

DRAFT

TARGET Instant Payments Settlement User Requirements

Version:	0.0.2
Status:	DRAFT
Date:	07/12/2016

1	INTRODUCTION	1
1.1	Background	1
1.2	Project Objectives	1
1.3	Project Scope and Description	1
1.4	General Principles	2
1.5	Organisation and Presentation of the User Requirements	2
2	HIGH-LEVEL PROCESS DESCRIPTION AND ARCHITECTURE	3
2.1	Actors	3
2.2	Settlement of Payment Instructions	3
2.3	Liquidity Management	4
2.4	Management of Accounts and Reference Data	5
2.5	Queries and Reporting	5
2.6	Interfaces	5
2.7	Non-functional Requirements	5
3	SETTLEMENT OF INSTANT PAYMENT INSTRUCTIONS	6
3.1	Regular Payment Processing	6
3.2	Exceptional Payment Processing	16
4	LIQUIDITY MANAGEMENT	18
4.1	Overview	18
4.2	Liquidity Transfers	20
5	MANAGEMENT OF ACCOUNTS AND REFERENCE DATA	24
5.1	Actors Overview	24
5.2	Account Structure	26
5.3	Reference Data	28
6	REPORTS	32
6.1	General Requirements	32
6.2	Report Subscription	33
6.3	Report Names	34
7	QUERIES	36
7.1	General Requirements	36
7.2	Basic Queries	38
8	INTERFACES	39
8.1	General Requirements	39
8.2	U2A Interface	39
8.3	A2A Messages	40
9	OTHER FUNCTIONS	46

9.1	Raw Data	46
9.2	List of Participants	46
10	NON-FUNCTIONAL REQUIREMENTS	47
10.1	Availability Requirements	47
10.2	Disaster Recovery	48
10.3	Archiving	49
10.4	Audit Trail	49
10.5	Information Security	50
10.6	Cyber Resilience	50
10.7	Volumetric Assumptions	51
10.8	Connectivity	51
10.9	Service Desk	51
11	ANNEX	52
11.1	List of References	52
11.2	Glossary	53
11.3	List of Acronyms	55

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 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 for the settlement of instant payments in euro;
- 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 business service and the technical platform, on which it is run, for the settlement of instant payments. TIPS will settle payments instantly in Central Bank money, with greater capacity and 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 primary 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.

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 the settlement of instant payments in euro. TIPS messages shall be in line with SCT^{inst} scheme, 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.

1.4 GENERAL PRINCIPLES

Note: To be updated later once the principles are approved

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 Instructions** – 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 subscription requirements, message flows, and 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 the chapter on 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

The major actors in the service include

- **Participants**
Participants are the only entities that can open accounts in TIPS. It should be eligible to have an account in TARGET2. TIPS accounts in euro shall legally be opened in the TARGET2 component of the responsible Central Bank
- **Reachable Parties**
Reachable Parties 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

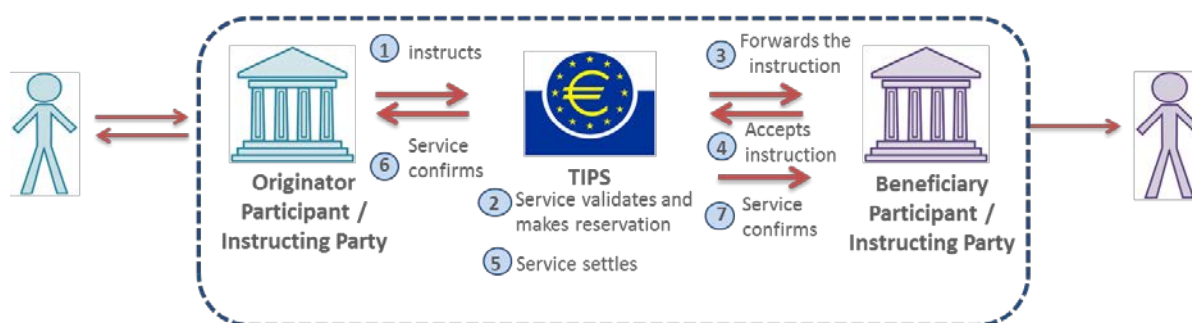
A detailed explanation of the actors can be found in section 5.1.

2.2 SETTLEMENT OF PAYMENT INSTRUCTIONS

TIPS is designed to support the participants to comply with the SCT^{inst} scheme for the settlement of instant payments in euro. The service shall

- Forward the SCT^{inst} instructions 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} instructions after it is accepted by the beneficiary participant
- Ensure immediate transmission of status messages after settlement

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



1. TIPS receives an instant payments instruction
2. TIPS validates and reserves the payment (conditional settlement)
3. TIPS forwards the instruction for acceptance to the beneficiary participant or the party acting on its behalf
4. TIPS receives a positive confirmation
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 instructions 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 instructions settled in the service. TIPS shall also provide an investigation service to track the status of instructions.

TIPS service will use ISO 20022 XML messages for the instant payments processing. SCT^{inst} interbank implementation guidelines will govern the messaging formats and versions used for the settlement of instant payments in euro. For the initial implementation TIPS shall use the 2009 version of the ISO 20022 XML message standard for the settlement of SCT^{inst} instructions.

2.3 LIQUIDITY MANAGEMENT

Cash settlements shall take place exclusively on TIPS accounts. TIPS accounts must be exclusively a central bank money account opened on 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 provided that both accounts are denominated in the same currency and that the transfer is permitted by the relevant Central Bank.

A link between the RTGS and the TIPS account shall be created. Only having this link it can be ensured that the end of day balance of the TIPS account is included in the minimum reserve requirement of the correct RTGS account.

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 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 participants can utilise to manage their client limits.

Participants shall maintain the linkages to reachable parties and instructing parties who can instruct on their behalf.

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 shall provide query and reporting tools for participants. Queries and reports critical to the management of the settlement process will be made available 24/7. However advanced reports and advanced queries may be available for a reduced time frame.

2.6 INTERFACES

TIPS shall offer A2A (Application to Application) interfaces for payment instructions processing. TIPS will have a minimal solution U2A (User to Application) interface to support a few important user requirements. The critical functionalities offered via the U2A interface will be available 24/7. However a few functionalities may not require round the clock availability and these shall be made available for shorter time frames.

2.7 NON-FUNCTIONAL REQUIREMENTS

TIPS shall be capable of processing very high transaction volumes on a 24/7 basis. The processing of euro instant payments transactions shall meet the timing requirements defined in the SCT^{inst} scheme.

3 SETTLEMENT OF INSTANT PAYMENT INSTRUCTIONS

The objective of this chapter is to outline the core functionality of the TARGET Instant Payments Settlement (TIPS) service. Section 3.1 covers requirements related to the regular payment processing workflow; section 3.2 is concerned with exceptional cases such as recalls or investigations.

3.1 REGULAR PAYMENT PROCESSING

3.1.1 Overview

Regular payment processing covers the usual workflow starting with the reception of a payment instruction from an originator participant by TIPS and ending with a rejection or confirmation sent back to the same participant. The BPMN diagram for this process can be found in Figure 1 below and contains message events and tasks, which will lead to actual user requirements. The list of messages used for the regular payment process can be found in Table 1 while user requirements for these messages are listed in section 8.3.2. Required tasks for payment processing are listed in Table 2 and will be further detailed in the current and 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
Payment instruction	Initial payment instruction sent by the originator participant to TIPS for instant payments processing
Rejection	Rejection message sent by TIPS to the originator participant if the payment cannot be processed (due to e.g. validation errors, decline of the beneficiary participant or timeout)
Beneficiary participant reply	Reply returned by the beneficiary informing TIPS if the payment will be accepted or rejected
Beneficiary status	Message informing the beneficiary participant that a timeout or validation error has occurred
Confirmation	Final confirmation message sent by TIPS to both participants after settlement took place successfully

Table 2: List of tasks for payment processing workflow

Task	Description	Section
TIPS.TR.03.010	Execution of technical and business validations; the instruction is rejected as soon as one validation fails	3.1.3
TIPS.TR.03.020	Reservation of funds on the originator participant account (and decrease of the originator participant's CMB, if addressed; see section 5.2.2); if funds cannot be reserved an error occurs	3.1.4
TIPS.TR.03.030	Forward original payment instruction to the beneficiary participant	3.1.5
TIPS.TR.03.040	Waiting for a reply by the beneficiary participant until a configurable timeout occurs	3.1.6
TIPS.TR.03.050	Execution of technical and business validations; the beneficiary reply is rejected as soon as one validation fails; decide whether the payment instruction is accepted or rejected	3.1.7
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)	3.1.8
TIPS.TR.03.070	Settle the funds with finality, i.e. adjust the balances of the two affected accounts (and increase the beneficiary participant's CMB, if addressed)	3.1.9

3.1.2 General Requirements

ID	TIPS.UR.03.010 (formerly TIPS.01.010)
Name	Processing in a first in/first out manner
Requirement	TIPS shall process all payment instructions in a first in/first out (FIFO) manner; there shall be no prioritisation or reordering of instructions done by the service.

