TARGET Instant Payment Settlement

User Detailed Functional Specifications

~~V0~~V1.~~90~~.~~00~~

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Version	~~0~~1.~~90~~.~~00~~
Date	~~16~~02/~~02~~03/2018

Introduction

This document describes all the features of the TIPS service and TIPS Actors' interactions with it, focusing on application-to-application communication.

This document is intended to guide TIPS Actors to the proper understanding of the service and to offer all the information needed for the implementation of software interfaces on their side.

The UDFS document focuses on the provision of information to TIPS Actors to design and build the interface of their business applications with TIPS (A2A) and it is available for the whole community: in order to ensure the same level of knowledge for all TIPS Actors the information relevant for CBs, Participants, Reachable Parties, Instructing Parties and the TIPS Operator is contained in one single book of UDFS.

The document is divided into three main chapters:

- The first chapter provides a full description of all the TIPS features and the related reference and transactional data models, non-technical details concerning access to the service and connectivity, dependencies and interactions with other services, operations and support features. The background information provided in Chapter 1 guides the understanding of Chapter 2. Information provided in Chapter 1 on the TIPS feature is mainly user-oriented, but it also includes some details on the internal TIPS processes, when relevant.
- The second chapter provides a formalized description of the (A2A) dialogues, which allow TIPS Actors' applications to interact with TIPS. This part aims at providing an exhaustive description of the different (successful and unsuccessful) use cases TIPS actors may face, by providing many detailed examples. The section guides the reader through the steps of the different scenarios – highlighting the actions undertaken by TIPS and all the involved TIPS Actors. The following parts compose a scenario:
    - End-to-end description of the process – by means of activity diagrams and explanatory text;
    - Involved actors;
    - Exchanged messages;
    - List of meaningful business cases.

  The description of each step of the process includes an exhaustive list of all the checks performed by TIPS. The detailed description of the business rules is reported in the list at the end of the document (4.1 "Business Rules").
- The list of meaningful business cases is composed by:
    - A sample data constellation;
    - The content of the main fields of the relevant inbound messages;
    - A description of the main steps taking place in TIPS;
    - The content of the main fields of the resulting outbound messages.

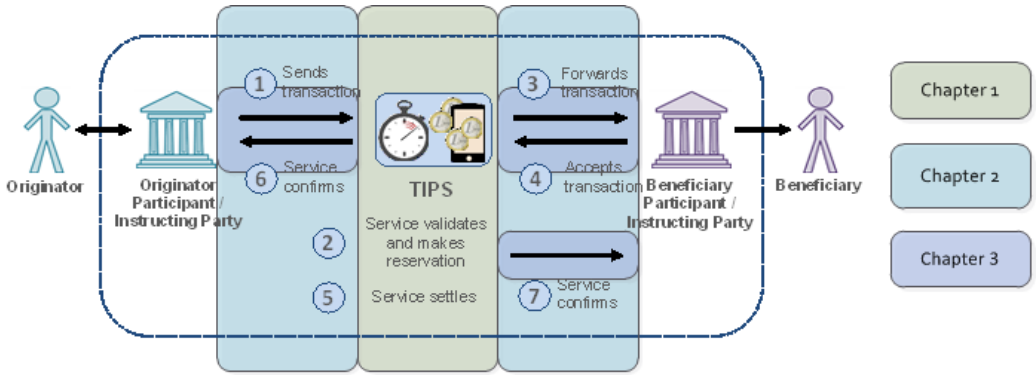
- The third chapter provides a detailed description of all XML messages TIPS Actors may use to interact in A2A mode with TIPS. Each message specification includes the following elements:
    - Reference name and identifier – e.g. LiquidityCreditTransfer (camt.050.001.04)
    - List of fields included in the message. Each field specification includes the following elements:
        - EPC Reference (if applicable)
        - Reference name
        - Short description
        - XML Path
        - Boolean attribute specifying whether the field is used in TIPS
        - Boolean attribute specifying whether the field is mandatory or not

    Wherever a message or its fields are referenced throughout the document, only the reference name is used.

Reader's guide

The document is structured as to guide the readers through the steps of the whole A2A interaction and processing details as exemplified by the figure below.

Figure 1 – Scope of UDFS



Different readers may have different needs and priorities and may not need to read the whole book. For instance, business readers, interested mainly in organisational issues, may not wish to enter into the full details of each and every message description, but they might prefer going through a description of the application processes and the information flows between their own business applications and the TIPS service. On the other hand, technical readers involved in the specification and development of technical interfaces to TIPS may not be interested in the complete description of the TIPS application processes that are leading to the sending of a given message. They would probably search the necessary information to design and build the interface of the TIPS Actors' business application with TIPS service. Every reader can decide their own reading plan and it is not mandatory for every reader to read the entire UDFS book.

The following paragraphs show with a couple of examples how business readers and technical readers may follow different reading patterns, in order to fulfil their needs.

Business oriented perspective

The business reader may be interested in the way information is structured in TIPS. This user may want to follow the reading plan described below to find information about the operations that are needed in order to process an Instant Payment in TIPS:

- The business reader finds in section 1.3 "TIPS Actors and account structure" a general description of the main Reference data needed to work on TIPS, specifying how they are used for the settlement of Instant Payment transactions (e.g. what is a Participant and the related Accounts it owns and how to authorise a BIC to use an account to settle Instant Payment transactions). Also section 1.4 "Dynamic data model" is important to understand how the information is managed in TIPS.
- From this point, the business reader may jump to section 2.2 "Instant Payment transaction" to find a description of the processing of an Instant Payment. Here they can find useful examples in order to understand the main scenarios involving Instant Payments.
- For further details on the validations to be performed, they may jump to section 4.1 "Business Rules", where the functional checks are described.

Technical oriented perspective

For a technical reader, it is more likely that the reading plans would pass through:

- Chapter 2 - "Dialogue between TIPS and TIPS Actors", where a complete overview of the possible A2A dialogue with TIPS is required, e.g. when structuring the interface of a TIPS Actor towards TIPS. Each sub-section of this chapter describes, then, the flows involving the functionalities of TIPS. The readers can focus on the functionality they are interested in analysing the process and the main scenarios.
- Chapter 3 - "Catalogue of messages", where a detailed description of the content of a given XML message is provided, e.g. when specifying the details of the interface of a TIPS Actor towards TIPS.
- For further details on the checks to be performed and ISO codes used in the message, they may jump to chapter 4 - "Appendices".

All readers, whether business or technical, are invited to read the following UDFS sections, which are providing a background to the understanding of any other UDFS section:

- 1.3 "TIPS Actors and account structure", which provides the basis for reference data organisation in TIPS;
- 1.5 "TIPS Features", which is a summary providing the basis for the understanding of the main TIPS concepts (access to TIPS, authentication and authorisation processes, security).

1. General features of TIPS

The present chapter, after a short introduction of the TIPS service, describes all the features provided by the service.

Section 1.2 introduces the details regarding the access of TIPS Actors to TIPS, covering the different modes of connectivity, the authentication and authorisation processes, as well as security aspects and an introduction to the Graphical User Interface (GUI).

Sections 1.3 and 1.4 describe respectively the reference data and the dynamic data models of TIPS, including a description of all the relevant entities and their relationships.

Section 1.5 describes the various features of TIPS and the underlying business processes, including Instant Payment settlement, liquidity management, reference data management, queries, reports and archiving.

Section 1.6 describes the interactions that TIPS, as a part of the Eurosystem Market Infrastructure, has with the other main services provided by the Eurosystem.

The last section describes processes supporting the TIPS Operator in the operational management of the system and the exact perimeter of the system introducing its limitations.

1.1. Introduction to the TIPS Service

TARGET Instant Payment Settlement (TIPS) is a harmonised and standardised pan-European service with common functionality across different countries and jurisdictions for settling payments instantly in Central Bank Money, with high capacity and around-the-clock availability.

The primary aim of TIPS is to offer instant settlement services in euro to its participants, extending the services offered by TARGET2. TIPS is, in any case, designed to be currency-agnostic in order to provide settlement in non-euro Central Bank Money, if requested, by connecting to any RTGS System.

The TIPS service provides:

- real-time gross settlement in Central Bank Money for both domestic and cross-border Instant Payment transactions received from TIPS Actors;
- liquidity management functionalities to support the Instant Payment process;
- queries and reporting tools to support monitoring and reconciliation.

In order to reach these objectives, TIPS enables communication and provides authentication services and secure messaging to and from the centralised settlement component. The participants (i.e. Payment Service Providers[1] or PSPs) have a settlement interface to send Instant Payment transactions and receive payment confirmations or any other payment related messages based – when possible – on ISO 20022 standards and in accordance with the SEPA Instant Credit Transfer (SCT^{Inst}) scheme. The participants are also provided with the functionalities to either recall settled

[1] The definition of Payment Service Provider used in this document is purely technical and aims at keeping the terminology consistent with the EPC scheme and the TIPS URD.

Instant Payments transactions or initiate investigations on Instant Payments submitted to TIPS whose status confirmation has not been received yet. Additionally, TIPS Participants or Instructing Parties can initiate Outbound Liquidity Transfers.

TIPS accounts in euro are legally opened in TARGET2 by the responsible Central Bank and have to be dedicated to the settlement of Instant Payments transactions in TIPS. In the specific scenario of the RTGS for euro (i.e. TARGET2), the TIPS account balances are taken into account for the calculation of the minimum reserve and marginal lending facility. For this reason, a snapshot of the balance on the TIPS account for the fulfilment of the minimum reserve requirement is taken at the closing time of TARGET2, immediately after the last execution of the Algorithm 3 (i.e. shortly after the Bank-to-Bank cut-off at 18:00 CET). TIPS operates on a 24/7/365 basis and it makes use of the following Eurosystem services:

- The Eurosystem Single Market Infrastructure Gateway (ESMIG) which allows users to gain access to all Eurosystem services, including TIPS, after being authenticated and authorised to access the relevant service. The ESMIG, moreover, guarantees sanitisation of messages for security purposes and technical validation of the standard messages sent to the different services.
- The Common Reference Data Management (CRDM) service, i.e. the centralised, harmonised reference data management component that handles in a single point all data that is shared by more than one Eurosystem service. The CRDM allows users to configure, create and keep up-to-date all the reference data needed in the different Eurosystem services, including TIPS. As an example, the setup of reference data related to a TIPS Participant like the creation of an account is up to the responsible National Central Bank (NCB) whereas a TIPS Participant is responsible for the setup and configuration of Credit Memorandum Balances (CMBs).
- The Billing service, currently implemented as stand-alone solution provided by TARGET2, which produces invoices and debits the relevant accounts for the related amount based on consumption data it collects ~~from several Eurosystem services, including~~from TIPS.
- The Legal Archiving service, which collects and stores business transaction and reporting data from different Eurosystem services, including TIPS. The Legal Archiving service stores data in a secure manner and in its original content and format and makes it accessible throughout a predefined retention period.

TIPS Actors can access TIPS through two different channels:

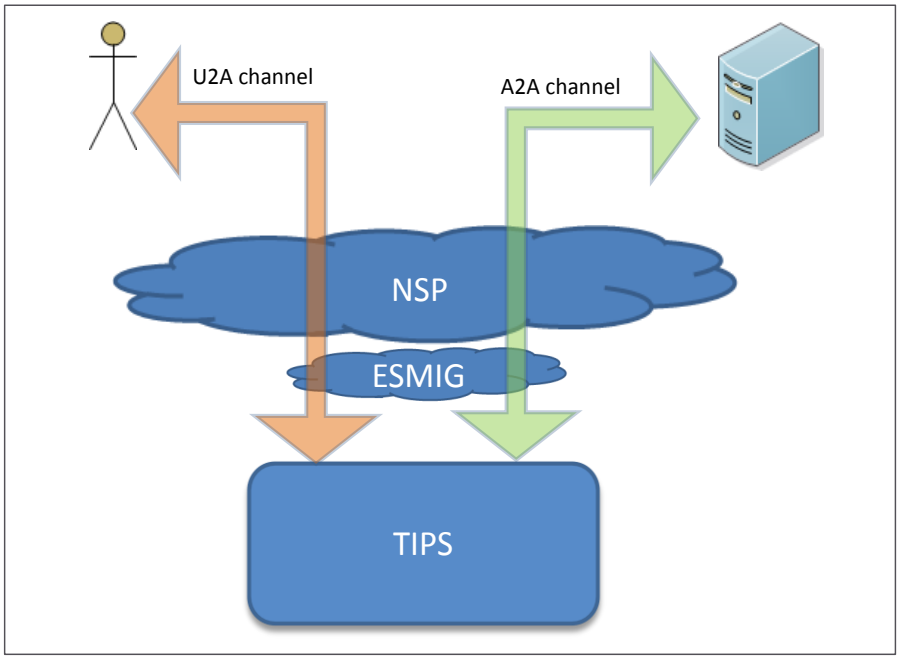
- Application-to-Application (A2A) channel, that is application-oriented and allows TIPS Actors' systems to interact with TIPS;
- User-to-Application (U2A) channel, that is user-oriented and offers human-friendly application access through a Graphical User Interface (GUI).

1.2. Access to TIPS

The purpose of this section is to introduce the basic connectivity to TIPS. It does not aim to describe in details the technical connection with TIPS.

TIPS Actors access TIPS, in A2A or U2A mode, via the respective Network Service Providers (NSPs) and through the ESMIG component. TIPS Actors must bilaterally define a relationship with one or more selected NSPs for the purpose of getting connected to TIPS.

Figure 2 – TIPS Connectivity



1.2.1. Connectivity (A2A/U2A)

TIPS supports access to the service through two different channels: Application-to-Application (A2A) channel and User-to-Application (U2A) channel.

- A2A: software applications can communicate with TIPS exchanging single messages. A2A communication relies on ISO 20022 standard XML messages, where applicable, for both inbound and outbound communication. Otherwise, i.e. when there is no ISO 20022 standard message available or when the usage of XML technology is not advisable for technical reasons (e.g. performance or network traffic constraints) flat data files may be used. At the current stage, there is no business case requiring flat data files to be used instead of ISO 20022 standard messages.

  All the exchanges of messages are executed through a realtime transfer service. This means that both parties (i.e. the Originator Participant and Instructing Party acting on behalf of the Originator Participant or Reachable Party on one side and the Beneficiary Participant and Instructing Party acting on behalf of the Beneficiary Participant or Reachable Party on the

other side) must be available and reachable when the message is sent. In case the message cannot be delivered, no retry mechanism is foreseen.

- U2A: for specific functionalities, the TIPS Actors can access TIPS through a Graphical User Interface. This channel is foreseen for a small subset of functionalities and queries (see 1.2.5 "Graphical user interface").

1.2.2. Authentication and authorisation process

Any individual or application interacting with TIPS is identified by a Distinguished Name (DN). A DN is a sequence of attribute-value assertions separated by commas, e.g.

<cn=smith,ou=tips-ops,o=bnkacct,o=nsp-1>

DNs are uniquely linked to digital certificates[2], which TIPS Actors assign to their individuals (interacting with TIPS in U2A mode) or applications (interacting with TIPS in A2A mode).

Certificates are issued by each NSP. For each request submitted to TIPS in U2A and A2A mode, the relevant connectivity provider performs authentication of the sender at network infrastructure level. If the authentication is successful, the connectivity provider forwards the request and the sender's DN to the ESMIG.

The ESMIG carries out an authorisation check at service level, in order to verify whether the DN is enabled to submit requests to TIPS. The ESMIG documentation contains exhaustive information on all the checks the ESMIG carries out. If these checks are successful, the request and the sender's DN are forwarded to TIPS.

TIPS then carries out the authorisation of the sender at application level based on the DN's access rights profile. Section 1.2.3 "Access rights" provides details on this process.

Distinguished Names, their connection to TIPS Actors, as well as access rights profiles and authorisations for DNs to submit requests related to specific BICs are defined in the Common Reference Data Management (CRDM) service. Additional information on the setup of access rights and on the underlying concepts can be found in the CRDM documentation.

1.2.3. Access rights

TIPS authorises requests from specific users (i.e. individuals or applications identified by means of a DN) based on their relevant access rights profile. Each interaction with TIPS that can be triggered either in A2A mode by means of a message (e.g. sending an Instant Payment transaction) or U2A mode via GUI screen (e.g. blocking of a TIPS Account) is defined as a TIPS user function. The capability to trigger a specific TIPS user function is granted by means of the related Privilege.

All Privileges that are relevant for TIPS are defined and stored within the CRDM, which also offers the possibility to group different Privileges into sets known as Roles. Each of these Roles will define a

[2] A digital certificate is an electronic document binding an identity to a pair of electronic keys, a private key (used to sign digital information to be sent to a counterpart or to decrypt digital information received from a counterpart) and a public key (used to encrypt digital information to be sent to a counterpart or to perform the authentication and to ensure the integrity of digital information received from a counterpart).

specific business role for TIPS Actors to use to interact with TIPS. TIPS users will be assigned one or more roles in the CRDM depending on their requirements, and these roles will define their access rights configuration.

Roles are then granted to users identified by specific DNs. This allows the DN linked to the Role to trigger user functions in TIPS by exercising the Privileges contained within the Role.

TIPS authorises the sender of a given request only if the DN fulfils both of the following conditions:

1. The DN has the relevant privilege(s) required to submit the request;
2. The DN is enabled to submit the request on the requested business object(s).

The first condition depends on the DN's access rights profile, which is defined by the role(s) assigned to it in the CRDM. For example, a DN may be enabled to send Instant Payment transactions but not liquidity transfers.

The second condition is based on the business object itself on which a request is being performed. For instance, in an Instant Payment transaction, the object is represented by the TIPS Account being debited; in an Account balance and status query, the object is the TIPS Account being queried. TIPS applies specific business logic, which differs depending on the type of request, to determine whether a certain DN is authorised to act on a certain object. If a certain DN is authorised to exercise a type of request (related to a specific Privilege) on a specific object, that object is said to be within the DN's data scope for that Privilege.

The concept of Instructing Party is also defined in this way. Instructing Parties are DNs that are authorised to send or receive instructions on behalf of a specific Party. This configuration is defined by means of a relationship set up within the CRDM.

The entire access rights configuration process is carried out within the CRDM: the CRDM documentation provides additional details on these aspects.

1.2.4. Security

This section aims at describing the main processes performed by TIPS in terms of principles applied to ensure TIPS Actors can securely exchange information with TIPS.

