user of the payment bank to:

- maintain the limits for payment banks on T2S dedicated cash accounts;
- grant a CSD the privilege of querying its T2S dedicated cash account balances;
- maintain standing instructions for the transfer of liquidity between the relevant RTGS account and the T2S dedicated cash account(s);
- query all its T2S dedicated cash accounts and the balances on those accounts;
- query the credit line utilisation on T2S dedicated cash accounts;
- query the postings resulting in the utilisation of liquidity;
- maintain limits for banks using their T2S dedicated account(s) for securities settlement;
- query the corresponding securities transaction of a cash posting against the T2S dedicated cash account(s);
- and query the balances and postings on its T2S dedicated cash account(s).

It will not be possible for the payment bank to query the settlement instructions, securities transactions securities positions of a T2S securities account unless the CSD participant and the CSD have granted this privilege explicitly to the payment bank for the securities account. This also includes the securities leg associated with a cash posting.

USER REQUIREMENTS

CHAPTER 5

INSTRUCTION LIFE CYCLE MANAGEMENT AND MATCHING REQUIREMENTS

T2S Project Team

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EUROPEAN CENTRAL BANK
EUROSYSTEM

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5 Instruction life cycle management and matching requirements

This chapter focuses on the life cycle of settlement instructions within T2S and the management of these instructions by T2S actors. It analyses the life cycle of an instruction, the different paths through the system that it can take and the life cycle status attached to each of these paths (“validated”, “rejected”, “matched”, “unmatched”, etc.).

The chapter consists of seven sections.

Section 5.1 provides a high-level overview of the different processes in life cycle management and matching.

Section 5.2 presents the different instruction and life cycle types in T2S.

Section 5.3, which looks at business validations, describes the consistency and authorisation checks that the incoming instructions have to pass in order for T2S to accept them for further processing.

Section 5.4, which looks at instruction maintenance, covers the different processes in managing settlement instructions.

Section 5.5, which looks at matching, details the procedure which ensures that T2S can rely on instructions from T2S actors agreeing the settlement-relevant terms of each transaction.

Section 5.6, which looks at settlement eligibility, defines the conditions that a settlement instruction must fulfil in order to be eligible for settlement in T2S.

Section 5.7 provides examples of life cycle and transaction types.

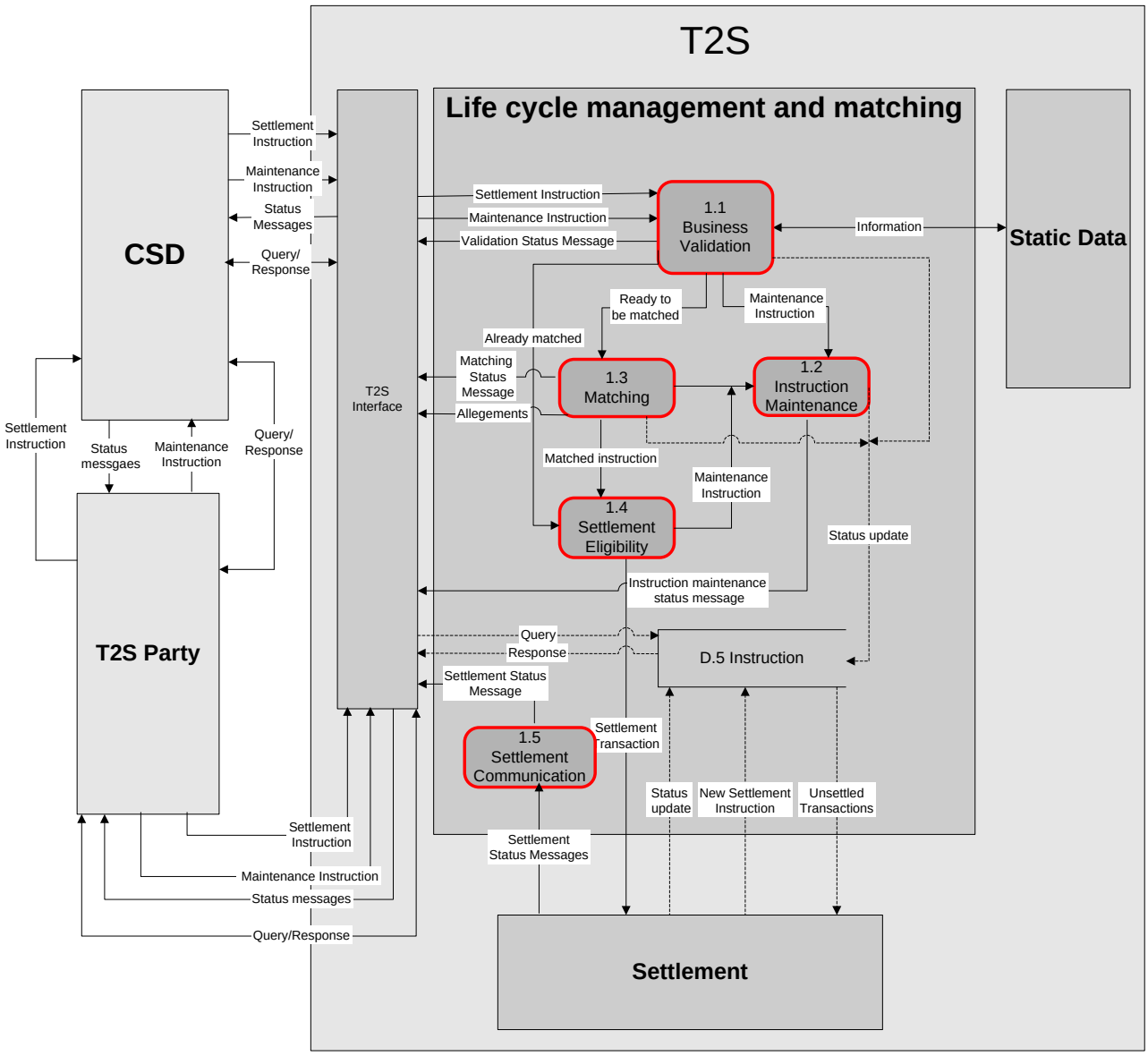
Annex 19 on Repos in T2S provides further information about the ways to handle repo instructions in T2S from an instruction life cycle point of view.

5.1 High-level description of life cycle management and matching

This diagram depicts the different high-level processes and interactions of the life cycle management and matching of T2S (LCMM), as well as various T2S actors and other T2S components. It does not seek to pre-empt any future decision on the IT design and technical implementation of T2S.

Life cycle management and matching consists of four main processes (validation, instruction maintenance, matching and settlement eligibility) and a communication function, as set out in the following diagram (see also the overall T2S diagram in Chapter 2).

Figure 5-1: Life cycle management and matching



1.1 Business Validation

Validation is the process of checking the consistency of instructions sent to T2S. These consistency checks[1] ensure that the incoming instruction is consistent with T2S static data. LCMM immediately validates all incoming instructions received during the opening day on the basis of a harmonised set of validation rules (see Section 5.3). After validation, the status of the instruction is either "accepted" or "rejected". LCMM forwards validated instructions either for matching or for settlement eligibility. Incoming instructions can be one of the three following types: "ready for matching", "matched" or "matching not required".

Input	
Settlement instruction	From CSD or directly connected T2S party
Maintenance instruction	From CSD or directly connected T2S party
Information	Information taken by T2S from static data

Output	
Information	Requesting information in static data which is required for validation
Validation status message	Responses to CSD/directly connected T2S party regarding instruction status ("accepted" or "rejected")
Settlement instruction	Accepted settlement instruction forwarded to the matching process
Maintenance instruction	Forwarded to instruction maintenance
Already matched instruction/matching not required	Forwarded to the settlement eligibility process
Status update	Status update in the instruction data store

[1] Throughout Chapter 5, "validation" is understood as "business validation". It must be distinguished from the format and syntax checks performed by the interface module ("technical validation") before instructions enter the life cycle management and matching process.

1.2 Instruction maintenance

Instruction maintenance consists of instructions to amend, cancel, hold or release a settlement instruction. The amendment of fields used for matching is only possible prior to completion of the matching process, and the amendment of other fields is possible until actual settlement.

Any T2S party or CSD may cancel its instructions unilaterally prior to matching.

Once matching has occurred, T2S actors can cancel instructions only bilaterally, i.e. both parties must send a cancellation instruction ("binding matching") for the cancellation to take effect.

T2S will provide hold and release mechanisms. T2S parties and CSDs can use these mechanisms on a voluntary basis. These mechanisms allow T2S parties and CSDs to hold or release instructions prior to settlement.

Input	
Maintenance instruction	Maintenance of instruction from validation process

Output	
Instruction maintenance	Amending, cancelling or holding/releasing instructions
Maintenance instruction status message	Status message sent to CSD or directly connected T2S party after the maintenance attempt on an instruction
Status update	Status update sent to the instruction data store

1.3 Matching

Matching in securities settlement is the process of comparing the settlement details provided by the buyer and the seller of securities in order to ensure that they agree on the settlement-related terms of the transaction. T2S provides real-time matching facilities throughout the operating day (except for maintenance windows). Following a matching attempt, the instruction is given the status "matched" or "unmatched". T2S provides information to the instructing parties on the result of the matching process.

Input	
Accepted settlement instruction	From validation process

Output

Matching status message	Matching status message to CSD/directly connected T2S party
Matched instruction	Forwarding matched instruction to the settlement eligibility process
Status update	Status update in the instruction data store
Allegements	If the counterpart's instruction is not in T2S

Data store	
D.1 Instruction data store	1) This data store contains details of the status of an instruction as it changes in the course of its life cycle. 2) This status is updated after validation, matching, instruction maintenance and settlement. 3) The instructing parties and T2S actors can query the status of their instructions throughout their life cycle in T2S. 4) Where settlement triggers auto-collateralisation, T2S creates a new settlement instruction. 5) LCMM submits unsettled settlement instructions which are still eligible for settlement to the settlement process for future settlement.

1.4 Settlement eligibility

The settlement eligibility process performs the final validation regarding the settlement date, the status of the instruction (on hold or other), etc. before an instruction is submitted to the settlement process. T2S applies a harmonised set of settlement eligibility rules (see Section 5.6).

Input	
Matched instruction	From matching process
Already matched instruction/Matching not required	From validation process

Output

Instruction to be settled	Forwarded to the settlement process.

1.5 Communication of settlement status

The communication function receives the settlement status message from LCMM and forwards it to the T2S interface for transmission to the directly connected T2S parties and CSDs as per the message subscription service (see Chapter 13).

Input	
Settlement status message	Received after each settlement attempt

Output	
Settlement status message	Forwarded to the interface function

In addition, T2S informs directly connected T2S parties and CSDs of the result of all life cycle processes and the subsequent statuses of the instructions. T2S immediately notifies the relevant directly connected T2S parties and CSDs of any changes to the status of instructions.

T2S shall provide multiple-statuses reporting that gives more flexibility and brings more efficiency than single-status reporting.

In this context, T2S shall provide the values of the different statuses for each instruction in a status message. For example, after the bilateral cancellation of an accepted and matched instruction, T2S will send a status message with the following three statuses: validation status (accepted), match status (matched) and cancellation status (cancelled).

T2S communicates the rejection, failure or cancellation of instructions together with the reason.

T2S reports any unsuccessful attempt to act on a settlement instruction to the relevant directly connected T2S party or CSD, together with the reason for the failure.

As noted above, T2S provides allegement facilities.

Chapter 13 describes the messages that T2S provides. The T2S message subscription allows directly connected T2S parties and CSDs to customise their information needs in relation to content, frequency, automation, etc.

5.2 Instruction and life cycle types

This section introduces the different instruction types and the various life cycles that a specific instruction type may go through in T2S. The term “life cycle” refers to the set of processes that the instruction goes through between its receipt in T2S and its settlement.

5.2.1 Instruction types

The instruction types covered by T2S are the following:

- **FOP** (free of payment) consists of DFOP (deliver free of payment) and RFOP (receive free of payment). In both cases, securities are delivered/received without payment being made.
- **DVP** (delivery versus payment) and RVP (receive versus payment) define an exchange of securities for cash.
- **DVD** (delivery versus delivery) defines an exchange of securities between the parties concerned. For example, collateral substitution uses a DVD instruction.
- **DWP** (deliver with payment) defines the delivery of cash and securities from one party to another. For example, trade netting by a CCP may result in such instructions.
- **PFOD** (payment free of delivery) defines an exchange of cash without the delivery of securities.
- **Settlement restriction** (the action of setting or removing a settlement restriction) comprises the blocking, earmarking, segregation reservation of positions within the overall position in a security in a securities account as well as the blocking and reservation of a cash balance in a T2S dedicated cash account.

Please refer to the glossary for a precise definition of instruction types.

In T2S, an instruction type may result in different life cycle types, depending on a number of different attributes, such as the ISO transaction code and the type of instructing party (CSD or CSD participant).

5.2.2 Life cycle types

The “life cycle type” concept refers to the processing characteristics of an instruction within T2S. This chapter combines information included in the instruction and other attributes stored in the database to present the life cycle type. Such combined parameters include:

- the instruction type;
- the instructing party (CCP, CSD participant, etc.);
- the ISO transaction code;
- conditionality rules as defined by the CSDs; and
- information from static data (e.g. related to the ISIN; the static data determines whether or not an ISIN requires registration).

In general, the T2S life cycle types (for details, see Table 5.7.1) have the following characteristics:

- Instruction type: the life cycle types depend on the type of instruction received by T2S, e.g. deliver versus payment or free of payment.
- Validation type: validation rules depend on the instruction type, the type of instructing party (CSD participant, CSD, etc.) and other circumstances (e.g. whether or not matching is required).
- Matching type: matching fields depend on the type of instruction. Matching may or may not be required depending on the instructing party and depending on the transaction type (for example, corporate actions are dealt with in a particular manner in LCMM, as well as in settlement).
- Eligibility rules: eligibility rules may vary in some special cases (e.g. two-legged instructions).
- Instruction maintenance rules – e.g. cancellation and hold and release rules. Although the cancellation of matched instructions is bilateral, instructions that do not require matching may have different rules (as may others in special cases).

Section 5.7 describes the different life cycles that an instruction may follow from its receipt in T2S to its final settlement, as well as the relationship between life cycle types and transaction types. Please note that Section 5.7 does not yet contain a definitive list of life cycle types.

5.3 Validation

Validation is the process of checking whether the instruction is valid for forwarding to the matching process or the settlement process once the system has successfully validated its format and syntax.

5.3.1 Validation of incoming settlement instructions

Decisional table

Reference ID	T2S.05.010

To process an instruction, T2S shall consider the information included in the instruction and other attributes. The information considered includes:

- the instruction type;
- the instructing party;
- the ISO transaction code;
- conditional rules as defined by the CSDs; and
- other information from the static data (e.g. on ownership of the accounts).

A set of attributes from which T2S cannot derive a life cycle type shall result in the rejection of the instruction.

Harmonised set of validation rules

Reference ID	T2S.05.020

T2S shall validate all incoming instructions. T2S shall apply a set of harmonised validation rules. This section includes a non-exhaustive list of detailed validation requirements. After encountering the first negative validation result, T2S shall continue to validate as far as possible (taking into account potential independencies between the validated data) and report all negative results together in a single message. Only after performing all logically possible validations shall T2S reject the instruction.

Duplicate check

Reference ID	T2S.05.030

T2S shall check for and reject duplicate/multiple submission of new instructions on the basis of a combination of the T2S actor identifier and the instruction reference assigned by the instructing party.
In doing so, the duplicate check will compare each incoming instruction with the instructions that are not settled yet and those instructions settled in the past predetermined period of days.

Mandatory fields

Reference ID	T2S.05.035

T2S shall check the existence of the following fields depending on the instruction type:

- intended settlement date;
- trade date;
- currency;
- cash amount;
- share quantity (for equities) or nominal amount (for fixed income securities);
- buy/sell;
- ISIN code;
- BIC code of the counterpart delivering the securities;
- BIC code of the counterpart receiving the securities;
- CSD of the counterpart[2];
- deliverer's securities account (to be included only by delivering party); and
- receiver's securities account (to be included only by the receiving party).

These fields shall be validated only if the fields are mandatory for the specific instruction type in question.

[2] T2S shall investigate the removal of the CSD of the counterpart as a mandatory field before the go-live of T2S.

Proxy check

Reference ID	T2S.05.040

If the instructing party is not the owner of the account, T2S shall check that it is authorised to send instructions on behalf of the account owner.

Securities account check

Reference ID	T2S.05.050

When T2S receives an instruction, T2S shall check that the T2S party concerned has a securities account in the corresponding CSD in T2S and is authorised to use it.
Note: the settlement function performs the same validation again on the intended settlement date.

Cash account check

Reference ID	T2S.05.060

T2S shall check the authorisations related to the cash accounts for payments in T2S. In the event of securities-related settlement, T2S shall verify that the cash account for the cash leg of the securities settlement has a link with the securities account or with the T2S party holding the securities account.

Currency check

Reference ID	T2S.05.070

T2S shall check that the currency of the cash leg of an instruction is either a T2S settlement currency or a T2S recognised currency. T2S shall check that the currency of the cash leg is the same as the currency of the cash account. T2S shall not perform this check on FOP instructions, even where the field for the cash amount contains a value.

ISIN check

Reference ID	T2S.05.080

T2S shall check that the ISIN exists and that it is eligible for settlement in the corresponding CSD on the intended settlement date. Nevertheless, T2S shall allow CSDs to send instructions for non-settlement eligible ISIN(s) as long as they are still active (not logically deleted).

Minimum settlement unit check

Reference ID	T2S.05.090

T2S shall check the settlement unit against the minimum settlement unit or nominal.
T2S shall validate all ISINs where an instruction contains more than one ISIN (e.g. in the case of DVD instructions).

Multiple or deviating settlement unit check

Reference ID	T2S.05.100

T2S shall check against the multiple or deviating settlement unit or nominal. T2S shall not perform this check on some instructions related to corporate actions. T2S shall validate all ISINs where an instruction contains more than one ISIN (e.g. in the case of DVD instructions).

Trade date check

Reference ID	T2S.05.110

T2S shall check that the trade date is identical to or earlier than the intended settlement day.

Intended settlement date check

Reference ID	T2S.05.120

T2S shall check that the intended settlement date is a T2S settlement day for the settlement currency (even in the past).

Process indicator check

Reference ID	T2S.05.140

T2S shall check that settlement-related process indicators are valid for the type of instruction and the instructing party in question.
The settlement-related process indicators will be used to perform certain actions in the settlement of an instruction.
T2S shall also allow T2S actors to make use of the non-settlement-related link indicator “INFO” to link instructions for information purposes.

Process indicator check for partial settlement

Reference ID	T2S.05.141

It shall be possible for T2S actors to specify whether or not partial settlement of a settlement instruction is allowed by making use of the partial settlement indicator (possible values: “Yes” and “No”).
Where CSD participants send maintenance instructions requesting the deactivation of the partial settlement indicator (activated at the level of the instruction), T2S shall check that the indicator was not sent by a CSD, CCP or stock exchange under a power of attorney. If so, T2S shall reject the maintenance instruction.
Further information about the use of the partial settlement indicator can be found in Chapter 8.

Process indicator check for auto-collateralisation

Reference ID	T2S.05.143

It shall be possible for T2S actors to allow auto-collateralisation for a settlement instruction by making use of the auto-collateralisation indicator (possible values: “Yes” and “No”).
Further information about the use of the auto-collateralisation indicator can be found in Chapter 8.

Process indicator check for setting settlement priority

Reference ID	T2S.05.145

It shall be possible for T2S actors to assign different levels of settlement priority to their instructions.
Further information about the different levels of settlement priority can be found in Section 7.2.2 on prioritisation (T2S.07.130 - T2S.07.200).

Process indicator check for linking instructions

Reference ID	T2S.05.147

It shall be possible for T2S actors to link their own instructions by making use of the ISO settlement link indicators After (“AFTE”), Before (“BEFO”) and all-or-none (“WITH”). These link indicators will be used in the settlement process.
After means that an instruction has to be settled after or at the same time as the linked instruction.
Before means that an instruction has to be settled before or at the same time as the linked instruction.
All-or-none means that an instruction has to be settled at the same time as the linked instruction.
The settlement of linked transactions is described in detail in Section 9.2.1.

Validation of connected settlement instructions

Reference ID	T2S.05.148

If an instruction is linked to one or more linking instructions with After ("AFTE"), Before ("BEFO"), all-or-none ("WITH"), or a common repo reference, T2S shall check that the information contained in the new instruction is consistent with the present linked instructions (i.e. intended settlement date and securities account holder).

If an instruction is linked to a settlement restriction previously sent, T2S shall check that initial restriction is still active (i.e. the restriction is still in place). Section 10.1.3 provides further information on settlement restrictions.

Issuing date check

Reference ID	T2S.05.150

In the case of securities traded on grey markets, T2S shall check that the intended settlement date is identical to or later than the intended issue date. This check shall not apply for technical housekeeping instructions sent by the issuer CSD (e.g. to prepare for issuance).

Validation check when an external CSD is present

Reference ID	T2S.05.160

T2S shall perform some minimum validations required for instructions involving at least one external CSD. T2S shall not validate information regarding CSD participants in the external CSD, even though these instructions will contain such information.

See Annex 10 on cross-CSD settlement and external CSDs for further information about external settlement.

Already matched instructions

Reference ID	T2S.05.170

Already matched instructions must enter T2S as a single instruction containing the information of the two counterparties. T2S shall create two separate instructions with the same unique matching reference.

Two DvP instructions linked for settlement eligibility purposes

Reference ID	T2S.05.186

T2S actors may link two DvP instructions that include specific ISO transaction codes (such as a repurchase agreement or other defined types) by a common repo reference in order to ensure that the second leg does not become eligible for settlement until the first leg has been settled.

If those two DvP instructions have the same intended settlement date, T2S actors may make use of the hold and release mechanism in order to space out the eligibility of both instructions.

Two-legged instruction

Reference ID	T2S.05.190

If T2S receives a two-legged instruction with all the details of both legs of the same CSD participant (i.e. inception and redemption) in one instruction, T2S shall create two separate instructions with the same reference and ensure that the redemption does not become eligible for settlement until the inception has been settled. T2S shall process both instructions in the same way as any other DVP instruction.

Where the inception and redemption of a two-legged instruction have the same intended settlement date, T2S shall put the second leg on hold.

ISO transaction code

Reference ID	T2S.05.200

T2S actors may make use of the ISO transaction codes set out under ISO 20022 (e.g. TRAD, SECL and REPU).

Validation of maintenance instructions

Reference ID	T2S.05.210

In the event of instructions being held/released, cancelled or amended, T2S shall check that the previous or related reference is present and that the instruction with that reference exists. T2S shall check that the maintenance instruction is valid and consistent with the previous or related instruction.

T2S shall allow T2S actors to make use of both the previous reference (i.e. instructing party's reference) and the related reference (i.e. T2S internal reference assigned to the instruction by T2S).

Instructing party check for instruction maintenance purposes

Reference ID	T2S.05.220

T2S shall identify the instructing party for any settlement instruction for the purposes of instruction maintenance (see Section 5.4 below).

Non-settlement-related information

Reference ID	T2S.05.230

T2S shall neither validate nor match non-settlement-related information added to instructions by T2S actors for their own ends.

Status after validation

Reference ID	T2S.05.240

After the validation process, instructions entering T2S as “to be matched” or “matching not required” (e.g. corporate actions) shall be given the status “accepted” or “rejected”. Instructions entering T2S as “already matched” (e.g. pre-matched trades in CSDs) shall be given the status “rejected” or “matched”.

Information provided after validation

Reference ID	T2S.05.250

T2S shall inform T2S actors regarding the outcome of the validation process and will indicate the reason for the rejection of any instruction.

Check for regulatory/supervisory requirements

Reference ID	T2S.05.260

T2S shall perform any validation required by the authorities (to combat money laundering, terrorist financing, etc.) for settlement in accordance with T2S Principle 5.

Full audit trail

Reference ID	T2S.05.270

T2S shall keep an audit trail documenting events and status changes during the entire life cycle of an instruction. This shall indicate the date and time of every change and the unique identifier of the T2S system user making the change (see Chapter 16 for further information).

5.3.2 Revalidation of instructions owing to updates of static data

Revalidation after changes in data

Reference ID	T2S.05.280

T2S shall revalidate both the content and the settlement eligibility of all relevant pending instructions when settlement-related static data have changed. T2S shall cancel the instructions that do not pass the revalidation and inform both the CSD and the instructing party of the result of the revalidation.

5.4 Instruction maintenance

Instruction maintenance is the process of amending, cancelling, holding and releasing settlement instructions.

Availability of instruction maintenance

Reference ID	T2S.05.290

CSD participants may use the instruction maintenance function regardless of whether the CSD or T2S matches their instructions.

Authorisation check for instruction maintenance

Reference ID	T2S.05.300

T2S shall allow CSDs, CCPs, stock exchanges and trading platforms to define settlement instructions instructed by them as being modifiable or non-modifiable by the CSD participants. This indication will define the ability of CSD participants to hold, release, amend or cancel these settlement instructions.

Instruction maintenance by CSDs, CCPs, stock exchanges and trading platforms

Reference ID	T2S.05.310

T2S shall allow CSDs to hold, release, amend and cancel their participants' instructions until actual settlement occurs.

T2S shall allow CCPs, stock exchanges and trading platforms to hold, release, amend and cancel instructions generated by them for their participants until actual settlement occurs, provided that they have been granted power of attorney by their participants.

Maintenance of two-legged instructions

Reference ID	T2S.05.320

T2S shall, where possible, implement a maintenance instruction for both legs of a two-legged instruction. In the event of a settled inception, T2S shall implement the maintenance instruction for the redemption.

Information provided after instruction maintenance

Reference ID	T2S.05.330

T2S shall inform T2S actors regarding the outcome of the instruction maintenance and will indicate the reason for the rejection of any instruction.

Information functionality for instruction maintenance

Reference ID	T2S.05.340

T2S shall inform a T2S actor:

- by a status and processing advice when its counterpart sends a cancellation instruction;
- by a copy of the status and processing advice sent to its counterparty when its counterpart sends a maintenance instruction that amends the partial settlement;
- by a status and processing advice when its counterpart sends a maintenance instruction to hold or release after the beginning of the intended settlement date.

5.4.1 Hold and release mechanisms

Hold and release mechanisms allow CSD participants and CSDs to hold back or release instructions for settlement. They allow CSD participants to match and confirm the settlement terms of any transaction without initiating actual settlement. T2S actors may send maintenance instructions to hold and release as many times as required.

Hold and release mechanism availability

Reference ID	T2S.05.350

T2S shall provide a hold and release mechanism. CSD participants and CSDs may use this mechanism on a voluntary basis.

Hold and release mechanism check

Reference ID	T2S.05.360

T2S shall only allow the T2S actor that has put an instruction on hold to release it. If there are two hold instructions for the same instruction (one by the CSD participant and one by the CSD), release instructions must also come from both.

Hold and release mechanism until settlement occurs

Reference ID	T2S.05.370

A T2S actor may hold instructions until actual settlement occurs, and even beyond the intended settlement date. T2S shall consider all instructions on hold at the end of the intended settlement date as having failed. If the recycling of a failed instruction is allowed on the basis of the length of the recycling period (See T2S.05.460), T2S shall recycle held instructions with the status “on hold”.

Rejection of an instruction to hold

Reference ID	T2S.05.380

T2S shall reject an instruction to hold a settlement instruction if this settlement instruction has already been settled. T2S shall inform the instructing party accordingly.

5.4.2 Amendment of instructions

Amendment options

Reference ID	T2S.05.390

T2S shall allow CSD participants to amend matching fields only prior to matching. The amendment of other information (process indicators and non-matching fields) shall be possible until settlement occurs.

No calculations foreseen

Reference ID	T2S.05.400

T2S shall not perform any calculations. CSD participants, CSDs, CCPs, stock exchanges and trading platforms are responsible for amending instructions before settlement where necessary.

T2S may amend instructions only by filling in default values (e.g. default accounts) from static data.

5.4.3 Cancellation of instructions

Possible cancellation of instructions

Reference ID	T2S.05.410

T2S shall allow T2S actors to request the cancellation of a settlement instruction in T2S. A T2S actor shall also be allowed to cancel its own previous cancellation request if the latter is still pending

Cancellation check

Reference ID	T2S.05.420

T2S shall verify both that the instruction that the T2S actor wishes to cancel exists in T2S and that its cancellation is possible. T2S actors' ability to cancel their instructions depends both on the status of the instruction and on the type of transaction.

Cancellation of unmatched instructions

Reference ID	T2S.05.430

T2S shall cancel unmatched instructions a standard number of working days after the intended settlement date or the date of the last status change in accordance with the ECSDA recommendation. (For example, the current ECSDA recommendation is 20 working days.) T2S shall inform the instructing party when T2S cancels unmatched instructions.

Unilateral versus bilateral cancellation

Reference ID	T2S.05.440

T2S shall allow CSD participants to cancel settlement instructions unilaterally prior to matching. T2S shall allow only bilateral cancellation for matched instructions, i.e. both parties have to send a cancellation instruction ("binding matching"). On the receipt of the first cancellation instruction, T2S shall send an allegement to the other party to the transaction. T2S shall cancel both settlement instructions on receipt of a valid cancellation instruction from the other party to the transaction, provided that T2S has not settled the instructions in the meantime.

In cases of bilateral cancellation, T2S will check to see whether the cancellation instruction from the counterpart is already in the system. If not, T2S shall retain the cancellation instruction until it receives the second one.

Deadline for cancellation

Reference ID	T2S.05.450

T2S shall allow the cancellation of instructions until actual settlement occurs. In the event that settlement fails, T2S shall cancel instructions if there is a pending (bilateral) cancellation instruction before reforwarding the instruction for settlement.

Cancellation instructions shall stay in the system and await the cancellation instruction of the counterpart when bilateral cancellation is required.

Triggering cancellation after the end of the recycling period

Reference ID	T2S.05.460

T2S shall cancel any instructions that remain failed after a number of days. CSDs and CCPs shall define the length of their respective recycling periods in accordance with their terms and conditions.

The length of recycling for cross-CSD instructions shall be harmonised. When a cross-CSD instruction involves a CCP, T2S shall use the shorter of the recycling periods set by the CSD and CCP in question.

The length of recycling periods will be stored in T2S static data. T2S shall allow a recycling period of zero days, meaning that T2S will cancel failed instructions at the end of their intended settlement date.

Cancellation of CoSD

Reference ID	T2S.05.470

T2S shall allow an administering party to cancel an instruction unilaterally for conditional securities delivery (CoSD) (e.g. when one of the parties does not fulfil the external condition for settlement), even after T2S has reserved the relevant securities holding.

T2S parties may also request the cancellation of a CoSD instruction but T2S will only cancel the instruction upon an additional cancellation request by the administering party.

Status after cancellation

Reference ID	T2S.05.480

The instruction is given the status “cancelled” after successful cancellation. T2S shall inform relevant parties of the reason for the cancellation.

5.5 Matching

"Matching" is the process of comparing the settlement details provided by the buyer and the seller of securities in order to ensure that they agree on the settlement terms of the transaction. Matching is in any event a service offered and charged by CSDs to their users (irrespective of whether it takes place in T2S or in a CSD).

T2S shall provide a full matching functionality. The T2S matching process will be a specific functionality compliant with ECSDA rules.

Instructions may enter T2S either as "to be matched" or as "already matched". Instructions entering T2S as "already matched" must comply with the T2S matching rules. When instructions enter T2S as "already matched", there should be no disruption to the settlement process on account of the matching location.

In this context, when a CSD takes the business decision to retain/adapt/develop its matching functionality, two possibilities exist:

- A participant connects directly to T2S: Matching will take place in T2S.
- A participant connects indirectly to T2S: CSDs must have the means of ascertaining immediately whether or not they can match both sides internally. Where this is not the case, CSDs will forward the instruction immediately to T2S in order to ensure early matching.

Although this is not a T2S user requirement, its implementation in the systems of the participating CSDs is necessary in order to ensure the functional operability of the following user requirements.

The requirement shall exclude certain types of transaction that require matching by the CSD:

- external settlement;
- value-added services such as securities lending;
- potentially non-fungible securities/registered shares.

Note: Instructions from stock exchanges, trading platforms and CCPs may enter the T2S settlement process either directly or through a CSD.

5.5.1 Requirements related to matching

Continuous real-time matching facilities

Reference ID	T2S.05.490

T2S shall provide real-time matching facilities throughout the settlement day (as defined in Chapter 3). However, matching shall not be available during the maintenance window.

T2S matching exceptions

Reference ID	T2S.05.500

T2S shall not match instructions that enter T2S with the status “already matched” (e.g. pre-matched trades in CSDs) or “matching not required” (e.g. corporate actions).

FOP instructions with no matching required

Reference ID	T2S.05.510

Free-of-payment instructions between securities accounts belonging to the same T2S party within the same CSD specified via the static data shall not require matching. However, T2S shall allow CSDs to specify the contrary for each of their participants via the static data.

Status after matching

Reference ID	T2S.05.520

T2S shall set the status of the instruction to “matched” or “unmatched” after matching.

Information provided after matching

Reference ID	T2S.05.530

T2S shall inform T2S actors regarding the outcome of the matching.

Allegement facilities for matching

Reference ID	T2S.05.540

T2S shall send an allegement message for any unmatched instruction after the first unsuccessful matching attempt where this was because of a missing counterpart instruction. However, T2S shall send the allegement only after having waited for the missing counterpart instruction for a predetermined period of time in accordance with the subscription service defined in Section 13.1.

T2S shall also send an allegement message where a matching field of an unmatched instruction is amended and an allegement has already been sent.

T2S shall send a “removal of allegement” message when the previous allegement message is no longer valid (e.g. the settlement instruction has been matched with the counterpart).

Matching of two-legged instructions

Reference ID	T2S.05.550

T2S shall match the two separate instructions in a two-legged instruction (i.e. inception and redemption) independently. Matching fields shall be as defined for DVP instructions.

Cancellation of matched instructions

Reference ID	T2S.05.560

Matched instructions shall remain matched until actual settlement occurs, except in cases described in the user requirements related to cancellation rules (Section 5.4.3).

5.5.2 Mandatory matching fields

Mandatory matching fields

Reference ID	T2S.05.570

Mandatory matching fields are those instruction fields that T2S matches in instructions. The instruction type (DVP, DWP, FOP or DVD) shall determine the mandatory matching fields. The current list of mandatory matching fields is documented in the table below.

DVP / DWP	FOP	DVD
Instruction type code	Instruction type code	Instruction type code
Intended settlement date	Intended settlement date	Intended settlement date
Trade date	Trade date	Trade date
Currency		
Cash amount		
Share quantity (for equities) or nominal amount (for fixed income securities)	Share quantity (for equities) or nominal amount (for fixed income securities)	To deliver: share quantity (for equities) or nominal amount (for fixed income securities)
		To receive: share quantity (for

DVP / DWP	FOP	DVD
		equities) or nominal amount (for fixed income securities)
Buy/sell	Deliver/receive	Deliver/receive
ISIN code	ISIN code	ISIN code to deliver
		ISIN code to receive
BIC code of the counterpart delivering the securities	BIC code of the counterpart delivering the securities	BIC code of the counterpart delivering the securities
BIC code of the counterpart receiving the securities	BIC code of the counterpart receiving the securities	BIC code of the counterpart receiving the securities
CSD of the counterpart[3]	CSD of the counterpart	CSD of the counterpart

Tolerance amount for matching

Reference ID	T2S.05.580

T2S shall match the cash amount with a certain tolerance level (i.e. in the event that there is no perfect match). The tolerance amount shall have two different bands per currency, depending on the countervalue, in line with ECSDA rules. Once T2S has matched two instructions with a difference in the cash amount that is less than the tolerance amount, T2S shall settle the instruction with the seller's cash amount.

For example, the general tolerance amount proposed by the ECSDA for matching the cash amount field in euro is currently €25 when the countervalue is above €100,000 or €2 when it is €100,000 or less.

[3] T2S shall investigate the removal of the CSD of the counterpart as a mandatory matching field before the go-live of T2S.

5.5.3 Additional matching fields

Additional matching fields

Reference ID	T2S.05.590

Additional matching fields are fields that are not mandatory but that become mandatory when at least one of the two settlement counterparts completes them in its instruction. A non-exhaustive list of these additional matching fields can be found in the table below.

DVP	FOP	DVD
Common reference[4]	Common reference	Common reference
	Cash amount and currency if not a blank field[5]	
Client of delivering CSD participant[6] (the instructing party shall use a defined standard code where it exists, e.g. a BIC code). This field may match to blank.	Client of delivering CSD participant (the instructing party shall use a defined standard code where it exists, e.g. a BIC code). This field may match to blank.	Client of delivering CSD participant (the instructing party shall use a defined standard code where it exists, e.g. a BIC code). This field may match to blank.
Client of receiving CSD participant[7] (the instructing party shall use a defined standard code where it exists, e.g. a BIC code). This field may match to blank.	Client of receiving CSD participant (the instructing party shall use a defined standard code where it exists, e.g. a BIC code). This field may match to blank.	Client of receiving CSD participant (the instructing party shall use a defined standard code where it exists, e.g. a BIC code). This field may match to blank.

5.6 Settlement eligibility

A settlement eligibility check is necessary to select the suitable instructions for the settlement process. The settlement eligibility check considers the intended settlement date, the matching status and the hold/release status of the instructions.

T2S performs the settlement restriction within the settlement process.

[4] Counterparties will have the option to include this in order to facilitate the matching.
[5] In this case, a T2S actor may match the cash amount and currency where the cash settlement takes place outside T2S, even in the absence of a CoSD.
[6] The ESF/ECSDA standards say “second layer market participant (sub-account/customer of counterparty)”.
[7] The ESF/ECSDA standards say “second layer market participant (sub-account/customer of counterparty)”.

5.6.1 Requirements related to settlement eligibility

Harmonised set of settlement eligibility criteria

Reference ID	T2S.05.600

T2S shall provide a set of harmonised settlement eligibility criteria. T2S shall forward for settlement only those instructions that meet these eligibility criteria.

Intended settlement date eligibility check

Reference ID	T2S.05.610

T2S shall consider for settlement only instructions with an intended settlement date identical to or earlier than the current settlement date.

T2S shall also take the specific cut-off times into account for settlement eligibility (e.g. the deadline for intraday DVP, for central bank operations).

Instruction status eligibility check

Reference ID	T2S.05.620

T2S shall consider for settlement only instructions that are “matched”, “already matched” or “accepted” for which matching is not required given the type of instruction whenever those instructions do not have the status “on hold” or are linked to a missing instruction (if it is required for further processing according to the type of link).

Non-eligible instructions for settlement

Reference ID	T2S.05.625

T2S shall regard the following instructions as being ineligible for settlement:

1. Instructions before their intended settlement date.
2. Instruction received by the settlement eligibility process after its cut-off time
3. Instructions on hold.
4. Instructions linked to a missing instruction (if it is required for further processing according to the type of link).

T2S shall consider the last three groups of instructions at the end of the intended settlement date as having failed.

5.7 Examples of life cycle and transaction types

This section provides examples of the different life cycle and transaction types in T2S.

5.7.1 Table: Examples of life cycle types

Instruction type	Life cycle type	Validation types	Matching types	Eligibility rules	Cancellation	Hold and release	CoSD
Settlement restriction	Settlement restriction	Standard with validations for instructions which do not require matching	No matching required	Standard	Unilaterally by instructing party	Unilaterally by instructing party	No
DVD	DVD	Standard	Standard DVD	Standard	Standard	Standard	No
	DVD conditional	Standard	Standard DVD	Standard	Standard and CoSD specific rules	Standard until the blocking	Yes
	DVD for collateral substitution	Standard	Standard DVD	Standard	Unilaterally by instructing party	Unilaterally by instructing party	No
	DVD already matched	Standard with validations for instructions which do not require matching	No matching required	Standard	Standard with the limitation required by the specific instructing party	Standard with the limitation required by the specific instructing party	No
	DVD for securities conversion	Standard with validations for instructions which do not require matching	No matching required	Standard	Unilaterally by instructing party	Unilaterally by instructing party	No
	DVD conditional for corporate actions	Standard with validations for instructions which do not require matching	No matching required	Standard	Unilaterally by instructing party	Unilaterally by instructing party	Yes
DVP	DVP	Standard	Standard DVP	Standard	Standard	Standard	No

Instruction type	Life cycle type	Validation types	Matching types	Eligibility rules	Cancellation	Hold and release	CoSD
	DVP conditional	Standard	Standard DVP	Standard	Standard and CoSD specific rules	Standard until the blocking	Yes
	DVP for two-legged instructions that have already been matched	Standard with validations for instructions that do not require matching	No matching required	Standard with check that the first leg has been settled before settling the second	Standard with the limitation required by the specific instructing party	Standard with the limitation required by the specific instructing party	No
	DVP for two-legged instructions	Standard	Standard DVP	Standard with check that the first leg has been settled before settling the second	Standard	Standard	No
	DVP already matched	Standard with validations for instructions that do not require matching	No matching required	Standard	Standard with the limitation required by the specific instructing party	Standard with the limitation required by the specific instructing party	No
DWP	DWP instruction sent by CCP	Standard with validations for instructions which do not require matching	No matching required	Standard	Standard with the limitation required by the specific instructing party	Standard with the limitation required by the specific instructing party	No
FOP	FOP	Standard	Standard FOP	Standard	Standard	Standard	No
	FOP conditional	Standard	Standard FOP	Standard	Standard and CoSD specific rules	Standard until the blocking	Yes
	FOP already matched	Standard with validations for instructions that do not require	Matched by the	Standard	Standard with the limitation required by the specific	Standard with the limitation required by the	No

Instruction type	Life cycle type	Validation types	Matching types	Eligibility rules	Cancellation	Hold and release	CoSD
		matching	CSD		instructing party	specific instructing party	
	FOP for special purpose (same owner or corporate actions)	Standard with validations for instructions that do not require matching	No matching required	Standard	Unilaterally by instructing party	Unilaterally by instructing party	No
PFOD	Payment	Standard with validations for instructions that do not require matching	No matching required	Standard	Unilaterally by instructing party	Unilaterally by instructing party	No

5.7.2 Table: Examples of transaction types (i.e. examples of possible business cases)

Transaction types are described in generic terms (e.g. securities lending or transfer of securities), and each is linked with a life cycle type. These can be regarded as examples of the main business cases covered by T2S. The table of transaction types includes those process indicators which do not impact on the life cycle and are used mainly for settlement specificities (*e.g.* all-or-none indicator).

The following is a non-exhaustive list of different **transaction types**:

- **Originator:** whether the instructing party is a CSD participant, a CCP, etc.
- **ISO transaction code**
- **Life cycle type:** see Section 5.2
- **Link indicator:** indicators of some settlement constraints such as the all-or-none link
- **Special features: special conditions under which the instructions may be executed; for example, the administering party must be identified in the case of conditional instructions.**

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
STANDARD					
Back-to-back	CSD	TRAD	DVP already matched	Delivery – Redelivery (AFTER)	Facilities to ensure the back-to-back execution of buy and sell instructions. A unique ISIN where, for example, one or more "block" buy orders are delivered by several "allocated" sell orders.
Back-to-back	CSD participant	TRAD	DVP	Delivery – Redelivery (AFTER)	Facilities to ensure the back-to-back execution of buy and sell instructions. A unique ISIN where, for example, one or more "block" buy orders are delivered by several "allocated" sell orders.

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
Basket	CSD	TRAD	DVP already matched	AON	Instructions to buy/sell may be sent linked together for all or nothing execution. They may contain different ISINs.
Basket	CSD participant	TRAD	DVP	AON	Instructions to buy/sell may be sent linked together for all or nothing execution. They may contain different ISINs.
Cash transfer	CSD participant		Payment	None	
Mark-up/Mark-down	CSD participant	MKUP MKDW	FOP for special purpose (same owner or corporate actions)	None	Securities will be settled as mark-ups and mark-downs of the quantity of issued securities. This will be identical to the process employed in the issuance and redemption of securities.
UCITS increase/decrease	CSD participant	SUBS REDM	FOP for special purpose (same owner or corporate actions)	None	Special type of mark-up/down related to the fund industry.
Standard (buy/sell)	Stock exchange, trading platform or CCP	TRAD	DVP already matched	None	Standard instructions received by a stock exchange or CCP which enter T2S already matched. Zero quantity DVP transactions are accepted, as they might be the result of netting by the CCP.
Standard (buy/sell)	CSD	TRAD	DVP already matched	None	Instructions received by CSD to settle standard (buy/sell) instructions.
Standard (buy/sell)	CSD participant	TRAD	DVP	None	Instructions received by CSD participants to settle standard (buy/sell) instructions.
Securities conversion	CSD participant	OWNE	DVD for securities conversion	None	

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
Transfer of securities	CSD	OWNE	FOP already matched	None	Instruction to transfer securities between accounts of different CSD participants.
Transfer of securities	CSD participant	OWNE	FOP	None	Instruction to transfer securities between accounts of different CSD participants.
Transfer of securities between accounts with the same owner	CSD participant	OWNI	FOP for special purpose (same owner or corporate actions)	None	Instruction to transfer securities between accounts owned by the same CSD participant.
SPECIAL					
Auto-collateralisation	T2S		DVP already matched	None	
Auto-collateralisation substitution	T2S		DVD for securities conversion	None	
Buy-in/sell-out	CSD	TRAD	DVP	None	
Buy-in/sell-out	CSD	TRAD	DVP already matched	None	
Buy-in/sell-out	CSD participant	TRAD	DVP	None	

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
Coupon reattachment	CSD participant		FOP for special purpose (same owner or corporate actions)	None	The coupon reattachment transforms the coupon (as created by the stripping of the coupon) back into the original security. The un-stripping is possible recollecting the whole series of principal and related coupons.
Coupon stripping	CSD participant		FOP for special purpose (same owner or corporate actions)	None	The detachment (or stripping) of the coupon transforms the bond into a different bond plus a number of separate zero coupons with different maturities representing the coupon payments.
Delivery with payment	CSD or CCP	SETR NETT	DWP already matched	None	Instruction delivering cash and securities. This may be the netting resulting from different instructions.
Market claim transaction	CSD		DVP already matched	None	Instruction generated by the CSD to compensate a market claim.
Market claim transaction	CSD		Payment	None	Instruction generated by the CSD to compensate a market claim.
Market claim transaction	CSD		FOP for special purpose (same owner or corporate actions)	None	Instruction generated by the CSD to compensate a market claim.
Collateral-related					
DBV	CSD	POOL	DVP already matched	AoN	Instructions to lend against a set of securities (collateral). Instructions are sent via the CSD systems and linked together for all-or-none execution. These may contain different ISINs and are a special type of “basket”.

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
Monetary policy operation	CSD	REPU RVPO	DVP for already matched repos	None	Repo for monetary policy purposes.
Monetary policy operation pledge/collateral management	CCBM2	CNCB	FOP already matched	None	The movement of pledging is processed as an FOP or DVD instruction.
Monetary policy operation pledge/collateral management	CCBM2	CNCB	DVD for collateral substitution	None	The movement of pledging is processed as an FOP or DVD instruction. Repos without links will be processed as normal buy/sell instructions.
Pledge (collateral management)	Stock exchange, trading platform or CCP	COLL	FOP for special purpose (same owner or corporate actions)	None	The movement of pledging is processed as an FOP instruction.
Pledge (collateral management)	CSD	COLL	FOP already matched	None	The movement of pledging is processed as an FOP instruction.
Pledge (collateral management)	CSD participant	COLL	FOP	None	The movement of pledging is processed as an FOP instruction.

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
Repo	CSD participant	REPU RVPO	DVP for two-legged instructions		Repurchase agreements with maturities of up to 12 months, forward and open-ended repos. First and second legs are linked to avoid settling the second leg before the first one has been settled. Repos without links will be processed as normal buy/sell instructions
Repo (open-ended)	CSD participant	REPU RVPO	DVP for two-legged instructions		Open-ended repurchase agreements. First and second legs are linked to avoid settling the second leg before the first one has been settled. Open-ended repos will be processed by T2S as separate instructions for inception and redemption and will be labelled so that they are recognised as repos.
Securities lending	CSD	SECL SECB	DVP already matched	None	Securities lending instruction sent in order to cover a failure. The instruction needs a link to the failing instruction to ensure the correct destination for the securities. This instruction may be generated only by CSDs where an appropriate lending procedure is in place.
Securities lending	CSD participant	SECL SECB	DVP	None	Securities lending instruction sent for business reasons. The instruction does not need a link to the failing instruction to ensure the correct destination for the securities.
Corporate action-related					
0 Securities issuance and redemption	CSD		FOP for special purpose (same owner or corporate actions)	None unless instructed by issuer CSD	Instructions for the issuance and redemption of securities will be sent directly by CSDs. Accounts for issuing new securities are set up in the issuing CSD.

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
0 Securities issuance and redemption	CSD		DVP already matched	None unless instructed by issuer CSD	Instructions for the issuance and redemption of securities will be sent directly by CSDs. Accounts for issuing new securities are set up in the issuing CSD.
1 No settlement	CSD		Block position	None unless instructed by issuer CSD	Corporate actions which do not result in a settlement activity, such as annual general meetings).
2 Cash distribution	CSD		PFOD	None unless instructed by issuer CSD	Corporate actions that result in the distribution of cash, such as dividends and coupon payments.
3 Securities distribution	CSD		DVD for securities conversion	None unless instructed by issuer CSD	Corporate actions that result in securities distribution based on the positions in a given security on a given date. This involves the following steps: collecting information (enquiring regarding positions); blocking the positions; and the sending of a DFOP instruction by a CSD.
3 Securities distribution	CSD		FOP for special purpose (same owner or corporate actions)	None unless instructed by issuer CSD	Corporate actions that result in securities distribution based on the positions in a given security on a given date. This involves the following steps: collecting information (enquiring regarding positions); blocking the positions; and the sending of a DFOP instruction by a CSD.
4 Redemption	CSD		DVP already matched	None unless instructed by issuer CSD	Redemption is effected as DvP. A CSD may send an instruction to block the ISIN, query the position and effect the redemption.

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes
5 Securities conversion	CSD		DVD conditional for corporate actions	None unless instructed by issuer CSD	A corporate action that involves the substitution of securities and is generally part of a sequence that requires querying, blocking and substitution.
6 Booking out	CSD		FOP for special purpose (same owner or corporate actions)	None unless instructed by issuer CSD	The booking out of securities may be performed as a sequence of instructions including the cancellation of pending instructions.
Primary market and IPO	Issuer CSD	PLAC	FOP for special purpose (same owner or corporate actions)	None	A special instruction covering the chain of instructions on the part of an IPO which is necessary to account the securities from the issuer to the primary holder and on to the end investors. It will be processed on an AoN basis.

Transaction type	Originator	ISO transaction code	Life cycle type	Link indicator	Notes	Special features of instruction maintenance
CONDITIONAL						
Cash external to T2S	CSD participant	TRAD	FOP conditional	None	The actual settlement is kept on hold, once the securities have been reserved, waiting for the administrative party to confirm the continuation/abandonment of the settlement.	An administrative party is required to oversee operations related to cash. DVP will not be executed by T2S.
Cross-CSD transactions	T2S	TRAD	FOP for special	None		

(realignment)			purpose (same owner or corporate actions)			
Issuer CSD external to T2S	CSD participant	TRAD	FOP conditional	None	The actual settlement is kept on hold, once the securities have been reserved, waiting for the securities to be settled in the issuer CSD before the T2S settlement is executed. The issuer CSD will perform the final settlement, releasing the booking of securities in T2S.	
Issuer CSD external to T2S	CSD participant	TRAD	DVP conditional	None	T2S will put actual settlement on hold, once the securities have been reserved, waiting for the securities to be settled in the issuer CSD before the T2S settlement is executed.	The issuer CSD will perform the final settlement, releasing the booking of securities in T2S.
Registered securities	CSD participant	TRAD	DVP conditional	None	T2S will settle registered securities in book-entry form if they are fungible and have an ISIN. Registration will occur outside T2S. T2S will put actual settlement on hold, once the securities have been reserved, waiting for the securities to be registered before executing the final settlement.	Static data shall establish whether or not securities require registration. Reservation of cash is not expected to continue overnight. CSDs will be processing the registration and sending the confirmation to the CSD participant.
Registered securities	CSD participant	TRAD	FOP conditional	None	T2S will settle registered securities in book-entry form if they are fungible and have an ISIN. Registration will occur outside T2S. T2S will put actual settlement on hold, once securities have been reserved, waiting for the securities to be registered before executing the final settlement.	Static data shall establish whether or not securities require registration. Reservation of cash is not expected to continue overnight. CSDs will be processing the registration and sending the confirmation to the CSD participant.

Registered securities	CSD participant	TRAD	DVD conditional	None	T2S will settle registered securities in book-entry form if they are fungible and have an ISIN. Registration will occur outside T2S. T2S will put actual settlement on hold, once securities have been reserved, waiting for the securities to be registered before executing the final settlement.	Static data shall establish whether or not securities require registration. Reservation of cash is not expected to continue overnight. CSDs will be processing the registration and sending the confirmation to the CSD participant.

USER REQUIREMENTS

CHAPTER 6

PROVISION OF LIQUIDITY, COLLATERAL MANAGEMENT AND MONITORING OF LIQUIDITY

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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6 Provision of liquidity, collateral management and monitoring of liquidity

Chapter 6 deals with the provision of liquidity for settlement in T2S, the impact of NCBs' management of collateral on the user requirements and the monitoring of liquidity by NCBs.

Section 6.1 describes the user requirements applicable to the structure of cash accounts used for T2S settlements ("T2S dedicated cash accounts"). It defines the types of transaction allowed on T2S dedicated cash accounts and explains how a T2S dedicated cash account holder maintains net buying limits. Finally, the section explains the different functions and tools offered by T2S for providing cash on T2S dedicated cash accounts, such cash forecast procedures that help payment banks allocate sufficient liquidity to their T2S dedicated cash accounts, and liquidity transfers between relevant RTGS accounts and T2S dedicated cash accounts.

Section 6.2 defines the user requirements resulting from the future Collateral Central Bank Management (CCBM2) system. It covers user requirements resulting from collateral management procedures expected for monetary policy operations and intraday credit provision, and also deals with the provision of intraday credit through auto-collateralisation procedures.

Finally, Section 6.3 on NCBs' global cash monitoring describes the role of NCBs in the monitoring of liquidity, and the framework applicable to this monitoring in the context of T2S; it also provides the user requirements of NCBs with respect to liquidity monitoring.

6.1 Provision of liquidity

This section describes the cash account structure for T2S settlements and identifies the main sources of liquidity that a T2S dedicated cash account holder can use to obtain cash on its T2S dedicated cash account(s).

6.1.1 Cash account structure for T2S and types of cash transactions allowed in T2S

6.1.1.1 Features of the cash account structure

Types and features of cash accounts used for T2S settlements

Reference ID	T2S.06.010

Cash settlements in T2S shall take place exclusively on T2S dedicated cash accounts. T2S dedicated cash accounts must be exclusively a central bank money account opened on the books of a NCB and will be dedicated to the settlement of T2S operations.

Denomination of T2S dedicated cash account in T2S settlement currency

Reference ID	T2S.06.020

Under the conditions set in the user requirements relating to non-euro cash settlements in T2S in Chapter 8, T2S shall be able to ensure cash settlement on T2S dedicated cash accounts in central bank money in euro as well as in any other T2S settlement currency, i.e. a currency accepted in T2S as a cash settlement asset.
A T2S dedicated cash account shall be denominated in euro if it is held on the books of an NCB of the euro area or on the books of any other NCB allowed by the Eurosystem to provide settlement services in central bank money in euro.
A T2S dedicated account shall be denominated in a T2S settlement currency other than euro if it is held on the books of an NCB issuing the relevant currency, or on the books of any other NCB allowed by the issuing NCB to provide settlement services in central bank money in the relevant currency.

Access conditions of T2S actors to T2S dedicated cash account

Reference ID	T2S.06.030

T2S dedicated cash accounts for T2S actors shall only be opened by the respective NCBs on whose books the T2S dedicated cash accounts are held.
Background information

In order to hold a T2S dedicated cash account, the T2S actor must meet the criteria set by the NCB on whose books it holds its cash account.

Number of T2S dedicated cash accounts held by each T2S dedicated cash account holder

Reference ID	T2S.06.040

A T2S dedicated cash account holder shall be able to hold one or several T2S dedicated cash accounts in the same currency or in different T2S eligible currencies.

Relationship between T2S dedicated cash accounts and RTGS accounts

Reference ID	T2S.06.050

For each T2S dedicated cash account and in accordance with the rules of the relevant central bank(s) (to be determined by the Eurosystem for the euro), the T2S dedicated cash account holder must identify in the static data the RTGS account in TARGET2 (for euro) or the RTGS account in other payment systems (for non-euro currencies) to which the T2S dedicated cash account must be linked. This link identifies the RTGS account on which the liquidity available on a T2S dedicated cash account (in the relevant currency) must automatically be repatriated at the end of the day and from which liquidity must be used to reimburse the pending amount of intraday credit (initially granted to the T2S dedicated cash account holder through auto-collateralisation) that must be reimbursed at the end of the day.

T2S shall enable the T2S dedicated cash account holder to link several T2S dedicated cash account to one RTGS account.

The RTGS account(s) to which the T2S dedicated cash account(s) is (are) linked shall either belong to the T2S dedicated cash account holder or to a third party acting as a payment bank in TARGET2 (or in another payment system for non-euro currencies) for the relevant T2S dedicated cash account holder. During real-time settlement cycles, cash transfers between T2S dedicated cash accounts and RTGS accounts shall be settled on a real-time basis.

Cash transfers between (TARGET2) RTGS accounts and T2S dedicated cash accounts

Reference ID	T2S.06.060

T2S shall ensure that a T2S dedicated cash account holder is able to receive liquidity on its T2S dedicated cash account(s) from any RTGS account (provided that they are denominated in the same currency and that this is permitted by the relevant central banks).

Conversely, T2S shall enable the account holder of the T2S dedicated cash account to send liquidity in euro from its T2S dedicated cash account(s) to any RTGS (provided that they are denominated in the same

currency). During real-time settlement cycles, cash transfers between RTGS accounts and T2S dedicated cash accounts shall be settled on a real-time basis.

Prioritisation of "multiple liquidity providers" functionality – use of liquidity

Reference ID	T2S.06.063

In addition to regular liquidity transfers from RTGS accounts to T2S mentioned above, T2S shall also provide T2S dedicated cash account holders with a "multiple liquidity providers" functionality.

According to this functionality, dedicated cash account holders shall have the possibility to receive liquidity from several RTGS accounts and use it in T2S in accordance with a priority defined in static data (priority defined in static data either by the liquidity receiver or by another party, e.g. the main liquidity provider, if granted with adequate access rights).

When this functionality is used, each liquidity provider must determine in static data the amount of cash to be transferred by default from their RTGS account to the T2S dedicated cash account of their client (the liquidity receiver hereunder). These transfers will be executed ahead of the start of T2S night-time settlement cycles. Every day, liquidity providers shall be able to replace the amount by default with an *ad hoc* amount of cash to be transferred to their client before the night-time settlement cycles of T2S (in accordance with the T2S and RTGS time schedules and, in any case, before the execution of the liquidity transfer). With this functionality, the amounts of liquidity effectively transferred shall be stored in T2S in order to be used in the reimbursement process.

Prioritisation of "multiple liquidity providers" functionality– use and reimbursement of liquidity

Reference ID	T2S.06.067

Liquidity received by the liquidity receiver on its T2S dedicated cash account shall be available for the latter to settle its transactions during the night-time settlement process.

When at the end of the night-time settlement process, cash remains available on the T2S dedicated cash account of the liquidity receiver, T2S shall trigger cash transfers with a view to reimbursing the liquidity providers in the relevant RTGS systems[1].

The reimbursement process followed by T2S shall take place in accordance with the priority of liquidity providers defined in static data, in such a way that the liquidity is used to reimburse in priority the most remote liquidity provider and that the main liquidity provider is the last one to be reimbursed. In this chain of

[1] These automated cash transfers must only take place in the context of this prioritisation of multiple liquidity providers functionality and must only apply to liquidity receivers resorting to this functionality. For other cash transfers between TARGET2 and T2S ahead of night-time settlement, this means that, if this specific functionality is not used and if no standing or predefined liquidity transfer order is specified, T2S is not expected to rebalance cash automatically from T2S to TARGET2 at the end of the night-time settlement process.

reimbursements, T2S shall aim at reimbursing each liquidity provider up to the maximum amount of cash lent (i.e. amount of cash effectively transferred from the RTGS account to T2S), before starting to reimburse the next liquidity provider.

When, after reimbursing all other liquidity providers, there is cash remaining on the T2S dedicated cash account of the liquidity receiver, the latter (if opting for this facility) shall be able to automatically return all the remaining cash available to the RTGS account of its main liquidity provider, even if this amount exceeds the amount of liquidity effectively granted ahead of night-time settlements.

Ability for a T2S dedicated cash account holder to centralise all settlements on one T2S dedicated cash account

Reference ID	T2S.06.070

For each settlement currency, T2S shall enable a T2S dedicated cash account holder to settle all its proprietary and clients' instructions with all CSDs participating in T2S on one single T2S dedicated cash account.

Ability for a T2S dedicated cash account holder settle on several T2S dedicated cash accounts

Reference ID	T2S.06.080

Alternatively, for each settlement currency, T2S shall as well enable a T2S dedicated cash account holder to settle its proprietary and clients' instructions with one, several or all CSDs participating in T2S, on different T2S dedicated cash accounts.

Ability to use different T2S dedicated cash accounts for the settlement of trading related transactions and corporate actions

Reference ID	T2S.06.090

T2S shall enable T2S dedicated cash account holders to use a different T2S dedicated cash accounts for the settlement of the cash leg of trading-related instructions and for the settlement of the cash leg settlement of corporate action instructions.

When a T2S dedicated cash account holder uses different T2S dedicated cash accounts for trading-related instructions and for corporate action instructions, the T2S dedicated cash account holder is required to determine in its instructions the cash account on which cash proceeds of a corporate action have to be credited.

Ability for a T2S party to settle on the T2S dedicated cash accounts of third party T2S dedicated cash account holder(s)

Reference ID	T2S.06.100

T2S shall enable a T2S party to settle on the T2S dedicated cash account(s) of one or more T2S dedicated cash account holder(s) with which it has a specific contractual relationship to that purpose i.e. the T2S dedicated cash account that will be used for settlement will either be the T2S dedicated cash account populated on the settlement instructions or the default T2S dedicated cash account linked to the securities account. The T2S dedicated cash account populated on the instructions will prevail.

6.1.2 Types of transactions settling on T2S dedicated cash accounts

Types of transactions settling on T2S dedicated cash account

Reference ID	T2S.06.110

T2S shall settle the cash leg of all trading-related instructions settled in T2S on T2S dedicated cash accounts. T2S dedicated cash account shall be used for the settlement of the cash leg of auto-collateralisation operations for T2S actors.

T2S shall enable payment agents who represent securities issuers to settle the cash leg of corporate actions on a T2S dedicated cash account (e.g. for payment or coupon dividends).

When a payment agent who represents a securities issuer settles the cash leg of a corporate action on a T2S dedicated cash account, other T2S actors who have an interest in this corporate action shall receive the related cash proceeds on their T2S dedicated cash account.

During the T2S daytime real-time window, T2S shall enable T2S actors who receive the cash proceeds of corporate actions on their T2S dedicated cash account to opt for an automated and immediate retransfer of these cash proceeds from their T2S dedicated cash account to the RTGS account (outside T2S) to which this T2S dedicated cash account is linked. T2S shall also enable T2S actors to keep these cash proceeds on their T2S dedicated cash account. When cash proceeds of corporate actions are received during the night, the transfer of these proceeds from T2S to TARGET2 will take place as of the opening of TARGET2.

For this automated cash rebalancing, T2S actors are required to determine their choice in T2S static data at an account level.

In addition to the above-mentioned cash transfers, T2S shall settle cash transfers such as (i) cash transfers between a T2S dedicated cash account and the RTGS account to which it is linked (and vice versa), (ii) cash transfers between two T2S dedicated cash accounts linked to the same RTGS account or between T2S dedicated cash accounts of the same payment bank (including the T2S dedicated cash accounts of another T2S party the payment bank acts for as liquidity provider), (iii) cash transfers between a T2S dedicated cash account and the T2S dedicated cash account or T2S NCB account of its NCB.

Possibility to reserve liquidity on T2S dedicated cash accounts

Reference ID	T2S.06.120

A T2S dedicated cash account holder shall be able to reserve liquidity on one or several of its T2S dedicated cash account(s) for the settlement of a specific instruction or of a set of specific instructions.

Typology of transactions can not settle on T2S dedicated cash accounts and exceptions

Reference ID	T2S.06.130

As a matter of principle, apart from those exceptions mentioned above, T2S shall not settle clean payments. Clean payments are cash transfers that are not the counterpart of a securities transfer nor the proceeds of a corporate action.

6.1.3 Ability to limit the use of cash available on T2S dedicated cash accounts

Ability for a payment[2] bank to define net buying limits

Reference ID	T2S.06.140

T2S shall enable each payment bank to set in T2S a net buying limit for transactions settled on its T2S dedicated cash account(s). To that end, the payment bank is required to define in T2S static data the net buying limit that applies per securities account or per group of securities accounts for which it provides cash settlement services.

When several securities accounts are linked to the same T2S dedicated cash account, the payment bank holding the relevant T2S dedicated cash account shall be able to define a common net buying limit for one, several or all relevant securities accounts.

Alternatively, when several securities accounts are linked to the same T2S dedicated cash account, the payment bank holding the relevant T2S dedicated cash account shall be able to define different net buying limits for each of the relevant securities accounts.

[2] The term “payment bank” also refers to payment banks that hold their own securities accounts (and hence also acting as settlement banks).

6.1.4 Sources of liquidity on T2S dedicated cash accounts

Sources of liquidity on T2S dedicated cash accounts

Reference ID	T2S.06.150

For the cash settlement of trading-related transactions and of corporate actions, T2S shall enable T2S dedicated cash account holders to benefit from four sources of liquidity on their T2S dedicated cash accounts:

- cash received from their relevant RTGS accounts or from the relevant RTGS accounts belonging to other participants in TARGET2 (see the sub-sections below for details on liquidity transfers between relevant RTGS accounts and T2S dedicated cash accounts);
- the cash proceeds of their selling transactions or of corporate actions in which they have an entitlement (see the sub-sections above for details on settlement optimisation and on cash transactions allowed on T2S dedicated cash account);
- the cash transfers made from one of their T2S dedicated cash account to another of their T2S dedicated cash account (see the sub-section above for details on the cash transactions allowed on T2S dedicated cash accounts);
- intraday credit provision on T2S dedicated cash account through auto-collateralisation (see the sub-section below for details on auto-collateralisation).

6.1.5 Information on cash needs

Provision of information on cash needs

Reference ID	T2S.06.160

T2S shall enable T2S actors to receive information on cash needs for transactions pending for settlement during the current settlement window, as well as cash forecasts for following settlement days.

Provision of information on cash needs

Reference ID	T2S.06.165

Information on cash needs and cash forecasts shall be available per combination of securities account and related T2S dedicated cash account (in order to identify, for each T2S dedicated cash account, the detail of cash needs and cash forecasts stemming from the settlement of the relevant transactions pertaining to each of the related securities accounts), as well as on an aggregated basis for any particular T2S dedicated cash account (to identify aggregated cash needs and forecasts for all relevant transactions pertaining to all securities accounts related to this T2S dedicated cash account).

Background information

It has been found that information per securities account would not be sufficient, as some securities accounts may be related to several T2S dedicated cash accounts (e.g. one T2S dedicated cash account for trading related settlements and another for corporate action settlements). Consequently, information on cash needs and cash forecasts will be provided per combination of securities account and T2S dedicated cash account. In addition to this detailed information, aggregated information will be provided to T2S dedicated cash account owners in order to identify the overall amount of cash necessary to settle the relevant transactions pertaining to all securities accounts related to this T2S dedicated cash account.

Information on cash needs for the current settlement day

Reference ID	T2S.06.170

During the daytime settlement process, T2S shall enable T2S actors to receive current information on cash needs that stem from up-to-date records of transactions that are valid and eligible for settlement but have not already settled (i.e. pending transactions that failed to settle in an earlier attempt and queued transactions that have not already been submitted for settlement). Information on the amount of intraday credit that can be obtained through auto-collateralisation shall also be provided.

Such information on cash needs shall be available during the whole daytime settlement process, in a pull mode in answer to T2S actors' queries and at pre-determined moments in a push mode ("reports"). The relevant T2S actor shall be able to grant access rights to this information to third parties of its choice, provided that they have the technical ability to receive such information from T2S (e.g. other T2S parties, T2S actors or even the RTGS account owner to which the T2S dedicated cash account is linked).

Information on cash needs for following settlement days

Reference ID	T2S.06.180

T2S shall enable T2S actors to receive cash forecasts for the following settlement days. The relevant T2S actor shall be able to grant access rights to this information to third parties of its choice, provided that they have the technical ability to receive such information from T2S (e.g. other T2S parties, T2S actors or even the RTGS account owner to which the T2S dedicated cash account is linked).

Such cash forecasts shall reflect cash needs and proceeds expected from the settlement of corporate actions and trading-related transactions for each of the following settlement days, as well as the liquidity that can be obtained through auto-collateralisation against eligible collateral.

Cash forecasts shall be enriched continuously during the day with additional incoming information on new transactions for the following settlement day, as well as with information on failing transactions that need to be recycled during the following settlement day.

Cash forecasts for following settlement days shall be available:

- in a pull mode at any moment of the day in answer to T2S actors' queries, with all information available in T2S at the time the query is processed; and
- at pre-determined moments on a push mode through reports (when the cash forecast can be enriched with significant additional information, for instance after the DVP cut-off time when failing transactions to be recycled on D+1 can be identified).

Background information

As regards cash outflows (needs), the forecast will take into account for each T2S actor liquidity needs stemming from:

- *its securities purchases; and*
- *corporate actions settlements for which it is a paying agent*[3].

As regards cash inflows, the forecast will take into account for each T2S actor liquidity proceeds stemming from:

- *its securities sales;*
- *corporateactions for which it is entitled to receive cash payments*[4]*;and*
- *intraday credit it can obtain with eligible collateral through auto-collateralisation operations.*

6.1.6 Cash transfers between RTGS accounts (e.g. in TARGET2) and T2S dedicated cash accounts

6.1.6.1 Overview

The following diagrams introduce terminology so as to give an overview of the liquidity management functions defined as user requirements in the subsequent sections.

Figure 6-1: Liquidity transfer orders

[3] Relying on information provided by CSDs and provided CSDs can provide this information sufficiently in advance.
[4] Relying on information provided by CSDs and provided CSDs can provide this information sufficiently in advance.

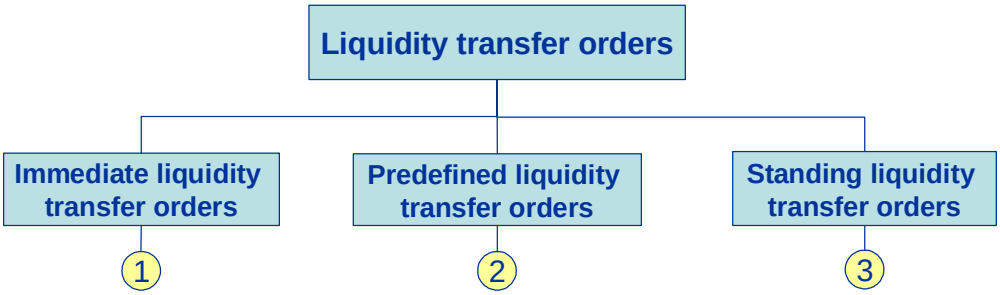


Figure 6-2: Details on "immediate liquidity transfer orders"

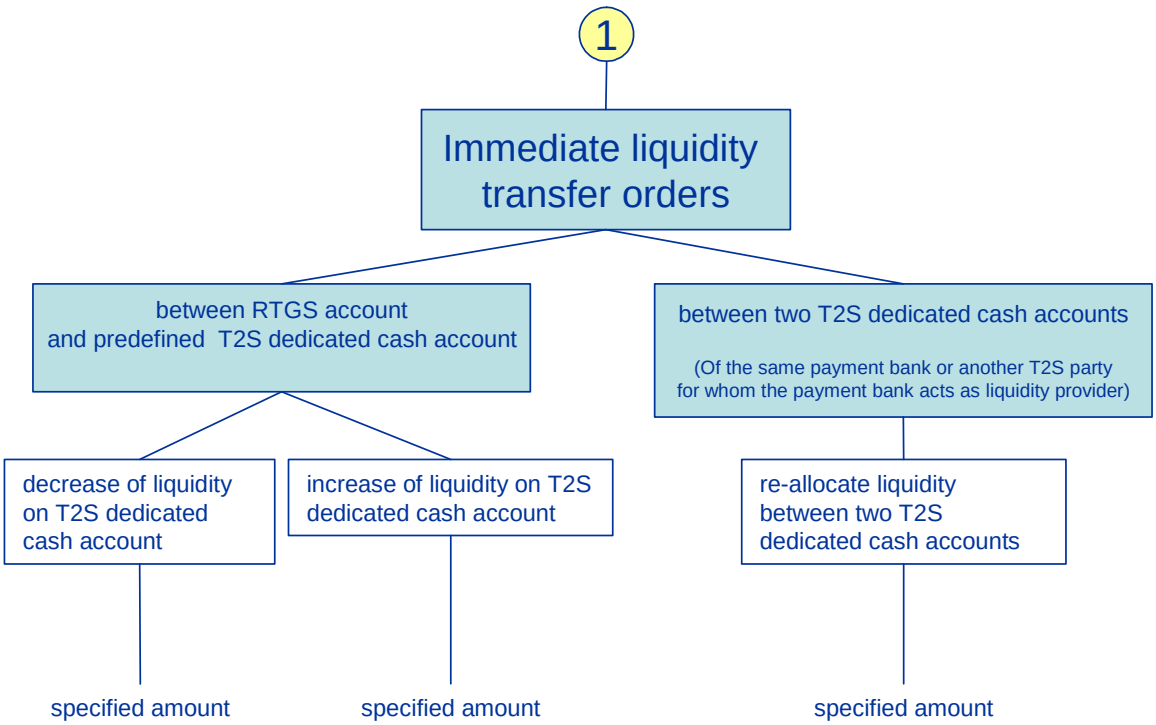


Figure 6-3: Details on "predefined liquidity transfer orders"

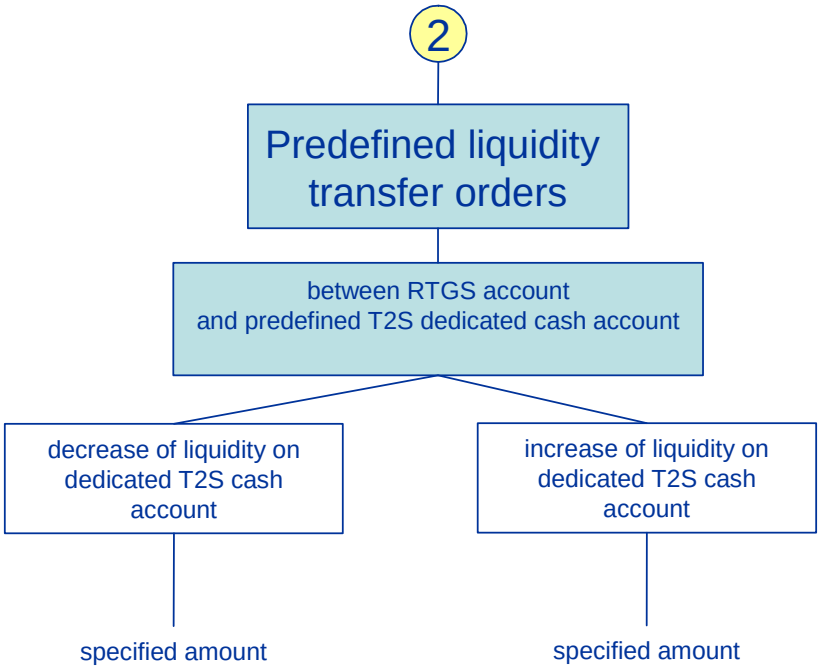
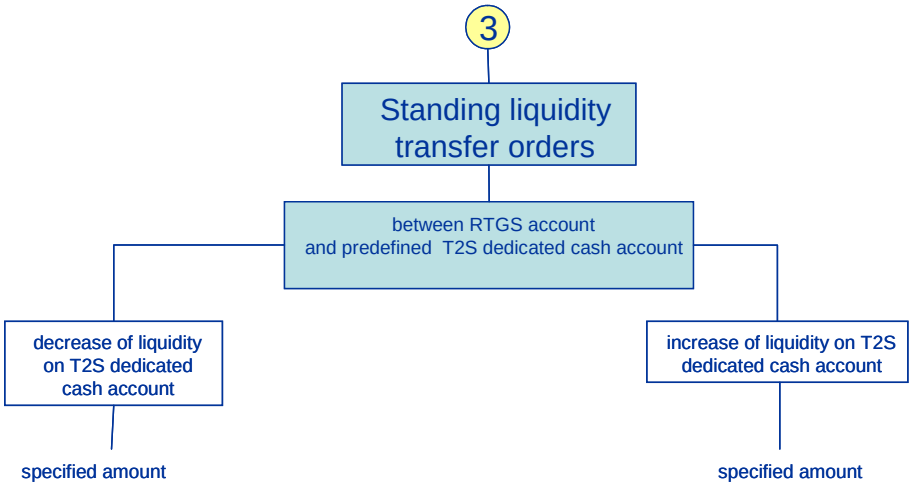


Figure 6-4: Details on "standing liquidity transfer orders"



The required functionality shown in the overview above and the details provided in the different sections below will also result in requirements with respect to TARGET2. They will be addressed to the TARGET2 bodies for a TARGET2 release.

6.1.6.2 General requirements

At the beginning of this section two issues need to be highlighted:

First, it is important to know that liquidity transfers will be handled as credit transfers, i.e. the service running the account to be debited will trigger the execution of the liquidity transfer. Therefore, a liquidity transfer from an RTGS system (e.g. TARGET2) to T2S will be initiated in the RTGS system, while a liquidity transfer from T2S to an RTGS system will be initiated by T2S.

Second, every payment bank is responsible for providing sufficient liquidity for settlement in T2S, irrespective of whether it holds an account in TARGET2 or in any other RTGS system that provides liquidity. When payment banks hold an RTGS account, they themselves control the management of the liquidity transfers in favour of the T2S dedicated cash accounts. If they do not hold an RTGS account, they must instruct the holder of the RTGS account, linked to their T2S dedicated cash account, to transfer liquidity. Therefore, the holder has to monitor the account balance on its T2S dedicated cash account.

The holder of the account to be debited by a liquidity transfer shall be able to issue instructions for the transfer of liquidity (the immediate liquidity transfer order, the predefined liquidity transfer order or the standing liquidity transfer order). Important from a treasurer's perspective is the fact that the account holder keeps full control of "outgoing" liquidity.

"Single window access" for liquidity management

Reference ID	T2S.06.190

Liquidity management shall be executed by T2S actors through a "single window", i.e. a tool such as the Information and Control Module of TARGET2, enhanced to query information in T2S, issue instructions for liquidity transfers, etc. (see also Section 12.3 of the URD). The single window shall be available in user-to-application mode and in application-to-application mode.

Use of messages provided for in the cash management standard

Reference ID	T2S.06.195

For liquidity management purposes, messages provided for in the cash management standard (e.g. LiquidityCreditTransfer (camt.05.001.01), ModifyStandingOrder (camt.024.001.02), Receipt (camt.025.001.01)) shall be used. Those messages are already used by liquidity managers in the context of TARGET2.

In addition, payment messages can be used to transfer liquidity from the RTGS account to T2S dedicated cash accounts using a functionality already available in the RTGS system (e.g. TARGET2).

Provision of liquidity in T2S

Reference ID	T2S.06.200

Payment banks shall be able to adjust the liquidity available for settling transactions in T2S. This function should provide for transfers of liquidity with immediate effect (i.e. “immediate liquidity transfer orders”), as well as for pre-defined liquidity transfers (i.e. “predefined liquidity transfer orders” and “standing liquidity transfer orders”).

Initiator of liquidity transfers

Reference ID	T2S.06.205

Immediate liquidity transfer orders shall always be initiated - and predefined/ standing liquidity transfer orders shall be defined - by the holder of the account to be debited or by a party that has been authorised to do so by the account holder (e.g. a CSD or another party).

CSD (or another party) acting on behalf of a payment bank

Reference ID	T2S.06.210

It shall be possible for CSDs (acting on behalf of payment banks) to initiate liquidity adjustments. T2S shall check whether the payment bank has authorised the CSD to do so.

The CSDs will be able to act on behalf of any payment banks that are their customers, under contractual agreements to do so with the respective payment banks.

The existence of this contractual arrangement will be memorised in T2S by a flag in T2S static data. T2S will thus be able to perform some validation on it for liquidity transfers from T2S to an RTGS system (e.g. TARGET2). The existence of the contractual arrangement shall also be validated in the RTGS system (e.g. TARGET2) for liquidity transfers from the RTGS system to T2S. Therefore the information on the contract must also be stored in the RTGS system.

The same rule should also be valid for other parties authorised by the account holder of the account to be debited.

Automatic liquidity transfers at the end of the settlement day and in the case of additional events

Reference ID	T2S.06.220

Liquidity used for T2S business shall be taken into account when calculating the fulfilment of minimum reserve requirements, i.e. liquidity shall be automatically transferred to the RTGS account in an RTGS system (e.g. TARGET2) at the end of the settlement day.

On an optional basis it shall be possible to make use of additional automated liquidity transfers from T2S to an RTGS system (e.g. TARGET2), e.g. immediately after the start of daytime settlement (at 05:00hrs), and/or at the end of DVP settlement (at 16:00hrs)[5]. This can be achieved with the help of a standing liquidity transfer order.

Priority of liquidity transfers

Reference ID	T2S.06.230

Liquidity transfers shall be settled in real-time in T2S except during night-time settlement when a settlement cycle is running. Therefore, T2S needs to be in a position to automatically identify liquidity transfers as such. In TARGET2 liquidity transfers shall be settled according to the rules that are already in place for this system.

6.1.6.3 Requirements related to "immediate liquidity transfer orders"

Processing of immediate liquidity transfer orders

Reference ID	T2S.06.240

Immediate liquidity transfer orders should be initiated by the account holder of the account that will be debited or by a related CSD acting on behalf of the account holder.

Immediate liquidity transfer orders should be processed between an RTGS account and predefined T2S dedicated cash accounts of the same payment bank or another T2S party for whom the payment bank acts as liquidity provider. It should also be possible to transfer liquidity (by way of an immediate liquidity transfer order) between two T2S dedicated cash accounts of the same payment bank or of another T2S party for whom the payment bank acts as liquidity provider.

A liquidity transfer between two T2S dedicated cash accounts not belonging to the same payment bank or to another T2S party for which the payment bank acts as liquidity provider will require the involvement of the RTGS accounts of the two payment banks concerned. Liquidity has to be transferred from one RTGS account to the other using a payment message sent to the RTGS system that runs the accounts (e.g. TARGET2).

Immediate execution of immediate liquidity transfer orders

Reference ID	T2S.06.250

Immediate liquidity transfer orders shall be executed immediately after they arrive at T2S.

[5] Optional means that the account holder of the T2S dedicated cash account has the choice whether he wants to make use of the additional liquidity sweeps at 05:00h and/or 16:00h. In case he has opted to make use of them, then those liquidity sweeps will be executed without any additional action of the payment bank, i.e. they will be executed automatically.

Insufficient liquidity to execute immediate liquidity transfer orders

Reference ID	T2S.06.260

In cases where the immediate liquidity transfer order is initiated by the account holder of the account to be debited and the liquidity available on the account to be debited (RTGS account or T2S dedicated cash account) is not sufficient, no liquidity shall be transferred (i.e. there will not be any partial execution of immediate liquidity transfer orders).

In cases where the immediate liquidity transfer order is initiated by a CSD (or another party) authorised by the account holder of the account to be debited and the liquidity available on the account to be debited (RTGS account or T2S dedicated cash account) is not sufficient, the amount of liquidity available on the account should be transferred.

In the case of non-execution (or partial execution), the payment bank (the CSD acting on behalf of the payment bank) shall be alerted. How the alert shall be communicated will have to be defined at a later stage.

(Note: It has to be taken into account that this user requirement is related to the transfer of liquidity to or from the T2S dedicated cash account. Auto-collateralisation is not relevant for the user requirements related to interactions with an RTGS system (e.g. TARGET2) due to the fact that (i) auto-collateralisation will take place during T2S settlement and (ii) the liquidity resulting from auto-collateralisation will be made available on the T2S dedicated cash account of the account holder (i.e. the payment bank) and will immediately be used to settle a transaction.

Just to provide the full picture, it should be mentioned that liquidity resulting from intraday-repos with NCBs, as well as liquidity stemming from monetary policy operations (in repo countries), shall be settled on the T2S dedicated cash account, but an automatic transfer to the RTGS account in an RTGS system (e.g. TARGET2) will be triggered by T2S immediately thereafter. The cash leg of repos between market users shall be settled on T2S dedicated cash accounts.)

6.1.6.4 Requirements related to “predefined liquidity transfer orders”

Processing of predefined liquidity transfer orders

Reference ID	T2S.06.270

Predefined liquidity transfer orders shall be defined by the account holder of the account that will be debited, or by a related CSD acting on behalf of the account holder.

Predefined liquidity transfer orders shall be processed between RTGS accounts and predefined T2S dedicated cash accounts of the payment banks, or of another T2S party for which the payment bank acts as liquidity provider.

For the sake of transparency, a payment bank shall be able to define predefined orders only for liquidity transfers between the RTGS account and the related T2S dedicated cash accounts. It shall not be possible to

put in place predefined orders to transfer liquidity between different T2S dedicated cash accounts of the same payment bank.

Definition of the time of execution for predefined liquidity transfer orders

Reference ID	T2S.06.280

It shall be permissible to specify a date in combination with a time or an event (in T2S) on which the predefined liquidity transfer order should be executed.

Predefined liquidity transfer orders to increase or decrease liquidity in T2S

Reference ID	T2S.06.290

It shall be permissible to make use of predefined liquidity transfer orders to increase or decrease liquidity on a T2S dedicated cash account.

Execution of predefined liquidity transfer orders

Reference ID	T2S.06.300

A predefined liquidity transfer order shall be automatically executed at a given point in time/event during the settlement day. For the same time/event only one predefined liquidity transfer order can be defined per T2S dedicated cash account.

A payment bank can put in place (at maximum) one predefined liquidity transfer order per T2S dedicated cash account to be executed at the same time/event. But it will be possible to define different predefined liquidity transfer orders to increase/decrease the liquidity available on the T2S dedicated cash account at different points in time/events during the T2S settlement day.

Partial execution of predefined liquidity transfer orders

Reference ID	T2S.06.310

In cases where the liquidity available on the account to be debited (RTGS account or T2S dedicated cash account) is not sufficient to cover the predefined liquidity transfer order, as much liquidity as possible shall be transferred (partial execution). The payment bank shall be alerted accordingly. How the alert shall be communicated will have to be defined at a later stage.

(Note: It has to be taken into account that this requirement is related to the transfer of liquidity to or from the T2S dedicated cash account. Auto-collateralisation is not relevant for this user requirement due to the fact that (i) auto-collateralisation will take place during T2S settlement and (ii) the liquidity resulting from auto-

collateralisation will be made available on the T2S dedicated cash account of the account holder (i.e. the payment bank) and will immediately be used to settle a transaction.)

The amount of liquidity not transferred shall not be stored in a memory, i.e. it shall not be transferred after additional liquidity arrived at the account that was debited.

"Pro rata rule" for predefined liquidity transfer orders

Reference ID	T2S.06.320

If a payment bank has defined several predefined liquidity transfer orders to increase the liquidity on different T2S dedicated cash accounts at the same time/event and if the liquidity available on the RTGS account is not sufficient to execute all predefined liquidity transfer orders, all predefined orders shall be partially executed, with the available amount of liquidity being distributed according to a "pro rata rule". The payment bank shall be alerted accordingly. The way the alert shall be communicated will have to be defined at a later stage.

The amount of liquidity not transferred shall not be stored in a memory, i.e. it shall not be transferred later if additional liquidity arrives in the account that was debited.

6.1.6.5 Requirements related to standing liquidity transfer orders

Processing of standing liquidity transfer orders

Reference ID	T2S.06.330

Standing liquidity transfer orders shall be defined by the account holder of the account that will be debited, or by a related CSD acting on behalf of the account holder.

Standing liquidity transfer orders shall be processed between the RTGS accounts and the predefined T2S dedicated cash accounts of the same payment bank only or another T2S party the payment bank acts for as liquidity provider. An existing standing liquidity order shall be removed by sending a deletion.

For the sake of transparency, a payment bank shall be able to define standing orders only for liquidity transfers between its RTGS account and the related T2S dedicated cash accounts. It shall not be possible to put in place standing orders to transfer liquidity between different T2S dedicated cash accounts.

Definition of the time of execution for standing liquidity transfer orders

Reference ID	T2S.06.340

Payment banks shall have the opportunity to define different standing liquidity transfer orders to be executed at different points in time/events during the T2S settlement day.

Changing the amount of the standing liquidity transfer order

Reference ID	T2S.06.350

Where a standing liquidity transfer order has been changed, the change shall be taken into account by T2S as from the next execution of the standing order (e.g. as from the next point in time of its execution, or as from the next occurrence of the event).

If the amount of the standing liquidity transfer order is changed to zero it shall not be executed at the next point in time or event, but it shall not be deleted, i.e. it should be retained in the system as standing liquidity transfer order with an amount of zero.

Definition of several standing liquidity transfer orders

Reference ID	T2S.06.360

It shall be possible to define several standing liquidity transfer orders for the same point in time/event (e.g. maximum and minimum amount of liquidity available on T2S dedicated cash account). They shall be handled as conditions linked with “AND”.

Further details will be provided when the detailed specifications are drafted.

Partial execution of standing liquidity transfer orders

Reference ID	T2S.06.370

In cases where the liquidity available on the account to be debited (the RTGS account or the T2S dedicated cash account) is insufficient, as much liquidity as possible shall be transferred (i.e. partial execution of standing liquidity transfer orders). The payment bank shall be alerted accordingly. The way the alert shall be communicated will have to be defined at a later stage.

(Note: It has to be taken into account that this user requirement is related to the transfer of liquidity to or from the T2S dedicated cash account. Auto-collateralisation is not relevant for this user requirement due to the fact that (i) auto-collateralisation will take place during T2S settlement and (ii) the liquidity resulting from auto-collateralisation will be made available on the T2S dedicated cash account of the account holder (i.e. the payment bank) and will immediately be used to settle a transaction.)

The amount of liquidity not transferred shall <u>not</u> be stored in a memory, i.e. it shall not be transferred after additional liquidity arrived at the account that was debited.

“Pro rata rule” for standing liquidity transfer orders

Reference ID	T2S.06.380

If a payment bank has defined several standing liquidity transfer orders to be debited to the RTGS account and credited to different T2S dedicated cash accounts at the same time/event and if the liquidity available on the RTGS account is not sufficient to execute all standing liquidity transfer orders, “some” liquidity shall be transferred to each T2S dedicated cash account following a “pro rata rule”. The payment bank shall be alerted accordingly. The way the alert shall be communicated will have to be defined at a later stage.
The amount of liquidity not transferred shall not be stored in a memory, i.e. it shall not be transferred later if additional liquidity arrives in the account that was debited.

6.1.6.5.1 Standing liquidity transfer orders to increase the liquidity on T2S dedicated cash accounts

Increasing the liquidity on T2S dedicated cash accounts by a specified amount

Reference ID	T2S.06.390

The payment bank shall be permitted to define a specified amount for transfer from the RTGS account to the T2S dedicated cash account at a certain point in time and/or event.

Definition of a “floor” for a T2S dedicated cash account

Reference ID	T2S.06.400

The payment banks shall have the possibility to define a minimum amount of liquidity (i.e. a liquidity floor) that should be available on the T2S dedicated cash account.
The minimum amount defined by the payment bank shall be checked after each booking on the T2S dedicated cash account. When the liquidity available falls below the defined minimum amount, the treasurers at the payment bank shall be alerted accordingly. The way the alert shall be communicated will have to be defined at a later stage.

6.1.6.5.2 Standing liquidity transfer orders to decrease the liquidity on T2S dedicated cash accounts

Decreasing of the liquidity on T2S dedicated cash accounts by a specified amount

Reference ID	T2S.06.410

The account holder of the T2S dedicated cash account shall be permitted to define a specified amount for transfer from the T2S dedicated cash account to the RTGS account of the related payment bank at a certain point in time and/or event.

Definition of a "ceiling" for a T2S dedicated cash account

Reference ID	T2S.06.420

The account holder of the T2S dedicated cash account shall have the possibility to define a maximum amount of liquidity (i.e. a liquidity ceiling) that should be available on T2S dedicated cash account.
The maximum amount defined by the account holder of the T2S dedicated cash account shall be checked after each booking on the T2S dedicated cash account. When liquidity available exceeds the defined maximum amount the treasurers at the account holder of the T2S dedicated cash account shall be alerted accordingly. The way the alert will be communicated will have to be defined at a later stage.

6.2 Collateral Management (e.g. CCBM2)

6.2.1 Specific requirements resulting from monetary policy operations and intraday credit (without auto-collateralisation)

There are no special requirements for T2S resulting from the mobilisation of collateral for monetary policy operations and intraday credit (except for the use of auto-collateralisation).

6.2.2 Specific requirements resulting from intraday credit out of auto-collateralisation

Information on eligible securities

Reference ID	T2S.06.430

T2S shall receive information on eligible collateral, and closed links from CCBM2 or a Eurosystem central database every time when they are updated (normally once per settlement day).
This information will enable T2S to calculate the collateral value in line with the rules of the Eurosystem in order to process auto-collateralisation in a very short timeframe.
It shall also be possible to receive information on eligible collateral and close links from NCBs that do not belong to the Eurosystem in order to make use of auto-collateralisation for settlement in non-euro currencies using the same interface.

Sending settlement confirmation/blocking confirmation

Reference ID	T2S.06.440

T2S shall inform connected collateral management systems of central banks (e.g. CCBM2), CSDs and directly connected T2S parties about transfers and/or the blocking securities in order to perform auto-collateralisation by sending a settlement confirmation/blocking confirmation if the receiver has subscribed to those messages in the message subscription service.

Sending settlement confirmation/unblocking confirmation

Reference ID	T2S.06.450

T2S shall inform connected collateral management systems of central banks (e.g. CCBM2), CSDs and directly connected T2S parties about transfers and/or the unblocking of securities from the reimbursement of intraday credit out of auto-collateralisation by sending a settlement confirmation/unblocking confirmation if the receiver has subscribed to those messages in the message subscription service.

Release of free collaterals

Reference ID	T2S.06.460

After access to overnight facilities in TARGET2 (or for non-euro currencies in another RTGS system), T2S shall be able to

- transfer securities from the securities account of a central bank (in T2S) to the securities account of a T2S party and to
- unblock securities on the securities account of a T2S party

on the basis of a settlement instruction/unblocking instruction received from a connected collateral management system of central banks (e.g. CCBM2).

6.3 NCBs' global cash monitoring

This chapter contains user requirements to especially support needs with respect to monitoring euro liquidity. How the monitoring needs of non-euro NCBs for non-euro currencies can be supported will have to be investigated further in the next phase of the T2S project.

6.3.1 Role of NCBs with respect to liquidity monitoring

The specific role of NCBs in T2S is their function as provider of liquidity to be used for settling securities transaction (provision of central bank money). This section defines the specific functions that T2S shall provide in order to make information available to monitoring and control tools used by NCBs for liquidity monitoring purposes.

6.3.2 Framework for the user requirements related to liquidity monitoring

The specific needs of NCBs with regard to monitoring have to be in line with the framework in the list below:

- An NCB will have access to information about the liquidity available on the cash accounts held by direct TARGET2 participants if the participants have opened the accounts with the relevant NCB. The access has to be possible for all cash accounts related to TARGET2 business as well as for dedicated T2S cash accounts.
- To meet the need for liquidity monitoring an overall view is needed. This means that information provided on liquidity must be based on information stemming from both T2S and TARGET2.
- Features available for liquidity monitoring purposes in TARGET2 should be enlarged and reused according to the additional needs stemming from T2S. Where necessary, additional monitoring features should be developed[6].

6.3.3 Features for liquidity monitoring

With a view to the need of NCBs to perform liquidity monitoring at an overall level (see section 6.3.2), two monitoring screens in the ICM of TARGET2 were identified that need to be enlarged:

- Liquidity on CB Level;
- Reservations and Dedicated Liquidity.

In addition, there is a need to have an overview of the limits defined by an NCB with regards to the use of auto-collateralisation in T2S, and their utilisation.

Total amount of liquidity available in T2S

[6] As well as information related to monitoring and individual information about the cash side of the credit institutions, the NCBs will have full access to information on instructions they sent to T2S as T2S participants. For example, they will have knowledge of instructions sent by them to T2S in order to sellback (return or unwind) repo transactions performed for intraday credit and monetary policy operations.

Reference ID	T2S.06.470

In response to a query, T2S shall make available to the monitoring and control tool of the NCBs the total amount of liquidity available on the T2S dedicated cash accounts owned by payment banks and T2S parties within the sphere of responsibility of the respective NCB.

Total amount of predefined and standing liquidity transfer orders

Reference ID	T2S.06.480

In response to a query T2S shall make available to the monitoring and control tool of the NCBs the overall amount of predefined liquidity transfer orders, and the overall amount of standing liquidity transfer orders defined by payment banks within the sphere of responsibility of the respective NCB.

Monitoring of limits to restrict the use of auto-collateralisation

Reference ID	T2S.06.490

In response to a query T2S shall make available to the monitoring and control tools of the NCBs information about the limits they have defined for payment banks in order to restrict them in making use of auto-collateralisation in T2S.

In T2S, auto-collateralisation will be offered in order to facilitate the settlement process. In order to limit the amount of liquidity that some specific participants in T2S can create through the use of auto-collateralisation, NCBs will have the possibility to define a limit per participant. This limit will be the maximum amount of liquidity that can be created in T2S through the use of auto-collateralisation for the respective participant.

Detailed information for the monitoring of the limits on auto-collateralisation

Reference ID	T2S.06.500

The information provided by T2S should consist of:

- the limit defined by the NCB per T2S party;
- the utilisation of the limit per T2S party;
- the sum of all limits; and
- the sum of utilisation of all limits.

USER REQUIREMENTS

CHAPTER 7

SETTLEMENT PROCESSING REQUIREMENTS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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7 Settlement processing requirements

This chapter aims at providing an overview of T2S settlement processing, defining user requirements for transaction sequencing and prioritisation and defining user requirements for booking and provision-checking in relation to cash and securities accounts .

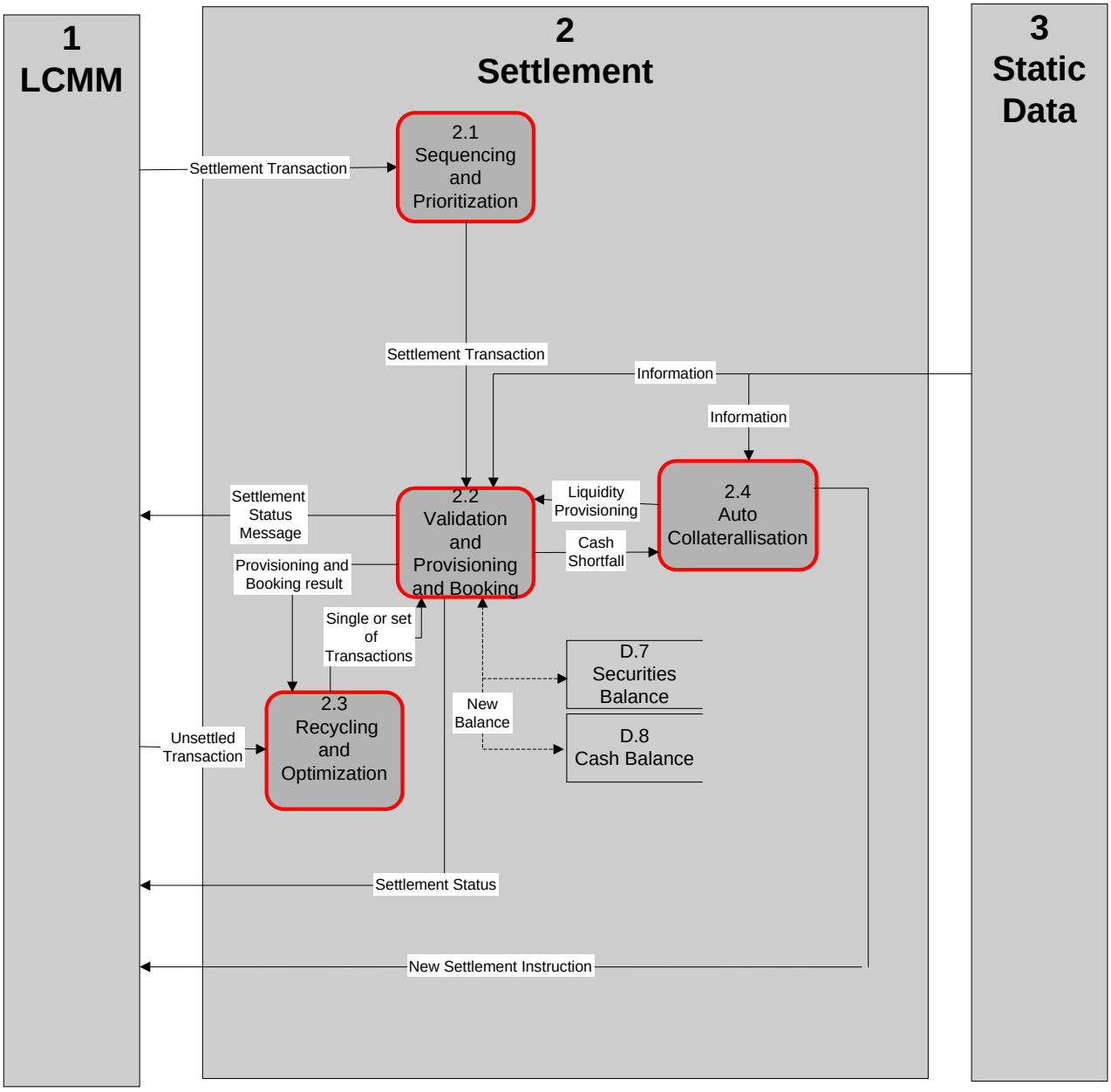
- Section 7.1 is an overview of T2S settlement processing, based on a context diagram that identifies the information received by, circulating inside and sent out of T2S settlement processing;
- Section 7.2 defines sequencing, i.e. the way T2S will submit transactions for settlement during the night-time settlement cycles and during the daytime real-time settlement process. The section also defines the different priority levels available in T2S, which are relevant when submitting transactions for optimisation;
- Section 7.3 describes T2S booking requirements, i.e. the requirements applied to the posting of debit and credit movements on cash and securities accounts (e.g. booking on a gross basis, under the exclusive control of T2S, the final and unconditional booking process). The section also details the applicable securities and cash provision-checking requirements to ensure settlement. This last section also covers provision-checking when securities and/or cash have been blocked or reserved, or when some other restrictions apply to securities accounts or T2S dedicated cash accounts.

7.1 Settlement processing overview

7.1.1 Context diagram

This diagram gives an overview of T2S settlement processing, based on the business requirements expressed in this chapter. It does not pre-empt future decisions in relation to the IT design and technical implementation of T2S. In that respect, the opportunity to have an instruction database for the settlement process should be analysed, for instance.

Figure 7-1 Settlement presented as a flow diagram



7.1.2 Process description

7.1.2.1 Prioritisation and sequencing (box 2.1)

In T2S, settlement will take account of sequencing and prioritisation rules. These rules determine the order in which instructions will be submitted for settlement attempts (after being received from Life cycle management and matching). The priority of settlement transaction will be based on the transaction type, the oldest settlement date, or the priority level assigned by the T2S parties for the transactions. These transactions, once sequenced and prioritised would be forwarded to the validation and provision and booking function for settlement.

Input	
Settlement transaction	Sent from LCMM

Output	
Settlement transaction	Sequenced and prioritised settlement transaction

7.1.2.2 Validation and provisioning and bookings (box 2.2)

The settlement process usually involves three different steps:

- validation consists of the validation of static data (e.g. securities exist and settlement accounts are valid);
- the provision-checking of cash and securities availability; and
- bookings, i.e. if the provision is successful, settlement will take place with bookings, i.e. the update of the securities and/or cash balance.

On successful static data validation and after the provision-checking and booking of securities and/or cash, the settlement process would send the settlement status message to LCMM. For provisioning (referred to below as provision-checking), this function would read the available security and/or cash balances from their respective data stores, and would also be obtaining single or set of transactions stemming from optimisation procedures or as a result of an incoming settlement transaction for immediate settlement. If there is a cash shortfall, it would trigger the auto-collateralisation process for liquidity provision when applicable. After the run of a settlement attempt the provision-checking and booking might show a need for T2S to trigger the recycling and optimisation functionality (depending on daytime/ night-time settlement). Based on the booking result, a settlement status message would go to LCMM to update the settlement instruction data store. On successful bookings the security and/or cash balances would be updated in their respective data

stores.

Input	
Settlement transactions	Sequenced and prioritised pairs of settlement instructions.
Information	Information required to perform static data validations.
Single transaction or set of transactions	After each optimisation attempt/cycle.
Unsettled transactions	Read from LCMM.
New balance	Read from Security and/or cash data store.
Liquidity provision	As a result of auto-collateralisation.

Output	
Settlement status message	Sent to LCMM
Provision and booking result	Sent to recycling and optimisation for fails
Settlement status	Sent to LCMM to update the instruction status.
Resulting status	Update of transaction data store
New balance	Update of securities and/or cash balance
Cash shortfall	Trigger for auto collateralisation

7.1.2.3 Recycling and Optimisation (box 2.3)

Failed trades which have not expired are recycled. Recycling occurs in anticipation of finding the required securities and/or cash in the subsequent settlement runs, for successful settlement of the failed transactions. Recycling functions in slightly different manners for daytime and night-time settlement. For night-time settlement, all failed transactions are recycled by default for each settlement cycle. During daytime settlement, failed transactions are recycled if the fails can be expected to settle successfully on the basis of

either new settlement transactions or additional available securities and/or cash.

Optimisation cycles are specific processes aimed at increasing settlement efficiency. Such processes detect and resolve settlement gridlocks, as well as performing technical netting of obligations in cash and securities, with a view to settling new transactions as well as transactions that could not be settled in earlier attempts. Optimisation procedures will be available both during the night-time batches and during the daylight real-time window.

Input	
Provision and booking result	From the provision and booking function
Unsettled transactions	Taken from LCMM.

Output	
A number of transactions	After technical netting.

7.1.2.4 Auto-collateralisation (Box 2.4)

T2S would provide auto-collateralisation services in central bank money (CeBM) to the Eurosystem's eligible counterparties in order to facilitate the settlement of their securities-related instructions. Auto-collateralisation shall be triggered when the participant does not have enough cash available on its dedicated T2S cash account to settle the underlying transaction(s). If the participant does not have sufficient liquidity to settle the transaction(s), but nevertheless has some cash on its dedicated T2S cash account, the auto-collateralisation operation should only provide the residual cash amount needed to settle the initial transaction(s).

The auto-collateralisation facility should be available both during the night-time and during the daytime real-time settlement windows. Intraday credit provision in CeBM through auto-collateralisation should be available via both pledge and repo environments (according to the legal framework chosen by the relevant NCB). Intraday credit granted in CeBM through auto-collateralisation should be dedicated exclusively to the settlement of the underlying transactions for which the intraday credit provision operation has been triggered. According to the Eurosystem's rules, intraday credit should be fully collateralised and reimbursed by the counterparties concerned before the end of the day. The auto-collateralisation function would receive securities values from static data.

Input	
Cash shortfall	This acts as the trigger for auto-collateralisation.
Information	Securities valuation from static data.

Output	
Liquidity provision	For successful settlement
New transaction	Auto-collateralisation would create a new transaction and would be sent to LCMM.

7.2 Sequencing and prioritisation

Settlement in T2S will take place in both a night-time and a daytime settlement window.

During the night-time settlement window, a range of different types of transactions will be submitted for settlement. Sequencing is the pre-determined order defined in T2S in which the different types of transactions will be submitted for settlement. The different night-time sequences are identified hereunder. Settlement order requirements have been identified for the real-time settlement day.

For settlement during the night-time and daytime settlement windows, T2S and T2S actors will be able to assign priority levels to instructions. T2S shall optimise and recycle settlement instructions according to their priority levels in such a way that if several instructions compete with respect to using the same securities and/or cash resources, preference for settlement is given to the instruction with the highest level of priority. In addition to the priority level, T2S shall also consider the intended settlement date of the transaction in order to favour the settlement of instructions with the oldest settlement date.

For real-time settlement, the prioritisation shall not apply to instructions submitted for a first settlement attempt during the real-time settlement window, but only to instructions in the settlement queue (i.e. failed instructions). This is the case as the increase of positioning will trigger an optimisation for the ISIN concerned, so that there should not be a conflict between new instructions settled in the order of arrival and instructions to be recycled with a priority assigned. Consequently, during the real-time settlement window, instructions shall be submitted for a first settlement attempt in the order of their arrival in the settlement procedure (after validation and matching).

During the real-time settlement window, the priority level (and the intended settlement date) shall only be taken into account by the settlement procedure for instructions that failed to settle in a prior settlement attempt and are consequently submitted for recycling and optimisation procedures.

7.2.1 Sequencing

For night-time settlement, sequencing refers to the order in which the settlement of certain sets of instructions is attempted in T2S. These sets of transactions are:

- corporate action related settlements;
- free-of-payment rebalancing of securities between the different securities accounts of a T2S party;
- NCB specific operations (e.g. collateralisation operations, such as substitution of collateral or calls for additional collateral); and
- trading-related instructions.

The sequences are processed separately in a fixed order in order to avoid the use of security positions for any transaction other than those in the sequence.

7.2.1.1 Night-time settlement cycles

Reference ID	T2S.07.010

During the night-time settlement window, T2S shall run at least two settlement cycles. During these settlement cycles, all eligible transactions already entered into T2S for the intended settlement date of the relevant night-time settlement window (or earlier intended settlement date) shall be submitted to settlement.
Within each cycle and sequence, T2S shall optimise the settlement of transactions.
Background information
The exact number of night-time cycles and their duration are not yet defined. They shall depend on the estimated volume for 2013 and on business requirements.

7.2.1.2 Sequencing for the first night-time settlement cycle

Reference ID	T2S.07.020

T2S shall start the first night-time settlement cycle with four settlement sequences. During each of the sequences, T2S shall settle different types of securities-related transactions. The four types of securities-related transactions are identified hereunder:
1. corporate action related settlements;
2. free-of-payment rebalancing of securities between the different securities accounts of a T2S party;
3. NCB specific operations (e.g. collateralisation operations, such as substitution of collateral or calls for additional collateral); and
4. trading-related instructions.
The second, third and fourth sequences shall also recycle transactions that could not be settled in the previous sequence(s).
Each of the four types of securities-related transactions is defined hereunder. A configuration of the different

types of transactions shall be possible.

Sequence 1 – Corporate actions related settlements

Reference ID	T2S.07.030

T2S shall submit for settlement corporate action transactions with the relevant intended settlement date in the first sequence. This first sequence aims at making sure that all securities and cash positions available at the start of the night-time settlement window (i.e. not reserved for any other purposes) are used for the settlement of these corporate action transactions.
CSDs participating in T2S are required to submit corporate action transactions to T2S before the start of the night-time settlement cycle in order to enable T2S to submit these transactions for settlement during the first sequence of the first night-time settlement cycle.

Sequence 2 – Free-of-payment rebalancing of securities

Reference ID	T2S.07.040

T2S shall treat the rebalancing of securities positions amongst the different accounts of a same T2S party in Sequence 2. T2S shall settle these securities transfers in Sequence 2 under the cumulative conditions that the securities transfer takes place between accounts held by the same T2S party and that these securities transfers correspond to a FOP instruction. In Sequence 2, T2S shall as well as recycle all instructions that failed to be settled in the first sequence.

Background information

This second sequence aims at allowing each T2S party to shift securities between the different securities accounts it holds with one or several CSDs. Only free-of-payment transactions can be settled during this sequence. Securities transfers are processed during this sequence under the provision that they take place between the securities accounts of the same T2S parties. Securities transfers taking place between the securities accounts of different T2S parties shall not be submitted for settlement during this sequence.

Sequence 3 – NCB-specific operations

Reference ID	T2S.07.050

When specific central banks operations need to be settled during the night, T2S shall settle credit operations with central banks in Sequence 3, in particular collateralisation operations such as substitutions of collateral, or instructions calling for additional collateral submitted by national central banks in guarantee of their credit operations. In Sequence 3, T2S shall also recycle all instructions that failed to be settled in the first two sequences.

Sequence 4 – Trading-related and other instructions

Reference ID	T2S.07.060

T2S shall submit for settlement in Sequence 4 all trading-related instructions entered into T2S for this intended settlement date, as well as recycled instructions with an older intended settlement date that could not be settled in an earlier attempt. In Sequence 4, T2S shall also recycle all instructions that failed to be settled in the first three sequences. T2S shall run this fourth sequence in at least one additional settlement cycle during the night.

7.2.1.3 Additional night-time settlement cycles

Reference ID	T2S.07.070

T2S shall run at least a second settlement cycle during the night. As for the fourth sequence of the first night-time settlement cycle, the additional settlement cycle(s) shall submit to settlement:

- all new instructions with the current intended settlement date entered into T2S after the launch of the previous night-time settlement cycle and before the launch of the relevant cycle; these instructions include, for instance, securities instructions providing securities liquidity via lending (securities lending), that are aimed at settling instructions that could not settle in an earlier settlement attempt;
- all recycled instructions that could not be settled through an earlier settlement attempt; these recycled instructions cover all instructions that could not be settled in the previous night-time cycle(s), including trading-related instructions, corporate action instructions, FOP rebalancing and operations with central banks that could not be settled during the first settlement cycle.

7.2.1.4 Partial settlement for the last night-time settlement cycle

Reference ID	T2S.07.080

At the end of the last night-time settlement cycle, T2S shall submit for partial settlement all transactions eligible for this partial settlement functionality that failed to be settled in an earlier attempt during the night.

Background information

Requirements applicable to partial settlement are defined in the section on optimisation and recycling below.

7.2.1.5 Daytime settlement

Organisation of daytime settlement

Reference ID	T2S.07.090

During the real-time settlement window, T2S shall submit transactions for real-time settlement attempts while running optimisation procedures in parallel with the real-time settlement attempts.

Cut-off time for DVP settlements

Reference ID	T2S.07.100

During the real-time settlement window, until the cut-off time for DVP settlements, T2S shall:

- submit for settlement all new transactions entered during the current settlement day with an intended settlement date of the current settlement day or earlier; and
- recycle and optimise transactions that could not be settled in an earlier attempt (failing to be settled either during the night-time settlement cycle or during the current settlement window).

The cut-off time for DVP settlements will be 4.00 p.m. in accordance with the user requirements regarding the T2S schedule. After this cut-off time, DVP transactions that could not be settled in an earlier attempt will not be recycled for the same settlement day value, but will be recycled into the next settlement day if they still meet the settlement eligibility criteria.
Before this cut-off time, T2S shall submit for partial settlement all transactions eligible for this partial settlement functionality that failed to be settled in an earlier attempt.

Background information
Market participants have expressed a preference for having this partial settlement procedure triggered at least 15 minutes before the end of the cut-off time for DVP.

Cut-off time for the settlement of other operations

Reference ID	T2S.07.110

After the first cut-off time for DVP settlements, and until the cut-off time for end-of-day settlement (6.00 pm according to the user requirements regarding schedule), T2S will submit for settlement:

- FOP transactions that could not be settled in an earlier attempt and FOP transactions entered into T2S after this first deadline;
- secured money market transactions, i.e. bilaterally agreed treasury management transactions; and
- NCB operations.

The cash potentially generated by secured money market trades or by NCB operations will not be re-used for

other settlement purposes in T2S (i.e. recycling of DVP failures).

7.2.1.6 Real-time settlement attempts

Submission of transactions to real-time settlement attempts

Reference ID	T2S.07.120

During the daytime real-time settlement window, T2S shall submit transactions for a first settlement attempt in the order in which transactions are entered in the settlement process (i.e. after matching, validation, etc.).

Background information

For a more detailed description, please refer to the section on optimisation.

7.2.2 Prioritisation

Need for prioritisation for optimisation procedures

Reference ID	T2S.07.130

T2S shall enable T2S actors to assign several different levels of priority to transactions. For some specific transactions identified in static data, T2S shall also automatically assign predetermined levels of priority. These levels of priority (either instructed by T2S actors or predetermined in T2S) shall apply only in the optimisation procedures.

Background information

The levels of priority determined by T2S actors or automatically predetermined in T2S shall apply during the night-time full optimisation process and during the daytime continuous optimisation process. The level of priority of a transaction shall be without prejudice to the real-time settlement rule, since during the real-time period, transactions are submitted for a first settlement attempt in the order of their arrival in the settlement process.

Processing of prioritisation levels

Reference ID	T2S.07.140

During its night-time and daytime recycling and optimisation processes, T2S shall favour the settlement of transactions with a higher level of priority over that of transactions with a lower level of priority.

During the daytime settlement window, new transactions submitted for a real-time settlement attempt shall be settled in the order of their submission for the settlement attempt.

Background information

Details on the way the levels of priority are taken into account during the settlement process are provided in the section on optimisation.

Different levels of priority

Reference ID	T2S.07.150

T2S shall enable T2S actors to assign to each of their transactions one of the four different levels of priority identified hereunder:

1. reserved priority;
2. top priority;
3. high priority; or
4. normal priority.

7.2.2.1 Reserved priority

Reference ID	T2S.07.160

T2S shall enable only participating CSDs and central banks to assign a “reserved priority”. This level of priority shall be assigned by CSDs or central banks for specific instructions such as intraday corporate actions or some central banks’ specific operations related to the provision/ reimbursement of their credit operations.

T2S shall also provide them with the ability to determine parameters in T2S static data allowing T2S to identify transactions that T2S shall automatically process with this reserved level of priority. T2S shall also enable CSDs and central banks to assign the reserved level of priority at an instruction level. Central banks and CSDs shall be able to resort to this reserved priority by default for all their specific operations or to opt out if they do not see a need for such a reserved level of priority. T2S shall not provide other T2S actors with the possibility of using the reserved priority.

When a reserved level of priority applies to an instruction, based on the choice of a CSD or a central bank, this level of priority must prevail over the level of priority assigned to the relevant transaction by any other T2S Actor.

7.2.2.2 Top priority

Reference ID	T2S.07.170

T2S shall automatically assign top priority to transactions of trading platforms (MTFs, stock exchanges, etc.) with and without CCP and OTC instructions with CCP. To that end, the parameters for identifying transactions to which this top priority level must be assigned shall be predetermined in T2S static data and shall apply by default to all the relevant transactions.

T2S shall not allow top priority to be assigned to any other category of transactions (either by default or at a transaction level).

7.2.2.3 High priority

Reference ID	T2S.07.180

T2S shall enable T2S actors to assign high priority to OTC transactions (without CCP) in the relevant settlement instructions.

7.2.2.4 Normal priority

Reference ID	T2S.07.190

T2S shall assign normal priority to all OTC instructions when they enter T2S, but shall enable T2S parties to assign them a high priority on an instruction-by-instruction basis. T2S shall also enable T2S actors to assign normal priority to their high-priority OTC instructions, if they had previously opted for high priority at the instruction level.

Applicability of the priority levels

Reference ID	T2S.07.200

For levels 3 and 4, only the deliverer can change the priority level of an instruction (only the deliverer can change normal priority to high priority and change high priority to normal priority).

7.3 Booking and provision-checking requirements

7.3.1 Booking process

Booking steps in the settlement process

Reference ID	T2S.07.210

The settlement of transactions in T2S shall take place when the booking of the cash and securities debits and credits resulting from the relevant transactions take place on the appropriate T2S dedicated cash and securities accounts (either accounts identified in the instructions being settled or accounts predetermined by default).

Need for provision-checking

Reference ID	T2S.07.220

Booking shall take place only if the provision-checking on the accounts referred to in the settlement instruction (or on the accounts predetermined by default) is satisfactory, as described below.

Booking on a gross basis

Reference ID	T2S.07.230

Each and every transaction shall be booked on a gross basis. This is without prejudice to the use of technical netting effects in provision-checking when several transactions are submitted together for settlement (either for optimisation purposes or because they are linked by a T2S Actor).

Exclusive control of T2S over the booking process

Reference ID	T2S.07.240

T2S shall keep full and exclusive control of the booking process. Consequently, no credit or debit can take place on the cash and securities accounts in T2S without their being processed by the T2S booking process.

Final and unconditional booking process

Reference ID	T2S.07.250

Once booked by T2S on the T2S parties' securities accounts and T2S dedicated cash accounts, cash and securities debits and credits must be final, i.e. irrevocable and unconditional. The irrevocability of these booking must not be conditional on any external event (e.g. such as another booking in the payment or settlement system/arrangement of an external central bank registrar, commercial bank or CSD).

7.3.2 Validation and provision-checking requirements

Validation and provision-checking before booking

Reference ID	T2S.07.260

Before settling a transaction by booking the corresponding securities and cash debits, T2S shall perform a provision-checking procedure.

The validation and provision-checking shall ensure that:

- the transaction is booked if, and only if, the booking does not cause the account balances of the relevant securities and the T2S dedicated cash accounts to become negative; and
- no intraday restrictions have been posted on the ISIN, currency, securities account, T2S dedicated cash

accounts involved in the transaction.

The provision-checking shall cover all the settlement legs of the relevant transaction (i.e. the cash and securities legs for a DVP transaction, both securities legs for a DVD transaction, etc…).

If the provision-checking is satisfactory, the credits and debits resulting from the relevant settlement instructions shall be booked on the securities accounts and T2S dedicated cash accounts referred to in the settlement instructions, or when no cash account is specified in the instruction, on the T2S dedicated cash account identified in the static data.

If the provision-checking is not satisfactory, the debits and credits stemming from the transaction responsible for the failure of the provision-checking shall not be booked.

When performing its provision-checking, T2S shall also check that no restriction exists that may make the relevant settlement instructions not eligible for settlement.

Provision-checking of the securities accounts and T2S dedicated cash accounts specified in instructions

Reference ID	T2S.07.270

When performing its provision-checking, T2S shall check the securities and T2S dedicated cash accounts mentioned in the instruction(s) that are being settled.

If the securities available on the securities account mentioned in the instruction (or predetermined by default in T2S) are not sufficient to satisfy the provision-checking for the settlement of the securities side of the relevant transaction, T2S shall not consider whether the securities provision available on other securities accounts belonging to the same T2S party could be used instead.

If the cash available on the T2S dedicated cash account mentioned in the instruction is not sufficient to satisfy the provision-checking, T2S shall not consider whether the cash provision available on other T2S dedicated cash accounts could be used instead.

Default T2S dedicated cash accounts checked by the provision-checking

Reference ID	T2S.07.280

When no T2S dedicated cash account is specified in the settlement instructions, T2S shall perform the provision-checking on the T2S dedicated cash account identified in the static data, i.e. on the default T2S dedicated cash account.

Integration of the technical netting effect in the provision-checking

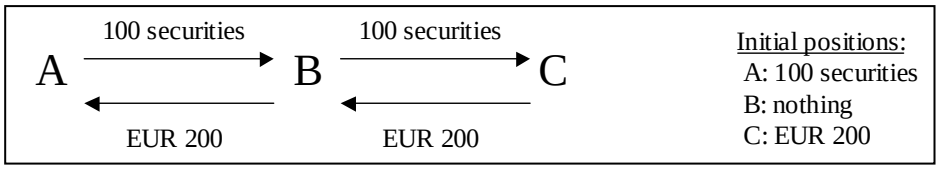
Reference ID	T2S.07.290

When several transactions are submitted together to a settlement attempt, either for optimisation purposes, or for auto-collateralisation purposes, or because they are linked by T2S actors, the provision-checking shall consider the final net balance resulting from the booking of all the relevant transactions (and not from each and every transaction). In other words, T2S shall take into account the technical netting effect in its provision-checking.

Background information

Technical netting mechanisms allow the amount of resources needed to ensure settlement to be reduced, while ensuring the gross booking of cash and securities movements. Provision-checking shall take into account the technical netting effects. In the example hereunder, the technical netting effect enables B to settle its trades with A and C even if B has neither securities nor cash on its securities and T2S dedicated cash accounts before the settlement of the transaction. In order to benefit from this technical netting, all the relevant transactions will be booked together by T2S.

Example:



Conditions for satisfactory provision-checking

Reference ID	T2S.07.300

While taking into account the technical effect mentioned above, T2S shall book the cash and securities credits and debits resulting from all the relevant transactions if, and only if, at the end of the settlement process for all the relevant transactions, the credit and debit bookings do not result in a negative net balance on the T2S parties' securities accounts and T2S dedicated cash accounts.

Consequences of successful provision-checking

Reference ID	T2S.07.310

T2S shall book credits and debits once provision-checking is successful. The booking resulting from a successful provision-checking must not be challenged by any event.

Consequences of unsuccessful provision-checking

Reference ID	T2S.07.320

When several transactions are submitted together for settlement and the provision-checking on the net balance is not satisfactory, T2S shall identify the transaction(s) responsible for the provision-checking's failure according to the T2S optimisation parameters described hereunder (regarding priority level, intended settlement date, etc...).

These transactions shall be either:

- submitted for an auto-collateralisation process, if the fail comes from a lack of cash; or,
- submitted for partial settlement, when applicable; or,
- excluded from the set of transactions being submitted to the current booking process; the transactions excluded from the booking process shall be recycled for submission for later optimisation procedures.

When selecting the transaction(s) to be excluded from the current booking process, T2S shall make sure that the set of remaining transactions meets the provision-checking in such a way that the transactions can be booked without resulting in negative net balances on the securities accounts and T2S dedicated cash accounts. Provided that the credits and debits stemming from the settlement of the remaining transactions - i.e. the transactions that have not been excluded from the booking process – meet the provision-checking requirements, T2S shall book the relevant debits and credits.

Provision-checking of transactions linked by T2S actors

Reference ID	T2S.07.330

When several transactions linked by T2S actors are submitted for a settlement attempt, T2S shall book the cash and securities credits and debits resulting from all the relevant transactions if and only if, at the end of the settlement process for all the relevant transactions, the credit and debit bookings do not result in a negative net balance on the T2S actors' securities accounts and T2S dedicated cash accounts. When ensuring this provision-checking, T2S shall take into account netting effects.

If the booking of one cash or securities debit on the T2S dedicated cash account(s) or on the securities account leads to create negative balance on the relevant accounts, none of the securities and cash credit and debit bookings shall take place. This rule is referred as the "all or none" rule.

In such a case, all the relevant linked transactions shall be excluded together from the current booking process and be submitted for optimisation, including auto-collateralisation and partial settlement when applicable according to the parameters defined hereunder.

Provision-checking excluding securities and/or cash previously reserved or blocked

Reference ID	T2S.07.340

When a provision-checking is performed by T2S on securities accounts and T2S dedicated cash accounts, T2S shall not consider reserved/blocked amounts of securities or cash on the relevant accounts as available for the provision-checking, unless the instruction being settled refers to the initial reservation/blocking instruction.

Provision-checking for blocking purposes

Reference ID	T2S.07.350

When a blocking instruction is submitted for settlement, T2S shall perform a provision-checking on the securities account and/or T2S dedicated cash account referred to in the relevant instruction.
If sufficient securities and/or cash are available on the relevant accounts, T2S shall block the number of securities and/or the amount of cash specified in the settlement instruction on the relevant securities and/or T2S dedicated cash account(s).
If the number of securities and/or the amount of cash available on the securities account and/or the T2S dedicated cash account are not sufficient to cover the number of securities and/or the amount of cash specified in the blocking instruction, the blocking shall only take place for the number of securities and/or amount of cash effectively available. The remaining part of the blocking is not reattempted.

Provision-checking for reservation purposes

Reference ID	T2S.07.351

When a reservation instruction is submitted for settlement, T2S shall perform a provision-checking on the securities account and/or T2S dedicated cash account referred to in the relevant instruction.
If sufficient securities and/or cash are available on the relevant account(s), T2S shall reserve the number of securities and/or the amount of cash specified in the settlement instruction on the relevant securities and/or T2S dedicated cash account(s).
If the number of securities and/or the amount of cash available on the securities account and/or the T2S dedicated cash account are not sufficient to cover the number of securities and/or the amount of cash specified in the reservation instruction, T2S shall:
- reserve the number of securities and/or the amount of cash already available on the relevant account; and
- complement it with any incoming securities and/or cash proceeds arriving on this account, provided that these securities or cash proceeds are not dedicated to be used for any other purpose (e.g. credit received from auto-collateralisation to settle an underlying transaction cannot be used for reservation purposes; similarly, cash or securities to be redelivered in linked transactions such as back-to-back transactions can not be used for reservation purposes).

In that respect, the number of securities and/or amount of cash additionally reserved should be equal to the difference between (i) the number and/or amount mentioned in the initial reservation instruction and (ii) the number of securities/ amount of cash initially available on the relevant account.

CoSD blocking

Reference ID	T2S.07.352

When a CoSD blocking instruction is submitted for settlement, T2S shall perform a provision-checking on the securities account and/or T2S dedicated cash account referred to in the relevant instruction.

If sufficient securities and/or cash are available on the relevant accounts, T2S shall block the number of securities and/or the amount of cash specified in the settlement instruction on the relevant securities and/or T2S dedicated cash account(s). If the number of securities and/or the amount of cash available on the securities account and/or the T2S dedicated cash account are not sufficient to cover the number of securities and/or the amount of cash specified in the CoSD blocking instruction, the blocking shall not take place, and will be recycled.

Provision-checking on cash and securities reserved/ blocked

Reference ID	T2S.07.360

When a T2S party wants to use securities and/or cash that are reserved/blocked on its securities account and/or T2S dedicated cash account, the T2S party shall specify it in the settlement instruction by referring to the initial reservation/blocking instruction.

When an instruction refers to an initial reservation/blocking instruction, T2S shall perform its provision-checking on the number of securities and/or amount of cash reserved/blocking through the initial reservation/blocking instruction.

If there are sufficient securities and/ or cash reserved/ blocked for the settlement of the relevant transaction, T2S shall book the settlement by using the securities and/or cash already reserved/ blocked.

If the securities and/or cash reserved/blocked are not sufficient to cover the amount specified in the settlement instruction, the T2S provision-checking shall consider the securities and/or cash reserved/blocked, as well as on any other securities and/or cash available on the securities and/or T2S dedicated cash account (excluding securities and/or cash reserved/blocked on the relevant accounts for any other purposes).

When T2S resorts to additional cash and/or securities available on the cash and/or securities accounts, T2S shall use in priority the reserved/ blocked amounts of cash and/or securities referred to in the instruction being settled.

Provision-checking on several layers of securities and/or cash previously reserved/blocked

Reference ID	T2S.07.370

When a T2S party has reserved/blocked securities and/or cash on the same securities and/or T2S dedicated cash account through different subsequent reservation/blocking instructions, T2S shall enable the T2S party to use the different layers of securities and/or cash for the settlement of one settlement instruction. To that end, the T2S party is required to refer to the different initial reservation/blocking instructions.

When several reservations/ blockings of securities and/or cash have been performed on the same securities account and/or T2S dedicated cash account, and when a T2S party submits to T2S a settlement instruction referring to one (or some) of the initial reservation/blocking instructions, the T2S provision-checking shall not consider the additional numbers of securities and/or amount of cash reserved/blocked through reservation instructions other than those referred to in the instruction being settled.

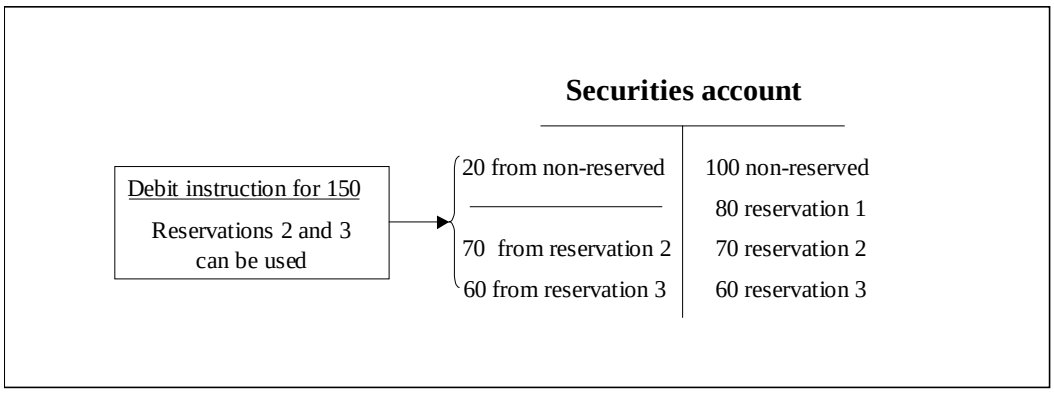
However, if the securities/ cash reserved/blocked through the relevant reservation/blocking instructions here mentioned above are not sufficient to satisfy the provision-checking, T2S shall also take into account additional securities and/or cash available on the relevant securities and T2S dedicated cash accounts, provided that these securities and/or cash have not been reserved/blocked for any other purpose.

When T2S resorts to additional cash and/or securities available on the cash and/or securities accounts, T2S shall use in priority the reserved/blocked amounts of cash and/or securities referred to in the instruction being settled.

Background information

In the example hereunder, T2S shall in priority use the securities reserved in 2 and 3, since the instruction being settled refers to initial reservation instructions 2 and 3. Since the amount of securities reserved in 2 and 3 is not sufficient for settlement, T2S shall use the remaining available securities (non-reserved). Securities reserved in 1 shall not be used, as the initial reservation instruction 1 is not referred to in the instruction being settled (as they may be reserved for any other purpose).

Example:



Procedure for unused reserved or blocked cash and securities positions at the end of the day

Reference ID	T2S.07.380

If at the end of the day T2S settlement day, the reserved cash has not been used to any purpose, T2S shall release the relevant cash at the end of that day. In this case, unless the reservation/blocking instruction is released by the relevant T2S Party, T2S shall recycle the reservation/blocking instruction for the next value day. As regards securities, if blocked or reserved securities are not used or released at the end of the day by an instruction of the relevant T2S Party, T2S shall not release them automatically.

Provision-checking with individual net buying limits applying to one securities account

Reference ID	T2S.07.390

When an individual net buying limit is defined by a payment bank for the settlement of the transactions of the T2S parties for which it provides cash settlement services, T2S shall make sure in the provision-checking that the net cash debit resulting from the booking of any transaction of the relevant T2S parties does not lead to a breach of the unused part of this buying limit.

When several transactions belonging to the T2S party are submitted together for a settlement attempt, T2S shall ensure that the net cash debit resulting from all the relevant transactions does not lead to a breach of the unused part of its buying limit.

Background information

As mentioned in the section on liquidity provisions, payment banks have the possibility to set a net buying limit for the settlement users for which they provide cash settlement services. When a net buying limit applies, the provision-checking shall consider the net amount of purchases of the settlement user.

The unused part of a T2S party buying limit corresponds to the total amount of its initial buying limit minus the net cash value of the respective user's purchases already settled during the relevant settlement day.

The net amount of purchases already settled during the relevant settlement day corresponds to the total cash value of the respective user's purchases and sales already settled during the relevant settlement day.

Example: Payment bank A has set a € 1 million buying limit for settlement user B for which it provides cash settlement services. User B has already used € 400 thousand for previous purchases. The unused part of its net buying limit amounts to € 600 thousand.

If, in a night-time settlement cycle, user B submits for settlement a purchase for € 700 thousand and a sale for € 150 thousand, T2S shall not, when performing its provision-checking, consider solely the amount of the purchase, which exceeds the buying limit (€ 700 thousand > € 600 thousand), but rather the net amount resulting from both the purchase and the sale ([€700 thousand - €150 thousand]<€600 thousand).

Provision-checking with common net buying limits applying to several securities accounts

Reference ID	T2S.07.400

When a net buying limit is common to several securities accounts, T2S shall ensure that the net cash debit resulting from all the transactions pertaining to all the relevant securities accounts does not lead to the unused part of the common buying limit set for the set of securities accounts being exceeded.

Background information

Example: Payment bank A has set a common €1 million buying limit for the securities accounts of settlement users B and C for which it provides cash settlement services. User B has already used € 400 thousand for its previous purchases. The unused part of net buying limit amounts to € 600 thousand..

If, in a night-time settlement cycle, user B submits for settlement a purchase for €700 thousand and user C submits a sale for € 150 thousand, T2S shall not, when performing its provision-checking, consider solely the amount of the purchase, which exceeds the buying limit (€700 thousand >€600 thousand), but rather the net amount resulting from both the purchase and the sale ([€700 thousand -€150 thousand] < €600 thousand).

Types of accounts excluded from provision-checking

Reference ID	T2S.07.410

Provision-checking shall not apply to T2S dedicated central bank accounts, to T2S transit accounts and to Issuer CSD balance accounts, which can have negative balances.

T2S shall be authorised to book transactions creating a negative cash balance on T2S dedicated central bank accounts when the relevant debiting transaction is the counterpart of a credit provision on the T2S dedicated account of a T2S payment bank that is allowed to obtain credit from the relevant central bank.

T2S shall be authorised to book transactions creating a negative cash balance on T2S transit accounts when the relevant debiting transaction corresponds to transfers of liquidity between one or several T2S dedicated cash accounts (or T2S dedicated central bank accounts) and RTGS accounts in TARGET2 (and vice versa).

T2S shall be authorised to book transactions creating a negative securities balance on Issuer CSD balance accounts when the relevant debiting transaction corresponds to a securities issuance instructed by the CSD on the books of which the securities issuance takes place.

USER REQUIREMENTS

CHAPTER 8

PROCESSING REQUIREMENTS FOR SETTLEMENT OPTIMISATION AND AUTO-COLLATERALISATION

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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8 Processing requirements for Settlement optimisation and auto-collateralisation

This chapter details the requirements for settlement, optimisation and recycling procedures, as well as for auto-collateralisation.

Section 8.1 sets the T2S objectives for settlement, optimisation and recycling and details the main optimisation features. The optimisation requirements for the night-time and daytime settlement process are also detailed, including references to the use of auto-collateralisation and partial settlement procedures (conditions for triggering partial settlement including thresholds, restrictions applicable, etc…). Finally, the last paragraphs of Section 8.1 cover requirements applicable to the settlement of non-euro-denominated transactions and to settlements and optimisations involving several currencies.

Section 8.2 provides a detailed description of auto-collateralisation requirements. In particular, it refers to NCBs' roles and defines requirements for settlement banks' access to auto-collateralisation. The conditions for triggering auto-collateralisation and the requirements applicable to the cash leg of auto-collateralisation operations are also defined. This section also provides requirements on collateral management, i.e. identification of collateral on stock and on flow, the valuation of collateral and the collateralisation procedures. In addition, an identification of the types of transactions eligible for auto-collateralisation (trading-related and corporate actions, single transactions or sets of transactions) is provided. Concerning settlement banks' specific needs in the auto-collateralisation process, specific requirements provide the possibility to set limits and manage these limits in the settlement process. Finally, the last paragraphs of this section define requirements applicable to the reimbursement of credits provided through auto-collateralisation, including automated reimbursements and substitutions of collateral.

8.1 Settlement, optimisation and recycling procedures

This section describes user requirements for the settlement process for both the night-time and daytime real-time settlement process, jointly with the optimisation and recycling procedures to be used to maximise settlement efficiency.

To that end, this section describes the objectives that T2S settlement, optimisation and recycling procedures shall meet. This section also describes the main optimisation tools and procedures in T2S. Finally, this section details requirements for running optimisation procedures during both the night-time and the daytime settlement windows.

8.1.1 Objectives of T2S settlement, optimisation and recycling procedures

General objectives of the settlement, optimisation and recycling procedures

Reference ID	T2S.08.010

T2S settlement, optimisation and recycling procedures shall maximise the volume and value of settlement with the available securities and cash resources, in order to minimise the number and value of unsettled transactions at the end of the night-time settlement process and the number and value of fails at the end of the settlement day. For that purpose, T2S optimisation procedures shall find the optimum balance between the maximisation of volumes (number of transactions settled) and value (cash countervalue of DVP transactions).

Background information

The optimum balance between the maximisation of volume and value aims at optimising the overall settlement efficiency. The combination of both aims at avoiding situations where only volume optimisation would be sought (which could lead to the settlement of low value retail transactions being favoured to the detriment of transactions with a higher value) or situations where only value optimisation would be sought (which could lead to the settlement of high value transactions being favoured to the detriment of many retail transactions with a lower value).

Objectives of the settlement procedure during the night-time settlement window

Reference ID	T2S.08.020

During the night-time settlement process, T2S shall submit for settlement attempt (in the different sequences and cycles mentioned in Chapter 7) all eligible transactions for this intended settlement date and transactions recycled from the previous days. None of the transactions eligible for settlement during the night-time

settlement window shall remain unsettled at the end of the night-time settlement window without having been submitted for at least one settlement attempt.

Objectives of the real-time settlement procedure during the daytime settlement window

Reference ID	T2S.08.030

During the daytime settlement window, T2S shall submit transactions to a “real-time settlement” attempt without delay after the transaction becomes eligible for settlement. T2S shall consequently minimise the time lag during which a settlement instruction eligible for settlement is queued before being submitted to a settlement attempt. To that purpose, the processing time for submitting an instruction to a settlement attempt, to perform the provisioning check and ensure the booking process (or exclude transaction from booking if the provisioning check is not satisfied) shall be minimised.

Optimisation objectives during the night-time settlement window

Reference ID	T2S.08.040

During the night, T2S shall maximise the number and value of settlements with the available securities and cash resources. In order to reduce the number and value of transactions failing to settle, T2S shall employ:

- optimisation algorithms identifying chains of transactions (e.g. such as empty circles, back-to-back transactions) to resolve gridlock situations;
- auto-collateralisation operations providing intraday credit for the settlement of transactions for which the cash available is not sufficient; while seeking to maximise the number and value of transactions settled during the night, T2S shall minimise the number and value of auto-collateralisation operations necessary in the optimisation process;
- partial settlement, in order to minimise the value of transactions remaining unsettled at the end of the night-time settlement window; while pursuing this objective, T2S shall minimise the number of transactions submitted to partial settlement as described in the section on partial settlement.
- When necessary, T2S shall combine the three procedures together (optimisation algorithms, auto-collateralisation and partial settlement).

When using optimisation algorithms, auto-collateralisation and partial settlement, T2S shall take into account rules applicable regarding the level of priority and intended settlement date of the transactions (see below).

Optimisation objectives during the daytime settlement window

Reference ID	T2S.08.050

During the daytime settlement window, T2S shall run optimisation procedures in parallel with the real-time

settlement process in order to reduce the number and value of pending transactions.

T2S shall run optimisation procedures on pending transactions during the daytime settlement window as frequently as possible. These continuous optimisation procedures shall aim at taking into account as soon as possible changes of situation (such as new cash or securities availability on a securities account or T2S dedicated cash account, or new unsettled transactions), in order to identify chains of transactions that can be submitted together for a settlement attempt.

As for night-time optimisation, in order to increase the volume and value of settlement and hence, to reduce the value and volume of pending transactions, continuous optimisations shall employ:

- optimisation algorithms identifying chains of transactions (e.g. such as empty circles, back-to-back transactions) to resolve gridlock situations;
- auto-collateralisation operations providing intraday credit for the settlement of transactions for which the cash available is not sufficient;
- partial settlement, in order to minimise the value of transactions remaining unsettled at the end of the night-time settlement window; while pursuing this objective, T2S shall minimise the number of transactions submitted to partial settlement as described in the section on partial settlement.

When necessary, T2S shall combine the three procedures (optimisation algorithms, auto-collateralisation and partial settlement).

As for night-time optimisation procedures, T2S shall take into account rules applicable regarding the level of priority and intended settlement date of the transactions (see here under) when resorting to optimisation algorithms, auto-collateralisation and partial settlement during the daytime settlement window.

Recycling objectives: favouring the settlement of oldest transactions

Reference ID	T2S.08.060

When several transactions with the same level of priority compete for settlement, T2S shall submit recycled transactions for settlement and optimisation procedures in a way that favours the settlement of transactions with the oldest intended settlement date.

When several pending transactions with the same level of priority and the same intended settlement date are recycled, T2S shall settle the relevant transactions in a way that maximises the volume and value of settlement.

Recycling objectives: limiting the length of time during which a transaction remains unsettled

Reference ID	T2S.08.070

T2S shall use securities and cash resources in optimisation procedures for oldest transactions first in order to reduce the time during which a transaction remains unsettled beyond the intended settlement date.

8.1.2 Main features of optimisation procedure in T2S

This section details the types of optimisation procedures expected from T2S, including partial settlement. Except for transactions linked or optimised across currencies, the user requirements below assume that all transactions are settled in the same currency on the cash side.

Optimisation procedures during the night-time and daytime settlement windows

Reference ID	T2S.08.080

T2S shall provide optimisation procedures for both the night-time and the daytime settlement windows.
During the night-time settlement window, T2S optimisation procedure shall cover all transactions submitted for settlement (either new transactions or recycled transactions that could not be settled in a previous settlement attempt).
During the daytime settlement window, T2S optimisation procedure shall be run in parallel of real-time settlements and shall cover transactions that could not be settled in an earlier attempt.

Role of technical netting in the optimisation procedures

Reference ID	T2S.08.090

T2S shall include technical netting in its optimisation procedures. The technical netting aims at limiting resources necessary for the settlement of a set of transactions submitted together for a settlement attempt.
Without jeopardising the fact that booking takes place on a gross basis, T2S shall reduce, through technical netting, the final net balance to be credited and debited on securities accounts and T2S dedicated cash accounts. When performing its provisioning check, T2S shall consider the final net balance that results from the booking of all the transactions submitted together for the settlement attempt (and not from each and every transaction).

Use of technical netting

Reference ID	T2S.08.100

Technical netting shall be used to the largest extent possible in T2S optimisation procedures in order to maximise the number and the value of transactions that can be settled with a given amount of securities and/ or cash.
The purpose of T2S optimisation procedures shall be:
(i) to select sets of transactions with a view to reducing the net amount of debits and credits that result from the booking of the relevant set of transactions; and
(ii) to ensure that these net amounts of debits and credits can be booked with the cash and securities

resources available on the securities accounts and T2S dedicated cash accounts referred to in the instructions being settled.

The way these two steps are performed is different during the night-time and the daytime settlement windows, as described in the following sections.

Use of technical netting on the securities and cash sides

Reference ID	T2S.08.110

T2S shall apply technical netting on the securities and/or cash side of transactions submitted for optimisation. In order to optimise the securities side of settlements, T2S shall select several transactions involving the same ISIN with a view to minimising the number of securities necessary to ensure settlement. In order to optimise the cash side of settlements, T2S shall select several transactions involving the same or different ISINs with a view to minimising the amount of cash necessary to ensure settlement. When auto-collateralisation is necessary, T2S shall combine the technical netting feature with the auto-collateralisation facility in order to minimise the amount of liquidity (and hence intraday credit) necessary to ensure settlement.

8.1.3 Optimisation procedures during the night-time settlement window

Optimisation procedures with technical netting during the night-time settlement window

Reference ID	T2S.08.120

During the night-time settlement window, T2S shall submit all eligible transactions for settlement and shall, hence, optimise all these transactions together.

For optimisation purposes, T2S shall:

- consider the number of securities and the amount of cash available on the securities accounts and T2S dedicated cash accounts where settlement has to take place;
- consider whether the net debits and credits resulting from the transactions submitted to settlement satisfy the provisioning check; and
- de-select (when necessary, i.e. when no auto-collateralisation or partial settlement is possible) in an optimised way the transactions that cause the net debits and credits to exceed the amount of securities and cash resources available on the securities accounts and T2S dedicated cash accounts.

When the provisioning check fails due to a lack of cash, T2S shall consider whether an auto-collateralisation operation on one or more of the transactions selected can provide the cash needed before de-selecting transactions.

Criteria to be used for the de-selection of transactions

Reference ID	T2S.08.130

When several transactions can be deselected, T2S shall de-select transactions with a lower priority before transactions with a higher priority.

When several transactions with the same level of priority can be deselected, T2S shall de-select transactions with the most recent intended settlement date before transactions with the oldest settlement dates.

When several transactions with the same level of priority and the same intended settlement date can be de-selected, T2S shall de-select them in a way that minimises the number and value of unsettled transactions.

When ensuring optimisation during the night, T2S will identify sets of transactions as given in the examples of daytime optimisations below. Consequently, when minimising the number and value of unsettled transactions, T2S shall consider identifying at least back-to-back transactions and chains of transactions that could be settled. If possible, these transactions shall be included in the selection of transactions to be settled (i.e. not de-selected), before any additional transactions are included.

8.1.4 Optimisation procedures during the daytime settlement window

Submission of pending transactions for optimisation with technical netting during the daytime settlement window

Reference ID	T2S.08.140

During the daytime settlement window, T2S shall use technical netting to optimise the pending transactions that failed to be settled in an earlier attempt during the previous night-time settlement window or during the current daytime procedure.

When a transaction fails to be settled in a first settlement attempt during the real-time settlement window due to a lack of cash, T2S shall trigger (when possible and applicable) an auto-collateralisation attempt in order to provide the lacking amount of cash. If the auto-collateralisation operation is successful, the relevant transaction shall be settled together with the auto-collateralisation operation. If the amount of liquidity that can be provided through auto-collateralisation is not sufficient to ensure the settlement of the relevant transaction, T2S shall submit the latter for optimisation procedures with technical netting together with the other pending operations.

Optimisation procedures with technical netting during the daytime settlement window

Reference ID	T2S.08.150

In parallel with real-time settlements, T2S shall continuously run optimisation procedures covering pending transactions in a way that identifies sets of transactions that can be submitted together for settlement.

These continuous runs of optimisation procedures shall aim at taking into account:

- additional securities and/or cash resources available on the securities accounts and/or T2S dedicated cash accounts of the T2S party failing to settle; these additional securities and/or cash resources can be the proceed either of a trading-related transaction or from a corporate action; and
- any new unsettled transaction due to a lack of securities or cash.

Optimisation procedures in the daytime settlement window when additional securities are available

Reference ID	T2S.08.160

When additional securities for a given ISIN become available on the securities account of a T2S party that failed to settle other transactions due to a lack of securities on the same securities account and for the same ISIN, T2S shall identify the transactions that are pending for settlement due to lack of securities on the same securities account and for the same ISIN.

If such pending transactions exist, T2S shall submit these pending transactions for settlement in a way that meets optimisation objectives.

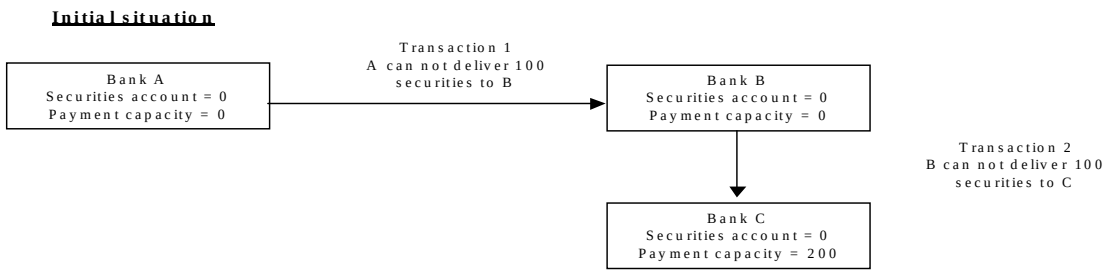
If a lack of cash makes it impossible to settle the pending selling transaction(s) pertaining to the securities account where the securities have been reserved, an intraday credit provision should be attempted through auto-collateralisation. If the auto-collateralisation attempt is unsuccessful, so that the pending transactions fail to be settled, the securities reserved on the relevant securities account shall be released.

Background information

For the above-mentioned cases, optimisations shall aim at identifying at least back-to-back transactions and chains of transactions that would maximise the use of additional securities resources.

Example 1 : back to back transactions

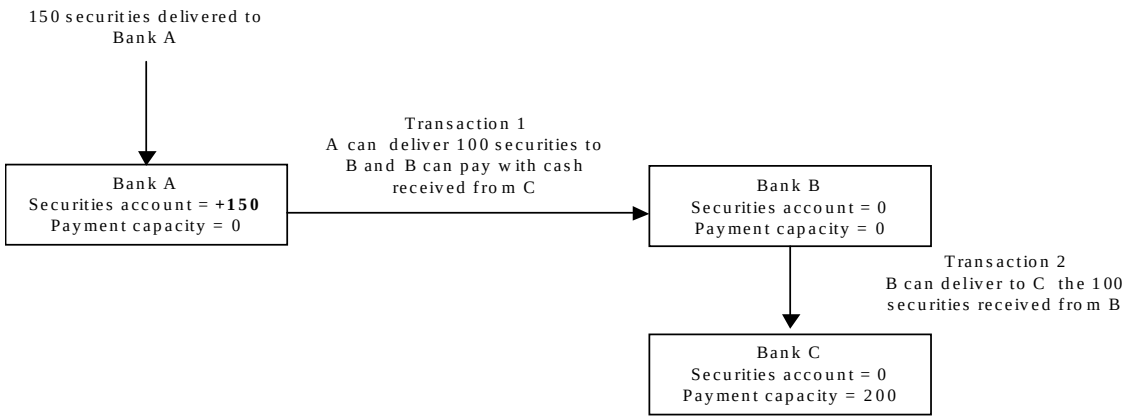
A back-to-back chain of transaction is identified by the optimisation procedure. However, in the initial situation, A has no securities on its securities account, which prevents the settlement of the chain of transactions between A, B and C.