All payment instructions 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 instructions with a higher priority. However, owing to the presence of the network and the parallelism of TIPS components that process incoming messages, participants cannot rely on payment instructions being processed in exactly the same order they were sent in.

ID	TIPS.UR.03.020 (formerly TIPS.01.020)
Name	Immediate settlement of payment instructions
Requirement	TIPS shall settle payment instructions immediately with an either positive (settled) or negative (rejected) result; the service shall not queue or hold payment instructions for later processing.

The service should not provide message queues which store payment instructions 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 instruction shall be rejected immediately (and not held until funds are available)

- Technical issues: If the beneficiary participant cannot be reached (due to e.g. incidents), payment instructions shall be rejected and not held until the beneficiary participant is available again.

3.1.3 Validation of Payment Instructions

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

ID	TIPS.UR.03.110
Name	Business validation of payment instructions
Requirement	TIPS shall perform business validations of payment instructions sent by the originator participant; this validation shall be stopped as soon as the first error is encountered.

TIPS should validate incoming payment instructions and notify the originator participant in case a business validation error occurred. The requirement for notification is TIPS.UR.03.210.

ID	TIPS.UR.03.120
Name	Existence of originator participant account
Requirement	TIPS shall validate that the originator participant TIPS account or the addressed CMB exists.

All payment instructions containing an invalid originator participant TIPS account or CMB cannot be processed and have to be rejected.

ID	TIPS.UR.03.130
Name	Authorisation to send payment instructions
Requirement	TIPS shall validate that the inbound payment instruction is sent from a party which is authorised to instruct the debiting of the addressed originator participant TIPS account.

TIPS should check whether the received payment instruction has been sent from a party which is authorised to debit the addressed TIPS account (or authorised to decrease the addressed CMB). Information which should be taken into account for this validation is at least:

- The identity of the instructing entity (which is either a participant or an instructing party acting on behalf of a participant or reachable party)
- The identifier of the TIPS account addressed for debiting or the CMB addressed for limit reduction
- Additional information from reference data (e.g. set up on the account or CMB level)

Authorised parties are the participant who owns the account (or CMB), instructing parties acting on behalf of that participant or instructing parties acting on behalf of a reachable party (for a CMB only).

ID	TIPS.UR.03.140
Name	Existence of beneficiary participant
Requirement	TIPS shall validate that the intended beneficiary participant of a payment instruction can be reached within TIPS.

TIPS should reject the payment instruction if the intended beneficiary participant of a payment instruction cannot be identified and reached within TIPS.

ID	TIPS.UR.03.150
Name	Detection of duplicate payment instructions
Requirement	TIPS shall validate that the submitted payment instruction is not a duplicate.

Duplicate checks should be done against messages received within a configurable timeframe based on at least the following parameters:

- BIC code of the originator participant (i.e. AT-06 in DS-02)
- Originator participant message reference (i.e. AT-43 in DS-02)

ID	TIPS.UR.03.160
Name	Detection of blocked originator participant account
Requirement	TIPS shall reject all payment instructions that attempt to debit a blocked account.

Upon the reception of a payment instruction, TIPS should check whether the debiting TIPS account is blocked.

ID	TIPS.UR.03.170
Name	Detection of blocked originator participant CMB
Requirement	TIPS shall reject all payment instructions that attempt to decrease a blocked Credit Memorandum Balance.

Upon the reception of a payment instruction, TIPS should check whether the addressed CMB for decrease is blocked.

ID	TIPS.UR.03.180
Name	Timeout validation for payment instructions
Requirement	TIPS shall reject all payment instructions for which the originator participant timestamp lies outside a configurable window.

TIPS should reject payment instructions which are received after a configurable timeout has been reached. According to the SCT^{Inst} scheme this timeout should be 20 seconds. Furthermore all payment instructions which have a timestamp in the future should be rejected as well. The reference timestamp for this check is the one provided by the originator participant in the payment instruction.

ID	TIPS.UR.03.190
Name	Currency validation for payment instructions
Requirement	TIPS shall reject all payment instructions for which the currency of the originator participants' account (or addressed CMB and linked account) does not match the instruction itself.

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 instruction itself.

ID	TIPS.UR.03.200
Name	Originator participant notification in case of rejection
Requirement	TIPS shall inform the originator participant in case a validation error occurred. This notification shall include a rejection reason code.

Requirements for the actual notification message are given in section 8.3.2.2.

3.1.4 Reservation of Funds

ID	TIPS.UR.03.220
Name	Reservation of funds on TIPS accounts
Requirement	TIPS shall reserve funds on the originator participant TIPS account immediately after the payment instruction passed its validations.

After the payment instruction passed its validation TIPS should reserve funds on the account needed for the settlement of the payment in case the beneficiary participant reply is positive. Reserved funds are unavailable for the settlement of other payments or liquidity transfers.

ID	TIPS.UR.03.230
Name	Reservation of limits on CMBs
Requirement	TIPS shall decrease the originator participant Credit Memorandum Balance immediately after the payment instruction passed its validations.

After the payment instruction passed its validation TIPS should decrease the CMB immediately by the amount needed for the settlement of the payment in case the beneficiary participant reply is positive.

Decrease of a CMB is only required if the payment instruction references a CMB as originator participant account identifier; if the instruction references an account no CMB needs to be adjusted.

ID	TIPS.UR.03.240
Name	Rejection of payment instructions due to failed reservation
Requirement	TIPS shall reject the payment instruction in case the reservation of funds (or the decrease of the CMB) fails; payment instructions whose amount would decrease the originator participants' TIPS account balance or Credit Memorandum Balance below zero shall be rejected.

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

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

3.1.5 Forwarding of Payment Instructions

ID	TIPS.UR.03.250
Name	Forwarding of a payment instruction to the beneficiary participant
Requirement	TIPS shall forward the payment instruction to the beneficiary participant. Only the dataset required by the SCT ^{inst} scheme shall be forwarded.

Additional information (besides the dataset DS-02) which TIPS receives from the originator participant is a TIPS account or CMB identifier; this identifier shall not be forwarded to the beneficiary participant.

3.1.6 Waiting for Beneficiary Participant Reply

ID	TIPS.UR.03.260
Name	Waiting for a beneficiary participant reply
Requirement	TIPS shall wait for a reply by the beneficiary participant until a configurable timeout is reached. The reference timestamp for this timeout calculation shall be the originator participant timestamp from the payment instruction.

According to the SCT^{inst} scheme TIPS should wait until 20 seconds have passed since the timestamp provided by the originator participant.

ID	TIPS.UR.03.270
Name	Beneficiary participant reply timeout
Requirement	TIPS shall reject the payment instruction in case the configured timeout is reached.

In case the timeout is reached the payment cannot be processed within the required timespan and has to be rejected.

ID	TIPS.UR.03.280
Name	Beneficiary participant notification in case of timeout
Requirement	TIPS shall inform the beneficiary participant with a beneficiary participant status message in case a timeout occurred.

Requirements for the actual notification message are given in section 8.3.2.4.

3.1.7 Validation of Beneficiary Participant Reply

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

ID	TIPS.UR.03.290
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 in case a business validation error occurred. The requirement for notification is TIPS.UR.03.350.

ID	TIPS.UR.03.300
Name	Authorisation to send beneficiary participant replies
Requirement	TIPS shall validate that the inbound beneficiary participant reply is sent from the party to whom the original payment instruction has been forwarded to.

The beneficiary reply should always be sent back from the entity the original payment instruction has been forwarded to. The sender of the reply could be a party acting on behalf of the beneficiary participant.

ID	TIPS.UR.03.310
Name	Check for original payment instruction identifier in beneficiary reply
Requirement	TIPS shall check whether the originator participant references in the reply message match a pending payment instruction. If no matching pending instruction can be found the validation shall fail.

