

TARGET Instant Payments Settlement User Requirements

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Market Consultation for TIPS

Executive Summary

Introduction

The market consultation on the TARGET Instant Payments Settlement (TIPS) User Requirements Document (URD) is herewith initiated on 9 January 2017 and runs until 24 February 2017. Financial market infrastructures and financial institutions in Europe with a stake and interest in instant payments are invited to provide their feedback on the URD to the Eurosystem.

The aim of this document is to describe the principles and functionalities of TIPS on a high level to cater for the business level perspective in which TIPS could be beneficial to the European financial market.

Scope of the Project

In order to facilitate the emergence of instant payments, the Eurosystem has launched an investigation phase to identify the user requirements for a service to support *Central Bank Money (CeBM) settlement of instant payments 24/7/365*.

TIPS is a service for the settlement of instant payments. TIPS will offer instant settlement services to its Participants when an originator instructs the transfer of funds to a beneficiary. The primary aim is to offer *settlement of instant payments in Euro*. However the technical implementation of TIPS shall be *currency agnostic in its design*, i.e. TIPS could support settlement in non-Euro Central Bank money as well.

TIPS shall support Participants to be *compliant with the SEPA Instant Credit Transfer (SCT Inst) scheme* which the European Payments Council (EPC) has developed for instant payments in Euro. TIPS shall follow the process flows defined by the scheme and offer real-time information on the status of transactions and liquidity transfers to Participants. TIPS messages shall be in line with SCT Inst scheme, all payment messages shall use the same format if applicable. However, other schemes in other currencies are not excluded and might be supported in the future, if deemed necessary.

TIPS is intended as a harmonised and standardised *pan-European service with common functionality across different countries and jurisdictions*. The lean nature of the service will promote efficiency in the settlement of instant payments. Common functionalities across jurisdictions and the intention to support compliance of the SCT Inst scheme will ensure harmonisation of practices and further market integration in the settlement of instant payments.

TIPS offers a very *flexible participation structure* that can support different business models without compromising the speed and efficiency requirements stipulated by the SCT Inst scheme. There are three classes of actors in TIPS: Participants, Reachable Parties and Instructing Parties.



EUROPEAN CENTRAL BANK

EUROSYSTEM

Participants are the only entities allowed to open accounts in TIPS. The opening of TIPS accounts will adhere to *the same eligibility criteria*¹ as opening of accounts in TARGET2 for accounts in Euro. This will be irrespective of whether or not Participants actually have an account in TARGET2.

Reachable Parties do not maintain TIPS accounts; however they have contractual agreements with a Participant to use *the Participant's TIPS account* for the settlement of instant payments. This would allow institutions to offer instant payment solutions to their account holders and be reachable within TIPS without opening accounts. TIPS offers additional functionalities for Participants to manage the credit limits of Reachable Parties without splitting liquidity amongst multiple accounts.

An Instructing Party is any entity that has contractual agreements with one or more Participants to *instruct on-behalf of the Participant*. Instructing parties will have direct connectivity to TIPS. Participants can enter into contractual agreements with Instructing Parties to manage their TIPS accounts. Both Participants and Reachable Parties can act as Instructing Parties themselves.

TIPS accounts in Euro shall *legally be opened in the TARGET2 component of the responsible Central Bank* and shall be dedicated to the settlement of instant payments on TIPS. TIPS account balances will be *applicable to the minimum reserve calculation*. A snapshot of the balance on the TIPS account for the fulfilment of the minimum reserve requirement will be taken at the closing time of TARGET2. TIPS will work according to the calendar day and operate on a 24/7/365 basis; it will also provide reporting according to the value date in TARGET2. TIPS billing will be integrated with TARGET2.

The liquidity in TIPS accounts can be *sourced from TARGET2*, during the TARGET2 operating hours. As described in a later section on "TIPS as part of European Market Infrastructure Vision", the Eurosystem is in the investigation phase of another project to modernise, harmonise and enhance its market infrastructural services. The implementation of this project is expected to significantly enhance the availability of TIPS liquidity management in the future.

The countries across the world where instant payments solutions are available, are witnessing significant growth in the adoption of such services. TIPS service will be built using appropriate and efficient technologies to *support high transactional volumes while operating 24/7/365*. The end-to-end processing of instant payments, even for large concurrent volumes, will be completed in accordance within the guidelines stipulated by the SCT Inst scheme so that the funds are instantly available to the beneficiary banks. The service will be horizontally scalable to ensure the processing of high volumes and to support a very large number of Participants.

There will be a *service desk* to support the core settlement process and to deal with technical issues in connectivity and exception handling.

TIPS will offer *queries and reporting tools* to the Participants to support monitoring and reconciliation. Queries and reports critical to the management of the settlement process will be made available 24/7/365, whereas other queries and reports which relate mainly to set-up activities may be available only during the RTGS operating hours. The service will offer reports that are configurable by Participants including a statement of all transactions to support reconciliation. The service shall also provide daily raw data to support archiving, billing and statistics.

¹ Guidelines on TARGET2: TITLE II: PARTICIPATION, Article 4: Access criteria : http://www.ecb.europa.eu/ecb/legal/pdf/l_03020130130en00010093.pdf

Connectivity Approach

TIPS will be a network vendor agnostic service. The intention of the Eurosystem is to let each TIPS Participant to decide on the network vendor they each intend to use and pay to the network vendor directly, as long as this network vendor is certified by the Eurosystem. The Eurosystem will set out the requirements that the network provider should adhere to.

Pricing

TIPS shall operate on a full cost-recovery and not-for-profit basis. Considering the principle of full cost recovery, the assumption is that this could be achieved with a price which might range from 0.5 to 1 cent per instruction (i.e. between €0.005 and €0.01). This should not be construed as a commitment at this stage, but rather an exploration of market interest.

TIPS as Part of European Market Infrastructure Vision

In projects which are running in parallel to TIPS, the Eurosystem is exploring the options for consolidating different functionalities that are used by more than one Eurosystem service like Liquidity Management, Connectivity, Reference Data and Billing.

The potential consolidation of Liquidity Management functionality will offer significant benefits to TIPS Participants. Central bank liquidity will be concentrated with the possibility to dedicate it to the different services offered (including TIPS). The delivery of common connectivity and security components with regards to the TARGET2-T2S consolidation would lead to the emergence of a single gateway to Eurosystem market infrastructures. This would allow for the delivery of harmonised graphical interface(s) to TIPS and the other Eurosystem market infrastructural services. Consolidated Reference Data module will offer reduced maintenance effort for TIPS Participants as reduced duplication of information helps the Participants to manage the reference data better and avoid inconsistencies. Billing functionality will be consolidated to aggregate all billable events across different Eurosystem market infrastructures and generate a consolidated invoice for the Participants. However it is to be noted that these projects are in the investigation phase. If the Eurosystem takes a decision to develop the aforementioned project, it will follow a longer time plan different from the TIPS project and would not be available during the initial stage of TIPS. The plans how to consolidate today's market infrastructures will be taken into account when developing TIPS to avoid a re-building of the TIPS service.

The Eurosystem will monitor the reachability in the context of instant payments in Europe. If required, the Eurosystem may consider offering further scope, possibly via the modernisation of TARGET2.

How will the Feedback to this Market Consultation be Considered?

Institutions are requested to enter their comments in the enclosed pre-formatted excel sheet under the relevant sections and send the comments to the mail-id TIPS@ecb.europa.eu.

The URD will be enhanced based on the feedback from the market Participants. The project team will consider all comments while updating the URD. All comments and responses will be provided during the month of March, in line with our transparency principles; any comments received will be published on the internet, unless it is clearly indicated that the author does not consent to such publication.

If the decision in June 2017 is to develop the service, TIPS is expected to be operational in November 2018.

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1 INTRODUCTION

1.1 BACKGROUND

Instant payment solutions have been or are being developed in several countries around the world and in Europe, often with strong encouragement from public authorities. The Euro Retail Payments Board (ERPB) defines them as solutions that are available 24/7/365 and result in the immediate or close to immediate interbank clearing of the transaction and the crediting of the payee's account. Instant payments may be considered as the next frontier of development in the payments industry.

The objective of the Eurosystem is to ensure that an instant payment solution is available for the euro at the pan-European level. This objective is important for the Eurosystem in relation to its task of promoting the smooth and efficient operation of payment systems and promoting the European Capital Markets Union by avoiding the market fragmentation arising out of diverse national solutions.

As a general introduction, this chapter outlines the project scope which will be detailed in the rest of the document. It also presents the principles that will serve as the foundation for the service. In addition, this chapter presents the method for organising and presenting user requirements in subsequent chapters and directs readers to the glossary of terms.

1.2 PROJECT OBJECTIVES

The main objectives of the project are:

- to facilitate the instant interbank settlement in Central Bank Money of funds transferred by an Originator to a beneficiary round the clock across the year;
- to support Participants to comply with the SCT Inst scheme;
- to promote efficiency and ensure market integration in the settlement of instant payments.

1.3 PROJECT SCOPE AND DESCRIPTION

TARGET Instant Payments Settlement (TIPS) is a service for the settlement of instant payments. TIPS will settle payments instantly in Central Bank money, with around the clock availability TIPS is intended to be a harmonised and standardised pan-European service with common functionality across different countries and jurisdictions.

The aim of TIPS is to offer instant settlement services in euro to its Participants when an Originator instructs transfer of funds to a beneficiary. However the technical implementation of TIPS shall be currency agnostic in order to provide flexibility in the design, i.e. to support settlement in non-euro Central Bank money as well.

TIPS service shall support high transactional volumes while operating 24/7/365.

TIPS shall follow the participation criteria of TARGET2. Participants who are eligible to open TARGET2 accounts will also be eligible to open TIPS accounts (even if they do not have TARGET2 accounts).

TIPS shall support Participants to be compliant with the SCT Inst scheme for instant payments in euro. TIPS messages shall be in line with SCT Inst scheme, if applicable; all payment messages shall use the format prescribed by the European Payments Council (EPC). TIPS message flows for instant

settlement in euro shall be in line with the SCT Inst scheme. However, other schemes in other currencies are not excluded and might be supported in the future, if deemed necessary.

1.4 GENERAL PRINCIPLES

TIPS shall be based on the below principles.

Principle 1: TARGET Instant Payments Settlement (TIPS) shall serve as a technical solution for providing instant payments settlement services to Participants without the provision of clearing services.

Clarification: The settlement services offered in TIPS will include validation of payment transaction (e.g. checks for message format compliance, availability of accounts, or authorisation to instruct) as well as the confirmation of the settlement results to the Participants.

Principle 2: The primary objective of TIPS is to provide efficient settlement services in euro; however the service shall be technically capable of settling currencies other than the euro.

Clarification: The technical implementation of TIPS shall be currency agnostic in order to provide flexibility in the design, i.e. potential settlement in non-euro central bank money. Currency conversion is not in scope.

Principle 3: TIPS shall settle exclusively in Central Bank money.

Principle 4: The settlements performed by TIPS shall be final and irrevocable.

Principle 5: TIPS shall allow operations on a 24/7/365 basis.

Clarification: The technical design of TIPS shall allow around-the-clock operation of the service.

Principle 6: TIPS shall be a lean, harmonised and standardised pan-European service with common functionality across different countries and jurisdictions.

Principle 7: For the settlement of instant payments in euro, TIPS shall follow the participation criteria of TARGET2. For other currencies, participation criteria shall be defined by the Central Banks responsible for the RTGS.

Clarification: TIPS accounts in euro shall legally be opened in the TARGET2 component of the responsible Central Bank and shall be dedicated to the settlement of instant payments on TIPS.

Principle 8: Participation in TIPS shall not be made mandatory by the Eurosystem.

Principle 9: All eligible Participants shall have non-discriminatory access conditions to TIPS.

Clarification: From a technical point of view access for all Participants of TIPS shall be non-discriminatory. TARGET2 rules will govern the access conditions for the settlement of instant payments in euro.

Principle 10: TIPS shall be based on the ISO 20022 message standard for instant payments settlement and shall support Participants to be compliant with the SCT Inst scheme for instant payments in euro.

Clarification: Succeeding ISO standards are not excluded and might be adopted in the future, if deemed necessary. TIPS messages shall be in line with SCT Inst, if applicable, insofar as to allow easy translation; all payment messages shall use the same format. However, other schemes in other currencies are not excluded and might be supported in the future, if deemed necessary.

Principle 11: The Eurosystem shall take on the responsibility of developing and operating TIPS by assuming full ownership.

Principle 12: TIPS shall operate on a full cost-recovery and not-for-profit basis.

1.5 ORGANISATION AND PRESENTATION OF THE USER REQUIREMENTS

The TIPS User Requirements document is organised into chapters presenting the various aspects of the project.

- **Chapter 1: Introduction** – describes the purpose of this document; recalls the principles which are the main pillars of TIPS; and provides guidance on how to read this document.
- **Chapter 2: High-level Process Description and Architecture** – aims at identifying the TIPS stakeholders, presenting the overall scope and process description of the service.
- **Chapter 3: Settlement of Instant Payments Transactions** – identifies requirements for the core instant payments settlement process and exception handling.
- **Chapter 4: Liquidity Management** – aims at describing the transfer of liquidity between TIPS and the RTGS.
- **Chapter 5: Management of Accounts and Reference Data** – identifies requirements pertaining to the management of accounts and other reference data in TIPS.
- **Chapter 6: Reports** – identifies requirements for the reports that TIPS will provide.
- **Chapter 7: Queries** – identifies requirements for the queries that are available in TIPS.
- **Chapter 8: Interfaces** – identifies requirements related to the technical communication of the TIPS interface with the different TIPS actors.
- **Chapter 9: Other Functions** – identifies requirements related to other functions like billing.
- **Chapter 10: Non-Functional Requirements** – aims at describing the non-functional requirements of TIPS.

These chapters are complemented by a chapter on List of References, Glossary and Acronyms.

Individual requirements are grouped according to topic and in principle each requirement is presented with attributes. The different user requirements as presented in tables have the following attributes:

ID: The unique reference is contained in this field. 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, it will be possible to trace any modification of the requirements. Furthermore, the acceptance tests will be related to the user requirements.

Name: This is a short label of the requirement. It helps the reader to quickly find a requirement within this document.

Requirement: 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.

A detailed description of the requirement may be provided after the table.

2 HIGH-LEVEL PROCESS DESCRIPTION AND ARCHITECTURE

This chapter provides an overview of the actors and processes associated with the TIPS service.

2.1 ACTORS

For the settlement of instant payments in euro, the major actors of the service include the following.

- **Participants**
Participants are the entities that open accounts in TIPS. For accounts in Euro, they should be eligible to have an account in TARGET2; this is also possible without actually having an account in TARGET2. Participants manage their own liquidity and are responsible for all payments sent or received on their account. TIPS accounts in euro shall legally be opened in the TARGET2 component of the responsible Central Bank.
- **Reachable Parties**
Reachable Parties are entities that do not maintain TIPS accounts; however has contractual agreements with a Participant to use the participant TIPS account for the settlement of instant payments.
- **Instructing Parties**
Instructing Party is any entity that has contractual agreements with one or more Participants to instruct on-behalf of the participant. Both Participants and Reachable Parties can act as Instructing Parties themselves.
- **Central Banks**
A Central Bank provides cash account services to Participants for settlement of instant payments in central bank money. Additionally a Central Bank can act as a Participant in TIPS.

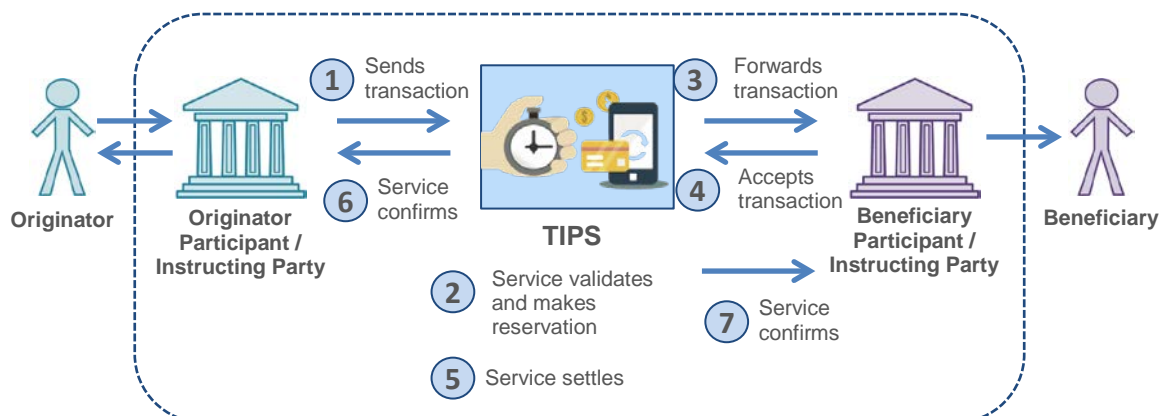
A detailed explanation of the actors can be found in section 5.2.

2.2 SETTLEMENT OF PAYMENT TRANSACTIONS

TIPS is designed to support the Participants to comply with the SCT Inst scheme for instant payments in euro. The service shall:

- forward the SCT Inst transactions from Originator Participant to the Beneficiary Participant;
- perform validations required in the context of settlement, e.g. checks for message format compliance, availability of accounts, sufficiency of funds or authorisation to instruct;
- perform conditional reservation of Originator Participant accounts;
- perform instant settlement of the SCT Inst transactions after it is accepted by the Beneficiary Participant;
- ensure immediate transmission of status messages after settlement;
- ensure the settlement of instant payment transactions meets the timing requirements prescribed by the SCT Inst scheme.

The high-level process flow in the case of successful settlement is as depicted below:



1. TIPS receives an instant payments transaction
2. TIPS validates and reserves the amount (conditional settlement)
3. TIPS forwards the transaction for acceptance to the Beneficiary Participant or the party acting on its behalf
4. TIPS receives a positive confirmation from the Beneficiary Participant
5. TIPS settles the payment
6. TIPS confirms the settlement to Originator Participant or the party acting on its behalf
7. TIPS confirms the settlement to Beneficiary Participant or the party acting on its behalf

TIPS shall reject the instant payment transactions in case of failure of validations. Besides, the service shall reject transactions if the time-out conditions defined in the SCT Inst scheme are breached.

TIPS shall also support Participants in exception handling. The Participants may route recall messages through TIPS for those transactions settled in the service. TIPS shall also provide an investigation service to track the status of previously submitted transactions.

TIPS shall use the actual used Version of the ISO20022 XML message standard which is used at that time within the SEPA Scheme (current actual Version is Version 2009) for the settlement of SCT Inst transactions. TIPS is prepared to be aligned with all future ISO20022 XML Versions used by the SCT Inst Scheme.

2.3 LIQUIDITY MANAGEMENT

Cash settlements shall take place exclusively on TIPS accounts. TIPS accounts must be exclusively a central bank money account opened in the books of a Central Bank and will be dedicated to the settlement of instant payments.

TIPS service shall allow the transfer of funds between an RTGS account and a TIPS account during the operating hours of the RTGS, provided that both accounts are denominated in the same currency.

TIPS account balances will be counted in minimum reserve computation for Euro. Snapshot of the TIPS account for the fulfilment of the minimum reserve requirement will be taken at the closing time of

TARGET2. The availability of the funds on the TIPS account is not affected by taking the snapshot of the account for the fulfilment of the minimum reserve requirement.

2.4 MANAGEMENT OF ACCOUNTS AND REFERENCE DATA

With regard to the settlement of instant payments in euro, participation in TIPS shall be allowed for all entities which are eligible for participation in TARGET2. In addition, Participants should also have signed adherence to the SCT Inst scheme.

TIPS Participants do not need to own a TARGET2 account as long as funding for the settlement of instant payments can be provided via a TARGET2 account owned by another entity.

Central Banks will open and maintain TIPS accounts for the participants. Participants shall open one or more accounts in TIPS to facilitate the settlement of instant payments. TIPS shall offer Credit Memorandum Balance (CMB) functionality which is a credit limit that is linked to a TIPS account. These credit limits provide participants with a flexible tool for limit management. The different types of accounts and the Credit Memorandum Balance (CMB) are detailed in the section 5.3.

Reachable Parties need to maintain contractual agreements with Participants in order to use their TIPS accounts for settlement. Similarly Participants need to have contractual arrangements with the Instructing Parties who can instruct on their behalf. The linkages between these different actors will be maintained in TIPS and will be used to validate the user authorisations for different functionalities.

TIPS service shall maintain other reference data like currency codes and country codes required for the settlement of instant payments.

2.5 QUERIES AND REPORTING

TIPS will offer queries and reporting tools to the Participants to support monitoring and reconciliation. Queries and reports critical to the management of the settlement process will be made available 24/7, whereas other queries and reports which relate mainly to set-up activities may be available only during a reduced time frame. The service will offer reports that are configurable by Participants including a statement of all transactions to support reconciliation.

2.6 INTERFACES

TIPS shall offer A2A (Application to Application) interfaces for payment transactions processing. TIPS will have a minimal solution U2A (User to Application) interface to support a few user requirements like liquidity transfer and limit management. The critical functionalities offered via the U2A interface will be available 24/7/365. However a few functionalities like Participant reference data creation may not require round the clock availability and these shall be made available for shorter time frames (i.e. normal service hours). Overview of the functionalities available in each of the interfaces is described in section 8.2.1.

2.7 NON-FUNCTIONAL REQUIREMENTS

TIPS service shall be scalable to support growing transactional volumes while operating 24/7/365. The end-to-end processing of instant payments, even for large concurrent volumes, will be completed in accordance within the guidelines stipulated by the SCT Inst scheme so that the funds are instantly available to the beneficiary banks.

3 SETTLEMENT OF INSTANT PAYMENT TRANSACTIONS

The objective of this chapter is to describe the core functionality of the TARGET Instant Payments Settlement (TIPS) service. Section 3.1 provides a high level overview; section 3.2 covers requirements related to the regular payment processing workflow while sections 3.3 and 3.4 are concerned with exceptional cases such as recalls or investigations.

3.1 OVERVIEW

The TIPS service has to support the different process flows defined by the SCT Inst scheme rulebook (see ref. [1]), which are regular instant payment transactions, recalls and investigations.

The regular workflow for an **instant payments transaction** which passes all validations and is accepted for settlement is given in Figure 1. The steps in the overall process are further detailed below. Exceptional cases such as validation errors are not depicted in the picture, but mentioned in the explanations. The entities communicating with TIPS are either the TIPS Participant itself or an Instructing Party, which could act on behalf of a Participant or Reachable Party (further details regarding the participation structure can be found in section 5.2).



Figure 1: Payment process

Step 1: The Originator Participant or an Instructing Party on a Participant's or Reachable Party's behalf sends a payment transaction to TIPS. This payment transaction message has to contain at least the *interbank payment dataset* DS-02 as given in the SCT Inst rulebook; the BICs of the Originator and Beneficiary Participant or Reachable Party² are mandatory fields within this dataset. Furthermore the sender could provide *optionally* the TIPS account or CMB to be used for debiting; if this optional field is not used a default TIPS account or CMB will be derived from the Originator Participant or Reachable Party BIC³ in the dataset.