A new situation is created by the delivery of 150 securities on the securities account of bank A. Considering that bank A has a pending transaction waiting for settlement on its securities account, T2S shall use the 150 securities received by submitting the chain of back-to-back transactions identified for settlement. In this

case, 100 of the 150 securities received are used for the settlement of the chain of pending transactions.

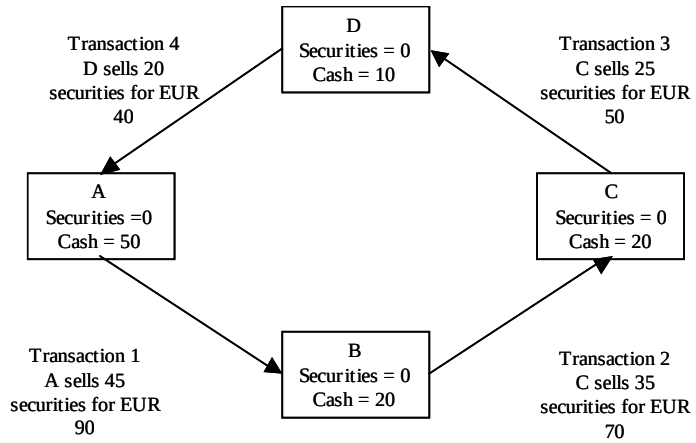
New situation



Example 2: complex chain of transactions

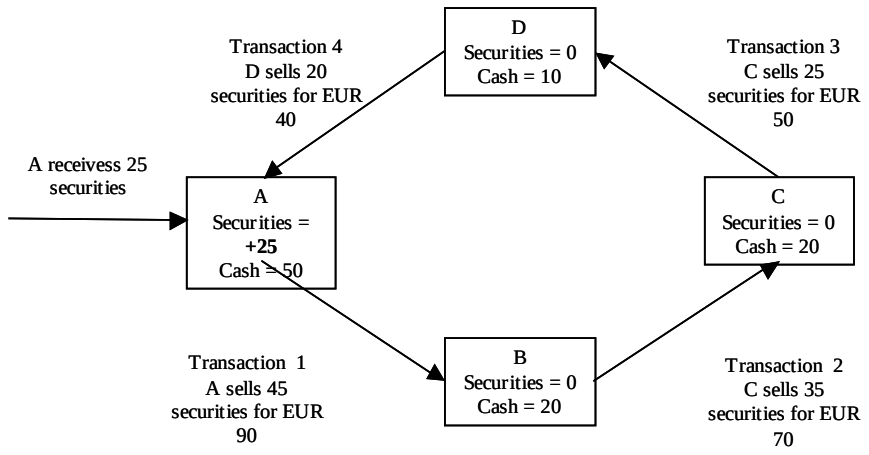
In the initial situation, none of the banks A, B, C or D has sufficient securities to settle their respective transactions.

Initial situation



The delivery of 25 securities on the securities account of bank A creates a new situation. Considering that bank A has a pending transaction waiting for settlement on its securities account, T2S shall use the 25 securities received by submitting the chain of back-to-back transactions identified for settlement. In this case, all the securities received on the securities account of bank A can be used for the settlement of the whole chain of transactions.

New situation



Optimisation procedures in the daytime settlement window when additional cash is available

Reference ID	T2S.08.170

When additional cash becomes available on the T2S dedicated cash account of a T2S party failing to settle other transactions due to a lack of cash on the same T2S dedicated cash account, T2S shall identify the pending transactions which failed to be settled in an earlier attempt due to a lack of cash on this T2S dedicated cash account.

If such transactions exist, T2S shall select a set of pending transactions that would maximise the use of this cash amount and submit this set of transactions for settlement. If however, the settlement of a set of transactions is not possible, T2S shall submit for a settlement attempt at least the pending buying transaction(s) pertaining to the T2S dedicated cash account on which the additional cash has been received (i.e. transactions failing to be settled in a previous attempt on the relevant T2S dedicated cash account).

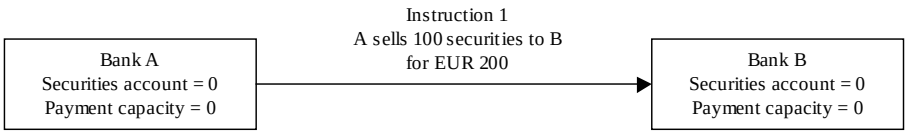
Optimisation procedures in the daytime settlement window when a new transaction fails to be settled

Reference ID	T2S.08.180

When a transaction fails to be settled on a first attempt during the daytime settlement window, T2S shall submit this failed pending transaction to the continuous optimisation procedures in order to identify if this new pending transaction can be settled together with other pending transactions in order to solve gridlock situations.

When such a chain of transaction is identified, T2S shall submit all the transactions together to the real-time settlement process. The whole chain of transactions shall be submitted to a settlement attempt in the order of arrival of this whole chain of transactions in the real-time settlement process.

Initial situation



Background information

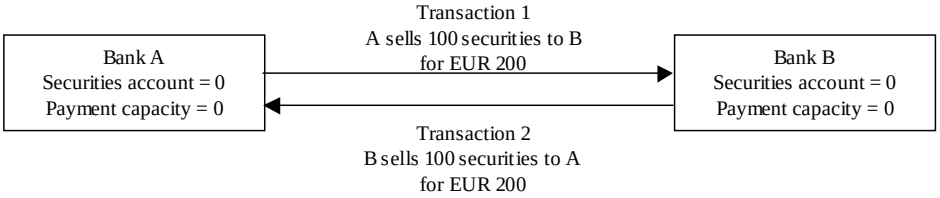
For instance, T2S shall aim at identifying chains of transactions such as empty circles, etc. so that the new pending transaction may be settled. The complexity of the empty circle solved depends on the number of T2S parties involved in the circle.

Example 1: simple empty circle

In the initial situation, bank B has a pending purchasing transaction with bank A. This means that bank B cannot settle due to a lack of securities on bank A's side and lack of cash on bank B's side.

Due to the lack of cash and securities on banks A and B's sides, a second transaction between bank A and bank B fails to be settled. This new unsettled transaction creates a new situation which enables an empty circle to be identified and the settlement of both unsettled transactions to be ensured.

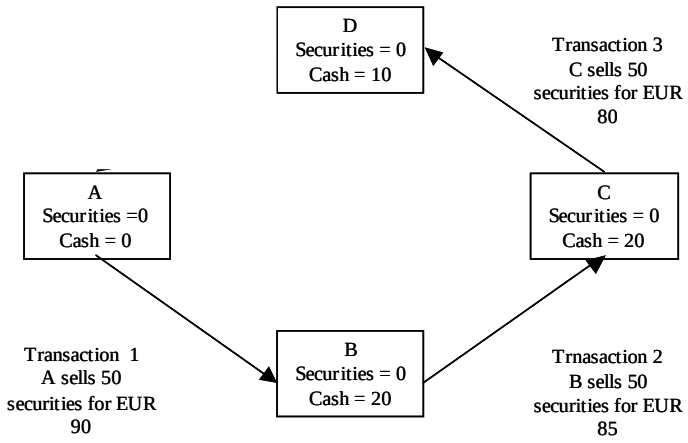
New situation



Example 1: complex empty circle

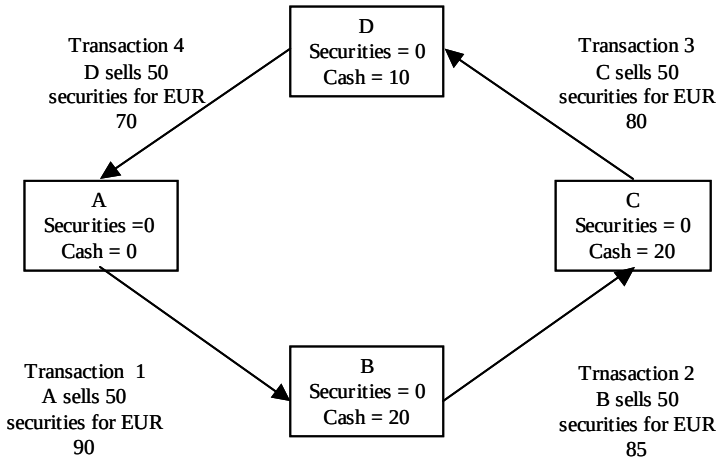
In the initial situation, transactions 1, 2 and 3 cannot be settled due to lack of cash and securities on the accounts of A, B, C and D.

Initial situation



Due to lack of cash and securities on the accounts of A and D, transaction 4 fails to be settled. This new unsettled transaction creates a new situation which enables an empty circle to be identified and the settlement of both unsettled transactions to be ensured.

New situation



Criteria for selecting transactions in the daytime continuous optimisation process

Reference ID	T2S.08.190

If, during the daytime settlement window, T2S has to make a choice between several pending transactions in the selection process for continuous optimisation procedures, T2S shall favour transactions with the highest levels of priority over transactions with the lower levels of priority. If T2S has to make a choice between several transactions with the same level of priority in the selection process, T2S shall favour transactions with the oldest intended settlement date over transactions with the more recent intended settlement date.

8.1.5 Auto-collateralisation procedures

Auto-collateralisation in the settlement and optimisation procedures

Reference ID	T2S.08.200

When the cash available is not sufficient for the settlement of a transaction, a set of transactions linked by T2S parties, or a set of transactions submitted together for settlement by T2S for optimisation purposes, T2S shall trigger an auto-collateralisation attempt. T2S shall combine auto-collateralisation and technical netting procedures with a view to minimising the amount of liquidity (and hence, the intraday credit) necessary to settle transactions.

8.1.6 Partial settlement procedures

Availability of partial settlement procedures

Reference ID	T2S.08.210

T2S shall use partial settlement for transactions that could not be settled in an earlier settlement attempt due to lack of cash or securities (where this is allowed, i.e. when all criteria for partial settlement are met).

Timing for partial settlement procedures

Reference ID	T2S.08.220

T2S shall use partial settlement functionality (where this is allowed, i.e. when the relevant criteria are met) at the end of the night-time settlement window and at in the afternoon at least 15 minutes before the DVP cut-off time. In addition, T2S shall be able to run additional partial settlement routines during the settlement day when required by specific T2S Actors for specific settlement needs (e.g. for CCPs' transactions if required by the latter).

Main features of partial settlement

Reference ID	T2S.08.230

When submitting an unsettled transaction for partial settlement, T2S shall settle the amount of cash and/or securities (whichever avoids negative balances) available on the securities accounts/T2S dedicated cash account of the buyer and seller. The part of the transaction that is settled is referred to as the "settling leg", whereas the part of the transaction that cannot be settled is referred to as the "unsettled leg".

Main features of partial settlement: keeping track of the initial transaction

Reference ID	T2S.08.240

When submitting a transaction for partial settlement, T2S shall keep the track of the initial transaction reference for the unsettled leg.

Triggering partial settlement: agreement and threshold conditions

Reference ID	T2S.08.250

T2S must submit transactions for partial settlement only if the conditions mentioned below regarding the agreement of the T2S parties for using the partial settlement functionality and regarding the minimum amount for triggering partial settlement are met.

Need for agreement for partial settlement

Reference ID	T2S.08.260

T2S shall only trigger partial settlement if both counterparties have agreed to submit their transactions for partial settlement (either at a securities account level or at an instruction level), or if the partial settlement is made mandatory by a CSD or a CCP.

Possibility of a T2S party to opt for partial settlement at a securities account level

Reference ID	T2S.08.265

When a CSD has not opted for mandatory partial settlement, T2S shall enable each T2S party holding securities accounts with this CSD to opt for partial settlement at a securities account level for all instructions settling on the securities account involved. The choice expressed at a securities account level shall apply by default to all transactions settling on this securities account, unless the T2S party specifies at an instruction level that the relevant instruction must not be submitted for partial settlement. The choice expressed at an account level by the T2S party not to resort to partial settlement is valid only if partial settlement has not already been made mandatory by the relevant CSD or CCP.

Agreement on partial settlement at an instruction level

Reference ID	T2S.08.270

T2S shall enable a T2S party to opt for or against partial settlement at an instruction level. When the T2S

party has not opted for partial settlement by default at a securities account level, the T2S party can still opt for partial settlement of the relevant instruction at an instruction level. On the contrary, when the T2S party has opted for partial settlement by default at a securities account level, the T2S party can opt out of partial settlement of the instruction involved at an instruction level. To this end, the T2S Party is required to flag in the instruction that the relevant transaction can be submitted for partial settlement or must not be submitted for partial settlement. T2S parties shall be allowed to opt in and out of partial settlement freely during the day until each settlement attempt. When a CSD or a CCP opts for a mandatory partial settlement of all its instructions, other T2S parties involved in the settlement of the relevant instruction shall not be able to modify the choice of the CSD or CCP.

Need for the agreement of T2S parties to submit transactions for partial settlement

Reference ID	T2S.08.280

Unless the settlement of a transaction involves a CCP that has opted for mandatory partial settlement, T2S shall not submit transactions for partial settlement unless all the securities account holders involved in the settlement of the transaction have opted for partial settlement (as a result of their CSD's mandatory choice, or voluntarily at a securities account or instruction level).

If only one of the different counterparties involved in the settlement of a transaction (or a set of transactions) agrees to resort to partial settlement, T2S shall not submit the relevant transaction(s) for partial settlement.

When a CSD opts for mandatory partial settlement, T2S shall only submit cross-CSD transactions settling with this CSD for partial settlement if all counterparties involved in the settlement of the relevant cross-CSD transaction have agreed to resort to partial settlement.

Conditions in terms of thresholds

Reference ID	T2S.08.290

T2S shall only submit transactions for partial settlement if they meet the thresholds criteria defined below. These thresholds shall be set in T2S static data.

Main features of thresholds

Reference ID	T2S.08.300

Thresholds applicable to partial settlement must be expressed in percentage terms and in absolute value. The percentage will be applied to the volume and/or value of the potential settling leg over the value of the initial transaction. The threshold in absolute value determines the value under which no partial settlement should take place.

Example

For instance, if a 30% threshold is set in combination with a threshold of € 10 000 in absolute value, T2S shall only submit a transaction for partial settlement (i) if the resources available enable the settlement of at least 30% of the value and volume of the initial transaction and (ii) if the value of the settlement taking place is above € 10 000. Consequently, if a trade for an overall initial value of €30 000 cannot be settled due to a lack of cash on the part of the buyer, which has only € 9 000 on its account, the trade should not be submitted for partial settlement even though these EUR 9 000 meet the 30% threshold, since the absolute value threshold is not met. Conversely, if a trade for an overall initial value of € 100 000 cannot be settled due to a lack of cash on the part of the buyer, which has only € 10 000 on its account, the trade should not be submitted to partial settlement even though these EUR 10 000 meet the absolute value threshold, since the percentage threshold (i.e. 30%) is not met.

Applicability of thresholds for transactions that fail to be settled due to a lack of securities

Reference ID	T2S.08.310

For transactions that fail to be settled due to a lack of securities, in order to determine whether the threshold criteria is met, T2S shall compare the volume (number) of securities available for settlement with the number of securities to be delivered according to the initial transaction.

Example

For instance, if A has to deliver 150 securities to B, but can only deliver 60 securities, T2S shall consider the 60/150 ratio (40%) to determine whether the threshold criterion is met. If the threshold is set at 30%, the above-mentioned transaction shall be submitted for partial settlement.

Applicability of thresholds for transactions that fail to be settled due to a lack of cash

Reference ID	T2S.08.320

For transactions that fail to be settled due to a lack of cash, in order to determine whether the threshold criteria is met, T2S shall compare the value of cash available for settlement with the cash settlement value of the initial transaction. T2S shall also consider whether the threshold criterion remains fulfilled on the securities side.

Example

For instance, if A has to pay € 200 to B for 4 securities (each of the securities being worth € 50), but can only pay € 60, T2S shall consider both the cash and the securities side to determine whether the threshold criterion is fulfilled.

In this case, with a 30% threshold:

- the criterion would be met on the cash side (60/200 = 30%)

- but would not be met on the securities side, since only one security out of the four initial securities could be delivered (25% only).

Applicability of thresholds for transactions that fail to be settled due to a lack of cash and securities

Reference ID	T2S.08.330

For transactions failing to settle due to a lack of cash and securities, T2S shall compare both the cash value and the securities volume available for settlement with the cash settlement value and number of securities to be delivered according to the initial transaction.

Role of CSDs in the definition of thresholds

Reference ID	T2S.08.340

T2S shall enable each participating CSD to define a threshold below which transactions must not be submitted for partial settlement.
To that end, participating CSDs are required to set a threshold, expressed as a percentage in T2S static data.
When a CSD has defined a threshold, T2S shall apply this threshold only if all securities accounts debited and credited for the settlement of the relevant transaction(s) are held with this CSD. The same threshold shall apply for partial settlement procedure at the end of both the night-time and daytime windows.
When a CSD does not define any threshold in T2S static data, the T2S harmonised threshold mentioned below shall apply by default to transactions settling on securities accounts held with the relevant CSD.

Background information
Although the possibility to define their own local threshold is left to each CSD, it is expected that the latter will seek to harmonise their respective practices in line with market's expectations (e.g. by resorting to the T2S common harmonised threshold).

Need for a cross-CSD harmonised threshold

Reference ID	T2S.08.350

When a transaction (or a set of linked transactions) is settled on securities accounts held with different participating CSDs, T2S shall not apply the thresholds defined by the relevant CSDs, but shall apply the harmonised thresholds applicable to all T2S participating CSDs.
To that end, CSDs are required to agree on harmonised thresholds for cross-CSD transactions. The same threshold shall apply for partial settlement procedures at the end of both the night-time and the daytime settlement windows.

Role of CCPs in the definition of thresholds

Reference ID	T2S.08.360

T2S shall provide each CCP the ability to define a threshold for its own transactions. CCPs resorting to partial settlement are required to define this threshold in T2S static data.

If no threshold is defined by a CSD or a CCP in T2S static data, T2S will apply by default the cross-CSD harmonised thresholds mentioned above.

Prevalence of CCP thresholds over other thresholds

Reference ID	T2S.08.370

When a CCP defines a threshold, T2S shall apply the thresholds defined by this CCP to all its transactions (and all sets of linked instructions), regardless of whether the securities accounts are held with the same CSD or with different CSDs. Consequently, when a CCP defines its own threshold in T2S static data for partial settlement, this threshold will supersede the thresholds defined by the CSD where the securities accounts are held, as well as the T2S harmonised thresholds mentioned above.

Determination of the applicable threshold in optimisation procedures

Reference ID	T2S.08.380

When several unsettled transactions are optimised together (either during the night-time settlement window or at the end of the daytime settlement window) and a chain of transactions is submitted for settlement, in order to determine whether the partial settlement threshold criterion is met, T2S shall not only take into account the securities and cash resources available on the securities and T2S dedicated cash accounts before the settlement of the chain of transactions, but will also take into account the securities and cash received during the process of settling the relevant chain of transactions.

Background information

Example:

For instance, A sells 80 securities for € 80 to B, which sells 100 securities for € 100 to C. The threshold below which partial settlement does not take place is set at 20%. A, B and C agree to resort to partial settlement.

A, B and C have sufficient cash to settle, but A and B do not have sufficient securities:

A has only 30 securities on its account and B has only 5 securities on its securities account. In this case, T2S shall not consider the 5 securities already available on B's securities account (which are obviously below the 20% threshold), but only the 35 that B can deliver to C once the 30 securities coming from the transaction with A are delivered.

Transactions between A, B and C shall be submitted to partial settlement: A shall deliver 30 out of the 80 securities initially foreseen to B and B shall deliver 35 out of the 100 securities initially foreseen to C .

Limitation of partial settlements in optimisation procedures

Reference ID	T2S.08.390

When several transactions are optimised together in a way that gives rise to a chain of securities or cash redeliveries, T2S shall try to reduce the number of redelivery transactions submitted to partial settlement.
When selecting transactions submitted to, or excluded from, partial settlement, T2S shall take into account the level of priority and the intended settlement date of the relevant transactions (favouring transactions with a higher level of priority and then transactions with the oldest intended settlement date).

Background information

Example:
Three instructions are optimised together:
- Trade 1- a sale from A to B for 100 securities (€ 100); A has only 40 securities;
- Trade 2 - a redelivery from B to C for 60 securities (€ 60) and
- Trade 3 - a redelivery from B to D for 40 securities (€ 40); B has no securities on its account but can redeliver the 40 securities received from A.
The minimum threshold for triggering partial settlement is set at 20%. A, B and C have sufficient cash to settle the transactions. The three transactions have the same level of priority and the same intended settlement date.
Trade 1 meets the threshold (40%, i.e. 40 out of 100 securities) and shall consequently be submitted to partial settlement.
B shall be able to redeliver the 40 securities received. In this case, the T2S optimisation process shall aim at limiting the number of partial settlements by settling Trade 3 for 40 securities and leaving Trade 2 unsettled, instead of partially settling Trade 2 and Trade 3.
If Trade 2 had a higher level of priority than Trade 3 (or the same priority but an older intended settlement date), T2S should have given priority to settling Trade 2 (delivery of 40 of the expected 60 securities) and should have left Trade 3 unsettled.

Application of partial settlement to transactions linked by T2S parties

Reference ID	T2S.08.400

T2S shall submit transactions linked by T2S parties to partial settlement procedures only if all T2S parties involved in the settlement of the transactions agree to submit the relevant transactions to partial settlement, or if partial settlement is mandatory, based on a CSD or a CCP decision.

Applicability of thresholds to the settlement of transactions linked by T2S parties

Reference ID	T2S.08.410

When several unsettled transactions are linked by T2S parties, T2S shall partially settle these transactions if the threshold criterion is met for all of these transactions. T2S shall seek to apply at least the same partial settlement ratio to all linked transactions. In any case, this partial settlement procedure must not result in the exclusion from settlement of any one of the linked transactions (i.e. none of the linked transactions must remain completely unsettled, since this would disrupt the all-or-none link).

<u>Background information</u>

The ability to submit for partial settlement transactions linked on an all-or-none basis has been identified as a necessary feature in T2S. This feature allows settling partially a back-to-back transaction if all the counterparties involved agree on partial settlement. This feature consequently limits fails and improves the settlement efficiency. Of course, if one of the trades involved in the back-to-back transaction is not eligible for partial settlement (e.g. no agreement, threshold not reached etc.), the set of linked transactions should not be submitted for partial settlement and should be settled on an all-or-nothing basis (see the distinction in T2S.08.420 below). It is also obvious that when submitting transactions linked on an all-or-nothing basis for partial settlement, T2S shall not disrupt the all-or-none link. In other words, none of the linked transactions must remain fully unsettled if the other linked transactions are partially (or fully) settled.

Example 1, partial settlement of transactions linked on an all or none basis

A first transaction for 100 securities between A and B is linked on an all–or-none basis to a second transaction for 100 securities between B and C. Due to insufficient securities on A's securities account (only 90 available securities, instead of 100), the whole back-to-back transaction cannot be settled. In this case, if A, B and C agree to submit the relevant transactions for partial settlement (and if all other conditions such as the threshold criterion for partial settlement are met), the back-to-back transaction must be submitted to partial settlement. Consequently, 90 securities must be delivered from A to B and then from B to C. Of course, the all–or-none link must not be disrupted by the partial settlement procedure: this means in particular that the 90 securities delivered by A to B must not be used for any settlement purpose other than the settlement of the linked transaction, i.e. for the settlement of the trade between B and C in this example.

Example 2, threshold application:

Three instructions are linked together:

- Trade 1: a sale from A to B for 100 securities (€ 100); A has only 25 securities;

- Trade 2 a redelivery from B to C for 60 securities (€ 60)

- Trade 3 a redelivery from B to D for 40 securities (€ 40).

B has no securities on its account but can redeliver the 25 securities received from A.

The minimum threshold for triggering partial settlement is set at 20%.

Trade 1 meets the threshold (25%, i.e. 25 out of 100 securities).

When settling the securities redelivery between B and C and between B and D, considering that all transactions are linked, T2S shall apply partial settlement to both Trade 2 and Trade 3.

In this case, T2S shall seek to keep at least the same partial settlement ratio for Trades 1, 2 and 3. The 25% ratio used for trade 1 shall be the minimum ratio reused for Trades 2 and 3 (i.e. the ratio should be considered as minimum threshold applicable, in the sense that this procedure should not prevent the settlement of a higher percentage of a trade if the securities or cash position makes this possible or if this is required due to rounding effects). For trade 2, this means that 15 securities would have to be redelivered from B to C (25%, i.e. 15/60) and that 10 securities would have to be redelivered from B to D (25%, i.e. 10/40).

Maintenance of the link between linked transactions despite partial settlement

Reference ID	T2S.08.420

When submitting transactions linked by T2S parties for partial settlement, T2S shall keep the link between the relevant transactions in a way ensuring that all settling legs are settled together and that all unsettled legs remain linked together and are recycled as linked transactions for new settlement attempts. In other words, the T2S partial settlement procedure must not challenge the all-or-none rule applied to linked transactions.

The all-or-nothing rule means that the whole value of the transactions must be settled, otherwise the transactions must not be settled at all (all-or-nothing). Consequently, when the principle of all-or-nothing applies, an instruction will not be submitted to partial settlement.

Background information

The all-or-none rule (all transactions or none of them) is different from the all-or-nothing rule (the whole value of the transaction or nothing). The all-or-none rule means that none of the transactions shall be settled if one of them cannot be settled. The all-or-none rule allows a partial settlement of linked transactions as long as the link between the settling legs and the links between the unsettled legs are both maintained. As explained in the example given in T2S.08.410, this also mean that in a back-to-back transaction, the assets received in one of the linked transactions must not be used for any settlement purpose other than the settlement of the linked transaction.

This illustrates that the all or none rule is significantly different from the all-or-nothing rule: the all-or-nothing rule means that 100% of the value of the transactions must be settled (or nothing must be settled). In other words, in the case of the all-or-nothing rule, partial settlement is not accepted.

Applicability of partial settlement to deliveries of baskets of collateral

Reference ID	T2S.08.430

When a basket of securities has to be delivered against one cash leg, T2S shall only submit this transaction to partial settlement if the information on the value of each line of securities is available in T2S. If the value of each line of securities is not available in T2S, T2S shall not submit the relevant transaction for partial settlement (application of the all-or-nothing rule).

Background information

The value of each line of securities is known by T2S if this delivery of securities aims at collateralising a credit operation with a central bank (value of collateral provided by CCBM2 for instance). In such a case, since T2S is aware of the value of each line of security, T2S shall be able submit the collateral basket delivery for partial settlement, since T2S is able to determine the value of the lacking securities and, hence, the new counter value of the cash leg.
By contrast, when the delivery of the basket of securities aims at collateralising a cash transfer between two T2S parties, T2S will not be aware of the valuation of each line of collateral on which both T2S parties have agreed (agreement outside T2S). Considering that T2S is not aware of this value (and, hence, cannot calculate any ratio for the settlement of the cash leg if securities are missing on the delivery side), T2S shall not submit the relevant transaction for partial settlement (all-or–nothing rule).

8.1.7 Settlement and optimisation procedures applicable to non-euro-denominated transactions

Non-euro settlements

Reference ID	T2S.08.440

Provided that an appropriate arrangement has been put in place between T2S and a central bank issuing a given non-euro currency (or a central bank authorised to hold accounts denominated in this currency and to settle transactions on these accounts), T2S shall be technically able to settle transactions in central bank money on T2S dedicated cash accounts denominated in this currency. Currencies accepted by T2S are referred to as "T2S settlement currencies" below.

Settlement procedures applicable to transactions denominated in non-euro currencies

Reference ID	T2S.08.450

Under the conditions mentioned above, T2S shall be technically able to provide the settlement and optimisation procedures (including partial settlement) already envisaged for euro-denominated settlements for non-euro-denominated settlements. This shall only be applicable to non-euro transactions denominated in the same T2S settlement currency (for the settlement of sets of transactions involving several currencies, see below).

Provided that an appropriate agreement has been reached with the central bank issuing the relevant non-euro currency, T2S shall also provide an auto-collateralisation functionality for non-euro-denominated transactions, in the same way as auto-collateralisation is provided for euro-denominated settlements.

Settlement banks shall also be able to determine a net buying limit for each of the eligible non-euro T2S settlement currencies for which T2S provides settlement services.

8.1.8 Settlement and optimisation procedures applicable to sets of transactions denominated in several currencies

Sets of linked transactions whose cash leg is denominated in different currencies

Reference ID	T2S.08.460

T2S shall not enable T2S parties to denominate the cash leg of one single transaction in several T2S settlement currencies. However, T2S shall enable T2S parties to submit linked transactions whose cash legs are denominated in different T2S settlement currencies, provided that the cash leg of each of the transactions is denominated in one, and only one, T2S settlement currency. When transactions denominated in different T2S settlement currencies are linked together by T2S parties, or when T2S needs to link several transactions denominated in different T2S settlement currencies for optimisation purposes (see below), T2S shall submit all the relevant transactions together for settlement as linked transactions.

Optimisation procedures applicable to sets of transactions denominated in several currencies

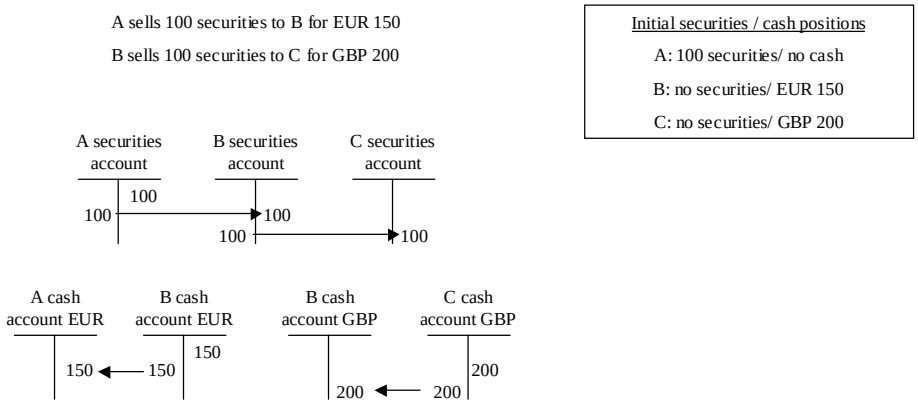
Reference ID	T2S.08.470

During the night-time settlement window and in the daytime continuous optimisation process, when several transactions involving the same ISIN are denominated in different T2S settlement currencies, T2S shall only optimise the securities legs of the relevant transactions in order to reduce the net securities debit resulting from the submission for settlement of this set of transactions.

T2S shall not seek to optimise the cash legs of transactions denominated in different T2S settlement currencies (i.e. T2S shall not offer any technical cross-currency cash netting).

Background information:

Example: in this example, T2S should optimise the securities delivery side (back-to-back) to the extent that C has enough GBP to pay B and that B has enough euro to pay A. An inability of B to pay in euro, for instance, would not have allowed any optimisation (no cross-currency optimisation on the cash side).



8.2 Auto-collateralisation

Provision of auto-collateralisation functionality in euro in T2S

Reference ID	T2S.08.480

T2S shall provide auto-collateralisation functionality in central bank money in euro during the whole T2S settlement day in order to facilitate the settlement of underlying securities-related instructions that fail to be settled due to a lack of cash. As regards non-euro transactions, the provision of auto-collateralisation is dependent on whether the central bank issuing the relevant currency agrees to resort to T2S auto-collateralisation procedures.

8.2.1 Central banks' role in intraday credit provision through auto-collateralisation

Central banks' ability to provide intraday credit through auto-collateralisation

Reference ID	T2S.08.490

T2S shall enable each national central bank to use the auto-collateralisation functionality to provide intraday credit to any eligible settlement banks holding one or several T2S dedicated cash accounts on its books.

Central banks' need to open a T2S central bank cash account

Reference ID	T2S.08.500

In order to provide intraday credit through auto-collateralisation in T2S to one or several eligible settlement banks, each national central bank is required to open a T2S central bank cash account, on which all debits corresponding to its intraday credit provisions through auto-collateralisation will be posted.

Identification by central banks of settlement banks eligible for auto-collateralisation

Reference ID	T2S.08.510

Each central bank that provides intraday credit through the auto-collateralisation functionality is required to declare in T2S static data which settlement banks that hold a T2S dedicated account on its books are eligible for intraday credit through auto-collateralisation.

Each central bank will define the settlement banks that are eligible for intraday credit through auto-collateralisation. All these settlement banks are required to (i) hold one or several T2S dedicated cash account(s) on their books, (ii) meet the central bank criteria to obtain intraday credit (for all T2S settlement currencies) and (iii) enter into a contractual relationship with the relevant central bank for that purpose (provision of intraday credit through auto-collateralisation).

Central banks' ability to limit the provision of intraday credit through auto-collateralisation

Reference ID	T2S.08.520

Each national central bank shall be able to limit the net amount of intraday credit that an eligible settlement bank can obtain in T2S (e.g. for the handling of exceptional situations, if deemed necessary). The limit on the net amount of intraday credit that such an eligible settlement bank can obtain through auto-collateralisation is referred as auto-collateralisation limit set by a central bank.

8.2.2 Settlement banks' access to auto-collateralisation

Settlement bank's access to intraday credit through auto-collateralisation

Reference ID	T2S.08.530

In order to obtain intraday credit through auto-collateralisation on a T2S dedicated cash account, a settlement bank must be recognised in T2S static data as eligible for intraday credit through auto-collateralisation by the national central bank with which it holds its T2S dedicated cash account.

T2S must not trigger any auto-collateralisation operation in favour of a T2S settlement bank, if this settlement bank is not identified in T2S static data as eligible for auto-collateralisation operations by the central bank on the books of which the T2S dedicated cash account is held.

T2S dedicated cash accounts benefiting from auto-collateralisation

Reference ID	T2S.08.540

When a settlement bank is recognised as eligible for intraday credit through auto-collateralisation by a central bank, T2S shall enable the settlement bank to benefit from intraday credit through auto-collateralisation on all the T2S dedicated cash accounts it holds with relevant central bank.

T2S dedicated cash account affected by the application of a central bank limit

Reference ID	T2S.08.550

When a central bank limit applies to the net amount of intraday credit an eligible settlement bank can obtain through auto-collateralisation, the auto-collateralisation limit set by a central bank shall apply to all T2S dedicated cash accounts in the respective currency that the relevant settlement bank holds with this central bank.

In this case, T2S shall ensure that the total net amount of intraday credit granted on all the relevant T2S dedicated cash accounts remains below or equal to the auto-collateralisation limit set by the central bank.

8.2.3 Conditions for triggering auto-collateralisation

List of conditions applicable to the triggering of auto-collateralisation operations

Reference ID	T2S.08.560

T2S shall automatically trigger the provision of intraday credit through auto-collateralisation on a T2S dedicated cash account when all the following conditions are met:

- the settlement bank holding the T2S dedicated cash account is eligible for intraday credit provision through auto-collateralisation;
- one or several underlying settlement instructions are failing to be settled due to a lack of cash on the relevant T2S dedicated cash account(s) (see section on the list of settlement transactions allowed on T2S dedicated cash accounts as defined in Chapter 10);
- the amount of intraday credit provided through auto-collateralisation is sufficient to settle the underlying instruction(s);
- the amount of credit obtained from the central bank is fully collateralised with eligible collateral by the

settlement bank; and

- if a central bank limit or any other limit or restriction has been set in T2S on the amount of intraday credit that can be granted through auto-collateralisation, the provision of intraday credit must not lead to exceed these limits or breach these restrictions.

8.2.4 Settlement of the cash leg and securities leg of auto-collateralisation operations

Use of intraday credit provided through auto-collateralisation to settle the underlying transactions

Reference ID	T2S.08.570

T2S shall ensure that the eligible settlement bank receiving the credit (hereinafter referred to as the "credit receiver") on its T2S dedicated cash account cannot use this credit for any other purpose than the settlement of the cash leg of the underlying instruction.

Thus, T2S shall ensure that the amount of intraday credit provided through auto-collateralisation on a T2S dedicated cash account is automatically and exclusively used to settle the cash claim(s) of the credit receiver's counterparty(ies) in the underlying instruction(s).

For a given amount of intraday credit provided through auto-collateralisation, T2S shall:

- debit the T2S central bank cash account of the national central bank providing the intraday credit;
- credit the settlement bank's T2S dedicated cash account on which the cash leg of the underlying instruction(s) should have been settled;
- debit the same T2S dedicated cash account; and
- credit the T2S dedicated cash account(s) of the credit receiver's counterparty(ies) in the underlying instruction.

T2S shall link these four cash movements in order to ensure that they are all settled together and that none of them is settled if one of them cannot be settled. These cash movements shall also be linked to the corresponding securities movement or securities reservation in such a way that none of these operations is settled if one of them does not settle.

Settlement of securities leg of auto-collateralisation in the case of a Repo country

Reference ID	T2S.08.572

Simultaneously to the cash movements described on UR T2S.08.570 on auto-collateralisation. T2S shall ensure:

That in the case where the market requires a Repo for auto-collateralisation, eligible securities shall be transferred to the central bank's securities account with reference to the settlement bank.

If auto-collateralisation on flow is triggered for a buy trade with eligible securities, T2S shall:

- Debit the seller's account with the sold securities;

- Credit the buyer's account with the purchased securities;
- Debit the buyers securities account with the purchased securities;
- Credit the Central Bank's securities account with the purchased securities.

If auto-collateralisation on stock is trigged on a buy trade, T2S shall:

- Debit the seller's securities account with the sold securities;
- Credit the buyer's securities account with the securities;
- Debit the buyer's securities account the nominal value of securities earmarked for collateralisation, for the amount needed to perform the collateralisation;
- Credit the Central Bank's securities account the buyer's securities.

T2S shall link these four securities transfers in order to ensure that they are all settled together and that none of them settle if one cannot settle. These securities transfers shall also be linked to the corresponding cash movement in such a way that none of these operations (cash or securities) settle if one of them does not settle.

Settlement of securities leg of auto-collateralisation in the case of a pledge country

Reference ID	T2S.08.574

Simultaneously to the cash movements described on UR T2S.08.570 on auto-collateralisation. T2S shall ensure:
In the case where the market requires a pledge account for auto-collateralisation, that the eligible securities are moved to the account of the T2S party pledged to the central bank providing the credit.
In case where the market requires no separated pledge account, that the securities are reserved on the securities account of the settlement bank and that these securities are not used for any other securities settlement until they have been unreserved.
If auto-collateralisation on flow is triggered for a buy trade with eligible securities, T2S shall:

- Debit the seller's account with the securities;
- Credit the buyer's account pledged to the central bank providing the credit, or credit the buyer's account the securities and simultaneously reserve them;

T2s shall link these securities transfers in order to ensure that they are all settled together and that none of them settle if one cannot settle. These securities transfers shall also be linked to the corresponding cash movement in such a way that none of these operations (cash or securities) settle if one of them does not settle.
If auto-collateralisation on stock is trigged, T2S shall:

- Debit the buyer's account with the securities to be used for auto collateralisation and credit the buyer's account pledged to the central bank providing the credit, or reserve the securities to be used for auto

collateralisation.

8.2.5 Management and identification of eligible collateral in the settlement of auto-collateralisation operations

Full collateralisation of auto-collateralisation operations

Reference ID	T2S.08.580

Intraday credit provision through auto-collateralisation must be fully guaranteed with securities that are recognised as eligible collateral by Central Banks and that the relevant settlement bank accepts for use as collateral with a central bank.

Identification of Eurosystem's eligible collateral

Reference ID	T2S.08.590

In order to determine whether a security is recognised as eligible collateral by the Eurosystem, T2S must:
- retrieve and store at least once a day the list of the Eurosystem eligible collateral as provided by CCBM2[1], or the list of eligible collateral provided through other means for non-euro credit provision; and
- check whether the relevant security is included in this list of eligible collateral.

Use of collateral on stock and on flow

Reference ID	T2S.08.600

In order to collateralise intraday credit obtained through auto-collateralisation operations, T2S shall enable an eligible settlement bank to use:

- eligible collateral on stock, i.e. securities already available on one of the securities accounts for which the settlement bank ensures the cash settlement and for which it has received an appropriate agreement from the securities account holder; and/or
- eligible securities on flow, i.e. the securities being purchased through the underlying instruction for which the auto-collateralisation is triggered.

[1] It is taken as a working assumption that the source of values for collateralisation will be CCBM2 for credit provision in euro. This working assumption does not aim at pre-empting any decision on the use of CCBM2.

When auto-collateralisation both on flow and on stock are possible for the settlement of a transaction or a set of transactions (i.e. agreement from the T2S party to use securities on flow and on stock, eligible securities on flow, eligibility of the counterparty…), T2S shall preferably resort to auto-collateralisation on flow before auto-collateralisation on stock. When the collateral value of the securities on flow is not sufficient to cover the amount of credit granted, T2S shall complement collateral on flow with collateral on stock. Finally, when securities being purchased in the underlying transaction are not eligible collateral (e.g. equities for Eurosystem intraday credit) and cannot therefore be taken as collateral on flow, T2S shall use collateral on stock to secure the amount of intraday credit granted through auto-collateralisation.

Determination by settlement banks of the collateral on stock available for auto-collateralisation

Reference ID	T2S.08.610

For each of the securities accounts associated with its T2S dedicated cash accounts (i.e. its securities accounts, the omnibus securities accounts of its clients or the securities accounts of the settlement users to which it provides cash settlement services), the settlement bank is required to determine in T2S static data whether:

(i) it agrees to the use of all securities posted on the relevant account as collateral with a central bank;

(ii) it agrees to the use of only a part of the securities posted on the relevant account as collateral with a central bank; in such a case, the settlement bank is required to earmark the securities that T2S shall consider as available for auto-collateralisation purposes; or

(iii) it does not agree to the use of any of the securities posted on the relevant account as collateral with a central bank.

Even when options (i) or (ii) are used, T2S shall not use for collateral purposes the securities for which the relevant settlement bank has identified a close link.

Restrictions related to the existence of close links

Reference ID	T2S.08.620

Each settlement bank that has access to credit operations with its central bank shall identify in the database used by T2S for collateral management purposes relating to auto-collateralisation, any securities (ISINs) for which the relevant settlement bank has identified a close link. When a settlement bank has opted for the aforementioned options (i) or (ii), T2S shall not use the securities for which a close link has been identified.

Background information

"Close links" means a situation in which the counterparty is closely linked to an issuer/debtor/guarantor of eligible assets.[2]

Settlement banks' restrictions on the use of collateral on stock

Reference ID	T2S.08.630

When opting for the aforementioned options (i) and (ii), the settlement bank is required to determine for each securities account in T2S static data whether the securities posted on the relevant account can be used:
- for auto-collateralisation operations settling exclusively on the T2S dedicated cash account to which the securities account is associated by default; or
- for auto-collateralisation operations settling on several T2S dedicated cash accounts of the settlement bank; in such a case, the settlement bank is required to determine the T2S dedicated cash accounts that can benefit from the collateral earmarked on the relevant securities account for auto-collateralisation operations.

T2S shall also allow positions or part of positions to be selected for collateral on stock.

Settlement banks' agreement to use collateral on flow

Reference ID	T2S.08.640

T2S shall enable settlement banks to determine whether they agree to use securities being purchased as collateral on flow in an auto-collateralisation operation with a central bank. They should be able to do this both at an account level and at an instruction level.

[2] According to the General documentation on Eurosystem monetary policy instruments and procedures, a close link between a counterparty and the issuer/debtor/ guarantor of eligible assets can stem from the fact that:
(i) the counterparty owns 20% or more of the capital of the issuer/debtor/guarantor, or one or more undertakings in which the counterparty owns the majority of the capital own 20% or more of the capital of the issuer/debtor/guarantor, or the counterparty and one or more undertakings in which the counterparty owns the majority of the capital together own 20% or more of the capital of the issuer/debtor/ guarantor; or
(ii) the issuer/debtor/guarantor owns 20% or more of the capital of the counterparty, or one or more undertakings in which the issuer/debtor/guarantor owns the majority of the capital own 20% or more of the capital of the counterparty, or the issuer/ debtor/guarantor and one or more undertakings in which the issuer/debtor/ guarantor owns the majority of the capital together own 20% or more of the capital of the counterparty; or
(iii) a third party owns both the majority of the capital of the counterparty and the majority of the capital of the issuer/debtor/guarantor, either directly or indirectly, through one or more undertakings in which that third party owns the majority of the capital.
The above provision on close links does not apply to: (a) close links between the counterparty and the public authorities of EEA countries (including the case where the public authority is a guarantor of the issuer/debtor/guarantor); (b) covered bank bonds issued in accordance with the criteria set out in Article 22(4) of the UCITS Directive; or (c) cases in which debt instruments are protected by specific legal safeguards comparable to those for the instruments given under (b).

Agreement to use collateral on flow at a securities account level

Reference ID	T2S.08.650

A settlement bank must determine for each of the securities accounts associated with its T2S dedicated cash account (i.e. its own proprietary or client securities account or the securities account of T2S parties to which it provides cash settlement services), whether the securities to be delivered to the securities account are available by default for auto-collateralisation purposes or not.

Agreement to use collateral on flow at an instruction level

Reference ID	T2S.08.660

T2S shall enable settlement banks to determine at an instruction level whether they agree to use securities being purchased as available collateral on flow, by specifying at an instruction level whether the securities being purchased can be used as collateral with a central bank in an auto-collateralisation operation or not.
When the availability or non-availability of securities for auto-collateralisation on flow is specified at an instruction level, T2S will use this to over-ride the choice made by the settlement bank at the account level. When no specification is provided at an instruction level, the choice made by the settlement bank at the account level shall apply by default.

Restrictions related to the existence of close links

Reference ID	T2S.08.670

For T2S parties with access to auto-collateralisation, it is required to identify securities for which a close link exists. When such a close link is identified by the T2S party, T2S shall not use the relevant securities as collateral in auto-collateralisation operations. T2S shall automatically exclude these securities from auto-collateralisation, even if the T2S party has identified the relevant instruction as available for auto-collateralisation on flow.

8.2.6 Valuation of eligible collateral

Sources of value for eligible collateral for auto-collateralisation purposes

Reference ID	T2S.08.680

In order to value collateral, T2S shall retrieve and store the value of each eligible security (e.g. provided by CCBM2 if the relevant central bank uses CCBM2 or by the relevant source of value if CCBM2 is not used)

at least once a day.
Values provided to T2S shall be ready to use (i.e. haircut already deducted).
When preparing and implementing auto-collateralisation operations, T2S shall use the latest value provided by CCBM2 or by national central banks (if CCBM2 is not used) to value the relevant collateral.

Adjustment of collateral used to the amount of credit granted

Reference ID	T2S.08.690

Based on values provided by CCBM2 or by national central banks, T2S shall calculate the total amount of securities necessary to collateralise the amount of intraday credit provided through auto-collateralisation. T2S must select securities collateralisation in such a way that the total amount of securities collateralised :

- is at least equal to the amount of intraday credit provided; and
- does not exceed a maximum percentage of the value of the credit granted, defined by the central bank providing the credit.

8.2.7 Collateral movements in auto-collateralisation operations

Ability for central banks to choose between several types of collateralisation procedures

Reference ID	T2S.08.700

Based on the type of collateral movement chosen by each central bank providing credit, T2S shall collateralise the intraday credit provided through auto-collateralisation either:
(i) by transferring the securities from the securities account of a T2S party to the securities account of the central bank providing the credit; or
(ii) by transferring the securities from the account of the bank receiving the credit to another account of this settlement bank (the second securities account being pledged to the central bank providing the credit); or
(iii) by reserving the securities on the securities account of the settlement bank receiving the credit; in such a case, the securities shall be reserved in favour of the central bank providing the credit and T2S shall no longer enable the securities account holder to use the relevant securities as long as they are reserved.
Each national central bank is required to determine in T2S static data the collateralisation procedure for which it opts, i.e. (i) transfer to an account opened in its name, or (ii) transfer to an account pledged in its favour, or (iii) reservation of securities. This choice will apply to all eligible settlement banks to which the relevant central bank provides intraday credit through auto-collateralisation.

Implementation of the central banks' choice on auto-collateralisation on stock

Reference ID	T2S.08.710

When auto-collateralisation takes place on the basis of collateral on stock, T2S shall either :
-debit the relevant securities account and credit the securities account of the central bank providing intraday credit (aforementioned option (i)) or the securities account pledged to the relevant central bank (aforementioned option (ii)); or
- reserve the securities on the securities account of the eligible settlement bank receiving the credit (aforementioned option (iii)).
In any case, all the securities transfers or reservations shall be linked to the corresponding cash movement, in such a way that none of these operations can be settled if one of them cannot be settled.

Implementation of the central banks choice on auto-collateralisation on flow

Reference ID	T2S.08.720

When auto-collateralisation takes place on the basis of collateral on flow, T2S shall
- debit the securities account of the T2S party selling the relevant securities;
- credit the securities account of the T2S party buying the securities;
- debit or reserve the securities on the securities account of the buyer (the debit or reservation shall take place according to the collateralisation procedure chosen by the central bank providing the credit); and
- where the securities have been debited on the account of the buyer (no reservation), T2S shall either transfer them to the account of the central bank or on an account pledged in favour of the central bank.
The three operations (securities reservation) or four operations (securities transfer) mentioned above shall be linked together and shall also be linked to the corresponding cash movement, in such a way that none of these operations are settled if one of them cannot be settled.

8.2.8 Types of underlying transactions eligible for auto-collateralisation

Underlying settlement instructions eligible for auto-collateralisation

Reference ID	T2S.08.730

Provided all other conditions for intraday credit provision through auto-collateralisation are met, T2S shall consider that the following underlying instructions are eligible for auto-collateralisation operations:

- all trading-related settlement instructions processed through T2S delivery versus payment procedures; and
- all corporate actions instructions involving a debit on a T2S dedicated cash account (of an eligible

settlement bank).

As regards intraday credit provision through auto-collateralisation for trading-related settlement instructions, T2S shall use either collateral on stock or on flow (depending on the agreement given by the T2S party and on the availability of collateral).

Types of settlement operations eligible for auto-collateralisation

Reference ID	T2S.08.740

T2S shall be able to trigger auto-collateralisation operations for the settlement of a single underlying instruction (for the daytime real-time settlement process) or of sets of underlying instructions (either linked by a T2S party or linked by T2S for optimisation purposes).
For the settlement of a single underlying instruction during the daytime real-time settlement process, T2S shall adjust the amount of intraday credit provided to equal the liquidity needed to settle the relevant underlying instruction (i.e. cash debit of the settlement instruction minus cash already available on the T2S dedicated cash account where settlement takes place).
For the settlement of a set of underlying instructions, T2S shall adjust the amount of intraday credit provided to equal the net amount of liquidity needed to settle the relevant underlying instructions.

8.2.9 Specific settlement banks' needs in auto-collateralisation operations

Settlement banks' use of auto-collateralisation for the settlement of proprietary, clients and settlement users' underlying transactions

Reference ID	T2S.08.750

T2S shall enable each settlement bank to benefit from intraday credit provision through auto-collateralisation on its T2S dedicated cash account(s) in order to facilitate the settlement of:

- its underlying proprietary instructions ;
- its clients' underlying instructions (clients using custody services of the relevant settlement bank); and/or
- underlying instructions pertaining to settlement users using the relevant settlement bank for their cash settlements.

Settlement banks' ability to limit auto-collateralisation at a securities account level

Reference ID	T2S.08.760

For each securities account associated with one of its T2S dedicated cash accounts, a payment bank shall be

able (via setting in static data) to limit the amount of intraday credit that can be obtained through auto-collateralisation, so as to facilitate the settlement of instructions pertaining to the relevant securities account. This limit is referred to as an "auto-collateralisation limit set by a payment/settlement bank" per currency".

T2S shall also enable each payment bank to set a common auto-collateralisation limit for several securities accounts. When an auto-collateralisation limit per currency is common to several securities accounts, T2S shall verify that the total amount of intraday credit provided through auto-collateralisation for the settlement of underlying instructions pertaining to the relevant securities accounts does not lead to exceed this auto-collateralisation limit.

In order to set an auto-collateralisation limit set by a payment/settlement bank, the payment bank involved is required to determine in T2S static data the auto-collateralisation limit applicable to each securities account, or to a set of securities accounts.

T2S shall enable each payment/settlement bank to set an auto-collateralisation limit of zero for one or several securities accounts.

Central bank limits over-ride settlement bank limits for auto-collateralisation

Reference ID	T2S.08.770

When an auto-collateralisation limit is set by a central bank to a settlement/payment bank, this auto-collateralisation limit set by a central bank will over-ride the auto-collateralisation limit defined by the settlement/payment bank on the amount of intraday credit that can be provided for the settlement of its settlement users' transactions. Consequently, T2S must not trigger any auto-collateralisation operation that would lead to a breach of either the auto-collateralisation limit set by a settlement/payment bank or the auto-collateralisation limit set by a central bank.

Net buying limits over-ride settlement/payment banks' auto-collateralisation limits

Reference ID	T2S.08.780

When the auto-collateralisation limit set by a settlement/payment bank for one or several securities account(s) exceeds the net buying limit(s) applicable to one (or several) of the securities account(s) concerned, T2S shall not trigger any auto-collateralisation operation that would breach the net buying limit(s) of the relevant account(s).

Background information

Example

Payment bank A provides cash settlement services to settlement users B and C. Payment bank A has set a net buying limit of € 2 million for user B and € 1 million for user C. This means that the net purchases of user B

cannot exceed € 2 million and € those of user C cannot exceed 1 million. Payment bank A has set a common limit of € 2 million for users B and C with respect to auto-collateralisation . Provided that users B and C have not already reached their net buying limits, this means that user B could resort to auto-collateralisation up to € 2 million to finance its net securities purchases, whereas user C could only benefit from auto-collateralisation up to € 1 million to finance its net purchases. If the unused part of user C net buying limit were € 0.6 million (after a net purchase of 0.4 million), user C would only be able to resort to auto-collateralisation for € 0.6 million.

Provision of credit auto-collateralisation in the absence of central bank or settlement/payment bank limits

Reference ID	T2S.08.790

If there is no central bank limit, no auto-collateralisation limit and no net buying limit specified for a securities account in the static data, T2S shall not apply any restriction on the amount of intraday credit that can be provided for the settlement of the underlying instructions settling on the relevant securities account. Consequently, T2S shall provide as much intraday credit as necessary, limited only by the value of available collateral.

8.2.10 Modification of auto-collateralisation limits during the settlement process

Modification of central bank limits during the settlement process

Reference ID	T2S.08.800

T2S shall enable each central bank to enter or modify at any moment of the settlement day the central bank limits on the amount of credit that can be granted to an eligible settlement/payment bank.

This limit can be increased or decreased as required by the central bank.

When a central bank limit is entered or modified during a night-time full optimisation cycle, T2S shall store this limit and apply it as of the start of the following full optimisation cycle or at the start of the real-time settlement window, if the new limit was entered by the central bank during the last optimisation cycle of the night.

When a central bank limit is entered or modified during the daytime real-time settlement cycle, T2S shall apply this new limit without delay.

When the new central bank limit applying to a settlement/payment bank is lower than the net pending amount of intraday credit already provided to that settlement bank, T2S shall:

- no longer trigger any auto-collateralisation operation in favour of the settlement/payment bank;
- trigger the reimbursement of the pending amount of intraday credit with any cash available on the relevant T2S dedicated cash account until the amount of pending intraday credit is equal to, or lower

than the new central bank limit; and

- if the amount of cash available on the relevant T2S dedicated cash account(s) is not sufficient, T2S shall dedicate future cash proceeds arriving on the T2S dedicated cash account to the reimbursement of the pending amount of intraday credit until the pending amount of intraday credit becomes equal to, or less than the new central bank limit.

Modification of settlement banks' auto-collateralisation limits during the settlement process

Reference ID	T2S.08.810

Settlement/payment banks shall be able to enter or modify auto-collateralisation limits at any moment of the settlement day. These auto-collateralisation limits can be increased or decreased according to the settlement/payment banks' needs and apply to the securities account(s) identified by the settlement/payment bank in T2S static data.

When a settlement/payment bank enters or modifies a limit during a night-time full optimisation cycle, T2S shall store this auto-collateralisation limit and apply it as of the start of the following full optimisation cycle, or at the start of the real-time settlement window (if the new limit has been entered by the settlement/payment bank during the last optimisation cycle of the night).

When a settlement/payment bank auto-collateralisation limit is modified during the daytime real-time settlement window, T2S shall apply this new limit without delay.

When the new auto-collateralisation limit applied to one or several securities account(s) is lower than the net pending amount of intraday credit already provided for the settlement of instructions pertaining to the relevant securities account(s), T2S shall no longer trigger any auto-collateralisation operation in favour of the relevant securities account(s).

8.2.11 Reimbursement of credits provided through auto-collateralisation

Settlement/payment banks' ability to reimburse intraday credit during the real-time window

Reference ID	T2S.08.820

T2S shall enable settlement/payment banks to reimburse their pending intraday credit operations at any moment of the daytime real-time settlement window with the amount of liquidity available on their T2S dedicated cash account(s).

T2S dedicated cash account(s) used for the reimbursement of credits obtained with one central bank

Reference ID	T2S.08.830

For the reimbursement of its pending intraday credit operations, a settlement/payment bank shall transfer

cash from its T2S dedicated cash account to the T2S central bank account of the national central bank that had provided the credit (and on the books of which the T2S dedicated cash account used for the credit reimbursement is held).

When a settlement/payment bank has obtained intraday credit through auto-collateralisation on several T2S dedicated cash accounts held with the same central bank, the settlement/payment bank shall be able to reimburse all its pending intraday credit with liquidity coming from any of these T2S dedicated cash accounts.

T2S dedicated cash account(s) used for the reimbursement of credits obtained with several central banks

Reference ID	T2S.08.840

When a settlement/payment bank has obtained intraday credit from different national central banks on several T2S dedicated cash accounts held with these respective national central banks, the settlement/payment bank must reimburse each central bank by using the liquidity available on the T2S dedicated cash account(s) held with the relevant central bank.

Background information

This requirement covers two different cases:

- the case where a settlement/payment bank obtains intraday credit in euro from a euro area NCB and non-euro credit (e.g. GBP) from a non-euro area NCB (e.g. the Bank of England);

- the case where a settlement/payment bank obtains intraday credit in euro from several national central banks through different local branches established in the Member State of the relevant central banks.

When a settlement/payment bank wants to use the liquidity available on a T2S dedicated cash account held with central bank A to reimburse a credit operation opened with central bank B, the settlement/payment bank shall not be able to transfer liquidity directly from the T2S dedicated cash account A to the T2S central bank account of central bank B.

Automated reimbursement of pending intraday credit at the cut-off time

Reference ID	T2S.08.850

If, at the end-of-day cut-off time for intraday credit reimbursement in T2S, a settlement/payment bank has not already reimbursed all its pending intraday credit operations with a central bank, T2S shall automatically use all the liquidity available on the T2S dedicated cash account(s) held with the relevant central bank to reimburse the pending intraday credit operations.

Since reserved amounts of liquidity have to be released automatically by T2S at the end of the day, T2S shall use released amounts of reserved liquidity as available liquidity for the automated reimbursement of the

pending intraday credits.

Transfer in RTGS system of intraday credit that remains pending at the cut-off time

Reference ID	T2S.08.860

If, at the end-of-day cut-off time for intraday credit reimbursement in T2S, the liquidity available on the T2S dedicated cash accounts is not sufficient to fully reimburse its pending intraday credit, T2S shall automatically transfer the position of the relevant T2S party into RTGS system during the end-of-day process so that the pending amount of intraday credit is reimbursed in the relevant RTGS system.

Release/back transfer of collateral when intraday credit is reimbursed

Reference ID	T2S.08.870

As soon as intraday credit is reimbursed in T2S, either automatically by T2S or on demand of the relevant settlement/payment bank, T2S must:

- release collateral for the corresponding amount of intraday credit reimbursed (where there was reservation of collateral); and
- transfer the collateral back onto the securities account from which it was transferred (where there was transfer of collateral).

Identification of the amount of collateral to be released/transferred back

Reference ID	T2S.08.880

T2S must make sure that the amount of collateral released or transferred back is adjusted to the amount of credit reimbursed. T2S must not release or transfer back collateral for an amount exceeding the value of the credit reimbursed.

Reservation of liquidity for intraday credit reimbursement

Reference ID	T2S.08.890

At any moment of the daytime real-time settlement window, T2S shall enable settlement/payment banks to reserve liquidity on their T2S dedicated cash accounts for the reimbursement of their pending intraday credit operations with central banks. To achieve this, the settlement/payment bank is required to submit a liquidity reservation instruction determining the amount of liquidity to be reserved and identifying the T2S dedicated cash account where the liquidity has to be reserved.

Use of liquidity reserved for the reimbursement of pending intraday credit

Reference ID	T2S.08.900

When a settlement/payment bank wants to use an amount of liquidity reserved on its T2S dedicated cash account to reimburse a pending intraday credit operation, the settlement/payment bank is required to state in its reimbursement instruction that T2S should use the reserved liquidity for the settlement of this instruction. To that end, the relevant T2S party shall indicate the reference of its initial liquidity reservation instruction to its reimbursement instruction. The use of the liquidity reserved shall take place according to the procedure described earlier.

8.2.12 Dynamic reimbursement of auto-collateralisation and automated substitution of collateral

Dynamic reimbursements of auto-collateralisation and automated substitution of collateral

Reference ID	T2S.08.910

If securities already collateralised in an auto-collateralisation operation have to be used for the settlement of a trading-related transaction, T2S shall automatically release or transfer back the securities in order to facilitate the settlement of the relevant trading-related transaction. To that end, T2S shall either resort to a dynamic reimbursement of auto-collateralisation or to an automated substitution of collateral.

These procedures shall only be triggered if the securities already used in auto-collateralised are necessary for the settlement of a trading-related transaction, i.e. if insufficient securities are available on the securities account of the seller.

To that end, T2S shall either:

- automatically trigger the reimbursement of the pending intraday credit operation for an amount corresponding to the value of the collateral to be released; this operation is hereinafter referred to as a “dynamic reimbursement of auto-collateralisation”; or
- if no dynamic reimbursement can be settled, automatically substitute other collateral for an equivalent value; this operation is referred to below as “an automated substitution of collateral”.

Conditions regarding the origin of collateral

Reference ID	T2S.08.920

T2S shall trigger the dynamic reimbursement of auto-collateralisation, or the automated substitution of collateral, only if the collateral released or transferred back is needed for the settlement of a selling

instruction pertaining to the securities accounts from which the relevant collateral had initially come (or where the collateral had been reserved).

When the collateral considered comes from a securities account other than the securities account to which the selling instruction pertains, neither the dynamic reimbursement of auto-collateralisation nor an automated substitution of collateral must be triggered by T2S.

Background information

This restriction is aimed at avoiding that collateral belonging to a T2S party is used to facilitate the securities settlement of another T2S party using the same T2S dedicated cash account.

Conditions in terms of cash availability for triggering dynamic reimbursements of auto-collateralisation operations

Reference ID	T2S.08.930

When a dynamic reimbursement of auto-collateralisation is triggered by T2S in order to ensure the reimbursement of the initial credit operation for which the securities had been collateralised, T2S shall in priority use the cash holdings available on the T2S dedicated cash account where the intraday credit had initially been granted.

When insufficient cash is available on the relevant T2S dedicated cash account, T2S shall use the proceeds of the underlying selling transaction (cash on flow) to reimburse the intraday credit operation.

Dynamic reimbursement of auto-collateralisation shall be possible only if the sum total of the cash available on the T2S dedicated cash account of the seller and the cash proceeds of the selling instruction is sufficient to reimburse the intraday credit operation. If insufficient cash is available to ensure the reimbursement of the credit operation, T2S shall attempt an automated substitution of collateral.

Procedure for using cash holdings for dynamic reimbursements of auto-collateralisation operations

Reference ID	T2S.08.940

For dynamic reimbursements of auto-collateralisation operations, T2S shall apply the following procedure.

When a dynamic reimbursement of auto-collateralisation is settled, and where there is sufficient cash available on the relevant T2S dedicated cash account, T2S shall:

- debit the relevant T2S dedicated cash account for an amount corresponding to the collateral released (or transferred back);
- credit the T2S central bank account for the corresponding amount;
- release the collateral on the securities account of the seller or transfer back the collateral on the securities

account of the seller;

- debit the securities account of the seller and credit the securities account of the buyer;
- debit the T2S dedicated cash account of the buyer (or of its payment bank) and credit the T2S dedicated cash account of the seller (or of its payment bank).

All the aforementioned operations shall be linked together in such a way that none of these operations shall be settled if one of them cannot be settled.

Procedure for using cash on flow for dynamic reimbursements of auto-collateralisation operations

Reference ID	T2S.08.950

When a dynamic reimbursement of auto-collateralisation is settled, where the cash stemming from the underlying sale has to be used, T2S shall:

- debit the T2S dedicated cash account of the buyer (or of its payment bank)
- credit the T2S dedicated cash account of the seller with the proceeds of the sale;
- debit the T2S dedicated cash account of the seller for an amount corresponding to the reimbursement of the collateral to be released or transferred back;
- credit the T2S central bank account for the corresponding amount;
- release the collateral on the securities account of the seller or transfer back the collateral on the securities account of the seller; and
- debit the securities account of the seller and credit the securities account of the buyer.

All the aforementioned operations shall be linked together in such a way that none of these operations shall be settled if one of them cannot be settled.

Automated substitution of collateral

Reference ID	T2S.08.960

The automated substitution of collateral shall automatically be triggered by T2S if:

- the securities already used as collateral are necessary for the settlement of a securities delivery (i.e. if insufficient securities are available on the securities account of the deliverer); and if
- no dynamic reimbursement of auto-collateralisation can be triggered due to a lack of cash.

When an automated substitution of collateral is settled, T2S shall:

- reserve collateral on the securities account of the seller for an amount equivalent to the value of the collateral to be released (or transfer collateral from the securities account of the seller to the securities account of the central bank, or to a securities account pledged in favour of the central bank) for an amount equivalent to the value of the collateral to be transferred back;

- release the collateral initially reserved in the securities account of the seller for previous intraday credit operations, or transfer back to the securities account of the seller the securities he had initially used as collateral in a previous auto-collateralisation operation;
- debit the securities account of the seller and credit the securities account of the buyer; and
- debit the T2S dedicated cash account of the buyer (or of its payment bank) and credit the T2S dedicated cash account of the seller (or of its payment bank).

All aforementioned operations shall be linked in such a way that none of them shall be settled if one cannot be settled.

USER REQUIREMENTS

CHAPTER 9

SPECIFIC SETTLEMENT PROCESSING REQUIREMENTS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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9 Specific settlement processing requirements

This chapter provides requirements relating to the settlement of specific categories of securities (9.1), to specific settlement procedures (9.2), to corporate actions settlements (9.3) and to cross-CSD settlements and in/out settlements (9.4).

Section 9.1 deals with requirements applicable for the settlement of specific categories of securities such as the settlement of funds shares and coupon stripping/ reattachment.

Section 9.2 covers specific settlement procedures such as:

- the settlement of linked transactions for transactions that have to settle on an all-or-none basis;
- transfers of baskets of collateral when several lines of securities have to be transferred against one payment leg;
- the blocking and reservation of cash or securities and the use of reserved positions of cash and/or securities;
- conditional securities deliveries, where securities are blocked and released upon instruction of an administering party.

Section 9.2 also includes descriptions of the possible need for:

- the settlement of multilateral instructions for markets where no CCP intervenes in the settlement process;
- the settlement of borrowing and lending operations, for which no additional specific requirements have been identified.

Section 9.3 deals with corporate action settlements, including cross-CSD corporate action settlements through CSD links.

Finally, section 9.4 addresses cross-CSD settlements, i.e. settlements between several CSDs in T2S, as well as with in/out T2S settlements, i.e. settlements between a CSD in T2S and a CSD outside T2S.

9.1 Settlement of specific categories of securities

Whereas T2S will be able to settle most categories of securities without a specific settlement process, some particular settlement procedures will be necessary for the settlement of e.g. funds shares (like UCITS), for coupon stripping and reattachment, for registered securities and for some additional specific categories of securities.

9.1.1 Funds shares

Funds shares require specific settlement features because there are frequent increases/decreases in the volume of funds shares and because decimals of holdings can exist. These procedures may apply to other types of securities as well.

Increases/ decreases in funds shares volumes

Reference ID	T2S.09.010

T2S shall provide the ability to settle frequent increases/ decreases in the volume of funds shares corresponding to the mark-up/ mark-down process managed outside T2S by the fund managers. These increases/ decreases in the volume of funds shares shall be settled according to the standard T2S process for securities increases/ decreases in T2S via securities issuances and redemptions; see requirements T2S.09.320 and T2S.09.330. These processes may be settled in real-time.

Decimals in funds shares

Reference ID	T2S.09.020

T2S shall provide T2S Parties the ability to settle decimals of holdings on the securities accounts for funds shares or other securities settled in decimals.

9.1.2 Coupon stripping/reattachment

As examples of complex securities reorganisations, the processes of coupon stripping/reattachment are described hereunder. For further explanations on settlement of corporate actions see section 9.3 and Annex 12.

Coupon stripping/reattachment functionality

Reference ID	T2S.09.030

T2S shall provide CSDs with the ability to strip coupons[1] from their debt instruments in such a way that T2S Parties can settle separately the principal of the debt instrument with the remaining coupons and the different stripped coupons. T2S shall also provide T2S Parties with the ability to reattach coupons and the principals of debt instruments.

Coupon stripping process

Reference ID	T2S.09.040

T2S shall provide CSDs with the ability to ensure coupons' stripping by settling the following transactions:

- a FOP delivery of the original debt instrument from the T2S Party's, and/or the holder's, securities account to the technical issuance account of that debt instrument (ISIN);
- a FOP delivery of the principal with the remaining coupons from the technical issuance account of that debt instrument to the T2S Party's, and/or the holder's, securities account;
- FOP deliveries of coupons from the technical issuance accounts of each stripped coupon to the T2S Party's, and/or the holder's, securities account, the number of deliveries being equal to the number of coupons detached from the initial debt instrument.
- all these transactions should be instructed and processed as linked transactions to be settled on an all-or-none basis.

T2S shall not verify that the volume/value of the delivered coupons equals the volume/value of the stripped coupons.

Once coupons are detached from the original debt instrument, each coupon and principal may be settled separately, like any other securities.

Coupon reattachment process

Reference ID	T2S.09.050

T2S shall provide the ability to reattach coupons to the principal to reconstitute the original debt instrument by settling the following transactions:

- a FOP delivery of the principal with the remaining coupons from the T2S Party's, and/or the holder's, securities account to the technical issuance account of that debt instrument (ISIN);

[1] Here "coupons" may refer to either all coupons of the remaining periods or only the coupon of the current interest-bearing period.

- FOP deliveries of valid coupons from the T2S Party's, and/or the holder's, securities account to the technical issuance accounts of each coupon, the number of deliveries being equal to the number of coupons that have not reached their maturity date (i.e. coupons that remain valid for settlement and have not already been paid/redeemed);
- FOP deliveries of the reconstituted original debt instrument from the technical issuance account to the T2S Party's, and/or the holder's, securities account;
- all these transactions should be instructed and processed as linked transactions to be settled on an all-or-none basis.

9.2 Specific settlement procedures

Types of specific settlements expected from T2S

Reference ID	T2S.09.060

When required (e.g. at the instruction level or at a securities account level), T2S shall settle specific settlement instructions such as linked transactions, transfer of baskets of collateral, conditional securities deliveries and multilateral instructions.

9.2.1 Settlement of linked transactions

Four examples of links have been identified at the settlement level:

- The first example of a link could be used by CSDs for linking the settlement of the several transactions composing a corporate action to settle on an all-or-none basis.
- The second example of a link is of a technical nature. It is used by T2S in order to submit several transactions together such that none of them settle if one of them does not settle (e.g. provision of intraday credit through auto-collateralisation with the settlement of the underlying transaction).
- The third example of a link aims at linking a delivery of securities with one or several redelivery[2] transactions, in order to avoid the risk that the redelivery may take place before the initial securities delivery. This type of link is referred to as a linked securities redelivery.
- The fourth example of a link aims at linking one or several receipts of securities to one securities redelivery, in order to avoid the risk that a T2S Party may receive securities if their redelivery is not possible. This type of link is referred to as a linked securities receipt. The settlement link indicators are described in Chapter 5 (UR T2S.05.147).

[2] Also known as onward delivery – it is to a further counterparty, rather than a repeat of the original delivery

T2S shall accept linked instructions.

Reference ID	T2S.09.070

Linked instructions shall be possible on a one-to-one, one-to-many or many-to-many basis. T2S shall not link instructions, unless the link is received within at least one instruction, sent by a T2S Party involved in all of the transactions to be linked.

Linked settlement of several transactions is all-or-none

Reference ID	T2S.09.080

T2S shall settle linked instructions in a way that ensures that none of them settles if one of them does not settle. This settlement procedure is referred to as the all-or-none rule.

T2S automatic linking of settlement of transactions

Reference ID	T2S.09.090

T2S shall automatically link some specific types of instructions and settle them in a way that ensures that none of them settles if one of them does not settle.
T2S shall automatically link the settlement of at least the following sets of instructions:

- an auto-collateralisation instruction with its underlying settlement instruction, in order to ensure that the intraday credit granted through the auto-collateralisation operation is exclusively used for the settlement of the underlying instruction (see section on auto-collateralisation);
- an optimised reimbursement of auto-collateralisation with the underlying transaction in order to ensure that (i) the cash proceeds of the underlying transaction are exclusively used for the reimbursement of the auto-collateralisation operation and (ii) the collateral released is delivered to the buyer in the underlying transaction (see auto-collateralisation);
- a repo operation with a central bank (other than auto-collateralisation) with a cash transfer instruction from T2S to the relevant RTGS account: the credit provision through repo on a T2S dedicated cash account shall be linked with a cash transfer from T2S dedicated cash account to the relevant RTGS account;

Linked securities redeliveries

Reference ID	T2S.09.100

T2S shall enable a T2S Party to link one or several redeliveries of securities to one securities receipt, in such a way that the securities are not redelivered if they are not received by the T2S Party. However, the receipt

and the redeliveries shall not settle all-or-none, i.e. even if the redeliveries cannot settle, the delivery shall settle independently if possible.

Background information:

This functionality aims at enabling a T2S Party involved in a back-to-back transaction to link the onwards deliveries of securities (second step of the back-to-back) to their receipt (first leg of back to back). This functionality can also be used for the settlement of transactions in a direct holding environment; see Annex 14, Settlement of Direct Holdings in T2S.

Linked securities receipt

Reference ID	T2S.09.110

T2S shall enable a T2S Party to link one or several receipts of securities to one securities redelivery, in such a way that the incoming securities transaction(s) do(es) not settle if the securities cannot be redelivered. However, the receipt and the redeliveries shall not settle all-or-none, i.e. if the receipts cannot settle, the redelivery shall settle independently if possible.

Background information:

For instance, this functionality aims at enabling a CCP to link a buy-in to the redelivery of the securities in such a way that the buy-in settles only if the redelivery of the securities can settle.

Eligibility of linked transactions for partial settlement

Reference ID	T2S.09.120

Linked transactions remain eligible for partial settlement. Consequently, if the agreement and threshold criteria mentioned in the section on partial settlement are met (see section 8.1.6), T2S shall partially settle the linked transactions if necessary.

Level of priority applied to the set of linked transactions

Reference ID	T2S.09.130

T2S shall settle sets of linked instructions according to the level of priority of the instruction having the highest level of priority in the set of instructions (the whole set of linked instructions shall be settled according to this level of priority).

9.2.2 Transfer of baskets of collateral

Ability for T2S Parties to transfer baskets of collateral

Reference ID	T2S.09.140

T2S shall enable T2S Parties to transfer a basket of collateral composed of more than one line of securities (ISIN codes) against one cash transfer, the party may transfer as many securities lines (ISIN codes) as necessary.

Securities and T2S dedicated cash accounts used for deliveries of baskets of collateral

Reference ID	T2S.09.150

T2S shall enable T2S Parties to use securities from several securities accounts for the transfer of baskets of collateral, but the corresponding cash leg will only be settled on one T2S dedicated cash account. The T2S Party must specify in the instructions the securities accounts to be debited and the T2S dedicated cash account to be credited.

Background information: The T2S Party can send several FOP deliveries from different securities accounts and a DVP from the securities account that is linked to required T2S dedicated cash account. All these instructions shall be linked with link indicator "WITH" and settle on all-or-none basis.

Settlement procedure applicable to deliveries of baskets of collateral

Reference ID	T2S.09.160

T2S shall settle the collateral transfer and the corresponding cash leg on a DVP mode in a way that ensures that all securities are transferred if and only if the cash leg can settle, i.e. they will settle in an all-or-none mode.

Eligibility of basket of collateral deliveries for partial settlement

Reference ID	T2S.09.170

T2S shall submit baskets of collateral transfer instructions to partial settlement only if the conditions defined in the section on partial settlement for this type of instruction are met.

9.2.3 Blocking and reservation of cash or securities

A blocking of cash or securities prevents the transfer of a position in a specific security/currency in a specific securities account/T2S dedicated cash account.

A reservation of cash or securities reserves a securities or cash position for the settlement of one or more settlement instructions. The process results in the transfer of the reserved holdings/cash to another securities

account/T2S dedicated cash account, followed by the deletion of the reservation.

Processing of blocking/reservation instructions

Reference ID	T2S.09.180

T2S shall be able to process blocking/reservation information whether it is inserted in a settlement instruction itself or received as a specific (blocking/reservation) instruction.

Reference to a reservation/blocking instruction

Reference ID	T2S.09.190

A T2S Party shall be able to refer to an existing reservation/blocking in another settlement instruction, by means of the reservation's/blocking's unique reference number. Such reference shall be interpreted so that the provisioning process shall include the reserved/blocked amount of cash or securities in its provisioning check - see also Provision-checking on cash and securities reserved/blocked, section 7.3.
The reserved/blocked securities/cash will be used first (ahead of unreserved/unblocked securities/cash) for settlement of the instruction.

Deletion of a reservation/blocking instruction

Reference ID	T2S.09.200

A reservation/blocking shall be automatically deleted when all the reserved/blocked securities or cash have been used for settlement of one or more settlement instructions.

9.2.4 Conditional securities deliveries

CoSD should serve as a special functionality in order to settle a small number of exceptional instructions that require the fulfilment of a settlement condition outside T2S before allowing the securities settlement to take place in T2S. This type of settlement allows, for instance, a CSD to coordinate an exceptional Free of Payment delivery in T2S with a cash settlement outside T2S on behalf of its participants.
T2S shall be able to block securities, cash or both and put the instruction on hold in order to make sure that these securities or cash can only be delivered to the receiving T2S Party, when the latter fulfils the relevant conditions outside T2S. The fulfilment of the external settlement conditions shall be managed by an administering party, which will trigger the release of the instruction and depending on the type of CoSD, the delivery of the blocked securities, cash or both in T2S, once the condition is fulfilled.
The condition can relate to cash settlement in a CoBM or CeBM currency not eligible in T2S, but could also be any other condition that would need to be fulfilled prior to settlement. Hence the functionality can be widely used for the treatment of exceptions where the delivery of securities settlement is dependent on

actions outside T2S.

The activation of the CoSD functionality will be automatic, based on rules defined, created and maintained by the CSDs in T2S. These rules will also identify the administering party, i.e. the CSD in charge of organising/ managing the fulfilment of the external conditions and triggering the securities delivery to the receiver once these external conditions are fulfilled.

Activation of CoSD

Reference ID	T2S.09.210

T2S shall enable CSDs to define in static data the rules according to which instructions shall be submitted to the CoSD functionality. These rules must determine the conditions according to which an instruction shall be automatically submitted to the CoSD functionality by T2S. It shall be possible to assign more than one condition to a CoSD. These rules shall also identify the administering party able to trigger the securities delivery or the cancellation of the CoSD. It shall be possible to have more than one administering party per CoSD

T2S shall check incoming instructions and – according to the above mentioned rules – submit them automatically when applicable to the CoSD procedure.

Background information

The business data can be for instance the market, the ISIN, the security type, or the currency, and will be communicated by the CSD or the directly connected T2S Party in its settlement instruction. The rules can be based for instance on the registration obligation for a specific market or the need for cash settlement in commercial bank money.

CoSD settlement process

Reference ID	T2S.09.220

T2S shall automatically block the securities position, cash or both and put the settlement instruction on hold. Once the relevant securities, cash or both are blocked, T2S shall inform the administering party (i.e. the CSD defined by the rules previously mentioned) that the securities, cash or both have been blocked. Other parties (i.e. instructing parties, account holders) shall also be informed, as per T2S interface user requirements.

Securities, cash or both shall remain blocked and the delivery instruction shall remain pending until T2S receives from the administering party:

- a release instruction, requesting that the securities are freed and delivered to the receiving party (based on the information contained in the initial instruction);
- or a cancellation request to free the securities and cancel their delivery to the receiving party.

CoSD messages

Reference ID	T2S.09.230

T2S shall send a blocking status message and an “on hold” status message to the relevant T2S Parties.
A “blocking” status message will be sent by T2S to inform the (administering) CSD and/or the directly connected T2S Party, that the securities, cash or both have been blocked for the processing of the original instruction.
A “hold” status message will be sent by T2S to inform the (administering) CSD and/or the directly connected T2S Party that the transaction related to the original instruction is prepared for settlement and waiting for release.
Once the condition outside T2S is completed, only the administering CSD is allowed to send the release message.
If the receiving party is outside T2S, the status information shall be relayed by the CSD responsible for the account within T2S.

CoSD recycling

Reference ID	T2S.09.240

If at the end of the day, T2S does not receive any release or cancellation instruction, the original settlement instruction shall be recycled for the following settlement day based on the recycling rules for this market (i.e. securities should remain blocked and the delivery instruction should remain on hold).

CoSD cancellation process

Reference ID	T2S.09.250

T2S shall enable the instructing parties to ask for a cancellation of the settlement, according to the rules defined in Chapter 5. After receipt of the cancellation request from the two instructing parties, the administering party shall also send a cancellation after checking the external condition. Only the administering party shall be allowed to cancel (on its responsibility) if the external condition could not be fulfilled. T2S shall also enable the administering party to cancel a CoSD on a unilateral basis (on its responsibility) if the external conditions could not be fulfilled in due time.
A cancellation confirmation shall be sent to the (administering) CSD and the directly connected T2S Party, if any.

9.2.5 Settlement of multilateral instructions

Multilateral instructions

Reference ID	T2S.09.260

When multilateral instructions have to be settled without CCP intervention, CSDs wanting to use T2S core settlement functionalities shall open securities and T2S dedicated cash accounts in their name (as many as they may require) and intervene in the settlement process. No specific requirements will be developed for this purpose.

Background information

For more information see Annex 17 chapter 2 Settlement of multilateral instructions.

9.2.6 Borrowing and lending operations in securities

The settlement of borrowing and lending operations, except for auto-collateralisation, does not imply any special requirements upon T2S. However, for the purpose of clarification, a short description of the recommended process follows.

In case of lending operations with securities as collateral, the CSD, or any other T2S Party administering the borrowing and lending, should send to T2S a settlement instruction (to lend the security) and one or multiple blocking instructions (collateral). These instructions will have to be linked before they enter T2S, in order for T2S to simultaneously open the lending and block the collateral. T2S shall send to the party administering the borrowing and lending, settlement confirmation messages to activate the opening and the closing of the lending.

Except in the case of auto-collateralisation (for which the information will be available within T2S), T2S will not hold any data about the valuation of the collateral.

To implement an “automatic” closing of lending operation, the party administering the borrowing and lending will have to send instructions both to open the lending and to close the lending (preferably at the same time) with the same settlement date, or a future date. The closing instruction will have to be set in a "HOLD" mode and released by the instructing party after the successful settlement of the opening of the lending. T2S will ensure these are not settled together in technical netting, if instructed for the same settlement date. T2S will be able to settle the closing lending instruction as soon as the closing instruction has been released.

This procedure is compliant with current market practices. From a T2S messaging perspective, the lending operation is transparent: the opening and closing lending instructions are settlement instructions. CSD and directly connected T2S Parties will be able to identify lending operations by using a specific transaction type in the settlement instruction, and T2S shall retrieve this transaction type in the statement messages.

9.3 Corporate actions settlement

When describing the settlement related requirements for corporate action processing in T2S, it is helpful to group the different types of corporate actions according to the settlement activity they generate:

1. No settlement involved, i.e. all corporate actions which do not result in settlement activity. Examples are Ordinary and Extraordinary Annual General Meetings.

2. Securities distributions (FOP), i.e. all corporate actions which result in the distribution of securities. Examples are Bonus Issues, Scrip Dividends, Stock Dividends, Intermediate Securities Distributions, Rights Distributions and Spin-offs.

3. Securities exchanges (DVD), i.e. all corporate actions where securities are exchanged into other securities (also referred to as reorganisations). Examples are Conversions, Exchanges, Mergers, Redenomination, Stock Splits, depending on the accounting procedure, and Reverse Splits. Corporate actions where the investor exchanges securities against other securities and at the same time pays an associated amount of cash, e.g. at a Subscription, are also included in this group. The cash leg may take place via the CSD or elsewhere.

4. Cash distributions with securities delivery (DVP), i.e. all corporate actions where securities are redeemed in exchange for cash (also referred to as reorganisations), i.e. mainly Final Maturity, Drawings, Partial Calls, and Full Calls. DWP (delivery with payment) and RVP are also included in this group.

5. Cash distributions only (PFOD), i.e. all corporate actions which result in the distribution of cash only. Examples are Capital Gains, Cash Dividends, Interest Payments and Share Premium Dividends.

The following table summarises the above groups of corporate actions and the generated settlement activities.

Generic group of corporate action	Example of corporate action	Instruction sent to T2S
1- No settlement involved	Annual General Meetings	Possibility to block securities
2- Securities distribution	Rights Distribution	Securities instructions (FOP)
3- Securities exchanges	Conversions	Securities instructions linked on all-or-none basis (DVD)
4- Cash distribution with securities delivery	Final maturity of debt instruments	Securities and Payment instructions (DVP)
5- Cash distribution	Cash dividends	Payment instructions free of delivery (PFOD)

When the requirements refer to a CSD in the following sections, they are referring to the Corporate Action Managing Entity as defined in Annex 12/Glossary

- **Settlement of corporate actions which result in the distribution of securities**

  The needs for settlement of this group of corporate actions are covered by the ability to instruct T2S with a receipt of securities or a delivery of securities, free of payment (FOP). Since this is already part of generic T2S requirements for the processing of FOP instructions, there is no extra requirement.

- **Settlement of corporate actions which result in the exchange of securities**

  This is covered by the delivery versus delivery instruction (DVD), already a generic T2S requirement.

- **Settlement of corporate actions which result in cash distributions with securities delivery**

  This is covered by the delivery versus payment instruction (DVP), already a generic T2S requirement.

- **Settlement of corporate actions which result in the distribution of cash**

  This is covered by the payment free of delivery instruction (PFOD), already a generic T2S requirement. The CSD can settle this pure cash movement either on its T2S dedicated cash account or on the relevant RTGS account. However, according to an ECSDA standard[3], the cash distribution via T2S dedicated cash accounts should prevail - "For financial instruments held within an SSS *(Securities Settlement System)*, all cash relating to corporate actions and market claims should have the default of being distributed via the SSS system."
  If the cash is paid on the TARGET2 RTGS account, then the CSD must go directly through TARGET2, without having any interaction with T2S.

Settlement of corporate actions in T2S

Reference ID	T2S.09.270

Settlement of corporate action instructions will take place in accordance with the sequencing rules defined in section 7.2.
As far as intraday corporate action settlements are concerned, corporate action instructions will be processed through real-time procedures according to their order of arrival in the settlement queue - see also Daytime settlements, section 7.2.1.5.
It is possible to assign a reserved priority to the corporate action instructions to make sure they settle before any other intraday pending instructions, see also Prioritisation, section 7.2.2.
The corporate action instructions can also be linked together to ensure an all-or-none settlement; see also Settlement of linked transactions, section 9.2.1.

[3] ECSDA's RESPONSE TO THE GIOVANNINI REPORT BARRIER 3, CORPORATE ACTIONS - PART 1 MANDATORY DISTRIBUTIONS, 30 June 2005.

Unblocking positions in connection with the settlement of corporate actions

Reference ID	T2S.09.280

Where positions that are blocked/reserved should be used in the settlement of a corporate action, the CSD shall be able to re-use in its instructions the reference of the blocking/reservation confirmation received from T2S. In that case, T2S shall automatically unblock the position before processing the settlement instruction.

Linking of unblocking of positions with the settlement of corporate actions

Reference ID	T2S.09.290

Unblocking instructions and settlement instructions may be linked together, so that the unblocking and the settlement shall be executed in an all-or-none basis. This ensures that the blocked/reserved position is used for the settlement of the corporate action and nothing else.

Settlement of corporate actions via cross-CSD links – an Investor CSD receives securities from its Technical Issuer CSD

Reference ID	T2S.09.300

T2S shall check the consistency of the holdings in the system between the Investor CSD's omnibus account(s) in its Technical Issuer CSD (for the relevant ISIN) and the mirror account(s) representing that Technical Issuer CSD in the Investor CSD, before admitting the corporate action-related settlement instructions for eligibility in the Investor CSD.

Only if the Investor CSD's omnibus account(s) in its Technical Issuer CSD has been credited with the amount of securities to be re-delivered within the Investor-CSD, shall the corporate action-related settlement instructions be eligible for settlement in the Investor-CSD, i.e. debiting the mirror account(s) in the Investor CSD and crediting the entitled accounts in the Investor-CSD. After this settlement, the balance in credit of the Investor CSD's omnibus account(s) in its Technical Issuer CSD is equal to the balance in debit of the mirror account(s) representing that Technical Issuer CSD in the Investor CSD.

Settlement of corporate actions via cross-CSD links – an Investor-CSD delivers securities to its Technical Issuer CSD

Reference ID	T2S.09.310

T2S shall check the consistency of the holdings in the system between the Investor CSD's omnibus account(s) in its Technical Issuer CSD (for the relevant ISIN) and the mirror account(s) representing that Technical Issuer CSD in the Investor CSD, before admitting the corporate action-related settlement

instructions for eligibility in the Investor CSD.

Only if the Investor CSD's omnibus account(s) in its Technical Issuer CSD has been debited with the amount of securities to be delivered from the Investor CSD, shall the corporate action related settlement instructions be eligible for settlement in the Investor CSD, i.e. crediting the mirror account(s) in the Investor CSD and debiting the required accounts in the Investor CSD. After this settlement, the balance in credit of the Investor CSD's omnibus account(s) in its Technical Issuer CSD is equal to the balance in debit of the mirror account(s) representing that Technical Issuer CSD in the Investor CSD.

Settlement of securities issuance in T2S – increasing the issued balance of a security

Reference ID	T2S.09.320

In order to settle an increase of the issued balance of an ISIN, the CSD shall be able to debit a technical account (an Issuer CSD Balance account) belonging to that CSD in T2S, and credit either a safekeeping account of an entitled holder (an Investor CSD account) or another technical account (an Issuer account) belonging to the issuer. In the latter case the securities should be "parked" on the Issuer account, waiting for the final distribution orders (i.e. debiting the Issuer account and crediting the accounts of the holders), e.g. in relation to an Initial Public Offering.

The settlement instructions representing the increase in the issued balance may be FOP, DVP or DVD instructions.

Background information

The (negative) holdings on the Issuer CSD Balance accounts will not represent any title. The booking on those types of accounts will only be for reconciliation purposes, and will follow the double entry book-keeping principle for all securities transfers in T2S.

Settlement of securities redemption in T2S – decreasing the issued balance of a security

Reference ID	T2S.09.330

In order to settle the decrease of the issued balance of an ISIN, the CSD shall be able to credit a technical account (an Issuer CSD Balance account) belonging to that CSD in T2S, and debit either a safekeeping account of an entitled holder (an Investor CSD account) or another technical account (an Issuer account) belonging to the issuer. In the latter case the securities must have been "parked" on the Issuer account, as a result of redemption (i.e. crediting the Issuer account and debiting the accounts of the holders), waiting for the final decrease of the issued balance.

The settlement instructions representing the decrease of the issued balance may be FOP, DVP or DVD instructions.

9.4 Cross-CSD settlements and in/out T2S settlements

One of the major benefits of T2S is that the settlement of cross-CSD transactions can be as efficient as intra-CSD settlement. This will be achieved by bringing together the securities accounts of multiple CSDs (as well as T2S dedicated cash accounts) on a single platform. To that purpose, T2S shall ensure that bookings for securities transfers between participants with different CSDs can all be made simultaneously with the cash movements. This will eliminate the current highly complex and costly processes of interactions between various platforms, which are often not synchronised and entail delays.
For cross-CSD settlements[4] between two CSDs participating in T2S, T2S shall automate the realignment process between CSDs on a real-time basis without needing to use additional procedures. There will be no need for any separate messaging activities in parallel to the messages sent by the users. Instead of having a set of instructions being sent between the CSDs involved in a cross-CSD transaction, T2S shall automatically realign the positions of the investor CSDs, other investor CSDs and/or the issuer CSD. The realignment will be based on the information set in the Static Data of T2S.

T2S will go through the same generic settlement process irrespective of the nature of the transaction (Intra-CSD, Cross-CSDs or with External CSDs). However, this process will generate a different number of movements depending on the nature of the transaction and the links between the CSDs.

For further details and more scenarios in addition to what is mentioned below, see Annex 10.

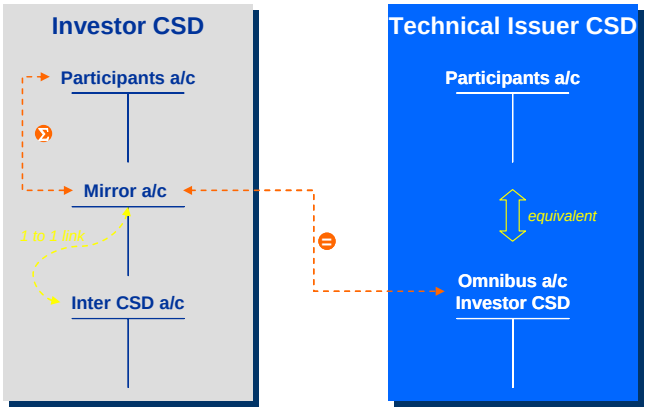
Account set-up between an Investor CSD and its Technical Issuer CSD

Reference ID	T2S.09.340

For any relationship between an Investor CSD and a Technical Issuer CSD, the Investor CSD shall open at least one account with its Technical Issuer CSD for a specific ISIN. This shall be one or more omnibus account(s) in which the total holdings equal the holdings held within the Investor CSD.
The Investor CSD shall have at least one Mirror Account in its own set of accounts in T2S, representing its holdings on the omnibus account in the Technical Issuer CSD. An Inter CSD Account shall be linked to each Mirror Account. The balance of the Inter CSD Account is usually equal to zero except when the Technical Issuer CSD is external to T2S and securities are transferring in/out of T2S, from/to an External CSD.

An Investor CSD shall be able to use several omnibus accounts within the Technical Issuer CSD in order to segregate the holdings of its participants within the Technical Issuer CSD.

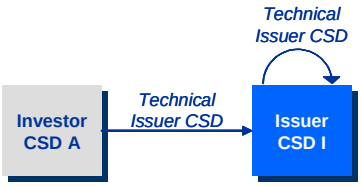
[4] Cross-CSD settlements are settlement where both the buyer and seller CSDs, as well as the Issuer CSD, are participating in T2S. In/out T2S settlements are settlements where at least one settling party or the Issuer CSD is not participating in T2S.



Settlement of a link between an Investor CSD and a Issuer CSD in T2S

Reference ID	T2S.09.350

For a link where the Technical Issuer CSD for an Investor CSD's specific ISIN is also the Issuer CSD of that ISIN, the cross-CSD settlement shall be processed as follows:



- The selling Party shall instruct T2S against the buying Party without giving the intermediary settlement chain;
- The buying Party shall instruct T2S against the selling Party without giving the intermediary settlement chain;
- No additional input shall be required from the CSDs;
- T2S shall derive all the necessary security and cash movements according to the links configured in the Static Data;
- T2S shall settle all the resulting security and cash movements simultaneously on an all-or-none basis.
- The settlement of the cash leg will take place in the T2S dedicated cash accounts.

When the Investor CSD is a buyer CSD, the securities shall be transferred from the seller's account with the Issuer CSD onto the omnibus account of the Investor CSD, provided that the seller (i.e. a participant in the Issuer CSD) has the securities in question. In the Investor CSD, the securities shall be credited to the buyer (i.e. a participant in the Investor CSD) and debited to the Mirror Account.

When the Investor CSD is a seller CSD, the process works in the opposite direction. The main difference is

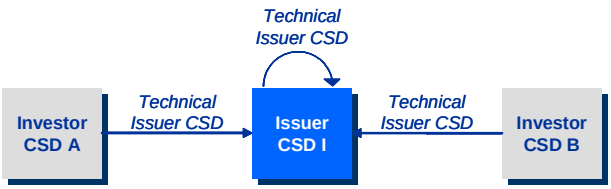
that two provisioning checks shall be performed – one on the accounts of the seller in the Investor CSD, and the other on the omnibus account of the Investor CSD in the Issuer CSD.

Settlement of a transfer of securities from an Investor CSD linked with the Issuer CSD to another Investor CSD linked to the Issuer CSD in T2S

Reference ID	T2S.09.360

When settlement takes place between two Investor CSDs having a link with the Issuer CSD, this means that:

- Both Investor CSDs hold omnibus accounts with the Issuer CSD;
- The Investor CSDs maintain Mirror Accounts of the omnibus accounts;
- The Investor CSDs do not need to have inter-CSD accounts with each other.



For the settlement of this transaction, the securities shall be transferred from the seller's account with its Investor CSD onto the mirror account of the Issuer CSD with the selling Investor CSD. This transfer is reflected at the same moment by a debit of the selling Investor CSD's omnibus account with Issuer CSD and by a credit of the buying CSD's omnibus account with the Issuer CSD. Finally, the mirror account of Issuer CSD with the buying CSD is debited and the account of the buyer within the buying Investor CSD is credited:

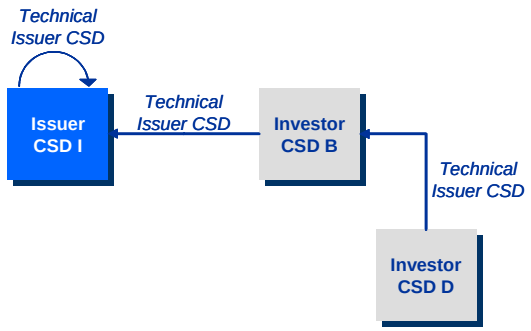
- The selling Party shall instruct T2S against the buying Party without giving the intermediary settlement chain;
- The buying Party shall instruct T2S against the selling Party without giving the intermediary settlement chain;
- No additional input shall be required from the CSDs;
- T2S shall derive all the necessary security and cash movements according to the links configured in the Static Data;
- T2S shall settle all the resulting security and cash movements simultaneously on an all-or-none basis.
- The settlement of the cash leg will take place in the T2S dedicated cash accounts.

Settlement of relayed links in T2S

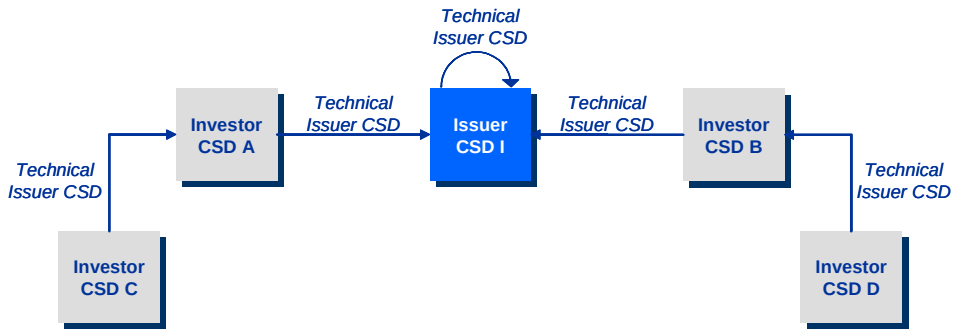
Reference ID	T2S.09.370

A relayed link is a situation whereby an Investor CSD does not have an account directly with the Issuer CSD, but rather with another Investor CSD (Technical Issuer CSD). In that case, the Investor CSD must decide which CSD is the Technical Issuer CSD for each eligible security.

The process of realignment for a transaction through a relayed link shall not be different than for a transaction in a direct link. In the simple case of a settlement between a T2S Party of an Investor CSD and a T2S Party of the Investor CSDs Technical Issuer CSD, there is no need for realignment at the level of the Issuer CSD.



In the more complex case of a settlement between T2S Parties in two Investor CSDs, where none of them acts as the Technical Issuer CSD for the other, there is a need for realignment at the level of their Technical Issuer CSD and potentially at the level of the Issuer CSD.



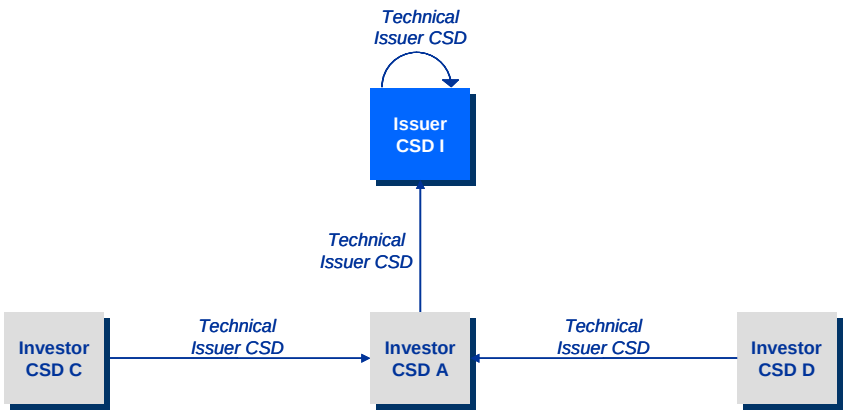
The buying and selling parties shall settle their transaction between themselves as any other DVP, DVD or FOP transaction. To that purpose, T2S shall handle the automatic realignment for all the CSDs involved in the realignment chain based on the static data information of the respective CSD's Technical Issuer CSD for the involved securities.

For all scenarios of relayed links, the same process shall apply:

- The selling Party shall instruct T2S against the buying Party without giving the intermediary settlement chain;
- The buying Party shall instruct T2S against the selling Party without giving the intermediary settlement chain;
- No additional input shall be required from the CSDs;
- T2S shall derive all the necessary security and cash movements according to the links configured in the Static Data;
- T2S shall settle all the resulting security and cash movements simultaneously on an all-or-none basis.
- The settlement of the cash leg will take place in the T2S dedicated cash accounts.

Settlement of a transfer of securities from an Investor CSD linked with a Technical Issuer CSD to another Investor CSD linked with the same Technical Issuer CSD in T2S

Reference ID	T2S.09.380



A special form of relayed link may apply in this case if the Technical Issuer CSD A (in the picture above) maintains separate omnibus accounts in the Issuer CSD for its linked Investor CSDs C and D, see below example of static data set-up:

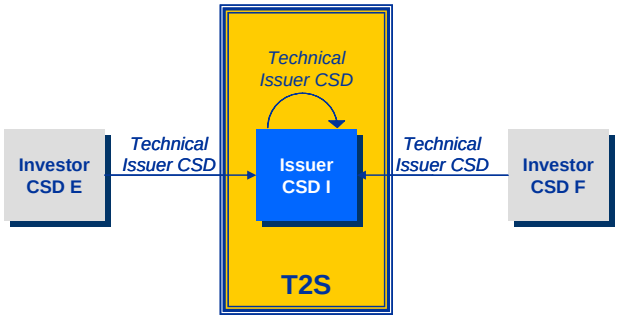
Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	
CSD A	CSD I	CSD D	2	2	2	01/01/2008	

In this case T2S shall generate realignment instructions not only between the Investor CSDs C and D and the Technical Issuer CSD A, but also between the two separate omnibus accounts of the Technical Issuer CSD A (in the Issuer CSD I). Since the settlement instructions are all linked, they should only settle in an all-or-none mode.

Settlement of a transfer of securities between two External Investor CSDs and the Issuer CSD is in T2S

Reference ID	T2S.09.390

This requirement relates to the settlement of a transfer of securities from an External Investor CSD in relationship with the Issuer CSD in T2S to another External Investor CSD in relationship with the Issuer CSD, where participant E of CSD E (External) sells securities to participant F of CSD F (External) with the following links:



From the perspective of T2S, this looks like a transaction between the two Investor CSDs (CSD E and CSD F as participants of CSD I) in the Issuer CSD (CSD I) (Domestic Settlement in the Issuer CSD):

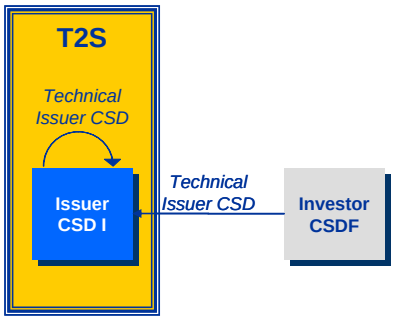
- CSD E (as participant of CSD I) shall instruct T2S against participant F at CSD F;
- CSD F (as participant of CSD I) shall instruct T2S against participant E at CSD E;
- In the case of a DVP settlement in T2S currency, the External CSDs (CSD E and CSD F, as participants of CSD I) need to have T2S dedicated cash accounts directly or via a T2S payment bank;
- T2S shall derive the security movement and the cash movement (if any5) and settle both simultaneously on an all-or-none basis.

[5] In the case of Conditional Securities Delivery (CoSD), there is no cash movement in T2S. The settlement procedure is the same as for FOP but the final settlement in T2S is conditional upon the cash settlement outside T2S.

Settlement of a transfer of securities between an Investor CSD that is External to T2S and an Investor CSD in T2S when the Issuer CSD is also in T2S

Reference ID	T2S.09.400

This requirement relates to the settlement of a transfer of securities to an External Investor CSD in relationship with the Issuer CSD from the Issuer CSD, where participant I of CSD I (a CSD in T2S) sells securities to participant F of CSD F (External CSD) with the following links:



From the perspective of T2S, this looks like a transaction between participant I of CSD I (Issuer) and the External CSD F as participant of the Issuer CSD (CSD I) (Domestic Settlement in the Issuer CSD):

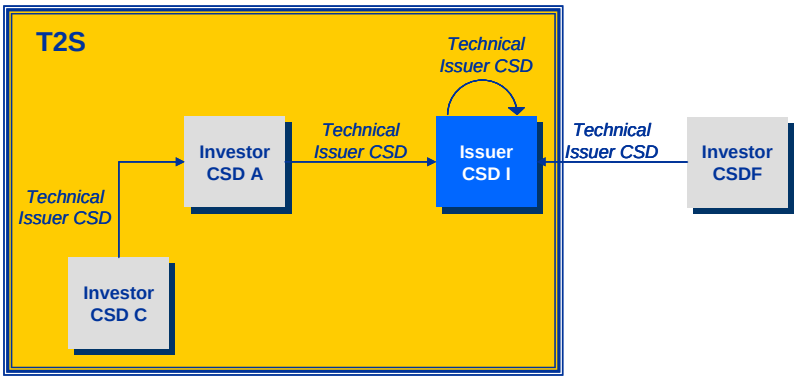
- Participant I shall instruct T2S against participant F at CSD F;
- CSD F (as participant of the Issuer CSD I) shall instruct T2S against participant I;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD F, as participant of CSD I) needs to have a T2S dedicated cash account directly or via a T2S payment bank;
- T2S shall derive the security movement and the cash movement (if any) and settle both simultaneously on an all-or-none basis.

This requirement also relates to the settlement of a transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the Issuer CSD (the seller within T2S), where participant C of CSD C (T2S CSD) sells securities to participant F of CSD F (External):

From the perspective of T2S, this looks like a transaction between participant C of CSD C and the External CSD F as participant of the Issuer CSD (CSD I) (Cross-CSD Settlement):

- Participant C shall instruct T2S Participant F against CSD F without giving the intermediary settlement chain in T2S;
- CSD F (as participant of the Issuer CSD I) shall instruct T2S against participant C without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD F, as participant of CSD I) needs to have a T2S dedicated cash account directly or via a T2S payment bank;
- T2S shall derive the security movements and the cash movement (if any), and settle both simultaneously

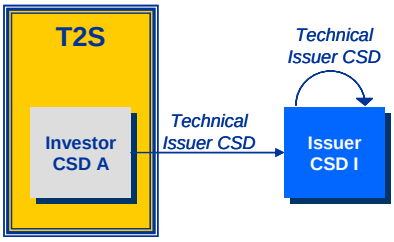
on an all-or-none basis;



Settlement of a transfer of securities between an Investor CSD in T2S and an External Investor CSD when the Issuer CSD is also External to T2S

Reference ID	T2S.09.410

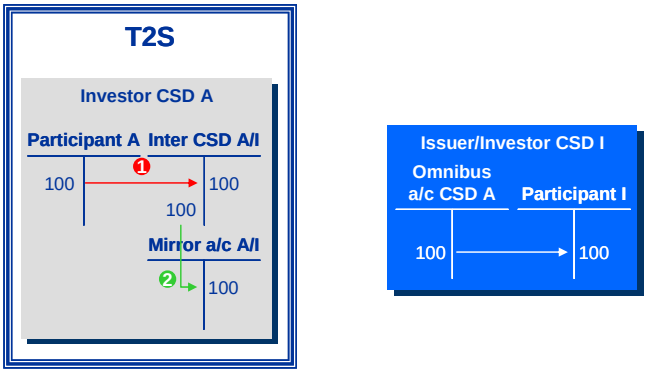
This requirement relates to the settlement of a transfer of securities from an Investor CSD in relationship with the Issuer CSD to the External Issuer CSD, where participant A of CSD A (a CSD in T2S) sells securities to participant I of CSD I (External) with the following links:



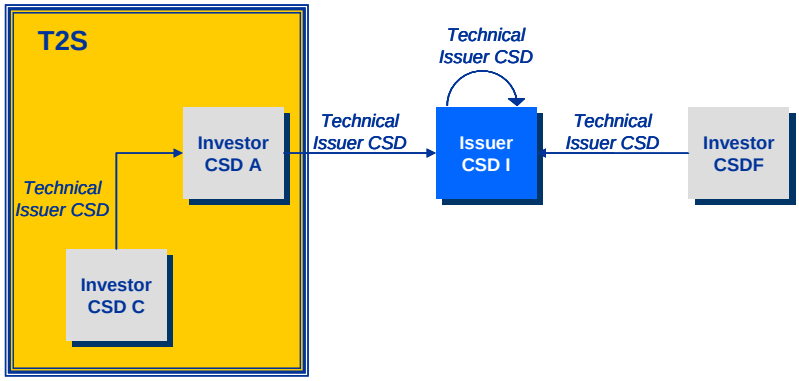
From the perspective of T2S, this looks like a conditional settlement of a transaction between participant A of CSD A and CSD A (as its own participant):

- Participant A shall instruct T2S against participant I at CSD I;
- CSD A shall instruct T2S against participant A;
- In the case of a DVP settlement in T2S currency, CSD A needs to have a T2S dedicated cash account directly or via a T2S payment bank;
- T2S shall derive the security movement from the participant A to the Inter-CSD account A/I and the cash movement (if any) according to the links configured in the Static Data;
- CSD A (as participant of the External CSD I) shall instruct the External Issuer CSD I, outside of T2S;

- T2S shall settle the security movement from the participant A to the Inter-CSD account A/I (# 1 below) and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are blocked;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External Issuer CSD (CSD I);
    - T2S books security movement from the participant A to the Inter-CSD account A/I (# 1 below) and the cash movement (if any).
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD A shall instruct T2S with the security movement from the Inter-CSD account A/I to the Mirror account A/I (unilateral FOP) (# 2 below);
- T2S shall settle movement #2.

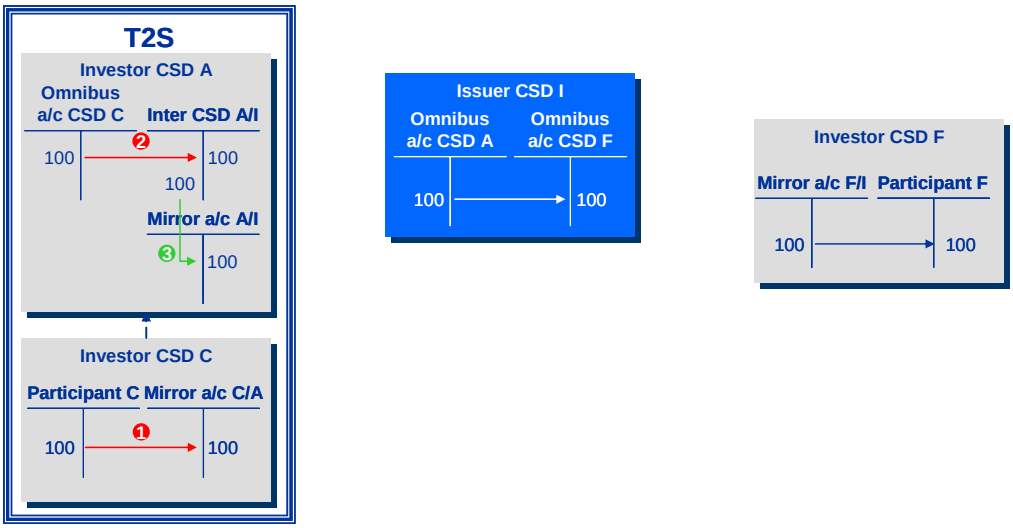


This requirement also relates to the settlement of a transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the External Issuer CSD (the seller within T2S), where participant C of CSD C (a CSD in T2S) sells securities to participant F of CSD F (External) with the following links:



From the perspective of T2S, this looks like a transaction between participant C of CSD C and CSD A (as its own participant):

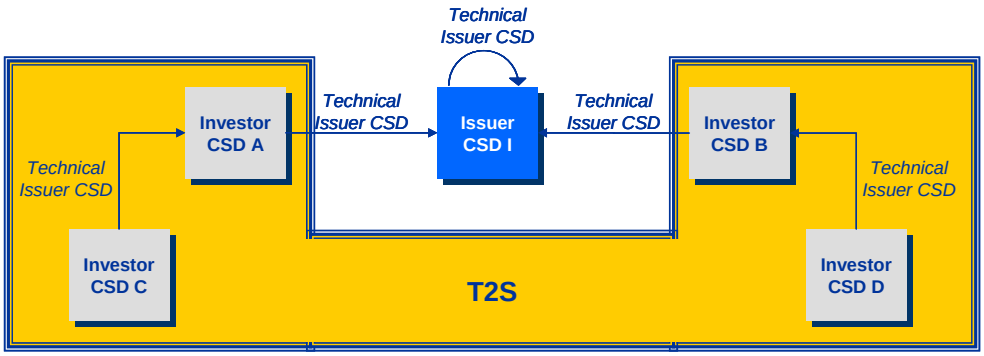
- Participant C shall instruct T2S against participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD A shall instruct T2S against participant C without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, CSD A needs to have a T2S dedicated cash account directly or via a T2S payment bank;
- T2S shall derive the security movements #1 and #2 below, and the cash movement (if any), according to the links configured in the Static Data;
- CSD A (as participant of the External CSD I) shall instruct the External Issuer CSD I, outside of T2S;
- T2S shall settle security movements #1 and #2, and the cash movement (if any), as CoSD (Conditional Securities Delivery - External Delivery) administered by CSD A;
    - Securities are blocked;
    - The final settlement is on hold;
    - The final settlement shall be released by CSD A after the confirmation of the settlement within the External Issuer CSD (CSD I);
    - T2S books security movement #1 and #2 and the cash movement (if any).
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD A shall instruct T2S with security movement #3 (unilateral FOP);
- T2S shall settle movement #3.



Settlement of a transfer of securities between two Investor CSDs in T2S and an Issuer CSD that is External to T2S

Reference ID	T2S.09.420

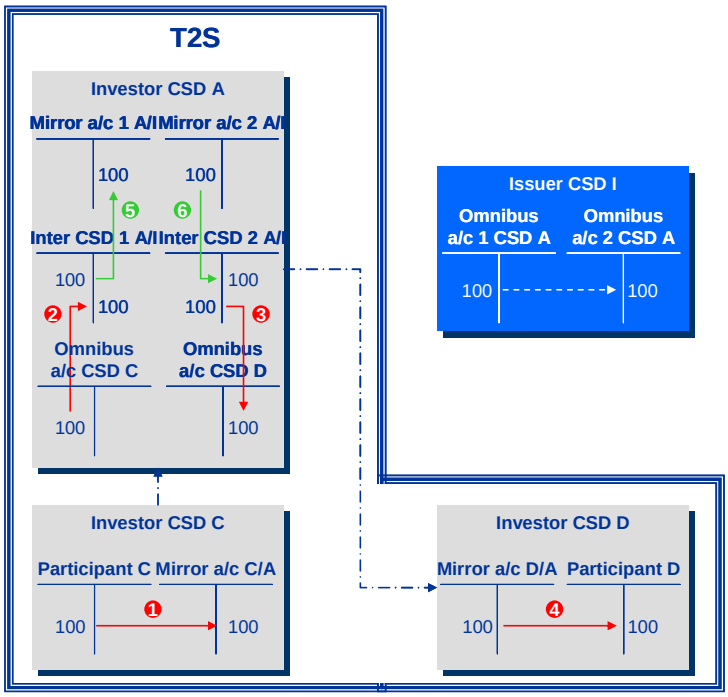
This requirement relates to the settlement of a transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with a different Technical Issuer CSD, where participant C of CSD C (a CSD in T2S) sells a security to participant D of CSD D (a CSD in T2S) with the following links:



In this case, even if the Issuer CSD is outside T2S, the settlement within T2S will not be conditional: only an unsynchronised realignment needs to be sent to the External Issuer CSD. The mirroring in T2S of the omnibus accounts within the External CSD will allow this procedure and avoid the risk of failure within the Issuer CSD. However, the procedure may also require appropriate due-diligence studies confirming that Investor CSDs operate their accounts with the Issuer CSD in such a way that the realignment will never fail.
From the perspective of the T2S Parties (participant C and participant D), this looks like a domestic transaction:

- Participant C shall instruct T2S against participant D without giving the intermediary settlement chain;
- Participant D shall instructs T2S against participant C without giving the intermediary settlement chain;
- T2S shall derive the security movements #1, #2, #3 and #4, and the cash movement (if any), according to the links configured in the Static Data;
- T2S shall settle the security movements #1, #2, #3 and #4,and the cash movement (if any), simultaneously on an all-or-none basis;
- CSD A (as participant of the External CSD I) shall trigger the realignment in the External Issuer CSD (CSD I);
- When the realignment is settled in the External Issuer CSD (CSD I), CSD A shall instruct T2S with security movement #5 (unilateral FOP), and CSD B shall instruct T2S with security movement #6 (unilateral FOP);
- T2S shall settle security movements #5 and #6.

This requirement also relates to the settlement of a transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with the same Technical Issuer CSD, where participant C of CSD C (a CSD in T2S) sells a security to participant D of CSD D (a CSD in T2S) with the following links:



From the perspective of the T2S Parties (participant C and participant D), this looks like a domestic transaction:

- Participant C shall instruct T2S against participant D without giving the intermediary settlement chain;
- Participant D shall instruct T2S against participant C without giving the intermediary settlement chain;
- T2S shall derive security movements #1, #2, #3 and #4, and the cash movement (if any), according to the links configured in the Static Data;
- T2S shall settle the security movements #1, #2, #3 and #4, and the cash movement (if any), simultaneously on an all-or-none basis;
- If CSD A is using the same omnibus account in the Issuer CSD I for the holdings of CSD C and CSD D (the mirror account (Inter CSD account) in CSD A is then also the same), there is no need to interact with the External Issuer CSD (no need to instruct the External Issuer CSD and no need to instruct T2S with security movement #5 and #6);

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	
CSD A	CSD I	CSD D	1	1	1	01/01/2008	

- Otherwise, CSD A (as participant of the External CSD I) shall trigger the realignment in the External Issuer CSD (CSD I);
    - When the realignment is settled in the External Issuer CSD (CSD I), CSD A shall instruct T2S with the security movement #5 (unilateral FOP) and security movement #6 (unilateral FOP);
    - T2S shall settle the security movements #5 and #6.

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	
CSD A	CSD I	CSD D	2	2	2	01/01/2008	

USER REQUIREMENTS

CHAPTER 10

SECURITIES POSITIONS AND CASH BALANCES

T2S Project Team

Reference:	T2S-07-0360
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

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10 Securities positions and cash balances

This chapter focuses on requirements concerning securities positions and cash balances. Section 10.1 includes detail on all requirements concerning the conceptual securities positions data model (10.1.1), positions rebuilding functionalities in case of software or other technical problems (10.1.2) and requirement for blocking, restricting and earmarking positions (10.1.3). Section 10.3 describes the conceptual cash balances data model for T2S dedicated cash accounts. Finally, section 10.2 provides the whole set of requirements concerning cash limit management within T2S (please read chapter 6 for more information on the application of limits in the T2S settlement process).

10.1 Securities Positions

10.1.1 Attribute Requirements for Securities Positions

Reference ID	T2S.10.010

The position in a securities account is the amount of a security held on the account at a specific point in time. T2S shall update the position each time a settlement occurs. T2S shall not store intraday positions, but will store end-of-day positions for previous business days and the latest position for the current business day. T2S shall not store forecasted securities positions, i.e. the securities positions of a future settlement date, derived from the latest available position and pending settlement instructions.

Table 10-1 - List of Attributes for the Entity Security Position

Attribute	Description
Security Position Identifier	This attribute is the unique technical identifier of a securities position.
System Entity Identifier	This attribute is the unique technical identifier of the system entity (CSD) which operates the account in T2S. T2S will use the identifier to segregate the positions of the CSDs.
Securities Account Identifier	This attribute is the unique technical identifier of a securities account in T2S.
Security Identifier	This attribute is the unique technical identifier of a security in T2S.
Position Date	This data item is the date of the position.
Position	This attribute is the position as of the *Position Date* for the combination of T2S account and security.

The following scenario provides an example of position tracking using the entity *Security Positions*. The example assumes that a securities account starts with a zero position. The table below provides the list of

settlement transactions, used as the basis generating the positions.

S.I.	Security	Account	Deliver/ Receive	Qty	Value Date	Actual Settlement
1	1234	4747	Receive	150	25/6/2007	25/6/2007
2	1234	4747	Receive	50	25/6/2007	25/6/2007
3	1234	4747	Receive	50	1/7/2007	2/7/2007 (morning)
4	1234	4747	Receive	100	2/7/2007	2/7/2007 (afternoon)

Settlement instructions 1 and 2 both settle and generate settlement confirmation transactions on 25 June 2007 on the same settlement account during night-time settlement. The completion of settlement triggers the update of the position on the securities account for the security. The position is calculated and created, as documented in the following table.

Position ID	Security	Account	Date	Position
1	1234	4747	25/6/2007	200

Settlement instructions 3 and 4 both settle on 2 July 2007. Transaction 3 is a late settlement from the previous business day and settles in the morning. The settlement creates a new position as of 2 July 2007, with a total position of 250. The new position is the total position from the previous position (Position ID 1) of 200 on 25 June 2007 plus the 50 from the settled instruction.

Position ID	Security	Account	Date	Position
1	1234	4747	25/6/2007	200
2	1234	4747	2/7/2007	250

On the same day in the afternoon, settlement instruction 4 settles on the account. This updates the existing position (Position ID 2) to a total of 300.

Position ID	Security	Account	Date	Position
1	1234	4747	25/6/2007	200
2	1234	4747	2/7/2007	350

10.1.2 Process of Rebuilding of Securities Positions

Securities Position Rebuild

Reference ID	T2S.10.020

T2S shall provide functionality to rebuild securities positions from settled transactions in real time and, when necessary, intraday. Rebuilding positions is the process of deleting securities positions backwards in time from the current position to some stable position in the past to deal with software application errors and other technical errors resulting in corrupted securities positions. This utility will only be available to a system administrator of the T2S Operator. This functionality will be for the aforementioned exceptional circumstances only. Appropriate operation rules and procedures will govern the use of the utility by the T2S operator and will define the communication plan to market participants.

The consistency and synchronisation of positions with the CSD or directly connected T2S party will be an issue if either stores the positions redundantly in their systems. In such a case, the T2S Operator will inform the relevant parties of the actions necessary to resynchronise the positions using the communication plan.

T2S will carefully control such risks, but it must have the capability to delete the securities position history and to rebuild it from the history of settled instructions:

- for all of T2S for a given period,
- for a CSD for a given period,
- for one security in an individual CSD for a given period,
- for one security across all CSDs for a given period,
- for an individual securities account for a given period,
- for one security in an individual securities account for a given period.

T2S will limit the operational impact in that it will constrain its use to a specific type of error as listed above.

Securities Position Rebuild Consistency Check

Reference Id	T2S.10.022

The rebuilding of positions will not affect information on blocked, segregated, reserved and/or earmarked positions, since T2S stores these separately as restrictions. However, the position rebuild process shall perform a subsequent validation to ensure that any restrictions pertaining to the rebuilt positions are consistent. The process shall document all restrictions that are inconsistent with a rebuilt securities position in report from. For example, the consistency check must verify that a restriction does not block a securities position greater than the available securities position. This means that if a rebuilt securities position specifies a holding of 100 shares in a given account for a given security as of a given date, but a restriction specifies 150 shares for the same position as of the same date as blocked, then the consistency check must output the restriction as inconsistent with the position.

10.1.3 Blocked, Reserved, Segregated and Earmarked Positions

Reference ID	T2S.10.030

This entity shall support the blocking, earmarking, segregation and reservation of positions within the overall position in a security in a securities account. T2S shall define the blocking, reservation and earmarking of positions as settlement restrictions. T2S must permit parties to:

- block a specific quantity or nominal of a security position in a securities account for a specific purpose;
- reserve a specific quantity or nominal of a security position in a securities account for a specific purpose;
- segregate a specific quantity or nominal of a securities position in a securities account for a specific purpose;
- and earmark a specific quantity or nominal of a security position in a securities account for a specific purpose.

Blocking of a securities position is a process of preventing the transfer of a specified amount of securities in one securities account to any other securities account by associating it to a specific transaction or to a specific purpose. Blocking in T2S may never result in a negative securities balance, i.e. it is not possible to block an amount of securities greater than the securities balance on a securities account. For example, an instruction for a voluntary corporate action from a CSD participant would result in the blocking of specified quantity of securities in that securities account from use in ordinary settlement.

Reservation of a securities position is a process that prevents the transfer of a securities position in a specific security in one securities account to any other securities account except for the purpose for which the position was reserved. The settlement of the underlying settlement instruction results in the actual transfer of the reserved holdings to another securities account and in the subsequent removal of the reservation. It is possible to reserve a position greater than the securities position available on the securities account. When a reservation results in a negative securities position, all incoming securities are reserved automatically until the quantity of the reservation is filled. For example, the settlement of the underlying instruction or the completion of an underlying process, such as a conditional securities delivery, results in the transfer of the reserved positions to another securities account and in the subsequent removal of the reservation.

Segregation a securities position involves splitting a securities position in a securities account into two or more securities positions in that securities account, qualified by a market-specific position (balance) type to support national specificities such as registration, tax processing, and legal and regulatory requirements.

Earmarking specifies that a position in a specific security in a specific account is eligible for use in specific types of transactions or processes. For example, a bank can earmark a securities position in a securities account for use as eligible collateral.

T2S defines blocking, reservation and earmarking as restriction classifications.

The positions support the segregation of balances within an account. CSDs can use this to assign their specific account types to securities accounts and specific balance types to securities positions within securities accounts in T2S.

The model supports the assignment of concurrent multiple blockings and reservations on securities positions in securities accounts.

Table 10-2 - List of Attributes for the Entity Blocked, Earmarked and Reserved Positions

Attribute	Description
Blocking Identifier	This attribute shall define the unique technical identifier of the blocking or reservation information. It shall serve as the unique reference of the restriction in T2S.
Securities Account Identifier	This attribute shall define the unique technical identifier of an account in T2S.
Security Identifier	This attribute shall specify the unique technical identifier of a security in T2S.
Restriction Type Identifier	This attribute shall define the unique technical identifier of a restriction or segregation type in T2S. Please refer to chapter 11.10.4.
Position	This attribute shall specify the position that T2S shall block the combination of T2S account and security.
Valid Timestamp From	This attribute is the date and time from which a position is blocked or restricted from settlement.
Valid Timestamp To	This attribute is the date and time to which a position is blocked from settlement. If no date is given, then the restriction is valid indefinitely. T2S will automatically remove the restriction after the date and time specified by this attribute.
Unique Transaction Identifier	This attribute shall specify the unique identifier of a transaction when T2S creates the blocked or reserved securities position from and for a specific settlement instruction.
Parent Blocking Identifier	This attribute shall specify the blocking identifier of the parent restriction when a T2S system user creates a subordinate restriction on a segregated position that is also a position restriction.

10.1.3.1 Scenarios for Collateralised Positions

This section describes different scenarios for the use of the securities positions and blocking for collateralised securities. The basis for the scenarios is that a securities account holds a position of 5,000 shares in NOKIA, which the owner wants to use in part as collateral. The examples assume that the business user blocks a position of 2,000 shares as collateral from 15 January 2007 up to and including 27 February 2007. The settlement of a buy transaction increases the number of shares by 2,000 on 23 January 2007, while the settlement of a sell transaction decreases the number of shares by 4,000 on 15 February 2007. The following table provides a history of positions, based on these changes.

Position ID	Security	Account	Date	Position
1	NOKIA	ABC Bank 1	1/1/2007	5,000
2	NOKIA	ABC Bank 1	23/1/2007	7,000

3	NOKIA	ABC Bank 1	15/2/2007	3,000

10.1.3.1.1 Scenario 1 – Positions in a Separate Securities Collateral Account

Reference ID	T2S.10.040

In this scenario, a CSD uses separate securities accounts to identify separate collateralised positions. The CSD transfers the position, required as collateral, from the main account to a collateral account of the account holder. T2S allows the CSD to create a restriction at the securities account level; the CSD creates a settlement restriction on the account level for the account "ABC Bank 2" as a collateral securities account by assigning it the restriction type "Collateral Account". Section 11.10.4 of chapter 11 describes the configuration of market-specific restriction types with their processing parameters. The blocking level for this type of restriction could be "earmarked" or "blocked", depending on whether the CSD wishes to identify the positions actually used as collateral in the account. T2S would block or earmark all positions in that securities account as collateral, depending on the model used.

Even if the securities account is blocked, the CSD will not have to remove such restriction when sending instructions, as long as it is configured for the restriction type as an authorised instructing party. However, an explicitly blocked securities position can only be transferred when the block is removed. Otherwise, the result could be a negative securities account position in that security, i.e. more is blocked than actually held in the account.

Standing settlement restrictions on an account level must be created by the CSD during the configuration phase, where the date in the *Blocked and Reserved Position* entity is the date from which the restriction is valid. The date from can be the date of the initial configuration of the CSD data in T2S. The settlement restriction specifies no end date, since the classification of the account, as a collateral account, is indefinite. T2S will apply a settlement restriction on the account level to all securities positions in the account.

Account	**Restriction / Segregation Type**	**Date from**	**Date to**	**Security**	**Position**
ABC Bank 2	Collateral Account	1/1/1900	n/a	n/a	n/a

The position will appear as follows before collateralisation is undertaken:

Security	**Account**	**Date**	**Position**	**Available**	**Blocked**
NOKIA	ABC Bank 1	1/1/2007	5,000	5,000	0

Blocking 2,000 shares in Nokia for collateral in this scenario requires a transfer of shares between accounts as an FOP as of 15 January 2007.

Security	Deliver from	Deliver to	Date	Position
NOKIA	ABC Bank 1	ABC Bank 2	15/1/2007	2,000

The FOP transaction results in an updated position for both ABC Account 1 and ABC Account 2. The transaction reduces the position in NOKIA of the ABC Bank 1 account by 2,000 shares as of 15 January 2007 and creates a new position of 2,000 NOKIA shares in the ABC Bank 2 account. The position in the latter appears as a blocked or earmarked position, depending on the definition of the settlement restriction.

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	1/1/2007	5,000	5,000	0	n/a
NOKIA	ABC Bank 1	15/1/2007	3,000	3,000	0	n/a
NOKIA	ABC Bank 2	15/1/2007	2,000	0	2,000	Collateral

Settlement of the buy transaction of 23 January 2007 creates a new position record for the ABC Bank 1 account, thereby updating the position history as follows:

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	1/1/2007	5,000	5,000	0	-
NOKIA	ABC Bank 1	15/1/2007	3,000	3,000	0	-
NOKIA	ABC Bank 2	15/1/2007	2,000	0	2,000	Collateral
NOKIA	ABC Bank 1	23/1/2007	5,000	5,000	0	-

Settlement of the sell transaction on 15 February 2007 creates a new position for the ABC Bank 1 account, thereby updating the position history as follows:

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	1/1/2007	5,000	5,000	0	-
NOKIA	ABC Bank 1	15/1/2007	3,000	3,000	0	-
NOKIA	ABC Bank 2	15/1/2007	2,000	0	2,000	Collateral
NOKIA	ABC Bank 1	23/1/2007	5,000	5,000	0	-
NOKIA	ABC Bank 1	15/2/2007	1,000	1,000	0	-

Releasing 2,000 NOKIA shares out of the collateral account requires the transfer of shares from the collateral account to ABC Bank 1 as a FoP as of 28 February 2007.

Security	Deliver from	Deliver to	Date	Position
NOKIA	ABC Bank 2	ABC Bank 1	28/2/2007	2,000

The FoP transaction results in an updated position for both ABC Account 1 and ABC Account 2 in the positions. The transaction increases the ABC Bank 1 account's position in NOKIA by 2,000 shares as of 28 February 2007 and reduces the balance in the collateral account to zero.

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	1/1/2007	5,000	5,000	0	-
NOKIA	ABC Bank 1	15/1/2007	3,000	3,000	0	-
NOKIA	ABC Bank 2	15/1/2007	2,000	0	2,000	Collateral
NOKIA	ABC Bank 1	23/1/2007	5,000	5,000	0	-
NOKIA	ABC Bank 1	15/2/2007	1,000	1,000	0	-
NOKIA	ABC Bank 1	28/2/2007	3,000	3,000	0	-
NOKIA	ABC Bank 2	28/2/2007	0	0	0	Collateral

10.1.3.1.2 Scenario 2 – Blocking Positions for Collateral in the Same Securities Account

Reference ID	T2S.10.050

In this scenario, the T2S party or its CSD creates a settlement restriction on a specific position for use as collateral within its current securities account. This has no impact on the position history, because a transfer between accounts does not occur.

The collateralisation process results in a settlement restriction for the ABC Bank 1 account on 2,000 NOKIA shares from 15 January 2007 to 27 February 2007. The restriction type defines the purpose for the blocking as collateral. The restriction level for this type of settlement restriction is "blocked", which ensures that the position is not used for settling open trades. The type of collateralisation requires the definition of a settlement restriction, as documented in the following table:

Account	Restriction / Segregation Type	Date from	Date to	Security	Position
ABC Bank 2	Collateral Account	15/1/2007	27/2/2007	NOKIA	2,000

The position appears as follows before collateralisation and input of the settlement restriction:

Security	Account	Date	Position
NOKIA	ABC Bank 1	1/1/2007	5,000

The input of the settlement restriction does not generate a new securities position. The securities positions remain unchanged. The position queries will determine the restriction on the position in the account based on the settlement restriction dates at run-time. The positions will appear as follows after at the effective date of the settlement restriction.

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	15/1/2007	5,000	3,000	2,000	Collateral

The settlement of the buy transaction on the 23rd January 2007 creates a new position for ABC Bank 1 account, thereby updating the position history as follows:

Security	Account	Date	Position
NOKIA	ABC Bank 1	1/1/2007	5,000
NOKIA	ABC Bank 1	23/1/2007	7,000

The position appears as follows at 23 January after the buy transaction settles:

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	15/1/2007	5,000	3,000	2,000	Collateral
NOKIA	ABC Bank 1	23/1/2007	7,000	5,000	2,000	Collateral

The settlement of the sell transaction on 15 February 2007 creates a new position record for the ABC Bank 1 account, thereby updating the position history as follows:

Security	Account	Date	Position
NOKIA	ABC Bank 1	1/1/2007	5,000
NOKIA	ABC Bank 1	23/1/2007	7,000
NOKIA	ABC Bank 1	15/2/2007	3,000

The positions appear as follows at 23 January after the buy transaction settles:

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	15/1/2007	5,000	3,000	2,000	Collateral
NOKIA	ABC Bank 1	23/1/2007	7,000	5,000	2,000	Collateral
NOKIA	ABC Bank 1	15/2/2007	3,000	1,000	2,000	Collateral

The securities positions do not change when the settlement restriction reaches its end date, but the position appears as follows:

Security	Account	Date	Position	Available	Blocked / Earmarked	Restriction Type
NOKIA	ABC Bank 1	15/1/2007	5,000	3,000	2,000	Collateral
NOKIA	ABC Bank 1	23/1/2007	7,000	5,000	2,000	Collateral
NOKIA	ABC Bank 1	15/2/2007	3,000	1,000	2,000	Collateral
NOKIA	ABC Bank 1	28/2/2007	3,000	3,000	0	

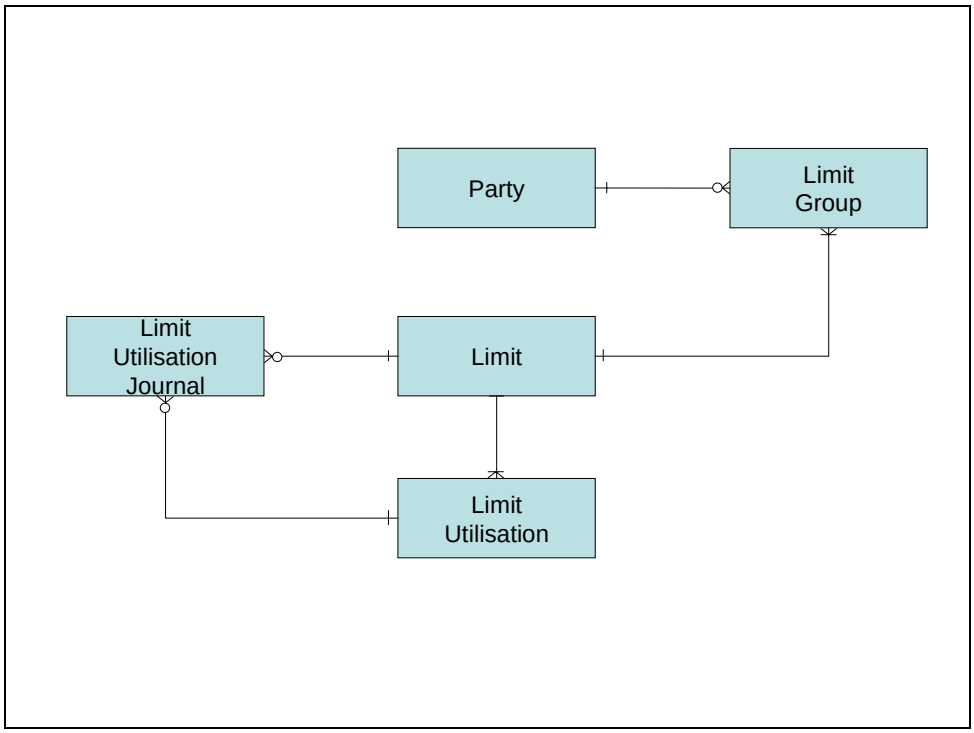
10.2 Limit Management

Reference ID	T2S.10.060

T2S limit management shall support:

- assigning a T2S party that holds an account with one or more CSDs to a limit group;
- defining and maintaining auto-collateralisation limits for a limit group;
- and calculating and journaling limit utilisation for a limit group.

Figure 10-1 - Conceptual T2S Limit Data Model



10.2.1 Defining Limits

Reference ID	T2S.10.070

T2S shall support the definition and maintenance of:

- central bank limits for the maximum net amount of intraday credit a settlement/payment bank can get from (each of) its NCB(s) through auto-collateralisation (refer to chapter 8.2 for more information on the auto-collateralisation process);
- settlement/payment bank limits for the maximum net amount of intraday credit for a financial institution using a payment bank's T2S dedicated cash account for securities settlement;
- and net buying limits of a settlement/payment bank, using its T2S dedicated cash account for securities settlement, for one or more securities accounts of a financial institution with one or more CSDs.

10.2.1.1 Limits

Reference ID	T2S.10.080

This limit management shall support the definition of the limit by the NCB or payment bank. T2S shall use limit groups to link one or more parties in T2S to a limit. T2S shall require the input of the limit group when an authorised T2S system user defines a limit.

Reference ID	T2S.10.083

T2S shall allow an authorised T2S system user of an NCB to assign one and only one limit to a settlement/payment bank for auto-collateralisation. The limit shall apply to all T2S dedicated cash accounts of that settlement/payment bank. Therefore, T2S shall require the NCB to maintain the limit at the party level.

Reference ID	T2S.10.086

T2S shall allow an authorised T2S system user of a settlement/payment bank with a T2S dedicated cash account to assign a T2S party of a CSD to an auto-collateralisation limit. T2S shall also enable an authorised T2S system user of the settlement/payment bank to assign T2S parties from multiple CSDs to a single limit group provided the parties have the same primary BIC. (This happens, for example, when a bank holds one or more securities accounts with more than one CSD but uses the same T2S dedicated cash account for settling securities transactions). The limit shall apply to all securities accounts of the T2S parties in the limit groups.

T2S shall allow an authorised T2S system user of a settlement/payment bank with a T2S dedicated cash account to assign a T2S party of a CSD to a net buying limit. T2S shall also enable an authorised T2S system user of the settlement/payment bank to assign T2S parties from multiple CSDs to a single limit group provided the parties have the same primary BIC. This applies when a bank holds one or more securities accounts with more than one CSD but uses the same T2S dedicated cash account for settling securities transactions. The limit shall apply to all securities accounts of the T2S parties in the limit groups.

Table 10-3 - List of Attributes for the Entity Limit

Attribute	Description
Limit Identifier	This attribute shall define the unique technical identifier of a limit.
System Entity Identifier	This attribute shall define the unique technical identifier of the system entity (NCB) which operates the T2S dedicated cash account in T2S.
Credit Consumer Identifier Type	This attribute specifies the type of identifier used to identify the credit consumer: - Primary BIC - Party Identifier from Party Reference Data T2S shall use the party identifier from party reference data for the payment/settlement bank to identify the credit consumer for an auto-collateralisation limit set by NCBs. T2S shall use the primary BIC to identify the credit consumer for the auto-collateralisation set by the payment bank. This shall enable the payment bank to define one limit for a financial institution, even when it holds accounts with several CSDs in T2S.

Attribute	Description
Party Identifier of Credit Consumer	This attribute shall specify the technical identifier of the credit consumer, based on the value of the attribute *Credit Consumer Identifier Type*.
Party Identifier of Credit Provider	This attribute shall specify the technical identifier of the party in T2S who provides the limit.
T2S Dedicated Cash Account of the Credit Provider	This attribute shall specify the T2S dedicated cash account for which the limit applies.
Limit Type	This attribute shall specify the type of limit. - Net buying limit or - Auto-collateralisation limit
Limit Currency	This attribute shall specify the currency of the limit.
Limit Amount	This data item specifies the limit amount for the party for the T2S dedicated cash account. It can be set to zero if the party for the T2S dedicated cash account has no limit.
Valid From	This attribute specifies the date from which the credit limit is valid.

The *Limit Groups* entity stores the individual securities accounts to which a net buying limit applies if the limit does not apply to all securities accounts of the credit consumer.

Table 10-4 - List of Attributes for the Entity Limit Groups

Attribute	Description
Limit Identifier	This attribute shall specify the technical identifier of a limit.
System Entity Identifier	This attribute shall specify the unique technical identifier of the system entity (NCB) which operates the T2S dedicated cash account in T2S.
Securities Account Identifier	This attribute shall specify the technical identifier of the securities account of the credit consumer to which the limit applies.

Sections 8.2 and 6.1.3 provide more information on auto-collateral and net buying limit management and optimisation, respectively.

10.2.2 Limit Utilisation

Reference ID	T2S.10.090

T2S shall track the limit utilisation for all parties at each moment of the T2S settlement day. T2S shall create a new occurrence in the *Limit Utilisation* entity for T2S settlement days on the first instance that the settlement process generates a cash movement for the T2S party with a limit. T2S shall not generate any occurrence if the settlement generates no cash movement.

Table 10-5 - List of Attributes for the Entity Limit Utilisation

Attribute	Description
Limit Utilisation Identifier	This attribute shall define the unique technical identifier of an occurrence of limit utilisation.
System Entity Identifier	This attribute shall define the unique technical identifier of the system entity (NCB) which provides T2S dedicated cash accounts in T2S.
Limit Identifier	This attribute shall define the technical identifier of the limit. It shall link the limit utilisation to the underlying limit.
Currency	This data item specifies the currency of the limit amounts.
Limit Utilisation	This data item specifies the most current amount of liquidity drawn down by the party for the settlement of securities transactions with the limit/credit provider for the day.
Remaining Limit	This data item specifies the most current amount of liquidity available to the party for the settlement of securities transactions with the limit/credit provider for the day.
Date	This attribute specifies the T2S settlement day to which the limit utilisation applies.

10.2.3 Journaling of Limit Utilisation

Reference ID	T2S.10.100

T2S shall track each change in a party's limit utilisation for every T2S settlement day. T2S shall create a new occurrence in the *Limit Utilisation Posting* entity when a process generates a cash movement relevant for the limit of the T2S party or for a specific T2S dedicated cash account.

Table 10-6 - List of Attributes for the Entity Limit Utilisation Posting

Attribute	Description
Limit Utilisation Posting Identifier	This attribute shall define the unique technical identifier of an occurrence of a posting against a limit.
System Entity Identifier	This attribute shall define the unique technical identifier of the system entity (NCB) which operates the T2S dedicated cash account in T2S.
Limit Identifier	This attribute shall define unique technical identifier of the limit. It shall link the limit utilisation to the underlying limit.
Limit Utilisation Identifier	This attribute shall define the unique technical identifier an occurrence of limit utilisation. It shall link the posting against the limit utilisation for the T2S settlement day.
Transaction Source	This attribute shall define the object in which T2S stores the transaction that generated the change in the limit utilisation so that the source of the reference can be determined.
Transaction Reference	This attribute shall specify the unique technical identifier of the transaction that generated the change in the limit utilisation.

Attribute	Description
Currency	This data item shall specify the currency of the limit amounts.
Debit / Credit	This attribute shall specify whether the cash posting is increasing or decreasing the limit utilisation.
Amount	This attribute shall define the amount that the settlement process credits or debits against the limit utilisation.
Limit Utilisation After	This data item shall specify the amount of liquidity drawn down by the party for the settlement of securities transactions with the credit provider.
Remaining Limit After	This data item shall specify the amount of liquidity available to the party for the settlement of securities transactions with the credit provider.
Date	This attribute shall specify the T2S settlement date to which the limit utilisation applies.

T2S shall track the daily utilisation of limits as well as associated cash movements and collateralisation transactions, updating the balance.

10.3 Cash Account Balances

Reference ID	T2S.10.110

Cash balances track the amount of funds in a T2S dedicated cash account at a specific point in time. Cash positions shall support the tracking of historic balances. Cash balances in T2S dedicated cash accounts change through a transfer of funds to/from TARGET2 from/to the T2S dedicated cash account, through the settlement of the cash leg of a securities settlement instruction, or a corporate action payment. Section 6.1.4 in chapter 6 of the user requirements provides details as to the type of transactions that change the balances in T2S dedicated cash accounts. An occurrence of a cash balance should be zero at the end of the day for previous business days, since T2S transfers the liquidity back to the relevant RTGS account. An occurrence stores the intraday balance for the current settlement day, but again, at the end of that day the balance will be zero because of the transfer of the remaining liquidity to the RTGS account.

Table 10-7 - List of Attributes for the Entity Cash Balances

Attribute	Description
System Entity Identifier	This attribute shall define the unique technical identifier of the system entity (NCB) which operates the T2S dedicated cash account in T2S. T2S shall use the identifier to segregate the cash positions of the NCBs.
T2S Dedicated Cash Account Identifier	This attribute is the unique identifier of a T2S dedicated cash account.
Cash Balance Date	This data item is the date of the cash position.
Currency Code	This attribute specifies the cash account currency, and therefore the currency of the balance (ISO 4177 Currency Code).
Cash Balance	This attribute specifies the balance as of the *Cash Balance Date*.

10.3.1 Rebuilding of T2S Dedicated Cash Account Balances

Reference ID	T2S.10.120

T2S shall provide functionality to rebuild T2S dedicated cash account balances from cash postings in real time and, when necessary, intraday. The rebuilding of cash balances is the process of deleting balances from a defined point in time to deal with software application errors and other technical errors resulting in corrupted cash balances. This utility will only be available to a system administrator of the T2S Operator. This functionality will be for the aforementioned exceptional circumstances only. Appropriate operation rules and procedures will govern the use of the utility by the T2S operator and will define the communication plan to market participants. The T2S Operator will inform the relevant parties about the actions necessary to resynchronise the balances using the communication plan. T2S will carefully control such risks, but it must have the capability to rebuild cash balances:

- for all of T2S for a given period,
- for an NCB for a given period,
- for one T2S dedicated cash account of a party for a given period.

T2S will limit the operational impact in that it will constrain its use to a specific type of error as listed above.

10.3.2 Blocked and Reserved Cash Balances

Reference ID	T2S.10.130

This entity shall support the blocking and reservation of a cash balance in a T2S dedicated cash account. T2S shall define the blocking or reservation settlement restrictions. T2S must permit parties to:

- block a specific cash balance in a T2S dedicated cash account for a specific purpose;
- and reserve a cash balance in a T2S dedicated cash account for a specific purpose.

Blocking a cash balance involves preventing the transfer of a specified amount of funds in a specific currency in one cash account to any other cash account by associating it to a specific transaction or to a specific purpose. Blocking in T2S may never result in a negative cash balance, i.e. it is not possible to block an amount of funds greater than the cash balance on a cash account.

Reserving a cash balance involves preventing the transfer of a specified amount of funds in a specific currency in one cash account to any other cash account except for the purpose for which the funds were reserved. The settlement of the underlying settlement instruction results in the actual transfer of the reserved funds to another cash account and the subsequent removal of the reservation. It is possible to reserve an amount greater than the balance on the cash account. When a reservation results in a negative cash amount,

all incoming cash is reserved automatically until the amount of the reservation is filled.

Table 10-8 - List of Attributes for the Entity Blocked and Reserved Cash Balances

Attribute	Description
Blocking Identifier	This attribute shall define the unique technical identifier of the blocking or reservation information. It shall serve as the unique reference in T2S.
T2S Dedicated Cash Account Identifier	This attribute shall define the unique technical identifier of the T2S dedicated cash account.
Restriction Type Identifier	This attribute shall define the unique technical identifier of a restriction or segregation type in T2S. Please refer to chapter 11.10.4.
Currency	This attribute shall specify the currency code of the cash balance.
Cash Balance	This attribute shall specify the amount of cash that T2S shall block for the T2S dedicated cash account.
Valid Timestamp From	This attribute shall define the date and time from which a cash balance is blocked or restricted from settlement.
Valid Timestamp To	This attribute shall define the date and time to which a cash balance is blocked from settlement. If no date is given, then the restriction is valid indefinitely. T2S will automatically remove the restriction after the date and time specified by this attribute.
Unique Transaction Identifier	This attribute shall specify the unique identifier of a transaction when T2S creates the blocked or reserved cash balance from and for a specific settlement instruction.

USER REQUIREMENTS

CHAPTER 11

CONFIGURATION REQUIREMENTS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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11 Configuration requirements

The aim of this chapter is to describe requirements concerning configuration information that needs to be stored for smooth processing in T2S. Such information may be either business or technical data.

Configuration requirements for business-related information cover two main areas: processing schedule and settlement processing.

Sections 11.1, 11.2 and 11.4 deal with data related to the T2S calendar and to managing both the business date and the whole set of processing schedule events (please read chapter 3 for more details on the general structure of the settlement day and the T2S calendar).

Sections 11.5, 11.7 and 11.12 define requirements concerning, respectively, the tolerance amount allowed for matching settlement instructions, the management of default priority level for settlement based on the party type, and the harmonised setting for partial settlement at the system level (please read chapter 7 for more details on settlement processing requirements).

With respect to technical information, this chapter mainly addresses requirements related to user profiles via the features of managing roles and privileges (section 11.9) and to the features of configuring services and messages needed to properly shape the T2S functionalities that each T2S party will be using, and the information each CSD and T2S party will receive from T2S (section 11.10).

In addition, section 11.6 defines a full set of requirements concerning attribute domain management (e.g. valid list of codes for instruction types, valid list of ISO country codes, list of market-specific restriction and blocking types), while section 11.3 includes all the requirements concerning data and functionalities segregation in T2S.

Finally, section 11.11 defines requirements for the SWIFT BIC Directory used to validate the input of BICs as party and technical address identifiers, while sections 11.12, 11.13 and 11.14 deal with all the parameters concerning partial settlement thresholds, conditional securities delivery and the configuration of allowed instruction types per different T2S actors.

11.1 Business date

Reference ID	T2S.11.005

T2S shall have an internal business date, which will determine the date of processing. This date shall be independent of the system date in the operating system. T2S will initiate processing for a new business day before midnight, according to the daily processing schedule. When this occurs, all processes must use the T2S business date instead of the operating system date to identify transactions for settlement and for updating balances. A business date, independent from the operating system date, will also facilitate testing in that it supports the simulation of specific business days.

All business dates must have a valid date format and must be a working day, according to the T2S calendar.

Manual Update of Business Date

Reference ID	T2S.11.010

Only an authorised T2S system administrator shall be able to change the business date manually in T2S through an online user interface. A manual update of the business date in the T2S production environment will be limited to business contingency situations. For example, backdated processing may be required in the event of a catastrophic failure.