TIPS should process beneficiary replies only for payment instructions which have been forwarded to a beneficiary but are still pending, i.e. the payment instruction did not reach its final status (settled or rejected).

ID	TIPS.UR.03.320
Name	Check for provided values in beneficiary reply
Requirement	TIPS shall check whether all fields containing specific values according to the SCT ^{Inst} scheme are filled with valid values.

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

ID	TIPS.UR.03.330
Name	Detection of blocked beneficiary participant account
Requirement	TIPS shall reject all payment instructions that attempt to debit a blocked account.

Upon the reception of a payment instruction, TIPS should check whether the crediting TIPS account is blocked.

ID	TIPS.UR.03.340
Name	Detection of blocked beneficiary participant CMB
Requirement	TIPS shall reject all payment instructions that attempt to decrease a blocked Credit Memorandum Balance.

Upon the reception of a payment instruction, TIPS should check whether the addressed CMB for increase is blocked.

ID	TIPS.UR.03.350
Name	Beneficiary participant notification in case of errors
Requirement	TIPS shall inform the beneficiary participant with a beneficiary participant status message in case a validation error occurred. This notification shall include a rejection reason code.

Requirements for the actual notification message are given in section 8.3.2.4.

3.1.8 Un-reservation of Funds

ID	TIPS.UR.03.360
Name	Un-reservation of funds on TIPS accounts
Requirement	TIPS shall un-reserve funds on the originator participant TIPS account as soon as the payment instruction responsible for the reservation in the first place is rejected.

Previously reserved funds have to be un-reserved if settlement is not going to take place and the reserving instruction is rejected.

ID	TIPS.UR.03.370
Name	Un-reservation of limits on CMBs
Requirement	TIPS shall increase the originator participant Credit Memorandum Balance as soon as the payment instruction responsible for the decrease in the first place is rejected.

After the payment instruction is rejected TIPS should increase the CMB immediately by the amount originally decreased for the settlement of the payment.

Increase of a CMB is only required if the payment instruction references a CMB as originator participant account identifier; if the instruction references an account no CMB needs to be adjusted.

3.1.9 Settlement

ID	TIPS.UR.03.380 (formerly TIPS.01.030)
Name	Gross settlement of payment instructions
Requirement	TIPS shall settle payment instructions one by one, without netting.

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

ID	TIPS.UR.03.390
Name	Settlement with finality
Requirement	TIPS shall settle the instructed amount with finality on TIPS accounts.

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

ID	TIPS.UR.03.400 (formerly TIPS.01.040)
Name	Full amount settlement for payment instructions
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 instruction shall be rejected and not settled partially.

ID	TIPS.UR.03.410 (formerly TIPS.01.050)
Name	Same currency settlement
Requirement	The amount debited from one TIPS account and credited to another TIPS account shall always be expressed in the same currency.

Even though TIPS shall be technically capable of settling other currencies than the euro it shall 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 instructions shall be rejected.

In case CMBs are addressed in the payment instruction, the relevant linked account should be denominated in the same currency.

ID	TIPS.UR.03.420
Name	Credit transfers only
Requirement	TIPS shall support credit transfers only.

TIPS shall accept only payment instructions which debit a TIPS account either belonging to the instructing participant or belonging to a participant who has authorised the instructing party to act on its behalf. Any functionality for pull payments, i.e. direct debits, is out of scope of TIPS.

3.2 EXCEPTIONAL PAYMENT PROCESSING

3.2.1 Recall

In order to allow TIPS participants to be compliant with the SCT^{Inst} scheme the service shall allow processing of recalls. The only role that TIPS is going to play, however, is the one of a routing mechanism. Recall requests are forwarded to the beneficiary participant of the original payment instruction and answers are forwarded back to the originator participant. TIPS is not going to link recalls and recall answers, neither it is initiating the payback of funds on its own.

ID	TIPS.UR.03.510
Name	Authorisation to send recalls
Requirement	TIPS shall validate that the inbound recall is sent from a party who is authorised to initiate recalls.

Parties which are authorised to initiate recalls for particular payment instructions are identical with the parties that are authorised to instruct in the first place. TIPS shall use the data from the original payment instruction 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 instruction 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.03.520
Name	Addressee of recall
Requirement	TIPS shall validate if the recipient of the recall can be reached via the service.

TIPS shall use the payment instruction dataset embedded in the recall messages to determine if the recipient of the recall can be reached via TIPS. If this is not the case the recall shall be rejected.

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 instruction message embedded in the recall.

ID	TIPS.UR.03.530
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 instruction 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.

Note: Potential new requirements regarding recalls are still under discussion

3.2.2 Investigation

According to the SCT^{Inst} scheme some functionality for the querying of the status of instructions has to be provided.

ID	TIPS.UR.03.610
Name	Investigation functionality
Requirement	TIPS shall allow originator participants to inquire about the status of a transaction.

TIPS shall provide a query that returns the status of a payment instruction. The originator participant starting the investigation process shall provide the originator participant message identifier as filtering criterion. This query should be available at least to the originator participant.

ID	TIPS.UR.03.620
Name	Investigation answer
Requirement	TIPS shall answer to an investigation request with the status of the related payment instruction.

Upon the reception of an investigation request, TIPS shall provide the originator participant with the current status of the related payment instruction.

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

Liquidity transfer processing covers the usual workflow starting with the reception of a liquidity transfer order and ending with a rejection or confirmation sent back to the instructing party. The BPMN diagram for this process can be found in Figure 3 below and contains message events and tasks, which will lead to actual user requirements. The list of messages used for the liquidity transfer process can be found in Table 3 while user requirements resulting from these messages are listed in section 8.3.4. Required tasks for liquidity transfer order processing are listed in Table 4 and will be further detailed in the current and following sections. Additional requirements not directly linked to the diagram are contained in this section as well.

Outbound Liquidity Transfers allow TIPS participants to transfer cash from TIPS Accounts to any RTGS accounts provided they are denominated in the same currency.

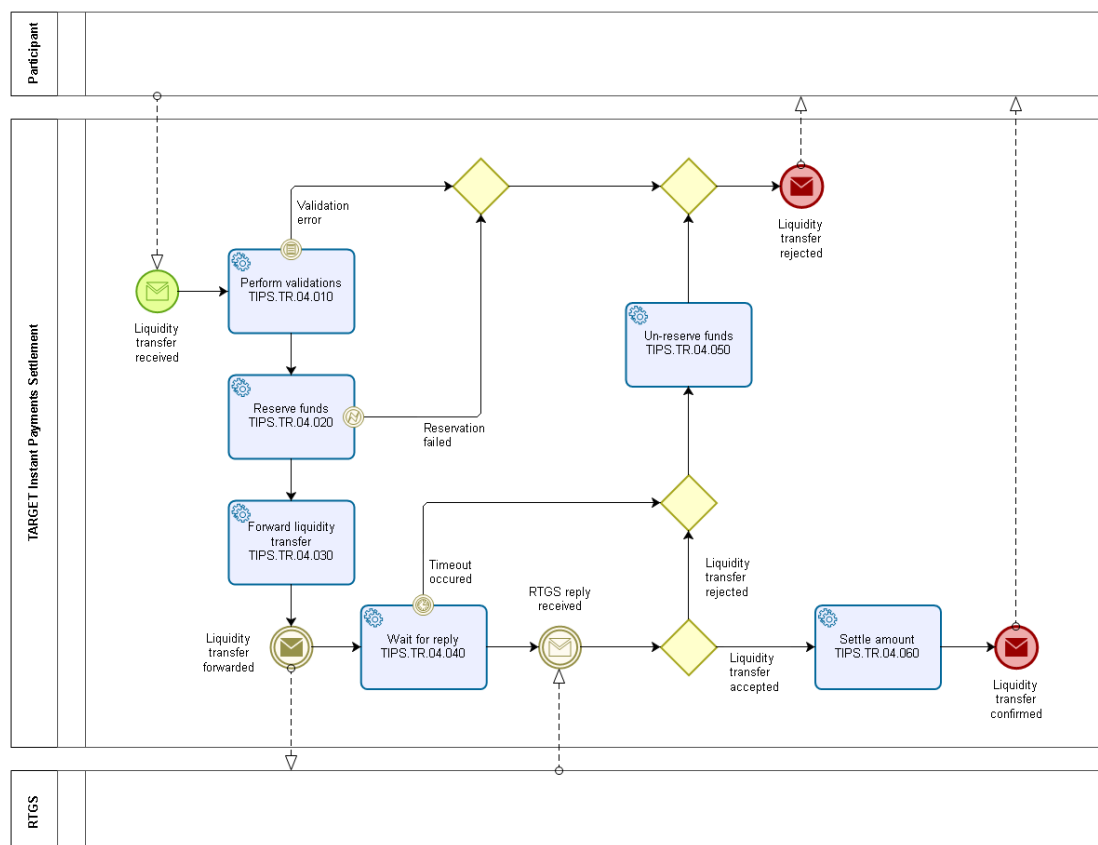


Figure 2: Outbound liquidity transfer process

Inbound Liquidity Transfers provide the possibility to transfer liquidity from an RTGS account to TIPS Account provided the RTGS account and TIPS account are denominated in the same currency. Inbound Liquidity Transfers have to be initiated by the RTGS account holder (or any authorised third party) in the relevant RTGS system (i.e. Inbound Liquidity Transfers cannot be triggered in TIPS).