Step 2: TIPS validates the payment transaction and rejects it if any validation error occurs; possible validation errors are, e.g. insufficient funds, a blocked account or CMB to be debited, an unknown Beneficiary Participant or Reachable Party BIC or a missing authorisation of the sender to send payment transactions on behalf of the Originator Participant or Reachable Party. The timestamp of the payment transaction will be checked as well and the transaction

² A reachable party could act as an Instructing Party on its own behalf. Reachable parties do not own accounts in TIPS but can use accounts or CMBs owned by a Participant. In this case the account is referred to as the "Reachable Party's account", even though it is not owned by that party but merely used.

³ The TIPS service uses BIC11 for the identification of Participants and Reachable Parties.

rejected if a configurable threshold is breached (which is set to 20 seconds from the Originator Participant time stamp according to the SCT Inst scheme). In case the payment transaction is rejected the intended Beneficiary Participant or Instructing Party acting on the Beneficiary Participant's behalf will not be informed. If the validation is successful, funds will be reserved.

Step 3: After successful validation TIPS forwards the full interbank payment dataset of the payment transaction to the Beneficiary Participant or to an Instructing Party acting on behalf of the Beneficiary Participant. The TIPS account or CMB used for debiting is not part of this message. The recipient of this message is uniquely derived from the Beneficiary Participant or Reachable Party BIC contained in the payment transaction.

Step 4: The recipient of the message (i.e. either a Participant or Instructing Party acting on behalf of a Participant or a Reachable Party) processes the message and determines if the payment is accepted or rejected.

Step 5: The recipient from step 4 replies with a *Beneficiary Participant reply* message informing TIPS if the payment is accepted or rejected. Furthermore the TIPS account or CMB to be used for crediting could be provided *optionally*; if this optional field is not used a default TIPS account or CMB will be derived from the Beneficiary Participant or Reachable Party BIC in the dataset of the original payment transaction.

Step 6: TIPS validates the Beneficiary Participant reply message and either settles the amount or rejects the transaction. A possible validation error is, e.g. a timeout, measured with respect to the timestamp contained in the original payment transaction (according to the SCT Inst scheme this timeout will be set to 20 seconds from the Originator Participant time stamp). In case the message does not pass validation or the Beneficiary Participant or Instructing Party rejects the payment the transaction will be rejected and the Originator Participant or Instructing Party informed.

Step 7: If the transaction is accepted the amount will be settled and both the Originator and Beneficiary Participant or Instructing Party will be informed.

Besides the instant payment process TIPS has to support **recalls**; recall message are sent by the Originator Participant or Instructing Party requesting the return of funds previously settled via an instant payment transaction. TIPS will validate whether the sending party is authorised to send recalls. These recalls are forwarded by TIPS to the Beneficiary Participant or Instructing Party and not processed any further at this point). TIPS does not check the timeframe of recalls, it is up to the Participants or Instructing Parties to adhere to the rules stipulated in the SCT Inst scheme.

Recalls could be either answered negatively or positively via a **recall answer** message. If a recall is rejected the negative answer will be forwarded back to the Originator Participant or Reachable Party of the original payment transaction. In case the recall is answered positively by the Beneficiary Participant or Instructing Party TIPS creates a new payment transaction reversing the original cash flow; the used TIPS accounts or CMBs for this recall payment are derived from the BICs of the Originator and Beneficiary Participant or Reachable Party (i.e. the BICs contained in the original payment transactions' dataset DS-02, which has to be part of the positive recall answer). Optionally provided accounts on either side are not looked-up by TIPS. A recall answer has to be provided after 10 business days after the recall has been received; however, similar to the recall itself TIPS does not check this timeframe, it is up to the Participants or Instructing Parties to adhere to these rules.

Investigations could be triggered by the Originator Participant or Instructing Party using a **transaction status investigation** message, as required by the SCT Inst scheme. These investigation messages allow the sender of the original payment transaction to inquire about its status. TIPS provides a query which covers this functionality, therefore no dedicated additional messages are defined.

3.2 PAYMENT PROCESSING

Payment processing covers the usual instant payments workflow as detailed in the overview section above and starts with the reception of a payment transaction from an Originator Participant or Instructing Party; it ends with a rejection or confirmation message sent to either the Originator or Beneficiary Participant (or Instructing Party) or both.

Some requirements explicitly reference used SCT Inst datasets (DS-X) from the scheme rulebook (see ref. [1]) or ISO messages taken from the SCT Inst interbank implementation guidelines (see ref. [2]). Relevant datasets are DS-02 (interbank payment), DS-03 (confirmation message), DS-05 (recall) and DS-06 (answer to a recall).

3.2.1 Regular Payment Process Diagram

The process flow diagram for the regular payment process can be found in Figure 1 and contains message events and tasks, which lead to user requirements. The list of messages is given in Table 1; actual requirements for these messages can be found in section 8.3.2. Tasks are listed in Table 2 and will be further detailed in the following sections; additional requirements not directly linked to the diagram are contained in this section as well.

Table 1: List of messages for payment processing

Message	Description	Requirement
Payment Transaction	An order to transfer funds from the account of the Originator Participant to the Beneficiary Participant for instant settlement, sent by the Originator Participant or Instructing Party. This message (without the optional account/CMB identifier) is forwarded to the Beneficiary Participant or Instructing Party acting on its behalf.	TIPS.UR.08.120
Rejection	A notification sent by TIPS to the Originator Participant or Instructing Party that TIPS failed to process the payment transaction due to, e.g. validation errors, rejection of the payment or timeouts.	TIPS.UR.08.130
Beneficiary Participant Reply	Reply returned by the Beneficiary Participant or Instructing Party informing TIPS if the payment is accepted or rejected.	TIPS.UR.08.140
Beneficiary Participant Status	Message informing the Beneficiary Participant or Instructing Party that a timeout or validation error has occurred.	TIPS.UR.08.150
Confirmation	A notification sent by TIPS to both Participants or Instructing Parties informing them that settlement took place successfully.	TIPS.UR.08.160

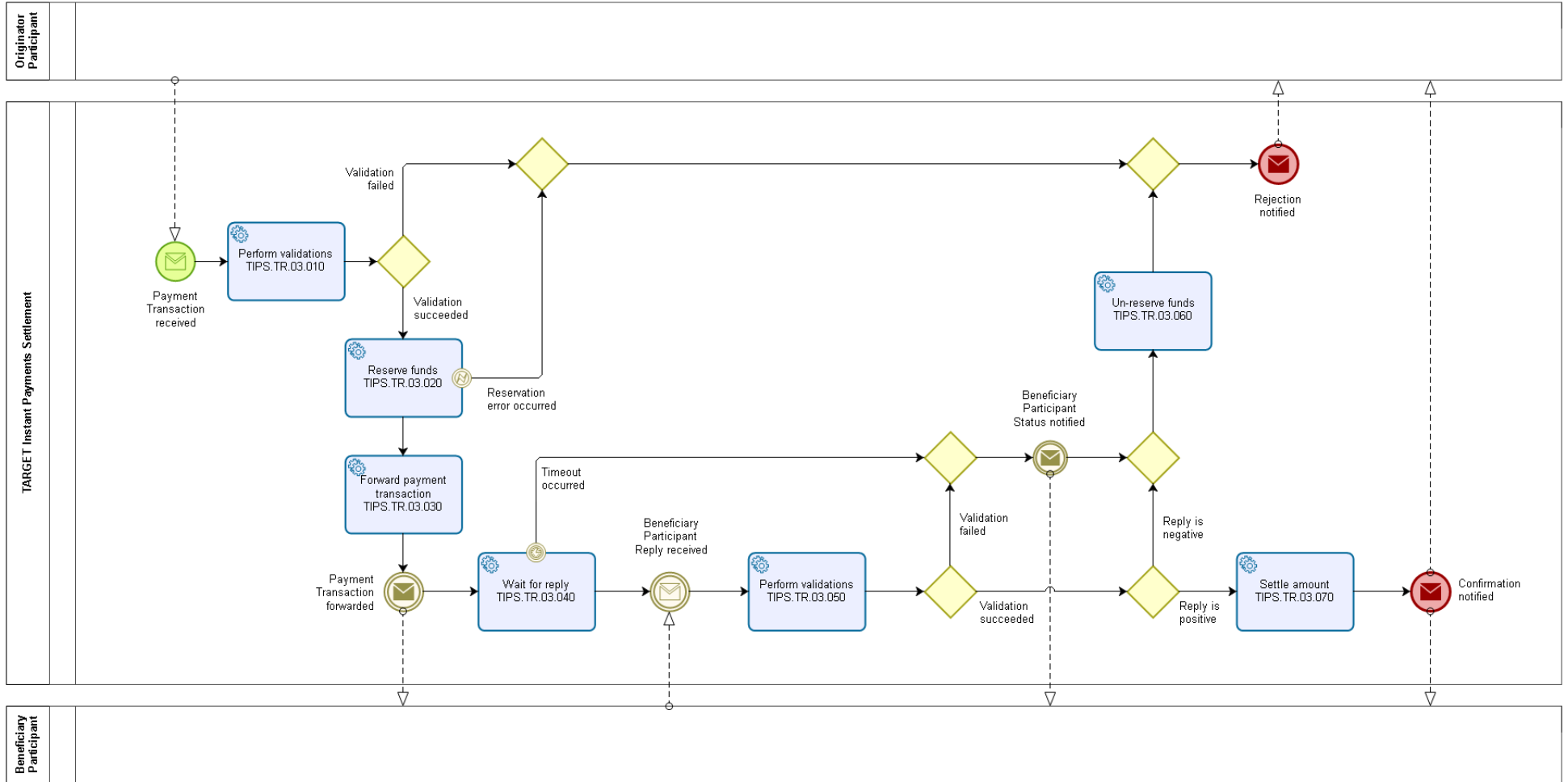


Figure 2: Payment processing workflow

Table 2: List of tasks for payment processing workflow

Task	Description	Section
TIPS.TR.03.010	Execution of technical and business validations; the transaction is rejected and the Originator Participant or Instructing Party notified as soon as one validation fails.	3.2.3
TIPS.TR.03.020	Reservation of funds on the Originator Participant account (and decrease of the Originator Participant's CMB, if addressed; see section 5.3.2); if funds cannot be reserved an error occurs and the Originator Participant or Instructing Party is notified.	3.2.4
TIPS.TR.03.030	Forward the original payment transaction to the Beneficiary Participant or Instructing Party (minus some optional fields).	3.2.5
TIPS.TR.03.040	Waiting for a reply by the Beneficiary Participant or Instructing Party until a configurable timeout occurs (measured with respect to the SCT Inst timestamp in the payment transaction).	3.2.6
TIPS.TR.03.050	Execution of technical and business validations; the Beneficiary Participant reply is rejected and both parties, the Originator and Beneficiary Participants or Instructing Parties notified as soon as one validation fails; decide whether the payment transaction is accepted or rejected.	3.2.7
TIPS.TR.03.060	Un-reserve the funds (and increase the Originator Participant's CMB, if applicable) which have been reserved during task TR.03.020 (in case of rejection).	3.2.8
TIPS.TR.03.070	Settle the funds, i.e. adjust the balances of the two affected accounts (and increase the Beneficiary Participant's CMB, if addressed).	3.2.9

3.2.2 General Requirements

ID	TIPS.UR.03.010
Name	Processing in a first in/first out manner
Requirement	TIPS shall process all payment transactions in a first in/first out (FIFO) manner; there shall be no prioritisation or reordering of transactions done by the service.

All payment transactions should be processed by the TIPS settlement engine in a first in/first out (FIFO) manner without prioritisation or reordering done by the service. Participants are not able to influence the service in order to process specific payment transactions with a higher priority. However, owing to the presence of the network and the parallelism of TIPS components which are responsible for processing of incoming messages, Participants cannot rely on payment transactions being processed in exactly the same order they were sent in.

ID	TIPS.UR.03.020
Name	Immediate settlement of payment transactions
Requirement	TIPS shall settle payment transactions immediately with an either positive (settled) or negative (rejected) result; the service shall not queue or hold payment transactions for later processing.

The service should not provide message queues which store payment transactions for an extended period of time due to technical or functional reasons, e.g. (non-exhaustive list):

- Insufficient funds: If a TIPS account cannot be debited due to insufficient funds the payment transaction is rejected immediately (and not held until funds are available).
- Technical issues: If the payment transaction cannot be forwarded to the Beneficiary Participant or Instructing Party (due to, e.g. incidents), payment transactions are rejected and not held until the Beneficiary Participant or Instructing Party is available again.

Prior settlement funds are reserved on the TIPS account to be debited in order to ensure that the settlement process cannot fail at a later stage due to insufficient funds.

3.2.3 Validation of Payment Transactions

Payment transactions are the inbound messages triggering the payment process. This section lists all user requirements related to the *business* validation of these payment transactions. Requirements for the *technical* validation of inbound messages in general can be found in section 8.3.1.

ID	TIPS.UR.03.030
Name	Business validation of payment transactions
Requirement	TIPS shall perform business validations of payment transactions sent by the Originator Participant or Instructing Party; this validation shall be stopped and the payment transaction rejected as soon as the first error is encountered.

TIPS should validate incoming payment transactions and notify the Originator Participant in case a business validation error occurred. The requirement for notification is TIPS.UR.03.140. The checks performed during the business validation are specified in the following requirements.

ID	TIPS.UR.03.050
Name	Authorisation to send payment transactions
Requirement	TIPS shall validate that the inbound payment transaction is sent from a party which is authorised to instruct for the Originator Participant or Reachable Party as given by the originator BIC (field AT-06 in DS-02).

TIPS should allow the maintenance of a table which links identifiers of senders of messages with BICs of either Participants or Reachable Parties; these senders could be a Participant or Instructing Party acting on behalf of a Participant or Reachable Party.

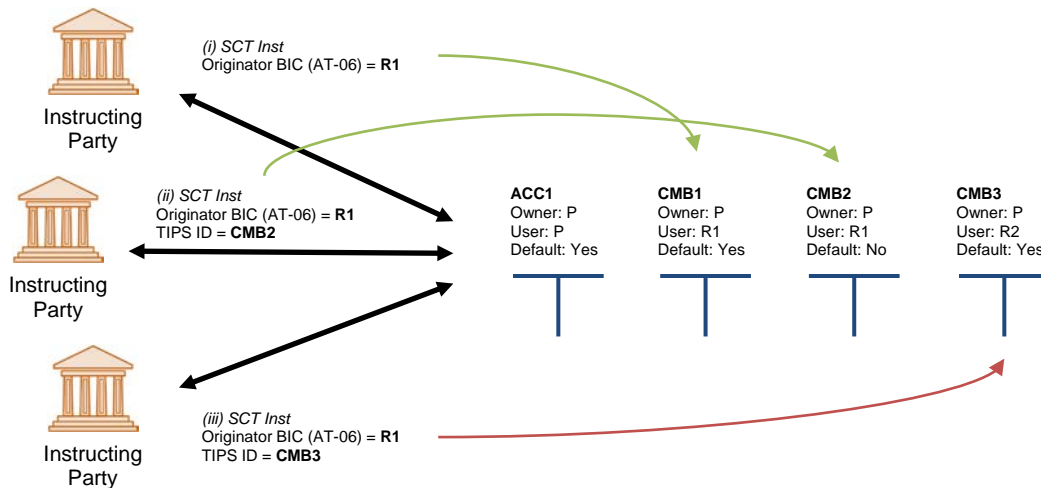
ID	TIPS.UR.03.060
Name	Derivation of default TIPS account or CMB on the debit side
Requirement	TIPS shall identify the default account to be debited or CMB to be decreased (and linked account to be debited) if the payment transaction does not provide an account/CMB to be used explicitly. The default account/CMB shall be derived from the originator BIC (field AT-06 in DS-02) of the payment transaction.

The payment transaction sent by the Originator Participant or Instructing Party can (optionally) contain a TIPS account to be debited or CMB to be decreased; in case this information is not provided a default has to be looked up using business information from the interbank payment dataset DS-02 from the SCT Inst scheme; the originator BIC from field AT-06 is linked to at least one account/CMB of which exactly one is the default.

ID	TIPS.UR.03.070
Name	Authorisation to debit account/decrease CMB
Requirement	TIPS shall validate that the originator BIC (field AT-06 in DS-02) in the payment transaction is compatible with the provided account or CMB in the payment transaction (which is optional information). This validation shall only be done if an account or CMB is explicitly provided in the payment transaction.

The interbank payment dataset DS-02 of the SCT Inst scheme includes a field which contains the BIC of the Originator Participant or Reachable Party; this BIC is linked to at least one account or CMB in order to allow TIPS to look up a default TIPS account to be debited or CMB do be decreased (and linked account to be debited). If no account/CMB identifier is given in the payment transaction TIPS selects the defined default. However, in case an account/CMB identifier is given TIPS has to check whether the provided account is actually linked to the provided originator BIC.

In order to given an explicit example: Suppose that Participant P owns the account ACC1 and CMBs CMB1 to CMB3; suppose further that the authorised user for CMB1 and CMB2 is the Reachable Party R1, while CMB3 is set as the default for R1. Furthermore the authorised user for CMB3 is R2 (e.g. another Reachable Party). If an Instructing Party on behalf of the Reachable Party R2 sends a payment transaction without any account/CMB identifier (i) the default CMB1 is used by TIPS; if, however, CMB2 is explicitly mentioned CMB2 will be used because R2 is authorised to use this CMB (ii). In case CMB3 would be used the payment transaction has to be rejected because R2 is not an authorised user of CMB3 (iii) (see below and chapter 5 regarding the account setup).



ID	TIPS.UR.03.080
Name	Existence of Beneficiary Participant
Requirement	TIPS shall validate that the intended Beneficiary Participant or Reachable Party of a payment transaction can be reached within TIPS. The intended Beneficiary Participant or Reachable Party has to be identified via the beneficiary BIC (field AT-23 in DS-02).

TIPS should reject the payment transaction if the intended Beneficiary Participant of a payment transaction cannot be identified or reached within TIPS. Each BIC (either from Participants or Reachable Parties) is linked to one entity to which messages are routed to (see section 5.4.5).

ID	TIPS.UR.03.090
Name	Detection of duplicate payment transactions
Requirement	TIPS shall validate that the submitted payment transaction is not a duplicate. These checks have to be performed on messages received within a configurable timeframe based on the following parameters: The BIC of the Originator Participant or Reachable Party (field AT-06 in DS-02) and the Originator Participant/Reachable Party reference (field AT-43 in DS-02). The timeframe shall be set to 2 minutes, i.e. duplicates within the last two minutes will be detected.

The interbank payment dataset DS-02 from the SCT Inst scheme provides two message identifier fields of which one is to be filled by the Originator Participant or Reachable Party (or the Instructing Party on their behalf), field AT-43; however, this message might not be a unique message identifier within TIPS since different sending parties (i.e. Participants or Instructing Parties) might use colliding message identifiers. Therefore the BIC code of the originator has to be used as well.

ID	TIPS.UR.03.100
Name	Detection of blocked Originator Participant or Reachable Party account
Requirement	TIPS shall validate that the payment transaction does not attempt to debit an account which has been blocked for debiting. This applies to explicitly provided and defaulted accounts.

Upon the reception of a payment transaction, TIPS should check whether the TIPS account being debited is blocked. This account could either be provided in the payment transaction or derived from the referent data as default account.

ID	TIPS.UR.03.110
Name	Detection of blocked Originator Participant or Reachable Party CMB
Requirement	TIPS shall validate that the payment transaction does not decrease a CMB if decreasing the CMB has been blocked. This applies to explicitly provided and defaulted CMBs.

Upon the reception of a payment transaction, TIPS should check whether the addressed CMB for decrease is blocked. This CMB could either be provided in the payment transaction or derived from the reference data as default CMB.

ID	TIPS.UR.03.120
Name	Timeout validation for payment transactions
Requirement	TIPS shall validate that the payment transaction SCT Inst timestamp (field AT-50 in DS-02) does not lie outside a configurable window. This timeout shall be set to 20 seconds from the time in the SCT Inst timestamp; any transaction with a timestamp in the future shall be rejected.

TIPS should reject payment transactions for which validation started after a configurable timeout has been reached. The SCT Inst reference timestamp for this check is given in field AT-50 of the interbank payment dataset DS-02 of the SCT Inst scheme.

ID	TIPS.UR.03.130
Name	Currency validation for payment transactions
Requirement	TIPS shall validate that the payment transaction currency matches the currency defined for the account to be debited.

A payment can only be processed in TIPS if the currency of the TIPS account to be debited (or CMB to be decreased and account to be debited) matches the currency of the transaction itself.

ID	TIPS.UR.03.140
Name	Originator Participant notification in case of a validation error
Requirement	TIPS shall inform the Originator Participant or Instructing Party which sent the payment transaction with a <i>rejection</i> message in case a validation error occurred. This notification shall include a rejection reason code.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.130).

3.2.4 Reservation of Funds

ID	TIPS.UR.03.150
Name	Reservation of funds on TIPS accounts
Requirement	TIPS shall reserve funds on the Originator Participant or Reachable Party TIPS account immediately after the payment transaction is successfully validated. Reserved funds shall be unavailable for the settlement of instant payments (or their reservation), recalls or liquidity transfers.

Reserved funds are unavailable for the settlement of other instant payments or liquidity transfers. After the payment transaction has been successfully validated, TIPS should reserve funds on the TIPS account being debited; this is needed for the settlement of the payment in case the Beneficiary Participant reply is positive.

ID	TIPS.UR.03.160
Name	Reservation of limits on CMBs
Requirement	If applicable, TIPS shall decrease the Originator Participant or Reachable Party CMB immediately after the payment transaction is successfully validated.

After the payment transaction has been successfully validated, TIPS should decrease the CMB immediately by the amount needed for the settlement of the payment. This decrease is only required if a CMB is affected.

ID	TIPS.UR.03.170
Name	Rejection of payment transaction due to insufficient funds or CMB limits
Requirement	TIPS shall reject the payment transaction in case the unreserved funds on the TIPS account (or the limit on the CMB) are not sufficient for the settlement of the payment; payment transactions whose amounts would decrease the TIPS account to be debited or CMB to be reduced below zero shall be rejected.

TIPS should reject payment transactions due to insufficient funds in the following two cases:

- the unreserved balance of the TIPS account to be debited is less than the payment transaction amount;
- the payment transaction amount exceeds (i) the CMB to be reduced or (ii) the unreserved balance of the linked TIPS account to be debited.

ID	TIPS.UR.03.180
Name	Originator Participant notification in case of insufficiency of funds
Requirement	TIPS shall inform the Originator Participant or Instructing Party which sent the payment transaction with a <i>rejection</i> message in case funds cannot be reserved on the account to be debited. This notification shall include a rejection reason code.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.130).