Automated Update of Business Date

Reference ID	T2S.11.020

A process shall exist to calculate the next business day from the current business day and to update the business date to the next business day. It shall be possible for T2S to schedule or trigger this update in the daily processing cycle of T2S.

Resetting Processes after Business Date Update

Reference ID	T2S.11.030

Mechanisms shall stop all continuously running processes using the business date before the business day change so that all applications register the switchover to the new business day.

11.2 Daily processing schedule

Reference ID	T2S.11.040

The T2S system administrator shall maintain the T2S processing schedule as well as dependencies in scheduling between processes, regardless of the actual scheduled time. For example, the start of process B must wait for the successful completion of process A even if process A runs longer than the scheduled start time for process B.

It is not a requirement to store the processing schedule and processing dependencies as part of the T2S application, since standard software products that run alongside the application fulfil the requirements for time- and event-driven process automation for T2S.

11.3 System entity management

Reference ID	T2S.11.050

System entity management in T2S defines all functionality needed to support a participating CSD's or NCB's segregation of processing capabilities and data across its participants. Moreover, each CSD is legally responsible for the service it offers its participants - the service offerings of the CSDs may differ to various extents. Therefore, the CSD must be able to configure its service offering by granting or denying its parties access to specific functions and facilities of T2S. A system entity defines the legal entity by which T2S must segregate the data and access rights of the CSDs and NCBs in T2S and the T2S operator.

The second dimension of system entity management is the segregation of data across entities. A CSD must not be able to access the T2S parties, positions and transactions of the other CSDs. Similarly, an NCB must not be able to access the payment banks, balances and cash transactions of the other NCBs. The configuration of CSDs and NCBs as different system entities shall allow for the partitioning of data on the technical and functional levels in T2S.

Defining System Entities

Reference ID	T2S.11.060

T2S shall define system entities according to a hierarchical structure. The top level in the hierarchy shall define the T2S operator. The second level of the hierarchy shall define the CSDs participating in T2S, and NCBs for cash settlement. This means that the T2S operator will be responsible for configuring the CSDs and the NCBs as system entities in the platform. The CSDs shall be able to create, maintain and access data for their T2S parties. NCBs shall be able to create, maintain and access data for their payment banks.

Individual CSDs and the NCB shall be unique occurrences in the party static data (please read chapter 16 for more information).

The T2S operator must configure each system entity before an authorised T2S system user with the business role of T2S business user can enter the entity's party and other static data, as well as other configuration information.

Entity Attribute Requirements for System Entity Definition

Reference ID	T2S.11.070

Entity attributes specify the information needed for configuring system entities in T2S.

Table 11-1 – System Entity Definition

Attribute	Definition
System Entity Identifier	The system entity identifier shall define the unique technical identifier assigned to each CSD, NCB and to the T2S operator; the T2S system administrator shall manually assign this technical identifier. This identifier is the field that T2S shall use to segregate data.
Mnemonic	The mnemonic shall specify a unique short code used to identify the system entity to the T2S system user.
Entity Name	This attribute shall specify the full name of a system entity.
Operating Entity	This Boolean attribute shall indicate whether the relevant system entity is the T2S operator. The system entity configuration shall allow only one occurrence with operating entity set to “true” in the system entity definition.
Direct Holding CSD	This Boolean attribute shall specify whether the CSD operates in a direct holding market.
Direct Holding Technical Offset Account	This attribute shall specify the technical offset account that T2S requires for settlement of instructions in a direct holding market.

Segregation of Data

Reference ID	T2S.11.080

Static and transactional data shall be segregated by system entity where applicable, using the system entity identifier. This means that the system entity identifier must be an attribute of specific static data and transactional entities in T2S as the prerequisite for data segregation.

Data partitioning based on the system entity identifier shall allow T2S system administrators to undertake backup, recovery and other data operations for a single CSD or NCB. For example, if a CSD requires a full export of its data, then the T2S system administrator can only perform the data export operation for the data of the relevant CSD’s partition. It would also be possible to create a backup only for one or a list of CSD(s) or NCB(s). Without data partitioning, a data export would result in an unloading of data for all CSDs and NCBs, or alternative, ad-hoc software procedures would be required to unload CSD-specific or NCB-specific data. Moreover, a backup operation would cover all CSDs and NCBs, complicating the recovery of data for only one CSD or NCB.

Implementing data segregation requires the partitioning of data by CSD and NCB based on their system

entity identifiers.

Querying and Selecting System Entities

Reference ID	T2S.11.090

It shall be possible for a T2S system administrator to query system entities and to select an occurrence for update or display. It shall also be possible to enter new system entities.

Parameter Window for Update and Display

Reference ID	T2S.11.100

A parameter window shall exist in the online user interface in which a user is able to enter the mnemonic or technical identifier of a system entity for update or display. If the user does not know either code, then the user shall be able to execute a search that displays the list of valid system entities.

List of System Entities for Input

Reference ID	T2S.11.110

Functions on the T2S operator level shall require the input, as either technical identifier or mnemonic, of the system entity when querying, entering, changing and maintaining data. T2S shall display a list of valid system entities for any field in which the system entity can be input.

Maintaining System Entities

Reference ID	T2S.11.120

System entity maintenance refers to the process of adding, changing and deleting system entities in T2S. Access to this functionality shall be restricted to the T2S system administrator of the T2S operator.

Adding a System Entity

Reference ID	T2S.11.130

It shall be possible for a user to add a new system entity with all required attributes. The reader should note that the database administrator may have to create the database partition for the new CSD or NCB before the relevant T2S system users can enter data for that CSD or NCB.

Updating a System Entity

Reference ID	T2S.11.140

It shall be possible for a user to update an existing system entity.

Deleting a System Entity

Reference ID	T2S.11.150

It shall not be possible for a user to delete an existing system entity.

11.4 Closing day calendar

Reference ID	T2S.11.160

T2S shall have a calendar specifying those dates on which T2S is not open for settlement. Since the system shall support currencies other than euro, the calendar model in T2S shall support the differentiation of closing days by currency. The user shall not specify Saturdays and Sundays explicitly as non-operating days in the calendar. The application shall identify these days through the system calendar of the operating system.

Entity Attribute Requirements for the Calendar

Reference ID	T2S.11.170

Entity attribute requirements specify the information required for determining the non-opening days of T2S by currency.

Table 11-2 – Non-Operating Day Calendar Definition

Attribute	Definition
Settlement Currency Code	This attribute shall specify the currency code according to ISO 4217.
Non-Business Date	This attribute shall specify the date on which T2S is not open for the given settlement currency.

Calendar Updates

Reference ID	T2S.11.180

The T2S business and operations support user shall be able to modify the closing day calendar.

11.5 Tolerance amount

Reference ID	T2S.11.190

The tolerance amount is the acceptable difference in the cash value (by currency) allowed for successful matching of settlement instructions between the settlement instructions of the deliverer and the receiver of securities against payment. T2S shall provide the T2S business and operations support user with functionality to maintain tolerance amounts in currency for the matching of settlement instructions.

- T2S shall support the definition of tolerance amounts by currency and cash value range.
- The definition of tolerance amounts shall specify a valid-from date to allow changes to take effect as of a specific date.

Table 11-3 – Tolerance Amount

Attribute	Definition
Tolerance Amount Identifier	This attribute shall define the unique numeric identifier of the tolerance amount.
Currency Code	This attribute shall define the currency of the tolerance amount according to ISO 4217.
Valid From	This attribute specifies the date from which a given set of tolerance ranges for a currency is valid.
Cash Value Amount Limit	This attribute shall define the cash value up to (and including) which the tolerance amount is valid. The cash value for the last limit in a range must be the maximum numeric value of the attribute amount.
Tolerance Amount	This attribute shall specify the actual value in currency of the tolerance amount for a given currency and cash value.

The following table illustrates how T2S shall represent tolerance values for euro in T2S. The values and ranges are for illustration only and do not represent the actual tolerance configuration for T2S.

Table 11-4 - Configuration Example for Tolerance Amount

Currency	Valid From	Cash Value Amount Limit	Tolerance Amount
EUR	1/1/2007	100,000	2
		999,999,999,999	25

11.6 Attribute domain management

Reference ID	T2S.11.200

Attribute domains in T2S shall provide the valid list of values allowed for an attribute (table column or a data field in physical terms). They include a list of all the valid values that a user can enter for an attribute of a static or transactional data entity (e.g. the valid country codes for the issue country of a security). T2S will use attribute domains for field validations and for documenting the business definition of a value in an attribute. Some examples of attribute domains required for T2S are:

- valid list of codes for instruction types;
- valid list of ISO country codes;
- recycling period for failed transactions by transaction type;
- and account status.

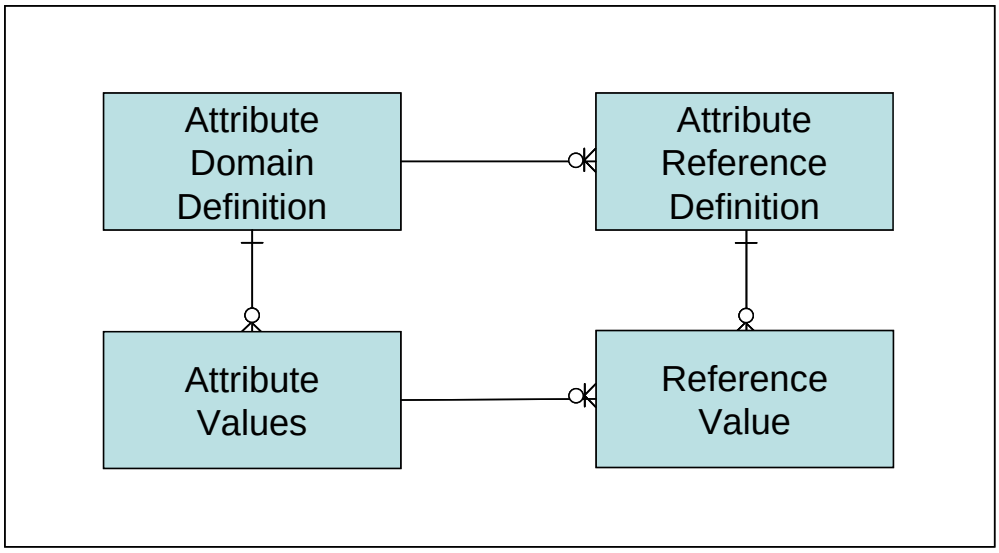
The requirement for a new attribute domain may arise at any time during the life cycle of a T2S application. Therefore, T2S shall provide a general static data component that will allow an authorised T2S system user to logically create, modify and deactivate attribute domains using a general component in static data. Operational and technical restrictions limit the actions that a user can trigger in the database using the attribute domain management. T2S shall allow the registration and deactivation of attribute domains using pre-defined database tables. The T2S system user will not create, modify and delete tables physically in the database using the online user interface for domain management, but shall maintain logical definitions of attribute domains within pre-defined physical database tables. However, a software developer must implement its use in the software component requiring the domain.

Attribute Domain Model

Reference ID	T2S.11.210

The attribute domain model specifies the entities required in T2S to support the domain management function.

Figure 11-1 - Conceptual Model for Attribute Domain Management



Attribute Value

Reference ID	T2S.11.220

The *Attribute Value* entity is the pre-defined physical table in which all valid values for a logically defined attribute domain shall be stored.

Table 11-5 - Attribute Requirements for Entity Attribute Value

Attribute	Definition
Attribute Value Identifier	This attribute shall define the unique technical identifier of an attribute value for a domain. The identifier shall be unique across all domains.
Attribute Domain Identifier	This attribute shall define the unique technical identifier of the attribute domain for which the value is relevant. It links the attribute to its domain.
Attribute Value	This attribute shall specify the value of the attribute.
Attribute Value Description	This attribute shall provide the text description of the attribute value.

Reference Value

Reference ID	T2S.11.230

The *Reference Value* entity represents the pre-defined physical table in which the additional columns for a logically defined attribute domain shall be stored.

Table 11-6 - Attribute Requirements for Entity Reference Value

Attribute	**Definition**
Reference Value Identifier	This attribute shall define the unique technical identifier of a reference value for an attribute reference definition. The identifier shall be unique across all attribute reference definitions.
Attribute Reference Identifier	This attribute shall define the unique technical identifier of the relevant attribute reference definition.
Reference Value	This attribute shall specify the value of the attribute reference definition.
Reference Value Description	This attribute shall provide the text description of the attribute reference definition.

Attribute Domain Definition

Reference ID	T2S.11.240

The *Attribute Domain Definition* entity shall provide the definition of a logical domain in pre-defined physical database tables. An attribute domain definition shall require the specification of a unique identifier for the domain as well as its business description. It shall define the attribute domain and the logical format of its values. The actual column of the pre-defined database table (*Attribute Value* entity) defines the physical limitation for the logical format.

Table 11-7 – Attribute Requirements for Entity Attribute Domain Definition

Attribute	**Definition**
Attribute Domain Identifier	This attribute shall define the unique technical identifier of an attribute domain in T2S. The authorised T2S system user shall assign this sequence to the logical domain.

Attribute	Definition
Attribute Domain Name	This attribute shall specify the name of the attribute domain.
Attribute Domain Description	This attribute shall provide a short documentation of the attribute domain, i.e. its purpose for and use in T2S.
Attribute Format	This attribute shall specify whether the format of the code for the attribute value is alphabetic, alphanumeric or numeric.
Minimum Code Length	This attribute shall specify the minimum length of the code for a value in the attribute domain.
Maximum Code Length	This attribute shall specify the maximum length of the code for a value in the attribute domain. The maximum length may not be longer than the maximum length of the physical column.
Case	This attribute shall specify if the code for a value in the attribute domain is uppercase, lower case, or both for alphabetic and alphanumeric code formats.

Attribute Reference Definition

Reference ID	T2S.11.250

The *Attribute Reference Definition* entity shall support the definition of additional values, mapped to an attribute, specified by an attribute domain definition. It shall allow an authorised T2S system user to add additional columns to an attribute domain in pre-defined physical database tables. Business descriptions of an attribute reference definition must include its purpose. It shall define the attribute reference and logical format of its values. The actual column of the pre-defined database table (*Reference Value* entity) defines the physical limitation for the logical format.

Table 11-8 – Attribute Requirements for Entity Attribute Reference Definition

Attribute	Definition
Attribute Domain Identifier	This attribute shall define the unique technical identifier of an attribute domain in T2S using the attribute domain definition.
Attribute Reference Identifier	This attribute shall define the unique technical identifier of an attribute reference definition in T2S. The authorised T2S system user shall assign this identifier.

Attribute	Definition
Attribute Reference Name	This attribute specifies the name of the attribute reference.
Attribute Reference Description	This attribute shall provide a short documentation of the attribute reference, i.e. its purpose for and usage in T2S.
Attribute Reference Format	This attribute shall specify whether the format of the code for a reference value is alphabetic, alphanumeric or numeric.
Minimum Reference Value Length	This attribute shall specify the minimum length of the code for a reference value in the attribute reference definition.
Maximum Reference Code Length	This attribute shall specify the maximum length of the code for a reference value in the attribute reference definition.
Case	This attribute shall specify if the code for a reference value in the attribute reference definition is uppercase, lower case, or both for alphabetic and alphanumeric code formats.
Mandatory	The attribute shall specify if the input of a reference code for attribute value is mandatory.

Defining an Attribute Domain: An Example for Settlement Instruction Types

T2S will use values, stored in attribute domains, for field validation and for displaying the business definition of a code. The type of settlement instruction is an example of an attribute domain that T2S will require for processing. For example, T2S would need the attribute domain to validate incoming settlement instructions and to establish the types of instructions that could logically be a source of potential matching in the settlement matching process.

The attribute domain for settlement instructions will require the user to specify the domain attributes, such as name and description, and the format definition for the code.

Table 11-9 – Example of Table Code Definition for Settlement Instruction Type

Attribute	Value
Attribute Domain Identifier	1000
Attribute Domain Name	T2S Settlement Instruction Type

Attribute	Value
Attribute Domain Description	This attribute domain specifies the settlement instruction type that T2S accepts for processing.
Code Format	Alphanumeric
Minimum Code Length	3
Maximum Code Length	5
Case	Upper Case

The aforementioned definition specifies that T2S will identify the attribute domain for settlement instruction type by the identifier “1000”. Any code entered into the attribute domain must have at least three characters and a maximum of five characters. Any letter used in the code must be in upper case.

The matching in T2S requires every settlement instruction type to have a complementary settlement instruction type with which to match. For example, a delivery-versus-payment instruction must be matched with a receive-versus-payment instruction. Hard coding is one option to ensure this mapping relationship, but it is not good development practice. Changes in mappings would require code changes in the software.

However, attribute domain definitions shall allow the user to configure this type of mapping without affecting the source code. The user needs to define an additional column for the attribute domain of valid settlement instruction types for the fulfilment of this mapping requirement. The reference value definition shall provide the user with the capability to add a column for the required mapping value for defined code. The following table illustrates how the business user would define this additional column as reference value.

Table 11-10 – Example for Reference Value Definition of Complementary Settlement Instruction Type

Attribute	Example
Reference Value Name	Mapping Value
Reference Value Description	This reference code maps a settlement instruction type to its complementary value for settlement matching.
Reference Value Format	Alphanumeric
Minimum Reference Code Length	3

Attribute	Example
Maximum Reference Code Length	5
Case	Upper Case
Mandatory	Yes

The defined configuration would create a logical domain with three columns, as documented by the following table. The instruction type and its associated text would be stored in the Attribute Value physical entity and the complementary instruction type, in the Reference Value entity. It would allow the user to enter the code for the type of settlement instruction, the description of the code and the code of the complementary settlement instruction type used for settlement matching.

Table 11-11 - Attribute Domain of Settlement Instruction Types: An Example

Instruction Type	Code Text	Complementary Instruction
DFOP	Deliver Free of Payment	RFOP
RFOP	Receive Free of Payment	DFOP
DVD	Delivery-versus-delivery	RVD
DVP	Delivery-versus-payment	RVP
RVD	Receive-versus-delivery	DVD
RVP	Receive-versus-payment	DVP

Attribute Domain User Interface

Reference ID	T2S.11.270

T2S shall provide one component with which the authorised T2S system user shall maintain all attribute domains. This user shall manage the domain lists through a harmonised user interface application using a single code base. T2S shall not have distinct and separate applications for managing attribute domains with different formats. The application software must have the necessary flexibility to support the maintenance of diverging attribute domain definitions.

Querying and Selecting an Attribute Domain

Reference ID	T2S.11.280

An authorised T2S system user will be able to query existing attribute domains to select one for update or display. A search parameter window in the online user interface will allow the user to search for an attribute domain by inputting either the name or identifier of the table. If the user does not enter any value for the given search criterion, then the application shall display a list of all available attribute domains. The results list shall display the name and identifier of the attribute domain to enable identification by the user.

Displaying and Maintaining Attribute Domains

Reference ID	T2S.11.290

Attribute domain maintenance refers to the process of adding, changing and deleting attribute domains. It also includes the maintenance of the list of valid values for a domain that a user can enter for an attribute in a static and transactional data entity.

Creating Attribute Domains

Reference ID	T2S.11.300

T2S shall provide the user with the functionality to create a new attribute domain using an online application. The user interface shall provide the user with a window into which the user can enter the attribute domain definition. The user interface shall provide the user with another window for adding any supplementary reference code definitions to the attribute domain.

Changing an Attribute Domain

Reference ID	T2S.11.310

T2S shall support the changing of an attribute domain. The user interface shall provide the functionality to change the format of the attribute domain and any attribute reference codes. It will also be possible to add and delete attributes and an attribute domain's reference definitions. If the user changes the format of either the attribute domain or the attribute reference code, then the application shall verify whether the valid list of attributes includes codes not compatible with the new format. If this is the case, then the system shall display an online message stating that the user cannot change the format until the user deletes the offending value or changes it into an acceptable format.

Deleting an Attribute Domain

Reference ID	T2S.11.320

T2S shall allow the physical deletion of an attribute domain when T2S does not require the attribute domain to ensure the referential integrity of data. T2S shall perform a logical deletion in all other cases.

List of Valid Codes

Reference ID	T2S.11.330

T2S shall provide a standard function for the online user interface that allows the user to display the valid list of codes for an attribute of a static data entity.

11.7 Settlement priority defaults

Reference ID	T2S.11.340

T2S shall support the configuration of default priority levels based on T2S party types and instruction and transaction types as specified in section 7.2.2 of chapter 7. Settlement in T2S shall automatically assign a specific priority for the processing of a settlement instruction based on the type of party in T2S.

11.8 Sequencing rules

Reference ID	T2S.11.350

T2S shall support the configuration of sequencing based on T2S party types and instruction and transaction types as specified in section 7.2 of chapter 7. Settlement in T2S shall automatically assign a specific sequence for the processing of a settlement instruction based on the sequence configured for a combination type of instruction and transaction type.

11.9 Roles and privileges for authorisation

Reference ID	T2S.11.355

The business requirements for T2S define the functional capabilities for configuring roles and privileges for authorising T2S system users to execute specific functions or view specific data. The requirements do not predicate a specific technical solution or software product. They define the functional scope that any proposed solution or application must provide to ensure the configurability of access rights to T2S.

11.9.1 Privileges

Reference ID	T2S.11.360

A privilege defines a specific T2S functional capability within a process or application. For example, within securities static data, possible privileges are: add new security, delete security, change security and display security. The definition of privileges is the means of granting and restricting access to functionality and data for specific T2S parties and T2S system users. Each T2S process, application and, where necessary, function shall have associated privileges.

- A privilege shall be uniquely identifiable, both internally in the application and to the T2S system administrator.
- A privilege shall have a setting (allow / deny) that specifies the type of authorisation granted.
- A privilege shall have a setting (administration option) that specifies whether the grantee of the privilege can grant the same privilege to another T2S system user.

Displaying and Maintaining Privileges

Reference ID	T2S.11.370

Privilege maintenance refers to the process of adding, changing and deleting privileges used for authorisation in T2S.

- It shall be possible for a T2S system administrator to add a new privilege. The T2S system administrator shall enter the details of the privilege in an input window.
- It shall be possible for a T2S system administrator to update an existing privilege from a list of available privileges.
- It shall be possible for a T2S system administrator to delete an existing privilege logically by executing a delete function. The T2S system administrator shall not be able to delete a privilege assigned to an active privilege class or role.
- It shall be possible to display a privilege in read-only mode.

Grouping Privileges

Reference ID	T2S.11.380

The authorisation and authentication solution deployed for T2S shall support the grouping of privileges to facilitate the administration of roles and access rights.

Grouping a set of T2S functional capabilities within a process or application forms a “privilege class”. For example, the privilege class for adding a new security, changing a security, deleting a security and displaying a security would be "Securities Static Data Management".

- A privilege class shall be uniquely identifiable, both internally in the application and to the T2S system administrator.
- A privilege class shall link related privileges for assigning roles.

Maintaining and Displaying Privilege Classes

Reference ID	T2S.11.390

Privilege class maintenance refers to the process of adding, changing and deleting privilege classes used for authorisation in T2S.

- It shall be possible for a T2S system administrator to add a new privilege class. The T2S system administrator shall enter the details of the privilege class in an input window.
- It shall be possible for a T2S system administrator to update an existing privilege class from a list of available privilege classes.
- It shall be possible for a T2S system administrator to delete an existing privilege class logically by executing a delete function. The T2S system administrator shall not be able to delete a privilege class assigned to an active role.
- It shall be possible to display a privilege class in read-only mode.
- The T2S system administrator shall be able to add and remove privileges from a privilege class when the user enters a new privilege class or updates an existing privilege class.

11.9.2 Roles

Reference ID	T2S.11.400

A role is the set of functions and services to which the authorisation application allows or denies the user access. A role consists of one or more privilege classes or privileges. When a T2S system administrator assigns a privilege class to a role, the T2S system administrator shall specify if the privilege within the class allows or denies access to the functionality defined by the privilege.

CSD-Specific Roles

Reference ID	T2S.11.410

CSDs retain the legal relationship with their customers and remain responsible for the services that they provide to their customers. CSDs participating in T2S must continue to comply with legal and regulatory requirements. Therefore, the authentication and authorisation application shall allow for the configuration of CSD-specific roles. It must be possible for the CSDs to differentiate access to T2S services and functions based on their regulatory and legal requirements. A CSD must be able to configure valid roles for its T2S parties.

CSD T2S-Party-Specific Roles

Reference ID	T2S.11.420

CSDs will not continue to manage the T2S system user administration for directly connected T2S parties. Each CSD will need to create and authorise a system administrator for itself that will be responsible for maintaining users and roles for each T2S party of the CSD, so that the system administrator of the T2S party will have access only to those roles that the CSD permits.
Accordingly, the authorisation and authentication component of T2S will allow each CSD to grant its clients access to a different set of roles, depending on the services provided by the CSD to each T2S party.

Maintaining and Displaying Roles

Reference ID	T2S.11.430

Role maintenance refers to the process of adding, changing and deleting roles used for authorisation in T2S.

- It shall be possible for a T2S system administrator or a CSD system administrator to add a new role.
- It shall be possible for a T2S system administrator or a CSD system administrator to update an existing role by selecting it for update from a list of available roles.
- It shall be possible for a T2S system administrator or a CSD system administrator to delete an existing role logically by executing a delete function. The user shall not be able to delete a role assigned to an active user (i.e. one that is not logically deleted).
- It shall be possible to display a role with its assigned privilege classes and privileges in read-only mode.
- The T2S system administrator or the CSD system administrator shall be able to add and remove privileges classes or privileges from a role.
- The user shall specify whether the role allows or denies access to a function, specified by the privilege within a privilege class assigned to the role.

11.9.3 T2S system users

Reference ID	T2S.11.440

A T2S system user is an individual or application that can log onto T2S with a login name and password. For example, a T2S system user may be an individual who has an interactive access to T2S online functions, or an application programme that uses services from T2S. The authentication and authorisation component shall support attributes defining named T2S system users. T2S requires the encryption of user information in Table 12.

Table 11-12– T2S System User Definition

Attribute	Definition
Login Name	Authentication shall require a unique account name for a T2S system user. The account name shall define the code used to identify a T2S system user for authentication at login.
Name	Authentication shall require named T2S system users. The name shall store the surname and first name of the T2S system user.
Password	This attribute shall specify the password that the T2S system user enters at login to authenticate herself / himself.
Authentication	This attribute shall define the type of authentication applied by the authentication component for a T2S system user at login. Simple authentication shall require the T2S system user to enter a password only. Smartcard authentication shall require the T2S system user to identify herself / himself to the system using a smartcard in addition to entering the password.
Lockout Status	The lockout status shall define whether the authentication component blocks the T2S system user from logging into T2S.
Lockout Timestamp From	A timestamp shall define the date and the time from which the authentication component shall lock out a T2S system user from the system. The timestamp shall allow the system to lock a T2S system user out of the system at a future date. It allows those leaving an organisation to be restricted from the system as of their expected leaving date, while allowing access until that date.
Password Change on Next Login	This attribute shall define if the T2S system user must change the password for the account on the next login. A password change on next login is usually mandatory when a new T2S system user account is created or when the password for an existing T2S system user changes.

T2S System User Assignment to T2S Party and System Entity

Reference ID	T2S.11.450

T2S system user information shall specify the T2S party of a T2S system user. The authorisation component will use this information to restrict the T2S system user's access to the static and transactional data pertaining to the user's T2S party and related sub-entities only.

For example, a T2S system user assigned to the T2S operator system entity may access all data of the T2S operator, CSDs and their participants and account. However, T2S shall provide roles to restrict the access of this T2S system user to business data of the CSDs by denying access to business functions that display the business data.

If the T2S party is a participant of a T2S-connected CSD, then the assignment shall restrict access of the T2S system user to the static and transactional data of the user's financial institution. CSD-specific roles and privileges shall restrict access to specific types of data for this T2S system user, where necessary. The assignment of the T2S system user to a T2S party also shall establish the relationship between T2S system user and system entity.

Displaying and Maintaining T2S System Users

Reference ID	T2S.11.460

T2S system user maintenance refers to the process of adding, changing and deleting users in T2S. Access to this functionality shall be restricted to system administrators.

Adding a T2S System User

Reference ID	T2S.11.470

It shall be possible for a system administrator to add a new T2S system user for its own organisation. In addition, a T2S system administrator shall be able to create system administration users for CSDs and NCBs in T2S, a CSD system administrator shall be able to create T2S party system administrators, and an NCB system administrator shall be able to create system administrators of payment banks.

Updating a T2S System User

Reference ID	T2S.11.480

It shall be possible for a system administrator to update an existing T2S system user of its own organisation by selecting it for update. In addition, a T2S system administrator shall be able to maintain CSD and NCB system administrators, a CSD system administrator shall be able to maintain T2S party system administrators, and an NCB system administrator shall be able to maintain payment bank system administrators.

Deleting a T2S System User

Reference ID	T2S.11.490

It shall be possible for a system administrator to delete a T2S system user of its own organisation by executing a delete function. In addition, a T2S system administrator shall be able to delete CSD and NCB

system administrators, a CSD system administrator shall be able to delete T2S party system administrators, and an NCB system administrator shall be able to delete payment bank system administrators.

Locking a T2S System User

Reference ID	T2S.11.500

It shall be possible for a system administrator to lock a T2S system user out of the system without deleting the user by setting the attribute "lockout status" to "yes". When this status is set, the current system time and date shall appear in the field specifying the start of lockout. The system administrator can opt to use the default timestamp or may set it to any date and time in the future. Therefore, a T2S system user's access to the system can be restricted as of his/her planned leaving date.

Unlocking a T2S System User

Reference ID	T2S.11.510

It shall be possible for a system administrator to unlock a login account by setting the attribute "lockout status" to "no". When this status is set, the current system date is to appear in the field for the lockout timestamp. This action shall require the T2S system user to reset the password at next login.

Password Reset

Reference ID	T2S.11.520

A password reset occurs when a system administrator either inputs a password for a new T2S system user or changes the password of an existing T2S system user. A password reset shall require the T2S system user to renew his/her password at next login. The attribute "password change on next login" shall be set to "yes" to indicate this.

Role Assignment

Reference ID	T2S.11.530

It shall be possible for a system administrator to assign existing roles to or to deactivate roles for a T2S system user when adding a new T2S system user or updating an existing T2S system user. The application shall automatically assign to the T2S system user the privileges associated with that existing role.

Securities Account Access Privilege Assignment

Reference ID	T2S.11.532

It shall be possible for a system administrator to assign existing access privileges for securities accounts to a

T2S system user when adding a new T2S system user or updating an existing T2S system user. The user shall have access to the transactional information of a securities account with that access privilege, depending on the user's role. For example, T2S will only allow a T2S system user with the privilege of querying positions within an assigned role to query those securities accounts for which the user has an access privilege.

11.10 Services and service configuration

Reference ID	T2S.11.535

The T2S service subscription model shall support the differentiation of services, but shall not mandate it. The legal, regulatory and contractual framework of T2S shall define the requirements for the differentiation or harmonisation of services, and the software shall support the service configuration.

11.10.1 Services

Reference ID	T2S.11.540

A service in T2S is any report, query or message in T2S, which CSDs, NCBs, T2S parties and payment banks may require. A service must always have associated with it a function or application in T2S. The T2S system administrator shall be responsible for defining the set of services available for use by each type of party. In turn, CSDs and NCBs shall be able to configure the set of services available to their T2S parties and payment banks, respectively.

Table 11-13 – Attribute Requirements for Entity Service

Attribute	Description
Service Identifier	This attribute shall define the unique technical identifier of a service in T2S.
Service Name	This attribute shall specify a short descriptive name for the service.
Service Description	This attribute shall provide the business description of the service. It shall document the service in detail.
Service Type	This attribute shall classify the service. The service type classification shall differentiate between reports, queries, functions and messages. The service type shall be an attribute domain in T2S.

Attribute	Description
Interaction	This attribute shall specify whether T2S provides the service on request on a pull basis, on a streaming basis in push mode, or in an interactive mode.
Service Eligibility	This attribute shall specify if the service is available only to the CSD or to both the CSD and its participant.
Technical Service Identification	This attribute shall specify how T2S shall identify the service technically. For example, the technical identification of a service could be an URL, a programme name or a type of message.

Maintaining Services

Reference ID	T2S.11.550

Service maintenance refers to the process of adding, changing or deleting services in T2S. Access to this functionality shall be restricted to the T2S system administrator.

Adding a Service

Reference ID	T2S.11.560

It shall be possible for the T2S system administrator to add a new service. T2S shall provide a function into which the T2S system administrator can enter the attributes of the service.

Updating a Service

Reference ID	T2S.11.570

It shall be possible for the T2S system administrator to update an existing service by selecting it for update from a list or directly through input of the service name or service identifier.

Deleting a Service

Reference ID	T2S.11.580

It shall be possible for the T2S system administrator to delete logically a service by executing a delete function. However, T2S shall not allow the T2S system administrator to delete a service if the service exists in a service configuration.

11.10.2 Service configuration

Reference ID	T2S.11.590

A service configuration in T2S is a set of services that the T2S operator provides to the CSD or NCB, or that the CSD or NCB provides to its T2S parties or payment banks. For example, a CSD shall be able to define a service configuration for directly connecting participants that would allow the participant to interact directly with T2S for certain services offered by T2S. T2S shall store service configurations by T2S operator, CSD and NCB. T2S shall not limit the number of service configurations that the T2S operator, CSD and NCB can configure. The following table defines identifying attributes of the service configuration.

Table 11-14 – Attribute Requirements for Entity Service Configuration

Attribute	Description
Service Configuration Identifier	This attribute shall define the unique technical identifier of a service configuration in T2S.
System Entity Identifier	The system entity identifier shall define a CSD, an NCB or the T2S operator to which the configuration applies.
Service Configuration Name	This attribute shall specify a short descriptive name for the service configuration.
Service Configuration Description	This attribute shall provide the business description of the service configuration. It shall document the service configuration in detail.

The following entity will enable an authorised T2S system user to link one or many services to a service configuration. Linking a service to a configuration will automatically enable the use of that service by entities to which the configuration applies.

Table 11-15 – Attribute Requirements for the Assignment of Services to a Configuration

Attribute	Description
Service Configuration Identifier	This attribute shall define the unique technical identifier of a service configuration in T2S. It shall assign a specific service to a service configuration.
System Entity Identifier	The system entity identifier shall define a CSD, NCB or the T2S operator to which the configuration applies.
Service Identifier	This attribute shall define the unique sequential identifier of the service in T2S, enabled for the service configuration.

Maintaining Service Configurations

Reference ID	T2S.11.600

Service configuration maintenance refers to the process of adding, changing or deleting service configurations in T2S.

Adding a Service Configuration

Reference ID	T2S.11.610

It shall be possible for a system administrator of the T2S operator, of a CSD or of an NCB to create a new service configuration. T2S shall provide a function into which the system administrator can enter the attributes of the service configuration. The system administrator shall have the capability to assign services from the valid list of services to the service configuration.

Updating a Service Configuration

Reference ID	T2S.11.620

It will be possible for a system administrator to update an existing service configuration by selecting it for update from a list or directly through input of the service configuration name or service configuration identifier. This allows the system administrator to add and remove services.

Deleting a Service Configuration

Reference ID	T2S.11.630

It shall be possible for a system administrator to delete logically a service configuration by executing a delete

function. However, T2S shall not allow a system administrator to delete a service configuration that is assigned to and still active for a T2S party. As a prerequisite to the deletion of a service configuration, a system administrator must deactivate it through a logical deletion function for all T2S parties that use it.

11.10.3 Message subscription service

Reference ID	T2S.11.640

T2S shall provide a rules-based, date-dependent message subscription service. The message subscription service shall allow CSD to configure, for itself or for its T2S parties with direct connectivity to T2S, a subscription to copies of messages sent between a directly connected T2S party and T2S in real time using push mode messaging. T2S shall support the following parameters for the subscription of messages:

- Message type;
- Instruction type;
- Message status;
- Party or account qualifier;
- Party or account identifier depending on party or account qualifier;
- and ISIN.

Rules for the message subscription service shall define the sequence in which T2S will apply a logical set of parameters to identify a message subscription requirement for a T2S message. The message subscription matrix will define the specific parameter values within a rule that T2S will compare to identify a message subscription requirement for a T2S message. T2S shall allow the configuration of message subscriptions by the combination of CSD and recipient, where the recipient is the CSD or a T2S Party of the CSD.

Message Subscription Rule Set and Matrix Example

System Entity: CSD X

Recipient: Interested Party B

Rule Set Valid From: 1 January 2007

Rule Sequence	Party/ Account	Party/Account Identifier Qualifier	Message Type	Instruction Type	Message Status	T2S Dedicated Cash Account	ISIN
1						X	
						Cash A/C 9876	
2	X	X	X				
	Account	Account ABC	Settlement Instruction				
3	X	X					
	Party	Bank A					
	Party	Bank B					

The example shows a rule set consisting of three rules for *Interested Party B*, which is a T2S Party of *CSD X*. The configuration is valid from 1 January 2007. The first rule specifies that the message subscription must

compare the content of the T2S dedicated cash account in a message against the content of the entries, defined under this rule, for the T2S dedicated cash account.

The second rule specifies that the message subscription will perform the comparison of message content on the party or account qualifier, the party or account identifier and the message type. The final rule stipulates that the message subscription compare the message content against the party or account qualifier and the party or account identifier only.

Using the example for matrix entries, T2S checks the subscription for a new message starting with rule one. If the message contains a T2S dedicated cash account and the value in the message field is equal to *Cash Account 9876*, then the message subscription service sends a copy of the message to *Interested Party B*. The process terminates once the message subscription finds a match, since the match results in T2S a message to the recipient. If the values do not match, then the subscription service checks the message using the matrix entries of the next rule.

In the second rule, the matrix entry defines a specific account and a specific type of message as message subscription values. If the message is a settlement instruction from *Account ABC*, then the message subscription service sends a copy to *Interested Party B*. If the values do not match, then the subscription service checks the message using the matrix entries of the next rule.

In the final rule, the matrix specifies specific parties, *Bank A* and Bank B, for which the message subscription generates copies of all instructions for the recipient *Interested Party B*. In this scenario, *Bank A* and *Bank B* could be directly connected parties for which a centralised securities business processing service provider *Interested Party B* wishes to receive copies of all messages between the banks and T2S. If the values in the message do not match after the final rule, then the message subscription service sends no copies for a message.

Message Subscription Rule Set

T2S shall store different message subscription rule sets for each system entity, i.e. CSD or NCB. T2S shall differentiate rule sets within a system entity by a valid-from date. Each rule within a rule set shall have a sequence, which defines the order in which T2S shall process a rule.

The conceptual entity *Message Subscription Rule Set* will link the rules, defined in T2S for the message subscription configuration for a CSD or an NCB, to one related set of rules.

Table 11-16 - List of Attributes for the Entity Message Subscription Rule Set

Attribute	Description
Message Subscription Rule Set	This attribute shall specify the unique technical identifier of a message subscription rule set for a CSD or an NCB.
System Entity Identifier	This attribute shall specify the CSD or the NCB for which the rule set applies.

Attribute	Description
Recipient	This attribute shall specify the party identifier of the receiver(s), subscribing to the message copy.
Rule Set Valid From	This attribute shall define the date from which the rule set is valid.

The conceptual entity *Message Subscription Rule* shall define the individual rules of a rule set.

Table 11-17 - List of Attributes for the Entity Message Subscription Rule

Attribute	Description
Message Subscription Rule Identifier	This attribute shall specify the unique technical identifier of a message subscription rule.
Message Subscription Rule Set	This attribute shall specify the unique technical identifier of the underlying message subscription rule set for the rule.
Rule Sequence	This attribute shall define the order in which T2S shall process the rule.
Party or Securities Account Qualifier	This attribute shall store a Boolean value indicating whether the specification of a party or securities account is a valid criterion for the rule definition. The attribute also shall qualify whether a party or securities account identifier is stored in the attribute *Party or Securities Account Identifier*.
Party or Securities Account Identifier	This attribute shall store a Boolean value indicating whether the specification of a specific party or securities account is a valid criterion for the rule definition.
Message Type	This attribute shall store a Boolean value indicating whether the specification of a message type is a valid criterion for the rule definition.
Instruction Type	This attribute shall store a Boolean value, indicating whether the specification of an instruction type is a valid criterion for the rule definition.
Instruction Status	This attribute shall store a value indicating whether the specification of an instruction status is a valid criterion for the rule definition.
T2S Dedicated Cash Account	This attribute shall store a Boolean value indicating whether the specification of a T2S dedicated cash account is a valid criterion for the rule definition.

Attribute	Description
ISIN	This attribute shall store a Boolean value indicating whether the specification of a security is a valid criterion for the rule definition.

Message Subscription Matrix

T2S shall store matrix entries for a rule in a rule set. A matrix entry shall define an occurrence of a valid set of values, specifying the actual criteria against which the message subscription service must validate a message, in order to determine if T2S shall send a copy to one (or multiple) specific recipient(s).

Table 11-18 - List of Attributes for the Entity Message Subscription Matrix Entry

Attribute	Description
Message Subscription Matrix Identifier	This attribute shall specify the unique technical identifier of an entry in the message subscription matrix.
Message Subscription Rule Identifier	This attribute shall specify the unique technical identifier of a message subscription rule.
Party or Securities Account Qualifier	This attribute shall specify a value indicating whether the party or securities account is a valid for the matrix entry. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.
Party or Securities Account Identifier	This attribute shall specify a party or securities account identifier, depending on the value in the attribute *Party or Securities Account Qualifier*. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.
Message Type	This attribute shall specify a valid T2S message type, such as a settlement instruction. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.
Instruction Type	This attribute shall specify a valid instruction type based on ISO 20022. The valid values for this attribute shall depend on the message type. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.
Instruction Status	This attribute shall store a value indicating whether the specification of an instruction status is a valid criterion for the rule definition.

Attribute	Description
Message Status	This attribute shall specify a valid message status. The valid values for this attribute shall depend on the message type. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.
T2S Dedicated Cash Account	This attribute shall specify a valid T2S dedicated cash account. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.
ISIN	This attribute shall specify a valid ISIN. This attribute shall specify a value only when the underlying rule defines the attribute as a valid subscription criterion.

11.10.4 Market-specific restriction types

Reference ID	T2S.11.650

An objective of T2S and of many market participants is to achieve harmonised securities account structures. Nevertheless, there is currently a requirement to provide account structures that support segregation, blocking, reservation and earmarking of securities positions in a variety of existing models in the various markets. Furthermore, T2S must also support the blocking of T2S parties, securities accounts and dedicated cash accounts based on individual countries' regulatory and legal requirements.

To support the aforementioned, T2S will allow CSDs and NCBs to define their own restriction types. Restriction types are attributes that define the specific processing characteristics for a securities position, a securities account, a T2S dedicated cash account, a party or a cash amount to ensure configurability of market-specific requirements, as prescribed by legal and regulatory requirements and practices.

Table 11-19 - List of Attributes for the Entity Market-Specific Restriction Type

Attribute	Description
System Entity Identifier	This attribute shall specify the CSD or the NCB for which the restriction type is valid.
Restriction Type Identifier	This attribute shall define the unique technical identifier of a restriction type in T2S.

Attribute	Description
Restriction Type	This attribute shall specify a code that identifies the restriction. T2S shall allow CSDs or the NCBs to configure their own types.
Restriction Description	This attribute shall specify a text description of the restriction.
Object Restriction Type	This attribute shall specify whether the restriction applies to a security, securities account, securities position in a securities account, T2S dedicated cash or cash amount in a T2S dedicated cash account. T2S shall use this attribute in the application logic to identify and trigger the required validations. Valid object restriction types are: - Securities account - Security - T2S dedicated cash account - Securities position - Cash amount - T2S Party
Subordinate Position Restriction	This Boolean attribute specifies whether the user can place a subordinate position restriction of another type on the defined restriction. For example, the business user could define an account with a restriction type for a collateral account that would earmark all positions in the account for possible use as collateral. This restriction type would allow the business user to place a second restriction specifying that a portion of the earmarked securities be used by blocking a position in the account as collateral. A subordinate position restriction shall only be possible on restrictions that allow position segregation or that are earmarking restrictions.
Restriction Classification	This attribute specifies whether the restriction type results in earmarking, reservation, blocking or segregation. Please refer to the glossary for the definition of the aforementioned terms.

Attribute	Description
Restriction Profile	This Boolean attribute specifies whether the restriction profile, which are combinations if instruction type and transaction code, represents a positive or negative list. A positive restriction profile would specify the combinations of instruction type and transaction code that can be instructed for the market-specific restriction. A negative restriction profile would specify the combinations of instruction type and transaction code that cannot be instructed for the market-specific restriction.

This entity stores the combination of instruction types and instructing party types that T2S will have for processing under the specified restriction.

Table 11-20 - List of Attributes for the Entity Instruction

Attribute	Description
Instruction Identifier	This attribute shall specify the unique technical identifier of a combination of instructing party and allowed instruction profile for a restriction.
Restriction Type Identifier	This attribute shall define the unique technical identifier of a restriction type in T2S. It links the combination of instructing party and instruction profile to its underlying restriction.
Instructing Party	This attribute shall specify a valid party type, which T2S will process for the defined restriction. For example: - Authorised instruction party such as CCP, trading platform, stock exchange and/or indirect CSD participant; - CSD; - CSD participant (as account owner).
Instruction Profile Identifier	This attribute shall define the unique identifier of the profile that specifies the instruction types that a deviating instructing party can instruct on behalf of the party. Please refer to section 11.14 on “Instruction Profile”.

This entity specifies the all restriction types that T2S will allow as subordinate restrictions.

Table 11-21 - List of Attributes for the Entity Allowed Subordinate Restriction

Attribute	Description
Allowed Subordinate Restriction Identifier	This attribute shall specify the CSD or the NCB for which the restriction type is valid.
Restriction Type Identifier	This attribute shall define the unique technical identifier of a restriction type in T2S.
Allowed Restriction Type Identifier	This attribute shall define the unique technical identifier of a restriction type that T2S will allow as a subordinate restriction.

Maintaining Restriction Types

Reference ID	T2S.11.660

Restriction type maintenance refers to the process of adding, changing or deleting restriction types.

Adding a Restriction Type

Reference ID	T2S.11.670

It shall be possible for a CSD system administrator to add a restriction type in T2S. T2S shall provide a function for the CSD system administrator to enter the attributes of the restriction type. Adding a new restriction type shall result in an immediate revalidation of open settlement instructions.

Updating a Restriction Type

Reference ID	T2S.11.680

It shall be possible for a CSD system administrator to update an existing restriction type by selecting it for update. An update of a restriction type shall result in an immediate revalidation of open settlement instructions.

Deleting a Restriction Type

Reference ID	T2S.11.690

It shall be possible for a CSD system administrator to delete logically a restriction type by executing a delete

function. However, T2S shall not allow the CSD system administrator to delete a restriction type assigned to and still active for a T2S party, an account, a security or a position.

11.11 SWIFT BIC directory

Reference ID	T2S.11.700

T2S shall maintain the current SWIFT BIC Directory within static data. T2S shall use the directory to validate the input of BICs as party and technical address identifiers.

SWIFT BIC Directory Attribute Requirements

Reference ID	T2S.11.710

The Entity *SWIFT BIC Directory* shall store the attributes needed to identify the legal entity to which SWIFT assigned the BIC. T2S shall assign a unique internal identifier to the BIC. T2S only shall store the internal identifier in static and transactional data so that a change of BIC for a legal entity does not affect these data.

Table 11-22 - List of Attributes for the SWIFT BIC Directory Entity

Attribute	Description
BIC Technical Identifier	This attribute shall specify the unique technical identifier of a BIC in T2S.
BIC Source	This attribute shall specify the channel through which the BIC entered T2S. For example: - Manual input - Automated monthly SWIFT BIC Directory update - Update through BIC Data+
BIC Type	This attribute shall define whether the BIC is an official BIC or an internal technical BIC.
BIC	This attribute shall store the eight-character BIC, consisting of bank code (financial institution), country code and location code.
BIC Branch Code	This attribute shall specify the three-character branch code for the financial institution.

Attribute	Description
Financial Institution Name	This attribute shall provide three text fields with a length of 35 characters each to store the name of the financial institution.
City Name	This data item shall specify a 35-character name of the city in which the financial institution resides.
Branch Information	This attribute shall provide two text fields with a length of 35 characters each to identify the branch of the financial institution.

Automated BIC Directory Update

Reference ID	T2S.11.720

T2S shall support the automated update of the SWIFT BIC Directory in T2S using the monthly SWIFT BIC Directory update and the update through BIC Data+.

11.12 Partial settlement thresholds

Reference ID	T2S.11.730

T2S shall specify the harmonised threshold setting for partial settlement at the T2S operator level. The setting at the T2S operator level shall apply for all CSDs, CCPs and participant accounts when the aforementioned allow partial settlement, but have no thresholds configured. It shall also apply for Cross-CSD settlement in T2S. T2S shall allow each CSD and each CCP to define its own internal thresholds for partial settlement. A CCP threshold shall prevail over the CSD and Cross-CSD thresholds.

Table 11-23 - Entity Attribute Requirements for Partial Settlement Threshold Group

Attribute	Description
Threshold Group Identifier	This attribute shall specify the unique technical identifier of a set of thresholds in T2S.
Valid From	This attribute shall specify the date from which the threshold is valid.
Party Type	This attribute shall define whether the threshold applies to the T2S operator, CCP, CSD or participant account.

Attribute	Description
Party or Account Identifier	This attribute shall specify the unique technical party identifier of the T2S operator, a CCP or a CSD if the party type specifies one of the aforementioned. Otherwise, it shall specify a specific account identifier in T2S.

The entity, documented in the following table, specifies the actual threshold that T2S shall apply to trigger partial settlement. T2S shall define three threshold types:

- a percentage and minimum amount in money and currency;
- a percentage and minimum number of shares for unit-quoted securities;
- a percentage and minimum nominal for securities, settled in nominal values.

Table 11-24 - Entity Attribute Requirements for Partial Settlement Threshold

Attribute	Description
Threshold Identifier	This attribute shall specify the unique technical identifier of a threshold in T2S.
Threshold Group Identifier	This attribute shall specify the unique technical identifier of a set of thresholds in T2S. It shall link the entry to the threshold group.
Threshold Type	This attribute shall define whether the threshold is for: - cash, - a nominal, - or on a number of shares.
Amount Type	This attribute shall define whether the threshold is a minimum value or a percentage-based value.
Threshold Value	This attribute shall specify the numeric value of the threshold for partial settlement.

11.13 Conditional securities delivery parameters

Reference ID	T2S.11.740

T2S shall support the configuration of conditional securities delivery. Conditional securities delivery in T2S

refers to a procedure in which the final posting of securities and/or cash is dependent on the successful completion of an additional action or event external to T2S and confirmed by an administering party.

T2S shall allow CSDs:

- to configure conditional securities delivery by CSD;
- to name a conditional securities delivery;
- to define the conditions that T2S applies to settlement instruction to identify its settlement as conditional;
- to specify the administrating party;
- and to define whether T2S shall block securities, cash or both when an instruction is marked for conditional delivery.

T2S shall support the following parameters for the configuration of conditional securities delivery:

- ISIN
- Settlement Currency
- CSD
- Securities Account
- Country of Issuance
- Place of Settlement
- Transaction Type
- Issuer CSD Location
- Deliverer Location
- Receiver Location

The following table provides a sample configuration of conditional securities delivery. It is an example for illustration purposes only and may not reflect the actual configuration required in T2S. The configuration stipulates that T2S shall mark all instructions specifying securities issued in Spain and settling in CSD A as conditional securities delivery.

Table 11-25 – Parameter Configuration

Name	Country of Issuance	Settlement Currency	Place of Settlement	Transaction Type	Location Issuer CSD	Location Deliverer	Location Receiver	ISIN	Securities Account
Registration Spain	Spain	-	CSD A	-	-	-	-	-	-

Linked to the conditional settlement parameters is the process configuration. T2S settlement will reserve both the securities and cash for the conditional settlement when processing instructions fulfilling the specified conditions. The administering party is CSD A, which will confirm settlement is final when the registration process is completed.

Table 11-26 – Process Configuration

Administering Party	CSD
Security Reservation	Yes
Cash Reservation	Yes

11.14 Instruction Profile

Reference ID	T2S.11.750

An allowed instruction profile in T2S is a set of instruction types and transaction codes that a T2S actor is authorised or not authorised to instruct in T2S respectively. For example, CSD participants will allow third parties, such as a CCP or a trading platform, to send settlement instructions to T2S on their behalf. However, the CSD participant will limit this authorisation to certain instruction types and transaction codes. Therefore, T2S must allow a CSD to configure allowed or not allowed instruction profiles for assignment to instructing parties. T2S shall not limit the number of profiles that CSD can configure. The following table defines identifying attributes of the profile configuration.

Table 11-27 – Attribute Requirements for Instruction Profile Entity

Attribute	Description
Instruction Profile Identifier	This attribute shall define the unique technical identifier of an instruction profile.
System Entity Identifier	The system entity identifier shall define a CSD for which the configuration applies.
Instruction Profile Name	This attribute shall specify a short descriptive name for the instruction profile.
Instruction Profile Description	This attribute shall provide the business description of the instruction profile. It shall document the instruction profile in detail.
Instruction Profile Type	This attribute shall specify whether the combinations of instruction types and ISO transaction codes of the instruction profile is a positive or negative list. A negative instruction profile defines a set of instruction types and ISO transaction code that a T2S actor is not allowed to instruct in T2S. A positive instruction profile defines a set of instruction types and ISO transaction code that a T2S actor is allowed to instruct in T2S.

The following entity will enable an authorised T2S system user to link one or many combinations of instruction types and ISO transaction codes to an allowed instruction profile.

Table 11-28 – Attribute Requirements for the Assignment of Instruction Types and Transaction Codes

Attribute	Description
Instruction Identifier	This attribute shall define the unique technical identifier of an instruction, i.e. a combination of instruction type and transaction code for an instruction profile.
Instruction Profile Identifier	This attribute shall define the unique technical identifier of an instruction profile. It links the combination of instruction type and transaction code to the instruction profile.
System Entity Identifier	The system entity identifier shall define a CSD, NCB or the T2S operator to which the configuration applies.
Instruction Type	This attribute shall specify a valid settlement instruction type as defined in an attribute domain.
ISO Transaction Code	This attribute shall specify a valid settlement transaction code as defined in an attribute domain.

Instruction Type Attribute Domain

Reference ID	T2S.11.760

Valid instruction types shall be a T2S attribute domain.

Transaction Code Attribute Domain

Reference ID	T2S.11.770

Valid transaction codes shall be a T2S attribute domain.

Maintaining Instruction Profiles

Reference ID	T2S.11.780

Instruction profile maintenance refers to the process of adding, changing or deleting instruction profiles in T2S.

Adding an Instruction Profile

Reference ID	T2S.11.790

It shall be possible for an authorised T2S system user to create a new instruction profile. T2S shall provide a function into which the T2S system user can enter the attributes of the instruction profile. The T2S system user shall have the capability to assign combinations of instruction types and transaction codes from the valid list of the corresponding attribute domains to the instruction profile.

Updating an Instruction Profile

Reference ID	T2S.11.800

It will be possible for an authorised T2S system user to update an existing instruction profile by selecting it for update from a list or directly through input of the instruction profile name or instruction profile identifier. This shall allow the T2S system user to add and remove combinations of instruction types and transaction codes.

Deleting an Instruction Profile

Reference ID	T2S.11.810

It shall be possible for an authorised T2S system user to delete an instruction profile by executing a delete function. However, T2S will not allow an authorised T2S system user to delete an instruction profile assigned to and still active for a T2S party. As a prerequisite to the deletion of an instruction profile, an authorised T2S system user must deactivate it through a logical deletion function for all T2S parties that use it.

USER REQUIREMENTS

CHAPTER 12

INTERFACES AND CONNECTIVITY REQUIREMENTS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENTS

12 Interfaces and connectivity requirements

Chapter 12 defines the characteristics of the T2S Interface and sets out user requirements from the point of view of the various T2S actors, in the context of other T2S processes as well as other systems owned by NCBs (notably TARGET2 and CCBM2).

Section 12.1 gives a high-level description of processes including the T2S actors and T2S components involved.

Section 12.2 lists the user requirements related to the tools and syntax used by the T2S Interface; it also provides an overview of some examples of technical access to T2S. It lists user requirements for technical validations to be carried out at the level of the T2S Interface and covers interaction with other T2S components.

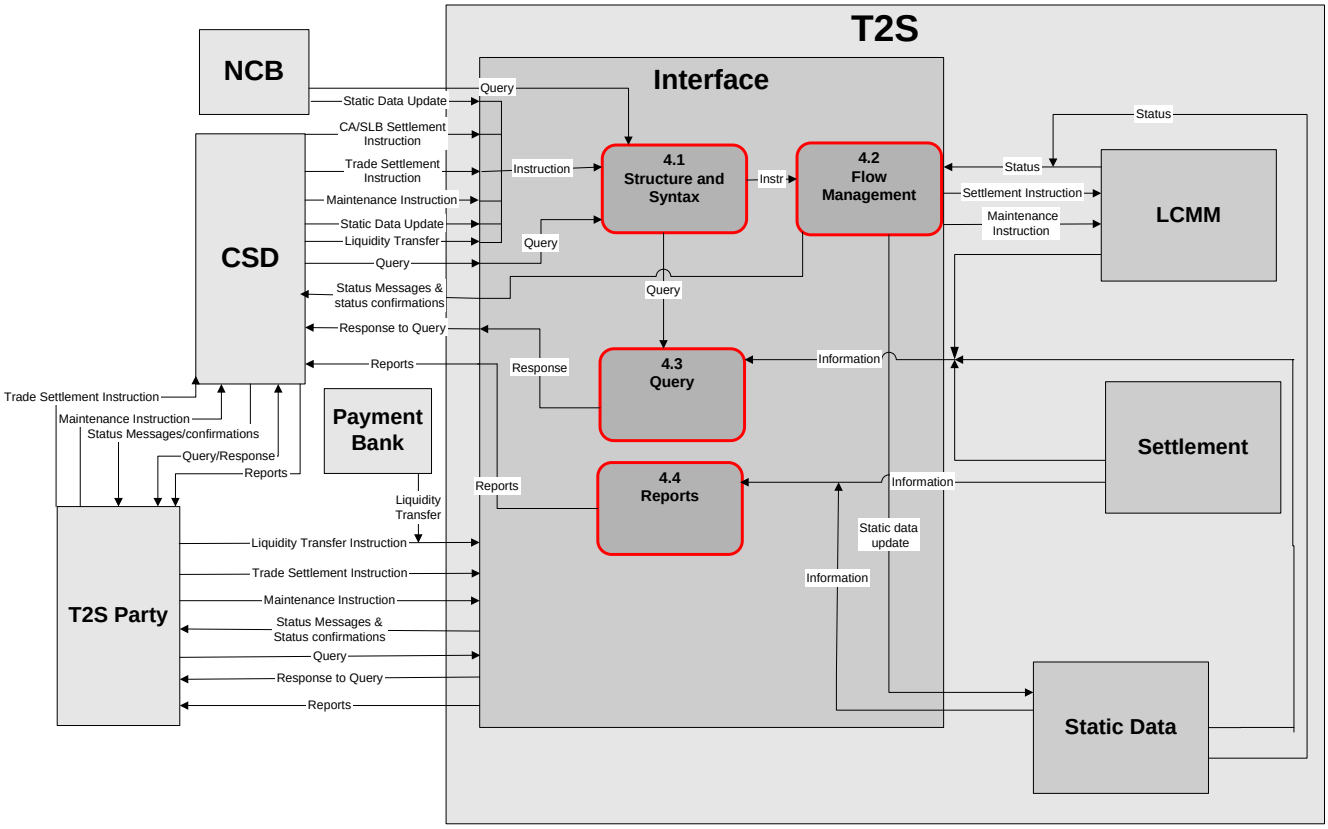
Section, 12.3 sets out technical user requirements related to the connectivity of CSDs and T2S parties to the T2S Interface. It also covers those requirements of systems owned by NCBs (TARGET2 and other RTGS systems, CCBM2 and other collateral management systems) with which T2S will have to comply.

12.1 Context diagram of Interfaces

12.1.1 Context diagram

This context diagram depicts the different high-level processes and interactions of the T2S Interface with various T2S actors and other T2S components. This diagram aims at providing an overview of the interfaces processing based on the business requirements. However, it does not aim at pre-empting any future decision that may be taken for the IT design and technical implementation of T2S.

Figure 12-1: Context diagram



12.1.2 Process description

12.1.2.1 Structure and Syntax (4.1)

This function of the interface will receive instructions from T2S actors and perform the basic structure and syntax validations, and then forward these valid instructions to the flow management function. In the case of queries, after the format and syntax validations are done, these queries are handled by query function.

Input	
Instruction	From T2S actors.

Output	
Instruction	After format and syntax checks, the instruction is forwarded to flow management function.
Query	After format and syntax checks, the query is forwarded to query.

12.1.2.2 Flow Management (4.2)

The flow management function in interface acts as an information router. This function receives validated instructions from the format and syntax functions, and then routes the instructions to the desired components of T2S, like LCMM, static data, etc. It also captures status messages from LCMM and static data components, and in turn routes them to the desired T2S actor.

Input	
Instruction	From format and syntax function.
Status	Captures the status messages from LCMM and Static Data components.

Output	
Settlement Instruction	Sent to LCMM component
Maintenance Instruction	Sent to LCMM component
Cash and Collateral Management	Sent to Settlement component
Static Data Update	Sent to Static data component
Status Messages & Status Confirmations	Sent to T2S actors as per message subscription service (see chapter 13).

12.1.2.3 Query (4.3)

The query function will receive, validate and manage queries in relation to instructions/balances/static data sent by the CSDs, directly connected T2S parties and NCBs. This function would also manage responses to the queries.

Input	
Query	Query from CSDs, directly connected T2S parties and NCBs.
Information	Information retrieved from LCMM (regarding instruction) OR from Settlement (regarding security and cash balances) OR from Static data (regarding static data).

Output	
Response	Response to the query sent to CSD or directly connected participants.

12.1.2.4 Reports (4.4)

This Reports function will manage the sending out of a pre-defined set of reports (either event-based or time-based), to the CSDs, NCBs and directly connected T2S parties as per the message service subscription (see chapter 13).

Input	
Information	Information retrieved from Static data, LCMM and settlement components to create reports.

Output	
Report	

12.2 Interface requirements

This section describes Interface requirements for T2S, in relationship with connectivity requirements (section 12.3) and communication requirements related to messages, queries and reports, which are documented in chapters 13 and 14.

There are three aspects: characteristics of the technical interface, validations, and interactions with other T2S components.

12.2.1 Technical interface

This describes the Interface component, its syntax and protocol, and gives an outline of its usage from a business perspective.

12.2.1.1 Tool

Connectivity options

Reference ID	T2S.12.010

T2S Interface shall provide all T2S connectivity options.

Connectivity options are described in section 12.3 of this chapter.

Data storage and retrieval

Reference ID	T2S.12.020

T2S shall store and enable retrieval of information received from the T2S actors, including non-settlement related information. This information should be retrievable by those with appropriate access rights.

As an example, CSDs will be able to retrieve tax data from instructions sent by their participants directly connected to T2S.

Generate outbound communication

Reference ID	T2S.12.030

T2S Interface shall generate outbound communication from information received from the life cycle management component and static data component (e.g. status and confirmation messages).

T2S Interface should build messages, reports and answers to queries, in the appropriate syntax and format, out of data received from the life cycle management component and static data component.

12.2.1.2 Communication standard and protocol

To comply with the removal of Giovannini[1] barrier one, and thus support harmonised standards, ISO 20022/UNIFI (UNIversal Financial Industry message scheme) shall be used as the standard for all T2S communications.
In addition, the use of the ISO 20022 standard will comply with the Giovannini communication protocol.

Use of the ISO 20022 standard

Reference ID	T2S.12.040

The T2S Interface shall use ISO 20022/UNIFI as its single standard for all communications, both inbound and outbound.

Compliance with the Giovannini protocol

Reference ID	T2S.12.050

The T2S Interface shall comply with Giovannini protocol recommendations for both inbound and outbound communications.

12.2.1.3 Access

The user requirements described here apply to technical access to the T2S Interface. They do not deal with the data made available to T2S actors. A high-level description of the user requirements related to roles and privileges is provided in chapter 11. More details will have to be worked out in the next phase of the T2S project.

Interface access

Reference ID	T2S.12.060

T2S shall provide interfaces to T2S actors.
According to their access rights, CSDs and directly connected T2S Parties (including NCBs in their role of CSD's participants) shall be able to input and maintain instructions and query data when related to securities (including securities accounts).

[1] The Giovannini recommendations, published in March 2006, are an agreed set of EU-wide data standards and technology recommendations aimed at creating an environment where all industry participants can interoperate, eliminating some of the complexity and cost of cross-border clearing and settlement.

Subject to their access rights, NCBs and payment banks shall be able to input and maintain instructions and query data related to cash (including cash accounts).

The table below is a non-exhaustive list illustrating the access of different T2S actors to T2S. The list will need to be made more detailed and completed during the next phase of the T2S project.

Assumptions:

- *Making use of the Eurosystem Single Interface is not mandatory for T2S actors (neither user-to-application mode (U2A) nor application-to-application mode (A2A)).*
- *CSDs will be responsible for granting direct technical connectivity to information related to securities accounts in T2S according to their service configuration.*
- *NCBs will be responsible for granting direct technical connectivity to information related to cash accounts as well as to other liquidity managing functions in T2S.*

The following codes are used in the table:

s send messages

r receive messages

q query information

(q) query in exceptional situations (e.g. after losing the reports received from T2S because of problems in the back-office system of the CSD or directly connected T2S party)

m perform maintenance

Table 12-1: Examples of access to T2S interface and functions

(The information provided in this column will need to be made more detailed in the next phase of the T2S project, e.g. listing the different types of settlement instruction and documenting who is allowed to send them – e.g. some can be sent only by CSDs.)	**CSDs**	**Directly connected T2S party**[2]	**Payment bank**	**NCBs**
Instructions, status and confirmation messages				
Settlement instructions	s	s		

[2] Directly connected T2S parties will have full access according to the level of direct connectivity they have chosen with their CSD.

(The information provided in this column will need to be made more detailed in the next phase of the T2S project, e.g. listing the different types of settlement instruction and documenting who is allowed to send them – e.g. some can be sent only by CSDs.)	**CSDs**	**Directly connected T2S party**[2]	**Payment bank**	**NCBs**
Status messages	r	r		
Confirmation messages	r	r		
Queries / maintenance				
Instructions				
Settlement instructions (incl. related status and confirmation messages)	q	q		
Liquidity transfers	q		q	q
Balances				
Securities accounts	q	q		
Cash accounts	q		q	q
Static data				
Liquidity transfers				
Liquidity transfers (standing orders)	q/m		q/m	q/m
Liquidity transfers (predefined orders)	q/m		q/m	q/m
Limits				
Buyer limits			q/m	q/m
Settlement bank's limit for making use of auto-collateralisation by third parties			q/m	q/m
NCB's limits for auto-collateralisation				q/m

(The information provided in this column will need to be made more detailed in the next phase of the T2S project, e.g. listing the different types of settlement instruction and documenting who is allowed to send them – e.g. some can be sent only by CSDs.)	**CSDs**	**Directly connected T2S party**[2]	**Payment bank**	**NCBs**
Reservations				
Cash			q/m	q/m
Accounts				
Securities accounts	q/m	q		
Cash accounts	q		q	q/m
T2S actors				
CSDs	q/m	q		
T2S parties	q/m	q	q	q
NCBs			q	q
Securities	q/m	q	q	
T2S				
...				
Reports				
Set of reports	r/(q)	r/(q)		
…				
…				

12.2.2 Interface validations

These user requirements relate to technical and communication validations that are not performed either by the network providers (i.e. providers of communication network and services) or by the T2S life cycle management and matching component. These validations can differ depending on whether the communication flow is inbound or outbound (as defined in chapters 13 and 14).

12.2.2.1 Inbound

Inbound communication is always initiated by an authorised T2S party (i.e. having appropriate connection to T2S and appropriate access rights and configuration as per chapter 11) and received by the T2S Interface.
The syntax, format and structure required by T2S will be based on XML technology, the ISO 20022 standard and Giovannini protocol recommendations, as mentioned above (to be further detailed in a latter phase of the project).

Technical validation

Reference ID	T2S.12.070

T2S shall verify that inbound communication is compliant with T2S required syntax, format and structure.

File requirements

Closely linked to the message requirements (refer to chapter 13), the file structure requirements shall be based on the same standard and technology (i.e. ISO 20022 and XML), and benefit from the same secured communication environment in T2S and between T2S and the external world (as described in chapter 18).

File validation 1

Reference ID	T2S.12.080

The T2S Interface shall validate that files to be exchanged between T2S and the other systems of the T2S actors comply with the same standard as the messages.

File validation 2

Reference ID	T2S.12.090

T2S shall ensure that inbound files are not lost, that outbound files are neither lost nor duplicated and that the recommendations of the Giovannini file transfer rulebook are applied (generic rules for file construction and best practices for file transfer operations for any and all file transfers, on any network).

File processing rule

Reference ID	T2S.12.100

If there are file transfer or structure problems, T2S shall ensure that files are rejected entirely.

This does not apply if there are validation problems at the level of individual instructions in the file. In this case, the file is completely processed and rejection messages are sent for the individual invalid instructions.

Identify the sender

Technical address validation

Reference ID	T2S.12.110

T2S shall check that the communication is received from a secured and recognised technical address.

Identification of instructing/communicating party

Reference ID	T2S.12.120

T2S shall identify the T2S actors which sent the communication.

Identify the communication: communication means and nature

Reference ID	T2S.12.130

T2S shall identify the communication means used (e.g. message, file) and the nature of the communication (e.g. settlement instruction, static data query) to route it to the appropriate components in T2S.
For instance, settlement instructions will always go through the life cycle management and matching component, whereas some queries (e.g. account data) will be handled by the Static Data component.

12.2.2.2 Outbound

Outbound communication is always initiated by the T2S Interface and received by an authorised T2S actor.

Identify the recipient: Identification of communicating party

Reference ID	T2S.12.140

The T2S interface shall identify the T2S actors entitled to receive the communication.

Retrieve Static Data information

Reference ID	T2S.12.150

For all outbound communication, T2S Interface should retrieve from T2S Static Data:

- the message subscription preference of the communication recipient.
- the technical address to which this communication should be routed (when there are multiple technical addresses, routing should take them all into account).

Ensure delivery: communication delivery

Reference ID	T2S.12.160

T2S shall ensure that outbound communication has been routed to the appropriate technical address and delivered on due time to the receiving T2S actors.
T2S shall make sure that an outbound communication generated by T2S reaches the T2S actor or its network provider if the network provider guarantees delivery.

12.2.3 Interaction with other T2S components

This section highlights the need for internal communication between the T2S Interface and some other T2S components.

12.2.3.1 Static Data

Routing

Reference ID	T2S.12.170

The T2S Interface shall route all Static Data maintenance messages (see chapter 13, table 13-3, “message glossary”) to the Static Data process.

Interface information

Reference ID	T2S.12.180

The T2S Interface shall inform Static Data about the T2S actor initiating the communication.

Static Data information

Reference ID	T2S.12.190

T2S Static Data should inform T2S Interface about the event to be communicated, including all necessary data, so that T2S Interface can generate the appropriate messages, reports and queries answers.

12.2.3.2 Life cycle management and matching

Routing

Reference ID	T2S.12.200

T2S Interface shall route all settlement messages (including maintenance messages) to life cycle management and matching.

Interface information

Reference ID	T2S.12.210

T2S Interface shall inform Lifecycle management and matching about the T2S actor initiating the communication.

Lifecycle management and matching information

Reference ID	T2S.12.220

T2S Lifecycle management and matching should inform T2S Interface about the event to be communicated, including all necessary data, so that T2S Interface can generate the appropriate messages, reports and queries answers.

12.3 Connectivity requirements

This section deals with the types of connections that will be established between T2S and the systems interfaced with T2S and defines the basic services offered. It therefore covers:

- the common connectivity needs of all T2S actors,
- the specific connectivity needs of CSDs and directly connected parties,
- the connectivity needs of TARGET2 and any other RTGS system,
- the connectivity needs of CCBM2 and any other collateral management system.

Supporting the Eurosystem Single Interface concept

Reference ID	T2S.12.230

T2S shall follow the Eurosystem Single Interface concept. This Eurosystem Single Interface shall handle all incoming and outgoing communication with all T2S actors. It handles allocation to the appropriate communication medium and undertakes technical validation.

Access to the Eurosystem Single Interface

Reference ID	T2S.12.240

T2S actors connecting to T2S shall comply with the formats and specifications defined by the Eurosystem Single Interface.

12.3.1 CSDs and T2S parties

Access to the information and control tool

Reference ID	T2S.12.250

The T2S graphical user interface (GUI) shall support to the following non-exhaustive list of maintenance and quering functions:

- issue online query requests to T2S (such as balance requests, status requests, etc),
- process answers received from T2S,
- display results in a standard way,
- input and maintain settlement instructions and liquidity transfer orders,
- maintain static data security management, account management, system and party management,
- maintain calendar and diary,
- maintain eligible assets, collateral value of securities and close links.

The roles and privileges assigned to a user will determine which functions the user can execute and the data that the user can display and maintain.

Message transfers

Reference ID	T2S.12.260

T2S connectivity services shall support store-and-forward and real-time file transfers. These services shall operate in both push and pull mode for both files and single messages. The services will be part of the network tender which is envisaged to select the network providers for T2S.

Catalogue of connectivity services

Reference ID	T2S.12.280

A catalogue of connectivity services shall be developed as part of the T2S overall service catalogue.
The content of the connectivity service catalogue shall include the network providers offering connectivity to T2S and the services offered by these providers, including;

- Detailed Services,

- Service Levels, detailing performances, availability and support commitments,
- Volume related services,
- Dedicated connectivity solutions,
- Backup/Alternative network access solutions.

Possibility of dedicated connections

Reference ID	T2S.12.290

It shall be possible for CSDs and directly connected T2S participants to connect to T2S via dedicated lines should they wish to do so (for instance for large traffic volumes). This option shall be part of the services offered by connectivity providers in the service catalogue.

Possibility of specialised connections for different types of activities

Reference ID	T2S.12.300

T2S Network providers shall offer T2S actors the possibility to combine several connections for several types of activities (e.g. one dedicated line for the instructions and another one for queries and reports).

Backup connectivity

Reference ID	T2S.12.310

Each CSD shall implement a backup connectivity solution in respect of business contingency/continuity.

Backup connectivity offered by providers

Reference ID	T2S.12.320

Backup options shall be offered by connectivity providers in the service catalogue.

Definition of a “basic” level of service

Reference ID	T2S.12.330

All T2S Connectivity providers shall offer the same “basic” level of services. These services shall be further developed as part of the service catalogue.
At least a minimum level of network service (defined via a Service Level Agreement) shall be available for each T2S actor.

12.3.2 NCBs' systems

12.3.2.1 TARGET2 and other potential RTGS systems

The interface between T2S and the RTGS is used to exchange messages in order to transfer liquidity between RTGS accounts (e.g. in TARGET2) and T2S dedicated cash accounts (in T2S).

Open concept for RTGS connectivity

Reference ID	T2S.12.340

The interface between T2S and TARGET2 / potentially any other RTGS system shall be designed following an "open" concept in such a way that the same interface specifications can be used to connect another RTGS system to T2S. In particular, this interface shall make use of a set of standard messages.

12.3.2.2 CCBM2 and other collateral management systems

Interface to CCBM2

Reference ID	T2S.12.350

There shall be an interface between T2S and CCBM2 to provide the necessary information for the valuation of collateral and for the auto-collateralisation process.

Open concept for connectivity to collateral management systems

Reference ID	T2S.12.360

The interface with collateral management systems shall be designed following an "open" concept in such a way that the same interface can be used to connect CCBM2 and any other collateral system for non-euro NCBs. In particular, this interface shall make use of a single set of standard messages used by all collateral management systems.

USER REQUIREMENTS

CHAPTER 13

MESSAGES AND REPORTS REQUIREMENTS

T2S Project Team

Reference:	T2S-07-0363
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

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13 Messages and reports requirements

The aim of this chapter is to describe the messages and reports requirements in the context of T2S. These messages and reports requirements aim at meeting the needs of both T2S and T2S actors to receive specific messages and reports (which will sometimes contain specific data required for efficient settlement).

The messages and reports requirements are part of the business requirements related to T2S communication, which also include queries (covered in chapter 14) and interactions with other Eurosystem platforms like TARGET2 and CCBM2 (covered in chapter 6).

These requirements also relate to chapter 12, dealing with the T2S Interface component, where the technical interface, the communication standard and protocol, the interface validations and interactions with other T2S components are described in detail.

Important related information about non-functional aspects such as security features, integrity of the transported data, service level to be ensured by network providers, etc, is documented in chapters 18 to 20.

Readers may find it helpful to refer to all of those chapters when reading the below messages and reports requirements.

In line with the strong wishes for T2S expressed both by market representatives and by the Eurosystem, T2S is a flexible platform offering harmonised services. Thus, T2S will offer flexibility in the way T2S actors will communicate using standardised messages. T2S actors may “subscribe to” (select) messages they want to receive from a pre-defined list based on ISO 20022 messages used to support settlement, reconciliation and reference data. There will be neither “mandatory” nor “optional” messages in the sense that T2S actors must subscribe to all messages they wish to receive. This is referred to as the message subscription service, offered to and under the responsibility of each and every directly connected T2S actor.

Once T2S actors have subscribed and their choices are stored in Static Data, T2S will communicate with T2S actors using pre-defined messages and (whenever appropriate) message flows described in this chapter. Section 13.3 describes various message flows to illustrate the communication expected in several important business scenarios for settlement and non-settlement related activities.

Finally, several reports will be available in T2S to support business monitoring, as detailed in the last section of this chapter.

13.1 Message subscription requirements

The below set of requirements refer to the message subscription mechanism designed to satisfy T2S actors’ preferences (stored in Static Data, chapter 11) for real-time communication.

Definition of the message subscription

Reference ID	T2S.13.010

T2S shall offer all CSDs and directly connected T2S parties the flexibility to choose the messages they do or do not wish to receive so as to handle their business activities, whether related to settlement or not. This service will be referred to as a "subscription" service and will give both CSDs and directly connected T2S parties the possibility to subscribe to any message or any copy of any message, according to their access rights, including "power of attorney" (as described in chapters 11 and 16). In this case, copy refers to a message sent to a party (who is neither the instructing party, nor the counterparty to the instruction) communicating the exact same information as that sent to the instructing party/counterparty to the instruction.

CSDs and directly connected T2S parties may select the messages from a defined list (see Messages Glossary below, 13.4). T2S will not send any message not subscribed beforehand by the CSD or directly connected T2S party concerned.

Scope of the message subscription

Reference ID	T2S.13.020

The subscription service shall include all messages in T2S.

Maintenance of the message subscription

Reference ID	T2S.13.030

Subscription needs will be maintained by CSDs and directly connected T2S parties in T2S Static Data**.**

Details in relation to how this is achieved will be determined during a future phase of the T2S Project. The criteria that should be included in the Static Data table(s) are listed here.

Criteria for message subscription

Reference ID	T2S.13.040

Each CSD and directly connected T2S party will be able to specify its subscription needs for real-time push mode information by setting values for different criteria (i.e. set of data to be present in the message and conditions to be fulfilled for the message to be sent by T2S).

The criteria are:

- Message type;
- Instruction type;
- Instruction status;

- Instructing party;
- Participant;
- Securities account;
- Cash account;
- ISIN;
- Currency of instruction;
- Copy flag (Y/N);
- ISO transaction code;

Subscription needs shall also have a determined validity period (i.e. valid from [date] to [date]), which will be stored in Static Data. The validity period may be open-ended.
This list of criteria may evolve (i.e. some criteria may be added or removed) during the next phase when detailed user requirements and functional specifications are defined.

Use of criteria for message subscription

Reference ID	T2S.13.050

T2S shall allow CSDs and directly connected T2S parties to:

- use the above criteria for different technical addresses, as defined in chapter 16 (see section 16.8.3, this is restricted to CSDs and directly connected T2S parties in T2S);
- combine the above criteria (among them);
- ignore the above criteria but still subscribe to all messages in all cases;
- exclude one or several criteria but still subscribe to all the messages for the remaining criteria, using an “exclusion indicator”;
- ignore the above criteria without subscribing to any messages at all.

13.2 Messages requirements

The following requirements relate to T2S messages covering validation, matching and settlement. Additional user requirements related to messages can be found in chapters 5 and 7, where life cycle management and settlement processes are described in detail.

Generation criteria for messages

Reference ID	T2S.13.060

T2S shall send event-driven messages (i.e. “real-time” generation and sending).
Events that will trigger the generation and sending of a message are described in chapter 5, under life cycle management. They are also illustrated by the flows of messages (refer to 13.3, detailed message flows).

Night-time settlement communication

Reference ID	T2S.13.070

T2S shall send settlement-related messages, such as the settlement status message and the settlement confirmation, after each cycle of night-time settlement.

For a given instruction, only the last valid statuses at the end of the cycle shall be sent. Statements and reports will be sent at the end of each night-time cycle and/or at the end of night-time settlement (as explained in “Reports” section, 13.5).

Ability to receive files after night-time settlement

Reference ID	T2S.13.080

CSDs and directly connected T2S parties shall be able to indicate whether they want to receive the result of night-time settlement, once finished, in single messages or in a file containing the complete set of such messages.

This preference should be stored in Static Data.

Cash management inbound messages

Reference ID	T2S.13.083

T2S shall process inbound cash messages for liquidity transfers as described in chapter 6 and annex 7. Cash management messages should follow the same logic as securities messages (e.g. validation in T2S of inbound payment instructions).

Cash management outbound messages

Reference ID	T2S.13.086

T2S shall generate cash management messages for liquidity transfers (e.g. confirmations, alerts) as described in chapter 6 and annex 7. Cash management messages should follow the same logic as securities messages (e.g. validation status sent by T2S after validation of inbound payment instructions).

Settlement confirmation

Reference ID	T2S.13.090

T2S shall send a settlement confirmation message, once the settlement has been completed successfully. T2S shall send this message to all relevant T2S actors, which includes the instructing parties and the

holders/operators of all the affected accounts, in accordance with their choice in the message subscription service. In the example of cross-CSD settlement with a realignment between two investors CSDs in the issuer CSD, the issuer CSD shall receive information only on the accounts held in its book. The issuer CSD shall not receive the information on the original settlement instructions between the participants of the investor CSDs.

Confirmation of validation and match through status messages

Reference ID	T2S.13.100

In addition to sending a “negative” validation status when an instruction fails validation in a status message, T2S shall send a “positive” validation status for those that pass validation. When “negative”, status messages shall report on more than one error, in the limit of validations performed by T2S for a single instruction.
The same rules shall apply to match status.
Each message, whether “positive” or “negative”, returns the status and the reason code as assigned by life cycle management (chapter 5) to inform the instructing party why validation or matching failed.
Both types of message will be included in the subscription service; thus, CSDs and directly connected T2S parties can elect not to receive them.

Recycling information and status messages

Reference ID	T2S.13.110

T2S shall send a status message after each recycling attempt (during matching and settlement recycling processes), whenever the settlement status or its reason of the instruction/transaction has changed.
Status refers to a combination of the instruction statuses as explained in life cycle management (chapter 5) and the reason code associated with this status if applicable.

Reference ID	T2S.13.120

T2S will not communicate the number of recycling attempts per instruction/transaction.
However, elements such as the processing dates (e.g. expected settlement date, actual settlement date) and the audit trail described in non-functional chapters 19 and 20 should give sufficient information about failures and recycling to a CSD or a directly connected T2S party.

Settlement status

Reference ID	T2S.13.130

When an instruction is settled, then T2S shall send a settlement confirmation.

T2S shall send a status message only if the instruction could not settle including the settlement status and the reason code as assigned by life cycle management (chapter 5) to inform the instructing parties and the holders/operators of all the affected accounts why settlement failed. T2S shall send a status message after the first unsuccessful attempt to settle, as per subscription service. The frequency for sending status messages during the recycling process is described above (see “Recycling information and status messages”). In the example of cross-CSD settlement with a realignment between two investors CSDs in the issuer CSD, the issuer CSD shall receive information only on the accounts held in its book. The issuer CSD shall not receive the information on the original settlement instructions between the participants of the investor CSDs.

Source in status messages

Reference ID	T2S.13.133

T2S shall report in the status messages the source of input (e.g. amendment of instruction made by a CSD following a corporate action on a pending instruction sent by a directly connected T2S party).

Management of the schedule information

Reference ID	T2S.13.136

T2S shall generate an information message indicating the new status of the settlement day at each change of this status. T2S shall send this message to CSDs and directly connected parties according to their message subscription. Event and status management details can be found in chapter 3.

Static data maintenance messages

Reference ID	T2S.13.140

CSDs, NCBs or any parties authorised by them shall be able to send static data maintenance instructions to T2S, which will respond with a static data maintenance status message and/or a static data confirmation message.

Information can be related to an account, an ISIN or a T2S party.

Only CSDs, NCBs or any parties authorised by them can maintain Static Data in T2S. T2S parties (directly connected or not) will have to go through them for any maintenance of Static Data to avoid synchronisation problems, as described in chapter 11.

Checking pending instructions because of static data maintenance

Reference ID	T2S.13.150

When static data maintenance occurs while there are still pending instructions, T2S shall check whether the maintenance has an impact on the pending instructions. If yes, T2S will not automatically "update" the pending instructions, but shall send a "negative" status message to the CSD or the directly connected T2S party to inform about the need to cancel and replace the pending instructions or to amend them to be consistent with the updated static data. The timing is defined in chapter 5, life cycle management.

The only case where T2S will automatically reflect (at the level the interface and the messages/reports/queries) the Static Data change on the pending instructions is in the event of an ISIN change for one same security.

13.3 Detailed message flows

The following message flows have been developed to cover generic and some specific scenarios (they are **not** an exhaustive illustration of all possible cases). The messages illustrated in these flows can of course be used freely by CSDs and directly connected T2S parties, depending on their processing needs. The message flows will not be "imposed" by T2S, which will not perform any control to check whether it is being used as described here.

The summary below lists helpful message flows with a short description of the scenarios covered.

There are two sets of flows:

- Settlement related message flows: "pure" settlement scenarios are covered;
- Non-settlement related message flows: other activities, like static data operations, are covered for the settlement part that is treated in T2S.

Section 13.4 is a glossary of all the messages in the scope of T2S and describes their respective functions.

Table 13-1: Settlement related message flows

Settlement related message flows	Scenarios covered	Specific messages
Basic Scenario	Made of two cases: one for a CSD interacting with T2S and the other for a directly connected T2S party interacting with T2S.	*Regular set of messages:* Settlement instruction Status messages Settlement confirmation
Direct Holding Scenario - Refer to	To illustrate direct holdings systems needs.	*Regular set of messages*

Settlement related message flows	Scenarios covered	Specific messages
Annex 14		
Third Party Scenario	Interaction between a Third Party to an instruction and T2S – typically to illustrate Regulated Markets and CCPs needs.	*Regular set of messages*
Amendments Scenario	Amendment of a settlement instruction at different stages of the life cycle.	Amendment instruction Amendment status messages
Cancellations Scenario	Cancellation of a settlement instruction at different stages of the life cycle. Cancellation by the system (previously called "purging").	Cancellation instruction Cancellation status messages
Allegement Scenario	Covers allegement, update of allegement, cancellation of allegement and removal of allegement as per SMPG recommendations.	Settlement allegement Allegement removal Allegement cancellation
Hold & Release Scenario	Hold & Release mechanism can be activated unilaterally or bilaterally by the counterparties. Both cases are illustrated in the flows with a distinction for bilateral hold and release as the initial instruction might enter T2S "released" or "on hold" (2 different flows).	On hold instruction On hold status message Release instruction Release status message
Conditional Securities Delivery Scenario	Describes the use of Conditional Securities Delivery (CoSD) service in T2S. The instruction to settle is received in T2S but its settlement is conditioned by the fulfilment of an obligation outside T2S (e.g. cash settlement in non-T2S currency, registered securities, issuer CSD outside T2S).	Settlement instruction Blocking status On hold status Release instruction
External CSD Scenario	Illustrates two specific cases that do not fit into the "Basic Scenario" flow of messages where the issuer CSD is outside T2S.	Blocking instruction Release instruction "Re-alignment" (i.e. regular

Settlement related message flows	Scenarios covered	Specific messages
	In one of them (issuer and investor CSDs outside), the mechanism of CoSD can be reused.	FOP)

Table 13-2: Non-settlement related message flows

Non-settlement related message flows	Scenarios covered	Specific messages illustrated (copy messages included)
Corporate actions **Refer to Annex 12**	Several cases are covered, depending on settlement treatment in T2S of corporate actions	Balances query Statement of holdings Instructions query Statement of instructions Blocking instruction Unblocking instruction Cancellation messages Amendment messages
Static Data	Describes the set of messages to be used for Static Data information and Static Data maintenance related to: - financial instruments - securities and cash accounts - CSD/T2S parties	Static Data query Static Data information Static Data maintenance instruction Static Data maintenance status Static Data maintenance confirmation
T2S Events and Statuses management information **Refer to chapter 3**	Refers to the set of messages that will be designed to inform T2S actors about statuses of the settlement day. No flows have been drawn as the list and timing of statuses can be found in chapter 3. However, an additional information message is detailed in the message glossary.	Settlement day status message

13.3.1 Flow of settlement related activities

The message flows regarding settlement related activities are described on the following pages.

Messaging General User Requirements

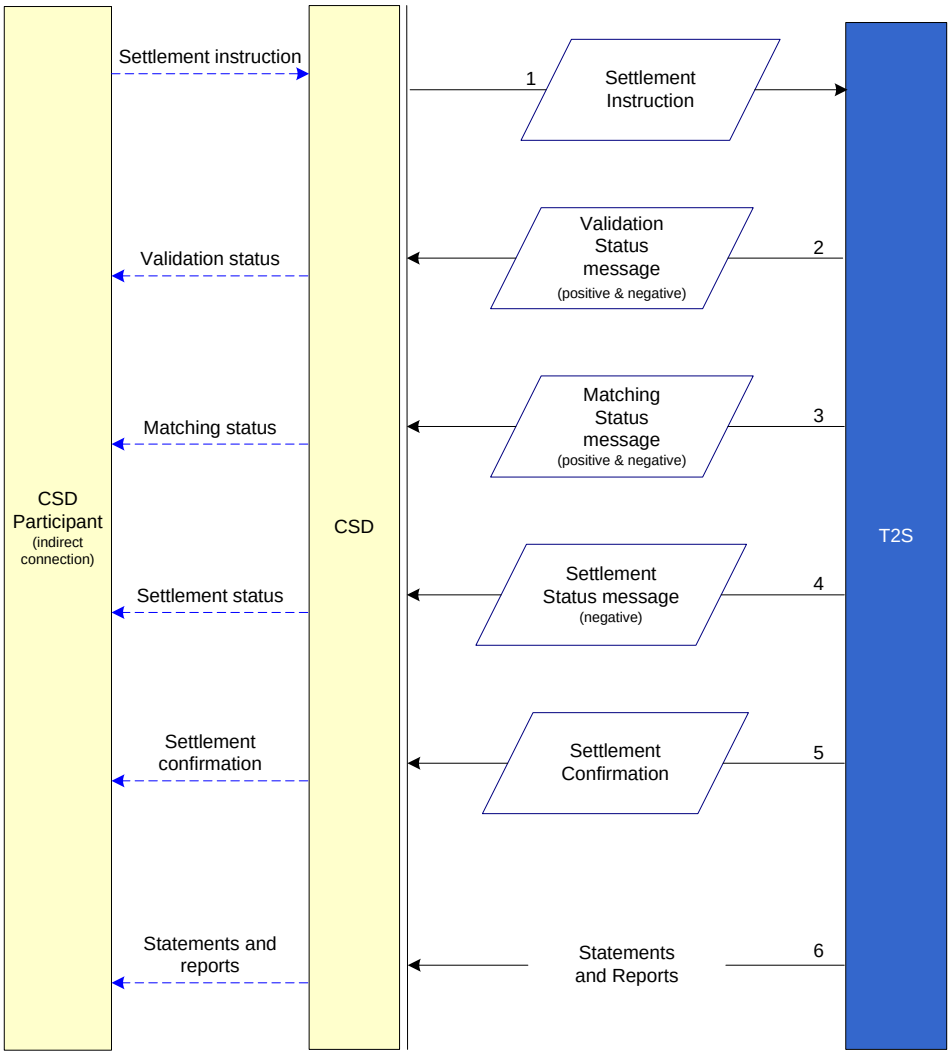
Important: As a general requirement, messages sent by T2S shall be event-driven. Events that should trigger the generation and sending of the messages are defined by the Life Cycle Management and Matching.

Basic scenario - CSD

In this scenario, a standard instruction is sent by a **CSD** to T2S.
Exceptionally, the communication flow between the CSD and its participant is ‘‘assumed’’ to ease the understanding, although it is not the scope of T2S message flows.
Only one side is represented (assumption= same flows for the counterpart, also connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements and reports sent EOD.

Message

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



Unless matching is required for the participant and such preference is stored in Static Data (see chapter 5), FOP unilateral transaction will not go through the matching process for own accounts transfers, when transfers are within the same CSD.

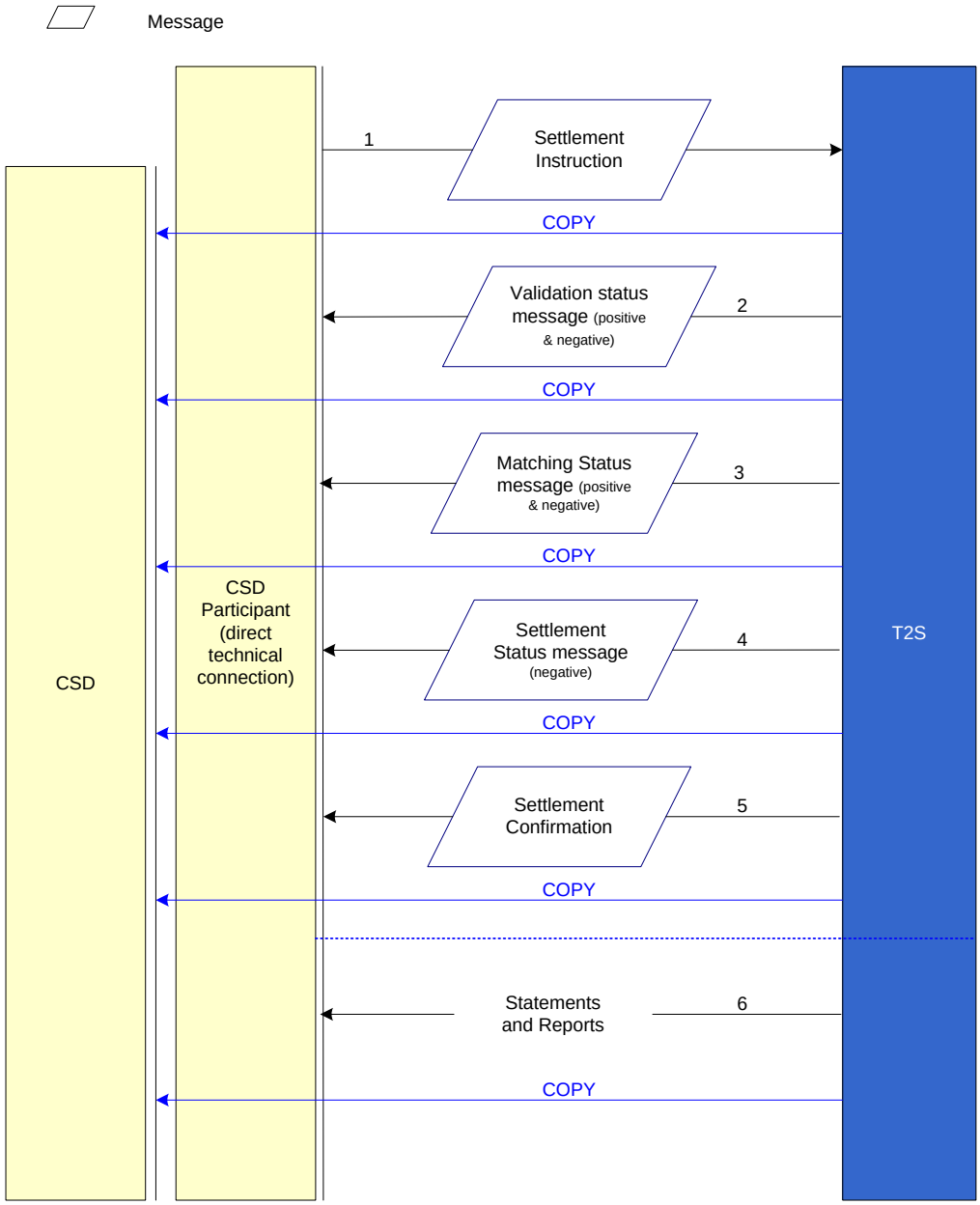
FOP bilateral transactions (eg, external transfers) will be treated like any standard transaction through a matching process.

Messaging General User Requirements

Important: As a general requirement, messages sent by T2S shall be event-driven. Events that should trigger the generation and sending of the messages are defined by the Life Cycle Management and Matching.

Basic scenario - CSD Participant

In this scenario, a standard instruction is sent by a **CSD Participant** to T2S. The CSD (i.e. account operator) subscribed to receive a copy of all messages in this example.
Only one side is represented (assumption= same flows for the counterpart, also connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements and reports sent EOD.



As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.

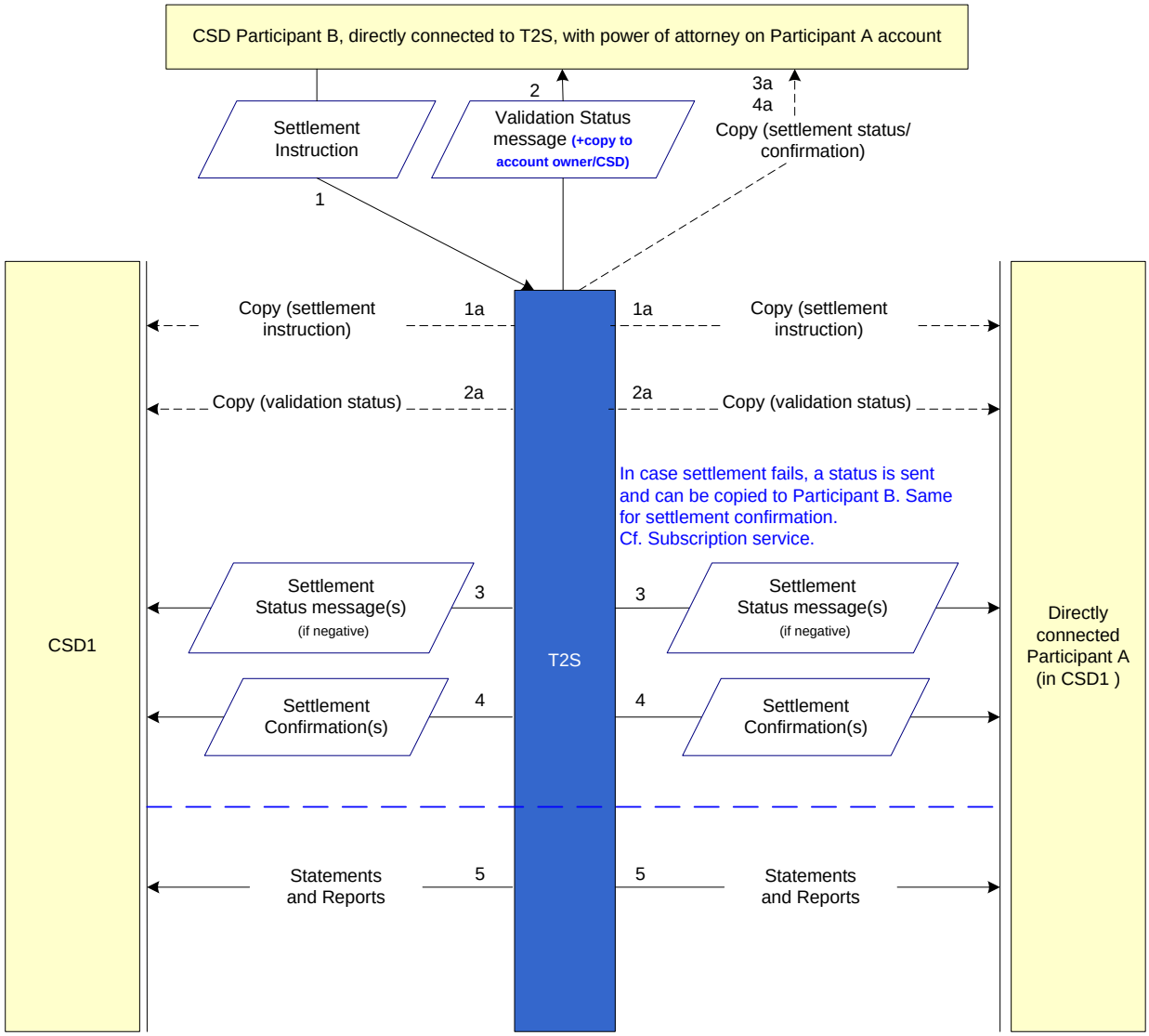
Messaging General User Requirements

Important: In the context of the subscription service, T2S can inform the CSD and the directly connected CSD Participant whenever they act as instructing party vis-à-vis T2S. In the context of the subscription service, T2S can inform the CSD and the directly connected CSD Participant whenever the settlement impacts at least one of their own accounts, whether it is securities or cash account.

Basic scenario - Instructing Third Party

In this scenario, a standard instruction is sent by a **CSD Participant B** to T2S, **on behalf of CSD Participant A**. Both are directly connected and are participants of **CSD 1**.
It is assumed that CSD Participant B is sending already matched instructions to T2S (e.g. case of a Trading Platform or a CCP).
Only one side is represented (assumption= same flows for the counterpart, also connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements and reports sent EOD.

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



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External CSD settlement User Requirements

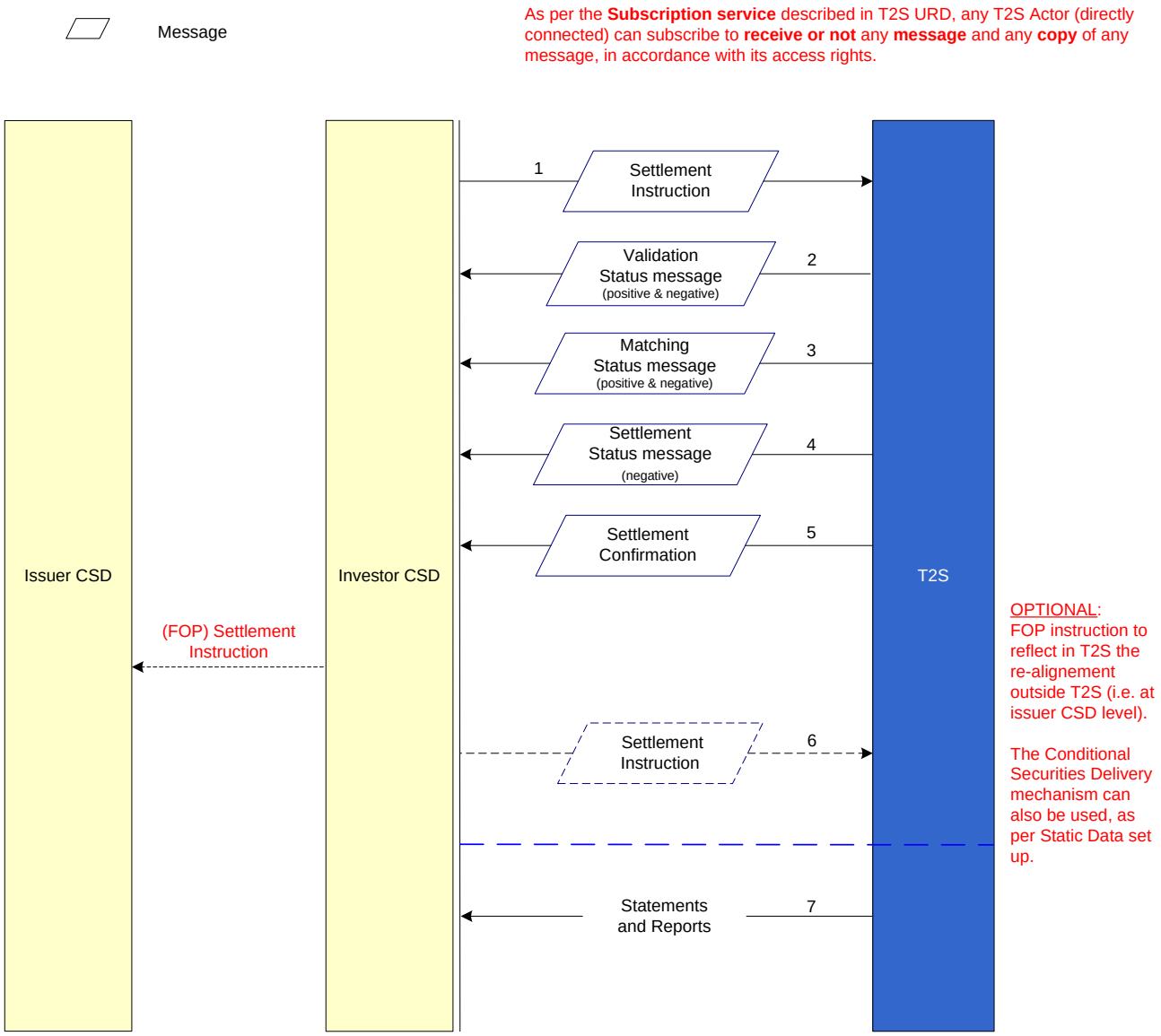
Important: T2S will not send re-alignment instructions to the issuer CSD if the issuer CSD is not connected to T2S. The re-alignment process will be handled by the investor CSDs in coordination with the issuer CSD outside T2S.

If the issuer CSD is inside T2S and the investor CSDs are outside T2S, the re-alignment will take place in T2S based on settlement instructions (usually free-of-payment) to be sent by the issuer CSD.

If the issuer CSD is outside T2S and at least one investor CSD is inside T2S, the Conditional Securities Delivery mechanism can be used by the investor CSDs, to block the position in T2S and hold the instruction until the settlement is confirmed in the issuer CSD's books (see next flow).

External CSD Scenario (only IssuerCSD is outside T2S)

The below scenario illustrates the case in which **both investor CSDs participate** into T2S but the **issuer CSD does not** (i.e. external CSD). Only one side of Investor CSDs is represented (assumption= same flows for the counterpart, also connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.



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External CSD settlement User Requirements

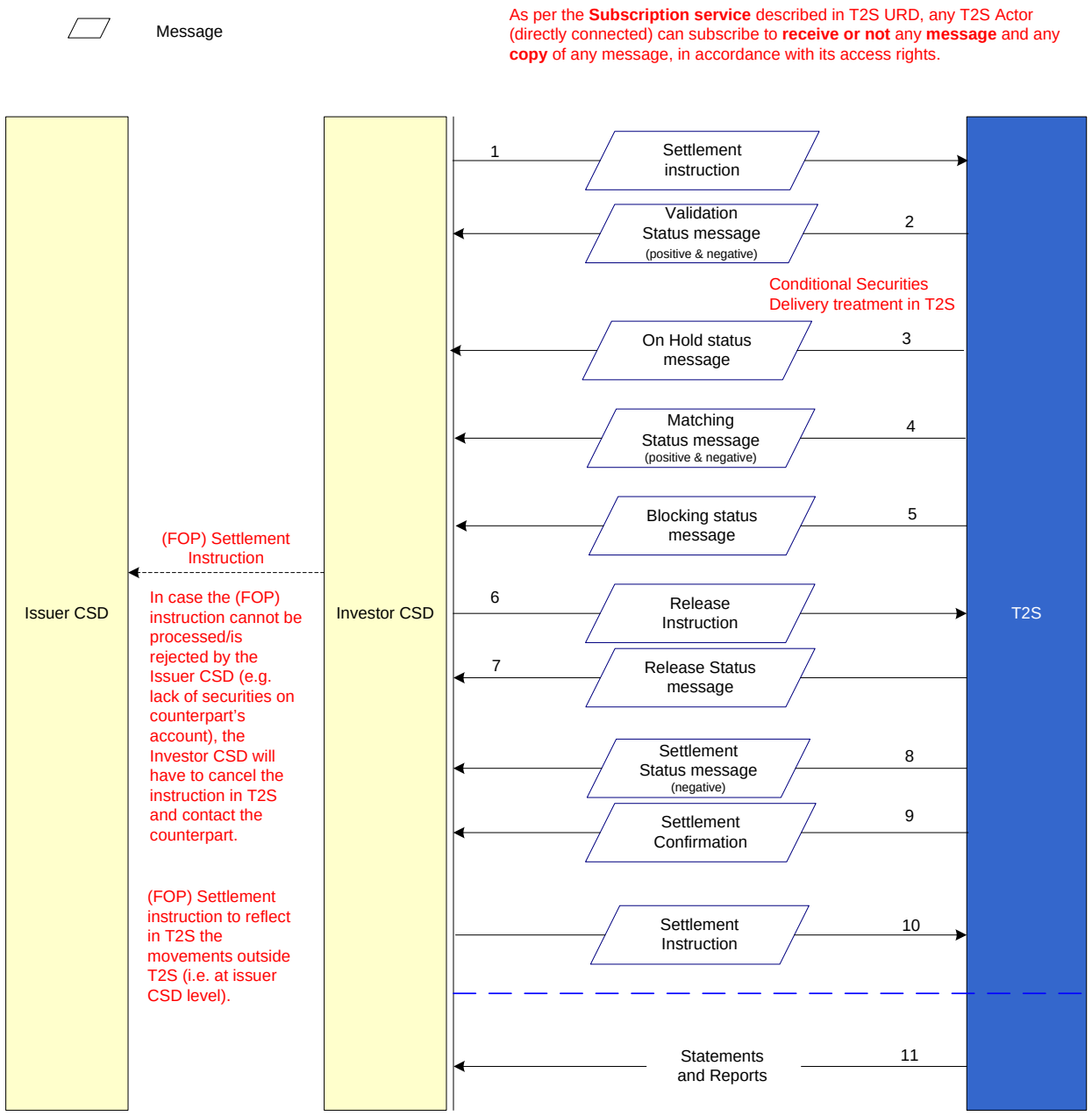
Important: T2S will not send re-alignment instructions to the issuer CSD if the issuer CSD is not connected to T2S. The re-alignment process will be handled by the investor CSDs in coordination with the issuer CSD outside T2S.

If the issuer CSD is inside T2S and the investor CSDs are outside T2S, the re-alignment will take place in T2S based on settlement instructions (usually free-of-payment) to be sent by the issuer CSD.

If the issuer CSD is outside T2S and at least one investor CSD is inside T2S, the Conditional Securities Delivery mechanism can be used by the investor CSDs, to block the position in T2S and hold the instruction until the settlement is confirmed in the issuer CSD's books (illustration below).

External CSD Scenario (Issuer CSD & one Investor CSD outside T2S)

The below scenario illustrates the case in which **one investor CSD participates** into T2S but **its counterpart and the issuer CSD do not** (i.e. external CSDs).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.



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Allegement User Requirements

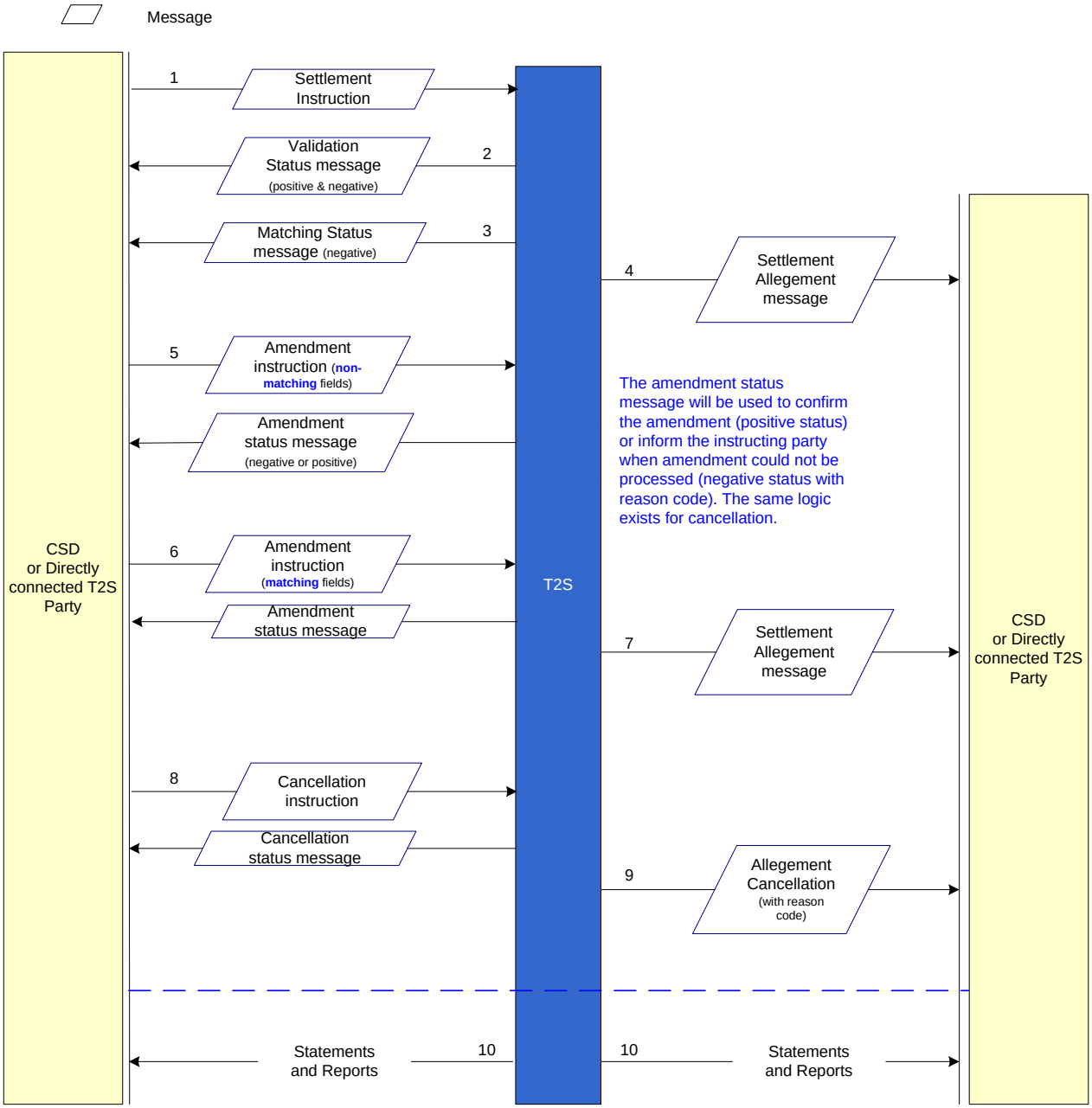
Important: Allegement can be used for any unmatched instruction that requires matching, like settlement instruction, cancellation instruction, on hold instruction, etc.

Allegement Scenario (with cancellation)

Unmatched standard instruction. The counterpart **has subscribed to receive** allegement messages. After instruction is sent, the instructing party:
- **modifies** a **non-matching** field (->no new allegement)
- **modifies** a **matching** field (->new allegement linked to the previous one)
- unilaterally **cancels** the unmatched instruction (->new allegement linked to the previous one).

At the end of the day, T2S sends statements/reports - one of them will be related to allegements (see «Reports» chapter 13).
Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements and reports sent EOD.

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



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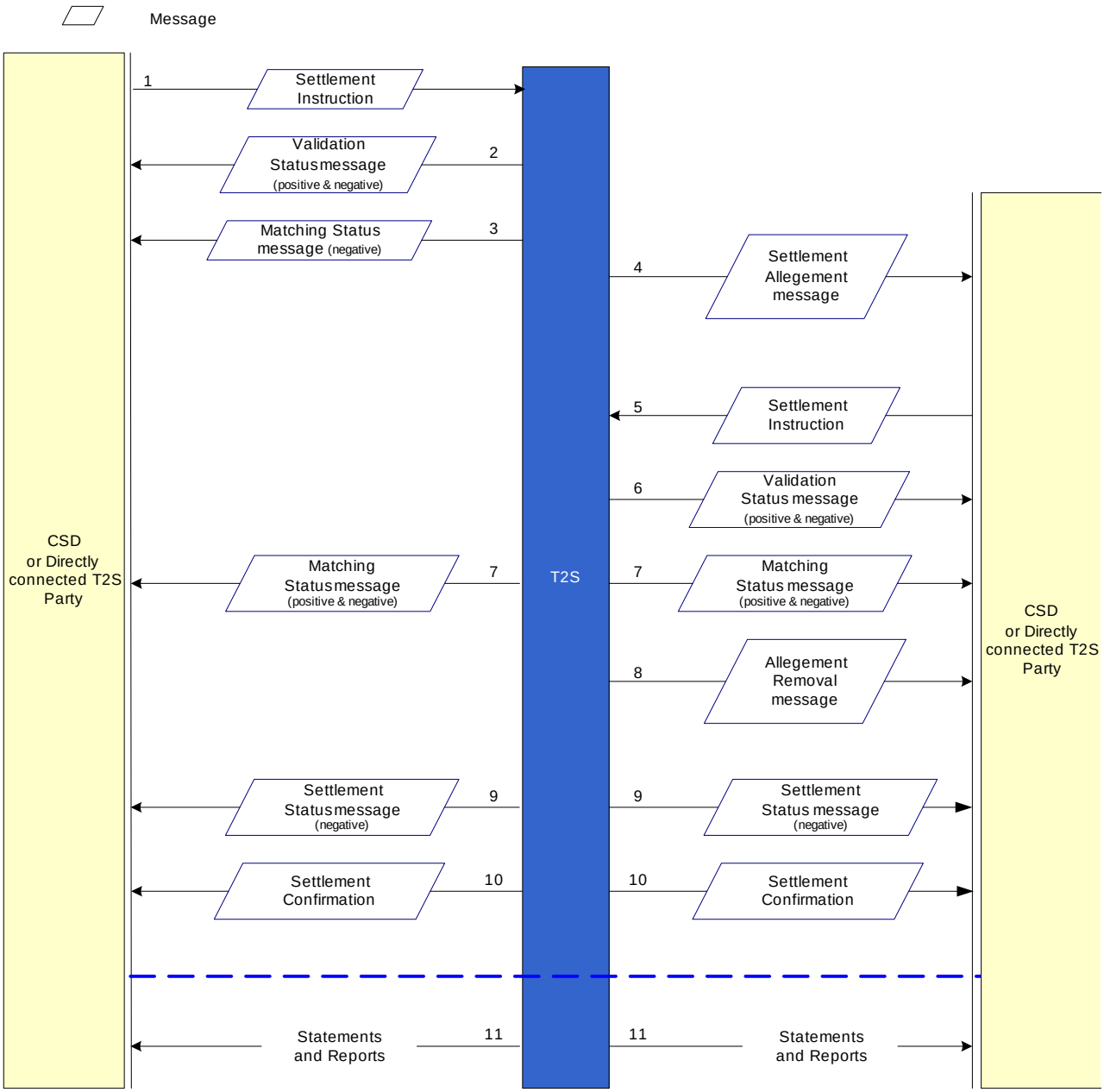
Allegement User Requirements

Important: Allegement can be used for any unmatched instruction that requires matching, like settlement instructio cancellation instruction, on hold instruction, etc.

Allegement Scenario (with removal)

Unmatched settlement instruction . The counterpart **has subscribed to receive** allegement messages. After allegement is sent, the counterpart sends its instruction which can be matched in T2S.
Allegement is ''removed'' (since it is not outstanding anymore) using a removal allegement message.
At the end of the day, T2S is sending statements/reports - one of them will be related to allegements (see «Reports» chapter).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements and reports sent EOD.

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



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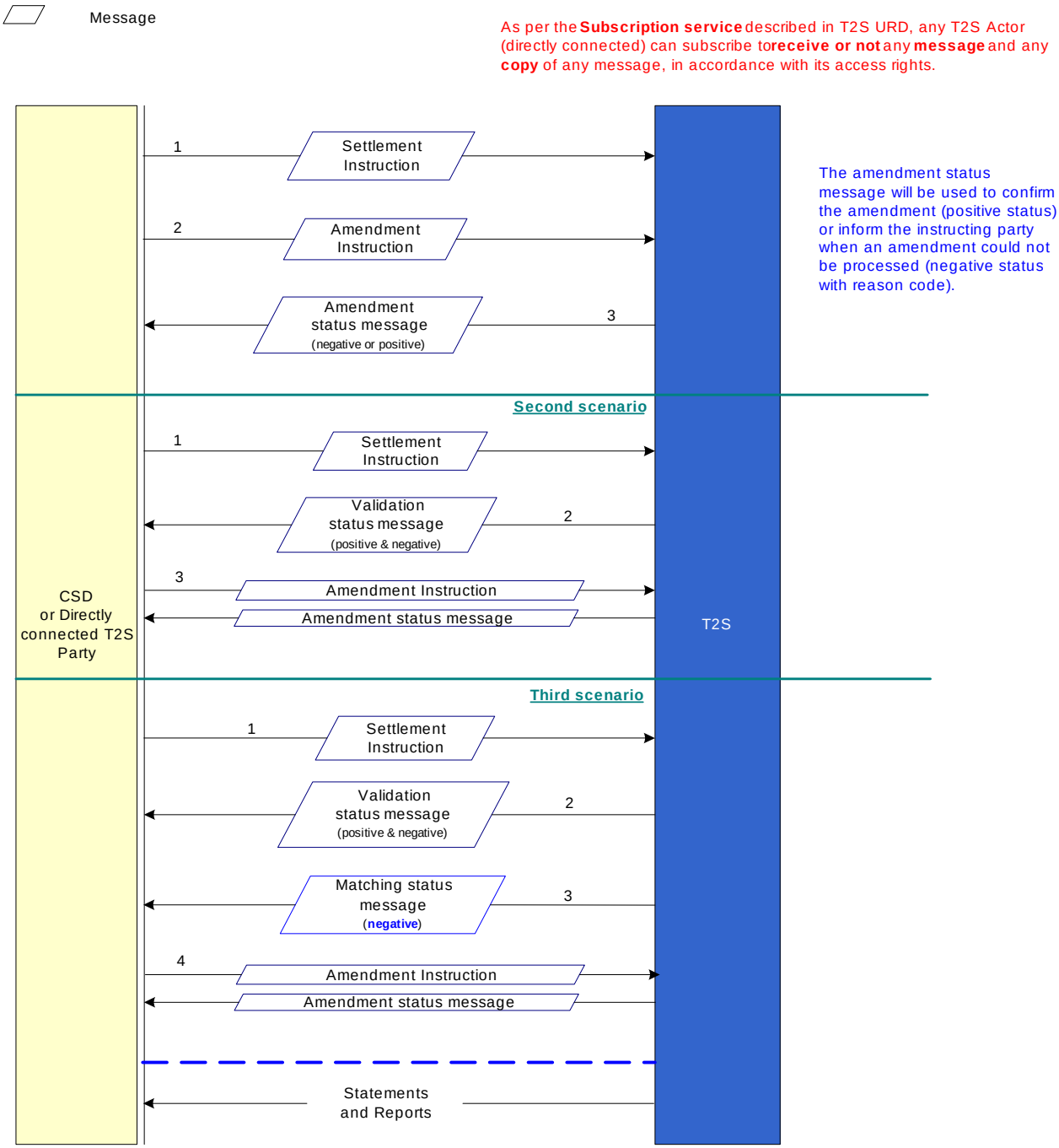
Amendment User Requirements

Important: T2S shall be able to handle instruction amendment messages sent by CSDs or directly connected CSD Participants.

It is foreseen (as per Life Cycle Management and Matching requirements) that instruction amendment messages will be allowed on all fields before instructions are matched and on non-matching fields once instructions are matched but have not bee settled. Instruction amendment messages should be used by CSDs and directly connected T2S Parties to amend an existing field or to amend an empty field (i.e. enrich instruction).

Amendment scenarios (before matching)

Amendment before successful matching of several settlement instructions.
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.



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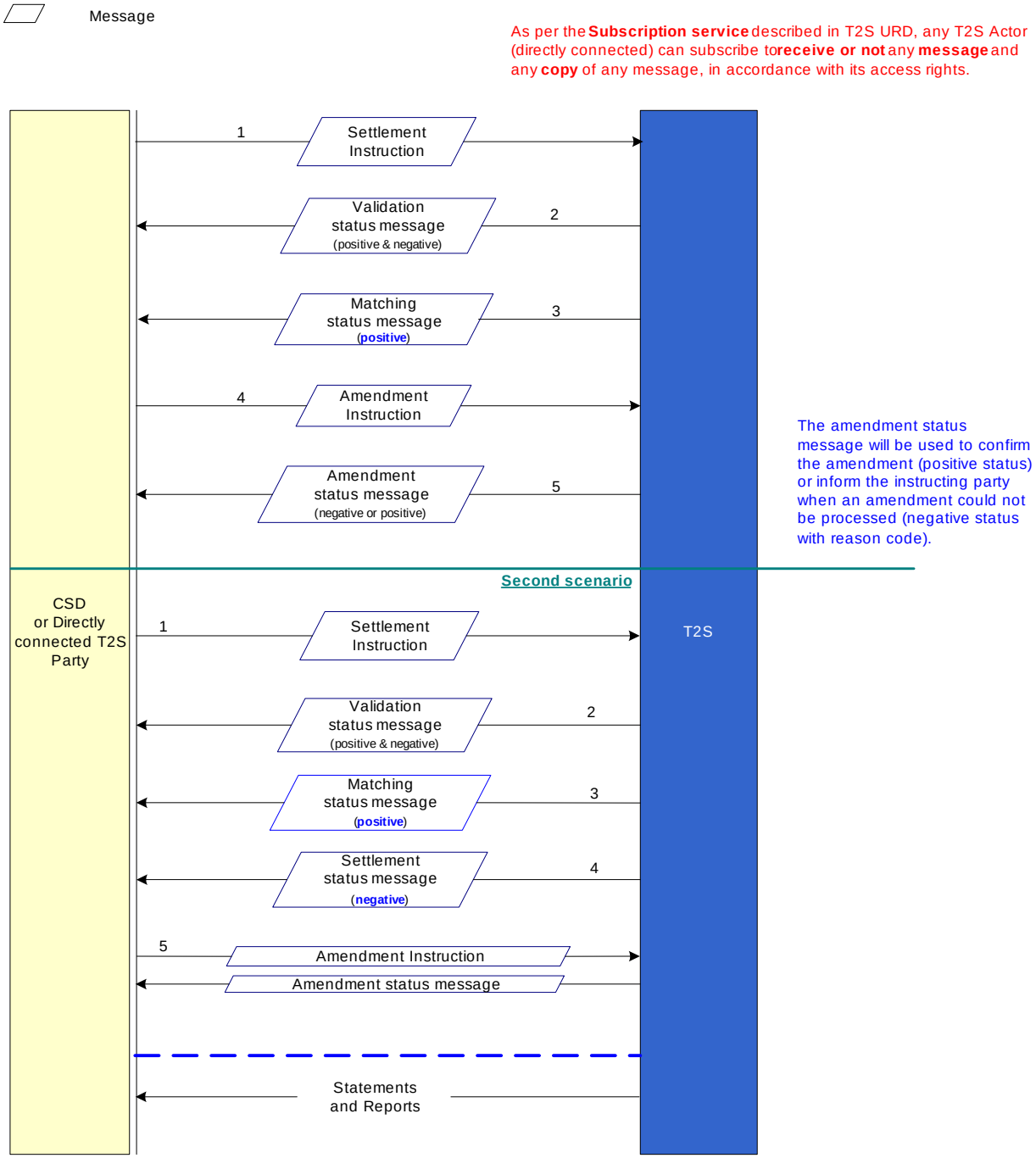
Amendment User Requirements

Important: T2S shall be able to handle instruction amendment messages sent by CSDs or directly connected CSD Participants.

It is foreseen (as per Life Cycle Management and Matching requirements) that instruction amendment messages will be allowed on all fields before instructions are matched and on non-matching fields once instructions are matched but have not be settled. Instruction amendment messages should be used by CSDs and directly connected T2S Parties to amend an existing field or to amend an empty field (i.e. enrich instruction).

Amendment scenarios (before settlement)

Amendment before successful settlement of several settlement instructions.
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.



1

Amendment User Requirements

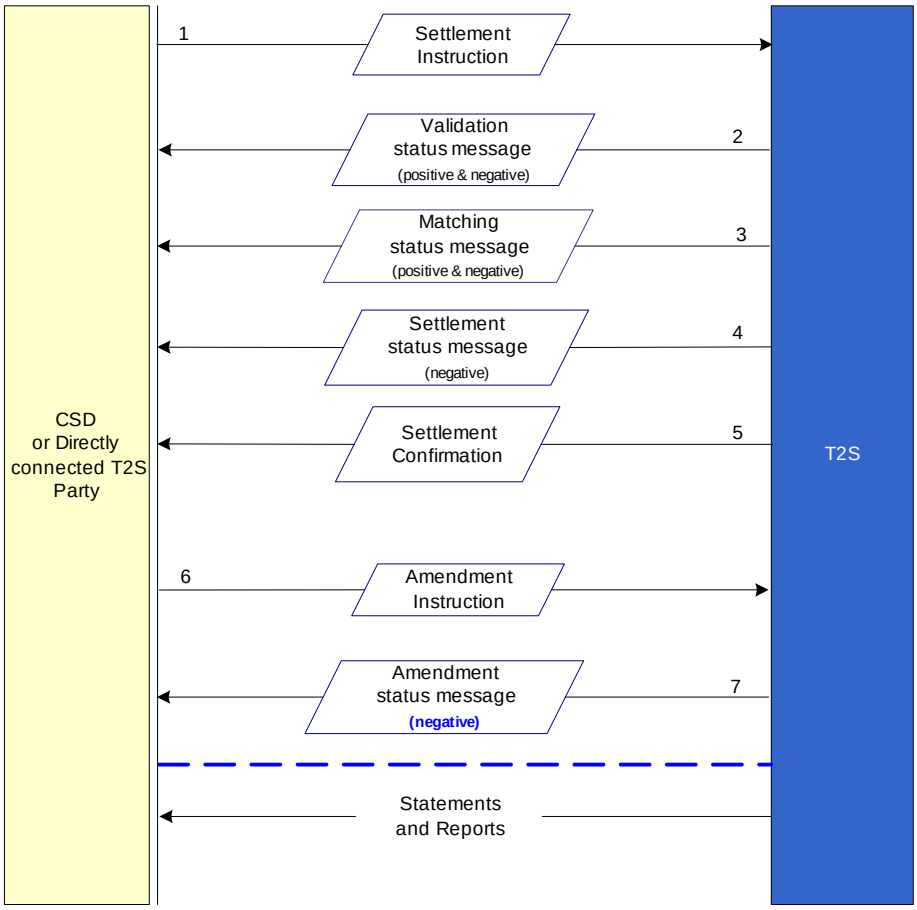
Important: If the amendment process fails in T2S, then the amendment instruction goes through recycling until it is processed or rejected because the original instruction has settled.

Amendment scenario (after settlement)

Amendment after successful settlement of a standard instruction sent by a directly connected T2S Party or a CSD.
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.

Message

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



Once instruction is settled, then no amendment is accepted (amendment status message with a negative status and a dedicated reason code).

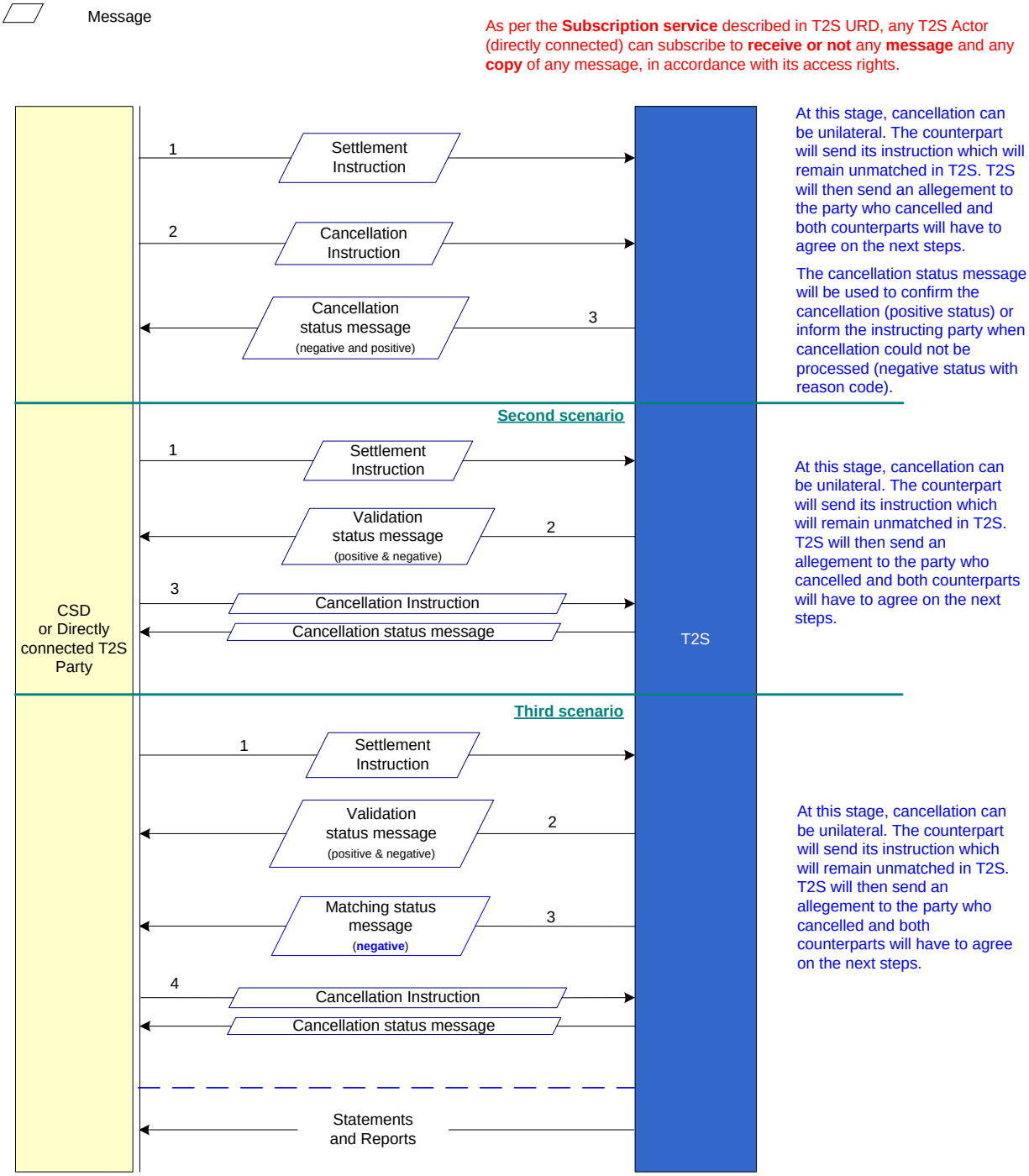
1

Cancellation User Requirements

Important: Cancellation can be unilateral before successful matching but shall be bilateral after successful matching and before the settlement process (except in some specific cases, like for instance when instructions have been received already ''matched'', received from a T2S Actor allowed to cancel unilaterally anytime before instructions enter the settlement process, or when a CSD needs to process a corporate event affecting matched instructions still pending). Unilateral usage of the hold and release mechanism is allowed after successful matching and before the settlement process. If the cancellation process fails in T2S, then the cancellation instruction goes through recycling until it is processed or rejected if the original instruction has already settled.

Cancellation scenarios (before matching)

Cancellations before successful matching of several settlement instructions.
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.

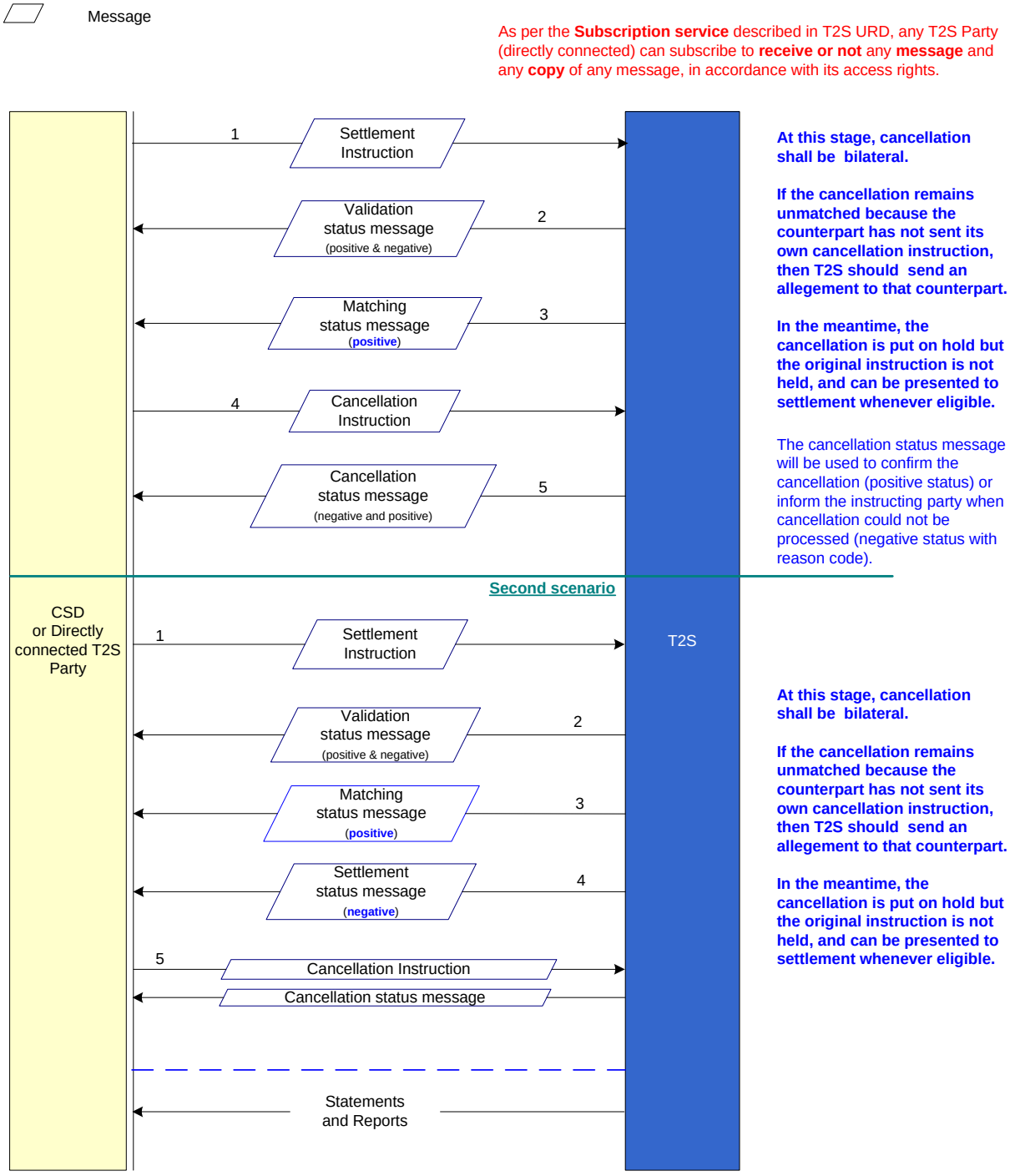


Cancellation User Requirements

Important: Cancellation can be unilateral before successful matching but shall be bilateral after successful matching and before the settlement process (except in some specific cases, like for instance when instructions have been received already "matched", received from a T2S Actor allowed to cancel unilaterally anytime before instructions enter the settlement process, or when a CSD needs to process a corporate event affecting matched instructions still pending). Unilateral usage of the hold and release mechanism is allowed after successful matching and before the settlement process. If the cancellation process fails in T2S, then the cancellation instruction goes through recycling until it is processed or rejected if the original instruction has settled.

Cancellation scenarios (before settlement)

Cancellations before successful settlement of several settlement instructions.
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.



1

Cancellation User Requirements

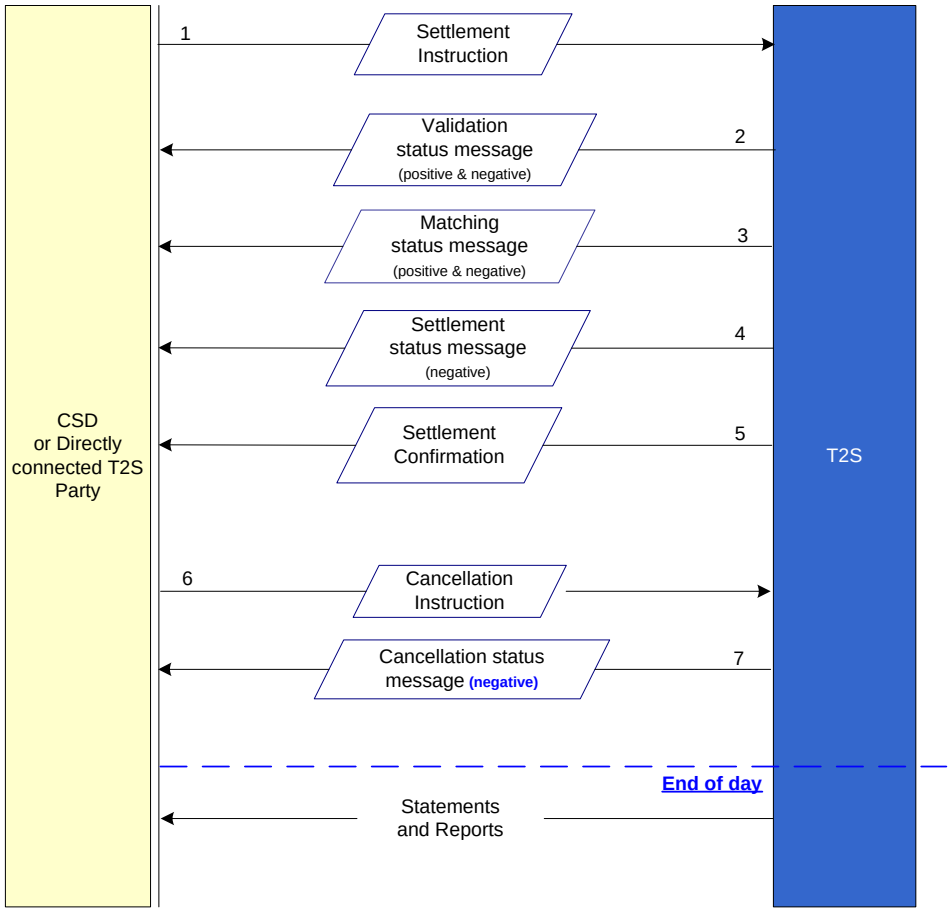
Important: If the cancellation process fails in T2S, then the cancellation instruction goes through recycling until it is processed or rejected if the original instruction has already settled.

Cancellation scenario (after settlement)

Cancellations after successful settlement of a standard instruction sent by a directly connected T2S Party or a CSD.
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.

Message

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



Once an instruction is settled, then no cancellation is accepted (cancellation status message with dedicated reason code). The directly connected T2S Party or CSD will have to reverse the transaction, i.e. re-instruct bilaterally, the other way around.

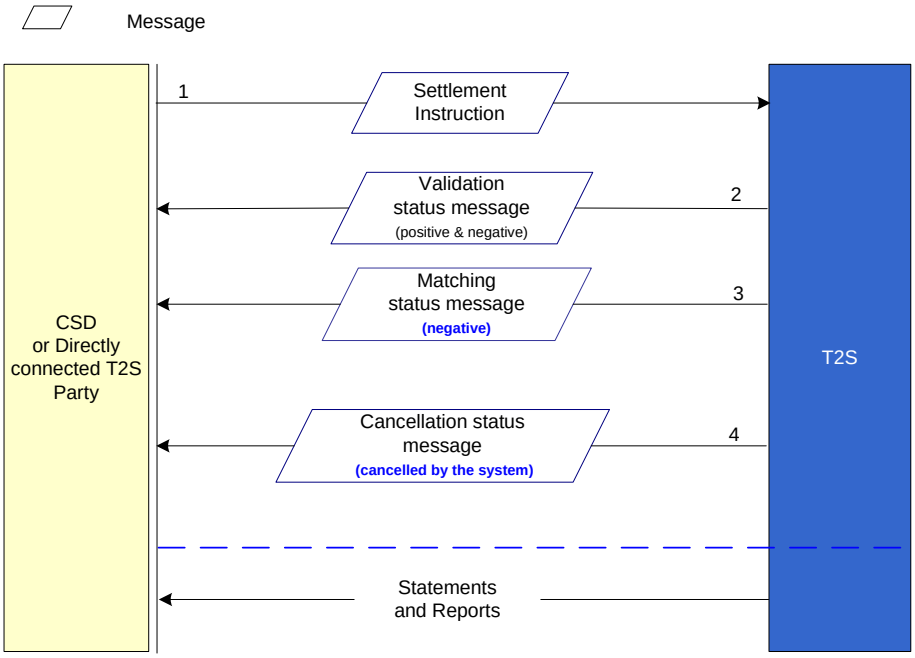
The cancellation status message will be used to confirm the cancellation (positive status) or inform the instructing party when cancellation could not be processed (negative status with reason code).

Cancellation User Requirements

Important: If the cancellation mechanism is automatically activated by T2S for a given instruction, T2S shall inform the CSD or the directly connected T2S Party that the instruction was cancelled by the system, using the cancellation set of messages. T2S can provide an optional automatic cancellation functionality to CCPs, which would on behalf of the CCP cancel all failed instructions at the end of the settlement day. Automatic cancellation rules that apply to invalid or unmatched or failed/outdated instructions are part of Life Cycle Management and Matching requirements, and are compliant with ECSDA recommendations.

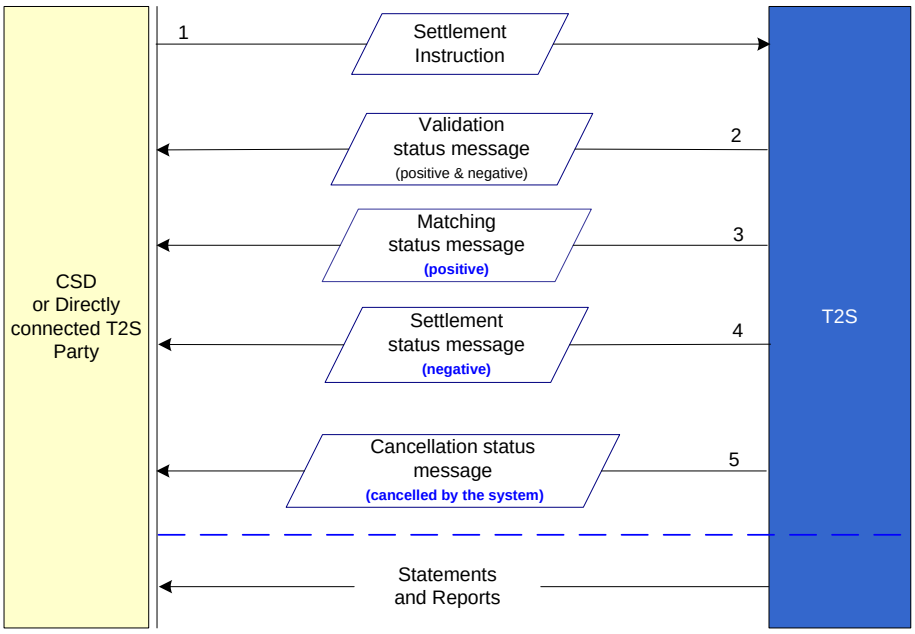
Cancellation scenario (automatic cancellation)

Automatic cancellation of a CSD or a directly connected T2S Party instruction:
- when unmatched after 20 days (1st flow)
- when failed to settle and there is an automatic cancellation setup in place (2nd flow)
Only one side is represented (assumption= same flows for the counterpart, connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real time, except for statements sent EOD.



As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.

The cancellation status message will be used to confirm the cancellation (positive status) or inform the instructing party when a cancellation could not be processed (negative status with reason code).



Hold and Release User Requirements

Important: CSDs and the directly connected CSD Participants shall be able to send to T2S "on hold" settlement instructions and "released" settlement instructions. In return, T2S shall send "on hold" and "released" status messages.

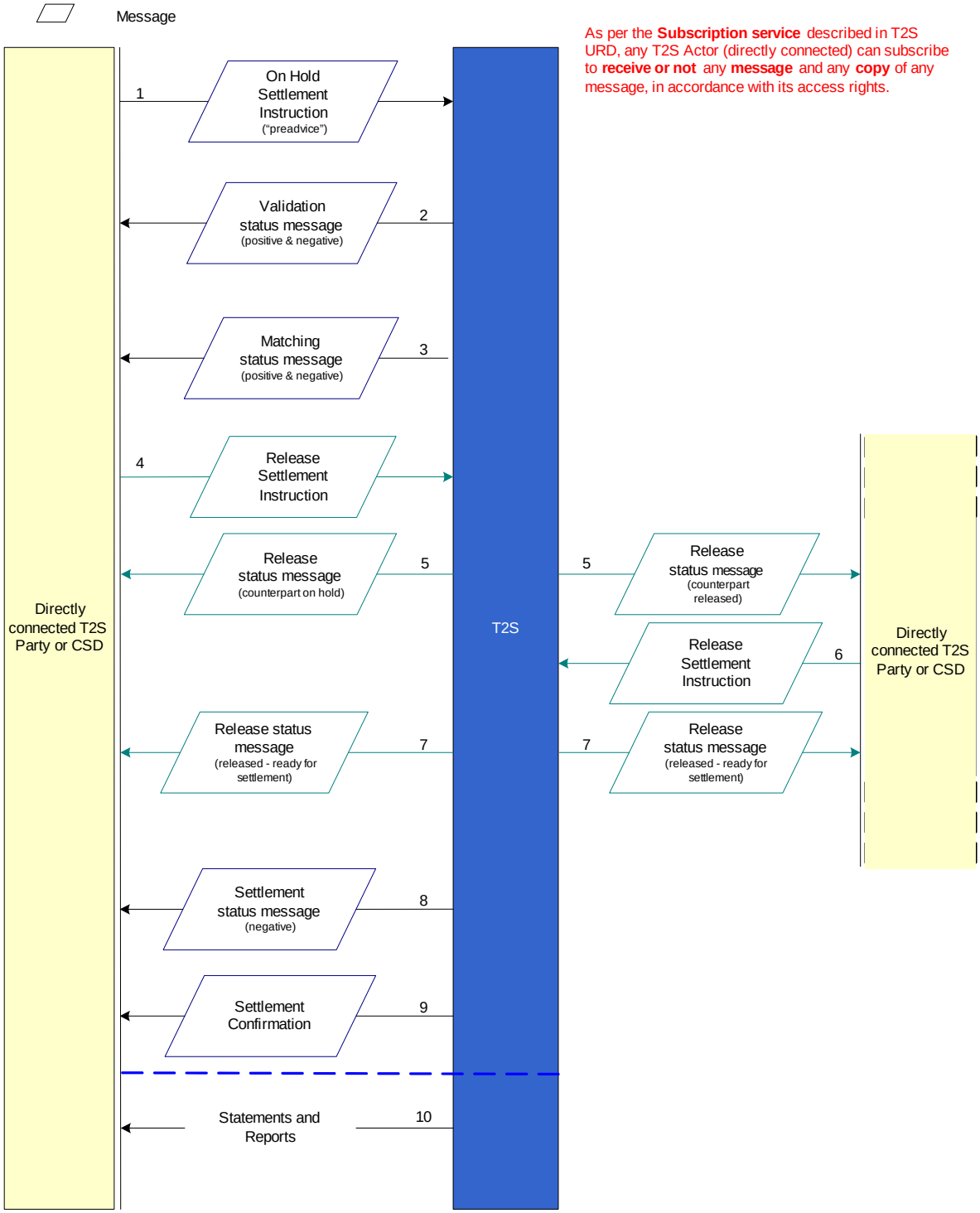
The hold and release mechanism can be used unilateraly or bilateraly (by the counterparts) anytime prior settlement.

Bilateral Hold before Release scenario

Bilateral "on hold" and "release" scenario - instructions are received "on hold" then "released" by both counterparts.

Only one side is represented (assumption= **same flows for the counterpart**, connected to T2S, **except for the Hold and Release flows, in green**).

Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements sent EoD.