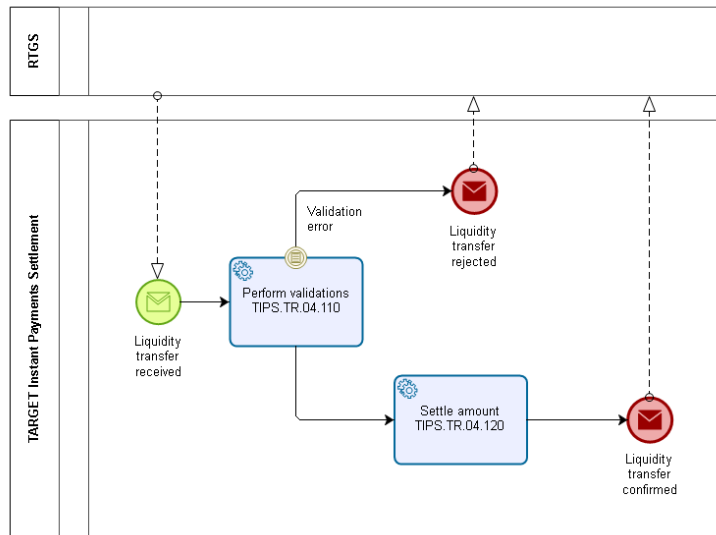


Figure 3: Inbound liquidity transfer process

Table 3: List of messages for liquidity transfers

Message	Description
Liquidity transfer	Initial liquidity transfer message sent by the participant to TIPS
Liquidity transfer rejection	Liquidity transfer rejection message sent by TIPS to the participant in case an error occurred (e.g. RTGS is closed)
Liquidity transfer confirmation	Liquidity transfer confirmation sent by TIPS to the participant in case the RTGS accepted the liquidity
RTGS reply	Reply sent by the RTGS to TIPS accepting or rejecting the liquidity

Table 4: List of tasks for 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	Reservation of funds on the originator participant TIPS account; if funds cannot be reserved an error occurs	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 reply by the RTGS until a configurable timeout occurs	4.2.4

Task	Description	Section
TIPS.TR.04.050	Un-reserve the funds which have been reserved during task TIPS.TR.04.020	4.2.5
TIPS.TR.04.060	Settle the funds with finality, i.e. debit the participant TIPS account and credit the TIPS transit account	4.2.6
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 TIPS transit account	4.2.6

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 liquidity outbound transfers.

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

- The instructing party;
- The debited TIPS account and its currency denomination;
- The credited account;
- Other information from the reference data (e.g. on the authorisation to instruct on the TIPS accounts).

ID	TIPS.UR.04.020
Name	Mandatory fields for liquidity transfers between TIPS and the RTGS
Requirement	TIPS shall check the mandatory attributes of a liquidity transfer.

TIPS shall validate the fields of a liquidity transfer from TIPS to the RTGS. This is a non-exhaustive list of such fields:

- Currency;
- Transferred cash amount;
- The accounts to be credited or debited.

4.2.2 Reservation of Funds

ID	TIPS.UR.04.050
Name	Reservation of funds for outbound liquidity transfers
Requirement	TIPS shall reserve the amount of an outbound liquidity transfer from the debited TIPS account prior the routing of the liquidity transfer to the corresponding RTGS. The liquidity transfer shall not be submitted for settlement at this stage.

For a liquidity transfer sent from TIPS to the RTGS, in case the debited TIPS account has sufficient funds, TIPS shall reserve the related amount in the originator participant TIPS account.

ID	TIPS.UR.04.060
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.

4.2.3 Routing of Outbound Liquidity Transfers to RTGS

ID	TIPS.UR.04.100
Name	Routing of outbound liquidity transfers
Requirement	Upon successful reservation of funds, TIPS shall route the outbound liquidity transfers to the corresponding RTGS.

4.2.4 RTGS Confirmation

ID	TIPS.UR.04.150
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).

4.2.5 Un-reservation of Funds

ID	TIPS.UR.04.200
Name	Retransfer of funds to the originator TIPS account in case of Liquidity transfer rejection in the RTGS
Requirement	TIPS shall be able to retransfer the reserved funds to the originator TIPS account in case of liquidity transfer rejection from the RTGS.

For liquidity transfers sent from TIPS to the RTGS which are rejected by the RTGS, TIPS shall be able to un-reserve the related amount and transfer back the liquidity to the originators TIPS account. The originator participant shall be notified with an error code in the camt.025 message.

4.2.6 Settlement of Liquidity Transfers

ID	TIPS.UR.04.250
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 TIPS accounts that are being debited do not have sufficient funds, the liquidity transfer shall be rejected and not settled partially.

ID	TIPS.UR.04.260
Name	One transit account per currency
Requirement	TIPS shall make use of one TIPS transit account per currency for all the liquidity transfers from/to the RTGS.

The transit account for euro is owned by the ECB as participant and it is used for the transfer of euro liquidity from/into TIPS. The accounts owned by participants can be credited by debiting the transit account defined in the same currency.

The transit account is a TIPS account which mirrors the transit account in the corresponding RTGS system. Transit accounts can have only negative balances to mirror the corresponding RTGS transit account.

Note: The requirement related to the transit account is still under discussion.

ID	TIPS.UR.04.270
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 an RTGS account.

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 with any central bank, provided that both accounts are denominated in the same currency.

ID	TIPS.UR.04.280
Name	Successful execution of outbound liquidity transfers
Requirement	TIPS shall notify the instructing party upon a successful execution of a liquidity transfer.

On a successful execution of a liquidity transfer, TIPS shall confirm the instructing party using the "Confirmation of credit" message. TIPS shall notify either (i) the relevant RTGS system in case of an inbound liquidity transfer from the RTGS to TIPS or (ii) the TIPS participant in case of an outbound liquidity transfer from TIPS to the RTGS.

4.2.7 Validation of Inbound Liquidity Transfers

ID	TIPS.UR.04.300
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 consider the information included in the liquidity transfer. TIPS shall check the following non exhaustive list of fields:

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

In case of validation error, TIPS shall notify the RTGS with an error code in the camt.025 message.

5 MANAGEMENT OF ACCOUNTS AND REFERENCE DATA

This chapter covers 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 ACTORS OVERVIEW

ID	TIPS.UR.05.010
Name	Actor permissions
Requirement	<p>TIPS shall allow the configuration of permissions for the following TIPS actors:</p> <ul style="list-style-type: none"> • Central Banks • Participants • Reachable parties • Instructing parties acting on behalf of a participants or reachable parties <p>TIPS shall allow at least the setup of the permissions to implement at least the functionalities listed in the following Table 5.</p>

TIPS differentiates between at least the following actors:

- Central Banks
- Participants
- Reachable parties
- Instructing parties

A *Central bank* holds TIPS accounts in their books.

Participants are eligible to own TIPS accounts and can define CMBs for their reachable parties.

A *reachable party* is an entity which could be addressed via a BIC but which is not allowed to own TIPS accounts.

Instructing parties have a contractual agreement with a participant to instruct on its behalf, or on behalf of its reachable party. Participants and instructing parties shall have the ability to instruct on TIPS accounts and CMBs, as long as suitable access rules are configured.

TIPS participants are responsible for all instant payments sent from or received on their accounts—and, as a corollary, for all instructions addressed to a CMB linked with one of their accounts. This covers payment instructions sent by instructing parties on behalf of participants.