3.2.5 Forwarding of Payment Transactions

ID	TIPS.UR.03.190
Name	Forwarding of a payment transaction to the Beneficiary Participant or Instructing Party
Requirement	TIPS shall forward payment transactions which were successfully validated to the Beneficiary Participant or Instructing Party. Only the interbank payment dataset DS-02 shall be forwarded.

Additional information (besides the dataset DS-02) which TIPS (optionally) receives from the Originator Participant or Instructing Party is a TIPS account or CMB identifier; this identifier should not be forwarded to the Beneficiary Participant or Instructing Party.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.120 for the original payment transaction).

3.2.6 Waiting for Beneficiary Participant Reply

ID	TIPS.UR.03.200
Name	Waiting for a Beneficiary Participant reply
Requirement	TIPS shall wait for a reply by the Beneficiary Participant or Instructing Party.

The payment transaction remains pending until a positive (acceptance of the payment) or negative (rejection of the payment) reply is received and settlement takes place (only for positive replies).

ID	TIPS.UR.03.210
Name	Beneficiary Participant reply timeout
Requirement	TIPS shall reject the payment transaction in case a configurable timeout is reached and no Beneficiary Participant reply is received. The reference timestamp for this timeout calculation shall be the SCT Inst timestamp (field AT-50 in DS-02) from the original payment transaction.

In case the timeout is reached, the payment cannot be processed within the required timespan and has to be rejected. According to the SCT Inst scheme TIPS should wait until 20 seconds have passed since the SCT Inst timestamp provided by the Originator Participant.

ID	TIPS.UR.03.220
Name	Beneficiary Participant notification in case of timeout
Requirement	TIPS shall inform the Beneficiary Participant or Instructing Party with a <i>beneficiary participant status</i> message in case a timeout occurred.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.150).

3.2.7 Validation of Beneficiary Participant Reply

Beneficiary Participant replies are part of the payment processing workflow; after forwarding the inbound payment transaction to the Beneficiary Participant or Instructing Party a reply is expected, which shall either contain the acceptance or rejection of the payment. This section lists all user requirements related to the business validation of these Beneficiary Participant replies. Requirements for the technical validation of inbound messages in general can be found in section 8.3.1.

ID	TIPS.UR.03.230
Name	Business validation for Beneficiary Participant replies
Requirement	TIPS shall perform business validations for Beneficiary Participant reply messages; this validation shall be stopped as soon as the first error is encountered.

TIPS should validate incoming Beneficiary Participant replies and notify the Beneficiary Participant or Instructing Party in case a business validation error occurred. The requirements for notification are TIPS.UR.03.320 (Beneficiary Participant or Instructing Party) and TIPS.UR.03.360 (Originator Participant or Instructing Party, only after un-reservation of funds).

ID	TIPS.UR.03.240
Name	Authorisation to send Beneficiary Participant replies
Requirement	TIPS shall validate that the Beneficiary Participant reply is sent from the party to whom the original payment transaction has been forwarded to.

The beneficiary reply should always be sent back by the entity to which the original payment transaction has been forwarded to. The sender of the reply could be a party acting on behalf of the Beneficiary Participant. The link between the original payment transaction and the reply could be the Originator Participant or Instructing Party message ID (from field AT-43 of the SCT Inst interbank payment dataset).

ID	TIPS.UR.03.250
Name	Check for original payment transaction identifier in Beneficiary Participant reply
Requirement	TIPS shall match the reply message with a pending payment transaction using the BIC of the Originator Participant or Reachable Party (field AT-06 in DS-02 of the forwarded payment transaction) and message reference of the Originator Participant or Instructing Party (field AT-43 in DS-02 of the forwarded payment transaction). If no matching pending transaction can be found the validation shall fail.

TIPS processes Beneficiary Participant replies only for payment transaction which have been forwarded to a beneficiary but are still pending, i.e. the payment transaction did not reach its final status (settled or rejected) yet. For a check of the message references the Originator Participant or Reachable Party BIC has to be taken into account as well, since different Participants or Reachable Parties might use the same message reference.

ID	TIPS.UR.03.260
Name	Check for provided values in beneficiary reply
Requirement	TIPS shall validate that all fields which have to contain specific values according to the SCT Inst scheme confirmation message dataset DS-03 are filled with values in line with those given in ref. [1].

The beneficiary reply contains at least the SCT Inst dataset DS-03, i.e. in case of a rejection a list of R fields, which contain rejection reason codes; TIPS should check whether the provided values are in line with allowed values according to the SCT Inst scheme.

ID	TIPS.UR.03.270
Name	Derivation of default TIPS account or CMB on the credit side
Requirement	TIPS shall identify the default account to be credited or CMB to be increased (and linked account to be credited) if the Beneficiary Participant reply does not provide an account/CMB to be used explicitly. The default account/CMB shall be derived from the beneficiary BIC (field AT-23 in DS-02) from the original payment transaction linked to the Beneficiary Participant reply message.

The Beneficiary Participant reply can contain a TIPS account or CMB identifier indicating the account to be credited or CMB to be increased (and linked account to be credited); if this optional information is not provided by the Beneficiary Participant or Instructing Party a default account/CMB should be looked up by TIPS.

ID	TIPS.UR.03.280
Name	Authorisation to credit account/increase CMB
Requirement	TIPS shall validate that the account or CMB identifier (optionally) provided within the Beneficiary Participant reply message is compatible with the beneficiary BIC (field AT-23 in DS-02) from the original payment transaction linked to this Beneficiary Participant reply. This validation shall only be done if an account or CMB is explicitly provided in the Beneficiary Participant reply.

In case the default account/CMB is used no additional validation has to be performed by TIPS. This requirement is symmetric to TIPS.UR.03.070, which covers the debit side.

ID	TIPS.UR.03.290
Name	Detection of blocked Beneficiary Participant or Reachable Party account
Requirement	TIPS shall validate that the Beneficiary Participant reply does not attempt to credit an account which has been blocked for crediting. This applies to explicitly provided and defaulted accounts.

Upon the reception of a payment transaction, TIPS should check whether the crediting TIPS account is blocked. In case the credited TIPS account is blocked, TIPS shall reject the payment transaction and notify both, the Originator and Beneficiary Participant or Instructing Party.

ID	TIPS.UR.03.300
Name	Detection of blocked Beneficiary Participant CMB
Requirement	TIPS shall validate that the Beneficiary Participant reply does increase a CMB if increasing the CMB has been blocked. This applies to explicitly provided and defaulted CMBs.

Upon the reception of a payment transaction, TIPS should check whether the addressed CMB for increase is blocked. In case the addressed CMB is blocked, TIPS shall reject the payment transaction and notify both, the Originator and Beneficiary Participant or Instructing Party.

ID	TIPS.UR.03.310
Name	Currency validation for Beneficiary Participant replies
Requirement	TIPS shall validate that the Beneficiary Participant or Reachable Party account or CMB is denominated in the same currency as the original payment transaction.

Both, the Originator Participant (or Reachable Party) account and the Beneficiary Participant (or Reachable Party) account have to be denominated in the same currency.

ID	TIPS.UR.03.320
Name	Beneficiary Participant notification in case of a validation error
Requirement	TIPS shall inform the Beneficiary Participant or Instructing Party which sent the Beneficiary Participant reply message with a <i>beneficiary participant status</i> message in case a validation error occurred. This notification shall include an error code.

In case the validation of the Beneficiary Participant reply fails the Beneficiary Participant or Instructing Party who sent the message has to be informed. Furthermore the Originator Participant or Instructing Party which sent the original payment transaction has to be informed as well; however, this task is only executed after the reserved funds on the TIPS account to be debited have been un-reserved, see TIPS.UR.03.340.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.150).

ID	TIPS.UR.03.330
Name	Check for acceptance of funds
Requirement	TIPS shall check whether the Beneficiary Participant or Instructing Party accepts the funds and act accordingly: Settle the amount if accepted or reject the payment transaction if not accepted.

In case the Beneficiary Participant or Instructing Party does not accept the funds they have to be unreserved on the originator account.

3.2.8 Un-reservation of Funds

ID	TIPS.UR.03.340
Name	Un-reservation of funds on TIPS accounts due to rejection
Requirement	TIPS shall un-reserve funds on the Originator Participant or Reachable Party TIPS account as soon as the payment transaction, which triggered the reservation, is rejected. The reserved amount on the account shall be reduced by the amount of the reserving payment transaction; the available amount shall be increased by the same amount.

During payment processing funds are reserved (see section 3.2.4) on the account in order to guarantee later settlement, if the Beneficiary Participant reply passes its validation and is positive. In case settlement does not take place (e.g. the reply does not pass its validation or is negative) the reserved funds have to be un-reserved and made available for instant payments or liquidity transfer settlement.

ID	TIPS.UR.03.350
Name	Un-reservation of limits on CMBs due to rejection
Requirement	TIPS shall increase the Originator Participant or Reachable Party CMB as soon as the payment transaction responsible for the decrease in the first place is rejected. The increase amount shall be identical to the previously decreased amount.

After the payment transaction is rejected TIPS should increase the CMB immediately by the amount originally decreased for the settlement of the payment. This increase is only required if a CMB is affected.

ID	TIPS.UR.03.360
Name	Originator Participant notification in case of un-reservation of funds
Requirement	TIPS shall inform the Originator Participant or Instructing Party which sent the original payment transaction with a <i>rejection</i> message in case funds have been un-reserved on their account.

Un-reservation of funds can be triggered either due to a failed validation of the Beneficiary Participant reply message or due to a negative (i.e. non-acceptance) of the payment by the Beneficiary Participant or Instructing Party.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.130).

3.2.9 Settlement

ID	TIPS.UR.03.370
Name	Gross settlement of payment transactions
Requirement	TIPS shall settle payment transactions one by one, without netting.

Since payment transactions should be settled immediately, the service is not required to net; only gross settlement should be supported.

ID	TIPS.UR.03.380
Name	Settlement with finality
Requirement	TIPS shall settle the instructed amount with finality on TIPS accounts; the settlement shall be irrevocable.

All credits and debits done to TIPS accounts via payment transactions or liquidity transfers should be settled with finality and irrevocable.

ID	TIPS.UR.03.390
Name	Moment of settlement
Requirement	Settlement shall occur directly after a positive validation of the Beneficiary Participant reply message.

The moment of settlement is recorded via a settlement timestamp.

ID	TIPS.UR.03.400
Name	Full amount settlement for payment transactions
Requirement	TIPS shall always settle on TIPS accounts for the full amount.

All accounts set up in TIPS will be debited and credited with the full amount. If accounts to be debited do not have sufficient funds the payment transactions shall be rejected and not settled partially.

ID	TIPS.UR.03.410
Name	Un-reservation of funds on TIPS accounts due to settlement
Requirement	TIPS shall un-reserve the initially reserved funds on the Originator Participant or Reachable Party TIPS account as soon as the instant payment has been settled.

When the instant payment has been settled the amount of reserved funds on an account can be unreserved.

ID	TIPS.UR.03.420
Name	Increase of limit on CMB
Requirement	If applicable, TIPS shall increase the limit on the Beneficiary Participant or Reachable Party CMB immediately after the instant payment has been settled successfully.

This increase is only required if a CMB is affected.

ID	TIPS.UR.03.430
Name	Same currency settlement
Requirement	The amount debited from one TIPS account and credited to another TIPS account shall always be denominated in the same currency.

Even though TIPS should be technically capable of settling other currencies than the euro it should not provide currency conversion services. Accordingly TIPS should check the currency of the Originator and Beneficiary Participants' TIPS accounts; if these currencies are not identical, payment transactions have to be rejected.

In case CMBs are affected, the relevant linked accounts are denominated in the same currency.

ID	TIPS.UR.03.440
Name	Credit transfers only
Requirement	TIPS shall support credit transfers only.

TIPS shall accept only payment transactions which debit a TIPS account of a Participant or Reachable Party. Any functionality for pull payments, i.e. direct debits, is out of scope of TIPS.

ID	TIPS.UR.03.450
Name	Confirmation message in case of successful settlement
Requirement	TIPS shall inform the Originator Participant or Instructing Party and the Beneficiary Participant or Instructing Party with a <i>confirmation</i> message about the successful settlement.

Requirements for the actual messages are given in section 8.3.2 (see TIPS.UR.08.160).

3.3 RECALLS

The TIPS service allows the transmission and answer of recalls of SCT Inst payment transactions (see ref. [1]); in case an Originator Participant or Instructing Party wants to recall a payment transaction the originator has to send a recall message to TIPS; this recall will then be forwarded to the Beneficiary Participant or Instructing Party without any additional processing.

3.3.1 Recall Process Diagrams

The process flow diagrams for the recall and recall answer process can be found in Figure 3 and Figure 4 and contain message events and tasks, which lead to user requirements. The list of messages is given in Table 3; actual requirements for the messages can be found in section 8.3.3. Tasks are listed in Table 4 and will be further detailed in the following sections.

Table 3: List of messages for recall processing

Message	Description	Requirement
Recall	A message sent by the Originator Participant or Instructing Party requesting the return of funds previously settled.	TIPS.UR.08.170
Recall Rejection	A notification informing the Originator Participant or Instructing Party that the recall message failed its validation.	TIPS.UR.08.180
Recall Answer	An answer message to the recall either accepting or rejecting it.	TIPS.UR.08.190
Recall Answer Rejection	A notification informing the sender of the recall answer that the recall message failed its validation or could not be settled.	TIPS.UR.08.200

Table 4: List of tasks for recall processing

Task	Description	Section
TIPS.TR.03.110	Execute technical and business validations for the recall message	3.3.2

Task	Description	Section
TIPS.TR.03.120	Forward the recall to the Beneficiary Participant or Instructing Party	3.3.3
TIPS.TR.03.210	Execute technical and business validations for the recall answer message and inform the Originator Participant in case the answer is negative	3.3.4
TIPS.TR.03.220	If the answer is positive settle the recalled amount and forward a positive answer message to the Originator Participant or Instructing Party	3.3.5

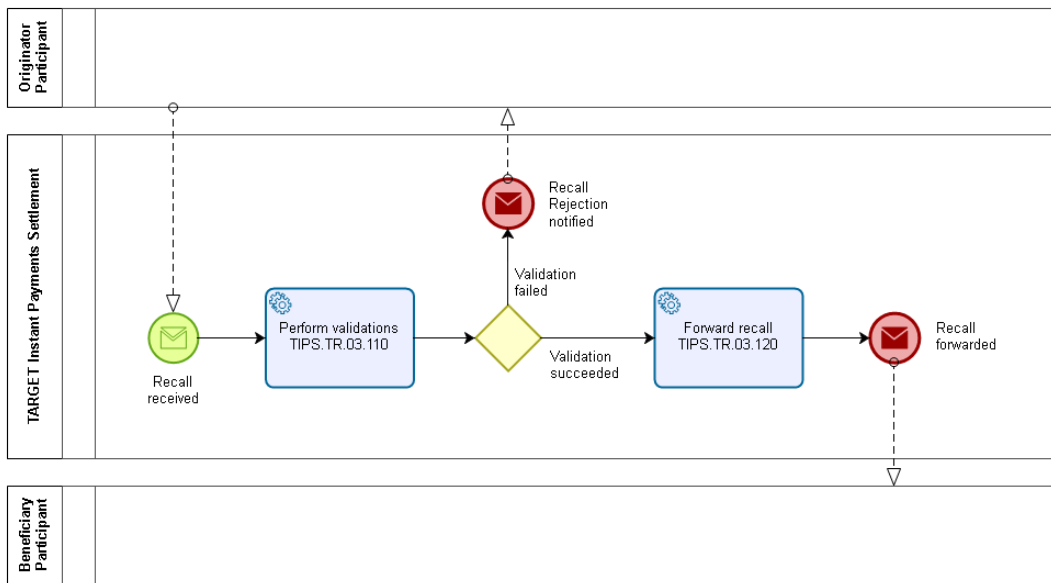


Figure 3: Recall process

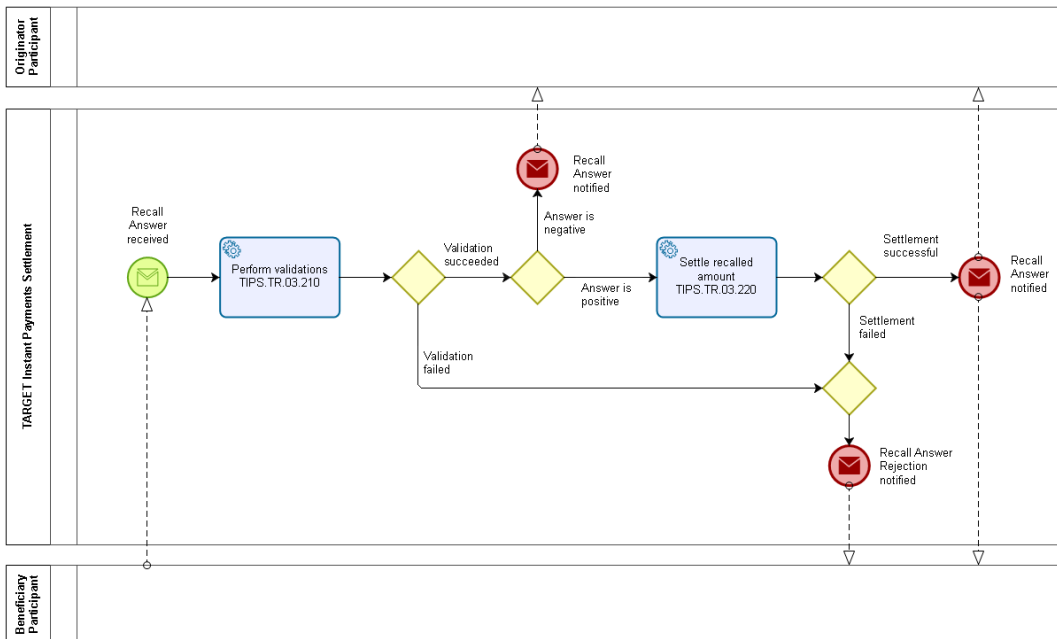


Figure 4: Recall answer process

3.3.2 Validation of Recalls

ID	TIPS.UR.03.600
Name	Business validation of recalls
Requirement	TIPS shall perform business validations of recalls sent by the Originator Participant or Instructing Party; this validation shall be stopped as soon as the first error is encountered.

The performed business validations are restricted to a check regarding the authorisation to send recalls and the determination of the intended recipient of the recall. The recall rejection message in case validation fails is covered in TIPS.UR.03.630.

ID	TIPS.UR.03.610
Name	Authorisation to send recalls
Requirement	TIPS shall validate that the inbound recall is sent from a party which is authorised to recall for the Originator Participant or Reachable Party as given by the originator BIC in the DS-02 part (field AT-06) of the recall message (which is DS-05, a superset of DS-02).

Parties which are authorised to initiate recalls for particular payment transactions are identical with the parties that are authorised to instruct in the first place. TIPS should use the data from the original payment transaction submitted as part of the recall in order to validate, if the recall issuing party is authorised to do so. This authorisation will be done using the most recent set of reference data; changes done to reference data affecting access rights might change the outcome of the authorisation check between processing of the original transaction and processing of the recall (i.e. a recall might be rejected even if the same party, that instructed the payment in the first place, issues the recall if the access rights have been changed in the meantime).

ID	TIPS.UR.03.620
Name	Addressee of recall
Requirement	TIPS shall validate that the recipient of the recall can be reached via the service. The recipient is the Beneficiary Participant or Instructing Party as derived from the beneficiary BIC given in the DS-02 part (field AT-23) of the recall message (which is DS-05, a superset of DS-02).

TIPS should use the payment transaction dataset embedded in the recall message to determine if the recipient of the recall can be reached via TIPS. No additional field validation besides this authorisation to send and addressee check will be done by TIPS. In particular, there will be no validation done for the fields of the payment transaction message embedded in the recall.

ID	TIPS.UR.03.630
Name	Rejection of recall
Requirement	TIPS shall inform the sender of the recall with a <i>recall rejection</i> message in case a validation error occurred and the recall is rejected.

In case a recall message cannot be validated the sender of this recall should be informed. Requirements for the actual messages are given in section 8.3.3 (see TIPS.UR.08.180).

3.3.3 Forwarding of Recalls

ID	TIPS.UR.03.640
Name	Forwarding of recalls to intended recipient
Requirement	TIPS shall forward a validated recall to its addressee as derived from the BIC given in the DS-02 part (field AT-23) of the recall message dataset DS-05.

Validated recalls will be forwarded by TIPS to its intended recipient.

3.3.4 Validation of Recall Answers

ID	TIPS.UR.03.650
Name	Business validation of recall answers
Requirement	TIPS shall perform business validations of recall answers sent by the Beneficiary Participant or Instructing Party; this validation shall be stopped as soon as the first error is encountered.

Requirements for the actual messages are given in section 8.3.3 (see TIPS.UR.08.190).

ID	TIPS.UR.03.660
Name	Authorisation to answer recalls
Requirement	TIPS shall validate that the inbound recall answer is sent from a party who is authorised to answer to that recall.

The party which is authorised to answer to a recall is the same party the recall has been forwarded to initially. TIPS shall use the payment transaction dataset embedded in the recall answer message to determine if the sender of the recall answer is authorised to do so. The sender of the recall answer can be a party acting on behalf of the Beneficiary Participant.

ID	TIPS.UR.03.670
Name	Validation of recall answer status
Requirement	TIPS shall validate that the recall answer contains either an acceptance or rejection code in line with possible codes of the recall answer dataset DS-06.

In case the answer is negative no additional processing has to be performed by TIPS. The negative message is just forwarded to the Originator Participant or Instructing Party.

ID	TIPS.UR.03.680
Name	Validation of positive recall answer BICs
Requirement	<i>In case the recall is positive:</i> TIPS shall validate that the recall answer contains the BIC of the Originator and Beneficiary Participant or Reachable Party within the dataset DS-02, which is a subset of the recall answer dataset DS-06.

In case the recall answer is positive the original payment transaction dataset DS-02 of the transaction which is recalled is part of the recall answer.

ID	TIPS.UR.03.690
Name	Validation of positive recall answer fields
Requirement	<i>In case the recall is positive:</i> TIPS shall validate that the recall answer contains all fields mandatory for the positive recall answer dataset DS-06 (without the fields of the embedded DS-02 dataset).

Besides the embedded dataset DS-02 (which is not completely validated by TIPS) in the recall answer additional fields specified for DS-06 are used; only those additional fields are validated.

ID	TIPS.UR.03.700
Name	Derivation of default TIPS account or CMB from positive recall answer
Requirement	<i>In case the recall is positive:</i> TIPS shall derive from the Originator and Beneficiary Participant or Reachable Party's BIC contained within the recall answer message the default TIPS accounts or CMBs which are then supposed to be used for settlement of the recall. The Originator Participant or Reachable Party BIC within the dataset DS-02 (which is a subset of the recall answer dataset DS-06) has to be interpreted as the Beneficiary Participant or Reachable Party BIC for the reversed cash flow, and vice versa.