1

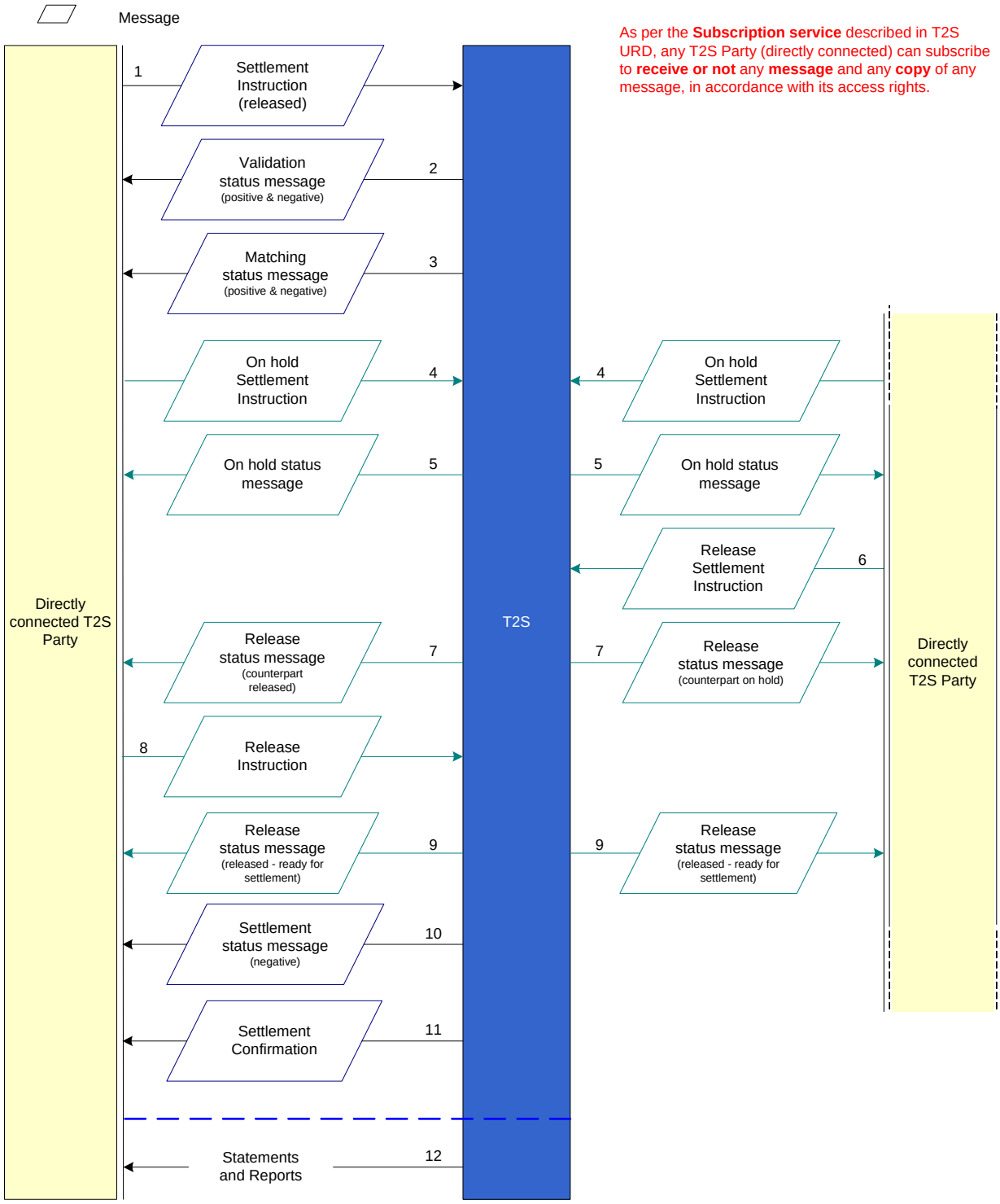
Hold and Release User Requirements

Important: CSDs and the directly connected CSD Participants shall be able to send to T2S "on hold" settlement instructions and "released" settlement instructions. In return, T2S shall send "on hold" and "released" status messages.

The hold and release mechanism can be used unilateraly or bilateraly (by the counterparts) anytime prior settlement.

Bilateral Hold after Release scenario

Bilateral hold and release scenario - instructions are received "released" then put "on hold" by both counterparts.
Only one side is represented (assumption= same flows for the counterparty, connected to T2S, **except for the Hold and Release flows**).
Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements sent EoD.



1

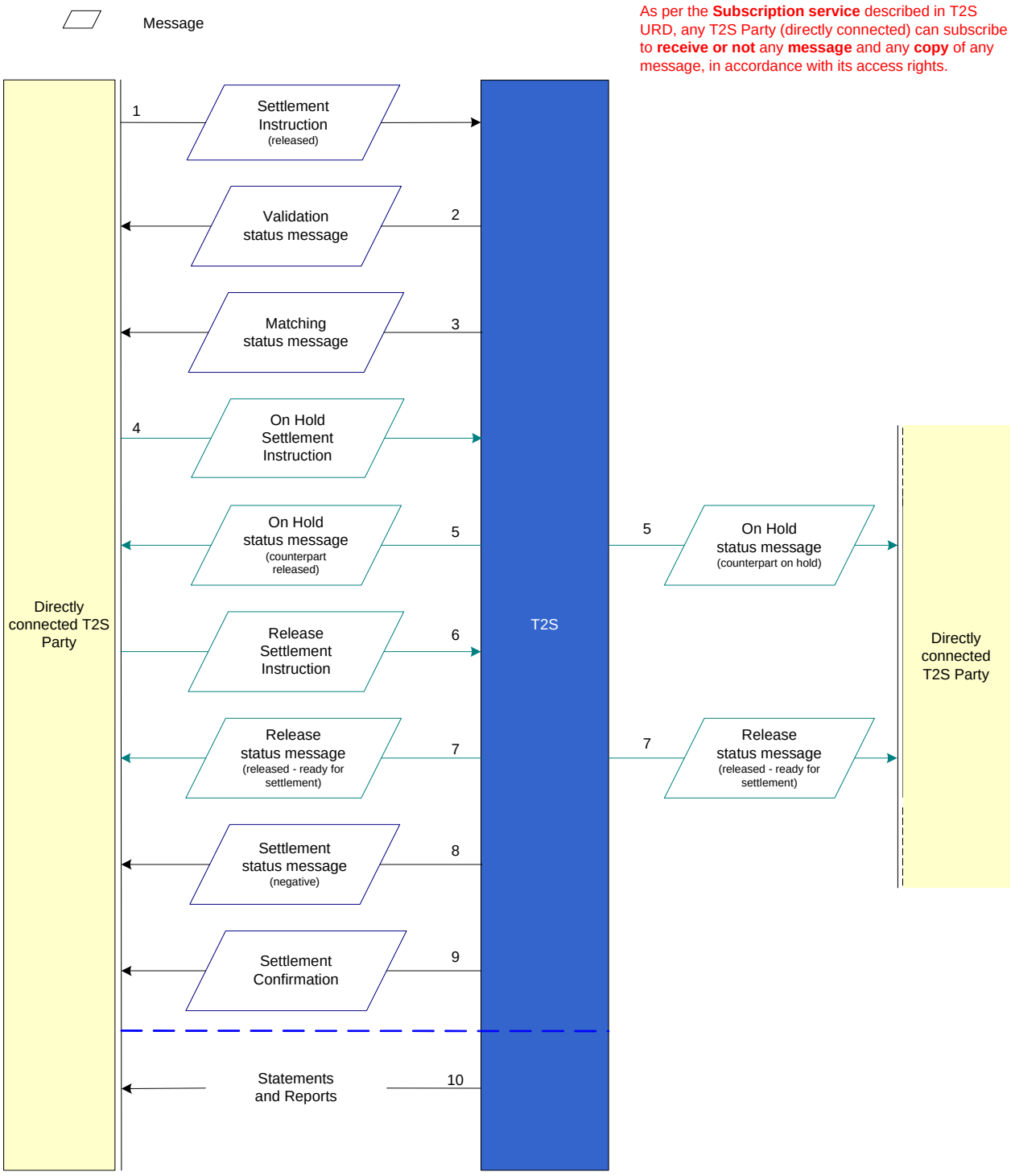
Hold and Release User Requirements

Important: CSDs and the directly connected CSD Participants shall be able to send to T2S "on hold" settlement instructions and "released" settlement instructions. In return, T2S shall send "on hold" and "released" status messages.

The hold and release mechanism can be used unilateraly or bilateraly (by the counterparts) anytime prior settlement.

Unilateral Hold Release scenario

Unilateral hold and release scenario - instructions are received "released" then, one of them is put "on hold" by one of the counterparts.
Only one side is represented (assumption= same flows for the counterparty, connected to T2S, **except for the Hold and Release flows**).
Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements sent EoD.



1

Conditional Securities DeliveryUser Requirements

Important: In the case of conditional securities delivery (CoSD) instructions, T2S shall send a blocking status message and an "on hold" status message to the other systems of the CSD and/or the directly connected T2S Party, according to subscription service.

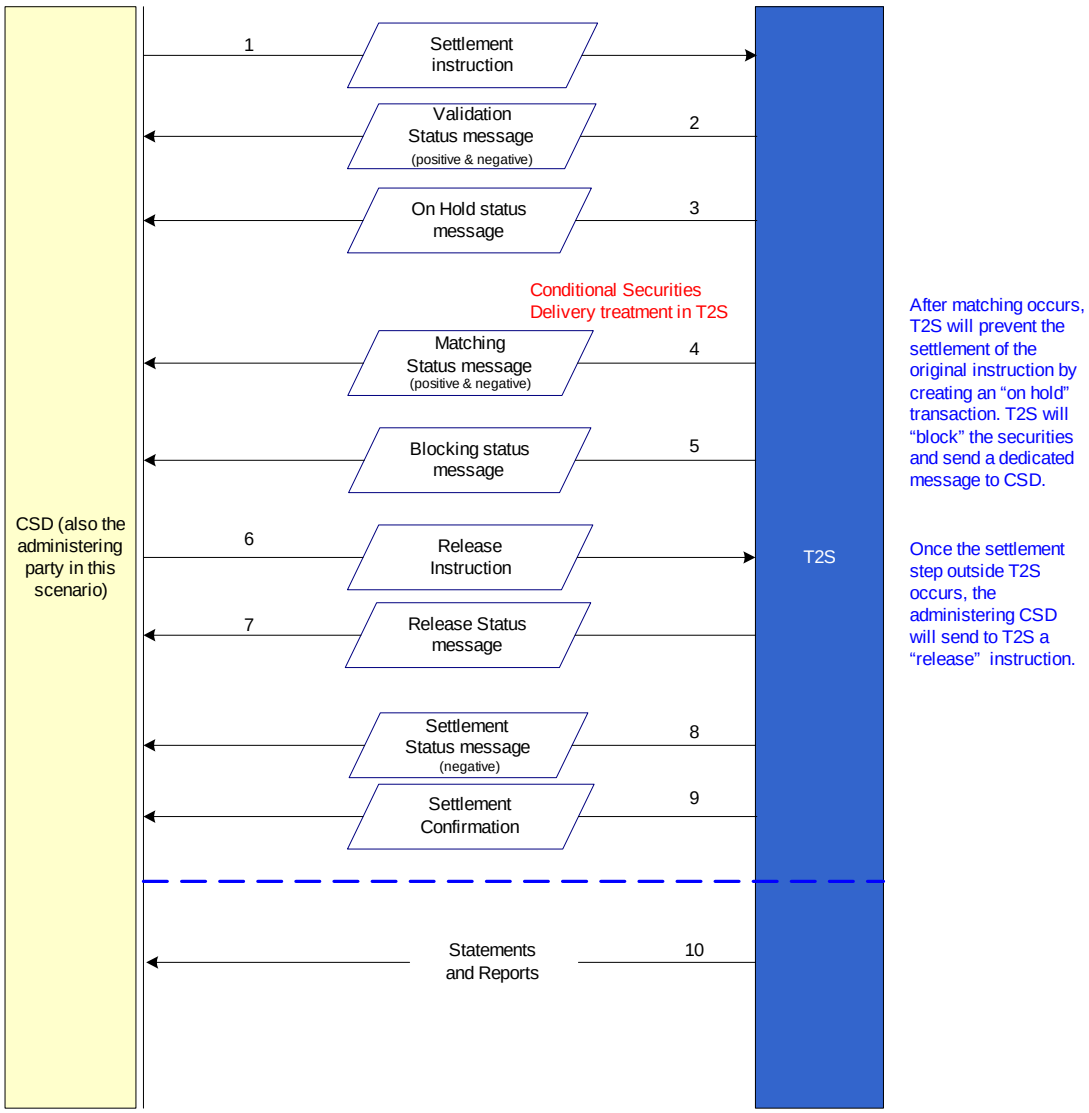
If CoSD instruction is cancelled (by counterparties) after blocking or if the condition outside T2S cannot be fufilled (e.g. registration rejected), the administering CSD will be allowed to send a unilateral cancellation to T2S and unblock the positions. See cancellation scenarios.

CoSD Scenario

Standard instruction with **settlement conditioned bya step/process to be performed outside T2S**(e.g., cash settlement outside T2S because T2S has no link with the National Central Bank or cash settlement is in commercial bank money or registration obligations).
In this scenario, instructions are received from a CSD on behalf of its participants. In addition, the CSD is defined as the administering party in Static Data for this scenario.
Only one counterparty and only the "securities side" are represented.
Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements sent EoD.

Message

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



Conditional Securities DeliveryUser Requirements

Important: In the case of conditional securities delivery (CoSD) instructions, T2S shall send a blocking status message and an "on hold" status message to the other systems of the CSD and to the directly connected CSD Participants, according to subscription service.

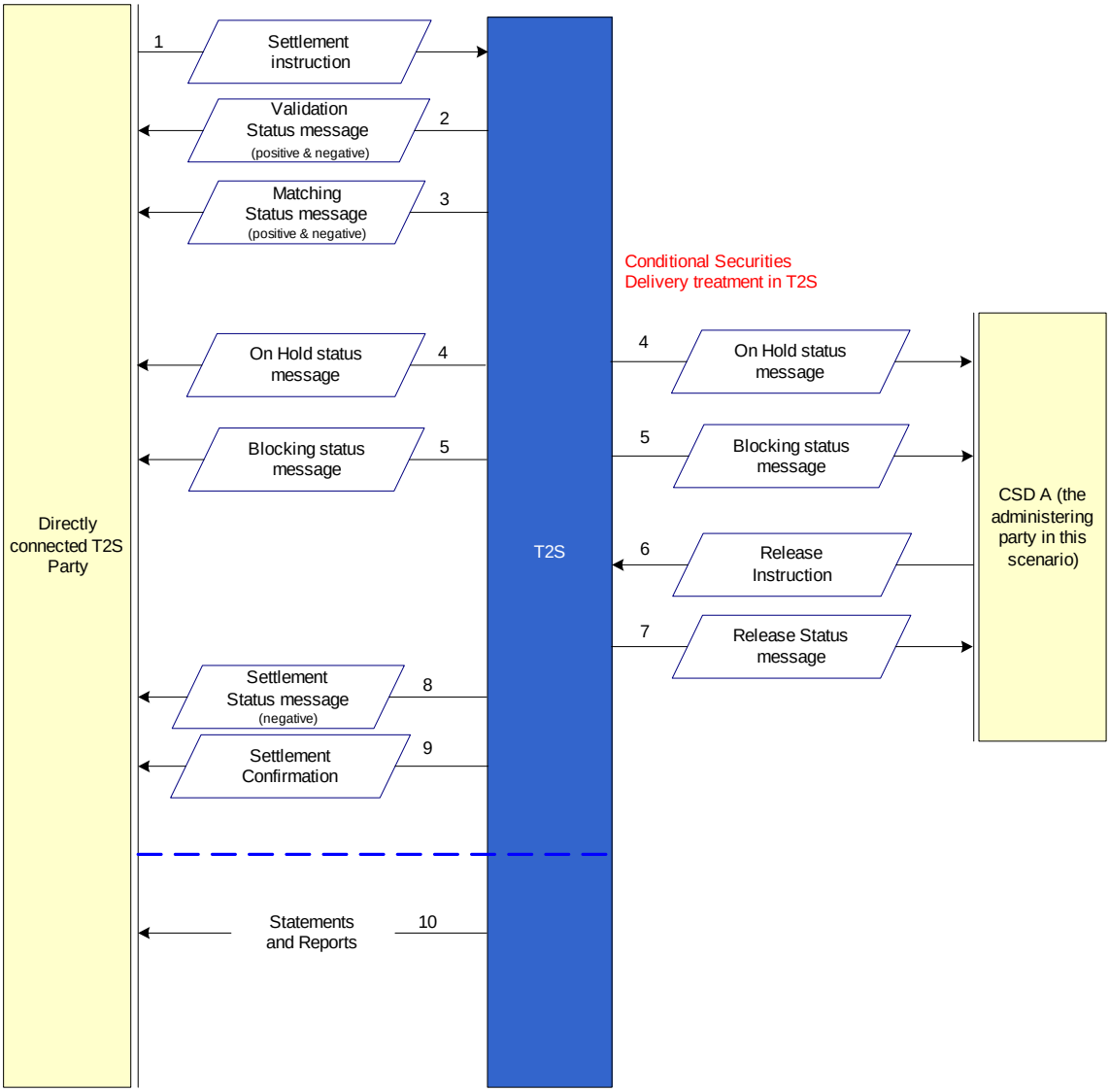
If a CoSD instruction is cancelled (by counterparties) after blocking or if the condition outside T2S cannot be fufilled (e.g. registration rejected), the administering CSD will be allowed to send a unilateral cancellation to T2S and unblock the positions. See cancellation scenarios.

CoSD Scenario

Standard instruction with **settlement conditioned bya step/process to be performed outside T2S**(e.g., cash settlement outside T2S because T2S has no link with the National Central Bank or cash settlement is in commercial bank money or registration obligations).
In this scenario, instructions are received from two directly connected CSD participants. In addition, CSD A is defined as the administering party in Static Data for this scenario.
Only one counterparty and only the « securities side » are represented.
Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements sent EoD.

Message

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



1

Partial Settlement User Requirements

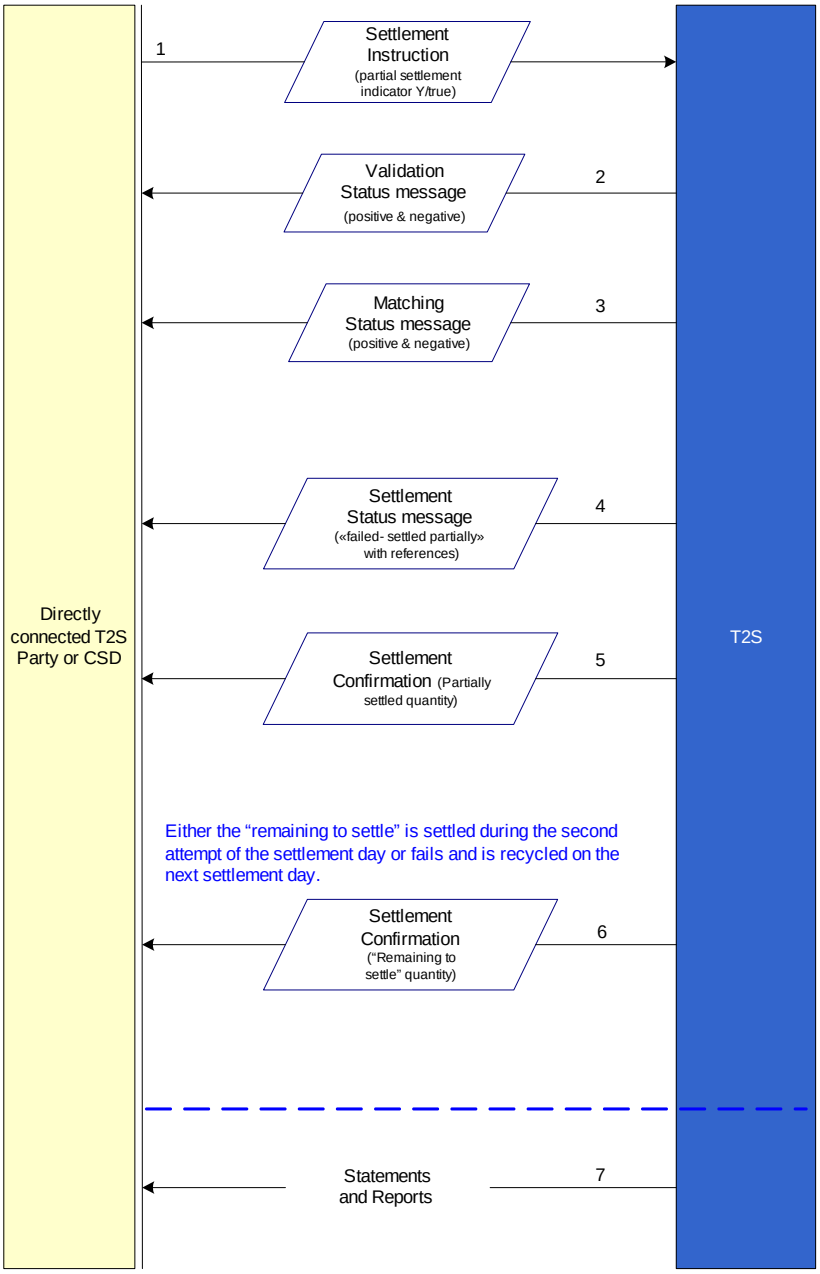
Important: T2S shall inform the other systems of the CSD or the directly connected CSD Participant when partial settlement occurs. Partial settlement should be allowed in T2S for CCP and OTC transactions if requested/agreed by both counterparties in the settlement instructions (partial indicator set to yes/true). As part of the partial settlement process, it is foreseen that the original instruction in T2S will be automatically cancelled and two new ones created, for the settled quantity and for the "remaining to settle".

Partial Settlement scenario

Standard instructions, with **partial settlement indicator** set to **yes/true and partially settled in T2S**
Only one side is represented (assumption= same flows for the counterpart, also connected to T2S).
Messages are being sent on a push mode basis. Messages are sent in real-time, except for statements sent EoD.

Message

As per the **Subscription service** described in T2S URD, any T2S Actor (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



Flow of messages:

4= The settlement status message will inform the instructing party that full settlement failed and that partial settlement took place, and also report the references.

5= A first settlement confirmation is sent for the part that could be settled and the "remaining to settle" is recycled (presented for settlement the same day for a second attempt).

If during the second attempt, the "remaining to settle" is partially settled, then a settlement status message and a settlement confirmation are again sent.

The "remaining to settle" after the second attempt is recycled to the next settlement day.

6= When the "remaining to settle" is settled, an additional settlement confirmation message is sent.

1

13.3.2 Flow of non-settlement related activities

Static Data maintenance User Requirements

Important: CSDs and CSDs' participants can query static data in accordance with their access rights, but only CSDs can maintain static data for securities, securities accounts and T2S Parties.

Securities static data operations can be either "Setup ISIN" (issuance activity), "Change ISIN data", "Inactivate/Activate ISIN", "Block/Unblock ISIN" or other type of operations as described in T2S user requirements.

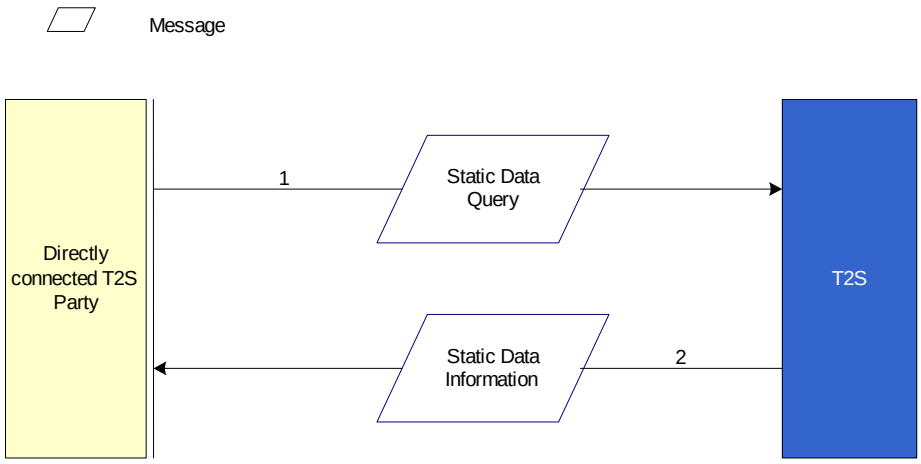
Securities account static data operations can be either "Open account", "Modify account", "Suspend/Activate account", "Close account" or other type of operations, as described in T2S user requirements.

T2S Party static data operations can be either "Identify T2S Party", "Authorize T2S Party (give access rights)", "Update T2S Party", "Remove T2S Party", "Block/Unblock T2S Party" or other type of operations as described in T2S user requirements.

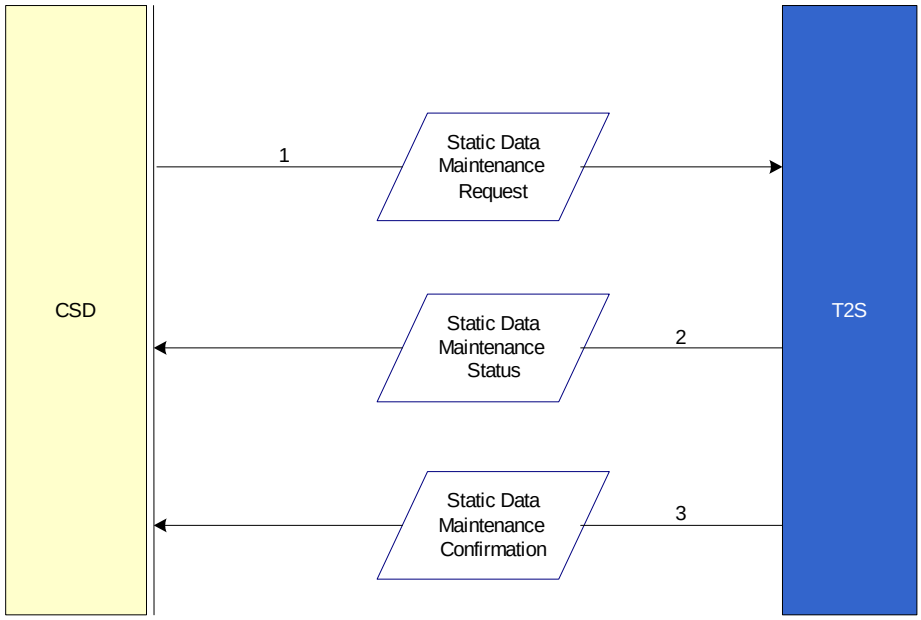
Securities static data operations

Static data query (1st flow) and maintenance (2nd flow).
As a general requirement, messages are being sent on a push mode basis and in real-time.

As per the **Subscription service** described in T2S User requirements, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



The Securities, Securities Account and T2S Parties static data query can be performed by the CSD and its participants, in accordance with their access rights.



The Securities, Securities Account and T2S Parties static data maintenance operations can be performed by the CSD only, in accordance with its access rights.

Cash Account - User Requirements

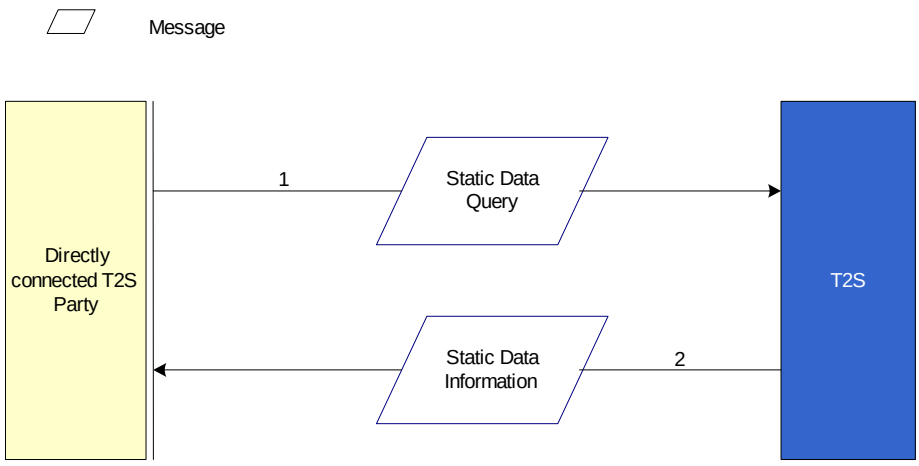
Important: CSDs and CSDs' participants can query static data in accordance with their access rights, but only NCBs and payment banks can maintain static data for cash accounts.

Cash account static data operations can be either "Open account", "Modify account", "Suspend/Activate account", "Close account" or other type of operations related to limits and standing/pre-defined orders, as described in T2S User requirements.

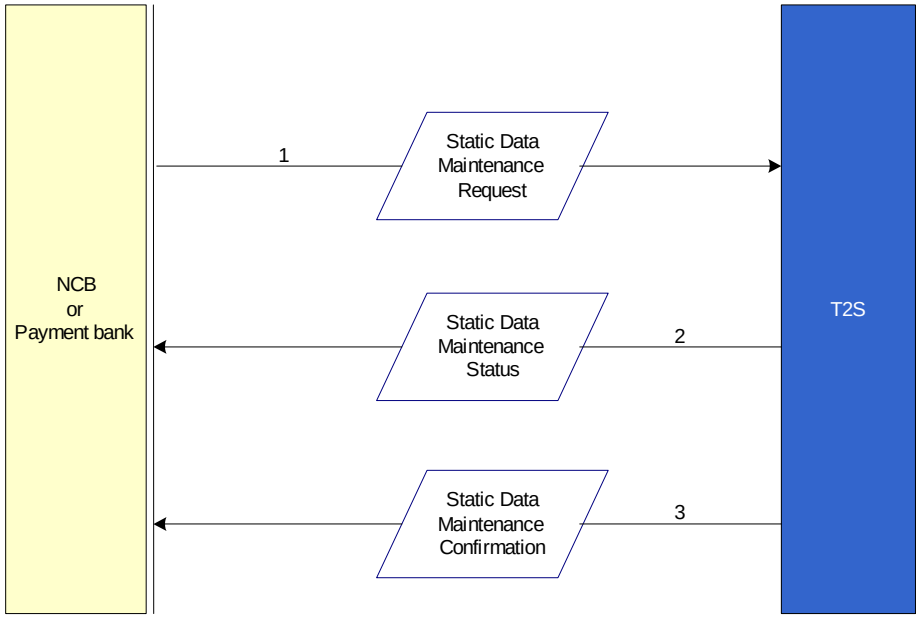
Cash Account static data operations

Cash Account static data query (1st flow) and maintenance (2nd flow).
As a general requirement, messages are being sent on a push mode basis and in real-time.

As per the **Subscription service** described in T2S User requirements, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



The Account static data query can be performed by the CSD and its participants, in accordance with their access rights.



The Cash Account static data maintenance operations can be performed only by the NCB and the Payment Bank, in accordance with their access rights.

13.4 Messages glossary

Messages being used in the Detailed Message Flows and/or needed for processing in T2S are the following.
In the table which constitutes the glossary, the third column contains requirements in relation to message-specific fields; it is NOT an exhaustive list of fields per message, but only a preliminary analysis based on some T2S needs already identified during the user requirement drafting phase.
The content of messages to be used for T2S will be further detailed during the next phase and also during business validation group meetings organised by SWIFT (the standard body taking the lead in developing ISO 20022 settlement and reconciliation messages).
This glossary aims at summarising the business needs for messaging of the T2S platform and the T2S actors and making sure these are communicated to SWIFT and reflected in the version of the ISO 20022 messages that will be used as from the T2S go-live date. Please note that the names and functions of the messages that will be developed in ISO 20022 might differ slightly (e.g. “status message” versus “status advice”; “replacement message” versus “amendment message”), but the business need for T2S should be covered.
T2S shall provide multiple-statuses reporting that gives more flexibility and brings more efficiency than single-status reporting. In this context, T2S shall provide the values of the different statuses for each instruction in a status message. For example, after the bilateral cancellation of a accepted and matched instruction, T2S will send a status message with the following three statuses: validation status (accepted), match status (matched) and cancellation status (cancelled).

Table 13-3: Message glossary

Message name	Message function	Message specific fields/requirements
Settlement instruction	To instruct a settlement.	- If settlement is related to a specific activity, the instructing party should be able to communicate this to T2S using an ISO transaction code (e.g. corporate actions, lending & borrowing). - Should provide enough flexibility for corporate actions (CA) settlement (i.e. not all fields are necessary when instruction is used to settle a CA). - When used in relation to a CA: should allow mentioning the single unique CA reference that will be used in all messages sent for the settlement processing of the CA (to and from T2S). - Should contain a processing indicator to specify whether instruction is “already matched” before entering T2S. - Should allow instructing the settlement of operations related to increase and decrease of issuance account (sometimes referred to as “mark-up/mark-down”). - Should cover all type of instructions being part of T2S scope, including DVD, Delivery with Payment, single instruction with both buying and selling legs, bulk orders/block-trade instructions, DVP and RVP with securities quantity equal to zero, and others as defined in chapter 5. - If settlement has to go through a specific process, instructing party should be able to communicate which process to T2S using a flag (e.g. partial settlement flag, position reservation flag, possibility of auto-collateralisation on flow, etc). - Should allow linking instructions, with different types of link: "for information" versus "for processing" and make use of a “counter” to specify the number of linked/to be linked instructions. - Should allow enough fields for references for markets’ or parties’ specific use (e.g. at least five references identified in the case of CCP instructions). - Should allow communicating (to the CSD) the end-investor cash account (i.e. held by the final client with its commercial bank) although this account will not be used during the settlement process.
Validation Status	To report the status of a settlement instruction after it has gone through T2S validation process.	- Should refer to the original settlement instruction. - Should allow positive and negative statuses. If negative, it should allow as many statuses as failures to validate. - When negative status: should specify why the instruction failed validation.

Message name	Message function	Message specific fields/requirements
Matching Status	To report the status of a settlement instruction after it has gone through T2S matching process.	- Should refer to the original settlement instruction. - Should allow positive and negative statuses. - When negative status: should specify why the instruction failed matching.
Settlement Status	To report the status of a settlement instruction after it has gone through T2S settlement process.	- Should refer to the original settlement instruction. - Should allow negative statuses. - When negative status: should specify why the instruction failed settlement. - Where there is partial settlement, specific fields are needed to specify that partial settlement took place (flag) and give the new references of the “split” settled and unsettled instructions.
Settlement confirmation	To confirm a settlement.	- Should refer to the original settlement instruction. - Where there is partial settlement, specific fields are needed to specify the partially settled quantity, the remaining to settle quantity and to relate to the new references. - Should allow communicating (to the CSD) the end-investor cash account as mentioned in the settlement instruction (direct holding systems requirement).
Security blocking instruction	To block a security.	- Should contain all necessary details to identify the element to be blocked. - Should allow specification of the reason for blocking.
Party blocking instruction	To block a T2S party.	- Should contain all necessary details to identify the element to be blocked. - Should allow specification of the reason for blocking.
Account blocking instruction	To block an account.	- Should contain all necessary details to identify the element to be blocked. - Should allow specification of the reason for blocking.
Position blocking instruction	To block a position.	- Should contain all necessary details to identify the element to be blocked. - Should allow specifying the reason for blocking and the restriction type used for the blocking, in line with restriction types configured in Static Data. - When used to block a position because of a CA, then should allow specifying that it is “blocked for CA / option xyz” (option xyz being the CA option chosen by the client).
Blocking status	To report the status of (any) blocking	- Should refer to the original blocking instruction.

Message name	Message function	Message specific fields/requirements
	instruction.	- Should allow negative statuses. - When negative status: should allow specification of the reason why the blocking failed.
Blocking confirmation	To confirm (any) blocking.	- Should refer to the original blocking instruction and provide a blocking reference that can be re-used in the unblocking instruction.
Security Unblocking instruction	To unblock a security.	- Should contain all necessary details to identify the element to be unblocked. - Should allow specification of the reason for unblocking.
Party Unblocking instruction	To unblock a T2S party.	- Should contain all necessary details to identify the element to be unblocked. - Should allow specification of the reason for unblocking.
Account Unblocking instruction	To unblock an account.	- Should contain all necessary details to identify the element to be unblocked. - Should allow specification of the reason for unblocking.
Position Unblocking instruction	To unblock a position.	- Should contain all necessary details to identify the element to be unblocked. - Should allow specification of the reason for unblocking.
Unblocking status	To report the status of (any) unblocking instruction.	- Should refer to the original unblocking instruction. - Should allow positive and negative statuses. - When negative status: should allow specification of the reason why the unblocking failed.
Unblocking confirmation	To confirm (any) unblocking.	- Should refer to the original unblocking instruction.
Amendment instruction	To amend a settlement instruction already in T2S.	- Should refer to the original settlement instruction. - Should allow amendment of existing fields and blank fields as per chapter 5 (lifecycle management and matching requirements).
Amendment status	To report the status of an amendment instruction.	- Should refer to the original settlement instruction and to the amendment instruction. - Should allow both positive status (i.e. when amendment is successfully processed) and negative statuses. - When negative status: should allow specification of the reason why the amendment instruction could not be processed. - Should include the amended fields.

Message name	Message function	Message specific fields/requirements
Cancellation instruction	To cancel an instruction.	- Should refer to the original settlement instruction and should allow inclusion of the reason for cancellation (e.g. corporate action).
Cancellation status	To report the status of a cancellation instruction.	- Should refer to the original settlement instruction and also refer to the cancellation instruction. - Should allow both positive status (i.e. when cancellation is successfully processed) and negative statuses. - When negative status: should allow specification of the reason why the cancellation instruction could not be processed.
Settlement Allegement	To inform that a counterparty has alleged an instruction against the account owner.	- Should follow lifecycle management and matching requirements as described in chapter 5.
Allegement Removal	To remove a settlement allegement (when it is no longer outstanding).	- Should follow lifecycle management and matching requirements as described in chapter 5.
Allegement Cancellation	To cancel a settlement allegement (e.g. when related settlement instruction is cancelled)	- Should follow lifecycle management and matching requirements as described in chapter 5.
On hold instruction	To hold a settlement instruction.	- Should refer to the original settlement instruction. - Should allow specification of the reason.
On hold status	To report the status of an on hold instruction.	- Should refer to the original settlement instruction and to the on hold instruction previously sent. - Should allow positive and negative statuses. - In case of negative status: should allow specification of the reason why the on hold instruction could not be processed.
Release instruction	To release a settlement instruction.	- Should refer to the original settlement instruction and to the on hold instruction.
Release status	To report the status of a release instruction.	- Should refer to the original settlement instruction and to the release instruction previously sent. - Should allow positive and negative statuses. - When negative status: should allow specification of the reason why the release instruction could not be processed.

Message name	Message function	Message specific fields/requirements
Reservation instruction[1]	To reserve a position for a specific process.	- Should allow reserving a position and linking it with an existing settlement instruction (using reservation reference), if need be.
Reservation status	To report the status of a reservation instruction.	- Should refer to the original reservation instruction - Should allow positive (i.e. when reservation is successfully processed) and negative statuses. - When negative status: should allow specification of the reason why the reservation instruction could not be processed.
Securities Balance query	To query balances (holdings).	- Should allow querying intra-day and end-of-day balances as per the Queries user requirements.
Statement of Holdings	To report the balances, answers the Securities balance query.	- Should be compliant with the Reports (section 13.5) and Queries user requirements (chapter 14).
Instructions query	To query instructions.	- Should allow querying of any type of instruction (e.g. settlement instructions, blocking instructions) in any status (e.g. matched, unsettled) as per the Queries user requirements (chapter 14).
Statement of Instructions	To report instructions, answers the Instructions query.	- Should be compliant with the Reports (section 13.5) and Queries user requirements (chapter 14).
Static Data query	To query T2S static data.	- Should allow querying static data as per the Queries user requirements (chapter 14).
Static Data information	To report static data answers the Static Data query.	- Should be compliant with the Reports (section 13.5) and Queries user requirements (chapter 14).
Static Data maintenance instruction	To instruct a static data maintenance.	- Should allow instructing any type of maintenance (e.g. addition, deletion, amendment) of any data held in the T2S Static Data component.
Static Data maintenance status	To report the status of a Static Data maintenance instruction.	- Should refer to the Static Data maintenance instruction. - Should allow positive (i.e. when static data maintenance is

[1] The need for a message to “un-reserve” will have to be defined in the next phase in collaboration with the ISO 20022 standards development body; some market participants have proposed reusing the unblocking message or the cancellation message.

Message name	Message function	Message specific fields/requirements
		successfully processed) and negative statuses. - When negative status: should allow specification of the reason why the Static Data maintenance instruction could not be processed. - Should describe the data maintained (at least maintenance performed and the new value of relevant static data).

Message name	Message function	Message specific fields/requirements
Settlement day status	To report the statuses of the settlement	- Should allow reference of the event, status and time (planned/revised/effective), as per chapter 3.
Cash management messages	To instruct and report on cash transfers in the context of liquidity management.	- Should comply with the Liquidity management user requirements (chapter 6).

13.5 Requirements for Reports

This chapter describes the reports that T2S will send to T2S actors. These are not, and should not, be considered as Regulatory Reports.

13.5.1 General Report Requirement and Rules

13.5.1.1 General Report Requirement

All reports shall be set up as XML messages

Reference ID	T2S.13.160

This allows for synergies with existing messaging infrastructures in TARGET2. Preferably, the message types and XML structures should to the largest possible extent comply with the ISO 20022 standards on settlement messages that are to be developed in the next years. In fact, since these activities will go on in parallel with T2S, it would make sense to work closely with the ISO standards body on the development of the messages in T2S. On the other hand, where the standard is not able to meet the T2S demands, it may be necessary to define some harmonised proprietary messages for T2S.

Like for real-time messages, the details of T2S reports will be further described in the next phases and in collaboration with the standards body in charge of their development in ISO 20022.

The following requirements describe the rules that shall apply to all reports, unless a related exception is explicitly stated in one of the other requirements:

13.5.1.2 Rules

General Rule

Reference ID	T2S.13.170

All reports shall be available in user-to-application mode and in application-to-application mode.

Securities Instructions, Balance and Static Data Reports Rule

Reference ID	T2S.13.180

All securities instructions, balance and static data reports shall be available for all CSDs in T2S, T2S parties and NCBs.

This requirement results from the fact that T2S parties can connect to T2S directly or indirectly through the CSD in T2S. As the information demand from a direct or indirect connection view should be identical, so is the related set of reports to be provided to CSDs and directly connected T2S parties.

T2S reports can be either based on an event or sent at a fixed time

Reference ID	T2S.13.190

This rule results from the fact that certain reports can be triggered by an event that varies in time, or certain information is required by the market at a fixed time. Where a CSD or directly connected T2S party in T2S requires information at a time not so triggered, the information can also be retrieved via queries. Additionally, T2S should allow them to retrieve reports timed at the previous end of day, night cycle and end cycle that had already been sent by T2S; prior reports should have to be queried.

Timeliness of reports

Reference ID	T2S.13.200

T2S shall send reports based on the latest available data.

Report recipients

Reference ID	T2S.13.210

Reports containing information either on individual accounts or on a set of accounts can be sent to CSDs and directly connected T2S parties.

Reference ID	T2S.13.220

When processing reports, T2S shall comply with all defined access rights, permissions and restrictions, as described in chapter 11.

A **directly connected T2S party** can only receive reports on:

- its own securities and cash balances, those of its clients and those of any other T2S actor for which the appropriate authorisation was granted,
- instructions that were submitted by the party (or a third party with access rights - supported by power of attorney to do so on behalf of the party) and instructions that refer to the securities or cash account of the party (or any sub-account thereof),
- its own static data, as well as some generic static data on instruments and the daily schedule.

A **CSD in T2S** can receive reports only on:

- instructions that were submitted by the CSD in T2S itself, or by its participants,
- securities and cash balances of dedicated T2S cash account(s) of the CSD in T2S itself and of its participants and
- static data of the CSD in T2S itself, and of its participants, where privileges permit. Additionally, a CSD can query all static data that relate to its admission rule, for securities as well as for parties.

Where a CSD in T2S acts as an investor CSD into an issuer CSD in T2S, it is treated like a participant in that CSD in T2S.

An **NCB** (acting in its role as central bank) can only have access to cash balances and static data that refer to the TARGET2 cash accounts for which it is responsible. Additionally, an NCB can act as participant of a CSD in T2S. In this case the NCB has all access rights that any other CSD participant in T2S would have. And finally, some NCBs are also acting as CSDs in T2S. Of course, when acting in this role, they would have all access rights of a CSD in T2S for that part of their activities.

13.5.2 Report types

13.5.2.1 Statement of Holdings

Statement of Holdings

Reference ID	T2S.13.230

T2S shall transmit information on security positions in T2S upon a pre-defined event (e.g. end-of-day or end of night-time cycle).

13.5.2.2 Statement of Transactions

Statement of Transactions

Reference ID	T2S.13.240

T2S shall transmit information on the transactions settled in T2S for a particular settlement day. This report should be based on an event (e.g. end-of-day or end of night-time cycle).

Statement of Pending Instructions

Reference ID	T2S.13.250

T2S shall transmit the statuses of instructions which do not have a final status in T2S (e.g. matched and unmatched) on each settlement day. This report should be event driven (e.g. end-of-day or end of night-time cycle).

Statement of Settlement Allegements

Reference ID	T2S.13.260

T2S shall transmit information on the transactions that a counterpart has alleged against a CSD or directly connected T2S party on a particular settlement day, to allow the directly connected T2S party or CSD in T2S to identify missing and spurious instructions. This report should be based on an event for the end-of-day, and can be sent at certain fixed times of the day. However, as noted above, if an allegement is cancelled or removed (according to Securities Market Practice Group –SMPG– recommendations), the reporting will be made using a real-time message.

Statement of End-of-Day Balance

Reference ID	T2S.13.270

T2S shall transmit information on the cash position of a party at the end of the settlement day, to include start-of-day balance, end-of-day balance and movements. This report should be based on an event (e.g. end-of-day).

Statement of Static Data

Reference ID	T2S.13.280

T2S will confirm any changes to static data to the CSD and the directly connected T2S party in T2S. This report should be based on an event (e.g. end-of-day).

Billing Data Report

Reference ID	T2S.13.290

T2S shall transmit to the CSD only the data providing details backing an invoice at the end of the billing period. This report should be based on an event (e.g. start of day-time phase on the first business day after the end of the billing period).

13.5.2.3 Cash Forecast Reports

Current Settlement Day Cash Information Report

Reference ID	T2S.13.300

T2S shall transmit to T2S actors a cash forecast reflecting valid and eligible instructions (i.e. matched and ready for settlement) that have entered T2S but have not settled (e.g. pending transactions that failed to settle in an earlier attempt and queued transactions that have not yet been submitted to settlement), as well as the liquidity that can be obtained through auto-collateralisation against eligible collateral. This report should be based on an event and fixed time (e.g. end of night-time cycle and at a specific moment[2] during the day-time continuous optimisation cycle on settlement day).

Following Settlement Day Cash Forecast Report

Reference ID	T2S.13.310

T2S shall transmit to T2S actors a cash forecast reflecting cash needs and proceeds expected from the settlement of corporate actions and trading related transactions for each future settlement day, as well as the liquidity that can be obtained through auto-collateralisation against eligible collateral.
Cash forecasts shall be enriched continuously during the day with additional incoming information on new transactions for the following settlement day as well as on failing transactions that need to be recycled during the following settlement day.
This report should be based on events (e.g. after the end of the deadline for the intraday DVP and before the start of the night-time settlement cycle) or on demand, as described in chapter 14 (see cash forecasts query).

[2] Additional information that would enrich the cash forecast will be known during the day, at different moments (e.g. morning feed from a Trading Platform, fails at DVP deadline, CCPs midday operations etc). The specific moment depends then on whenever additional information is received during the daytime period.

USER REQUIREMENTS

CHAPTER 14

QUERIES REQUIREMENTS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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14 Queries requirements

The aim of this chapter is to describe the requirements relating to the different real-time queries issued by T2S actors to monitor securities positions, cash balances, instructions status and static data. Queries are made available by T2S in addition to reports (see chapter 13).

This chapter also details the conditions for using T2S queries and the content of the related responses.

14.1 General query requirements and default rules

14.1.1 General query requirements

All queries and responses shall be set up as XML messages.

Reference ID	T2S.14.010

All queries and responses shall be set up as XML messages. This allows for synergies with existing messaging infrastructures in TARGET2. The message types and XML structures will to the largest possible extend comply with the ISO20022 standards on settlement messages that are to be developed in the next years. In fact, since these activities will go on in parallel with T2S, it makes sense to align the development of T2S messages with the ISO standardisation body. T2S shall avoid the use of proprietary messages in an attempt to harmonise standards.

14.1.2 Default rules

The following requirements describe the default rules that shall apply to all queries, unless an exception is stated in the detailed requirements of individual queries.

User-to-application mode and application-to-application mode

Reference ID	T2S.14.020

All queries shall be available in user-to-application mode and in application-to-application mode.

Balance and static data queries

Reference ID	T2S.14.030

All securities instructions, balances and static data queries shall be available for all CSDs in T2S, directly connected parties and NCBs, according to the access rights described in chapter 11.

This requirement results from the fact that T2S parties can connect to T2S directly or get data indirectly through their CSD. In the latter case, the CSD may choose to route the user's query through to T2S. Directly connected parties may only query T2S if granted authorisation to do so by the CSDs holding their accounts. However, the queries should be identical whether it comes from a direct or indirect connection provided by or through a CSD.

It is likely that the needs of the CSDs and their participants can be fulfilled through the same set of queries. While CSDs in T2S may have broader needs for information, resulting from their account and asset servicing functions, these needs could be met by granting CSDs broader access rights to query information.

It is possible that CSDs could require additional fields to be added into the search criteria of the queries.

In all queries defined in this chapter, it shall be possible to define ranges of values as query parameters for some of the query fields. The concerned fields shall be defined in the next project phase.

T2S availability for queries

Reference ID	T2S.14.040

T2S shall accept all queries at any point in time during T2S opening days, except during the maintenance window. In a user-to-application mode, it will not be possible to send queries to T2S during the maintenance window. In that case, a message will be returned indicating that T2S is currently under maintenance. When a query is issued in application-to-application mode during the maintenance window, T2S will reply that T2S is not available.

T2S shall process all queries in real time, based on the latest available data

Reference ID	T2S.14.050

T2S shall process all queries in real time, based on the latest available data. An exception to this real-time rule is described in section 14.2.2.

Processing queries

Reference ID	T2S.14.060

When processing queries, T2S shall take into account all access rights as defined in chapter 11. T2S will only return results where the party that has submitted the query has the right to access the underlying data.

Thus, a T2S party can query the following – subject to access rights:

- its own securities positions and cash balances;
- instructions submitted by the T2S party itself (in case of direct connectivity), or by a third party that has the access rights in T2S supported by a power of attorney;

- its own static data, as well as some generic static data relating to e.g. instruments and the daily schedule.

A CSD in T2S can query the following – subject to access rights:

- instructions that were submitted by the CSD itself, or by its directly connected parties;
- securities and cash balances of dedicated T2S cash account(s) of the CSD itself and of its T2S parties in T2S;
- static data of the CSD itself, and of its T2S parties;
- static data of securities.

An NCB (acting in its role as central bank) can query:

- cash balances of the accounts kept at this NCB;
- and static data that refer to the cash accounts for which it is responsible.

Additionally, an NCB can act as a T2S party of a CSD. In this case, the NCB has access rights as any other T2S party. Finally, if an NCB plays the role of a CSD, that NCB, when acting as a CSD, would have all the access rights of a CSD.

14.2 Securities Balance Queries

This section describes ways of querying securities accounts positions. As it is envisaged to perform these queries using the balance queries provided by ISO 20022 standards, the term “securities balance queries” is used in this chapter for querying securities positions.

14.2.1 Query types

Two securities balance queries will be provided:

Basic Type	Scope
Securities Balance Query	Get (current) position, in an account view
Securities Balance History Query	Get closing position over a time period at the close on the dates specified, in an account view

The time period available for the Securities Balance History Queries is defined as part of the archiving functionality, which is detailed in chapter 17.

T2S shall provide two types of securities balance queries to all T2S actors

Reference ID	T2S.14.070

T2S shall provide the following securities balance queries to all T2S actors:

Table 14-1: Overview securities balance queries

Query Type	Query Will Revert the following to T2S actors
Securities Balance Query	The Securities Balance Query shall return an account view on the position at a particular point in time, the latest securities position or at the close of settlement if requested after close of settlement, where all positions are summarised in the account structure that is compatible with the query The query is a standard functionality open to all actors in T2S. Taking the TARGET2 query as the basis (blueprint) for this type of query and adjusting it to meet the necessary requirements for its adaptation to the account and balance types of T2S.
Securities Balance History Query	The Securities Balance History Query shall return all positions that occurred during a particular time period, where all positions are summarised at the account structure that is compatible with the query parameters.

14.2.2 Availability of query and response mode

Handling balance queries during night-time settlement

Reference ID	T2S.14.080

During the night-time settlement cycles, T2S shall store balance queries sent in application-to-application mode, reply with a message that the system is currently running a cycle and respond at the end of the cycle with the latest position.

Balance queries sent in user-to-application mode during a cycle shall not be stored in T2S for further processing, and the T2S actor should receive a real time message that a cycle is currently running.

14.2.3 Query parameters

Securities Balance Queries

Reference ID	T2S.14.090

T2S shall provide the option to specify a Securities Account Number or a range of Securities Account Numbers that restricts the query to positions located on the specified account(s). In case the Securities Account Number(s) is (are) not specified, the query shall return positions on all accounts within the access rights (as detailed in chapter 11) of the party that sent the query:

- For T2S parties: all the securities accounts pertaining to the party.
- For a CSD: all the securities accounts that are held with the CSD (a CSD wishing to query its inter-CSD accounts in an issuer CSD would have to send a separate query as a T2S participant in that CSD).

CSD and T2S parties may act as service providers for indirect parties or e.g. remote brokers. CSDs need to be able to query on the securities accounts of a particular client (e.g. indirect party). In these cases, T2S actors should understand that accounts should be opened in T2S under the name of final beneficiary (direct position systems and segregated accounts).

14.2.4 Securities Balance Query by CSD or T2S party

Reference ID	T2S.14.100

This query shall allow a CSD or T2S party (or other entity with authorisation to access a T2S party's securities accounts) to query positions (either real-time or for particular dates) in all securities across all accounts of the specific T2S party. A CSD may query the positions of any of its participants. A query by a directly connected T2S party shall return all securities positions of the directly connected T2S party's accounts. The query shall return the concerned CSD (where the account is held), T2S party, date, securities account number, ISIN of the security, the total position, the blocked position and the free position. Unless otherwise specified by the sender of the query, T2S will only return non-zero securities positions in the accounts.

N.B. Securities positions for previous days are the end-of-day positions; the current position is the latest position for the current day.

14.2.5 Securities Balance Query by T2S party account

Reference ID	T2S.14.110

This query shall allow querying positions in all securities in a specific securities account of a specific T2S party as of a specific date. The CSD is a participant of itself in this context. This query shall require the securities account number and the date as search criteria.

14.2.6 Parameters for querying securities balances

Reference ID	T2S.14.120

Both types of securities position queries shall require the user to specify one or a combination of parameters for the queries. Below is a non-exhaustive indicative list of these parameters:

- CSD
- T2S party

- Securities Account
- Security (ISIN Code)
- Country of Issuance
- Date (range)
- Restriction Type

Securities Balance Queries by ISIN Code

Reference ID	T2S.14.130

T2S shall provide the option to specify an ISIN or the beginning of the ISIN code (wild card). If the ISIN is not specified, the query returns data for all ISINs.

Securities Balance Queries by Country of Issuance

Reference ID	T2S.14.140

T2S shall provide the option to specify a Country of Issuance. The query shall then only check for positions according to the specified country of issuance. If the Country of Issuance is not specified, the query returns data for all Countries of Issuance.

Securities Balance Queries by Restriction Type

Reference ID	T2S.14.145

T2S shall provide the option to specify a Restriction Type (as outlined in chapter 11.10.4 of the URD). The query shall then only check for positions according to the specified restriction type. If no Restriction Type is specified in the query, then all securities positions irrespective of their restriction type shall be returned, including those with blank fields within the Restriction Types.

14.2.7 Querying Securities Balance History

Reference ID	T2S.14.150

T2S shall provide a functionality to query historic securities positions in securities accounts. Securities positions for previous days will always be the end-of-day position. The query shall support the following non-exhaustive indicative list of parameters.

- CSD
- T2S party

- Securities Account
- Security (ISIN Code)
- Country of Issuance
- Date
- Restriction Types

T2S Parties shall have the option to freely combine these criteria with:

Securities Balance History Query by Date.

Reference ID	T2S.14.160

T2S shall provide the option to specify a date (date YYYYMMDD). The query shall then return the position depending on the requested date:

- If the date requested is prior to the actual date, the returned position would reflect the end-of-day position.
- If the date requested is equal to the actual date (intraday request), the returned position would reflect the position at actual day and time (date YYYYMMDD + time HH:MM:SS).

Securities Balance History Query by Time Period.

Reference ID	T2S.14.170

T2S shall provide the option to specify a timeframe [FROM-TO], where the FROM variable is mandatory, and the TO variable is optional. Both times are to be provided as date YYYYMMDD. The query shall then reflect all positions at the end of each settlement period occurring during the specified timeframe. If only the FROM variable is specified, the query shall give back all changes from the FROM date up to the current date/time.

14.2.8 Securities Balance History Query by Security or Country of Issuance

Reference ID	T2S.14.190

T2S shall provide the option to specify a Country of Issuance. The query shall then only check for positions where the country of issuance has been specified. If the Country of Issuance is not specified, the query returns data for all Countries of Issuance.

Alternatively, T2S shall allow the specification of a country code (i.e. the two first characters of an ISIN). This search will output all positions in securities that meet the specified criteria across all securities accounts.

14.2.9 Securities Balance History Query by T2S party

Reference ID	T2S.14.200

This query shall allow a CSD or a T2S party (or an entity with authorisation to access a T2S party's securities accounts) to query positions in all securities across all accounts of that specific T2S party as of a specific time-frame. This query shall require as minimum query parameters the T2S party (note that a CSD is always a participant of itself) and the date. A CSD shall be able to query the positions for any of its T2S parties. A query by a T2S party shall return all securities positions for the T2S party's accounts. Furthermore, T2S shall provide the user with the option to output zero positions in the results list.
The query shall return the CSD, T2S party, date, and securities account number, ISIN of the security, the total position, the blocked position and the free position.

14.2.10 Securities Balance History Query by T2S party Account

Reference ID	T2S.14.210

This query shall allow a CSD or a T2S party (or an entity with the authorisation to access a T2S party's securities accounts) to query positions in all securities in a securities account of the T2S party as of a specific time-frame. The CSD is a participant of itself in this context. This query shall require as minimum query parameters the securities account and the date. A CSD shall be able to query the positions for any of its participants. A query by a T2S party shall provide for all securities positions for its accounts. Furthermore, T2S shall provide the user with the option to output zero positions in the results list.
The query shall return the CSD, T2S party, date, securities account number, the ISIN of the security, the total position, the blocked position and the free position.

Securities Balance History Query by Restriction Type

Reference ID	T2S.14.215

This query shall allow a CSD or a T2S party (or an entity with authorisation to access a T2S party's securities account) to query a position in all securities that reflects the queried Restriction Type across all accounts of that specific T2S party as of the specific time-frame. The query shall then provide securities positions with the specified restriction type. If no Restriction Type is specified in the query, then all securities positions irrespective of their restriction type shall be returned, including those with blank fields within the Restriction Types. T2S shall also return data with expired, cancelled and active Restrictions Types, included in the queried timeframe. If the Restriction Type has Subordinate Position Restriction, this information will also be reflected in the returned data.

Securities balance queries may be queried with multiple criteria.

Reference ID	T2S.14.220

T2S shall provide the option to specify the following fields independently. If more than one field is specified, the query shall combine the parameters through AND / OR logic:

- CSD;
- Securities Account Number;
- T2S actor;
- ISIN Code;
- Country of Issuance;
- Restriction Type.

Some examples of such combinations that can appear in different business contexts are provided below.

Table 14-2: Examples of combinations of parameters in securities balance queries

Example No.	**Business Requirements**	**Query Type**	**Party**	**Query Fields**
1	Get current positions	Balance/Balance Detail	T2S Actor	None
2	Get current position on a specific account	Balance/Balance Detail	T2S Actor	Account Number = “ABC”
3	Get position changes since 15 June, noon	Balance History	T2S Actor	FROM=2007.06.15.12:00:00
4	Get current position in an ISIN	Balance/Balance Detail	T2S Actor	ISIN = DE0005190003
5	Get position history in an ISIN	Balance History	T2S Actor	ISIN = DE0005190003, FROM=2007.01.01.00:00:00
6	Get all holders of an ISIN (e.g. at record date for corporate actions)	Balance	CSD in T2S	ISIN = DE0005190003
7	Get position in some ISIN which is already blocked for voluntary corporate action	Balance	CSD in T2S	ISIN = DE0005190003, Restriction Type = “Blocked for CA”
8	Get all earmarked positions in some ISIN (refer to chapter 10 for the position and balance types)	Balance	CSD	ISIN = DE0005190003, Restriction Type = “Earmarked”

Example No.	Business Requirements	Query Type	Party	Query Fields
9	Get available positions in some ISIN	Balance/Balance Detail	CSD	ISIN = DE0005190003, Restriction Type = "Available",
10	Get all positions in one particular issuer CSD (as investor CSD)	Balance	CSD	Country of Issuance = "ES"

14.2.11 Content of the responses

In the responses to all securities balance queries

Reference ID	T2S.14.230

T2S shall list all positions that meet the specified criteria.

In the responses to all securities balance queries – position with restrictions

Reference ID	T2S.14.240

T2S shall list all positions together with their restrictions.

The accounts that the positions refer to shall be listed with all accompanying information in addition (in particular custody type, restriction segregation type, restriction segregation level, earmarking, reservation or blocking and auto-collateralisation flag), as defined in chapter 10. A single ISIN may have as many restriction types as needed to reflect the different situation of the holdings.

In the responses to all securities balance queries – position timestamp

Reference ID	T2S.14.250

T2S shall always add a position timestamp (with date YYYYMMDD and time HH:MM:SS) that specifies the T2S system time at which the position snapshot was taken.

This is required to support a "statement of accounts" query. A statement of account would actually translate into "all changes since the last statement of account query". The timestamp above provides the information for intraday positions.

14.3 Instruction Queries

This section describes the options for querying instructions.

14.3.1 Query types

Two basic instruction queries can be differentiated.

Basic Type	Scope
Security Instruction Query	Get information on an instruction/s and its/their status
Security Instruction History Query	Get instruction/s status changes over a time period

These two basic types are described below.

Securities Instruction Query

Reference ID	T2S.14.260

T2S shall provide Securities Instruction Query functionality to all directly connected T2S Actors.

In the response to the Securities Instruction Query

Reference ID	T2S.14.270

T2S shall return all instructions that meet the criteria defined in the query, with all instruction details and with the status of the instruction and timestamp at the point in time when the response was constructed.
The securities instruction query is a standard functionality open to all CSDs in T2S, directly connected T2S parties and NCBs.

Securities Instruction Audit Trail Query

Reference ID	T2S.14.273

T2S shall provide a securities instruction audit trail query functionality to all connected T2S actors.

Response to the Securities Instruction Audit Trail Query

Reference ID	T2S.14.276

T2S shall return data on all the changes produced on instructions that meet the criteria defined in the query, reflecting all relevant changes that occurred to the instruction (i.e. status changes (manual or automatic), operator name, etc.) with the timestamp and date when the change took place. A current timestamp will also be indicated with the point in time when the response was sent.
There are no plans for an audit trail query for multiple securities settlement instructions.

Securities Instruction History Query 1

Reference ID	T2S.14.280

T2S shall provide Securities Instruction History Query functionality to all directly connected T2S Actors.

Securities Instruction History Query 2

Reference ID	T2S.14.290

In the response to the Security Instruction History Query, T2S shall give back all instructions that meet the criteria defined in the query.

Securities Instructions History Query 3

Reference ID	T2S.14.300

In the response to the Securities Instructions History Query, T2S shall give back all instruction details and all status changes that occurred in a defined period of time.

Securities Instruction History Audit Trail Query

Reference ID	T2S.14.303

T2S shall provide securities instruction history audit trail query functionality to all directly connected T2S actors.

In the response to the Securities Instruction History Audit Trail Query

Reference ID	T2S.14.306

T2S shall return all data on all the changes produced on instructions that meet the criteria defined in the query, reflecting all relevant changes that occurred to the instructions (i.e. status changes, manual or automatic input and user name, etc.) with the timestamp at the point in time and date when the change took place.

There are no plans for an audit trail query for multiple securities settlement instructions.

14.3.2 Availability of query and response mode

T2S shall always be open to accept new instruction queries, and all responses shall be given in real time. This complies with the default rule for feedback, and thus does not need to be specified explicitly.

14.3.3 Query parameters

The following fields can be used to restrict the query further:

- ISO Transaction Code
- Instruction Reference;
- Instruction Priority;
- Instruction Type;
- Multiple Instruction Status (example are matching status, cancellation status, hold status) – see chapter 5;
- Instruction Status Time;
- Instruction Input Time;
- Trade Date;
- Intended Settlement Date;
- Actual Settlement Date;
- Securities Account Number;
- Cash Account Number;
- Instructing Party (if blank, instructions input by querying party);
- Counterparty BIC;
- ISIN (one or list or wild card);
- Country of Issuance;
- Settlement Currency;
- Cash Amount;
- Securities Amount;
- CUM/EX Indicator.

It is recommended to send well-defined queries making use of the query parameters above. Unrestricted queries or queries asking for a broad range of data may result in longer response times.
Below is a more detailed description of how the fields may be used.

By Instruction Reference

Reference ID	T2S.14.310

T2S shall provide the option to specify an Instruction Reference (party's reference, CSD's reference or T2S's reference, including "pool reference" and "common reference" where applicable). If this reference is not specified, the query shall return all instructions that are consistent with the access rights (as detailed in chapter 11) of the querying party:

- T2S Actors: all instructions that have been sent by either the T2S Actor or by other T2S Actors that have been authorised by the T2S Actor to do so (on a static data level).

- CSDs in T2S: all instructions that refer to accounts legally attributed to the CSD, and all instructions that have been sent by the CSD (these might refer to Inter-CSD accounts in issuer CSDs in T2S).
- NCBs: There is no specific role for NCBs with regard to instruction queries:
    - Where NCBs act as parties in a CSD, they can query instructions like any user in a CSD, and with the related rights.
    - Where NCBs act as a CSD, they can query instructions like any CSD.

By Instructions Priority

Reference ID	T2S.14.320

The querying T2S Actor may specify an Instruction Priority. If the instruction priority is not specified, the query shall cover all instruction priorities that the related T2S actor is allowed to use.

By Instruction Type

Reference ID	T2S.14.330

The querying T2S Actor may specify an Instruction Type. If the instruction type is not specified, the query shall cover all instruction types that the related T2S actor is allowed to use.

By Instruction Status

Reference ID	T2S.14.340

The querying T2S Actor may specify an Instruction Status. If the instruction status is not specified, the query shall cover all possible instruction status.

The queries can be restricted to particular settlement status or error codes, in order to focus on specific problems only.

CSDs in T2S will be able to query both main status and internal T2S status on all securities instruction queries.

By Instruction Status Time

Reference ID	T2S.14.350

Where only the Instruction Status Time is specified and no Instruction Status has been specified, the query shall return the Instruction Status at the specified point in time. If no Instruction Status Time is specified, the query shall give back the current status and timestamp.

Securities Instructions History Query

Reference ID	T2S.14.360

T2S shall accept Securities Instructions History queries only when either both or neither Instruction Status Time and Instruction Status has been specified.

By Query by time period

Reference ID	T2S.14.370

It may be required to query according to input time:

By Input Time Frame

Reference ID	T2S.14.380

T2S shall provide the option to specify an Input Time Frame [FROM-TO], where the FROM variable is mandatory, and the TO variable is optional. Both times are to be provided as date YYYYMMDD + time HH:MM:SS. The query shall return all instructions arrived in T2S during the specified time-frame, with timestamps. When only the FROM variable is specified, the query shall return all instructions that arrived from FROM up to the moment of completing the enquiry.

In order to allow queries to return transactions, which may give rise to market claims for results of corporate actions, the query must allow specifying some instruction-related dates:

By Trade Date, Intended Settlement Date and Actual Settlement Date

Reference ID	T2S.14.390

In all securities instruction queries, T2S shall provide the option to specify a Trade Date/Time (TD) Window, an Intended Settlement Date/Time (ISD) Window, and an Actual Settlement Date/Time (ASD) Window. The following options shall be supported:

- TD/ISD/ASD equals a specified date/time;
- TD/ISD/ASD earlier than a specified date/time;
- TD/ISD/ASD later than a specified date/time;
- TD/ISD/ASD within a specified time-frame.

Instructions can also be queried according to the account to which they refer, and to the T2S user who captured them.

By Securities Account

Reference ID	T2S.14.400

T2S shall provide the option to specify a Securities Account number (or a list of securities account numbers). If the account is specified, the query shall return data only for instructions that refer to the specified account(s).

By Cash Account

Reference ID	T2S.14.410

T2S shall provide the option to specify a Cash Account number (or a list of cash accounts numbers). If the account is specified, the query shall refer only to instructions that refer to the specified account(s).

By Instructing Party

Reference ID	T2S.14.420

T2S shall provide the option to specify an Instructing Party. If the instructing party is specified, the query shall refer only to instructions that have been sent from this party. If the field is blank, all are included.
This can be used where the party initiating queries is not the same as the instructing party (e.g. where a T2S actor has been authorised to instruct on another T2S actor's account).

By Counterparty BIC

Reference ID	T2S.14.430

T2S shall provide the option to specify a Counterparty BIC. If the counterparty is specified, the query shall refer only to instructions related to the specified counterparty. If the field is blank, all are included.

By ISIN Code

Reference ID	T2S.14.440

T2S shall provide the option to specify an ISIN. If an ISIN is specified, the query shall refer only to instructions in the specified ISIN. If the field is blank, all are included

By Country of Issuance

Reference ID	T2S.14.450

T2S shall provide the option to specify a Country of Issuance. The query shall then only check for instructions where the country of issuance has the specified value. In case the Country of Issuance is not specified, the query covers all Countries of Issuance.

Through these options, securities instruction queries can be restricted to specific securities only, either on an ISIN basis or for a Country of Issuance. T2S shall foresee that a specific field for “Country of Issuance” is populated within T2S static data.

The Place of Safekeeping would be identified by the BIC of the CSD in which the stock is held and may be the Issuing CSD or the Investor CSD.

By Settlement Currency

Reference ID	T2S.14.460

T2S shall provide the option to specify a settlement currency. The query shall then only check for instructions related to the specified currency. The default value is EURO.

By Cash Amount

Reference ID	T2S.14.470

T2S shall provide the option to specify a cash amount (in debit or in credit if wanted) and a relation (“<”, “=” or “>” also “between”, “and”). The query shall then only check for instructions where the cash amount has the specified relation to the specified amount (i.e. is “<”, “=” or “>” also use “between” and “and” the specified amount).

The debit balance will only apply on the relevant NCB cash account.

By Securities Amount

Reference ID	T2S.14.480

T2S shall provide the option to specify a securities amount (in debit or in credit if wanted) and a relation (“<”, “=” or “>” also “between”, “and”). The query shall then only check for instructions where the securities amount has the specified relation to the specified amount (i.e. is “<”, “=” or “>” also use “between” and “and” the specified amount).

The debit balance will only apply on for technical issuer account(s) only.

Multiple Criteria

Reference ID	T2S.14.490

In all securities instruction queries, T2S shall provide the option to specify the applicable fields listed below independently. If more than one field is specified, the query shall combine the criteria through AND / OR logic.

- ISO Transaction Code
- Instruction Reference;
- Instruction Priority;
- Instruction Type;
- Multiple Instruction Status (examples are matching status, cancellation status, hold status);
- Instruction Status Time;
- Instruction Input Time;
- Trade Date;
- Intended Settlement Date;
- Actual Settlement Date;
- Securities Account Number;
- Cash Account Number;
- Instructing Party;
- Counterparty BIC;
- ISIN;
- Country of Issuance;
- Settlement Currency;
- Cash Amount;
- Securities Amount;
- CUM/EX indicator.

Examples of the sorts of combinations that can appear in different business contexts are provided below.

Table 14-3: Examples of combinations used in queries on instructions

Example No.	**Business Requirements**	**Query Type**	**Party**	**Query Fields**
1	Get status of an instructions	Instruction	T2S actor	Instruction Reference = ABCD

Example No.	Business Requirements	Query Type	Party	Query Fields
2	Get all pending instructions	Instruction	T2S actor	Instruction Status = Pending
3	Get all instructions in one ISIN	Instruction	T2S actor	ISIN = DE0005190003
4	Get all pending instructions in one ISIN	Instruction	T2S actor	Instruction Status = Pending, ISIN = DE0005190003,
5	Get all instructions that are pending due to lack of cash	Instruction	T2S actor	Instruction Status = Pending /Lack of cash
6	Get all pending instructions with high priority	Instruction	T2S actor	Instruction Status = Pending, Priority = High
7	Get instruction status history since 15 June	Instruction History	T2S actor	Instruction Reference = ABCD FROM = 2007.06.15.12:00:00
8	Identify market claims in an ISIN where the Settlement Date Rule applies (today >= RECORD_DATE, query processed on end of day balances on RECORD_DATE or later)	Instruction	CSD	ISIN = DE0001142412 ISD <= RECORD_DATE Instruction Status = Pending,
9	Identify market claims in an ISIN where the Trade Date Rule applies (today > RECORD_DATE)	Instruction	CSD	ISIN = DE0005190003 Trade Date < EX_DATE, Instruction Status = Pending,
10	Get information on	Instruction	T2S actor	ISD = NEXT_DAY

Example No.	Business Requirements	Query Type	Party	Query Fields
	instructions due to settle the next day, to do one's own liquidity forecast			CURRENCY = EURO
11	Get all instructions that refer to a specific securities sub-account	Instruction	T2S actor	Sec Account = ABC.1234
12	Get all instructions that refer to a specific cash sub-account	Instruction	T2S actor	Cash Account = DEF.6789
13	Get all instructions with a specific counterparty	Instruction	T2S actor	Counterparty BIC = ABCD
14	Get all DvP instructions with cash amounts bigger than a specific amount	Instruction	T2S actor	Instruction Type = DvP Currency = EUR Cash Amount = 50 mio
15	Get all instructions that are pending due to lack of stock.	Instruction	T2S actor	Instruction Status = Pending /Lack of stock

14.3.4 Content of the responses

Securities Instruction Queries and Securities Instruction History Queries responses

Reference ID	T2S.14.500

The responses to instruction queries shall return all instructions that meet the specified criteria. These include active instructions as well as final instructions (e.g. settled, cancelled).

Instruction Listings

Reference ID	T2S.14.510

When returning instructions in response to securities instruction queries, T2S shall list the instructions with all their data fields. Instruction status shall be listed as either

- Single status with status timestamp for Securities Instruction Queries; or

- History of status with related timestamps for Securities Instruction History Queries.

Timestamp

Reference ID	T2S.14.520

Responses to Securities Instructions Queries shall always contain an Instruction Status Timestamp which specifies the T2S system time at which the instruction status was updated.

14.4 Static Data Queries

This section contains an outline of static data queries.

Static Data Queries – General requirement

Reference ID	T2S.14.525

T2S shall provide static data queries to all directly connected T2S actors A T2S actor shall be able to perform only those queries for which the actor has the necessary privileges. The queries shall return only those data for which the T2S actor has the necessary access right. This requirement applies to all static data queries.

Static Data Audit Trail Query

Reference ID	T2S.14.530

T2S shall provide a static data audit trail query. It shall allow a T2S actor to query all revisions to an occurrence of static data. The query shall support the following selection criteria:

- Type of Static Data
    - securities reference data
    - securities CSD links
    - securities valuations
    - party reference data, including CSD-specific account attributes
    - securities account reference data, including CSD-specific account attributes
    - T2S dedicated account reference data
    - close links
    - party technical addresses
    - authorised instructing parties
    - party and account settlement restrictions
    - CSD account links for cross-CSD settlement

- The mnemonic or identifier of the static data occurrence;
- The period covering the audit trail (date from – date to).

The query will provide the following output

- Type of static data
- The mnemonic or identifier of the static data occurrence
- The date and time of the update
- The name of the changed field
- The field value before update
- The field value after update
- The name of the T2S system user making the change.

14.4.1 Securities Reference Data Queries

Securities Reference Data

Reference ID	T2S.14.540

T2S shall provide a securities reference data query that supports the following parameters:

- ISIN;
- CFI code;
- Maturity date;
- Issue currency;
- Country of issuance;
- Technical Status (Inactive, active and deleted);
- Current Market Status (e.g. when-issued, issued, matured, etc.).
- Auto-collateralisation;
- Securities Maintaining CSD.

The query shall provide the following results set:

- ISIN;
- short and long name of the security from the entity Securities Name;
- all attributes of the securities stored in the entity Securities.

ISIN List Query

Reference ID	T2S.14.550

T2S shall provide a securities reference data query that supports the following parameters:

- ISIN;
- CFI code;
- Maturity date;
- Issue currency;
- Country of issuance;
- Technical Status (Inactive, active and deleted);
- Current Market Status (e.g. when-issued, issued, matured, etc.).
- Auto-collateralisation.

The only output of the query shall be the ISIN, the security identifier, the security short name, the market status of the security and the technical status of the security.

Securities Deviating Nominal

Reference ID	T2S.14.553

T2S shall provide a query that outputs the deviating settlement nominal for an ISIN.

Securities CSD Link

Reference ID	T2S.14.557

T2S shall provide a query that outputs the securities CSD links for an ISIN, for a CSD and for all CSDs (both issuer and investor CSDs).

14.4.2 Party Reference Data

Party Reference Data Query

Reference ID	T2S.14.560

T2S shall provide a party reference data query that supports the following selection criteria:

- system entity identifier;
- party identifier;
- the CSD of the party
- BIC of party;
- party type;
- open from date – open to date;
- closed from date – closed to date;

- party status.

The query shall provide the following results set:

- party identifier;
- BIC of party;
- party short name;
- party long name;
- securities account access privilege;
- current party address;
- CSD-specific party attributes.

Party List Query

Reference ID	T2S.14.563

T2S shall provide a party reference data query that supports the following parameters:

- the CSD or NCB of the party;
- and the party status.

The only output of the query shall be the party identifier, the CSD or NCB of the party, the BIC of the party, the party status, and the party short name.

SWIFT BIC CODE Query

Reference ID	T2S.14.565

It will output the SWIFT BIC directory. T2S shall provide a query that returns a valid list of BIC with the corresponding financial institution name and address by allowing a text string search of the financial institution name and city attributes of the SWIFT BIC directory.

Restricted Party Query

Reference ID	T2S.14.567

T2S shall provide a query which provides a list of the restricted parties in T2S and supports the following parameters:

- the CSD or NCB of the party;
- party type;
- restriction type;
- restricted-on date.

The only output of the query shall be the party identifier, the BIC of the party, the party status, the party short name; the restriction type, the restriction description and the restriction identifier.

14.4.3 Securities Account Reference Data

Securities Account Reference Data Query

Reference ID	T2S.14.600

T2S shall provide a securities account reference data query that supports the following selection criteria:

- system entity identifier;
- party identifier;
- securities account identifier;
- the CSD of the party
- BIC of party holding the securities account;
- party type holding the securities account;
- securities account open-from date – open-to date;
- securities account closed-from date – closed-to date;
- securities account status;
- T2S account type;
- account reference.

The query shall output all the attributes of the securities account reference data.

Securities Account List Query

Reference ID	T2S.14.605

T2S shall provide a securities account reference data query that supports the following parameters:

- the NCB of the party;
- the BIC of the party or the party identifier holding the T2S dedicated cash account;
- currency;
- and the T2S dedicated cash account status.

The only output of the query shall be the T2S dedicated cash account identifier, party identifier of the party holding the T2S dedicated cash account, the T2S dedicated cash account status, and the NCB.

14.4.4 T2S Dedicated Cash Account Reference Data

T2S Dedicated Cash Account Reference Data Query

Reference ID	T2S.14.640

T2S shall provide a T2S dedicated cash account reference data query that supports the following selection criteria:

- system entity identifier;
- T2S dedicated cash account number;
- party identifier;
- the NCB of the party;
- BIC of party;
- party type;
- open-from date – open-to date;
- closed-from date – closed-to date;
- T2S dedicated cash account status;
- RTGS account number;
- currency.

The query shall output all the attributes of the T2S dedicated account reference data.

Cash Account List Query

Reference ID	T2S.14.650

T2S shall provide a party reference data query that supports the following parameters:

- the CSD of the party;
- the BIC of the party or the party identifier;
- and the securities account status.

The only output of the query shall be the securities account identifier, party identifier, the BIC of the party, the securities account status and the BIC of the party's CSD.

T2S Dedicated Cash Account Links by Party or Securities Account

Reference ID	T2S.14.660

T2S shall provide a query to identify which T2S dedicated cash accounts are linked to a party or a securities account.

- The query shall retrieve all T2S dedicated cash account links for all parties and securities accounts of a CSD when an authorised T2S system user specifies the party identifier or party BIC of a CSD.
- The query shall retrieve all T2S dedicated cash account links for a party when an authorised T2S system user specifies the party identifier or party BIC of a party.
- The query shall retrieve all T2S dedicated cash account links for a securities account when an authorised T2S system user specifies a securities account identifier.

T2S Dedicated Cash Account Links by T2S Dedicated Cash Account

Reference ID	T2S.14.665

T2S shall provide a query to identify which securities accounts or parties are linked to T2S dedicated cash accounts when an authorised T2S system user specifies:

- the party identifier or party BIC of an NCB;
- the party BIC or party identifier of a T2S dedicated cash account holder;
- the T2S dedicated cash account number;
- or the RTGS account number.

14.4.5 Calendar and Diary Queries

Calendar Query

Reference ID	T2S.14.690

T2S shall provide T2S Calendar Query functionality to all directly connected T2S actors. T2S shall respond to this query with the T2S Calendar.

Diary Queries

Reference ID	T2S.14.700

T2S shall provide T2S Diary Query functionality to all directly connected T2S actors. T2S shall respond to this query with the T2S Daily Schedule that contains all diary events of the T2S business day and their timing.

14.4.6 System Entity Query and Response

System Entity Query

Reference ID	T2S.14.710

T2S shall provide System Entity Query functionality to all directly connected T2S actors, as defined in chapter 11. T2S shall respond to this query with a list of system entities based on the query parameters.

System Entity Query and Response

Reference ID	T2S.14.720

Directly connected T2S actors shall have the option to specify a mnemonic or a technical identifier in order to select a specific System Entity (as defined in the T2S Glossary) only. T2S shall respond to this query with the list of all system entities whose mnemonic and/or technical identifiers are compliant with the query parameters. If the T2S actor does not specify any values for such parameters, then T2S shall respond to this query with the set of all the system entities.

14.4.7 Attribute Domains

Attribute Domains

Reference ID	T2S.14.730

T2S shall provide Attribute Domain Query functionality to all directly connected T2S actors, as defined in chapter 11. T2S shall respond to this query with a list of attribute domains selected on the basis of the values entered for the query parameters.

In the Attribute Domain Query, T2S Actors shall have the option to specify either the name or the identifier of the domain. T2S shall respond to this query with the list of all attribute domains whose name and/or identifier comply with the specified query parameters. If the T2S actor does not specify any values for such parameters, then T2S shall respond to this query with the set of all attribute domains.

14.4.8 T2S Actors, Roles and Privileges

Privilege Query

Reference ID	T2S.14.740

T2S shall provide Privilege Query functionality to all its directly connected T2S actors with a system administrator role. T2S shall respond to this query with list of privileges selected on the basis of the value entered for the query parameter.

In the Privilege Query, T2S actors shall be able to specify the privilege name. T2S shall respond to this query with the list of all privileges whose names comply with the specified parameter. If the T2S actor does not specify any value for the parameter, then T2S shall respond to this query with the set of all privileges.

Privilege Class Query

Reference ID	T2S.14.750

T2S shall provide Privilege Class Query functionality to all its directly connected T2S actors with a system administrator role. T2S shall respond to this query with list of privileges classes selected based on the value entered for the query parameter.

The rules for Privilege Class Query are the same as for Privilege Query , but the optional search parameter would be the class privilege.

Role Query

Reference ID	T2S.14.760

T2S shall provide Role Query functionality to all its directly connected T2S actors with a system administrator role. T2S shall respond to this query with list of roles selected based on the value entered for the query parameter.

The rules for Role Query are the same as for Privilege Query, but the optional search parameter would be the role name.

T2S Actor Query

Reference ID	T2S.14.770

T2S shall provide T2S Actor Query functionality to all its directly connected T2S actors with a system administrator role. T2S shall respond to this query with list of T2S actors selected on the basis of the values entered for the query parameters. The rules for T2S Actor Query are the same as for Privilege Query, but the optional search parameter would be the T2S Actor name, the login name or other criteria such as active T2S parties, deleted T2S parties, T2S parties of a specific system entity / organisational unit, etc.

14.4.9 Services and Service Configurations

Service Query

Reference ID	T2S.14.780

T2S shall provide Service Query functionality to all directly connected T2S actors, as defined in chapter 11. T2S shall respond to this query with list of services selected on the basis of the value entered for the query parameter.
The rules for Service Query are the same as for Privilege Query, but the optional search parameter would be the service name and/or the service type.

Service Configuration Query

Reference ID	T2S.14.790

T2S shall provide Service Configuration Query functionality to all directly connected T2S parties, as defined in chapter 11. T2S shall respond to this query with list of service configurations selected on the basis of the value entered for the query parameter. The rules for Service Configuration Query are the same as for Privilege Query, but the optional search parameter would be the service configuration name or other criteria, such as a service within a configuration or a system entity.

14.4.10 Market-Specific Restriction Types

Restriction/Segregation Query

Reference ID	T2S.14.800

T2S shall provide querying of market-specific restriction types to all its directly connected T2S actors. The query shall support the following selection criteria:

- System entity identifier;
- Restriction type;
- Object restriction type;
- Restriction classification.

The query response shall provide a list of all market-specific restriction types with all attributes that meet the specified criteria. If the T2S actor does not specify any parameters, then T2S shall respond to this query with the set of all restrictions. The T2S actor shall be able to query only those market-specific restriction types that relate to its CSD or NCB.

14.4.11 Availability of query and response mode

Generally, all static data queries should be accepted at any point in time, and they should be answered in real time, as per the rules defined above (specific rules apply to maintenance window and batches run, see above).
One specific rule will apply in case of a cycle-driven static data update as part of the end-of-day / start-of-day activities. For the time of the cycle-driven update, all queries would be stored during the cycle, and would be answered only after the cycle-driven update is finished.

14.5 Cash Balance Queries

This section describes ways to query cash account balances.

Cash Related Queries

Reference ID	T2S.14.810

Queries already used in TARGET2 shall be used as much as possible.

Cash Related Queries

Reference ID	T2S.14.820

The authorised directly connected T2S actor (as per chapter 11) must specify the account in the query by indicating the account number.
This will return information on T2S dedicated cash accounts that should be a complement to the information on accounts (i.e. RTGS accounts and sub-accounts) used to settle payments and ancillary systems business.

Responses to Cash-Related Queries

Reference ID	T2S.14.825

Queries will be processed in real time, based on the latest cash balance available. During night-time settlement cycle runs, queries on a dedicated T2S cash account will return an error message indicating that no information can be provided at the moment because a settlement cycle is in progress.

Value of Securities

Reference ID	T2S.14.830

The collateral value of securities in stock in T2S that can be used for auto-collateralisation purposes should be available to payment banks and CSDs in T2S, according to their access rights (as defined in chapter 11). This is the amount of intraday credit the securities can be used to collateralise.
Securities on flow will not be taken into account because they will be used automatically during the settlement process. Nevertheless, in T2S forecasts, securities on flow that can be used for auto-collateralisation purposes should be taken into account.

Outstanding Intraday Credit

Reference ID	T2S.14.840

The amount of outstanding intraday credit stemming from auto-collateralisation should be available to payment banks.

Cash Account Related Queries

Reference ID	T2S.14.860

In addition to the queries described above, there shall be some screens available in the T2S Interface (U2A mode) providing a consolidated view of the balances available on the different accounts of each payment bank (RTGS account, sub-account(s) in TARGET2, T2S dedicated cash accounts) in order to facilitate the liquidity management of the treasurer(s) at the payment bank itself.
This shall be available for directly connected payment banks and their NCB.

Information Relating to Overall Liquidity

Reference ID	T2S.14.870

The amount of the overall liquidity available to a payment bank shall be provided (including a possible credit line in the RTGS system and possible intraday credit stemming from auto-collateralisation on stock).
The information can be used by the treasurer of a payment bank to get an overview of the total amount of liquidity available for his institutions.
Since T2S will allow the payment bank to reserve liquidity in any of its T2S dedicated cash accounts, the treasurer of the payment bank will need to be able to query both reserved liquidity and liquidity available for normal operations.
Securities on flow will not be taken into account because they will be used automatically during the settlement process.

End-of-Day Cash Balance

Reference ID	T2S.14.880

The amount of the expected end-of-day cash balance should be provided in order to support the management of the end-of-day cash balance on the RTGS account taking into account (i) cash available on the different T2S dedicated cash accounts of a payment bank, (ii) payments/instructions not settled, and (iii) intraday credit stemming from auto-collateralisation outstanding.

This kind of information will be useful, especially close to the end-of-day. It will help payment bank treasurers properly manage RTGS account balances in order to fulfil minimum reserve requirements, by making it easier for them to estimate RTGS account balances after the retransfer of cash between TARGET2 and T2S dedicated cash accounts.

14.5.1 Cash Forecasts

This section describes ways to query cash forecasts.

Providing information on cash needs

Reference ID	T2S.14.890

T2S shall provide T2S actors the ability to receive information on cash needs for transactions pending settlement during the current settlement window, as well as cash forecasts for the following settlement days.

Current Settlement Day Query

Reference ID	T2S.14.900

T2S Actors should be able to query throughout the day-time settlement process. T2S should have the ability to return information on cash needs stemming from valid and eligible transactions (i.e. matched and ready for settlement) that have already been entered into T2S but have not yet settled (i.e. pending transactions that failed to settle in an earlier attempt and queued transactions that have not yet been submitted to settlement.

Information on cash needs for Following Settlement Day

Reference ID	T2S.14.910

During the day-time settlement process, T2S shall provide T2S actors with the ability to receive cash forecasts for the following settlement days.

Following Settlement Day Query

Reference ID	T2S.14.920

T2S actors should be able to query Cash forecasts for Following Settlement Days throughout the day-time settlement process. T2S shall send back all information available in T2S at the time the query is processed.
Such cash forecasts shall reflect cash needs and proceeds expected from the settlement of corporate actions and trading-related transactions (eligible for settlement) for each following settlement day, as well as the liquidity that can be obtained through auto-collateralisation against eligible collateral.
Cash forecasts shall be enriched continuously during the day with additional incoming information on new transactions for the following settlement day and failed transactions that need to be recycled during the following settlement day.

14.5.2 Limit Queries

Limit

Reference ID	T2S.14.930

Payment banks shall be able to query limits that they have defined in T2S for parties to which they provide credit in central bank money. The query shall support the following selection parameters:

- Limit type (net buying limit, auto-collateralisation limit),
- Credit consumer (party identifier),
- Limit currency,
- Limit amount with comparison operator (e.g. greater than 10,000,000),
- Valid-as-of date,
- Technical status (active, deleted),
- Limit identifier.

Limit Utilisation

Reference ID	T2S.14.935

Payment banks shall be able to query the current utilisation of limits they have defined in T2S for parties to which they provide credit in central bank money. The query shall support the following selection parameters:

- Limit type (net buying limit, auto-collateralisation limit),
- Credit consumer (party identifier),
- Limit currency,
- Percentage utilisation with comparison operator (e.g. utilisation greater 90%),
- Limit identifier.

14.6 CSD Securities Account Monitoring

Monitoring facility

Reference ID	T2S.14.940

T2S shall provide CSDs in T2S with a tool to help them monitor their participant securities accounts. This tool should enable each CSD in T2S to access data on its participant securities account; it should be able to view:

- Holdings;
- Transactions of pending, failed and settled status;
- Instructions, in whichever status they may be;
- Cash Liquidity (under authorisation of their participant or account beneficiary).

14.7 Management of the schedule information

Reference ID	T2S.14.950

T2S shall allow CSDs and directly connected parties to query the status of the settlement day. T2S shall also allow CSDs and directly connected parties to query the events of the settlement day with their planned, revised and effective time. Event and status management details can be found in chapter 3.

USER REQUIREMENTS

CHAPTER 15

STATISTICAL INFORMATION AND BILLING

T2S Project Team

Reference:	T2S-07-0365
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

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15 Statistical information and billing

T2S shall provide tools allowing for:

- multi-dimensional analysis for statistical purposes;
- calculating bills and producing invoices for the CSDs with an adequate level of detail.

15.1 Statistical information

Reference ID	T2S.15.010

T2S shall store in a separate environment all information for each account, including position changes and event information. It will also store data on instruction life history, including all status changes and associated timestamps, and on queries and reports, including volumes generated. This information shall be made available to authorised parties (i.e. T2S operators and, on an optional basis, CSDs and NCBs) through management information tools.

15.1.1 Data extraction

Reference ID	T2S.15.020

T2S shall provide a business-oriented way to navigate inside the data structure to select and filter among the data authorised for the user those that are suitable for the multi-dimensional analysis.

15.1.2 Reporting tool

Reference ID	T2S.15.030

T2S shall provide tools allowing ad-hoc and regular multi-dimensional analysis capabilities. These tools shall also store report structures for regular production of statistical reports and time series analysis.
It shall offer multiple presentation options (charts, pie-charts, etc.).

15.1.3 Data stored

Reference ID	T2S.15.040

T2S shall store data in an “atomic” way, to support the production of multi-dimensional analysis as well as time series. T2S will also store counters to monitor the level of use of various elements of the system over time.

15.2 Billing of CSDs

The pricing principles and the detailed billing model will be established in the next steps of the project. The requirements below present the billing function's general aspects.

Reference ID	T2S.15.050

T2S shall be able to automatically produce bills composed of items as follows: static data, fixed fees, variable fees and billable events.

15.2.1 Billable services

Reference ID	T2S.15.060

T2S shall store information on services provided to T2S parties, such as, for instance, access to auto-collateralisation or other core services provided by the platform through the CSD to the T2S parties.

15.2.2 Billable events

Reference ID	T2S.15.070

All events related to an instruction's life cycle shall be billable, i.e. the number of events shall be registered in view of potential billing.
Similarly, events related to a query or the production of a business report shall be stored by T2S party to allow for potential billing.
Typically, events like instruction matching and settlement shall be stored for each T2S party.

15.2.3 Billable instruction types

Reference ID	T2S.15.080

Each instruction type shall be numbered for each T2S party. Typically, FOP and DVP shall be accounted for separately.

15.2.4 Billable transmission volumes

Reference ID	T2S.15.090

Transmission volumes triggered by business reports and/or queries need to be registered to allow for potential billing.

15.3 Invoicing

Reference ID	T2S.15.100

T2S shall be able to automatically produce invoices presenting the bills calculated for each CSD.

15.3.1 Invoice presentation

Reference ID	T2S.15.110

The invoice for each CSD shall include an indicative split into each Account related to that CSD, and will therefore be composed of:

- the invoice;
- the information used to calculate the bill for the CSD;
- all relevant detailed information for each Account.

Individual CSD participants are invoiced by the CSDs based on the information provided by T2S and complemented by additional data possessed by the CSDs.

15.3.2 Invoice cycle

Reference ID	T2S.15.120

The invoice shall be produced on a monthly cycle covering a one-month period of activities.

15.3.3 Invoice storage

Reference ID	T2S.15.130

The invoices produced shall be stored electronically and will be available for later inquiries by authorised parties.

15.3.4 Fee schedules

Reference ID	T2S.15.140

T2S shall store a fee schedule for the billable elements.

USER REQUIREMENTS

CHAPTER 16

STATIC DATA REQUIREMENTS

T2S Project Team

Reference:	T2S-07-0366
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EUROPEAN CENTRAL BANK

EUROSYSTEM

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16 Static data requirements

The aim of this chapter is to describe the set of requirements pertaining to the management of all static data in T2S. Static data mainly concern reference data about CSDs and T2S Parties, securities and cash accounts, and currencies.

The first part of this chapter (sections 16.1-16.5) defines a set of general requirements applicable for the management of each type of static data within T2S. More specifically, section 16.1.1 describes the high-level processes and interactions of T2S static data with T2S actors and other T2S processes. Then, section 16.2 specifies the requirements for uniquely identifying static data objects in T2S, while section 16.3 details the standardised tracking of states for static data management in T2S. Finally, section 16.4 provides the list of requirements for ensuring a full audit trail and a history of static data, and section 16.5 documents the standards applicable to the change management functions for all static data entities.

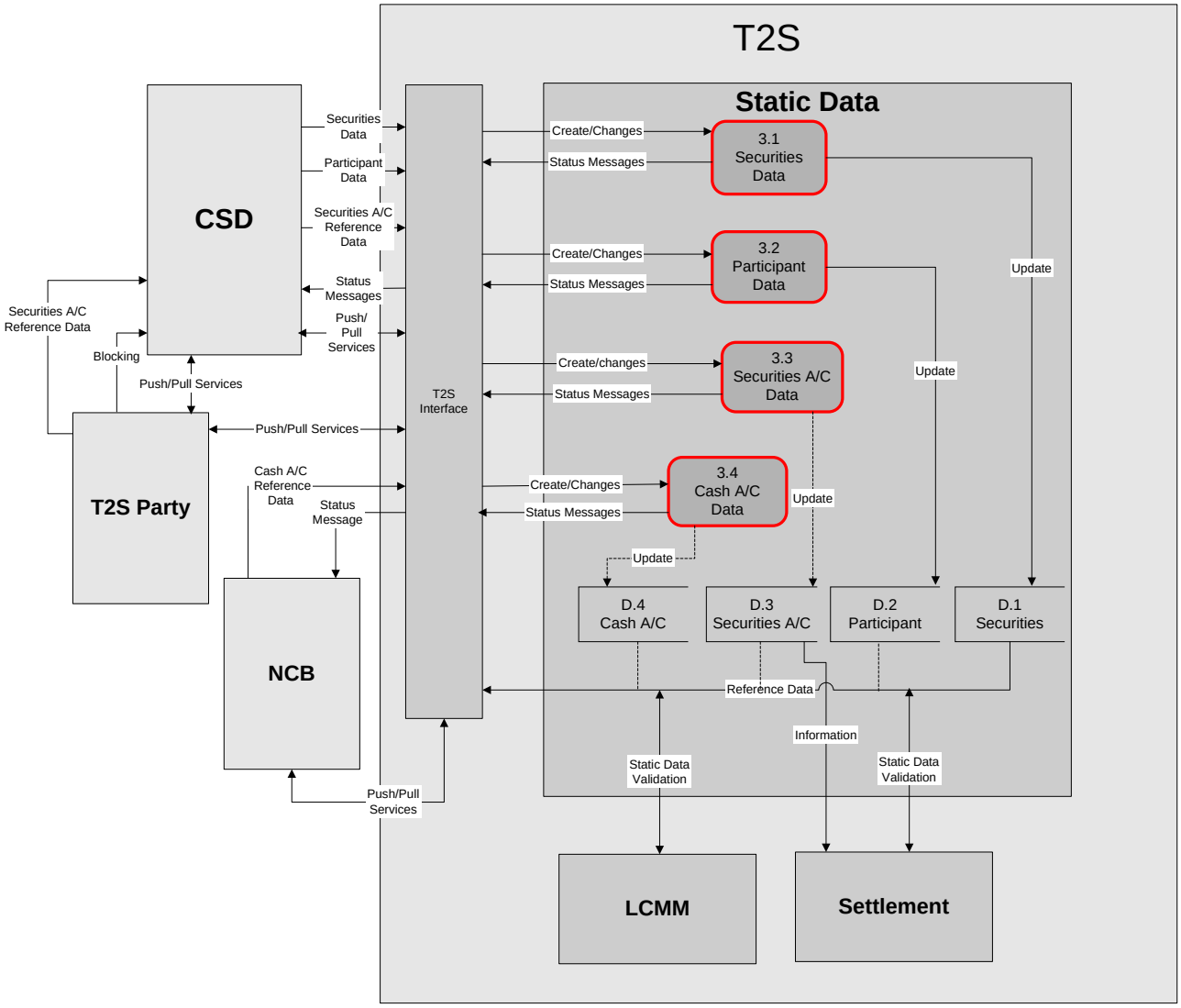
The second part of this chapter (sections 16.6-16.8) describes the actual business reference data defined within T2S. More precisely, sections 16.6 and 16.7 respectively define reference data for currencies (e.g. currency code, currency name) and securities (e.g. ISIN, securities name, valuation). Section 16.8 describes the detailed reference data for parties, securities accounts and T2S dedicated cash accounts. More specifically, sections 16.8.1 and 16.8.2 describe the hierarchical model that defines the relationships between the parties in T2S. Section 16.8.3 specifies all information required for defining and processing a securities account in T2S, while section 0 includes requirements for T2S dedicated cash accounts of payment banks in T2S and their links with the relevant RTGS accounts. Finally, sections 16.8.8 to 16.8.9 define some more technical requirements related to close links, cross-CSD settlement and parties' technical addresses needed by the settlement process (see chapter 7 for more details on settlement process requirements).

16.1 Static Data Context Diagram and process description

16.1.1 Context Diagram

This context diagram depicts the different high-level processes and interactions of T2S static data with T2S actors and other T2S processes, based on the following business requirements. It does not aim to pre-empt any future decision regarding the IT design and technical implementation of T2S.

Diagram 16.1 Static Data Context Diagram



16.1.2 Process Descriptions

Securities Data (3.1)

CSDs shall be able to maintain the securities reference data in T2S for those securities for which they are responsible. T2S shall provide CSDs with the capability to block or unblock ISINs. T2S shall allow an investor CSD to block or unblock ISINs for itself. T2S shall allow Issuer CSDs and technical issuer CSDs to block or unblock ISINs for its investor CSDs.

Input	
Create/changes instruction	

Output	
Status message	

Data Store	
D.1 Securities	1) This data store specifies all securities reference data. 2) CSDs/directly connected T2S parties can query securities reference data. 3) LCMM uses the information available in this data store for validation purpose. 4) Settlement uses the information available in this data store for validation purpose. 5) This data store also feeds settlement with the relevant price and haircut figures for valuation purpose.

Participant Data (3.2)

T2S shall allow CSDs to maintain the reference data for their participants in T2S. T2S shall allow CSDs to block and unblock their participants. The T2S operator shall maintain the reference data pertaining to a CSD

or an NCB in T2S. NCBs shall maintain reference data pertaining to their payment banks.

Input	
Create/changes instruction	

Output	
Status message	

Data Store	
D.2 Participants	1) This data store specifies all information pertaining to party data. 2) CSDs, NCBs and directly connected T2S parties can query their party information. 3) LCMM uses the information available in this data store for validation purposes. 4) Settlement uses the information available in this data store for validation purposes.

Securities A/C Data (3.3)

CSDs shall maintain the securities account reference data in T2S for their participants. Moreover, CSDs can block or unblock securities accounts of their participants.

Input	
Create/changes instruction	

Output	
Status message	

Data Store	
D.3 Securities A/C Data	1) This data store specifies all information pertaining to a securities account. 2) CSDs and directly connected T2S parties can query all data regarding their securities account information. 3) LCMM uses the information available in this data store for validation purposes. 4) Settlement uses the information available in this data store for validation purposes.

T2S Dedicated Cash A/C Data (3.4)

NCBs shall maintain the T2S dedicated cash account reference data for their payment banks. Moreover, NCBs can block or unblock the T2S dedicated cash accounts of their settlement and payment banks.

Input	
Create/changes instruction	

Output	
Status message	

Data Store	
D.4 Cash A/C Data	1) This data store specifies all information pertaining to T2S dedicated cash accounts. 2) NCBs and payment banks can query all data regarding their T2S dedicated cash accounts. 3) LCMM uses the information available in this data store for validation purposes. 4) Settlement uses the information available in this

	data store for validation purposes.

16.2 Static Data Identifier Requirements

Technical Identifier

Reference ID	T2S.16.010

Occurrences in static data entities require a unique sequence as primary identifier. The allocation of this primary identifier shall occur sequentially from a database counter. It shall be the object identifier, used to identify the occurrence of a static or transactional data entity. When a user or application appends a new occurrence in an entity, the application programme shall assign the current value of the counter as the technical identifier to that occurrence, and increment the counter by one for assignment to the next occurrence. The database administrator shall configure a counter for exclusive use as a primary identifier for a static data entity. For example, security static data will use a different counter as technical identifier than T2S party data.

Revision Number

Reference ID	T2S.16.020

The revision number is the counter within a technical identifier of an occurrence of static data that is incremented by one when a user or application updates an attribute of that occurrence. Its primary use is to ensure the uniqueness of an occurrence when there are several revisions to that occurrence.

16.3 Static Data Status Information Requirements

Reference ID	T2S.16.030

Status information is required to define the technical state of a static data occurrence and any updates to that occurrence in T2S. Every static data entity shall include status information. These status attributes are not included in the attribute requirements for entities in the subsequent sections to avoid repetitiveness.

16.3.1 Deletion Status

Reference ID	T2S.16.040

Every occurrence in static data shall have an attribute that defines if it is active or deleted, i.e. whether it is

available for use by processing functions and applications. The deletion status is a technical status and independent from the business status of a static data occurrence. For example, an occurrence of a security in securities reference data may have a business status "Matured", but can still be in an active state. It will not be necessary to delete a security logically on the exact day it reaches the end of its life. A CSD or issuer may need to perform certain operations even after maturity or another business event in certain circumstances. The business status of a static data occurrence will determine the operations T2S will allow for the occurrence. The deletion status determines whether the static data occurrence is active in T2S.

Active Setting

Reference ID	T2S.16.050

The active setting shall specify that an occurrence of static data is available for processing. For example, T2S shall accept and process settlement instructions only when the deletion status of the security and the account are active. Otherwise, T2S shall reject them.

Deleted Setting

Reference ID	T2S.16.060

The deleted setting shall specify that an occurrence of static data is no longer available for processing: it shall define a record as deleted from further use in T2S. When an application or user logically deletes an occurrence, the user must be able to use the occurrence of static data for historic queries and information requests (e.g. a backdated position query on a deleted account). However, T2S shall reject new settlement instructions for a logically deleted record. Neither must it be possible for a user to amend logically deleted data.

16.3.2 Approval Status

Reference ID	T2S.16.070

Every occurrence of static data shall have an approval status to define whether the user has approved or rejected changes in attribute values of that occurrence, or if the update is awaiting approval by the user.

Awaiting Approval Setting

Reference ID	T2S.16.080

"Awaiting approval" shall define any change to static data that has been input and requires confirmation by a second user, but approval by the second user is outstanding. T2S processes and applications must not use unapproved changes.

Approved Setting

Reference ID	T2S.16.090

"Approved" shall define any change to static data entered by a user or an application into T2S that requires confirmation by a second user and has been confirmed to be correct by the second user. Any update not requiring approval shall be "approved" by default.

Rejected Setting

Reference ID	T2S.16.100

"Rejected" shall define any change to static data entered by a user or an application into T2S that requires confirmation by a second user, but has been cancelled by the second user as incorrect.

16.4 Data Revision and Data History

Reference ID	T2S.16.110

T2S shall undertake a differentiation of static data between data revision and data history. Data revision shall denote any update to static data that is not a result of chronological record keeping. Data history shall denote the chronological record of changes to reference data, subject to change in its lifetime, but that remains valid for a specified period.

For example, T2S shall keep a chronological record, i.e. data history, for legal addresses for account relationships in T2S, since the owner of the account may move corporate headquarters and legal jurisdiction. Even though the new address and jurisdiction are in effect, the previous jurisdiction remains valid for backdated regulatory reporting. Additionally, the address will require data revision. If an application or user makes a correction to the address due to an erroneous input, it needs to generate a revision to identify the modified data, the application or user that undertook the change and the date and time of the change.

As a general principle, if a T2S system user can access specific static and transactional data, the same user can access its revisions and, if relevant, the data history.

16.4.1 Data Revision

Reference ID	T2S.16.120

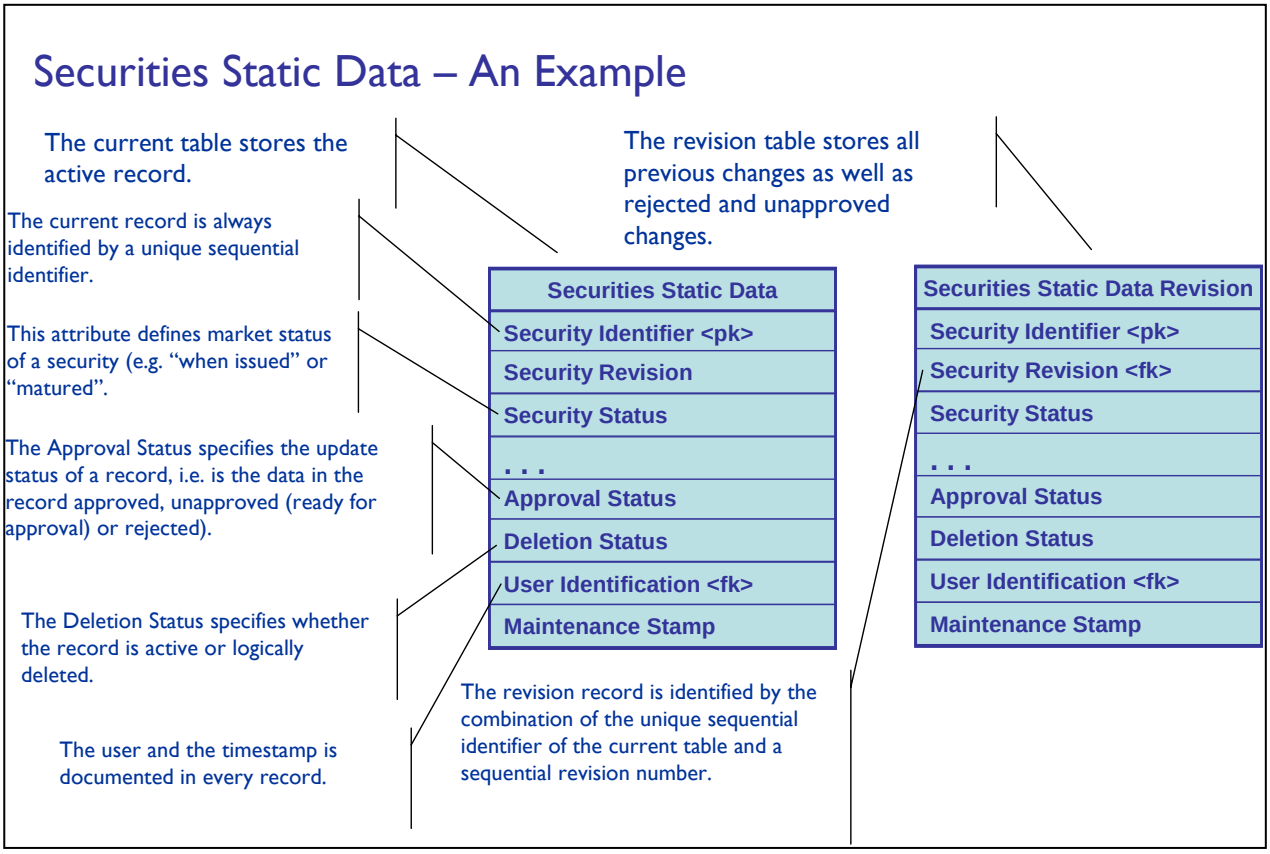
T2S shall store data revisions in its physical static data model. T2S shall not simply log changes to a text file and archive the text file as is the case in many applications today.

Data Revision Implementation

Reference ID	T2S.16.130

Storing data revisions in the database requires replicating all static data structures with their attributes as revision tables. A current static data entity shall store only the occurrences that are currently valid for processing in T2S. Therefore, the technical identifier shall uniquely identify each record in the table. All previous states of the record, which include both approved and rejected changes, as well as entered but not yet approved changes, shall be stored in the corresponding static data revision entity. Since many records may exist for an occurrence in the revision table, the technical identifier in combination with a sequential revision number shall uniquely identify each record. This shall ensure uniqueness of occurrences in the revision table. The following diagram provides an example of revision for security static data.

Diagram 16.2 - Securities Static Data - A Revision Example



Audit Trail

Reference ID	T2S.16.140

Each data revision shall document the modified data at the attribute level, the user performing the change and the timestamp of the change. Every static data entity shall include the audit trail attributes.

Table 16-1 - Audit Trail Attribute Requirements

Attribute	Definition
User	Every static data entity shall include the technical identification of the user who updated an occurrence (record). It must be possible to identify explicitly the individual or application that changed the data by linking the technical identifier to the user name in the authentication application.
Timestamp	Every static data entity shall include the date and time to document when a user updated an occurrence (record). The timestamp is a snapshot of the operating system date and time when a change is committed.
Approval Status	Every static data entity shall include the approval status to document the processing status of an update.

16.4.2 Data History

Reference ID	T2S.16.150

T2S shall store all data requiring a history with a valid-from date and, if necessary, a valid-to date. Only information with a definite end-date shall require a valid-to date. For example, a change of legal address will not require an end-date. When the legal address changes, the user enters the new address with a valid-from date. Any application programme can identify immediately the active legal address for a given date merely by comparing the date with the valid-from date. There is no requirement for a valid-to date in this scenario, since T2S will always require a current legal address for an active T2S party.

Adding an end-date would only increase the complexity of the maintenance process without adding value in terms of business information and data consistency. In the case of the example, tracking a valid-to date for change of address would require both writing a new record and updating the valid-to date of the previous record with the new valid-from date minus one calendar day. The use of a valid-to date in these circumstances does not simplify data reading or querying. It merely avoids the use of a maximum value function in an SQL statement.

However, there are cases where a valid-to date for a set of information is mandatory. In these cases, it sets the end marker for the information chronology. The status of a relationship between a CSD and a security in T2S is one such example. A data entity in T2S will define the securities for which a CSD acts as either an investor CSD or an issuer CSD. For example, CSD ABC acts as investor CSD for security XYZ as of a given

date in the past. Today, CSD ABC could decide that it no longer wishes to be an investor CSD for security XYZ as of a given date in the future. In this case, the valid-to date allows the CSD to specify today the future date from which the CSD will no longer accept the security for settlement.

16.5 Static Data Management

Reference ID	T2S.16.160

Static data management refers to the functionality that T2S shall provide for maintaining static data in T2S regardless of the type of conceptual entity. T2S will apply the same functional principles for the deletion of a security, as it will for the deletion of a T2S dedicated cash account or securities account.

Real time static data update

Reference ID	T2S.16.163

T2S shall update all static data in real-time in both user-to-application and application-to-application mode.

Message-based update

Reference ID	T2S.16.165

T2S shall use static data update messages for updating all static data.

File–based update

Reference ID	T2S.16.167

T2S shall allow T2S Actors to send multiple static data update messages in one file at any time during the day. For example, a CSD may want to update security reference data only at the end of the business day. T2S will allow the CSD to send all its updates of these data in one file. T2S shall then process the file message by message. This process would correspond to an end-of-day batch update.

16.5.1 Static Data Change Management

Reference ID	T2S.16.170

Static data change management specifies the business requirements for processing and approving updates to static data made by one T2S system user by another T2S system user within the same organisation, i.e. T2S party, often referred to as dual authorisation. T2S shall provide a flexible configurable change management component for static data so that T2S actors can parameterise their change approval processes (dual

authorisation) for the various static data entities according to their legal, regulatory, audit and operational requirements.

Change Approval Configuration

Reference ID	T2S.16.180

T2S shall provide the T2S actors with the capability to parameterise the entities and types of updates made by a T2S system user or T2S process that require approval from a second independent T2S system user or T2S process.

Update Type

Reference ID	T2S.16.190

It must be possible to differentiate, in the configuration of the change approval, between an automated update through an interface and an interactive manual update by an individual for a static data entity at the party level. For example, it should be possible to specify that an update of security static data by an automated interface should not require an independent change approval, but a manual update by a person is subject to such an approval.

Change Type

Reference ID	T2S.16.200

It shall be possible to specify in the configuration whether change approval is required for adding, changing or deleting an occurrence in a specific static data entity for a specific party. For example, the changing of account data may not require authorisation by an independent approval, but its deletion does.

Combination of Change and Update Type

Reference ID	T2S.16.210

T2S shall support the configuration of change approval, based on the combination of change type and update type (manual or automated).

Change Processing Algorithms

Reference ID	T2S.16.220

Any application used to maintain static data shall verify if the change to an occurrence of static data it is processing is subject to independent change approval. The static data maintenance application shall read the change approval configuration for its entity / entities and shall process the update according to the configured parameters.

Processing a New Occurrence

Reference ID	T2S.16.230

When a new occurrence in a static data entity is subject to independent change approval, the static data maintenance application shall create it immediately in the relevant current static data entity with a status "awaiting approval". If the independent approver approves the change, then static data change management shall reset the status from "awaiting approval" to "approved" in the current data. If the independent approver rejects the new occurrence, then static data change management shall delete the update from the current entity and write it to the revision entity with the status "rejected". If a new occurrence is not subject to approval, then static data change management shall create it in the applicable current static data entity with a status "approved".

Processing an Update of an Occurrence

Reference ID	T2S.16.240

When a T2S system user or T2S process updates an occurrence of static data, which is subject to an independent approval, static data change management shall create the changed version of data as a new occurrence in the relevant revision entity with a status "awaiting approval". The current version shall remain unchanged and all applications shall use it until an independent source approves the update. If the independent approver accepts the change, then static data change management shall write the changed occurrence to the current entity with the status "approved" and delete it in the revision entity. Static data change management also deletes the previously valid version of the data from the current entity and creates it as part of the audit trail in the revision entity. If the update is not approved, then static data change management updates the status of the change to "rejected" and it remains as an unapproved change in the revision entity.

Change Approval Information Requirements

It must be possible for an authorised T2S system user to

- identify all static data changes awaiting approvals;
- search for specific static data changes;
- search and display historic change information, both approved and rejected changes;
- and approve and reject static data changes.

Changes Awaiting Approval

Reference ID	T2S.16.250

The user shall be able to identify static data changes awaiting approval. Access to this facility shall be restricted to those individuals who have the necessary access rights to approve static data changes. It shall be possible to identify changes awaiting approval by:

- the type of data (e.g. security static data, account static data, etc.);
- the period in which the update was made;
- the user account of the person who performed an update;
- and by a specific mnemonic (e.g. ISIN, account number).

Approve or Reject Change Detail

Reference ID	T2S.16.260

It shall be possible for an authorised T2S system user to approve or reject a change made by another T2S system user or T2S process. When an authorised user selects a static data change for approval or rejection, T2S shall provide the following information:

- the mnemonic, identifying the static data occurrence;
- the old and new values for each changed field;
- and the type of change (add, update or logical deletion).

16.5.2 Deleting a Static Data Occurrence

Reference ID	T2S.16.270

The deletion of an occurrence of static data shall only occur logically. The physical deletion of static data shall not be possible in T2S.

Validation and Logical Deletion

Reference ID	T2S.16.280

A logical deletion of an occurrence of static data shall be possible only when there are no active transactions or holdings in T2S for that occurrence. When an authorised T2S system user or application initiates the deletion of an occurrence in static data, the deletion function must ensure that there are no un-settled instructions and only zero positions pertaining to that data. If this is the case, then the deletion status of the occurrence shall be set from “active” to “deleted”. Un-settled instructions or active positions for the data, subject to deletion, shall result in the rejection of the deletion.

Reactivation of a Logical Deletion

Reference ID	T2S.16.290

In some instances, it will be necessary to reactivate a logically deleted occurrence of static data. A generic function shall exist that allows the user to specify the static data entity and the identifier of an occurrence in that static data entity, and to reset the deletion status of a record in that entity from “deleted” back to “active”.

Physical Deletion

Reference ID	T2S.16.300

Only archiving processes shall delete static data from the active T2S database. To ensure the referential integrity of data, the physical deletion of static data occurrences from the active database shall be performed only after archiving processes have removed and archived the related transactional and position data as of a cut-off date that is determined by a retention period. The physical deletion of a static data occurrence shall only be possible for logically deleted occurrences. Data history and data revisions that are before the archive date shall be included in any physical deletion process even if the current record is still active - since the transactional data for which they are relevant would be removed by the archiving.

16.5.3 Update Constraints

Reference ID	T2S.16.310

T2S shall not allow a T2S system user or T2S process to perform an update of an occurrence of static data if the previous update of the same occurrence remains on the change approval queue. T2S shall not support the concurrent update of an occurrence of static data. When a T2S system user or T2S process selects an occurrence for editing, T2S shall lock the occurrence so that a second T2S system user or T2S process cannot access it for update.

16.6 Currency Reference Data

Reference ID	T2S.16.320

A currency is not a security according to Directive 2004/39/EC. In the T2S context, the notion of currency shall apply to:

- the currencies eligible for settlement in T2S;
- the currency in which a cash leg of a settlement instruction in T2S settles;
- the currency of the security denomination;

- and the currency of T2S dedicated cash accounts and limits.

The static data shall store the currencies eligible for settlement in T2S and recognised currencies for the settlement of the cash leg outside T2S. The identification of the currencies in T2S shall adhere to the 3-character ISO 4217 currency code.

Table 16-2 – Attribute Requirements for the Entity Currency

Attribute	Description
Currency Code	This attribute shall define the unique code of the currency according to ISO 4217.
Currency Name	This attribute shall specify the currency name.
Number of Decimals	This attribute shall specify the number of decimals a currency has.
T2S Settlement Currency	This attribute shall specify if the currency is a T2S settlement currency. The attribute shall differentiate between the currencies in which T2S settles and other currency codes that are required for validation and reporting purposes.

Maintaining Currencies

Reference ID	T2S.16.330

Currency maintenance refers to the process of adding, changing and deleting currencies in T2S.

Adding a Currency

Reference ID	T2S.16.340

It shall be possible for the T2S system administrator to add a new currency.

Updating a Currency

Reference ID	T2S.16.350

It shall be possible for the T2S system administrator to update an existing currency by selecting the relevant ISO currency code.

Deleting a Currency

Reference ID	T2S.16.360

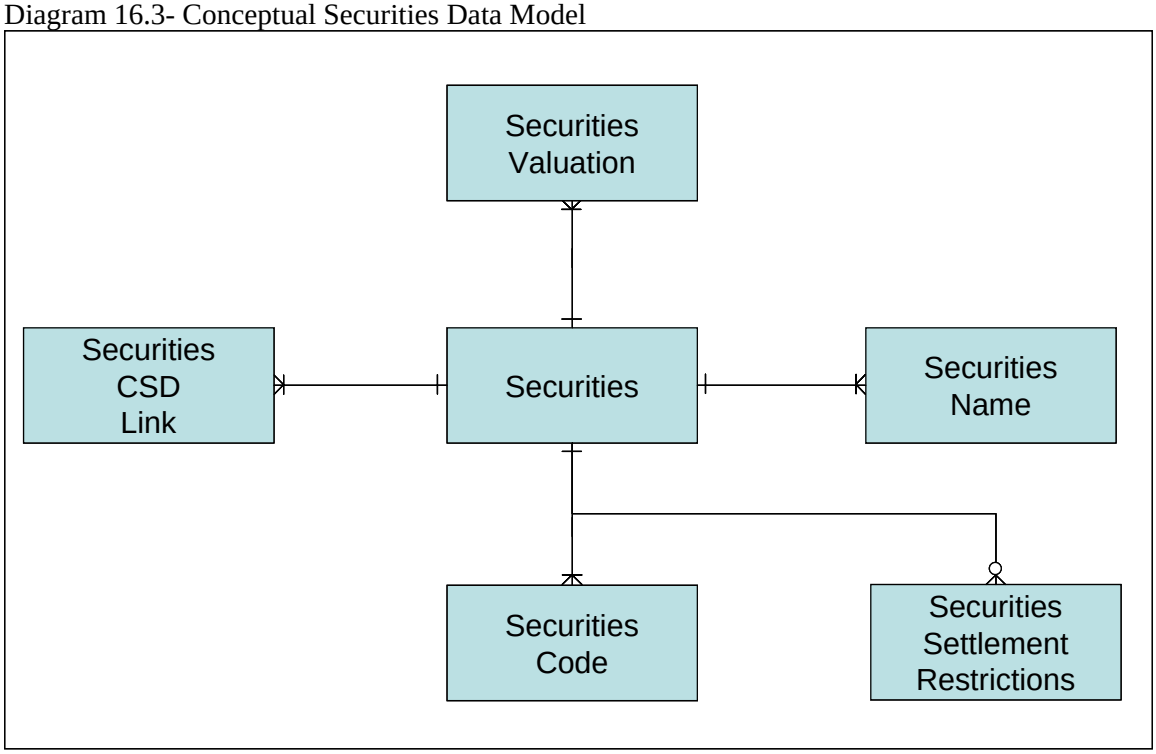
T2S shall provide a function to allow the T2S system administrator to delete logically an existing currency by entering the ISO currency code. However, T2S shall not allow the T2S system administrator to delete a currency assigned to an active security, an unsettled instruction or active cash balance.

16.7 Securities Reference Data Model

Reference ID	T2S.16.370

This section defines the business requirements for securities reference data. Securities reference data in T2S shall be restricted to, but will include all, the data required for settlement and auto-collateralisation in central bank money. The securities reference data model defines conceptual structures that are required in T2S for storing the attributes of securities. The description represents a logical model and not a physical implementation. Technical fields for the audit trail and static data change management are not included to avoid redundancy.

Diagram 16.3- Conceptual Securities Data Model



16.7.1 Securities

Reference ID	T2S.16.380

The *Securities* entity shall hold all attributes that exist only once for a security, i.e. where a 1:n relationship between the security and a set of information pertaining to the security is not needed. The T2S scope includes all securities that:

- have an ISIN code as instrument identifier;
- are held with a CSD in T2S;
- settle in book entry form;
- and are fungible (from a settlement processes perspective).

Certain "non-standardised securities" that comply with the first three criteria but are not fungible from a settlement perspective may still be entered in and processed by T2S under specific conditions (Chapter 9 and annexes 8 and 17 provide further information on the settlement procedures of non-standardised securities.). Securities reference data shall require every security to have an ISIN code, compliant to ISO 3166.
The creation of a new security will be effective immediately unless it requires dual entry approval. This also applies to updates of all attributes for the *Securities* entity.

Table 16-3 - Attribute Requirements for the Securities Entity

Attribute	Description
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S.
CFI	This attribute shall classify the instrument according to ISO 10962. It shall be the objective of T2S to use a harmonised securities classification, but this shall not preclude the use of CSD- or market-specific classifications for processing.
Current Security Market Status	This attribute shall define the status of a security in its life cycle (e.g. "when issued", issued or matured). It shall not define a blocking status for an instrument – this shall be stored as a security restriction.
Maturity or Expiry Type	This attribute shall specify if the date, stored by the attribute *Final Maturity* or *Expiry Date*, is a maturity date (e.g. bond) or an expiry date (e.g. warrant).
Final Maturity or Expiry Date	This attribute shall store the final maturity or expiry date of an instrument, where applicable. It shall remain possible to process instructions and settlements for a security that has matured if it has not been explicitly restricted from settlement through a settlement restriction.
Settlement Type	This attribute shall specify whether the security settles in units or as a nominal.
Minimum Settlement Unit or Nominal	This attribute shall define the minimum unit or nominal of the security for settlement.
Settlement Volume Multiple	This attribute shall define that the settlement quantity or nominal must be a multiple of the value in this data item. The value must be greater than zero.

Attribute	Description
Issue Currency	This attribute uniquely identifies the issue currency of a security in the system using the ISO 4217 standard.
Country of Issuance	This attribute shall uniquely identify the country in which the issuer issued the security.
Auto-Collateralisation	This attribute shall specify whether the security is eligible for auto-collateralisation for central bank money.

16.7.2 Securities Name

Reference ID	T2S.16.390

This entity shall specify the valid long and short descriptions of an instrument. The name of a security can change over time owing to mergers or acquisitions. Therefore, several names may exist for a security, although only one name can exist for a security at any given point in time. A security name must be stored on a timeline basis. This storing mechanism shall ensure that application programmes have the correct name for backdated queries and reporting. A harmonised convention shall apply to the naming of securities in T2S according to ISO standards.

Naming Conventions and Standards

Reference ID	T2S.16.400

The security short name shall fulfil the requirements of ISO 18774. ISO 18773 Part 1 and Part 2 shall be the naming convention in T2S for the security long name.

Attribute Requirements

Reference ID	T2S.16.410

The following table specifies the attributes that T2S shall require for tracking the names of securities.

Table 16-4 - Attribute Requirements for the Securities Name Entity

Attribute	Description
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S. It shall link the security name to the security.
Valid From	This attribute shall define the date from which the instrument name is valid. Since the instrument name may change over time, it is necessary to define the period in which a name is valid.

Attribute	Description
Security Short Name	This attribute specifies the security's short description (FIDS) according to ISO 18774 to identify an instrument. Example: International Business Machines, 4.75% Preferred Non-voting Extendible Redeemable Fixed Rate Interest: IBM Pfd Nvtg Extbl Red FRI 4.75%. T2S shall display this name in addition to the ISIN.
Security Long Name	This attribute specifies the long description of the security.

16.7.3 Securities Code

Reference ID	T2S.16.420

This entity shall store the external security codes, which uniquely identify a security to market participants. The ISO 6166 standard shall provide the convention for the unique identification of a security: the ISIN. The entity shall link the T2S technical securities identifier to the external code.

Table 16-5 - Attribute Requirements for the Securities Code Entity

Attribute	Description
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S. It shall link the security code to the technical identifier of the instrument.
Valid From	This attribute shall define the date from which the instrument code is valid. This date can be before the actual issue date of an instrument for "when-issued" securities, but may not be a date in the future for a new security entered into the system. On an initial migration of instrument data into T2S, this date could be set to the date of the initial load.
Code Type	This attribute shall define the code type assigned to the unique internal instrument identifier. Although the model can support local market codes, T2S shall support only the ISIN as valid code type.
Security Mnemonic	This attribute shall specify the unique market code of a security, defined by the code type. T2S shall use this attribute to store the ISIN.

Change of ISIN

Reference ID	T2S.16.430

T2S shall support the change of ISIN without requiring the conversion of transactions and positions in the ISIN. This model shall allow the CSD to change the ISIN without having to open a new instrument, realign transactions and transfer positions from one instrument to the new instrument. Transactions and positions would remain unchanged with their original references, as T2S stores them with the internal security

identifier. ISINs shall be stored in the securities code entity only. The CSD shall have the option to create a new occurrence in the *Security Code* entity for a security identifier by specifying an ISIN with a new valid date. In this case, T2S shall identify all transactions and positions before the new valid date with the old ISIN, and starting on the new valid date with the new ISIN. The CSD shall have the option to replace the old ISIN with the new ISIN for an existing security identifier occurrence in the *Security Code* entity. In this case, T2S shall identify all transactions and positions exclusively with the new ISIN.

Example of Modification of ISIN with New Valid Date

Identifier	Valid From	Code Type	Code
1234	01.01.2007	ISIN	XXABCDEFGHIJ[1]
1234	23.01.2007	ISIN	DE0007100000

[1]XXABCDEFGHIJ represents any ISIN according to ISO 6166

Example of Modification of ISIN with Same Valid Date

Before Change:

Identifier	Valid From	Code Type	Code
1234	01.01.2007	ISIN	XXABCDEFGHIJ[1]

[1]XXABCDEFGHIJ represents any ISIN according to ISO 6166

After Change

Identifier	Valid From	Code Type	Code
1234	01.01.2007	ISIN	DE0007100000

16.7.4 Securities CSD Link

Reference ID	T2S.16.460

This Securities CSD Link logical entity shall assign a security to a CSD in T2S in order to define the eligibility of the instrument for settlement in that CSD. An attribute within this entity shall specify which CSD is responsible for maintaining the instrument static data.

Table 16-6 - List of Attributes for the Securities CSD Link Entity in T2S

Attribute	Description
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S. It shall link security CSD link to the instrument.
CSD Identifier	This attribute shall define the unique technical identifier of a CSD in T2S.
Link Type	This attribute shall define the type of relationship link between the instrument and the CSD. The link type shall specify an issuer link (Issuer CSD), investor link (Investor CSD) or technical issuer CSD.
Valid From	This attribute shall define the date from which the link between CSD and security is active
Valid To	This attribute shall define the date to which the link between CSD and security is active.
Security Maintenance	This attribute shall specify if the CSD is responsible for maintaining the instrument defined by the link.

Processing of Securities CSD Links

Reference ID	T2S.16.470

The following scenario attempts to describe how the *Securities CSD Link* entity shall represent multiple relationships between a security and CSDs, which includes their timeline dependencies as well as the assignment of responsibilities for the maintenance of instrument static data. In this example, two CSDs settle the same instrument in T2S.

No.	Security Identifier	CSD Identifier	Valid From	Valid To	CSD Type	Instrument Maintenance
1	1234	5678	1/1/2007	-	Issuer	Yes
2	1234	9876	1/1/2007	-	Investor	No

In the table above, record one defines CSD 5678 as the issuer CSD in T2S with maintenance responsibility for security 1234 as from 1 January 2007. Record 2 defines CSD 9876 as the investor CSD with no maintenance responsibility for the security as from 1 January 2007.

As of 1 July 2007, the status of the relationship for CSD 5678 changes from issuer CSD to investor CSD, but maintenance responsibility for the security 1234 remains with this CSD. This reassignment would result in an additional record (record 3) with a change in the CSD Type from “Issuer” to “Investor”. The update of the valid-to date of record one is simultaneous. The table below documents the updated Securities CSD Link entity records.

No.	Security Identifier	CSD Identifier	Valid From	Valid To	CSD Type	Instrument Maintenance
1	1234	5678	1/1/2007	30/6/2007	Issuer	Yes
2	1234	9876	1/1/2007	-	Investor	No
3	1234	5678	1/7/2007	-	Investor	Yes

A reassignment for the maintenance of the security static data from CSD 5678 to CSD 9876 takes effect on 1 September 2007. The reassignment creates record four for CSD 5678 with the security maintenance attribute no longer set to “Yes” and sets the end-date of record three. The process also creates record five with the security maintenance attribute set to “Yes” and sets the end-date of record two.

No.	Security Identifier	CSD Identifier	Valid From	Valid To	CSD Type	Instrument Maintenance
1	1234	5678	1/1/2007	30/6/2007	Issuer	Yes
2	1234	9876	1/1/2007	31/8/2007	Investor	No
3	1234	5678	1/7/2007	31/8/2007	Investor	Yes
4	1234	5678	1/9/2007	-	Investor	No
5	1234	9876	1/9/2007	-	Investor	Yes

Starting from 1 January 2008, CSD 5678 has decided not longer to provide settlement services for the security. The valid-to date is set at 31 December 2007 in the most current record of the CSD (record four) for that combination of CSD and security, as documented in the following table.

No.	Security Identifier	CSD Identifier	Valid From	Valid To	CSD Type	Instrument Maintenance
1	1234	5678	1/1/2007	30/6/2007	Issuer	Yes
2	1234	9876	1/1/2007	31/8/2007	Investor	No
3	1234	5678	1/7/2007	31/8/2007	Investor	Yes
4	1234	5678	1/9/2007	31/12/2007	Investor	No
5	1234	9876	1/9/2007	-	Investor	Yes

Consistency of Maintenance Responsibility in Securities CSD Link

Reference ID	T2S.16.480

Every security shall have a CSD assigned to it with this maintenance responsibility. No more than one combination of CSD and security shall exist with maintenance responsibility at any given point in time. T2S

shall not allow a security without any party having maintenance responsibility. The CSD in an issuer link for a security shall always have responsibility for maintaining the security. The maintenance facility for Securities CSD Link in T2S shall ensure the integrity and consistency of the information.

Batch Update of Links

Reference ID	T2S.16.490

T2S shall provide the facility to perform mass updates on the link information. T2S may have to add or remove links for a specific CSD as part of an initial migration or a CSD entering or leaving a market.

16.7.5 Deviating Security Nominal

Reference ID	T2S.16.500

Every security has a multiple settlement unit or nominal. A multiple of that defines the standard lot sizes eligible for settlement on condition of being equal or greater than the minimum settlement unit or nominal. However, securities exist that have several odd lot sizes outside of the multiple that can settle. Therefore, T2S shall store deviating nominal amounts for a security that T2S shall allow for settlement. There shall be no limit for the number of deviating nominal amounts that T2S shall store for a security.

Table 16-7 - List of Attributes for the Deviating Security Nominal Entity

Attribute	Description
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S. It shall link the security to the deviating nominal.
Deviating Nominal	This attribute shall store the deviating nominal for a security.

16.7.6 Securities Settlement Restrictions Model

Reference ID	T2S.16.510

It shall be possible for a CSD and the T2S operator to block a security from settlement. For example, it may be necessary to restrict settlement in a security for all CSDs. For example, CSDs will need to restrict settlement in a security for corporate action processing affecting securities positions and settlement instructions. A CSD will not need to restrict a security for settlement that only requires the end-of-day position. The following table specifies the proposed business attribute requirements for settlement restrictions at the security level. The holding model defines the blocking of accounts and securities holdings within an account.

Table 16-8 - List of Attributes for Securities Settlement Restrictions

Attribute	Description
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S. It shall link the restriction to the security static data.
Settlement Restriction Type	This attribute shall define the reason for restricting the security from settlement. The restriction type of security level across all CSDs shall be harmonised. Restrictions at the CSD level shall be harmonised to the maximum extent possible, but market-specific restriction types shall be definable.
Party Identifier	This attribute is the unique technical party identifier of the CSD or the T2S Operator in T2S.
Valid-From Timestamp	This attribute shall specify the date and time from which the security is restricted from settlement.
Valid-To Timestamp	This attribute shall specify the date and time until which the security is restricted from settlement. A restriction shall be valid until further notice when no end timestamp when this attribute specifies a value. T2S shall remove the restriction automatically after the date and time when the attribute specifies a timestamp.

16.7.7 Securities Valuation

Reference ID	T2S.16.520

T2S shall store data for the valuation positions in securities for collateralisation. The working assumption is that CCBM2 or another central securities database will provide the pricing-related data, and that the list of securities eligible for collateralisation with NCBs will be harmonised. However, T2S shall store the attributes used for the valuations on a daily basis as part of the audit trail. The number or attributes required will depend on what source system calculates into the price, i.e. delivery of a clean or dirty price.

Table 16-9 - List of Attributes for Securities Valuation

Attribute	Description
Security Identifier	This attribute shall specify the unique technical identifier of a security in T2S.
Valuation Date	This attribute shall specify the date for which valuation data applies.
Price Currency	This attribute shall define the currency of the price for the valuation.
Exchange Rate	This attribute shall provide the conversion rate between the price currency and the Euro. In most cases, the value of this data item will be 1 for EUR/EUR.
Market Code	This attribute shall specify the market identifier code (MIC) for the price source.
Price	This attribute specifies the price of the security as of the valuation date.
Price Type	This data item specifies the type of price, which was determined based on pricing rules (e.g. closing price, last traded price, calculated price).

Attribute	Description
Price Date	This attribute specifies the date of the price. The date of the price is not necessarily the same as the valuation date. For example, the valuation of a security may use yesterday's price if it is not available for the current business day.
Price Qualifier	This data item shall define the qualifier of a price, if relevant (e.g. Ex-Dividend)
Pool Factor	This attribute shall specify the pool factor for asset-backed securities.
Pool Factor Valid From	This attribute shall specify the date from which the pool factor is valid.
Index Coefficient	This attribute shall specify the current index coefficient for an indexed-based debt security.
Index Coefficient Valid From	This attribute shall specify the date from which the index coefficient is valid from.
Accrued Interest per Nominal	This attribute shall specify the accrued interest in an amount per nominal.
Interest Calculation Method	This data item shall specify the interest calculation method applied to calculate the accrued interest for the security on the specified valuation date.
Last Interest Payment Date	This data item shall specify the date from which the accrued interest was calculated.
Haircut in %	This data item shall specify the haircut that applies for the valuation.

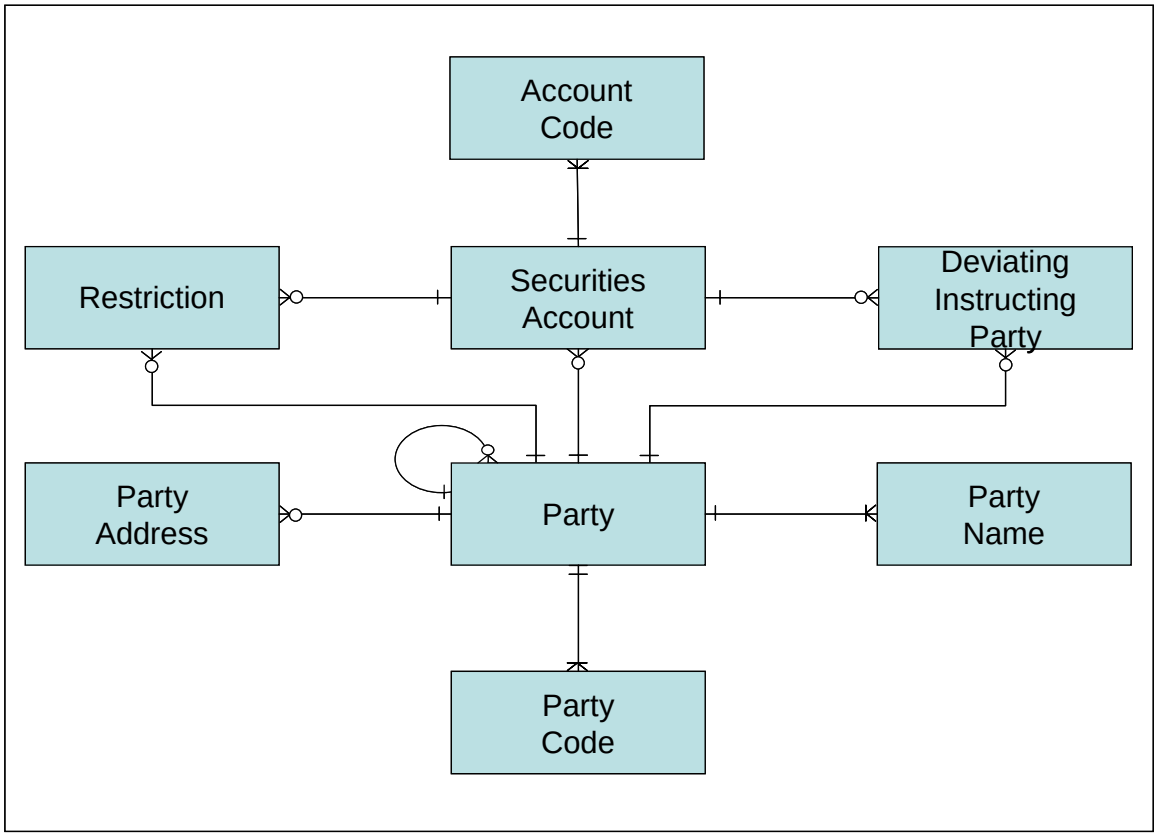
16.8 Party Reference Data Model

Reference ID	T2S.16.530

This section defines the business requirements for party reference data. Party reference data is not to be confused with the term "T2S Party". "T2S Party" is a business concept used to describe a category of T2S stakeholders in T2S. The party reference data refers to the set of information that T2S will store for legal entities and their related accounts.

Party reference data in T2S shall be restricted to, but will include all, data required for settlement and auto-collateralisation in central bank money. The model for party reference data defines conceptual structures that are required in T2S for storing the attributes of legal entity and account information. The description represents a logical model and not the physical implementation. Technical fields for the audit trail and static data change management are not included to avoid redundancy.

Diagram 16.4 - Conceptual Party Reference Data Model



16.8.1 Hierarchical Party Model

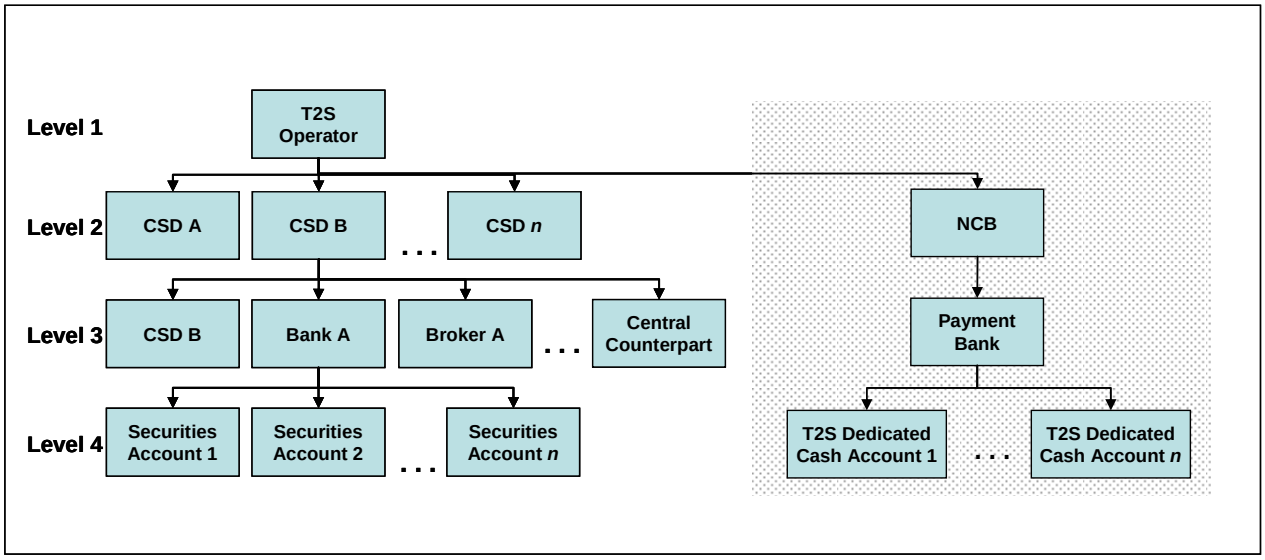
Reference ID	T2S.16.540

The party reference data shall support a hierarchical account structure, which shall also define the relationships between the parties. The T2S operator shall constitute the top level of the hierarchy. The second tier of the party hierarchy shall be the CSD and NCB.

The hierarchical structure for the CSD shall support all T2S party data pertaining securities settlement. This leg of the hierarchical structure shall identify the assignment of the securities account on the lowest level to the CSD participant and the CSD. CSD participants shall include central counterparts, trading platforms, stock exchanges and financial institutions with a contractual relationship to a CSD. Securities accounts linked to the CSD participant and T2S dedicated cash accounts linked to a payment bank or settlement bank shall exist on the lowest level of the hierarchy. The securities accounts can be either omnibus accounts or end-investor accounts for markets with direct holdings systems.

The NCB leg of the hierarchy shall include all data relating to the NCB and the T2S dedicated cash accounts held by payment banks with the NCBs. The third tier of the hierarchy shall be the payment banks operating T2S dedicated cash accounts. The T2S dedicated cash accounts shall exist on the lowest level of the hierarchy. The hierarchy shall link the T2S dedicated cash account to the relevant NCB.

Diagram 16.5 - Hierarchical Party Model



16.8.2 Party

Reference ID	T2S.16.550

This entity shall specify all attributes for the definition of a party in T2S. A party shall denote any legal or organisational entity required in T2S. This entity shall store the parties from the first three levels: the T2S operator, the CSDs, the participants of the CSD, the NCB and payment banks. It also shall establish the links between the different parties on the different hierarchical levels.

Table 16-10 - List of Attributes for the Party

Attribute	Description
Party Identifier	This attribute shall define the unique technical identifier of a party in T2S.
System Entity Identifier	This attribute specifies the system entity code of the party with which it has a contractual relationship.
Opening Date	The attribute “Opening Date” defines the actual date the T2S Actor, defined by the Party Link Identifier, established the contractual relationship with the party, as defined by the occurrence of that party in the Party entity.
Close Date	This attribute shall specify the date that the contractual relationship with the party has legally ended.
Party Link Identifier	This attribute shall link the party to the party with which it has a legal relationship.

Attribute	Description
Party Status	This attribute shall define the business status of a party for processing in the system. This attribute shall not specify a blocking status. The user shall use the restriction functions to restrict temporarily a participant from securities settlement processing.
Recycling Period	This attribute shall provide the recycling period for settlement fails as a number of business days. This attribute shall be applicable only for parties defined as CSDs or CCPs.
Party Type	This attribute specifies a classification of the partner. At a minimum, the party types shall include: - T2S Operator - Payment Bank - Central Securities Depository (CSD) - CSD Participant - External CSD - National Central Bank (NCB) - CCP - Trading Platform / Stock Exchange
Securities Account Access Privilege	This Boolean attribute shall specify whether the party limits access of its T2S system users to specific securities accounts.

Party Name

Reference ID	T2S.16.560

The *Party Name* entity shall specify the valid short and long names of a party in T2S. A party name can change over time owing to mergers, acquisitions or just plain name changes. Therefore, several names may exist for a party although only one name can exist for a party at any given point in time. This entity shall ensure that the system can identify the correct name for a party at any given point in time.

Table 16-11 - List of Attributes for the Party Name

Attribute	Description
Party Identifier	This attribute shall be the unique technical identifier of a party in T2S. It shall link the name back to the party.
Valid From	This attribute shall define the date from which the party name is valid. Since the party name may change over time, it is necessary to define period in which a name is valid.
Party Long Name	This attribute shall specify the full name of the party.

Attribute	Description
Party Short Name	This attribute shall specify the short name of the party.

Party Code

Reference ID	T2S.16.570

The *Party Code* entity shall store the codes that the financial market uses to identify a party. T2S shall use the BIC to identify a party. The BIC is a bank identifier code based on ISO 9362. SWIFT is the designated registration authority for assigning BICs and publishing BICs in the BIC Directory. The BIC code is not unique for a market participant; therefore, T2S shall use the primary BIC of a legal entity to identify a party in T2S. If the party does not have a BIC, then it must ensure that SWIFT assigns the BIC. Since a market participant may have relationships with more than one CSD, T2S shall qualify the code with the entity identifier of the CSD or NCB to ensure uniqueness.

Table 16-12 - List of Attributes for the Party Code Entity

Attribute	Description
System Entity Identifier	This attribute shall specify the system entity identifier of the CSD to with which the party has its contractual relationship. This attribute shall qualify the code type in order to ensure uniqueness for cases where a financial institution has a relationship with more than one CSD.
Party Identifier	This attribute shall be the unique technical identifier of a party in T2S. It shall link the party code to the party.
Valid From	This attribute shall define the date from which the party code is valid.
Code Type	This attribute shall define the code type assigned to the unique internal party identifier. This attribute shall only support a code type for the BIC, according to the ISO 9362 standard.
Party Mnemonic	This attribute shall specify the unique market code of a party based on the code type.

Party Address

Reference ID	T2S.16.580

This entity shall store the valid addresses for parties. There shall be one legal address per party. T2S shall store address information for the T2S operator, CSD, NCB and payment banks. T2S shall not store addresses for CSD participants.

Table 16-13 - List of Attributes for the Party Address Entity

Attribute	Description
Address Identifier	This attribute shall specify the unique technical identifier of an address in T2S.
Party Identifier	This attribute shall specify the unique technical identifier of a party in T2S. It shall link the address to the party.
Valid From	This attribute shall define the date from which the party address is valid.
Jurisdiction	This attribute shall specify the country of jurisdiction for the party. This attribute shall be mandatory for a legal address. It shall be the same country as in the legal address, except for supranational institutions.
Street	This attribute shall contain the name of the street for the address.
House Number	This attribute shall contain the house number for the address.
City	This attribute shall specify the name of the city for the address.
Postal Code	This attribute specifies the postal code for the address.
State or Province	This attribute specifies the state or province for the address. Its use shall depend on the country code of the address.
Country Code	This attribute shall specify the country code of the address. The two-character ISO country code (ISO3166-1) shall identify the country.

Securities Account Access Privilege

Reference ID	T2S.16.585

This entity shall store the definitions of access privileges that limit the access of the party's T2S system users to specific securities accounts of the party.

Table 16-14 - List of Attributes for the Securities Account Access Privilege Entity

Attribute	Description
Securities Account Access Privilege Identifier	This attribute shall specify the unique technical identifier of an access privilege in T2S.
Party Identifier	This attribute shall specify the unique technical identifier of a party in T2S. It shall link the access privilege to the party.
Valid From	This attribute shall define the date from which the access privilege is valid.
Privilege Name	This attribute shall specify the name that the party assigns to the privilege.
Privilege Text Description	This attribute shall document the purpose and use of the access privilege by the party.

16.8.3 Securities Account Reference Data

Securities Account

Reference ID	T2S.16.590

Securities account reference data specify all information required for defining and processing a securities account in T2S. In some direct holding markets, account operators open and close end-investor accounts directly in the systems of the CSD. Securities accounts in T2S must be opened and closed through the CSD to ensure the consistency and integrity of securities account reference data between the systems of the CSD and T2S. This can be an automated process. When the CSD system opens an account, it will immediately trigger the opening of the account in T2S. The same applies for the closing of an account.

Table 16-15 - List of Attributes for the Securities Account Entity

Attribute	Description
Securities Account Identifier	This attribute shall define the unique technical identifier of a securities account in T2S.
System Entity Identifier	This attribute shall specify the entity identifier of the CSD with which the party of the securities account has its contractual relationship. This attribute shall qualify the code type in order to ensure uniqueness for cases where a financial institution has a relationship with more than one CSD.
Account Reference	This data item shall provide the user with an optional text field to enter a description, name or reference.
Open/Close Status	This attribute shall define the business status of the account. It shall determine the business processing allowed for the account in T2S. T2S shall not use this status field for temporarily restricting an account from settlement processing.
Opening Date	This attribute shall specify the date as of which a securities account is legally opened by the CSD.
Closing Date	This attribute shall specify the date as of which a securities account is legally closed by the CSD.
Market-Specific Restriction	This attribute shall specify the CSD-specific classification of the account, which determines the relevant rules for the processing the account in T2S.
Auto-collateralisation	This data item is set to TRUE if the holdings of the securities account are available as collateral for the auto-collateralisation process. The default setting is FALSE.
Hold/Release Default	This attribute shall specify the default setting of specific securities settlement instructions received for the account (e.g. stock exchange trades from Frankfurt Stock Exchange).
Negative Position	This attribute shall define whether the securities account can hold a negative position in a security. Certain types of CSD technical accounts, such as issuer accounts, must have the capability to store negative values.

Attribute	Description
T2S Account Type	This attribute shall classify the account for the maintenance of CSD account links. It shall allow the following values: - CSD participant account - CSD mirror account - Inter-CSD account - T2S technical offset account (for direct holding markets)
Securities Account Access Privilege Identifier	This attribute shall specify the unique technical identifier of an access privilege in T2S that applies to the securities account.