It means that the following security conditions are met:

- **Confidentiality**: Ensuring that information is accessible only to authenticated and authorised TIPS Actors;
- **Integrity**: Safeguarding the accuracy and completeness of information;
- **Availability**: Ensuring that authorised users have access to information and associated assets when required;
- **Monitoring**: Detecting operational and technical problems and recording appropriate information for crisis management scenarios and future investigations;
- **Auditability**: Ensuring the possibility to establish whether a system is functioning properly and that it has worked properly.

1.2.4.1. Confidentiality

The confidentiality of data is ensured by the possibility to grant specific access rights for any given set of data, as detailed in section 1.2.3 "Access rights". In conjunction with mechanisms of authentication and authorisation applied to all requests received by TIPS in both A2A and U2A mode, this guarantees that each TIPS Actor's data is treated confidentially and is not accessible to non-authorised actors.

1.2.4.2. Integrity

Within TIPS, various business validations ensure the integrity of information. If a business validation fails, TIPS has a concept of Error handling in place. The requested action is not processed and TIPS provides the user with detailed information regarding the nature of the error.

In U2A mode, TIPS offers users in addition the possibility to further ensure the data integrity via usage of a dual authorisation concept, the 4-Eyes principle. In case this option is chosen for a specified set of TIPS operations, a second independent verification and confirmation is required before an operation becomes active in TIPS. If, for example, a critical set of data should be modified and the person requesting the change is only allowed to do so under the 4-Eyes principle, then a second person of the same Party has to confirm the correctness of the request. Otherwise, the requested change is not implemented.

1.2.4.3. Availability

The overall availability of the TIPS services is ensured by the innovative architectural design, and is pursued through node redundancy and self-recovery capability (built at application level). In the event of unavailability of some local nodes of the application cluster or unavailability of an entire site, TIPS adapts its behaviour as far as possible to continue operating.

1.2.4.4. Monitoring

TIPS operational monitoring provides tools to the TIPS Operator for the detection in real-time of functional or operational problems. Technical monitoring allows for the detection of hardware and software problems via real-time monitoring of the technical components involved in the processing, including the network connections.

1.2.4.5. Auditability

TIPS provides an audit trail with which it is possible to reconstruct user activities, exceptions and information security events. More in detail, the following data are collected:

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

1.2.5. Graphical user interface

TIPS offers a set of functions accessible via a dedicated Graphical User Interface (GUI) in U2A mode. Authorised users are able to access TIPS functions and data via the GUI based on their access rights profile.

The following table provides the exhaustive list of TIPS U2A functions provided through the GUI.

Each TIPS Actor may trigger all or only a subset of these functions depending on the participant type (e.g. Central Bank, TIPS Participant, etc.) and only in relation to the objects in its own data scope. These functions are available on a 24/7/365 basis.

Table 1 – TIPS U2A functions

Function	Actor
Block/Unblock Participant	CB, TIPS Operator[3]
Block/Unblock TIPS Account	CB, TIPS Operator[3]
Block/Unblock Credit Memorandum Balance	TIPS Participant, Instructing Party[4], CB, TIPS Operator
Adjust Credit Memorandum Balance Limit	TIPS Participant, Instructing Party[5], CB, TIPS Operator
Query Account Balances and Status	TIPS Participant, Instructing Party, CB, TIPS Operator
Query CMB Limit and Status	TIPS Participant, Instructing Party, CB, TIPS Operator
Initiate Outbound Liquidity Transfer	TIPS Participant, Instructing Party[6], CB, TIPS Operator

The TIPS User Handbook (see TARGET Instant Payment Settlement User Handbook) provides exhaustive information on each of the screens listed above, including the type of actors authorised to trigger the corresponding functionality.

1.3. TIPS Actors and account structure

1.3.1. Parties and TIPS Actors

Entities that interact with the TIPS service are generally known as TIPS Actors. The TIPS participation model envisions different types of Actors, with different roles and responsibilities, as outlined in section 1.3.1.2. “Concept of party in TIPS” TIPS Actors are defined as different entities in the Common Reference Data Management service.

[3] TIPS Operator can block TIPS Participants and TIPS Accounts in contingency and upon request of the responsible Central Bank.

[4] An Instructing Party acting on behalf of a TIPS Participant may block/unblock CMBs owned by the relevant TIPS Participant, unless restricted via access rights.

[5] An Instructing Party acting on behalf of a TIPS Participant may adjust the limit of the CMBs owned by the relevant TIPS Participant, unless restricted via access rights.

[6] An Instructing Party acting on behalf of a TIPS Participant may be authorised to instruct Liquidity Transfers.

This section provides a detailed description of all the reference data CRDM stores and TIPS uses for all TIPS Actors. More in detail, section 1.3.1.1 identifies the reference data related to the setup of actors for TIPS and it provides detailed information as to who is responsible for the setup of these reference data. Section 1.3.1.2 defines the concept of party in the CRDM service and the way this concept relates with the different types of legal entities that can interact with TIPS. Section 1.3.1.3 describes the so-called hierarchical party model, i.e. the organisational structure of parties in the CRDM repository. Sections 1.3.1.4 and 1.3.1.5 illustrate in detail the reference data required by TIPS for each actor, i.e. the way a party can be identified in TIPS and which attributes have to be stored for each actor.

1.3.1.1. Setup of TIPS Actors

The setup of TIPS Actors takes place in the Common Reference Data Management service.

The TIPS Operator is responsible for setting up and maintaining party reference data for all Central Banks in TIPS. Central Banks are responsible for setting up and maintaining party reference data for the parties of their national community. In addition, each party can set up data for their individual Instructing Parties.

The following table summarises, for each reference data object related to the setup of TIPS Actors, the Actor responsible for its configuration and it specifies which mode the Actor can use for the configuration.

Table 2 – Setup of Parties for TIPS

Reference Data Object	Responsible Actor	Mode
Party (CB)	TIPS Operator	U2A
Party (Participant)	Central Bank	A2A/U2A
Party (Reachable Party)	Central Bank	A2A/U2A
Instructing Party	TIPS Participant, Reachable Party	U2A

1.3.1.2. Concept of party in TIPS

Any TIPS Actor, meaning any legal entity or organisation participating in and interacting with TIPS either directly or indirectly (i.e. through an Instructing Party), is defined as an entity in the Common Reference Data Management (CRDM) repository. Depending on their role in TIPS, TIPS Actors may be defined as a Party (or several parties, as explained later in this section) in CRDM. Each party belongs to one of the following party types:

- TIPS Operator
- Central Bank
- Participant
- Reachable Party

In addition, a TIPS Actor may act as an Instructing Party, which does not involve the definition of a specific Party.

The **TIPS Operator** is the legal and organisational entity that operates TIPS. They are responsible for the initial setup and day-to-day operations of TIPS and act as single point of contact for Central Banks and directly connected TIPS Actors[7]. They are responsible for monitoring the system and carrying out corrective actions in case of incidents or in the event of service unavailability. The TIPS Operator is also responsible for setting up and maintaining Central Banks reference data in the Common Reference Data Management repository and, if required, they may operate on behalf of any TIPS Actor, upon request of the respective Central Bank. They have full access to all live and all archived reference data and transactional data in TIPS.

Central Banks are responsible for setting up and maintaining reference data in the Common Reference Data Management repository for all the TIPS Actors belonging to their community. Central Banks can also act as Participants (see below) themselves. In addition and as far as the submission of liquidity transfers or the maintenance of reference data are concerned, they can act on behalf of one of their Actors in case of need. The European Central Bank owns and manages a single Transit Account (see section 1.3.2.2 "Transit accounts") in euro that must exist in TIPS, in order to allow the transfer of liquidity from TARGET2 to TIPS and vice versa. With the same purpose, for each other settlement currency in TIPS, the relevant non-euro Central Bank shall define a single Transit Account for their currency.

Participants represent entities that hold one or more than one TIPS Accounts. They are identified by a BIC11 and they receive liquidity on their TIPS Accounts by means of Liquidity Transfers from the relevant RTGS system. In this respect, TIPS Participants do not necessarily own a TARGET2 PM account; therefore, a TIPS Participant may receive liquidity in TIPS from another TARGET2 Participant. TIPS Participants can setup and maintain CMBs (see section 1.3.2.3 "Credit Memorandum Balance") linked to their own accounts as well as configuring Instructing Party (see below) roles for themselves or for their Reachable Parties (see below). In addition, they define the access rights configuration of said Instructing Parties. They can also act as Instructing Parties as by definition they are able to specify DNs with the prerogatives of an Instructing Party for what concerns their own accounts (for details, see section 1.3.1.5 below).

Reachable Parties are also identified by a BIC11, but they do not hold TIPS Accounts and have to rely on a Participant's account to settle payments in TIPS. They can also act as Instructing Parties, which allows them to interact directly with TIPS.

The role of **Instructing Party** allows an Actor to send (or receive) Instant Payments to (or from) TIPS. Instructing Parties are not defined as Parties, but as Distinguished Names that Participants and Reachable Parties can define and authorize to act on their behalf. This allows third parties, not necessarily TIPS Participants or a Reachable Parties, to act as Instructing Parties on behalf of other Participants or Reachable Parties, taking on a subset or the whole set of functionalities that are

[7] TIPS Actors different from Central Banks may contact the Service Desk only for connectivity-related incidents.

available to the Participant or Reachable Party granted them in terms of access rights. Participants and Reachable Parties can act as Instructing Parties as well.

Each legal entity may play different roles in TIPS. Generally speaking, any legal entity playing multiple business roles in TIPS results in the definition of multiple parties.

For example, a Central Bank willing to make use of TIPS also for the settlement of Instant Payments, needs to be defined as two parties, one Central Bank party and one TIPS Participant party.

Similarly, a financial institution holding two accounts within the books of two different Central Banks, would be defined as two different Participant parties, each of them belonging to one of the two Central Banks.

1.3.1.3. Hierarchical party model

The party model of TIPS is based on a hierarchical three-level structure. The TIPS Operator is the only party on the top level of the hierarchy and it is responsible for the setup of each party of the second level, i.e. each Central Bank in TIPS. Similarly, each party belonging to the second level (i.e. a Central Bank) is responsible for the setup of all parties of its community (i.e. Participants and Reachable Parties), represented by parties of the third level. Instructing Parties are not part of the hierarchical party model, because as described in the previous section, they are not a type of party in TIPS, but rather a role that allows an Actor (a TIPS Participant, a Reachable Party or a third party not participating in TIPS) to instruct for a given party in TIPS.

The hierarchical model also determines the so-called reference data scope, i.e. the area of responsibility of each Central Bank and of the TIPS Operator. More into detail:

- The reference data scope of a Central Bank includes its reference data, plus the reference data of all its parties;
- The reference data scope of the TIPS Operator includes all the remaining reference data, i.e. all the reference data not included in the data scope of any Central Bank (e.g. countries and currencies reference data).

Each Central Bank and the TIPS Operator are responsible for their own reference data scopes, i.e. each of them is responsible for the input and maintenance of all information included in its reference data scope. The TIPS Operator may also act, upon request, on the reference data scope of a Central Bank.

1.3.1.4. Party identification

Each legal entity is identified in the financial market by a BIC (Business Identifier Code), according to the ISO 9362 standard. As previously described, each legal entity or organisation may result in the definition of multiple parties in the Common Reference Data Management repository. This implies that the usage of BIC is not enough to ensure uniqueness in the identification of parties, as these parties may be related to the same legal entity and, consequently, they may have been assigned the same BIC. For this reason, the CRDM service requires two BICs to identify each party. More precisely, the

CRDM service identifies each party with the BIC of the party itself and the BIC of the party with which it has established a business relation. Therefore:

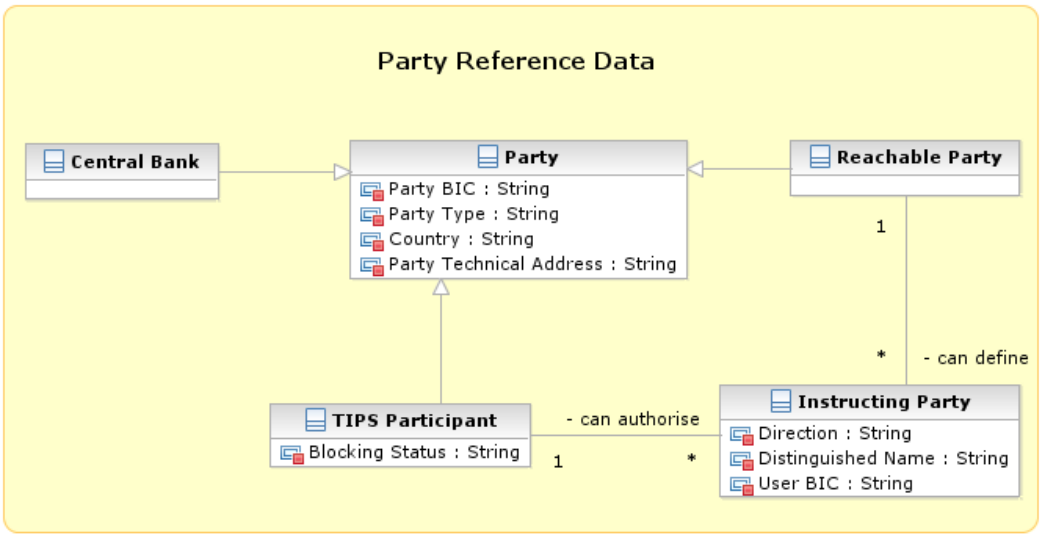
- Each Participant and Reachable Party is identified by the 11-character BIC of its Central Bank plus its own 11-character BIC;
- Each Central Bank is identified by the 11-character BIC of the TIPS Operator plus its own 11-character BIC.

TIPS imposes a constraint in the assignment of BICs related to its parties, due to the fact that the settlement process must be able to infer the accounts to be debited and credited by an Instant Payment transaction based on the BICs of the Originator Participant and of the Beneficiary Participant (see also section 2.2). This circumstance implies the need to ensure that any given BIC can only be assigned to one TIPS party and that two different TIPS parties must have assigned two different BICs. For this reason, the CRDM service prevents allowing two different parties to be defined as TIPS parties if they are identified by the same 11-character BIC (this may happen, for example, when one financial institution is defined two times as a party by two different Central Banks). Therefore, in order to allow a given financial institution to be defined as two different TIPS parties (by the same Central Bank or by two different Central Banks), the same financial institution must be defined in the CRDM repository as two parties identified by two different 11-character BICs.

1.3.1.5. Reference data for parties in TIPS

The following diagram shows the conceptual data model for party reference data in TIPS. All related entities, attributes and relationships between different entities are described in detail in the rest of this section.

Figure 3 – Party reference data model



The following table shows the exhaustive list of Party reference data attributes that TIPS receives from the Common Reference Data Management service and stores in its Local Reference Data Management (LRDM) repository.

Table 3 – Party reference data

Attribute	Description
Party BIC	11-character Business Identifier Code (BIC11) to uniquely identify the party in TIPS.
Party Type	Type of party. The exhaustive list of party types is as follows: • TIPS Operator • Central Bank • Participant • Reachable Party
Country	Country code of the Central Bank the party belongs to.
Party Technical Address	Distinguished Name defined for the receipt of messages relevant for the Party as account owner, such as reports and floor/ceiling notifications.
Blocking Status	Blocking status for the Party, only relevant for TIPS Participants. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.

All other party reference data are stored in the Common Reference Data Management repository, as they are not needed for settlement in TIPS.

Each Participant party is linked to one or many TIPS Accounts (see section 1.3.2.1), as account owner. Each Central Bank party may be linked to one and only one Transit Account (see section 1.3.2.2), as account owner of the Transit Account for a given currency.

The following table shows the exhaustive list of Instructing Party reference data attributes that TIPS receives from the Common Reference Data Management service and stores in its Local Reference Data Management repository.

Table 4 – Instructing Party reference data

Attribute	Description
Direction	It specifies whether the link between the DN and the BIC authorises the Instructing Party to act as Originator Participant (inbound routing) or as Beneficiary Participant (outbound routing). The exhaustive list of possible values is as follows: • Inbound • Outbound
Distinguished Name	When Direction is “Inbound”, it specifies the DN the Instructing Party

Attribute	Description
	uses to send messages to TIPS. When Direction is “Outbound”, it specifies the DN TIPS uses to send messages to the Instructing Party.
User BIC	This field is only relevant for cases where a DN is acting on behalf of a specific BIC, such as in instant payments. When Direction is “Inbound”, it specifies the BIC the Instructing Party uses as Originator in the payment messages sent to TIPS. When Direction is “Outbound”, it specifies the BIC TIPS uses in the payment messages sent to the Instructing Party as Beneficiary.

For inbound routing purpose, one Distinguished Name may be linked to many Parties and, optionally, many Originator BICs, which means the same entity may play the Instructing Party role for many Participants and Reachable Parties, possibly for many Originator BICs within the same Participant or Reachable Party. Conversely, one Party may be linked to many Distinguished Names, potentially specifying many Originator BICs, which means one Participant or Reachable Party may authorise many entities to play the Instructing Party role, for one or many of their BICs. Such a scenario may be used in case a TIPS Participant needs to instruct its own accounts and, at the same time, give a third party the possibility to instruct on its behalf on the same accounts.

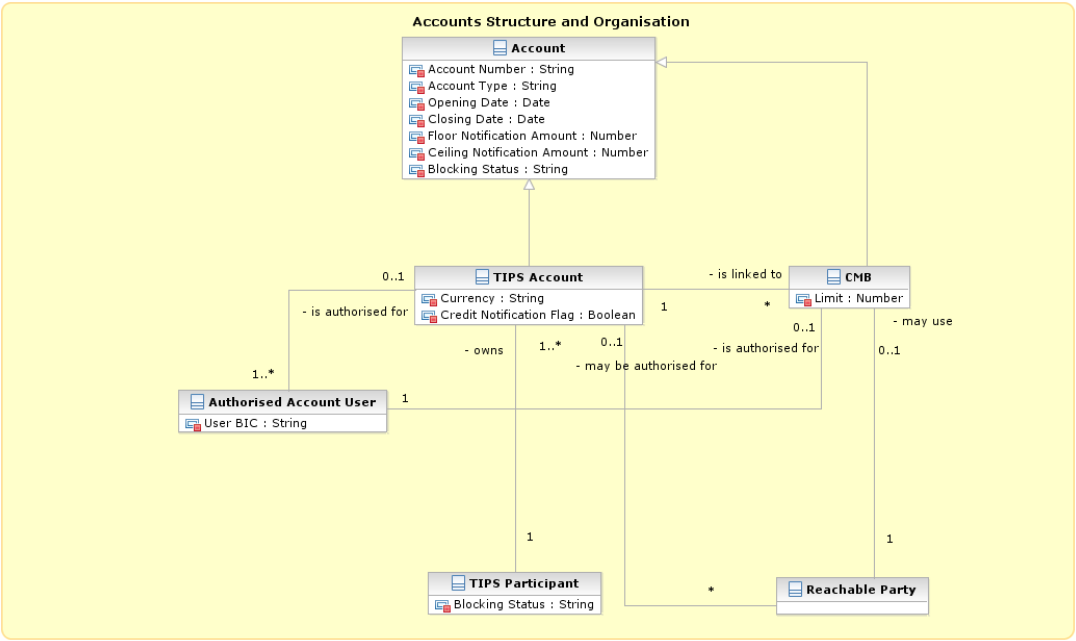
For outbound routing purpose, any given Beneficiary BIC may be linked to one and only one Distinguished Name, which means each Participant and Reachable Party must authorise one and only one entity to play the Instructing Party role on the Beneficiary side. Conversely, one Distinguished Name may be linked to many Beneficiary BICs, which means one entity may play the Instructing Party role for many Participants and Reachable Parties.