The recall answer dataset contains the Originator and Beneficiary Participant or Reachable Party's BICs, whose roles have to be reversed for processing of the recall message.

ID	TIPS.UR.03.710
Name	Detection of blocked account/CMB for a positive recall answer (A)
Requirement	<i>In case the recall is positive:</i> TIPS shall validate that the default TIPS account/CMB used for crediting/increase is not blocked for crediting/increase.

The derived default account/CMB of the new Beneficiary Participant or Reachable Party might be blocked for crediting/increase, which is checked by TIPS.

ID	TIPS.UR.03.720
Name	Detection of blocked account/CMB for a positive recall answer (B)
Requirement	<i>In case the recall is positive:</i> TIPS shall validate that the default TIPS account/CMB used for debiting/decrease is not blocked for debiting/decrease.

The derived default account/CMB of the new Originator Participant or Reachable Party might be blocked for debiting/decrease, which is checked by TIPS.

ID	TIPS.UR.03.730
Name	Rejection of recall answer
Requirement	TIPS shall inform the sender of the recall answer with a <i>recall answer rejection</i> message in case a validation error occurred and the recall answer is rejected.

In case a recall answer is rejected due to erroneous validation the sender of the answer is informed. Requirements for the actual messages are given in section 8.3.3 (see TIPS.UR.08.200).

ID	TIPS.UR.03.740
Name	Forwarding of negative recall answers
Requirement	TIPS shall forward a negative recall answer which has been successfully validated to the Originator Participant or Instructing Party as derived from the originator BIC contained in the DS-02 subset of the recall answer dataset DS-06.

In case the recall answer is negative the originator of the recall is informed. Requirements for the actual messages are given in section 8.3.3 (see TIPS.UR.08.190).

3.3.5 Process Positive Recall Answers

A positive recall answer message has to contain the full SCT Inst dataset which was originally used for the payment transaction that is recalled.

ID	TIPS.UR.03.750
Name	Creation of new payment transaction due to positive recall answer
Requirement	TIPS shall use the positive recall answer message and derive a suitable payment transaction dataset which reverses the direction of the cash flow from the original payment transaction that is recalled.

In case the recall answer is positive and passes its validation TIPS has to automatically create a new payment instructing with reverses the original cash flow, probably using a different amount (i.e. the original payment transaction amount minus a fee).

ID	TIPS.UR.03.760
Name	Derivation of new cash amount from positive recall answer
Requirement	For the reversed cash flow TIPS shall use a transaction amount taken from the recall answer field AT-46 of the SCT Inst dataset DS-06 for a positive response.

The new cash amount for the reversed cash flow is given in a mandatory field of the recall dataset DS-06 (AT-46).

ID	TIPS.UR.03.770
Name	Settlement requirements for positive recall answer
Requirement	The following settlement related requirements shall apply for recall payment transactions as well: <ul style="list-style-type: none"> • TIPS.UR.03.380 (Settlement with finality); • TIPS.UR.03.390 (Moment of settlement); • TIPS.UR.03.400 (Full amount settlement for payment transactions); • TIPS.UR.03.430 (Same currency settlement).

The user requirements already stated in the settlement section of the payment process flow should apply also for payment transactions automatically generated by TIPS during processing of a positive recall answer.

ID	TIPS.UR.03.780
Name	Increase/Decrease of CMBs affected by recall
Requirement	TIPS shall increase or decrease CMBs affected by the recall.

If the BICs which are used for the derivation of default accounts are linked to CMBs the CMB balance is increased or decreased during settlement; this is reflected in the balance of the linked accounts.

ID	TIPS.UR.03.790
Name	Insufficiency of funds for settlement of recall
Requirement	TIPS shall not settle the recalled amount in case the account to be debited or CMB to be reduced does not provide sufficient funds.

TIPS will reject the recall answer if the account to be debited respectively CMB to be decreased is not sufficiently funded respectively does not provide a sufficient limit.

ID	TIPS.UR.03.800
Name	Confirmation message in case of successful recall settlement
Requirement	TIPS shall inform both, the Beneficiary Participant or Instructing Party of the recall (i.e. the Originator Participant or Instructing Party of the original payment transaction which is recalled) and the Originator Participant or Instructing Party with a (positive) <i>recall answer</i> message in case settlement of a recall took place.

Requirements for the actual messages are given in section 8.3.3 (see TIPS.UR.08.190).

ID	TIPS.UR.03.810
Name	Rejection message in case of unsuccessful recall settlement
Requirement	TIPS shall inform the Originator Participant or Instructing Party of the recall (i.e. the Beneficiary Participant or Instructing Party of the original payment transaction which is recalled) with a <i>recall answer rejection</i> message in case settlement of a recall cannot take place. This message shall contain a rejection reason code.

Requirements for the actual messages are given in section 8.3.3 (see TIPS.UR.08.200).

3.4 INVESTIGATIONS

The TIPS service supports a transaction status investigation triggered by the Originator Participant or Instructing Party, as mandated by the SCT Inst scheme.

ID	TIPS.UR.03.900
Name	Investigation functionality
Requirement	TIPS shall allow Originator Participants or Instructing Parties to inquire about the status of a transaction. This transaction status inquiry shall contain at least the transaction status investigation dataset DS-07 as given by the SCT Inst scheme.

The TIPS service provides a query which covers this requirement; the query is available to both, the Originator and Beneficiary Participant or Instructing Party (see section 7.3)

ID	TIPS.UR.03.910
Name	Investigation answer
Requirement	TIPS shall answer to an investigation request with the status of the related payment transaction.

Answers to investigations are transmitted via A2A; if applicable suitable ISO XML messages will be used.

4 LIQUIDITY MANAGEMENT

The objective of this chapter is to outline the liquidity management functionality of the TARGET Instant Payments Settlement (TIPS) service. Both directions, the transfer of liquidity to/from TIPS from/to an RTGS are covered.

4.1 OVERVIEW

The TIPS service has to support outbound and inbound liquidity transfers to/from RTGS systems in order to fund TIPS participant accounts. Currently only euro liquidity transfers from/to TARGET2 are foreseen. The requirements of this chapter, however, shall apply to different RTGS systems as well.

Outbound liquidity transfers are triggered in TIPS⁴ by authorised Participants or Instructing Parties using a liquidity transfer order message. After necessary validations⁵ have been performed TIPS transfers the requested amount from the source TIPS account to a (technical) transit account; there is no reservation of funds. After successful settlement the corresponding RTGS is informed about the liquidity transfer in order to allow suitable booking; the RTGS is expected to reply with either a confirmation or a rejection message. In case the liquidity transfer is accepted by the RTGS the successful transfer of liquidity is confirmed back to the Participant who initiated it. In case the RTGS rejects the liquidity transfer the transferred amount is automatically booked back from the transit account to the source TIPS account; afterwards the initiating Participant is informed about the failed liquidity transfer. In case the RTGS does not respond within a configurable timeframe the outbound liquidity transfer process is stopped and an alarm is raised to the TIPS operator, who can then initiate appropriate further actions (depending on the reason for this timeout and the current status of TIPS and the RTGS).

Inbound liquidity transfers are triggered in the corresponding RTGS⁶ by authorised entities (who do not need to be TIPS Participants – funding for TIPS accounts can be provided by any entity who owns a PM account in TARGET2). For these inbound liquidity transfers TIPS expects a liquidity transfer order message from the RTGS, which is then validated. In case the validation fails TIPS rejects the liquidity transfer and informs the RTGS about this rejection. In case the validation is successful the requested amount will be transferred from the (technical) transit account to the participant account; after settlement the RTGS is informed.

The process flow diagrams for outbound and inbound liquidity transfers can be found in Figure 5 and Figure 6; they contain message events and tasks, which lead to user requirements. The list of messages is given in Table 5 and Table 7; actual requirements for these messages can be found in section 8.3.4. Tasks are listed in Table 6 and Table 8 and will be further detailed in the following sections.

⁴ Currently outbound liquidity transfers can only be triggered in TIPS.

⁵ Validations are, e.g. sufficiency of funds, currency of the account or current status of the RTGS (opening hours).

⁶ Inbound liquidity transfers can only be triggered in the RTGS.

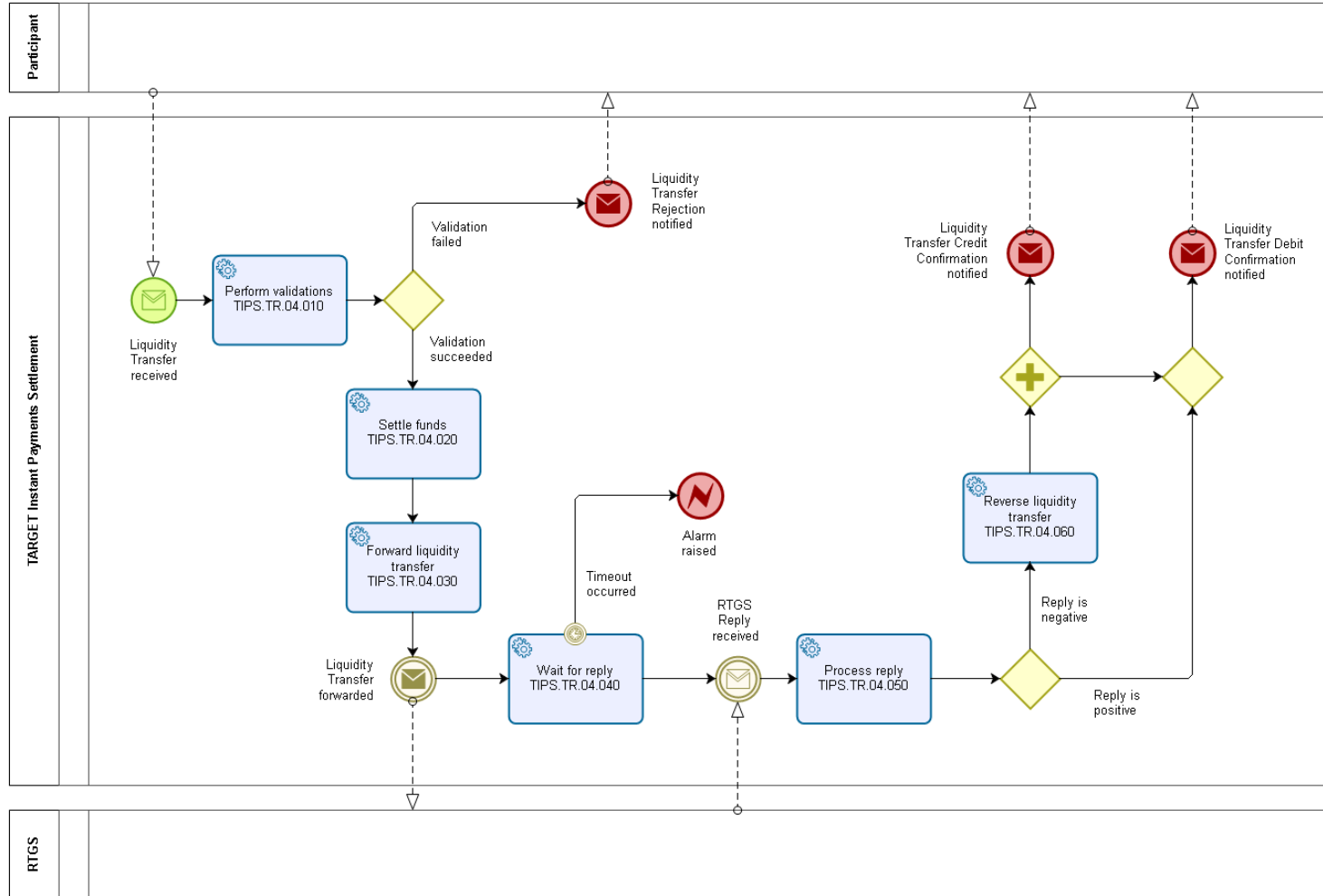


Figure 5: Outbound liquidity transfer process

Table 5: List of messages for outbound liquidity transfers

Message	Description	Requirement
Liquidity Transfer	An order to transfer liquidity from/to TIPS to/from and RTGS account. This message is forwarded by TIPS to the corresponding RTGS, after successful settlement in TIPS.	TIPS.UR.08.210
RTGS Reply	A reply sent by the RTGS to TIPS accepting or rejecting the liquidity transfer.	TIPS.UR.08.220
Liquidity Transfer Rejection	Negative receipt message sent by TIPS to the Participant in case an error occurred (e.g. RTGS is closed or RTGS rejected the liquidity transfer).	TIPS.UR.08.230
Liquidity Transfer Debit Confirmation	A message notifying the Participant about the successful debit of its TIPS account.	TIPS.UR.08.240
Liquidity Transfer Credit Confirmation	A message notifying the Participant about the successful credit of its TIPS account.	TIPS.UR.08.250

Table 6: List of tasks for outbound liquidity transfer workflow

Task	Description	Section
TIPS.TR.04.010	Execution of technical and business validations; the outbound liquidity transfer is rejected as soon as one validation fails.	4.2.1
TIPS.TR.04.020	Settle the funds with finality, i.e. debit the Participant TIPS account and credit the RTGS transit account in TIPS.	4.2.2
TIPS.TR.04.030	Forward the liquidity transfer message to the RTGS.	4.2.3
TIPS.TR.04.040	Wait for a settlement confirmation from the RTGS.	4.2.4
TIPS.TR.04.050	Process the reply from the RTGS and send debit settlement confirmation to the Originator Participant upon successful settlement in the RTGS.	4.2.5
TIPS.TR.04.060	Reverse the liquidity transfer and send a debit and credit settlement confirmation messages to the Originator Participant, in case of rejection from the RTGS.	4.2.6

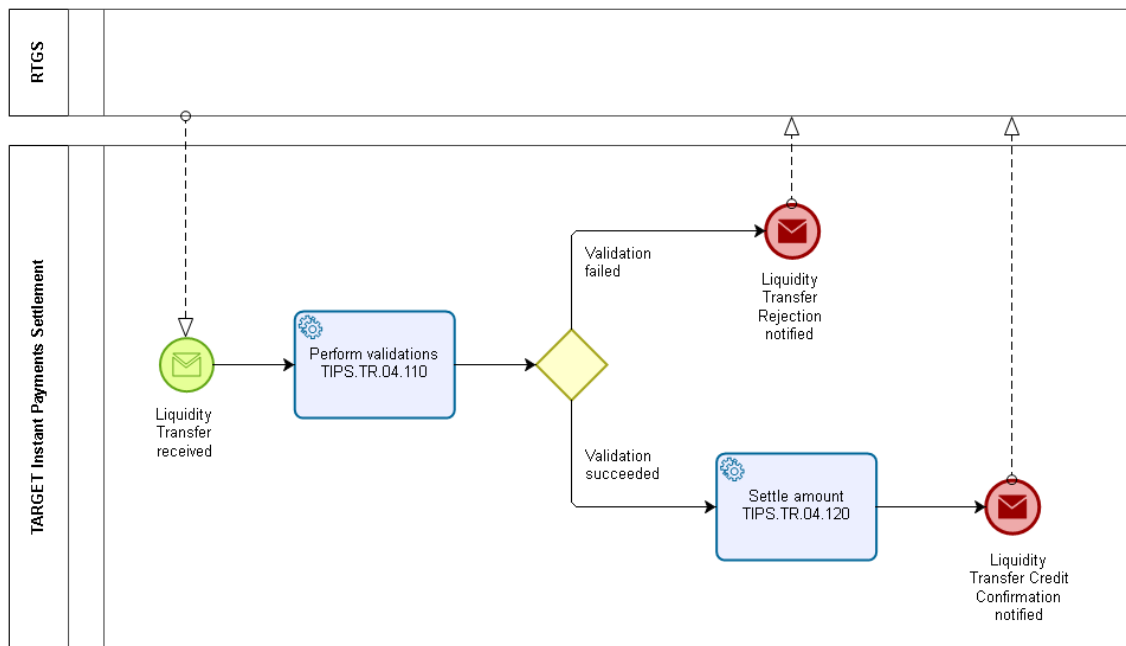


Figure 6: Inbound liquidity transfer process

Table 7: List of messages for inbound liquidity transfers

Message	Description	Requirement
Liquidity Transfer	Liquidity transfer message routed by the RTGS to TIPS.	TIPS.UR.08.210
Liquidity Transfer Rejection	Liquidity transfer negative receipt message sent by TIPS to the RTGS in case an error occurred (e.g. unsuccessful validation in TIPS).	TIPS.UR.08.230
Liquidity Transfer Credit Confirmation	A message notifying the RTGS about the successful credit of a TIPS account.	TIPS.UR.08.250

Table 8: List of tasks for inbound liquidity transfer workflow

Task	Description	Section
TIPS.TR.04.110	Execution of technical and business validations; the inbound liquidity transfer is rejected as soon as one validation fails.	4.2.7
TIPS.TR.04.120	Settle the funds with finality, i.e. credit the Participant TIPS account and debit the RTGS transit account in TIPS.	4.2.2

4.2 LIQUIDITY TRANSFERS

4.2.1 Validation of Outbound Liquidity Transfers

ID	TIPS.UR.04.010
Name	Authorisation to send outbound liquidity transfers
Requirement	TIPS shall check that the Instructing Party is authorised to send outbound liquidity transfers.

TIPS shall validate the information included in the outbound liquidity transfer message. TIPS shall check the following non exhaustive list of fields:

- the Instructing Party;
- other information from the reference data (e.g. on the authorisation to instruct on the debited TIPS account).

The instructing party of the liquidity transfer shall be authorised to initiate an outbound liquidity transfer and to debit the related TIPS account.

In case of authorisation error, TIPS shall reject the liquidity transfer and notify the Originator Participant using the negative receipt message (i.e. camt.025).

ID	TIPS.UR.04.020
Name	Mandatory fields for outbound liquidity transfers
Requirement	TIPS shall check the mandatory attributes of an outbound liquidity transfer.

TIPS shall validate the outbound liquidity transfer from TIPS to the RTGS based on the following non-exhaustive list of fields:

- currency;
- transferred cash amount;
- the account to be debited;
- RTGS account to be credited.

The business validations checks at least that (i) the currency is eligible for settlement in TIPS, (ii) the transferred cash amount is greater than zero, (iii) the debited TIPS account and (iv) the RTGS account to be credited are filled in.

In case of mandatory attributes error, TIPS shall reject the liquidity transfer and notify the Originator Participant using the negative receipt message (i.e. camt.025).

ID	TIPS.UR.04.030
Name	Validation of outbound liquidity transfers
Requirement	TIPS shall check that information contained in the outbound liquidity transfer is consistent with the reference data in TIPS.

TIPS shall validate the information included in the liquidity transfer. TIPS shall check the following non exhaustive list of data:

- the identifier of the debited TIPS account;
- the currency denomination of the debited TIPS account;
- the status of the debited TIPS account.

The business validations checks that (i) the debited TIPS account is a valid account in TIPS, (ii) it is denominated in the same currency used in the outbound liquidity transfer order and (iii) that the debited account is not blocked.

In case a validation error occurs, TIPS shall reject the liquidity transfer and notify the Originator Participant using the negative receipt message (i.e. camt.025).

ID	TIPS.UR.04.040
Name	Rejection of liquidity transfers due to insufficient funds
Requirement	TIPS shall reject an outbound liquidity transfer whose amount would decrease the Originator Participant's TIPS account balance below zero.

TIPS shall reject liquidity transfers due to insufficient funds in case the unreserved balance of the debited TIPS account is less than the liquidity transfer amount and notify the Originator Participant using the negative receipt message (i.e. camt.025).

ID	TIPS.UR.04.050
Name	Rejection of outbound liquidity transfers during the RTGS closing hours
Requirement	TIPS shall prevent the initiation of an outbound liquidity transfer if the corresponding RTGS is closed.

Based on the information sent by the RTGS, e.g. using a camt.019 message, TIPS will be able to maintain the opening/closing status of the corresponding RTGS. TIPS will check the status of the RTGS in order to reject outbound liquidity transfers which are initiated when the RTGS is closed.

4.2.2 Settlement of Liquidity Transfers

ID	TIPS.UR.04.060
Name	Full amount settlement for liquidity transfers
Requirement	TIPS shall always settle liquidity transfers on TIPS accounts for the full amount.

TIPS shall debit or credit a TIPS account for the full amount of a liquidity transfer. If the TIPS account that is being debited does not have sufficient funds, the liquidity transfer shall be rejected and not settled partially.

ID	TIPS.UR.04.070
Name	One transit account per currency
Requirement	TIPS shall make use of one transit account per currency for all the liquidity transfers from/to the corresponding RTGS.

The transit account for euro is owned by the ECB as Central Bank and it is used for the transfer of euro liquidity from/into TIPS. In case of inbound liquidity transfer, the TIPS account is being credited by debiting the transit account defined in the same currency.

The RTGS transit account is a TIPS account which mirrors the TIPS transit account in the corresponding RTGS system. Transit accounts can have only negative or zero balance.

ID	TIPS.UR.04.080
Name	Liquidity transfers between RTGS accounts and TIPS accounts
Requirement	TIPS shall ensure that a TIPS account is able to receive or send liquidity from/to any RTGS account, provided that both accounts are denominated in the same currency.

TIPS shall ensure that a TIPS Participant, or an authorised party acting on behalf of a TIPS Participant, is able to receive or send liquidity from its TIPS account(s) from/to any RTGS account defined in the RTGS for the given currency.

4.2.3 Forwarding of Outbound Liquidity Transfers

ID	TIPS.UR.04.090
Name	Routing of outbound liquidity transfers
Requirement	Upon successful settlement in TIPS, TIPS shall route the outbound liquidity transfer message to the corresponding RTGS.

Depending on the currency denomination of the debited TIPS account, after the successful settlement, TIPS routes the liquidity transfer message to the relating RTGS in order to complete the transfer of liquidity from the RTGS transit account in TIPS to the corresponding TIPS transit account in the destination RTGS system.

Finally, the liquidity is moved from the TIPS transit account in the destination RTGS system to the relevant RTGS account.

4.2.4 RTGS Confirmation

ID	TIPS.UR.04.100
Name	Wait for settlement confirmation from the RTGS
Requirement	TIPS shall wait until the confirmation from the RTGS is received.

Upon successful validation and routing of the outbound liquidity transfer, TIPS shall wait until a confirmation from the RTGS is received (i.e. successful or unsuccessful settlement of the liquidity transfer in the RTGS) before notifying the Originator Participant.

ID	TIPS.UR.04.110
Name	Alarm in case of missing response from the RTGS
Requirement	TIPS shall trigger an alarm if no response to an outbound liquidity transfer is received from the RTGS within a configurable timeframe.