Party and Securities Account Relationship

Reference ID	T2S.16.595

T2S shall support a Party Securities Account Relationship entity to specify a time-dependent relationship between a T2S Party and a securities account. The purpose of the entity is to allow a CSD in T2S to transfer the relationship of a securities account from one account operator/sub-custodian to another account operator/sub-custodian within the CSD. For example, the functionality will enable a CSD to transfer the relationship of an end-investor securities account from one account operator to another.

Table 16-16b - List of Attributes for Party Securities Account Relationship

Attribute	Description
Relationship Identifier	This attribute shall specify the unique technical identifier of an occurrence of a party to securities account relationship
System Entity Identifier	This attribute shall specify the entity identifier of the CSD with which the party of the securities account has its contractual relationship. This attribute shall qualify the code type in order to ensure uniqueness for cases where a financial institution has a relationship with more than one CSD.
Party Identifier	This attribute specifies the unique technical identifier of the T2S Actor with which the securities account has its relationship.
Securities Account Identifier	This attribute specifies the unique technical identifier of the securities account.
Valid From	This attribute specifies the date from which the relationship between the T2S Actor and the securities account is valid.
Valid To	This attribute specifies the date to which the relationship between the T2S Actor and the securities account is valid.

Setting Date Values

Reference ID	T2S.16.596

When a T2S Actor opens a new securities account, T2S shall generate automatically the relationship between securities account and party. T2S shall set value in the attribute *Valid From* to the opening date of the securities account.

Specification of Mandatory Attributes

Reference ID	T2S.16.597

When the CSD transfers the account relationship from one securities account operator/ sub-custodian to another, the CSD must specify:

- the party identifier of the party from which the CSD wishes to transfer the securities account relationship;
- the party identifier of the party to which the CSD wishes to transfer the securities account relationship;
- the date as of which the CSD wishes to transfer the relationship;
- the new T2S dedicated cash account link set for the securities account;
- and the new securities account privilege of the new account operator.

Relationship Transfer of Linked Information

Reference ID	T2S.16.598

A relationship transfer shall result in the simultaneous:

- closing of the old relationship by T2S setting the value in the attribute *Valid To* for the party from which the CSD wishes to transfer the relationship to the date of the transfer;
- creation of the new relationship by T2S creating a new occurrence in *Party Securities Account Relationship* entity for the party to which the CSD wishes to transfer the securities account relationship;
- in the replacement of the T2S dedicated cash account link set of the old account operator / sub-custodian with the T2S dedicated cash account link set of the new account operator / sub-custodian;
- and the transfer of restrictions on the securities account or positions of that securities account to the new account operator / sub-custodian.

Example: CSD A wishes to transfer the relationship of a securities account 1, opened 1 January 1997, as of 1 July 2008 from the party account operator 1 to the party account operator 2.

Before Transfer:

Relationship Identifier	System Entity Identifier	Party Identifier	Securities Account Identifier	Valid From	Valid To
123456	CSD A	Operator 1	Securities Account 1	1 January 1997	-

After Transfer:

Relationship Identifier	System Entity Identifier	Party Identifier	Securities Account Identifier	Valid From	Valid To
123456	CSD A	Operator 1	Securities Account 1	1 January 1997	30 June 2008
1234567	CSD A	Operator 2	Securities Account 1	1 July 2008	-

Viewing positions prior to transfer

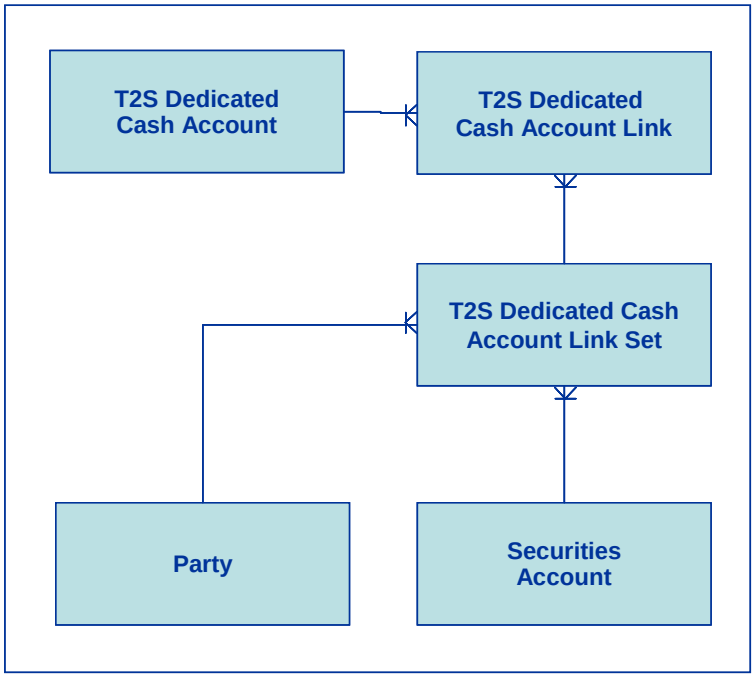
Reference ID	T2S.16.599

With the transfer of the relationship to the new account operator/sub-custodian, the new account operator/sub-custodian must be able to view those transactions and positions of the end-investor account that existed in T2S prior to the transfer (e.g. positions, restrictions and settlement instructions).

16.8.4 T2S Dedicated Cash Accounts

The T2S dedicated cash account model specifies the requirements for assigning T2S dedicated cash accounts to securities accounts for the settlement of the cash leg of settlement instructions.

Diagram 16.6 - Conceptual T2S Dedicated Cash Account Data Model



T2S Dedicated Cash Account

Reference ID	T2S.16.600

The *T2S Dedicated Cash Account* entity shall specify the T2S dedicated cash accounts of payment banks in T2S. It shall link the T2S dedicated cash account to the associated relevant RTGS account. This entity shall also provide the reference link to the payment bank that owns the account and the NCB that operates the account.

Table 16-17 - List of Attributes for the Entity T2S Dedicated Cash Account

Attribute	Description
System Entity Identifier	This attribute shall specify the entity identifier of the NCB that operates the T2S dedicated cash account.
Party Identifier	This attribute shall be the unique technical party identifier of the payment bank that owns the T2S dedicated cash account.
T2S Dedicated Cash Account Identifier	This attribute shall specify the unique technical identifier of the T2S dedicated cash account in T2S.
Currency	This attribute shall specify the currency of the T2S dedicated cash account.
Floor Notification Amount	This attribute shall specify the lower threshold for notifying the cash manager. If the balance of the T2S dedicated cash account falls below this amount, then T2S immediately informs the liquidity manager of the account owner.
Ceiling Notification Amount	This attribute shall specify the upper threshold for notifying the cash manager. If the balance of the T2S dedicated cash account exceeds this amount, then T2S immediately inform the liquidity manager of the account owner.

Attribute	Description
Account Status	This attribute specifies the current business status of the T2S dedicated cash account (e.g. open or closed).
Opening Date	This attribute shall specify the date that the payment bank opens the T2S dedicated cash account.
Closing Date	This attribute shall specify the date that the payment bank closes the T2S dedicated cash account.
RTGS Account Number	This attribute shall specify the RTGS account linked to the T2S dedicated cash account.

Adding a T2S Dedicated Cash Account

Reference ID	T2S.16.610

It shall be possible for an authorised NCB business user to add a new T2S dedicated cash account for a payment or settlement bank in T2S. T2S shall assign new T2S dedicated cash accounts an *opened* business status and the current business day as the opening date.

Closing a T2S Dedicated Cash

Reference ID	T2S.16.620

It shall be possible for an authorised NCB business user to close a T2S dedicated cash account by setting the business status to “closed” and confirming the change. T2S shall not allow an authorised business user to close an account if:

- there is an un-settled instruction specifying the T2S dedicated cash account for the settlement of the cash leg;
- the T2S dedicated cash account is in an active T2S dedicated cash account link set;
- or there is a cash balance remaining on the T2S dedicated cash account.

T2S Dedicated Cash Account Link Set

Reference ID	T2S.16.640

The *Cash Account Link Set* entity shall define a group of T2S dedicated cash accounts that T2S can use for securities settlement for an individual securities account or for a set of securities accounts of a T2S party. It shall support an n-to-m mapping between securities accounts and T2S dedicated cash accounts in that T2S will allow:

- the assignment of one or many T2S dedicated cash accounts to a securities account; and
- the assignment of many securities accounts to a T2S dedicated cash account

for settling the cash leg of settlement instructions.

The entity shall define the date from which the relationship between cash account and securities account is valid. T2S shall allow the linking of cash accounts to a set only when they have the same account currency.

Table 16-18 – List of Attributes for the T2S Dedicated Cash Account Link Set Entity

Attribute	Description
Link Set Identifier	This attribute shall specify the unique technical identifier of a set of T2S dedicated cash accounts, linked either to a T2S party or a securities account.
Securities Account or Party Identifier	This attribute shall define the unique technical identifier of the securities account or party in T2S.
Currency	This attribute specifies the currency of the T2S dedicated cash account link set.
Link Type	This attribute shall specify whether the identifier, specified in the attribute Securities Account / Party Identifier, is the technical identifier of a party or a securities account.
Valid From	This attribute shall define the date from which the set of T2S dedicated cash account links is valid.
Valid To	This attribute shall define the date to which the T2S dedicated cash account links is valid.

T2S Dedicated Cash Account Link

Reference ID	T2S.16.650

The T2S *Dedicated Cash Account Link* entity specifies all the T2S dedicated cash accounts linked as of a given date to a securities account or to all securities accounts of a T2S party.

Table 16-19 – List of Attributes for the T2S Dedicated Cash Account Link Entity

Attribute	Description
T2S Dedicated Cash Account Link Identifier	This attribute shall specify the unique technical identifier of the *T2S Dedicated Cash Account Link Set* entity.
Link Set Identifier	This attribute shall specify the unique technical identifier of a set of T2S dedicated cash accounts, linked either to a T2S party or a securities account.
T2S Dedicated Cash Account Identifier	This attribute shall specify the unique technical identifier of the T2S dedicated cash account in T2S.
Cash Account Default	This Boolean attribute shall specify whether the T2S dedicated cash account is the default account. Only one cash account in the link set can be the default cash account.

External RTGS Account

Reference ID	T2S.16.655

The *External RTGS Account* entity shall specify all the external RTGS accounts of payments to which an authorised T2S system user can link a T2S dedicated cash account. This entity shall also provide the reference link to the payment bank that owns the account and the NCB that operates the account.

Table 16-208.A - List of Attributes for the External RTGS Account Entity

Attribute	Description
External RTGS Account Identifier	This attribute shall define the unique technical identifier of an external RTGS account in T2S.
System Entity Identifier	This attribute shall specify the entity identifier of the NCB with which the party of the external RTGS account has its contractual relationship.
Party Identifier	This attribute shall link the External RTGS account to a party, either the NCB or the payment bank with which the NCB has its relationship.
RTGS External Account Reference	This data item shall store the external RTGS account number as the RTGS system requires it.
RTGS System	This attribute shall define the RTGS system in which the RTGS account is held.
RTGS Account Status	This attribute shall define the current business status of the external RTGS Account (e.g. open or closed).
Currency	This attribute shall specify the currency of the external RTGS account.

Adding an External RTGS Account

Reference ID	T2S.16.656

It shall be possible for an authorised NCB business user to add a new external RTGS account for a payment, settlement bank or NCB in T2S. T2S shall assign new external RTGS account an *opened* business status and the current business day as the opening date.

Closing a External RTGS Account

Reference ID	T2S.16.657

It shall be possible for an authorised NCB business user to close an external RTGS account by setting the business status to “closed” and confirming the change. T2S shall not allow an authorised business user to close an account if:

- there is an un-settled payment instruction specifying the external RTGS account;
- the external RTGS account has an active link to a T2S dedicated cash;
- or is defined in a current (not closed, not expired) standing liquidity transfer order.

Blocking an External RTGS Account

Reference ID	T2S.16.658

T2S shall allow an authorised NCB business user to block an RTGS account using party and account settlement restrictions (T2S.16.680). The blocking of an RTGS account shall result in the blocking of all T2S dedicated cash accounts linked to the RTGS account from settlement.

Unblocking an External RTGS Account

Reference ID	T2S.16.659

T2S shall allow an authorised NCB business user to unblock an RTGS account using party and account settlement restrictions (T2S.16.680). The unblocking of an RTGS account shall result in the unblocking of all T2S dedicated cash accounts linked to the RTGS account for settlement.

16.8.5 T2S Dedicated Cash Account Liquidity Transfer Order

Reference ID	T2S.16.660

T2S static data shall store and support the maintenance of the following liquidity transfer orders:

- pre-defined liquidity transfer orders;
- and standing liquidity transfer orders.

Table 16-21 – List of Attributes for the T2S Dedicated Cash Account Liquidity Transfer Order Entity

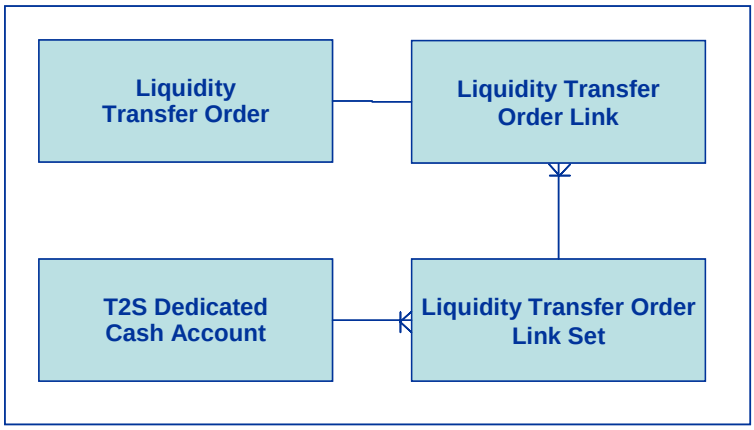
Attribute	Description
Liquidity Transfer Order Identifier	This attribute shall specify the unique technical identifier assigned to the liquidity transfer order.
Party Identifier	This attribute shall be the unique technical party identifier of the payment bank that owns the T2S dedicated cash account.
Debit Cash Account Identifier	This attribute shall specify the unique technical identifier of the T2S dedicated cash account or the relevant RTGS cash account that T2S must debit.
Credit Cash Account Identifier	This attribute shall specify the unique technical identifier of the T2S dedicated cash account or the relevant RTGS cash account that T2S must credit.
Currency	The attribute shall specify the currency of the amount.
Amount	This attribute shall specify the amount to be debited or credited through the liquidity transfer order.
All Cash	This attribute shall specify a Boolean value that determines whether T2S shall transfer any remaining liquidity on the debit cash account. When this attribute specifies a positive value “Y”, then the amount in the transfer order shall be zero.

Attribute	Description
Valid From Date	This attribute shall specify the date that from which the liquidity transfer order is valid.
Valid To Date	This attribute shall specify the date that to which the liquidity transfer order is valid.
RTGS Account Number	This attribute shall specify the RTGS account in the payment system linked to the T2S dedicated cash account.
Execution Type	This attribute shall specify whether T2S shall execute the liquidity transfer order based on an event or at a specific time.
Execution	This attribute shall specify the time or the event that triggers the transfer order.

16.8.6 Multiple Liquidity Providers

The T2S multiple liquidity provider model specifies the requirements for sequencing the provision of liquidity from RTGS accounts of multiple liquidity providers to a T2S dedicated cash account.

Diagram 16.7 - Conceptual Multiple Liquidity Provider Data Model



Liquidity Transfer Order Link Set

Reference ID	T2S.16.661

The *Liquidity Transfer Order Link Set* entity shall define a group of standing liquidity transfer orders that provide liquidity from one or more RTGS of one or more liquidity providers to a T2S dedicated cash account. The entity shall define the date from which the relationship between cash account and standing liquidity transfer order(s) is valid.

Table 16-22 – List of Attributes for the Liquidity Transfer Order Link Set Entity

Attribute	Description
Link Set Identifier	This attribute shall specify the unique technical identifier of a set of liquidity transfer orders.
T2S Dedicated Cash Account Identifier	This attribute shall define the unique technical identifier of the T2S dedicated cash account.
Valid From	This attribute shall define the date from which the set of liquidity transfer orders is valid.
Valid To	This attribute shall define the date to which the set of liquidity transfer orders is valid.

Liquidity Transfer Order Link

Reference ID	T2S.16.662

The *Liquidity Transfer Order Link* entity specifies all the standing liquidity transfer orders linked as of a given date to a T2S dedicated cash account.

Table 16-23 – List of Attributes for the Liquidity Transfer Order Link Entity

Attribute	Description
Liquidity Transfer Order Link Identifier	This attribute shall specify the unique technical identifier of the *Liquidity Transfer Order Link*.
Link Set Identifier	This attribute shall specify the unique technical identifier of a set of liquidity transfer orders.
Liquidity Transfer Order Identifier	This attribute shall specify the unique technical identifier assigned to the liquidity transfer order.
Transfer Order Sequence	This attribute shall determine the sequence in which T2S will execute the standing liquidity transfers within the link set when the T2S dedicated cash account requires additional liquidity.

16.8.7 Deviating Instructing Party

Reference ID	T2S.16.670

The purpose of this entity is to store the T2S parties, other than the account operator, that have the power of attorney to instruct for the securities account on behalf of the account operator. T2S shall support the assignment at both the party and securities account levels. A link between a deviating instructing party and an account operating party shall specify that the former shall be able to instruct on all accounts of the latter. A link on a securities account shall specify a power of attorney only for the specified securities account.

Table 16-24 - List of Attributes for the Deviating Instructing Party Entity

Attribute	Description
System Entity Identifier	This attribute shall specify the entity identifier of the CSD that operates the account.
Instructing Party Identifier	This attribute shall be the unique technical party identifier of the party that owns the securities account.
Securities Account or Party Identifier	This attribute shall define the unique technical identifier of the securities account or party in T2S for which the instructing party has power of attorney.
Link Type	This attribute shall specify whether the identifier specified in the attribute Securities Account / Party Identifier is the technical identifier of a party or a securities account.
Valid From	This attribute shall define the date from which the instructing party has power of attorney to instruct for the securities account or party.
Valid To	This attribute shall define the date to which the instructing party has power of attorney to instruct for the securities account or party.
Allowed Instruction Profile Identifier	This attribute shall define the unique identifier of the profile that specifies the instruction types that a deviating instructing party can instruct on behalf of the party. Refer to section 11.14 for more information.

Party and Account Settlement Restriction

Reference ID	T2S.16.680

T2S shall allow an authorised T2S system user to block the settlement of instructions or liquidity transfers for a T2S party or an individual account of a T2S party. Specifically:

- A CSD in T2S shall be able block the processing of settlements for any of its participants in T2S with immediate effect. The blocking at the participant level shall automatically block all securities accounts of that participant from settlement.
- A CSD in T2S shall be able to block a single securities account of one of its participants in T2S from settlement with immediate effect.
- The account operator in direct holding systems can block accounts of a participant via the CSD through an automated interface.
- An NCB in T2S shall be able block the cash leg settlement processing of an instruction for any of its payment banks in T2S with immediate effect. The blocking at the participant level shall automatically block all T2S dedicated cash accounts and external RTGS accounts of that payment bank from settlement.
- An NCB in T2S shall be able to block a single T2S dedicated cash account in T2S for use in settlement.
- <u>An NCB in T2S shall be able to block an external RTGS account from use in settlement.</u>

Table 16-25 - List of Attributes for the Entity Party and Account Settlement Restriction

Attribute	Description
Entity Identifier	This attribute shall specify the entity identifier of the CSD or NCB that operates the account.
Account or Party Identifier	This attribute shall define the unique technical identifier of the securities account, T2S dedicated cash account, external RTGS account or party in T2S for which the instructing party has power of attorney.
Link Type	This attribute shall determine whether the identifier specified in the attribute Account / Party Identifier is the technical identifier of a party, T2S dedicated account or securities account.
Settlement Restriction Type	This attribute shall specify the code defining the business reason for the settlement restriction.
Valid From	This attribute shall define the date from which the restriction is valid.
Valid To	This attribute shall define the date to which the restriction is valid.

16.8.8 Close Links

Reference ID	T2S.16.690

A financial market participant cannot submit any asset issued or guaranteed by itself or by any other entity with which it has a close link. “Close links” refers to a situation in which the counterparty is linked to an issuer/debtor/guarantor of eligible assets because:

(i) the counterparty owns 20% or more of the capital of the issuer/debtor/guarantor, or one or more undertakings in which the counterparty owns the majority of the capital own 20% or more of the capital of the issuer/debtor/guarantor, or the counterparty and one or more undertakings in which the counterparty owns the majority of the capital together own 20% or more of the capital of the issuer/debtor/ guarantor; or

(ii) the issuer/debtor/guarantor owns 20% or more of the capital of the counterparty, or one or more undertakings in which the issuer/debtor/guarantor owns the majority of the capital own 20% or more of the capital of the counterparty, or the issuer/debtor/guarantor and one or more undertakings in which the issuer/debtor/guarantor owns the majority of the capital together own 20% or more of the capital of the counterparty; or

(iii) a third party owns both the majority of the capital of the counterparty and the majority of the capital of the issuer/debtor/guarantor, either directly or indirectly, through one or more undertakings in which that third party owns the majority of the capital.

An attribute in the securities reference data in T2S will define a security as eligible for collateralisation for central bank money. However, this information will be insufficient to identify cases where a T2S party issues or guarantees an asset or where it has close links with another entity. T2S shall store the identifiers of all securities that are eligible for collateralisation, but not for a specific T2S party, in the party static data. An

automated interface shall provide these data to T2S on a daily basis from the relevant Eurosystem database.

Table 16-26 - List of Attributes for the Close link

Attribute	Description
System Entity Identifier	This attribute shall specify the system entity identifier of the CSD.
Party Identifier	This attribute shall define the unique technical identifier of the T2S party. It shall link the party in the close link to the party static data.
Security Identifier	This attribute shall define the unique technical identifier of a security in T2S. It shall link the security in the close link to the security static data.

16.8.9 Party Technical Addresses

Reference ID	T2S.16.700

The *Party Technical Address* Entity shall store the all BIC addresses to which a T2S party requests T2S to send copies of messages. The use of the BIC as technical address assumes a clean-up of the BIC directory by SWIFT until the live date of T2S. The entity shall provide the list of interested parties for copies of messages sent or received by a T2S party.

Table 16-27 - List of Attributes for the Party Technical Address

Attribute	Description
System Entity Identifier	This attribute shall specify the system entity identifier of the CSD.
Party Identifier	This attribute shall define the unique technical identifier of the T2S party in T2S. It shall link the party in the technical address to the party static data.
Technical BIC Identifier	This attribute shall define the unique technical identifier of a BIC in the BIC directory of T2S. It shall link the technical address to the relevant record in the BIC directory.

16.8.10 Cross-CSD Settlement

A major benefit of T2S is the efficient cross-CSD settlement for transactions involving multiple CSDs in T2S. Cross-CSD settlement in T2S will be as efficient as domestic intra-CSD settlement by concentrating the securities accounts of multiple CSDs and the T2S dedicated cash accounts of NCBs on a single technical platform. This enables T2S to book the transfer of securities between participants of different CSDs simultaneously, together with the movement of funds. T2S eliminates the current highly complex and costly processes of interactions between various platforms, which are often not synchronised, entail delays and pose

a risk in terms of failing to achieve settlement finality. T2S shall automate the realignment process between CSDs on a real-time basis, without the need for additional procedures. Cross-border transactions, which involve external CSDs not participating in T2S, will benefit to some extent from the T2S architecture. Efficient cross-CSD settlement in T2S shall require the definition of links between CSDs on the ISIN level.

Extension of Securities CSD Link

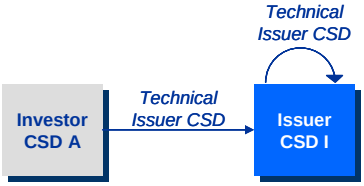
Reference ID	T2S.16.710

Processing cross-CSD links shall require an extension of the Securities CSD Link entity, which specifies whether a security is eligible for settlement in a CSD and whether the CSD is maintaining the security. Cross-CSD settlement shall require the extension of the entity with an additional attribute as defined in the following table.

Table 16-28 - Extension of Attributes for the Securities CSD Link in T2S Entity

Attribute	Description
Technical Issuer CSD	This attribute shall define the unique technical identifier of the technical issuer CSD in T2S when the CSD type in the link is “Investor”. The technical issuer CSD for an investor CSD is the CSD where it holds its omnibus accounts, reflecting the holding of its participants. The technical issuer can be either external or internal to T2S, defined by the party type of the CSD.

The following table extends the previous example for securities CSD links documented in static data. An issuer CSD for a security in T2S shall always be its own technical issuer CSD, and the investor CSD in T2S for a security shall always require a technical issuer CSD for that security.



No.	Security Identifier	CSD Identifier	Valid From	Valid To	CSD Type	Instrument Maintenance	Technical Issuer CSD
1	1234	5678	1/1/2007	-	Issuer	Yes	-
2	1234	9876	1/1/2007	-	Investor	No	5678

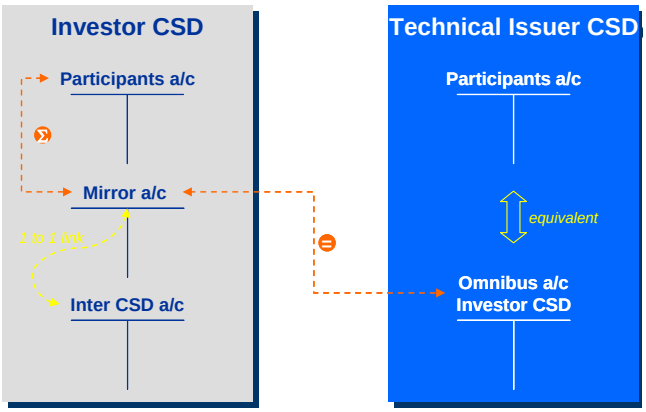
CSD Account Links

Reference ID	T2S.16.720

CSD account links shall define the link between an investor CSD's accounts and the omnibus accounts that the investor CSD holds with a technical issuer CSD to support the settlement of cross-CSD transactions using omnibus, mirror and inter-CSD accounts. In the technical issuer CSD, an investor CSD uses an omnibus account to hold the securities owned by its participants. This omnibus account is strictly equivalent to any account of the participant's technical issuer CSD. An omnibus account, held within a technical issuer CSD, reflects a mirror account within the investor CSD. At any moment, the position in credit of the omnibus account is in theory equal to the position in debit of the mirror account. An exception to this occurs when the issuer CSD is external to T2S and the securities are in transit from/to T2S to/from an external CSD. The inter-CSD account reflects the difference between the mirror account and the omnibus account.

An Inter-CSD Account has a link to each mirror account. The position of the inter-CSD account is usually equal to zero, except when the issuer CSD is external to T2S and securities are in transit from/to T2S to/from an external CSD. If the balance of the inter-CSD account is in credit, it requires a transfer of a quantity of securities equal to this position from T2S to the external CSD. If the balance of the inter-CSD account is in debit, it requires a transfer of a quantity of securities equal to this position from the external CSD to T2S. When the transfer is completed, the balance of the inter-CSD account resets to zero and the balance of the mirror account is again in line with the balance of the omnibus account.

Diagram 16.8 - Example of CSD Account Link



Attribute Requirements for the CSD Account Link Entity

Reference ID	T2S.16.730

The CSD Account Link entity shall provide the mapping of accounts between the participant accounts operated at the investor CSD to the omnibus accounts of the investor CSD operated with the technical issuer CSD.

Table 16-29 - Extension of Attributes for the CSD Account Link in T2S Entity

Attribute	Description
CSD Account Link Identifier	This attribute shall define the unique technical identifier of an occurrence of a CSD account link. T2S shall assign this identifier from a sequence.
Investor CSD Party Identifier	This attribute shall specify the unique technical identifier of the investor CSD as T2S stores it in the party reference data. It shall link the investor CSD party in the account link to the party reference data.
Technical Issuer CSD	This attribute shall specify the unique technical identifier of the technical issuer CSD as stored by T2S in the party reference data. It shall link the technical issuer CSD party in the account link to the party reference data.
CSD Participant Account Identifier	This attribute shall specify the unique technical identifier of the CSD's participant account as stored by T2S in the account reference data. It shall link the account in the account link to the account reference data. This account must be a valid account of the investor CSD. T2S shall require a value in this attribute only when the investor CSD wishes to define a relationship to an omnibus account with the issuer CSD for specific participant accounts.
Investor CSD Mirror Account	This attribute shall specify the unique technical identifier of the CSD's internal mirror account. The T2S account type must define the account as a mirror account in order to qualify it as a valid account for this attribute.
Investor CSD Inter-CSD Account	This attribute shall specify the unique technical identifier of the CSD's inter-CSD account. The T2S account type must define the account as an inter-CSD account in order to qualify it as a valid account for this attribute.
Valid From	This attribute shall specify the date from which the CSD account link is valid.
Valid To	This attribute shall specify the date until which the CSD account link is valid. An occurrence of the CSD account link shall require a value in this attribute when the relationship is removed/closed.

Use of Multiple Omnibus Accounts

Reference ID	T2S.16.740

For various reasons, an Investor CSD may decide use several omnibus accounts within the technical issuer CSD for segregating the holdings of its participants within the technical issuer CSD. T2S shall support the use of multiple omnibus accounts, but its use by the CSDs should be very limited in order not to add unnecessary complexity.

Table 16-30 – Example for the Use of Multiple Omnibus Accounts in a CSD Account Link Set

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	A	1	1	1	01/01/2008	

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	B	1	1	1	01/01/2008	
CSD A	CSD I	C	2	2	2	01/01/2008	
CSD A	CSD I	D	2	2	2	01/01/2008	
CSD A	CSD I	E	2	2	2	01/01/2008	
CSD A	CSD I	F	3	3	3	01/01/2008	

The participant account is null for the default CSD account link.

Table 16-31 – Example for the Default Omnibus Account

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD 1		1	1	1	01/01/2008	

16.8.11 CSD-Specific Party and Securities Account Attributes

Reference ID	T2S.16.750

T2S shall provide the functionality to allow a CSD to define additional attributes for securities account reference data without requiring changes to the data model or the graphical user interface. Any CSD-specific attribute shall appear dynamically in the GUI after its definition in T2S by the CSD system administrator. The attributes shall be for information only.

CSD-specific party and securities account attributes are not intended to replace the reference data of a CSD. They merely represent the possibility of a CSD to add data to a party or a securities account for informational purposes. T2S also does not require a split of party and securities account reference data between the systems of the CSDs and T2S. The CSD is clearly the master of its customer reference data and must retain the master copy of these data in its systems, since it requires these data to provide value-added services (e.g. corporate actions, borrowing and lending, etc.). The CSD would replicate only those attributes that T2S requires for settlement in T2S. This is a very limited redundancy of a few attributes. A split of reference data between the two systems is neither mandated nor necessary.

CSD-Specific Party and Securities Account Attribute Definitions

Reference ID	T2S.16.760

The *Party and Securities Account Attribute Definition* entity shall provide the definition of additional logical attributes in pre-defined physical database tables for the CSD-specific fields required for a securities account or party. An attribute definition shall require the specification of a unique identifier for the attribute as well as its business descriptions. It shall define the attribute value and its logical format. The actual column of the pre-defined database table (*CSD-Specific Party and Securities Account Attribute Value* Entity) defines the physical limitation for the logical format.

Table 16-32 – Attribute Requirements for the CSD-Specific Party and Securities Account Attribute Definition

Attribute	Definition
System Entity Identifier	This attribute shall specify the system entity identifier of the CSD using the additional attribute.
Party or Securities Account Qualifier	This attribute shall specify whether the CSD-specific attribute pertains to the CSD's party or securities accounts.
CSD-Specific Attribute Identifier	This attribute shall define the unique technical identifier of the CSD-specific attribute definition.
Attribute Domain Name	This attribute shall specify the name of the attribute domain, which T2S shall use as a field label.
Attribute Domain Description	This attribute shall provide a short documentation of the attribute domain, i.e. what purpose it serves for the CSD.
Attribute Format	This attribute shall specify whether the format of the attribute value is alphabetic, alphanumeric or numeric.
Maximum Attribute Length	This attribute shall specify the maximum length of the attribute value.
Mandatory	This Boolean attribute shall specify whether the input of a valid value for CSD-specific attribute is mandatory.
Unique	This Boolean attribute shall specify whether the value in the CSD-specific attribute must be unique.
Attribute Domain Identifier	This attribute shall specify the identifier of the domain that defines the list of valid values for a CSD-specific attribute (Refer to chapter 11, section 11.6, for the requirements pertaining to the management of attribute domains). A CSD-specific field, defined as unique, should not have an attribute domain assigned to it. Otherwise, a value in the list of valid values could only be used once.

CSD-Specific Party and Securities Account Attributes

Reference ID	T2S.16.770

The *CSD-Specific Party and Securities Account Attribute* entity shall store the values for the CSD-specific account attributes for parties and securities accounts in T2S. The model places (shall place) no limitation on the number of CSD-specific attributes that a CSD can define for a party or securities account.

Table 16-33 – Attribute Requirements for the CSD-Specific Party and Securities Account Attribute

Attribute	Definition
System Entity Identifier	This attribute shall specify the system entity identifier of the CSD, using the additional attribute.
Party or Securities Account Qualifier	This attribute shall specify whether the CSD-specific attribute pertains to the CSD's party or securities accounts.
Party or Securities Account Identifier	This attribute shall specify the party or securities account identifier, depending on the value of the party or securities account qualifier.
CSD-Specific Attribute Identifier	This attribute shall define the unique technical identifier of the CSD-specific attribute definition.
CSD-Specific Attribute Value	This attribute shall specify the value / content of the CSD-specific attribute as defined by the CSD-specific attribute identifier.

CSD-Specific Party and Securities Account Attribute Validations

T2S shall support the following validations on CSD-specific attributes in both user-to-application and application-to-application mode for party and securities account reference data maintenance.

Format validation

Reference ID	T2S.16.780

T2S shall validate the format of a CSD-specific attribute based on the values defined in Attribute Format and Maximum Length.

Mandatory check

Reference ID	T2S.16.790

If the CSD defines a CSD-specific attribute as mandatory, then T2S shall validate whether a value exists.

Uniqueness

Reference ID	T2S.16.800

If the CSD defines a CSD-specific attribute as unique, then T2S shall validate whether the content of the field is unique across all occurrences in the relevant static data entity, i.e. all parties or all securities accounts.

Valid list value

Reference ID	T2S.16.810

When a CSD specifies an attribute domain, i.e. a list of valid values, for a CSD-specific attribute by assigning an Attribute Domain Identifier, T2S shall validate whether the value in the CSD-specific attribute has a corresponding entry in the attribute domain.

Auto-Collateralisation

Reference ID	T2S.16.900

This entity shall define the settlement currencies for which a party is eligible for auto-collateralisation in T2S. If the settlement currency of a settlement instruction for the party in the settlement instruction does not have an entry in this entity, then that combination of settlement currency and party is not eligible for auto-collateralisation. In addition to the attributes listed below, the entity must include all attributes required for change management and revision. This entity stores the auto-collateralisation eligibility for parties, securities accounts and securities.

Table 16-342 – Attribute Requirements for the Auto-Collateralisation Attribute and Description

Attribute	Definition
Object Auto-Collateralisation Identifier	This attribute shall define the unique technical identifier of a combination of security and currency, securities account and currency or party and currency.
Object Type	This attribute specifies whether the value in the attribute object Identifier is the unique technical identifier of a party, securities account or security.
Object Identifier	This attribute shall define the unique technical identifier of a party in T2S, depending on the value in the attribute Object Type
Currency	This attribute uniquely identifies the currency object (i.e. security, securites account or party) for which the auto-collateralisation is applicable

USER REQUIREMENTS

CHAPTER 17

VOLUMES AND PERFORMANCE REQUIREMENTS

T2S Project Team

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17 Volumes and performance requirements

17.1 Volume and scalability requirements

T2S shall be able to handle the respective daily average and peak settlement volume to be assessed in due course. Volume will be regularly evaluated using production data collected at the CSDs at least once a year during the project life in order to derive trends and calculate volume projections.

17.1.1 Volumetric calculations

The present volumetric calculations form an initial basis for the capacity sizing. Presently they include only the volumes dealt by CSDs of the Eurosystem. The figures will be amended during the T2S project life using observations and questionnaires completed by T2S parties.

17.1.1.1 Annual transaction volumes estimation

For the present volumetric forecasts, T2S considered figures from year 2006 in the ECB Blue Book 2007 and complementary elements communicated by CSDs and NUGs to establish yearly trends and peak days.
A constant progression of 15% per year has been applied based on Blue Book figures and communication from the CSDs.

Table 17-1 Volume estimates

Year	Annual volume of transactions	Daily average volume
2006	219,000,000	850,000
2007	252,000,000	980,000
2013	583,000,000	2,260,000
2018	1170,000,000,	4,540,000

Countries included: Belgium, Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal and Finland.
The calculation has been extended to 2018 to reflect the depreciation period for the T2S build.

17.1.1.2 Workload estimation for the start of T2S

For this first workload calculation, only year 2013 figures are estimated.

To compensate for a possible error, T2S has considered the night-time workload as 90% and the day-time workload as 30% of the daily activity (i.e. a total of 120 % of the calculated daily average).

Table 17-2 Transactions volume in year 2013

Annual volume of transactions	**583,000,000**
Average daily volume	**2,260,000**
Average night-time volume	**2,030,000**
Average day-time volume	**677,000**
Peak-day workload	**9,380,000**
Peak night-time workload	**8,440,000**
Night-time peak-hour workload (10h/night)	**844,000**
Peak day-time work load	**2,810,000**
Day-time peak-hour workload (12h/day)	**234,000**

Average daily volume = Annual Volume of Transactions divided by 258 operating days in a year.

Average night-time volume and average day-time volume have an embedded margin of 20%.

Night-time volume is estimated to be 90% of the daily total, while day-time volume is estimated to be 30% of the daily total.

Peak-day workload is the average daily volume multiplied by a peak load factor provided in most markets by CSDs.

The same multipliers have been used to determine the peak night-time workload and peak day-time workload.

Day-time peak-hour workload is the day-time peak workload divided by the number of day-time operating hours.

Night-time peak-hour workload is the day-time peak workload divided by the number of night-time operating hours.

17.1.2 Requirements for scalability

Objective: The T2S system size, performance and capacity will accurately accommodate settlement activity (matching, settlement, reporting, etc.).

T2S application shall scale

Reference ID	T2S.17.010

T2S shall be able to handle the volumes evaluated in due time from regular data collection all along the T2S project duration and during the application operating life. *See Capacity Management T2S 18.480*

T2S application capacity shall be able to be quickly increased

Reference ID	T2S.17.020

T2S shall be able to increase capacity within three months.

Adaptation of the capacity to high volume

Reference ID	T2S.17.030

T2S shall be able to handle increasing settlement volume without degradation of service level.

Settlement and optimisation in parallel run without degradation of service level

Reference ID	T2S.17.040

T2S shall be able to run real-time settlement in parallel to a continuous optimisation algorithm without degradation of service level.

Settlement of operations should have no effect on other systems' service levels

Reference ID	T2S.17.050

In the context of T2S on TARGET2, settlement operations algorithms processing shall not have a performance impact on other system's activities and vice versa.

Access to data online for three months

Reference ID	T2S.17.060

Information (e.g. Balances, Transactions, Cash movements, Static data, etc.) will be kept available in the production environment for online queries during three months.

17.1.3 Requirements for archiving

Objective: T2S will give its participants access to data and its technical context for a requested duration.

Archiving function in T2S

Reference ID	T2S.17.070

T2S will maintain a settlement-related central archive for its own purposes, and T2S parties will be given access to the archived data via their CSDs.
Requirements for archiving on behalf of all CSDs, considering national specificities (principles, location, duration, detailed contents, etc.) and possible harmonisation, will be further detailed during the next phase of the T2S project.

Archived elements

Reference ID	T2S.17.080

T2S will archive incoming and outgoing files in their original format, instructions (transactions, cash movements), static data, any data used for billing and any data relevant for audit and/or regulatory requirements.

Archiving time

Reference ID	T2S.17.090

T2S will archive files and instructions three months after the day they are in their final status (e.g. settled, cancelled, etc.).

Synchronisation of archiving of static data and transactions

Reference ID	T2S.17.100

In order to ensure the integrity of static and transactional data, static data revisions and static data history shall remain in the current database until archiving procedures copy the transactional data that reference it into the archiving database.

Archiving duration

Reference ID	T2S.17.110

T2S shall archive for a period to be agreed with the CSDs. This duration will be determined in the future, aiming at harmonisation but in line with national regulations. The proposed harmonised filing period will be 10 years.

Archive retrieval medium

Reference ID	T2S.17.120

Only CSDs, NCBs and T2S operators will have direct access to archived data via interfaces (A-to-A or U-to-A).

Other T2S parties will ask their CSDs for retrieval and communication of archived data under message file or report format.

Archive retrieval period

Reference ID	T2S.17.130

The maximum time-frame for an authorised entity to get the requested archived data shall be three days.

17.2 Performance and response time requirements

Quantitative parameters for T2S system performance were collected for the sizing of T2S technical infrastructure and related financial quotation. These parameters will finally be agreed in the service level agreement.

17.2.1 Response time

Objective: To answer customer questions via a user-to-application interface within an agreed time limit.

Online response time for queries

Reference ID	T2S.17.140

T2S will respond in 95% of the basic queries in user-to-application or application-to-application mode within three seconds. A basic query is a query to retrieve a single object (Status of one instruction, static data for one ISIN, etc.). If the complexity of the query requires more time to be processed, T2S will send feedback on the status within 15 seconds. The list of basic and of complex queries will be established as part of the GFS.

Time limit for updates

Objective: To update data in the agreed time limit with queries sent via a user-to-application interface.

Real-time definition: Real time, in systems terminology, means stable and repeatable program execution with the objective of meeting the individual timing requirements for each task.

Fast-computing alone does not guarantee predictability, which is the most important property of a real-time system.

User-to-application request for standard data update

Reference ID	T2S.17.160

Any data to be created, modified or deleted via the user-to-application interface shall be updated in real time. The time limit is five seconds for 95% of standard changes.

17.2.2 File transfer

Objective: The system will send and receive files in parallel to the interactive activity without performance interaction.

File transfer

Reference ID	T2S.17.170

Processing files through the interface shall not affect the settlement processing and vice versa.

File transfer time limit

Reference ID	T2S.17.180

The File Transfer time will be limited to a maximum value independently from the transfer of the file to the network.

The requirements to the network providers will be presented in the next phase of the T2S project.

USER REQUIREMENTS

CHAPTER 18

INFORMATION SECURITY REQUIREMENTS

T2S Project Team

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18 Information security requirements

18.1 Introduction

T2S is a systemically critical system that will be operated and used by different organisations independent of each other. Considering the risks to such a system, information security management is a crucial part of T2S definition.

As a matter of fact, a very high level of security is requested in terms of confidentiality, authentication, integrity, access control and non-repudiation of the T2S information.

Therefore to ensure an appropriate level of security, a security management process shall be established so that (i) the proper implementation of the best practices formalised in ISO standard 17799[1] is enforced and (ii) an appropriate management of risks is guaranteed.

The following sections present a list of high-level security requirements and security policies as extracted from ISO 17799 and slightly amended where necessary. This will serve as a minimum for the development of the T2S Information Security framework, which shall be endorsed by the T2S Governance structure (timeline described in the table below).

For security reasons, specific security policies, detailed requirements and accurate security solutions (to be deployed in 2013) will not be published, but rather identified and shared with the T2S relevant parties under the control of the T2S governance structure.

Information Security Framework

The information security framework is based on two main elements: the information security policy and its sub-items (specific security policies and related user requirements) and the risk management function. The Information Security Policy consists of specific security policies addressing individual parts of the information technology environment. These policies are further defined in specific security requirements which provide a comprehensive framework of detailed controls which need to be in place, assessed and validated on a regular basis.

[1] Recently revised to become ISO/IEC 27002:2005

Another important aspect of Information Security Management is to identify potential risks, assess them and determine measures and procedures to mitigate such risks. This Risk Management function needs to be ongoing.

The table below presents the envisaged development plan of the T2S information security framework.

Component	Description	Timeline
High-level Information Security requirements	The high-level Information security requirements are the basis for (i) the development of an Information Security Policy and (ii) the definition of T2S security requirements and controls.	As part of the URD – in the present document
Information Security Policy	The Information Security Policy for T2S is a high-level document endorsed by the T2S governing structure that embraces the security policy principles, the responsibilities and other relevant aspects related to information security in the T2S environment. It will be revised on a regular basis.	In the General Functional Specification phase
Risk management framework	The risk management framework shall provide the T2S System Owner with a picture of the risk situation, in order to derive appropriate security requirements and controls.	When the Information Security Policy is endorsed by the T2S Governance structure
Security Requirements and Controls	The purpose of the T2S security requirements and controls is to define the specific information security requirements for the T2S.	When the Risk Management framework is defined
Information Security Management process	The information security management is a continuous process of identifying potential threats, verifying whether controls are comprehensive and effective, and minimising or eliminating security risks.	When T2S is in operation

18.2 Information Security Policy

Objective: To provide management direction and support for information security in accordance with business requirements and relevant laws and regulations.

18.2.1.1 Information security policy document

Reference ID	T2S.18.010

An Information Security Policy document shall be approved by the system owner and the governance body of T2S, published and communicated to all relevant parties as appropriate.

18.2.1.2 Review of the information security policy

Reference ID	T2S.18.020

The T2S information security policy shall be reviewed at planned intervals or if significant changes occur so as to ensure its continuing suitability, adequacy and effectiveness.

18.3 Organisation of information security

Objective: To manage information security for T2S.

18.3.1 Internal Organisation

18.3.1.1 Management commitment to information security

Reference ID	T2S.18.030

The system owner shall actively and visibly support information security for T2S through clear direction, demonstrated commitment, explicit assignment of roles and responsibilities, and acknowledgement of information security responsibilities.

18.3.1.2 Information security co-ordination

Reference ID	T2S.18.040

Information security activities shall be co-ordinated by the system owner, T2S governance body and other relevant parties with relevant roles and job functions.

18.3.1.3 Allocation of information security responsibilities

Reference ID	T2S.18.050

All information security responsibilities shall be clearly defined.

18.3.1.4 Authorisation process for information processing facilities

Reference ID	T2S.18.060

A management authorisation process for T2S shall be defined and implemented.

18.3.1.5 Contact with authorities

Reference ID	T2S.18.070

Appropriate contacts with relevant authorities shall be maintained.

18.3.1.6 Contact with special interest groups

Reference ID	T2S.18.080

Appropriate contacts with special interest groups shall be maintained.

18.3.1.7 Confidentiality agreements

Reference ID	T2S.18.090

Confidentiality or non-disclosure agreements shall be in place and regularly reviewed.

18.3.1.8 Independent review of information security

Reference ID	T2S.18.100

The T2S approach to managing information (system) security shall be reviewed independently by recognised experts at planned intervals or when significant changes to the security implementation occur.

18.3.2 External Parties

Objective: To maintain the security of T2S information processing facilities and information assets to be accessed, processed, communicated or managed by external parties.

18.3.2.1 Identification of risks related to external parties

Reference ID	T2S.18.110

The risks to T2S information assets and information processing facilities from business processes involving external parties shall be identified and appropriate security controls implemented before granting access.

18.3.2.2 Addressing security when dealing with customers

Reference ID	T2S.18.120

All identified security requirements shall be addressed using a defined process, with documented results, before giving customers access to T2S information or assets.

18.3.2.3 Addressing security in third-party arrangements

Reference ID	T2S.18.130

Agreements with third parties involving accessing, processing, communicating or managing T2S information or information processing facilities, or adding products or services to information processing facilities, shall cover all relevant security requirements.

18.4 Asset management

18.4.1 Responsibility for assets

Objective: To achieve and maintain appropriate protection of T2S assets.

18.4.1.1 Inventory of assets

Reference ID	T2S.18.140

All T2S physical and information assets shall be clearly identified and an inventory of all important assets shall be drawn up and maintained. Regular audits of such assets will be performed.

18.4.1.2 Ownership of assets

Reference ID	T2S.18.150

All information and assets associated with information processing facilities shall be “owned” for security purposes by a designated part of the T2S organisation.

18.4.1.3 Acceptable use of assets

Reference ID	T2S.18.160

Rules for the acceptable use of information and assets associated with T2S information systems and assets shall be identified, documented and implemented.

18.4.2 Information classification

Objective: To ensure that information receives an appropriate level of protection.

18.4.2.1 Classification guidelines

Reference ID	T2S.18.170

Information shall be classified in terms of value, sensitivity and criticality to T2S.

18.4.2.2 Information labelling and handling

Reference ID	T2S.18.180

An appropriate set of procedures for information labelling and handling shall be developed and implemented in accordance with the classification scheme adopted by T2S.

18.5 Human resource security

18.5.1 Prior to employment

Objective: To ensure that employees, contractors and third-party users understand their responsibilities and are suitable for the roles for which they are considered, and to reduce the risks of human error, theft, fraud or misuse of facilities.

18.5.1.1 Roles and responsibilities

Reference ID	T2S.18.190

Security roles and responsibilities of employees, contractors and third-party users shall be defined and documented in accordance with the T2S information security policy.

18.5.1.2 Screening

Reference ID	T2S.18.200

Background verification checks on all candidates for employment, contractors and third-party users shall be carried out in accordance with relevant laws, regulations and ethics. These checks shall be proportional to business requirements, the classification of the information to be accessed and perceived risks.

18.5.1.3 Terms and condition of employment

Reference ID	T2S.18.210

As part of their contracted obligation, employees, contractors and third-party users shall agree and sign the terms and conditions of their employment contract, which shall state their employee’s and the T2S organisation’s responsibilities for information security.

18.5.2 During employment

Objective: To ensure that all employees, contractors and third-party users are aware of information security threats and concerns and their responsibilities and liabilities; additionally, to ensure that they are equipped to support security policy in the course of their normal work and to reduce the risk of human error.

18.5.2.1 Management responsibilities

Reference ID	T2S.18.220

Management shall require employees, contractors and third-party users to apply security in accordance with established policies and procedures of the T2S organisation.

18.5.2.2 Information awareness, education and training

Reference ID	T2S.18.230

All employees of the T2S organisation and, where relevant, contractors and third-party users shall receive appropriate awareness training and regular updates on T2S policies and procedures, as relevant for their job function

18.5.2.3 Disciplinary process

Reference ID	T2S.18.240

There shall be a formal disciplinary process for employees who have committed a security breach and appropriate contractual remedies against contractors and third-party users who have committed a security breach.

18.5.3 Termination or change of employment

Objective: To ensure that employees, contractors and third-party users exit an organisation or change employment in an orderly manner.

18.5.3.1 Termination responsibilities

Reference ID	T2S.18.250

Responsibilities for performing employment termination or change of employment shall be clearly defined and assigned.

18.5.3.2 Return of assets

Reference ID	T2S.18.260

All employees, contractors and third-party users shall return all T2S assets in their possession upon termination of their employment, contract or agreement.

18.5.3.3 Removal of access rights

Reference ID	T2S.18.270

The access rights of all employees, contractors and third-party users to T2S information and information systems shall be removed upon termination of their employment, contract or agreement or adjusted upon change.

18.6 Physical and environmental security

18.6.1 Secure areas

Objective: To prevent unauthorised physical access, damage and interference to T2S information systems.

18.6.1.1 Physical security perimeter

Reference ID	T2S.18.280

Security perimeters (barriers such as walls, card-controlled entry gates or manned reception desks) shall be used to protect areas that contain T2S information and information processing facilities.

18.6.1.2 Physical entry controls

Reference ID	T2S.18.290

Secure areas shall be protected by appropriate entry controls to ensure that only authorised personnel are allowed access.

18.6.1.3 Securing offices, rooms and facilities

Reference ID	T2S.18.300

Physical security for offices, rooms and facilities shall be designed and applied.

18.6.1.4 Protecting against external and environmental threats

Reference ID	T2S.18.310

Physical protection against damage from fire, flood, earthquake, explosion, civil unrest and other forms of natural or man-made disaster shall be designed and applied.

18.6.1.5 Working in secure areas

Reference ID	T2S.18.320

Physical protection and guidelines for working in secure areas shall be designed and applied.

18.6.1.6 Public access, delivery and loading areas

Reference ID	T2S.18.330

Access points such as delivery and loading areas and other points where unauthorised persons may enter the premises shall be controlled and, if possible, isolated from information processing facilities to avoid unauthorised access.

18.6.2 Equipment security

Objective: To prevent loss, damage, theft or compromise of assets and interruption to T2S activities.

18.6.2.1 Equipment siting and protection

Reference ID	T2S.18.340

T2S equipment shall be sited or protected to reduce the risks from environmental threats and hazards and opportunities for unauthorised access.

18.6.2.2 Supporting utilities

Reference ID	T2S.18.350

T2S equipment shall be protected from power failures and other disruptions caused by supporting utilities.

18.6.2.3 Cable security

Reference ID	T2S.18.360

Power and telecommunications cables carrying data or supporting information services shall be protected from interception or damage.

18.6.2.4 Equipment maintenance

Reference ID	T2S.18.370

T2S equipment shall be correctly maintained to ensure its continued availability and integrity.

18.6.2.5 Security of equipment off premises

Reference ID	T2S.18.380

Appropriate security shall be applied to off-site equipment, taking into account the risks of it being outside the T2S premises.

18.6.2.6 Secure disposal or re-use of equipment

Reference ID	T2S.18.390

All items of equipment containing storage media shall be checked to ensure that any sensitive data and licensed software has been removed or securely overwritten prior to disposal.

18.6.2.7 Removal of property

Reference ID	T2S.18.400

Equipment, information or software shall not be taken off site without prior authorisation.

18.7 Communications and operations management

These paragraphs will be reconsidered in the next phase of the project when the requirements specific to the T2S external networks and interfaces necessary to the T2S parties to directly connect T2S are established.

18.7.1 Operational procedures and responsibilities

Objective: To ensure the correct and secure operation of T2S information processing facilities.

18.7.1.1 Documented operating procedures

Reference ID	T2S.18.410

Operating procedures shall be documented, maintained and made available to all users who need them.

18.7.1.2 Change management

Reference ID	T2S.18.420

Changes to T2S information processing facilities and systems shall be controlled in a documented way, including a prior security impact analysis.

18.7.1.3 Segregation of duties

Reference ID	T2S.18.430

Duties and areas of responsibility shall be segregated to reduce opportunities for unauthorised or unintentional modification or misuse of the T2S assets.

18.7.1.4 Separation of development, test and operational facilities

Reference ID	T2S.18.440

Development, test and operational environments shall be separated to reduce the risks of unauthorised access or changes to the operational system.

18.7.2 Third-party service delivery management

Objective: To implement and maintain the appropriate level of information security and service delivery in line with third-party service delivery agreements.

18.7.2.1 Monitoring and review of third-party services

Reference ID	T2S.18.450

The services, reports and records provided by the third party shall be regularly monitored and reviewed, and regular audits shall be carried out.

18.7.2.2 Managing changes to third-party services

Reference ID	T2S.18.460

There shall be management of changes to the provision of services, including maintaining and improving existing information security policies, procedures and controls. This management shall take into account the criticality of business systems and processes involved after a thorough re-assessment of risks.

18.7.3 System planning and acceptance

Objective: To minimise the risk of systems failures.

18.7.3.1 Service delivery

Reference ID	T2S.18.470

It shall be ensured that the security controls, service definitions and delivery levels included in the third-party service delivery agreement are implemented, operated and maintained by the third party.

18.7.3.2 Capacity management

Reference ID	T2S.18.480

Resource use shall be monitored and tuned, and projections shall be made of future capacity requirements to ensure the required system performance.

18.7.3.3 System acceptance

Reference ID	T2S.18.490

Acceptance criteria for new information systems, upgrades and new versions shall be established, and suitable tests of the system(s) carried out during development and prior to acceptance.

18.7.4 Protection against malicious and mobile code

Objective: To protect the integrity of software and information by preventing and detecting the introduction of malicious code.

18.7.4.1 Controls against malicious code

Reference ID	T2S.18.500

Detection, prevention and recovery controls to protect against malicious code and appropriate user awareness procedures shall be implemented on the system components.

Reference ID	T2S.18.510

All the necessary updates of protection software shall be implemented on the system components to ensure a continuously up-to-date protection.

18.7.4.2 Controls against mobile code

Reference ID	T2S.18.520

Where the use of mobile code (e.g. Java scripts, Java applets, ActiveX controls, Flash animations, etc.) is authorised, the configuration shall ensure that the authorised mobile code operates according to a clearly defined security policy, and authorised mobile code shall be prevented from executing.

18.7.5 Back-up

Objective: To maintain the integrity and availability of T2S information and information processing facilities and communication services.

18.7.5.1 Information Backup

Reference ID	T2S.18.530

Backup copies of information and software shall be taken and tested regularly in accordance with the agreed backup policy.

18.7.6 Network security management

Objective: To ensure the protection of information in networks and the protection of the supporting infrastructure.

18.7.6.1 Security of network services

Reference ID	T2S.18.540

Security features, service levels and management requirements of all T2S network services shall be identified and included in a network services agreement, whether these services are provided in house or outsourced.

18.7.6.2 Network controls

Reference ID	T2S.18.550

T2S networks shall be adequately managed and controlled in order to be protected against threats and maintain security for the systems and applications using the network, including information in transit. This shall be done in line with the Giovannini protocol.

18.7.7 Media handling

Objective: To prevent unauthorised disclosure, modification, removal or destruction of assets and interruptions to business activities.

18.7.7.1 Managing removable media

Reference ID	T2S.18.560

There shall be procedures in place for removable media management.

18.7.7.2 Disposal of media

Reference ID	T2S.18.570

Media shall be disposed of securely and safely when no longer required, using formal procedures.

18.7.7.3 Information handling procedures

Reference ID	T2S.18.580

Procedures for the handling and storage of information shall be established to protect it from unauthorised disclosure or misuse.

18.7.7.4 Security of system documentation

Reference ID	T2S.18.590

System documentation shall be protected against unauthorised access.

18.7.8 Exchange of information and software

Objective: To maintain the security of information exchanged within the T2S organisation and with any external entity.

18.7.8.1 Information exchange policies and procedures

Reference ID	T2S.18.600

Formal exchange policies and procedures shall be in place to protect the exchange of information through the use of any types of communication facilities with any T2S party.

18.7.8.2 Exchange agreements

Reference ID	T2S.18.610

Agreements shall be established for the exchange of information and software between the T2S organisation and third parties.

18.7.8.3 Physical media in transit

Reference ID	T2S.18.620

Media containing T2S information shall be protected against unauthorised access, misuse or corruption during transportation beyond the T2S physical boundaries.

18.7.8.4 Electronic messaging

Reference ID	T2S.18.630

Information transmitted by electronic messaging shall be appropriately protected.

18.7.8.5 Business information systems

Reference ID	T2S.18.640

Policies and procedures shall be developed and implemented to protect T2S information associated with the interconnection of business information systems.

18.7.9 Monitoring

Objective: To detect unauthorised information processing activities.

18.7.9.1 Audit logging

Reference ID	T2S.18.650

Audit logs recording user activities, exceptions and information security events shall be collected and kept for an agreed period to assist in any future investigations, and for system and access control monitoring under the control of the system owner.

18.7.9.2 Monitoring system use

Reference ID	T2S.18.660

Procedures for monitoring use of information processing facilities shall be established and the results of the monitoring activities reviewed regularly.

18.7.9.3 Protection of log information

Reference ID	T2S.18.670

Logging facilities and log information shall be protected against tampering and unauthorised access.

18.7.9.4 Administrator and operator logs

Reference ID	T2S.18.680

System administrator and system operator activities shall be logged.

18.7.9.5 Fault logging

Reference ID	T2S.18.690

Faults shall be logged and analysed, and appropriate action taken.

18.7.9.6 Clock synchronisation

Reference ID	T2S.18.700

The clocks of the relevant information processing systems within T2S shall be synchronised with an agreed accurate time.

18.8 Access control

On this topic, other requirements can be found in other chapters: Chapter 4 for the roles description and chapter 11.9 for the roles and privileges configuration.

18.8.1 Business requirements for access control

Objective: To control access to T2S information.

18.8.1.1 Access control policy

Reference ID	T2S.18.710

An access control policy shall be established, documented and reviewed based on business and security requirements for access.

18.8.2 User access management

Objective: To ensure authorised user access and prevent unauthorised access to T2S information systems.

18.8.2.1 User registration

Reference ID	T2S.18.720

There shall be a formal user registration and de-registration procedure in place for granting and revoking access to all information systems and services.

18.8.2.2 Privilege management

Reference ID	T2S.18.730

The allocation and use of privileges relating to user access shall be restricted and controlled.

18.8.2.3 Review of user access rights

Reference ID	T2S.18.750

Management shall review users' access rights and activity at regular intervals using a formal process.

18.8.3 User responsibilities

Objective: To prevent unauthorised user access and the compromise or theft of information and information processing facilities.

18.8.3.1 Password use

Reference ID	T2S.18.760

Users shall follow the T2S password policy and good security practices in the selection and use of passwords.

18.8.3.2 Authentication Parameters

Reference ID	T2S.18.770

Authentication parameters define settings, required for login security. The application software providing the authentication facilities for T2S shall support parameters to ensure strong authentication.

Table 18 - Examples of authentication parameters

Attribute	Definition
Password Expiry	This attribute defines the maximum number of calendar days that a password is valid.
Minimum Account Name Length	This attribute specifies the minimum number of characters allowed in the account name.
Password Complexity	This attribute allows the specification of the complexity of the password by the T2S system administrator. For example, it must be possible to specify that a password should contain at least one uppercase character, at least one symbol and at least one number.
Minimum Password Length	This attribute defines the minimum number of characters allowed for a password.
Password Reuse	This attribute specifies the number of password changes before a T2S system user may reuse a password. This includes the specification of rules defining password reuse - i.e. what constitutes reuse.
Maximum Login Attempts	This attribute specifies the maximum number of failed login attempts before the authentication application locks the T2S system user account.

18.8.3.3 Unattended user equipment

Reference ID	T2S.18.780

Users shall ensure that unattended equipment has appropriate protection.

18.8.3.4 Clear desk and clear screen policy

Reference ID	T2S.18.790

T2S should have a clear desk policy for papers and removable storage media and a clear screen policy for information processing facilities.

18.8.4 Network access control

Objective: To protect unauthorised access to T2S networked services.

18.8.4.1 Policy on use of network services (Security Requirements and Controls)

Reference ID	T2S.18.800

T2S information system(s) shall provide only those services that users have been specifically authorised to use.

18.8.4.2 User authentication for external connections

Reference ID	T2S.18.810

Appropriate authentication methods shall be used to control access by remote users.

18.8.4.3 Equipment identification in the network

Reference ID	T2S.18.820

Automatic equipment identification shall be considered as a means of authenticating connections from specific locations and equipment.

18.8.4.4 Remote diagnostic and configuration port protection

Reference ID	T2S.18.830

Physical and logical access to diagnostic and configuration ports shall be controlled.

18.8.4.5 Segregation in networks

Reference ID	T2S.18.840

Groups of information services, users, and information systems shall be segregated from a logical point of view.

18.8.4.6 Network connection control

Reference ID	T2S.18.850

For shared networks, especially those extending across the T2S boundaries, users' authorisation to connect to the network shall be restricted, in line with the access control policy and requirements of the business applications.

18.8.4.7 Network routing control

Reference ID	T2S.18.860

Routing controls shall be implemented for networks to ensure that computer connections and information flows do not breach the access control policy of the business applications.

18.8.5 Operating system access control

Objective: To prevent unauthorised computer access to operating systems.

18.8.5.1 Secure log-on procedures

Reference ID	T2S.18.870

Access to operating systems shall be controlled by a secure log-on procedure.

18.8.5.2 User identification and authentication

Reference ID	T2S.18.880

All users shall have a unique identifier (user ID) for their personal use only, and a suitable authentication technique shall be chosen to substantiate the claimed identity of a user.

18.8.5.3 Password management system

Reference ID	T2S.18.890

Systems for managing passwords shall be interactive and shall ensure quality passwords.

18.8.5.4 Use of system utilities

Reference ID	T2S.18.900

The use of utility programs that might be capable of overriding system and application controls shall be restricted and tightly controlled.

18.8.5.5 Session time-out

Reference ID	T2S.18.910

Inactive sessions shall shut down after a defined period of inactivity.

18.8.5.6 Limitation of connection time

Reference ID	T2S.18.920

Restrictions on connection times shall be used to provide additional security for high-risk applications.

18.8.6 Application and information access control

Objective: To prevent unauthorised computer access to operating systems.

18.8.6.1 Information access restriction

Reference ID	T2S.18.930

Access to information and application system functions by users and support staff shall be restricted in accordance with the “to be” defined access control policy (Security Requirements and Controls).

18.8.6.2 Sensitive system isolation

Reference ID	T2S.18.940

Systems classified by the system owner as sensitive shall have a dedicated (isolated) computing environment.

18.8.7 Mobile computing and communications

Objective: To ensure information security when using mobile computing and teleworking facilities.

18.8.7.1 Mobile computing and communications

Reference ID	T2S.18.950

A formal policy shall be in place, and appropriate security measures shall be adopted to protect against the risks of using mobile computing and communication facilities.

18.8.7.2 Teleworking

Reference ID	T2S.18.960

A policy, operational plans and procedures shall be developed and implemented for teleworking activities.

18.9 Information systems acquisition, development and maintenance

18.9.1 Security requirements of information systems

Objective: To ensure that security is an integral part of information systems.

18.9.1.1 Security requirements analysis and specification

Reference ID	T2S.18.970

Statements of business requirements for new information system(s), or enhancements to existing information systems shall specify the requirements for security controls.

18.9.2 Correct processing in applications

Objective: To prevent loss, unauthorised modification or misuse of data in applications.

18.9.2.1 Input data validation

Reference ID	T2S.18.980

Data input to applications shall be validated to ensure that it is correct and appropriate.

18.9.2.2 Control of internal processing

Reference ID	T2S.18.990

Validation checks shall be incorporated into applications to detect any corruption of information processing, errors or deliberate acts.

18.9.2.3 Message integrity

Reference ID	T2S.18.1000

Requirements for ensuring authenticity and protecting message integrity in applications shall be identified, and appropriate controls identified and implemented.

18.9.2.4 Output data validation

Reference ID	T2S.18.1010

Data output from an application shall be validated to ensure that the processing of stored information is correct and appropriate to the circumstances.

18.9.3 Security of system files

Objective: To ensure the security (integrity) of system files.

18.9.3.1 Control of operational software

Reference ID	T2S.18.1040

There shall be procedures in place to control the installation of components on operational systems.

18.9.3.2 Protection of system test data

Reference ID	T2S.18.1050

Test data shall be selected carefully. If sensitive information is used for testing purposes, it shall be protected and controlled.

18.9.3.3 Access control to program code

Reference ID	T2S.18.1060

Access to program code shall be restricted according to the system owner's decision.

18.9.4 Security in development and support process

Objective: To maintain the security of application system software and information, T2S environments shall be strictly controlled.

18.9.4.1 Change control procedures

Reference ID	T2S.18.1070

The implementation of changes shall be controlled by the use of formal change control procedures, and only undertaken after a prior impact analysis.

18.9.4.2 Technical review of applications after operating system changes

Reference ID	T2S.18.1080

Before operating system software is changed, all business-critical applications shall be reviewed and tested to ensure that there is no adverse impact on organisational operation or security.

18.9.4.3 Restrictions on changes to software packages

Reference ID	T2S.18.1090

Modifications to software packages shall be limited to necessary changes, which shall be strictly controlled.

18.9.4.4 Information leakage

Reference ID	T2S.18.1100

Opportunities for information leakage shall be prevented.

18.9.4.5 Outsourced software development

Reference ID	T2S.18.1110

Outsourced software development shall be supervised and monitored by the T2S organisation and must be consistent with the T2S security policies.

18.9.5 Technical Vulnerability Management

Objective: To reduce risks resulting from exploitation of published technical vulnerabilities.

18.9.5.1 Control of technical vulnerabilities

Reference ID	T2S.18.1120

Timely information about the technical vulnerabilities of information systems being used shall be obtained, T2S's exposure to such vulnerabilities evaluated, and appropriate measures taken to address the associated risk.

18.10 Information security incident management

18.10.1Reporting information security events and weaknesses

Objective: To ensure security events and weaknesses associated with information systems are communicated in a manner allowing timely corrective action to be taken.

18.10.1.1 Reporting information security events

Reference ID	T2S.18.1130

Information security events shall be reported through appropriate management channels without any delay, as defined by the system owner.

18.10.1.2 Reporting security weaknesses

Reference ID	T2S.18.1140

All employees, contractors and third-party users of T2S information systems and services shall be required to note and report any observed or suspected security weaknesses in systems or services.

18.10.2Management of information security incidents and improvements

Objective: To ensure a consistent and effective approach is applied to the management of information security incidents.

18.10.2.1 Responsibilities and procedures

Reference ID	T2S.18.1150

Management responsibilities and procedures shall be established to ensure a quick, effective and orderly response to information security incidents.

18.10.2.2 Learning from information security incidents

Reference ID	T2S.18.1160

There shall be mechanisms in place to enable the types, volumes and impacts of information security incidents to be quantified and monitored.

18.10.2.3 Collection of evidence

Reference ID	T2S.18.1170

Where the T2S Governance structure considers that a follow-up action against a person or organisation after an information security incident could lead to legal action (either civil or criminal), evidence shall be collected and presented in conformity with the rules for evidence laid down in the relevant jurisdiction(s).

18.11 Information security aspects of business continuity management

Objective: To counteract possible interruptions to business activities, to protect critical business processes from the effects of major failures of information systems or disasters, and to ensure their timely resumption.

18.11.1.1 Business continuity and risk assessment

Reference ID	T2S.18.1190

Events that can cause interruptions to business processes shall be identified, along with the probability and impact of such interruptions and their consequences for information security.

18.11.1.2 Including information security in the business continuity management process elements

Reference ID	T2S.18.1180

A managed process shall be developed and maintained for business continuity throughout the T2S organisation that addresses the information security requirements needed for T2S business continuity.

18.11.1.3 Developing and implementing continuity plans including information security

Reference ID	T2S.18.1200

Plans shall be developed and implemented to maintain or restore business operations and ensure availability of information at the required level and in the required time-scales following interruption to, or failure of, critical business processes.

18.11.1.4 Business continuity planning framework

Reference ID	T2S.18.1210

A single framework of business continuity plans shall be maintained to ensure that all plans are consistent, to consistently address information security requirements, and to identify priorities for testing and maintenance.

18.11.1.5 Testing, maintaining and re-assessing business continuity plans

Reference ID	T2S.18.1220

Business continuity plans shall be tested and updated regularly to ensure that they are up to date and effective.

18.12 Compliance

18.12.1Compliance with legal requirements

Objective: To avoid breaches of any law; statutory, regulatory or contractual obligations; or security requirements.

18.12.1.1 Identification of applicable legislation

Reference ID	T2S.18.1230

All relevant statutory, regulatory and contractual requirements and the T2S approach to meeting these requirements shall be explicitly defined, documented and kept up to date for each information system in the T2S organisation.

18.12.1.2 Intellectual property rights (IPR)

Reference ID	T2S.18.1240

Appropriate procedures shall be implemented to ensure compliance with legislative, regulatory, and contractual requirements on the use of material in respect of which there may be intellectual property rights, and on the use of proprietary software products.

18.12.1.3 Protection of organisational records

Reference ID	T2S.18.1250

Important T2S records shall be protected from loss, destruction and falsification, in accordance with statutory, regulatory, contractual, and business requirements.

18.12.1.4 Data protection and privacy of personal information

Reference ID	T2S.18.1260

Data protection and privacy shall be ensured as required in relevant legislation, regulations and, if applicable, contractual clauses.

18.12.1.5 Prevention of misuse of information processing facilities

Reference ID	T2S.18.1270

Users shall be deterred from using information processing facilities for unauthorised purposes.

18.12.1.6 Regulation of cryptographic controls

Reference ID	T2S.18.1280

Cryptographic controls shall be used in compliance with all relevant agreements, laws and regulations.

18.12.2Compliance with security policies and technical compliance

Objective: To ensure compliance of systems with T2S security policies and standards.

18.12.2.1 Compliance with security policy and standards

Reference ID	T2S.18.1290

Managers shall ensure that all security procedures within their area of responsibility are carried out so as to achieve compliance with security policy and any supplementary standards defined by the system owner.

18.12.2.2 Technical compliance checking

Reference ID	T2S.18.1300

Information systems shall be regularly checked for compliance with the security policy and any supplementary standards.

18.12.3 Information systems audit considerations

Objective: To maximise the effectiveness of, and minimise interference to/from, the information systems audit process.

18.12.3.1 Information systems audit controls

Reference ID	T2S.18.1310

Audit requirements and activities involving checks on operational systems shall be carefully planned and agreed to minimise the risk of disruptions to business processes.

18.12.3.2 Protection of information systems audit tools

Reference ID	T2S.18.1320

Access to information systems audit tools shall be protected to prevent any possible misuse or compromise of the system.

USER REQUIREMENTS

CHAPTER 19

TECHNICAL ARCHITECTURE

T2S Project Team

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19 Technical Architecture

19.1 Introduction

Considering the importance of T2S operations for the market, the most advanced architecture for business continuity, based on proven best practice, will be used. The state of the art for meeting such a high standard is the “two-regions / four-sites” architecture, already implemented and tested on Single Shared Platform for the similarly critical operations of TARGET2 – this will be used for T2S also. The T2S model should be based on the model already implemented on the TARGET2 Single Shared Platform.

The present chapter is a collection of user requirements to qualify the T2S architecture; it does not describe the design of technical solutions (system infrastructure, network, processing distribution amongst regions, etc.), as this adaptation of the TARGET2 architecture will be developed and described in the General Specifications phase of the T2S project.

The user requirements specific to the external networks and interfaces necessary for the CSDs and T2S parties to connect directly to T2S will be established in the next phase of the project (with reference to chapter 12: Interfaces & Connectivity Requirements).

TARGET2 Single Shared Platform architecture should be reused

Reference ID	T2S.19.010

In order to take advantage of synergies in term of security availability and infrastructure architecture, the TARGET2 Single Shared Platform architecture should be reused as much as possible for T2S.

T2S’s technical environment will be installed on a two regions / four sites architecture

Reference ID	T2S.19.020

The technical environment for the T2S data centre and application shall follow the “two regions / four sites” architecture.

T2S’s technical environment will be spread across each region

Reference ID	T2S.19.025

Inside a region, the distance between the two sites will be more than 3 kilometres.

T2S will be logically independent from TARGET2

Reference ID	T2S.19.030

Complete logical independence between TARGET2 and T2S operations will be always guaranteed (each system must be able to run independently of the other).

19.2 High resilience for High Availability

The T2S architectural concept must ensure high availability of T2S services, and therefore it will rely on appropriate state-of-the-art concepts.

T2S will have a high level of resilience

Reference ID	T2S.19.040

T2S must have a high level of resilience providing a seamless failover, a rapid recovery and timely resumption of operation.

Components supporting a high degree of resilience will be preferred. The system will also deploy, e.g. duplication and clustering of critical components, different trunks for lines, automated reaction to failures, etc.

Redundancy against single component failures

Reference ID	T2S.19.050

The system shall provide redundancy against single component failures by supporting replicated component deployment and automated failover.

System and application software will be kept updated in parallel in the two regions

Reference ID	T2S.19.060

The system and the application software will be kept updated in the two regions by means of hardware feature (asynchronous remote copy).

System and application software will be kept updated in the two sites of the same region

Reference ID	T2S.19.070

The system and the application software will be kept updated in the two sites of the same region.

Single interface to users independent of the region

Reference ID	T2S.19.080

T2S will offer a single interface to its users, i.e. they will not perceive in which region a certain module is running.

Rotation between regions invisible to users

Reference ID	T2S.19.090

Rotation will be invisible to users and market infrastructures, i.e. no configuration changes in customer systems are envisaged.

Rotation between two regions will be regularly applied

Reference ID	T2S.19.095

Rotation between two regions should be applied at least two times per year.

19.3 General Design Principles

T2S system shall be secured, scalable and resilient

Reference ID	T2S.19.100

The main elements of the design will be:

- a fully scalable central processing system and with proven resiliency,
- a storage subsystem with synchronous and asynchronous mirroring functionality,
- a data storage system (data warehouse) with synchronous mirroring functionality to ensure continuous reporting,
- a dedicated internal network to connect the different processing sites,
- homogeneous secure wide area networks with adequate services and security protection to link up the CSDs and directly-connected T2S parties (see Chapter 12)
- security systems (firewall, etc.),
- system and application software which is compliant with above-mentioned elements.

T2S system size shall be adapted to the forecast activity

Reference ID	T2S.19.110

The system shall be able to accommodate the estimated data volumes reassessed on a regular basis throughout T2S application life.

T2S architecture shall not be dependent on particular technology

Reference ID	T2S.19.120

Technology dependency shall not constrain the technical architecture of T2S.

T2S shall be made of independent modules

Reference ID	T2S.19.130

The system shall be made up of independent modules promoting technical component reusability.

T2S architecture shall support open interfaces

Reference ID	T2S.19.140

The system shall facilitate the exchange of information between its architectural components by supporting open interfaces.

T2S will use standard communication protocols

Reference ID	T2S.19.150

The system will use standard (de jure/de facto) communication protocols.

T2S data shall be stored on a central repository

Reference ID	T2S.19.160

All system data shall be stored on a central repository.

T2S architecture shall support a multi-tier architecture

Reference ID	T2S.19.170

The application architecture shall separate the data, business logic, and presentation layers.

T2S logical architecture shall enable parallel processing

Reference ID	T2S.19.180

The design shall be structured on a multiple instances configuration to enable parallel processing.

T2S static and transactional data shall be segregated by system entity

Reference ID	T2S.19.190

T2S shall partition static and transactional data by system entity, using the system entity identifier where applicable.

This means that the system entity identifier must be an attribute of all specific static data and transactional entities in T2S as the prerequisite for data segregation.

High performance internal network

Reference ID	T2S.19.200

A high-performance internal T2S network shall be provided to connect the two regions and the four sites.

High availability internal network

Reference ID	T2S.19.210

The internal network shall have a high-availability architecture

Single internal network interface

Reference ID	T2S.19.220

The rotation principle requires a single, well-defined internal network interface.

T2S external message exchange shall be based on the ISO20022 standard

Reference ID	T2S.19.230

Network services shall offer an extensive support of standardised message exchange based on ISO20022.

T2S architecture design shall ensure maintainability

Reference ID	T2S.19.240

T2S architecture shall be built in a way that allows a high degree of maintainability.

T2S monitoring guaranteed by automated checks and control screens

Reference ID	T2S.19.250

Sufficient automatic checks and control screens shall be in place to ensure the monitoring of the system's functioning.

T2S errors and alerts shall be stored in a central monitoring utility

Reference ID	T2S.19.260

All error messages and alerts shall be stored on a secured central event log.

Messages and screens similar for all users

Reference ID	T2S.19.270

User messages and user screens shall follow a user style guide based on best practices

The unique language of T2S will be the English language

Reference ID	T2S.19.280

The unique language of T2S shall be the English language (screens, documentation, support).

19.4 T2S environments

T2S will support six environments distributed between the two regions

Reference ID	T2S.19.290

During normal operations, the different environments (live operations, Customer acceptance, Customer testing, development, integration and internal acceptance) shall be distributed between the two regions.

T2S will support up to four technical internal environments

Reference ID	T2S.19.300

T2S shall support up to four different internal environments established for development, integration and internal acceptance and performance tests for application development and integration.

T2S will support a certification environment

Reference ID	T2S.19.310

T2S shall support a permanent environment established for users' compliance testing for certification to connect T2S (see Migration).

T2S will use automated testing methods and tools

Reference ID	T2S.19.320

T2S shall use, as much as possible, automated testing methods and tools in order to avoid unnecessary burden to participants.

T2S will support a permanent customer testing environment

Reference ID	T2S.19.330

T2S shall provide a permanent environment dedicated to customer testing and simulation. (incl. testing of CSDs and directly connected parties).

T2S permanent customer testing environment shall be similar to the production environment

Reference ID	T2S.19.340

The configuration and operations of these Customer test environments shall be as identical to the Production environment as possible.
(The capacity and consequently the performance of this environment will be lower than the production one. The necessary size of this environment will be decided in the next phases of the project).

T2S permanent customer testing environment shall be coupled to the TARGET2 and CSD testing environment

Reference ID	T2S.19.350

The permanent T2S testing environment shall be coupled with the TARGET2 testing environments and the CSDs testing environment.

T2S end-to-end testing environment shall be available at any appropriate time

Reference ID	T2S.19.360

Customer end-to-end testing environment shall be available at any appropriate time.

USER REQUIREMENTS

CHAPTER 20

IT SERVICE MANAGEMENT AND BUSINESS CONTINUITY

T2S Project Team

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20 IT Service management and business continuity

The present chapter aims at presenting the basic elements on which the IT service management shall be based. All services and functions requested for T2S will be deployed with the performance and security levels described in chapters 17 and 18 of the present URD.

The contractual relationship between T2S and T2S parties is under discussion at present. The contract sub-elements, including the description of the service level, will be defined in a later phase of the project.

The level of service provided to users, system performance measurement and related reporting will be agreed under the service management part of the T2S governance policy. This governance policy will also cover incident, problem, change, release and management policies. The contents of the present chapter will be used in the discussion of these policies and linked procedures.

The T2S service provider shall ensure that best practices for IT service management are being followed. IT Service Management recommendations of ITIL will be fully applied and the ISO 20000 IT Service Management Standards shall be followed as much as possible.

The **Information Technology Infrastructure Library (ITIL)** is a set of best practices for managing information technology (IT) infrastructure, development, and operations.

In essence, it can be considered as the world-wide *de facto* standard in IT service management.

The following sections present a list of high-level IT Service Management requirements as extracted from ITIL and slightly amended where necessary.

The first version of the list of services (service catalogue) will be provided in the General Functional specification phase. The targeted service level (also in chapter 17) will be clarified in the General Functional specification phase.

T2S will satisfy ITIL concepts

Reference ID	T2S.20.010

To ensure service support and delivery according to agreed service levels, the service provider of T2S shall use predefined processes based on the proven ITIL concept.

20.1 Operating times

Daily Operations timelines are defined in detail in chapter 3 and are outside the scope of this document.

The T2S System must be able to cope with these requirements.

20.1.1 Online Operating Window

Access to and update of data in T2S in online mode are a key element of the user requirements.

This access covers every kind of data (in U-to-A or A-to-A mode), be they static or settlement-related ones.

T2S calendar

Reference ID	T2S.20.020

A calendar will be established for T2S that is different from the TARGET2 calendar. The T2S calendar will be in line with the Central Bank calendar of T2S settlement currencies, i.e. in the euro zone the opening days will be the same for T2S and TARGET2.(see T2S.03.305-320)

Night downtime

Reference ID	T2S.20.030

T2S is allowed a maintenance window downtime of a maximum of 2 hours per 24 hours at night (03:00 to 05:00 CET). Files received during this maintenance downtime will be queued (see T2S.03.230).

20.2 T2S service desk

A Service Desk will be available at the T2S service provider to promptly respond to any technical issues raised by the CSDs and T2S parties authorised by the CSDs.

T2S Service Desk

Reference ID	T2S.20.040

A T2S Service Desk with skilled staff must be established as a single point of contact for the CSDs and T2S parties authorised by the CSDs in case of technical incidents.

20.2.1 Service Desk operating time

T2S Service Desk operating on a 24-hour basis

Reference ID	T2S.20.050

The T2S Service Desk will be accessible 24 hours a day during operating days.
The service level will be different depending on the time of day.

20.2.2 Technical inquiry response time

Based on the level of complexity of the technical enquiry, the T2S Service Desk shall operate according to a published response time matrix and measure its performance against this matrix.

Call recording by the T2S Service desk

Reference ID	T2S.20.060

The T2S Service Desk will record all enquiries and provide confirmation to CSDs or directly connected instructing parties when calls are received.

Trouble management system

Reference ID	T2S.20.070

The Service Desk shall be supported by a Trouble Management System (TMS).
In addition, all activities of the T2S service provider related to IT Service management processes shall be supported by the Trouble Management System, which will cover the workflow and serve as an information base providing e.g. the status of an incident/problem, the actors involved, and details about reasons and solutions.

Online access to Trouble management system for CSDs and T2S parties authorised by the CSDs

Reference ID	T2S.20.080

CSDs and T2S parties authorised by the CSDs shall have online access to the tool.
The communication between the service desk and customers shall be based on use of telephone, fax and email.

20.2.3 Service Desk reporting

The CSDs will need to receive regular Management Information covering the performance of the T2S Service Desk as compared with the agreed service level.

Online access to Trouble Management System for CSDs

Reference ID	T2S.20.090

A Service Desk Management information report including types of inquiries, number of inquiries per month from directly connected instructing parties, number of unresolved inquiries and time elapsed will be provided to CSDs and directly connected instructing parties.

Monthly Service Desk Management Information reporting

Reference ID	T2S.20.100

A Service Desk Management information report will be provided monthly.

Service Information reporting

Reference ID	T2S.20.110

Reports - including key performance indicators - shall be made available to the governance structure and to the users for a Service Level Management of the T2S application.

20.3 Incident Management

By definition, an incident is any event which is not part of the standard operation of a service and which causes, or may cause, an interruption or a reduction in quality of that service.

Incident Management procedure shall be in place to restore normal service operation

Reference ID	T2S.20.120

An Incident Management service shall be in place.

The primary goal of Incident Management is to restore normal service operation as quickly as possible and minimise the adverse impact on business operations, thus ensuring that the best possible levels of service (quality and availability) are maintained as defined by the SLA.

Incident Management is to inform of errors as soon as possible

Reference ID	T2S.20.130

Incident Management shall inform / warn all relevant parties of errors or malfunctions at the earliest possible time.

20.4 Problem Management

Problem Management shall be in place to minimise the adverse impact of Incidents and Problems

Reference ID	T2S.20.140

A Problem Management service shall be in place.

The goal of Problem Management is to minimise the adverse impact of Incidents and Problems on the business that are caused by errors within the IT Infrastructure, and to prevent the recurrence of Incidents related to these errors. In order to achieve this goal, Problem Management seeks to get to the root cause of Incidents and then initiate actions to improve or correct the situation.

The Problem Management process has both reactive and proactive aspects. The reactive aspect is concerned with solving Problems in response to one or more Incidents. Proactive Problem Management is concerned with identifying and solving Problems and Known Errors before Incidents occur in the first place.

20.5 Change management

The goal of the Change Management process is to ensure that standardised methods and procedures are used for efficient and prompt handling of all Changes, in order to minimise the impact of Change-related Incidents upon service quality, and consequently to improve the day-to-day operations of the organisation.

Any changes shall be prepared and implemented under the control of a change management process.

Change management procedures shall be defined

Reference ID	T2S.20.150

Change management procedures shall be defined and implemented in order to efficiently track and manage changes and to mitigate the risks associated with these changes.

Change governance structure

Reference ID	T2S.20.160

A change governance structure shall be in place to collect, assess and prioritise requirements to be considered for the coming release. It shall also decide on the release contents.

Change governance policy

Reference ID	T2S.20.170

Change governance policy shall be defined under the responsibility of the application governance body.

Changes shall be grouped

Reference ID	T2S.20.180

Multiple changes to T2S shall be included in one single release if possible.

20.5.1 Emergency changes

In certain cases an incident may demand an urgent change of the application or system software in the production environment. Such a change clearly aims to ensure a quick restoration of T2S services and not to change the functionality. Due to its urgency, such a change cannot be processed by following the complete

process for changes. Therefore such changes shall fall under a special category called emergency changes. However, even emergency changes shall be controlled by a lightweight change management procedure.

Changes are always under the control of the change manager

Reference ID	T2S.20.190

Emergency changes shall be immediately reported to and approved by the Change Manager.

Emergency procedures for short-term access to production environment

Reference ID	T2S.20.200

Procedures will be in place to allow dedicated personal short-term access to production data and production code.

Auditing and monitoring procedures on emergency changes

Reference ID	T2S.20.210

Procedures will be in place that automatically monitor and audit the activities performed on the system during the emergency phases.

20.5.2 Bug fixing response time

An identified software bug may be either of non-critical nature (and therefore can be scheduled for a regular systems maintenance activity) or of critical nature (and therefore requires an immediate correction).

Immediate reaction to critical bug fixing is required

Reference ID	T2S.20.220

Reaction to critical bug fixing shall be within a pre-defined time range.

20.6 Release Management

The focus of Release Management is the protection of the production environment and its services through the use of formal procedures and checks.

New releases will be prepared and implemented under the control of a release management process.

20.6.1 Release planning and communication

New releases will cover major changes in relation to the functionality of the application and/or infrastructure changes.

Release planning process

Reference ID	T2S.20.230

A release planning process must be established (except for emergency changes and minor changes without any functional impact).

Software development staging process

Reference ID	T2S.20.240

All releases shall follow the staging concept, i.e. installation in the production environment is only allowed after testing in the former stages, especially on the customer test environment.

Release communication 18 months in advance

Reference ID	T2S.20.250

Major releases shall be announced 18 months in advance. Detailed documentation in the release contents shall be available at the same time.

Detailed contents of release communicated 9 months in advance

Reference ID	T2S.20.260

Final announcement and detailed contents of major changes shall be given 9 months in advance.

20.6.2 Software life-cycle planning

The T2S application will be an evolving application, increasing and improving services by following a defined Software Development Life Cycle.
Changes and upgrades will be performed during the application life cycle. It will need to be determined case by case whether such changes will require the directly connected instructing parties to perform an end-to-end test. These cases need to be communicated to the directly connected instructing parties as early as possible to allow for adequate planning and to establish the correct test cases and procedures.
All other changes which may have an impact on directly connected instructing parties will also need to be announced at the earliest stage possible. An exception to this will be any form of emergency updates due to a problem in the production environment.

New requirements collection and prioritisation

Reference ID	T2S.20.270

There must be a defined planning process for gathering and analysing requirements concerning functional changes leading to a new software release.

Software development life cycle procedure

Reference ID	T2S.20.280

There must be a defined Software Development Life Cycle for planning and developing a new software release.

20.7 Configuration Management

T2S will ensure a continuous management of its configuration

Reference ID	T2S.20.290

Configuration Management aims to:

- account for all the IT assets and configurations within the organisation and its services,
- provide accurate information on configurations and their documentation to support all the other Service Management processes,
- provide a sound basis for Incident Management, Problem Management, Change Management and Release Management,
- verify the configuration records against the infrastructure and correct any exceptions.

20.8 Service Level Management

The goal of the Service Level Management process is to maintain and improve IT Service quality through a constant cycle of agreeing, monitoring and reporting upon IT Service achievements and instigating actions to eradicate poor service - in line with business or cost justification.

All services provided by T2S shall be managed through Service Level Agreements

Reference ID	T2S.20.300

All services provided by T2S shall be managed through Service Level Agreements (SLAs) by a defined Service Level Management process.

20.9 Capacity Management

The goal of the Capacity Management process is to ensure that cost-justifiable IT Capacity always exists and that it is matched to the current and future identified needs of the business.

Capacity Management process in place

Reference ID	T2S.20.310

The required IT capacity shall be provided by following a defined Capacity Management process.
See chapter 17 - Volumes and performance

20.10 Availability Management

The goal of the Availability Management process is to optimise the capability of the IT Infrastructure, services and supporting organisation to deliver a cost-effective and sustained level of availability that enables the business to satisfy its business objectives.

Availability Management process in place

Reference ID	T2S.20.320

A cost-effective and sustained level of availability (above 99.7% of the operating time) that enables the business to satisfy its business objectives shall be ensured via a defined Availability Management process.

20.11 Financial Management

The goal of the Financial Management process is to provide cost-effective stewardship of the IT assets and resources used to provide IT Services for T2S.

Financial Management process in place

Reference ID	T2S.20.330

A Financial Management process shall be defined and implemented to assist decision-making on IT investment by providing detailed business cases for changes to the IT Services provided by T2S.

20.12 IT Service Continuity Management

"The goal for ITSCM is to support the overall Business Continuity Management process by ensuring that the required IT technical and services facilities (including computer systems, networks, applications, telecommunications, technical support and Service Desk) can be recovered within required, and agreed, business time-scales."

IT Service Continuity Management process in place

Reference ID	T2S.20.340

An ITSCM process shall be put in place to ensure that T2S IT services can be recovered within the required and agreed time-scales.

20.12.1Business Continuity Model

Objective: To have procedures in place to trigger and complement the T2S system's high resilience.

Rotation procedure and process between the two regions

Reference ID	T2S.20.350

There must be in place a rotation procedure and process between the two regions that describes in detail the organisational and procedural arrangements.

Switch procedure between the two sites inside each region

Reference ID	T2S.20.360

There must be in place a switch procedure between the two sites inside each region that describes in detail the organisational and procedural arrangements for testing.

Each of the T2S sites must satisfy the agreed service level

Reference ID	T2S.20.370

Each of the four T2S sites must be able to fulfil the agreed service level.

Skilled staff must have access to the system in any circumstances

Reference ID	T2S.20.380

In addition to the resilient architecture, skilled staff must be available and they must be able to access the system (remotely and/or locally) under any circumstances without a decrease of agreed service level.

Business continuity model shall satisfy the widest range of possible system failures

Reference ID	T2S.20.390

The business continuity model foreseen for T2S shall be able to cope with trivial and serious failures as well as with site and regional area disaster scenarios.

The infrastructure and staff of the two regions shall be independent and not affected by the same regional security events

Reference ID	T2S.20.400

Out-of-region sites shall not be dependent on the same labour pool or infrastructure components used by the primary region and shall not be affected by a wide-scale evacuation or the inaccessibility of the region's population.

Disaster recovery period is under two hours

Reference ID	T2S.20.410

The maximum disaster recovery period of T2S shall be under two hours from the moment when the decision is taken by the Crisis managers. This time can be used to allow the T2S parties to control, prepare and reconcile their own environments towards re-establishing a functioning T2S environment.

20.12.2 Crisis Management

Crisis Management is an important element of Business Continuity, and as such a Governance issue. It is important to note that, differently from the incident management process, crisis management shall cover an interruption to the supply of the service to be provided.

Objective: To have a structure and procedures in place to manage incidents and events that exceed a pre-agreed severity threshold.

Crisis management process and crisis management structure will be defined by the T2S Governance structure

Reference ID	T2S.20.420

The crisis management process and crisis management structure will be defined by the T2S Governance structure.

Crisis management process to guarantee coordination of activities in crisis situations

Reference ID	T2S.20.430

The crisis management process is to guarantee effective coordination of activities within all the involved organisations in a crisis situation.

Crisis management process to guarantee appropriate communication in crisis situations

Reference ID	T2S.20.440

The crisis management process is to guarantee appropriate communication, i.e. an early warning and clear instructions to all concerned, if a crisis occurs.

Resilient crisis communication tools to guarantee appropriate communication in crisis situations

Reference ID	T2S.20.450

To ensure efficient communication in a crisis situation, a resilient communication infrastructure spanning the two regions shall be available.

Crisis management process to guarantee continued assessment of crisis consequences

Reference ID	T2S.20.460

The crisis management process is to guarantee a continued assessment of the crisis' actual and potential consequences.

Crisis management process to guarantee business continuity during and after the crisis

Reference ID	T2S.20.470

The crisis Management process is to guarantee a continuity of business operations during and immediately after the crisis.

Crisis management process to guarantee a structure for escalation and decision making process

Reference ID	T2S.20.480

The crisis Management process is to guarantee a clear structure for escalation and the decision-making process.

Crisis management process to guarantee information to the relevant T2S parties

Reference ID	T2S.20.490

The crisis Management process is to guarantee clear communication rules, including informing customers.

20.12.3 Additional contingency measures

Considering the required resilience of T2S and the Business Continuity measures to be implemented, it could happen that the T2S service is not available for a limited time (e.g. severe software bug).
Objective: To limit the possible impacts of a T2S interruption on other systems (e.g. TARGET2) and financial markets.

Business contingency procedures will be defined under the responsibility of the Governance structure

Reference ID	T2S.20.500

Business contingency procedures will be defined in under the responsibility of the Governance structure in line with best practices.

Additional contingency tools are not required

Reference ID	T2S.20.510

Considering that there is no time-critical settlement requirement, T2S shall not implement any additional contingency tools. In this context, critical settlements must be understood as a limited number of instructions for which the non-settlement in the next few hours may induce a systemic risk.

20.13 Documentation

T2S application shall be documented

Reference ID	T2S.20.520

A comprehensive set of T2S documentation shall be prepared covering inter alia following subjects:

- Architecture

- Storage
- Network documentation
- Service Desk Documentation
- Operational Procedures
- Training
- System acceptance
- Planning
- Service Level Information
- Testing

Documentation will be distributed under T2S governance structure control

Reference ID	T2S.20.530

The T2S Governance structure will establish the detailed contents and the distribution list for documentation.

Functional specifications will be communicated to the CSDs

Reference ID	T2S.20.540

T2S documentation on Functional Specifications, including optimisation and settlement algorithms, needs to be available to CSDs.

USER REQUIREMENTS

CHAPTER 21

MIGRATION

T2S Project Team

Reference:	T2S-07-0371
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EUROPEAN CENTRAL BANK

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21 Migration

This chapter aims at describing a basis for migration principles and procedures.
Detailed migration policy and plans will be established by the involved parties at a later stage of the project.

21.1 Introduction

Migration in the context of T2S means the relocation of data from a CSD to the T2S infrastructure and the associated changes in the processes and technical environment of a CSD on a mutually agreed date. Such a migration event can consist of one CSD or a batch of CSDs. The drivers for that decision will include volume considerations, structural interaction between CSDs and considerations to maintain a level playing field between CSDs in T2S and CSDs not yet in T2S. Upon the successful completion of a migration, a freeze period is considered necessary to fine-tune the post-migration environment. Migration dates will be announced far in advance, along the lines of the three-monthly cycles, to enable all CSDs to join the T2S platform as quick as possible and to leverage the new functionalities available. Migration will be planned on "non-sensitive" weekends (e.g. end of month, market driven special event, etc.).
The migration prerequisites do have to include user training sessions, user testing and functional certification, and a mutually agreed period of settlement process simulation. For these reasons, dedicated teams from the CSD(s) and T2S shall be established far in advance of the migration. These teams will also need to be working together in a highly integrated manner to minimise the risks that are naturally associated with any process and technology migration of this magnitude and importance.
The migration itself should be planned as a ‘soft migration’. All so-called static information could be loaded into the ‘live’ environment during a short time before and not necessarily during a big-bang weekend (the differential being updated during the migration weekend). The transaction and instruction data, on the other hand, require a transfer at close of settlement day Friday to start the migration weekend activities. That means that the settlement day (usually a Monday) would already be processed in the T2S environment. At present, it is envisaged that members of the CSD that migrate their settlement functionality to T2S will not be directly connected during the first days of Operation. A freeze period of a reasonable time-frame to ensure CSD/T2S processing and data integrity before a directly connected user should be enabled.

Summary of migration approach:

- CSD by CSD respectively, or groups of CSDs
- A migration freeze period of at least one month between migration dates
- Compliance with CSD
- Compliance with directly connected parties
- Static data loading period before the migration weekend

- Migration will happen over a weekend
- Directly connected parties should be enabled following a defined period after migration

21.2 Migration plan

Establish and announce migration dates to the market

Reference ID	T2S.21.010

The migration date shall be agreed between the CSD(s) and the T2S Governance body and communicated at a very early stage to the market.

Prepare a testing plan

Reference ID	T2S.21.020

This migration announcement should allow the participants of the relevant CSD(s) and the CSD(s) itself to plan and prepare their testing in advance of the migration.

21.3 Communication plan

A concentrated and joint effort between T2S and the respective CSD(s) needs to address the market and CSD participant communication. This communication process shall start with the decision taken by the CSD to migrate its settlement process to T2S and finish about four weeks after the successful migration.

Detailed communication plan

Reference ID	T2S.21.030

A detailed communication plan shall be established.

Areas of generic communications need to consider, for example:

- regular status updates of the migration
- specific information regarding potential changes, for example, in Securities Settlement Information

Areas of CSD customer-specific communications shall be the other element in this migration effort.

Communication plan contact list

Reference ID	T2S.21.040

A detailed migration weekend communications plan, including relevant communication via email and/or Internet about the progress of the migration to the CSD customers, shall be established.

Dedicated resources for communication plan

Reference ID	T2S.21.050

Dedicated resource responsibilities for communications need to be established and shared between CSD and T2S project teams during the migration period

Regular migration plan updates

Reference ID	T2S.21.060

The migration date is extremely dependent on the completion of successful testing, simulation and preparedness for the migration; therefore, this date shall be validated on a regular basis. If the migration date is shifted, this needs to be announced again with prior and mutual consent of the relevant CSD and the T2S Governance structure.

21.4 Testing- Simulation environment

Functional Tests and Test Cases are not covered in this document. They will be delivered by the Specification Phase.

T2S will plan integrated tests with all T2S parties

Reference ID	T2S.21.070

Integrated tests with Target2, T2S and/or external network provider(s) shall be planned and communicated in time. For these tests, general test cases and test cycles will be provided for acceptance.

Testing and simulation environment

Reference ID	T2S.21.080

A technical infrastructure for the testing and simulation of processes, including telecommunications, applications, technical help desk and reports, must be available.

Testing environment calendar

Reference ID	T2S.21.090

The testing infrastructure also needs to be able to support testing and simulation over a period of settlement days to be established at a later stage of the project (for example, five consecutive settlement days).

Multiple accesses to the testing environment

Reference ID	T2S.21.100

The testing infrastructure will be available for use simultaneously by multiple CSDs and directly connected T2S parties at the early stage of the acceptance testing process.

Migration testing

Reference ID	T2S.21.110

Migration shall be tested in a test environment similar to the production environment.
(Critical and/or extended periods of non-availability need to be signalled as early as possible)

21.5 Archiving of acceptance/T2S compliance testing documentation

Archiving of compliance testing

Reference ID	T2S.21.120

For audit and control purposes, T2S compliance testing documentation and testing results will be archived by T2S.

Archives duration period

Reference ID	T2S.21.130

Archiving duration of compliance test records shall be defined as a number of years per country.
The archiving duration differs by country due to regulations and internal compliance necessities. A common archiving duration period valid for all participants will be studied as part of the work on harmonisation.

21.6 Dedicated migration project teams

Dedicated migration project teams from CSD and T2S

Reference ID	T2S.21.140

It is indispensable to establish dedicated teams for the migration on both sides – the CSD as well as the T2S. The single mandate of these teams has to be successfully executing the migration and then monitoring and providing support in the early weeks of live operation.

Size of migration team

Reference ID	T2S.21.150

The size of the teams depends on the availability of automated planning and migration tools at both ends (CSD and T2S) and the data complexity and volumes.

Harmonised working procedure

Reference ID	T2S.21.160

These dedicated teams need to be working with harmonised and documented working procedures.

Detailed standard migration plans

Reference ID	T2S.21.170

A very detailed standard migration plan shall be developed detailing every steps and each step's associated responsible party heading towards the migration weekend.

Standard fall-back plan

Reference ID	T2S.21.180

A standard fall-back plan shall be established and available before the first-ever migration period.

Weekend migration plans

Reference ID	T2S.21.190

The standard migration plan shall be complemented with a standard migration weekend plan, which over and above all the detailed tasks will also need to include check and compliance certification steps. These steps will need to be signed off by relevant seniors, and only after approving the successful completion of a

migration step should the next series tasks in the plan be started. These control points should help mitigate potential risks in the migration, but will also determine whether the migration is advancing successfully or whether the process needs to be stopped and the fall back procedures need to be applied.

21.7 Tailored migration plans

Tailoring of standard migration plans

Reference ID	T2S.21.200

The standard migration plans shall be tailored for any migration. This tailoring effort shall be one of the first tasks for the dedicated project teams.

Main element for the migration plans

Reference ID	T2S.21.210

The plans shall include items like:

- set-up of accounts and account structures;
- set-up of the dedicated T2S Cash account;
- the assignment of a CSD to an ISIN and the responsibility to maintain such ISIN;
- input of all static information required in T2S, including registration of users;
- data transfer of balances; and
- data transfer of pending instructions and transactions.

Contingency plan for stopping migration

Reference ID	T2S.21.220

A full contingency plan shall be in place in case the migration needs to be stopped during the migration weekend and deferred to a later date.

Roll-back procedures

Reference ID	T2S.21.230

A roll-back procedure needs to be in place to reverse a launched migration procedure.

Tailored fall-back plan

Reference ID	T2S.21.240

The standard fall-back plan will be reviewed and tailored by the dedicated project teams during the migration period, as the primary focus of such a plan will be on the migration weekend.

Fall-back plan and roll-back procedures testing

Reference ID	T2S.21.245

The tailored fall-back plan and, in particular, the roll-back procedures shall be tested before the migration starts.

Migration live environment

Reference ID	T2S.21.250

The migration infrastructure will be available to load data, e.g. static data, before the actual migration weekend activities takes place (this could also be the respective T2S live environment on the condition that the Database will be designed with a ‘multi-entity capability’).

Migration live environment protection

Reference ID	T2S.21.260

The data shall be backed up and treated like any other live data in case it will be a separate migration environment.

Data transfer from migration live environment

Reference ID	T2S.21.270

In case of a separate migration environment, tools need to be in place to transfer the data from this environment to the life environment during the migration weekend.

21.8 Data migration tools

Migration tool development

Reference ID	T2S.21.280

Migration tools shall be developed to support the transfer of data from the CSD to T2S, and potentially to TARGET2 regarding the cash accounts.

Generic migration tool requirements

Reference ID	T2S.21.290

Generic migration tools shall address areas like:

- ability to receive Excel files and migrate the data into the T2S database;
- ability to receive flat files and migrate the data into the T2S database; and
- ability to migrate the data into the T2S database via the standard channel of communication.

Specific migration tool

Reference ID	T2S.21.300

Specific migration tools shall be determined by the dedicated project teams during the course of the migration period, e.g. high volume data files structure and processing, to establish the instruction/transaction and securities database for a CSD.

Specific migration tool requirements

Reference ID	T2S.21.310

Technical resources shall be available in the T2S development area to address the requirements of specific migration tools at the earliest and develop these tools to be carefully tested before the first migration.

Requirements for initial migration

Reference ID	T2S.21.320

T2S shall require the migration of securities positions as settled transactions or settlement instructions that can immediately settle so that T2S can generate the initial position. This requirement shall enable the rebuilding of positions in T2S if need be.

21.9 Compliance certification plan

Agreed compliance certification steps

Reference ID	T2S.21.330

There shall be checkpoints during the course of the migration period as well as during the migration weekend which will need to be signed-off by specified stakeholders from the CSD as well as from the T2S side.

Agreed migration completion

Reference ID	T2S.21.340

The successful completion of the migration weekend needs to formally demonstrate that all checkpoints have been met and signed off by the relevant dedicated stakeholders. This will then form the basis for the mutual and formal certification of the T2S Governance structure and the CSD(s) that the migration is completed.

21.10 Migration for directly connected T2S parties

CSD customers planning to connect directly to T2S will likely need to go through two steps in the migration. The first step is to migrate like any other customer of the CSD to T2S.
Once the CSD migration has been successfully completed, a stabilisation period of some weeks needs to be considered. During that period the directly connected parties could start testing their direct link to T2S and all the associated links, processes, reports and formats.

Directly connected party migration plan

Reference ID	T2S.21.350

A migration date shall be mutually agreed between the CSD, T2S and the directly connected party, and detailed migration weekend plan covering tasks of the CSD, T2S and the directly connected party must be established.

Migration dedicated team

Reference ID	T2S.21.360

Dedicated project teams from the directly connected parties, the CSD and T2S must be set up.

Migration communication plan

Reference ID	T2S.21.370

A communication plan covering also the migration day shall be in place.
This part has to include email and Internet status updates.

21.11 T2S Training Material and Training sessions

Training material and training course availability

Reference ID	T2S.21.380

Training material and actual courses shall be available at the time the technical test and application infrastructure has been established at the latest.

Prioritisation list for training

Reference ID	T2S.21.390

Training courses shall be provided in priority order, i.e. first CSD joining needs to have top priority in training.

Web-based training courses

Reference ID	T2S.21.400

Training material shall be submitted to all CSDs upon availability using the Internet.

Web-based training courses availability

Reference ID	T2S.21.410

Web based online training courses will be available at least three months before the launch of T2S for CSDs and T2S parties.

Interactive training courses before testing

Reference ID	T2S.21.420

Coach-based training courses will be available at least one month before the start of T2S testing.

1 **Regular sessions of interactive training courses**

Reference ID	T2S.21.430

2 Coach-based training courses will be regularly offered to all CSDs / directly connected parties.

USER REQUIREMENTS

ANNEX 1

LIST OF CONTRIBUTORS TO THE USER REQUIREMENTS

T2S Project Team

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Cunningham, Mark	Clearstream
Grimaldi, Anne	CACEIS
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Technical Group 2 “Life Cycle Management and Matching”

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USER REQUIREMENTS

ANNEX 2

GLOSSARY AND STANDARDS

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Reference:	T2S-07-0353
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EUROPEAN CENTRAL BANK

EUROSYSTEM

1 Glossary

Title	Definition	Remark
Actual Settlement Date	the date on which the settlement is final, securities are debited from the account of the seller and credited to the securities account of the buyer and the funds are debited from the cash account of the buyer and credited to the cash account of the seller. The actual settlement date also is referred to as the effective settlement date.	
Administering Party	is the legal entity responsible for verifying that the external settlement conditions are fulfilled so that T2S can trigger the delivery of the reserved securities in the processing of a conditional securities delivery.	
Allegement	a message to advise an account owner that another party has instructed against its account for which the account owner has no corresponding instruction in the securities settlement system.	
Application-to-Application (A2A)	defines a mode of technical communication that permits the exchange of information between software applications of T2S and a directly connected T2S actor.	
Asset segregation	a method of protecting client assets by holding them separately.	
Asset servicing	services, provided by a CSD or a custodian, in connection with the custody and/or safekeeping of financial instruments such as corporate action processing.	
Authentication	a security mechanism for verifying the identity of an individual or process.	
Authorisation	a security mechanism for verifying that an individual or process has the privilege to access certain function or data within a system.	
Authorised T2S System User	an individual or process, granted a privilege by its role in T2S to execute a certain function, to run a specific application or to access specific data.	

Title	Definition	Remark
Attribute	defines a characteristic of a conceptual data store/entity. For example, the type of security is an attribute of the entity for security reference data.	
Auto-collateralisation	an intraday credit operation in central bank money that is triggered when the buyer has insufficient funds to settle securities transactions. Intraday credit provision is collateralised with securities already held by the creditor (collateral-on-stock), or through collateral-on-flow (through the eligible securities that are being purchased).	
Availability	the ability of a configuration item or IT service to perform its agreed function when required. Reliability, maintainability, serviceability, performance, and security determine availability. The calculation of availability is usually on a percentage basis and based on agreed service time and downtime. It is best practice to calculate availability using measurements of the business output of the IT Service.	ITIL Definition
Batch Processing	the electronic transmission or processing of a set of related transactions, such as payment orders or securities transfer instructions, as a group at discrete intervals of time.	Revised Blue Book definition since the definition uses the term batch to describe batch processing.
Beneficiary / Beneficial Owner	the party that is entitled to either receive the benefits of the ownership of a security or other financial instrument (e.g. income, voting rights and power of transfer). The beneficial owner is usually distinguished from "legal owner" of a security or financial instrument.	Derived from blue book definition of beneficial ownership.
Bilateral Cancellation of Settlement Instruction	defines the process, requiring both the deliverer and the receiver of securities of a matched settlement instruction to cancel their respective instruction to affect cancellation.	

Title	Definition	Remark
Blocking of Cash Balance	a process of preventing the transfer of a specified amount of funds in a specific currency in one cash account to any other cash account by associating it to a specific transaction or to a specific purpose. Blocking in T2S may never result in a negative cash balance, i.e. it is not possible to block an amount of funds greater than the cash balance on a cash account.	
Blocking of Securities Position	a process of preventing the transfer of a specified quantity of a security in one securities account to any other securities account by associating it to a specific transaction or specific purpose. Blocking in T2S may never result in a negative position, i.e. it is not possible to block a holding greater than the securities position(s) on a securities account.	
Book Entry	a method whereby transfer of ownership of securities is effected involving debits and credits to accounts without the need for the movement of physical certificates or documents or through a pledge.	
Central Bank Money (CeBM) Settlement	settlement is described as being in central bank money if the payment moves directly and irrevocably between accounts on the books of the central bank.	
Central Counterparty (CCP)	an entity which interposes itself as the buyer to every seller and as the seller to every buyer for a specified set of contracts.	Blue Book Definition
Central Securities Depository (CSD)	an entity, which holds and administers securities and enables securities transactions to be processed by book entry. Securities can be held in a physical but immobilised or dematerialised form (i.e. such that they exist only as electronic records). In addition to safekeeping and administration of securities, a CSD may incorporate clearing and settlement functions.	Blue Book Definition
Change	the addition, modification or removal of anything that could have an effect on IT services. The scope should include all IT services, configuration items, processes, documentation etc."	ITIL Definition

Title	Definition	Remark
Closing Day	defines a day, when T2S interfaces and process are not available toT2S actors with the exception of the T2S operator.	
Collateral	assets provided either in the form of the transfer of ownership of assets (in the case of title transfer or repurchase agreements) or in the form of a pledge or a charge granted over relevant assets (in the case of collateralised loans).	Change of Blue Book Definition to reflect the broader context of securities settlement.
Collateral Central Bank Management (CCBM2)	the IT platform that NCBs use for managing eligible collateral for Eurosystem credit operations.	
Commercial Bank Money (CoBM) Settlement	settlement is described as being in commercial bank money if the payment moves between the accounts of non-central banks.	
Conditional Securities Delivery / Conditional Securities Settlement	a procedure in which the final securities and/or cash booking is dependent on the successful completion of an additional action or event (e.g. registration of shares, cash settlement outside T2S).	
Corporate Action on Flow	refers to the generation of claims from or a transformation of unsettled settlement instructions for a corporate action.	
Corporate Action on Stock	refers to the calculation and processing of an entitlement from a corporate action for the settled securities position.	
Cross-CSD Settlement	a term, describing securities settlement that takes place between participants of different CSDs, where both the CSD of the seller and the CSD of the buyer operate in T2S.	

Title	Definition	Remark
CSD in T2S	A CSD that 1) fulfils the Article 10 of the Settlement Finality Directive; 2) settles in central bank money in a T2S eligible currency; and 3) is a legal entity that has entered into a contractual relationship for the use of T2S with the T2S operator.	
CSD Link	a relationship where one central securities depository (CSD) holds a securities account for another CSD. [this is not always the case, there may be other contractual arrangements forming a link]	
Custody	the safekeeping and administration of securities and other financial instruments on behalf of others.	
Data Extract	refers to process of selecting and downloading data from T2S and transmitting the data to the requestor, e.g. all changes in balances, instruction status or static data since the last data were retrieved from the T2S databases.	
Delivery-versus-Delivery (DVD)	a type of instruction and settlement mechanism, specifying a link between two securities transfers, to ensure that a delivery occurs if, and only if, another delivery occurs and vice versa.	
Delivery-versus-Payment (DVP)	a mechanism in an exchange-for-value settlement system which ensures that the transfer of one asset occurs if, and only if, the transfer of cash.	
Delivery-with-Payment (DWP)	a type of instruction and settlement mechanism, specifying the delivery of securities together with a cash payment.	
Dematerialisation	the elimination of physical certificates or documents of title that represent ownership of securities so that securities exist only as accounting records.	Blue Book Definition
Direct (Technical) Connectivity	a technical facility allowing T2S Parties to access T2S and use its securities settlement services without the need for a CSD to act as a technical interface. Direct connectivity affects neither the business or legal relationships between CSDs and the T2S party, nor the processing of the CSD's T2S party.	

Title	Definition	Remark
Direct CSD Participant	a customer of a CSD that has a legal or contractual relationship with that CSD and is holding a settlement account with that CSD.	
Direct Holding System	an arrangement for registering ownership of securities whereby each final investor in the security is registered by a single body, which can be the issuer itself, a CSD or a registry.	
Double-Entry Accounting	an accounting principle whereby, for each credit (debit) made on the account of the beneficiary, there exists a corresponding debit (credit) on the account of the counterpart.	
Earmarking of a Securities Position	the process of specifying that a specified quantity of a security in one securities account is only eligible for specific type of transactions or processes. For example, a bank can earmark a securities position in a securities account for use as eligible collateral.	
Eligible for Settlement	the state in which a settlement instruction that can be submitted to the settlement process.	
Entity	in conceptual modelling terms, an entity is a collection of attributes used to define a person, place, event, object or thing that an information system needs to operate or about which an organisation collects data. Although an entity is conceptual, its physical implementation is one or more database tables.	
Eurosystem Single Interface	the harmonised technical channel to access different services provided by the Eurosystem (e.g. TARGET2, T2S).	
Event	an action that changes the state of a transaction in T2S. For example, a status change from “unmatched” to “matched” occurs when T2S matches a settlement instruction.	
External CSD	is a CSD that does not use the settlement services of T2S.	

Title	Definition	Remark
Finality of Settlement Instruction	settlement instructions, entered into a securities settlement system in a way that they are binding, irrevocable and enforceable against third parties, and are thus protected from insolvency or unwinding risks.	
Free-of-payment delivery (FOP)	the delivery of securities with no corresponding payment of funds.	Blue Book Definition
Fungibility / Fungible Asset	a concept that characterises the method of holding securities by a CSD or other financial intermediary in which each of a number of issues of physical or dematerialised securities is held in a separate fungible pool. No owner has the right to any particular physical or dematerialised security in a particular pool; an owner does, however have a right to such an amount of physical or dematerialised securities as is shown in its account with a CSD or other financial intermediary.	Blue Book Definition
Gross Settlement	a transfer system in which the settlement of funds or securities transfer instructions occurs individually (on an instruction-by-instruction basis).	Blue Book Definition
Haircut	the difference between the market value of a security and its collateral value. Haircuts are taken by a lender of funds in order to protect the lender, should the need arise to liquidate the collateral, from losses owing to declines in the market value of the security.	Blue Book Definition
Hold and Release Mechanism	a process by which a CSD or instructing party may block a pending settlement instruction from settlement or remove a block on a pending settlement instruction.	
Immediate Liquidity Transfer Order	an instruction to transfer a specified amount of money from one cash account to another cash account in real-time on receipt of the instruction.	

Title	Definition	Remark
Indirect CSD Participant	a financial institution established in the European Economic Area (EEA), which has entered into an agreement with a direct CSD participant to submit settlement instructions and receive transfers via such direct CSD participant's CSD account, and which has been recognised by the CSD as an indirect participant	Cf. SFD
In- / Out-T2S Settlement	a transaction, where one party to the settlement holds an account in TARGET2-Securities, but the other party does not.	
Instructing Party	defines the entity that is the originator of the settlement instruction either on its own behalf or on behalf of its clients. An instructing party has the possibility to transmit settlement instructions to T2S through direct connectivity or via a connection through a CSD.	
Instruction Allocation	the process, undertaken by a broker or account operator in markets with direct holdings, of splitting the quantity of settlement instruction and apportioning it to end investor accounts by creating new settlement instructions.	
Instruction Amendment	is a manual or automated update of a value in an attribute of a settlement instruction in a securities settlement system.	
Instruction Enrichment	is the adding values to attributes of a settlement instruction from reference data or through calculation algorithms through a manual or automated process.	
Intended Settlement Date	the date on which the parties to a securities transaction agree that settlement is to take place. This intended settlement date also is referred to as the contractual settlement date or value date.	
Intermediary CSD	a third party CSD facilitating the transfer of securities between two CSDs, which do not have a direct relationship with each over.	

Title	Definition	Remark
International Securities Identification Number (ISIN)	a code, uniquely identifying a specific security, based on the ISO standard 6166.. The number consists of 12 digits, with the first 2 digits containing the ISO 3166 country code, followed by 9 NSIN digits (national security identification number) and a final check digit.	
Intra-CSD Transaction	A transaction can be called intra-CSD in case both parties involved have their securities accounts with the same CSD. See settlement transaction.	
Investor CSD	a central securities depository that holds securities for at least one party of a transaction.	
Issuer CSD	the central securities depository in which the securities have been issued and distributed on behalf of the issuer. The issuer CSD is responsible for processing corporate actions in the name of the issuer. The issuer CSD maintains omnibus accounts in its books in the name of investor CSDs for the transfer of securities to the investor CSDs.	
Key Performance Indicator (KPI)[1]	A metric that is used to help manage a process, IT service or activity. Many metrics may be measured, but only the most important of these are defined as KPIs and used to actively manage and report on the process, IT service or activity. KPIs should be selected to ensure that efficiency, effectiveness, and cost effectiveness are all managed.	ITIL Definition
Liquidity Transfer Order	an instruction to transfer a specified amount of money from one cash account to another cash account. See also immediate liquidity transfer order, standing liquidity transfer order and current liquidity transfer order.	
Locked- In Instructions	settlement instructions, blocked for all processing except settlement. It is not possible to modify, cancel or hold locked-in instructions. This term is used exclusively in the context of settlement processing.	
Matching	the process used for comparing the trade or settlement details provided by parties in order to ensure that they agree on the terms of the transaction.	Blue Book Definition

Title	Definition	Remark
Message Subscription	a service that allows a CSD or other authorised interested party with direct connectivity to T2S to subscribe to copies of messages sent between a directly connected T2S party and T2S in real-time using push mode messaging. Subscriptions are based on one or more of the following parameters: - Message type; - Instruction type; - Instruction status; - Participant; - Account; - ISIN.	
Net Settlement System	a funds transfer or securities settlement system whose settlement operations are completed on a bilateral or multilateral net basis.	Blue Book Definition
Netting	an agreed offsetting of positions or obligations by trading partners or participants. The netting reduces a large number of individual positions or obligations to a smaller number of obligations or positions. Netting may take several forms, which have varying degrees	Blue Book Definition
Non-Fungible Security	Non-fungible securities are financial instruments, held and transferred as separately identifiable instruments. Holdings of non-fungible securities are not interchangeable even though the instrument has identical characteristics.	
Non-Trade Related Instructions	instructions, related to any event other than trading activities, such as corporate actions or securities lending operations.	

Title	Definition	Remark
Occurrence	an instance of information of an entity. It is a record in a database table or file in terms of physical implementation.	
Opening Day	defines a day, when matching and settlement takes place in T2S(also referred to as settlement day).	
Operating Day	defines a day, when any subsets of T2S processes are available to T2S actors.	
Operating Hours	defines the hours when a specific T2S process, such as query or settlement, is scheduled to run.	
Optimisation Cycle	routine processes in a payment or securities settlement system to determine the order in which payments are accepted for settlement. Optimisation routines are used to improve system liquidity and increase settlement efficiency. Such processes detect and resolve settlement gridlocks with a view to settle new transactions as well as transactions that could not settle in an earlier attempt.	Blue Book definition amended for securities settlement.
Party	the generic term for the reference data pertaining to a T2S actor.	
Partial Settlement	a process that settles only to a fraction of settlement instructions original volume and amount when full settlement is not possible due to lack of cash or securities. The residual unsettled volume and amount may settle at a later stage during the intended settlement date. Any residual amount at the end of the intended settlement date results in the reporting of a failed settlement.	
Payment Bank	A payment bank is either a central bank or a private bank used to affect money settlements. In the context of securities settlement, a payment bank provides cash on behalf of a CSD participant to support the settlement of securities.	
Payment Capacity	the ability of a settlement bank to fund its purchases based on a settlement bank's relevant aggregate position on CeBM accounts as well as of the its potential intraday credit from its National Central Banks against available eligible collateral.	

Title	Definition	Remark
Pending Transaction / Pending Instruction	a settlement instruction which is waiting for settlement and is still active.	
Posting	designates the action of updating a securities holding or cash balance by debiting and / or crediting an account. Also called “booking” in some markets.	
Predefined Liquidity Transfer Order	an instruction to transfer a specified amount of money from one cash account to another cash account to be executed only once at a defined time or event.	
Prioritisation	refers to the possibility for CSD and instructing parties to indicate the priority in which settlement is to process eligible settlement instructions.	
Privilege	a right, either granted or denied, to execute certain functions within an application or to access and/or update certain data.	
Privilege Class	a set of related privileges.	
Process Indicator	defines those attributes of a settlement instruction that determine whether the instruction is relevant for a specific action or activity in T2S (e.g. partial settlement, auto-collateralisation).	
Provisioning	the process that verifies if sufficient funds are available to the buyer or sufficient securities are held by the seller to settle a transaction.	
Pull Mode	a communication model using the request/response (also query/response) message exchange pattern. A service consumer requests or asks for specific information from a service provider and then waits to receive the response from the service provider.	
Purging	the process, which excludes failed, rejected, outdated or invalid instructions and transactions from matching and settlement in T2S after reaching the end of the recycling period.	

Title	Definition	Remark
Push Mode	a communication model where the service provider actively passes event-driven and time-triggered messages to a service consumer based on a subscription by the consumer to the information.	
Query	refers to real-time function to fulfil ad hoc information demands. Queries can be sent to T2S continuously throughout the day, and will be answered in real-time. Queries are generally performed in a pull mode and are limited to the defined data and availability of related system resources.	
Ready-for-settlement instructions	settlement instructions that have the appropriate format, status and date to be eligible for settlement processing in T2S.	
Real-Time Gross Settlement system	a settlement system in which processing and settlement take place on an transaction-by-transaction basis (without netting) in real time (continuously). See Gross settlement.	Blue Book Definition
Recycling	the resubmission of failed, matched settlement instruction for a new settlement attempt, when still eligible for settlement, or reintroduction of an unmatched settlement instruction into the matching process after the previous matching attempt has failed.	
Recycling Period	the number or T2S opening days after the intended settlement date that a failed matched settlement instruction is reintroduced for a new settlement attempt or an unmatched settlement instruction is available for matching	
Release	a collection of hardware, software, documentation, processes or other components required to implement one or more approved changes to IT services. The contents of each release are managed, tested, and deployed as a single entity.	ITIL Definition
Report	refers to an event-driven and time-triggered publishing of information in a defined, standard format.	

Title	Definition	Remark
Repurchase agreement	an arrangement whereby an asset is sold while the seller simultaneously obtains the right and obligation to repurchase it at a specific price on a future date or on demand. Such an arrangement is similar to collateralised borrowing, with the exception that ownership of the securities is not retained by the seller.	Blue Book Definition
Reservation of Cash Balance	a process of preventing the transfer of a specified amount of funds in a specific currency in one cash account to any other cash account except for the purpose for which the funds were reserved. The settlement of the underlying settlement instruction results in the actual transfer of the reserved funds to another cash account and in the subsequent removal of the reservation. It is possible to reserve an amount greater than the balance on the cash account. When a reservation results in a negative cash amount, all incoming cash is reserved automatically until the amount of the reservation is filled.	
Reservation of Securities Position	is a process, which prevents the transfer of a securities position in a specific security in one securities account to any other securities account except for the purpose for which the position was reserved. The settlement of the underlying settlement instruction results in the actual transfer of the reserved holdings to another securities account and in the subsequent removal of the reservation. It is possible to reserve a position greater than the securities position on the securities account. When a reservation results in a negative securities position, all incoming securities are reserved automatically until the quantity of the reservation is filled.	
Role	a set of related privileges or privilege classes. The functions that a user performs to fulfil her/his responsibilities within an organisation define a role.	
Scalability	the ability of an IT service, process, configuration item, etc. to perform its agreed function when the workload or scope changes.	ITIL Definition

Title	Definition	Remark
Securities Collateral Substitution	the process by which an institution replaces securities, which have been previously provided as collateral, with other securities of at least equivalent market value.	
Security-Maintaining CSD	the central securities depository, assigned with the responsibility for maintaining the reference data for a security in T2S.	
Securities-Only Settlement Institution	is a legal entity that holds a securities account for the purpose of settling securities transactions for itself and on behalf of others. It does not hold its own cash account to settle the cash leg of a securities transaction, but requires the services of a settlement bank or a payment bank.	
Segregation of Holdings	a process which allows the separation of a position in a specific security between the intermediary and either each client or between a pool of clients.	
Segregation of Securities Position	is the splitting of a securities position in a securities into two or more securities positions in that securities account, qualified by a market-specific position (balance) type to support national specificities such as registration, tax processing, legal and regulatory requirements.	
Sequencing	refers to the order automatically set by T2S in which eligible settlement instructions are processed by the T2S settlement module.	
Service	in T2S defines any report, query or message in T2S to which the CSD and/or CSD participant can subscribe. A service must always have a function or application in T2S associated with it. T2S defines the privilege to access the service on the party level.	
Service Configuration	in T2S defines a set of services that the T2S operator provides to the CSD or the CSD provides to its CSD participant. For example, a CSD shall be able to define a service configuration for directly connecting participants that would allow the participant to interact directly with T2S for certain services offered by T2S.	

Title	Definition	Remark
Service Level	the measured and reported achievement against one or more service level targets. The term service level also is used informally to mean service level target.	ITIL Definition
Service Level Agreement	an agreement between an IT service provider and a customer. The SLA describes the IT service, documents service level targets, and specifies the responsibilities of the IT service provider and the customer. A single SLA may cover multiple IT services or multiple customers.	ITIL Definition
Settlement Agent	an institution which manages the settlement process (e.g. the determination of settlement positions, monitoring the exchange of payments and securities, etc.) for transfer systems or other arrangements which require settlement and provides related services.	
Settlement Bank	is a financial institution that has both cash and securities accounts for the purpose of settling securities transactions for itself and on behalf of others.	Blue Book definition modified to include securities
Settlement Day	defines a day, when settlement takes place in T2S (also referred to as opening day).	
Settlement Component (Module)	A subset of applications in the T2S system containing settlement processes.	
Settlement Confirmation	a status advice sent to the instructing party as either a message or in a report to inform it that an instruction settled.	
Settlement Fail	a securities settlement instruction that does not settle on the intended settlement date due to either a lack of securities on the seller side or an insufficient payment capacity on the buyer side.	

Title	Definition	Remark
Settlement Instruction	A settlement instruction is an order, originating from both trading and non-trading operations, to deliver or receive securities (or rights in securities) with or without paying an amount of money to an ultimate beneficiary on behalf of an originator. In case of a sale, the buyer of the securities will need to provide the receive instruction while the seller will need to provide the delivery instruction for the same trade.	
Settlement Instruction Validation	the process of verifying the correctness of the business content of a settlement instruction.	
Settlement Transaction	a common term for the two settlement instructions necessary for any settlement activity - one instruction to debit a securities and/or cash account and one instruction to credit a securities and/or cash account	
Shaping	the process of apportioning the quantity in a settlement instruction into lower amounts using several instructions, when the amount of that instruction exceeds a certain threshold.	
Standard Settlement Instructions (SSI)	A set of data (such as cash account, CSD information, and agent information) needed to settle transactions with a counterpart. The back offices of the counterparts usually exchange SSIs before commencing trading in order to have the settlement instructions stored in the trading and back office systems.	
Standing Liquidity Transfer Order	an instruction to transfer a specified amount of money from one central bank account to another to be executed repetitively at a defined time or event in the T2S processing cycle until the order is changed or cancelled.	
Status Message	information sent to the instructing party on the status of an instruction or other relevant life cycle information - also referred to as “status advice” or "status report".	
System Entity	a system entity in T2S is the T2S operator, a central securities depository or NCB for which a segregation of processing capabilities and data is required.	

Title	Definition	Remark
T2S Actor	defines any legal entity or organisation interacting either directly or indirectly through a CSD in T2S with the T2S platform for the purpose of securities settlement. T2S actors are - CSDs in T2S - T2S Parties - T2S Operator - Central Banks - Payment Bank	
T2S Dedicated Cash Account	an account exclusively used for securities settlement in T2S, linked to an RTGS account in TARGET2 or in another RTGS platform of a T2S eligible currency other than Euro.	
T2S Operator	defines the legal and/or organisational entity/entities that operates the T2S platform.	

Title	Definition	Remark
T2S Party	is a legal entity or in some markets an individual, that has a contractual relationship with a CSD in T2S for the processing of its settlement-related activities in T2S It does not necessarily hold a securities account with the CSD. Some non-exhaustive examples are - Indirect and direct CSD participants, - stock exchanges and multilateral trading platforms, which route pre-match trades or settlement instruction on behalf of trading participants to CSDs; - central counterparts (CCPs); - central banks as CSD participants; - CSDs as participants of other CSDs; - and a securities processing outsourcer that process securities transactions on behalf of other financial institutions. See also settlement bank, securities-only settlement institution and settlement agent for the different roles a T2S party can take.	
T2S Recognised Currency	is a currency for which T2S provides only validation, matching and reporting, where the settlement of the cash leg of the securities transaction is outside T2S.	
T2S Settlement Currency	is a currency for which T2S provides settlement in central bank money on T2S dedicated cash accounts for securities transactions.	
T2S Stakeholder	Any organization; legal person or governmental entity; public and private interest groups; or individual that has a valid interest in the outcome of the Target2-Securties Project and the governance and operation of the Target2-Securities Platform.	
T2S System Owner	the legal or organisational entity that owns the T2S platform.	

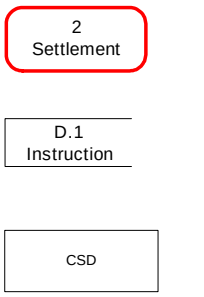
Title	Definition	Remark
T2S System Status Message	Information sent to a CSD or directly connected T2S party as to the state of a T2S application, process or event.	
T2S System User	A T2S system user is an individual or a technical process/application that can log into T2S with a login name and password. For example, a user may be an individual, who has interactive access to T2S online functions or an application programme that requests services from T2S.	
T2S User	in the context of governance and policy, T2S user defines is a legal entity that has a contractual/legal relationship with a CSD, which has entered into a contractual relationship for the use of T2S. It also defines a payment bank, providing liquidity through an RTGS account in Target2 to a financial institution, settling in T2S.	
Technical Acceptance of Settlement Instruction	the step in which T2S accepts a settlement instruction for further processing after validating that it fulfils of the required technical standards.	
Technical Issuer CSD	for an Investor CSD is the CSD where its omnibus accounts reflecting the holding of its participants are deposited. The technical issuer CSD could be different for each ISIN for a given Investor CSD. In most cases, the technical issuer CSD is the issuer CSD	
Tolerance Amount	is the acceptable difference in the counter-value in currency, allowed for the matching of settlement instructions, between the against payment settlement instruction of deliverer and the receiver of securities.	
Trade-Related Instructions	are settlement instructions, resulting exclusively from trading activities.	
Transfer System	a generic term covering inter-bank funds transfer systems and exchange-for-value systems.	

Title	Definition	Remark
Use Case	an interaction between a user and a system or a component within a system by defining the discrete goal that the user wants to achieve with the system, without the requirement to reveal or to specify the system's internal structure.	
User Requirement	is a condition or capability needed by a stakeholder to solve a problem or achieve an objective.	
User-to-Application	defines a mode of technical communication that permits the exchange of information between software applications of T2S and a T2S system user through a graphical user interface (GUI).	
Unique Transaction Reference	a unique sequential number that T2S assigns to a settlement instruction to uniquely identify the settlement instruction.	

2 Standards used for context diagrams

In several chapters[1], context diagrams present the technical boundaries of the T2S system and its interactions with other systems or system components. These diagrams also show the different logical system components and their interactions.

The following conventions based on the Gane Sarson methodology are used:



This symbol depicts a component[2], with a component number and a component name.

This symbol depicts a data store, with a data store number beginning with “D” and the data store name

This symbol depicts an actor to the system.

This symbol depicts an information flow between T2S and the actor or within the different functions of T2S.

This symbol depicts a data store being read or updated by a function

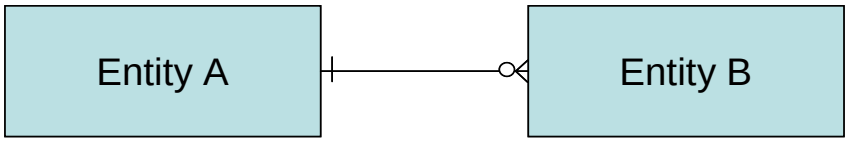
[1] Context diagrams are in chapters on scope, life cycle management, settlement, static data and interfaces.

[2] Here the term “component” is used in a generic way in order to capture conceptually a set of functions as part of a certain T2S activity (i.e. LCMM). The use of the term in the URD makes no reference to the functional or technical architecture of the T2S system.

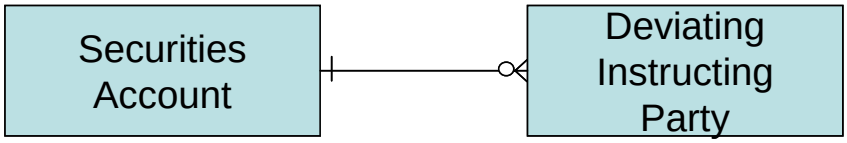
3 Standards used for conceptual static data models

A conceptual data model provides the logical organisation of data. It provides the formal representation of data required to perform a business process or activities. Some chapters provide entity relationship maps to define the data structures required to support the business processes in T2S. The diagrams use the entity relationship notation ("Crow's Foot" notation). For simplification, this annex only explains entity relationship modelling conventions in use in this requirements document.

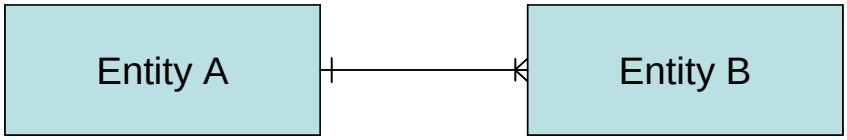
<u>One-to-Many Relationships</u>



The diagram above represents a one-to-many relationship. For each occurrence of information (data record) in entity A, zero to any number of occurrences of information (data records) can exist in entity B. An occurrence in entity A can exist without a related occurrence in entity B. As in the example diagram below, a securities account may have zero, one or many deviating instructing parties linked to it (e.g. a stock exchange and a CCP).



The next diagram also represents a one-to-many relationship. For each occurrence of information (data record) in entity A, one or many of occurrences of information (data records) can exist in entity B. However, it is mandatory that each occurrence of information in A has at least one related occurrence in entity B. In others, an occurrence in entity A cannot exist if there is no related occurrence in entity B.



As in the example diagram below, a security must have at least a name to exist. However, a security also can have multiple names when, for example, the name of the issuer changes. The security will have an old and a new name.

USER REQUIREMENTS

ANNEX 3

T2S PROPOSALS

T2S Project Team

Reference:	T2S-07-0182
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

1 Introduction

The ECB submitted 67 proposals to public consultation between 26 April and 27 June 2007. A total number of 57 responses were received. The Advisory Group has discussed and finally agreed the subsequent revision of the proposals in its meetings of July, September and October 2007.

These proposals formed the basis, on which the Project Team helped by the Technical Groups drafted the User Requirements. They played a major role during this phase, as they gave guidance for the identification of the requirements. The User Requirements published for consultation on 18 December 2007 were consistent with the agreed proposals.

As a result of the consultation phase, the User Requirements have been updated according to the received comments and with the guidance of the Advisory Group.

The following proposals are in their version as agreed by the AG in its meetings of July, September and October 2007. They have not been updated in line with the evolution of the URD. Therefore, they are provided in this annex for the record only and cannot be used as a basis for a consistency check against the rest of the URD.

Whereas most proposals are still valid in their current drafting, some proposals have been further clarified in the URD or with a slight change of wording (e.g. the term "authorisation interface" used in the proposals has been replaced by "static data interface" in the URD). In particular, it should be noted that for the matching location, the final URD has adopted the agreement of April 2008 AG meeting and not proposal 30.

2 Proposals

- **Proposal 1:**

T2S will have a single and uniform securities account structure.

- **Proposal 2:**

The cash leg of T2S settlements will take place on T2S dedicated cash accounts. A consolidated view on euro liquidity available in T2 RTGS accounts and T2S cash accounts will be provided. Real-time liquidity transfers between T2 RTGS accounts and T2S cash accounts (and vice versa) will be possible automatically and on demand.

- **Proposal 3:**

Settlement banks should be able to hold one or several T2S dedicated cash accounts. However, they should be able to centralise the settlement of instructions with all T2S CSDs on one T2S dedicated account.

- **Proposal 4:**

If they do not hold directly a T2S dedicated cash account, T2S users can indirectly use the T2S dedicated account of a settlement bank, as per the TARGET2 rules.

- **Proposal 5:**

Settlement banks can use different T2S dedicated cash accounts for proprietary and clients holdings. When settling clients' instructions on their T2S dedicated accounts, settlement banks will be able to set buying limits to their clients and identify the amount of liquidity used for the operations of the latter.

- **Proposal 6:**

Each T2S securities account shall be assigned to one (and only one) CSD.

- **Proposal 7:**

It was agreed to delete Proposal 7

- **Proposal 8:**

The T2S securities accounts structure shall differentiate between different intermediary roles, including direct participants, indirect participants, investors, end-investors, issuers, paying agents, other custody-related roles, and technical CSD accounts.

- **Proposal 9:**

The T2S securities accounts structure shall allow proprietary and potentially multiple non-proprietary holdings to be segregated.

- **Proposal 10:**

The T2S securities accounts structure shall allow for segregation and/or identification of holdings eligible for self-collateralisation (i.e. pledge accounts).

- **Proposal 11:**

Securities reference data in T2S will be restricted to, but will include all, the data required for settlement and auto-collateralisation.

- **Proposal 12:**

Changes in the securities reference data can only be initiated by one (and only one) CSD.

- **Proposal 13:**

CSD participant's reference data in T2S will be restricted to data required for settlement and auto-collateralisation.

- **Proposal 14:**

Changes to CSD participants' reference data can only be initiated by CSDs.

- **Proposal 15 :**

For their securities accounts, only the CSDs can change the set-up, access rights, and other rules relating to the settlement process.

- **Proposal 16:**

For their cash accounts, only the NCBs can change the set-up, access rights, and other rules relating to the settlement process.

- **Proposal 17:**

Reference data on harmonised deadlines and schedules will be maintained in T2S.

- **Proposal 18:**

Reference data on non-harmonised deadlines and schedules will not be maintained in T2S.

- **Proposal 19:**

T2S static data shall comply with the relevant ISO standards.

- **Proposal 20:**

T2S schedule of the settlement day shall be compatible with TARGET2 timetable

- **Proposal 21:**

The T2S schedule of the settlement day shall comprise a night-time settlement period, and a daytime settlement period

- **Proposal 22:**

The night-time period shall start after the change of business day in the evening of the previous opening day. The daytime period shall start after the end of the night-time period and end in line with TARGET2.

- **Proposal 23:**

All T2S connected CSDs shall maintain the T2S Schedule (i.e. including both day and night-time settlement). Harmonised market practices would be fostered at European level to promote early settlement. It will be ultimately up to each T2S party and its counterparties how to engage in night-time settlement depending on the liquidity and collateral they make available.

- **Proposal 24:**

Internal T2S core settlement deadlines will be harmonised for all CSDs**.**

- **Proposal 25:**

CSDs can introduce in their local systems additional deadlines or cut-off times within the operational hours of T2S. These deadlines or cut-off times shall not interfere with the harmonised core deadlines and shall not be part of the T2S Static Data and settlement processes. For example these deadlines could refer to corporate events management, securities lending etc.

- **Proposal 26:**

CSDs can schedule interaction with T2S for their non-settlement business freely within the settlement periods of T2S.

- **Proposal 27:**

T2S will provide a life cycle management functionality (including matching and instruction maintenance).

- **Proposal 28:**

Life cycle management and in particular instruction maintenance are real-time processes which are to be continuously available (except for maintenance windows).

- **Proposal 29:**

T2S will have one harmonised set of settlement eligibility rules.

- **Proposal 30:**

T2S shall offer a matching functionality. Instructions can either be matched in T2S or they can enter T2S already matched. For instructions generated by stock exchanges, other trading platforms and CCPs, they can enter the settlement process in T2S either directly or through a CSD. When instructions enter T2S already matched, there should be no disruption to the settlement process as a result of the matching location.
Explanatory text:

- The user will have the choice of matching in T2S or in a CSD
- Cross-CSD instructions and instructions from directly connected users will be matched in T2S
- Matching services offered by CSDs will not disrupt provisions for direct connectivity.

- **Proposal 31:**

T2S will have one harmonised set of matching rules.

- **Proposal 32:**

Instructions which enter T2S already matched must comply with the T2S matching rules

- **Proposal 33:**

Matching is binding in T2S, which means that instructions matched in T2S can only be cancelled bilaterally. A hold and release mechanism will be unilaterally available to both counterparties up and until actual settlement occurs. At the end of the intended settlement date, any matched held instructions will be considered “failed”.

- **Proposal 34:**

Instructions which enter the T2S matching process will be matched by T2S as soon as possible.

- **Proposal 35:**

Instructions can be amended by participants according to harmonised rules. Amendment of matching fields will be possible before matching; amendment of non-matching fields will be possible up and until actual settlement occurs

- **Proposal 36:**

T2S will provide settlement allegement functionality.

- **Proposal 37:**

T2S will provide a functionality for sequencing instructions, for provisioning them, for executing debits and credits on the securities and the cash accounts, for fails management and recycling, and for optimisation.

- **Proposal 38:**

T2S will provide a common set of rules for sequencing and prioritisation which will apply to all participating CSDs.

- **Proposal 39:**

T2S shall have common settlement processes for all participating CSDs.

- **Proposal 40:**

T2S will provide a common set of rules for recycling which will apply to all participating CSDs.

- **Proposal 41:**

The settlement model will support auto-collateralisation. This functionality is available for all participating markets.

- **Proposal 42:**

The optimisation functionality will comprise multilateral technical netting algorithms that cover at least back-to-backs, circles, chains, nettings across all instructions with one ISIN, as well as nettings over all eligible instructions.

- **Proposal 43:**

T2S will aim to settle instructions as early as possible.

- **Proposal 44:**

The multilateral technical netting algorithm pursuing netting over all eligible instructions will be run through at least two night-time cycles. An optimisation routine will then be run continuously during the day in parallel of the real-time settlement procedure.

- **Proposal 45:**

The settlement model will be deployed in two modes, a real-time mode during the day, and a night-time cycle mode. The night-time cycle mode will be used for full netting runs during the night.

- **Proposal 46:**

Failed instructions will be continuously recycled throughout the settlement day.

- **Proposal 47:**

T2S will provide partial settlement functionalities.

- **Proposal 48:**

Instructions that did not settle at the end of the settlement day may be carried over into the next settlement day and reattempted according to parameters set in T2S static data. While harmonisation should be sought, these parameters will be set according to CSDs rules, as well as OTC practices.

- **Proposal 49:**

T2S will attempt optimisation throughout the day.

- **Proposal 50:**

T2S will provide the functionality to perform cross-border settlement between all participating CSDs.

- **Proposal 51:**

T2S will support settlement through links between participating CSDs and with non-participating CSDs, including when specific settlement functionalities are necessary, i.e. for the settlement of securities for which the issuer CSD is outside T2S.

- **Proposal 52**

T2S will provide interfaces to users and CSDs. CSDs and users will be able to input and maintain instructions and query data, according to their access rights in T2S as defined in proposals 15 and 16.

- **Proposal 53:**

Only CSDs will be allowed to update and change static data through the Authorisation Interface. Non-CSD users can perform read only-Queries.

- **Proposal 54:**

Only NCBs are allowed to update and change cash account static data through Authorisation Interface.

- **Proposal 55:**

T2S interfaces will allow users to connect to T2S directly. Access is granted by the CSDs for settlement processing pertaining only to their accounts in T2S.

- **Proposal 56:**

T2S interfaces shall be continuously open to accept new instructions, queries or requests throughout the T2S day (except during maintenance windows).

- **Proposal 57**

In addition to the generic instructions and queries (proposal 52) specific instructions and queries to support the services of CSDs shall be made available through the instructions and balances interfaces if need be. This functionality is available to CSDs and users respecting the access rights defined in T2S (see proposals 15 and 16).

- **Proposal 58:**

All T2S interfaces shall allow for user-to-application (U2A) as well as for application-to-application (A2A) interaction

- **Proposal 59:**

T2S interfaces will be based on ISO 20022, or any subsequent relevant standards, as well as on the proprietary XML messages implemented in the TARGET2 ICM/ASI.

- **Proposal 60:**

T2S shall be able to handle the respective daily average and peak settlement volume to be assessed in due course. The volume will be recurrently evaluated with production data collected at the CSDs at least once a year all along the project life and trends will be derived and volume projections be calculated. The first data collection will be carried out in the User Requirements collection phase in August 2007.

- **Proposal 61:**

T2S shall be able to handle settlement peak day capacities without degradation of service levels

- **Proposal 62:**

T2S capacity shall be sufficient to cover the settlement volumes of peak hours.

- **Proposal 63:**

Concurrent TARGET2 peak hours shall not affect service levels in T2S.

- **Proposal 64:**

The operator of T2S will provide IT operations support on IT technical troubles via a helpdesk.

- **Proposal 65:**

T2S shall provide archiving functionalities

- **Proposal 66:**

Migration to T2S will be performed on a CSD or group of CSD basis.

- **Proposal 67:**

Harmonisation and standardisation decisions shall be guided by the principles of (1) maximising efficiency and (2) minimising the overall market impact (in this order of priority).

USER REQUIREMENTS

ANNEX 4

THE T2S ON TARGET2 CONCEPT

4CB

Reference:	T2S-07-0237
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BANCA D'ITALIA EUROSISTEMA BANCO DE ESPAÑA Eurosistema BANQUE DE FRANCE EUROSYSTÈME DEUTSCHE BUNDESBANK EUROSYSTEM

EUROPEAN CENTRAL BANK

EUROSYSTEM

1. INTRODUCTION

In order to illustrate the Principle 2[1] referring to the use of the TARGET2 platform for T2S development and operation, this note clarifies the implementation of the principle "T2S on TARGET2". The Governing Council decided that "the T2S service will be developed internally within the Eurosystem and operated on the TARGET2 platform in order to exploit synergies with TARGET2 to the fullest extent". This statement explicitly acknowledged the close relationship between TARGET2 and T2S, and formed the basis for the now commonly used "T2S on TARGET2" concept.

This note aims at presenting concrete elements which could help to identify what T2S on TARGET2 is and, perhaps more importantly, what T2S on TARGET2 is not.

2. TWO DISTINCT SERVICES

"T2S on TARGET2" is essentially two distinct services: TARGET2 for large-value euro payments processing and T2S for securities settlement in CeBM running on the TARGET2 infrastructure.

Since the exploitation of the synergies between the two systems – the Eurosystem's objective – must not lead to tight and risky dependencies between these two critical services, T2S and TARGET2 will not constitute a unique service,. Moreover, the high complexity resulting from building one single application would make crucial project phases (notably tests) too laborious and would significantly increase maintenance costs by multiplying the impact of local modifications. Finally, in the operational phase, the merger of the two services would have the potential to result in a single point of failure and consequently increase the overall vulnerability of both services.

Distinguishing between two different services, TARGET2 for payment services and T2S for securities settlement, appeared to be the most suitable solution. Naturally, there are obvious similarities: both services deal with the closely interrelated business areas of large-value payments processing and securities settlement; both aim to increase the market efficiency by providing technically centralised tools, while preserving the existing legally decentralised framework. Therefore, building T2S without taking into account the solutions

[1] Principle 2: T2S shall be based on the TARGET2 platform, and will hence provide the same levels of availability, resilience, recovery time and security as TARGET2.

devised for TARGET2 would deprive the European financial industry of the beneficial experiences gained from T2 project.

Hence the challenge of the development of T2S is to take the best from TARGET2 while avoiding harmful constraints. The “T2S on TARGET2” concept provides an efficient balance in this respect.

3. A SINGLE PLATFORM REUSING THE T2 ARCHITECTURE DESIGN

The TARGET2 project was based on a “building-block” concept, which consisted of reusing, as much as possible, existing pieces (the building blocks) taken from national components of TARGET1. However, while the software was widely reused, the technical infrastructure had to be designed from scratch. The much higher standards of system resilience required as a result of the 9/11 terrorist attacks have made it necessary to define a new business continuity model which will manage the huge volume of data and procedures generated by the consolidation of all payment activities at Eurosystem level.

At the start of the T2S project, the situation will be different; the application software for settlement purposes will be a new development, whereas the existing TARGET2 architectural design (the already available Single Shared Platform or SSP) is a very valid answer to the technical challenges of a European-wide settlement system. Indeed, T2S can draw on the existing technical architecture designed for TARGET2, including a fully scalable central processing system, a storage sub-system with synchronous and asynchronous mirroring and a dedicated network to connect the different processing sites (3CBNet). Other components, like certain interfaces or the connection to the SWIFT network, could also be reused if relevant. Naturally, the existing components will have to be resized in order to cope with the expected T2S volumes, but reusing the SSP architecture for T2S ensures that T2S services will benefit from this architecture in terms of performance and overall resilience.

Notably, the full integration of T2S in the SSP architecture will allow T2S to inherit from TARGET2 a state-of-the-art business continuity model, including intra- and inter-regional failover management, as well as an adaptable contingency framework. This will enable T2S to cope with the consequences of a variety of unpredictable events, ranging from local equipment failure to region-wide disasters. T2S will also be integrated de facto into the crisis management organisation set up by the Eurosystem for TARGET2.

A leading-edge platform is of course of little use without skilled teams supporting it on a day-to-day basis. The 4CB organisation, largely derived from the 3CB model for TARGET2, constitutes a solid basis for the very high levels of service expected from a platform as critical to business as T2S. Similarly, the project framework set up by the Eurosystem to develop Target2 has demonstrated its efficiency in the management of a large-scale project involving many stakeholders and, sometimes, an equally large number of viewpoints.

4. SYNERGIES AND OPPORTUNITIES

“T2S on TARGET2” will bring direct synergies, as it will reuse or share resources currently available for

TARGET2. As for the technical architecture, the mutualisation of some components or the time-sharing of equipment and teams will allow an optimisation of the SSP resources by exploiting possible load-balancing between the services, and by improving the occupation rate of test & training environments, for example. The shared usage of the infrastructure will lead to lower the costs for the users.