The relationships between DNs and Originator/Beneficiary BICs are defined in the DN-BIC Routing table within CRDM. One Instructing Party may act both as Originator and Beneficiary, possibly using the same Distinguished Name for both directions (Inbound and Outbound).

1.3.2. Accounts structure and organisation

Accounts are opened in TIPS for the provision of liquidity and the settlement of Instant Payment transactions. The following diagram shows the conceptual data model for account reference data in TIPS. This section provides a detailed description of all the reference data CRDM stores and TIPS uses for all its accounts.

Figure 4 – Account structure and organisation



The TIPS Operator and Central Banks input and maintain in the Common Reference Data Management repository the following categories of accounts, depending on their role:

- TIPS Accounts
- Transit Account

Furthermore, TIPS Participants may define Credit Memorandum Balances (CMBs) linked to their TIPS Accounts, in order to define payment capacity limits for their Reachable Parties.

The following three sections define the above mentioned reference data objects, whereas section 1.3.2.4 provides a detailed description of the reference data required by TIPS for the same reference data objects.

1.3.2.1. TIPS accounts

TIPS Accounts are accounts that Participants use for the settlement of Instant Payments and Liquidity Transfers. They cannot have a negative balance.

Each Participant may own one or many TIPS Accounts and they may use them for their settlement activities or to give the possibility to settle to Reachable Parties or other Participants as well as authorising several BICs to use the account for settlement. The Participant that holds the TIPS Account, in any case, remains the owner and legal responsible for the TIPS Account itself.

Central Banks create TIPS Accounts for their Participants.

1.3.2.2. Transit accounts

Transit Accounts in TIPS are accounts that belong to Central Banks which may have either zero or negative balance as they reflect any movement of liquidity from/to the RTGS. The transit accounts are

technical accounts involved in the liquidity transfer process. They cannot be involved in the settlement of Instant Payment transactions. Only one Transit Account per settlement currency can exist in TIPS. The Transit Account for euro belongs to the European Central Bank. The TIPS Operator creates Transit Accounts for the Central Banks.

1.3.2.3. Credit Memorandum Balance

A Credit Memorandum Balance (CMB) represents a limit, e.g. defined for a Reachable Party, in the usage of the liquidity of a given TIPS Account. As such, each CMB is linked to exactly one TIPS Account, but each TIPS Account may have any number of CMBs, each CMB representing a credit line for a Reachable Party in TIPS.

TIPS Participants create CMBs for their TIPS Accounts, on an optional basis.

CMBs offer the possibility to define limit management flexibly on a TIPS Account, without dedicating liquidity exclusively for each single customer. Specifically, the sum of all CMB limits on a TIPS Account may be higher than the balance of the same Account at any time.

When defining a CMB, it is possible to specify a limit, which may be initially set to zero. In this case, the related user cannot make use of the payment capacity of the TIPS Account linked to the CMB until either (i) the limit is set by the TIPS Participant to a value greater than zero or (ii) the CMB starts receiving Instant Payments in credit.

Additionally, the TIPS Participant may create an unlimited CMB. In this case, the related user can make use of the full payment capacity of the TIPS Account linked to the CMB.

1.3.2.4. Reference data for accounts and CMBs in TIPS

The following table shows the exhaustive list of Account reference data attributes that TIPS receives from the Common Reference Data Management service and stores in its Local Reference Data Management repository.

Table 5 – Account reference data

Attribute	Description
Account Number	It specifies the unique number of the account.
Account Type	Type of account. The exhaustive list of account types is as follows: • TIPS account • Transit account
Currency	It specifies the currency of the account.
Opening Date	Opening date of the account.
Closing Date	Closing date of the account.

Attribute	Description
Floor Notification Amount	It specifies the lower threshold for notifying the account owner. When equal to zero, the notification is not produced.
Ceiling Notification Amount	It specifies the upper threshold for notifying the account owner. When equal to zero, the notification is not produced.
Credit Notification Flag	Boolean attribute specifying whether the account owner must receive a credit notification after the settlement of any inbound Liquidity Transfer from the relevant RTGS system.
Blocking Status	Blocking status for the TIPS account. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.

All other account reference data are stored in the Common Reference Data Management repository, as they are not needed for settlement in TIPS.

Each TIPS Account is linked to one and only one Participant (i.e. the account owner); similarly, each Transit Account is linked to one and only one Central Bank (the European Central Bank for the euro Transit Account, the relevant Central Bank for any other settlement currency).

Furthermore, each TIPS Account may be linked to one or many CMBs and to one or many Authorised Account Users (see Table 7 below).

The following table shows the exhaustive list of CMB reference data attributes that TIPS receives from the Common Reference Data Management service and stores in its Local Reference Data Management repository.

Table 6 – CMB reference data

Attribute	Description
CMB Number	It specifies the unique number of the CMB.
Opening Date	Opening date of the CMB.
Closing Date	Closing date of the CMB.
Floor Notification Amount	It specifies the lower threshold of the CMB headroom (see section 1.4) for notifying the owner of the account which the CMB is linked to. When equal to zero, the notification is not produced.
Ceiling Notification Amount	It specifies the upper threshold of the CMB headroom for notifying the owner of the account which the CMB is linked to. When ~~0~~equal to zero, the notification is not produced.

Attribute	Description
Limit	It specifies the limit amount for the CMB.
Blocking Status	Blocking status for the CMB. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.

All other CMB reference data are stored in the Common Reference Data Management repository, as they are not needed for settlement in TIPS.

Each CMB is linked to one and only one TIPS Account.

The following table shows the exhaustive list of Authorised Account User reference data attributes that TIPS receives from the Common Reference Data Management service and stores in its Local Reference Data Management repository. Each Authorised Account User specifies a BIC which is allowed to use the related TIPS Account or CMB for settlement.

Table 7 – Authorised Account User reference data

Attribute	Description
User BIC	BIC authorised for settling on the account or CMB.

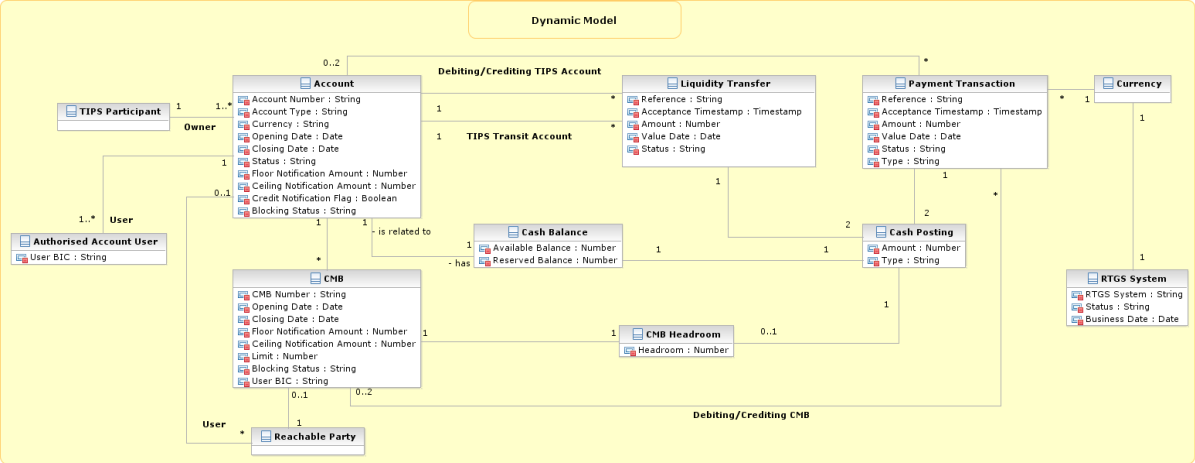
All other Authorised Account User reference data are stored in the Common Reference Data Management repository, as they are not needed for settlement in TIPS.

Each Authorised Account User can be linked to one and only one TIPS Account or CMB; each CMB can have no more than one Authorised Account User, while TIPS Accounts may have any number.

1.4. Dynamic data model

This section describes the dynamic data model of TIPS. It contains all the data concerning settlement-related messages (i.e. Instant Payment transactions and Liquidity Transfers), such as transaction data, account balances and CMB headrooms. Furthermore, it also includes dynamic data related to local reference data objects, e.g. the blocking status of parties, accounts and CMBs, limit values. Finally, it also encompasses dynamic data concerning the different RTGS systems connected to TIPS (e.g. current status and business date).

Figure 5 – Dynamic data model



1.4.1. Payment Transaction

This entity represents data related to TIPS Instant Payment transactions, recorded from SCT^{Inst} messages covering the request of settlement and the settlement confirmation.

Table 8 – Payment Transaction data

Attribute	Description
Reference	The Originator Bank's reference number of the SCT^{Inst} Transaction message.
Acceptance Timestamp	Timestamp of the SCT^{Inst} Transaction
Amount	Amount intended to be settled by the transaction
Currency	The currency relevant for the transaction
Crediting Account	TIPS Account to be credited
Crediting Account Status	Blocking status for the TIPS account to be credited. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.
Crediting CMB	CMB to be credited
Crediting CMB Status	Blocking status for the CMB to be credited. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked

Attribute	Description
Debiting Account	TIPS Account to be debited.
Debiting Account Status	Blocking status for the TIPS account to be debited. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.
Debiting CMB	CMB to be debited.
Debiting CMB Status	Blocking status for the CMB to be debited. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.
Status	Status of the transaction. Exhaustive list of possible values: - Received - Validated - Reserved - Settled - Failed - Rejected - Expired
Type	Type of the underlying payment transaction. Exhaustive list of possible values: - Instant Payment - Positive recall answer
Value Date	Transaction settlement date in accordance to the related RTGS System.

Each Instant Payment transaction creates two Cash Postings related to the impacted Accounts or CMBs.

1.4.2. Liquidity Transfer

This entity represents data related to liquidity transfers submitted by TIPS Actors or received from the relevant RTGS System. Liquidity Transfer data includes the following attributes.

Table 9 – Liquidity Transfer data

Attribute	Description
Reference	Reference number of the liquidity transfer.
Acceptance Timestamp	Timestamp assigned to the liquidity transfer when received by TIPS.
Amount	Amount intended to be transferred.
Currency	The currency relevant for the liquidity transfer.
Crediting Account	TIPS account or RTGS account to be credited.
Crediting Account Status	Blocking status for the TIPS account to be credited for inbound liquidity transfer. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.
Debiting Account	TIPS account or RTGS account to be debited.
Debiting Account Status	Blocking status for the TIPS account to be debited for outbound liquidity transfer. Exhaustive list of possible values: - Blocked for credit; - Blocked for debit; - Blocked for credit and debit; - Unblocked.
Status	Status of the liquidity transfer. Exhaustive list of possible values: - Received - Validated - Settled - Failed - Rejected by RTGS - Transient
Value Date	Liquidity transfer settlement date in accordance to the related RTGS System.

Each Liquidity Transfer references a credited and a debited Account.

1.4.3. Cash Posting

Cash Postings are created for each Payment transaction or Liquidity Transfer that results in a reserved or settled amount on a TIPS Account. Cash Posting data includes the following attributes.

Table 10 – Cash Posting data

Attribute	Description
Amount	Amount reserved or settled by the transaction or liquidity transfer.
Type	Specifies the origin of the Cash Posting. Exhaustive list of possible values: - Payment transaction - Liquidity Transfer

Each Cash Posting is linked to a single Payment transaction or Liquidity Transfer, as well as a single Cash Balance. In addition, a Cash Posting can reference up to one CMB.

1.4.4. Cash Balance

A Cash Balance is created for each TIPS Account and modified each time a Payment Transaction or Liquidity Transfer results in a reserved or settled amount. Cash Balance data includes the following attributes.

Table 11 – Cash Balance data

Attribute	Description
Available Balance	Current balance available for settlement on the TIPS account
Reserved Balance	Balance that has been temporarily reserved on the TIPS account while the related Instant Payment transactions are executed.

Each Cash Balance is linked to a single TIPS account as well as a single Cash Posting.

1.4.5. CMB Headroom

TIPS keeps track of the utilisation and available headroom for each CMB for which a limit is defined. Whenever an Instant Payment transaction is settled against a given Originator or Beneficiary CMB, TIPS debits/credits the linked TIPS Account and decreases/increases the relevant CMB Headroom accordingly at the same time. If the amount of an Instant Payment transaction would exceed the current CMB Headroom to be debited, then it is rejected.

For unlimited CMBs, the headroom must always be considered infinite and, conversely, the utilisation always zero.

A CMB Headroom is created for each CMB and modified each time an Instant Payment transaction impacting the CMB is processed or the CMB limit is adjusted. CMB Headroom data includes the following attributes:

Table 12 – CMB Headroom data

Attribute	Description
CMB Headroom	Current value of the limit available for settlement on the related CMB.

Each CMB Headroom is linked to a single CMB as well as a single Cash Posting.

1.4.6. RTGS Systems

TIPS maintains information about the RTGS systems that interact with it, along with the respective currency, status (i.e. whether they are open and ready to receive liquidity transfers or not), distinguished name and business date. The distinguished name of the RTGS system is recognised as a dedicated RTGS System user authorised to send any messages or queries to TIPS (e.g. to manage the transfer of liquidity from the RTGS to TIPS and to query the balances of the TIPS accounts linked to the RTGS account).

The status and the business date are updated automatically upon receiving a ReturnBusinessDayInformation message from the relevant RTGS system and can be modified manually by the TIPS Operator in contingency situations. RTGS System data includes the following attributes.

Table 13 – RTGS systems data

Attribute	Description
RTGS system	Identifier of the RTGS system interacting with TIPS.
RTGS Currency	Settlement currency of the related RTGS.
RTGS Status	Current status of the related RTGS. Possible values: - Open - Closed
Business Date	Current business date of the RTGS System.
Distinguished Name	DN of the RTGS System

1.5. TIPS Features

1.5.1. General concepts

TIPS processes instructions continuously during the day, on a 24/7/365 basis without any scheduled service downtime. In this context, the term “instructions” refers not only to Instant Payments or Liquidity Transfers, but also to local reference data updates and any other type of request that leads to the update of reference or dynamic data in TIPS.

All these types of instructions are processed in a strictly ordered sequence as part of the same input flow, so that a single sequence of instructions leads deterministically to a single possible status.

For example, TIPS may receive an Instant Payment transaction that attempts to debit an account and a concurrent request to block the same account for debiting. If TIPS receives the ordered sequence where the debiting precedes the blocking, the Instant Payment transaction will be processed before the account is blocked. If, conversely, TIPS receives the ordered sequence where the account blocking is executed prior to the Instant Payment transaction, the account will be blocked whereas the transaction will be rejected.

The possible types of instructions processed by TIPS are listed below:

- Instant Payment transactions for the settlement of cash on a TIPS account
- Beneficiary replies to confirm or reject an Instant Payment transaction on the beneficiary side
- Recall instructions to request a refund from the Beneficiary Participant for previously settled Instant Payment transactions
- Recall answers from the Beneficiary Participant for either the refund or the rejection in response to a recall instruction
- Liquidity transfers to instruct the transfer of liquidity between TIPS and an RTGS System
- Reference data maintenance instructions to modify TIPS local reference data.

Local reference data maintenance within TIPS is limited to the following set of operations that can be performed at any point in time (i.e. 24/7/365) with immediate effect:

- Blocking/unblocking of a TIPS Participant;
- Blocking/unblocking of an account or CMB;
- Update of a CMB limit.

All other reference data setup and maintenance operations are performed in the CRDM; reference data are then propagated from the CRDM to TIPS asynchronously, on a daily basis (as described in ~~chapter~~ section 1.6.3).

TIPS also offers querying and reporting functionalities.

Data included in reports depends on the access rights profile of the subscribing TIPS Actor and is based on periodical snapshots taken at specific points in time in TIPS. TIPS offers two types of reports:

- Statement of Account Turnover;
- Statement of Accounts.

TIPS Actors can subscribe for the types of reports they want to receive.

For the Statement of Accounts the TIPS Actors can also configure whether they want to receive it in full mode (complete set of data) or in delta mode (including only the data produced since the last generation of the same type of report for the same actor) along with the frequency they want to receive it at each day.

TIPS triggers the production of full reports when the relevant RTGS System notifies TIPS about the end of the current business day. In addition, delta reports can be scheduled to be produced and sent at regular intervals corresponding to the moments when snapshots are taken (every number of hours, e.g. every 3 hours, every 6 hours, etc.). When subscribing for a report in Delta mode, the end of the business day of the relevant RTGS System triggers in any case a last report generation for the business day which contains all the data remaining between the trigger itself and the last Delta report produced for the interested Actor.

In addition, upon notification from an RTGS System that a new business date has been reached, TIPS provides the same RTGS System with data on the business day that just elapsed and that the RTGS System uses to build and provide General Ledgers to the Central Banks.

Queries are available in both U2A and A2A mode, on a 24/7/365 basis, and allow users to access data in real time. TIPS provides two types of queries:

- Account balance and status query;
- CMB limit and status query.

The following subsections go in depth on the aforementioned features.

1.5.2. Settlement of Instant Payment transactions

TIPS supports the different process flows foreseen in the SCT^{Inst} scheme, i.e. Instant Payments, recalls and investigations.

The table below contains an overview of the types of instructions TIPS Actors can exchange with TIPS for payment purposes.