In order to avoid liquidity trap, TIPS shall be able to raise an alarm if no answer is received from the RTGS, e.g. after 15 minutes. The alarm will be notified to the TIPS operator.

The alarm will be used as a trigger aiming at resolving the issue through operational procedures which are outside the scope of the current document.

4.2.5 Settlement Receipts

ID	TIPS.UR.04.120
Name	Successful confirmation of liquidity transfers
Requirement	TIPS shall notify the successful transfer of funds to the originating party upon a successful execution of a liquidity transfer.

Upon successful execution of a liquidity transfer, TIPS sends a confirmation to the originating party using the related receipt message (i.e. camt.025). TIPS shall notify either (i) the relevant RTGS system in case of an inbound liquidity transfer from the RTGS to TIPS or (ii) the originating TIPS Participant in case of an outbound liquidity transfer from TIPS to the RTGS.

In case of outbound liquidity transfers, TIPS sends the positive receipt to the Originator Participant, immediately after the positive RTGS settlement confirmation is received.

4.2.6 Automatic Reverse of Liquidity

ID	TIPS.UR.04.140
Name	Automatic reverse of liquidity in case of RTGS rejection
Requirement	TIPS shall automatically reverse the outbound liquidity transfer upon receiving a negative receipt from the RTGS.

In case of settlement rejection in the RTGS, TIPS automatically reverses the liquidity transfer, by debiting the RTGS transit account in TIPS and by crediting the Originator Participant account for the full amount settled with the originating order.

ID	TIPS.UR.04.150
Name	Notification in case of RTGS rejection
Requirement	Upon receiving a negative receipt from the RTGS, TIPS shall notify the Originator Participant both with a debit notification, for the original order, and a credit notification, for the automatic reverse.

TIPS shall notify the Originator Participant of an outbound liquidity transfer using two camt.025 messages, (i) one for confirming the debit notification of the original order and (ii) a second one for the credit notification of the automatic reverse.

4.2.7 Validation of Inbound Liquidity Transfers

ID	TIPS.UR.04.160
Name	Validation of inbound liquidity transfers
Requirement	TIPS shall check that information contained in the inbound liquidity transfer is consistent with the reference data in TIPS.

TIPS shall validate the information included in the liquidity transfer. TIPS shall check the following non exhaustive list of data:

- the identifier of the credited TIPS account;
- the currency denomination of the credited TIPS account;
- the status of the credited TIPS account.

The business validations checks that (i) the credited TIPS account is a valid account in TIPS, (ii) it is denominated in the same currency used in the incoming liquidity transfer order and (iii) that the credited account is not blocked.

In case a validation error occurs, TIPS shall reject the liquidity transfer and notify the RTGS using the negative receipt message (i.e. camt.025).

5 MANAGEMENT OF ACCOUNTS AND REFERENCE DATA

This chapter covers TIPS actors, the structure of dedicated TIPS cash accounts for liquidity management purposes and an additional functionality called Credit Memorandum Balance (CMB), which can be utilised for managing limits. This chapter covers also other reference data required for the configuration and operation of the service.

5.1 OVERVIEW

The TIPS service differentiates between different actors which play different roles and have, accordingly, different access rights. These actors are Central Banks, Participants, Reachable Parties and Instructing Parties (either on behalf of a Participant or Reachable Party). Furthermore two different types of addressable targets for payment transactions are provided; a TIPS account which contains the actual liquidity and a Credit Memorandum Balance (CMB), which is a limit that is linked to an account.

Participants are entities which have a BIC and are eligible for participation in TARGET2 (but do not need to have a PM account); Participants own TIPS accounts (and CMBs). TIPS accounts of Participants cannot have a negative balance.

Reachable Parties do not have TIPS accounts and have to rely on a Participant to allow them to use an account (or CMB). Reachable parties can interact with TIPS directly (i.e. send payment transactions) if they assume the role of an Instructing Party.

Both actors, Participants and Reachable Parties, can be addressed for debiting or crediting by using their BIC on the originator or beneficiary side, i.e. in the fields AT-06 or AT-23 of the SCT Inst dataset DS-02, which is part of the payment transaction messages.

Instructing Parties are entities acting on behalf of either a Participant or a Reachable Party and communicate with TIPS directly sending payment transactions or responding with Beneficiary Participant reply messages (or executing recalls and investigations). Participants and Reachable Parties can act as Instructing Parties and impersonate them; however, in case of a Participant this additional role is redundant since Participants can communicate with TIPS directly anyways. Instructing parties which act on behalf of a Participant or Reachable Party have at least the rights the party has they are acting on behalf of.

Central Banks maintain reference data associated with an entity within their national community and are responsible for, e.g. the initial setup and maintenance of a Participant and its accounts (as well as additional account related information such as the different parties allowed to use an account or CMB). Furthermore Central Banks can be Participants.

In general, **TIPS accounts** are owned by Participants and can be debited or credited during processing of instant payment transactions or liquidity transfers from an RTGS; those accounts cannot have a negative balance. Central Banks can be Participants and own regular TIPS accounts.

A **Credit Memorandum Balance (CMB)** is a limit linked to exactly one TIPS account. This is a way of managing customer credit lines outside TIPS and using the resulting limits in TIPS. CMBs have identifiers similar to TIPS accounts and can be addressed with instant payment transactions (either given explicitly or derived as defaults). Whenever a payment transaction addresses a CMB instead of

an account the current limit on the CMB is adjusted in addition to the balance of the involved accounts. If both sides, the Originator and Beneficiary Participant or Reachable Party, use a CMB the CMB on the originator side will be decreased and the linked account debited while the CMB on the beneficiary side will be increased and the linked account credited. Whenever a CMB limit is adjusted via a payment transaction the linked account is adjusted as well (given that its funds are sufficient; otherwise the transaction would be rejected).

Each Participant TIPS account and CMB can be addressed via instant payment transactions and is owned by a Participant. The owner, however, is not necessarily the entity which is using that account/CMB for the settlement of instant payments. Therefore each account and CMB is assigned to exactly one BIC of a Participant or Reachable Party which is the entity allowed to instruct on that account/CMB. Each BIC could be assigned to multiple accounts/CMBs; however, in order to allow TIPS defaulting of account information derived from a BIC one of these accounts/CMBs has to be defined as the default.

In order to visualise the potential actors/account/CMB structure within TIPS some **examples for business cases** which could be realised with this functionality are given below; in each instance both sides, the originator and beneficiary one are depicted.

Case 1: One Participant owns one TIPS account and sends payment transactions debiting this account directly to TIPS; furthermore all requests for Beneficiary Participant replies are handled by the same Participant crediting the same account. In that case the allowed sender of payment transactions and Beneficiary Participant replies is the Participant itself; the account is owned by the Participant and the Participants BIC (=P) is configured as the user of that account. The account identifier does not need to be contained in the messages since it can be defaulted.

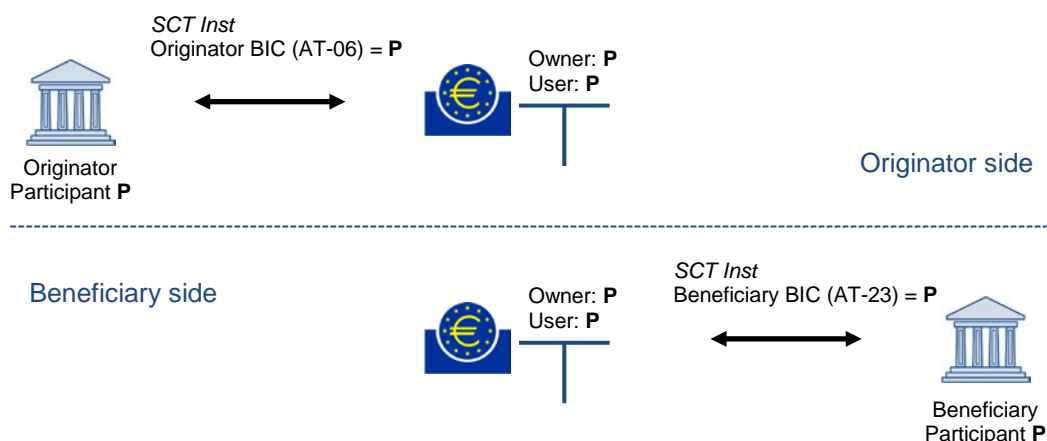


Figure 7: Use case 1: Single Participant

Case 2: One Participant (BIC=P) owns one TIPS account and authorises an Instructing Party to send payment transactions and Beneficiary Participant replies on the Participant's behalf (i.e. both sides of the communication are handled by the same Instructing Party). In that case the allowed sender of payment transactions and Beneficiary Participant replies is the Instructing Party; the Participant's BIC is configured as the user of that account. Authorisation to send payment transactions (the field AT-06 of DS-02 according to SCT Inst contains the Participant's BIC) is checked via a mapping table which links the account user BIC (i.e. the Participant's) with whitelisted senders (the Instructing Party; could be more than one). In case a Beneficiary Participant reply is required (i.e. TIPS processes a payment transaction which contains the Participant's BIC in field AT-23 of DS-02 according to SCT Inst) the Instructing Party is looked up via another mapping table linking the account user BIC with the

Instructing Party. One Participant could use different Instructing Parties on the originator or beneficiary side. The account identifier does not need to be provided in the messages since it can be defaulted.

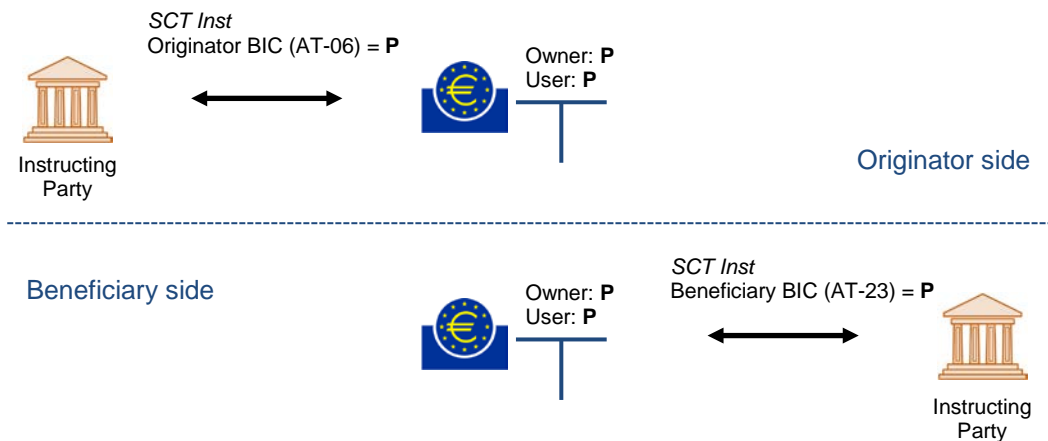


Figure 8: Use case 2: Single Participant with Instructing Party

Case 3: One Participant P owns one TIPS account and one CMB; the user of the CMB is a Reachable Party R (i.e. the Participant provides liquidity to the Reachable Party) and an Instructing Party acts on behalf of the Reachable Party and sends payment transactions and Beneficiary Participant replies (this Instructing Party could be the Reachable Party itself); the Instructing Party handles both sides of the communication. This situation is identical to case 2 with the Reachable Party's BIC instead of the Participant's BIC. It does not matter if an account or CMB is linked to that BIC and defaulted.

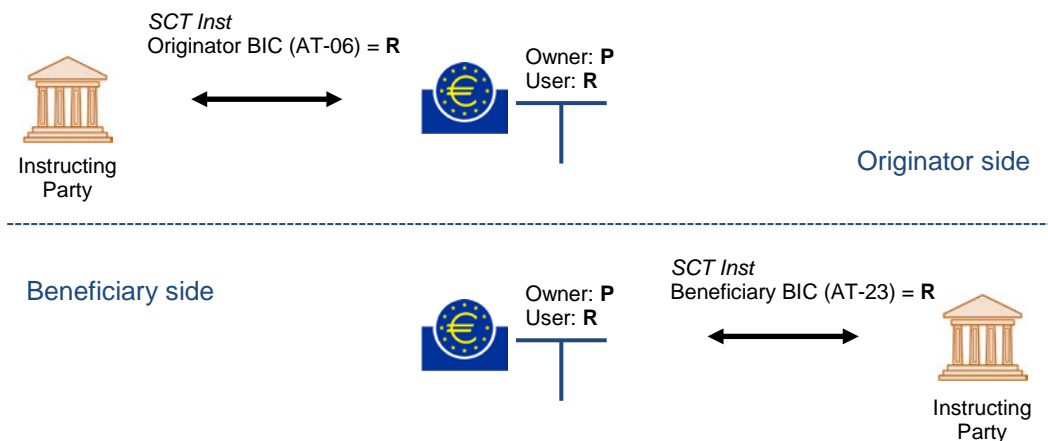


Figure 9: Use case 3: Reachable party with Instructing Party

This case number 3 could be generalised in the following way: One Participant owns one account and a number of CMBs; each CMB is usable by one branch of this entity (set up as Reachable Parties), using the same (or different) Instructing Parties. If the CMB limits are set arbitrarily high all branches could do their instant payment business via TIPS while only one single account has to be funded with liquidity.

Case 4: One Participant owns one account and three CMBs; two of these CMBs are used by the Participant P and one by a Reachable Party R. Two different Instructing Parties are handling the inbound communication with TIPS related to CMB 1 and CMB 2 used by the Participant, one Instructing Party each; furthermore one of these Instructing Parties instructs on CMB 3 on behalf of the Reachable Party. On the originator side both Instructing Parties can send payment transactions to TIPS using CMBs 1, 2 or 3, depending on the originator BIC; on the beneficiary side, however, only one of the two Instructing Parties can be set up as communication partner for all messages related to the Participant's beneficiary BIC due to the fact that payment transactions can only be forwarded to exactly one entity.

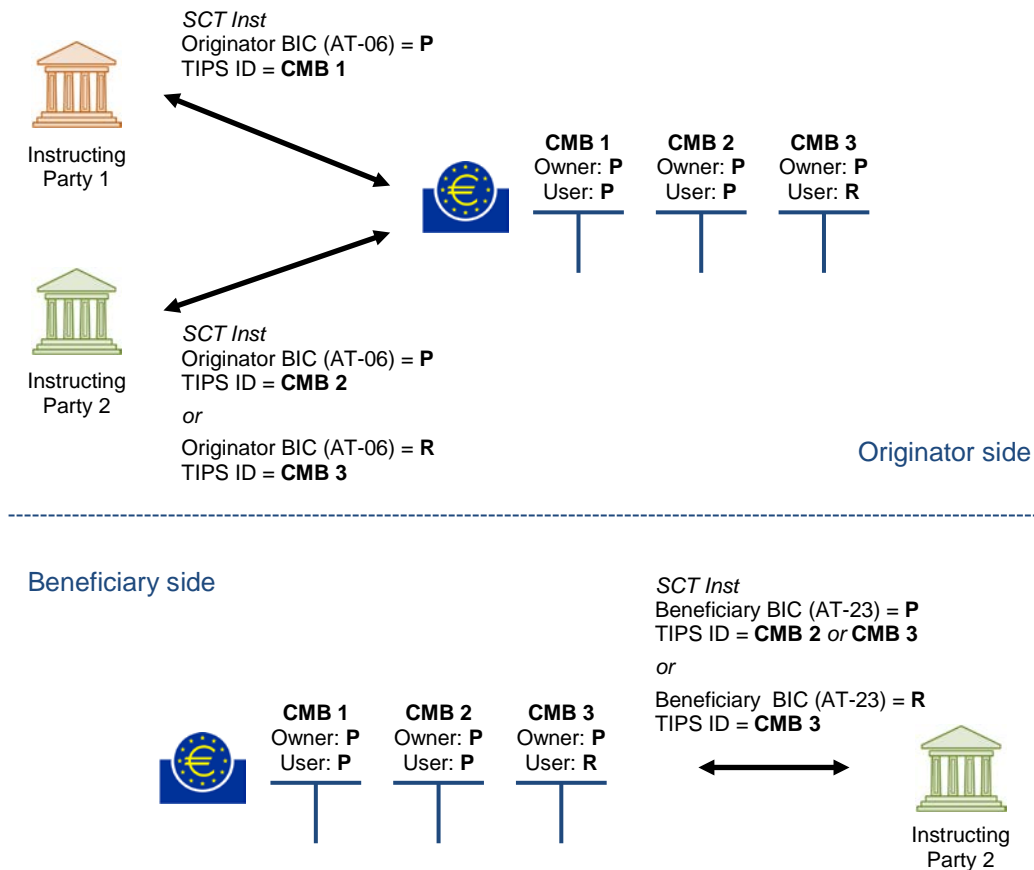


Figure 10: Use case 4: Multiple Instructing Parties

Business cases 1 to 3 are likely to cover the most common configurations how Participants and Reachable Parties could utilise TIPS for their instant payments business. Business case 4 is more complex and could be of interest in case an Instructing Party is only going to instruct for a subset of all possible IBANs linked to a particular BIC; however, in that scenario only one single entity can be responsible for handling all communication with the TIPS service on the beneficiary side.

5.2 ACTORS

ID	TIPS.UR.05.010
Name	Central Bank actors
Requirement	<p>TIPS shall enable and allow <i>Central Bank</i> actors to:</p> <ul style="list-style-type: none"> act as Participants or Reachable Parties; act as Instructing Parties; own transit accounts; transfer liquidity from TIPS accounts in their books to RTGS accounts (i.e. all accounts owned by Participants from their national community); manage all accounts in their books and CMBs linked to accounts in their books (i.e. create, update, delete); central bank actions shall override actions of all other actors; create, update and delete linkages between Participants and Instructing Parties. <p>These capabilities could be restricted using suitable access rights.</p>

Currently only one single transit account for euro is foreseen, which is owned by the ECB (see TIPS.UR.04.070). Account management actions executed by a Central Bank cannot be undone by a Participant or Reachable Party, e.g. an account blocked by a Central Bank cannot be unblocked by the Participant; however, an account blocked by a Participant could be unblocked by a Central Bank.

ID	TIPS.UR.05.020
Name	Participant actors
Requirement	<p>TIPS shall enable and allow <i>Participant</i> actors to (as long as suitable access rules are set up):</p> <ul style="list-style-type: none"> act as Instructing Parties; own TIPS accounts (which cannot have a negative balance) and CMBs linked to their accounts; transfer liquidity from their TIPS accounts to RTGS accounts; send payment transactions, Beneficiary Participant replies, recalls, recall answers and queries for their own accounts and CMBs; update their accounts and CMBs linked to their accounts; only updates of blocking states and CMB limits shall be allowed. Participant actions shall override Instructing Party actions. <p>These capabilities could be restricted using suitable access rights.</p>

Participants are entities which have a BIC which could be used in an instant payment transaction (either on the originator or beneficiary side). Furthermore, Participants could act as Instructing Parties; however, this role is redundant since Instructing Parties do not have any additional privileges.

Participants are responsible for all actions performed on accounts or CMBs owned by them.

ID	TIPS.UR.05.030
Name	Reachable party actors
Requirement	<p>TIPS shall enable and allow <i>Reachable Party</i> actors to (as long as suitable access rules are set up):</p> <ul style="list-style-type: none"> act as Instructing Parties. <p>These capabilities could be restricted using suitable access rights.</p>

Reachable parties do not perform any actions on their own within TIPS; they are just set up as an entity which has a BIC that could be used in an instant payment transaction, as long as there is an Instructing Party configured which handles all communication on behalf of the Reachable Party. A Reachable Party can assume the role of an Instructing Party thereby gaining all rights described in TIPS.UR.05.040.

ID	TIPS.UR.05.040
Name	Instructing party actors
Requirement	<p>TIPS shall enable and allow <i>Instructing Party</i> actors to (as long as suitable access rules are set up):</p> <ul style="list-style-type: none"> act on behalf of Participants and perform all Participant actions; act on behalf of Reachable Parties and send payment transactions, Beneficiary Participant replies, recalls, recall answers and queries for accounts or CMBs configured to be used by the Reachable Party. <p>These capabilities could be restricted using suitable access rights.</p>

Instructing parties acting on behalf of Participants have the same capabilities as Participants themselves. Instructing parties acting on behalf of Reachable Parties, however, have the additional capability to communicate with TIPS directly and send, e.g. payment transactions or Beneficiary Participant replies (i.e. Instructing Parties could handle both sides of the communication, on the originator and beneficiary side). Instructing parties have to have a contractual agreement with a Participant or Reachable Party to instruct on its behalf.

The following Table 9 summarises the characteristics and capabilities of the different actors regarding the following items:

- How can the entity be addressed in a payment transaction (i.e. as either the originator or beneficiary side BIC in the SCT Inst dataset DS-02, fields AT-06 or AT-23).
- What does the entity own within TIPS.
- Can the entity transfer liquidity between the RTGS and TIPS.
- Can the entity send messages to TIPS affecting accounts or CMBs (on the originator and beneficiary side), i.e. is there a business rule set up which (i) allows the entity to send messages to TIPS and (ii) allows TIPS to route messages to the entity for a particular account or CMB.
- What is the entity allowed to manage.

Management actions executed by a tier X entity always override those executed by a tier X+1 entity.

Table 9: TIPS participation structure overview

Tier	Actor	Can be addressed in transactions	Owns	Can transfer liquidity	Can send messages using	Can manage
1	Central Banks ⁷	-	<ul style="list-style-type: none"> Transit account Accounts 	All accounts in their books	-	<ul style="list-style-type: none"> Create, update, delete accounts in their books and linked CMBs Create, update and delete linkages between Participants, Reachable Parties and Instructing Parties
2	Participants	Via own BIC	<ul style="list-style-type: none"> Accounts CMBs 	Own accounts	<ul style="list-style-type: none"> Own accounts Own CMBs 	<ul style="list-style-type: none"> Block own accounts and CMBs Update own CMB limits
	Reachable Party ⁸	Via own BIC	-	-	-	-
3	Instructing party on behalf of a Participant ⁹	-	-	Participant's accounts	<ul style="list-style-type: none"> Accounts and CMBs of the Participant 	<ul style="list-style-type: none"> Block Participant's accounts and CMBs Update Participant's CMB limits
	Instructing party on behalf of a Reachable Party ⁹	-	-	-	<ul style="list-style-type: none"> Accounts and CMBs of a Participant 	-

⁷ Central banks in their role as CB; they could also act as a Participant

⁸ A reachable party could always become a Participant since it is eligible

⁹ Actions performed by Instructing Parties on behalf of Participants or Reachable Parties require suitable access rights.

ID	TIPS.UR.05.050
Name	Eligibility criteria for TIPS Participants
Requirement	Entities which are eligible for TARGET2 participation shall be eligible as TIPS Participant or Reachable Party.

All legal entities eligible for TARGET2 participation shall be eligible for TIPS participation as well. TIPS Participants do not need to own a TARGET2 PM account; funding for TIPS accounts could be provided via a TARGET2 PM account owned by a different entity. These eligibility criteria apply only to euro.