Sharing the same platform also allows common tools to be used for the two services (e.g. Change Management system, Trouble Management system or Technical Monitoring).

Apart from these immediate and concrete synergies, T2S on TARGET2 also provides new opportunities to create added value for its users, thanks to the proximity of the two services. Notably, this proximity creates unique conditions for easing liquidity management and therefore make it more efficient for the underlying businesses of both TARGET2 and T2S. For TARGET2, for example, it will facilitate the provision of additional liquidity through the proximity of securities settlement features, while for T2S, it will allow an optimisation of the liquidity used in the securities settlement process. The already existing and sophisticated liquidity management functions of TARGET2 will be further enhanced to facilitate the usage of cash by the two services. Since all liquidity available for payments and for securities settlement will be accessible on a single platform globally, liquidity management will be more flexible and efficient than it is today.

Finally, the homogeneous presentation layer for TARGET2 and T2S (based on ICM) will make it possible to integrate (at user workstation level) the full set of services provided by TARGET2 and T2S through a “single window” access. Similarly, the development of the T2S accounting functions will benefit from the liquidity management introduced in TARGET2.

The existence of synergies will require determining the criteria on which the costs of common elements is allocated to TARGET2 and T2S. The resources shared between the two services and the criteria used for the cost allocation will be made transparent to avoid any perception of cross-subsidisation among the two services. These pieces of information will be available at a later stage of the project, during the implementation of the production environments.

5. CONCLUSION

The current phase of the T2S project consists of compiling the users’ requirements through an extensive process of consultation of the market involving more than 180 high-level experts from nearly 80 financial institutions. The “White page” approach foreseen for the design of the future system will create the conditions for taking into account all the users’ requirements.

“T2S on TARGET2” is an open concept that should not impose constraints on functionality and on future developments, while allowing significant cost savings because of the synergies with TARGET2 and the re-use of the SSP architecture. Only this approach will ensure the timely delivery of a cost-efficient solution in the interest of CSDs, market participants and the Eurosystem.

USER REQUIREMENTS

ANNEX 5

USE CASES

T2S Project Team

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EUROPEAN CENTRAL BANK

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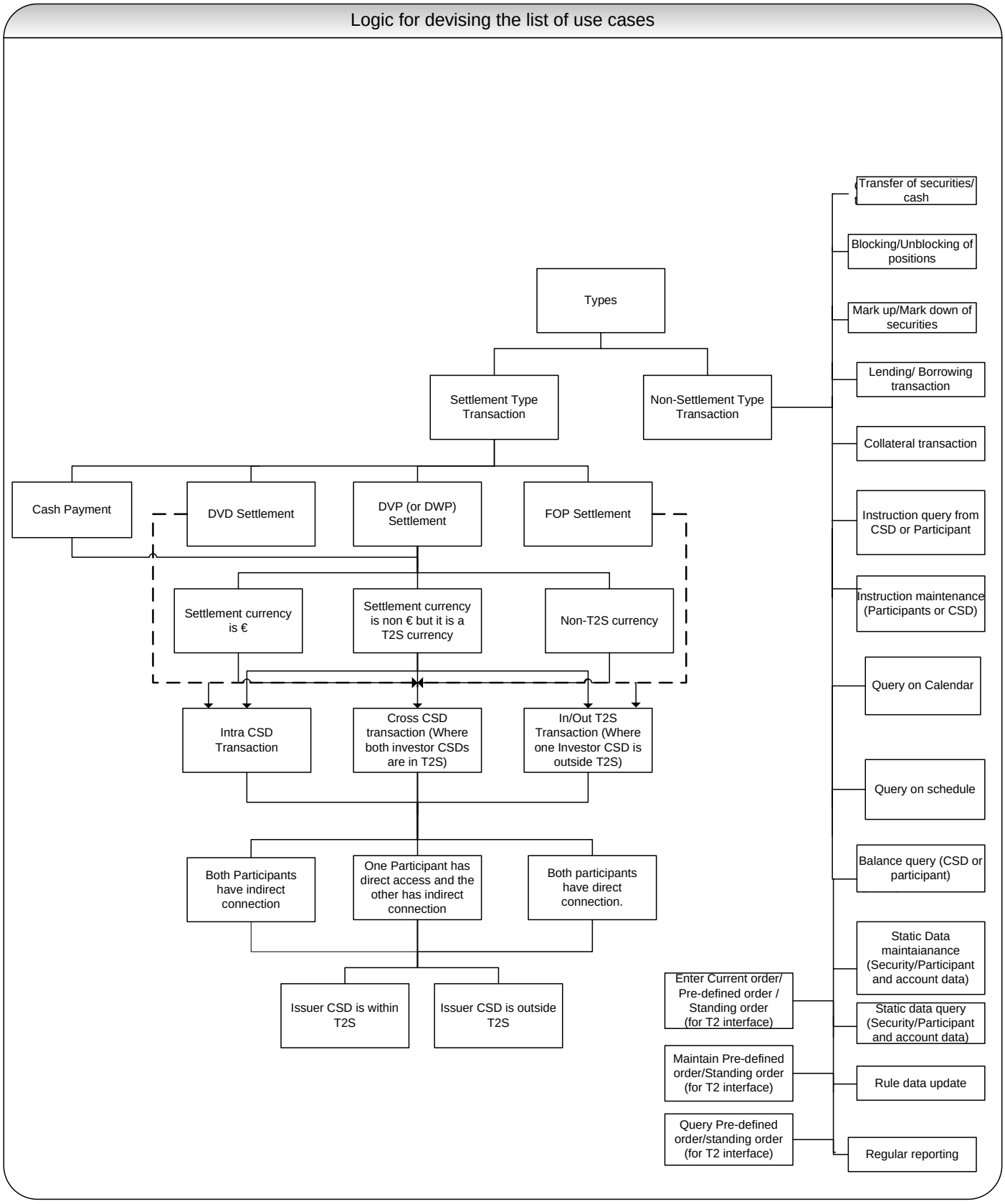
The following diagram, obtained by detailing the requirements, presents a logic tree for structuring the use cases. It is not an exhaustive list of these use cases.



List of Settlement (Trade Settlement) use cases to be covered by T2S

No.	Interface	Title	Explanation	Source	Remark
001	Instructions	Intra-CSD transaction in EUR where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
002	Instructions	Intra-CSD transaction in EUR where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
003	Instructions	Intra-CSD transaction in EUR where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
004	Instructions	Cross-CSD transaction in EUR where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
005	Instructions	Cross-CSD transaction in EUR where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
006	Instructions	Cross-CSD transaction in EUR where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
007	Instructions	Cross-CSD transaction in EUR where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
008	Instructions	Cross-CSD transaction in EUR where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
009	Instructions	Cross-CSD transaction in EUR where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
010	Instructions	Cross-CSD transaction in EUR where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
011	Instructions	Cross-CSD transaction in EUR where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD
012	Instructions	Cross-CSD transaction in EUR where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
013	Instructions	Cross-CSD transaction in EUR where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
014	Instructions	In/Out-T2S transaction in EUR where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
015	Instructions	In/Out-T2S transaction in EUR where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
016	Instructions	In/Out-T2S transaction in EUR where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
017	Instructions	In/Out-T2S transaction in EUR where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
018	Instructions	In/Out-T2S transaction in EUR where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
019	Instructions	In/Out-T2S transaction in EUR where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
020	Instructions	Intra-CSD transaction in non-EUR currency but a T2S currency where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
021	Instructions	Intra-CSD transaction in non-EUR currency but a T2S currency where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
022	Instructions	Intra-CSD transaction in non-EUR currency but a T2S currency where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
023	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
024	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
025	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
026	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
027	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
028	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
029	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
030	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD
031	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
032	Instructions	Cross-CSD transaction in non-EUR currency but a T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
033	Instructions	In/Out-T2S transaction in non-EUR currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
034	Instructions	In/Out-T2S transaction in non-EUR currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the	-	Participant	The counterparty CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
		issuer CSD			
035	Instructions	In/Out-T2S transaction in non-EUR currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
036	Instructions	In/Out-T2S transaction in non-EUR currency but a T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
037	Instructions	In/Out-T2S transaction in non-EUR currency but a T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
038	Instructions	In/Out-T2S transaction in non-EUR currency but a T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
039	Instructions	Intra-CSD transaction in non-T2S currency where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
040	Instructions	Intra-CSD transaction in non-T2S currency where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
041	Instructions	Intra-CSD transaction in non-T2S currency where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
042	Instructions	Cross-CSD transaction in non-T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
043	Instructions	Cross-CSD transaction in non-T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
044	Instructions	Cross-CSD transaction in non-T2S currency where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
045	Instructions	Cross-CSD transaction in non-T2S currency where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
046	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
047	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
048	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
049	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD
050	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
051	Instructions	Cross-CSD transaction in non-T2S currency where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
052	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
053	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
054	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
055	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
056	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
057	Instructions	In/Out-T2S transaction in non-T2S currency where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
058	Instructions	Intra-CSD FOP transaction where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
059	Instructions	Intra-CSD FOP transaction where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
060	Instructions	Intra-CSD FOP transaction where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)

No.	Interface	Title	Explanation	Source	Remark
061	Instructions	Cross-CSD FOP transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
062	Instructions	Cross-CSD FOP transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
063	Instructions	Cross-CSD FOP transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
064	Instructions	Cross-CSD FOP transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
065	Instructions	Cross-CSD FOP transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
066	Instructions	Cross-CSD FOP transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
067	Instructions	Cross-CSD FOP transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
068	Instructions	Cross-CSD FOP transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD	The issuer CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
069	Instructions	Cross-CSD FOP transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
070	Instructions	Cross-CSD FOP transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
071	Instructions	In/Out-T2S FOP transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
072	Instructions	In/Out-T2S FOP transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
073	Instructions	In/Out-T2S FOP transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
074	Instructions	In/Out-T2S FOP transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
075	Instructions	In/Out-T2S FOP transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	-	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs
076	Instructions	In/Out-T2S FOP transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	-	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
077	Instructions	Intra-CSD DVD transaction where both participants belong to the same CSD and have an indirect connection	-	CSD	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
078	Instructions	Intra-CSD DVD transaction where both participants belong to the same CSD; one participant has a direct connection, the other an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)

No.	Interface	Title	Explanation	Source	Remark
079	Instructions	Intra-CSD DVD transaction where both participants belong to the same CSD and have a direct connection	-	Participant	All involved CSDs are T2S CSDs (Issuer CSD is not relevant)
080	Instructions	Cross-CSD DVD transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also an indirect connection	-	CSD	All involved CSDs are T2S CSDs
081	Instructions	Cross-CSD DVD transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has an indirect connection	-	CSD/Participant	All involved CSDs are T2S CSDs
082	Instructions	Cross-CSD DVD transaction where one participant has an indirect connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has a direct connection	-	CSD/Participant	All involved CSDs are T2S CSDs
083	Instructions	Cross-CSD DVD transaction where one participant has a direct connection and belong to the same CSD as the issuer CSD; the other participant belong to a different CSD and has also a direct connection	-	Participant	All involved CSDs are T2S CSDs
084	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different from the two investor CSDs	-	CSD	All involved CSDs are T2S CSDs
085	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs	-	CSD/Participant	All involved CSDs are T2S CSDs
086	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs	-	Participant	All involved CSDs are T2S CSDs
087	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have an indirect connection; the issuer CDS is different	-	CSD	The issuer CSD is not a T2S CSD

No.	Interface	Title	Explanation	Source	Remark
		from the two investor CSDs and is not a T2S CSD			
088	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have different connection direct/indirect; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	CSD/Participant	The issuer CSD is not a T2S CSD
089	Instructions	Cross-CSD DVD transaction where both participants belong to different CSDs and have a direct connection; the issuer CDS is different from the two investor CSDs and is not a T2S CSD	-	Participant	The issuer CSD is not a T2S CSD
090	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to the same CSD as the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
091	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to the same CSD as the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
092	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has an indirect connection and belongs to a different CSD from the issuer CSD	-	CSD	The counterparty CSD is not a T2S CSD
093	Instructions	In/Out-T2S DVD transaction where the counterparty belongs to a non-T2S CSD; the participant has a direct connection and belongs to a different CSD from the issuer CSD	-	Participant	The counterparty CSD is not a T2S CSD
094	Instructions	In/Out-T2S DVD transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has an indirect connection	In case of In/Out-T2S DVD transaction, if the issuer CSDs for both securities are different and both are outside T2S. Then T2S will not be able to handle such transactions.	CSD	The counterparty CSD and the issuer CSD are not T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
095	Instructions	In/Out-T2S DVD transaction where the counterparty CSD and the issuer CSD are non-T2S CSD; the participant has a direct connection	In case of In/Out-T2S DVD transaction, if the issuer CSDs for both securities are different and both are outside T2S. Then T2S will not be able to handle such transactions.	Participant	The counterparty CSD and the issuer CSD are not T2S CSDs
096	Instructions	Intra CSD, cash payment transaction in EUR, where the CSD is a T2S CSD and both participant have indirect connection.	-	CSD	All involved CSDs are T2S CSDs
097	Instructions	Intra CSD, cash payment transaction in EUR, where the CSD is a T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
098	Instructions	Intra CSD, cash payment transaction in EUR, where the CSD is a T2S CSD and both participant have direct connection.	-	Participant	All involved CSDs are T2S CSDs
099	Instructions	Cross CSD, cash payment transaction in EUR, where both CSDs are T2S CSD and both participants have indirect connection.	-	CSD	All involved CSDs are T2S CSDs
100	Instructions	Cross CSD, cash payment transaction in EUR, where both CSDs are T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
101	Instructions	Cross CSD, cash payment transaction in EUR, where both CSDs are T2S CSD and both participants have direct connection.	-	Participant	All involved CSDs are T2S CSDs
102	Instructions	Cross Border, cash payment transaction in EUR, where one CSD is T2S CSD, counterparty CSD is outside T2S the participant has indirect connection.	-	CSD	The counterparty CSD is not a T2S CSD
103	Instructions	Cross Border, cash payment transaction in EUR, where one CSD is T2S CSD, counterparty CSD is outside T2S the participant has direct connection.	-	Participant	The counterparty CSD is not a T2S CSD
104	Instructions	Intra CSD, cash payment transaction in non-EUR T2S currency, where the CSD is a T2S CSD and both participants have indirect connection.	-	CSD	All involved CSDs are T2S CSDs

No.	Interface	Title	Explanation	Source	Remark
105	Instructions	Intra CSD, cash payment transaction in non-EUR T2S currency, where the CSD is a T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
106	Instructions	Intra CSD, cash payment transaction in non-EUR T2S currency, where the CSD is a T2S CSD and both participants have direct connection.	-	Participant	All involved CSDs are T2S CSDs
107	Instructions	Cross CSD, cash payment transaction in non-EUR, T2S currency where both CSDs are T2S CSD and both participants have indirect connection.	-	CSD	All involved CSDs are T2S CSDs
108	Instructions	Cross CSD, cash payment transaction in non-EUR T2S currency where both CSDs are T2S CSD and one participant have direct connection and the other has indirect connection.	-	CSD/Participant	All involved CSDs are T2S CSDs
109	Instructions	Cross CSD, cash payment transaction in non-EUR T2S currency where both CSDs are T2S CSD and both participants have direct connection.	-	Participant	All involved CSDs are T2S CSDs
110	Instructions	In/Out-T2S, cash payment transaction in non- EUR T2S currency where one CSD is T2S CSD, counterparty CSD is outside T2S the participant has indirect connection.	-	CSD	The counterparty CSD is not a T2S CSD
111	Instructions	In/Out-T2S, cash payment transaction in non-EUR T2S currency where one CSD is T2S CSD, counterparty CSD is outside T2S the participant has direct connection.	-	Participant	The counterparty CSD is not a T2S CSD

List of Non-Settlement (Non-Trade Settlement) use cases to be covered by T2S

No.	Interface	Title	Explanation	Source	Remark
112	Instructions	Transfer of Securities/Cash/both (e.g. from Corporate action perspective) e.g. -cash payment (both EUR and T2S non-EUR) - securities payment - DVD and DVP cases (exchange, redemption, etc.) - combinations (Securities + Cash)	A generic functionality to be used for Corporate action benefit bookings.	CSD	The scope will cover intra CSD and cross CSD custody activity. More clarity on issuer CSD being inside or out of T2S, would be achieved with the note on external CSD.
113	Instructions	Blocking/Unblocking of Positions	A generic functionality to be used for certain Corporate actions processing (like Proxy, voluntary corporate actions etc.)	CSD	-
114	Instructions	Mark up and Mark down of securities	A generic functionality to be used for certain Corporate actions processing (like merger, takeover etc.).	CSD	-
115	Instructions	Lending/borrowing Transaction - Open - Close -substitution	Generic functionality for Lending and borrowing.	CSD	-
116	Instructions	Collateral Transaction	To be used for any collateral transaction, like pledge.	CSD	-
117	Instructions	Instruction query	Query to check the status of the instruction, e.g. whether in "accepted", "matched", "settled" status.	CSD	-
118	Instructions	Instruction query	Query to check the status of the instruction, e.g. whether in "accepted", "matched", "settled" status.	Participant	-

No.	Interface	Title	Explanation	Source	Remark
119	Instructions	Instruction maintenance	Functionality e.g. to cancel a previously sent instruction.	CSD	-
120	Instructions	Instruction maintenance	Functionality e.g. to cancel a previously sent instruction.	Participant	-
121	Balance interface	Balance query	To inquire about security balance or cash balance.	CSD/settlement banks	-
122	Balance interface	Balance query	To inquire about security balance or cash balance.	CSD	A CSD participant if it is not a settlement bank, would only be able to query security balance. A CSD participant, that is also a settlement bank would be able to query both security and cash balances
123	Target 2 interface	Creation of current order	An order in the cash account which has to be executed immediately	CSD/settlement banks	-
124	Target 2 interface	Creation of pre-defined orders	An order in the cash account which has to be executed in future, but only once.	CSD/settlement banks	-
125	Target 2 interface	Creation of standing order	An order in the cash account which has to be executed in future, at certain intervals for a specified period of time.	CSD/settlement banks	-
126	Target 2 interface	Maintenance of pre-defined order	It can be modification or deletion of a pre-defined order	CSD/settlement banks	-
127	Target 2 interface	Maintenance of standing order	It can be modification or deletion of a standing order	CSD/settlement banks	-
128	Target 2 interface	Query of pre-defined order	To inquire the details of pre-defined order	CSD/settlement banks	-
129	Target 2 interface	Query of standing order	To inquire the details of standing order.	CSD/settlement banks	-

No.	Interface	Title	Explanation	Source	Remark
130	Authorisation interface	Security update	Security update would include creation & deletion of security. It would also include modification of security details. Also freezing and re-activation of security will come under this functionality.	CSD	-
131	Authorisation interface	Participant update	Participant update would include creation & deletion of participant. It would also include modification of details. Also freezing and re-activation of participant will come under this functionality.	CSD	-
132	Authorisation interface	Account update	Account update would include creation & deletion of accounts. It would also include modification of details. Also freezing and re-activation of account will come under this functionality.	CSD/ Settlement Banks	-
133	Authorisation interface	Query on security data	To inquire about security details	CSD or participant	-
134	Authorisation interface	Query on participant data	To inquire about participant details	CSD or participant	-
135	Authorisation interface	Query on account data	To inquire about account details	CSD or participant	-
136	Authorisation interface	Query on calendar	To inquire the opening days and holidays in T2S	CSD or participant	-
137	Authorisation interface	Query on Schedule	To inquire on the different time lines of a business day.	CSD or participant	-
138	Authorisation interface	Rule update	provision for updating any specific rules	CSD	-

No.	Interface	Title	Explanation	Source	Remark
139	Reporting interface	Regular reporting	Provision for sending reports and data dumps.	T2S	-

USER REQUIREMENTS

ANNEX 6

MAPPING EXAMPLES FOR ACCOUNT STRUCTURES

T2S Project Team

Reference:	T2S-07-0113
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Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENTS

1 Introduction

This document provides some examples of securities account structures currently used in some specific market places and their mapping to the T2S securities account structure. At this stage of the project, the mapping remains at a conceptual level. Moreover, it is not meant to be exhaustive and its purpose is merely to help the reader in routing T2S concepts to existing ones in their market place and vice versa.

For more information concerning the T2S securities account structure, please read chapters 16.8.3 (Securities account reference data), 11.10.4 (Market-specific restriction types) and 11.14 (Allowed instruction profile).

Please note that the background information included in boxes within each of the following sections of this annex was provided by the market participants.

2 Clearstream

This section shows a mapping example based on Clearstream's securities account structure. In the following box, some background information is shown.

To settle transactions in Collective Safe-Custody securities, CBF customers need a securities account, which is kept via the CASCADE system. The account number is made up of a 4-digit main account number and a 3-digit sub-account number. The main account as a sub-account normally uses 000 (e.g. 7999 000).

Due to the sub-account structure, it is possible to individually separate holdings. CASCADE reporting covers all actions in the main account and the corresponding sub-accounts. CBF allocates some sub-account numbers for specific purposes. Cash settlement in connection with securities transactions, income administration, fees and charges, etc. always relates to the main account.

Additional features to be considered:

- Access rights and allowed securities transactions differ between account types and sub-accounts. For example, a CBF customer can transfer directly securities to a 'collateral' sub-account but only the collateral taker can agree to transfer such securities back to the collateral provider using the CSD services
- Securities transfers on internal accounts or sub-accounts can only be instructed by the CSD
- Special account types are used to flag accounts and sub-accounts as customer accounts, internal accounts, other CSD's accounts, etc.

In the following example, two T2S Parties having a contractual relationship with Clearstream are considered: Deutsche Bank and Citibank. Deutsche Bank is linked to three different securities accounts. The first is its main account (whose number is 7998 000). The others are sub-accounts and they are used for a customer account[1] (account no. 7998 250) and Eurex margin / collateral[2] (account no. 7998 501) respectively. On the other hand, Citibank owns one main account (whose number is 7999 000) and three sub-accounts to be used for blocking account (account no. 7999 080[3] and account no. 7999 160[4]) and Eurex margin / collateral[5] (account no. 7999 500) respectively.

The following table shows, from a conceptual point of view only, the securities accounts kept in CASCADE for Deutsche Bank and Citibank.

Table 2.1 – Securities accounts in CBF

Customer	Account No.	Account Type
Deutsche Bank	7998 000	Main account
Deutsche Bank	7998 250	Customer account
Deutsche Bank	7998 501	Eurex margin / collateral
Citibank	7999 000	Main account
Citibank	7999 080	Blocking account
Citibank	7999 160	Blocking account
Citibank	7999 500	Eurex margin / collateral

[1] The 3-digit code 250 indicates a sub-account type used for initial exemption from Italian withholding tax.

[2] The 3-digit code 501 indicates a sub-account type used for collateral, fund collateral provided in favour of Eurex Clearing AG.

[3] The 3-digit code 080 indicates a sub-account type used for the separation of blocked positions on the settlement of corporate action events, such as a takeover or a capital increase against issue of subscription rights.

[4] The 3-digit code 160 indicates a sub-account type used for blocking due to a general meeting if the voting right is exercised by the CBF customer.

[5] The 3-digit code 500 indicates a sub-account type used for the administration of collateral, margin collateral and EEX collateral for the forward market, provided in favour of Eurex Clearing AG.

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD:

Table 2.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
CBF	Deutsche Bank	01001	CSD-Participant	-	Y	Hold
CBF	Deutsche Bank	01002	CSD-Participant	250	N	n/a
CBF	Deutsche Bank	01003	CSD-Participant	501	N	n/a
CBF	Citibank	01004	CSD-Participant	-	Y	Release
CBF	Citibank	01005	CSD-Participant	080	N	n/a
CBF	Citibank	01006	CSD-Participant	160	N	n/a
CBF	Citibank	01007	CSD-Participant	500	N	n/a

Where:

- *System Entity* links each securities account to the relevant CSD;
- T2S Party identifies the account owner;
- *A/C No.* is an internal unique identifier for each securities account;
- *A/C Type* identifies the type of securities account;
- *CSD-Spec. Restriction* determines the relevant processing rules for each securities account;
- *Auto-collat.* is a Boolean value flagging if holdings of this securities account are available as collateral for the auto-collateralisation process; and
- *Hold/Release Default* specifies the default setting of specific securities settlement instructions received for each securities account.

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction defined by the CSD, according to the following table:

Table 2.3 – Market-Specific Restrictions

Restriction Type Identifier	System Entity	Restriction Type	Object Restriction Type	Subordinate Position Restriction	Restriction Classification
2001	CBF	080	Account	N	Blocked
2002	CBF	160	Account	N	Blocked
2003	CBF	250	Account	N	Segregated
2004	CBF	500	Account	N	Blocked
2005	CBF	501	Account	N	Blocked

Where:

- *Restriction Type Identifier* defines the unique technical identifier of the restriction;
- *System Entity* links each restriction to the relevant CSD;
- *Restriction Type* specifies a code defined by the CSD to configure its own restriction;
- *Object Restriction Type* specifies whether the restriction applies to a security, an account or a position of a security in a securities account;
- *Subordinate Position Restriction* specifies whether the user can place a subordinate position restriction of another type on the defined restriction;
- *Restriction Classification* defines whether the restriction type results in earmarking, reservation, blocking or segregation.

To each restriction type will then be possible to link multiple allowed instructions, based on the different combinations of allowed instructing parties (e.g. CSD, Account Operator) and allowed instruction profiles (i.e. a specific set of instructions type):

Table 2.4 – Allowed Instructions

Allowed Instruction Identifier	Restriction Type Identifier	Allowed Instructing Party	Allowed Instruction Profile Id.
1012	2001	CSD	2201
1022	2002	CSD	2202
1032	2003	CSD	2203
1042	2003	Account Operator	2204
1052	2004	CSD	2205
1062	2004	Account Operator	2204
1072	2005	CSD	2207
1082	2005	Account Operator	2208
1092	2005	Pledgee	2204

Where:

- *Allowed Instruction Identifier* defines the unique technical identifier of a specific combination of allowed instructing party and allowed instruction profile;
- *Restriction Type Identifier* links each allowed instruction identifier to the relevant restriction type;
- *Allowed Instructing Party* specifies a valid party type which, T2S will process for the relevant restriction type;
- *Allowed Instruction Profile Identifier* links the relevant restriction type and allowed instructing party to the set of allowed instruction types[6]. Please note that different restriction types and allowed instructing parties might be linked to the same allowed instruction profile.

[6] The details of the configuration for the allowed instruction profile are not described in this annex not to make the examples too complex. Please refer to section 11.14 for more information.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 2.5 – Securities accounts mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
7998 000	01001
7998 250	01002
7998 501	01003
7999 000	01004
7999 080	01005
7999 160	01006
7999 500	01007

3 ESES and ESPS

This section shows a mapping example based on the ESES and ESPS securities account structures. In the following box, some background information about ESES securities account structure is shown.

In ESES a **Client** is a legal "person" that has established a contractual relationship with one or more CSDs. A Client may then be one or more Parties or Indirect Parties. A **Party** is a Client (as defined by the Terms and Conditions entered into between the Client and a CSD) that holds one or more securities accounts with that CSD. A Party can be a Direct Account Holder or Securities Only Account Holder depending on the nature of its business relationship with the relevant CSD. An **Indirect Party** is a Client that does not hold any securities accounts with a CSD and is only active in the first steps of the settlement life cycle (i.e. instruction input and matching) in its own name, whilst the rest of the activity (i.e. transfer of securities, the management of the cash leg and the custody of the securities) is performed on its behalf by an Account Operator. An **Account Operator** is a Direct Account Holder that is responsible for the settlement of another Direct Account Holder or an Indirect Party's free of payment and/or DVP instructions (i.e. the transfer of securities, the management of the cash leg and the custody of the securities). These instructions are settled on the securities accounts of the Direct Account Holder, using either its own cash facilities or the cash facilities of a third party.

In ESES a Party may hold one or more securities accounts with one or more CSDs. It can organise its account structure in a flexible and transparent way for its counterparties by using different sub-accounts. In addition, a Party can use different "account natures" which will allow each Party to identify the use or the type of each of the securities held in each of its securities sub-accounts.

Also, if a Party has a cash position with Banque de France, it can use the collateral indicator to identify balances that can be used for auto-collateralisation with the central bank.

A Party decides on and manages its own securities account structure and may open one or more sub-accounts. A Party can operate omnibus sub-accounts or segregated sub-accounts. The nature of the sub-account used may be the choice of the Party (e.g. sub-accounts per categories of holders for purely administrative and accounting purposes or a specific sub-account for a dedicated underlying client, etc.) or may be chosen purely to comply with the regulatory requirements that exist in some market places. Such regulatory requirements may specify that Parties have to segregate proprietary assets from underlying clients' assets.

The same sub-account can be used across all CSDs (provided the Party has the appropriate contract with the relevant CSD). This allows clients to consolidate their entire securities activity in ESES into one operating facility, if they wish to do so.

A sub-account is identified by a number type, a number and a label, which are all chosen by the Party. The number type defines the number format. The combination of number type and number must be unique for each given Party. A Party may have more than one sub-account with the same number type.

Each sub-account must be labelled with the type of asset it will hold by means of the holding type. The holding type

refers to the nature of the underlying clients of the Party. Certain operations, such as specific operations with Banque de France, are restricted to sub-accounts with specific holding types.

A Party may define more than one sub-account with the same holding type. However, only one sub-account can have the holding type 00 (Undifferentiated assets). Apart from this restriction, there is no limit to the number of sub-accounts with the same holding type. The holding type 00 is mandatory when a Party defines only one sub-account. The first and possibly only sub-account created by a Party must have number type 'L1' and number '0'. Only this first sub-account can be used for SBI transactions. If a Party creates multiple sub-accounts, one of them must be defined as the default sub-account. This sub-account will be used for the settlement of transactions for which no sub-account has been specified. A Party that acts as Account Operator executes transactions: (a) for its own underlying clients; and (b) on behalf of one or more Indirect Parties.

This is why a Party is able to specify for each sub-account whether it is used for its own underlying clients or for its Indirect Parties.

- If a Party identifies a sub-account as dedicated exclusively to its own underlying clients, only the transactions that it issues can be posted (i.e. registered in book-entry form) to that sub-account. Instructions using the sub-account on behalf of an Indirect Party will be rejected.
- If a Party (acting in this case as Account Operator) assigns a sub-account to the processing of the transactions of an Indirect Party, only instructions using the sub-account on behalf of the Indirect Party can be posted (i.e. registered in book-entry form) to that sub-account. One sub-account can be dedicated to one specific Indirect Party or used with all Indirect Parties.

The Account Operator must notify the CSDs whenever it plans to limit sub-accounts for one of the above usages. If no particular usage of a sub-account is communicated, no check will be carried out on the ESES platform on how it is used.

There is no limit on the number of sub-accounts that can be created for this purpose by the Account Operator.

For securities management in book-entry form, the account nature is a part of the accounting structure. The account nature is an attribute of the balance. The use of account natures allows Parties to identify the use or the type of each balance of the securities held in each of their securities sub-accounts. Different account natures can be used for the same instrument under the same sub-account. The account nature is represented in instructions by a three-digit code in the identification of holdings. Account natures are managed by the CSDs at security level. This means that account natures available for one instrument may be different from account natures available for another instrument.

In order to constitute a 'stock' of securities that are eligible as collateral, Parties can transfer securities to a sub-account with either:

- account nature 065; or
- collateral indicator 3 ('eligible as collateral').

In the following example, three different clients have a contractual relationship with ESES: Citibank, ING and BNP Paribas. In turn, these clients hold one or more securities accounts with one or more CSDs. More in detail:

- Citibank uses two Parties (A and C) and an Indirect Party (B), with A as the Account Operator for B;
- ING uses one Indirect Party (D) which uses Party C (of Citibank) as its Account Operator;
- BNP Paribas uses one Party only (E);
- a book entry is created for each instrument held by the Parties. For this reason, a separate corresponding account is created for each instrument according to the account nature and the collateral indicator.

The following table shows, from a conceptual point of view only, the securities accounts kept in ESES for Citibank, ING and BNP Paribas.

Table 3.1 – Securities accounts in ESES

Client	Party	Activity Type[7]	Account Type[8]	Holding Type[9]	Account Nature[10]	Collateral Indicator[11]
Citibank	A	01	L1 0	00	000	0
Citibank	A	01	L1 0	00	001	0
Citibank	A	01	L1 0	00	010	0
Citibank	C	00	L1 0	00	000	0
Citibank	C	00	LM A1	02	000	0
Citibank	C	00	L1 9	01	000	0
Citibank	C	00	L1 9	01	000	3
Citibank	C	00	L1 9	01	065	0
BNP Paribas	E	14	L1 0	00	000	0

Please note that Indirect Parties B of Citibank and D of ING are not shown in the table as they are indirectly linked to the accounts of Direct Parties A and C respectively.

[7] The following codes are used in this example for Activity Type: 00 (Financial intermediary), 01 (Clearing member) and 14 (Intermediary clearing member).

[8] The following codes are used in this example for Account Type: L1 (one alphanumeric character) and LM (up to 23 alphanumeric characters).

[9] The following codes are used in this example for Holding Type: 00 (Undifferentiated assets), 01 (Own assets) and 02 (Mutual funds).

[10] The following codes are used in this example for Account Nature: 000 (Ordinary securities), 001 (Administered registered securities), 010 (Broker trading accounts) and 065 (Undeliverable collateralisable securities for repos with the Banque de France).

[11] The following codes are used in this example for Collateral Indicator: 0 (not eligible as collateral), 3 (eligible as collateral).

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[12]:

Table 3.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
Euroclear	Citibank A	02001	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	02002	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	02003	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02004	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02005	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02006	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	02007	CSD-Participant	n/a	Y	n/a
Euroclear	Citibank C	02008	CSD-Participant	n/a	Y	n/a
Euroclear	BNP Paribas E	02009	CSD-Participant	n/a	N	n/a

In this example, none of the securities accounts is linked to any CSD specific restrictions.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 3.3 – Securities accounts mapping table

A/C Identifier (in the CSD)					A/C Identifier (in T2S)
Citibank	A	L1 0	000	0	02001
Citibank	A	L1 0	001	0	02002
Citibank	A	L1 0	010	0	02003
Citibank	C	L1 0	000	0	02004
Citibank	C	LM A1	000	0	02005
Citibank	C	L1 9	000	0	02006
Citibank	C	L1 9	000	3	02007
Citibank	C	L1 9	065	0	02008
BNP Paribas	E	L1 0	000	0	02009

[12] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

The rest of this section describes for ESPS the same scenario just shown for ESES. In the following box, some background information about ESPS securities account structure is shown.

In ESPS a **Client** is any person which has entered into a "contractual relationship" with one or more Euroclear (I)CSDs for the purpose of business services. It includes clients who holds accounts (e.g. bank, broker, issuer,…) or those who do not hold accounts in the Single Platform (e.g. Voting Service Provider). A **Party** is a system representation of the client. A Client may have several Parties. Securities transaction matching is done and business roles are defined at Party level. Parties are visible to counterparty.

Operational securities account (OSA) is a securities account in the name of the client. Each Party can determine and manage its own OSA structure. Separate OSAs must be set up for domestic and full activity. Securities movements are done at OSA level. OSA are not visible to counterparty.

Balances are linked to the following characteristics:

- Security identifier (ISIN)
- Balance type
  - Available (safekeeping)
  - Sequestered (safekeeping)
  - Reserved by Clients (safekeeping)
  - Reserved to exclude from income payment (safekeeping)
  - Blocked for external delivery (safekeeping)
  - Repo balance (memorandum)
  - Deposit linked (safekeeping)
- Securities holding form
- Sub balance pool identifier

A mapping exists between ESES (section 3 of this annex) and ESPS account structures. More in detail:

ESES	ESPS
Client	Client
Party *Activity type*	Party *Business role(s)*
Sub Account (*Holding type)*	OSA
Sub Account *(Holding type)*	LSA
Account Nature	Balance type Holding form, Sub-bal-pool-id

Making use of the mapping between ESES and ESPS just described, it is possible to show how, from a conceptual point of view only, the securities accounts are kept in ESPS for parties involved:

Table 3.4– Securities accounts in ESPS

Client	Party	Business Role	LSA	Balance Type	Security Form
Citibank	A	Investor	L1 0	Available	Bearer
Citibank	A	Investor intermediary	L1 0	Available	Registered
Citibank	A	Investor intermediary	L1 0	Available	Undifferentiated
Citibank	C	Investor	L1 0	Available	Bearer
Citibank	C	Investor intermediary	LM A1	Available	Bearer
Citibank	C	Investor intermediary	L1 9	Available	Bearer
Citibank	C	Investor intermediary	L1 9	Available	Bearer
Citibank	C	Investor intermediary	L1 9	Repo balance	Bearer
BNP Paribas	E	Investor	L1 0	Available	Bearer

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[13]:

Table 3.5 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
Euroclear	Citibank A	08001	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	08002	CSD-Participant	n/a	N	n/a
Euroclear	Citibank A	08003	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08004	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08005	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08006	CSD-Participant	n/a	N	n/a
Euroclear	Citibank C	08007	CSD-Participant	n/a	Y	n/a
Euroclear	Citibank C	08008	CSD-Participant	n/a	Y	n/a
Euroclear	BNP Paribas E	08009	CSD-Participant	n/a	N	n/a

[13] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

In this example, none of the securities accounts is linked to any CSD specific restrictions.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 3.6 – Securities accounts mapping table

A/C Identifier (in the CSD)					A/C Identifier (in T2S)
Citibank	A	L1 0	Available	Bearer	08001
Citibank	A	L1 0	Available	Registered	08002
Citibank	A	L1 0	Available	Undifferentiated	08003
Citibank	C	L1 0	Available	Bearer	08004
Citibank	C	LM A1	Available	Bearer	08005
Citibank	C	L1 9	Available	Bearer	08006
Citibank	C	L1 9	Available	Bearer	08007
Citibank	C	L1 9	Repo balance	Bearer	08008
BNP Paribas	E	L1 0	Available	Bearer	08009

4 HELEX

This section shows a mapping example based on the HELEX securities account structure. In the following box, some background information is shown.

Investor Shares and Investor Securities Accounts are kept in DSS (Dematerialised Securities System)[14].

The Investor Share is created by the Operator, upon request by the investor towards the Operator. An investor may not hold more than one Share. By exception, Asset Management Companies may hold different Investor Shares for each Mutual Fund they manage. The information required for the creation of an Investor Share is the *investor particulars* (identification Reference Data) and the *investor general information*, as provided for in article 4 of the DSS Regulation.

In the **Investor Share** the following accounts are kept:

- **Securities Account**. Each Securities Account includes one or more Sub-Accounts that are administered by Operators. Each Sub-Account is uniquely related to a particular Operator (Member or Custodian), which may administer and operate it. This Account is the total of the Operator Accounts belonging to a Share.
- **Special Account**. The Special Account is a Sub-Account within the Investor Share that can be accessed only by HELEX (the CSD).

In case of joint holders of securities that each of them holds an individual Investor Share, a **Joint Investor Share** is created. Joint Investor Share is identified with the joint holders and the percentage of their holding of securities. The Joint Investor Share is linked to the Investor Share of each of the joint holders. In this share are also kept the Securities Account and the Special Account.

A **Common Investor Share** is created upon request of two or more natural persons; each of them holds an individual Investor Share. Common Investor Share is identified with the joint holders; each of them is in common ownership of all securities that are registered in the Share. The Common Investor Share is linked to the Investor Share of each of the joint holders. In this share are also kept the Securities Account and the Special Account.

HELEX creates an **Issuer Share** for every company whose securities have been listed on the ATHEX. The following accounts are kept in this share and they are used only for corporate actions: Securities Account, Special Account and Transit Account (where HELEX performs temporary registrations, in case of corporate actions).

For each Member kept in the DSS, and in addition to the share held by it as an investor, another share shall be created by HELEX called a **Member Share**. In this share are also kept the Securities Account, the Operator Account and the Special Account. The Member also holds a **Market Maker Share** (in the capacity of Market Maker) and a **Derivatives Market Maker Share** (if the member acts as a Derivatives Market Maker).

Each Operator keeps with the Settlement Bank (Bank of Greece) accounts distinguished into **Cash Settlement Accounts on Shares** and **Cash Settlement Accounts on Bonds**.

[14] According to the Codified Dematerialised Securities System Operation Regulation of HELEX.

In the following example, three customers are considered: two investors (C_1 and C_2) and an issuer (C_3). Normally, the special accounts and the transitory account are operated by the CSD only.

The following table shows, from a conceptual point of view only, the securities accounts kept in DSS for customers C_1, C_2, and C_3.

Table 4.1 – Securities accounts in DSS

Investor Share	Securities Account	Operator	Customer	Customer Type	Account Type	([15])
0000000001	9999999001	O_1	C_1	Investor	Investor Securities Account	
0000000001	9999999001	O_2	C_1	Investor	Investor Securities Account	
0000000001	9999999001	HELEX	C_1	Investor	Special Account	*
0000000002	9999999002	O_1	C_2	Investor	Investor Securities Account	
0000000002	9999999002	O_3	C_2	Investor	Investor Securities Account	
0000000002	9999999002	HELEX	C_2	Investor	Special Account	*
0000000003	9999999003	O_1	C_3	Issuer	Investor Securities Account	
0000000003	9999999003	HELEX	C_3	Issuer	Special Account	*
0000000003	9999999003	HELEX	C_3	Issuer	Transitory Account	
0000000004	9999999004	O_1	O_1	Participant - own	Investor Securities Account	
0000000004	9999999004	HELEX	O_1	Participant - own	Special Account	*
0000000005	9999999005	O_2	O_2	Participant - own	Investor Securities Account	
0000000005	9999999005	HELEX	O_2	Participant - own	Special Account	*
0000000006	9999999006	O_3	O_3	Participant - own	Investor Securities Account	
0000000006	9999999006	HELEX	O_3	Participant - own	Special Account	*

Furthermore, the securities accounts of C_1, C_2, and C_3, are supposed to be operated by the following different set of account operators:

- C_1: O_1 and O_2 plus the CSD (HELEX);
- C_2: O_1 and O_3 plus the CSD (HELEX);
- C_3: O_1 plus the CSD (HELEX).

The same information can be represented in T2S as follows. A securities account will be defined for each couple <*securities account, account operator*> defined in the CSD; furthermore, a securities account will be defined for each special account and transitory account defined in the CSD[16]:

[15] Please refer to the end of this section for an explanation of the symbol * in this and in the following tables.

[16] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

Table 4.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default	
HELEX	C_1	03001	Investor	n/a	N	n/a	
HELEX	C_1	03002	Investor	n/a	N	n/a	
HELEX	C_1	03003	Investor	n/a	N	n/a	*
HELEX	C_2	03004	Investor	n/a	N	n/a	
HELEX	C_2	03005	Investor	n/a	N	n/a	
HELEX	C_2	03006	Investor	n/a	N	n/a	*
HELEX	C_3	03007	Issuer	n/a	N	n/a	
HELEX	C_3	03008	Issuer	n/a	N	n/a	*
HELEX	O_1	03009	Participant – own	n/a	N	n/a	
HELEX	O_1	03010	Participant – own	n/a	N	n/a	*
HELEX	O_2	03011	Participant – own	n/a	N	n/a	
HELEX	O_2	03012	Participant – own	n/a	N	n/a	*
HELEX	O_3	03013	Participant – own	n/a	N	n/a	
HELEX	O_3	03014	Participant – own	n/a	N	n/a	*
HELEX	HELEX	03015	Transitory	n/a	N	n/a	
HELEX	HELEX	03016	CSD Technical	n/a	N	n/a	

In this example, none of the securities accounts is linked to any CSD specific restrictions.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 4.3 – Securities accounts mapping table

A/C Identifier (in the CSD)			A/C Identifier (in T2S)		
Investor Share	Securities Account	Operator	T2S party	A/C No.	
0000000001	9999999001	$O_{`1}$	C_1	03001	
0000000001	9999999001	$O_{`2}$	C_1	03002	
0000000001	9999999001	HELEX	C_1	03003	*
0000000002	9999999002	$O_{`1}$	C_2	03004	
0000000002	9999999002	$O_{`3}$	C_2	03005	
0000000002	9999999002	HELEX	C_2	03006	*
0000000003	9999999003	$O_{`1}$	C_3	03007	
0000000003	9999999003	HELEX	C_3	03008	*
0000000003	9999999003	HELEX	HELEX	03015	
0000000004	9999999004	O_1	O_1	03009	
0000000004	9999999004	HELEX	O_1	03010	*
0000000005	9999999005	O_2	O_2	03011	
0000000005	9999999005	HELEX	O_2	03012	*
0000000006	9999999006	O_3	O_3	03013	
0000000006	9999999006	HELEX	O_3	03014	*
n/a	n/a	n/a	HELEX	03016	

Alternatively, in the case that HELEX decides to transfer securities to T2S in technical accounts of the intermediaries, tables 4.2 – Securities accounts in T2S and Table 4.3 – Securities accounts mapping table would look as follows:

Table 4.4 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default	
HELEX	O_1	03001	Participant – own	n/a	N	n/a	
HELEX	O_1	03002	Participant – clients	n/a	N	n/a	
HELEX	O'_2	03003	Participant – own	n/a	N	n/a	
HELEX	O_2	03004	Participant – clients	n/a	N	n/a	
HELEX	O'_3	03005	Participant – own	n/a	N	n/a	
HELEX	O'_3	03006	Participant – clients	n/a	N	n/a	
HELEX	HELEX	03007	CSD – Special accounts	n/a	N	n/a	*
HELEX	HELEX	03008	Transitory Accounts	n/a	N	n/a	
HELEX	HELEX	03009	CSD Technical	n/a	N	n/a	

Table 4.5 – Securities accounts mapping table

A/C Identifier (in the CSD)			A/C Identifier (in T2S)		
Investor Share	Securities Account	Operator	T2S party	A/C No.	
0000000001	9999999001	O'_1	O_1	03002	
0000000001	9999999001	O'_2	O_2	03004	
0000000001	9999999001	HELEX	HELEX	03007	*
0000000002	9999999002	O'_1	O_1	03002	
0000000002	9999999002	O'_3	O'_3	03006	
0000000002	9999999002	HELEX	HELEX	03007	*
0000000003	9999999003	O'_1	C_3	03007	
0000000003	9999999003	HELEX	HELEX	03007	*
0000000003	9999999003	HELEX	HELEX	03008	
0000000004	9999999004	O_1	O_1	03001	
0000000004	9999999004	HELEX	HELEX	03007	*
0000000005	9999999005	O_2	O'_2	03003	
0000000005	9999999005	HELEX	HELEX	03007	*
0000000006	9999999006	O_3	O'_3	03005	
0000000006	9999999006	HELEX	HELEX	03007	*
n/a	n/a	n/a	HELEX	03009	

For both alternatives, it may be decided that the Special Account in DSS is not preserved. In such a situation rows marked with * will not be applicable.

5 Iberclear

This section shows a mapping example based on the Iberclear's securities account structure. In the following box, some background information is shown.

In Spain, the Securities Register System is structured in two levels: the Central Registry managed by Iberclear which keeps the securities balances of the participants (an account for securities registered in their own name and an omnibus "clients account", where securities are registered globally) and a detailed registry managed by the participants where securities are listed by holder's name.

Each Iberclear participant has one securities account made up of 4 digits and the BIC Code. The sub-account structure consists in one or two sub-accounts depending if the participant has the possibility of having client holdings or not. If the participant manages client holdings then it is necessary to have two sub-accounts to segregate its own holdings of its client holdings

In the following example, three different legal entities have a contractual relationship with Iberclear: BBVA, BSCH and Banco de Andalucía. In turn, these legal entities hold one or two securities accounts. Some of these accounts will maintain each legal entity's own holdings. Some others will be linked to client holdings.

The following table shows, from a conceptual point of view only, the securities accounts kept in Iberclear for BBVA, BSCH and Banco de Andalucía.

Table 5.1 – Securities accounts in Iberclear

Customer	Account Number	Account Type
BBVA	0182P	Proprietary Holding
BBVA	0182T	Client Holding
BSCH	0049P	Proprietary Holding
BSCH	0049T	Client Holding
Banco de Andalucía	0004P	Proprietary Holding

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[17]:

Table 5.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
Iberclear	BBVA	07001	CSD-Participant	n/a	Y	Only for bilateral transactions
Iberclear	BBVA	07002	CSD-Participant	n/a	N	Only for bilateral transactions
Iberclear	BSCH	07003	CSD-Participant	n/a	Y	Only for bilateral transactions
Iberclear	BSCH	07004	CSD-Participant	n/a	N	Only for bilateral transactions
Iberclear	Banco de Andalucía	07005	CSD-Participant	n/a	Y	Only for bilateral transactions

In this example, none of the securities account is linked to any CSD specific restrictions.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 5.3 – Securities accounts mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
0182P	07001
0182T	07002
0049P	07003
0049T	07004
0004P	07005

[17] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

6 VP

This section shows a mapping example based on the VP securities account structure. In the following box, some background information is shown.

The following is a non-exhaustive list of the differences between the Danish CSD-system compared to other systems:

- Single investor account structure which offers multiple advances in our daily business including (a) handling of corporate actions directly from issuer to end investor and (b) due to a very high settlement rate despite single investor account structure the market is deemed so efficient that there is no need for a CCP.
- Different account types for customers of the system and 'private investors'. Where none of a private investor's trades are settled even if he only lacks a small portion of his total sale, the system settles as much as possible on customers accounts. This is regulated legally in the participant agreement
- Automated collateral which offers brokers access via the Danish Central Bank to liquidity needed for settlement, payments of corporate actions and ordinary inter bank clearing (like a domestic CLS). Automated collateral pledges only the needed securities and leaves the broker with the certainty that liquidity for bought securities is always present.
- Pledge and retention in connection with settlement:
    1. A cash-provider is entitled to pledge a trade through to S if the private investor does not pay for/delivers the securities.
    2. The account controller has retention right of the securities of a trade until S+1.
- According to Danish legislation, legal effect on notification is when it is received by the CSD from the account controller. Notifications must be accepted by the account controller - conditioned that the notifier has sufficient authority regarding the claim - during the entire ordinary business day. Notifications pledging holdings supersede trades with a later legal effect time.

In the following example, three different *account controllers*[18] AC_1, AC_2 and AC_3 have a contractual relationship with VP. In turn, these account controllers hold one or more securities accounts. Some of these accounts will hold each account controller's own holdings. Other accounts will be linked to customers (e.g. institutional investors) and some accounts will be opened for end investors. The same customer, or end investor, may be linked to more than one account controller.

The example also illustrates collateralisation by book-entry pledge with the Danish Central Bank where the account is operated by the Central Bank (Danmarks Nationalbank).

[18] An account controller is defined as an entity (bank) responsible for opening/maintaining accounts at VP and with access rights to the accounts including holdings for which it acts as account controller.

The following table shows, from a conceptual point of view only, the securities accounts kept in VP for AC_1, AC_2 and AC_3 and Danmarks Nationalbank.

Table 6.1 – Securities accounts in VP

Account Number	Account Controller	Account Owner	Restriction	Rights holder
01	AC_1	AC_1		
02	AC_1	Customer A		
03	AC_2	AC_2	Automated collateral	Danmarks Nationalbank
04	AC_2	Customer A	Automated collateral	Danske Bank
05	AC_2	Customer B		
06	AC_2	End Investor A	Pledge in connection with settlement	Cash provider
07	AC_2	End Investor B	Pledge in connection with settlement	Account controller
08	AC_3	AC_3		
09	AC_3	Customer C		
10	AC_3	End Investor B		
11	Danmarks Nationalbank	AC_3	Blocked collateral	Danmarks Nationalbank

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[19]:

Table 6.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
VP	AC_1	06001	CSD-Participant	-	Y	Hold
VP	AC_1	06002	CSD-Participant	-	Y	Hold
VP	AC_2	06003	CSD-Participant	VP1	N	Hold
VP	AC_2	06004	CSD-Participant	VP1	N	Hold
VP	AC_2	06005	CSD-Participant	-	Y	Hold
VP	AC_2	06006	CSD-Participant	-	N	Hold
VP	AC_2	06007	CSD-Participant	-	N	Hold
VP	AC_3	06008	CSD-Participant	-	Y	Hold
VP	AC_3	06009	CSD-Participant	-	Y	Hold
VP	AC_3	06010	CSD-Participant	-	Y	Hold
VP	Danmarks Nationalbank	06011	CSD-Participant	VP4	n/a	n/a

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction defined by the CSD, according to the following table:

Table 6.3 – Market-Specific Restrictions

Restriction Type Identifier	System Entity	Restriction Type	Object Restriction Type	Subordinate Position Restriction	Restriction Classification
6001	VP	VP1	Account	N	Blocked
6002	VP	VP2	Position	N	Blocked
6003	VP	VP3	Position	N	Blocked
6004	VP	VP4	Account	N	Blocked

Please note that restrictions VP2 and VP3 are not shown in table 6.2 because these restrictions apply at position level and not at securities account level.

[19] Please check section 2 of this annex for more detailed information concerning attributes of the following tables.

To each restriction type will then be possible to link multiple allowed instructions, based on the different combinations of allowed instructing parties (e.g. CSD, Account Operator) and allowed instruction profiles (i.e. a specific set of instructions type):

Table 6.4 – Allowed Instructions

Allowed Instruction Identifier	Restriction Type Identifier	Allowed Instructing Party	Allowed Instruction Profile Id.
1016	6001	CSD	6201
1026	6001	Account Operator	6201
1036	6002	CSD	6202
1046	6002	Account Operator	6203
1056	6003	CSD	6203
1066	6003	Account Operator	6204
1076	6003	Pledgee	6205
1086	6004	CSD	6206
1096	6004	Account Operator	6207
1106	6004	Pledgee	6207

Each allowed instruction profile identifier will then link a restriction type and the related allowed instructing party to the relevant, specific set of allowed instruction types.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 6.5 – Securities account mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
01	06001
02	06002
03	06003
04	06004
05	06005
06	06006
07	06007
08	06008
09	06009
10	06010
11	06011

7 APK

This section shows a mapping example based on the APK securities account structure. In the following box, some background information is shown.

In the Finnish market five different account types are currently available:

- *Individual beneficiary accounts*:
  - the securities deposited under Individual Beneficiary Account are held in the beneficial owner's name within the APK's system;
  - individual refers to both natural persons and legal entities;
  - the account owner must have title to the securities registered to the account;
  - the account holder shall be entered in the public shareholder register;
  - there is no need to register into temporary shareholder register for participation of shareholder meetings or using voting powers;
  - it is the only allowed account type for Finnish investors (Finnish citizens or legal persons registered in Finland).
- *Owner nominee accounts*:
  - it is like an individual beneficiary account, but the name of account holder shall not be entered in the public shareholder register.
- *Custodial nominee accounts*:
  - there is no special legislation on indirect holdings (fungible pools);
  - securities owned by foreign investors only may be deposited in a custodial nominee account, in which it is permitted to register securities of one or several beneficial owners;
  - the account type indicates that the account holder (custodian) has no title to the securities, but administers the assets on behalf of the beneficial owners;
  - the account opened in the account holder's (i.e. the client of Nordea, for example) name as nominee within the APK's system, but not disclosed to public registers;
  - in order to participate and vote in shareholders' meetings the beneficial owner has to register his ownership into temporary shareholder register;
  - it is not allowed for securities owned by for Finnish citizens or legal persons.
- *Issuing accounts*:

- they are opened in the name of the company when it's shares are incorporated in the book-entry register;
- the account includes all mandatory information of the security;
- it has the same content as required from physical share certificates;
- it provides protection against objections;
- there is a daily reconciliation vis-a-vis all book-entry accounts;
- if the investor does not convert physical securities into book-entries, the book-entries are safekept in a collection account opened in the name of the company in favour of the investors.

▪ *Commission accounts*:

- it may be opened in the name of clearing participant;
- it requires an acceptance from CSD and FSA;
- it is a special type of account used for clearing & settlement purposes;
- securities belonging to several owners may be registered to one account;
- only until the settlement has been finalised and the clearing party has received a payment from the investor;
- account holder has right of pledge to securities registered to the account;
- FSA has not allowed to use commission accounts for trades made on behalf of Finnish investors, therefore commission accounts are not widely used.

The Book-entry Register must (by law) include information on (a) account holder (name, personal/company id, address, linked bank account number, tax status), (b) rights and restrictions (related to securities, e.g. pledge, right to receive yield, transfer restriction, etc.), (c) positions (debit/credit, time stamp, registration ground (trade, gift, subscription, etc.)).

Shareholder lists are produced based on information registered to book-entry accounts (accounts opened in nominee name are not passed to shareholder register).

FSA's trade supervision is based on registrations of transactions to the book-entry accounts.

Basic (i.e. mandatory) reporting to account holders are produced on information registered to centralised register ("value-added" services are produced from account operators own systems).

<u>Registrations to book-entry accounts</u>:

▪ Entries are made by licensed account operators. Registrations include trades and rights and restrictions related to securities or account holder (ex. pledge or bankruptcy)

▪ All rights and restrictions pertaining to a security in book-entry form must be registered to the book-entry

account in order to be given priority and protection against third parties (competing claims).

- Positive and negative reliability:
  - information registered to the account may be relied upon by third parties;
  - rights and restrictions not registered are not given priority nor protection.
- Account operators are liable irrespective of negligence for errors in book-entry system.

In the following example, two T2S Parties having a contractual relationship with APK are considered: Nordea and Sampo Bank. Nordea is linked to five different securities accounts: three of them belong to Citibank as a global custodian; private John Smith holds the other two accounts, as an end investor client. On the other hand, Sampo Bank is linked to one account only, belonging to John Smith as well.

The following table shows, from a conceptual point of view only, the securities accounts kept in APK for Nordea and Sampo Bank.

Table 7.1 – Securities accounts in APK

Account Number	Account Holder	Account Operator	Account Type	Restriction	Right Holder
02 111	Citibank	Nordea	Owner's nominee	-	-
02 793	Citibank	Nordea	Custodial nominee	-	-
02 532	Citibank	Nordea	Owner's nominee	Pledged	Stockholmsbörsen
02 933	John Smith	Nordea	Beneficial owner	Restriction on disposal	Nordea Markets
02 653	John Smith	Nordea	Beneficial owner	Asset management right	UB Private Bank
08 777	John Smith	Sampo Bank	Beneficial owner	-	-

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[20]:

Table 7.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
APK	Nordea	04001	CSD-Participant	-	Y	-
APK	Nordea	04002	CSD-Participant	-	Y	-
APK	Nordea	04003	CSD-Participant	Pledge	N	-
APK	Nordea	04004	CSD-Participant	Special pledge	N	-
APK	Nordea	04005	CSD-Participant	Asset management right	Y	-
APK	Sampo Bank	04006	CSD-Participant	-	Y	-

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction defined by the CSD, according to the following table:

Table 7.3 – Market-Specific Restrictions

Restriction Type Identifier	System Entity	Restriction Type	Object Restriction Type	Subordinate Position Restriction	Restriction Classification
7001	APK	Pledge	Account	N	Blocked
7002	APK	Special pledge	Account	N	Earmarked
7003	APK	Asset Management Right	Account	N	Earmarked

[20] Please check section 2 of this annex for more detailed information concerning attributes of the two following tables.

To each restriction type will then be possible to link multiple allowed instructions, based on the different combinations of allowed instructing parties (e.g. CSD, Account Operator) and allowed instruction profiles (i.e. a specific set of instructions type):

Table 7.4 – Allowed Instructions

Allowed Instruction Identifier	Restriction Type Identifier	Allowed Instructing Party	Allowed Instruction Profile Id.
1017	7001	CSD	7201
1027	7001	Pledgee	7202
1037	7001	Account Operator	7203
1047	7002	CSD	7204
1057	7002	Pledgee	7204
1067	7002	Account Operator	7204
1077	7003	CSD	7205
1087	7003	Pledgee	7206
1097	7003	Account Operator	7207

Each allowed instruction profile identifier will then link a restriction type and the related allowed instructing party to the relevant, specific set of allowed instruction types.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 7.5 – Securities Account Mapping Table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
02 111	04001
02 793	04002
02 532	04003
02 933	04004
02 653	04005
08 777	04006

8 Estonian CSD

This section shows a mapping example based on the Estonian CSD securities account structure. In the following box, some background information is shown.

Currently, there are neither sub-accounts nor special numbering used for defining different kind of accounts..
The following account types are available:

- *ordinary account* (i.e. in the name of the beneficial owner);
- *joint ownership account*;
- *co-ownership account*;
- *nominee account*;
- *pledgee* (if an application for opening a securities account is used for registration of the details of a pledgee as the latter does not hold a securities account);
- *financial collateral arrangement account*.

It is mandatory to define for the **nominee account**, whether securities held on the account belong to legal or natural persons and whether they are Estonian residents or not (requirement from Estonian laws to segregate securities minimum on four accounts).

Joint ownership and co-ownership are registered at CSD level to have legal power - it is up to the account operator to check that right person(s) have given the order.

On **financial collateral arrangement account** data on the pledgee and the existence of an irrevocable right of disposal granted to the pledgee concerning the securities to be transferred to the financial collateral arrangement account are also registered. Where there is more than one pledgee, all the pledgees should be registered. The account operator could also register the date of entry into force of the pledgee's right of disposal.
The same financial collateral arrangement account may be used for registering securities pledged to the same pledgee under different financial collateral arrangements, but only if such financial collateral arrangements do not differ from each other with respect to the existence of an irrevocable right of disposal granted to the pledgee.
The securities governed by the financial collateral arrangement are transferred to the pledge account by a FOP securities transfer.
Only the pledgee may issue orders to the account operator regarding the securities transferred to the financial collateral arrangement account as of the date of entry into force of the irrevocable right to dispose of the pledged securities granted to the pledgee by the pledgor. The pledgor may issue orders to the account operator regarding securities transferred to the financial collateral arrangement account until the date specified in previous sentence only with the consent of the pledgee.

The securities account holder may authorise a member of the exchange under an assets administration agreement or any other similar agreement to confirm debit orders for the performance of the obligations arising from exchange transactions effected for the account of the securities account holder. The name of the member of the exchange authorised by the person requesting the opening of a securities account is to be entered in the data input field.

Ordinary pledges (not related to financial collateral arrangement) are registered on account level and for certain amount of securities (i.e. not full account, but ISIN and number of securities are fixed). The CSD shall transfer securities which are the object of a pledge either by a securities transfer without payment or by a securities transfer against payment provided that prior to the submission of the respective transfer order, the CSD has received an order from the account operator of the pledgee or from the account operator who has registered the details of the pledgee authorising the transfer of the securities which are the object of the pledge. A pledge in respect of the securities, which are the object of the pledge, shall be transferred based on an order received from the account operator of the person who has acquired the pledged securities.

In case of participation in General Meetings and in case that is required by the Issuer CSD (e.g. Latvia), the securities could be **"frozen"** on securities account (also based on ISIN and number of securities - could be part of the position, if nominee account is involved).
A securities account (full account) or securities on account (based on ISIN) could be **frozen** also based on a court judgment, a court ruling or an order of an investigative body, an order of a bailiff or other grounds prescribed by legislation. Securities or a securities account remain frozen until a corresponding register entry is made, the order based on which the securities were frozen is cancelled or a new order is issued, or until another time prescribed by legislation.

In the following example, a set of accounts similar to the one used in section 7 for APK is considered.

The following table shows, from a conceptual point of view only, the securities accounts kept in Estonian CSD in this case.

Table 8.1 – Securities accounts in Estonian CSD

Account Number	Account Holder	Account Operator	Account Type	Restriction	Right Holder
01	Citibank	Nordea	Ordinary	n/a	n/a
02	Citibank	Nordea	Nominee	n/a	n/a
03	Jaan Tamm	Nordea	Pledgee	For defining an entity	n/a
04	John Smith	Nordea	Ordinary	n/a	n/a
05	John Smith	Nordea	Co-ownership	n/a	Na
06	John Smith	Sampo Bank	Ordinary	Asset management right	Hansapank
07	Company Ltd	Nordea	Financial collateral arrangement	Restriction on disposal	Nordea

Please note that the securities account opened in the name of Jaan Tamm could not be used as ordinary securities account and no securities could be registered on that account.

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[21]:

Table 8.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
ECSD	Nordea	05001	CSD-Participant	n/a	Y	Hold
ECSD	Nordea	05002	CSD-Participant	n/a	N	Hold
ECSD	Nordea	05003	CSD-Participant	Pledgee account	N	n/a
ECSD	Nordea	05004	CSD-Participant	n/a	N	Hold
ECSD	Nordea	05005	CSD-Participant	n/a	N	Hold
ECSD	Sampo Bank	05006	CSD-Participant	AM account	N	Hold
ECSD	Nordea	05007	CSD-Participant	Financial collateral arrangement	N	Hold

[21] Please check section 2 of this annex for more detailed information concerning attributes of the following tables.

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction defined by the CSD, according to the following table:

Table 8.3 – Market-Specific Restrictions

Restriction Type Identifier	System Entity	Restriction Type	Object Restriction Type	Subordinate Position Restriction	Restriction Classification
8001	ECSD	Pledgee account	Account	N	Blocked
8002	ECSD	AM account	Account	N	Blocked
8003	ECSD	Financial collateral arrangement	Account	N	Blocked
8004	ECSD	Pledge	Position	N	Blocked
8005	ECSD	Freeze	Position	N	Blocked

Please note that restrictions 8004 and 8005 are not shown in table 8.2 because these restrictions apply at position level and not at securities account level.

To each restriction type will then be possible to link multiple allowed instructions, based on the different combinations of allowed instructing parties (e.g. CSD, Account Operator) and allowed instruction profiles (i.e. a specific set of instructions type):

Table 8.4 – Allowed Instructions

Allowed Instruction Identifier	Restriction Type Identifier	Allowed Instructing Party	Allowed Instruction Profile Id.
1018	8002	CSD	8201
1028	8002	Account Operator	8202
1038	8003	CSD	8201
1048	8003	Pledgee	8202
1058	8004	CSD	8203
1068	8004	Account Operator	8204

Please note that for restriction types identified by 8001 (Pledgee account) and 8005 (Freeze) no instructions are allowed, i.e. no instructing party is allowed to any instruction type.

Each allowed instruction profile identifier will then link a restriction type and the related allowed instructing party to the relevant, specific set of allowed instruction types.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 8.5 – Securities Account Mapping Table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
01	05001
02	05002
03	05003
04	05004
05	05005
06	05006
07	05007

9 Monte Titoli

This section shows a mapping example based on Monte Titoli's securities account structure. In the following box, some background information is shown.

Express II is the clearing and settlement platform managed and operated by Monte Titoli that integrates net with gross settlement functionalities for transactions in non-derivatives securities.

The platform consists of two integrated services, the net settlement service and the gross settlement service: transactions that are not settled at the end of the net process are expected to be routed to the gross settlement process. Both settlement services provide for simultaneous settlement of securities and cash. Settlement of securities takes place within Monte Titoli centralised administration system, while settlement of cash takes place in CeBM thanks to a real-time connection with Banca d'Italia.

The participation in the settlement services can be in one's own name and on one's own behalf, or in one's own name and on behalf of third parties. For settlement of cash, participants may make use of an agent bank.

A securities account is identified in Express II by five digits (ABI[22] codification or internally assigned by Monte Titoli within a range of values agreed with ABI) plus two digits related to the account type (e.g. issuer, intermediary).

Financial instruments are identified by the ISIN plus a two digits suffix, used by Express II for the management of some specific securities positions.

The majority of financial instruments are denominated in Euro, even if some securities are denominated in Italian Lira. Each figure concerning a specific financial instrument (e.g. minimum settlement volume, position) is expressed using the denomination currency of the relevant financial instrument.

Securities positions are stored in Express II with the following information:

- account number (five plus two digits)
- financial instrument (ISIN)
- suffix (two digits)
- position
- a maximum of four restricted positions (block A, B, C and D) used by the booking and settlement procedures and by other internal procedures of Express II

[22] Associazione Bancaria Italiana.

In the following example, two T2S Parties having a contractual relationship with Monte Titoli are considered: Intesa Sanpaolo and Citibank. Intesa Sanpaolo is linked to three different securities accounts. The first and the latter are intermediary accounts (account type code "00"), while the second is the issuer account (account type code "00"). On the other hand, Citibank owns one intermediary account (whose number is 33847 00) and one issuer account (account no. 33847 22).

The following table shows, from a conceptual point of view only, the securities accounts kept in Express II for Intesa Sanpaolo and Citibank.

Table 9.1 – Securities accounts in Express II

Customer	Account No.	Account Type
Intesa Sanpaolo	82770 00	Intermediary
Intesa Sanpaolo	82770 22	Issuer
Intesa Sanpaolo	74518 00	Intermediary
Citibank	33847 00	Intermediary
Citibank	33847 22	Issuer

The same information can be represented in T2S as follows. A securities account will be defined for each of the accounts defined in the CSD[23]:

Table 9.2 – Securities accounts in T2S

System Entity	T2S Party	A/C No.	A/C Type	CSD-Spec. Restriction	Auto-collat.	Hold/Release Default
MT	Intesa Sanpaolo	09001	CSD-Participant	-	Y	Hold
MT	Intesa Sanpaolo	09002	CSD-Participant	-	N	n/a
MT	Intesa Sanpaolo	09003	CSD-Participant	-	N	n/a
MT	Citibank	09004	CSD-Participant	-	Y	Release
MT	Citibank	09005	CSD-Participant	-	N	n/a

[23] Please check section 2 of this annex for more detailed information concerning attributes of the following tables.

Each value set for the attribute *CSD-Spec. Restriction* links the relevant securities account to a specific restriction defined by the CSD, according to the following table:

Table 9.3 – Market-Specific Restrictions

Restriction Type Identifier	System Entity	Restriction Type	Object Restriction Type	Subordinate Position Restriction	Restriction Classification
9001	MT	09	Position	Y	Segregated
9002	MT	10	Position	Y	Segregated
9003	MT	12	Position	Y	Segregated
9004	MT	A	Position	N	Blocked
9005	MT	B	Position	N	Blocked
9006	MT	C	Position	N	Blocked
9007	MT	D	Position	N	Blocked

The set of restriction types just defined will have to be linked properly, in order to model the possibility for the CSD to define restriction types A, B, C and D as subordinate restrictions for restriction types 09, 10 and 11:

Table 9.4 – Allowed Subordinate Restrictions

Allowed Subordinate Restr. Id.	Restriction Type Id.	Allowed Restriction Type Id.
9401	09	A
9402	09	B
9403	09	C
9404	09	D
9405	10	A
9406	10	B
9407	10	C
9408	10	D
9409	12	A
9410	12	B
9411	12	C
9412	12	D

Where:

- *Allowed Subordinate Restriction Identifier* defines the unique technical identifier of the link between the restriction type identifier and one of its allowed subordinate restrictions;
- *Restriction Type Identifier* is the identifier of the relevant restriction type;
- *Allowed Restriction Type Identifier* is the identifier of the relevant subordinate restriction type.

To each restriction type will then be possible to link multiple allowed instructions, based on the different combinations of allowed instructing parties (e.g. CSD, Account Operator) and allowed instruction profiles (i.e. a specific set of instructions type):

Table 9.5 – Allowed Instructions

Allowed Instruction Identifier	Restriction Type Identifier	Allowed Instructing Party	Allowed Instruction Profile Id.
1019	9001	CSD	9201
1029	9001	Account Operator	9202
1039	9002	CSD	9203
1049	9002	Account Operator	9204
1059	9003	CSD	9204
1069	9003	Account Operator	9204
1079	9004	CSD	9204
1089	9005	CSD	9205
1099	9006	CSD	9206
1109	9007	CSD	9207

Each allowed instruction profile identifier will then link a restriction type and the related allowed instructing party to the relevant, specific set of allowed instruction types.

Finally, a mapping table (created and managed within the CSD system) will define the link between each securities account in the CSD system and the corresponding account defined within T2S:

Table 9.6 – Securities accounts mapping table

A/C Identifier (in the CSD)	A/C Identifier (in T2S)
82770 00	09001
82770 22	09002
74518 00	09003
33847 00	09004
33847 22	09005

USER REQUIREMENTS

ANNEX 7

ISSUE NOTE - CASH ACCOUNTS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENT

1 Introduction

The purpose of this note is to explain in more detail the organisation of cash accounts envisaged for T2S. It illustrates the organisation with TARGET2. Nevertheless, it is also valid for the link of T2S to non-euro RTGS systems. Some specificities like the calculation of inter NCB positions in TARGET2 are purely related to the Eurosystem and therefore not applicable for non-euro RTGS systems.

The cash leg of T2S settlements will take place on T2S dedicated cash accounts. A consolidated view on euro liquidity available in relevant RTGS accounts and T2S cash accounts will be provided. Real-time liquidity transfers between relevant RTGS accounts and T2S cash accounts (and vice versa) will be possible automatically and on demand.

Users' requests can be summarised as:

- Settlement finality will take place on T2S dedicated cash accounts.
- The account set-up must be flexible enough to cover the various needs of the payment banks[1].
    - Users should be able to centralise all their T2S settlement on one single T2S dedicated cash account even if they take part in T2S via several CSDs or to use several T2S dedicated cash accounts, e.g. to segregate proprietary and clients operations.
    - For liquidity transfers between T2S and TARGET2, users should be able to link several T2S dedicated cash accounts to one relevant RTGS account.
    - Holders of T2S dedicated cash accounts (= payment bank) should not be compelled to hold an RTGS account in TARGET2; i.e. it shall not be mandatory for the account holder of a T2S dedicated cash account to have an account in TARGET2. Nevertheless, each T2S dedicated cash account must be linked with an RTGS account in TARGET2. This RTGS account can be owned by a different account holder than the T2S dedicated cash account in T2S and can be held with a central bank different from the one the T2S dedicated cash account is held at.
- Efficient liquidity management tools must be available.
    - Efficient real-time transfers between relevant RTGS accounts and T2S dedicated cash accounts must be possible, including time/event-driven automated transfers defined according to users needs.
    - Adequate liquidity monitoring tools must be available, i.e. tools providing a view on cash transfers between relevant RTGS accounts and T2S dedicated cash accounts as well as on the liquidity available on TARGET2 accounts and T2S dedicated cash accounts.

[1] When speaking of payment banks in this annex it also includes settlement banks because they also are holders of T2S dedicated cash accounts.

- Liquidity transfers between relevant RTGS accounts and T2S dedicated cash accounts will require the involvement of so called “transit accounts” in TARGET2 as well as in T2S in order to keep the accounting in both systems consistent.

2 Accounts involved

The accounts listed in the table below will be used:

Table 2-1: Overview of accounts

Account	Location	Visibility of		Comment
		… account	… single booking	
RTGS account	TARGET2	Payment bank (account holder)	Payment bank (account holder)	Main source of liquidity
T2S dedicated transit account	TARGET2	National Central Bank (account holder)	National Central Bank (account holder)	This account will be of a technical nature to keep the accounting in TARGET2 consistent. There is one T2S dedicated transit account per NCB. Only RTGS accounts belonging to the NCB being the account holder of the T2S dedicated transit account can be linked to it.

Account	Location	Visibility of		Comment
		… account	… single booking	
TARGET2 dedicated transit account	T2S	National Central Bank (account holder)	National Central Bank (account holder)	This account will be of a technical nature to keep the accounting in T2S consistent. There is one TARGET2 dedicated transit account per NCB.
T2S dedicated cash account[2]	T2S	Payment bank (account holder) *When the account holder is a third party also the payment bank holding the linked RTGS account will have visibility of the account balance if access is granted by the account holder.* *Also CSD(s) may have access if access is granted by the account holder.*	Payment bank (account holder)	Account for booking the cash leg of instructions in T2S. This account reflects the amount of liquidity available for settlement in T2S.

1

[2] A NCB may also use a T2S dedicated cash account in T2S in order to reflect the provision of intraday credit out of auto-collateralisation separated from its other business.

3 Bookings and message flows

At the start of the settlement day the account balances on the *T2S dedicated transit accounts*, the *TARGET2 dedicated transit accounts* and the *T2S dedicated cash accounts* are zero. All liquidity will derive from the *RTGS accounts* of the payment banks.

During the settlement day the bookings on the accounts mentioned above and the message flows resulting from it will be the following one:

In case of **provision of liquidity in favour of T2S** the *RTGS account* of the payment bank will be debited and the *T2S dedicated transit account* of the respective NCB will be credited[3]. On an optional basis the payment bank will be informed about the booking on the *RTGS account* by a confirmation of debit. A notification will be sent from TARGET2 to T2S via an internal link. Based on it T2S will debit the *TARGET2 dedicated transit account* of the respective NCB and credit the *T2S dedicated cash account* of the payment bank[4]. On an optional basis a confirmation of credit can be sent to the account holder of the *T2S dedicated cash account*.

When (some) liquidity should not be used for T2S purposes any more, there is the possibility to **transfer liquidity back to the RTGS account**. It will be under the full responsibility of the liquidity manager (treasurer) of the payment bank holding the T2S dedicated cash account (and/or the CSD or another party if it has the power of attorney) to take the decision on the amount of liquidity to be transferred and the point of time/event for the transfer. The *T2S dedicated cash account* is debited and the *TARGET2 dedicated transit account* is credited. The account holder of the *T2S dedicated cash account* can receive a confirmation of debit. TARGET2 is notified via an internal link about the successful booking in T2S and then debits the *T2S dedicated transit account* and credits the *RTGS account*. Again the booking on the *RTGS account* can be notified to the payment bank by sending a confirmation of credit.

If T2S makes use of **auto-collateralisation** during the settlement process it will be reflected in T2S only. If the intraday credit out of auto-collateralisation is not reimbursed during the settlement day it might become an overnight credit in TARGET2 during the end-of-day process depending on the account balance of the *RTGS account*.

At the **end of the settlement day** liquidity available on each *T2S dedicated transit account* will be automatically transferred back to the linked *RTGS account* based on the information on the balance on the *T2S dedicated cash account* (before balancing them out against the *T2S dedicated transit account*). Additional automated transfers will be possible on an optional basis during the settlement day (e.g. at 05:00

[3] This way of accounting is already used by the Eurosystem e.g. in order to perform the booking in case of liquidity transferred from an RTGS account in TARGET2 to an account in the Home Accounting Module or to an account kept at a proprietary home accounting system of a NCB.

[4] The payment bank being the account holder of the T2S dedicated cash account can be the same as the account holder of the RTGS account in TARGET2, but it can also be a different one.

and 16:00). Those additional automated transfers are not described in the example shown in section 4 of annex 7.

The bookings and message flows are the same as described for the ‘transfer back to the *RTGS account*’.
In addition to the confirmations the account owners of all accounts involved in the bookings will receive account statements of their accounts.
The change of the assets or liabilities of a NCB vis-à-vis the Eurosystem (= **inter NCB accounting**) is reflected by the net balance of the liquidity transfers sent to and received from T2S. It will be calculated in TARGET2 and included in the inter NCB accounting already in place in TARGET2.
For more details please have a look at the examples of bookings and message flows provided below (section 4 of annex 7).

4 Bookings and flows in the course of the settlement day (examples)

4.1 Provision of liquidity at the start of the settlement day

At the start of the settlement day liquidity will be provided from the RTGS accounts (in TARGET2) for the settlement in T2S.

The starting balances on the following accounts are zero at the start of the settlement day:

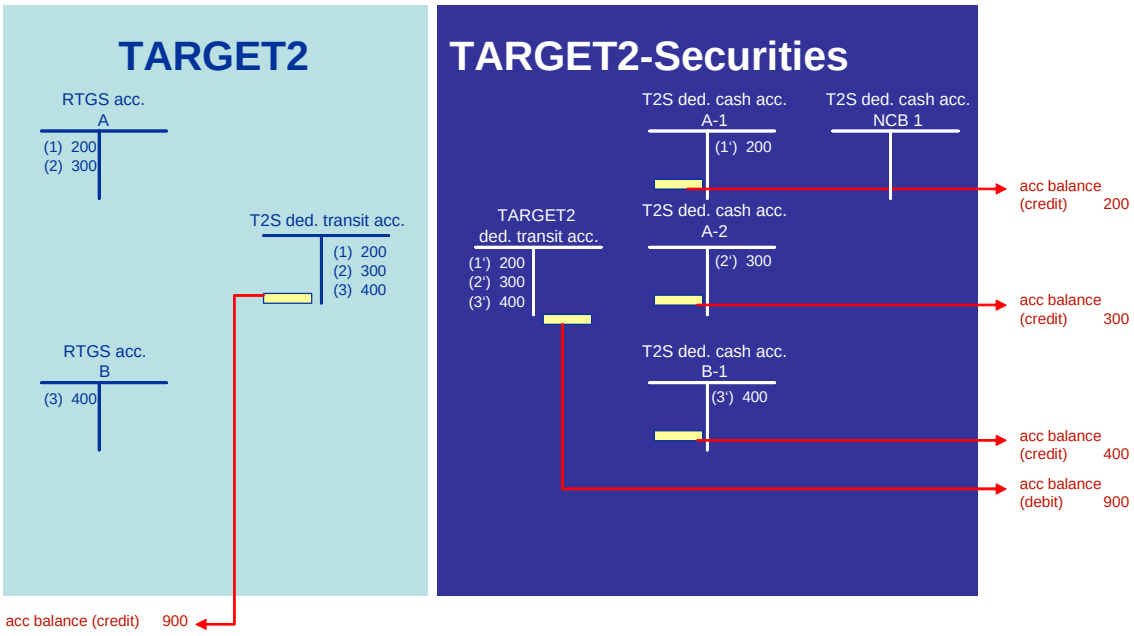
- T2S dedicated transit account (T2S ded. transit acc.)
- TARGET2 dedicated transit account (TARGET2 ded. transit acc.)
- T2S dedicated cash account (T2S ded. cash acc.)

[Note: There is the high probability that the account balance on the RTGS account (RTGS acc.) is not zero. Nevertheless, in order not to "overload" the example no starting balance for the RTGS account is mentioned.]

The provision of liquidity at the start of the settlement day can be triggered by:

- standing liquidity transfer order or a predefined liquidity transfer order
- immediate liquidity transfer order
- credit transfer (= payment)

The diagram below shows an example of the **bookings** done in TARGET2 and T2S[5]:



[5] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

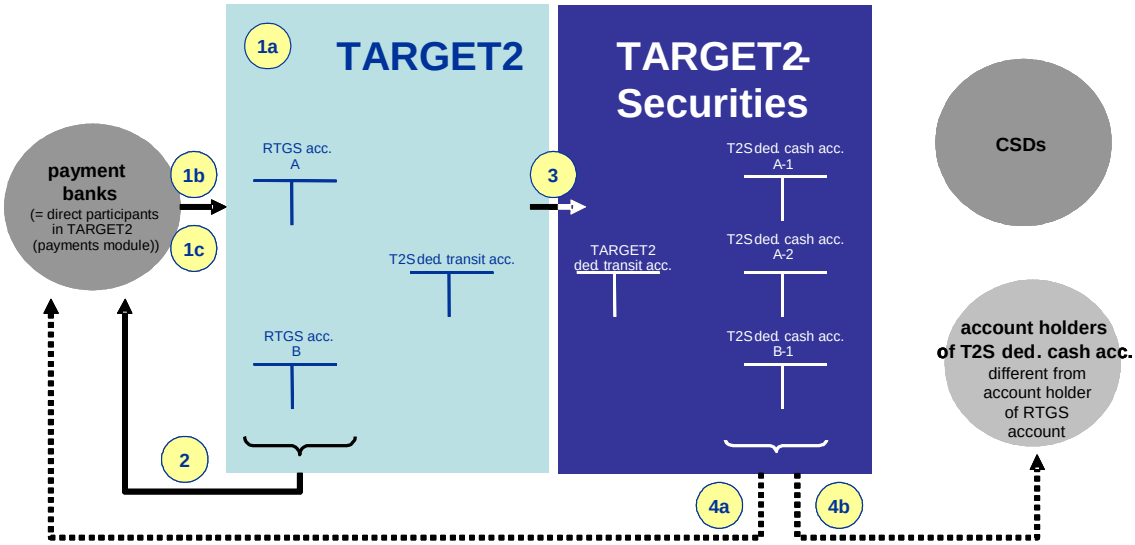
An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(1)	Debit RTGS acc. A	200	-
	Credit T2S ded. transit acc.	200	
(1')	Debit TARGET2 ded. transit acc.	200	The booking in TARGET2 will be reflected in T2S based on a notification sent by TARGET2.
	Credit T2S ded. cash acc. A-1	200	
(2)	Debit RTGS acc. A	300	-
	Credit T2S ded. transit acc.	300	
(2')	Debit TARGET2 ded. transit acc.	300	The booking in TARGET2 will be reflected in T2S based on a notification sent by TARGET2.
	Credit T2S ded. cash acc. A-2	300	
(3)	Debit RTGS acc. B	400	-
	Credit T2S ded. transit acc.	400	
(3')	Debit TARGET2 ded. transit acc.	400	The booking in TARGET2 will be reflected in T2S based on a notification sent by TARGET2.
	Credit T2S ded. cash acc B-1	400	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) are of the same amount. Their amount is 900.

The diagram[6] below the **messages** related to the bookings mentioned above:

[6] The T2S dedicated cash account of the national central bank (NCB) is not shown in the diagram above in order to simplify it.



The table below provides information on the message flows[7] shown in the diagram above.

No	Message	Related account	Sent		Comment
			from	to	
1a	-	-	-	-	Execution of a standing liquidity transfer order or predefined liquidity transfer order
1b	ICM order	-	Payment bank	TARGET2	Immediate liquidity transfer order
1c	Credit transfer	-	Payment bank	TARGET2	-
2	Confirmation of debit	RTGS acc.	TARGET2	Payment bank	-
3	Notification	-	TARGET2	T2S	-
4a	Confirmation of credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
4b	Confirmation of credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S

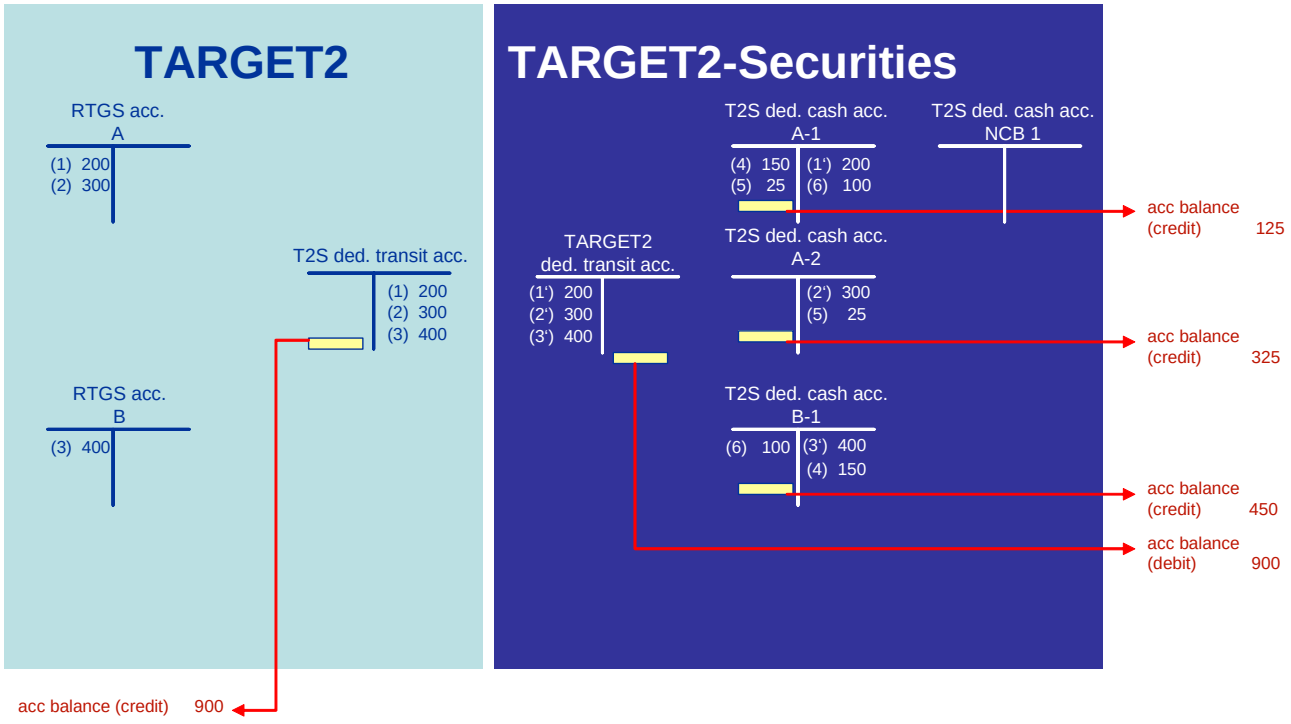
[7] In this table, and all following tables showing the message flows, the message subscription scheme has not been taken into account. Depending on the subscription scheme, participants may not receive all indicated messages.

No	Message	Related account	Sent		Comment
			from	to	
					ded. cash acc. differs from the account holder of the RTGS account in TARGET2

4.2 Settlement in T2S during the settlement day

During the settlement day settlement will take place in T2S.

The diagram below shows an example of **bookings** on the cash accounts in T2S[8]. It also includes the bookings that took place before (see section 4.1 of annex 7).



An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment

[8] The bookings on the securities accounts are not included in the example because they are not of relevance for the explanation of the organisation of the cash accounts.

No.	Account debited/credited	Amount	Comment
(4)	Debit T2S ded. cash acc. A-1	150	-
	Credit T2S ded. cash acc. B-1	150	
(5)	Debit T2S ded. cash acc. A-1	25	-
	Credit T2S ded. cash acc. A-2	25	
(6)	Debit T2S ded. cash acc. B-1	100	-
	Credit T2S ded. cash acc. A-1	100	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and on the TARGET2 dedicated transit account (in T2S) remain unchanged.

The **messages** exchanged are purely related to the securities settlement in T2S. They are exchanged between the CSD(s)/directly connected T2S party/T2S parties and T2S and not described in detail in this document.

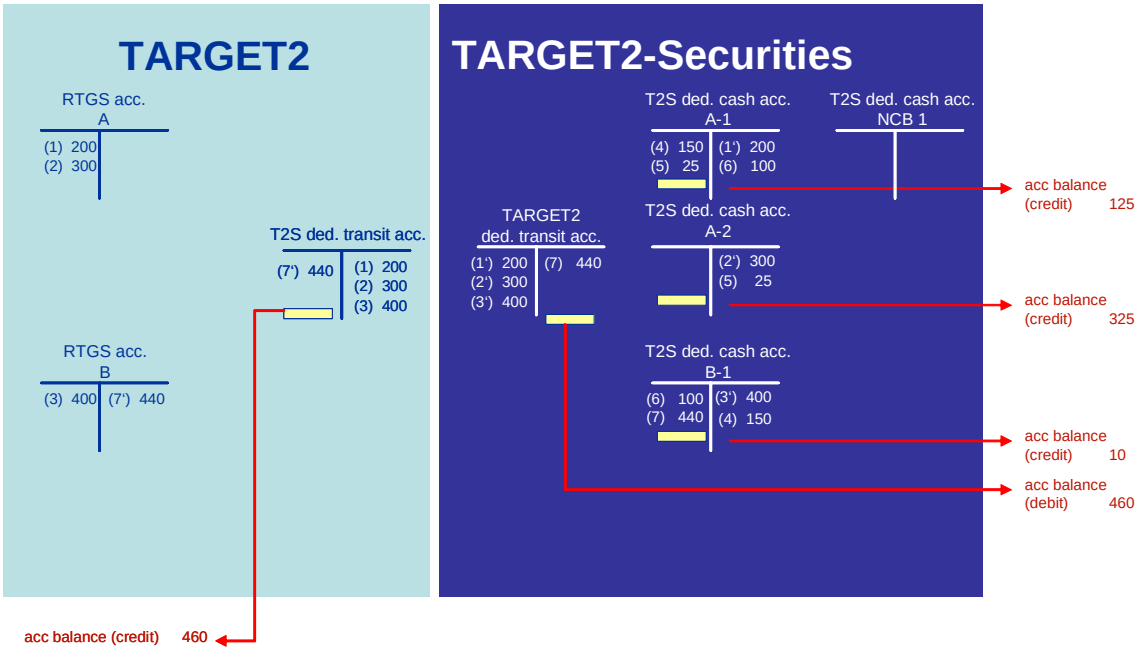
4.3 Liquidity transfer during the settlement day

During the settlement day liquidity is transferred back from T2S to TARGET2. The origin for this transfer can be a

- predefined liquidity transfer order or a standing liquidity transfer order
- immediate liquidity transfer order initiated by the account holder of the T2S dedicated cash account

The diagram below shows an example of the **bookings** done in TARGET2 and T2S[9]. It also includes the bookings that took place before (see sections 4.1 and 4.2 of annex 7)

[9] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.



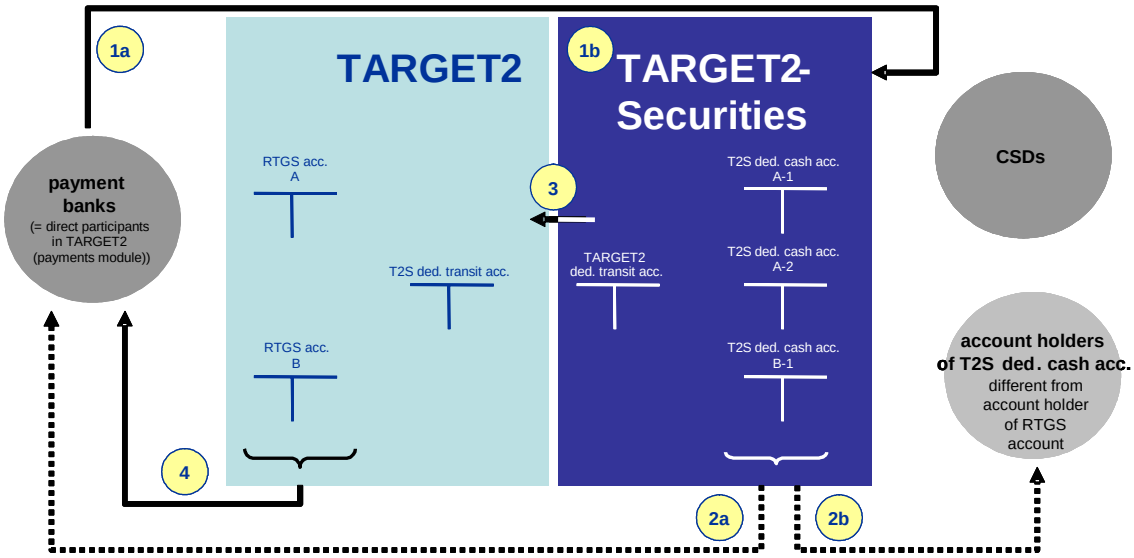
An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(7)	Debit T2S ded. cash acc. B-1	440	-
	Credit TARGET2 ded. transit acc.	440	
(7')	Debit T2S ded. transit acc.	440	-
	Credit RTGS acc. B	440	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) changed. Both amounts are 460 now.

The diagram[10] below the **messages** related to the bookings mentioned above:

[10] The T2S dedicated cash account of the NCB is not shown in the diagram above in order to simplify it.



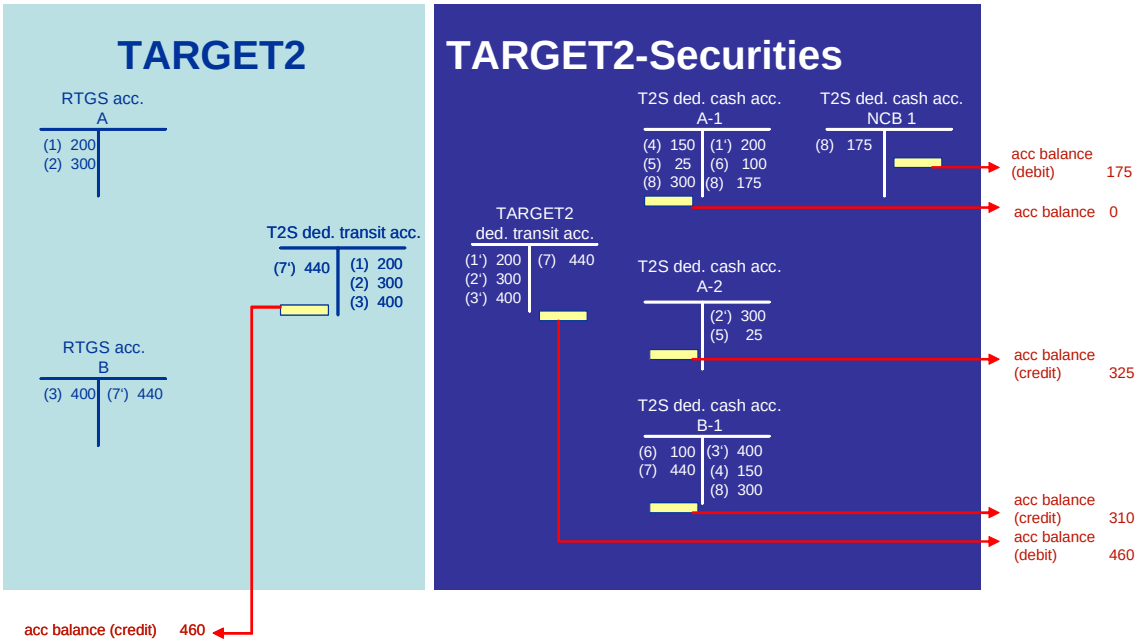
The table below provides information on the message flows shown in the diagram above.

No	Message	Related account	Sent		Comment
			from	to	
1a	ICM order	-	Payment bank	T2S	Immediate liquidity transfer order
1b	-	-	-	-	Execution of a predefined liquidity transfer order or standing liquidity transfer order
2a	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
2b	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2
3	Notification	-	T2S	TARGET2	-
4	Confirmation of credit	RTGS acc.	TARGET2	Payment bank	-

4.4 Making use of auto-collateralisation

During the settlement day T2S makes use of auto-collateralisation for one of the payment banks in order to be able to settle one instruction. Auto-collateralisation is an automatic process triggered by the settlement in T2S.

The diagram below shows an example of the **bookings** done in T2S[11]. It also includes the bookings that took place before (see sections 4.1 up to 4.3 of annex 7)



An explanation of the booking that is shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(8)	Debit T2S ded. cash acc. NCB1	175	The first booking reflects the provision of intraday credit out of auto-collateralisation.
	Credit T2S ded. cash acc. A-1	175	
	Debit T2S ded. cash acc. A-1	300	
	Credit T2S ded. cash acc. B-1	300	

[11] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) remain unchanged.

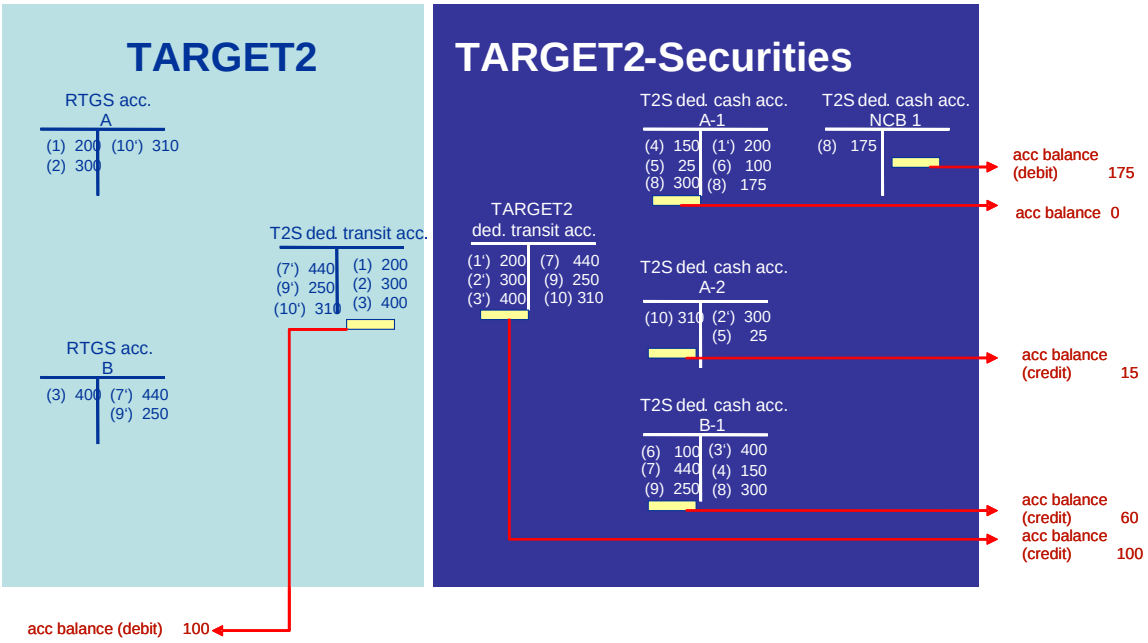
The **messages** exchanged are purely related to the securities settlement in T2S. They are exchanged between the CSD(s)/directly connected T2S party/T2S parties, CCBM2 and T2S and not described in detail in this document.

4.5 (Additional) liquidity transfers during the settlement day

During the settlement day additional liquidity transfers take place in order to transfer liquidity back from T2S to TARGET2. The origin for this transfer can be a

- predefined liquidity transfer order or a standing liquidity transfer order
- immediate liquidity transfer order initiated by the account holder of the T2S dedicated cash account

The diagram below shows an example of the **bookings** done in TARGET2 and T2S[12]. It also includes the bookings that took place before (see sections 4.1 up to 4.4 of annex 7)



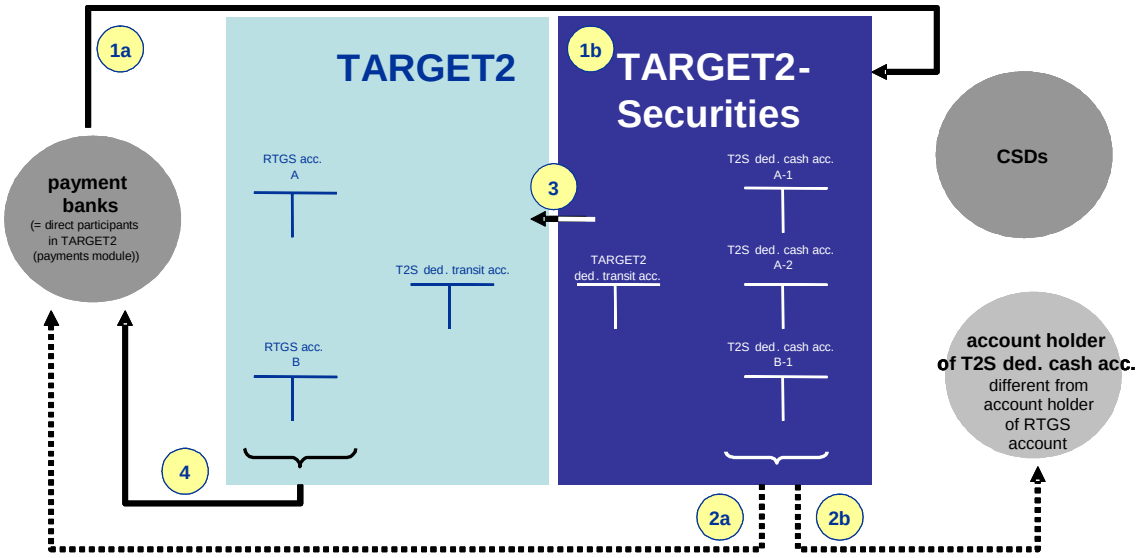
An explanation of the bookings that are shown in the diagram above:

[12] The securities accounts in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

No.	Account debited/credited	Amount	Comment
(9)	Debit T2S ded. cash acc. B-1	250	-
	Credit TARGET2 ded. transit acc.	250	
(9')	Debit T2S ded. transit acc.	250	-
	Credit RTGS acc. B	250	
(10)	Debit T2S ded. cash acc. A-2	310	-
	Credit TARGET2 ded. transit acc.	310	
(10')	Debit T2S ded. transit acc.	310	-
	Credit RTGS acc. A	310	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) changed. Both amounts are 100 now.

The diagram[13] below the **<u>messages</u>** related to the bookings mentioned above:



The table below provides information on the message flows shown in the diagram above.

[13] The T2S dedicated cash account of the NCB is not shown in the diagram above in order to simplify it.

No	Message	Related account	Sent		Comment
			from	to	
1a	ICM order	-	Payment bank	T2S	Immediate liquidity transfer order
1b	-	-	-	-	Execution of a predefined liquidity transfer order or standing liquidity transfer order
2a	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
2b	Confirmation of debit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2
3	Notification	-	T2S	TARGET2	-
4	Confirmation of credit	RTGS acc.	TARGET2	Payment bank	-

4.6 End-of-day process

At least during the end-of-day process (shortly after 18:00h) liquidity will be automatically shifted back to the RTGS accounts in TARGET2 (mandatory final liquidity sweep). Consequently in this example the balances on the following accounts will then be zero:

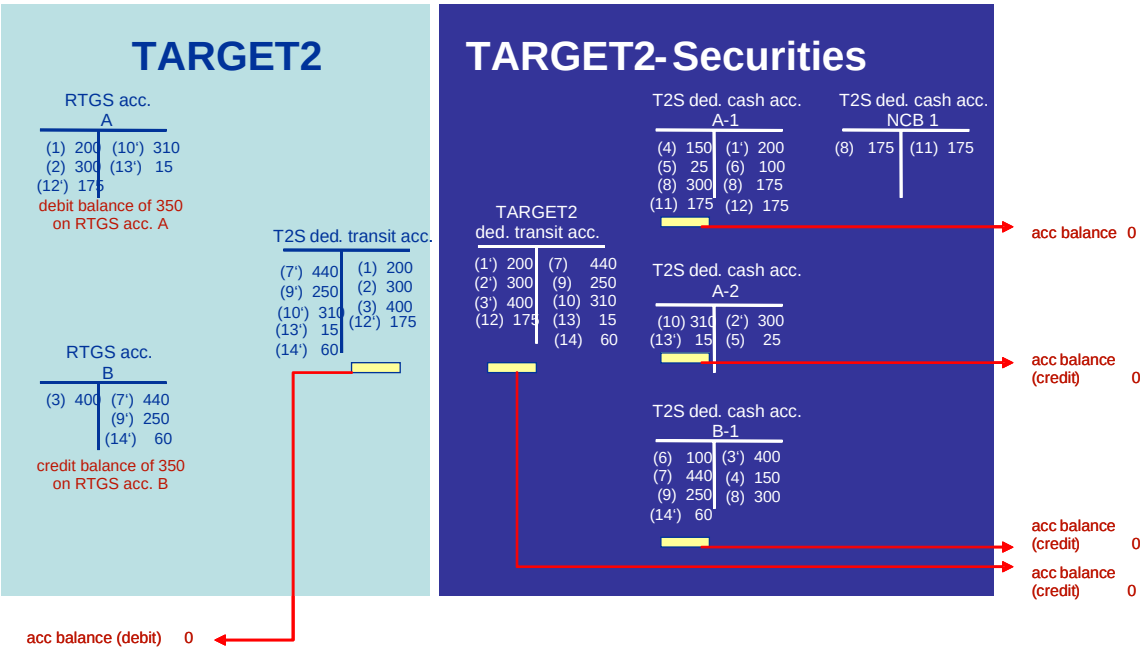
- T2S dedicated transit account (T2S ded. transit acc.)
- TARGET2 dedicated transit account (TARGET2 ded. transit acc.)
- T2S dedicated cash accounts (T2S ded. cash acc.)

Based on the account balance of the RTGS account the fulfilment of minimum reserve requirements and the use of automatic marginal lending will be calculated in TARGET2.
Account statements will be sent out for the following accounts:

- RTGS accounts
- T2S dedicated transit account

- TARGET2 dedicated transit account
- T2S dedicated cash accounts

The diagram below shows an example of the **bookings** done in TARGET2 in order to align[14]. It also includes the bookings that took place before (see sections 4.1 up to 4.5 of annex 7).



An explanation of the bookings that are shown in the diagram above:

No.	Account debited/credited	Amount	Comment
(11)	Debit T2S ded. cash acc. A-1	175	
	Credit T2S ded. cash acc. NCB1	175	
(12)	Debit TARGET2 ded. transit acc.	175	-
	Credit T2S ded. cash acc. A-1	175	
(12')	Debit RTGS acc. A	175	-
	Credit T2S ded. transit acc.	175	
(13)	Debit T2S ded. cash acc. A-2	15	-

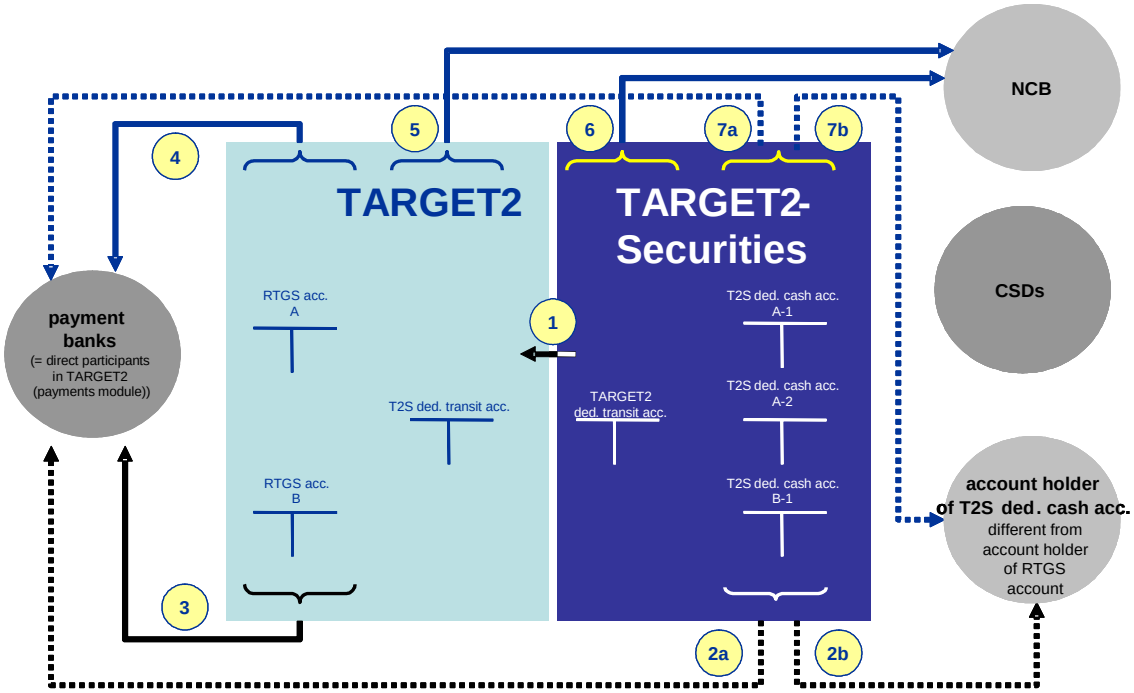
[14] The securities account in T2S are not shown because they are not of relevance for the explanation of the organisation of the cash accounts.

No.	Account debited/credited	Amount	Comment
	Credit TARGET2 ded. transit acc.	15	
(13')	Debit T2S ded. transit acc.	15	-
	Credit RTGS acc. A	15	
(14)	Debit T2S ded. cash acc. B-1	60	-
	Credit TARGET2 ded. transit acc.	60	
(14')	Debit T2S ded. transit acc.	60	-
	Credit RTGS acc. B	60	

The balances (credit and debit) on the T2S dedicated transit account (in TARGET2) and the TARGET2 dedicated transit account (in T2S) changed. Both amounts are 0 now. It is because the example is limited to a scenario where all payment banks belong to the same NCB. If the payment banks belong to different NCBs there can be balances different from zero on the T2S dedicated transit account and TARGET2 dedicated transit account of the single NCB. Those balances will show the change of the position of the single NCB vis-à-vis the Eurosystem. The sum of all balance again is zero.

The diagram[15] below the **messages** related to the end-of-day-process:

[15] The T2S dedicated cash account of the national central bank (NCB) is not shown in the diagram above in order to simplify it.



The table below provides information on the message flows shown in the diagram above.

No	Message	Related account	Sent		Comment
			from	to	
1	Notification	-	T2S	TARGET2	With the notification TARGET2 is informed about the balances on the T2S dedicated cash accounts before balancing them with the TARGET2 dedicated transit account.
2a	Confirmation of debit or credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
2b	Confirmation of debit or credit	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2
3	Confirmation of debit or credit	RTGS acc.	TARGET2	Payment bank	-

No	Message	Related account	Sent		Comment
			from	to	
4	Account statement	RTGS acc.	TARGET2	Payment bank	-
5	Account statement	T2S ded. transit acc.	TARGET2	NCB	-
6	Account statement	TARGET2 ded. transit acc.	T2S	NCB	-
7a	Account statement	T2S ded. cash acc.	T2S	Payment bank	When the account holder of the T2S ded. cash acc. is the account holder of the RTGS account in TARGET2
7b	Account statement	T2S ded. cash acc.	T2S	Third party	When the account holder of the T2S ded. cash acc. differs from the account holder of the RTGS account in TARGET2

4.7 Calculation of the changes in the inter NCB positions

Due to the fact that settlement in T2S will also take place on a cross-border basis this settlement impacts the assets/liabilities of the single NCBs vis-à-vis the Eurosystem.

The following example is based on the example used when describing the organisation of the cash accounts and the bookings during the settlement day (see section 4.1 to 4.6 of annex 7). In order to explain the calculation of the changes of the assets/liabilities of the NCBs vis-à-vis the Eurosystem the example above was enlarged as follows:

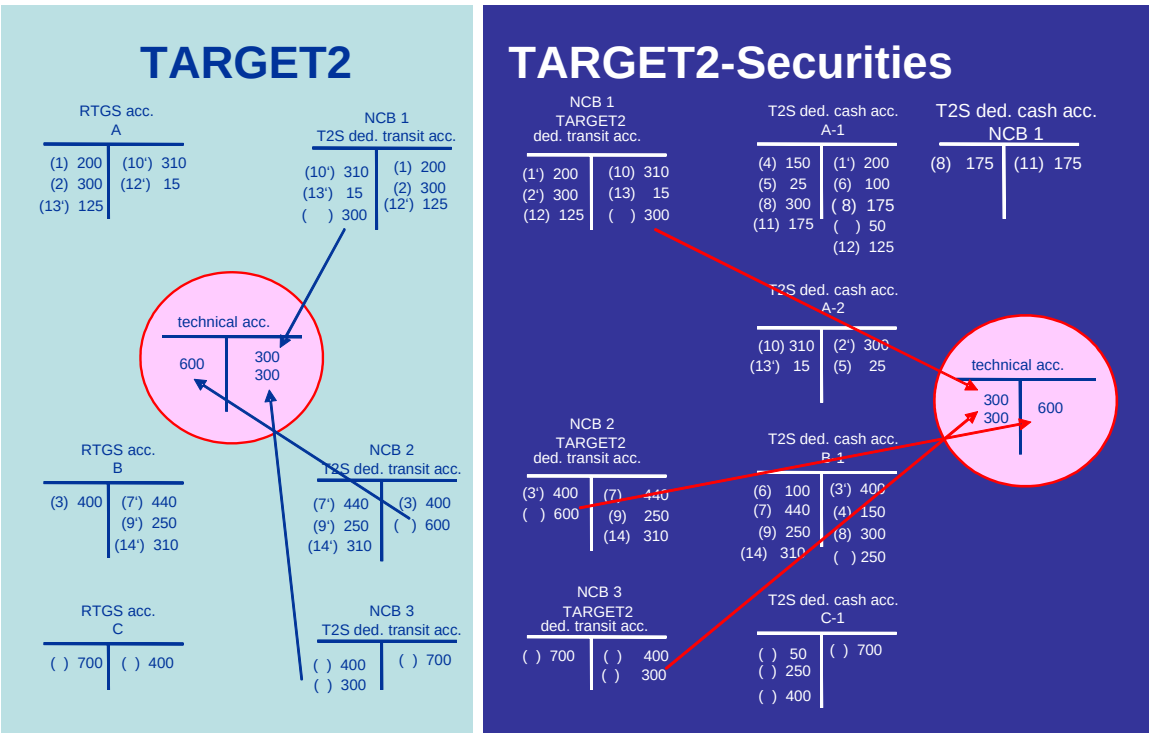
- The liquidity transfers and other bookings of the example above are reused.
- A new (third) payment bank (C) is included in the example.
- The payment banks are now under the responsibility of different NCBs
    - Payment bank A - NCB1
    - Payment bank B - NCB2
    - Payment bank C - NCB 3
- Payment bank C performs the following actions
    - Liquidity transfer from its RTGS account to its T2S dedicated cash account (700)
    - Cash transfer to payment bank A (50)

- Cash transfer to payment bank B (250)

- Liquidity transfer during the end-of-day process from T2S dedicated cash account of payment bank C to its RTGS account (400)

After the retransfer of liquidity to the RTGS accounts of the payment banks A, B, and C the following will take place in T2S and TARGET2:

The TARGET2 dedicated transit account in T2S as well as the T2S dedicated transit account in TARGET2 will be balanced out against a centralized technical account[16]. The balances of both accounts will be zero. The reason for doing so is that on the next settlement day T2S and TARGET2 will start with "clean" dedicated transit accounts.



During the end-of-day process also the booking on the so called NCB's ECB accounts[17] and on the ECB mirror accounts[18] will take place in order to record the change of the asset/liability position in respect of cross-border transactions.

[16] It has to be clarified who will be the account holder of these two centralized technical accounts. It might be the ECB.

[17] An NCB's ECB account is an account of the national central bank in TARGET2 for recording its asset/liability position in respect of cross-border transactions.

[18] The bookings taking place on the NCB's ECB accounts are mirrored on the ECB mirror accounts of the different national central banks.

The NCBs also agreed among each other to make use of “netting by novation”. It means that at a specified moment/at specified moments their position against each other will be novated (i.e. substituted) so that they have a position against a central point instead. This central point is the ECB.

In order to reflect the impact of the cross-border bookings that took place in T2S during the day the net amount of the liquidity transfers to and from T2S will be taken into account and booked on the NCB’s ECB accounts and ECB mirror accounts.

Out of the example described above the following bookings will take place:

- Bookings on NCB’s ECB accounts

  - Debit ECB’s ECB account 300
    Credit NCB1’s ECB account 300

  - Debit NCB2’s ECB account 600
    Credit ECB’s ECB account 600

  - Debit ECB’s ECB account 300
    Credit NCB’s ECB account 300

- Bookings on ECB mirror accounts

  - Debit ECB mirror account NCB1 300
    Credit ECB mirror account ECB 300

  - Debit ECB mirror account ECB 600
    Credit ECB mirror account NCB2 600

  - Debit ECB mirror account NCB3 300
    Credit ECB mirror account ECB 300

USER REQUIREMENTS

ANNEX 8

ISSUE NOTE - CONDITIONAL SECURITIES DELIVERIES (COSD)

T2S Project Team

Reference:	T2S-07-0175
Date:	25 March 2009
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1 Introduction

The aim of this document is to describe the settlement of instructions making use of the Conditional Securities Delivery (CoSD) functionality offered by T2S. CoSD should serve as a special functionality in order to settle instructions that require the fulfilment of a special condition before allowing settlement to take place. The conditions, can relate to cash settlement in a non T2S settlement currency, but could also be any other condition that would need to be fulfilled prior to settlement. It is a functionality designed for the treatment of exceptions where the finality of securities settlement is dependent on actions outside T2S. Hence, it is not recommended to use this functionality for regular transactions since it freezes securities until the condition is met (hence reducing the overall level of liquidity in the system). It is only recommended for transactions which cannot make use of one of the main advantages of T2S: an integrated model for securities and central bank money. The automatic activation of the CoSD functionality will be based on rules defined, created and maintained by the CSDs in T2S. These rules will also identify the administering part; i.e. the CSD in charge of the organising the settlement of instructions using CoSD and whether a blocking of securities position, cash or both is required.

2 Detailed process description

2.1 Activation of the CoSD functionality

T2S shall activate the CoSD functionality, based on business data that will be present into the settlement instruction and that will meet the CSD' rules previously mentioned. The business data can be for instance the market, the ISIN, the security type, the currency, and will be communicated by the CSD or the directly connected T2S Party in its settlement instruction. The rules can be for instance the registration obligation for a specific market or the need for cash settlement in commercial bank money, or a combination of conditions, which will be stored within T2S. An instruction that meets these criteria (combination of business data and rules) will then automatically go through the CoSD process in T2S identifying one or more administering parties to the CoSD.

2.2 CoSD Settlement Process

T2S shall be able to process conditional securities deliveries. This type of settlement process aims for instance at

allowing a CSD to coordinate a Free of Payment delivery in T2S with a cash settlement outside T2S in a non T2S settlement currency on behalf of its participants, or settlement in some securities that require a certain condition to be fulfilled, before settlement is possible.

To that purpose, when receiving a settlement instruction to be processed using the conditional securities delivery functionality, T2S should be able to block client securities, cash or both to avoid that these securities, cash or both are used for any other settlement than the settlement of the original instruction.

After the blocking of the concerned securities, cash or both, T2S should inform the administering party (i.e. the CSD defined by the rules previously mentioned). Other parties (i.e. instructing parties, account owners) might also be informed, as per user requirements defined in chapter 13.

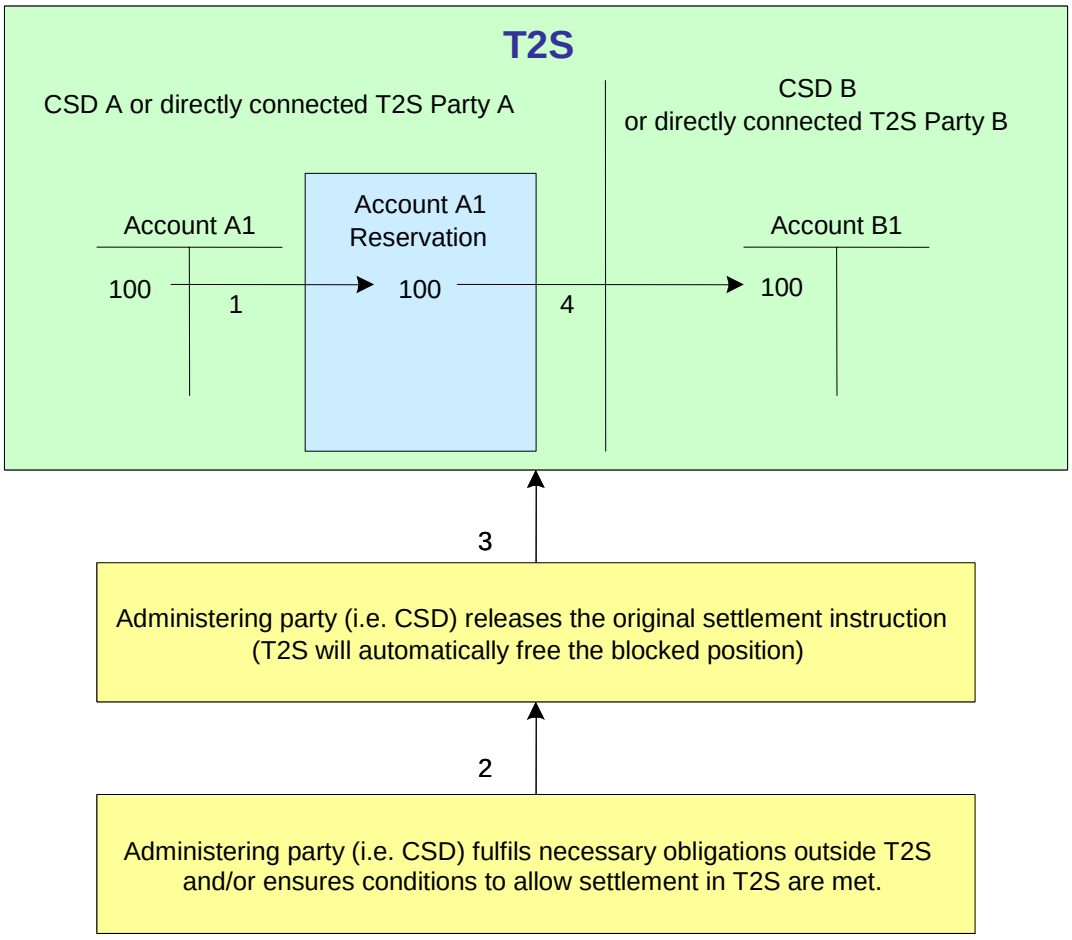
Securities should remain blocked and the effective delivery instruction should remain on hold until T2S receives from the administering party:

- a release instruction, requesting to free the securities, cash or both and deliver them effectively to the receiving party (based on the information contained in the initial instruction)
- or a cancellation instruction requesting to free the securities and cancel their delivery to the receiving party.

In both cases, both the administering party and the instructing parties should be informed of the settlement status (i.e. FOP delivery of the securities or cancellation of the initial instruction), as described in chapter 13. In case the receiving party being outside T2S, the status information could be relayed by the CSD responsible for the account within T2S.

If at the end of the day, T2S does not receive any release or cancellation instruction, the original settlement instruction should be recycled for the following settlement day (i.e. securities should remain blocked and the delivery instruction should remain on hold). Blocked cash positions are released at the end of the day and the instructions for the CoSD blocking of cash will be recycled for the next value date.

Conditional Securities Delivery (example of instructing parties in T2S)



- CSD or directly connected T2S Party A and CSD or directly connected T2S Party B will send their settlement instructions to T2S. Instructions will go through the validation processes in T2S, which will identify the need to activate the CoSD process.
- Once the intended settlement date of the instructions has been reached the securities, cash or both are blocked on the delivery party's securities account (here A) in T2S (see above, flow 1) and the transaction is put on hold.
- The information on the blocked securities position is transmitted to the administering party. The administering party checks if the condition(s) for the transaction has(ve) been fulfilled (see above, flow 2).
- Once the condition(s) for this transaction has(ve) been confirmed, the administering party sends a release instruction to T2S to allow settlement of the transaction (see above, flow 3). T2S will then automatically free

the securities position, cash or both and the settlement of the original instructions takes place within T2S (see above, flow 4).

2.3 Cancellation in the context of a CoSD process

As T2S requires bilateral cancellation this concept should also be respected for the CoSD process. The instructing parties can cancel their instructions, in accordance with chapter 5 cancellation requirements. After the cancellation request of the two instructing parties, the administering party will also send a cancellation after checking the external condition. Before cancelling, the administering party might need first to verify whether the condition has been fulfilled or not. If the condition has not been fulfilled yet, the administering party sends a cancellation instruction to T2S. Then both original instructions will be cancelled. In case the condition has already been fulfilled outside T2S, then it has to be reversed before cancellation in T2S can take place.

2.4 Release

As the trade can be administered by one or more administering parties (e.g. security subject to blocking within the local CSD with cash payment managed by another CSD), each administering party can send its release instruction once the condition he is responsible for has been fulfilled. Only when all administering parties have sent their release instruction to T2S the settlement can take place.

2.5 Example of a CoSD with multiple administering parties:

A T2S actor wants to deliver securities cross-border in a registered share against a non T2S settlement currency (i.e. USD). Previously, the administering parties to the instruction have defined in T2S static data the need for a CoSD process for instructions which contain specific information. In this example, the specific information that activates the CSD would be the combination of:

- the market and currency for one administering party of the cash side (i.e. the CSD) and
- a combination of market and ISIN for the second administering party (i.e. the registration agent).

Upon the reception of an instruction which activates the CoSD, both administering parties would be informed that there is a CoSD. After each administering party has checked the fulfilment of the condition, it releases the CoSD. The transaction is processed for settlement, after the last administering party has released it.

USER REQUIREMENTS

ANNEX 9

ISSUE NOTE - NIGHT-TIME SETTLEMENT OPTIONS IN T2S

T2S Project Team

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1. Introduction and brief description of the state of play

Technical and regulatory developments in global financial markets in the last decade, and the associated growth in trading volumes and values, have increased pressure on treasurers needs to manage their daily liquidity requirements. Market participants increasingly expect market infrastructures to provide them with the tools to manage and resolve these daily requirements as early as possible during the business day. They expect that a large part of their instructions will settle without any need for additional liquidity or securities during the start of the business day. Instead, they would concentrate their resources during the day on solving issues related to the few open positions that have not yet settled. This enables them to assess in time (and monitor) their positions in the intraday money market. The aim is to maximise the efficient usage of their funds and minimise the costs of acquiring extra funds.

As a result of this clearly identified market need, nighttime settlement has been introduced in most euro area CSDs. The model of nighttime settlement may not be identically implemented in all markets. What remains common among them is the change of settlement date (S) in the end of the afternoon of the previous calendar day and the irrevocable (final) settlement at some time soon thereafter. Finality is achieved well in advance of the opening of the daytime settlement process. This can be achieved in one or many settlement cycles during the night, with differing models of cash settlement depending on the local market and NCB practices. The value date of this settlement activity is S (settlement date) which might or might not coincide with the exact calendar date. Usually, reporting of these processing done in advance is taking place at the end of the period, in the early morning of the settlement date. This process implies zero extra cost on using central bank liquidity – should there be such need – during the nighttime period as it is qualified legally and technically as intraday liquidity.

This development has also influenced CSDs and markets currently not using nighttime settlement. In all cases an early morning settlement cycle is used for delivering liquidity to market participants prior to intraday settlement activity. Strictly speaking, this activity is not part of nighttime settlement but acts towards the same end. Albeit achieving finality some hours later than pure nighttime settlement, it can be viewed as a tool working into the same direction.

Taking into account the above market developments, the initial T2S proposal 23 intended to keep a neutral position regarding the use of nighttime settlement (optionality). It became the most contested proposal in the Principles and Proposals consultation. The overwhelming market majority asked for mandatory use of nighttime settlement for all connected CSDs in order for T2S to deliver the much needed market harmonisation and integration goal. Only 29% of the respondents agreed with nighttime settlement optionality. The majority view expressed during the discussion of proposal 23 in TG1 and AG was aligned with the consultation results.

2. Night-time settlement in T2S

Following the market feedback and the TGs discussions so far, the T2S Team and all TGs have analysed their user requirements under the working assumption that nighttime settlement will be universally applied for all connected T2S markets. As an example, the Schedule of the T2S settlement day and the cross-CSD settlement model are not considering the scenario of some CSDs left outside the core T2S settlement process.

Some CSDs and/or markets are still questioning the business case of adopting nighttime settlement. In particular, they consider the adaptation, running and capital costs as too high for introducing a new service in what is perceived as a very efficient local settlement environment which is also linked to foreign markets.

The various arguments of the debate should also be put in the right time perspective. The issue at stake is not whether universal nighttime settlement should be expected from CSDs today. It is rather to consider whether it would be possible to adopt it by 2013, when T2S is planned to go live.

The following sections attempt to identify the pros and cons of this debate as reflected in the T2S groups so far.

2.1 Pros of mandatory night-time settlement

When considering the arguments for mandatory use, one should consider that they are increasingly relevant for competitive markets and participants aiming at maximizing liquidity efficiency in a multi-asset and multi-location trading and settlement environment.

1. *Cross-CSD settlement:* a universal (mandatory for all T2S connected CSDs) nighttime settlement functionality encourages cross-CSD activity and facilitates the liquidity management associated with it. This is the outcome of early finality already available during the night and the potential re-use of the associated liquidity for liabilities stemming from other assets and markets. If some CSDs are opting out, the negative impact on cross CSD settlement efficiency could be considerable during the nighttime. This is particularly so if the opting out CSD is the Issuer CSD. In this case, the securities issued in the “opt out” CSD are totally exempted from the night settlement procedure. Cross-CSD settlement in all other T2S securities would still be possible using the nighttime facility.

2. *Level playing field for T2S Parties:* mandatory nighttime settlement would avoid issues of conflict of interests and level playing field between the CSDs and their users wishing to exploit the benefits of early settlement offered by nighttime settlement. It is also competition neutral among T2S parties themselves. As above, the participants of “opted-out” CSDs would face the disadvantage of achieving finality up to 12 hours later than their European competitors (see Fig.1). Similarly, participants of nighttime CSDs would have their holdings in assets issued in opted-out CSDs frozen from a settlement perspective for half of the settlement day.

3. *All or nothing argument:* A lot of market participants went as far as saying that night-time settlement should be either mandatory for all or non existent. Why should we build sophisticated settlement

functionality when there is sub-optimal use of it? This is particularly relevant for multi CSD users (T2S parties) which would be severely affected.

4. *Regulatory concerns:* universal nighttime settlement mitigates regulators' concerns for gridlocks early in the morning, especially in the envisaged environment of increased volumes in cross border settlement. The earlier settlement finality is achieved the better risks (operational, systemic, etc) are managed. One the other hand, earlier settlement may not be achievable for trades coming from US investors as the relevant information will arrive only during the night preceding S.
5. *Market Harmonisation:* many respondents see T2S as a unique opportunity for accelerating harmonisation in European post trading practices. This is also connected to the removal of Giovannini barriers on harmonized deadlines and operating hours and processes. Some of the key benefits of T2S may be lost if there is no harmonization in this respect. A harmonised daily settlement timetable including nighttime period, would be of benefit to all CSD users.
6. *Market integration*: The objective of an integrated market requires an alignment of opening hours in order to avoid an intraday distortion of liquidity flows and to increase efficiency. Without a mandatory night-time settlement of all T2S connected CSDs, a netting of funding requirements between markets is impossible and high liquidity consumption is the result.
7. *Minimum Development Cost*: Since nighttime settlement is a core T2S functionality, the development costs for state of the art functionality shall be shared by all connected CSDs. One would expect that local markets would like to exploit the benefits of this investment.
8. *CeBM availability: TARGET2* is already designed to accommodate night-time settlement via liquidity transfers late in the afternoon. TARGET2 could accommodate additional functionalities for night-time settlement if required by the users.
9. *Competition considerations:* The view has been expressed that in a pan-European nighttime settlement environment, businesses will move out of opting out CSDs in search for earlier finality and settlement resulting liquidity. On the other hand some have commented that CSDs should be able to diversify in order to gain a competitive edge.

2.2 Cons of mandatory night-time settlement

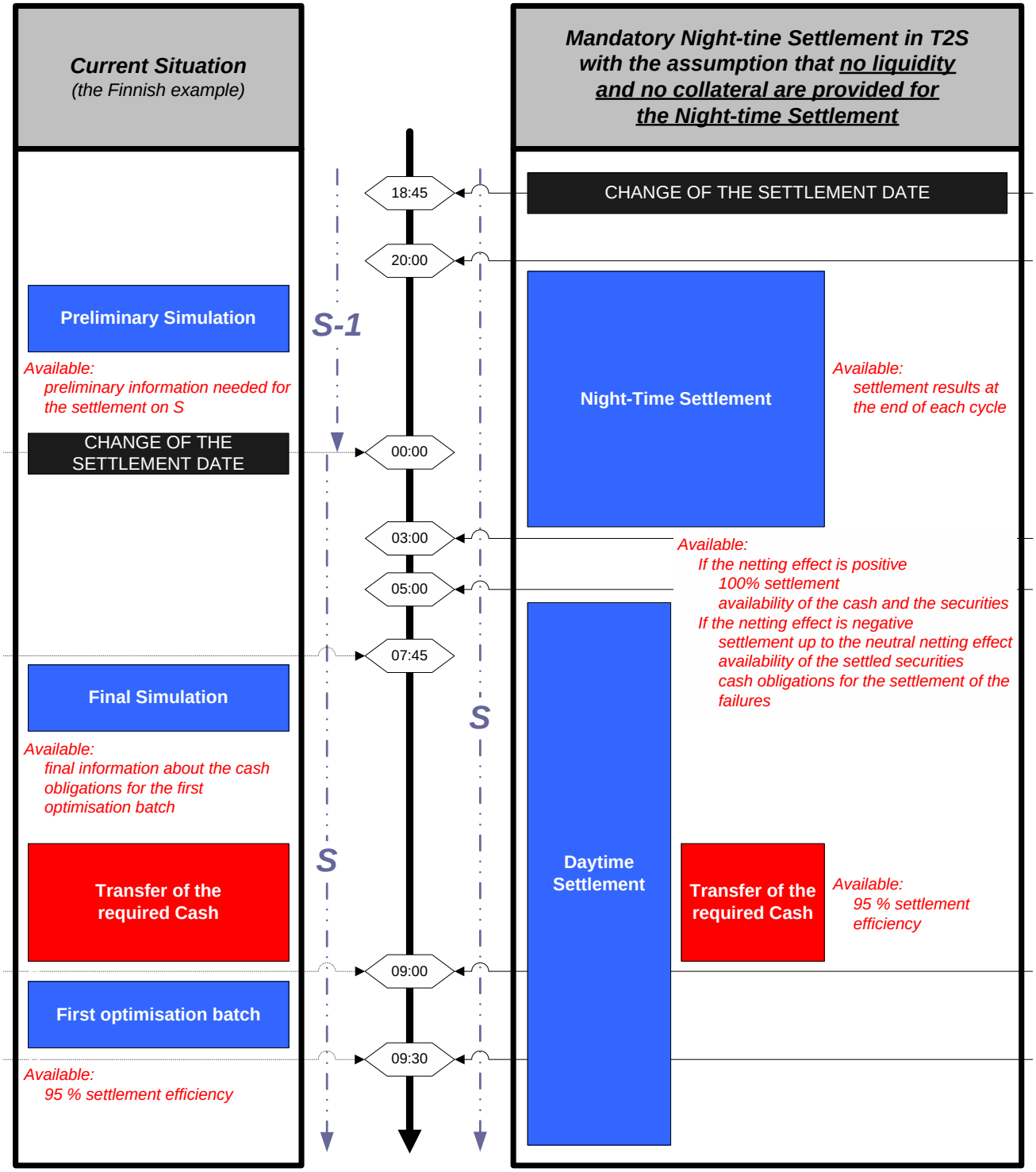
When considering the arguments against, one should bear in mind the market background in which they are expressed. These are most often made in a framework of efficient local practices focusing less on international activity and global liquidity management concerns.

1. *Cost of CeBM overnight liquidity and collateral usage:* Concerns have been expressed on the additional cost of maintaining earmarked cash liquidity in the banking system and collateral in T2S due to the obligations stemming from nighttime settlement in central bank money. This may partly be due to misunderstanding on the processing of nighttime settlement model in T2S. The latter will operate with the principle of "technical netting" allowing for the vast majority of transactions to be settled

immediately due to the netting effect. As a result, the settlement engine will effectively settle the majority of transactions without even the need for CSDs participants of maintaining cash balances or using collateral during the night.1 The status of the remaining non-settled transactions will be, at the worst case, the same as those emerging from the early morning cycles currently used by some CSDs (See Diagram 9.1). From the CSD participants perspective, because they are mostly banks with access to Eurosystem credit facilities, there is no change to their current situation, apart from the fact that the bulk of their transactions will have been already finally settled some hours earlier. In the best case scenario, all or a vast majority, of the eligible transactions will have been already settled. For those participants interested in providing cash liquidity during the night, it should be clarified that intra-night liquidity is in terms of interest equal to intraday liquidity. Eurosystem NCBs are already using the concept in their respective markets with no additional cost of capital for those involved participants who have direct access to central bank credit facilities. If collateral is used, one may argue that there is always an opportunity cost for this use. However, one would expect that this cost is lower during the nighttime than it is during the daytime when trading opportunities increase, and where liquidity becomes scarcer due to other systems needing it (like TARGET2). Some market participants have indicated that the Eurosystem should reconsider its recently augmented policy vis-à-vis acceptance of equities as eligible collateral for its credit operations (in this case for auto-collateralisation of flows during the night-time settlement). In particular they argue that such development would diminish the need for participants mostly or entirely engaged in equities markets, to maintain central bank money cash balances and additional bonds as collateral for the needs of night-time settlement.

[1] Should some participants choose to provide cash balances in their T2S cash accounts, the settlement ratio would naturally increase.

Diagram 9. 1 Night-time settlement vs. early morning settlement cycle



2. *Cost of CoBM liquidity for banks clients:* One would expect that banks using CeBM liquidity on value date S would apply the same value date S when debiting (CoBM) their customers (brokers/end investors) accounts. The idea is that since banks are not charged by NCBs they should not charge their customers either. However, this does not seem to be the case due to risk management and regulatory obligations. It has been argued that these obligations arise from Basle II, pillar II, capital adequacy requirements which impose a capital charge on (overnight or intraday) credit risk. In order to avoid credit cost, clients are required to have funds in place before the settlement cycle begins. The situation is the same for all bank clients in Europe, including those of the nighttime settlement markets. As proposed in the final part of this note, it shall be a business decision of those bank clients whether or not to make use of this liquidity during the night depending on their needs and strategies of participation to the service.

3. *Market adaptation/migration Costs:* Need for adaptation of some local markets (Finland, Slovenia) which currently do not see the business scope and benefits of nighttime settlement. Why should they invest in something that do not need and their users do not require? Concerns are also raised regarding IT systems adaptation (for both CSDs and their participants). Development costs for nighttime settlement functionality in the central T2S system shall be de facto shared by all participating T2S CSDs. Local IT adaptation costs (interfaces for receiving reports during the night) have to be evaluated by the CSDs, depending on the services required by their users. Current practice indicates that this is connected more to cost of time schedule re-programming of available functionalities rather than investing in new sophisticated IT solutions.

4. *Staff costs:* Concerns are also raised regarding staff cost for night shifts (both for CSDs and their participants). Extra staff night shifts may be required only for technical support. Experience with existing nighttime settlement markets shows that only minimum technical support (staff) is required. In any case, the tendency nowadays is to optimise the use of IT resources and therefore to have the system running on a 24h availability with a minimum technical support during the night (often used for archiving, new release etc). For settlement expert staffing no particular changes is expected for night cycle functions. Back office staffing can be expected to be streamlined to the new situation. Market participants will make use of the liquidity early in the morning as done today and will eventually need this settlement expertise at that time not during the night. In this case, there is no extra cost for nighttime settlement monitoring. However, those CSD participants with international presence are most probably already using back office night shifts. Those more locally orientated may decide not to do so.

5. *Legal concerns:* Some markets have expressed concerns with the legal consequences of changing the settlement date prior to 00:00 (local time). This is a particular concern for CSDs acting as registrar. In these systems, the finality of the booking corresponds to the registration of the transfer of ownership and a time stamp is needed to acknowledge precisely (strict time priority) this event which has a legal meaning. Further analysis of the respective national legislation will be undertaken by the T2S legal team to evaluate whether an adaptation of domestic or even EU legislation (the current SFD review might

provide a possibility here) would be warranted or whether a modification of the rules of the system would be sufficient to deal with this legal issue (for instance by defining the appropriate value date).

6. *Issuers' concerns*: The need for issuers to provide liquidity one day in advance for dividend, interest and redemption payments has been raised. One-day credit cost (or lost opportunity to invest those funds overnight) would be a consideration. The issue is already managed in the markets using nighttime settlement today. Certain payments, which are known well in advance, can be exempted from the early nighttime processing or simply executed during the daytime processing. T2S shall provide CSDs with the flexibility to "hold and release" such payments when appropriate during the settlement date. Consequently, this may require blocking the ISIN concerned from the preceding night cycle.

3. Conclusion

The AG agreed on the following formulation of Proposal 23, taking into account some clarifications on the different options of engagement for CSDs' participants:

All T2S connected CSDs shall maintain the T2S Schedule (i.e. including both day and nighttime settlement). Harmonised market practices would be fostered at European level to promote early settlement. It will be ultimately up to each T2S party and its counterparties how to engage in nighttime settlement depending on the liquidity and collateral they make available.

This solution implies minimum development cost for the central system and maximum efficiency of liquidity and settlement across connected markets.

The mandatory use of the functionality for the market/CSD does not imply the mandatory use for all of their participants. Some of them may decide to provide no nighttime cash balances. Settlement will still take place for some of their transactions due to technical netting; the rest will be moved to daytime processing. In this case, the decision for participation shall be taken by the T2S party and not by the CSD for the whole market. Other T2S parties may find it favourable to provide liquidity during the nighttime and achieve earlier finality and liquidity.

Another element of flexibility in adopting nighttime settlement shall be provided by the "Hold and Release" functionality envisaged in T2S. CSDs and their participants will be able to hold the instructions prior to settlement eligibility and release them (either later in the night or during daytime) according to their business needs and strategies.

In addition, it has been proposed to develop in T2S a functionality, which will provide a timed status change mechanism for a bulk of transactions (available to CSDs and T2S parties alike). This is not foreseen currently in the lean T2S design. Its development cost implications should be assessed as an additional module to the system. Markets requesting it should assess further the real business case, not covered by the standard "Hold and Release" and be prepared to bear its additional cost.

The present proposal aims at maintaining the high level principle of Schedule harmonisation for all T2S connected markets, whereas at the same time providing individual CSDs' participants with the choice of designing their degree of involvement of what may be for some of them a new business practice.

It also be noted that the use of nighttime settlement facilities would be more efficient if the Eurosystem were to accept equities in 2013 to support self-collateralisation mechanisms. The Eurosystem does not currently support equities as collateral to provide central bank credit.

USER REQUIREMENTS

ANNEX 10

ISSUE NOTE - CROSS-CSDS SETTLEMENT AND EXTERNAL CSDS

T2S Project Team

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Introduction

One of the major benefits of T2S is that the settlement of cross-CSD transactions can be as efficient as domestic settlement. This will be achieved by bringing together the securities accounts of multiple CSDs (as well as dedicated cash accounts of NCBs) on a single platform. The bookings for the transfer of securities between participants of different CSDs can all be made simultaneously, together with the cash movements. This eliminates the current highly complex and costly processes of interactions between various platforms, which are often not synchronised, entail delays and could pose a risk in terms of failing to achieve settlement finality. T2S will also automate the realignment process between CSDs on a real-time basis without needing to use additional procedures.

Cross-border transactions, which involve external CSDs, will benefit to some extent from the T2S architecture. The aim in this context is to achieve real-time settlement wherever feasible, but the need to interact with external CSDs/Platforms makes the settlement procedure more complex in some cases.

This annex addresses only the functionality required by T2S to manage the internal life cycle and booking in T2S. The end-to-end life cycle of instructions where the CSD has to manage the external validation, external matching, external life cycle and external settlement of the underlying securities and cash positions through links outside of T2S (as, for example, in the case of external settlements with an issuer CSD outside of T2S) will require further elaboration in conjunction with participating CSDs.

1. Role and relationships between CSDs in T2S

1.1 Definition of the roles of the CSDs

In the context of a given transaction, irrespective of whether it is an external CSD or a CSD in T2S, a CSD could be:

- the Issuer CSD, when it is the CSD in which the security has been issued and distributed on behalf of the Issuer;
- the Investor CSD, when it is the CSD of at least one party of the transaction;
- or both, when it is the CSD in which the security has been issued and the CSD of at least one party of the transaction.

For a given security:

- the Technical Issuer CSD for an Investor CSD is the CSD where its omnibus accounts reflecting the holding of its participants are deposited (for a given Investor CSD, the Technical Issuer CSD could be different for each security, it is in most cases the Issuer CSD of the security);
- the Security Maintaining CSD is the CSD in charge of maintaining in T2S the Static Data related to the security.

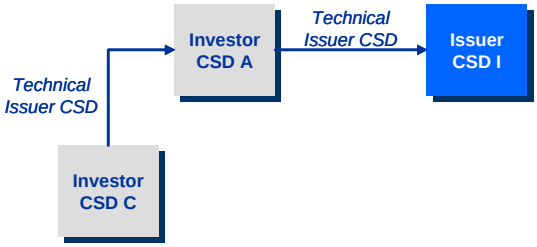
1.2 Definition of the relationships between CSDs

To be compliant with the existing relationships and to allow level playing field between CSDs, T2S will not impose any model of links. The proposal of T2S is an open and generic structure that should allow the implementation of the current links without restriction. With the proposed solution, the complexity of T2S is limited to the minimum and the choice of the CSDs will not affect the way a transaction is processed in T2S. However, the CSDs should be aware that their choice could significantly increase or decrease the complexity on their side. Therefore, the CSDs should profit from the flexibility of T2S to set up the appropriate links in order to reduce the complexity of the overall process.

When accepting a security not issued in its books, a CSD will have the choice between:

- opening omnibus accounts in the Issuer CSD (using the Issuer CSD as a Technical Issuer CSD);

- or in any other CSD (using another CSD as a Technical Issuer CSD);



- in order to have a recursive representation, the Issuer CSD is considered as being its own Technical Issuer CSD for the securities issued in its books; the account reflecting the holding of the participants of the Issuer CSD is the Issuance account (no omnibus account in this case).

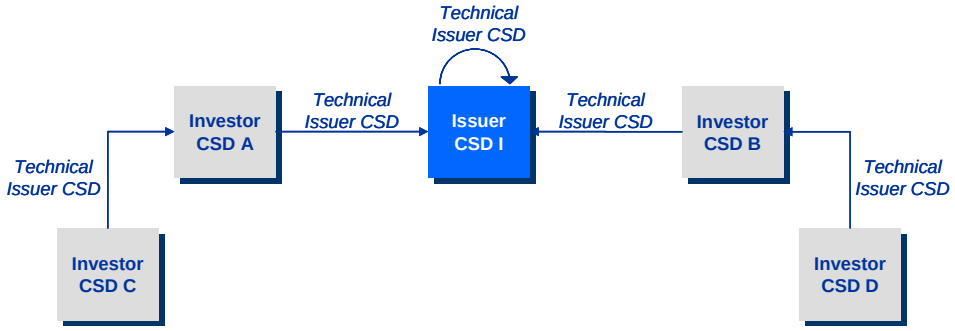
1.3 Representation in the T2S Static Data

The relationships between CSDs will be stored in the T2S Static Data. This will allow an automated process that will derives all the necessary settlement movements from simple instructions sent by the parties. In other words, T2S will not require from the T2S parties and their counterparty to know about the technicality of the links existing between CSDs; T2S will only require from the T2S parties the information they know about (i.e. who I sold to/bought from, who is its receiving/delivering agent, where this participant will receive in/deliver from).

To that purpose, for a given settlement instruction, T2S should associate one single Technical Issuer CSD to each Investor CSD depending on the context of the instruction. This context will be defined by one or several elements of the instruction (e.g. ISIN or a combination of ISIN and place of settlement). The current proposal is to rely on the ISIN only for determining the context of a settlement instruction and associating the appropriate Technical Issuer CSD to an Investor CSD (i.e. per ISIN, an Investor CSD will have to choose a single Technical Issuer CSD). This appears sufficient to cover the requirements stemming from current business conditions. However, if additional flexibility is needed, this could be adapted easily by taking into account other elements of the settlement instruction such as the place of settlement (i.e. it will then be possible to associate a different Technical Issuer CSD for each combination of ISIN and place of settlement).

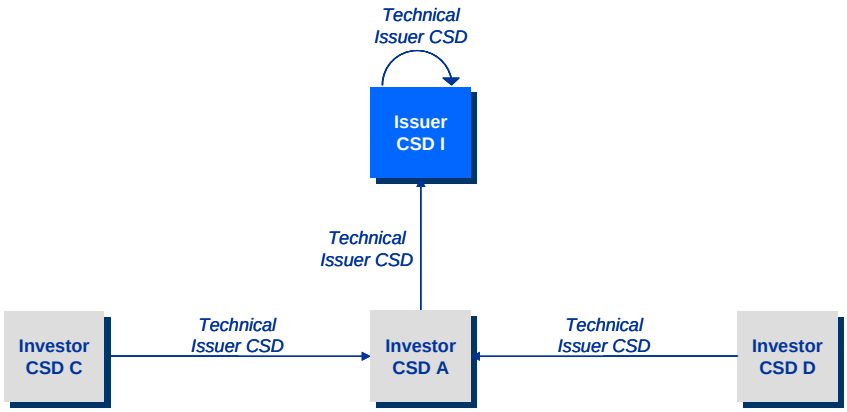
Examples below show how the relationships between CSDs are represented in the Static Data:

Example 1



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

Example 2



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD D	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

1.4 Maintenance of the links

It will be the responsibility of each T2S Investor CSD to set up and to maintain its links with its Technical Issuer CSDs in the T2S Static Data, and the responsibility of each T2S Issuer CSD to set up and to maintain its links with its External Investor CSDs in the T2S Static Data.

2. Accounts definition and organisation

This section aims at presenting the different types of account that are used in the context of links between CSDs. This organisation of account is not specific to T2S, but mainly reflecting the standards and the market practices.

2.1 Organisation of the accounts

Omnibus[1] Account:

In the Technical Issuer CSD, an Investor CSD uses an Omnibus Account to hold the securities owned by its participants. This Omnibus Account is strictly equivalent to any participant's account of the technical Issuer CSD.

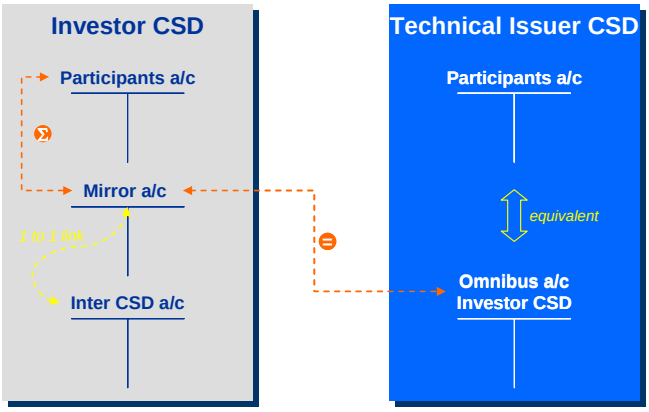
Mirror Account:

An Omnibus Account held within a Technical Issuer CSD is reflected in a Mirror Account within the Investor CSD. At any moment, the balance in credit of the Omnibus Account is in theory equal to the balance in debit of the Mirror Account. Exception to that could occur when the Issuer CSD is External to T2S and the securities are underway of transfer from/to T2S to/from an External CSD. In this case, the difference between the Mirror Account and the Omnibus Account is reflected in the Inter CSD Account.