Table 5: TIPS participation structure overview

Tier	Actor	Can be addressed	Owns	Can transfer liquidity	Can submit payment instructions for	Can manage CMB	Can block
1	Central Banks	No	Transit account ¹	Yes, on all accounts in their books ²	No	Yes, for all accounts in their books	All of their participants All accounts in their books All linked CMBs
2	Participants ³	Own BIC	Own accounts Own CMBs	Own accounts ⁴	Own accounts Own CMBs	Yes	All own accounts All own CMBs
	Reachable party ⁵	Own BIC	No	No	No	No	No
3	Instructing party on behalf of a participant	No	No	No	Participant accounts Participants CMBs	No	No
	Instructing party on behalf of a reachable party	No	No	No	CMBs	No	No

- Actions regarding blocking executed by tier X entity cannot be undone by a tier X+1 entity
- Actions regarding blocking executed by a tier X entity can be undone by a tier X-1 entity

¹ One transit account per currency. The transit account for euro is owned by the ECB.

² Each central bank can transfer liquidity, update limits and block TIPS accounts opened in their book.

³ Participants could in addition act as instructing party on behalf either of another participant or of a reachable party.

⁴ Participants can only transfer liquidity from their own TIPS accounts to the RTGS.

⁵ Reachable parties could also act as instructing party.

5.2 ACCOUNT STRUCTURE

5.2.1 Eligibility Criteria

ID	TIPS.UR.05.020
Name	Eligibility criteria for TIPS participants
Requirement	TARGET2 participation rules shall apply for TIPS.

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

ID	TIPS.UR.05.030
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.

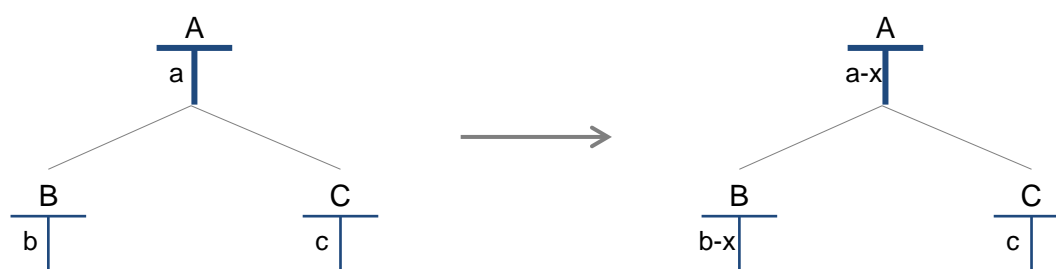
5.2.2 Credit Memorandum Balance

ID	TIPS.UR.05.040
Name	Credit Memorandum Balance functionality
Requirement	Every TIPS participant shall have the ability to define an arbitrary number of Credit Memorandum Balances (CMBs) for each one of their TIPS accounts.

TIPS differentiates between dedicated cash accounts where settlement takes place (called TIPS accounts) and so-called 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.

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 some participant owns the TIPS account A as well as the CMBs B and C, linked to the account A. Suppose further that an instant payment instruction has been received which reduces the amount x from the limit defined on CMB B. The business checks that TIPS has to perform prior settlement are $x < b$ and $x < a$. If those are true settlement on account A can take place which decreases the remaining limit of B to $b - x$ and—simultaneously—reduces the cash balance of A to $a - x$. CMB C is not adjusted at all.



ID	TIPS.UR.05.050
Name	Addressing of Credit Memorandum Balances
Requirement	TIPS shall allow participants to directly address Credit Memorandum Balances.

TIPS shall allow participants to directly address CMBs using the same payment instruction message field and identifier format as for TIPS accounts. Whenever an instant payment instruction is addressed to a CMB the CMB limit as well as the linked TIPS account balance is changed simultaneously, in order to ensure that the transaction is settled in central bank money.

It shall not be possible to adjust the limit of a CMB via an instant payment transaction without adjusting the balance of the linked TIPS account by the same amount. CMB limits can, however, be adjusted by participants owning the linked account as reference data maintenance.

ID	TIPS.UR.05.060
Name	Number of Credit Memorandum Balances per account
Requirement	Each TIPS account shall be able to be linked to more than one Credit Memorandum Balance.

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.

ID	TIPS.UR.05.070
Name	Limits set via Credit Memorandum Balances
Requirement	TIPS shall allow participants to set limits greater than or equal to zero on their Credit Memorandum Balances.

The limits configured via CMBs are arbitrary and do not need to coincide with the currently available cash on the linked TIPS account. This requirement allows participants to dedicate less liquidity to their TIPS accounts than the sum of all set limits would imply. However, if the linked TIPS account does not provide sufficient liquidity the payment instruction is rejected.

In the following example (cf. 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.05.080
Name	Credit Memorandum Balance maintenance
Requirement	TIPS shall allow participants and central banks to create, update and delete the CMBs linked to the TIPS accounts opened in their books

5.3 REFERENCE DATA

5.3.1 ISO Compliance

ID	TIPS.UR.05.210
Name	TIPS account identifiers
Requirement	TIPS account identifiers shall be ISO compliant.

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

ID	TIPS.UR.05.220
Name	Credit Memorandum Balance identifiers
Requirement	CMB identifiers shall be ISO-like.

CMB identifiers shall be globally unique in TIPS; participants shall be able to choose their CMB identifiers in compliance with TARGET2 restrictions, e.g. 34 characters long, composed of country code and up to 32 characters.

By addressing a CMB via its identifier the linked TIPS account is addressed as well. TIPS and CMB identifiers shall not coincide and share the same namespace.

ID	TIPS.UR.05.230 (formerly TIPS.04.010)
Name	Currency codes
Requirement	TIPS shall store a list of valid currencies as defined by the ISO standard and foresee an attribute of the currency indicating whether it is eligible for the settlement in TIPS or not.

TIPS shall maintain the list of valid currencies eligible for settlement in TIPS.

ID	TIPS.UR.05.240 (formerly TIPS.04.020)
Name	Account currencies
Requirement	TIPS shall store for each account its currency compliant with ISO.

Upon creation of an account, TIPS shall allow denominating the TIPS account in a given currency.

ID	TIPS.UR.05.250 (formerly TIPS.04.030)
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.

5.3.2 Account Blocking

ID	TIPS.UR.05.310
Name	TIPS participant blocking functionality for Central Banks
Requirement	TIPS shall allow a Central Bank to block a TIPS participant. TIPS shall allow blocking of a participant resulting in the blocking of their accounts from being debited or credited separately.

TIPS shall allow Central Banks to block any of their participants from operating in TIPS. This blocking functionality shall result in the blocking of all the participant's TIPS accounts and all the existing linked CMBs. The blocking shall extend also to CMBs created after block has been applied.

TIPS shall reject payment instructions and liquidity transfers which are attempting to debit/credit a TIPS account (or decreasing/increasing a CMB) owned by the blocked participant.

ID	TIPS.UR.05.320
Name	TIPS account blocking functionality for Central Banks
Requirement	TIPS shall allow a Central Bank to block separately any TIPS account in their books from being debited or credited. TIPS shall allow blocking of an account from being debited or credited separately.

The blocking of a TIPS account operated by the Central bank shall imply the cascading blocking of all the CMBs linked to the blocked TIPS account. In this context, the blocking of the linked CMBs shall prevent any payment instruction from decreasing or increasing any of the existing CMBs. The blocking shall extend also to CMBs created after block has been applied.

ID	TIPS.UR.05.330
Name	Liquidity transfer functionality for Central Bank
Requirement	TIPS shall allow a Central Bank to transfer liquidity to/from any account, blocked or not.

For example, a Central Bank can be allowed to transfer liquidity from/to a blocked account.

ID	TIPS.UR.05.340
Name	TIPS account blocking functionality for participants
Requirement	TIPS shall allow a participant to block any of the TIPS account they are responsible for from being debited or credited.

The blocking of a TIPS account operated by the participant shall imply the cascading blocking of all the CMBs linked to the blocked TIPS account. In this context, the blocking of the linked CMBs shall prevent any payment instruction from decreasing or increasing any of the existing or newly linked CMBs.

TIPS shall allow blocking of an account from being debited or credited separately.