ID	TIPS.UR.05.060
Name	Instant payments for Participants
Requirement	TIPS shall support the settlement of instant payment transactions for originators or beneficiaries who maintain accounts with a Participant.

The TIPS service supports instant payments business done by Participants.

ID	TIPS.UR.05.070
Name	Instant payments for Reachable Parties
Requirement	TIPS shall support the settlement of instant payment transactions for originators or beneficiaries who maintain accounts with a Reachable Party. If the Reachable Party does not act as an Instructing Party it has to use a Participant or an Instructing Party to provide connectivity with TIPS.

The TIPS service supports instant payments business done by Reachable Parties, provided that they ensure connectivity with TIPS.

5.3 ACCOUNT STRUCTURE

This section is comprised of requirements related to the different types of account and the Credit Memorandum Balance (CMB).

5.3.1 Accounts

ID	TIPS.UR.05.080
Name	Account types
Requirement	<p>TIPS shall provide cash accounts which are used for the settlement of instant payments and liquidity transfers. There shall be two different account types:</p> <ul style="list-style-type: none"> • <i>transit accounts</i>: One technical account per currency used solely for the technical provision of liquidity transfers from/to an RTGS and to/from TIPS; • <i>accounts</i> (also called <i>TIPS accounts</i>): Regular Participant accounts floored at zero.

Regular Participant TIPS accounts cannot go negative and are floored at zero.

ID	TIPS.UR.05.090
Name	TIPS account identifiers
Requirement	TIPS account identifiers shall be ISO compliant and globally unique.

TIPS account identifiers should be globally unique in TIPS and ISO compliant; Participants should be able to choose their account identifiers in compliance with TARGET2 restrictions, i.e. 34 characters long, composed of country code and up to 32 characters.

ID	TIPS.UR.05.100
Name	Account level reference data
Requirement	TIPS shall maintain at least the following data on an account level: Type, identifier, currency, owner, user, default flag and status. Not all characteristics might apply to all account types.

The account characteristics are:

- *Type*: Transit account or regular TIPS account.
- *Identifier*: The ISO compliant account ID.
- *Currency*: The account's currency, which is an eligible TIPS settlement currency.
- *Owner*: The Participant or Central Bank who owns the account.
- *User*: The BIC of the entity which is allowed to use that account for instant payments (on the originator and beneficiary side); i.e. the BIC that could be found, e.g. in the payment transaction.
- *Default flag*: Indicates, whether the account is the default choice for the given user BIC; a default could also be a CMB (however, exactly one default has to be set up for a BIC).
- *Status*: Current blocking status of the account; TIPS differentiated between two blocking states: Blocked for debiting and blocked for crediting.

ID	TIPS.UR.05.110
Name	Number of TIPS accounts per Participant
Requirement	Each TIPS Participant shall be able to own one or many TIPS accounts.

TIPS Participants can hold one or many TIPS accounts. Participants may choose to hold more than one account in order to segregate their business.

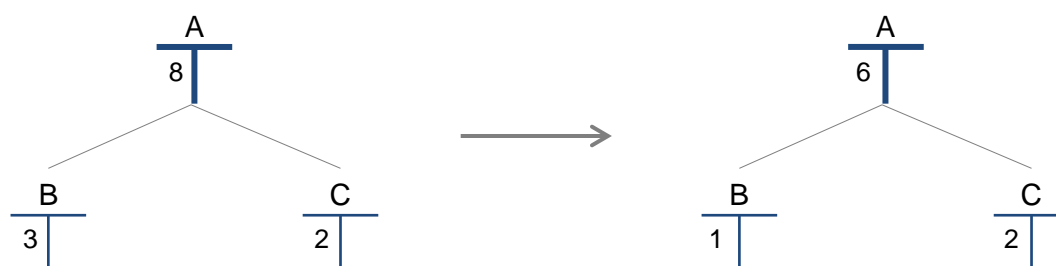
5.3.2 Credit Memorandum Balance

ID	TIPS.UR.05.120
Name	Credit Memorandum Balance functionality
Requirement	Every TIPS Participant shall have the ability to define a number of Credit Memorandum Balances (CMBs) for each one of their TIPS accounts. Those CMBs shall define a limit for the settlement of instant payments; this limit shall be adjusted by the amount of the payment in case the CMB is addressed in an instant payment transaction and settlement takes place. The limit shall be increased if the linked account is to be credited and decreased if the linked account is to be debited.

TIPS differentiates between dedicated cash accounts where settlement takes place (called TIPS accounts) and Credit Memorandum Balances (CMBs), which are credit limits that are linked to TIPS accounts. These credit limits provide Participants with a flexible tool for limit management and monitoring.

CMBs define upper limits for the usage of liquidity for instant payments for a particular TIPS account. Participants or Instructing Parties can instruct payments which are checked against a limit defined via such a CMB, which ensures that the instructing entity does not have unrestricted command over the full amount of liquidity on the linked TIPS account.

In order to give an explicit example for the behaviour of CMBs: Suppose a Participant owns the TIPS account A with a balance of 8 as well as the CMBs B and C with limits of 3 and 2 respectively, linked to the account A. Suppose further that an instant payment transaction has been received which decreases the limit defined on CMB B by 2. The business checks that TIPS has to perform prior settlement are then: $2 < 3$ and $2 < 8$. If those are true settlement on account A can take place which decreases the limit of B to $3 - 2 = 1$ and – simultaneously – reduces the cash balance of A to $8 - 2 = 6$. CMB C is not adjusted at all.



CMBs are configured by the entities that are responsible for the setup of account, i.e. Central Banks.

ID	TIPS.UR.05.130
Name	Addressing of CMBs
Requirement	TIPS shall allow Participants or Instructing Parties to directly address CMB instead of accounts using messages.

The accounts used for debiting and crediting could be either defaulted from the Originator and Beneficiary Participant or Reachable Party BIC or explicitly provided in the payment transaction and Beneficiary Participant reply messages; for recall processing only defaulted accounts are possible. In both cases (defaulted or explicitly provided) the account is “addressed” for an instant payment. TIPS should allow the same addressing for CMBs as well, i.e. from the Participant’s or Instructing Party’s point of view there is no difference between addressing an account or CMB. In both cases the same message fields or defaulting rules are used.

ID	TIPS.UR.05.140
Name	Number of CMBs per account
Requirement	Each TIPS account shall be able to be linked to more than one CMB.

The relation between TIPS accounts and CMBs is a one-to-many relation, i.e. each TIPS account can be linked to a number of CMBs. Each CMB, however, is linked to exactly one TIPS account, in order to allow TIPS to uniquely derive the account to be debited or credited from the addressed CMB.

ID	TIPS.UR.05.150
Name	Limits set via CMBs
Requirement	TIPS shall allow Participants to set limits greater than or equal to zero on their CMBs.

The sum of limits configured via CMBs for a particular account does not need to coincide with the currently available cash on this account. This requirement allows Participants to dedicate less liquidity to their accounts than the sum of all limits would imply. However, if the linked TIPS account does not provide sufficient liquidity the payment transaction is rejected.

In the following example (see diagram above), a Participant owns the TIPS account A as well as the CMBs B and C, linked to the account A. The sum of the limits of CMBs B and C could be greater than the amount of cash available on account A; $a < b + c$.

ID	TIPS.UR.05.160
Name	CMB identifiers
Requirement	CMB identifiers shall be ISO-like, unique and not coincide with account identifiers.

CMB identifiers shall be globally unique in TIPS; Participants shall be able to choose their CMB identifiers in compliance with TARGET2 restrictions, i.e. 34 characters long, composed of country code and up to 32 characters. By addressing a CMB via its identifier the linked TIPS account is automatically addressed as well (and does not need to be given explicitly). Account and CMB identifiers should not coincide.

ID	TIPS.UR.05.170
Name	CMB level reference data
Requirement	TIPS shall maintain at least the following data on a CMB level: Identifier, linked account, user, default flag and status. The CMB's currency and owner shall be identical to the linked account.

The CMB characteristics are:

- *Identifier*: The ISO compliant CMB ID.
- *Linked Account*: The account to which the CMB is linked to.
- *User*: The BIC of the entity which is allowed to use that CMB for instant payments (on the originator and beneficiary side); i.e. the BIC that could be found, e.g. in the payment transaction.
- *Default flag*: Indicates, whether the CMB is the default choice for the given user BIC; a default could also be an account (however, exactly one default has to be set up for a BIC).
- *Status*: Current blocking status of the CMB; TIPS differentiated between two blocking states: Blocked for decreases and blocked for increases.

The CMB's currency and owner is always identical to the linked account.

5.4 REFERENCE DATA

ID	TIPS.UR.05.180
Name	Account management actions
Requirement	TIPS shall provide functionalities to create update or delete accounts or CMBs according to suitable role permissions as given in section 5.2.

Used reference data for an account or CMB can be found in the relevant requirements in section 5.3. During creation all reference data is set up for each account and CMB; data updates, however, are restricted to the following subset of reference data: The user, the default flag, current blocking status and CMB limit; explicit requirements for the different actions follow.

No all reference data changes are in effect immediately. Some data like, e.g. new accounts, might only be usable after some time since it has to be propagated to all instance of the service. Other changes, e.g. account blockings, have to be effective immediately, however.

5.4.1 Account/CMB Creation and Deletion

ID	TIPS.UR.05.190
Name	Account/CMB creation action
Requirement	TIPS shall allow an actor with suitable permissions to create accounts or CMBs and set up their reference data.

This requirement refers to regular Participant accounts; transit accounts are set up by the TIPS operator. Central Banks are allowed to create accounts or CMBs for Participants, there is no functionality foreseen for Participants to create new CMBs on their own.

ID	TIPS.UR.05.200
Name	Account/CMB deletion action
Requirement	TIPS shall allow an actor with suitable permissions to delete accounts or CMBs; only accounts with a balance of zero shall be erasable.

This requirement refers to regular Participant accounts; transit accounts can only be deleted by the TIPS operator. In order to ensure that accounts/CMBs to be deleted cannot be used anymore they should be blocked for crediting/increases and debiting/decreases prior deletion.

ID	TIPS.UR.05.210
Name	Account/CMB creation/deletion effect timeframe
Requirement	TIPS shall ensure that account/CMB creations and deletions are effective after no more than 24h.

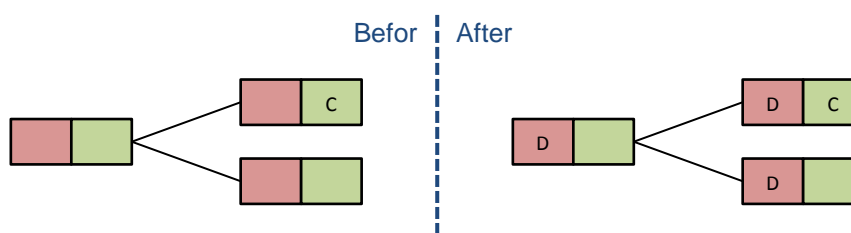
New accounts/CMBs should be usable and deleted accounts/CMBs unusable during the next calendar day.

5.4.2 Account/CMB Blocking and Unblocking

ID	TIPS.UR.05.220
Name	Account blocking action
Requirement	TIPS shall allow an actor with suitable permissions to block an account for debiting or crediting (separately) or both. This blocking shall be cascaded down to all linked CMBs and prevents them from being decreased (blocked for debiting) and/or increased (blocked for crediting); this shall be applied to CMBs which have been created after the blocking was in effect as well. The account blocking shall override but not overwrite the CMB blocking states.

Blocking of an account for debiting, crediting (can be chosen separately) or both entails blocking of the same kind (i.e. decreases, increases or both) of all linked CMBs (even those created after the account blocking is in effect). Blocking ensures that an account cannot be debited and/or credited (Central Banks can override this blocking in contingency situations).

However, the individual blocking states of the CMBs should not be overwritten in order to preserve their status. Account blocking for, e.g. debiting results in blocking of all CMBs for decreases; if some CMB is already blocked for increases this CMB is, effectively, blocked for both, decreases and increases (see following example).



Blocking or unblocking initiated by a Central Bank always overrules blocking or unblocking initiated by a Participant. Similarly, blocking or unblocking initiated by an Instructing Party can be overruled by the Participant (or Central Bank). Reserved amounts on an account blocked for debiting can still be settled, since the blocking check has already been performed at this stage.

ID	TIPS.UR.05.230
Name	Account unblocking action
Requirement	TIPS shall allow an actor with suitable permissions to unblock an account which has been previously blocked (separately). This unblocking shall be cascaded down to all linked CMBs and revert their blocking status to whatever was in effect prior to the account blocking.

Account unblocking should undo only those changes which have been done to all linked CMBs due to blocking; the CMB's original blocking states should be restored. In the example given above only one of the linked CMBs is blocked for crediting after unblocking of the account. Blockings initiated by a Central Bank cannot be undone by a Participant.

ID	TIPS.UR.05.240
Name	CMB blocking action
Requirement	TIPS shall allow an actor with suitable permissions to block a CMB for decreases or increases (separately) or both.

Blocking ensures that a CMB cannot be increased and/or decreased. They can be blocked for being decreased (linked account would be debited) or increased (linked account would be credited) separately.

ID	TIPS.UR.05.250
Name	CMB unblocking action
Requirement	TIPS shall allow an actor with suitable permissions to unblock a CMB which has been previously blocked (separately).

Unblocking of a CMB should undo those changes which have been done during blocking.

ID	TIPS.UR.05.260
Name	Participant blocking action
Requirement	TIPS shall allow a Central Bank to block a TIPS Participant of its national community for crediting, debiting or both. This Participant blocking shall result in blocking of all accounts owned by that Participant; the Participant blocking shall override but not overwrite the account blocking states.

Central Banks should be allowed to block Participants of their national community in case of, e.g. insolvency. Similar to the account blocking which does not overwrite the CMB blocking states Participant blocking should not overwrite the account blocking state in order to restore them if the Participant block is undone.

Currently only Participant blocking is foreseen; there is no similar functionality for Reachable Parties.

ID	TIPS.UR.05.270
Name	Participant unblocking action
Requirement	TIPS shall allow a Central Bank to unblock a TIPS Participant of its national community for crediting, debiting or both. This unblocking shall restore the account blocking states to whatever they were prior to the Participant blocking.

This Participant unblocking for Central Banks should undo the changes done by the Participant blocking.

ID	TIPS.UR.05.280
Name	Account/CMB blocking effect timeframe
Requirement	TIPS shall ensure that account/CMB blockings are in effect immediately.

Blockings should be effective immediately for, e.g. insolvency.

ID	TIPS.UR.05.290
Name	Liquidity transfers for blocked accounts
Requirement	TIPS shall allow Central Banks to transfer liquidity from/to any account in their books to/from the RTGS, regardless of the account's blocking status.

In contingency situations Central Banks should be able to transfer liquidity from/to blocked TIPS accounts in their books to/from the RTGS.

5.4.3 Account/CMB User Setting

ID	TIPS.UR.05.300
Name	Account/CMB user change action
Requirement	TIPS shall allow an actor with suitable permissions to change the user of an account or CMB; this change shall only be possible if the account or CMB is not the default one for a user.

The *user* of an account or CMB is the BIC of the entity which is allowed to use that account for instant payments (on the originator and beneficiary side); i.e. the BIC that could be found, e.g. in the payment transaction (see section 5.3). Default flags have to be disabled prior changes of users. Only Central Banks are allowed to change these settings.

ID	TIPS.UR.05.310
Name	Account/CMB default flag change action
Requirement	TIPS shall allow an actor with suitable permissions to change the default user flag of an account or CMB; while doing this it has to be ensured that there is only one default account or CMB for each BIC which is configured as a user.

The default user flag indicates whether the account/CMB is the default one that should be used if no other account/CMB is provided in the payment transaction or Beneficiary Participant reply; furthermore these defaults are always going to be used for recalls. Every single Participant or Reachable Party BIC should have exactly one default account or CMB set. Only Central Banks are allowed to change these settings.

ID	TIPS.UR.05.320
Name	Account/CMB user/default flag effect timeframe
Requirement	TIPS shall ensure that changes done to account/CMB user or default flag settings are effective after no more than 24h.

Changes done to accounts/CMBs already created should be available after no more than 24h, similar to regular account management actions like creation or deletion.

5.4.4 CMB Limits

ID	TIPS.UR.05.330
Name	CMB limit change action
Requirement	TIPS shall allow an actor with suitable permissions to change the current limit of a CMB.

CMB limit changes might be required in case, e.g. a Reachable Party, which uses a CMB, is going to run out of instant payment capacity, even if the underlying account is well funded. Limit changes can be done by Participants or Instructing Parties (given they have sufficient permissions).

ID	TIPS.UR.05.340
Name	CMB limit change effect timeframe
Requirement	TIPS shall ensure that changes done to CMB limits are in effect immediately.

Changes done to CMBs should be taken into account immediately.

5.4.5 Entity Identifiers and Routing Table

ID	TIPS.UR.05.350
Name	Distinguished names
Requirement	TIPS shall identify each Participant, Reachable Party or Instructing Party with a unique identifier, a distinguished name.

All entities interacting with TIPS have to be uniquely identifiable using a distinguished name (DN).

ID	TIPS.UR.05.360
Name	Eleven digit BIC
Requirement	TIPS shall use an eleven digit BIC (BIC11) whenever a BIC is required as identifying characteristic.

TIPS should only use eleven digit BIC codes in order to differentiate between different branches of the same institution.

ID	TIPS.UR.05.370
Name	Distinguished name to BIC routing table change action
Requirement	<p>TIPS shall allow an actor with suitable permissions to create links between a Participant or Reachable Party's BICs and a distinguished name for whitelisting and routing purposes. Two cases are to be differentiated:</p> <ul style="list-style-type: none"> Inbound payment transaction message: TIPS shall allow a many to many relation between sender distinguished names and Originator Participant or Reachable Party BICs. Outbound payment transaction message (forwarded): TIPS shall ensure that there is a many to one relation between Beneficiary Participant or Reachable Party BICs and receiver distinguished names.

The routing table can be used for checking whether a particular sender is authorised to send payment transactions for the Originator Participant or Reachable Party BIC (field AT-06 in DS-02 of the payment transaction). Furthermore it is used for looking up the correct receiver on the beneficiary side of the forwarded payment transaction, derived from the Beneficiary Participant or Reachable Party BIC (field AT-23 in DS-02).

Entities which are labelled as DNx in the example below could be:

- the Participants themselves if they are instructing on their own;
- reachable parties if they are also acting as Instructing Parties;
- purely Instructing Parties (on the originator and beneficiary side, even if in the latter case they do not instruct but rather reply with a Beneficiary Participant reply message).

Only Central Banks should have the ability to change this reference data since it is related to the initial entity and account setup.



ID	TIPS.UR.05.380
Name	Routing table change effect timeframe
Requirement	TIPS shall ensure that changes done to the routing table are effective after no more than 24 hours.

Routing table changes should be effective after no more than 24 hours.

5.4.6 System Settings

ID	TIPS.UR.05.390
Name	System settings change actions
Requirement	<p>TIPS shall provide functionalities for the creation, update and deletion of system settings. Included system settings shall be at least:</p> <ul style="list-style-type: none"> • configurable parameters explicitly mentioned in user requirements: <ul style="list-style-type: none"> ○ duplicate transaction detection timeframe (TIPS.UR.03.090); ○ SCT Inst timestamp timeout (TIPS.UR.03.120 and TIPS.UR.03.210); ○ RTGS alarm (TIPS.UR.04.110). • the transit account for each currency.

These system settings changes are expected to occur on very rare occasions.

ID	TIPS.UR.05.400
Name	System settings change effect timeframe
Requirement	TIPS shall ensure that changes done to system settings are in effect after no more than 24h.

System setting changes should be in effect during the next calendar day.

5.4.7 ISO Compliance

ID	TIPS.UR.05.410
Name	Currency codes
Requirement	TIPS shall store currencies as defined by the ISO standard.

Currencies are, e.g. used as a parameter of accounts, which have to match on the originator and beneficiary side.

ID	TIPS.UR.05.420
Name	Timestamps
Requirement	TIPS shall use timestamp formats compliant with ISO for reporting and querying.

TIPS shall use a timestamp format which is ISO compliant. The timestamps are used in reports and queries to identify specific events, e.g. entry timestamp, settlement timestamp, rejection timestamp.

6 REPORTS

The chapter describes report requirements in the context of TIPS. A report may contain information on individual accounts or transactions which can be made available to the TIPS actors.

6.1 OVERVIEW

Based on the TIPS actors' needs in terms of time scope or nature of data (detailed or aggregated), several reports is available in TIPS to support business monitoring, reconciliation, as well as accounting requirements vis-à-vis the balance sheets. They contain information which is based on the data available for a specific actor according to their roles.

TIPS actors subscribe to reports they want to receive from a pre-defined list according the roles as described in Table 10 below. TIPS provides the reports only to those actors. The report subscription as described in section 6.3 is essential and needs to be configured prior to the report generation.

6.2 GENERAL REQUIREMENTS

ID	TIPS.UR.06.010
Name	Application-to-Application communication
Requirement	All reports shall be available in Application-to-Application mode only.

TIPS is able to produce and send reports only via Application-to-Application interface.

ID	TIPS.UR.06.020
Name	Report generation
Requirement	TIPS shall initiate the processing of the reports on the data at the end of day of the corresponding RTGS.

TIPS relies on a trigger provided by the RTGS to signal the end of day, at which point the report generation is started (e.g. a camt.019 message); this message should contain the RTGS business day for which the raw data has to be generated as well as the next business day.

ID	TIPS.UR.06.030
Name	Report addressee and data scope
Requirement	TIPS shall provide to TIPS actors reports on their accounts based on the permissions listed in the following Table 10.

TIPS provides reports only on account's level. However, the raw data as described in section 9.1 provides the detailed information at CMB level.

If a Reachable Party requests information to fulfil their reconciliations or other regulatory needs for a CMB, the data will be provided by the TIPS Participant responsible for the TIPS account linked to this

CMB. The information is provided outside TIPS and the Reachable Party relies on the data provided the other TIPS actors.

Table 10: Report addressee and data scope

Actor	Statement of Account Turnover	Statement of Accounts	General Ledger
Central Banks	No	No	Yes, all accounts in their books
Participants	Own accounts	Own accounts	No
Reachable party	No	No	No
Instructing party on behalf of a Participant	Participant's accounts	Participant's accounts	No
Instructing party on behalf of a Reachable Party	No	No	No

ID	TIPS.UR.06.040
Name	Data compression for reports
Requirement	TIPS shall compress the reports whenever possible.

The compression is done using industry standard algorithms.

ID	TIPS.UR.06.050
Name	Report timestamp
Requirement	TIPS shall provide timestamps in an ISO compliant format.

TIPS uses the timestamp format YYYY-MM-DDTHH:MM:SS.