Inter CSD Account:

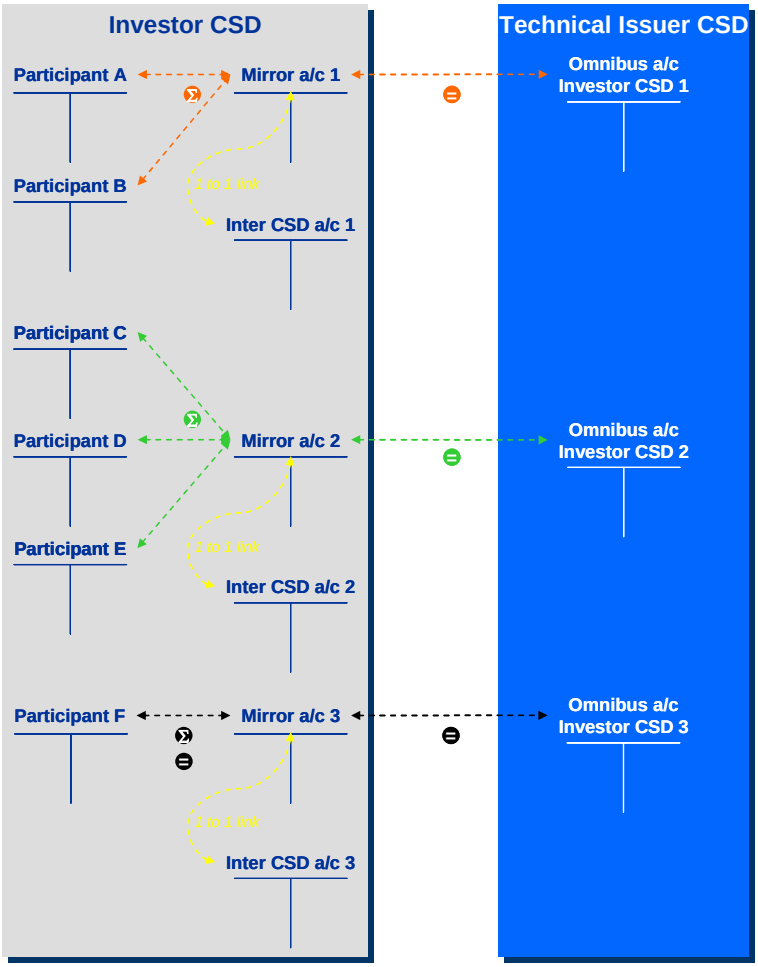
An Inter CSD Account is linked to each Mirror Account. The Balance of the Inter CSD Account is usually equal to zero except when the Issuer CSD is External to T2S and securities are transferring from/to T2S to/from an External CSD. If the balance of the Inter CSD Account is in credit, a quantity of securities equal to this balance should be transferred from T2S to the External CSD; and if the balance of the Inter CSD Account is in debit, quantity of securities equal to this balance should be transferred from the External CSD to T2S. When these transfers are executed, the balance of the Inter CSD Account goes back to zero and the balance of the Mirror Account is again in line with the balance of the Omnibus Account. Please refer to section 3.3.3 and 3.3.4 where examples of use of Inter CSD accounts are given.

[1] The organisation of the Investor CSD or a restriction from the Technical Issuer CSD (potentially for legal reasons) could lead up to the use of multiple Omnibus Accounts. This organisation or this restriction could be extended up to the use of a single and dedicated Omnibus Account in the Technical Issuer CSD for each of the participants of the Investor CSD.



2.2 Use of multiple Omnibus Accounts

An Investor CSD might use for different reason several Omnibus Accounts within the Technical Issuer CSD in order to segregate the holdings of its participants within the Technical Issuer CSD. This would be allowed by T2S but its use by the CSDs should be very limited in order not to add unnecessary complexity.



2.3 Representation in the T2S Static Data

The organisation of the accounts will be represented in the Static Data of T2S using the following structure:

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	A	1	1	1	01/01/2008	-
CSD A	CSD I	B	1	1	1	01/01/2008	-
CSD A	CSD I	C	2	2	2	01/01/2008	-
CSD A	CSD I	D	2	2	2	01/01/2008	-
CSD A	CSD I	E	2	2	2	01/01/2008	-
CSD A	CSD I	F	3	3	3	01/01/2008	-

If a Participant Account is not specified the triptych (Mirror Account, Omnibus Account, Inter CSD Account) is the default one:

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	-	1	1	1	01/01/2008	-

2.4 Maintenance of the organisation of the accounts

It will be the responsibility of each T2S Investor CSD to set up and to maintain its account organisation in the T2S Static Data, and the responsibility of each T2S Issuer CSD to set up and to maintain the account organisation of its External Investor CSDs in the T2S Static Data.

3. Settlement procedures

As stated before, T2S will go through the same generic process irrespective of the nature of the transaction (Intra-CSD, Cross-CSDs or with External CSDs). However, this process will result in the generation of a different number of movements depending on the nature of the transaction and on the links between the CSDs.

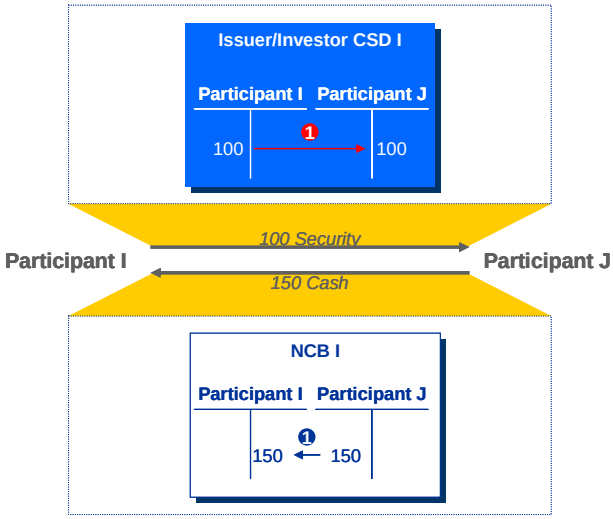
3.1 Intra-CSD Settlement (Domestic Settlement)

The proposed structure for the implementation of the links between CSDs will of course not affect the domestic settlement even if the same generic process that handle Cross-CSDs and External CSDs settlement is also used in this case.

Example 1: pure Domestic Settlement within one single CSD and one single NCB, where Participant I of CSD I (Issuer) sells security to participant J of the same CSD

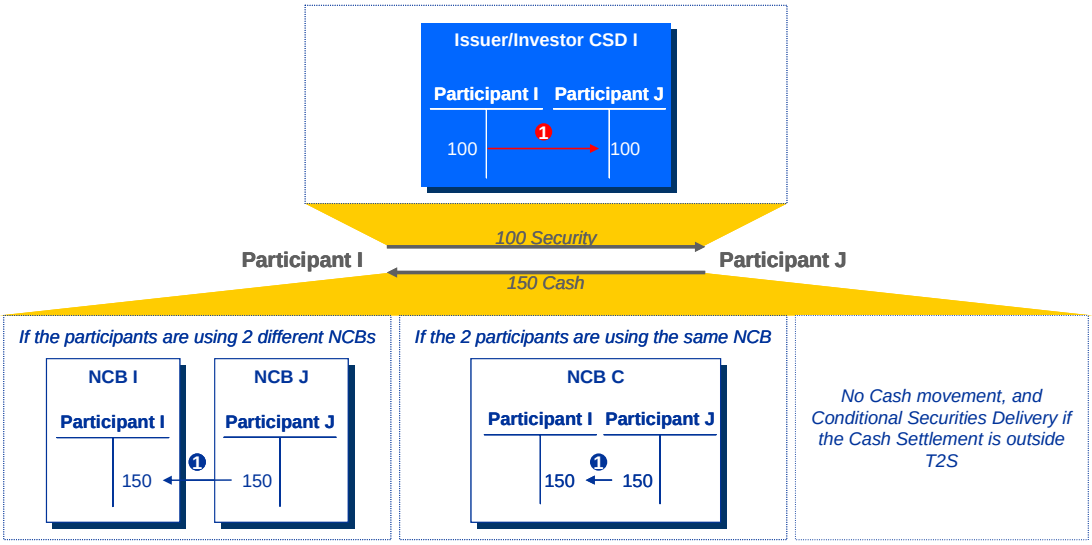
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- Participant I instructs[2] T2S against participant J;
- Participant J instructs T2S against participant I;
- T2S derives security movement 1 and cash movement 1 and settles both simultaneously.

Example 2: same configuration as Example 1 with the description of the different possibilities for the cash settlement



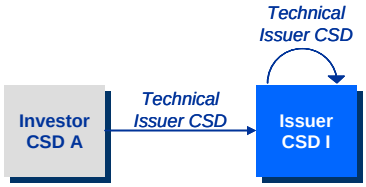
The resulting settlement procedure is the same as Example 1.

3.2 Cross-CSDs Settlement

When all the involved CSDs are CSDs in T2S ("Cross-CSD Settlement"), T2S will profit from having all the securities accounts (as well as all the dedicated cash accounts) on a single platform and settle the transaction as domestic transaction from the perspective of the parties.

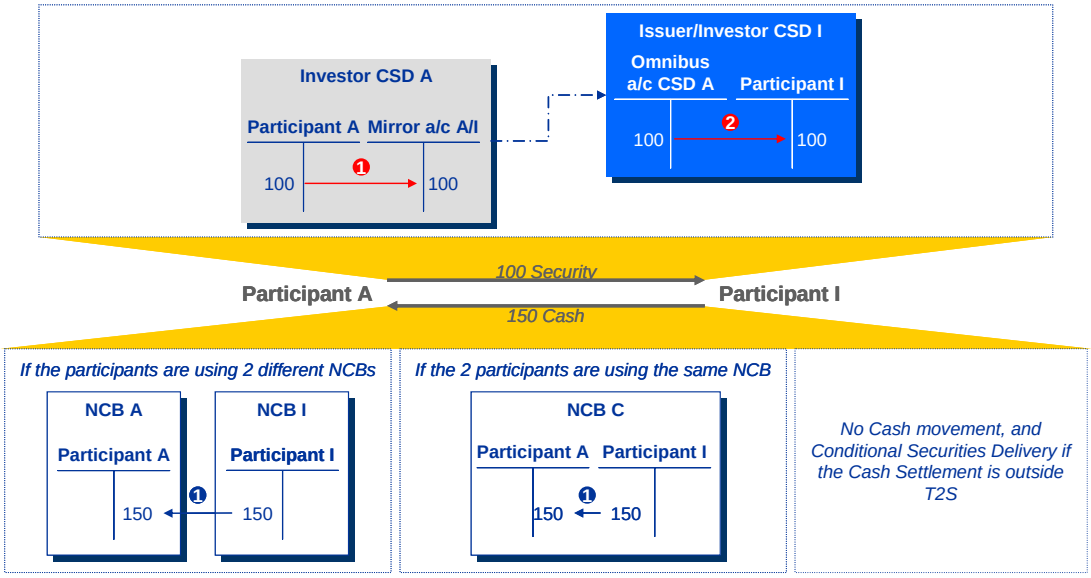
[2] Instructing is used throughout the document as covering both direct and indirect connectivity to T2S.

Example 1: transfer of securities from (to) an Investor CSD in relationship with the Issuer CSD to (from) the Issuer CSD (most common case of Cross-CSDs Settlement), where participant A of CSD A sells security to participant I of CSD I (Issuer) with the following links



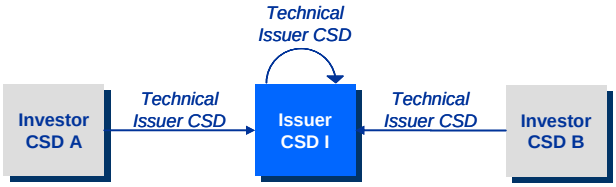
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



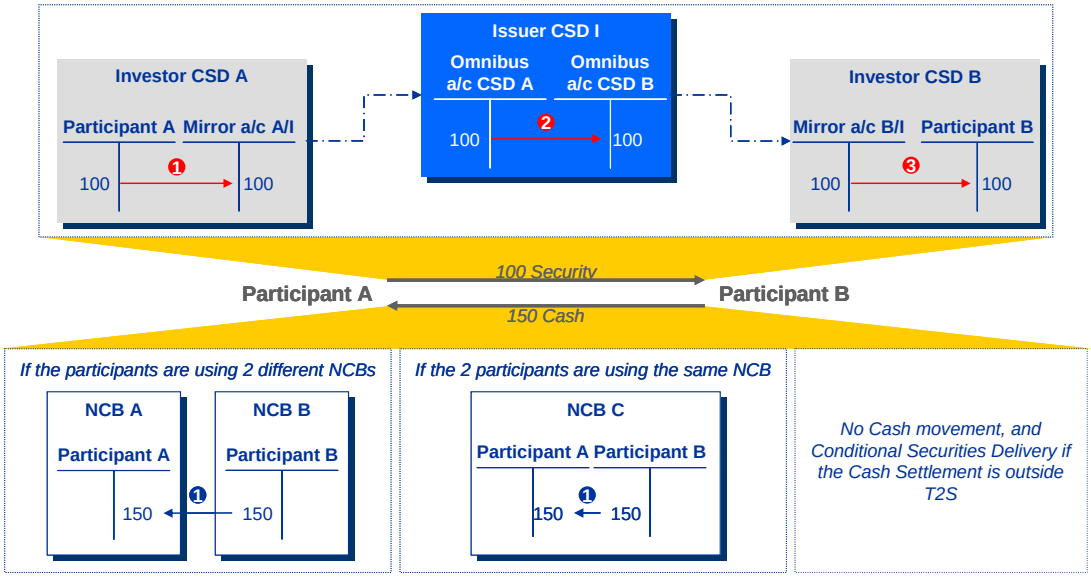
- From the perspective of the T2S parties (participant A and participant I), this looks like a domestic transaction;
- Participant A instructs T2S against participant I using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant I instructs T2S against participant A using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 2: transfer of securities from an Investor CSD in relationship with the Issuer CSD to another Investor CSD in relationship with the Issuer CSD, where participant A of CSD A sells security to participant B of CSD B with the following links



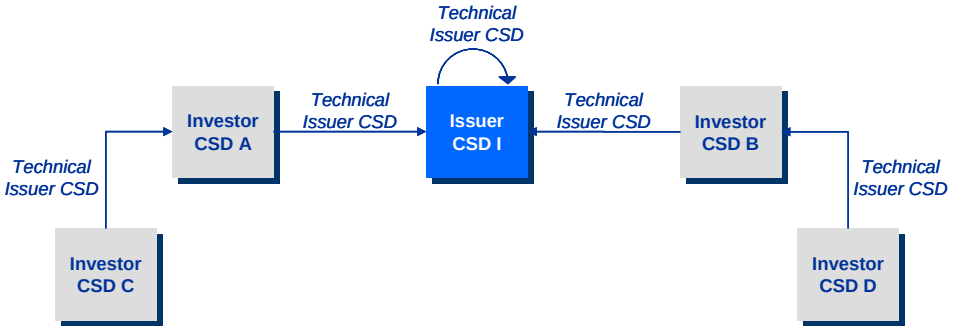
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



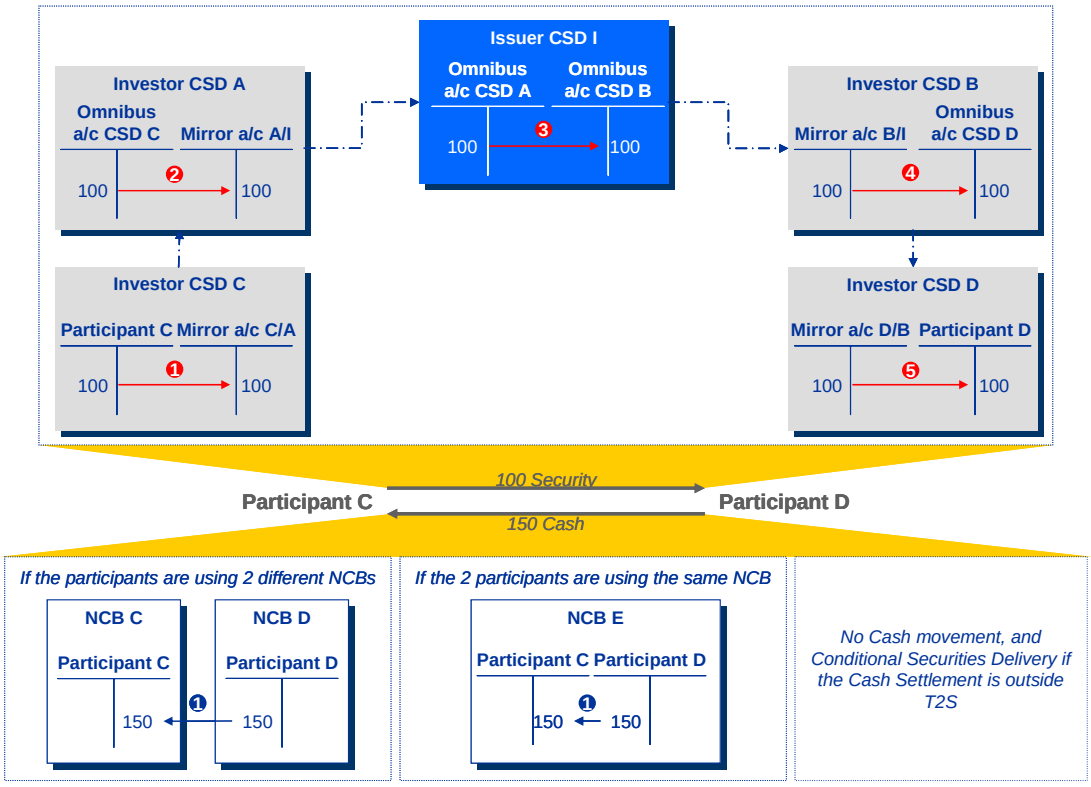
- From the perspective of the T2S parties (participant A and participant B), this looks like a domestic transaction;
- Participant A instructs T2S against participant B using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant B instructs T2S against participant A using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 3: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with a different Technical Issuer CSD, where participant C of CSD C sells security to participant D of CSD D with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:

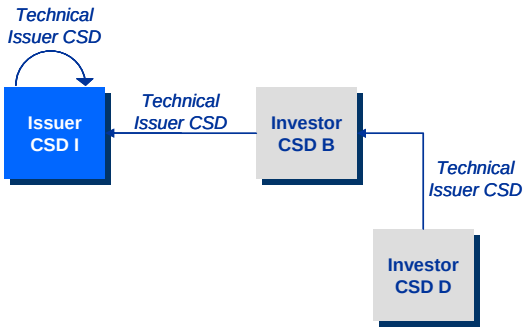


- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;

- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

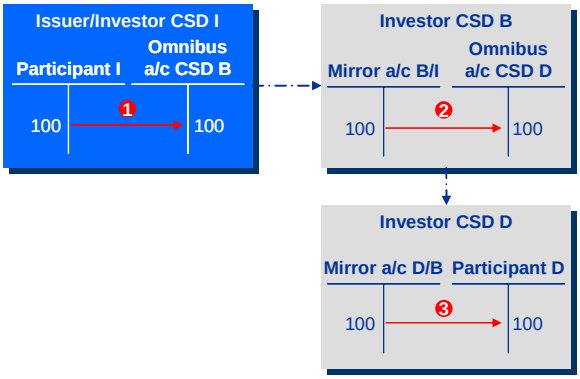
N.B. previous examples show clearly that the cash leg is not relevant in the context of links between CSDs and external CSDs since the three presented scenarios for the cash leg are the same irrespective of nature of the transaction and the links between the CSDs. Therefore, this document will not detail anymore the cash leg of a transaction.

Example 4: transfer of securities from (to) the Issuer CSD to (from) an Investor CSD in relationship with a Technical Issuer CSD, where participant I of CSD I (Issuer CSD) sells security to participant D of CSD D with the following links



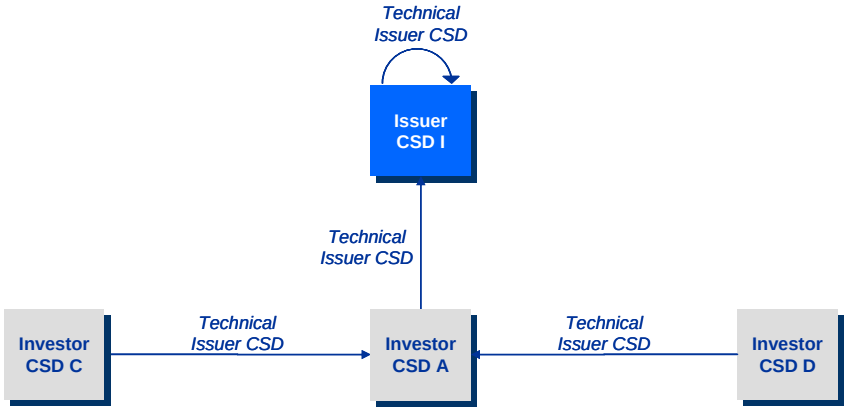
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



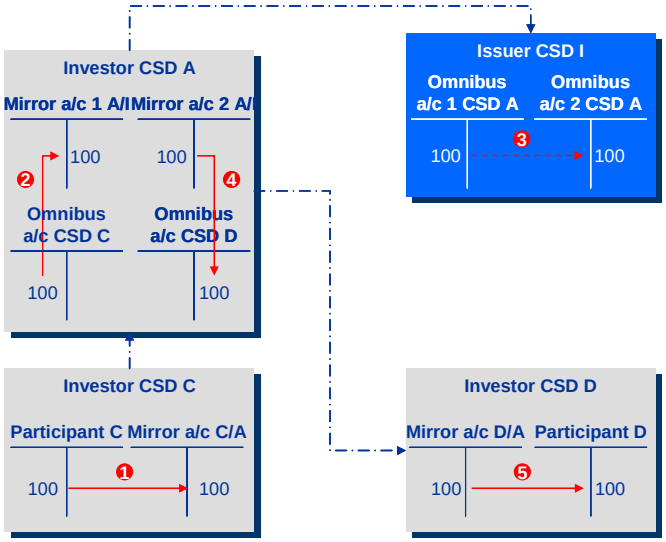
- From the perspective of the T2S parties (participant I and participant D), this looks like a domestic transaction;
- Participant I instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant I using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 5: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with the same Technical Issuer CSD, where participant C of CSD C sells security to participant D of CSD D with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD D	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;
- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- If CSD A is using the same omnibus account in the Issuer CSD I for the holdings of CSD C and CSD D (the mirror account in CSD A is then also the same), security movement 3 will not generated;
    - Different omnibus accounts (presented example)

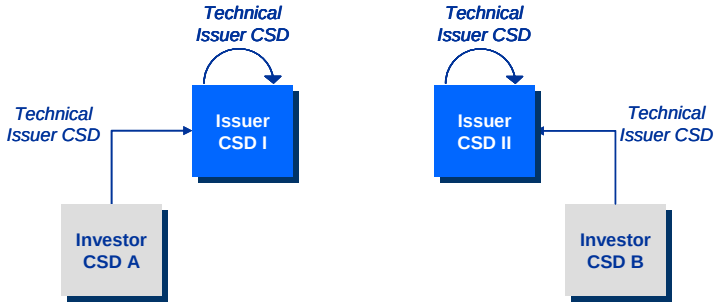
Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	2	2	2	01/01/2008	-

    - Same omnibus accounts

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	1	1	1	01/01/2008	-

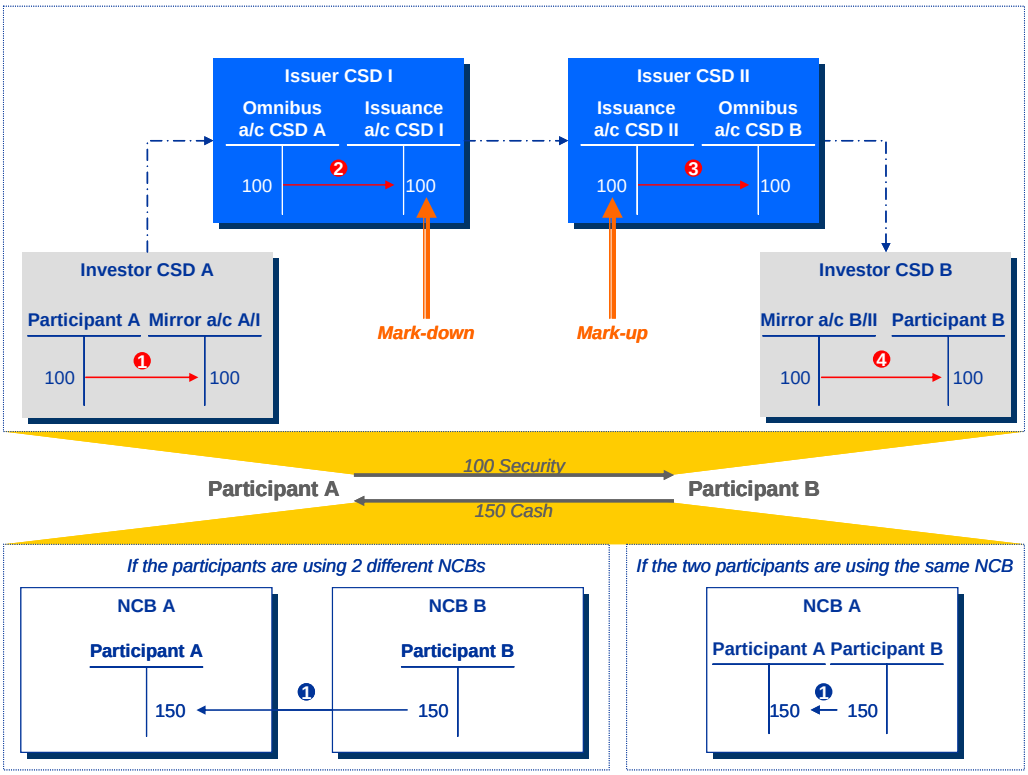
- T2S settles all the resulting security and cash movements simultaneously on an All or None basis.

Example 6 (multi-issued securities): transfer of securities between two Investor CSDs, each of them is using a different Issuer CSD as Technical Issuer CSD, where participant A of CSD A sells security to participant B of CSD B with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD II	YES	CSD II	01/01/2008	-

The resulting settlement procedure should include a decrease of the securities issued in CSD I and an increase of securities issued in CSD II as following:



- From the perspective of the T2S parties (participant A and participant B), this looks like a domestic transaction;
- Participant A instructs T2S against participant B using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;

- Participant B instructs T2S against participant A using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- No additional input is required from the CSDs;
- T2S identifies the issuer CSDs (CSD I and CSD II) as being their own technical issuer CSD and the nature of the operation (mark-up or mark-down of the issuance account) depending on the direction of the transfer (receive or delivery);
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an All-or-None basis.

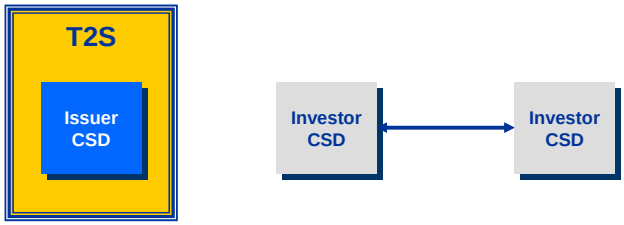
3.3 External CSDs Settlement

When External CSDs are involved, four scenarios need to be distinguished to explain the settlement procedure:

- the Investor CSDs are External and the Issuer CSD is in T2S;
- one Investor CSD is External, one Investor CSD and the Issuer CSD are in T2;
- one Investor CSD and the Issuer CSD are External, one Investor CSD is in T2S;
- the Issuer CSD is External, the Investor CSDs are in T2S.

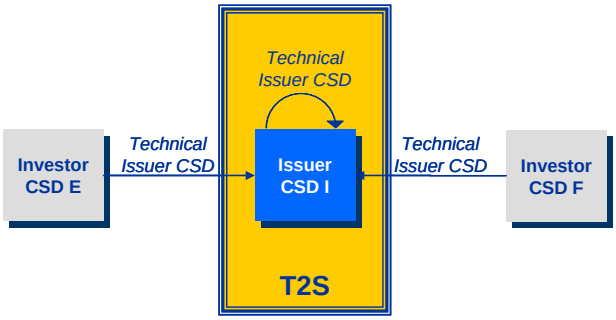
These scenarios are detailed in the following section.

3.3.1 The Investor CSDs are External and the Issuer CSD is in T2S



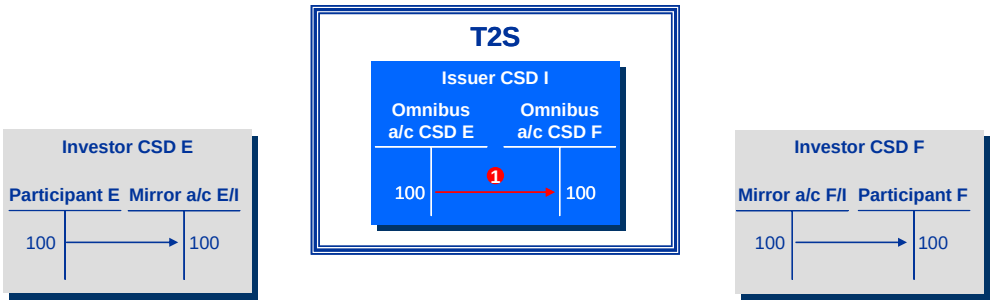
From the perspective of T2S, this looks like a transaction between the two Investor CSDs in the Issuer CSD (Domestic Settlement). Actually, the Investor CSDs are External CSDs, but they are participants of a T2S CSD (which is the Issuer CSD since it is the CSD where they are holding their omnibus account).

Example: transfer of securities from an External Investor CSD in relationship with the Issuer CSD to another External Investor CSD in relationship with the Issuer CSD, where participant E of CSD E (External) sells security to participant F of CSD F (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD E	NO	CSD I	01/01/2008	-
ISIN 1	CSD F	NO	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

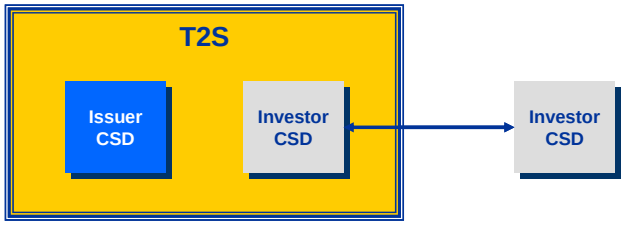
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between the two Investor CSDs (CSD E and CSD F as participants of CSD I) in the Issuer CSD (CSD I) (Domestic Settlement in the Issuer CSD);
- CSD E (as participant of CSD I) instructs T2S against participant F at CSD F;
- CSD F (as participant of CSD I) instructs T2S against participant E at CSD E;
- In the case of a DVP settlement in T2S currency, the External CSDs (CSD E and CSD F, as participants of CSD I) need to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any3) and settle both simultaneously.

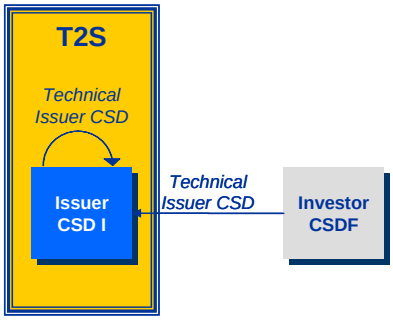
[3] Valid throughout the document for all the scenarios: In the case of Conditional Securities Delivery (CoSD), there is no cash movement in T2S. The settlement procedure is the same as for FOP but a specific Instruction Type is used and the final settlement in T2S is conditional to the cash settlement outside T2S.

3.3.2 One Investor CSD is External, one Investor CSD and the Issuer CSD are in T2S



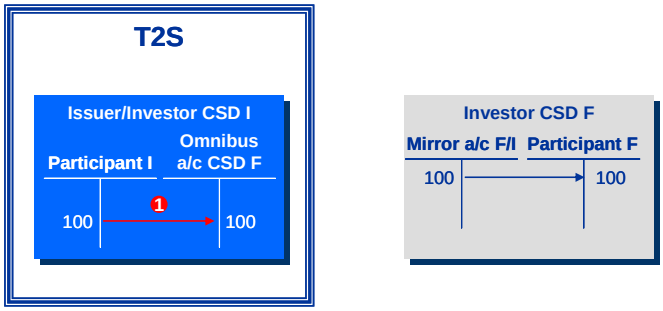
From the perspective of T2S, this looks like a settlement between the T2S Party and the external CSD as participant of the Issuer CSD (since the External CSD is holding its omnibus account in the Issuer CSD).

Example 1: transfer of securities to an External Investor CSD in relationship with the Issuer CSD from the Issuer CSD, where participant I of CSD I (T2S CSD) sells security to participant F of CSD F (External) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD F	NO	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

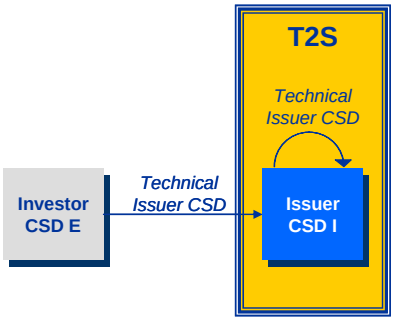
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between participant I of CSD I (Issuer) and the External CSD F as participant of the Issuer CSD (CSD I) (Domestic Settlement in the Issuer CSD);

- CSD I will be in charge of the interaction4 with the External CSD F according to their arrangement (external link definition);
- Participant I instructs T2S against participant F at CSD F;
- CSD F (as participant of the Issuer CSD I) instructs T2S against participant I;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD F, as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any) according to the links configured in the Static Data;
- T2S settles security movement 1 and the cash movement (if any) simultaneously on an All or None basis (DVP settlement).

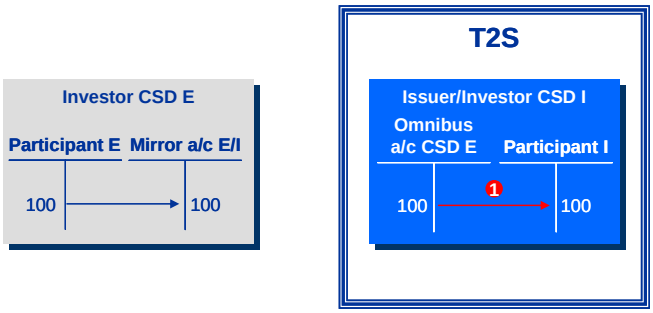
Example 2: transfer of securities from an External Investor CSD in relationship with the Issuer CSD to the Issuer CSD, where participant E of CSD E (External) sells security to participant I of CSD I (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD E	NO	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

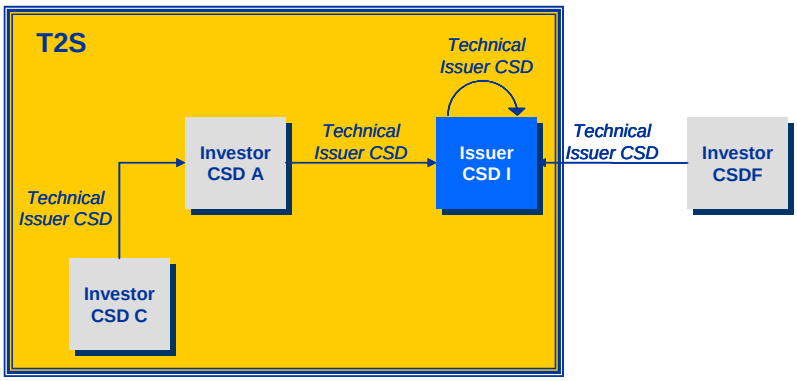
[4] The current assumption is that the CSDs will maintain the technical link and the interaction with the External CSDs. However, T2S will be open to in source this function upon request from a CSD. If this happen, T2S will have a single standardised way to interact with all the related External CSDs.

The resulting settlement procedure is:



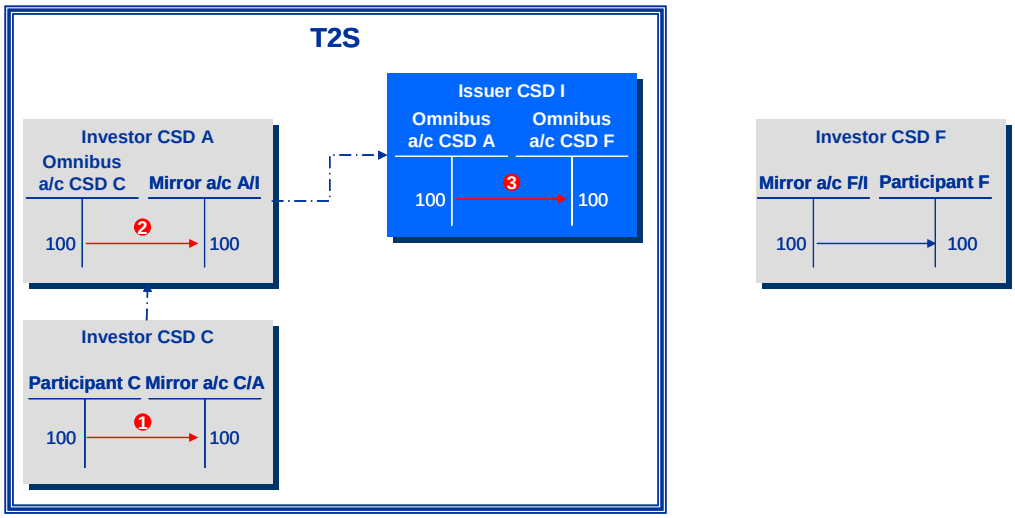
- From the perspective of T2S, this looks like a transaction between the External CSD E as participant of the Issuer CSD (CSD I) and participant I of CSD I (Issuer) (Domestic Settlement in the Issuer CSD);
- CSD I will be in charge of the interaction with the External CSD E according to their arrangement (external link definition);
- CSD E (as participant of the Issuer CSD I) instructs T2S against participant I;
- Participant I instructs T2S against participant E at CSD E;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD E, as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any) according to the links configured in the Static Data;
- T2S settles security movement 1 and the cash movement (if any) simultaneously on an All or None basis (DVP settlement).

Example 3: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the Issuer CSD (the seller within T2S), where participant C of CSD C (T2S CSD) sells security to participant F of CSD F (External) with the following links



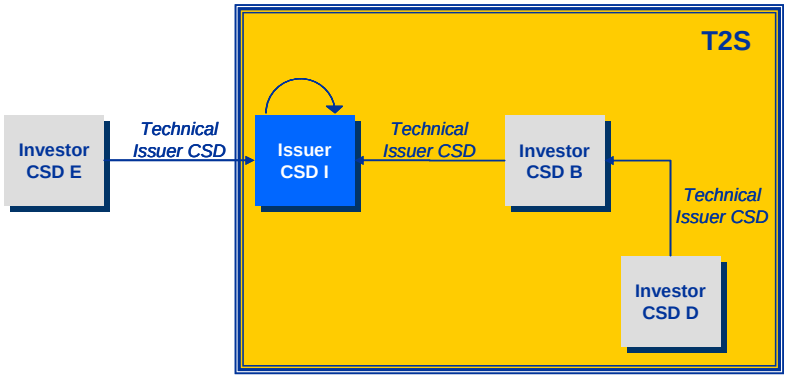
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD F	NO	CSD I	01/01/2008	-
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



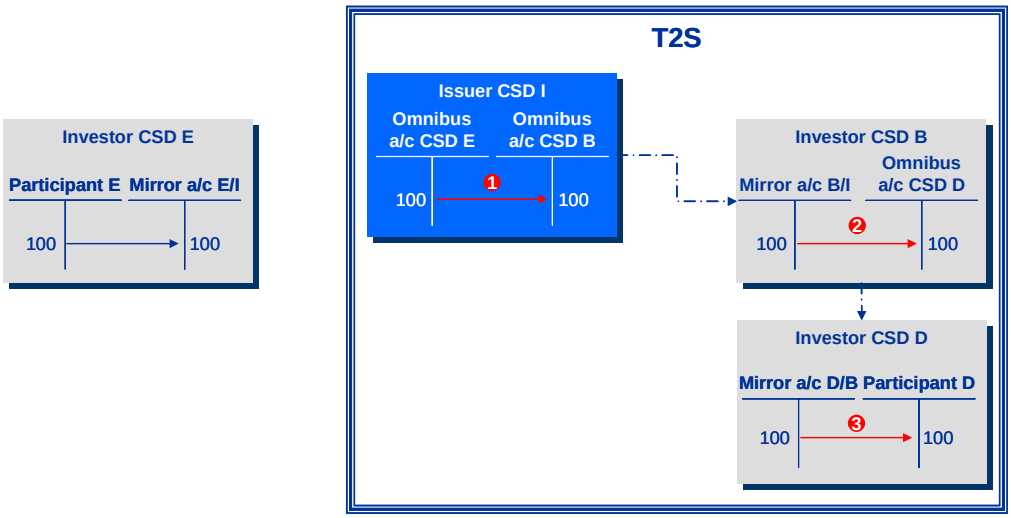
- From the perspective of T2S, this looks like a transaction between participant C of CSD C and the External CSD F as participant of the Issuer CSD (CSD I) (Cross-CSD Settlement);
- CSD I will be in charge of the interaction with the External CSD F according to their arrangement (external link definition);
- Participant C instructs T2S against participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD F (as participant of the Issuer CSD I) instructs T2S against participant C without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD F, as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1, 2 and 3, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2 and 3, and the cash movement (if any), simultaneously on an All or None basis.

Example 4: transfer of securities from an External Investor CSD in relationship with the Issuer CSD to an Investor CSD in relationship with a Technical Issuer CSD in T2S (the buyer within T2S), where participant E of CSD E (External) sells security to participant D of CSD D (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD E	NO	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-
ISIN 1	CSD I	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



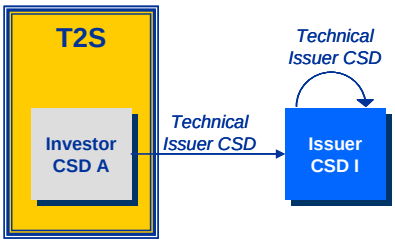
- From the perspective of T2S, this looks like a transaction between the External CSD E as participant of the Issuer CSD I and participant D of CSD D (Cross-CSD Settlement);
- CSD I will be in charge of the interaction with the External CSD E according to their arrangement (external link definition);
- Participant D instructs T2S against participant E at CSD E without giving the intermediary settlement chain in T2S;

- CSD E (as participant of the Issuer CSD I) instructs T2S against participant D without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, the External CSD (CSD E as participant of CSD I) needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1, 2 and 3, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2 and 3, and the cash movement (if any), simultaneously on an All or None basis.

3.3.3 One Investor CSD and the Issuer CSD are External, one Investor CSD is in T2S

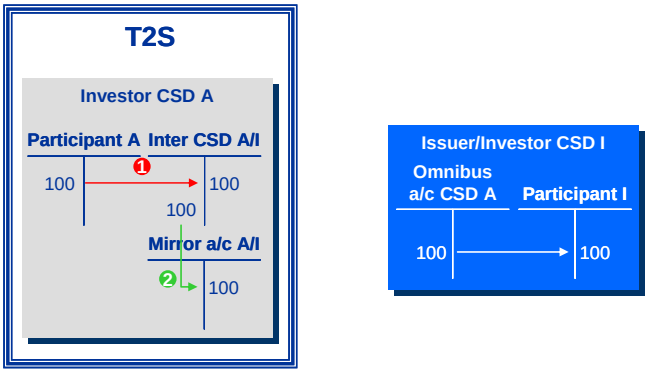
A simultaneous real-time settlement cannot be achieved. From the perspective of T2S, this looks like a settlement between the T2S Party and an inter-CSD account conditional upon the final settlement within the Issuer CSD.

Example 1: transfer of securities from an Investor CSD in relationship with the Issuer CSD to the External Issuer CSD, where participant A of CSD A (T2S CSD) sells security to participant I of CSD I (External) with the following links



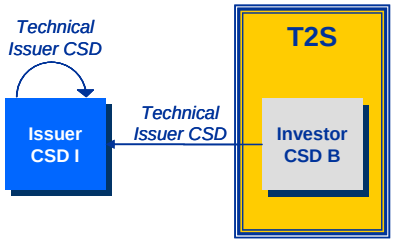
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD A	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



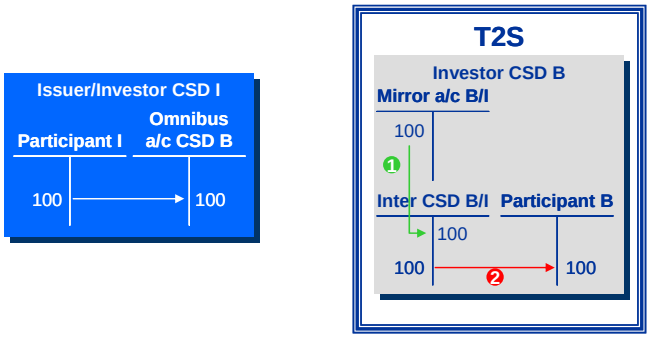
- From the perspective of T2S, this looks like conditional settlement of a transaction between participant A of CSD A and CSD A (as its own participant);
- CSD A will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant A instructs T2S against participant I at CSD I;
- CSD A instructs T2S against participant A;
- In the case of a DVP settlement in T2S currency, CSD A needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 1 and the cash movement (if any) according to the links configured in the Static Data;
- CSD A (as participant of the External CSD I) instruct the External Issuer CSD I;
- T2S settles security movement 1 and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are blocked;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External Issuer CSD (CSD I);
    - T2S books security movement 1 and the cash movement (if any).
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 2 (unilateral FOP);
- T2S settles movement 2.

Example 2: transfer of securities to an Investor CSD in relationship with the Issuer CSD from the External Issuer CSD, where participant I of CSD I (External) sells security to participant B of CSD B (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD B	YES	CSD I	01/01/2008	-

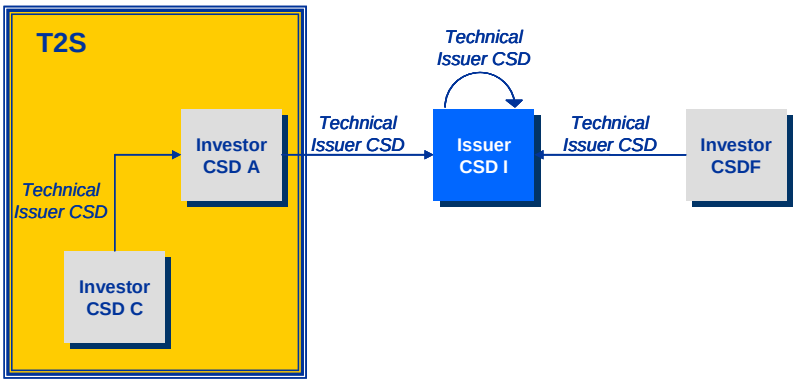
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between CSD B (as its own participant) and participant B of CSD B;
- CSD B will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant B instructs T2S against participant I at CSD I;
- CSD B instructs T2S against participant B;
- In the case of a DVP settlement in T2S currency, CSD B needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movement 2 and the cash movement (if any) according to the links configured in the Static Data;
- CSD B (as participant of the External CSD I) instruct the External Issuer CSD I;
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD B instructs T2S with security movement 1 (unilateral FOP);
- T2S settles movement 1;

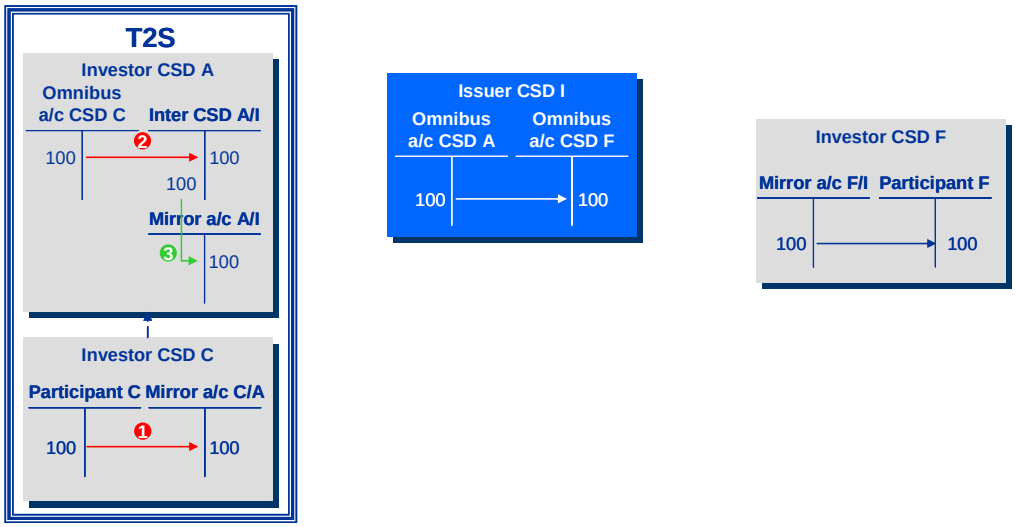
- T2S settles security movement 2 and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Receiving) administered by CSD B
    - Cash (if any) is blocked;
    - The final settlement is on hold;
    - The final settlement is released by CSD B after the confirmation of the settlement of security movement 1;
    - T2S books security movement 2 and the cash movement (if any).

Example 3: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the External Issuer CSD (the seller within T2S), where participant C of CSD C (T2S CSD) sells security to participant F of CSD F (External) with the following links



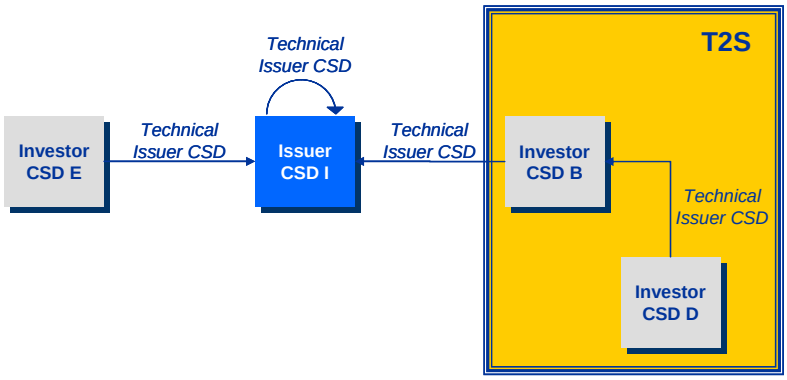
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



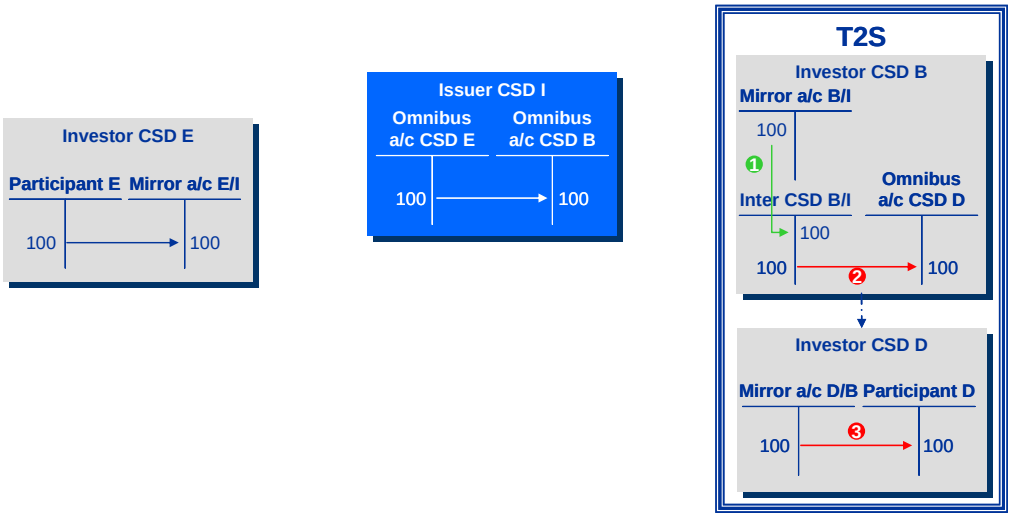
- From the perspective of T2S, this looks like a transaction between participant C of CSD C and CSD A (as its own participant);
- CSD A will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant C instructs T2S against Participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD A instructs T2S against participant C without giving the intermediary settlement chain in T2S;
- In the case of a DVP settlement in T2S currency, CSD A needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1 and 2, and the cash movement (if any), according to the links configured in the Static Data;
- CSD A (as participant of the External CSD I) instruct the External Issuer CSD I;
- T2S settles security movements 1 and 2, and the cash movement (if any), as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are blocked;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External Issuer CSD (CSD I);
    - T2S books security movements 1 and 2, and the cash movement (if any).
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 3 (unilateral FOP);
- T2S settles movement 3.

Example 4: transfer of securities from an External Investor CSD in relationship with the External Issuer CSD to an Investor CSD in relationship with a Technical Issuer CSD in T2S (the buyer within T2S), where participant E of CSD E (External) sells security to participant D of CSD D (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-

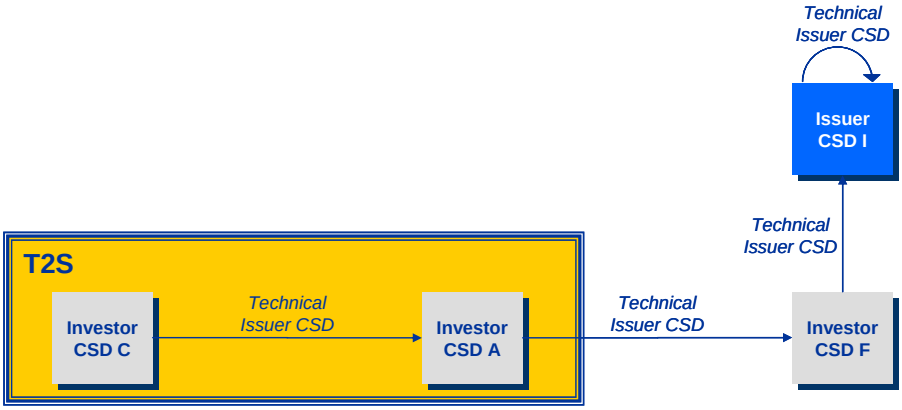
The resulting settlement procedure is:



- From the perspective of T2S, this looks like a transaction between CSD B (as its own participant) and participant D of CSD D;
- CSD B will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant D instructs T2S against participant E at CSD E without giving the intermediary settlement chain in T2S;
- CSD B instructs T2S against participant D without giving the intermediary settlement chain in T2S;

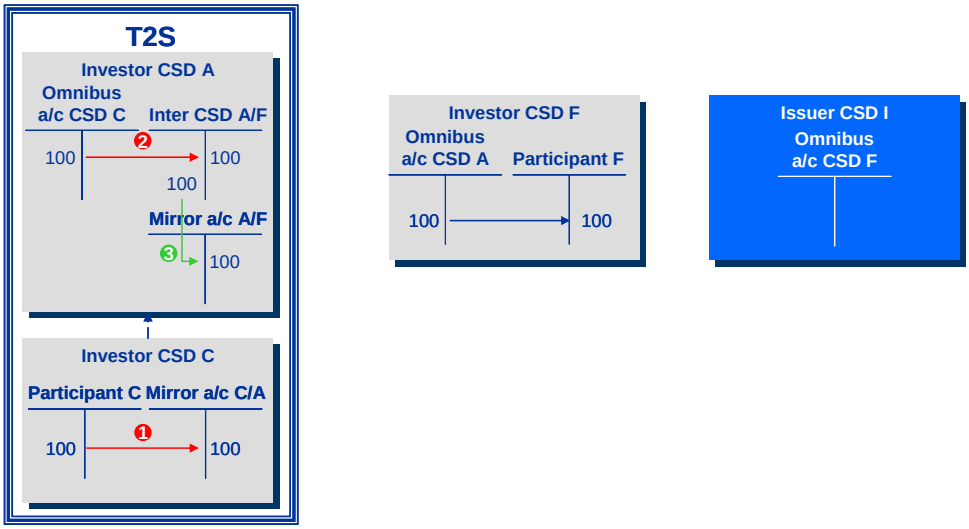
- In the case of a DVP settlement in T2S currency, CSD B needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 2 and 3, and the cash movement (if any), according to the links configured in the Static Data;
- CSD B (as participant of the External CSD I) instruct the External Issuer CSD I;
- After the confirmation of the settlement within the External Issuer CSD (CSD I), CSD B instructs T2S with security movement 1 (unilateral FOP);
- T2S settles movement 1;
- T2S settles security movements 2 and 3, and the cash movement (if any) as CoSD (Conditional Securities Delivery-External Receiving) administered by CSD B
    - Cash (if any) is blocked;
    - The final settlement is on hold;
    - The final settlement is released by CSD B after the confirmation of the settlement of security movement 1;
    - T2S books security movements 2 and 3, and the cash movement (if any).

Example 5: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD in T2S to an External Investor CSD in relationship with the External Issuer CSD and acting as the External Technical Issuer CSD for the Technical Issuer CSD in T2S, where participant C of CSD C (T2S CSD) sells security to participant F of CSD F (External) with the following links



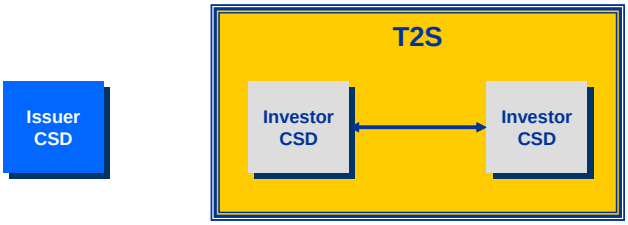
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD F	01/01/2008	-

The resulting settlement procedure is:



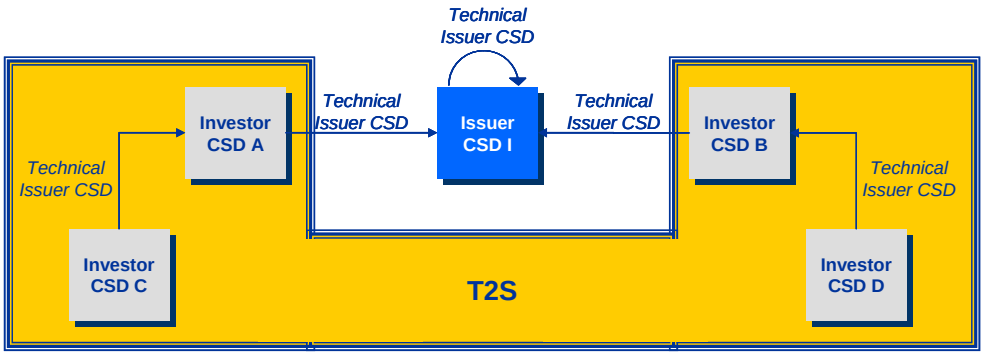
- From the perspective of T2S, this looks like a transaction between participant C of CSD C and CSD A (as its own participant);
- CSD A will be in charge of the interaction with the External CSD F according to their arrangement (external link definition);
- Participant C instructs T2S against participant F at CSD F without giving the intermediary settlement chain in T2S;
- CSD A instructs T2S against participant C without giving the intermediary settlement chain in T2S;
- If it is a DVP settlement, CSD A needs to have a dedicated T2S cash account or to rely on a T2S settlement bank;
- T2S derives security movements 1 and 2, and the cash movement (if any), according to the links configured in the Static Data;
- CSD A (as participant of the External CSD F) instruct the External CSD (CSD F);
- T2S settles security movements 1 and 2, and the cash movement (if any), as CoSD (Conditional Securities Delivery-External Delivery) administered by CSD A
    - Securities are blocked;
    - The final settlement is on hold;
    - The final settlement is released by CSD A after the confirmation of the settlement within the External CSD (CSD F);
    - T2S books security movements 1 and 2, and the cash movement (if any).
- After the confirmation of the settlement within the External CSD (CSD F),, CSD A instructs T2S with security movement 3 (unilateral FOP);
- T2S settles movement 3.

3.3.4 The Issuer CSD is External, the Investor CSDs are in T2S



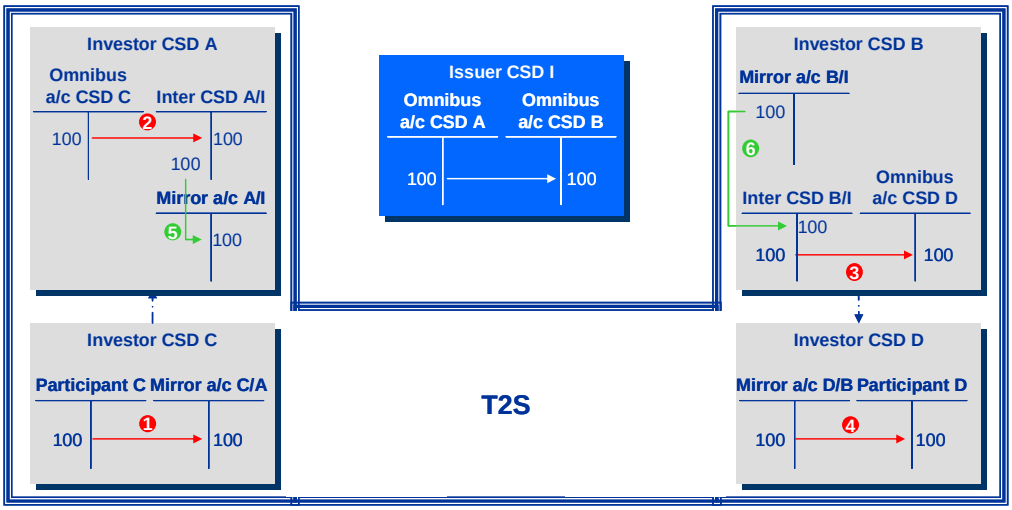
In this case, even if the Issuer CSD is outside T2S, the settlement within T2S will not be conditional: only an unsynchronised realignment needs to be sent to the External Issuer CSD. The fact that the dedicated cash account of the buyer and the securities account of the seller (both sides of the transaction) are maintained in T2S will allow this procedure and avoid the risk of failure within the Issuer CSD. However, the procedure may also require appropriate due-diligence studies confirming that Investor CSDs operate their accounts with the Issuer CSD in such a way that the realignment will never fail.

Example 1: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with a different Technical Issuer CSD, where participant C of CSD C (T2S CSD) sells security to participant D of CSD D (T2S CSD) with the following links



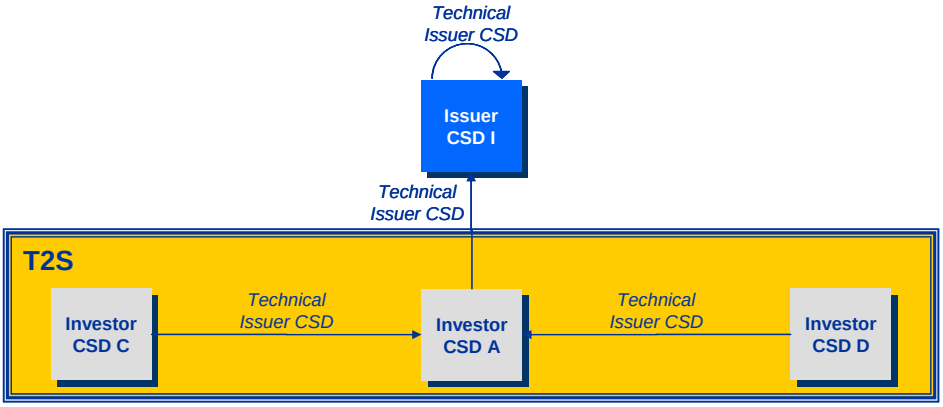
Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-
ISIN 1	CSD D	YES	CSD B	01/01/2008	-
ISIN 1	CSD B	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



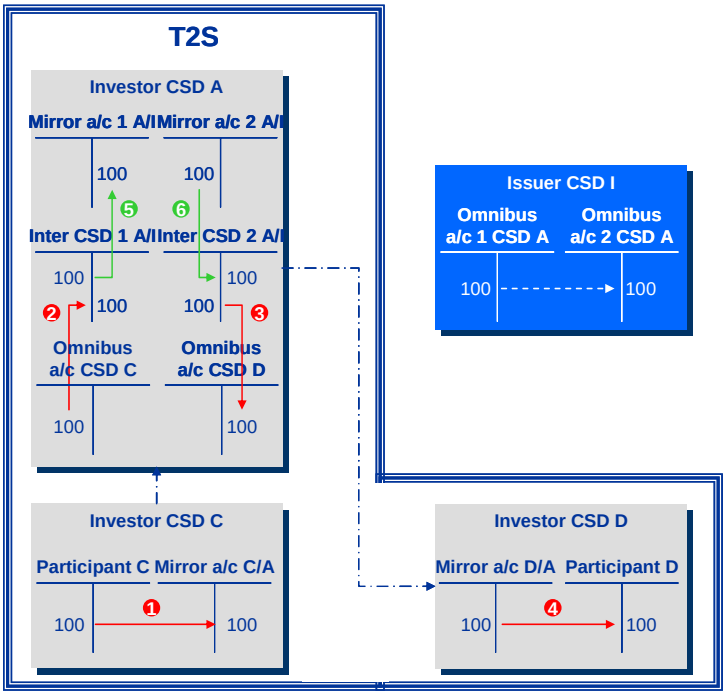
- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;
- CSD A and CSD B will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);
- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- T2S derives security movements 1, 2, 3 and 4, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2, 3 and 4, and the cash movement (if any), simultaneously on an All or None basis;
- CSD A (as participant of the External CSD I) triggers the realignment in the External Issuer CSD (CSD I);
- When the realignment is settled in the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 5 (unilateral FOP) and CSD B instructs T2S with security movement 6 (unilateral FOP);
- T2S settles security movements 5 and 6.

Example 2: transfer of securities from an Investor CSD in relationship with a Technical Issuer CSD to another Investor CSD in relationship with the same Technical Issuer CSD, where participant C of CSD C (T2S CSD) sells security to participant D of CSD D (T2S CSD) with the following links



Security	Investor CSD	T2S CSD	Technical Issuer CSD	Date From	Date To
ISIN 1	CSD C	YES	CSD A	01/01/2008	-
ISIN 1	CSD D	YES	CSD A	01/01/2008	-
ISIN 1	CSD A	YES	CSD I	01/01/2008	-

The resulting settlement procedure is:



- From the perspective of the T2S parties (participant C and participant D), this looks like a domestic transaction;
- CSD A will be in charge of the interaction with the External CSD I according to their arrangement (external link definition);

- Participant C instructs T2S against participant D using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- Participant D instructs T2S against participant C using a common instruction, same as domestic transaction, without giving the intermediary settlement chain;
- T2S derives security movements 1, 2, 3 and 4, and the cash movement (if any), according to the links configured in the Static Data;
- T2S settles security movements 1, 2, 3 and 4, and the cash movement (if any), simultaneously on an All or None basis;
- If CSD A is using the same omnibus account in the Issuer CSD I for the holdings of CSD C and CSD D (the mirror account (Inter CSD account) in CSD A is then also the same), there is no need to interact with the External Issuer CSD (no need to instruct the External Issuer CSD and no need to instruct T2S with security movement 5 and 6);

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	1	1	1	01/01/2008	-

- Otherwise, CSD A (as participant of the External CSD I) triggers the realignment in the External Issuer CSD (CSD I);
    - When the realignment is settled in the External Issuer CSD (CSD I), CSD A instructs T2S with security movement 5 (unilateral FOP) and security movement 6 (unilateral FOP);
    - T2S settles security movements 5 and 6.

Investor	Technical Issuer	Participant a/c	Mirror a/c	Omnibus a/c	Inter CSD a/c	Date From	Date To
CSD A	CSD I	CSD C	1	1	1	01/01/2008	-
CSD A	CSD I	CSD D	2	2	2	01/01/2008	-

4. Maintenance of Static Data

The settlement activities of CSDs pertaining to the coverage of same security will overlap. Therefore, the static data of a specific security will be required by several CSDs. This, in turn, leads to the question of which CSD will be the Security Maintaining CSD for static data that are required by many CSDs. An Issuer CSD is defined for every security:

- if the Issuer CSD for a security is in T2S, then that Issuer CSD will be the Security Maintaining CSD for all the security static data that are neither CSD nor local market specific;
- if the Issuer CSD for a security settled in T2S is an External CSD , then the responsibility for maintaining the data must be assigned:
    - in the case where there is only one Investor CSD in T2S for a security in T2S, then that one Investor CSD shall be the Security Maintaining CSD for this security;
    - when there are multiple Investor CSDs for a given security in T2S, one entity must be the Security Maintaining CSD for all CSDs. The rule for assigning responsibility for the maintenance of security static data to an entity is an organisational matter that requires further deliberation and discussion, but the conceptual model shall support the assignment of one entity in T2S to one security for this purpose.

In the following example, the Issuer CSD of ISIN 1 is a CSD in T2S and the Issuer CSD of ISIN 2 is an External CSD:

Security	CSD	CSD Type	Security Maintaining CSD	Date From	Date To
ISIN 1	CSD I	Issuer	Yes	01/01/2008	-
ISIN 1	CSD A	Investor	No	01/01/2008	-
ISIN 2	CSD B	Investor	Yes	01/01/2008	-
ISIN 2	CSD C	Investor	No	01/01/2008	-

USER REQUIREMENTS

ANNEX 11

ISSUE NOTE - DIRECT TECHNICAL CONNECTIVITY

T2S Project Team

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1. Introduction

The aim of this note is to clarify the definition of direct technical connectivity as it is described in Principle 11 and to provide more details of its features within the T2S framework. More specifically, section 2 defines the general concept of direct technical connectivity while section 3 goes into more detail providing the description of some basic issues that can help to understand how direct technical connectivity will look like both from the perspective of CSDs and the T2S parties' point of view. Finally, section 4 identifies a list of main functionalities T2S shall provide in order to allow direct technical connectivity.

2. Definition of the concept

Principle 11 states:

T2S shall allow users to have direct connectivity to its platform.

From a business and legal perspective, services in T2S are provided (and charged) by CSDs to their customers (i.e. T2S parties).

From a T2S point of view, the connectivity choice refers solely to the way in which T2S parties will interface with T2S in order to send and maintain settlement instructions as well as to access instructions and settlement and account related information. Regardless of the connectivity mode, the securities account balances will be stored in T2S IT platform, while the CSDs will retain their business and legal relationships with their participants. Equally, the instructions will be subject to equal processing within T2S, irrespective of the way the CSD participants connect to T2S. The connectivity choice will also be neutral to CSDs, since all the necessary information, even from directly connected users, will be available to CSDs.

The aim of the principle is to provide flexibility to the T2S parties connecting to T2S. This may lead to reduced costs to the users by streamlining back-office processes and ultimately reducing the number of interfaces.

In fact, direct technical connectivity is only a technical facility that should not affect the way instructions and transactions are processed in T2S. They are either received directly from the T2S parties (and are, therefore, sent in T2S format), or arrive via the CSDs. Thus, there should be no discrimination between the two connectivity modes. CSDs will be enabled to retrieve or receive all data necessary to deliver their services.

On top of the features provided by T2S, CSDs will be able to build additional services to be offered to their customers within the framework of their contractual agreement with them. These services will be normally developed and implemented within the CSDs' systems; therefore T2S parties will have to connect to the CSD to make use of these services, regardless of whether they are directly connected to T2S or not.

3. Basic issues

This section addresses some basic issues that help to clarify more in detail how T2S direct technical connectivity will work in practice.

Authorising direct technical connectivity for a T2S party

As a settlement engine, T2S will be an integral part of CSDs' systems with two distinctions: it will not be located in their premises and it will be used in common by multiple CSDs. To this extent, direct technical connectivity will be a facility that T2S shall allow and the use of which will be authorised by the CSDs according to the general terms and conditions of the respective CSD and in line with local regulations. In line with the objectives of T2S, legal harmonisation shall be pursued in order to guarantee that specific local regulations do not prevent a CSD from offering direct technical connectivity to its T2S parties and that in all cases direct connectivity should not grant different rights to T2S parties that use it as compared to the rights emanating from any other form of connectivity provided to T2S parties through their local CSDs.

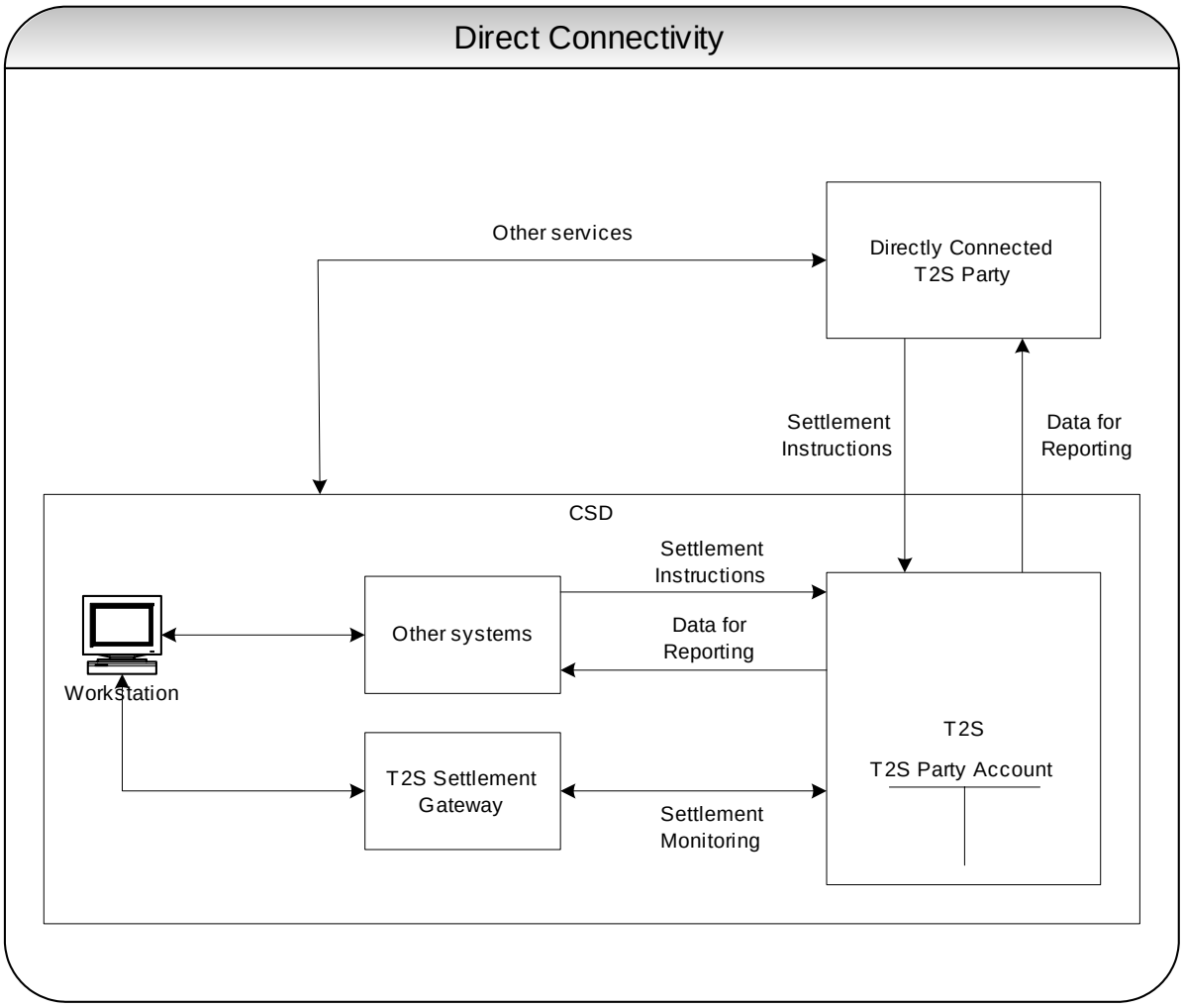
As a technical solution, direct technical connectivity is completely neutral from the business perspective. Therefore, a denial of direct technical connectivity may only take place if a CSD participant is not able to meet some well defined technical criteria (e.g. the usage of ISO 20022 standard) or legal regulations. Any criteria must be transparent and applicable to all participants.

From this perspective, a parallelism could be established with the set of facilities a CSD offers to its participants in order to access its settlement services through different channels (e.g. network connections, SWIFT-based connections, file transfer mechanisms, proprietary workstations and so on). In this context, direct technical connectivity to T2S will just be an alternative channel.

Instructions control by the CSDs

The CSD will have full control of the instructions that it is legally responsible for (i.e. instructions initiated by its participants or affecting its accounts), irrespective of whether the instructions are initiated via direct technical connectivity. This is fully ensured by the CSD's access rights.

For better clarification, reference is made to the graphic:



T2S replaces the internal settlement facility of the CSD. It is not an additional layer, but a component of the CSD system that has the particularity of being outsourced, being shared with other CSDs and being located elsewhere. The CSD will have full access to T2S and will functionally operate T2S (technically operated by the 4CB) in terms of access rights as if it was part of the CSD's own system. Instructions that are initiated using direct technical connectivity are always visible to the CSDs, therefore they can fully control them. Furthermore, the same T2S party account is booked regardless if the related instruction is submitted by the CSD for non-settlement activities (e.g. corporate actions) or using direct technical connectivity.

Similarly as today and to the extent possible in straight-through-processing mode, the CSDs will have the facility to monitor, hold, and cancel (as well as other functions) instructions of their participants in their settlement system, i.e. in T2S. This should be done in accordance with each CSDs' rules and procedures.

In addition, CSDs will be allowed to change access rights of their own participants (blocking and unblocking participants, blocking and unblocking accounts, grant and revoking direct technical connectivity, etc) in T2S no matter whether the participants is directly connected or not.

In general, T2S will make possible having full information available real time to the CSD on all instructions for which it is legally responsible. Information will be available, according to a subscription service approach, using a push and/or pull messaging for all types of transactions and transaction status changes.

Instructions validation process

T2S will perform all relevant validations defined by the CSD. According to Principle 17, T2S settlement rules and procedures shall be common to all participating CSDs. This also applies to validation rules, and it is in the mandate of TG2 (Lifecycle Management and Matching) to identify and define which validations should be performed on a settlement instruction. This is unrelated to whether the instruction is received from a CSD or from a directly connected T2S party. These T2S validations will apply to all types of instructions and will be part of a common set of rules that should be agreed across all the CSDs.
If the CSD is complementing the instructions received from its participants before sending them to T2S, it will be up to the T2S party that has chosen direct technical connectivity to complement it before sending its instruction to T2S in order to be aligned with the validation rules.

Fulfilment of legal, regulatory and supervisory reporting requirements and obligations

CSDs will have full access to and control over the information related to the instructions initiated by using direct technical connectivity and thus will be in a position to comply with legal, regulatory, and supervisory reporting requirements. Direct technical connectivity will not affect the fulfilment of those reporting obligations by the CSDs as necessary information and features to build any such reports will be available in T2S for all instructions. Data can be accessed real-time through queries at any time, and T2S will report regularly at the end-of-day or whenever deemed necessary.

Moreover, when establishing T2S, arrangements will be made with relevant regulators/supervisors and auditors to ensure compliance with the applicable national regimes. The criteria to determine auditing and inspection rights will be based in national regulation applicable to the CSD in question, with T2S providing the regulators with the required T2S information.

4. Main functionalities classification

Based on the direct technical connectivity concept and its basic principles described within the previous sections, it is possible to provide a classification of functionalities describing the main features to be addressed concerning direct technical connectivity.

1. **Services supported through direct technical connectivity**. T2S will allow CSDs to provide, according to a principle of technical harmonisation, the T2S set of basic, standard service to T2S parties through direct technical connectivity. This set will include not only services strictly related to instruction

management and settlement, but will include all T2S services, such as different access types (e.g. on-line access, file transfer, etc) and querying functionalities to be used by the CSDs for reporting (e.g. statement of holdings, statement of settled transactions, statement of pending transactions) and report scheduling. So, from a CSD participant perspective (according the General Terms and Conditions of the respective CSD):

1.1. it will be possible to access all T2S services (i.e. settlement-related) using direct connectivity, without needing a connection to the CSD for such services (even if a connection to the CSD will be in any case necessary for additional settlementrelated services or other services out of the scope of T2S); conversely,

1.2. it will be possible to access all T2S services both using direct connectivity and via the relevant CSD (e.g. the connection to the CSD might be used as a back-up for the direct connection to T2S).

2. **Services related to direct technical connectivity**. As described in the previous section, T2S will support CSDs to fulfil all their requirements and obligations irrespective of the technical channel the instructions were submitted through. Moreover, CSDs will be able to perform all their tasks concerning the authorisation of their T2S parties to use direct technical connectivity. In order to reach these objectives, various functionalities will be provided by T2S to CSDs. In the following some examples are listed.

2.1. **Settlement monitoring**. T2S will provide CSDs with all the necessary information to allow them to monitor the settlement activities of their directly connected T2S parties and to step into the process if need be. The amount of information (i.e. which specific set of messages) CSDs will access and the way it is to be provided (e.g. in push or pull) will be configurable by each CSD using a subscription service approach.

2.2. **Instruction maintenance and management**. Based on the settlement monitoring information, CSDs will be able to control the settlement process of their directly connected T2S parties (e.g. holding or cancelling instructions in line with their terms and conditions) as effectively as for instructions submitted via the CSD. A proper set of functionalities will be made available within T2S to allow CSDs to perform these activities.

2.3. **Data for reporting**. CSDs will be able to access all the information related to the instructions initiated by their T2S parties using direct technical connectivity in order to comply with their legal, regulatory and supervisory reporting requirements. As already mentioned for settlement monitoring functionalities, it will be possible for each CSD to access different sets of information in different ways.

3. **Access rights**. T2S will provide the CSDs with all the required functionalities to manage access rights related to direct technical connectivity. The necessary access rights will be defined both for CSDs (in order to monitor and control the settlement processes of their T2S parties regardless they are using direct

technical connectivity or not) and for T2S parties (allowing them the use direct technical connectivity according to the agreement they will have with the respective CSD).

4. **Lifecycle management**. As an immediate consequence of direct technical connectivity, the validation process currently applied by CSDs will be performed by T2S. If not, direct technical connectivity instructions submitted using direct technical connectivity would need to be validated by the CSDs before matching and settlement within T2S. For this reason T2S will provide functionalities to ensure validation is also possible within the direct technical connectivity framework. Such functionalities should include anti-money laundering and anti-terrorist financing checks.

5. **Customer service**. T2S will provide technical customer service features for directly connected T2S parties. Such features will be provided according to the workflow defined within the general T2S organisational framework for customer service.

6. **Technical requirements**. Some requirements will define the technical details of direct technical connectivity. Such requirements refer both to technical features of T2S and to technical conditions to be met by T2S parties using direct technical connectivity (e.g. the usage of ISO 20022 will be mandatory for T2S parties using direct technical connectivity).

USER REQUIREMENTS

ANNEX 12

ISSUE NOTE - CORPORATE ACTIONS

T2S Project Team

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1 Introduction

The aim of this Annex is to describe how standard T2S core functionality can be used to settle corporate actions in T2S. It contains two major parts: an analysis of the current corporate actions environment, with a view on how it will be handled in a T2S world; and a detailed technical part related to pure settlement functionality of T2S, when supporting the settlement activity generated by corporate actions.

It should be noted that this is work in progress, that raises a number of questions requiring further harmonisation effort and the integration into T2S URD of newly adopted or to be defined standards and market practices related to corporate actions. Also, the T2S project team has started detailed discussions with all the potential players currently offering (or interested in offering in the future) custody services, such as registrars, issuer agents, etc, and further input and collaboration is still expected from these players to refine the below analysis.

To analyse the impact of T2S on the current corporate actions environment, several aspects have been considered, such as the business roles of the players involved in the chain, their interactions and respective responsibilities, the various possible business organisations and processes. The main outcome of this impact analysis confirms the need for further harmonisation in the corporate actions area, which T2S will foster and support by facilitating some business processes, such as cross-CSD settlement of corporate actions.

Looking at the technical impact, today, although the corporate actions world is by far the most creative and hence the most complex to standardise, corporate actions usually follow pre-defined schemes in terms of communication and settlement. The usual starting point of a corporate action is the event announcement. Already at this stage, T2S will support the Corporate Action Managing Entity[1] by providing the securities balances, to identify the shareholders involved. T2S also provides facilities (i.e. a “T2S toolkit”) that the Corporate Action Managing Entity can decide to use or not to use, depending on the market practices (e.g. use of an interim security) and on the regulatory requirements (e.g. the Shareholder’s Rights Directive that restricts use of blocking).

[1] Entity appointed by the Issuer to manage the corporate action, see § “CE players and business relationships”. The Corporate Action Managing Entity can be the Issuer itself, its Agent, the Registrar or the Issuer CSD.

In a nutshell, the Corporate Action Managing Entity is free to use T2S facilities to handle the corporate action, whether to instruct, block positions/securities/accounts, cancel, amend instructions or simply query data. T2S will inform the Corporate Action Managing Entity at each step of settlement processing. The same way it is doing for the settlement of regular trading instructions by providing the relevant sets of statements and reports including the settlement activities generated by the corporate action.

Although the technical settlement of corporate actions is the same as for regular trade, from a processing perspective, corporate actions instructions will receive special treatment, e.g. specific transaction type to identify them, settlement with the highest priority.

The CSD will continue handling specific corporate actions activities like claims, fractions, management of shareholders' rights, etc. If one of these specific activities results in settlement, then the T2S platform will be used to process it.

2 T2S scope in relation to CA

The scope of T2S is securities settlement, which includes pure settlement of trading activities but also the settlement part of other business activities such as corporate actions (CA).

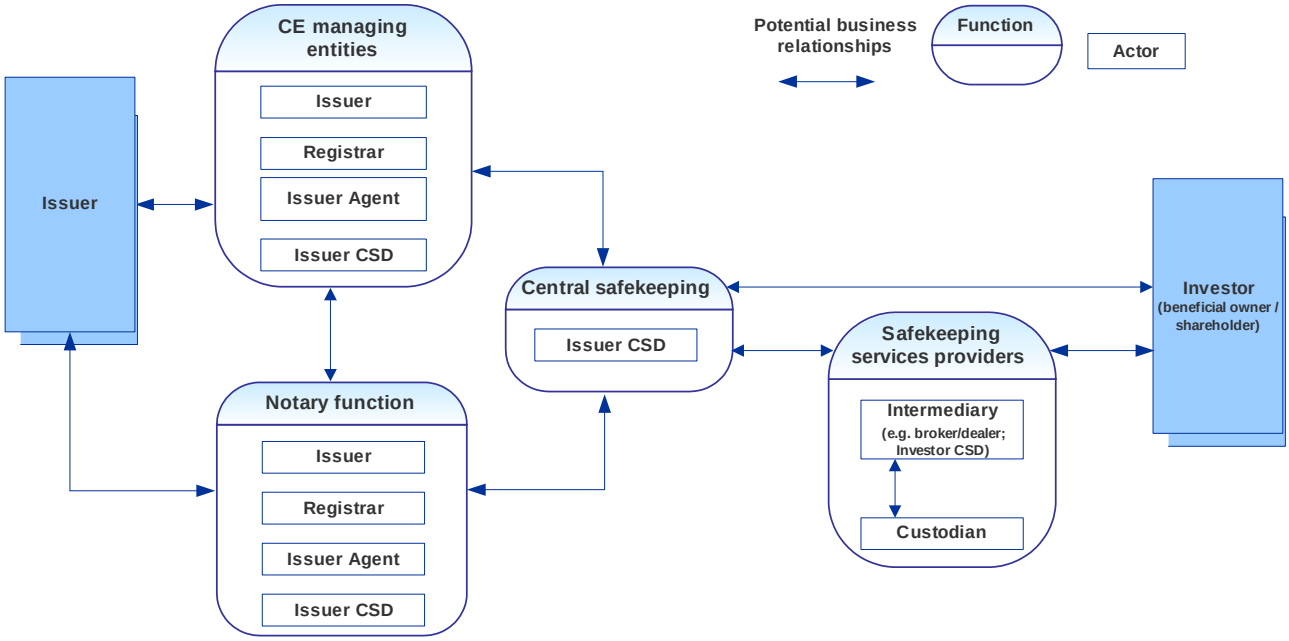
Non-settlement related activities which are part of the CA handling process (like event announcement, entitlement calculation, collection of shareholder's responses, etc) will continue to be undertaken by the CA managing entity making use of standard T2S functionality.

As a consequence, in T2S, there is no CA-specific functionality beyond settlement related services (e.g. T2S will support different transaction type for CA). Its standard life cycle management and settlement functions are sufficient to support the core requirements for settlement related to corporate actions.

3 CA players and business relationships

To understand and analyse the impact of T2S on the current CA environment, the different players, business roles and business relationships have been considered in detail. A classification has been established to ease the analysis and create a common understanding and use a common terminology throughout the annex. The various market organisations that seem very different from one country to another could be summarised in a single generic diagram as shown below.

The current overall picture of players and their potential business relationship, from the issuer to the beneficial owner, is the following:



Definitions and comments:

- The Issuer is either managing the CA through a direct business relationship with the Issuer CSD and the Investor or is using external services (Corporate Action Managing Entity).

- The CA managing entity is the entity appointed by the Issuer to manage the corporate action. The CA managing entity can be the Issuer itself, its Agent, the Registrar or the Issuer CSD. The CA managing entity can have a direct business relationship with the Investor through the Issuer CSD or be in relationship with a safekeeping services provider.

- The Notary function is the term used to designate the function ensured by the entity legally empowered to certify a document's validity and to take depositions (i.e. the one keeping the books of the issuer). In UK market, this function is ensured by a "registrar". The Notary function is decoupled from the CA management function as it might be undertaken by a different player (refer to the possible configurations in next paragraph).

- The central safekeeping function is undertaken by the Issuer CSD.

- Safekeeping services providers are custodians (local/regional/global) and intermediaries (broker/dealer, Investor CSD, etc).

4 Possible configurations in current environment

Several configurations (all of them covered by the previous generic diagram) are possible and the below ones are the most common. The idea of this paragraph is not to list all of them, but to check whether T2S will have any impact and whether these configurations can be maintained as they currently exist, in a T2S world.

The 4 configurations are the following:

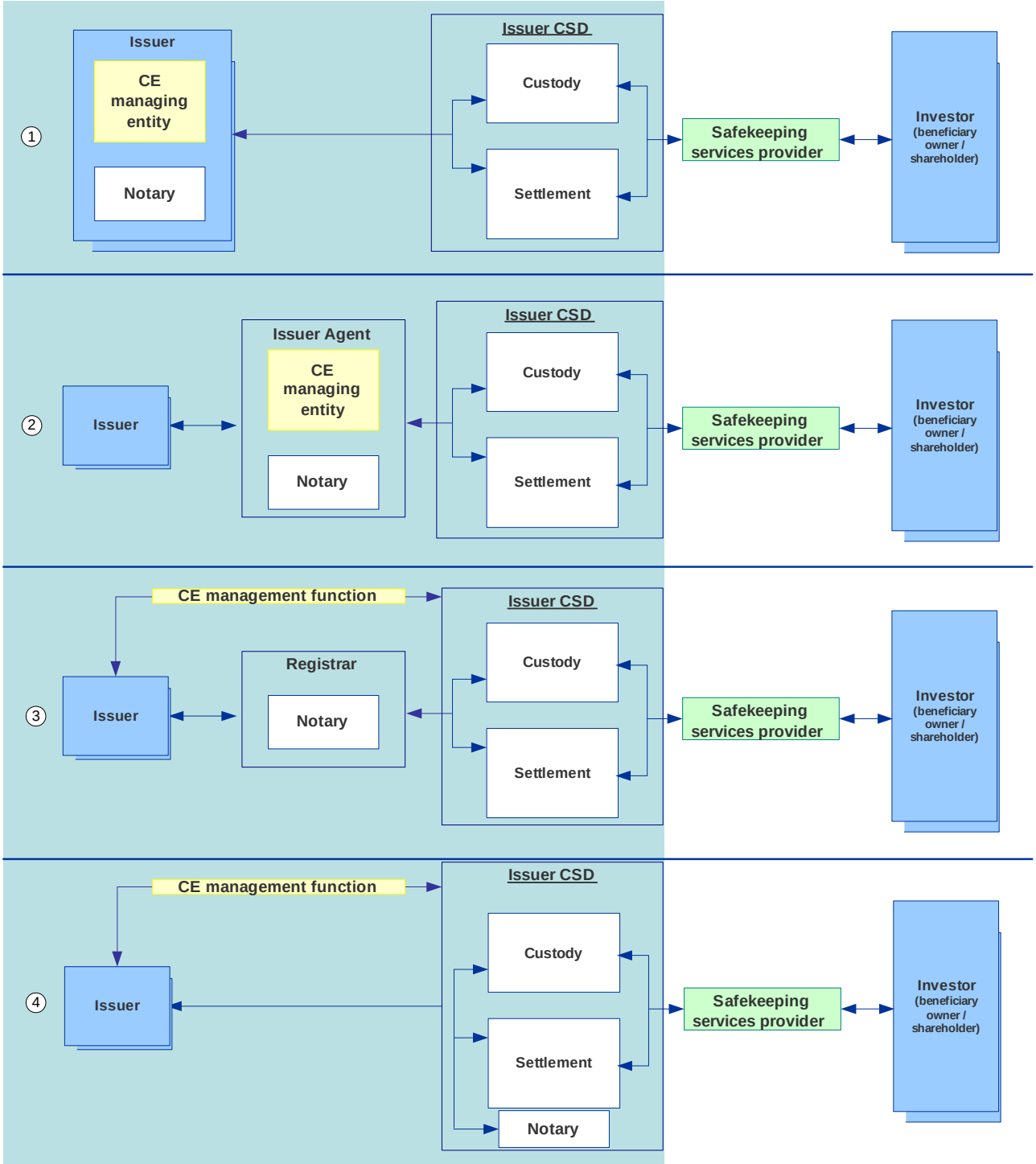
1/ The Issuer is managing the corporate action and ensuring notary function, directly connected with the Issuer CSD.

2/ The Issuer uses an agent who ensures notary function and manages the corporate action, with the Issuer CSD.

3/ The Issuer can appoint a Registrar for the notary function and manage the corporate action himself or uses the services of the Issuer CSD or an Issuer Agent.

4/ The Notary function is ensured by the Issuer CSD and the Issuer either manage the corporate action himself or uses the services of the Issuer CSD or an Issuer Agent.

The aim of T2S as settlement platform is to replace the settlement engine of participating CSDs. As a consequence, T2S is compliant with the 4 configurations and will not impact or prevent them in the future CA environment.

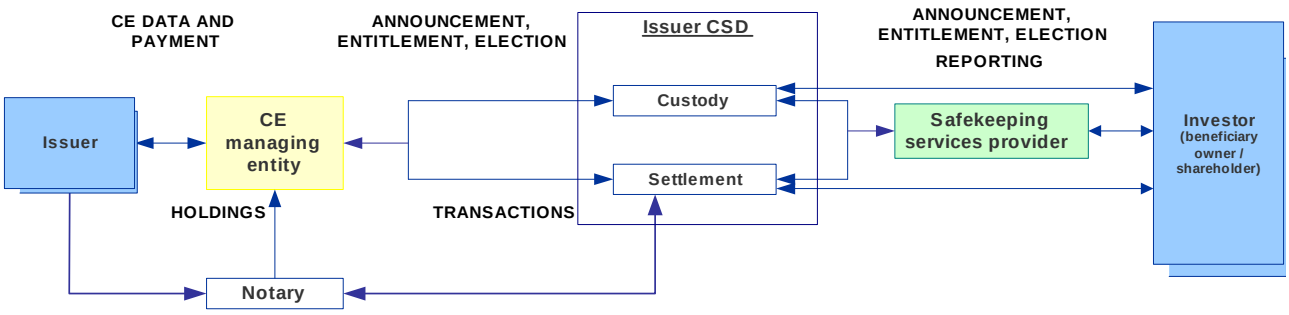


5 Interactions in the context of CA

5.1 Business processes

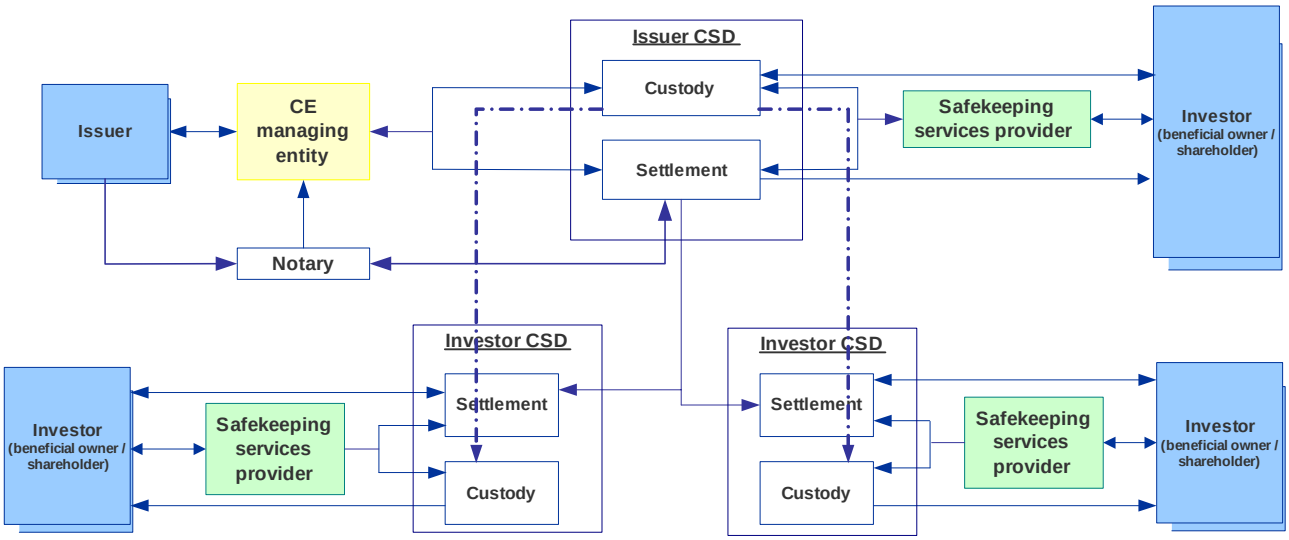
Several players for different technical interactions have been taken into consideration when analysing the CA business processes. The following picture aims at positioning the processes in the chain.

Note: the Issuer CSD can either interact directly with the Investor (e.g. in some direct holding countries) or go through the Safekeeping Services Provider of the Investor.



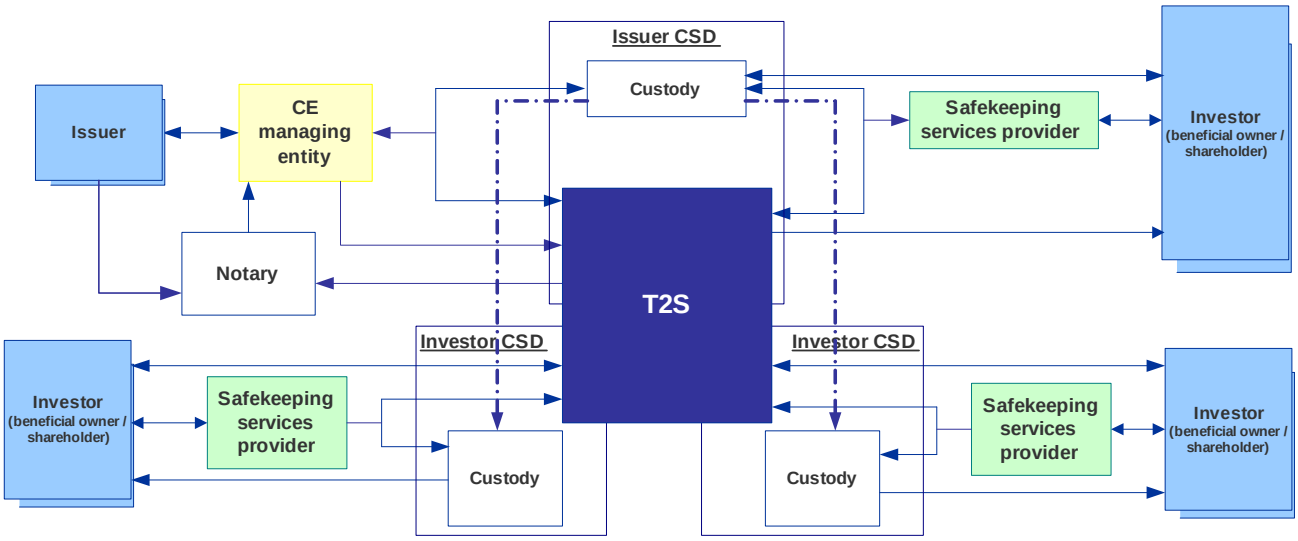
5.2 Cross-markets dimension

Additional players, like Investor CSDs, may be involved; when the CA has a cross-market dimension (e.g. securities are held at Issuer CSD by Investor CSDs on behalf of their own participants/for their local market).



5.3 Positioning T2S

As mentioned previously, the aim of T2S as settlement platform is to replace the settlement engine of participating CSDs. Therefore, T2S does not change the business roles and the nature of technical interactions, it will only centralise proof of holding and settlement (and facilitate CA handling).



6 Cross-markets dimension

The cross-markets dimension is worth being analysed in more detail, as it currently brings complexity and raises issues to be looked at, in the future T2S world.

Indeed, in case of cross-CSD operations, there is a cascade effect (i.e. processing the CA within the Issuer CSD to be reflected within the Investor CSDs) due to the chain of players. It is the same situation as the chain of processing between CSDs, custodians, intermediaries and investors. As a potential consequence, the service level provided by the different players for a same CA might differ.

This cascade effect exists today and comes from a “sequential” processing for some steps, like notification and payment that might create delays in the chain. T2S will not remove the cascade effect: however, the sequential processing can be improved, if CSDs adopt common practices and harmonised processes.

In fact, with T2S, the chain of players will remain but all settlement activities will be centralised in one platform with improved synchronisation. Therefore, T2S will come as an integrated tool for settlement to facilitate cross-markets CA, as illustrated below.

6.1 Scenarios

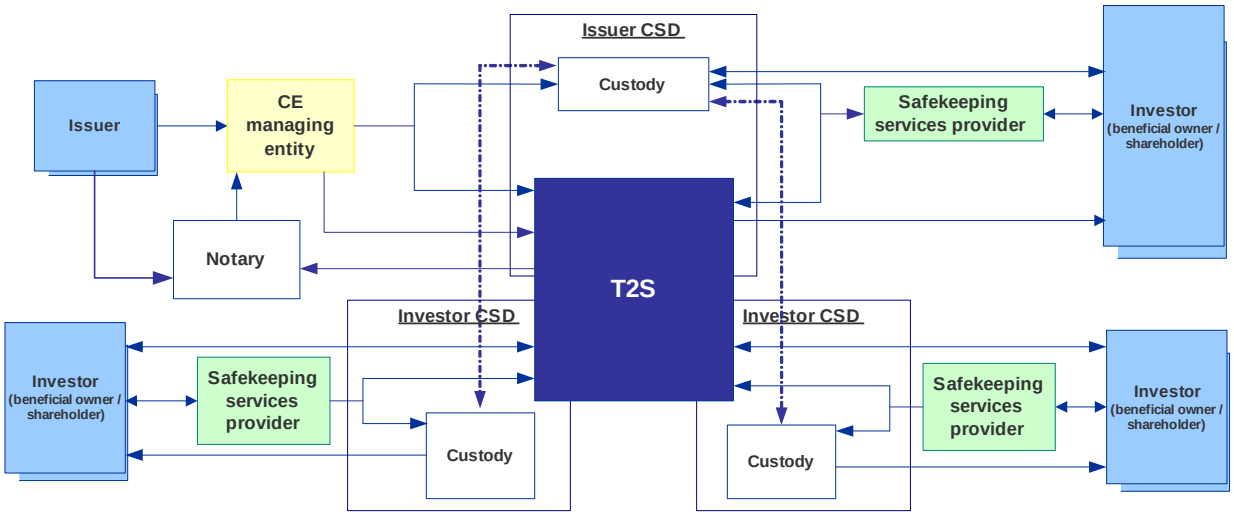
There are 2 main cross-markets CA scenarios with regards to a T2S context:

1/ Cross-CSD scenario: all CSDs are in T2S (Issuer and Investor CSDs) and all settlement activities take place within T2S, as per standard settlement procedure.

In case one of the Investor CSD is outside T2S, re-alignment will take place at its level in coordination with the Issuer CSD.

2/ Issuer CSD is external to T2S. The settlement occurs at Issuer CSD level and is communicated to Investor CSDs, who will instruct T2S.

1



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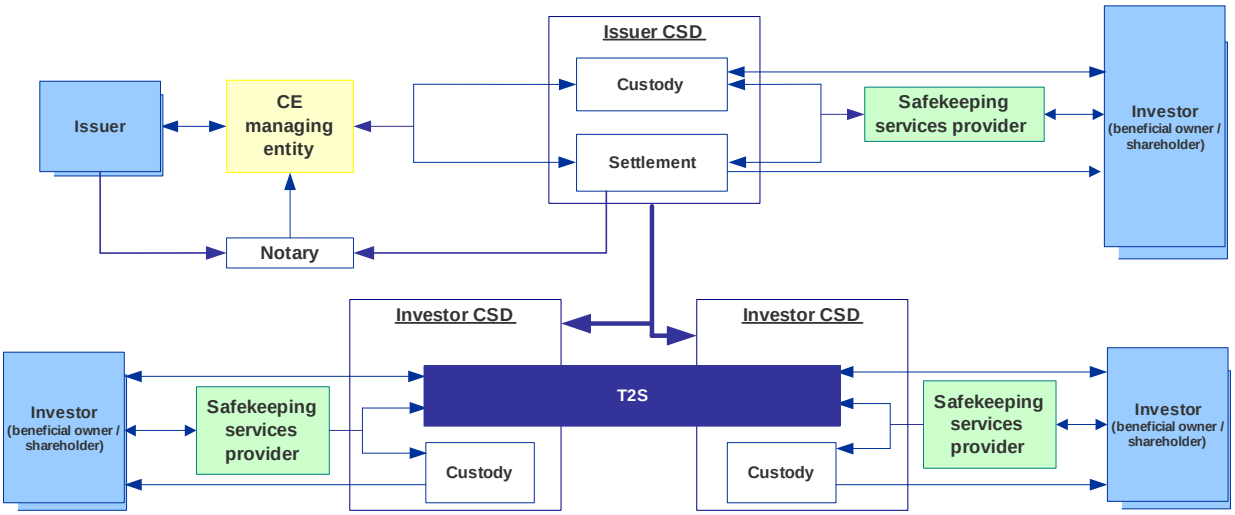
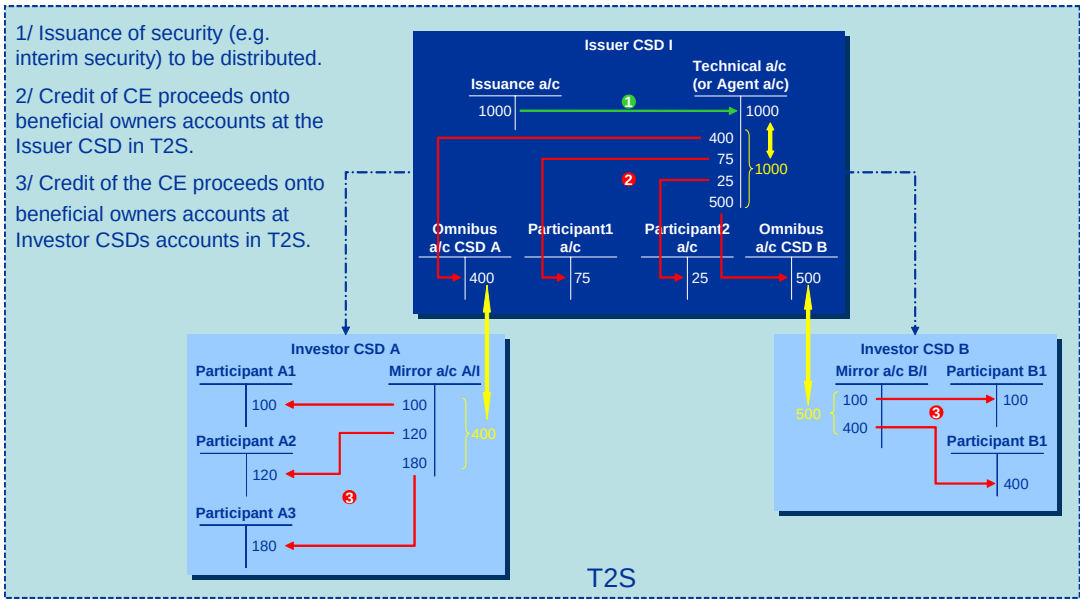


6.2 Cross-CSD CA illustrations

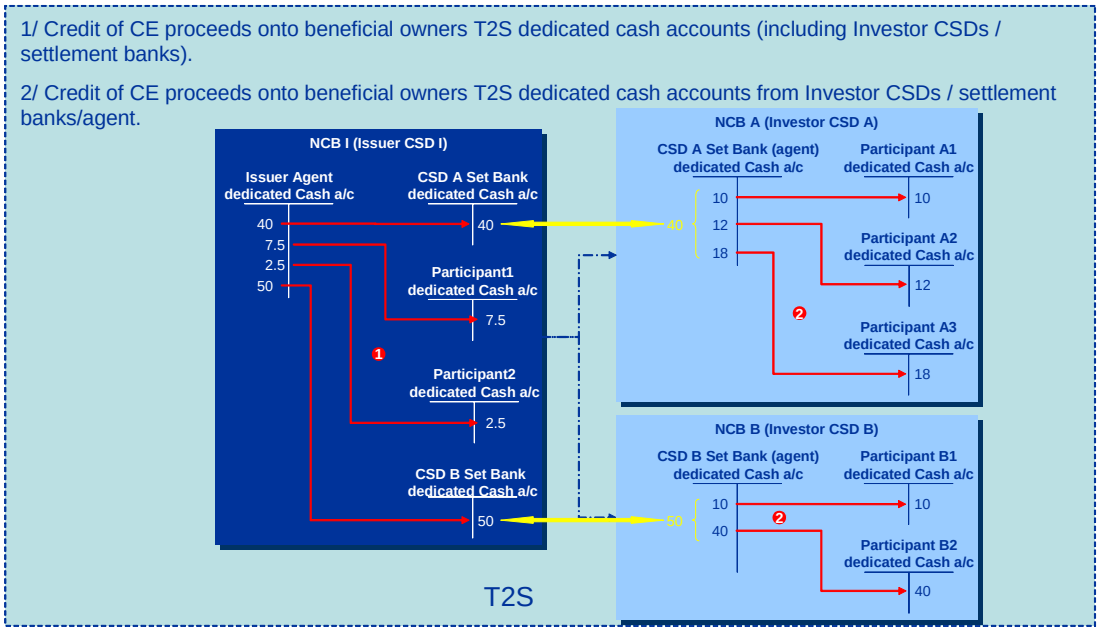
- ***Securities processing and accounting***

The example taken to illustrate the securities processing and accounting of a cross-CSD CA is a securities distribution event (e.g. bonus issue).



- ***Cash processing and accounting***

The example taken to illustrate the securities processing and accounting of a cross-CSD CA is a cash distribution event (e.g. dividend payment).

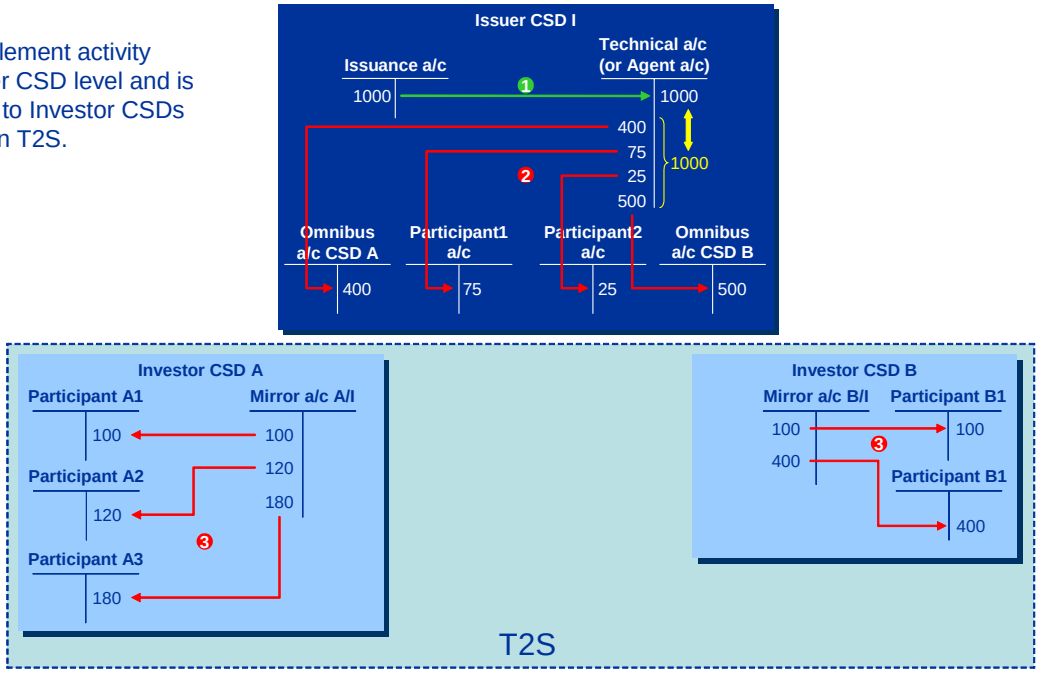


6.3 External Issuer CSD

- *Securities processing and accounting*

Additional details can also be found in Annex 10, as the securities processing and accounting for a CA is the same as any other settlement in T2S when an Issuer CSD is outside T2S.

CE related settlement activity occurs at Issuer CSD level and is communicated to Investor CSDs for settlement in T2S.



7 Business Organisation

The split between custody and settlement has been analysed as well and 3 cases of business organisation appeared.

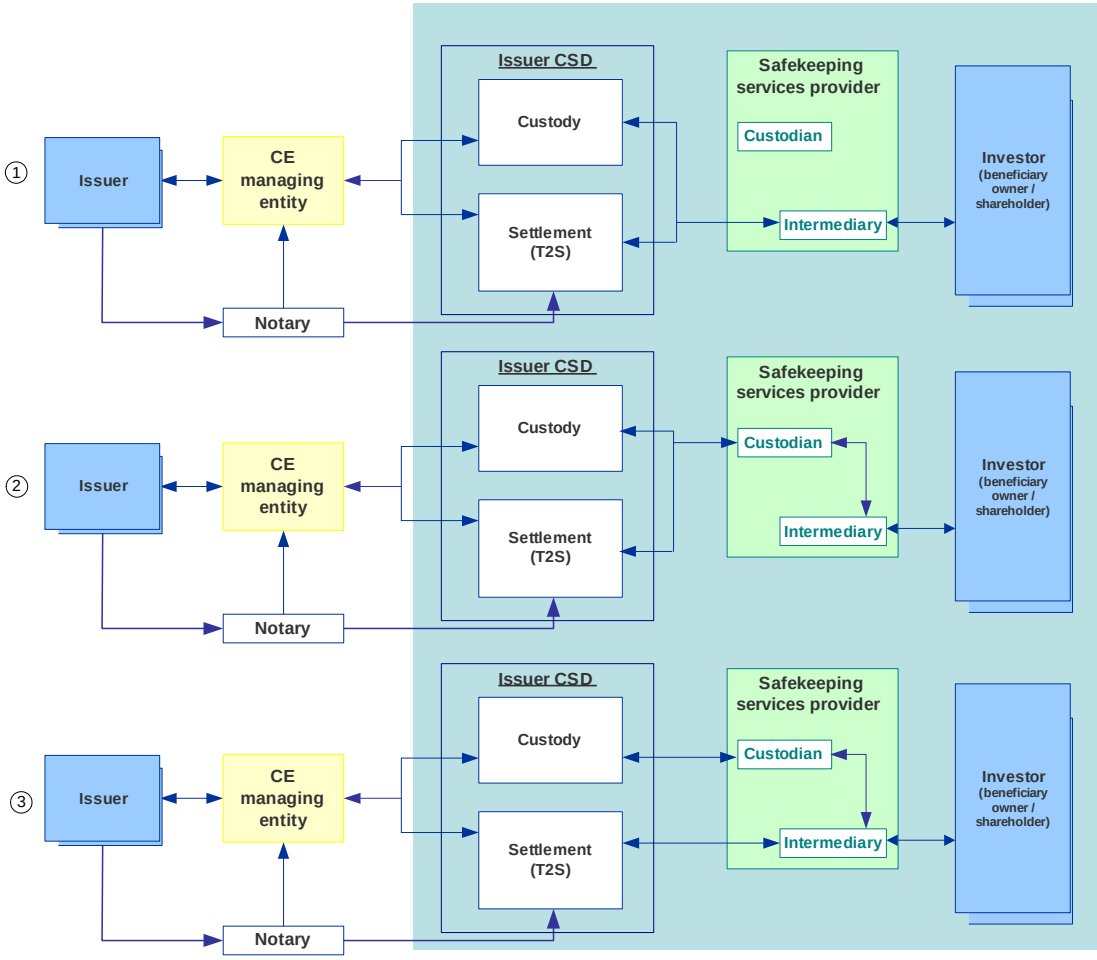
1/ The Intermediary can be in direct relationship with the CSD for both custody and settlement and does not use the services of a Custodian.

2/ The Intermediary can use the services of a Custodian for both custody and settlement.

3/ The Intermediary can be in direct relationship with the CSD for the settlement and uses the services of a Custodian for custody.

In the last case, the split between custody and settlement translates into a split in business relationships.

As shown below, T2S is compliant with the three options and do not impose or prevent any of them.



8 CA in T2S

Without entering into the technical details, which are mainly covered in section 11 of this document, the operational and business risks and opportunities generated by several aspects of CA handling in a T2S environment have been analysed.

8.1 Intraday interactions

Some steps (e.g. collection of CA elections for voluntary CA, intraday balance queries) of the CA process require specific intraday interactions related to settlement activities. T2S will allow these intraday interactions as the platform will be available and accessible throughout the settlement day (except maintenance period in the middle of the night). Also, T2S will provide real-time access to information either in push mode (based on subscription) or in pull mode (based on queries).

Therefore, the T2S Actors will be able to interact at any time with the settlement platform as they do in today environment, as T2S service will fully support intraday interactions, including those related to CA handling.

8.2 T2S service availability

All T2S core functionality, such as validation, queries and settlement, will offer maximum availability within a settlement day, as per chapter 3. This maximum availability will support CA handling, at key dates.

8.3 Connectivity, interface and messages

The direct technical connectivity (as described in Annex 11) can be granted by the relevant CSD (i.e. account operator) to any T2S party in the chain (i.e. whether CA managing entity, Notary function responsible or Safekeeping Services provider).

Each CSD granting this direct technical connectivity is responsible for assessing any risk that might be related to this access (e.g. legal or contractual obligations vis-à-vis the Issuer) and mitigate them in collaboration with the entities receiving this access. Also, when granting this access, the CSD will make sure that the role and rights assigned to the entity receiving it, are compatible with legal and market rules related to CA handling (e.g. only entities allowed to handle the CA on their market and by their regulated and supervisory bodies can do so in T2S).

With direct technical connectivity, T2S interface will be the single entry point for T2S Actors to settlement activities of all T2S connected CSDs.

The messages in the scope of T2S are limited to settlement (equivalent of ISO 15022 MT 54x). CA messages

(equivalent of ISO 15022 MT 56x) are part of CA services managed by the CSD. Subscription service in T2S and SLA with the CSD offer flexibility to the T2S Party for receiving or not messages.

The idea of a T2S communication hub function to channel all types of business communication (including custody related) was raised by some banks. It is not part of the current scope definition of T2S.

8.4 Access rights

All the involved parties could access to T2S through direct connectivity granted by the CSD operating the securities accounts. This direct technical access will allow:

- an issuer or issuer agent to query and to perform settlement-related activities on their own issuance account (held in their name).
- a safekeeping service provider to query and to perform settlement-related activities for securities accounts (end-investor or omnibus accounts).
- a CSD to query and to perform settlement-related activities for all its accounts.

Under the condition of the legal and contractual framework of the CSD and provided the securities holder allows it, the idea was raised of a future T2S service to allow issuers and issuer agents to query (directly) positions across all accounts of a CSD for their issues.

9 Management of CA on flows

This section focuses on market claims and transformations.

T2S provides a “toolkit” (see details in section 10) that will allow directly connected CA managing entities to query pending settlement instruction, amend/cancel them or send new ones.

A single T2S Actor could replicate its current processing and interaction with its CSD or the settlement engine of its CSD by using a combination of T2S tools such as queries and messages.

In case of cross-markets transactions, several aspects must be analysed and harmonised:

- the rules to process (calculation, timing, etc) market claims and transformations;
- the potential need for a re-validation / re-matching on the settlement platform.

Whether in the current cross-border context or in a T2S context, market claims and transformations require further harmonisation. As an example, harmonised timelines for CA (i.e. standard sequence of key dates)

will minimise claims and reduce volumes of market claim transactions and their associated cost. Similarly, harmonised settlement cycles will reduce risks and costs and better protect shareholders in a cross-border context. Market participants and T2S will certainly benefit from harmonised timelines and cycles.

The discussion with market experts has highlighted the need to identify the CSD of the counterpart in order for the participant to know what to expect from the counterpart in regards to transaction management provided by the CSDs in the custody chain (e.g. for the participant to be able to evaluate the counterpart risk). As a consequence and also for other reasons (e.g. facilitate the sending of allegement), in chapter 5, the CSD of the counterpart has been made a mandatory field for settlement instruction.

Further harmonisation of transaction management related to CA is needed to simplify the risk management.

10 Harmonisation

Post-market landscape is rapidly evolving, with many structural changes occurring at the same time (dematerialisation, emerging markets, corporate governance standards, multiple listings, etc). Today, despite an extensive work, the actual segregation of markets does not create strong incentive for harmonisation of CA. The complexity mainly exists at the level of the cross-border transactions and cross-markets CA.

With T2S, markets segregation will be removed and the lack of harmonisation will become apparent and problematic especially for corporate actions on flows (leading to discrepancies in the level of service for a same CA across CSDs). CA processes must be harmonised in order to bring the maximum benefit to the market from T2S, while the incentive for implementing harmonised processes becomes stronger with T2S.

In the T2S governance structure, a large number of market participants and Industry associations is represented and associated to the T2S project. T2S project team has been in close contact with the market during the preparation of the user requirements to foster harmonised functionality and processes for settlement.

Regarding CA harmonisation, the T2S project team will continue to work with the relevant bodies such as ESSF / CAJWG to integrate agreed CA standards. The ECB supports and will continue to support ongoing and upcoming harmonisation efforts, especially in the area of CA.

11 Settlement of CA in T2S

This section is a technical description of T2S standard functionality available to settle CA. It is a set of tools (see also T2S toolkit section 12) that can be used freely by the CA managing entities depending on the type of CA and their needs for processing.

The below set of functionality are technical features only. Their purpose is to provide examples of use of T2S toolkit and not to define a standard for processing of CA. These examples will be updated following the agreed standards of Industry associations when these will be available.

11.1 Generic groups of corporate actions from the settlement point of view

When describing how settlement related to a corporate action is processed in T2S, it is helpful to group the different types of corporate actions according to the settlement activity which they generate.

This grouping is neither standard, nor better than what is used by the market today, but it refers, from the T2S point of view, to the processing of the settlement of corporate actions.

The following groups and the associated processes described below are proposals based on the different roles of CA managing entities within the post-trading chain:

1. No settlement involved, i.e. all corporate actions which do not result in settlement activity. Examples are Ordinary and Extraordinary General Meetings.

2. Securities distributions (FOP), i.e. all corporate actions which result in the distribution of securities. Examples are Bonus Issues, Scrip Dividends, Stock Dividends, Intermediate Securities Distributions, Rights Distributions and Spin-offs.

3. Securities exchanges (DVD), i.e. all corporate actions where securities are exchanged into other securities. Examples are Conversions, Exchanges, Mergers, Redenomination, Stock Splits (depending on the accounting procedure), and Reverse Splits. Corporate actions where the investor exchanges securities against other securities and at the same time pays an associated amount of cash, e.g. at a Subscription, are also included in this group.

4. Cash distributions with securities delivery (DVP), i.e. all corporate actions where securities are redeemed in exchange for cash, i.e. mainly Final Maturity, Drawings, Partial Calls, and Full Calls.

DwP (delivery with payment) and RVP are also included in this group.

5. Cash distributions only, i.e. all corporate actions which result in the distribution of cash only. Examples are Capital Gains, Cash Dividends, Interest Payments and Share Premium Dividends. In case there is a coupon involved in the corporate action, this would fall under the cash distributions with securities delivery category (see above, number 4).

It should be noted that **it is not always possible to assign a corporate** action (especially if consisting of one or more corporate actions) **exclusively to one group.** For some corporate actions, it may consequently be necessary to link together several types of settlement instructions. For example, to handle a new issue, one

could combine groups 2, 3, and 4. Below is a (non-exhaustive) list of the instructions that can be sent by the directly connected CA managing entity to T2S in the five groups of corporate actions identified.

11.2 Corporate actions - generic steps

There are some generic steps for any corporate action regarding the interaction between a directly connected CA managing entity in T2S and T2S. It is not necessary that all steps are included in a particular event and it is not necessary that these steps follow the same order as chosen below:

Activity at the CE managing entity	Interaction with T2S
Collect corporate event information	None
Announce it to holders of the underlying ISIN	Get balances (on record date or any other position capture date)
Calculate the entitlement and notify it	Get balances (on record date or any other position capture date)
Create/issue interim security	Settlement instructions (issuance process)
Collect participants' election instructions (for elective events)	Block instructed balance or transfer instructed interim securities balance to a dedicated/restricted account or balance type
Cancel or amend pending instructions	Instruct cancellations and/or amendments
Process the settlement related to the corporate event	Instruct Settlement Simultaneous blocking
Trigger compensation of market claims	Query (Instructions and balances), Instruct Settlement

From a T2S perspective, the steps may result in a query, a blocking/unblocking of a holding or an ISIN, a cancellation or amendment of a pending instruction or the processing of one or more settlement instructions. The other activities, e.g. announcements to holders, calculation of entitlements, calculation of claims, are performed by the directly connected CA managing entity itself, based on information pulled from T2S (except the CA information itself).

11.3 General settlement requirements

T2S will support the current and future market practices related to CA processing, especially the harmonisation work being handled by ECSDA, ESF and other working groups. As an example, T2S will support the directly connected T2S Actors to process record date driven corporate actions, as well as any other position capture date (e.g. ex-date). More details can be found in chapter 9 (settlement of particular instructions).

Settlement of CA instructions will take place in accordance with the sequencing rules defined in T2S, i.e. in the first or any consecutive night-time sequence for start-of-day CA settlements.

Access rights are configurable in T2S and can be granted by any CSD to any T2S party for a pre-defined use

and with pre-defined rights and restrictions. The direct technical connectivity (and power of attorney) can be granted by the accounts operating CSD to any CA managing entity (i.e. accounts operating CSD can grant access to issuer agent or registrar to T2S securities and cash accounts of beneficiary owners and T2S Static Data).

The directly connected CA managing entity shall send to T2S "already matched" corporate actions settlement instructions in one single instruction (with both legs), as described in chapter 5.

As far as intraday interactions are concerned, CA instructions will be processed through real-time procedures according to their order of arrival in the settlement queue. The directly connected CA managing entity may assign a high priority to the intraday CA settlement instructions to make sure they settle before any other intraday pending instructions. They can also be linked together to ensure an "all-or-none" settlement, and the link can be many-to-many, at the account level (i.e. several instructions for a same participant's account are linked to settle together) or at the CSD level (i.e. several instructions from a given CSD are linked to settle together, although they all refer to different participants' accounts).

There will be a possibility to query settlement instructions, with the search criteria as the cum/ex indicator.

There will also be a possibility to block ISIN/positions. When T2S confirms the blocking, it should send a reference that can be used by the CSD in the unblocking message. Then, CSD would (optionally) use the reference of the blocking received from T2S into the settlement instruction and T2S will automatically unblock the positions before processing the settlement instruction (refer to chapter 9).

The cash accounts used for the settlement of CA should normally be the same as for trading-related settlements, i.e. based on T2S dedicated cash accounts. However, considering the fact that some CA may only involve cash movements, the CA managing entity will have the option to settle these pure cash movements, either on relevant RTGS accounts or on T2S dedicated cash accounts. If the CA managing entity decides to credit in TARGET2, this is transparent for T2S in the sense that T2S cannot control or enforce cash settlement for pure cash CA on the securities settlement platform. However, to be in line with markets standards and practices, it is recommended that pure cash CA are settled into the securities settlement platform, i.e. T2S, to inject liquidity and facilitate settlement of securities instructions.

Message requirements (see detailed flows below) are the same as for regular settlement instructions; T2S will not generate any CA message type (i.e. equivalent of current ISO 15022 MT 564 and MT 566). These messages are part of the CA services package offered by CA managing entities and safekeeping services providers to their clients and do not fall under T2S scope.

However, for CA related settlement messages, two specific requirements will be considered and transmitted to SWIFT (body in charge of developing ISO 20022 settlement and reconciliation messages):

- a specific transaction type (ISO transaction code) is necessary to identify CA related settlement instruction (e.g. for sequencing, query and reporting purposes);
- CA related settlement messages should be flexible enough, as not all fields, usually required to settle trade related transaction, are necessary when instruction is used to settle a CA.

Both requirements are part of chapter 13, Messages and Reports.

As far as Static Data changes are concerned (e.g. ISIN change for a same security, name change for a same security), the CA managing entity will have to update T2S Static Data during the CA handling process. Once the update is confirmed, T2S will automatically reflect (at the level the Interface and the messages/reports/queries) the appropriate Static Data change on the pending instructions. The technical aspects of this process are further described in chapters 13 and 16.

12 T2S toolkit

12.1 T2S settlement functionality

Depending on the type of CA, the CSD ***may*** want to perform *one or more* of the following actions in T2S in connection with such a CA, in an order that might not necessary be the same as the one chosen below:

- Query all holders in the ISIN and their positions;
- If necessary, block the positions for all settlement activities (e.g. trading-related settlements) and assign a status “blocked for corporate action”, in order to freeze the positions.
- If necessary, the ISIN can be blocked as well or in place of single positions. In that case, the blocking of ISIN may take places prior the query for holders and their positions.
- For performance reasons and to minimize costs, it is recommended to block at the ISIN level rather than at the position level. Blocking at ISIN level requires fewer blocking instructions (usually one instruction for the underlying security, sometimes up to three instructions when intermediary securities are involved) than blocking at position level, which will generate higher volumes.
- Alternatively to blocking, it will be possible to transfer the securities (e.g. when an interim security is used to process the CA) to a dedicated/restricted account or balance type, provided this account/balance type exist and have been configured for such purpose in Static Data.
- Generate and send settlement instructions (e.g. FOP, DVP, DVD, PFOD), with the correct entitlement and intended settlement date equal execution date;
- Optionally, link all settlement instructions together so that they settle in an “all-or-none” mode.
- Amend/cancel pending instructions (matched and/or unmatched)
    - Query for pending instructions, with intended settlement date after the record date, in order to cancel or amend them with the result of the corporate action (e.g. merger);
    - Generate and send the amendment or the cancellations of such pending instructions;
    - In case cancelled/amended instructions have been initially sent by a directly connected T2S Party, then T2S will also inform that party, in accordance with the subscription service.

- Manage claims
    - Query for unsettled instructions, with intended settlement date equal to or prior to the record date, in order to calculate any claims;
    - Generate and send settlement instructions to compensate for any claims.
- Unblock the ISIN or the positions (if not done automatically by T2S, see above) to enable settlement.

12.2 Message interface

As explained in above paragraph (General settlement requirements), the set of messages to be used for settlement of CA is the same as for settlement of trade related transactions. The below flows are technical illustrations only. Their purpose is to provide examples of use of T2S toolkit and not to define a standard for processing of CA. These examples will be updated following the agreed standards of Industry associations when these will be available.

The messages, part of these flows, can of course be used freely by T2S Actors, depending on their processing needs. The message flows will not be “imposed” by T2S, which will not perform any control to check whether it is being used or used as described here.

NOTE: the flows are drawn using the example of a CSD interacting with T2S; however, the CSD can be “replaced” by any other CA managing entity, provided it has the appropriate access rights as explained above in this annex.

Corporate Events (CE) User Requirements

Important: Balance queries are usually performed on the underlying security (i.e. security on which the corporate event is announced and that is used as a basis for the entitlement calculation).

As the underlying security is not delivered, no blocking is necessary (e.g. bonus issue, pure cash corporate event).

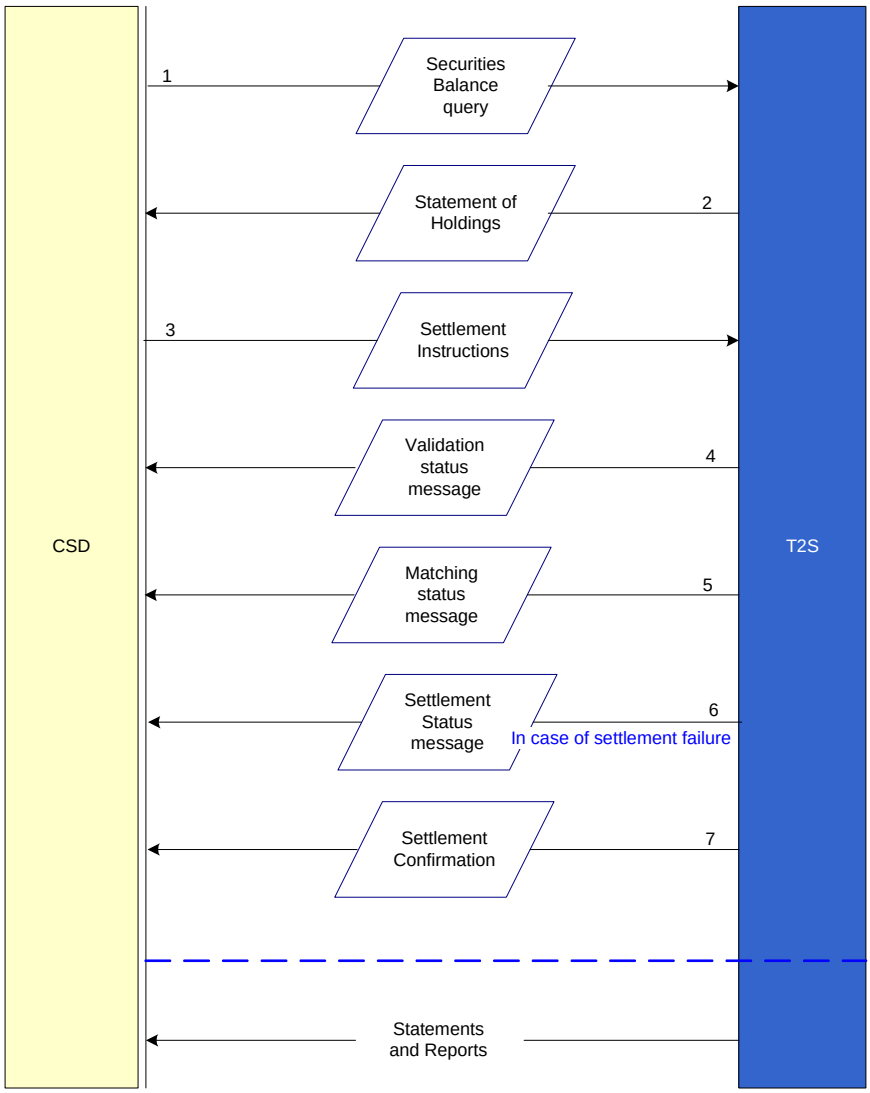
CE_NoDeliveryOfUnderlyingSecurity

Corporate event with no delivery of underlying security (e.g. bonus issue, pure cash corporate event).

In general, messages are being sent on a push mode basis and real-time. Please refer to Interfaces user requirements for additional details.

Message

As per the **Subscription service** described in T2S URD, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



CSD will receive balances every EoD in a dedicated report. The query feature for CA events is in addition to the existing balances report (refer to chapter 13 - Statement of holdings)

The settlement instructions related to the corporate action event will follow the same flows as regular settlement instructions (eg, possible cancellation, validation process, etc.).

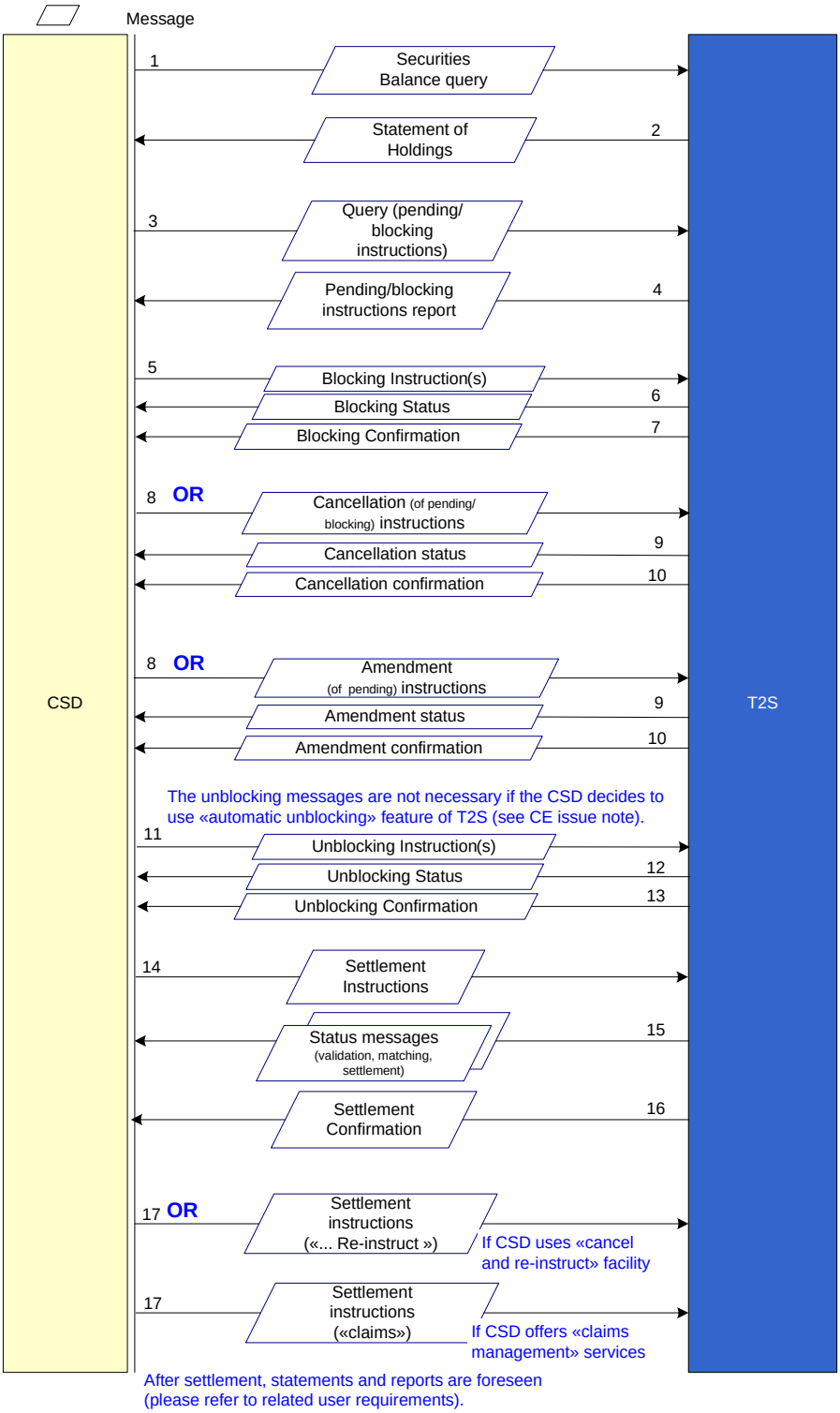
CSD's preference: matching takes place only if CSD wants to match CE related settlement instructions in T2S.

Corporate Events (CE) User Requirements

Important: As the underlying security is delivered, blocking/unblocking is necessary, preferably at the ISIN level. Regarding «unsettled/pending» instructions, CSD can either use «cancel and re-intruct» procedure or amend instructions in T2S or wait for settlement to manage claims.

Mand_CA_DeliveryOfUnderlyingSecurity

Mandatory Corporate event with delivery of underlying security (e.g. final redemption, ISIN change/assimilation). In general, messages are being sent on a push mode basis and real-time. Statements and reports, not represented here, might be sent end-of-day by T2S. Please refer to Interfaces user requirements for additional details.



As per the **Subscription service** described in T2S URD, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.

CSD will receive balances every EoD in a dedicated report. The query feature for CA events is in addition to the existing balances report (refer to chapter 13 - Statement of holdings)

According to ESF/ECSDA standards, CSD can cancel pending instructions to process a corporate event, so the possibility should be provided in T2S. **However, T2S should offer amendment facility that can be used by the CSD whenever appropriate in the context of the corporate event handling.**

In case of pending instructions intiated by a directly connected T2S Parties, T2S should copy the cancellation confirmation or the amendment confirmation messages to the directly connected T2S Party, as part of the subscription service.

The settlement instructions related to the corporate action event will follow the same flows as regular settlement instructions (eg, possible cancellation, validation process, etc.). Please note that the unblocking instruction(s) and the settlement instructions can be linked together, to be processed on an «all-or-none» basis.

Once the corporate event has been settled, the CSD might need to «re-instruct» previously cancelled instructions or send T2S new settlement instructions generated by the claims management activity.

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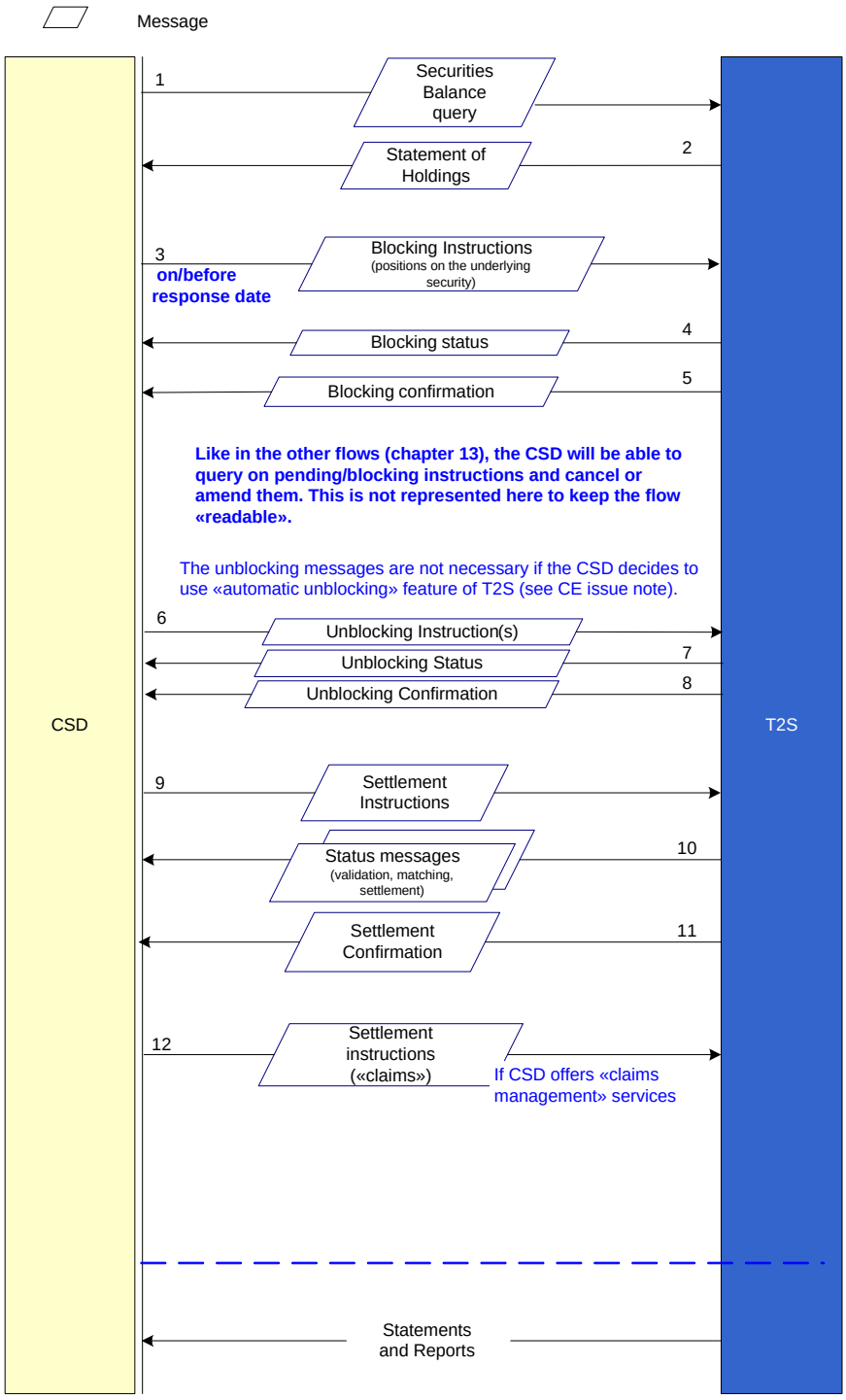
Corporate Events (CE) User Requirements

Important: As the underlying security is delivered, blocking/unblocking is necessary, preferably at the ISIN level. Regarding «unsettled/pending» instructions, CSD can either use «cancel and re-intruct» procedure or amend instructions in T2S or wait for settlement to manage claims.

Vol_CA_DeliveryOfUnderlyingSecurity

Voluntary Corporate event with delivery of underlying security (e.g. exchange offer). In general, messages are being sent using push mode and real-time. Please refer to Interfaces user requirements for additional details.

As per the **Subscription service** described in T2S URD, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



CSD will receive balances every EoD in a dedicated report. The query feature for CA events is in addition to the existing balances report (refer to chapter 13 - Statement of holdings)

Assumption: for voluntary corporate action events, a blocking process should be foreseen, on or before final beneficiary response date.

The settlement instructions related to the corporate action event will follow the same flows as regular settlement instructions (eg, possible cancellation, validation process, etc.). Please note that the unblocking instruction(s) and the settlement instructions can be linked together, to be processed on an «all-or-none» basis.

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USER REQUIREMENTS

ANNEX 13

ISSUE NOTE - INTERACTIONS WITH REGULATED MARKETS AND CCPS

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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1 Introduction

The T2S project intends to contribute to the integration and harmonisation of post-trading activities in European securities markets, where settlement is currently fragmented and non-standardised. So that regulated markets[1] (trading platforms and stock exchanges) and central counterparties (including clearing houses) may benefit from T2S, the user requirements as drafted aim at covering their needs.

These needs have been collected and analysed by various T2S Technical Groups (in some of which some markets and central counterparties were represented). The needs are covered by using the generic T2S offering, as explained below. The standards functionality of T2S, as described throughout the URD chapters, are in line with current market practices and will support further harmonisation of regulated markets and CCPs activities when related to settlement.

2 Actors and Profiles

2.1 Actors

The most relevant type of actor is the T2S Party, defined as a legal entity that has a contractual relationship with a CSD in T2S. This can include stock exchanges and electronic trading platforms, as well as central counterparties. (Refer to Annex 2, T2S Glossary.)

All T2S Parties are entitled to the same set of services in T2S, provided that they have the necessary profile and access rights to benefit from any particular service (refer to Static Data user requirements, chapter 11). The CSD(s) with which a T2S party has a contractual relationship will set up profiles and access rights based on the needs of the T2S party and the service offering of the CSD(s).

2.2 Profiles

Regulated markets and CCPs will wish to consider seeking direct connectivity to T2S, so that they can input instructions directly; or they may choose to input instructions into one or more CSDs, or to undertake no input at all.

[1] As per terminology used in EU Directives such as MiFID.

3 Relationship with T2S

3.1 Accounts

- **Regulated markets**

Currently, regulated markets often do not hold any securities accounts with CSDs or cash account(s) with commercial banks/national central banks. (In most cases regulated markets use the services and accounts of a broker/dealer for buy-in transactions, but these may be processed on CSD accounts held by the regulated markets for such purposes.)

Regulated markets will not need to hold a CSD account in order to instruct directly into T2S on behalf of their own trading participants, provided that a CSD is prepared to offer direct connectivity.

- **CCPs**

Currently, CCPs typically hold securities account(s) with one or several CSDs and cash account(s) with one or several commercial banks or national central banks.

In the T2S world, a CCP will be able to hold securities account(s) with one or more CSD(s), cash accounts with one or several commercial banks or national central banks, and have dedicated access rights to instruct those accounts directly (subject to agreement with each CSD and commercial bank/national central bank).

In line with one of the T2S principles, securities accounts shall remain legally attributed to each CSD, hence it will not be possible to open one technical global account covering more than one CSD.

T2S will make it more possible for a CCP to use one single account held within one single CSD to cover settlement with all participants of all the CSDs linked (directly or indirectly) to that CSD. The cross-CSD settlement will be internal to T2S and will look like domestic settlement.

3.2 Access to the platform, and access rights

- **Regulated markets**

Currently, there are some direct feeds of settlement instructions, representing trades, from regulated markets to CSDs. These instructions may refer to their participants' accounts or to appointed settlement agents' accounts.

If allowed by the CSD operating the securities account, each regulated market can be granted direct technical connectivity to T2S platform, as per requirements described in Chapter 11 and Annex 11.

Regulated markets typically instruct on behalf of their users under a standard contract (granting a "power of

attorney") with each user, and may also be allowed to unilaterally cancel, hold and release, block etc instructions once in the CSD.

Regulated markets will be able to connect directly to T2S in order both to send instructions (with their users' authority) and query on instructions, subject to the permission of a CSD.

They may obtain access rights from a CSD to cancel, amend, hold and release unmatched or matched instructions and any other operation they need to perform, in a unilateral way; again subject in each case to their users granting authority.

Access rights are described in Static Data user requirements (Chapter 16); and connectivity and instructing options are described in Life Cycle Management and Matching user requirements (Chapter 5) and Interfaces user requirements (Chapters 12).

Regulated markets can of course continue to operate as they do today.

- **CCPs**

Currently, CCPs generally act as CSD participants with a direct connection to one or more CSD settlement platforms.

They often act on behalf of their users, and are allowed to unilaterally perform a variety of operations (instruct and query on instructions).

In T2S, CCPs will be able to instruct via a CSD or to connect directly to T2S (provided the CSD responsible for their accounts has authorised direct technical connectivity).

Each CSD granting this direct technical connectivity is responsible for assessing any risk that might be related to this access (e.g. legal obligations) and mitigate them in collaboration with the CCP.

Like regulated markets, they may obtain access rights from a CSD to cancel, amend, hold and release unmatched or matched instructions and any other operation they need to perform, in a unilateral way; again subject in each case to their users granting authority.

Access rights are described in Static Data user requirements (Chapter 16); and connectivity and instructing options are described in Life Cycle Management and Matching user requirements (Chapter 5) and Interfaces user requirements (Chapters 12).

4 Interactions (settlement flows)

4.1 Interface

- **Regulated markets and CCPs**

Regulated markets and CCPs mostly interact with CSDs in an application-to-application mode, with the possibility to interact in a user-to-application (interactive or GUI) mode.

As any other T2S Parties, regulated markets and CCPs will use the standard T2S interface and message types etc for application-to-application traffic, and will have access to user-to-application communication.

4.2 Feed

- **Regulated markets**

Regulated markets generally send matched trades rather than settlement instructions to CSDs (where they send any data at all).

In T2S, regulated markets will only be able to send “already matched” settlement instructions directly to T2S; this means a single message containing both buying and selling legs, and all necessary settlement data. This means that enrichment of instructions will be possible only for business data that is not needed for T2S validation (as described in Chapter 5). Also, amendment of business data after matching is limited to non-matching fields (as described in Chapter 5).

Such “already matched” instructions will not go through T2S matching (they will be treated as a valid case of “matching outside T2S”) but will be checked for eligibility for settlement.

- **CCPs**

CCPs currently typically send matched instructions to CSDs.

CCPs will be able to carry on as before or send (with CSD consent) such instructions directly to T2S. Such instructions will not go through T2S matching (they will be treated as a valid case of “matching outside T2S”) but will be checked for eligibility for settlement.

4.3 Messages and information

- **Regulated markets**

Currently, regulated markets will generally have access to instruction processing status messages, confirmations and some statements/reports like any other instructing party, although they do not own any of the relevant securities accounts with the CSD.

In T2S, and like any directly connected T2S party, regulated markets can receive all necessary processing information related to the instructions they have sent (as can the parties to those instructions, as per access rights and subscription service). They will also be able (subject to consents) to query data (e.g. for reconciliation purposes) related to trades they have sent, as described in Chapter 11.

T2S can also copy the messages to the account owners, if they choose to subscribe to the service.

Further details about messages and flows can be found in Interfaces User Requirements (Chapter 12) and Messages and Reports (Chapter 13).

- **CCPs**

CCPs typically use internal codes and references (such as CCP reference, delivery account ID, trading member ID/broker ID) sent to CSDs and communicated back to settlement parties through messages and reports. In addition, CCPs receive information such as the cut-off time of the settlement day and end-of-day statements of settled, partially settled and cancelled instructions.

If it chooses a direct connection to T2S, a CCP will be entitled to the same service as any CSD/directly connected T2S Party (i.e. instructions input, messages, queries facility, reports etc) where it is the owner of accounts involved in the data. A CCP may not need any more data, unless it is using a settlement agent rather than settling across its own accounts; if it does, it may seek access to further reports as described for regulated markets above.

5 Specific settlement processes

Instructions from regulated markets and CCPs will have top priority for settlement, as they are usually netted and their settlement provide securities and cash liquidity for the settlement of other instructions such as OTC related.

When instructing T2S, regulated markets and CCPs will have to specify the same business data as any other T2S actor, including the accounts of its users and when necessary, the CSD of the counterparts (as described in Chapter 5). T2S does not impose any rule/perform any validation on the potential link between a regulated market or CCP and a CSD.

5.1 Partial settlement

- **Regulated markets**

No specific need identified.

- **CCPs**

Currently, CCPs generally seek to partially settle instructions which cannot be completely settled.