5.3.3 Credit Memorandum Balance Blocking

ID	TIPS.UR.05.350
Name	Credit Memorandum Balance blocking functionality for Central Banks
Requirement	TIPS shall allow a Central Bank to block any Credit Memorandum Balance linked to one of the TIPS account in their books from being decreased or increased. TIPS shall allow blocking of a CMB from being decreased or increased separately.

In this context, the blocking of a CMB shall prevent any payment instruction from decreasing or increasing that particular CMB. The blocking of a particular CMB shall not influence the settlement on any other CMBs linked to the same TIPS account.

ID	TIPS.UR.05.360
Name	Credit Memorandum Balance blocking functionality for participants
Requirement	TIPS shall allow a participant to block any Credit Memorandum Balance linked to one of the TIPS account they are responsible for from being decreased or increased. TIPS shall allow blocking of a CMB from being decreased or increased separately.

In this context, the blocking of a CMB shall prevent any payment instruction from decreasing or increasing that particular CMB. The blocking of a particular CMB operated by the participant shall not influence the settlement on any other CMBs linked to the same TIPS account.

5.3.4 Unblocking Functionality

ID	TIPS.UR.05.370
Name	Unblocking functionality for TIPS accounts
Requirement	TIPS shall allow participants and central banks to unblock accounts. TIPS shall allow unblocking of a TIPS accounts from being debited or credited separately.

TIPS shall allow unblocking of a previously blocked TIPS accounts. The following rules shall apply:

- A TIPS account shall be unblocked separately, e.g. for debiting and crediting;

- A TIPS account initially blocked either by the responsible Central Bank or by the owning TIPS participant can be unblocked by the responsible Central Bank;
- Only TIPS accounts initially blocked by the owning TIPS participant can be unblocked by the owning TIPS participant.

ID	TIPS.UR.05.380
Name	Unblocking functionality for Credit Memorandum Balances
Requirement	TIPS shall allow TIPS participants and Central Banks to unblock Credit Memorandum Balances. TIPS shall allow unblocking of a CMB from being decreased or increased separately.

TIPS shall allow unblocking a previously blocked CMB. The following rules shall apply:

- A CMB shall be unblocked separately, e.g. for decreasing and increasing
- A CMB initially blocked either by the responsible Central Bank or by the owning TIPS participant can be unblocked by the responsible Central Bank
- Only CMBs initially blocked by the owning TIPS participant can be unblocked by the owning TIPS participant.

5.3.5 Entity Identifiers

ID	TIPS.UR.05.400
Name	Entity identifier
Requirement	TIPS shall identify each entity interacting with or known to the service with a unique identifier.

Entities interacting with or known to TIPS are participants, reachable parties, instructing parties and central banks. Each entity has to be uniquely identifiable within TIPS; these identifiers shall be constructed according to current industry best practices, e.g. distinguished name.

ID	TIPS.UR.05.410
Name	Links between BICs and entity identifiers
Requirement	TIPS shall store links between participants BICs and entity identifiers.

The service shall be able to identify authorised senders and addressees of messages using the provided originator and beneficiary participant BICs. The relation between BICs and entity identifiers shall be:

- Many to one for sender entity identifiers to originator participant BIC; i.e. the service shall be able to determine from the originator participant BIC if the sender is authorised to do so
- Many to one for beneficiary participant BICs to message addressee identifiers; i.e. the service shall be able to derive exactly one message addressee from the beneficiary participant BIC

6 REPORTS

This chapter is to describe report requirements in the context of TIPS. TIPS participants shall subscribe to reports they want to receive from a pre-defined list.

6.1 GENERAL REQUIREMENTS

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

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

ID	TIPS.UR.06.020
Name	Timeliness of reports
Requirement	TIPS shall send reports based on the latest available data.

Reports will always be based on the latest available data at the point in time when the event trigger for report generation is processed; the time at which the report is sent may not be the same.

ID	TIPS.UR.06.030
Name	Report addressee and data scope
Requirement	TIPS shall provide to participants with reports on their accounts and CMBs at least based on the permissions listed in the following Table 6.

Table 6: Report addressee and data scope

Tier	Actor	Statement of Account Turnover	General ledger
1	Central Banks	No	All accounts in their books
2	Participants	Own accounts Own CMBs	No
	Reachable party	No	No
3	Instructing party on behalf of a participant	No	No
	Instructing party on behalf of a reachable party	No	No

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

The Compression will be done using industry standard algorithms.

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

ID	TIPS.UR.06.060
Name	Delta reporting
Requirement	TIPS shall send reports in delta mode.

TIPS will generate reports in delta mode. This means that a delta report will contain only the data produced since last report generation occurred for the same participant.

6.2 REPORT SUBSCRIPTION

ID	TIPS.UR.06.070
Name	Report subscription
Requirement	TIPS shall offer all TIPS participants the flexibility to choose the reports they wish to receive from the following list: <ul style="list-style-type: none"> Statement of Account Turnover.

TIPS participant will be able to configure their report subscription. TIPS participants may select the reports from a defined list.

Table 7: Report Subscription Attributes

Attribute	Description
Report Subscription Identifier	This attribute shall specify the unique technical identifier of a report subscription.
Report	The attribute shall contain the report subscribed by the TIPS participant.
Recipient	This attribute shall specify the party identifier of the receiver(s), subscribing to the reports.
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.

ID	TIPS.UR.06.080
Name	Maintenance of the report subscription
Requirement	Report subscription shall be maintained by TIPS participants as reference data.

TIPS will provide the TIPS participant with functionalities to create, update or delete report subscriptions they are responsible for. TIPS participant will be able to unsubscribe from a report by deleting the corresponding report subscription.

6.3 REPORT NAMES

ID	TIPS.UR.06.090
Name	Statement of Account Turnover
Requirement	TIPS shall generate reports on the current TIPS account turnover for all accounts a participant is responsible for.

TIPS will initiate processing the report on the data at the end of day of the corresponding RTGS.

TIPS has to receive a message from the RTGS (e.g. a camt.019) to trigger the start of end of day reporting. The message will contain the RTGS business date for which the end of day reporting is started.

The statement of account turnover will return at least the following data:

- The RTGS business date
- 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.06.100
Name	General ledger
Requirement	TIPS shall provide the RTGS with one general ledger for each Central Bank after the end of the day.

TIPS will generate one general ledger report for each Central Bank, at the end of day of the corresponding RTGS, containing the information related to the accounts in their books. The general ledger will return at least the following data based on a trigger received by the corresponding RTGS:

- The RTGS business date

- TIPS account identifier
- Opening balance at start-of-day
- Closing balance at end-of-day
- Sum of debits
- Sum of credits.

7 QUERIES

The aim of this chapter is to describe the requirements relating to the different real-time queries issued by TIPS participants to monitor cash balances, instructions status and static data. Queries are made available by TIPS in Application-to-Application mode or in User-to-Application.

7.1 GENERAL REQUIREMENTS

ID	TIPS.UR.07.010
Name	TIPS availability for queries in Application-to-Application mode
Requirement	TIPS shall process the following queries 24/7: <ul style="list-style-type: none"> • Query of Limits • Account Balances and Status query • Payment Instruction query.

TIPS will allow the connectivity of TIPS Participants by using messages in Application-to-Application (A2A) mode.

All query messages exchanged between TIPS and the participants 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 all the following queries from the Graphical User Interface: <ul style="list-style-type: none"> • Query of Limits • Account Balance and Status query • Payment Instruction query

The TIPS participants will be able to trigger the aforementioned list of queries from the TIPS GUI.

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

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

TIPS will provide to TIPS participants with queries on their own accounts or CMBs based on the permission of the following Table .

Table 8: Query permissions

Tier	Actor	Query of Limits	Account Balance and Status query	Payment instruction query	Online data query
1	Central Banks	All accounts in their books	All accounts in their books	No	Yes
2	Participants	Own accounts Own CMBs	Own accounts Own CMBs	Own accounts Own CMBs	Yes
	Reachable party	No	No	No	No
3	Instructing party on behalf of a participant	No	Own accounts Own CMBs	Own accounts Own CMBs	No
	Instructing party on behalf of a reachable party	No	CMB	CMB	No

ID	TIPS.UR.07.050
Name	Query timestamp
Requirement	TIPS shall use Central European Time (CET and CEST) for all the queries.

The format of timestamps will be ISO compliant.

ID	TIPS.UR.07.060
Name	Data compression for queries
Requirement	TIPS shall compress the queries whenever possible.