Table 14 – TIPS Payment transaction types

Instruction Type	Description
Instant Payment transaction	Forwarded from an Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party to TIPS to instruct the settlement of cash on a TIPS Account. It is also forwarded by TIPS to the intended Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party to request confirmation for the settlement.

Instruction Type	Description
Beneficiary Reply	Forwarded from a Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party to TIPS as response to an Instant Payment transaction. It contains the Beneficiary Participant's positive or negative response. It is also forwarded by TIPS back to both (i) the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party and (ii) Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party as confirmation that settlement has been performed or ended in error.
Recall	Sent by an Originator Participant of a previously settled Instant Payment transaction to request that the given transaction is refunded and a refunded amount – equal or possibly lower than the original one – is credited back to the original account. It is submitted by the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party to TIPS and, after successful validation, it is forwarded by TIPS to the relevant Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party.
Recall Answer	Sent by a Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party to TIPS as either a positive response to refund the cash, reversing the effect of the original Instant Payment transaction, or a negative response to a Recall instruction. In both cases, after successful validation, it is forwarded by TIPS to the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party as confirmation.
Investigation	The investigation is sent by the Originator Participant or Instructing Party acting on behalf of the Originator Participant or Reachable Party to TIPS in order to retrieve the last generated payment transaction status advice.

1.5.2.1. Instant Payment transaction settlement process

An Instant Payment transaction is initiated by an Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party, e.g. a TIPS Participant, requesting to debit one of their TIPS accounts and to credit the TIPS account of a Beneficiary Participant. The perimeter of TIPS is limited to the interactions with these participants, which represent financial institutions or parties acting on their behalf. The communication between the actual Originator and Beneficiary of a payment (i.e. the individuals or institutions transferring funds between each other, which may be

customers of the Originator/Beneficiary Participants) is out of the TIPS scope and handled by each participant independently.

In the following description, for the sake of readability, the expression “Originator side” means “the Originator Participant or an Instructing Party acting on behalf of the Originator Participant or a Reachable Party“ and “Beneficiary side” means “Beneficiary Participant or an Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party”.

TIPS keeps track of the cash balance for each TIPS Account. The settlement process begins with an Instant Payment transaction message submitted by the Originator side to TIPS. TIPS validates the message and, if no errors are detected and sufficient funds are available, reserves the amount to be debited on the Originator side’s account by creating a related cash posting. TIPS thereafter forwards the Instant Payment transaction to the Beneficiary side. While the cash amount is reserved, it cannot be used for settlement in a different payment or liquidity transfer; in addition, if either (i) the account owner or (ii) the account is blocked after the reservation and before the payment can be settled, the reserved amount is still eligible for settlement.

The Beneficiary side shall respond to TIPS with a beneficiary reply, either confirming or rejecting the payment. Upon receiving this reply, TIPS will respectively settle or release the reserved amount, removing the cash posting and updating the cash balances of the Originator and Beneficiary Participant accounts. Subsequently, TIPS will forward a status advice to both the Originator and Beneficiary sides. Payments are always settled for the full amount; partial settlement is not foreseen in TIPS.

If TIPS does not receive a reply from the Beneficiary Participant within a standard, configurable timeout period, the reserved amount is automatically released and can then be once again used for settlement. In the aforementioned scenario, TIPS sends a negative status report to both the Originator and Beneficiary sides and removes the relating cash posting.

Instant Payment transactions that involve CMBs are handled similarly to the above description. A CMB Headroom is created for each CMB in TIPS, and it is always kept equal to the CMB limit minus the current limit utilisation. A CMB can also be unlimited; in this case the related user can make use of the full payment capacity of the TIPS Account linked to the CMB, the headroom in considered infinite and the utilisation always zero.

When an Instant Payment transaction involving one or two CMBs with limit is settled, in addition to updating the cash balances for the involved accounts, the headroom and the limit utilisation of the related CMBs are also modified. For the unlimited CMBs, the headroom remains unlimited and the utilisation remains zero.

The limit of a CMB can never be set to a negative value, although the headroom and utilisation can go negative.

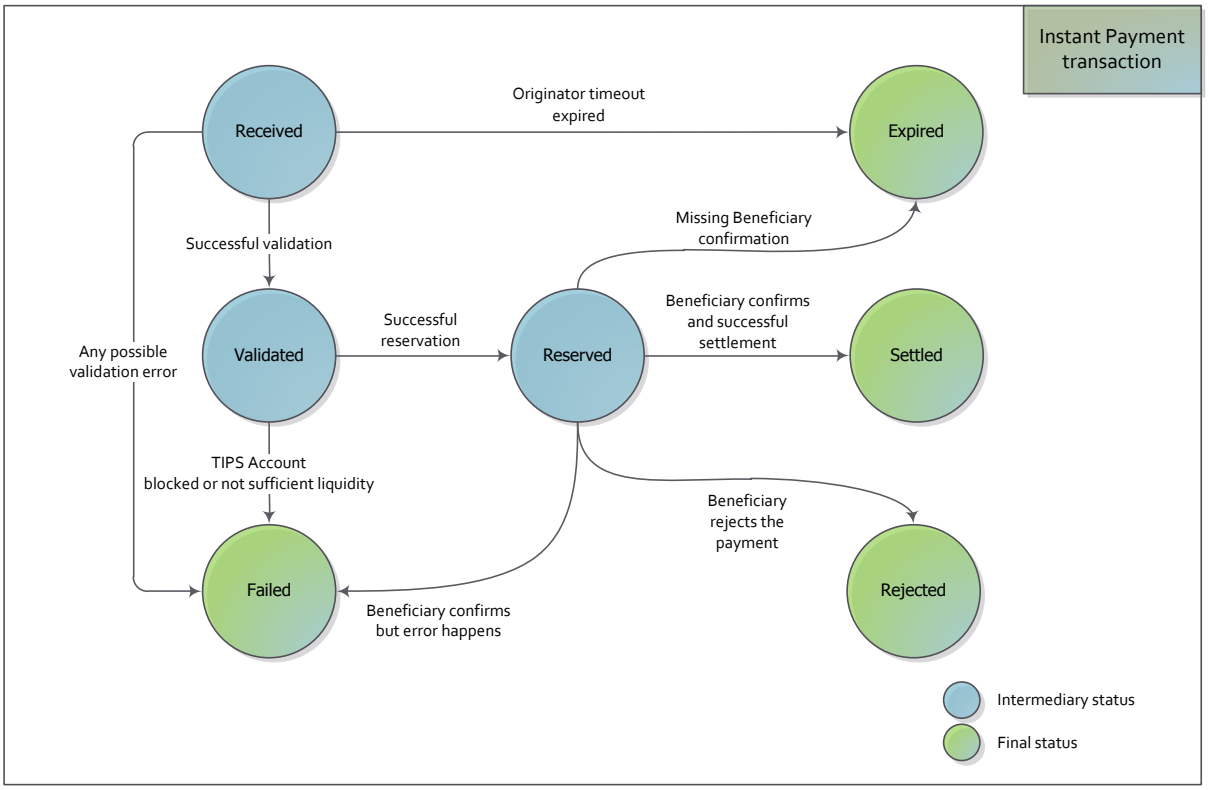
The utilisation can become negative when the headroom to exceed the limit as a result of crediting payments or liquidity transfers.

The headroom can become negative as a result of a CMB limit decrease, since when updating the limit the headroom and utilisation are updated accordingly. When the headroom becomes negative,

the CMB only accepts instant payments and liquidity transfers in credit until the headroom once again goes over zero.

The following diagram shows the possible statuses of an Instant Payment transaction.

Figure 6 – Payment Transaction status transition diagram



An Instant Payment transaction entering the system for the first time is temporarily in *Received* status while it undergoes the TIPS validations. While in this status, it is already possible for an Instant Payment transaction to exceed the timeout period, leading it to the final *Expired* status from which it will no longer be submitted to settlement. This can happen when TIPS receives a message from the Originator Participant or Instructing Party that has an Acceptance Timestamp already older than the tolerable timeout; TIPS records the received message, replies with a timeout error message to the sender and saves the transaction as *Expired*.

If the Instant Payment transaction passes all validations successfully, it becomes *Validated*. At this point the actual settlement process begins with the attempt to reserve the required cash amount on the relevant debit account. If the reservation is successful, the transaction is set to *Reserved* status; if for any reason the reservation is unsuccessful (e.g. because the cash balance on the TIPS account is insufficient or the account is blocked) its status changes to *Failed*.

A *Reserved* Instant Payment transaction may subsequently change its status into one of the four final statuses, depending on the outcome of the settlement attempt:

1. If TIPS does not receive the Beneficiary side reply within the standard timeout period, the Instant Payment times out and the transaction moves to status *Expired;*
2. If the Beneficiary side rejects the Instant Payment, the transaction moves to status *Rejected;*
3. If the Beneficiary side confirms or rejects the Instant Payment but any kind of error occurs, the transaction moves to status *Failed;*
4. Finally, if the Beneficiary side confirms the Instant Payment and TIPS settles it successfully, the transaction moves to status *Settled.*

The detailed flow of the process, with the relevant steps, is described in section 2.2 – "Instant Payment transaction" and Figure 15 – Instant Payment transaction flow.

1.5.2.2. Recall settlement process

The Originator Participant or Instructing Party of a previously settled Instant Payment transaction (the Recall Assigner) can send to TIPS a specific recall message in order to request the return of funds previously settled. TIPS validates that the requestor is duly authorised to initiate the recall process and the Recall Assignee, which is the Beneficiary Participant of the original Instant Payment, can be reached via TIPS. No further validations are performed by TIPS which simply forwards the request to the intended recipient.

The Beneficiary Participant is authorised to send to TIPS a Recall Answer containing either the acceptance or the rejection of the request. The sender can be also an Instructing Party acting on behalf of the Beneficiary Participant. There is no time limit enforced in TIPS for the receiver of the Recall (i.e. the Recall Assignee) to respond; TIPS does not perform any timeout check and it is up to the Participants or Instructing Parties to adhere to specific time rules pertaining to recalls.

Once the Recall Answer is received, TIPS performs several checks using the most recent reference data; this means that changes done to the reference data affecting access rights may change the outcome of the authorisation check between processing of the recall and processing of the Recall Answer.

In case the Recall Assignee replies with a negative Recall Answer, if the checks are successful, the negative Recall Answer is immediately forwarded by TIPS to the Recall Assigner.

In case the Recall Assignee replies with a positive Recall Answer, additional processing has to be performed by TIPS. The system determines from the Originator Participant or Reachable party BIC and Beneficiary Participant or Reachable party BIC within the Recall Answer message the accounts and CMBs that TIPS has to use for settlement of the recall. In order to reverse the direction of the cash flow from the original payment transaction that is recalled, TIPS interprets the Originator Participant or Reachable Party BIC as the Beneficiary participant or Reachable party BIC for the reversed cash flow, and vice versa.

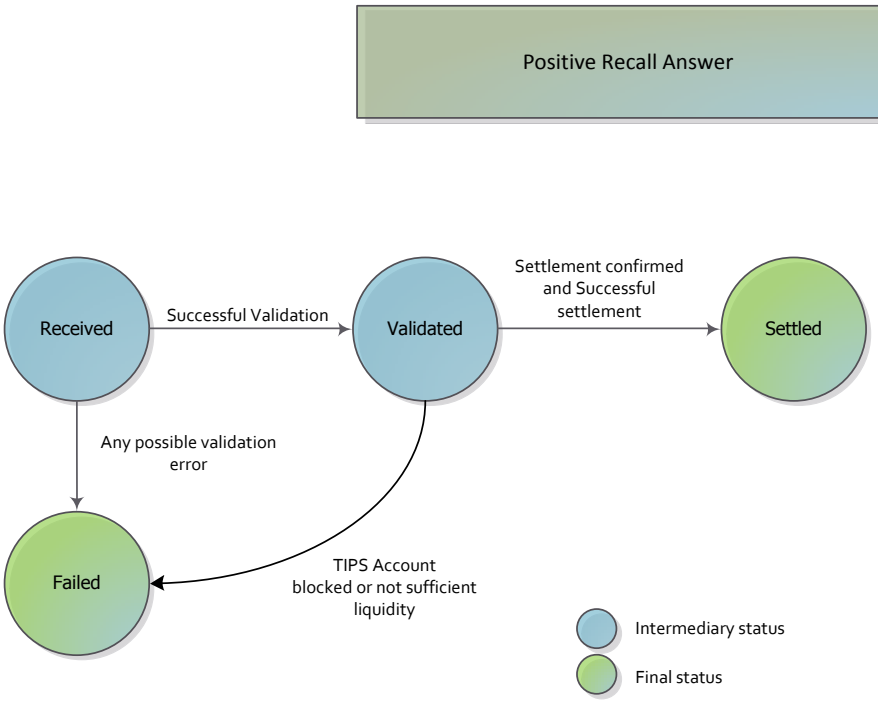
Once the above data are retrieved, TIPS determines a suitable payment transaction dataset and immediately attempts to settle the reversed cash flow using the same or a different amount (the Recall

Assignee may apply a fee for recalls). The payment process stated for the settlement of an Instant Payment transaction is for the most part applied also for payment transactions automatically generated by TIPS during the processing of a positive Recall Answer. The latter differs from processing an Instant Payment transaction only because there is no reservation of funds and their acceptance is implicitly assumed by issuing the recall in the first place.

If any check on either positive or negative Recall Answer fails or the transaction cannot be settled, e.g. due to insufficient funds on the debited account, TIPS informs the sender of the Recall Answer with a FIToFIPaymentStatusReportV03.

The following figure shows the possible statuses of a positive Recall Answer, the content of which determines the dataset of the payment transaction that should be settled in TIPS. As mentioned above TIPS acts as a channel between the Assigner and the Assignee without storing any messages data or internal statuses related to Recalls and negative Recall Answers.

Figure 7 – Positive Recall Answer status diagram



The positive Recall Answer is *Received* once technical validation and authentication checks are executed; its status skips to *Validated* just after TIPS has performed successfully the required Access Rights and Duplicate check. If the checks are not successful the status of the Recall Answer is set to *Failed*. Simultaneously TIPS sends a message to the Recall Assignee containing the proper error code. At this point the validated Recall Answer is submitted for settlement with the attempt to reverse the cash flow on the relevant debit account. If the settlement attempt is successful, the instruction is

set to *Settled* status; if for any reason the attempt is unsuccessful (e.g. because the cash balance on the TIPS account is insufficient or the account is blocked) the settlement fails and the status of the positive Recall Answer changes to *Failed*.

1.5.2.3. Investigation process

As defined in the SCT^{inst} rulebook, the investigation procedure is foreseen for exceptional situations whereby no confirmation message has reached the Originator Bank after the time-out deadline.

In line with the SCT^{Inst} scheme rulebook, TIPS supports a transaction status investigation process, which can be initiated only by Participants or Instructing Parties acting on behalf of Participants or Reachable Parties on the originator side using the transaction status inquiry message. This allows TIPS Actors to retrieve the last generated payment transaction status advice. If no payment transaction status advice is present, an error is returned.

TIPS retains information for responding to investigations for a configurable timeframe, initially set to exactly 5 calendar days (see Table 18). Furthermore, according to the SCT^{Inst} scheme rulebook, the investigation functionality will be available only after the certainty of completion of the settlement phase of a transaction, which translates into SCT^{Inst} Timestamp Timeout expiration + Investigation Offset.

The investigation functionality will be described in the section 0 “Investigation”.

1.5.3. Liquidity Management

TIPS provides liquidity management functionalities to allow the transfer of liquidity between TIPS Accounts and RTGS Accounts, in both directions. Liquidity transfers can only be performed between accounts – TIPS and RTGS – that are denominated in the same currency.

TIPS foresees two different types of Liquidity Transfer: Inbound (from an RTGS System to TIPS) and Outbound (from TIPS to an RTGS System).

All Liquidity Transfers, regardless of the type, are settled by moving the liquidity through an RTGS Transit Account. TIPS has one and only one Transit Account defined for each currency. The Central Bank responsible for the RTGS System related to a given currency is the Central Bank accountable for the Transit Account. The ECB is responsible for the Transit Account denominated in euro.

Liquidity transfers do not entail a reservation of funds, unlike Instant Payment transactions, and are settled immediately.

1.5.3.1. Inbound Liquidity Transfer

An Inbound Liquidity Transfer moves liquidity from an RTGS account to a TIPS account in the same currency. Inbound Liquidity Transfer orders can be triggered only in the RTGS System and are received by TIPS.

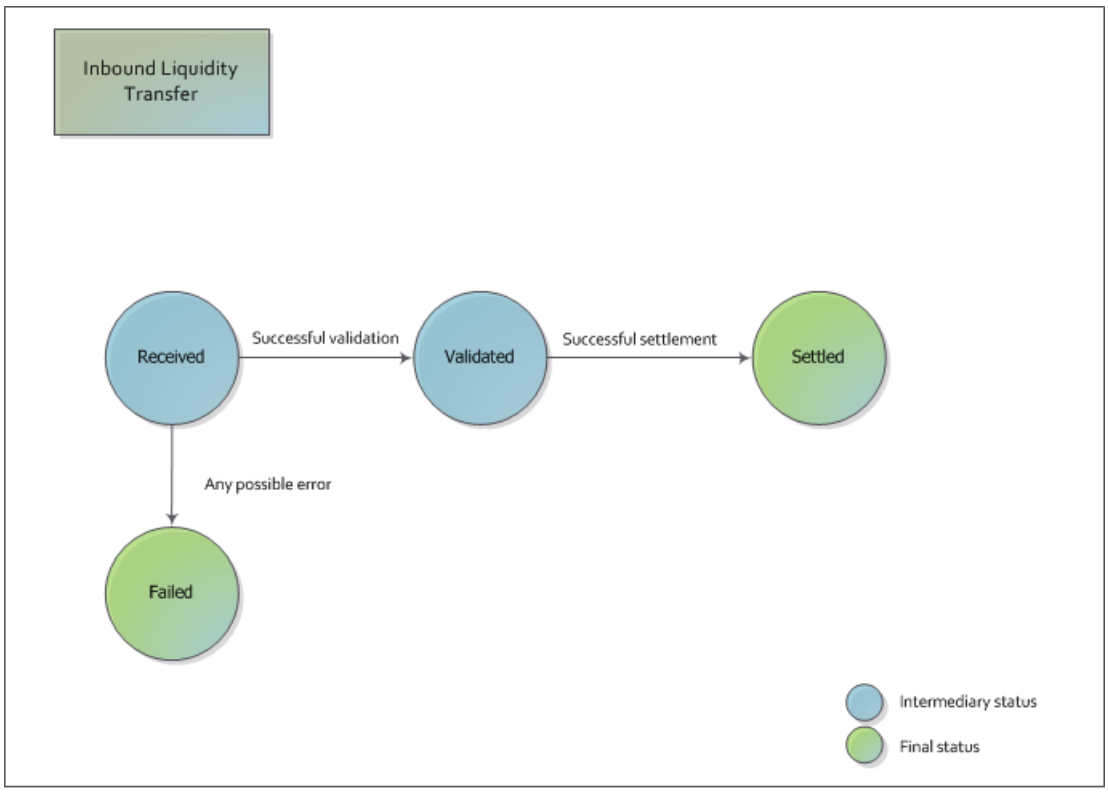
Authorised RTGS Account holders may trigger Inbound Liquidity Transfer orders in the corresponding RTGS System; the order is received, as a Liquidity Transfer message, in TIPS. A TIPS Account to be credited must be specified in the message. Originators of Inbound Liquidity Transfer orders do not

necessarily need to be TIPS Actors. For instance, any entity who owns a PM account in TARGET2 may trigger Inbound Liquidity Transfers in euro, even if it does not own an account in TIPS.