The date is displayed with a four-digit year and two digits for both month and day. The time is displayed with two digits for each of the hour, minute and second. The letter T is used as a delimiter between date and time.

ID	TIPS.UR.06.060
Name	Delta mode
Requirement	TIPS shall be able to send the Statement of Account Turnover and the Statement of Accounts in delta mode.

TIPS is able to generate those reports in delta mode. This means that a delta report will contain only the data produced since the last report generation for the same actor.

The General Ledger is provided only in complete version that covers the previous business day for a given RTGS system and provides the current values of all selected items at the time of report creation.

ID	TIPS.UR.06.070
Name	Reports communication
Requirement	TIPS shall allow sending the same report and General Ledger to different technical addressees for the same actor.

TIPS is able to send reports and General Ledgers to multiple authorised addressees.

6.3 REPORT SUBSCRIPTION

ID	TIPS.UR.06.080
Name	Report subscription
Requirement	TIPS shall offer all TIPS actors the flexibility to choose the reports they wish to receive from the following list: <ul style="list-style-type: none"> • Statement of Account Turnover; • Statement of Accounts.

TIPS actors are able to configure their report subscription via the GUI. TIPS Participants may select the reports from a defined list.

Table 11: Report Subscription Attributes

Attribute	Description
Report Subscription Identifier	This attribute shall specify the unique user-defined identifier of a report subscription.
Report	The attribute shall contain the reports subscribed by the TIPS actor.
Recipient	This attribute shall specify the party identifier of the receiver(s), subscribing to the reports.
Mode	The attribute shall specify whether the TIPS actor receives the relevant report in full mode and/or in delta mode.

Attribute	Description
Scheduled Time	This attribute shall define the scheduled times when the report is provided to the TIPS actor.
Subscription Valid From	This attribute shall specify the date from which the subscription is valid.
Subscription Valid To	This attribute shall specify the date to which the subscription is valid.

These report subscription attributes allow, e.g. sending of the same report to multiple addressees or triggering of the same report at different times during the day in delta mode.

ID	TIPS.UR.06.090
Name	Maintenance of the report subscription
Requirement	TIPS shall allow Participants to maintain their report subscription.

TIPS provides authorised TIPS actors with functionalities to create, update or delete report subscriptions for accounts they are responsible for. Authorised TIPS actors are able to unsubscribe from a report by setting the Subscription Valid To date of the corresponding report subscription to the last day they want to receive the report.

6.4 REPORT NAMES

ID	TIPS.UR.06.100
Name	Statement of Account Turnover
Requirement	TIPS shall generate reports on the current TIPS account turnover for all accounts a Participant or an Instructing Party on behalf of a Participant is responsible for; as described in Table 10.

The Statement of Account Turnover returns at least the following data:

- the RTGS business date (the business day that is about to close);
- TIPS Participant identifier;
- TIPS account identifier;
- currency;
- opening balance at start-of-day;
- closing balance at end-of-day;
- sum of debits;
- sum of credits.

ID	TIPS.UR.06.110
Name	Statement of Accounts
Requirement	TIPS shall generate a Statement of Accounts report which includes information on all accounts a Participant or an Instructing Party on behalf of a Participant is responsible for, as described in Table 10.

The Statement of Account returns at least the following data:

- the RTGS business date (the business day that is about to close);
- TIPS Participant identifier;
- TIPS account identifier;
- currency;
- initial balance prior each transaction;
- final balance after each transaction;
- transaction references;
- settlement timestamp.

ID	TIPS.UR.06.120
Name	General Ledger
Requirement	TIPS shall provide the RTGS with one General Ledger for each Central Bank after the end of the RTGS business day.

The General Ledger returns at least the following data:

- the RTGS business date (the business day that is about to close);
- TIPS Participant identifier;
- TIPS account identifier;
- opening balance at start-of-day;
- closing balance at end-of-day;
- sum of debits;
- sum of credits.

7 QUERIES

In order to obtain the desired information, the TIPS actors need to submit a query to TIPS. The aim of this chapter is to describe the different real time queries that allow the retrieval of data based on pre-defined set of queries.

7.1 OVERVIEW

Queries allow TIPS actors to monitor and get information about, e.g. cash balances of accounts or payment transaction statuses. TIPS provides the flexibility to TIPS actors to send each query in A2A mode as well as in U2A mode. Based on their permissions as described in Table 12, the TIPS actors are able to perform particular queries.

7.2 GENERAL REQUIREMENTS

ID	TIPS.UR.07.010
Name	TIPS availability for queries in Application-to-Application mode
Requirement	TIPS shall process the following queries on a 24/7/365 basis: <ul style="list-style-type: none"> • Account Balance and Status Query; • CMB Limit and Status Query; • Payment Transaction Status Query.

TIPS allows the connectivity of TIPS actors by using messages in Application-to-Application (A2A) mode. If the TIPS actor has sent a query via A2A mode, the response is given to the same actor in A2A mode.

All query messages exchanged between TIPS and the actors should be based on XML technology and should comply with the ISO 20022 standards, when applicable.

ID	TIPS.UR.07.020
Name	TIPS availability for queries in User-to-Application mode
Requirement	TIPS shall accept the following queries from the Graphical User Interface on a 24/7/365 basis: <ul style="list-style-type: none"> • Account Balance and Status Query; • CMB Limit and Status Query; • Payment Transaction Status Query.

The TIPS actors are able to trigger the aforementioned list of queries from the TIPS GUI. If the TIPS actor has sent a query via U2A mode, the response is given to the same actor in U2A mode.

ID	TIPS.UR.07.030
Name	Availability of data
Requirement	TIPS shall process all queries in real time, based on the latest available data.

Queries sent in A2A mode or in U2A mode are not queued and processed immediately, using the most recent data available in the system.

ID	TIPS.UR.07.040
Name	Processing queries
Requirement	When processing queries, TIPS shall take into account all access rights and only return results where the party that has submitted the query has the rights to access the underlying data.

TIPS provides TIPS actors with queries on their own accounts or CMBs based on the permissions given in the following Table 12.

Table 12: Query permissions

Actor	Account Balance and Status Query	CMB Limit and Status Query	Payment Transaction Status Query
Central Banks	Yes, all accounts in their books	Yes, all CMBs in their books	Yes, on all accounts and CMBs in their books
Participants	Own accounts	Own CMBs	Own accounts Own CMBs
Reachable party	No	CMBs ¹⁰	CMBs ¹⁰
Instructing party on behalf of a Participant	Participant's accounts	Participant's CMBs	Participant's accounts Participant's CMBs
Instructing party on behalf of a Reachable Party	No	CMBs ¹⁰	CMBs ¹⁰

¹⁰ Only for CMBs set up by a Participant for usage by the Reachable Party

ID	TIPS.UR.07.050
Name	Query timestamp
Requirement	TIPS shall provide timestamps in an ISO compliant format.

TIPS uses the timestamp format YYYY-MM-DDTHH:MM:SS.

The date is displayed with a four-digit year and two digits for both month and day. The time is displayed with two digits for each of the hour, minute and second. The letter T is used as a delimiter between date and time.

7.3 QUERY NAMES

ID	TIPS.UR.07.060
Name	Account Balance and Status Query
Requirement	TIPS shall provide a TIPS Participant or an Instructing Party on behalf of a Participant with the possibility to query the current balance and the status of one of their TIPS accounts.

The query supports the following selection criterion:

- TIPS account identifier.

The query returns for one account the following information:

- TIPS Participant identifier;
- TIPS account identifier;
- current balance, which is the sum of unreserved and reserved balances;
- currency;
- account status;
- timestamp of the balance.

The Account Balance and Status Query permissions are listed in Table 12.

ID	TIPS.UR.07.070
Name	CMB Limit and Status Query
Requirement	TIPS shall provide a TIPS actor with the possibility to query the current limit and the status of one of their CMBs.

The query supports the following selection criterion:

- TIPS CMB identifier.

The query returns for one CMB the following information:

- TIPS Participant identifier;
- TIPS account identifier;
- TIPS CMB identifier;
- current value of CMB limit;

- currency;
- CMB status;
- timestamp of the limit.

The CMB Limit and Status Query permissions are listed in Table 12.

ID	TIPS.UR.07.080
Name	Payment Transaction Status Query
Requirement	TIPS shall allow all TIPS actors to query the status of a payment transaction.

The query supports the following selection criterion:

- TIPS payment transaction reference.

The query should at least return the following information related to the payment transaction:

- the Participant who submitted the payment transaction;
- the payment transaction reference;
- the payment transaction status (i.e. settled or rejected with rejection reason);
- the amount of the payment transaction;
- the settlement timestamp (if available).

This query allows Originator Participants to trigger an investigation process as described in section 3.4. The Payment Transaction Status Query permissions are listed in Table 12.

8 INTERFACES

Communication with TIPS is done either via U2A (User-to-Application) mode or A2A (Application-to-Application) mode. U2A requires the provision of a GUI while A2A relies on XML messages.

8.1 GENERAL REQUIREMENTS

ID	TIPS.UR.08.010
Name	User authentication
Requirement	TIPS shall perform the authentication of users.

A strong two-factor authentication technique will be adopted to guarantee secure identification and authentication in all the interactions between users and TIPS. Strong authentication will be adopted also for privileged accounts (administrators, service desk operators, auditors, etc.).

All users must have a unique identifier for their personal use only and it cannot be reassigned to a different user neither in a different timeframe.

A strong authentication technique (not necessarily two factors) shall also be applied to connect applications to TIPS in application-to-application mode.

Formally documented and approved user provisioning procedures will be in place to assign and revoke user identifiers.

ID	TIPS.UR.08.020
Name	User authorisation
Requirement	TIPS shall perform the authorisation of users.

TIPS will ensure that Participants are allowed to perform only actions on data within the scope of their roles and responsibilities. Access rights must be granted according to the security principles of separation of duties and least privilege. Furthermore, access rights will be subject to periodical review by their asset/system owner.

Formally documented and approved user provisioning procedures will be in place to assign and revoke access rights to users.

8.2 U2A INTERFACE

TIPS Participants granted with the appropriate privileges can communicate with TIPS in U2A mode via a web-based graphical user interface (GUI).

8.2.1 General requirements

ID	TIPS.UR.08.030
Name	User-to-Application communication
Requirement	TIPS shall provide to TIPS actors a User-to-Application interface as described in Table 13.

TIPS will provide TIPS actors with a Graphical User Interface offering basic functionalities to access information and controls (e.g. U2A queries, reference data maintenance).

Table 13: Interface – Overview (non-exhaustive list)

Type	Description	Section	U2A	A2A
Report	Statement of Account Turnover	6.4	N/A	24/7/365
Report	Statement of Accounts	6.4	N/A	24/7/365
Report	General Ledger	6.4	N/A	24/7/365
Raw Data	Raw Data files, e.g. for billing, regulatory purposes, archiving	9.1	N/A	24/7/365
Query	Account Balance and Status Query	7.3	24/7/365	24/7/365
Query	CMB Limit and Status Query	7.3	24/7/365	24/7/365
Query	Payment Transaction Status Query	7.3	24/7/365	24/7/365
Reference Data	Report Subscription	6.3	Limited time ¹¹	N/A
Reference Data	Raw Data Subscription	9.1.3	Limited time ¹¹	N/A
Reference Data	Account/CMB creation/update/deletion	5.4.1	Limited time ¹¹	Limited time ¹¹
Reference Data	Blocking/unblocking of a Participant	5.4.2	24/7/365	24/7/365
Reference Data	Blocking/unblocking of an account/CMB	5.4.2	24/7/365	24/7/365
Reference Data	Increase/decrease of a CMB limit	5.4.4	24/7/365	24/7/365
Reference Data	Account/CMB User Settings	5.4.3	Limited time ¹¹	N/A
Reference Data	Routing Table	5.4.5	Limited time ¹¹	N/A
Reference Data	System settings change	5.4.6	Limited time ¹¹	N/A
Other functionality	Liquidity transfer order	4.2	Limited time ¹¹	Limited time ¹¹

¹¹ Opening hours of the corresponding RTGS.

8.2.2 U2A Queries

TIPS queries available in A2A mode (using messages described in this chapter) are also available in U2A mode.

ID	TIPS.UR.08.040
Name	Query functions available in User-to-Application mode at any point in time
Requirement	TIPS shall provide the following queries in U2A mode: <ul style="list-style-type: none"> • CMB Limit query and Status Query; • Account Balance and Status Query; • Payment Transaction Status Query.

The detailed requirements related to those queries are documented in chapter 7.

8.2.3 Availability of U2A Functionality

The following reference data maintenance functionality is available in U2A mode (non-exhaustive list):

ID	TIPS.UR.08.050
Name	U2A functionality around the clock
Requirement	TIPS shall provide the following functionalities in U2A mode around the clock: <ul style="list-style-type: none"> • Blocking/unblocking of a Participant; • Blocking/unblocking of an account; • Blocking/unblocking of a CMB; • Increase/decrease of a CMB limit.

Crucial actions such as blocking of participants, accounts or CMBs have to be possible 24/7/365.

ID	TIPS.UR.08.060
Name	U2A functionality during RTGS opening hours
Requirement	TIPS shall provide the following functionalities in U2A mode during RTGS opening hours: <ul style="list-style-type: none"> • Creation/update/deletion of an account or CMB; • Creation/update/deletion of a Participant; • Report/Raw Data subscription; • System settings change; • Account/CMB User Settings; • Routing Table; • Liquidity transfer.

Access to less crucial functionality such as reference data maintenance can be restricted to RTGS opening hours.

8.3 A2A MESSAGES

This section covers user requirements related to application to application messages which have to be processed by TIPS. After some general requirements valid for all messages more detailed requirements for all messages mentioned in the process flow diagrams of preceding chapters are listed.

8.3.1 General requirements

ID	TIPS.UR.08.070
Name	Application-to-application (A2A) communication
Requirement	TIPS shall provide an application-to-application (A2A) interface.

TIPS shall allow connectivity of TIPS Participants by using messages in application-to-application (A2A) mode.

ID	TIPS.UR.08.080
Name	ISO 20022 compliance for SCT Inst scheme messages
Requirement	TIPS shall use the 2009 version of the ISO 20022 compliant XML for inbound and outbound messages required by the SCT Inst scheme.

For the initial implementation TIPS should use the 2009 version of the ISO 20022 XML message standard as defined by the EPC SCT Inst scheme. However, succeeding versions are not excluded and might be adopted in the future, if deemed necessary.

ID	TIPS.UR.08.090
Name	Overall ISO 20022 compliance
Requirement	TIPS shall use ISO 20022 compliant XML for all the messages not included in the SCT Inst scheme, if applicable.

Other formats should be used in case there is no available ISO 20022 message for the data to be transferred, or when the data to be transferred are specific to TIPS (e.g. raw data files), or when the volume of data to be transferred does not allow the usage of XML technology, from a resource consumption or performance viewpoint.

ID	TIPS.UR.08.100
Name	Technical validation for inbound messages
Requirement	TIPS shall perform technical validations on received messages, which encompass at least the following checks: Existence and ISO compliance of all mandatory fields as well as optional fields, if they are used.

Additional business validations have to be executed as well; those depend on the actual message type and will be listed together with the message in separate user requirements.

ID	TIPS.UR.08.110
Name	Stop of technical validation for inbound messages
Requirement	TIPS shall abort the technical validation of a message as soon as the first validation error is encountered.

TIPS shall perform technical validations. As soon as the first validation error is encountered the validation process shall be stopped and an error code generated indicating which validation was erroneous. This error code has to be returned to the message sender.

8.3.2 Payment Process Messages

This section lists user requirements for all messages used during the payment process as detailed in section 3.2. The exact content of these messages is not always explicitly given but references to the used SCT Inst datasets (DS-X) from the SCT Inst scheme rulebook (see ref. [1]) are included; fields which are optional or mandatory for these datasets are also optional/mandatory for TIPS. Furthermore used ISO messages are mentioned in the clarifications, taken from the SCT Inst interbank implementation guidelines (see ref. [2]).

ID	TIPS.UR.08.120
Name	<i>Payment Transaction</i> message
Requirement	TIPS shall accept payment transaction messages for the purpose of instant payments settlement. These messages shall contain at least the <i>interbank payment dataset</i> (DS-02); furthermore payment transactions might contain one additional optional field, the Originator Participant or Reachable Party's TIPS account/CMB identifier (account/CMB to be debited/decreased). The SCT Inst timestamp (provided by the Originator Participant or Instructing Party), which is part of DS-02, shall be measured in UTC.

Incoming payment transactions could include a TIPS account or CMB identifier in addition to the interbank payment dataset DS-02 in order to allow Originator Participants or Instructing Parties to explicitly specify the TIPS account/CMB to be used for debiting (resp. decrease if a CMB is given). Whenever a CMB identifier is given TIPS automatically debits the linked account, there is no need to provide two identifiers for the CMB and account. Only one account/CMB identifier can be included; the corresponding identifier on the beneficiary side is either defaulted or provided by the Beneficiary Participant or Instructing Party.

According to the SCT Inst implementation guidelines the used ISO message for DS-02 is pacs.008.001.02. The optional TIPS account/CMB identifier could be included in the *SettlementAccount* message element of the *SettlementInformation* group.

The *Time Stamp of the SCT Inst Transaction* (AT-50 in DS-02) is measured in UTC. It is the Participants or Instructing Party's responsibility to ensure that their clocks are calibrated correctly.

ID	TIPS.UR.08.130
Name	<i>Rejection message</i>
Requirement	TIPS shall reply with rejection messages which contain at least the <i>negative confirmation message</i> dataset DS-03 (with RJCT code) to the Originator Participant or Instructing Party in case an instant payment transaction cannot be settled.

These negative confirmation (i.e. rejection) messages contain a reason code for the rejection. Potential reasons for a rejection are, e.g. validation errors, timeouts or refusal of the Beneficiary Participant or Instructing Party to accept the funds. According to the SCT Inst implementation guidelines the used ISO message for DS-03 is pacs.002.001.03.

ID	TIPS.UR.08.140
Name	<i>Beneficiary Participant Reply message</i>
Requirement	TIPS shall process reply messages from Beneficiary Participants or Instructing Parties informing TIPS about their acceptance or decline of the payment. These messages shall contain at least a clear acceptance or decline flag, the Originator Participant or Instructing Party BIC and message reference (from fields AT-06 and AT-43 in DS-02 of the payment transaction) and, optionally, the Beneficiary Participant or Reachable Party's TIPS account/CMB identifier (account/CMB to be credited/increased).

In case of a rejection, the Beneficiary Participant reply message could contain rejection reason codes; furthermore additional Beneficiary Participant or Instructing Party message identifiers could be included as well.

ID	TIPS.UR.08.150
Name	<i>Beneficiary Participant Status message</i>
Requirement	TIPS shall inform the Beneficiary Participant in case its reply cannot be validated or times out. This message shall contain at least the Originator Participant or Instructing Party's reference of the payment transaction (field AT-43 in DS-02 of the initial payment transactions) and a rejection reason (e.g. timeout or validation error with error code).

This message is not part of the SCT Inst scheme and therefore not yet defined in the rulebook or implementation guidelines.

ID	TIPS.UR.08.160
Name	<i>Confirmation message</i>
Requirement	TIPS shall inform both, the Originator and Beneficiary Participant or Instructing Party after the payment transaction has been settled successfully. This confirmation message shall contain at least the <i>positive confirmation message</i> dataset DS-03 (with ACCP code).

According to the SCT Inst implementation guidelines the used ISO message for DS-03 is pacs.002.001.03.

8.3.3 Recall Process Messages

This section lists user requirements for all messages used during the recall process as detailed in section 3.3. The exact content of these messages is not always explicitly given but references to the used SCT Inst datasets (DS-X) from the scheme rulebook (see ref. [1]) are included; fields which are optional or mandatory for these datasets are also optional/mandatory for TIPS. Furthermore used ISO messages are mentioned in the clarifications, taken from the SCT Inst interbank implementation guidelines (see ref. [2]).

ID	TIPS.UR.08.170
Name	<i>Recall message</i>
Requirement	TIPS shall process inbound recall messages which contain at least the <i>request for recall</i> dataset DS-05.

The request for recall dataset contains the original payment transaction dataset DS-02 as a subset. According to the SCT Inst implementation guidelines the used ISO message for DS-05 is camt.056.001.01.

ID	TIPS.UR.08.180
Name	<i>Recall Rejection message</i>
Requirement	TIPS shall send recall rejection messages in case a recall cannot be validated. This message shall contain at least the <i>negative answer for a recall</i> dataset DS-06 including a rejection reason code which indicates that a validation error occurred.

The negative response for a recall dataset contains a rejection reason field; this field is, however, not suitable for TIPS to reject recalls due to a failed validation. In that case some additional rejection reason codes need to be defined in the UDFS. According to the SCT Inst implementation guidelines the used ISO message for DS-06 is camt.29.001.03.

ID	TIPS.UR.08.190
Name	<i>Recall Answer message</i>
Requirement	TIPS shall process inbound recall answer messages which contain at least the <i>answer to a recall</i> dataset DS-06 (positive or negative).

Recall answer messages can contain a different set of information, depending on their characteristics, i.e. if they are positive (recall accepted) or negative (recall rejected). In case a positive recall answer is given by the Beneficiary Participant or Instructing Party of the original payment transaction to be recalled additional processing has to be done by TIPS. According to the SCT Inst implementation guidelines the used ISO message for DS-05 is camt.029.001.03 (negative) or pacs.004.001.02 (positive).

ID	TIPS.UR.08.200
Name	<i>Recall Answer Rejection message</i>
Requirement	TIPS shall send recall answer rejection messages in case a recall answer cannot be validated or settling of the recalled amount fails.

This message is not defined in the SCT Inst scheme rulebook.

8.3.4 Liquidity Transfer Messages

The TIPS service has to process two different ISO compliant messages which are related to liquidity transfers, camt.050 and camt.025. While camt.050 is used for the instruction of liquidity transfers the answer, confirmation or rejection, is encoded in a camt.025. TIPS uses the same message for communication with Participants or Instructing Parties as well as the RTGS, depending on the direction of the liquidity transfer (outbound or inbound from TIPS' point of view).

ID	TIPS.UR.08.210
Name	<i>Liquidity Transfer message</i>
Requirement	TIPS shall process liquidity transfer messages which are ISO 20022 compliant messages of type camt.050.

These camt.050 messages are used as liquidity transfer messages from Participants or Instructing Parties or the RTGS to TIPS for liquidity transfers to/from the RTGS.

ID	TIPS.UR.08.220
Name	<i>RTGS Reply message</i>
Requirement	TIPS shall process RTGS reply messages which are ISO 20022 compliant messages of type camt.025 accepting or rejecting the liquidity transfer.

These camt.025 messages are used as liquidity transfer confirmation messages sent from the RTGS informing TIPS about successful or failed settlement on the RTGS side.