Compression will be done using industry standard algorithms.

7.2 BASIC QUERIES

ID	TIPS.UR.07.110
Name	Query of Limits
Requirement	TIPS shall allow participants through a query to extract the current limit of any of their CMBs.

The query will return the current value of the CMB limits and the timestamp.

ID	TIPS.UR.07.120
Name	Account balance and status query
Requirement	TIPS shall provide to TIPS participants with the possibility to query the current balance and the status of one of their TIPS accounts.

The query will return the following information:

- TIPS participant identifier
- TIPS account identifier
- Current balance (available balance + sum of reserved balances)
- Currency
- Account status
- Timestamp of the balance.

ID	TIPS.UR.07.130 (formerly TIPS.03.010)
Name	Payment instruction query
Requirement	TIPS shall allow TIPS participants to query the status of a payment instruction.

The query should at least return the following instruction related information:

- The participant who submitted the instruction
- The payment instruction reference
- The instruction status (i.e. settled or rejected with rejection reason)
- The settlement timestamp.

This query allows originator participants to trigger an investigation process.

8 INTERFACES

Communication with TIPS is done either via U2A (User to Application) or A2A (Application to Application). 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 participants a User-to-Application interface.

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

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 the following queries in U2A mode: <ul style="list-style-type: none"> • CMB limit query • Account balance and status query • Payment instruction query

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

8.2.3 Reference data maintenance

The following TIPS functionalities are available in U2A mode only (non-exhaustive list):

ID	TIPS.UR.08.050
Name	Reference data maintenance available in U2A mode at any point in time
Requirement	TIPS shall the following queries in U2A mode: <ul style="list-style-type: none"> • Blocking/unblocking of an account • Increase/decrease of a CMB.

The detailed requirements related to this functionality are documented in section 5.3

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 detailed requirements for all messages mentioned in the BPMN diagrams of preceding chapters are listed.

8.3.1 General requirements

ID	TIPS.UR.08.210
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.08.220 (formerly TIPS.06.010)
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 shall use the 2009 version of the ISO 20022 XML message standard. However, succeeding versions are not excluded and might be adopted in the future, if deemed necessary.

ID	TIPS.UR.08.230
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 shall 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.08.240
Name	Technical validation for inbound messages
Requirement	TIPS shall perform technical validations on received messages

Technical validations shall encompass at least the following checks: Existence and ISO compliance of all mandatory fields in all messages. Optional fields shall be ISO compliant as well 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.08.250
Name	Break 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. These error codes have to be returned to the message sender.

8.3.2 Payment Process

8.3.2.1 Payment Instruction

Payment instructions are sent by the originator participant to TIPS and trigger the general payment processing workflow.

ID	TIPS.UR.08.300
Name	Payment instruction message
Requirement	<p>TIPS shall accept payment instructions for the purpose of instant payments settlement which contain at least:</p> <ul style="list-style-type: none"> • The <i>interbank payment dataset</i> DS-02 (cf. SCT^{inst} rulebook, ref. [1]) • A TIPS account or CMB identifier indicating the originator participant account to be debited (or CMB to be decreased) <p>The originator participant timestamp, which is part of DS-02, is UTC.</p>

Incoming payment instructions processed by TIPS should contain at least the *interbank payment dataset* DS-02 as given in the SCT^{inst} rulebook (cf. ref. [1]). Furthermore one additional mandatory field should be included which specifies the TIPS account (resp. CMB) that the participant wants to be debited (resp. decreased) in case settlement takes place. This field has to contain exactly one TIPS account identifier if the dedicated cash account itself has to be debited or exactly one CMB identifier if a CMB linked with a cash account has to be debited.

The ISO message used for payment instructions may be pacs.008; its fields could be filled with the given dataset according to SCT^{inst} rules; the additional TIPS specific account identifier could be provided in the *SettlementAccount* message element of the *SettlementInformation* group within the pacs.008 message.

Some of the required information in these payment messages is:

- The IBANs (resp. BICs) of the originator and beneficiary (resp. participant)
- The amount of the transaction and well as the currency
- Some instruction identification code provided by the originator participant
- A UTC timestamp which is used for determination if timeouts are reached (processing time for an instant payment instruction must not exceed 20 seconds according to the SCT^{inst} rules)
- A TIPS account or CMB identifier indicating the account to be debited or CMB to be decreased and linked account to be debited

8.3.2.2 Rejection

Rejection messages are status messages sent back from TIPS to the originator participant in order to inform about the rejection of an instant payment transaction due to technical or business reasons.

ID	TIPS.UR.08.310
Name	Rejection message
Requirement	TIPS shall return rejection messages which contain at least the <i>confirmation message to originator bank</i> dataset DS-03 (cf. SCT ^{inst} rulebook, ref. [1]) to the originator participant in case an instant payment transaction cannot be settled.

TIPS should return rejection messages to the originator participant if an instruction cannot be settled due to technical or business reasons, e.g. validation errors, timeouts (either on the originator or beneficiary side) or refusal of the beneficiary to accept the funds. These messages should contain at least the *confirmation message to originator bank* dataset DS-03 as given in the SCT^{inst} rulebook (ref. [1]) using a *rejection code* (RJCT).

Some of the required information in these rejection messages is:

- The originator participants identifier of the original payment instruction which is rejected
- A reason for the rejection (potential reasons are defined in the SCT^{inst} rulebook); these reasons cover rejections done by TIPS or participants
- An indication which party initiated the rejection (i.e. either TIPS or the beneficiary participant)

8.3.2.3 Beneficiary Participant Reply

Beneficiary replies are status messages returned by the beneficiary participant after TIPS forwarded the payment instruction.

ID	TIPS.UR.08.320
Name	Beneficiary participant reply message
Requirement	TIPS shall process reply messages from beneficiary participants informing TIPS about their acceptance or decline of the payment. These messages shall at least contain: <ul style="list-style-type: none"> • The <i>confirmation message to originator bank</i> dataset DS-03 (cf. SCT^{inst} rulebook, ref. [1]) • A TIPS account or CMB identifier indicating the beneficiary participant account to be credited (or CMB to be increased)

Beneficiary participant replies should contain at least the *confirmation message to originator bank* dataset DS-03 as given in the SCT^{inst} rulebook (ref. [1]) using either an acceptance or rejection code. Contained information should be at least:

- The originator participants' message identifier as given in the initial payment instruction
- The beneficiary participants' message identifier in case of an acceptance
- A clear indication if the payment is accepted or rejected
- The reason for a rejection if a payment is rejected
- The TIPS account (or CMB) identifier of the beneficiary participant

8.3.2.4 Beneficiary participant status

Depending on the actual process flow TIPS might need to inform the beneficiary participant about the status of a reply, indicating if a timeout has occurred or if the reply cannot be processed due to failed validation.

ID	TIPS.UR.08.330
Name	Beneficiary participant status message
Requirement	TIPS shall inform the beneficiary participant in case its reply cannot be validated or times out.

After forwarding a payment instruction to the beneficiary participant TIPS waits for a reply by this participant either accepting or rejecting the payment. In case this reply times out or validation fails, a status message shall be sent to the beneficiary participant. This status message shall contain at least the following information:

- The originator participants' message identifier as given in the initial payment instruction
- The reason for the message (e.g. timeout, technical validation error, business validation error)

8.3.2.5 Confirmation

ID	TIPS.UR.08.340
Name	Confirmation message
Requirement	TIPS shall confirm the settlement of an instant payments transaction to both the originator and beneficiary participant using a message containing at least the <i>confirmation message to originator bank</i> dataset DS-03 (cf. SCT ^{inst} rulebook, ref. [1]).

The final settlement confirmation returned to both participants should contain at least the *confirmation message to originator bank* dataset DS-03 as given in the SCT^{inst} rulebook (ref. [1]) using an *acceptance code* (ACCP). Some of the required information in these confirmation messages is:

- The originator participants identifier of the original payment instruction
- The beneficiary's identifier of the accepted payment instruction

8.3.3 Recall Process

8.3.3.1 Recall

ID	TIPS.UR.08.350
Name	Recall message
Requirement	TIPS shall forward recall request messages which are compliant with the SCT ^{inst} scheme.

Recall requests shall at least contain the *recall of a SCT^{inst} dataset DS-05*; therefore the actual recall message is a combination of the original *interbank payment dataset DS-02* and some additional data (as given in the SCT^{inst} rulebook, ref. [1]).