If the received message passes all the business checks successfully, TIPS transfers the requested amount from the relevant Transit Account to the TIPS Account. After settlement, TIPS informs the RTGS System and, optionally, the owner of the TIPS account about the successful settlement.

Liquidity transfer orders can have different statuses depending on the executed steps of the settlement process. The possible statuses of an Inbound Liquidity Transfer order are described in the following diagram.

Figure 8 – Inbound Liquidity Transfer status



An Inbound Liquidity Transfer order is *Received* and *Validated* by TIPS if it passes all validation checks (see Table 25 – Inbound Liquidity Transfer Order steps) successfully and the related TIPS account is not 'blocked for credit' or 'blocked for debit and credit'; otherwise its status is set to *Failed*. Subsequently, it changes to *Settled* status once TIPS settles the full amount of the order. Inbound liquidity transfers involve messages LiquidityCreditTransfer (camt.050.001.04) and Receipt (camt.025.001.04) as well as BankToCustomerDebitCreditNotification (camt.054.001.06) for credit notifications and ReturnAccount (camt.004.001.07) if the account ceiling threshold is exceeded.

Examples involving Inbound Liquidity Transfers are listed in section 2.5.1.

1.5.3.2. Outbound Liquidity Transfer

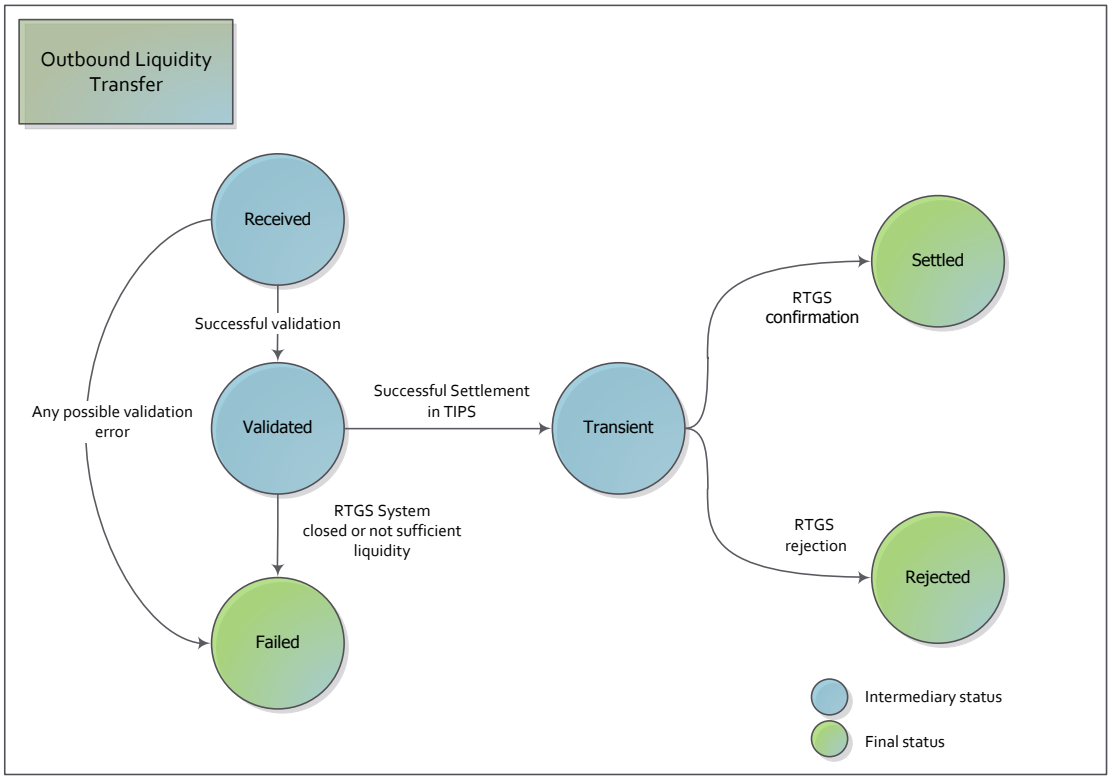
An Outbound Liquidity Transfer is used in order to repatriate liquidity from a TIPS account to the relevant RTGS System. Outbound Liquidity Transfer orders can be triggered in TIPS and are received by the relevant RTGS System. Moreover, if the corresponding RTGS system supports pull functionality, Outbound Liquidity Transfer orders could also be triggered in the RTGS system.

The process foresees that an authorised entity, e.g. a TIPS Participant, Instructing Party and Central Bank acting on behalf, triggers an Outbound Liquidity Transfer order towards the corresponding RTGS System, in the form of a Liquidity Transfer message. A target RTGS Account must be specified in the message. No reservation of funds occurs in this scenario and settlement takes place immediately.

If the Liquidity Transfer request passes all the business checks successfully, TIPS transfers the requested amount from the TIPS Account to the relevant Transit Account and informs the RTGS System. TIPS then expects the RTGS System to reply with either a confirmation or a rejection message.

The possible statuses of an Outbound Liquidity Transfer order are shown in the following diagram.

Figure 9 – Outbound Liquidity Transfer status



An Outbound Liquidity Transfer order is first *Received* and *Validated* by TIPS if it passes all validations (see Table 26 – Outbound Liquidity Transfer Order steps) successfully; otherwise its status turns into a *Failed* status. Subsequently, it changes to *Transient* status if settled correctly, when the funds are moved to the technical Transit Account denominated in the same currency of the corresponding

liquidity transfer. Conversely, if the involved TIPS Account is blocked or has insufficient funds, the Liquidity Transfer is set to *Failed*.

The business case of a Liquidity Transfer with status set to *Transient* may then reach its final status (i.e. *Settled)* upon TIPS receiving positive confirmation from the related RTGS System, or be *Rejected* if the RTGS System responds with a negative reply. If the RTGS system sends a negative reply, funds are automatically reversed from the Transit Account to the TIPS Account.

If the RTGS does not respond properly and the status is not set to *Settled* or *Rejected* within a configurable timeframe, an alert is raised to the TIPS Operator, in order to take corrective measures as explained in 2.5.2.2 “RTGS Alert scenario – No reply from RTGS”.

Outbound liquidity transfers can be performed in U2A as well as A2A mode, involving messages LiquidityCreditTransfer (camt.050.001.04) and Receipt (camt.025.001.04) as well as ReturnAccount (camt.004.001.07) if the account ceiling threshold is exceeded.

Examples involving Outbound Liquidity Transfers are listed in section 2.5.2

1.5.3.3. Reserve calculation

TIPS Accounts in euro and all their balances are, from a legal perspective, considered to be in the jurisdiction of TARGET2. In this respect, TIPS balances can be taken into account for the calculation of the minimum reserve requirements in TARGET2.

Given the 24/7/365 nature of settlement in TIPS, it is necessary to define a single point in time to perform the calculation in a synchronised way between TIPS and TARGET2. To make sure that the balances used for the calculation in TIPS and TARGET2 are coherent, TIPS prepares snapshots of the balances during the RTGS end of day procedure, ensuring that no liquidity transfers are pending confirmation from the related RTGS System. These snapshots are the basis for the General Ledger files produced by TIPS and forwarded to the linked RTGS Systems.

1.5.4. Reference data management

TIPS Reference data offers Participants, Central Banks and the TIPS Operator an integrated and consistent set of common information, along with the ability to input and maintain reference data of TIPS Participants and their Accounts.

TIPS Reference Data Management is split between TIPS itself and the external Common Reference Data Management component (CRDM). The CRDM allows users to setup and maintain reference data that is common to multiple Eurosystem services, and propagates such data to the relevant services. In this respect, changes to TIPS reference data fall into two categories:

- Common reference data changes: this class of operations covers most TIPS reference data changes, notably the creation, update and deletion of Participants and Accounts. These operations are carried out by authorised users in the CRDM via its dedicated interface and propagated to TIPS on a daily basis before the change of RTGS business day. As the CRDM

interface is available 22 hours a day[8] and during the weekdays, this type of operation is only available during that time window. Please refer to CRDM documentation for additional details.

The propagation of Common Reference Data to TIPS is effected through a process that progressively updates all TIPS processing nodes without impacting the 24-hour settlement process.

As the propagation of Common Reference Data requires a certain amount of time each day, it is necessary to input all changes needed for a certain business day before a specific pre-defined cut-off time in advance of said date.

- Immediate reference data changes: this class of operations refers to high-priority settlement-relevant reference data changes that need to be implemented in TIPS as soon as they are instructed. These operations are carried out by authorised users directly in TIPS via the TIPS interface (available 24 hours a day) and processed in the same flow as Instant Payment transactions. The possible immediate reference data changes in TIPS are listed below:
  - Blocking/unblocking of a participant;
  - Blocking/unblocking of an account or CMB;
  - Update of a CMB limit (and adjustment of the related headroom).

Blocking/unblocking status and CMB limit data maintenance operations are also available in the CRDM – refer to 1.6.3 "Common Reference Data Management" for additional information.

Within TIPS, Reference Data maintenance instructions can be submitted in U2A and A2A mode depending on the individual object. Regardless of the connection mode, all instructions are submitted to the Reference Data Manager component in the same format.

U2A functions can also be triggered in 4-Eyes mode, so that a final approval from a different user is required before the change comes into effect. 4-Eyes mode is not available in A2A mode. When a 4-Eyes instruction is submitted, it is provisionally validated and put on hold until a second user, different from the initial submitter and with the adequate privileges, confirms or revokes it. If the instruction is confirmed, it is submitted to TIPS as any other Reference Data Management instruction.

The following table lists the reference data operations that are available within TIPS, the types of TIPS Actors that are responsible for them and the respective availability in U2A and A2A. All the following operations are available on a 24/7/365 basis and they are implemented with immediate effect in TIPS reference data. Additional reference data management operations are available in the CRDM and are implemented in TIPS as described in ~~chapter~~ section 1.6.3.

Table 15 – Reference data management functions available in TIPS

Entity	Possible operations	Responsible Actors(s)	U2A availability	A2A availability
Participant	Update of blocking status	TIPS Operator[9], CB	Yes	Yes

[8] The timeframe of 22 hours of availability may be subject to revision, depending on possible decisions made in the context of the T2-T2S Consolidation project.

[9] TIPS Operator can block/unblock Participants, TIPS Accounts and CMBs in contingency and upon request of the responsible Central Bank.

Entity	Possible operations	Responsible Actors(s)	U2A availability	A2A availability
Account	Update of blocking status	TIPS Operator[9], CB~~, TIPS Participant, Instructing Party~~[10]	Yes	Yes
CMB	Update of blocking status, update of CMB limit	TIPS Operator, CB, TIPS Participant, Instructing Party[11]	Yes	Yes

The update of the RTGS Status table is normally performed on automatic basis upon the receipt of a ReturnBusinessDayInformation message from the relevant RTGS System. In contingency situations, it can be carried out manually by the TIPS Operator.

1.5.4.1. Blocking Participants

TIPS allows Central Banks to block immediately a TIPS Participant falling under their data scope for credit operations, debit operations or both[11].

Blocking a TIPS Participant for debiting/crediting results in an equivalent blocking on all Accounts owned by that Participant and all the CMBs linked to that Account. The individual Account and CMB blocking status is not overwritten, but a blocking at Participant level always overrides the blocking status at Account or CMB level. In other words, when crediting or debiting a TIPS Account, TIPS also checks the Owner Participant blocking status in addition to the Account or CMB blocking status.

This means, for example, that if a TIPS Participant is blocked for credit, all the Accounts owned by the Participant and all the linked CMBs are also blocked for credit regardless of their individual blocking status for credit; regarding debit operations, all the Accounts and CMBs retain their individual blocking status for debit. If the TIPS Participant is subsequently unblocked for credit, all the Accounts and CMBs also revert to their individual blocking status for credit.

Blocking does not affect reserved amounts; if an amount is reserved for an ongoing payment when the blocking is applied, the payment transaction is completed regardless of participant blocking status.

Unblocking the TIPS Participant means that all of its Accounts and CMBs revert back to their individual blocking status.

The block is performed setting a restriction (through CRDM or directly in TIPS) on the party identifying the TIPS Participant. TIPS performs the block request executing it immediately, without checking if the TIPS Participant is already blocked but overwriting the previous block or adding a new one.

For example, if a TIPS Participant is blocked for credit and TIPS receives a new request of blocking for debit, the Participant (and all related accounts and CMBs) results in a block for both credit and debit operations. If a Participant is blocked for credit and TIPS receives a new request of blocking for credit, the blocking for credit is applied again and the sender of the request is notified with a positive reply.

~~[10] An Instructing Party acting on behalf of a TIPS Participant may block/unblock Accounts owned by the relevant TIPS Participant, unless restricted via access rights.~~

[11] An Instructing Party acting on behalf of a TIPS Participant may block/unblock CMBs owned by the relevant TIPS Participant, unless restricted via access rights.

Participant blocking can be performed in U2A as well as A2A mode, the latter involving messages PartyModificationRequest and PartyStatusAdvice.

Examples involving Participant blocking are listed in sections 2.9.1.1.1, 2.9.1.1.2 and 2.9.1.1.3.

1.5.4.2. Blocking accounts and CMBs

TIPS allows Central Banks to block immediately an Account or a CMB linked to TIPS Participant falling under their data scope for credit operations, debit operations or both. TIPS allows TIPS Participants to block immediately a CMB linked to Accounts under their data scope for credit operations, debit operations or both.

Blocking a TIPS Account for debiting/crediting results in an equivalent blocking on all CMBs linked to that Account. The individual CMB blocking status is not overwritten.

This means, for example, that if a TIPS Account is blocked for credit, all the CMBs linked to the Account are also blocked for credit regardless of their individual blocking status for credit; regarding debit operations, all the CMBs retain their individual blocking status for debit. If the TIPS Account is subsequently unblocked for credit, all the CMBs also revert to their individual blocking status for credit.

Blocking does not affect reserved amounts; if an amount is reserved for an ongoing payment when the blocking is applied, the payment transaction is completed regardless of account or CMB blocking status.

Unblocking the TIPS Account means that all linked CMBs revert back to their individual blocking status.

As explained in case of blocking of a TIPS Participant (see 1.5.4.1 “Blocking Participants”), TIPS performs the block request executing it immediately, without checking if the object itself is already blocked but overwriting the previous block or adding a new one.

Account and CMB blocking can be performed in U2A as well as A2A mode, the latter involving messages AccountExcludedMandateMaintenanceRequest, AccountRequestAcknowledgement and AccountRequestRejection.

Examples involving Account and CMB blocking are listed in sections 2.9.1.1.4, 2.9.1.1.5 and 2.9.1.1.6.

1.5.4.3. Limit management

TIPS allows Central Banks and TIPS Participants to update the Limits related to CMB falling under their data scope.

When a CMB limit is modified, the headroom of the CMB is updated accordingly. The CMB Headroom is updated (increased or decreased) on the basis of the difference between the ~~old~~ new limit value of the CMB and the ~~new~~ old limit value: if this difference is positive, the headroom is increased; if the difference is negative, the headroom is decreased.

It is possible, thus, that a change in the limit leads the headroom to becoming negative. In this case the CMB will only accept Instant Payments transactions in credit until the headroom once again goes over zero.

Limit management can be performed in U2A as well as A2A mode, the latter involving messages ModifyLimit and Receipt.

Examples involving limit management are listed in sections 2.9.1.1.7 and 2.9.1.1.8.

1.5.5. Queries and reports

TIPS allows to perform different categories of real-time queries and a set of pre-defined reports on production data. The dataset on the basis of the Queries and Reports feature are calculated and aggregated on a continuous basis i.e. each time a given instruction is executed, any calculated or aggregated data that depends on the executed instruction is immediately updated.

1.5.5.1. Queries

TIPS provides the query functionality to TIPS actors to satisfy their information needs on demand. It is possible to obtain information on the status of Account or CMB by submitting query requests to TIPS.

In order to manage in a timely manner the liquidity over the accounts and CMBs in the user data scope, the following queries are available in A2A and U2A mode:

- Account balance and status query;
- CMB limit and status query.

The processing of a Query Request consists in the three following steps:

- execution of the checks on the Query Request message regarding authorisation of the sender and validation of the query;
- retrieval of the data corresponding to the submitted Request and its input parameters;
- sending of the Query Response to the original sender (i.e. the same DN of the query sender).

TIPS shall take into account all access rights while processing queries and only return results if the interested data are part of the TIPS Actor data scope, as defined in the table Query permissions.

A brief outline of the purpose of each query and the exact description of its respective selection and return parameters are given

- In section 2.7 “Queries” for the A2A mode;
- In the relevant section of the UHB (see TARGET Instant Payment Settlement User Handbook) for the U2A mode.

1.5.5.2. Reports

TIPS informs TIPS Actors with a set of predefined reports in order to support business monitoring and reconciliation activities. The predefined reports offered by TIPS are the Statement of Account Turnover and the Statement of Accounts.

The Statement of Account Turnover provides information on the opening/closing balances at start/end of RTGS business day and the sum of debits/credits for all the TIPS accounts in the data scope of the TIPS Actor.

The Statement of Accounts provides information on the balances available at the time of report creation for all the TIPS accounts in the data scope of the TIPS Actor. For each TIPS account, detailed information on the related settled transactions (liquidity transfers or Instant Payments) during the reporting period is provided.