ID	TIPS.UR.08.230
Name	<i>Liquidity Transfer Rejection message</i>
Requirement	TIPS shall send liquidity transfer rejection messages which are ISO 20022 compliant messages of type camt.025 rejecting the liquidity transfer.

These camt.025 messages are used as liquidity transfer rejection messages sent to the Participant or Instructing Party or the RTGS after either validation of the liquidity transfer message failed or settlement of the liquidity transfer order failed (e.g. due to a rejection by the RTGS).

ID	TIPS.UR.08.240
Name	<i>Liquidity Transfer Debit Confirmation</i> message
Requirement	TIPS shall send liquidity transfer confirmation messages which are ISO 20022 compliant messages of type camt.025 confirming the successful debit of a TIPS account.

These camt.025 messages are used as liquidity transfer confirmation messages sent to the Participant or Instructing Party after successful transfer of funds from the TIPS account to the transit account.

ID	TIPS.UR.08.250
Name	<i>Liquidity Transfer Credit Confirmation</i> message
Requirement	TIPS shall send liquidity transfer confirmation messages which are ISO 20022 compliant messages of type camt.025 confirming the successful credit of a TIPS account.

These camt.025 messages are used as liquidity transfer confirmation messages sent to the Participant or Instructing Party after successful transfer of funds from the transit account to the TIPS account.

9 OTHER FUNCTIONS

9.1 RAW DATA

9.1.1 Overview

As complementary information to the report chapter (see chapter 6), TIPS provides to actors a different set of raw data in order to fulfil their reconciliation and regulatory needs. The provision of raw data is optional, therefore TIPS actors have the possibility to subscribe only to a particular set of raw data (e.g. data only for billing purposes or data with details of all transactions executed on the accounts including the rejected transactions) or the complete set of raw data.

9.1.2 General Requirements

ID	TIPS.UR.09.010
Name	Application-to-Application communication
Requirement	All raw data files shall be available in Application-to-Application mode only.

TIPS is able to produce and send raw data files only via an Application-to-Application interface.

ID	TIPS.UR.09.020
Name	Raw data generation
Requirement	TIPS shall initiate the generation of the raw data files at the end of day of the corresponding RTGS.

TIPS relies on a trigger provided by the RTGS to signal the end of day, at which point the raw data generation is started (e.g. a camt.019 message); this message should contain the RTGS business day for which the raw data has to be generated as well as the next business day.

Raw data files could be generated and sent to TIPS actors during a time of low system performance demand, e.g. during night time; however, the data used for the raw data files has to be as of the time of trigger, i.e. the RTGS end of day.

ID	TIPS.UR.09.030
Name	Raw data addressee and data scope
Requirement	TIPS shall provide Participants with raw data on their accounts and CMBs based on the permissions listed in the following Table 14.

A Reachable Party can have access to the raw data information for a CMB set up by a Participant through the Participant itself, an Instructing party on behalf of a Participant or an Instructing party on behalf of a Reachable Party. The information is provided outside TIPS and the Reachable Party relies on the data provided the other TIPS actors. The same process applies for the reports in section 6.2.

Table 14: Raw data addressee and data scope

Actor	Raw data for billing	Raw data for regulatory reporting	Raw data for archiving
Central Banks	Yes, all accounts and CMBs in their books	Yes, all accounts and CMBs in their books	Yes, all accounts and CMBs in their books
Participants	Own accounts Own CMBs	Own accounts Own CMBs	Own accounts Own CMBs
Reachable party	No	No	No
Instructing party on behalf of a Participant	Participant's accounts Participant's CMBs	Participant's accounts Participant's CMBs	Participant's accounts Participant's CMBs
Instructing party on behalf of a Reachable Party	CMBs ¹²	CMBs ¹²	CMBs ¹²

ID	TIPS.UR.09.040
Name	Data compression for raw data
Requirement	TIPS shall compress the rata data whenever possible.

The compression is done using industry standard algorithms.

ID	TIPS.UR.09.050
Name	Raw data timestamp
Requirement	TIPS shall use UTC for the raw data timestamp.

Timestamps is provided in an ISO compliant format.

¹² Only for CMBs set up by a Participant for usage by the Reachable Party

9.1.3 Raw Data Subscription

ID	TIPS.UR.09.060
Name	Raw data subscription
Requirement	TIPS shall offer to all TIPS Participants the flexibility to choose the raw data they wish to receive from the following list: <ul style="list-style-type: none"> • raw data for billing; • raw data for regulatory reporting; • raw data for archiving.

TIPS actors will be able to configure their raw data subscription via the GUI.

Table 15: Raw Data Subscription Attributes

Attribute	Description
Raw data subscription Identifier	This attribute shall specify the unique user-defined identifiers of the raw data subscription.
Raw data	The attribute shall contain the raw data subscribed by the TIPS Participant.
Recipient	This attribute shall specify the party identifier of the receiver(s), subscribing to the raw data.
Subscription Valid From	This attribute shall specify the date from which the subscription is valid.
Subscription Valid To	This attribute shall specify the date to which the subscription is valid.

These raw data subscription attributes allow, e.g. sending of the same raw data file to multiple addressees.

ID	TIPS.UR.09.070
Name	Maintenance of the raw data subscription
Requirement	TIPS shall allow Participants to maintain their raw data subscription.

TIPS provides TIPS Participants with functionalities to create, update or delete raw data subscriptions for accounts they are responsible for. TIPS Participants are able to unsubscribe from a report by deleting the corresponding report subscription.

ID	TIPS.UR.09.080
Name	Raw data communication
Requirement	TIPS shall allow sending the raw data files to different technical addressees for the same actor.

TIPS is able to send raw data to multiple authorised addressees.

9.1.4 Raw Data Files

ID	TIPS.UR.09.090
Name	Raw data files
Requirement	TIPS shall provide a harmonised set of raw data files on an RTGS business day basis that may be used by TIPS Participants, common Eurosystem services and RTGS services for different purposes such as archiving, billing, advanced queries and reports, statistics.

The list of raw data files TIPS produces on a daily basis is as follows:

- a raw data file (or a set of raw data files) including all the data subject to archiving;
- a raw data file (for each Participant subject to billing) including all the data related to the relevant billable items;
- one or several raw data files (for each Participant) for data needed by the Participants (e.g. to fulfil their regulatory reporting requirements).

If the same raw data file (or set of files) can cover different purposes (e.g. regulatory reporting and statistical information), TIPS provides each Participant with only one file (or set of files).

9.2 LIST OF PARTICIPANTS

ID	TIPS.UR.09.100
Name	List of Participants in TIPS
Requirement	TIPS shall provide a list of Participants reachable through the service; this list shall include the BICs of TIPS Participants and Reachable Parties, for which at least one default account/CMB is configured. This list shall be updated and provided to the Participants and Instructing Parties once a week.

In order to provide Participants and Instructing Parties with a list of entities that can be reached through TIPS a table of all Participants and Reachable Parties, identified via their BIC, has to be maintained. This list should be made available to all Participants and Instructing Parties on a regular basis.

10 NON-FUNCTIONAL REQUIREMENTS

10.1 AVAILABILITY

ID	TIPS.UR.10.010
Name	Availability
Requirement	TIPS shall be available for processing of instant payments 24 hours every day of the year.

TIPS will be open for settlement of instant payments around-the-clock, without the need for any maintenance window or daily interruption of the service.

ID	TIPS.UR.10.020
Name	Unplanned downtime
Requirement	Unplanned downtime, calculated on a quarterly basis, shall not exceed 2.16 hours, equivalent to an availability of 99.9%.

Even though technically capable of operating 24 hours per day each day of the year, as any other IT service TIPS may be subject to incidents or failures, which may cause a temporary and unforeseen interruption of the service. Regardless of the total number of such unplanned interruptions, the overall amount of service unavailability time calculated on a quarterly basis shall not be greater than 2.16 hours.

ID	TIPS.UR.10.030
Name	Planned downtime
Requirement	Planned downtime may be envisaged in order to manage some exceptional changes that require stopping temporarily the TIPS service.

Even though TIPS will generally operate 24 hours per day each day of the year and be designed to handle change management without the need of any maintenance window, there may be cases that require stopping the TIPS service temporarily and according to a pre-agreed unavailability period.

Those cases relate to any potential infrastructure or software change, concerning TIPS or its community of Participants and network service providers, that cannot be managed without stopping the service (e.g. a new ISO standard release or system software upgrade that is not fully backward compatible, a major change on infrastructure components that cannot be applied transparently) or a business decision of the relevant governance bodies.

An appropriate operational governance framework shall define the process to manage those cases (e.g. in terms of actions to be undertaken, timeframes to be respected for the agreement and the announcement of the service downtime and its maximum duration), the actors involved in the process and their individual responsibilities.

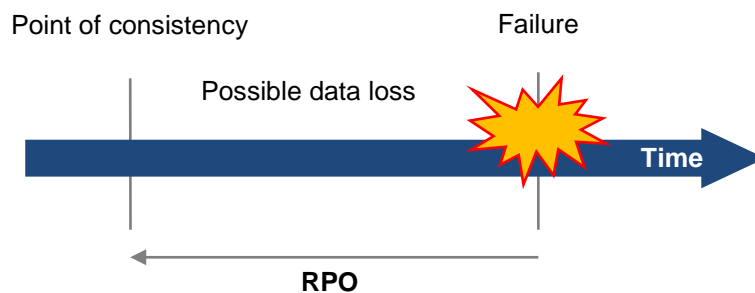
10.2 DISASTER RECOVERY

10.2.1 Recovery Point Objective

ID	TIPS.UR.10.040
Name	Recovery Point Objective (RPO)
Requirement	TIPS shall ensure a recovery point objective value of zero.

The recovery point objective (RPO) is a point of consistency to which a user wants to recover or restart the service. It is measured as the amount of time between the moment when the point of consistency was created and the moment when the failure occurred.

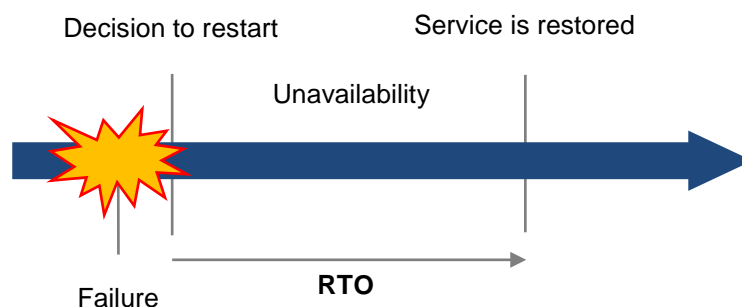
TIPS will ensure synchronous point of consistency creations and, as a consequence, no data loss in case of failures.



10.2.2 Recovery Time Objective

ID	TIPS.UR.10.050
Name	Recovery Time Objective (RTO)
Requirement	TIPS shall ensure a recovery time objective of 15 minutes.

The recovery time objective (RTO) is the maximum amount of time required for recovery or restart of the service to a specified point of consistency. In case of a major failure or a regional disaster, TIPS shall ensure maximum time of unavailability of 15 minutes starting from the time when the decision to restart the service is made up to the time the service is restored.



10.3 ARCHIVING

ID	TIPS.UR.10.060
Name	Archiving of transactional data
Requirement	TIPS service operator shall be able to retrieve payment transaction and status message data not older than ten years, upon request by Participants.

The TIPS operator shall be able to extract the archived payment transaction and status message data from the offline repository upon request. After the data extraction, the content shall be made available to the requestor, e.g. in a file format.

ID	TIPS.UR.10.070
Name	Archiving of reference data
Requirement	TIPS service operator shall be able to retrieve reference data not older than ten years, upon request by Participants.

The TIPS operator shall be able to extract the archived reference data from the offline repository upon request. After the data extraction, the content shall be made available to the requestor, e.g. in a file format.

ID	TIPS.UR.10.080
Name	Archiving of authentication and security data
Requirement	TIPS service operator shall be able to retrieve authentication and security data not older than three months, upon request by Participants.

The TIPS operator shall be able to extract the archived authentication and security data from the offline repository upon request. After the data extraction, the content shall be made available to the requestor, e.g. in a file format.

10.4 AUDIT TRAIL

ID	TIPS.UR.10.090
Name	Audit trail
Requirement	TIPS shall keep an audit trail of all the activities performed by the users while making use of the TIPS service.

TIPS must collect and store audit logs recording user activities, exceptions and information security events in order to assist in the access control monitoring performed by the system owner. Logging facilities and log information will be protected against tampering and unauthorised access. Activities performed by privileged users (administrators, service desk operators, auditors, etc.) will also be logged.

Audit trail information to be collected and stored includes the following data:

- payment transaction records;
- authentication successes and failures of normal and privileged users;
- security related messages (e.g. changes of access rights, alerts and exceptional events).

Audit trail records must contain registration timestamps and, when relevant, the identifier of the user who performed the recorded action.

10.5 INFORMATION SECURITY

ID	TIPS.UR.10.100
Name	Security requirements
Requirement	TIPS shall be compliant with the TARGET2/T2S Security Requirements and Controls.

TIPS must be compliant with the TARGET2/T2S Security Requirements and Controls, where applicable, in order to cover all the different aspects related to security, e.g.:

- security policies and procedures;
- users' authentication and authorisation;
- audit trail and access rights review;
- data integrity, confidentiality and non-repudiation;
- physical security;
- asset identification and classification;
- security incidents management.

10.6 CYBER RESILIENCE

ID	TIPS.UR.10.110
Name	Cyber resilience requirements and controls
Requirement	TIPS shall be compliant with the TARGET2/T2S Cyber Resilience Requirements and Controls.

TIPS shall be compliant with the TARGET2/T2S Cyber Resilience Requirements and Controls, where applicable, in order to cover all the different aspects related to cyber resilience, e.g.:

- definition and governance of the cyber resilience framework;
- identification and classification of processes and assets;
- protection of processes and assets;
- detection of cyber-attacks;
- incident response, resumption and recovery.

10.7 VOLUMETRIC ASSUMPTIONS

ID	TIPS.UR.10.120
Name	Instant payments processing throughput
Requirement	TIPS shall be able to process up to an average number of 500 incoming instant payment transactions per second, with a peak of up to 2,000 incoming instant payment transactions per second.

Assuming that the volume of incoming instant payment transactions will not reach its maximum value right from the start of operations, but it would rather increase over the first years of operations and reach its maximum value only at the end of this transition period, TIPS architecture and application shall be able to scale, in order to handle this increasing volume in a cost-effective manner.

On this basis, TIPS transactions processing capacity shall be scalable up to a maximum average number of 500 instant payment incoming transactions per second. This value equals the following hourly, daily and yearly volumes:

Hourly volume of payment transactions	1.8 millions/hour
Daily volume of payment transactions	43.2 millions/day
Yearly volume of payment transactions	15.77 billions/year

ID	TIPS.UR.10.130
Name	Instant payments execution time
Requirement	TIPS shall ensure completing all its processing tasks within 5 seconds for 99% of the processed instant payment transactions.

TIPS shall support the achievement of a target of 10 seconds as execution time to process (i.e. either to settle or to reject) an instant payment transaction.

Such execution time shall be calculated starting from the time the Originator Participant has validated the instant payment transaction received from the payer, to the time the Originator Participant has received either the confirmation the transferred funds are available to the payee or the rejection of the instant payment transaction.

Out of this overall execution time, TIPS shall ensure completing all its processing tasks within 5 seconds for 99% of the processed instant payment transactions. These processing tasks include:

- All the tasks performed by TIPS between the reception of the instant payment transaction from the Originator Participant and the forwarding of the same transaction to the Beneficiary Participant.
- All the tasks performed by TIPS between the reception of the reply from the Beneficiary Participant and the sending of the confirmations to the Originator Participant and the Beneficiary Participant.

10.8 CONNECTIVITY

ID	TIPS.UR.10.140
Name	Network connectivity
Requirement	TIPS shall be a network vendor agnostic service.

TIPS will be a network vendor agnostic service. The intention of the Eurosystem is to let each TIPS Participant to decide on the network vendor they each intend to use, as long as this network vendor is certified by the Eurosystem. The Eurosystem will set out the requirements that the network provider should adhere to.

10.9 SERVICE DESK

ID	TIPS.UR.10.150
Name	Service Desk
Requirement	A Service Desk shall be available at the TIPS service provider to respond to any operational and technical issue concerning the TIPS service.

The TIPS Service Desk shall be the single point of contact for any kind of operational and technical issues concerning the TIPS service.

The TIPS Service Desk shall be responsible for providing direct support to Central Banks and TIPS Participants for managing the technical connection, also during the non-standard support hours.

Central Banks shall maintain vis-à-vis their own community of TIPS Participants the responsibility of the reference data setup and liquidity management during the standard support hours.

ID	TIPS.UR.10.160
Name	Service Desk availability
Requirement	The TIPS Service Desk shall be available both on-site during standard service hours and on-call during non-standard service hours with different service levels.

The TIPS Service Desk shall be available according to the following service hours:

- from 6:30 to 19:30: standard support hours;
- from 19:30 to 6:30 (and on TARGET2 closing days): non-standard support hours.

ID	TIPS.UR.10.170
Name	Trouble Management System
Requirement	The TIPS Service Desk shall be supported by a Trouble Management System (TMS).

The TIPS Service Desk shall be supported by a Trouble Management System (TMS). All activities of the TIPS service provider related to IT Service Management processes shall be supported by the TMS, which will cover the workflow and serve as information base providing, e.g. the status of an incident/problem, the actors involved and details about reasons and solutions.

ID	TIPS.UR.10.180
Name	Access to the Trouble Management System
Requirement	Central Banks and TIPS Participant shall have read-only online access to the TMS.

Central Banks and TIPS Participants shall have online access to the TMS, with the possibility to view information related to broadcast incidents and problems, and their own incidents and problems.

ID	TIPS.UR.10.190
Name	Contacting the Service Desk
Requirement	TIPS Service Desk shall be reachable via telephone, fax and e-mail.

The communication between the TIPS Service Desk and Central Banks resp. TIPS Participants shall be based on the use of telephone, fax and e-mail.

10.10 CLOCK SYNCHRONISATION

ID	TIPS.UR.10.200
Name	Clock reference
Requirement	TIPS shall use atomic clock time as a reference.

The TIPS service clock has to be synchronised to an atomic clock time (in UTC).

11 ANNEX

11.1 LIST OF REFERENCES

	Title	Source
[1]	SEPA Instant Credit Transfer (SCT Inst) Scheme Rulebook, Version 1.0, 2016	EPC
[2]	SEPA Instant Credit Transfer Scheme Interbank Implementation Guidelines, Version 1.0, 2017	EPC

11.2 GLOSSARY

Item	Description	Source
Application-to-Application	A mode of technical communication that permits the exchange of information between software applications of TIPS and a directly connected TIPS Participants	ECB
Beneficiary	A customer identified in the SCT Inst transaction to whom the funds are sent to.	EPC
Beneficiary Participant	A Beneficiary account servicing payment services provider.	EPC
Billable item	An event, transaction or a combination of both, that is used as a basis to calculate fees.	ECB
Clearing	The process of transmitting, reconciling and, in some cases, confirming transfer orders prior to settlement, potentially including the netting of orders and the establishment of final positions for settlement.	ECB
Credit Memorandum Balance	A credit limit that is linked to a TIPS account.	ECB
Delta report	A delta report is a report which only contains data for which the status/content has changed since the generation of the previous report or since the start of the business day.	ECB
Euro Retail Payments Board	A high-level body chaired by the European Central Bank that brings together the supply and the demand side of the industry to address strategic retail payments issues	ECB
European Payments Council	An association representing payment service providers that supports and promotes payments integration and development in Europe. The primary task of the EPC is to manage the SEPA payment schemes.	EPC
Instant Payment	A payment that can be executed 24 hours a day, each day of the year, and resulting in the immediate or close-to-immediate interbank clearing of the transaction and crediting of the payee's account with the confirmation to the payer within seconds of payment initiation. This is irrespective of the underlying payment instrument used and of the underlying arrangements for clearing and settlement that makes this possible.	ERPB

Item	Description	Source
Instant Payment Transaction	A transaction or message requesting the transfer of funds from a debtor to a creditor by means of an instant payment.	ECB
Instructing Party	Any entity that has contractual agreements with one or more Participants to instruct on-behalf of the Participant. Both Participants and Reachable Parties can act as Instructing Parties themselves.	ECB
Liquidity transfer	An instruction to transfer central bank money from an RTGS account to a TIPS account or vice versa from a TIPS account to an RTGS account.	ECB
National Central Bank	A National Central Bank is a CB that provides cash account services to Participants for settlement of instant payments in central bank money	ECB
Originator	A Customer who initiates directly or indirectly the SCT Inst by providing the Originator Bank with an instruction	EPC
Originator Participant	An Originator account servicing payment services provider.	EPC
Participant	Participants are the only entities allowed to open accounts in TIPS and for accounts in Euro, they are eligible to have an account in TARGET2; this is also possible without actually having an account in TARGET2.	ECB
Reachable Party	An entity which does not maintain TIPS accounts; however has contractual agreements with a Participant to use the Participant TIPS account for the settlement of instant payments.	ECB
Real-Time Gross Settlement system	A settlement system in which processing and settlement take place on a transaction-by-transaction basis (without netting) in real time.	ECB
Recovery Point Objective	The recovery point objective (RPO) is a point of consistency to which a user wants to recover or restart the service.	ECB
Recovery Time Objective	The recovery time objective (RTO) is the maximum amount of time required for recovery or restart of the service to a specified point of consistency.	ECB
Reservation of funds	A process of preventing the transfer of a specified amount of funds in a specific currency in one TIPS account to any other TIPS account except for the purpose for which the funds were reserved.	ECB
Settlement	An act that discharges obligations in respect of funds or securities transfers between two or more parties.	CPSS
System User	An individual or a technical process/application that can log into the service with a login name and password.	
TARGET2	The Eurosystem's single shared platform enabling the settlement of payments in central bank money in Europe, supporting the implementation of the Eurosystem's monetary policy.	ECB
TIPS Operator	The Operator is the legal and/or organisational entity/entities that operates/operate the instant payment service	ECB
User-to-Application	A mode of technical communication that permits the exchange of information between software applications of TIPS and a TIPS system user through a graphical user interface (GUI).	ECB

11.3 LIST OF ACRONYMS

Item	Description
24/7/365	24-hour and seven-day around the year
A2A	Application-to-Application
BIC	Business Identifier Code
CMB	Credit Memorandum Balance
CPSS	Committee on Payment and Settlement Systems
DN	Distinguished Name
EPC	European Payments Council
ERPB	Euro Retail Payments Board
GUI	Graphical User Interface (see U2A)
IBAN	International Bank Account Number
PM	Payments Module (of TARGET2)
RPO	Recovery Point Objective
RTO	Recovery Time Objective
SEPA	Single Euro Payments Area
TIPS	The TARGET Instant Payments Settlement Service
TMS	Trouble Management System
TR	Task Requirement
U2A	User-to-Application
UR	User Requirement