In T2S, this facility will be available to CCPs. The details of partial settlement processing are part of Settlement user requirements (Chapter 9).

5.2 Shaping/splitting

- **Markets**

No specific need identified.

- **CCPs**

Currently, CCPs may be able to shape/split instructions after they entered the settlement system at the CSD.

CCPs will be able to shape/split instructions only before they enter T2S; T2S will not provide shaping or splitting functionality to keep the platform as lean as possible. However, directly connected CCPs will be able to cancel unsettled instructions and replace them by matched instructions of a lower amount in order to facilitate their settlement during the day, on a unilateral basis.

5.3 End-of-day processes

- **Regulated markets**

Any time during the settlement day, there may be a need for regulated markets to implement buy-in procedures. This will remain possible in T2S, whether the buy-in is settled on a broker/agent account or on the regulated market's account held with a CSD.

The T2S schedule (Chapter 3) illustrates slots and deadlines for settlement processing, including start and end-of-day procedures. Buy-in instructions can settle any time during the day and regulated markets can assign a higher priority to these instructions (as described in Chapter 7).

- **CCPs**

Some CCPs currently require the settlement platform to automatically cancel failed instructions at the end of the settlement day.

This requirement can be fulfilled in 2 ways:

- CSDs provide automatic cancellation as an added-value service to CCPs;
- T2S will provide such a service to CCPs, automatically cancelling failed instructions at the end of the day in accordance with each CCP's recycling period, stored in Static Data (see Chapter 16). T2S can report cancelled instructions to CCPs so that they can re-instruct for the next day (e.g. Continuous Net Settlement process).

CCPs often currently receive an end-of-day "marker" from CSDs with detail of settled, failed and cancelled instructions. This need will be covered in T2S by statements/reports and queries, as noted above.

Where CCPs need to implement buy-in procedures, the need will be covered in the same way as for

regulated markets.

5.4 Emergency procedures

- **Regulated markets**

No specific need identified. T2S does not prevent the application of current emergency procedures that exist between a regulated market and a CSD to take action in the event of a participant default.

- **CCPs**

Currently, CCPs may have so-called emergency procedures such as immediate cancellation of pending instructions, and blocking of securities and cash accounts, for risk management purposes.

These procedures can continue so long as CCPs have the necessary access rights, and the intervention is undertaken in accordance with the T2S schedule. However, it will not be possible for CCPs to block securities/cash accounts of a participant using direct connections; they will have to ask the CSD of that participant to undertake such operations (as described in Chapter 11).

6 Reporting and reconciliation

6.1 Reports

- **Regulated markets and CCPs**

Several statement, reports and queries are available for all T2S Parties. The details can be found in Chapters 13 and 14.

6.2 Queries (to cover statistics and reconciliation needs)

- **Markets**

Currently, regulated markets are having reconciliation procedures in place with the CSD (e.g. number of trades sent to CSD/number of trades accepted by CSD). These reconciliation procedures will not be taken on board as such, but T2S will provide several query facilities for reconciliation.

The regulated markets will be able to reconcile internally based on data retrieved using T2S queries, but again only for trades they sent.

Also, there is a strong need to produce statistics. Similarly, the regulated markets will be able to build their

statistics using data retrieved using T2S queries, for trades they sent.

All details of queries are in Chapter 14.

- **CCPs**

No specific need identified.

USER REQUIREMENTS

ANNEX 14

ISSUE NOTE - SETTLEMENT OF DIRECT HOLDINGS IN T2S

T2S Project Team

Reference:	T2S-07-0176
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK
EUROSYSTEM

TABLE OF CONTENT

1. Introduction

The aim of this Annex is to describe how standard T2S core functionality can be used to solve the specific needs of the direct holding markets. The intention is that T2S will not have any extra functionality for these markets (“lean T2S”); instead, this annex describes a set of core features of T2S that some participants might wish to use. However, this does not require that a party to a settlement transaction must use these features or to change their settlement procedures in any way, in case its counterpart uses the direct holding features, e.g. in a cross-CSD settlement transaction.

The outlined solutions are based on today's functionality within the direct holding markets, but one could expect that during the period from now to 2013 harmonisation demands (e.g. due to increased cross-market trading) will most likely affect the respective market practices in converging to a common approach.

A direct holdings system is an arrangement for registering ownership of securities whereby each final investor in the security is registered by a single body, which can be the issuer itself, a CSD or a registry. In some countries the direct holding system is mandatory by law; in some others it is optional or a mix could be present, e.g. the direct holdings system is mandatory for the holdings of domestic citizens but not for those of foreigners’.

The on-going market harmonisations initiatives like MiFID and the Code-of-Conduct aim at granting the end-investor to use any intermediary for trading independent of the location of his or her securities account. It is typical of direct holding systems to make a functional separation between clearing parties and account operators, which maintain securities accounts. This allows real competition both between trading platforms and between participants within the settlement function. Thus, T2S should support this development.

In an indirect holding regime brokers/custodians will split exchange trades into various client transactions in its internal accounting systems and the legal transfer of securities takes place at that stage. This is not possible in a direct holding regime as broker's internal systems may not have legal validity for settlement purposes. Therefore, direct holding requires the central settlement system (T2S) to operate on a granular level. Exchange trades will need to be split into numerous settlement entries at the booking stage.

1.1 Direct holdings in T2S

There are two main alternative ways in which the Direct Holding CSDs may use T2S: either the full integration of accounts in T2S, or a "layered" model with participant accounts in T2S and the end-investor accounts in the local CSD system. This Annex is only dealing with the first option, full integration of accounts in T2S.

The second option with the layered model may seem efficient as a migration step or as a way to keep national specificities out of T2S adhering thus to the lean T2S concept. Also with regard to the layered model, it is to be understood that any settlement of transfer orders in the technical environment of T2S is subject to finality protection, whether or not such settlement is conditional upon a second record in a local system. The Legal Assessment prepared by the T2S legal team and reviewed by the Legal Committee of the

ESCB (published on 21 May 2008) concludes that transfer orders processed in T2S acquire adequate protection under the Settlement Finality Directive based on the rules of the individual CSDs (adapted as appropriate to the harmonised T2S framework) with legal certainty as to the completion of the legal transfer resulting from the transfer order finality on both legs of the transaction (also in the case of a cross-CSD transaction) and the standardised simultaneous settlement in T2S on the accounts of the CSD/CSDs involved. In general, if a condition exists, the T2S feature of Conditional Securities Delivery (CoSD) should be used. In order not to make the transfer in T2S conditional, a CSD that opts for the layered model may proceed in blocking securities in the local CSD system (in practice acceptance/readiness by participants for settlement automatically blocks the available securities at a beneficiary account level in the CSD system) and creating a settlement instruction that is forwarded in T2S along with other settlement instructions. In order to allow direct connectivity the CSD would have to define in the static data the conditions/status set to instructions that are sent directly to T2S, so that blocking of securities (upon availability of stocks in the beneficiary account level) precedes settlement within T2S. This can be dealt by the CSD upon receipt of information regarding the introduction of a new settlement instruction through direct connectivity.

As a third way of solving the conditionality, an update in the CSD system, independent of the T2S transfer, may be used, but it may introduce risk on the participants. In the indirect holding countries the same problem is solved by the participants taking on the risks for any mistakes and the legal framework is covering this risk. In the direct holding countries, the legal framework is maybe not fit to introduce this indirect holding look-a-like structure.

2. Current direct holdings settlement models

There are three main characteristics that define a settlement model: securities and cash account structures (and the nature of the rights arising from the recordings on the accounts), roles of involved parties and the booking procedure.

Direct holding systems may maintain two types of securities accounts in a CSD. We call them generically:

- *Safekeeping accounts* that are opened in the name of end-investors and to which the proprietary rights with legal effects are registered, and
- *Clearing/commission accounts* that refer to securities accounts opened in the name of brokers/custodians for the purposes of settlement of trades in securities and in which securities belonging to one or several end-investors can be held.

The latter may only be allowed in specific cases.

There are different models prevailing in Europe regarding how to perform the settlement of transfers of direct holdings. However, there are some common features, e.g. that an end-investor has to assign one or many account operator(s) of its account(s) in the CSD. The account operator can be any CSD participant that has the right to operate direct holding accounts, including the CSD itself. The account operator is responsible for the maintenance of the account and the administration of any updates regarding the holdings on the account, although they are technically executed in the CSD.

Another common feature of the direct holding systems is that they will need to handle various authorisations relevant to (end-investor securities) safekeeping accounts. That is, the systems need to let other participants than the trading parties manage parts of the settlement of the trade as well as letting the trading parties sometimes manage the bookings on the safekeeping accounts. This is typically handled via power of attorneys, proxies or other means of authorisation.

This paper describes three settlement models currently used, which we hereafter call them intermediary model (section 2.1), direct account model (section 2.2) and multilateral model (section 2.3) and outlines possible scenarios to align the direct holding systems and T2S.

2.1 Intermediary model

This model is typically used in Ireland and the Scandinavian countries (Denmark, Norway and Sweden), in each country applied in slightly different ways (e.g. whether netting is applied on the cash side or whether different optimisation models apply). For a stock exchange trade one or both sides of the trade can be made up of more than one client order. The holdings of those clients could either be represented on directly held safekeeping accounts or on nominee/omnibus safekeeping accounts.

Trades performed on the stock exchange are either transferred directly from the exchange to the CSD system or via the participants' back-office systems for allocations. It is not necessary to explicitly mention the clearing account to be used for each transaction, typically the CSDs offer standing settlement instruction data for the clearing participants.

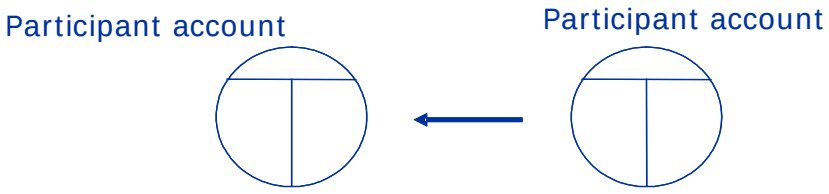
Any custody chain (i.e. when the account operator of the end-investor is not the same as the account operator of the broker) is typically settled DVP as an OTC trade, either linked to or independent from the settlement of the trade.

After the CSD has carried out a provisioning check, that is, a check to confirm that the clearing members and/or the end-investors have delivery or payment capacity, the settlement is performed in either one or both of the following two steps:

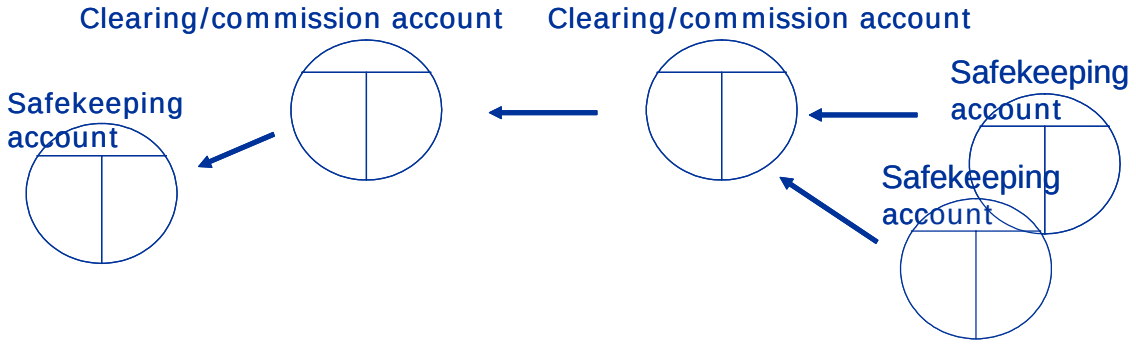
1. The trade is settled between the brokers'/clearing participants' clearing accounts, DVP
2. The allocation of the trades to/from the end-investors is settled in a second, independent, step between the clearing participants and their clients, typically FOP, but DVP also possible

2.1.1 The trade is settled between the brokers'/clearing participants' accounts, step 1 only

A trade between two participants is settled similar to the settlement of trades in an omnibus or indirect holding account system. Each party enters his part of the trade:



2.1.2 The trade is settled both between the brokers'/clearing participants' accounts and the end-investor accounts, step 1 and 2

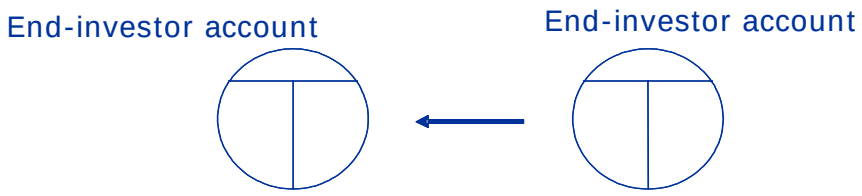


The provisioning on the clearing accounts are dependent on deliveries from the safekeeping accounts, the intention is that the clearing accounts have a zero balance at the end of the day, but there is not guarantee that that is the case. Any residuals at the end of the day on those accounts may in some CSDs be treated as "mismatches" and be transferred to other accounts for further investigation. A reason for such mismatch could be that the provisioning from the end-investor account was successfully settled to the clearing account, but not the delivery to the counterparty broker because of lack of cash on the buyer side.

If transactions are linked to each other, delivery and payment will only take place if all the linked deliveries and payments can be executed.

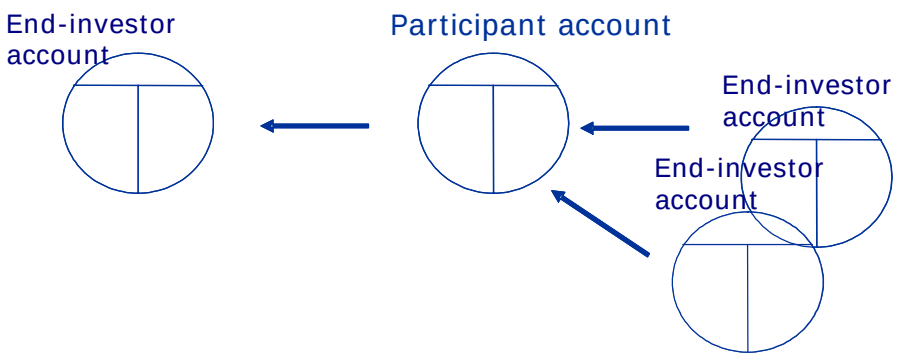
2.1.3 The trade is settled between the end-investor accounts, step 2 only

The intermediary model can also be used to settle directly between end-investor accounts. It is however, from a transactional point of view not different from the situation where two participants are trading. In case of a DVP between the two end-investors their account operators (or other authorised T2S parties) have to instruct the securities movement and to arrange for the cash to settle on the proper cash accounts in the settlement system.



2.1.4 The trade is settled between the end-investor accounts via a brokers'/clearing participants' account, mix of step 1 and 2

Even a fourth scenario exists where it is possible for a CSD participant to enter a DVP transaction with an end-investor he previously has no relations with. If e.g. the CSD participant acts as an account operator for the sellers it may not necessarily be that of the buyer. Depending on the rights of the CSD participant it may be eligible to instruct the credit into the buyers end-investor account (in case of a DVP subject to the delivery of cash from the buyer's CSD participant/paying agent):

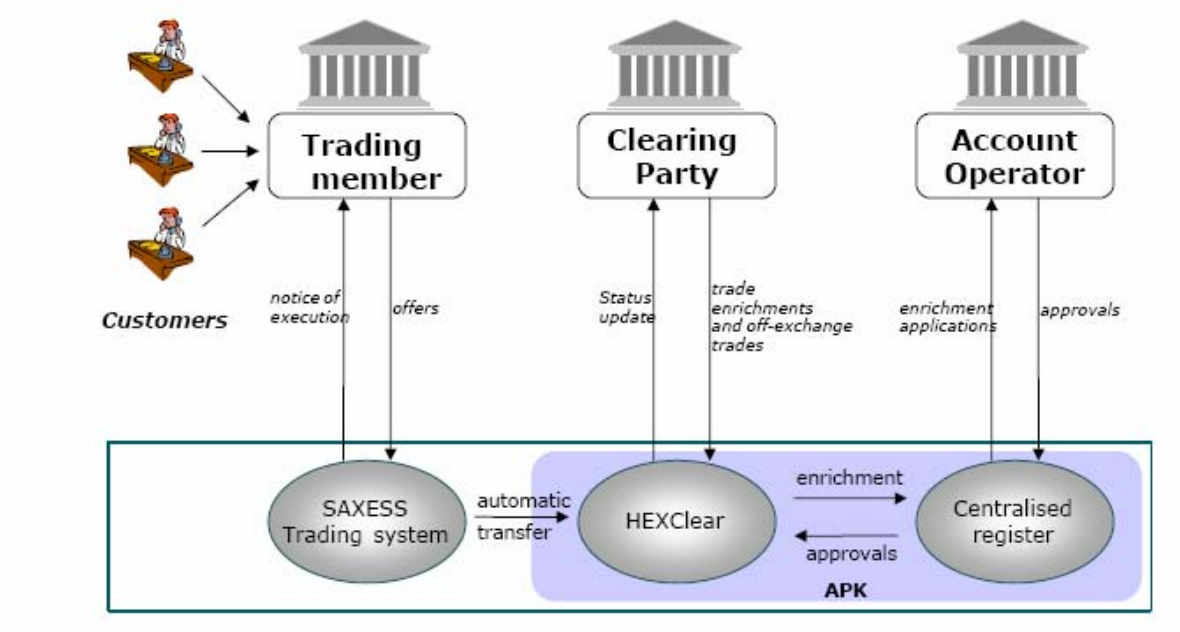


2.2 Direct account model

This model, which is used e.g. in Finland and as variants in Estonia and Slovenia, is characterised by a direct booking of securities between investor safekeeping accounts constituting an end-to-end DVP (although the cash leg is executed on broker's cash account in the CSD). As in the intermediary model, for a stock exchange trade one or both sides of the trade can be made up of more than one client order. The holdings of those clients must be represented on directly held safekeeping accounts. An exemption can be made for securities owned by a foreign individual, corporation or foundation, which may be entered in a special book-entry account (custodial nominee account) administered by a custodial account holder on behalf of a beneficial owner.

In Finland, information on trades is automatically picked up from the trading system by the Finnish CSD's (APK) clearing and settlement system (HEXClear), to which all clearing parties are connected.

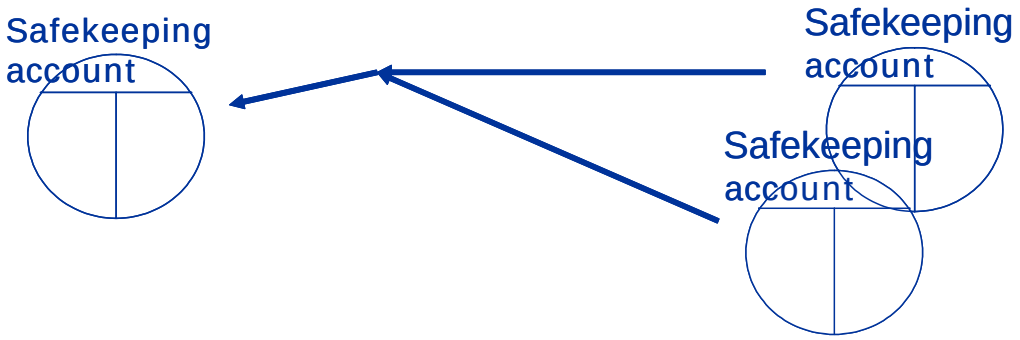
When transactions have been transferred to APK, clearing parties will enter allocations for these transactions. These "enrichments" allocate the account(s) where the securities are held and from where the transaction will be settled as well as to which account(s) they will be transferred. All the book-entry accounts are located in APK's Centralised Register and account operators authorised by APK operate the accounts. The settlement system communicates between Centralised Register and account operators' systems and provides information to clearing parties.



Before the settlement system sends allocations on to the Centralised Register, the system will check that the total quantity of the book-entry security in the allocations does add up to (and not exceeds) the quantity in the settlement transaction, and among other things checks that the book-entry account number and business IDs are formally correct.

The Centralised Register receives the allocations from HEXClear and sends an allocation notification about the allocations or allocation applications to the account operator of the book-entry account mentioned in the allocations. The latter is in case of that the broker is not also the account operator of the account(s) in the allocation or does not have a standing proxy to access the account(s) of the account operator. In that case the account operator must approve the allocation before it takes effect.

During the process, APK reconciles the book-entry registrations with the clearing transactions before final settlement



The settlement takes place directly between the sellers' and the buyers' securities accounts, in a sort of "mini" multilateral settlement for each trade, i.e. a single debit or credit does not have to match with a corresponding credit or debit, instead it is checked that all debits equal all credits for a certain trade and that there is enough provisioning for all securities and cash bookings, before the settlement of that trade can be executed. Cash is settled instruction by instruction between the brokers' payment agents constituting BIS

Model 1. In real terms, cash bookings on payment agent accounts create a netting effect in this model if the same payment agent is used for both sides or when optimisation mechanisms are applied.

The Estonian CSD (ECSD) applies BIS Model 3 for stock exchange trades settlement (i.e. net cash on trading member/account operator level and net securities on securities account level). In Estonia allocations for stock exchange trades can only be done by trading members, while confirmations before settlement can be done either by trading members or account operators. Trading members may confirm only the buy side, thereby taking the responsibility to provide cash; account operators can confirm both the buy and the sell side (responsibility for sufficient number of securities or cash).

In Slovenia, the settlement instructions are enriched with settlement member (participant) codes and account numbers based on the setup in the settlement data at the Slovenian CSD (KDD). In addition, the Slovenian market has another allocation type, which is used for settlement of trades of fund management companies and trustee banks. This type of allocation is called registry codes, which link securities accounts between two KDD members in order to automatically route settlement instructions execution from trading member to settlement and/or clearing member. The routing information is managed and stored in the KDD registry system.
For stock exchange trades KDD currently use BIS 2 settlement model (net cash, gross securities). On T+0 when KDD receives trade report from Stock Exchange which includes settlement instructions, KDD calculates net positions for cash and identifies possible fails due to lack of securities or lack of final account allocations. If cash obligations exceed certain level, KDD member is obliged to pay portion of its obligations on T+1 before next trading day. This amount is called liquidity reserve and is calculated on T+0. Before T+2 KDD freezes securities on sellers' accounts in order to guarantee settlement on T+2.

2.3 Multilateral model

This model is typically used in Greece[1] and Cyprus. As in the other models, for a stock exchange trade one or both sides of the trade can be made up of more than one client order. The holdings of those clients must be represented on directly held safekeeping accounts.
In the DVP settlement cash moves between the clearing participants and the securities are debited/credited the end-investors directly:

- Gross settlement of securities at investor accounts/sub-accounts level
- Net settlement of cash amounts at participant level

[1] All references to the direct holding settlement models applicable in Greece are only pertinent to the Greek CSD for equities and not to the CSD for bonds (i.e. the Bank of Greece), where the direct holding structure and the described model(s) are not relevant.

Also in the Greek and Cypriot system it is possible to perform instruction allocation (securities account data). The allocation process links the settlement instruction received from the stock exchange to an investor securities account/sub-account for:

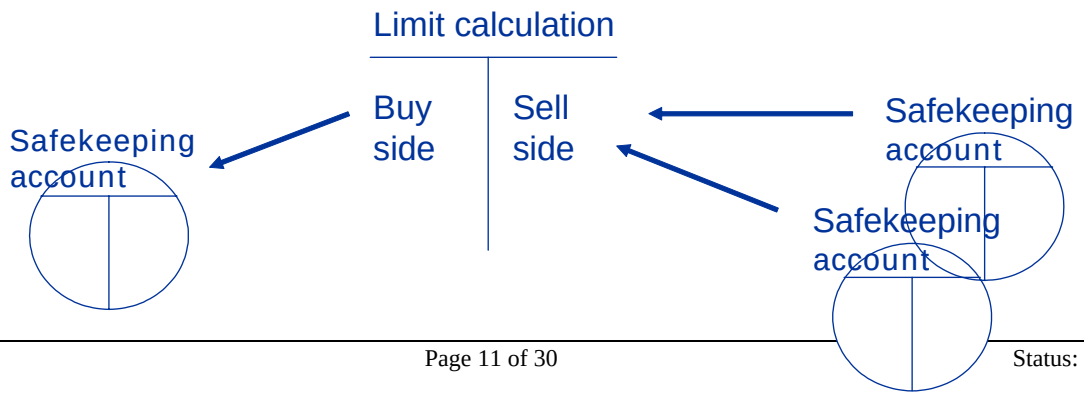
- The crediting of securities bought
- The debiting of securities sold

Procedures exist to automatically link the instruction to an investor's securities account/sub-account based on the investor ID present in the trade data from the stock exchange.
Currently in the Cypriot CSD when a participant specifies the end investor details for a sell transaction, securities are blocked until settlement. If the investor does not have enough available securities the participant can not specify the investor account for settlement. This is the case for bilateral and multilateral transactions.
In both Greece and Cyprus, the settlement process is carried out during a number of batches during the day and consists of the following steps:

- 2 limits are calculated for each participant:
    - Coverage Limit (CL) = value of securities to be delivered (sale side) + net cash deposit (NCD) (if value of buys–value of sales>0)
    - Settlement limit (SL) = value of securities to be received (buy side)

Participant settlement sequence is determined by the highest net cash deposit or the highest coverage limit. Between participants of the same priority, the settlement algorithm assigns the priority randomly. Parallel processing of more than one participant is possible.

- Per participant, buy trades are prioritized based on volume. Intraday buys take priority over other trades and are sequenced randomly.
- Sales are prioritized in a way that the amount of the sale approximates the amount of buy trade to settle.
- During each settlement batch, if the SL of the participant is sufficient and is not greater than the CL, the buy is settled against the next sale in line. In case that the amount of securities is not sufficient the buy is settled partially and the residual is settled with the next sale in line. The process stops when the SL limit of the participant is reached.
- All settlements done so far within the batch become final and irrevocable.
- Securities transfers are directly affected from/to the securities accounts of the seller/buyer without the intervention of any transitory technical accounts.



In Greece and Cyprus, it may not be possible to map an account in T2S directly to one account in the CSDs, because the T2S accounts are merely information around positions and their availability for settlement. For example in the Greek case a T2S account would map to the sub-accounts administered by the account operators. In order to get the “Securities account” view or the “Investor account” view, the Greek market would need to query for aggregated information.

3. T2S accounting and settlement process

T2S aims at providing settlement rules and procedures common to all participating CSDs (according to Principle 17). Principle 5 says that “The T2S settlement service will allow CSDs to offer their participants at least the same level of settlement functionality and coverage of assets in a harmonised way”. In addition, Principle 6 states that “Securities account balances shall only be changed in T2S”. Put together, these three principles imply that T2S should offer the capability for the CSDs and their participants to manage settlement on their accounts, whether they are representing end-investor holdings or not. The procedures for the settlement should be common, meaning that while avoiding any national specificity to be introduced and maintained the participating CSDs should strive for a harmonisation at current levels of sophistication.

Direct holdings in T2S are the registration of the ownership on end-investor level on the T2S accounts. However, it is important to note that the securities account structure in T2S is for the purpose of settlement. The CSDs in direct holding markets need to store additional information about the accounts (e.g. tax statuses) and the account holders (e.g. names, addresses, information on joint holders), in order to comply with their roles as central registers. It should be possible to have this additional information without mirroring the T2S account holdings themselves. To avoid the splitting of the account information, T2S shall allow for, in addition to the settlement related data, a certain number of free format fields to be attached to the T2S securities accounts. The interpretation of the content of these fields will have to be defined by each CSD making use of one or more of the fields. The fields available for the CSDs own configuration may be of type integer, code, decimal, etc and will be validated by T2S accordingly. However, T2S will not be able to cross-validate any information in those fields against other fields. See further section 16.8.11 in chapter 16. This means that a participant opening an account with a CSD, which makes use of such free format fields, has to inform itself of the use and interpretation of those fields.

3.1 Requirements on T2S

Currently the requirements on T2S, as published in T2S User Requirements, are in line with the need of the direct holdings systems, at least as regarding the possibilities to represent end-investor holdings as such on T2S accounts and the possibility to perform settlement on those accounts.

However, the requirements state that all instructions shall be complete when entering T2S. T2S will not provide any kind of enrichment (i.e. the automatic process of adding information to incomplete instructions). Allocation of securities to accounts shall be done before the instructions are introduced in T2S. If the accounts originally submitted to T2S are only provisional, the allocations may take place as amendments of securities account information or as cancellations followed by re-instructions. This would partly be aligned with the direct holding models, e.g. the intermediary model, but the other two models may be slightly different, since they are assuming that the participants may add the account information after the instructions have been introduced in the settlement system, without any amendment or cancellation procedures.

T2S shall offer the possibility to store and to retrieve information received from the T2S Actors. This includes non-settlement related information. This information should be retrievable according to access rights. As an example, CSDs will be able to retrieve tax data from instructions sent by their participants directly connected to T2S.

Another main requirement on T2S is that all settlement transactions should be balanced, i.e. any debit should have a corresponding credit. This would be aligned with e.g. the intermediary model, but not with the Greece and Cyprus multilateral model, since the latter are settling the debits and credits independently as long as the total in a batch is balanced. The Finnish direct account model is based on the assumption that the value and the number of securities on both sides of the trade add up but the number of safekeeping accounts on which bookings are made may not always be the same on both sides. In a figurative sense, each trade is settled on a “mini” multilateral basis without any intermediary steps.

In a direct holding regime also corporate actions need to be booked on accounts maintained in T2S. The settlement engine will have to be capable of booking, without delay, corporate action instructions such as share swaps and splits, which in a direct holding regime could be quite extensive. One should also be prepared to the fact that a large peak capacity is required for their processing as they may be linked transactions (all-or-none). In summary, the outsourcing of accounts to T2S shall not have the consequence that the ordinary handling of a large number of corporate actions is made inefficient.

The calculation of corporate action entitlements is either based on holdings as of trade date or a certain record date. For both scenarios the CSDs have to be able to retrieve information from T2S, in order to perform the necessary calculations.

In the direct holding countries, the processing of corporate actions typically also includes the calculation on any taxes on income. Since T2S does not provide the functionality for tax calculation, this has to be performed by the CSDs, before sending the settlement instructions of the corporate actions to T2S. The CSDs could use the information stored on the accounts, including any customised content in the free format fields, as the necessary information for such processing.

Regarding the authorisation processes in T2S the current requirements say that authentication and authorisation processes are to be implemented to ensure that access to applications, functions and data in T2S is limited to individuals and processes, which explicitly have been granted the necessary permissions and approvals. The assignment of roles and privileges in T2S define the functions and services to which an

individual user with that role is allowed or denied access. In addition it should be possible to restrict the access of the individual user to the static and transactional data pertaining to the individual user's T2S party. For example, if the T2S party is a participant of a T2S-connected CSD, then an assignment will e.g. restrict access of the individual user to the static and transactional data of the individual user's entity. Access to specific types of data for this individual user can further be restricted through the use of roles and privilege classes, e.g. read-only roles or roles allowed to update data. The access can even be limited to certain accounts of the T2S party. In addition, the access model must cater for the possibility that one T2S party may be authorised only to debit or credit another T2S party's accounts, which is solved by the so called "deviating instructing party" authorisation, see T2S URD section 16.8.7 in chapter 16.

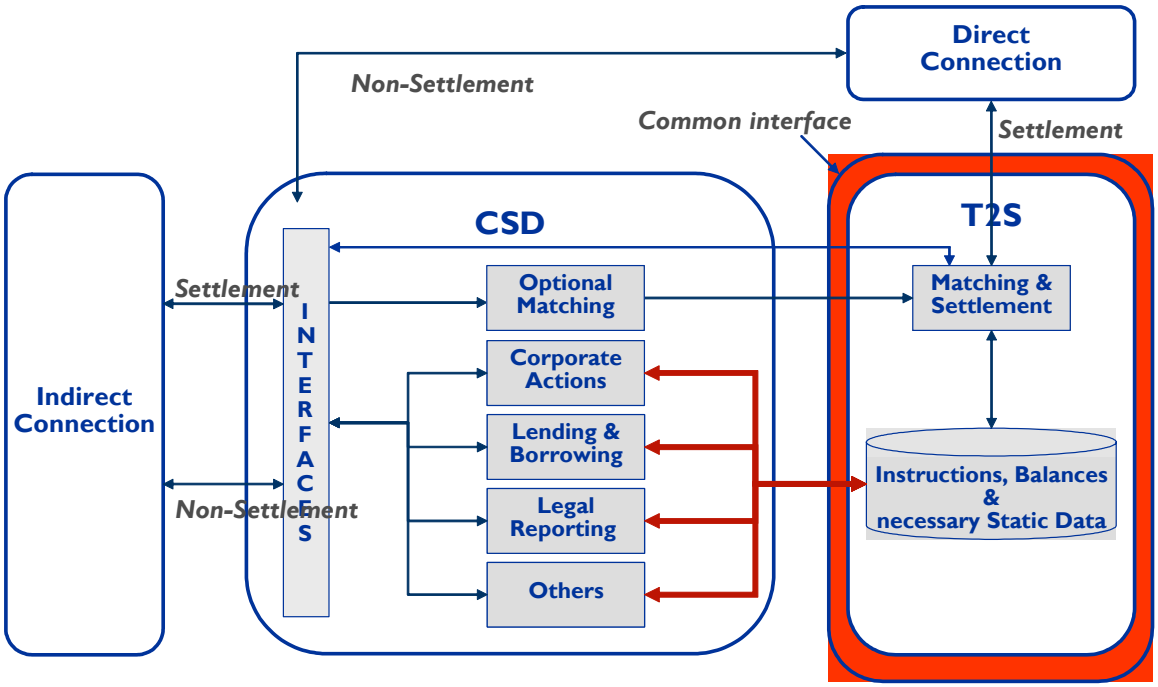
This would probably be aligned with all the direct holding models, in which individual user participants of T2S need a possibility to (under authorisation from the CSD, i.e. a licence of an account operator) e.g. add/remove rights and restrictions to the accounts.

However, since some of this information will be split between T2S and the CSD systems, it has to be decided which system is the responsible one for the consistency. The assumption, so far, is that any administrative action of information split between T2S and the CSDs, has to go via the CSD (e.g. when creating or updating securities accounts). But, for any information that only affects one system, the administrative action of such information should be sent directly to that system. For example, since the enforcing of a restriction on a position is executed only in T2S, the directly connected parties could communicate that directly to T2S. This latter statement has been questioned by some CSDs since they want to make sure that any such action is correct and validated according to their specific rules. Thus, at the moment it is only foreseen that settlement instructions and restrictions management will be possible via direct connectivity, conditioned to the respective CSDs approval. Other tasks have to be administered via the CSD.

3.2 T2S Connectivity

The connectivity issues are not specific for the direct holding markets, but since in most such markets the account operators have a quite extensive responsibility to maintain end-investor information, sometimes in parallel with the CSD. Such information does not only cover static data, but also information relating to e.g. restrictions on the availability of the holdings. As mentioned above, some of that information will be split between the T2S and the CSD systems, e.g. account information. Since both the account operators and the CSD may perform the same actions, the information integrity and completeness must be ensured in T2S.

The connectivity model of T2S may be summarised as in the picture below:



The processing of settlement instructions, including validation, matching and settlement, will take place in T2S, with an option for CSDs to offer "in-house" matching or other settlement related services (e.g. proprietary interfaces) for non-cross-CSD or indirectly connected participants. In order to offer non-settlement related services and to be able to perform tasks based on the information on balances and instructions in T2S (e.g. corporate actions processing) the CSDs may retrieve information from T2S, according to the CSDs service subscriptions.

There will be possibilities for CSDs to define unique validation parameters for their own accounts, to a certain extent, e.g. a CSD can mark some accounts to be valid or not valid for certain transaction types. The T2S User Requirements (URD) clarifies how this will be represented as parameterised validation rules in T2S. The URD also clarifies how restrictions on accounts and/or positions will be represented, as well as the message flows for such instructions. If there would be a need to validate certain requests sent to T2S according to specific local rules not represented in T2S, it could not be allowed to use direct technical connectivity for such actions.

T2S will always process incoming messages in a "first-come-first-serve" basis, which means that if a same day settlement instruction is received on an account, which as a next step will be restricted due to e.g. a court order, the settlement instruction will settle if it is matched, validated and processed before the restriction arrives. This should be inline with the current procedures at the CSDs, where e.g. such court order, and the resulting restriction, is processed in parallel with continuous real time settlement based on automated STP procedures according to the "Best in time is best in right" principle. T2S will provide time-stamp information for any instruction that is entered into T2S. Thus, it will be able to audit which instruction reached the system at what time.

A special concern arises if there would be any technical problems/delays in the access of the T2S system from e.g. a CSD, when a legal effect time has been confirmed by the CSD to a sender of an instruction (e.g. a

restriction due to a court order). As a consequence of a technical problem, the instruction has not yet reached the T2S system, but it is already in legal effect. If a same day settlement instruction is received on an account, which is affected by the restriction and the settlement instruction will be matched, validated and settled before the restriction eventually arrives to T2S, there may be a conflict in the validity of such settlement. In general terms, T2S cannot unwind any transaction, the CSD must in this case instruct an offsetting instruction for immediate settlement, to restore the positions as they were at the legal effect time of the restriction. As a solution to avoid any conflict of validity, the CSD should define the legal effect time as the time when T2S has acknowledged the receipt of a transaction, since T2S is the central location of the processing of the transactions.

3.3 Possible scenarios to align the direct holding systems and T2S

As mentioned above, the gaps between the current requirements on T2S and the needs to cover the different direct holdings models are mainly:

- All settlement instructions must be complete when entering T2S – i.e. relating to allocations.
- All settlement transactions should be balanced – i.e. relating to multilateral settlement.

In addition, there are potentially other gaps, e.g. CSD specific validation rules on settlement instructions, and stock exchange fails management. These gaps are not covered in this Annex since they are assumed to be handled outside T2S.

4. All settlement instructions must be complete when entering T2S

T2S will validate that settlement instructions are complete when they enter the system. This is mainly an obstacle for the direct holding systems if they accept settlement instructions to be directly sent from the stock exchange. Such instructions do not typically include the information of the securities accounts to be used for settlement, since that kind of information may not be known at the moment when the trade order is entered into the stock exchange system. In an indirect holding regime brokers/custodians may always settle the exchange trades on the same account and sort out the allocations as a separate step in their own system, which means that either the stock exchange, the CSD, or a third party may recognise which account to use by default instructions.

In the context of further harmonisation and unbundling of services, it is foreseen that cross-system settlement will increase. Thus, it may not always be the case that a stock exchange member and/or its customers will settle its trades via the domestic CSD in the country of the stock exchange or via a single CSD for all types of trades.

If the trades do not carry information about the accounts to use for settlement, the stock exchange would have to route them either to a CCP or a third party system, which contained the necessary standing instructions, or to the participants themselves or the CSDs for further processing before entering T2S.

To cope with direct holding systems specific needs, if the final account information is not provided at the time of the entry of the settlement instructions into T2S, two options are described based on available settlement functionality in T2S. A third option also exists, when the account information is added to the instructions based on features in the CSDs systems, before being entered into T2S.

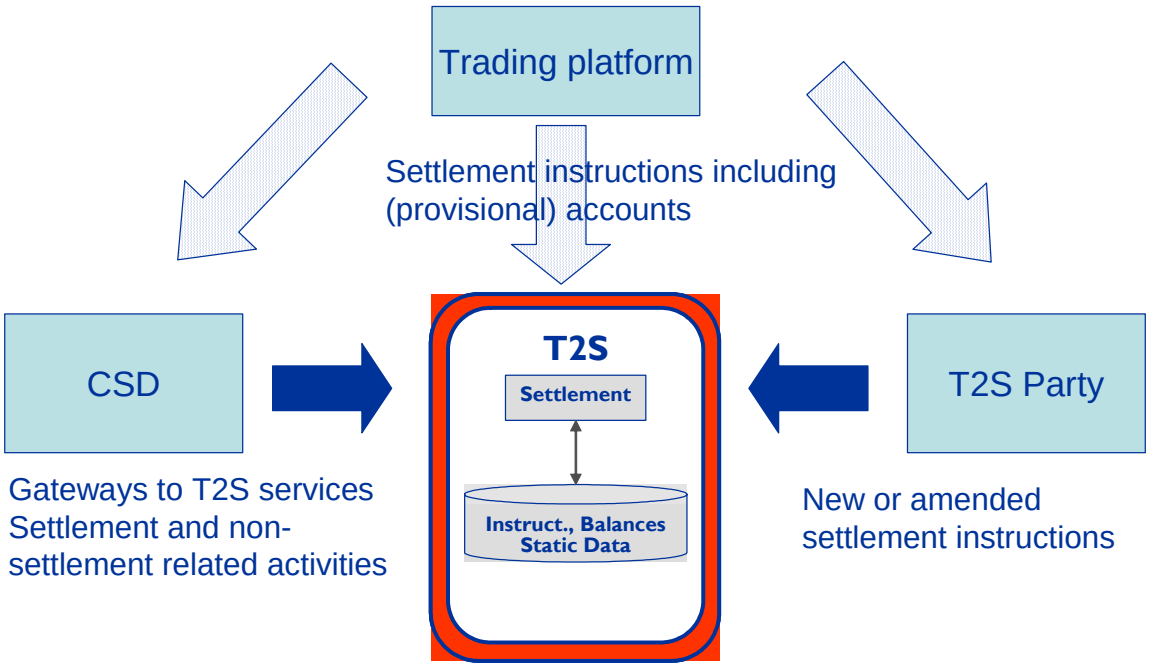
1) Allocation of trades
2) Amendment/replacement of trades
3) The settlement instructions are sent by the CSD on behalf of its participants already allocated.

4.1 Instructing T2S

Once the trade is finalised between the two brokers, it is translated into one or several settlement instructions, which are to be sent to the settlement platform.

In the context of T2S, two possibilities should exist:

1. The trade is reported back to the trading parties, where it is translated into two different settlement instructions (buy side and sell side), which are sent directly by the participants (if directly connected) or indirectly via their CSD to T2S.
2. The trade is sent by a Trading Platform or a CCP on behalf of the participants, or by their CSD, directly to T2S as an already matched transaction. In this case, the details of the transaction should be "translated" internally in T2S into the equivalent of two settlement instructions, provided that the transaction contains all the necessary information, including at least provisional accounts to use for settlement.



These two possibilities do not affect further steps of the settlement process. For sections 4.2 and 4.3, it is assumed that a Trading Platform or a CSD is feeding T2S directly (second possibility).

T2S will handle the use of different settlement procedures to allocate trades to end-investor accounts:

- Settlement directly between end-investor accounts
- Settlement indirectly between end-investor and broker accounts
- Settlement indirectly between end-investor and CSD accounts

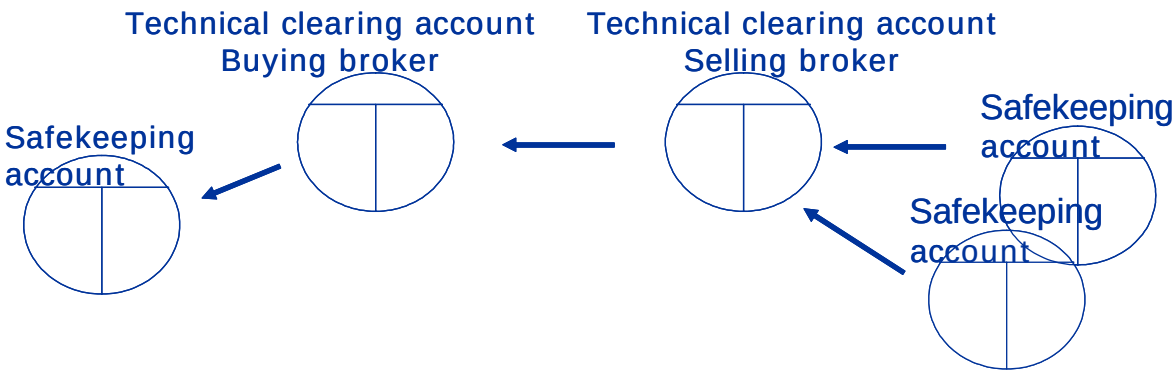
The T2S set-up will therefore allow the participating CSDs to comply with the regulatory requirements for direct holding systems.

T2S ordinary procedures will be used if a trade is settled directly between the end-investor accounts, on a one-to-one basis, and the accounts are given at the point in time of entry into the T2S system. Otherwise, the common T2S solution is to use a “provisional account” for each bulked trade for each broker or for a CSD as a whole, which is explained in the sections 4.2 and 4.3 below.

4.2 Allocation of trades

4.2.1 Processing of trade and allocation instructions in T2S

To process the trade, T2S need accounts. Indeed, a general requirement of T2S states that instructions entering T2S should be complete and meant to meet validation and matching criteria. Hence, T2S will process the trade using the accounts indicated in the instructions. In the case of direct holding systems, these accounts might be pure “technical” clearing accounts, but they have to exist in T2S (see illustration below).



After (or even in parallel) the DVP trade entered T2S, the brokers might start sending the details of the allocation of the trade, as end-investors become to be known. This is the so-called “enrichment” phase.

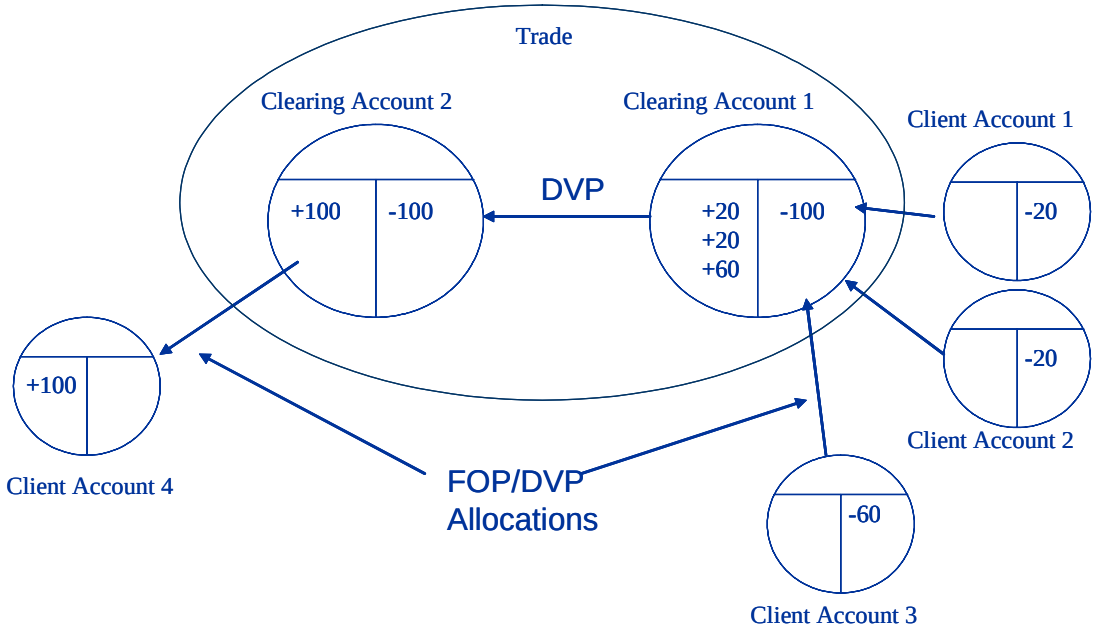
To process the allocation of the trade, the instructing party (each broker if directly connected or their CSD) will have to send separate, complete settlement instructions. There should be as many instructions as debits/credits to take place.

When sending allocation instructions, the instructing party (each broker if directly connected or their CSD) may link these instructions to the initial trade (using the trade reference). This is to ensure that T2S will perform the settlement of the trade and its allocations in an all-or-none mode (i.e. either all transactions are

settled or none is) and that the settlement/transfer of a "direct and traceable ownership right in an individual book-entry security" between two account owners will settle as:

- one transfer from the seller to a trusted middleman of the seller
- and as a conditioned (to the successful delivery from the seller and the successful payment of the buyer) second step one transfer from the trusted middleman to the buyers trusted middleman
- and as a conditioned third step one transfer from the trusted middleman of the buyer to the buyer.

See illustration below.



Once the allocation instructions arrive in T2S, the life cycle management will process the instructions as any other settlement instruction. The settlement process will perform a check that all linked instructions can settle and that any other criteria is fulfilled (e.g. that an involved account is not restricted), once the instructions become eligible for settlement. This check has to be done in T2S to avoid that allocations are settled “au fil de l’eau” (i.e. not on an all-or-none basis) or that settlement occurs in conflict with the most recent static data information. Partial settlement may be allowed within the group of linked instructions, depending on the information indicated in the instructions.

The allocations must, as any other settlement instruction in T2S, be balanced by a matching instruction. However, it will not be necessary for the allocating parties to enter two instructions. Instead, since the instructing party would be authorised to access both the debiting and the crediting accounts, the allocations may be sent as already matched instructions, as defined in the URD for life cycle management.

4.2.2 Messaging requirements

Also refer to the messages flow at the end of this document.

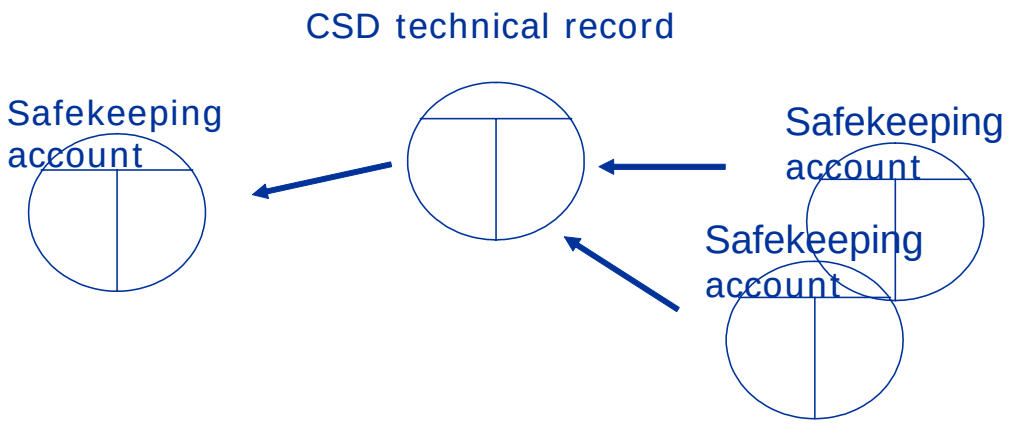
A specific request has been raised by KDD (Slovenian CSD) to receive in the settlement confirmation message the cash account of the end-investor (i.e. cash account held with the “commercial bank”). This information can be sent by T2S provided that it is received in the allocation instruction and provided that ISO 20022 settlement confirmation message contains a field to communicate such information.

4.3 Amendment/replacement of trades

A second option would be to amend existing instructions and/or cancel and re-instruct.

4.3.1 Processing of trade and amendment/cancel-replace instructions in T2S

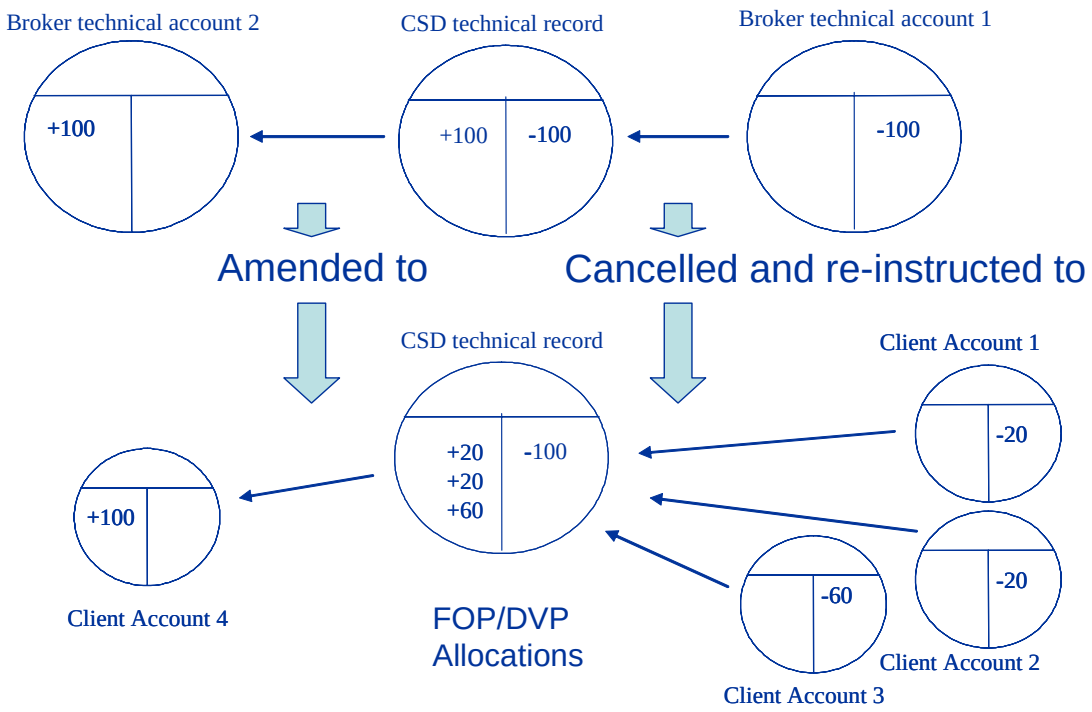
As explained in option 1, T2S need accounts to process the initial trade. Like in option 1, the parties may use technical accounts belonging to the brokers, but in addition, must balance these accounts with a CSD common technical record account. The purpose of this CSD technical record account is to “replace” the two brokers’ technical accounts in the final settlement of the trade, when the trade is split (allocated) between the different end-investors (see illustration below).



As following steps, the amendments should take place to reflect the final settlement on end-investor accounts. There are two cases that should be considered.

The allocation does not require a split, i.e. behind one broker trade there is only one end-investor, then the original settlement instruction can be amended. The broker technical account is replaced by the end-investor account (below: Broker technical account 2 becomes Client account 4).

The allocation requires a split, i.e. behind one broker trade there are several end-investors, then the original settlement instruction should be cancelled and new instructions should be sent to T2S in order to process the settlement on the end-investor accounts (in the example below: Broker technical account 1 is replaced by Client accounts 1 - 3). The amendment functionality cannot be used, as it has to be a one-to-one relationship between the settlement instruction and the amendment instruction. Furthermore, the split and the shaping are not foreseen in T2S.



All these instructions (initial settlement between the CSD technical record account and the brokers' technical accounts, amendment instruction, cancel/replace instructions) can be linked together (using trade reference) to settle in an all-or-none mode or can settle independently.

In the Finnish market, the broker is not only debiting/crediting accounts in the allocations, for which the broker is also the account operator. Instead, the broker, based on its customers' instructions, debits/credits their customers' accounts operated by other CSD participants. In such cases T2S must cater for flexible authorisation rules. Two main scenarios exist

1. Settlement of a trade – the broker/clearing member (CM) has a standing authorisation (PoA) from the Account Operator (AO) to debit/credit its accounts:

    a) The CM allocates its side of the trade to the underlying end-investor accounts, by either amending or cancelling/re-instructing the original instruction.

    b) T2S validates the instructions send by the CM recognising that the CM has a standing PoA from the AO

2. Settlement of a trade – the clearing member (CM) does not have a standing authorisation (PoA) from the AO to debit/credit its accounts:

    a) The CM allocates its side of the trade to the underlying end-investor accounts, by either amending or cancelling/re-instructing the original instruction.

    b) T2S validates the instructions send by the CM recognising that the CM does not have a standing PoA from the AO

c) T2S sets the instructions into a state of "Pending approval" and sends a status message to both the CM and the AO(s) of the account(s).

d) The AO(s) sends an "Approval" message for each debit/credit to T2S

e) T2S updates the state of the instructions to "Approved"

After these steps, the settlement instructions become eligible for settlement and follow the ordinary settlement processes.

The steps 1 a) – 2 b) is part of the T2S core functionality, but the steps 2 c) – 2 e) is currently not in the T2S URD and they would be considered as Specific Functionality in T2S.

The above mentioned functionality (steps 2 c) – 2 e)) may be developed by T2S as a national specificity, if the Finnish market may opt for that solution. As an alternative, the Finnish CSD may arrange for the approval process of settlement instructions before entering them into T2S. In that case, direct connectivity would not be possible to offer for such instructions.

4.3.2 Messaging requirements

Also refer to the messages flow at the end of this document.

The messaging requirements do not differ from option 1, except that a different set of messages will be used (amendment, cancellations, etc.). As proposed in option 1, it might be possible to instruct allocations into one "bulk" message/"block" instruction.

4.4 The settlement instructions are sent to T2S by the CSD already allocated

Instead of letting the participants amend or cancel/re-instruct for allocating trades in T2S, a CSD could administer this process in its own system. As a final step the CSD would send the allocated instructions to T2S. This applies specifically to CSDs in markets that have multilateral settlement, which would be obliged to do the following:

- Instruct T2S to open securities accounts and cash account(s), as many as the CSDs may require, for the purpose of offsetting the trades, as described in 5.2.
- CSDs would have full control over their accounts and would have to manage any balances left on the accounts.
- These accounts within T2S will act as counterparty between the purchases and sales.
- CSD send "already-matched" instructions to T2S for settlement.
- T2S will treat these accounts in the same manner as any other securities and cash accounts.
- CSD accounts will be included in of both night-time and daytime settlement cycles.

4.4.1 Messaging requirements

No specific messaging requirements for this scenario, the ordinary message flow for settlement instructions would be used.

4.5 Implications for direct holding systems

The implications of the two scenarios above should be limited for the direct holding systems. In the first scenario it is more an issue for the stock exchanges and the participants to establish efficient routing mechanisms, but already today there exist good examples of how this can be arranged. In the second scenario it is more a matter of making sure that the rules and regulations allow for the two step settlement process, linked or not linked, and that the different participant categories can refer to the transactions that belong to the same trade. The latter can be performed e.g. by assigning unique reference numbers to the trades (e.g. a combination of trade date, trade number and order book number), which are then used as reference numbers in the T2S.

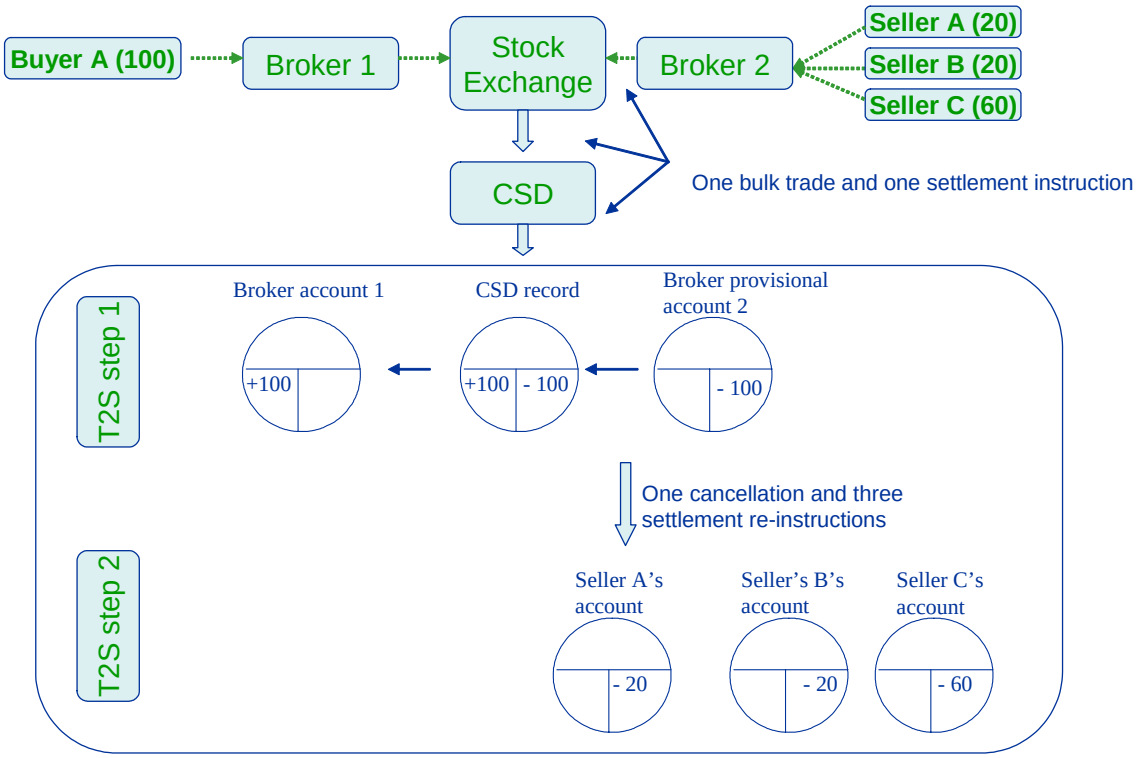
It should also be noted that, so far, the implementation of any automatic assignment of a CSD Technical Record account as a counterpart to the original parties, in order to “disengage” the seller(s) from the buyer(s), is not foreseen in T2S. Thus, such assignment has to take place before the settlement instructions enter T2S.

To let the CSDs handle the allocations in their own system, and then as a final step send the instructions to T2S for settlement, would probably not imply anything for the participants, except that it would not be possible to have a direct technical connectivity. The CSD would have to adopt the new procedures to send the final instructions to T2S. It would also have to be examined what status the technical record account would need to have in relation to existing CSD rules and regulations.

4.6 Implications for indirect holding systems

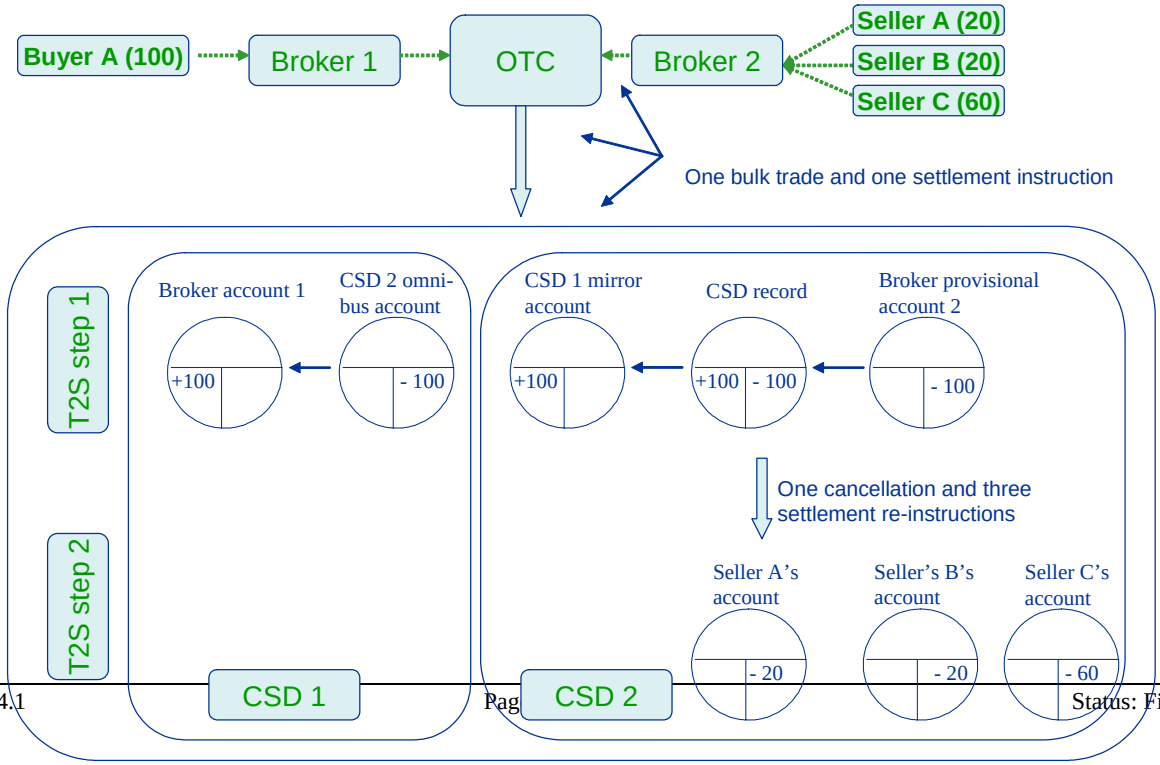
The use of the T2S core features in a direct holding market context will not affect the settlement procedures applied by other markets. Each market may decide independently which settlement procedure to apply.

In case there is a possibility for a participant in a direct holding market to either represent holdings on an end-investor level or on a nominee level (i.e. a hybrid market), T2S will support the flexibility required:



In the example above, the Broker 1 represents its customer holdings on a nominee account (Broker Account 1) and the other Broker (2) represents its customer holdings on separate end-investor accounts (Seller A – C's accounts). Both brokers would have to settle via the CSD record, but transparent to each others allocation processes.

In a cross-CSD context, the flexibility will remain:



From the perspective of the T2S parties (Broker 1 and Broker 2), this looks like a domestic transaction.

- Broker 1 instructs T2S against Broker 2 using the CSD record as the deliverer of the securities, without giving the cross-CSD intermediary settlement chain;
- Broker 2 instructs T2S against Broker 1 using the CSD record as the receiver of the securities, without giving the cross-CSD intermediary settlement chain;
- As a second step, Broker 2 may allocate the sell to one or more end-investors' accounts.
- No additional input is required from the CSDs;
- T2S derives all the security and cash movements according to the links configured in the Static Data;
- T2S settles all the resulting security and cash movements simultaneously on an all or none basis.

5. All settlement transactions should be balanced

As in any settlement regime, also multilateral regimes must be balanced in order for the settlement process to always balance a debit with a credit. Typically this is solved by means of a legal central counterparty (CCP), which will be the counterpart for each settlement transaction, whether it is a buy or sell and whether it is netted or not. Traditional CCP regimes often require a novation process, where the original trade is replaced by two settlement obligations, one from the seller to the CCP and one from the CCP to the buyer, if settled on a gross basis. In a multilateral netting CCP regime, there will be no need for the novation of the individual trades. Instead, the CCP system calculates the net obligation for each clearing participant, per security and settlement date, and then makes a novation of the netted obligations. At the actual settlement, the net obligations are settled against a CCP account. Depending on the rules of the settlement system, those obligations must always be provisioned by the seller/buyer in order to enter the process, or it will be the CCPs responsibility to make sure that its counterparties get their claims.

In the direct holdings systems that use multilateral settlement (like Greece and Cyprus), there is no legal CCP available and no double booking process for each obligation. Instead, the settlement system checks that, in the end, the sum of all debits equal the sum of all credits. If that is the case all obligations are settled multilaterally.

This multilateral regime is also used by some indirect holding systems, e.g. in Spain (Iberclear).

Since T2S does not allow unbalanced settlement transactions, it is not possible to apply the multilateral model without modifications, but there are at least two scenarios to reduce the gap between T2S and the direct holdings systems also in this matter:

- A CCP is introduced to be the counterpart for each participant's obligations
- The settlement engine uses a "technical" common record account, but without any obligations to fulfil any claims.

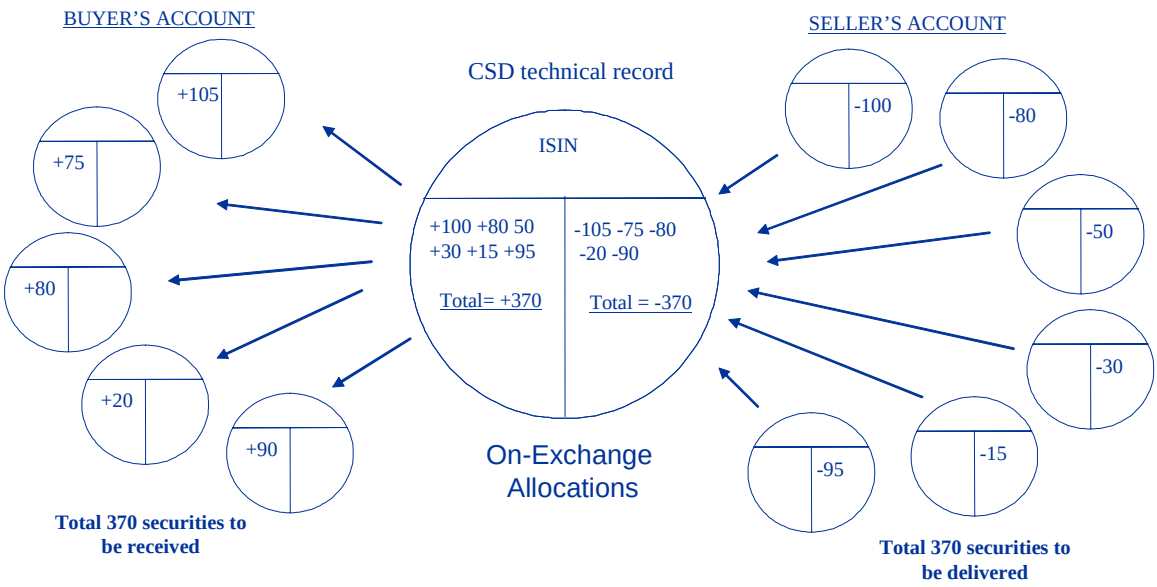
5.1 A CCP is introduced

This scenario would require the introduction of a legal entity acting as the CCP. This entity would have the responsibility to enter into the trade as a counterpart for each transaction to be settled. Whether this would include netting processes depends on the rules for such CCP. For each side of a stock exchange trade (buy or sell) the CCP would enter as counterpart, by novation. If the CCP would not take the responsibility to fulfil any claims, then only those transaction that have provisioning in place, securities or cash, would be included in the settlement process. In other words, the selection process would be the same as of today in e.g. Greece and Cyprus, but with the difference that each and every debit is credited on the CCP's account and each and every credit is debited the same.

5.2 The settlement engine uses a "technical" common record account

Instead of introducing a formal CCP, a more technical approach could be used to settle all transactions balanced. The procedure would be the same as if a CCP had been introduced, but the bookings would be of a mere technical status. For each and every trade the settlement would be routed via a common technical account. All settlement would be conditional to the provisioning of securities or cash, which means that the technical account would never have to face lack or surplus of assets.

If necessary and allowed, partial settlement could help to increase the number of settlement instructions that settle. The use of the T2S optimisation routines would replace any current processes of calculating different limits and would make sure that as many settlement instructions as possible would settle.



5.3 Implications for direct holding systems

The implications of introducing a formal CCP could be widespread, depending on the legal framework. It would as well require an extensive change in both technical and business procedures at the participant level, since the clearing participant would face a new counterpart and new routines. On the other hand, the introduction of a CCP in the different financial markets is becoming an alternative solution, as the trade volume increases and the number of potential counterparts to a trade increases.

The use of a technical common record account would not necessary have to result in any implications, since it would be a pure technical procedure in the settlement process, without any business or procedural effects on the participants. However, it would have to be examined what status the technical record account would need to have in relation to existing CSD rules and regulations.

6. Summary

This document has described three current main models for settlement of direct holdings. The document has tried to explain the different options which will be provided by T2S within its lean concept and how the T2S core functionality can be used in order to support these main models.

In general terms there are some basic features that T2S will offer:

- T2S shall offer the possibility to store and to retrieve information received from the T2S Actors, in addition to data necessary for settlement, but T2S will not act upon it.
- To avoid the splitting of the account information, T2S shall allow for a certain number of free format fields to be attached to the T2S securities accounts. These fields will be validated by T2S according to the respective CSDs configuration, but T2S will not act upon the content.
- The provision of an internal CSD technical account will allow bulked stock exchange transactions undertaken by brokers acting for retail investors to be broken into component parts for settlement, separately by buyer and seller without each split having to be re-matched. However, it should be noted that the implementation of any automatic assignment of a CSD technical account as a counterpart to the original parties, in order to “disengage” the seller(s) from the buyer(s), is not foreseen in T2S. Thus, such assignment has to take place before the settlement instructions enter T2S.

To cater for an end-investor to use a broker that is separate from its account operator, T2S must have flexible authorisation rules. This is covered either by standing Power-of-Attorneys represented in the system or by approvals for individual instructions.

The three settlement models could be supported by T2S in the following ways:

- Intermediary model – the ordinary settlement process could be used. The linking of multiple settlement instructions to settle on an all-or-none basis could be used to make sure that a certain end-investor's allocation is connected to the fulfilment of a certain trade.
- Direct account model – the possibility to amend or cancel/re-instruct settlement instructions as allocations could be used. If the buy and sale side is not related to each other on a one-to-one basis, the use of a CSD technical account as an intermediate account to disengage buyer and seller could be used. The linking of multiple settlement instructions to settle on an all-or-none basis could be used to make sure that a certain number of end-investor allocations are connected to the fulfilment of a certain trade.
- Multilateral model – regardless of whether the obligations are netted or not, it would be necessary to introduce an intermediate account. If a legal CCP is introduced, it will participate as any other T2S party and the ordinary settlement process could be used. If no CCP is introduced, the CSD could stipulate that the settlement would be routed via a technical common account. All settlement would be conditional to the provisioning of securities or cash, which means that the technical account would never have to face lack or surplus of assets. As an option, the CSD could send all instructions already allocated to T2S, to be settled via the technical account.

T2S ordinary procedures would be used if a trade was to be settled directly between the end-investor accounts, on a one-to-one basis, and the accounts were given at the point in time of entry into the T2S system.

The different models do not require that a party to a settlement transaction must use these features or to change their settlement procedures in any way, in case its counterpart uses the direct holding features, e.g. in a cross-CSD settlement transaction. The use of the T2S core features in a direct holding market context will not affect the settlement procedures applied by other markets. Each market may decide independently which settlement procedure to apply.

In addition to the settlement related procedures, T2S offer the possibility to represent end-investor holdings in a flexible way on the T2S accounts, according to each market's needs. The T2S core functionality includes the possibility to define CSD specific validation rules, CSD specific restriction types and handling rules, as well as the possibility to have different authorisation rules on who may instruct or query which data.

Which model a CSD of a direct holding market eventually would decide to adapt to, is a question of total costs and efficiency. Different markets would be able to chose the model which fits the local market the best, but still considering the strive for harmonisation on a pan-European basis.

7. Message flows

Direct Holding User Requirements

Option 1: allocation instructions

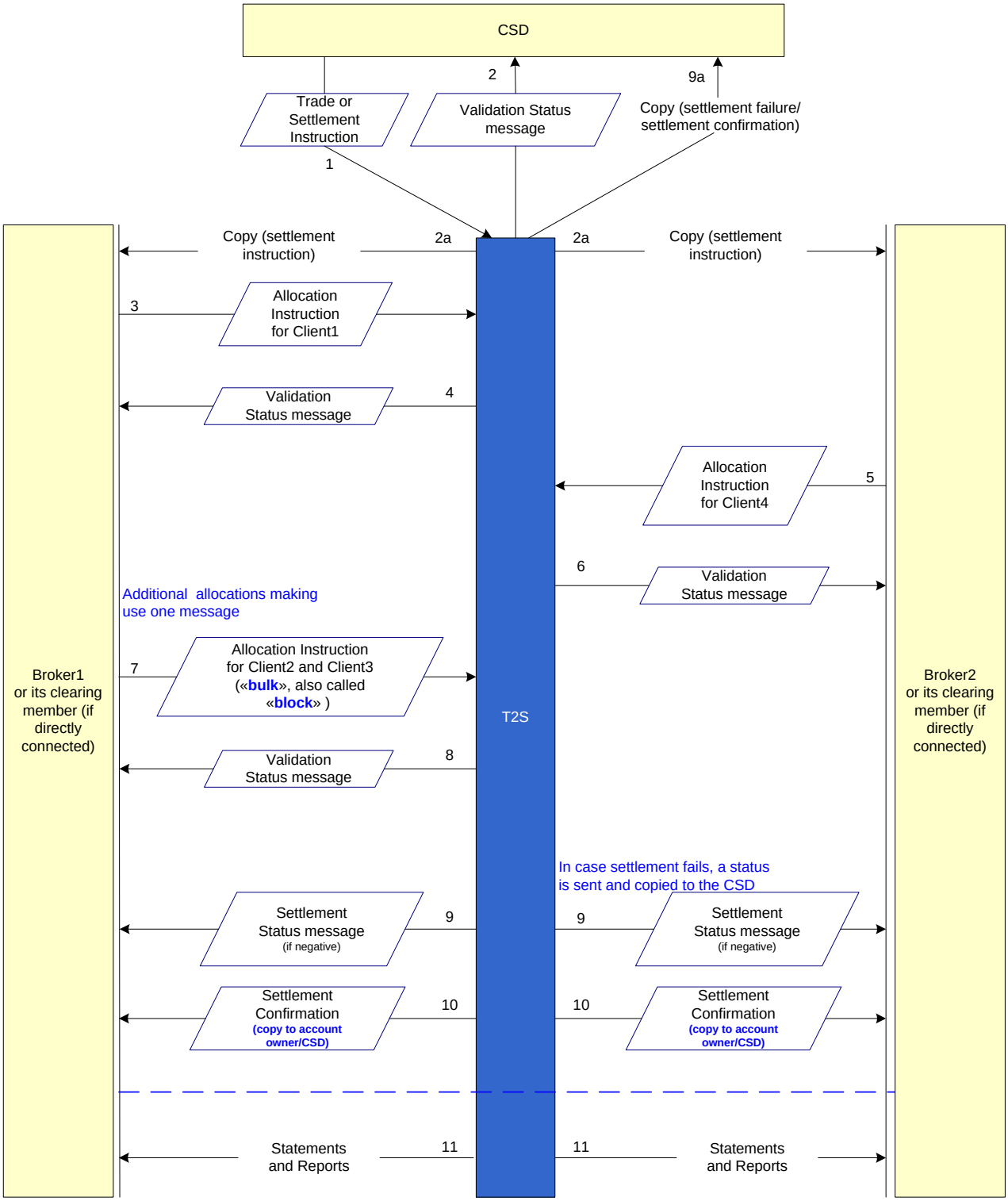
Scenario

Trade between Broker1 and Broker2 (quantity = 100).
Broker1 is selling for 3 end-investors, Client1 (-20), Client2 (-20) and Client3 (-60).
Broker2 is buying for 1 end-investor, Client4 (-100).

***Important*: only flows relevant for T2S are being represented.**

Message

As per the **Subscription service** described in T2S URD, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



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Direct Holding User Requirements

Option 2: amendment and/or cancel and re-instruct

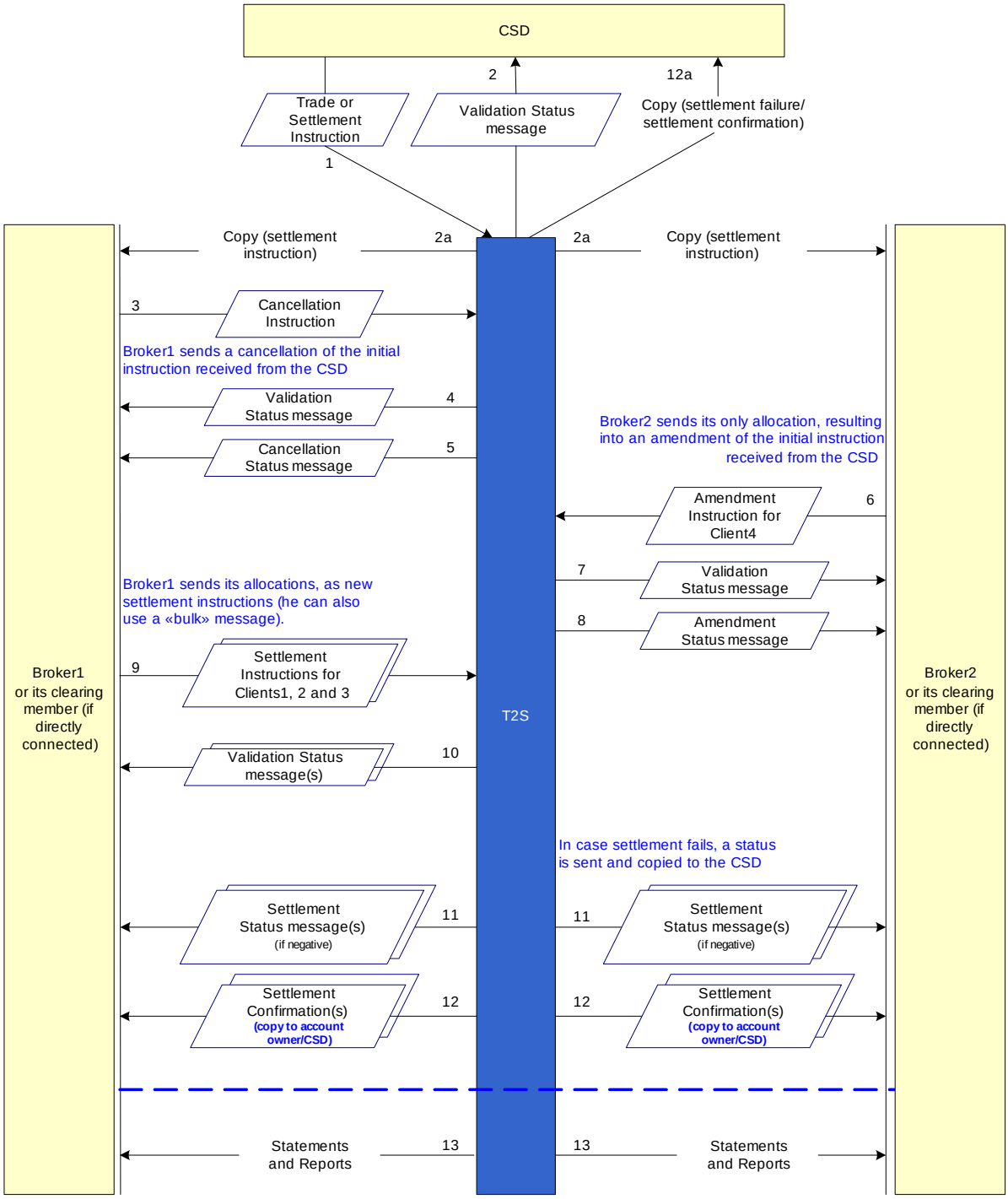
Scenario

Trade between Broker1 and Broker2 (quantity = 100).
Broker1 is selling for 3 end-investors, Client1 (-20), Client2 (-20) and Client3 (-60).
Broker2 is buying for 1 end-investor, Client4 (-100).

***Important*: only flows relevant for T2S are being represented.**

Message

As per the **Subscription service** described in T2S URD, any T2S Party (directly connected) can subscribe to **receive or not** any **message** and any **copy** of any message, in accordance with its access rights.



USER REQUIREMENTS

ANNEX 15

ISSUE NOTE - URD HARMONISATION

T2S Project Team

Reference:	T2S-07-0345
Date:	25 March 2009
Version:	4.1
Status:	Final

EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENTS

1 Introduction

Within the current post-trade landscape, European market participants lack a harmonised enough framework, as there remain significant differences within national regulatory frameworks, applicable laws and fiscal rules, which increase the costs of settling securities transactions and of holding pan-European securities portfolios. Different national technical and market practices also pose significant market barriers for new entries to offer their services on a European level.

Whether the markets participants are transacting within or outside the euro zone, there is a general consensus about benefits of “investing” in harmonised systems, processes and practices. These benefits, mainly of financial nature, are direct and quantifiable (e.g. back-offices costs reduction) or indirect and not immediately quantifiable (e.g. better interoperability between market participants, creating business opportunities). Developing a common infrastructure acts as a catalyst to harmonise the settlement process.

Market participants’ representatives, involved in the T2S Project, have invested significant efforts to achieve one of its main goals: a shared lean harmonised settlement platform for Europe. Most of T2S benefits will come from this achievement, although the degree of harmonisation reached is not the same for all areas (see also annex 16, Opportunities for further harmonisation).

This annex 15 aims at giving an overview of which areas could benefit form harmonisation work, as reflected in the current URD. Sections 2.1–2.5 provide a high level description of the harmonisation areas covered whereas section 2.6 includes the current version of List A.

2 T2S harmonised features

The purpose of List A is to present the harmonisation agreement in the current URD. In reaching agreement, market experts in the T2S technical groups have built on the work produced so far by various bodies assigned with the removal of the Giovannini barriers (CESAME and its experts Groups, ECSDA etc). T2S core services contribute to the removal of various barriers by adopting and expanding on the agreement already achieved in the market (see topics associated with removal of barriers 1, 2, 4, 5 and 7).

Lists B (topics which can be harmonised during the specification phase) and C (topics which are beyond the scope of T2S but the Eurosystem can help harmonise) are presented in Annex16. Cross-references to topics in lists B and C are included in this annex when harmonisation efforts in these areas complement and maximise the benefits stemming from List A (e.g. overall framework for fails management).

2.1 T2S Schedule and Calendar

T2S introduces a single operational schedule and Calendar (see Ch 3) for all connected markets and as a result harmonises settlement deadlines throughout the operating day. It includes among others a single start and end-of-day, night-time settlement, no national cut-off times and of course a single calendar per T2S eligible currency. This harmonised Schedule is instrumental in removing Giovannini barrier 7 (settlement deadlines and operating hours/days) and a long standing request from all market participants.

2.2 Interface

T2S delivers a single IT platform, with common interfaces and a single messaging protocol (ISO 20022) covering instructing, matching, settlement, querying and reporting across the T2S connected markets (in Eurozone and potentially beyond). The removal of barrier 1 (national differences in IT/interfaces/communication protocols) is identified by the Giovannini Report as high priority. The interface in this case refers to all T2S Actors with direct technical connectivity to T2S. Other market participants, especially of smaller scale, may still use proprietary interfaces at least during the first period of T2S production phase. Eventually the pan European adoption of a single interface and communication protocol in T2S should be effective in harmonising local market practices reaching all actors from end to end.

2.3 Life Cycle Management and Matching (LCMM)

The LCMM functionalities in T2S aim at providing a harmonised service in the area of settlement

instructions management (validation, matching etc). The features agreed by T2S stakeholders are of high priority in the EU harmonisation agenda. The URD agreement is based on standards and recommendations already produced but still not fully implemented by the industry (ECSDA). Remaining topics for harmonisation (recycling rules etc) are to be dealt with during the next phase (follow-up work on List B).

2.4 Settlement

A single harmonised settlement model comprising RTGS DVP in CeBM for both domestic and cross-CSD transactions is a de facto harmonised feature introduced to all T2S connected markets. It greatly impacts on removing remaining technical obstacles on interoperability and connectivity on intraday finality across different markets (barriers 2, 4, 5, 10).

Some remaining topics for harmonisation include fails management and NCBs collateralisation procedures (also identified in List B).

2.5 Static Data

T2S offers a single securities accounts reference data model for all connected CSDs. The topic refers to the technical account structure maintained in T2S rather than the local account structure hierarchy which requires a mapping from local to T2S account model.

2.6 Detailed presentation of List A topics

The following section presents in detail the harmonised features of the T2S system as currently standing in the URD. Some additions/alterations are still possible taking into account two factors: the next phase specification work and the planned AG initiative on further harmonisation. In particular, agreement in List B will further add to the contents of List A as they have a direct impact on the final T2S system specification.

List A. URD Harmonisation

Topics which are already harmonised in the URD

Reference no	Business Area	Harmonised feature	Harmonised feature description	Cross-reference to complementary topics	URD Chapter /Section	Relevant body (e.g. TG, other external)	URD Requirements	Contributes to removal of Giovannini Barrier no:	Current Status (pending market consultation)
A.01	T2S Scope/Static Data/Settlement	Cross CSD settlement	T2S offers a single procedure for intraday (real time DVP) cross CSD settlement between CSDs in T2S	C.21: External settlement with CSDs outside T2s	Chapter 2/Section 2.6, Chapter 9/Section 9.4, Annex 10	TG 1 / ECSDA WG5	T2S.02.100 - 130	Barrier 4 (Intraday settlement finality) Barrier 2 (National restrictions on the location of clearing and settlement prevent cross border investors from centralising their activities). Barrier 5 (practical impediments to remote access to national CSDs). Barrier 10 (Centralisation of settlement for primary dealers and market makers cross border activity – merged with barrier 2 by EFC)	Agreed

A.02	Static Data	Securities Accounts Data Model	T2S offers a single securities accounts reference data model for all connected CSDs. The topic refers to the technical account structure maintained in T2S.	C.14 : CSDs accounts structure	Chapter 16/Section 16.8.3	TG 4	T2S.16.590-T2S.16.650		Agreed
A.03	T2S Schedule	Change of settlement date	T2S Schedule uses a single time for the change of settlement date for all connected CSDs/markets		Chapter 3/Section 3.1.2	Eurosystem/TG 1 /ECSDA WG5	T2S.03.020	Barrier 7 (Different operating hours/days/settlement deadlines)	Agreed
A.04	T2S Schedule	SOD period	T2S uses a single period for Start-of-Day (SOD) procedures for all connected CSDs/markets		Chapter 3/Section 3.1.2.1	Eutosystem/TG1/ECSDA WG5	T2S.03.030-T2S.03.070	Barrier 7	Agreed
A.05	T2S Schedule	night-time settlement window	T2S allows a single harmonised period for night-time settlement for all T2S CSDs/markets		Chapter 3/Section 3.1.2.2	Eutosystem/TG1/ECSDA WG5	T2S.03.080	Barrier 7	Agreed
A.06	T2S Schedule	night-time settlement cycles	T2S allows the same number of night-time settlement cycles for all	C.20: Market discipline	Chapter 3/Section	Eutosystem/TG1/ECSDA WG5	T2S.03.100	Barrier 7	Agreed

			T2S CSDs/markets		3.1.2.2				
A.07	T2S Schedule	Daytime settlement	T2S provides a single time period for daytime settlement		Chapter 3/Section 3.1.2.3	Eutosystem/TG1/ECSDA WG5	T2S.03.160	Barrier 7	Agreed
A.08	T2S Schedule	EOD period	T2S provides a single period for End-of-Day (EOD) procedures for all connected CSDs/markets		Chapter 3/Section 3.1.2.4	Eurosystem/TG1/ECSDA WG5	T2S.03.170-T2S.03.200	Barrier 7	Agreed
A.09	T2S Schedule	Deadline for intraday DVP	T2S provides a single intraday DVP deadline	B.01: End-of-day fails management	Chapter 3/Section 3.1.4	Eurosystem/TG1/TARGET2 WG	T2S.03.250	Barrier 4, Barrier 7	Agreed
A.10	T2S Schedule	FOP deadline	T2S provides a single FOP deadline		Chapter 3/Section 3.1.4	Eutosystem/TG1/ECSDA WG5	T2S.03.280	Barrier 4, Barrier 7	Agreed
A.11	T2S calendar	Opening and closing days for Euro settlement	T2S provides a single calendar for euro CeBM settlement (TARGET2 calendar)		Chapter 3/Section 3.2	Eutosystem/TG1/ECSDA WG5	T2S.03.310	Barrier 7	Agreed

A.11.1	T2S calendar	Opening and closing days for non- Euro settlement	T2S accommodates the relevant opening days for non euro CeBM connected to T2S		Chapter 3/Section 3.2	TG 1/ECSDA WG5	T2S.03.320	Barrier 7	Agreed
A.12	Interface	Messages	T2S provides harmonised message interaction schemes for basic settlement. This covers direct and indirect technical connectivity.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1 (National differences in IT/interfaces/communication protocols)	Agreed
A.13	Interface	Messages	T2S provides a single message interaction scheme for direct holding settlement.	C19: LCMM and settlement of transactions in direct holding markets	Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed

A.14	Interface	Messages	T2S provides harmonised message interaction schemes for third (instructing) party settlement. This covers direct and indirect technical connectivity.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A.15	Interface	Messages	T2S provides harmonised message interaction schemes for settlement instructions amendments. This covers direct and indirect technical connectivity.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A.16	Interface	Messages	T2S provides harmonised message interaction schemes for settlement instructions cancellation. This covers direct and indirect technical connectivity.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed

A.17	Interface	Messages	T2S provides harmonised message interaction schemes for matching allegement. This covers direct and indirect technical connectivity.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A.18	Interface	Messages	T2S provides harmonised message interaction schemes for settlement instructions Hold & Release. This covers direct and indirect technical connectivity.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A.19	Interface	Messages	T2S provides a single message interaction scheme for Conditional Securities Delivery (CoSD) for CSDs in T2S.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A.20	Interface	Messages	T2S provides a single message interaction scheme for interaction of CSDs in T2S with respect to external settlement.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed

A.21	Interface	Messages	T2S provides a single message interaction scheme for settlement instructions on corporate actions.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A.22	Interface	Messages	T2S provides a single message interaction scheme for static data updates.		Chapter 13/Section 13.3	TG 5	Flow description in Chapter 13	Barrier 1	Agreed
A 23	Interface	Communication Standard	The T2S Interface adopts ISO 20022 as its single standard for all communications, both inbound and outbound.		Chapter 12/Section 12.2	TG5 / SMPG	T2S.12.040	Barrier 1	Agreed
A.23 .1	Interface	Reports	T2S adopts a harmonised statement of holdings report.(ISO 20022)		Chapter 13/Section 13.5.2.1	TG5 / SMPG	T2S.13.230	Barrier 1	Agreed
A.24	Interface	Reports	T2S adopts a harmonised statement of transactions report (ISO 20022)		Chapter 13/Section 13.5.2.2	TG5 / SMPG	T2S.13.240	Barrier 1	Agreed

A.25	Interface	Reports	T2S adopts a harmonised statement of pending instructions report (ISO 20022)		Chapter 13/Section 13.5.2.2	TG5 / SMPG	T2S.13.250	Barrier 1	Agreed
A.26	Interface	Reports	T2S adopts a harmonised statement of settlement allegements (ISO 20022)		Chapter 13/Section 13.5.2.2	TG5 / SMPG	T2S.13.260	Barrier 1	Agreed
A.27	Interface	Reports	T2S adopts a harmonised statement of end-of-day balances report (ISO 20022)		Chapter 13/Section 13.5.2.2	TG5 / SMPG	T2S.13.270	Barrier 1	Agreed
A.28	Interface	Reports	T2S provides a harmonised statement of static data report		Chapter 13/Section 13.5.2.2	TG 5	T2S.13.280		Agreed
A.30	Interface	Reports	T2S provides a harmonised statement of current settlement day cash information report		Chapter 13/Section 13.5.2.3	TG 5	T2S.13.300		Agreed
A.31	Interface	Reports	T2S provides a harmonised statement of following settlement day cash forecast report	C 02: Harmonised schedule for	Chapter 13/Section 13.5.2.3	TG 5	T2S.13.310		Agreed

				corporate actions.					
A.32	Settlement	Sequencing and prioritisation	T2S offers a single procedure for assigning priorities to settlement transactions. T2S uses a single set of sequencing rules		Chapter 7	TG 3	T2S.07.130-200		Agreed
A.33	Settlement	Optimisation	T2S uses the same optimisation procedures for all connected CSDs		Chapter 7	TG 3	T2S.08.010		Agreed
A.34	Settlement	Cash settlement	T2S provides a single cash settlement model for all connected CSDs/markets		Chapter 7	TG 3	T2S.06.010		Agreed
A.35	Settlement	Partial settlement procedure	T2S uses a single partial settlement procedure for all connected CSDs	B.07: Threshold for partial settlement	Chapter 8/Section 8.1.6	TG 3	T2S.08.210-430		Agreed

A.36	Settlement	Access to auto-collateralisation functionality	T2S provides access to auto-collateralisation functionality to all T2S participating markets	B.08: Auto-collateralisation /collateralisation procedures	Chapter 8/Section 8,2	TG 3	T2S.08.480		Agreed
A.37	Settlement	Settlement process	T2S provides a single settlement process (provisioning, on gross or on technical netting basis, and booking on gross basis) to all connected CSDs/markets		Chapter 7	TG 3	T2S.07.210 - 240		Agreed
A.38	Settlement	Night-time Settlement	T2S provides night-time settlement for all connected CSDs	A 05: T2S allows a single harmonised period for night-time settlement for all T2S	Chapter 8/Section 8.1.4	TG 3	T2S.08.020		Agreed

				CSDs/markets					
A.39	Settlement	Settlement of linked transactions	T2S provides a harmonised practice for linking transactions for settlement		Chapter 9	TG 3	T2S.09.070 - 130		Agreed
A.40	Settlement	Blocking and reservation of positions	T2S provides a harmonised practice for the blocking of cash or securities, and the reservation of a cash or a securities position for the settlement of one or more settlement instructions.		Chapter 9	TG 3	T2S.08.180 - 200		Agreed

A.41	Settlement	Settlement of corporate actions	T2S allows CSDs and CCPs to settle corporate actions in a harmonised way, as regards to the sequence, timing, prioritisation and linking of the corporate action related transactions. Applicable to both holdings and pending transactions		Chapter 9	TG 3	T2S.08.270		Agreed
A.42	LCMM	Matching fields	T2S uses a standard set of harmonised mandatory matching fields for matching of settlement instructions		Chapter 5/Section 5.5.2	TG 2 /ECSDA	T2S.05.580		Agreed
A.43	LCMM	Matching tolerance amount	T2S uses a single rule with regard to matching tolerance		Chapter 5/Section 5.5.2	TG 2	T2S.05.570		Agreed
A.44	LCMM	Validation	T2S provides a harmonised set of validation rules for all incoming settlement instructions		Chapter 5/Section 5.3.1	TG 2	T2S.05.020		Agreed

A.45	LCMM	Cancellation of instructions	T2S supports a single rule for instructions cancellation to all CSDs		Chapter 5	TG 2	T2S.05.440		Agreed
A.46	LCMM	Unilateral hold and release mechanism	T2S provides a single Hold and Release mechanism of all settlement instructions to all connected CSDs/markets		Chapter 5/Section 5.4	TG 2	T2S.05.350 - T2S.05.380		Agreed
A.47	LCMM	Settlement eligibility	T2S provides a harmonised set of settlement eligibility rules for all settlement instructions		Chapter 5/Section 5.6	TG 2	T2S.05.600 - T2S.05.620		Agreed
A.48	LCMM	Amendment	T2S provides a single rule for amending matching fields		Chapter 5/Section 5.4.2	TG 2	T2S.05.390		Agreed
A.49	LCMM	Matching rules	T2S provides a harmonised set of matching rules for all settlement instructions	B.5: optional matching rules and fields	Chapter 5/Section 5.5	TG 2	T2S.05.490 - T2S.05.590		Agreed

A.50	LCMM	Additional matching fields	T2S uses a standard set of harmonised additional matching fields for the matching of settlement instructions		Chapter 5/Section 5.5.3	TG 2	T2S.05.590		Agreed
A.51	LCMM	Cancellation of unmatched instructions	T2S adopts ECSDA recommendation for cancelling unmatched instructions (20 working days after the intended settlement day or the date of the last status change)		Chapter 5/Section 5.4.3	TG 2 /ECSDA	T2S.05.430		Agreed
A.52	LCMM	Back dated instructions	T2S allows backdated settlement instructions		Chapter 5/Section 5.3.1	TG 2	T2S.05.120		Agreed
A.53	LCMM	Tolerance amount for matching	T2S adopts tolerance amount matching in line with ECSDA recommendation		Chapter 5	TG2 / ECSDA	T2S.05.580		Agreed

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USER REQUIREMENTS

ANNEX 16

ISSUE NOTE - OPPORTUNITIES FOR FURTHER HARMONISATION

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

TABLE OF CONTENTS

1 Introduction

The purpose of this Annex is to list those areas and specific topics where opportunities for further harmonisation are identified. As described in annex 15 (URD Harmonisation), a major achievement of the T2S Project is to reach and implement harmonised solutions in several areas of (or close to) the settlement process, such as matching, cross-CSD settlement, communication standards, etc.

During the intensive phase of user requirements drafting, it has not always been possible to reach a common view on how to harmonise certain aspects of these processes. Topics such as a single recycling rule, an overall framework for fails management and NCBs collateralisation procedures require further analysis from all involved stakeholders. They all have an impact on the T2S system specifications and thus consensus should be sought by the completion of the system specification phase. The areas affected are presented in **section 2** and the detail topics in List B within this annex.

Section 3 identifies the work required for harmonisation in the wider post-trade industry. As such these topics fall outside the mandate and scope of the work of the T2S Project. Nevertheless, there seems to be widespread support from market participants that the Eurosystem can further contribute to harmonisation by sponsoring work with market users on harmonised market practices. Harmonisation in areas such as corporate actions processing, legal frameworks and tax collection procedures would maximise benefits for T2S users as well as for the entire post-trade industry. These topics are therefore very important for achieving the full savings potential of T2S, but from a system specification perspective have no or minimum direct impact. List C includes these topics as identified so far by T2S stakeholders.

The draft lists can be used as basis for further interaction with standard setting bodies and harmonisation working groups, already existing today or to be set up in the future. Cross reference between topics and relevant bodies are already included in the lists. The lists should be read as dynamic and not static tools for analyses which will be further elaborated and detailed in the next phase of the project.

2 Topics which can be harmonised during the specification phase

List B includes harmonisation candidates that are close to the core settlement services the harmonisation of which would have a direct impact on the development of the system's functionalities. Therefore agreement on these topics is aimed for the specification phase.

In seeking agreement, T2S stakeholders shall build on the work produced so far by various bodies assigned with the removal of the relevant Giovannini barriers (CESAME and its experts Groups, ECSDA etc).

These are topics of high priority and will be tackled as such in any new T2S workstream planned to focus on harmonisation issues during the next phase of the project.

Life cycle management and matching (LCMM)

In the area of instructions management some aspects of the topics included in List A require further work (instructions amendment, recycling rules, rule future date instructions, optional matching fields etc).

Settlement

On top of the harmonised features of the settlement model (List A) some topics require further analysis during the next phase. Typical examples are the agreement on an overall fails management framework and the threshold for partial settlement.

The topic of whether or not the T2S Schedule should include a common period for all connected markets where CSDs could manage their end-of-day fails management procedures, will be assessed against the definition of an overall (and single) framework for fails management procedures in T2S (applicable to all connected markets). Corporate actions on pending transactions are also part of this work, as they affect the efficiency of cross-CSD settlement in T2S.

B. Topics which can be harmonised during the specification phase

Issue reference	Business Area	Issue	Issue description	URD Chapter /Section	Relevant body (e.g. T2S Project Team, other external)	Harmonisation proposal	Priority	Current Status
B.02	LCMM	T2S handling of repo settlement	The handling of repo settlement can be initiated via one or two settlement instructions, depending on market practices. This can be harmonised to streamline the process in T2S.	Chapter 5	NUGs/European Repo Council (ERC)	AG has proposed that T2S supports both models via a splitting functionality. 4CB to estimate cost for splitting functionality for AG's consideration	High	Open
B.03	LCMM	Recycling rules for "hold" status	There is a need to define a single rule for recycling the hold status of an instruction/transaction	Section 5.4.3	ECSDA/ESF/NUGs		High	Open

B.03.1	LCMM	Recycling rules after matching	There is a need to define a single rule for recycling matched transactions. This is particularly relevant for cross-CSD transactions.	Section 5.4.3	ECSDA/ESF/NUGs	The current URD provides for CSDs to set their own recycling periods. One proposal would be to leave the recycling period open until bilateral cancellation. Another proposal would be to agree on a maximum period of recycling applicable to all markets.	High	Open
B.04	LCMM	Already matched instructions	T2S will support the settlement of already matched instructions (matched outside T2S) based on either one single instruction or two separate instructions. Further harmonisation could be achieved to streamline settlement processes in T2S.	Chapter 5	EACH/ECSDA	Redrafted Requirement: T2S.05.170, Already matched instructions may enter T2S as a single instruction containing both legs of the two counterparts. T2S shall create two separate instructions with same unique matching reference	High	Open
B.05	LCMM	Optional matching rules and fields	Harmonisation in optional (additional) matching rules and fields currently available in the URD would streamline T2S instructing and maximise benefits of its usage	Chapter 5 Section 5.5.3	ECSDA	to be added	low	Open

B.07	Settlement	Threshold for partial settlement	Currently, there is no harmonised threshold for partial settlement (managed unilaterally at CSD and CCP levels). This could be harmonised per asset type, to enable more system automation.	Section 8.1.6	ECSDA/ESF/EACH /NUGs	Harmonised threshold per asset type to be agreed	Medium	Open
B.08	Settlement	Auto-collateralisation	Procedures for transferring securities to NCBs as collateral are currently different from one market. It refers to both functional and legal differences.	Chapter 8	Eurosystem / CCBM2	Need to agree on a single procedure, especially on the functional level, for auto-collateralisation	High	Open

B.09	Settlement	Multilateral Settlement without a CCP	There are some markets with multilateral settlement model without the use of CCP.	Chapter 9 /Section 9.2.5		It would be optimal to have a single system functionality to support multilateral settlement without CCP in T2S. Some markets are already considering the possibility to make use of CCP services	High	Open
B.10	Non-functional requirements	Period for data archiving	Archiving obligations are not the same for all CSDs. Harmonisation at European level could help automation, reduce the size required for archiving databases and increase performance of data retrieval.	Section 17.1.3	NUGs/CESR	A working proposal would be a period of 10 years.	High	Open

B.11	Settlement	Single Framework for Fails management	Need to define an overall common framework for fails management. This could include various optimisation techniques: technical netting, partial settlement, self-collateralisation etc End of day fails procedures such as Buying-ins, securities lending would be assessed in this context.		NUGs, CESR (in case of regulatory impact), ECSDA	-Agree on a single framework.	High	Open
B.12	LCMM	Amendment	CSDs do have different approaches when instructions cannot settle as initially sent. Some will amend ("transform") instructions, changing part of their content, and others will cancel and re-instruct ("replace"). T2S enables both, but there is room for harmonisation, especially at business process level (to define when amendment is preferable to cancel/replace and vice-versa).	Chapter 5	ECSDA/NUGs	-Agree on a common procedure	Low	Open

B.13	LCMM	Future dated transactions	Different markets have different practices, with respect to the maximum time period for the forward settlement date, for the second leg of the repo transaction.T2S encourages the market to define a maximum time period for the settlement date of the second leg of Repo.	Chapter 5	ECSDA/NUGs/ERC	Agree on maximum time period.	Medium	Open
B14	Settlement	Corporate actions on "flows"	In order to ensure efficient cross CSD settlement, rules and procedures for managing corporate actions on flows (the generation of claims, transformations of unsettled settlement instructions) should not differ between Issues and Investor CSDs in T2S.	Harmonisation work	AG, T2S Harmonisation workstream	Proposal to ensure that these events are treated differently by connected CSDs	High	Open

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3 Topics which are beyond the scope of T2S but the Eurosystem can help harmonise

The purpose of list C is to identify those harmonisation candidates, which are of wider interest to the securities industry rather than to the core settlement services offered by T2S. It includes widely recognised harmonisation topics (corporate actions, legal frameworks and tax collection procedures).

The list reflects the strong interest of the Euroystem in the area of harmonisation of pan European market practices as well as the legal, regulatory and tax background and bear no connection whatsoever to the scope of services as currently presented in the URD. Considerable work is ongoing on most of the issues involving public and private sector bodies both on an EU (CESAME and its groups of experts, ECSDA etc) as well as a global scale (e.g. UNIDROIT).

Progress on the harmonisation of topics in list C would contribute to removal of Giovannini barriers 3, 11, 12, 13, 14 and 15.

Corporate actions

The issue of different national rules in corporate actions on settled positions processing is well identified under Barrier 3. Various industry bodies are already working on standards for mandatory distributions, market claims etc such as ECSDA, ESSF, ECSAs etc. T2S is committed to offer an operational framework that allows CSDs and their participants to settle corporate actions in a harmonised way (in line with industry's recommendations). Corporate actions on flows (on pending transactions) are to be dealt in List B as they impact directly the (cross-CSD) settlement process.

Settlement and LCMM

In the area of settlement, the main topics identified so far refer to the legal and operational procedures for position reservation used by the Eurosystem NCBs (C.03). Other topics under this category are registration (C.15) and securities fungibility (C.16). Various stakeholders are involved into the process of harmonisation, including the Eurosystem itself (via the CCBM2 project), regulators and issuers.

Procedures for harmonising instructing and settlement within direct holding countries and the issue of a pan European market discipline regime have also been identified for future analysis.

Tax procedures

National differences in the procedures applicable for collecting withholding and transactions taxes are

identified in barriers 11 and 12. Harmonisation refers to rules on procedures as currently valid in local markets and not to tax rates or other aspects of member states fiscal policy.

Legal harmonisation

Harmonisation in legal issues covers among others the laws applicable to holding and transfer of securities, insolvency laws, the determination of the applicable law etc. These are well identified under barriers 13, 14, 15. The current review of the Settlement Finality Directive (SFD) and the LCG and UNIDROIT initiatives are expected to deliver harmonisation within the timeline of the T2S project.

C. Topics which are beyond the scope of T2S but the Eurosystem can help harmonise

Issue reference	Business Area	Issue	Issue description	Relevant body (e.g.T2S Project Team, other external)	Harmonisation proposal	Priority	Contributes to removal of Giovannini Barrier No:	Current Status
C.01	Corporate Actions on stocks	Rules and processing of corporate actions on stocks (settled positions)	Harmonisation in the area of corporate actions processing would have a great impact on any post trading infrastructure, including T2S	CESAME Group, Legal Certainty Group (LCG), Fiscal Compliance Group (FISCO), European Credit Sector Associations (ECSA), ECSDA WG5, ESSF	Agree standard definitions, rules, timetables and processes for all types of corporate actions. ECSA-ECSDA report on recommendations for corporate actions (mandatory distributions) processing published in April 2007 is a major step in this direction. Market implementation Groups established in each market.	Medium	Barrier 3 (National rules relating to processing corporate actions should be harmonised)	On-going
C.02	Corporate actions	Corporate actions Schedule	Harmonisation in the area of corporate actions processing schedule, would improve quality of settlement day cash forecast reports.	CESAME Group, LCG, FISCO, ECSDA WG5, ECSA	Aim at harmonised rules regarding schedule for corporate actions processing.	Medium	Barrier 3 (National rules relating to processing corporate actions	Open

							should be harmonised)	
C.03	Settlement	Position reservation for collateralisation	Regarding collateralisation processes it is possible to move reserved securities to a reservation account or leave them on the securities account by flagging them as reserved. This is due to different existing collateralisation procedures (repo and pledge).	Eurosystem/CCBM2/ NUGs/ECSDA	One possible solution would be the harmonisation on a functional process moving securities to a reservation account. The legal basis for this move could be pledge or repo, as contractually agreed.	High		Open
C.14	Account Structure	CSDs Account Structure	Different account structures across CSDs.	CSDs/NUGs/ECSDA	-Harmonise the account structure.	Low		Open
C.15	Registration	Registration rules	Different rules and laws related to registration.	Regulators (CESR)	-Agree on the management of registration	Medium		Open
C.16	Securities Categories	Non-fungible securities	Non-fungible securities still exist in some CSDs	"EuropeanIssuers" (EALIC + UNIQUE),	Ensure all new issues are in fungible form	Low		Open

C.18	LCMM	Matching location	Currently T2S allows matching to take place in T2S or in the CSDs. A single central matching location in T2S would further increase the efficiency of the matching and life cycle processes.	CSDs/NUGs	-Agree on a common matching location	Low		Open
C.19	LCMM and Settlement	LCMM and settlement of transactions in direct holding markets	Each direct holding market has its own model of processing settlement transactions.	Direct Holding CSDs / T2S team/ECSDA	- Harmonised procedures for allocations of trades to end-investors - Harmonised procedures for the settlement of the trades and their allocations	Medium		Open
C.20	LCMM/Settlement	Market discipline to ensure settlement efficiency and timeliness	There are no common penalties and procedures to ensure settlement timeliness and efficiency. A common harmonised market discipline would ensure a level playing among CSDs and avoid regulatory arbitrage.	ECSDA/CESR	-Agree on a common market discipline	Medium		Open

C.21	External settlement with CSDs outside T2S	Interaction with external CSDs	Interaction between T2S CSDs and external ones lacks harmonisation. The establishment of an agreed framework would facilitate settlement between CSDs in T2S and external CSDs	ECSDA	to be added	Low		Open
C.22	Tax Issues	Transactions related and withholding tax issues	As identified in the Giovannini Report, procedures for withholding and transactions taxes should be harmonised.	FISCO	to be added	Medium	Barrier 11: All financial intermediaries established within the EU should be allowed to offer withholding agent services in all of the member states. Barrier 12: Any provisions requiring that taxes on securities transactions be collected via local systems should be removed	On-going

C.23	Legal Issues	Harmonisation of Legal Issues	As identified in the Giovannini Report, harmonisation of the laws applicable to the holding and transfer of securities in book-entry form, inclusive of insolvency implications, corporate actions processes and the determination of the applicable law would increase certainty and harmonisation for cross border settlement activity by removing current legal uncertainties in the EU.	LCG, International Institute for the Unification of Private Law (UNIDROIT), Review of Settlement Finality Directive	to be added	Medium	Barrier 13 (treatment of interests in securities) Barrier 14 (differences in the legal treatment of netting) Barrier 15 (differences about conflicts of laws)	On-going

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USER REQUIREMENTS

ANNEX 17

ISSUE NOTE - NATIONAL SPECIFICITIES IN T2S

T2S Project Team

Reference:	T2S-07-0209
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EUROPEAN CENTRAL BANK

EUROSYSTEM

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1 Introduction

The aim of this document is to present the national specificities identified by the Technical Groups at the request of the Advisory Group. Its exhaustive nature is not certain and can be complemented at a later stage during the T2S Project.

A National Specificity is a characteristic of the settlement process, which is specific to one or a few countries as a result of legislation or market practices. National Specificities may be:

- not supported by T2S
- supported through the CSD, using T2S core functionality
- supported through the development of Specific Functionality in T2S

A Specific Functionality in T2S, as opposed to T2S core functionality, is developed specifically for one or a few countries, due to the lack of a decision in the T2S Advisory Group to include this functionality in the core. A Specific Functionality in T2S is only developed subject to the involved countries explicit agreement to finance the development of what they have requested.

The items have been analysed in order to determine if they can be covered through T2S core functionality, or if they have to be developed especially for the countries by which the national specificities have been raised.

Summary table:

National Specificity	T2S needs to provide Specific Functionality that allows to maintain National Specificity	Need for the CSD to support National Specificity in its own systems, using T2S core functionality
Multilateral instruction settlement	No	Yes
Settlement on contractual settlement date	No	Yes
Fixed value date	No	Yes
Non fungible securities	No	Yes
Settlement procedure on Spanish	No	Yes

National Specificity	T2S needs to provide Specific Functionality that allows to maintain National Specificity	Need for the CSD to support National Specificity in its own systems, using T2S core functionality
equities		
Transaction reporting to fiscal authorities/regulators	No	Yes
Maintenance of accounts / static data by users	No	Yes
Legal requirements for archiving	No	N/A
Belgian fiscal regime (X/N)	No	Yes
Other Belgian specificities	No	Yes
Danish Floating Pledge	No	Yes
Reg Ueber set up	No	Yes
Abweichendes Depot set up	Yes (tbc)	Yes
Issue date and trache information for German registered shares	No	Yes
Electronic Transfer of Title not recognised in Ireland	tbc	tbc
Approval of instructions (Finland)	Yes	Yes
Recycling of trades	No	No
Different calendar for non EUR CeBM currencies	No	No

2 National specificities

Settlement of multilateral instructions, with or without netting, but without a central counterparty. This issue refers to the fact that settlement of multilateral instructions do not link one specific

seller to one specific buyer, but identifies groups of sellers on one side and groups of buyers on the other side. This means that the settlement of multilateral instructions cannot be done on an instruction by instruction basis. Instead, multiple instructions have to be settled together, which may require some specific procedures for fails management and for settlement during the daylight real-time settlement window (e.g. Greece, Spain and Slovenia)

Proposed solution: Specific settlement procedures have been identified and discussed with the concerned CSDs. These procedures involve settlement of multilateral instructions via intermediate accounts on the securities and/or cash side maintained by the CSDs in T2S. T2S will facilitate this by supporting the use of intermediate accounts. However, T2S will not perform any automatic processing of the original instructions or any resulting new settlement instructions, except what is already included in the T2S core functionality. In this "lean T2S concept" settlement of multilateral instructions is not foreseen as such, however, if a market has a multilateral settlement system and these trades have to be settled without CCP intervention, CSDs wanting to use T2S core settlement functionalities can open securities and T2S dedicated cash accounts under their responsibilities (as many as they may require) and intervene in the settlement process by placing themselves, by means of these accounts, between the accounts of the settlement members (a type of technical offsetting account). T2S's core settlement functionality will arrange the efficient settlement of these trades under the settlement optimisation procedure, including technical netting. Note that if a settlement member is lacking cash or stock the CSD would have to intervene in the settlement process to avoid fails, either by buy-in procedures, lending programs, guarantee funds or similar arrangements.

Settlement on contractual settlement date, disregarding positions and cash, secured by guarantee fund and buy-ins. This issue relates to the fact that some markets do not allow recycling fails for next day settlement, but resort to guarantee funds to settle transactions that could not settle during the day, either due to a lack of cash or securities. This procedure may require specific procedures to ensure interaction with the entity/entities managing the guarantee fund(s) (e.g. Slovenia).

Proposed solution: the entity managing the guarantee fund and buy-in should be able to submit buy-in and cash transfer instructions to ensure the timely settlement of the unsettled instructions. No significant impact on T2S is expected from this procedure. However, it should be clear that T2S will not support any procedure leading to post negative balances on the securities accounts; hence the considered instructions will remain unsettled at the end of the day.

Fixed Value Date It is possible to have fixed contractual settlement of cash or securities on value date for a DVP trade. In this case, if there is no sufficient cash to settle the cash leg of the transaction, securities have to be delivered Free of Payment on the considered value date; if the securities provision is not sufficient

to settle, cash has to be paid without securities delivery on the considered value date. The remaining part of the transaction (i.e. the part that could not settle in due time) should be settled later when cash or securities are available with reference to the initial fixed value date (e.g. Germany).

Proposed solution: The procedure is handled by the CSD, who would split the instruction into one transaction that is free of payment and one that is a payment "free of securities" and submit the new instructions to T2S. This would fit with the T2S core functionality.

Non-fungible securities

Below is a non-exhaustive list of non-fungible securities that may be held in T2S securities accounts:

- Premium lottery bonds – Bonds issued by the National Debt Office of Sweden. Lotteries are performed at certain intervals during the life cycle of the bonds, where the holders of the bonds may win an amount of money. In order to keep track of each investor's uniquely numbered bonds; a separate update of unique identifiers must take place in connection with the settlement of the main ISIN.
- Bonds with random amortisation – Which holdings to redeem at each amortisation is performed via a selection process. The selected holdings are then still transferable all the way up to the actual redemption (selection and redemption could take place e.g. 30 days apart). It is necessary to trace the selected holdings through the settlement chain up to redemption (e.g. Denmark).
- Specific Italian corporate bonds traded on exchange, OTC and via a multilateral trading facility (CABOTO). For this kind of corporate bonds, the redemption is made drawing specific certificates, identified by the certificate code. This means that the certificate codes owned by every participant are stored in the securities account database of Monte Titoli. For settlement, the certificate codes need to be checked during the settlement procedure.
- Serial ISINs, certain German bonds are issued in a main ISIN and several series, which have a separate sub ISIN. These bonds may be partially redeemed early via a lottery, based on the series with the sub ISIN. In order to settle a transaction in the main ISIN, the sub ISINs have to be identified via a special screen in CASCADE (client interface to the German settlement system). Transactions are automatically blocked before settlement and have to be manually released. Serial ISINs are not very common in Germany.

Proposed solution: The CSDs in T2S should be able to handle the settlement of the non-fungible securities via the Conditional Securities Delivery (CoSD) functionality already foreseen in T2S core functionality. The instructions, based on the ISIN, would be identified as a CoSD and would remain blocked until a final

release instruction is received from the administering CSD.

Settlement procedure on Spanish equities. In the Spanish equity market, all operations are numbered by the Stock Exchange (SE). As a result of a purchase or other type of change of ownership (or at the moment of the initial registration of the issue), securities are accredited to new holders and the operation number becomes what is know as the Register Reference (RR). This RR number has to be provided to the central register (Iberclear). For the buying party, Iberclear communicates the RRs to the participants who, in turn, file them away in order to facilitate later enquiries about a given operation or to resolve incidents or claims. For sales, the participants must justify the RRs linked to the securities they sell. Iberclear validates that the sold RRs are correct (i.e. validating that the number of securities sold are equal to or less than was originally assigned to the specific RR).

Proposed solution: The RR numbers can continue to be administered by the CSD, via the Conditional Securities Delivery (CoSD) already foreseen in T2S. The CoSD functionality would be activated upon the receipt of the transaction from the two counterparties or the Stock exchange. The CSD will be able to release the instruction for settlement once it has received the RR numbers. Through the use of CoSD, the CSD will monitor the RR in their local system before settlement can take place.

Transaction reporting to fiscal authorities/regulators In some countries specific information related to regulatory reporting needs to be included in the instruction (i.e. for some UK and Irish ISINs the nationality of the Buyer is required) or at the account level (e.g. in most direct holding markets).

Proposed solution: Two alternatives can provide a solution to this specificity. The first option being the maintenance of this information by the CSD, implying a split of instruction/account data between T2S and the CSDs. The second option being storage of this information within T2S and granting access to the information to the CSDs. To simplify the instructions flow, and to not force a split of instruction content, T2S core functionality shall offer the possibility to store and to retrieve information received from the T2S Actors. This includes non-settlement related information. This information should be retrievable according to access rights. As an example, CSDs will be able to retrieve tax data from instructions sent by their participants directly connected to T2S.

To avoid the splitting of the account information, T2S core functionality shall also allow for a certain number of free text fields to be attached to the T2S securities accounts. The interpretation of the content of these fields will have to be defined by each CSD making use of one or more of the fields. This means that a participant opening an account with a CSD, which makes use of such free format fields, has to inform itself of the use and interpretation of those fields.

Opening / closing and maintaining static data of accounts directly by users. It was originally stated that only CSDs would be allowed to open/close securities accounts as part of static data through the authorisation interface. This would require several changes in local legislation (e.g. in Slovenia/Finland) which would transfer the whole responsibility for opening/closing accounts from the CSD participants to the CSDs. This specificity concerns mainly direct holding markets. Each day a big number of securities accounts openings/closings are required and closely connected - synchronously – with regular settlement processes. Issue and redemption accounts are opened by the CSD but, due to the direct holding nature, clients' accounts are opened, closed and maintained by CSD participants (account operators) only, without any involvement of the CSD.

Proposed solution: This specificity should not have an impact on T2S. The CSD can continue to allow their participants to maintain their securities accounts. However, the administering instructions have to be sent by the CSD participants to the CSDs (i.e. no direct connectivity for these actions). The account data should then be transmitted to T2S by the CSDs, using T2S core functionality.

Legal requirement to provide reports in national language. In some jurisdictions (e.g. the French and Flemish for NBB), there is a requirement that the CSDs must provide the possibility to receive certain reports in a language as chosen by the receiver of the reports.

Proposed solution: T2S plans to provide standardised reports based on ISO 20022. Reports are not as such in a language; rather they just contain the data as specified. In order for the CSDs to forward the data in a structured format and with e.g. explanatory headings, the CSDs would need to produce them based on their own needs and the data received from T2S.

Legal requirements for Archiving. In Finland any outsourcing of the CSDs (APK) activities needs the approval of the ministry of Finance. The maintenance of centralised archiving might be considered as an outsourcing and hence might require approval. No impact is consequently expected for T2S.

Proposed solution: An indication from the Ministry of Finance of Finland has been given that outsourcing is possible in principle.

Belgian fiscal regime impacting settlement processing. This issue refers to the fact that in Belgium, the CSD is in charge of deducting the withholding tax on some transactions, on behalf of the Tax Authorities. There exist 2 types of accounts: accounts X (eXempt) and accounts N (Non exempt). If there is an instruction between two X accounts, NBB pays gross, if there is a transaction between an N and an X account or two N accounts, NBB will always pay net and transfer the withholding tax from and to the cash

account of the Belgian fiscal authorities. Hence if an X account delivers to an N account, they receive the net amount and the withholding tax on the accrued interest from the fiscal authorities. If an N account delivers to an X account or an N account, they receive the net amount also and the withholding tax on the accrued interest is paid to the fiscal authorities. Withholding tax applies to interest payments, securities transactions and transfers. There is also a limitation on certain securities that can not be held on an N account with NBB.

Proposed solution: T2S needs to be able to determine if the account instructing is an X account or an N account, hence this information would need to be stored within the static data in T2S. If there is a transaction between an X and an N account or two N accounts. T2S would automatically activate the CoSD functionality, informing NBB of the transaction. NBB in turn performs a validation of the instruction, calculates the withholding tax applicable to the transaction and links the cash payments that need to be performed to the transaction.

The CoSD functionality will allow the CSD to:

- Be informed of the instruction and perform a validation for N accounts that the securities can be held on this account.
- Have it held and make sure the directly connected delivering party can face the tax payment and hold the security to be delivered, before the settlement is processed. Else the CoSD transaction can be rejected.
- Send a cash settlement instruction to debit the delivering party of the tax amount and credit the receiving party at the same time or after the settlement of the instruction occurs.

Other Belgian specificities impacting settlement processing. In addition to the above fiscal specificity, other Belgian legal specificities have been identified, e.g.

- It is legally imposed to maintain securities issued in EUR or BEF and securities issued in other currencies into different securities accounts.
- For the securities issued in currencies other than EUR/BEF, only FOP transactions are allowed. Securities issued in EUR/BEF can have both FOP and DVP.
- No pledge transactions allowed in certain currencies
- No repo transactions allowed on the N (Non exempt) accounts
- No ISINs with selling restrictions allowed on the N (Non exempt) accounts
- Only settlement instructions received from the NBB allowed for some accounts

Proposed solution: As for the fiscal specificity, T2S can support most of these specificities by means of the CoSD functionality or based on T2S securities account validation. However, this needs to be assessed specifically for each case.

Use of T2S auto collateral instead of existing automatic collateralisation in Denmark: Auto-collateralisation based on floating pledge will still be needed in VP system in order to raise liquidity in DKK, if not offered by T2S. Hence, floating pledge generated from auto-collateralisation at VP for raising DKK liquidity should not be hampered by T2S. The floating pledge arrangement means that whenever eligible (for pledge) securities are going to be removed from the securities account earmarked for floating pledge, either due to a sale that is going to settle or due to a transfer out of the account, the collateral value of the potential sale/movement has to be calculated. If this calculated amount is less than the collateral value not already used + proceeds from the sale, the sale/transfer out of the account is allowed, otherwise it is denied.

Proposed solution: For settlement in DKK, VP can continue to offer auto-collateralisation via the floating pledge concept. The check that the CSD participant still holds sufficient collateral to cover his obligations could be performed by VP via the CoSD functionality. All against delivery instructions for securities eligible as collateral on this account would be retained until VP has checked that sufficient collateral is held on the account to cover the account holder's obligation. If the check has been positive, VP can confirm the CoSD transaction and it can settle.

Reg Ueber account set up in Germany: The Reg Ueber set up is used by CBF clients who are dealing on the Frankfurt stock exchange, as well as regional stock exchanges, the Reg Ueber set up allows to link CBF accounts set up for the regional stock exchanges to a main account to route and settle instructions via this main account. It is also used by settlement banks to settle client's stock exchange transactions, for which they need a CBF account via the account of the Settlement bank, thus integrating it in an Omnibus account structure. It is theoretically possible to settle OTC receipt instructions on the "sub" account, but the positions can only be delivered to the main account. It is not clear if the OTC receipt functionality on the "sub" account is used.

Proposed Solution: As the stock exchange transactions are send by the Xontro system, it should be possible to input routing information there in order to send instructions of the "sub"account directly to the main account in T2S. This would not have any impact on T2S. The realignments in between the main and the sub account would not be possible as currently offered by CBF, however T2S, would allow realignments to be created by the account holder.

Abweichendes Depot account set up in Germany: Abweichendes Depot set up, is a second method of settling stock exchange transactions of a branch or client via a main account of the settlement bank. The client under this set up can chose if the settlement cash should be posted on the cash account of the main or the sub account.

Proposed Solution: The T2S team has discussed this set up with CBF and received further information. This process needs to be further analysed during the next project phase to develop a solution. CBF has indicated that Abweichendes Depot is only used by very few of their clients.

Issue surrounding the issue date / tranche information for registered shares in Germany: For the registration of securities, information on the issue date and tranche is required to be validated before performing the registration.

Proposed Solution: The T2S team has received further information on the requirements of CBF. So far CoSD has been identified to resolve this issue. This proposal has been discussed with CBF. Further details to be added during the next project phase if needed.

Electronic Transfer of Title (ETT): Electronic Transfer of Title (ETT) is not recognised as binding by Irish law, as registration has to be performed prior to a transfer of ownership, this registration can sometime take up to 2 hours.

Proposed Solution: The T2S team needs to carefully analyse the current market practice for the transfer of ownership in place for Irish securities and identify a possible solution.

Approval of instructions (Finland): In the Finnish market, the broker is not only debiting/crediting accounts in the allocations, for which the broker is also the account operator. Instead, the broker, based on its customers' instructions, debits/credits their customers' accounts operated by other CSD participants. In such cases T2S must cater for flexible authorisation rules. Two main scenarios exist

1. Settlement of a trade – the broker/clearing member (CM) has a standing authorisation (PoA) from the Account Operator (AO) to debit/credit its accounts:

    a) The CM allocates its side of the trade to the underlying end-investor accounts, by either amending or cancelling/re-instructing the original instruction.

    b) T2S validates the instructions send by the CM recognising that the CM has a standing PoA from the AO

2. Settlement of a trade – the clearing member (CM) does not have a standing authorisation (PoA) from the AO to debit/credit its accounts:

    a) The CM allocates its side of the trade to the underlying end-investor accounts, by either amending or cancelling/re-instructing the original instruction.

b) T2S validates the instructions send by the CM recognising that the CM does not have a standing PoA from the AO

c) T2S sets the instructions into a state of “Pending approval” and sends a status message to both the CM and the AO(s) of the account(s).

d) The AO(s) sends an “Approval” message for each debit/credit to T2S

e) T2S updates the state of the instructions to “Approved”

After these steps, the settlement instructions become eligible for settlement and follow the ordinary settlement processes.

The steps 1 a) – 2 b) is part of the T2S core functionality, but the steps 2 c) – 2 e) is currently not in the T2S URD and they would be considered as Specific Functionality in T2S.

Proposed Solution: The above mentioned functionality (steps 2 c) – 2 e)) may be developed by T2S as a national specificity, if the Finnish market may opt for that solution. As an alternative, the Finnish CSD may arrange for the approval process of settlement instructions before entering them into T2S. In that case, direct connectivity would not be possible to offer for such instructions.

3 Issues brought up as national specificities, but already covered through the T2S core functionality

Recycling of trades

In some markets trades are not allowed not be recycled. They are only valid on the intended settlement date, after this day has passed; they are deleted by the CSD and have to be reinstructed by the two instructing parties. This specificity is supported by the core functionality, as whilst it is intended to harmonise the recycling periods, T2S shall remain ready to support different recycling periods for CCPs and CSDs. A recycling period of 0 days can be covered by this functionality (e.g. Slovenia, Greece).

Different Calendars for non EUR CeBM currencies (e.g. DKK).

It is possible that for a non EUR currency the opening days of the payment system are different to those of TARGET 2; hence settlement might take place on these days, requiring interaction of T2S to ensure funding. Hence the possibility to settle on a non-TARGET day when these currencies connect to T2S is required. As this issue potentially applies to any non EUR currency connected to T2S, it shall be covered via the core functionality.

USER REQUIREMENTS

ANNEX 18

ISSUE NOTE - FUNCTIONS FOR LIQUIDITY MANAGEMENT

T2S Project Team

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EUROPEAN CENTRAL BANK

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1 Introduction

TARGET2-Securities (T2S) is a technically centralised platform for securities settlement in central bank money (CeBM). For this purpose, central securities depositories (CSDs) will operate securities accounts in T2S and central banks (CBs) will do so for cash accounts[1]. The provision and management of sufficient liquidity on cash accounts in T2S will be under the responsibility of payment banks (including settlement banks). They are the account holders of the cash accounts in T2S and their applications and/or staff will interact with T2S in order to manage the liquidity on the cash accounts. To facilitate their work, T2S will offer a set of functions. Those functions will be available via an information tool, offering a graphical user interface as well as an interface for back-office applications[2].

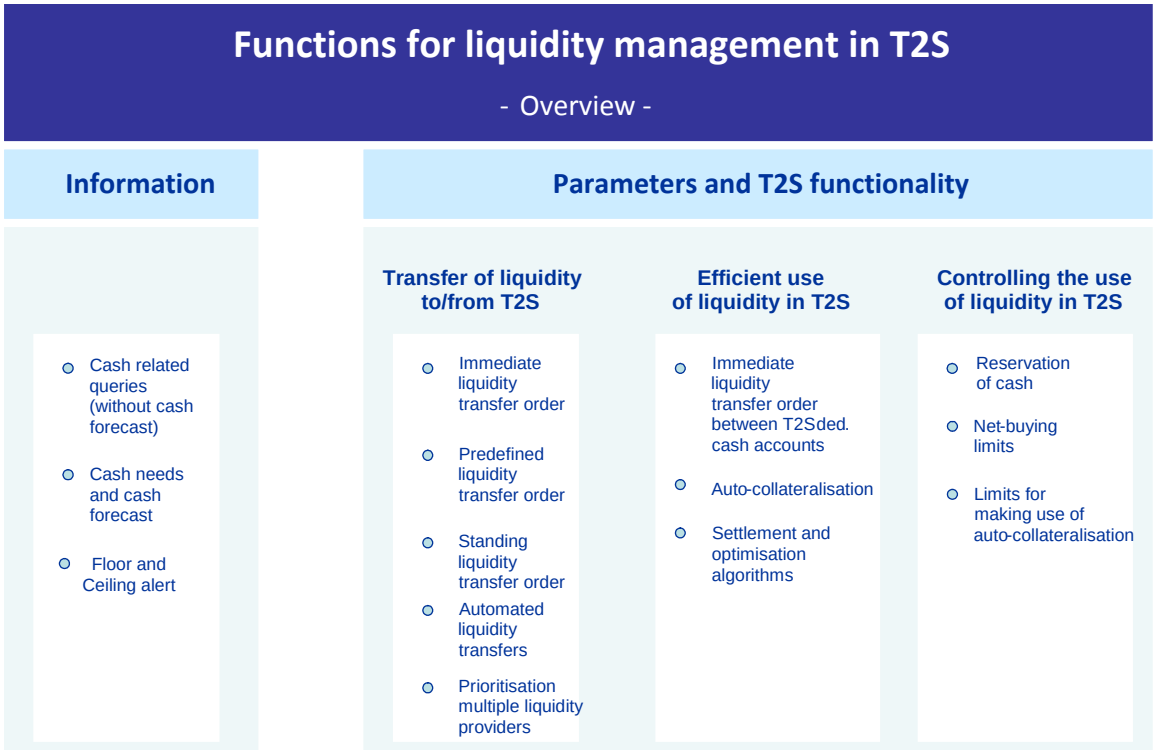
2 Functions for liquidity management

The functions available for liquidity management can be grouped in the following categories: (i) information and (ii) parameters and T2S functionality. The first category "information" summarises the different possibilities to query information to fulfil the needs of payments banks (including cash forecast). The second category can be sub-divided into three sections: functions for (a) transferring liquidity to/from T2S, (b) efficient use of liquidity in T2S, and (c) controlling the use of liquidity.

1 Cash accounts in T2S are called T2S dedicated cash accounts.

2 The tool will be available in user-to-application mode (U2A = graphical user interface) as well as in application-to-application mode (A2A = interface for back-office applications)

The diagram below provides a high-level overview of the different functions available:



2.1 Information

2.1.1 Cash related queries

The cash related queries will put the payment banks in the position to get information about their account balance on the T2S dedicated cash account(s), outstanding intraday credit out of auto-collateralisation (see URD, T2S.14.860), and potential liquidity based on securities on stock that can be used for auto-collateralisation purposes (see URD, T2S.14.830)[3].

In addition, information showing the overall liquidity and the overall expected end-of-day cash balance can be requested (see URD, T2S.14.870 and T2S.14.880). This overall information consolidates information on T2S dedicated cash accounts with information out of the respective RTGS system (for euro it will be TARGET2) and out of the collateral management system of the CB (e.g. CCBM2).

2.1.2 Cash forecast

The purpose of cash forecast functionality is to provide T2S actors the ability to receive information on cash needs for transactions pending to settle during the current settlement window, as well as cash forecasts for following settlement days. Information on cash needs and cash forecasts will cover liquidity needs at the level of T2S dedicated cash accounts. Information will also be split up to the level of each securities account

3 Access of CSDs to information on T2S dedicated cash accounts is currently under investigation.

linked to the same T2S dedicated cash account (i.e. determining which are the securities accounts consuming liquidity).

Information for the on-going settlement day aims at providing a snapshot of the cash necessary to settle transactions remaining unsettled at the moment of the snapshot. This information includes also the value of potential available auto-collateralisation in the information about cash needs for the current day settlement. Information on cash forecasts for following day(s) and in particular for the following night-time settlement window aims at allowing treasurers to prepare and dedicate in advance sufficient cash for the settlement of their transactions during the following night. The procedure for cash forecasts consists in determining cash needs by taking into account the net balance resulting from the difference between cash proceeds and cash needs expected for D+1 settlements as well as the amount of intraday credit that can be obtained through auto-collateralisation. The calculation of the cash forecast is described in more detail in the URD (see URD, T2S.06.160 to T2S.06.180).It will be possible to receive cash forecasts as reports that will be sent out automatically by T2S at certain events/points of time during the business day (see URD, T2S.13.300 and T2S.13.310). It will also be possible to query preliminary information on cash on demand (see URD, T2S.14.890 to T2S.14.920). However, as mentioned in the note submitted to the AG in October 2007, TG works have underlined that users shall consider cash forecasts received through these reports and queries as indicative and shall consequently be aware that these forecasts will change in the course of the settlement day depending on new settlement instructions submitted to T2S. In any case, TG works have highlighted that the quality of the cash forecast will increase continuously during the day with additional settlement instructions and information sent to T2S.

The access to information on cash needs and cash forecasts will be possible for the T2S dedicated cash account holder, but also to any other party such as the relevant TARGET2 cash clearers (and potentially to the CSDs) provided they have been granted with adequate access rights by the T2S dedicated cash account holder.

2.1.3 Floor/Ceiling

This functionality provides possibility for payment banks to receive alerts after:

- liquidity falls under the defined minimum amount (i.e. floor), or
- liquidity exceeds the defined maximum amount (i.e. ceiling).

In order to use this functionality, payment banks need to define floor and ceiling in advance. The minimum/maximum amount defined by the payment bank will be checked after each booking on the T2S dedicated cash account.

2.2 Parameters and T2S functionality

2.2.1 Transferring liquidity to/from T2S

Liquidity (i.e. CeBM) used for securities settlement in T2S will be transferred from accounts held in RTGS systems of national central banks. For euro it will be TARGET2, for non-euro currencies it will be the respective national RTGS systems of non-euro central banks that decided to make use of T2S for securities settlement in CeBM.

To transfer CeBM between the accounts held at the RTGS system and the cash accounts in T2S the following functions will be provided:

- Immediate liquidity transfer orders (see URD, T2S.06.40 to T2S.06.260) can be used to transfer liquidity between RTGS accounts and T2S dedicated cash accounts with immediate effect. In case of insufficient liquidity available no liquidity will be transferred at all, except the immediate liquidity transfer order has been initiated by CSDs on behalf of payment banks. It is because CSDs will not have access to information on liquidity available on the RTGSs account (e.g. in TARGET2) and therefore they will not know the exact amount of liquidity available. In order to avoid a “try and error exercise” partial execution must be available.

  In case of non-execution of immediate liquidity transfer orders an alert shall be sent to the payment bank that initiated the transfer.

- Predefined liquidity transfer orders (see URD, T2S.06.270 to T2S.06.320) can be used to define a fix amount to be transferred between RTGS accounts and T2S dedicated cash accounts at a certain point in time or at an event. The transfer will take place once only. In case of insufficient liquidity available on the account to be debited predefined liquidity transfer orders will be partially executed and the holder of the account to be debited will be alerted. If several predefined liquidity transfer orders shall be executed at the same point in time/same event and there is not sufficient liquidity available on the account to be debited a “pro rata rule” will be followed in order to transfer at least some liquidity.

  Partial execution and “pro rata rule” are already known to payment banks from functionality available in TARGET2 for Ancillary System Settlement.

- Standing liquidity transfer orders (see URD, T2S.06.330 to T2S.06.420) can be defined to:

  - transfer a fix amount between RTGS accounts and T2S dedicated cash accounts. In case of insufficient liquidity available on the account to be debited the standing liquidity transfer order will be partially executed and the account holder of the account to be debited will be alerted. If several standing orders shall be executed at the same point in time/same event and there is not sufficient liquidity available on the account to be debited the same “pro rata rule” as foreseen for predefined liquidity transfer orders will be followed.

- Automated liquidity transfers (see URD, T2S.06.220) will be provided in both directions, i.e. from T2S to TARGET2 as well as from TARGET2 to T2S.

- Automated liquidity transfers from T2S to TARGET2 are executed on a mandatory basis at the end of the settlement day (shortly after 18:00h) and in addition at different times/events (e.g. 05:00 and/or 16:00h) on an optional basis[4]; i.e.:
  - all liquidity available on a T2S dedicated cash account will be transferred to the linked RTGS account (= liquidity sweep).
  - at the end of the settlement day (shortly after 18:00) in addition to the liquidity sweep also re-imbursement of still outstanding intraday credit out of auto-collateralisation takes place.

- prioritisation of "multiple liquidity providers": this functionality aims at allowing a T2S dedicated cash account holder to receive liquidity from several liquidity providers and reimburse the liquidity providers according to a priority defined in static data. More precisely, liquidity transfers will take place between the RTGS accounts of the liquidity providers (TARGET2 RTGS accounts for euro) and the T2S dedicated cash accounts of the liquidity receiver ahead of the start of night-time settlements. Liquidity providers will be able to define an amount to transfer by default to the liquidity receivers and amend this amount on a daily basis according to their clients' needs. The amount of liquidity transferred from the RTGS account to the T2S dedicated cash account in the context of this functionality will be stored in T2S for the processing of the reimbursement step.

  The whole amount of liquidity available on the T2S dedicated cash account of the liquidity receiver (i.e. its own liquidity and the liquidity received from the liquidity providers) will be used as a single liquidity source for the settlement of the liquidity receiver's transactions during the night-time settlement window.

  At the end of the night-time settlement processes, T2S will use the liquidity position remaining on its T2S dedicated cash account to return cash to the liquidity providers according to a prioritisation order pre-defined in static data[5], in such a way that the most remote liquidity provider will be reimbursed first and the main liquidity provider will be the last one to be reimbursed. In other words, this means that the positive liquidity position remaining at the end of the settlement process will be used to reimburse in priority the most remote liquidity provider, as if the liquidity granted by this provider had been used in last resort after all other sources of liquidity.

  These reimbursement liquidity transfers will take place from the T2S dedicated cash account of the liquidity receiver to the RTGS accounts of the liquidity providers. In this chain of reimbursements, T2S will aim at reimbursing each liquidity provider up to the maximum amount of cash lent (i.e. amount of cash effectively transferred from the RTGS account to T2S), before starting to reimburse the following liquidity provider. If after reimbursing all other liquidity providers, there is cash

[4] Optional means that the account holder of the T2S dedicated cash account has the choice whether he wants to make use of the additional liquidity sweeps at 05:00h and/or 16:00h. In case he has opted to make use of them, then those liquidity sweeps will be executed without any additional action of the payment bank, i.e. they will be executed automatically.

[5] Priority in static data defined either by the liquidity receiver or by another third party – e.g. the main liquidity provider – if the latter has been granted with adequate access rights in T2S to parameterise this priority on behalf of the liquidity receiver.

remaining on the T2S dedicated cash account of the liquidity receiver, the latter will be able (if opting for this functionality) to return automatically all this remaining cash to the RTGS account of the main liquidity provider. This automated transfer of liquidity will take place even if this leads to return more cash than the amount of liquidity that had been initially provided ahead of night-time settlements.

This functionality will consequently enable T2S dedicated cash account holders having a limited access to liquidity to receive additional cash from several liquidity sources. This functionality will consequently reduce risks of fails due to cash shortages, while giving liquidity providers with adequate control on the amount of liquidity provided (ability to determine in advance the amount of cash to transfer) as well as efficient tools for limiting exposure (automated return of cash for reimbursement purposes).

2.2.2 Efficient use of liquidity in T2S

Liquidity on cash accounts in T2S will be available for securities settlement purposes. In order to efficiently use of liquidity available in T2S, the following functions will be provided:

- immediate liquidity transfer orders between cash accounts in T2S (see URD, T2S.06.240) can be transferred by the account owner of the T2S dedicated cash account to be debited to another T2S dedicated cash account of the same account owner or to another T2S dedicated cash account owned by a payment bank linked to the same RTGS account in TARGET2.
- In case of non-execution of immediate liquidity transfer orders an alert shall be sent to the payment bank that initiated the transfer.
- auto-collateralisation on flow and on stock (see URD, T2S.08.480 to T2S.08.960) will ensure the automated intraday credit provision in central bank money (CeBM) in order to facilitate the settlement of trades. Auto-collateralisation will be triggered as soon as a purchase cannot settle due to an insufficient cash position on the T2S dedicated cash account of the buyer. The collateralisation process will use either securities on flow or securities on stock. Securities on flow, i.e. the securities being purchased, will be used to secure the credit granting if the latter are accepted as collateral by the relevant central bank. When the securities being purchased are not part of the list of eligible collateral (e.g. equities) or when the value of securities on flow is not sufficient to cover the amount of credit granted, T2S will use eligible securities on stock as collateral. The auto-collateralisation procedure will be available during the whole settlement day and will be part of optimisation procedures.
- settlement and optimisation algorithms (see URD, T2S.07.010 to T2S.08.470): in addition to the auto-collateralisation functionality, T2S will also resort to optimisation procedures throughout the whole settlement day. To that purpose, although booking will be ensured on a gross basis, T2S will resort to technical netting procedures. These procedures will aim at optimising settlements with the cash and securities positions available, by considering the total net amount of securities and cash necessary to settle a chain of transactions. For instance, in a back to back transaction when an intermediary buys

securities to redeliver them immediately, while the booking of both transactions will take place on a gross basis (delivery and redelivery), T2S will consider the net need of cash (and securities) of the intermediary (i.e. difference between the cash needed to buy the securities and the cash received when redelivering them to the final buyer). This optimisation process, relying on single-ISIN and multi-ISIN optimisation procedures, will increase settlement efficiency while limiting the amount of cash and securities needed to settle. This will of course optimise liquidity in T2S.

2.2.3 Controlling the use of liquidity

In order to control the use of liquidity available on cash accounts in T2S payment banks will have the possibility to make use of the following functions:

- reservation of liquidity (see URD, T2S.07.340 to T2S.07.390): T2S will provide the ability to T2S Parties to reserve liquidity for specific settlement purposes. To that purpose, a T2S party will have the possibility to submit a reservation instruction leading to put aside liquidity that can no longer be used by T2S for other settlement purposes than the settlement of the instruction specified by this T2S party. In other words, this means that the T2S party can reserve liquidity for a specific settlement purpose and that apart from this specific settlement purpose, the reserved amount of liquidity cannot be used for other settlements. This facility can be used for instance when a settlement bank acting as paying agent for an issuer wants to make sure that the specific amount of liquidity put on its T2S dedicated cash account to ensure dividend payments on behalf of the issuer will not be depleted for settling on-going purchases. As illustrated in the previous example, this facility enables to pilot liquidity flows when some specific settlements require a close control of liquidity use.

- net-buying limits (see URD, T2S.10.080): in order to facilitate also the control of liquidity use, T2S dedicated cash account owners providing payment bank services have the possibility to limit the total amount of cash that can be used by their clients. In particular, when a payment banks clears on its own T2S dedicated cash account the settlement of transactions of third parties securities account holders, the payment bank has the ability to cap the net amount of liquidity that its clients can use to settle their transactions. This cap can be defined per securities account holder or per group of securities accounts holders. It applies to the net amount of purchases (i.e. total amount of purchases minus total amount of sales) and cannot be breached by the relevant clients. This tool allows payment banks limiting their cash exposure vis-à-vis their clients. When a payment bank uses the same cash account for its own settlements and for the settlement of its clients' transactions, this tool also allows the payment bank making sure that sufficient cash remain available to settle its proprietary trades (i.e. that cash is not depleted for settling clients' trades).

- limits on auto-collateralisation (see URD, T2S.08.760): for each securities account (or group of securities accounts) associated with a T2S dedicated cash account, the account holder of the T2S dedicated cash account shall be able to limit the amount of intraday credit that can be obtained through auto-collateralisation.

USER REQUIREMENTS

ANNEX 19

ISSUE NOTE - REPOS IN T2S

T2S Project Team

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EUROPEAN CENTRAL BANK

EUROSYSTEM

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1 Introduction

T2S shall provide a borderless settlement platform in central bank money where all kind of current European transaction types of the securities markets shall be supported in a harmonised way.

The aim of this annex is to clarify the various options and solutions to handle repurchase agreement transactions within T2S.

The repurchase agreement (Repo) is an arrangement whereby an asset is sold while the seller simultaneously obtains the right and obligation to repurchase it at a specific price on a future date or on demand.

As far as instructions relating to Repos and their settlement are concerned, there are currently different practices among markets and between OTC and electronic trading platforms.

The main difference is concerning the use of a single instruction for instructing the two parts of the Repo (inception and redemption) versus the use of two separate instructions.

While some countries like Belgium, France, Italy and Spain make widespread use of the single instruction, the use of two instructions is rather common for OTC cross-border instructions and for example in Germany, United Kingdom, Euroclear Bank and Clearstream Banking Luxembourg.

T2S supports both ways of instructing repos. Hence, the service provided by T2S allows accommodating different types of repos, from the simple standard repo to other more complex or flexible repos (i.e. open repos, indexed repos). The single instruction may be considered more appropriate for the former and the two separate instructions for the latter.

The provision of any kind of CSD's value added repo services (e.g. calculation of interest amount in indexed repos, management of margin calls or coupons, etc.) is out of the scope of T2S.

This note is structured as follows. Section 2 presents the two options to instruct a Repo in T2S, that is, a single instruction or two separate ones. Sections 3 and 4 provide further information about the available tools that T2S actors have when instructing repos.

The described process for repos in this annex may be applicable to other transaction types such as securities lending, buy-sell back etc.

2 Ways of instructing repos in T2S

T2S allows T2S actors to instruct repos by either a single instruction (by using a so-called "two-legged instruction") or two separate instructions.

A repo instructed by a two-legged instruction would contain all the relevant details for settling both the inception (starting leg) and the redemption (closing leg).

A repo instructed by two instructions would have the inception (starting leg) and the redemption (closing leg) in two different instructions.

A repo instructed by a two-legged instruction may match with a repo instructed by two instructions. Since T2S splits the two-legged instruction, the pair of the two starting legs matches independently of the matching of the pair of the two closing legs.

The T2S actor may make use the of ISO transaction code (e.g. REPU, RVPO, etc) to identify the transaction type as well as for reporting purposes.

The below table summarises the main differences between both ways of instructing repos in T2S. Some aspects of the table will be further detailed in section 3 and 4.

	Validation	Matching	Instruction maintenance	Link
Single instruction	Before splitting	Independently for each split instruction	Applicable to both except if one is already settled	Assigned by T2S automatically
Separate instructions	Independently for each instruction	Independently for each instruction	Independently for each instruction	Assigned by T2S actors

3 Repo in a single instruction (two-legged instruction)

A two-legged instruction may be instructed by a Delivery versus Payment (DVP) instruction in case of a repo sell or a Receive versus Payment (RVP) instruction for a repo buy.

When T2S receives a two-legged instruction, T2S will validate it and create two separate instructions that it will link internally. The link creates an interdependency at the level of settlement eligibility but not at the level of settlement. Consequently, due to the link the second instruction becomes eligible for settlement if and only if the first leg has settled.

T2S applies any maintenance instruction to hold, release, amend or cancel a two-legged instruction on both legs if possible (i.e. if both legs have not been settled yet). In case the starting leg has already settled, T2S applies the maintenance instruction on the closing leg.

In addition, if the inception and redemption of a two-legged instruction have the same intended settlement date (i.e. an intraday repo), T2S will put the second leg on hold in order to allow the T2S actor to space out the settlement of both legs. In this scenario, the T2S actor must send a release instruction to make the second leg eligible for settlement when deemed necessary.

4 Repo in two separate instructions

A repo sell must be instructed by a combination of a DVP instruction (starting leg) and an RVP instruction (closing leg) whereas a repo buy must be instructed by an RVP (starting leg) and a DVP (closing leg).

T2S allows T2S actors to link the two instructions. T2S will reject an instruction if the linked instruction does not exist within T2S only after a defined period of time in order to avoid a possible rejection due to different processing times of the instructions by T2S. Besides, if T2S receives an instruction linked to another instruction which is not linked to the former, T2S will search for it and will add to it the linking reference.

T2S is able to identify which of the linked instructions is the starting leg or the closing leg based on a combination of the instruction type and the ISO transaction code. See the below examples for a repo buy and a repo sell. Therefore, in case of a repo sell, the T2S actor must include the ISO transaction code 'REPU' (as currently defined in the ISO 15022) in both the DVP instruction and the RVP instruction.

	ISO transaction code	Starting leg	Closing leg
Repo Sell (Repo)	REPU	DVP	RVP
Repo buy (Reverse Repo)	RVPO	RVP	DVP

If the instructions are linked to each other by the T2S actor and a defined ISO transaction code such as REPU or RVPO is present in both instructions according to the above-mentioned rules, T2S will automatically ensure that the leg with the latest intended settlement date becomes eligible if and only if the other leg has settled.

For intraday linked repos, the T2S actor may as well either retain the closing leg until the settlement of the starting leg or make use of the hold/release mechanism in order to space out the settlement of the inception and the redemption.

If there is no link, T2S will handle both instructions separately as any other DVP instructions. It is up to the T2S actors either to decide when the redemption has to be instructed to T2S: before or after the settlement of the inception, or to instruct both legs at the same time and holding the redemption (releasing the redemption after the settlement of the inception).