TIPS actors can configure their report subscription in the Common Reference Data Management.

These reports are available in A2A push mode only and the data scope of any of them and the moment of generation may be different for different users and depend on their access profiles and configuration (see Table 30 – Report permissions and data scope).The Statement of Account report can be produced in Full or Delta mode; delta reports include only the relevant data that has changed since the generation of the previous version. The Statement of Account Turnover report is provided in Full mode only.

The creation of a report is triggered at the end of day of the corresponding RTGS or at the frequency scheduled in the report subscription; the latter is specified in hours (e.g. every 3 hours, every 6 hours, etc.) and it is not relevant for full reports. Report generation process is based on data made available by snapshots of in-memory balances (and transactional data) produced at the time scheduled in the report subscription as explained in detail in section 2.8 “Reports”. The report generation starts immediately after the snapshot and the report is sent to the recipient as soon as it is available.

1.5.6. Raw Data extraction

TIPS produces, on a daily basis, raw data files related to all the activities performed during the day. TIPS relies on the end of day of the underlying RTGS Systems that is communicated via A2A message (see 1.6.1 “TARGET2 and other RTGS Systems”). The raw data files contain the information related to the RTGS Systems business day that has been completed. TIPS does not produce raw data for reference data, as they are provided by the Common Reference Data Management service.

For performance reasons, TIPS does not produce the raw data immediately after the change of date but during the night. The files are then sent to the shared services for Archiving and to TARGET2 for billing.

All of the timestamps included in the raw data are expressed in UTC.

TIPS applies compression to the raw data whenever possible by using industry standard algorithms.

The list of expected raw data is shown in the following table.

Table 16 – Raw data

Raw data file	Related information	Receiving Service
Raw data for billing	Information related to billable items	Billing
Raw data for archiving	Transactional data and authentication and security data	Archiving

1.5.6.1. Raw data for Archiving

TIPS provides the following information for the Archiving:

- Message signing and content of the settlement messages: FI To FI Customer Credit Transfer, Payment Return, Liquidity transfer, FI To FI Payment Status Report sent from the Beneficiary side to TIPS;
- Transactional data (payment transactions, status messages, liquidity transfers).

1.5.6.2. Raw data for Billing

The raw data for Billing contains the following information on transactional data: The exhaustive list of exported data is as follows.

Table 17 – Raw data for Billing

Attribute	Description
Transaction Identifier	Identifier of the Instant Payment transaction or of the Recall Answer transaction.
Business Date	RTGS business date on which the transaction was processed.
Transaction Type	Type of transaction. The exhaustive list of possible values is as follows: • IP (Instant Payment) • RA (Recall Answer)
Originator BIC	In case of an IP transaction (Transaction Type = “IP”), it is the BIC11 specified in the “Debtor Agent” field of the related incoming FI to FI Customer Credit Transfer. In case of a Recall Answer (Transaction Type = “RA”), it is the BIC11 specified in the “Creditor Agent” field of the related incoming Payment Return.
Country Code	Country code of the Central Bank which the account belongs to.
Account Number	In case of an IP transaction (Transaction Type = “IP”), it is the identification number of the debited TIPS Account. In case of a positive Recall Answer (Transaction Type = “RA”), it is the identification number of the credited TIPS Account.
Final Status	Final processing status of the transaction. The exhaustive list of possible values is as follows: • Settled • Failed • Rejected • Expired

1.6. Interactions with other services

This section describes all interactions between TIPS and other services provided by the Eurosystem or other RTGS systems.

1.6.1. TARGET2 and other RTGS Systems

This sub-section describes all the needed interactions between TIPS and the RTGS systems.

TIPS is designed to be multi-currency and to provide settlement in euro and non-euro Central Bank Money.

The interactions with the RTGS aim~~s~~ at informing TIPS about:

- the need for settlement of Liquidity Transfers coming from the RTGS System (see 1.5.3.1 "Inbound Liquidity Transfer");
- the confirmation of a Liquidity Transfer settlement received from TIPS by the RTGS System (see 1.5.3.2 "Outbound Liquidity Transfer");
- the current status of the relevant RTGS system, needed for the validation of liquidity transfers;
- the current Business Date of the RTGS system, needed for the registration of recall answers, Instant Payments and liquidity transfers;
- the moment of change of Business Date in the relevant RTGS system, in order to start the creation of reports and the General Ledger file.

TIPS foresees three main interactions with the RTGS Systems covering the above listed information: the Liquidity Transfer management, the closure of the RTGS System (for the maintenance window and the weekend or holidays) and the change of business date of the RTGS System.

The following sub-sections provide detailed information on these three main interactions, with specific reference to TARGET2.

1.6.1.1. Liquidity Transfer management

As described briefly in 1.5.3.1 "Inbound Liquidity Transfer" and 1.5.3.2 "Outbound Liquidity Transfer", the TIPS Service communicates with the relevant RTGS System for settling liquidity transfers in a specific currency.

As a general rule, when receiving an Inbound Liquidity Transfer, TIPS accepts the request and settles without checking the status of the RTGS System itself; TIPS takes for granted that the RTGS System requests a liquidity transfer when the system is open.

On the contrary, in the processing of an Outbound Liquidity Transfer, TIPS interacts with the RTGS System as follows:

- TIPS checks that the relevant RTGS System is open and ready for settlement by querying the related instance in the RTGS System table;
- Upon successful settlement, TIPS forwards the liquidity transfer to the RTGS System for the settlement;

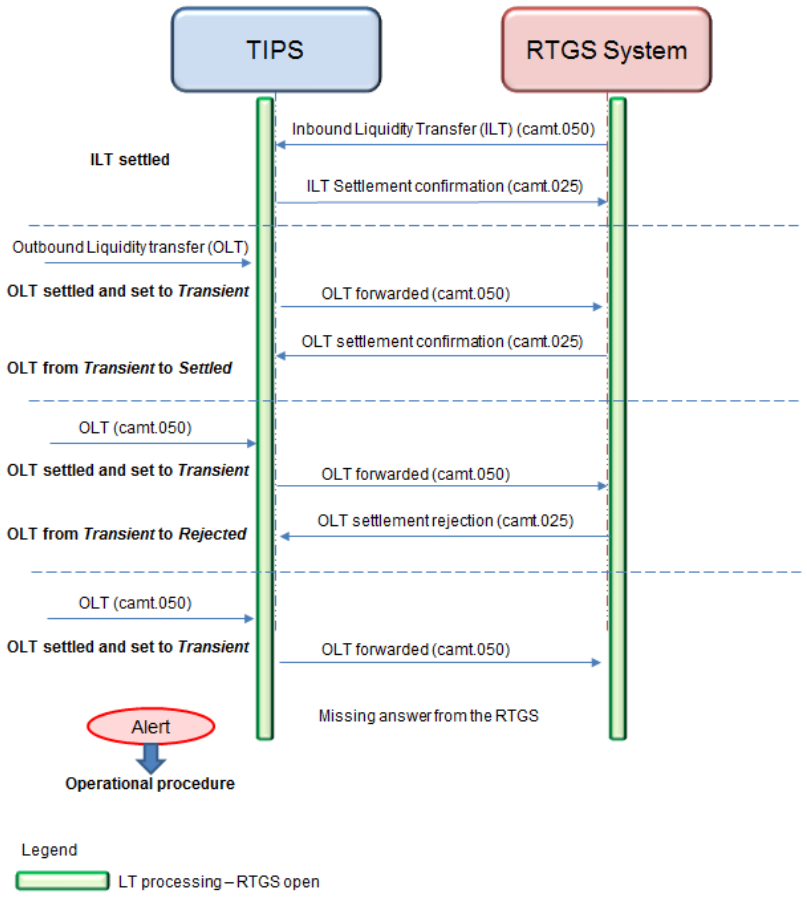
- TIPS waits for a confirmation of settlement of the liquidity transfer from the RTGS System; if the confirmation is:
    - positive, then the transaction is confirmed inside TIPS;
    - negative, then TIPS performs an automatic reverse of funds;
    - missing, then TIPS, after a configurable timeframe, raises an alert to trigger a suitable operational procedure.

In any case, the liquidity transfer business case is considered closed only after an explicit confirmation/rejection from the relevant RTGS system.

In case the RTGS system supports the Liquidity Transfer functionality in 'pull' mode, it shall be possible for an authorised RTGS user to pull liquidity from TIPS back to the RTGS system by sending a liquidity transfer message which is, from TIPS viewpoint, fully equivalent to an Outbound Liquidity Transfer.

The following flow represents the above described details of the interaction.

Figure 10 – Interaction with RTGS System for Liquidity Transfers

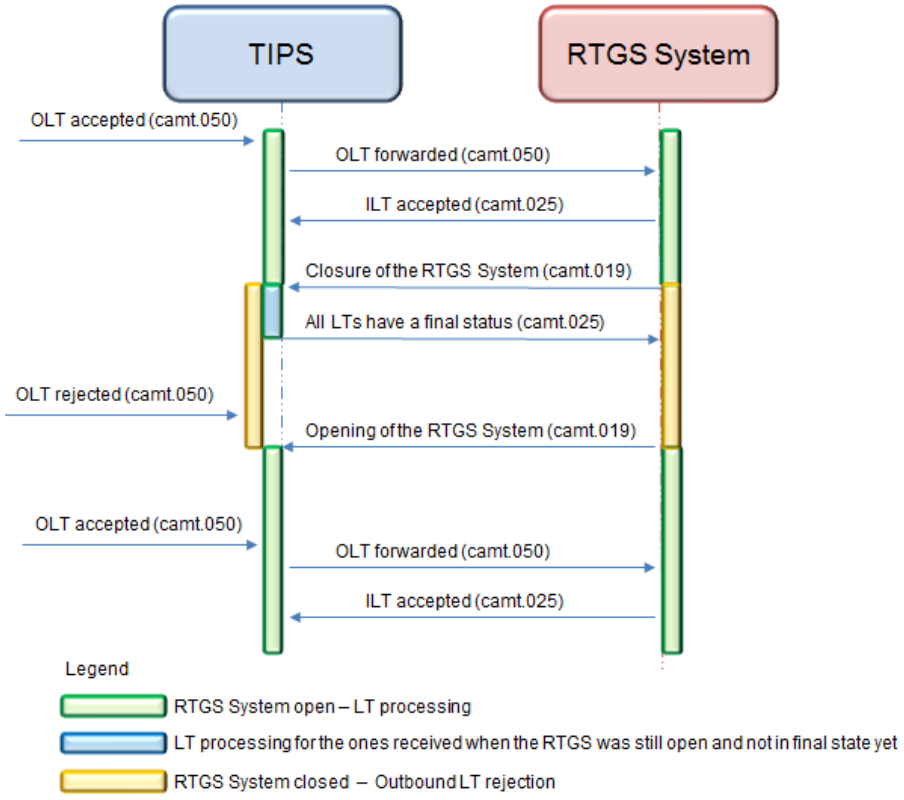


1.6.1.2. Closure of the RTGS System

The RTGS System informs TIPS that it is going to close; in this specific case, the RTGS System is closing for starting the time-window needed for the daily maintenance operations, for the week-end or bank holiday. Similarly, the RTGS System informs TIPS when it is open again for business.

The following flow represents the interaction between TIPS and the RTGS System for the closure and opening of the RTGS System:

Figure 11 – Closure and opening of the RTGS System



1.6.1.3. Change of business date of the RTGS System

The change of business date of the RTGS System is a key point for TIPS. When informed about the change of business date, TIPS prepares the data for the balances of the business date operations and for the General Ledger file. The designed interaction between TIPS and the relevant RTGS System aims at avoiding any possible discrepancy from TIPS and RTGS System data that may come from the presence of pending Liquidity Transfers in either direction.

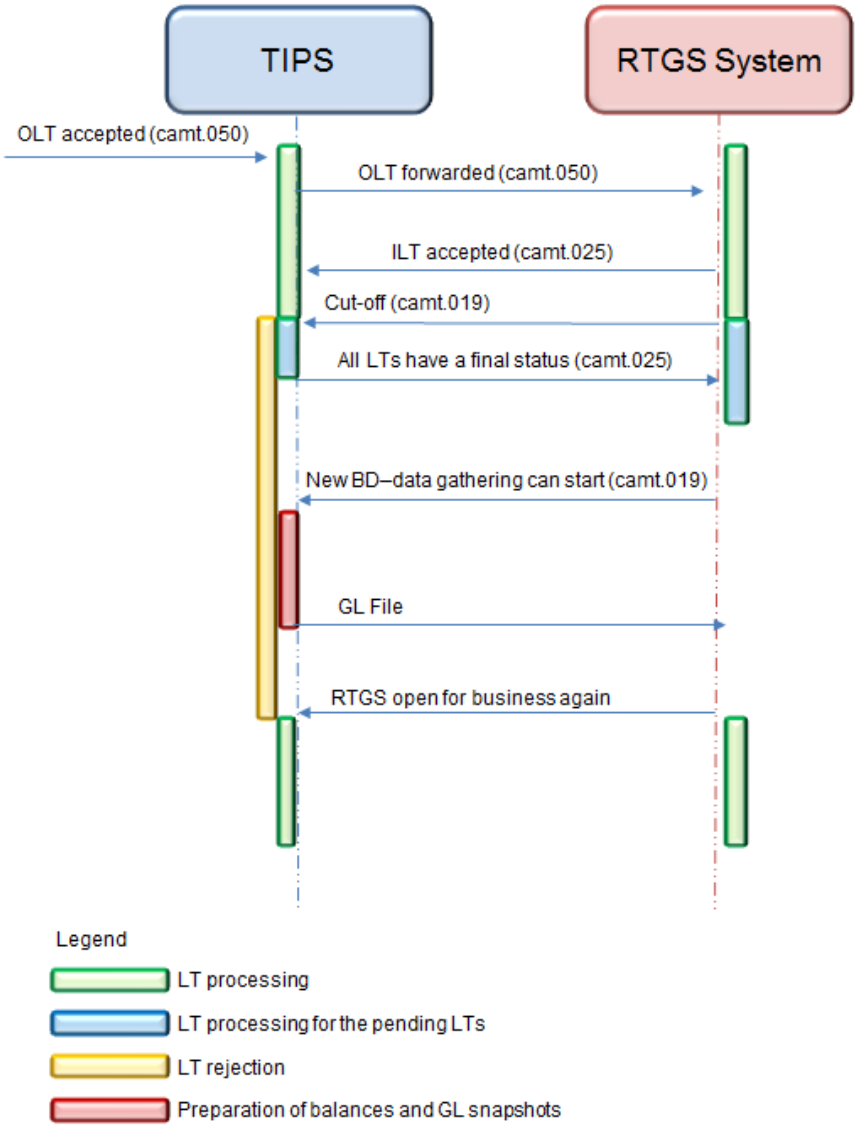
The interaction foresees the following steps:

1) the RTGS System sends a status message informing TIPS that the cut-off for Liquidity Transfers has been reached;
2) any other Outbound Liquidity Transfer message reaching TIPS after the reception of this message must be rejected;

3) meanwhile, both TIPS and the RTGS system keep settling the Liquidity Transfers received before the cut-off. The RTGS system keeps sending the related notifications to TIPS, in order to align all the pending transactions. TIPS keeps accepting and processing the Incoming Liquidity Transfers;
4) when TIPS receives the confirmation of settlement for all the *transient* Liquidity Transfers, it informs the RTGS System that it can proceed;
5) when the RTGS completes the settlement of the pending liquidity transfers on its side and has received the TIPS confirmation to proceed, it sends another status message informing TIPS that the change of business date can be performed. This status message contains the new business date the RTGS System is moving to. TIPS updates the status and the business date in the RTGS System table and starts the gathering of balances information;
6) TIPS takes the snapshot of the balances and sends the General Ledger file to the RTGS System;
7) RTGS System sends another status message informing TIPS that Liquidity Transfers can be accepted and processed again.

The following flow represents the steps listed above.

Figure 12 – RTGS System change of business date



1.6.1.4. TIPS General Ledger

In the specific case of the RTGS for euro, TIPS provides a general ledger file to TARGET2 for accounting and Reserve Management purposes.

1.6.1.4.1 TIPS General Ledgers production

When TARGET2 starts its End-of-Day process, it sends a ReturnBusinessDayInformation to TIPS, in order to inform the latter that no more liquidity transfers are accepted by TARGET2 and TIPS starts to finalise all pending liquidity transfers towards TARGET2.

After the finalisation of the pending liquidity transfers, TIPS confirms it with the delivery of a Receipt (camt.025) to TARGET2.

After that and upon request via ReturnBusinessDayInformation from TARGET2, TIPS generates and provides a general ledger file based on "TIPS EoD account balances" data related to the business day that just elapsed and that TARGET2 uses to build and provide general ledgers to the Central Banks.

1.6.1.4.2 Content

The general ledger file contains all accounts in euro held in TIPS, including the transit account denominated in euro.

TIPS sends to TARGET2 a single not compressed flat file containing records without a particular order.

TIPS delivers general ledger data that fulfil the following condition: the sum of all balances of the TIPS accounts denominated in euro (excluding the transit account for euro) must be equal to the balance on the transit account for that currency in absolute value.

1.6.2. Eurosystem Single Market Infrastructure Gateway

The Eurosystem Single Market Infrastructure Gateway (ESMIG) service provides access to the Market Infrastructure services, including TIPS, in both A2A and U2A channel.

In A2A the ESMIG allows the access from the outside world to TIPS establishing the communication channel between TIPS and the Network Service Providers and checks the A2A message has a valid format (XML schema validation). The NSPs are expected to perform the checks of authentication of the sender and the verification of the signature for the messages received by TIPS. Thus, a message arriving to TIPS must be considered authenticated, properly signed, well-formed after technical validation and sent by a sender recognised as a properly configured one for using the TIPS service.

TIPS performs, then, the authorisation tasks for the sender. The authorisation tasks consists in checking that the access rights configuration of the sender allows it to submit the given request.

In U2A, the ESMIG Identity Access Management component of the ESMIG executes the authentication for U2A users entering the TIPS Graphical User Interface (GUI). Once the user has been successfully authenticated, the GUI retrieves the granted roles and checks that the requested action is allowed for the user.

For further details, please refer to ESMIG documentation.

1.6.3. Common Reference Data Management

The Common Reference Data Management (CRDM) service provides features that allow duly authorised users to set up, maintain and query all reference data that are shared by multiple services (e.g. T2S, TIPS) for their processing activities.

The access to CRDM is possible in U2A mode (for all functions) and in A2A mode (for a subset of functions) via ESMIG (see section 1.2).