8.3.3.2 Recall Rejection

ID	TIPS.UR.08.360
Name	Recall rejection message
Requirement	TIPS shall return recall rejection messages in case validation of a recall message fails.

The rejection of a recall should contain a rejection reason as well as an identifier linking it to the recall itself.

8.3.3.3 Recall Answer

ID	TIPS.UR.08.370
Name	Recall answer message
Requirement	TIPS shall forward negative recall answer messages which are compliant with the SCT ^{inst} scheme.

TIPS expects a new instant payment transaction in case a recall is accepted by a beneficiary participant (which then is the originator participant of the new instruction). However, these two messages, the recall and the new payment instructions are not linked by TIPS and will be treated completely separately.

8.3.3.4 Recall Answer Rejection

ID	TIPS.UR.08.380
Name	Recall answer rejection message
Requirement	TIPS shall return recall answer rejection messages in case validation of a recall answer message fails.

8.3.4 Liquidity Transfers

ID	TIPS.UR.08.410
Name	Use of messages provided for the cash management standard
Requirement	TIPS shall use existing ISO 20022 XML compliant messages provided for the cash management standard for liquidity management purposes.

Payments to transfer liquidity from the RTGS accounts to TIPS accounts shall use the liquidity transfer orders. TIPS shall use camt.050 message for liquidity transfers from/to the corresponding RTGS. Additionally, TIPS shall support the camt.025 message to notify the liquidity transfer responses.

Note: This requirement may be split into multiple requirements, one for each message.

9 OTHER FUNCTIONS

9.1 RAW DATA

ID	TIPS.UR.09.010 (Formerly TIPS.05.010)
Name	Raw data
Requirement	TIPS shall provide raw data files on a daily basis.

TIPS will provide raw data files on a daily 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 will produce 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 data files (for each participant) including all the data needed by the participants to fulfil their regulatory reporting requirements.

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

ID	TIPS.UR.09.020
Name	Raw data timestamp
Requirement	TIPS shall use UTC for the raw data timestamp.

Timestamps will be provided in an ISO compliant format.

9.2 LIST OF PARTICIPANTS

ID	TIPS.UR.09.030
Name	List of participants in TIPS
Requirement	TIPS shall provide the list of participants reachable through the service.

10 NON-FUNCTIONAL REQUIREMENTS

10.1 AVAILABILITY REQUIREMENTS

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

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).

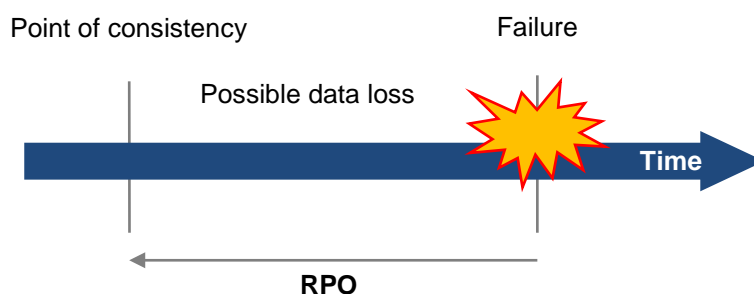
10.2 DISASTER RECOVERY

10.2.1 Recovery Point Objective

ID	TIPS.UR.10.040 (formerly TIPS.07.010)
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.

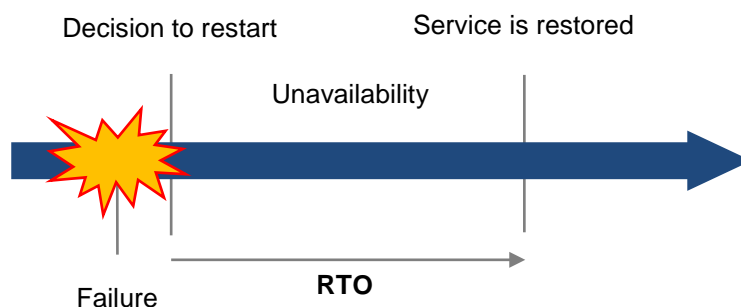
TIPS will ensure synchronous point of consistency creations and, as a consequence, no data loss in case of failures.



10.2.2 Recovery Time Objective

ID	TIPS.UR.10.050 (formerly TIPS.07.020)
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 (formerly TIPS.07.030)
Name	Archiving of transactional data
Requirement	TIPS service operator shall be able to retrieve payment instruction and status message data not older than ten years, upon request by participants.

The data will be available in the archive after it has been extracted.

ID	TIPS.UR.10.070 (formerly TIPS.07.040)
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 data will be available in the archive after it has been extracted.

ID	TIPS.UR.10.080 (formerly TIPS.07.050)
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 data will be available in the archive after it has been extracted.

ID	TIPS.UR.10.090
Name	Online data access
Requirement	TIPS shall provide online data access to data for a configurable timeframe.

TIPS shall keep production data (e.g. cash balances, transactions, reference data) available for online queries for a configurable timeframe. After this period, data are purged from the online data base and they remain available in the archiving data base only.

10.4 AUDIT TRAIL

ID	TIPS.UR.10.210
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.10.310
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.10.410
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.10.510
Name	Instant payments processing throughput
Requirement	TIPS shall be able to process up to an average number of 500 incoming instant payment instructions per second, with a peak of up to 2,000 incoming instant payment instructions per second.

Assuming that the volume of incoming instant payment instructions 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 instructions processing capacity shall be scalable up to a maximum average number of 500 instant payment incoming instructions per second. This value equals the following hourly, daily and yearly volumes:

Hourly volume of payment instructions	1,8 millions/hour
Daily volume of payment instructions	43.2 millions/day
Yearly volume of payment instructions	15.77 billions/year

10.8 CONNECTIVITY

To be updated.

10.9 SERVICE DESK

To be updated.

11 ANNEX

11.1 LIST OF REFERENCES

	Title	Source
[1]	2016 SEPA Instant Credit Transfer Rulebook Version 0.1	EPC
[2]	SEPA Instant Credit Transfer Scheme Customer-to-Bank Implementation Guidelines 2017 Version 1.0	EPC
[3]		
[4]		
[5]		
[6]		

11.2 GLOSSARY

Item	Description	Source
Application-to-Application (A2A)	A mode of technical communication that permits the exchange of information between software applications of TIPS and a directly connected TIPS participants	ECB
Availability	The ability of a configuration item or IT service to perform its agreed function when required. Reliability, maintainability, serviceability, performance, and security determine availability. The calculation of availability is usually on a percentage basis and based on agreed service time and downtime. It is best practice to calculate availability using measurements of the business output of the IT Service.	ITIL Definition
Beneficiary	A Customer identified in the SCT Inst Instruction 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.	
Credit Memorandum Balance (CMB)	A credit limit that is linked to 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	
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.	
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
Instant Payment Instruction	An instruction 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 Banks	A National Central Bank is a CB that provides cash account services to participants for settlement of instant payments in central bank money	

Item	Description	Source
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
Owner	The Owner is the legal or organisational entity that owns the TIPS business application (i.e. software developed and operated by the 4CB on behalf of the Eurosystem).	ECB
Participant	Participants are the only entities that can open accounts in TIPS. It should be eligible to have an account in TARGET2. TIPS accounts in euro shall legally be opened in the TARGET2 component of the responsible Central Bank	ECB
Push mode	A communication model using the request/response (also query/response) message exchange pattern. A service consumer requests or asks for specific information from a service provider and then waits to receive the response from the service provider.	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 (RTGS)	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.	
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.	
Reference data	List of transaction related items, which are used for identification, differentiation or reference of specific payment transaction.	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
SCT Inst	The SEPA Instant Credit Transfer for which the scheme rulebook was published by the European Payments Council in November 2016.	EPC
Settlement	The transition of a transaction or of processing with the aim of discharging the participants' obligations through the transfer of funds and/or securities.	ECB
System Users	A System User is 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

Item	Description	Source
User-to-Application (U2A)	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
BIC	Business Identifier Code
BPMN	Business Process Model and Notation
CMB	Credit Memorandum Balance
EPC	European Payment Council
ERPB	Euro Retail Payments Board
GUI	Graphical User Interface (see U2A)
IBAN	International Bank Account Number
RPO	Recovery Point Objective
RTO	Recovery Time Objective
SEPA	Single Euro Payments Area
TIPS	The TARGET Instant Payments Settlement Service
TR	Task Requirement
UR	User Requirement