In order to ensure a timely and consistent propagation of common reference data to the relevant services, CRDM implements a publish-subscribe feature allowing each service to receive all the common reference data (and their changes) they require for their processing.

In a nutshell:

- CRDM publishes all changes (in push mode) of common reference data (e.g. creations of new objects, updates of already existing objects);
- Other subscriber services get those changes (in pull mode) and apply them to their Local Reference Data Management component, according to their needs.

Other detailed information can be found in the CRDM documentation.

As far as TIPS is concerned, as anticipated in 1.5.1 "General concepts" and in 1.5.4 "Reference data management", all reference data setup and maintenance operations – other than the immediate changes in the local reference data management – are performed in the CRDM and reference data are then propagated from the CRDM to TIPS asynchronously on a daily basis. The dialogue between CRDM and TIPS envisages two types of interactions:

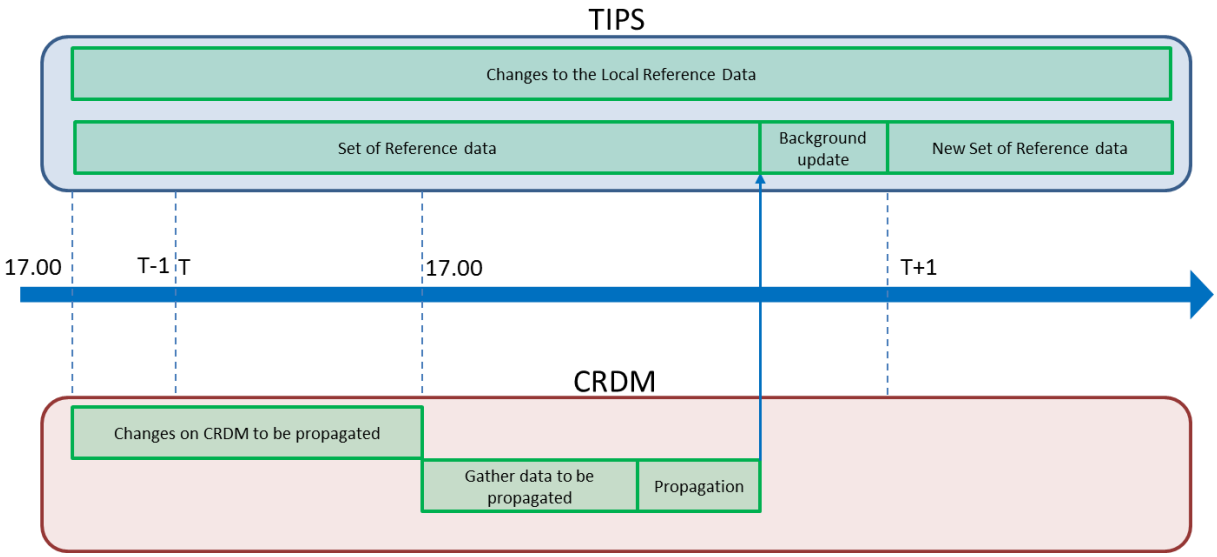
1. **Daily propagation**: this is the main interaction between CRDM and TIPS. Every CRDM opening day, an ad hoc event triggers the propagation of all TIPS reference data from CRDM to TIPS. The event takes place at 17:00 CET, so to ensure a smooth and complete reference data propagation before TIPS receives the notification that a new business day is starting. The set of reference data that TIPS receives on business day T includes all the active data on the mentioned business date.

   If an item, propagated on date T, contains a validity date in the future (e.g. T+2), TIPS acquires it during the daily propagation but the item will be available in TIPS only when the validity date is reached.

2. **Contingency propagation:** in case of contingency the TIPS Operator may trigger an ad hoc Daily propagation from CRDM to TIPS. The contingency propagation is a daily propagation triggered intraday if an immediate change of a set of data (not manageable directly into TIPS) must be performed. In this case, the following steps happen:
   a. All the data eligible for the daily propagation and valid at the moment of the contingency propagation are propagated;
   b. The daily propagation is performed as scheduled and includes all the active data on the relevant business date.

The following diagram shows a conceptual overview of the interactions between CRDM and TIPS.

Figure 13 – Interaction between CRDM and TIPS[12]



1.6.4. Archiving

The Archiving service provides features that allow the archiving of legally relevant data for regulatory purposes. Instant Payment transactions, Liquidity Transfers, status message data and reference data are archived for a period of exactly ten years. Authentication and security data are archived for a period of exactly three months. Please refer to 1.6.4 "Archiving" for details on how to access archived data.

TIPS produces every day the needed data of payment transaction and status message to be archived. Please refer to 1.5.6 "Raw Data extraction" for additional details.

1.6.5. Billing

The Billing service for TIPS relies on solution based on the TARGET2 billing.

TIPS produces every day the needed data and send them to the Billing service, as Raw Data. Please refer to 1.5.6 "Raw Data extraction" for additional details.

TIPS is not expected to prepare or send consumption files and invoices to the customers but only to gather the data and provide them to the Billing service.

[12] The cut-off considered for the loading of new data is the business date change received from the RTGS. Therefore, it is essential that all users with a validity date (such as Cash Accounts) are ready and propagated to TIPS before TIPS receives this business date change signal. For this reason the diagram conventionally marks the beginning of the data change process at 5 p.m..

1.7. Operations and support

1.7.1. Service configuration

TIPS relies on system parameters configured and maintained by the TIPS Operator. The parameters are configured in the CRDM and propagated to TIPS once a day.

The following table includes the exhaustive list of system parameters and their default values.

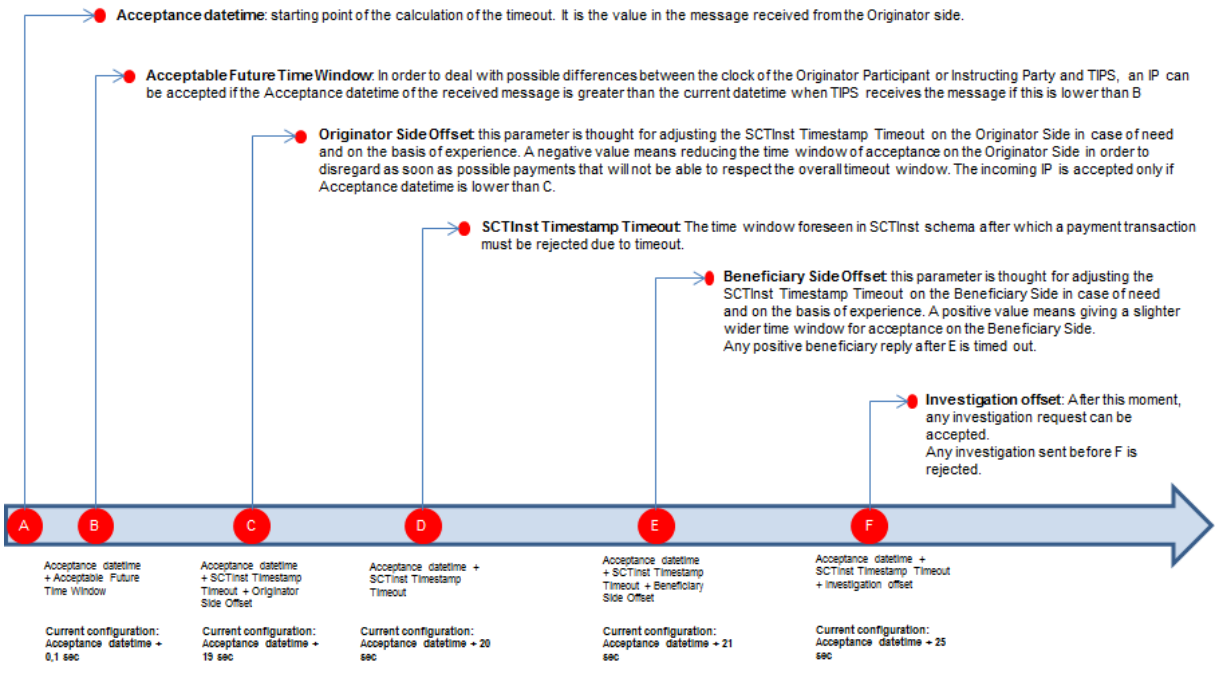
Table 18 – System Parameters

Parameter name	Description	Default value
Retention Period	The retention period for transactional data (i.e. Instant Payment transactions, recall, liquidity transfers) expressed in calendar days. This parameter is used also for detecting the timeframe within which two instructions with the same Originator BIC (field AT-06 in DS-02) and Originator reference (field AT-43 in DS-02) must be considered as duplicates. The parameter defines the maximum period of time for which the historical data can be accessed either via TIPS GUI or via A2A queries. The retention period starts by the time the transactional data is received by the system.	5
SCT^{Inst} Timestamp Timeout	The time window foreseen in SCT^{Inst} scheme after which an Instant Payment transaction must be rejected due to timeout. This parameter is expressed in milliseconds.	20,000
Originator Side Offset	It is a configurable offset for evaluation of the SCT^{Inst} Timestamp Timeout applied to the reception of the message sent by Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party. This parameter can only have values smaller than or equal to zero. An Instant Payment Transaction sent by the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party can be rejected due to timeout in the event that the message is submitted to TIPS with a timestamp (the SCT^{Inst} timestamp, field AT-50 in DS-02) that is already past the timeout window (SCT^{Inst} Timestamp Timeout + Originator Side Offset). This parameter is expressed in milliseconds.	-1,000
Beneficiary Side Offset	It is a configurable offset for evaluation of the SCT^{Inst} Timestamp Timeout applied to the reception of the message sent by Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party. Rejections due to timeout can occur in the event that the Beneficiary Reply message is not received or if it is submitted to TIPS with a timestamp (the SCT^{Inst} timestamp, field AT-50 in DS-02) that is already past the timeout window (SCT^{Inst} Timestamp Timeout + Beneficiary Side Offset). This parameter is expressed in milliseconds.	1,000
Sweeping Timeout	The time window after which the sweeping daemon looks for pending payments for which: (i) a valid and timely confirmation from the Beneficiary Participant has not been received yet and (ii) the SCT^{Inst} Timestamp Timeout is elapsed. The value can impact on the performances of the system and must be changed only after green light received by the technical support. The parameter is expressed in seconds.	*30*

Parameter name	Description	Default value
Maximum Amount	Maximum amount – defined for each settlement currency – which can be transferred by a single Instant Payment transaction. The parameter must allow an "unlimited" value.	*Unlimited*
Acceptable Future Time Window	The acceptable time range for future timestamps. The rejection of an Instant Payment transaction is triggered if the received timestamp is greater than the acceptable time window (current timestamp plus this time window value). It is expressed in milliseconds.	100
Investigation Offset	Configurable offset foreseen in SCT^{Inst} scheme. An Investigation request can be accepted only if it is received after SCT^{Inst} Timestamp Timeout of the Instant Payment transaction + Investigation Offset. This parameter is expressed in milliseconds.	5,000
RTGS Alert	Configurable timeframe after which the TIPS Operator is notified about a missing answer from the RTGS to an Outbound liquidity transfer. The parameter value is expressed in minutes.	15

In order to properly configure the parameters, the following diagram depicts the meaning of SCT^{Inst} Timestamp Timeout, Originator Side Offset, Beneficiary Side Offset and Investigation Offset in the timeout scenario.

Figure 14 – Timeout parameters



For UTC clock synchronization, TIPS uses an NTP stratum-1 server based on GPS transmissions.

1.7.2. Business and operations monitoring

The Business and operations monitoring integrates information coming from different sources in order to monitor the business and operational status of the service, to detect possible problems in real-time or to proactively recognise a possible deterioration of the service performance and to provide up-to-date information for crisis management scenarios.

Business and operations monitoring gives the TIPS Operator the possibility to perform a real-time supervision of the platform in terms of:

- Performance;
- Transactions transit and response times;
- Ongoing fulfilment of SLA commitments and expectations;
- Volumes and values exchanged;
- Actors activity on the system;
- Usage of liquidity;
- Hardware and software problems.

The goal is to allow an early detection of possible anomalies through the continuous comparison of reported data with standard patterns. Besides that, the data can be used to improve the service behaviour or its usage through a better understanding of the relevant dynamics.

The Business and operations monitoring application process extracts, merges and organizes the data in forms of tables, grids and graphs to ensure both the depth of the underlying information and its prompt usability.

In order to exclude any even remote impact on the service performances, the Business and operations monitoring application makes use of a different set of data which are replicated from the original ones.

TIPS provides the TIPS Operator also with a tool for the detection in real-time of functional or operational problems, called Technical Monitoring. It allows for the detection of hardware and software problems via real-time monitoring of the technical components involved in the processing, including the network connections.

Business and operations monitoring interfaces are available in U2A mode only.

The TIPS Operator is also provided with a contingency tool in order to inject messages to act on the system in case of need. For example, this tool allows to update the RTGS Status table simulating the receipt of a ReturnBusinessDayInformation message from the relevant RTGS System or the sending of a Receipt message in order to finalise a pending liquidity transfer.

The list of possible messages the TIPS Operator can inject is:

- ReturnBusinessDayInformation;
- LiquidityCreditTransfer;
- Receipt;
- AccountExcludedMandateMaintenanceRequest;
- ModifyLimit;
- PartyModificationRequest.

1.7.3. Archiving management

TIPS provides raw data to the Archiving shared service on a daily basis, as described in 1.6.4 "Archiving".

The TIPS Operator is responsible for the retrieval of the archived information on TIPS Actor request.

TIPS Operator is allowed to retrieve archived Instant Payment transaction, Liquidity Transfers, status message data and reference data for a period of exactly ten years. Moreover, TIPS Operator shall be able to retrieve archived authentication and security data for a period of exactly three months.

2. Dialogue between TIPS and TIPS Actors

This section aims at describing the interactions in A2A mode between TIPS Actors and TIPS.

In the first sub-section, it describes the general communication process: what is the general process when a message arrives to TIPS and which functions of TIPS are interested in the process.

The following sub-sections describe the interactions the TIPS Actors can have with TIPS. These sub-sections describe the scenarios the user can go through, specifying:

- The involved actors;
- The involved messages;
- The conditions of executions and the possible returned errors.

In such a way, this section aims both to describe the process for the TIPS Actors, guiding them in the use of the involved messages, and to give the necessary details needed for implementing the software on their side.

When a message is referenced, it is linked to the relevant section within chapter 3 - "Catalogue of messages" where to find the detailed information.

2.1. Message routing

In A2A mode, TIPS Actors and TIPS can exchange messages and files by means of two types of transfer services:

- The real-time message, which requires that all the interested actors are available at the same time;
- The store-and-forward file transfer, which enables TIPS to transmit messages or files even when the receiver is not available.

The following table shows how the main types TIPS data exchanges are mapped against the technical features of the different network services for inbound and outbound communication.

Table 19 – Network services

Data Exchange	Inbound transfer services	Outbound transfer services
Instant Payment transactions	Message-based, real time	Message-based, real time
Inbound/Outbound Liquidity transfers	Message-based, real time	Message-based, real time
Investigations	Message-based, real time	Message-based, real time
Queries	Message-based, real time	Message-based, real time
Recall	Message-based, real time	Message-based, real time
Notifications	n/a	Message-based, real time

Data Exchange	Inbound transfer services	Outbound transfer services
Reports (push)	n/a	File-based, store-and-forward
Raw data and data for General Ledger	n/a	File transfer to TARGET2

The File-based store-and-forward network service is used only by TIPS and only to send outbound Reports.

As described in the section 1.2, TIPS allows Participants and Instructing Parties to use multiple distinguished names (DNs) to communicate with the network service.

Thanks to the functionalities available in the CRDM, a TIPS actor with the suitable permissions is able to set up routing configurations, allowing TIPS to accept messages coming from specified DNs and to route a predefined set of outbound communication to a specified DN. A routing configuration is a link between a Participant or Reachable Party's BIC and a distinguished name.

Depending on the direction of communication, we can distinguish between:

- Inbound messages: TIPS shall allow a many-to-many relation between sender distinguished names and Parties, meaning that the same Instructing Party can play its role for many Parties and that a Participant or Reachable Party can authorise many Instructing Parties to act on its behalf. Moreover, it is possible to authorise a specific Instructing Party DN to act on behalf of a specific BIC, for instance for instructing Instant Payments. The couple (DN, BIC) is stored in the "Inbound DN-BIC Routing" table.
- Outbound messages: TIPS shall ensure that there is a many-to-one relation between Beneficiary Participant or Reachable Party and receiver distinguished names, meaning that any given Beneficiary Participant BIC may be linked to one and only one Distinguished Name for the receipt of instant payment messages. The couple (DN, BIC) is stored in the "Outbound DN-BIC Routing" table. In addition, it is possible to configure a separate Distinguished Name per TIPS Participant as "Party Technical Address" for the receipt of messages relevant for account owners, such as reports and floor/ceiling notifications.

In the following we will clarify in what case and under what condition TIPS uses those links to manage input and output messages and in which other conditions it manages messages without querying them.

TIPS uses the routing information contained in the Inbound DN-BIC Routing table to check authorisation of instant payment input messages: only messages with the couple DN-BIC for which an entry in the Inbound DN-BIC Routing table exists are accepted by TIPS.

For other message types, such as outbound liquidity transfers or queries, TIPS checks that the requestor DN is defined as an Instructing Party for the relevant TIPS Participant (such as the owner of the account on which the liquidity transfer is being executed).

Regarding how to route outbound communication, the general behaviour of TIPS is as follows:

- When TIPS receives an input message *x* from a TIPS actor *a*, it stores the DN of the message sender and uses it to send or to forward any kind of communication regarding *a* and the transaction represented by *x.*
- In case *x* concerns another TIPS Actor (*b)* assuming a different role i.e. the Beneficiary of an Instant Payment or the Assignee of a Recall, TIPS cannot infer its DN from the message coming from *a*. For this reason, TIPS retrieves the DN *z* of *b* based on the configured data. TIPS relates *b* to the DN *z* throughout the entire transaction life-cycle.

Therefore, as a general rule, when TIPS cannot identify an actor DN from an input message or in case of push-mode communication, TIPS uses the Outbound DN-BIC routing table or the Party Technical Address to find the correct outbound DN.

Based on the transaction types and on the role assumed by the Actors, the following table specifies the type of outbound routing used for the different data exchange scenarios.

Table 20 – Outbound routing

Data Exchange	Outbound DN-BIC	Party Technical Address	Sender DN
Instant Payment transactions answer (Originator role)	✗	✗	✓
Instant Payment transactions answer (Beneficiary role)	✓	✗	✗
Timeout message generated by TIPS	✓	✗	✓
Inbound/Outbound Liquidity transfers receipts	✗	✗	✓
Investigation answers	✗	✗	✓
Query answers	✗	✗	✓
Recall answers (Assigner role)	✗	✗	✓
Recall answers (Assignee role)	✓	✗	✗
Error on input messages	✗	✗	✓
Reference data answer messages	✗	✗	✓
Notifications	✗	✓	✗
Reports	✗	✓	✗

Entering in detail on the single message:

- "Outbound DN-BIC Routing" table is used to select the correct DN for a TIPS actor identified by a BIC, in case of:
    - Messages forwarded to other TIPS Actors, i.e.

        - FItoFICustomerCreditTransfer forwarded to the Beneficiary;
        - FIToFIPaymentCancellationRequest forwarded to the Assignee;
        - ResolutionOfInvestigation forwarded to the Assignee;
        - PaymentReturn forwarded to the Recall Assigner (Beneficiary).
    - FIToFIPaymentStatusReport sent to the Beneficiary in case of Timeout;
- "Party Technical Address" is used to select the correct DN for a TIPS actor in case of:
    - Notifications, for the Owner of the Account/CMB, i.e.
        - Floor/Ceiling notification on Account/CMB;
        - Credit/Debit notification on Account.
    - Reports sent to the subscribing TIPS actors.
- The sender DN is used to answer to an input message in case of:
    - Error messages generated by TIPS as result of a failed check on an input message;
    - Every other answer, i.e.:
        - FItoFIPaymentStatusReport sent to the Originator of an Instant Payment transaction;
        - FIToFIPaymentStatusReport as result of an investigation;
        - Receipt of a Liquidity transfer order;
        - Answers to a Query:
            - ReturnAccount.
    - Reference data answer messages:
        - PartyStatusAdvice;
        - AccountRequestAcknowledgement;
        - AccountRequestRejection;
        - Receipt.

The different multiplicity of the DN-BIC correspondence between the Inbound and the Outbound DN-BIC routing table and the absence of constraints between the two types of configuration, makes it possible to setup a given Participant or Reachable Party BIC in the CRDM with different and disjoint sets of DNs for its Instructing Parties: one set (with cardinality greater than or equal to one) for the inbound routing and another one (with cardinality equal to one) for the outbound routing. This means that a BIC can be configured to send message with an Instructing Party (DN) but to receive messages with a different DN.

For example, a BIC *z* could be linked to the DN *a* in the Inbound DN-BIC routing table and with the DN *b* in the outbound DN-BIC routing table, with *a* being different from *b*. This would imply that the TIPS actor identified by BIC *z*, when acting as Originator of an Instant Payment transaction, can send messages to TIPS with *a* and receive the related answers from TIPS to *a*. The same actor, when

playing the role of the Beneficiary of an Instant Payment transaction, receives messages from TIPS to *b* but has to send its answers to TIPS with *a*.

The Instant Payment transaction steps tables of the Chapter 2 – "Dialogue between TIPS and TIPS Actors" specify the DN considered by TIPS for each step, message and actor's role.

2.2. Instant Payment transaction

This section focuses on the settlement of Instant Payment transactions, describing the full scenario and the related steps.

The introductory part of the section presents the general flow, including all the steps.

A sub-section dedicated to the timeout follows, describing the specific case of timeout occurring when a Beneficiary reply is missing.

All the remaining sub-sections contain examples of the possible scenarios, starting from a successful one and detailing possible failure scenarios. Each example shows the relevant messages and how the main fields are filled.

The Instant Payment transaction process covers the scenarios in which an Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party instructs TIPS in order to immediately transfer funds to the account of a Beneficiary Participant. The involved actors are:

- The Originator Participant, or Instructing Party acting on behalf of the Originator Participant or a Reachable Party, starting the scenario;
- The Beneficiary Participant, or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party, receiving the request and either confirming or rejecting the payment.

The involved messages are:

- The FItoFICustomerCreditTransfer message sent by the Originator Participant or Instructing Party acting on behalf of the Participant/Reachable Party in order to (i) instruct the payment, (ii) to reserve the corresponding amount and (iii) to inform the Beneficiary Participant or Instructing Party acting on behalf of the Participant/Reachable Party about the transaction received;
- The FItoFIPaymentStatusReport message sent (i) by the Beneficiary Participant or Instructing Party acting on behalf of the Participant/Reachable Party to TIPS to either accept or reject the Instant Payment transaction, or (ii) by TIPS to inform the actors about the result of the settlement (i.e. settled, rejected, timed out);
- The ReturnAccount message that can be possibly sent by TIPS to Creditor Account Owner and/or Debtor Account Owner. The message is sent by TIPS if (i) the owner of the TIPS account (or CMB) enables the floor and ceiling notifications and (ii) the configured threshold is crossed.

All the described scenarios are triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user have already been successfully performed by ESMIG.

It is important to keep in mind that when the Debtor or Creditor BIC contains a BIC8 instead of a BIC11, the message is accepted and the string is completed by appending “XXX” at the end of the BIC8 for further processing. All the steps are described considering BIC11 only.

Below is the diagram describing the process and the involved actors. The details of the steps are described in the following Table 21 – Instant Payment transaction steps.

Figure 15 – Instant Payment transaction flow

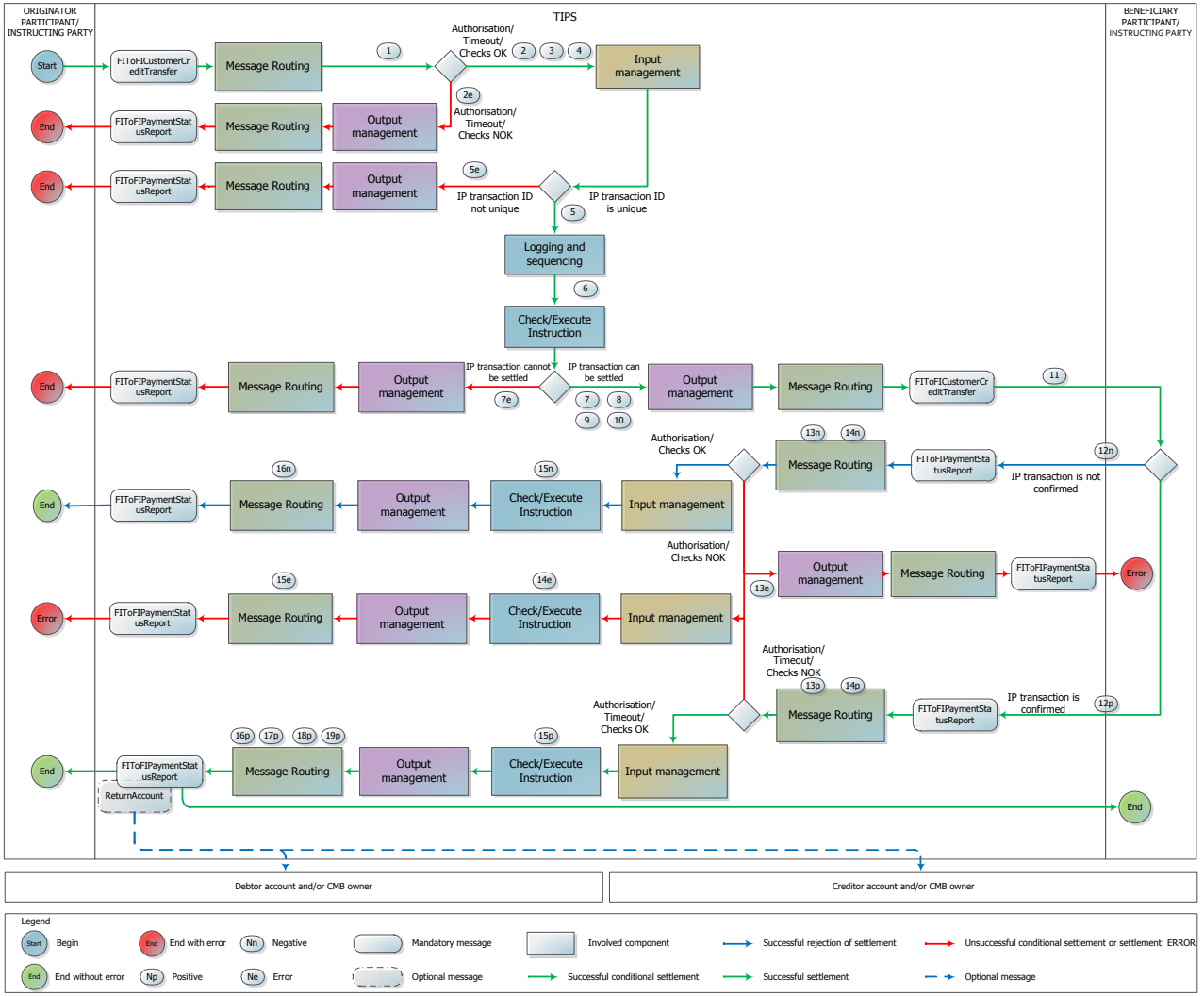


Table 21 – Instant Payment transaction steps

Step	Involved messages	Involved actors	Description
1	FItoFICustomerCreditTransfer	Originator Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an Instant Payment transaction from the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party starting the conditional settlement phase of the transaction. Technical validation, check of mandatory fields and authentication checks have already been successfully executed. The timeout for the Instant Payment transaction has not expired. TIPS logs the instruction as "*Received*".
2		TIPS	TIPS successfully executes the checks: - Access Rights check; - Timeout Check - Originator Side; - Maximum Amount not Exceeded; - Originator Account or CMB existence; - Instructing Party authorised; - Beneficiary correctly configured; - Beneficiary Account or CMB existence. See 4.1- Business Rules for details.
2e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks listed in step 2. At the first negative check the system stops and sends a message to the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party – same DN of the Sender in step 1 – containing the proper error code. If the failed check is "Timeout Check - Originator Side", the status of the transaction is set to "*Expired*"; in all the other cases, the status is set to "*Failed*".

Step	Involved messages	Involved actors	Description
3		TIPS	TIPS infers the account to be debited from the configured accounts information, the Originator Participant BIC and the currency of the Instant Payment transaction. In details TIPS checks that: (i) an account, with type "TIPS Account", exists, (ii) it is linked to the Originator Participant (field "Originator BIC") as authorised user, (iii) and it is denominated in the same currency as the one defined in the Settlement Amount. - If the check does not return any TIPS Account, TIPS looks for a CMB linked to the Originator Participant (field "Originator BIC") as authorised user; - TIPS selects the TIPS Account linked to the CMB; the account related to the CMB must be denominated in the same currency as the one defined in the Settlement Amount. From now on, the selected account is referred to as "Originator Account" and the possible CMB as "Debiting CMB".
4		TIPS	TIPS infers the account to be credited from the configured accounts information, the Beneficiary Participant BIC and the currency of the Instant Payment transaction. In details TIPS checks that: (i) an account, with type "TIPS Account", exists, (ii) it is linked to the Beneficiary Participant (field "Beneficiary BIC") as authorised user, (iii) and has a currency equal to the one defined in the Settlement Amount. - If the check does not return any TIPS Account, TIPS looks for a CMB linked to the Beneficiary Participant (field "Beneficiary BIC") as authorised user; - TIPS selects the TIPS Account linked to the CMB; the account related to the CMB must be denominated in the same currency as the one defined in the Settlement Amount. From now on, the selected account is referred to as "Beneficiary Account" and the possible CMB as "Crediting CMB".

Step	Involved messages	Involved actors	Description
5		TIPS	TIPS successfully executes the check: - Duplicate check; See 4.1 - Business Rules for details.
5e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check listed in step 5. If the check is unsuccessful the system stops and sends a message to the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party – same DN of the Sender – containing the proper error code. The transaction is set to "*Failed*" status. See 4.1 - Business Rules for details.
6		TIPS	TIPS sends it to the Check and Execute Instruction process. TIPS sets the transaction status to "*Validated*".
7		TIPS	TIPS successfully executes the checks: - Originator Account/CMB not blocked; - Beneficiary Account/CMB not blocked; - Available amount not exceeded; See 4.1 - Business Rules for details.
7e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks listed in step 7. At the first negative check the system stops and sends a message to the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party – same DN of the Sender in step 1 – containing the proper error code. The transaction is set to "*Failed*" status. See 4.1 - Business Rules for details.
8		TIPS	The DN of the Sender in step 1 is saved as information related to the transaction. From now on, this DN is referred to as "Originator DN".

Step	Involved messages	Involved actors	Description
9		TIPS	TIPS reserves funds in the Originator account. The full amount is reserved as Reserved Balance in the Cash Balance. TIPS sets the transaction status to "*Reserved*". If a Debiting CMB is involved, the system decreases its headroom by the same amount. After this moment, the settlement attempt is agreed and can either be confirmed or rejected by the counterpart or fail for a missing answer. The reserved amount cannot be considered for other payments.
10		TIPS	The DN of the beneficiary is identified in the "Outbound DN-BIC Routing" mapping table from the field Creditor Agent. From now on, this DN is referred to as "Beneficiary DN".
11	FItoFICustomerCreditTransfer	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS forwards the received Instant Payment transaction to the Beneficiary DN.
12p	FItoFIPaymentStatusReport	Beneficiary Participant or Instructing Party as sender TIPS as receiver	The Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party starts the settlement phase of the transaction by sending a positive payment status report that is successfully delivered to TIPS. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
13p		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised – creditor side; - Pending transaction existing; - Timeout Check - Beneficiary Side. See 4.1- Business Rules for details.
13e	FItoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks listed in step 13p. At the first negative check the system stops and sends a message to the Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party (DN of the sender of the message) containing the proper error code. See 4.1- Business Rules for details.
14e		TIPS	If the pending transaction exists, TIPS retrieves it using the Transaction ID. The reserved amount is released in the involved Originator Account and the possibly involved Debiting CMB is increased of the same amount.

Step	Involved messages	Involved actors	Description
			TIPS always releases the reserved transactions even if the involved account or CMB have been blocked in the meantime. The transaction is set to "*Failed*" status.
15e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS sends a message to the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party – same DN of the Sender in step 1 – containing the proper error code.
14p		TIPS	TIPS identifies the transaction using the Transaction ID. The transaction Id is related to a transaction that exists in TIPS and still in "*Reserved*" status.
15p		TIPS	TIPS retrieves the reserved transaction and confirms it. The amount is considered settled and the transaction is set to "*Settled*" status. The reserved amount of the Originator Account is decreased by the amount of the corresponding settled transaction. The same positive amount is added to the Beneficiary Account. If a Crediting CMB is involved, TIPS increases its headroom by the same amount. TIPS always executes the reserved transactions even though the involved accounts (or CMBs) have been blocked in the meantime.
16p	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS forwards the received Payment status report to the Originator DN.
17p	FItoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS generates a positive Payment status report and sends it to the Beneficiary DN. The FItoFIPaymentStatusReport contains the Transaction ID and Originator BIC of the transaction.

Step	Involved messages	Involved actors	Description
18p	ReturnAccount	TIPS as sender Debited Account and/or CMB Owner	TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB. After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Originator Account Number or the Debiting CMB Number
19p	ReturnAccount	TIPS as sender Credited Account and/or CMB Owner	TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB. After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Beneficiary Account Number or the crediting CMB Number
12n	FItoFIPaymentStatusReport	Beneficiary Participant or Instructing Party as sender TIPS as receiver	The Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party triggers the settlement phase of the transaction sending a negative payment status report that is successfully delivered to TIPS. In this scenario the settlement phase will end up with a rejection of the Instant Payment transaction and the un-reservation of corresponding funds. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
13n		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised – creditor side; - Pending transaction existing. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
13e		TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks at step 13n. At the first negative check the system stops and sends a message to the Beneficiary Participant or Instructing Party acting on behalf of the Beneficiary Participant or a Reachable Party (DN of the sender of the message) containing the proper error code. See 4.1- Business Rules for details.
14e		TIPS	If the pending transaction exists, TIPS retrieves it using the Transaction ID. The reserved amount is released in the involved Originator Account and the possibly involved Debiting CMB is increased of the same amount. TIPS always releases the reserved transactions even if the involved account or CMB have been blocked in the meantime. The transaction is set to "*Failed*" status.
15e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS sends a message to the Originator Participant or Instructing Party acting on behalf of the Originator Participant or a Reachable Party – same DN of the Sender in step 1 – containing the proper error code.
14n		TIPS	TIPS identifies the transaction using the Transaction ID. The Transaction ID is related to a transaction existing in TIPS and still in "*Reserved*" status.
15n		TIPS	TIPS retrieves the Instant Payment transaction to be rejected and releases it. The reserved amount is released in the involved Originator Account and the possibly involved Debiting CMB is increased of the same amount. TIPS always releases the reserved transactions even if the involved account or CMB have been blocked in the meantime. The transaction is set to "*Rejected*" status.
16n	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS forwards the received Payment status report to the Originator DN.

2.2.1. Timeout scenario: missing/delayed Beneficiary-side answer

This sub-section describes the specific scenario of TIPS not receiving a Beneficiary-side answer or receiving it later than allowed.

This scenario assumes that TIPS has successfully executed the conditional settlement phase of an Instant Payment.

A specific software component (Sweeping service) is always acting in background taking care of all the orphan payments – an orphan payment being a reserved Instant Payment transaction still waiting for a confirmation/rejection. Every X seconds (X being the "Sweeping Timeout" parameter configured in the system, see 1.7.1 "Service configuration") a process checks all the pending Instant Payments transactions and rejects only those that have exceeded the SCT^{Inst} Timestamp Timeout plus the Beneficiary side offset.

The time-out can also be triggered by an Investigation message from Originator Side that reaches TIPS requesting information for an existing Instant Payment transaction that is in status *Reserved* for which no Beneficiary-side answer is arrived yet and that has not been treated by Sweeping Service (see 0 "Investigation"). In this case, TIPS does not answer to the Investigation directly, but set to *Expired* the Instant Payment transaction, informing both Originator and Beneficiary side accordingly for the occurred time-out.

Any Beneficiary-side answer that arrives in TIPS for an orphan payment already treated by the Sweeping service generates an error since no reserved transaction is found.

The diagram below describes the specific process and the involved actors. The details of the steps are described in the following Table 22 – Instant Payment transaction missing/delayed Beneficiary-side answer steps.

Figure 16 – Instant Payment transaction missing/delayed Beneficiary-side answer flow

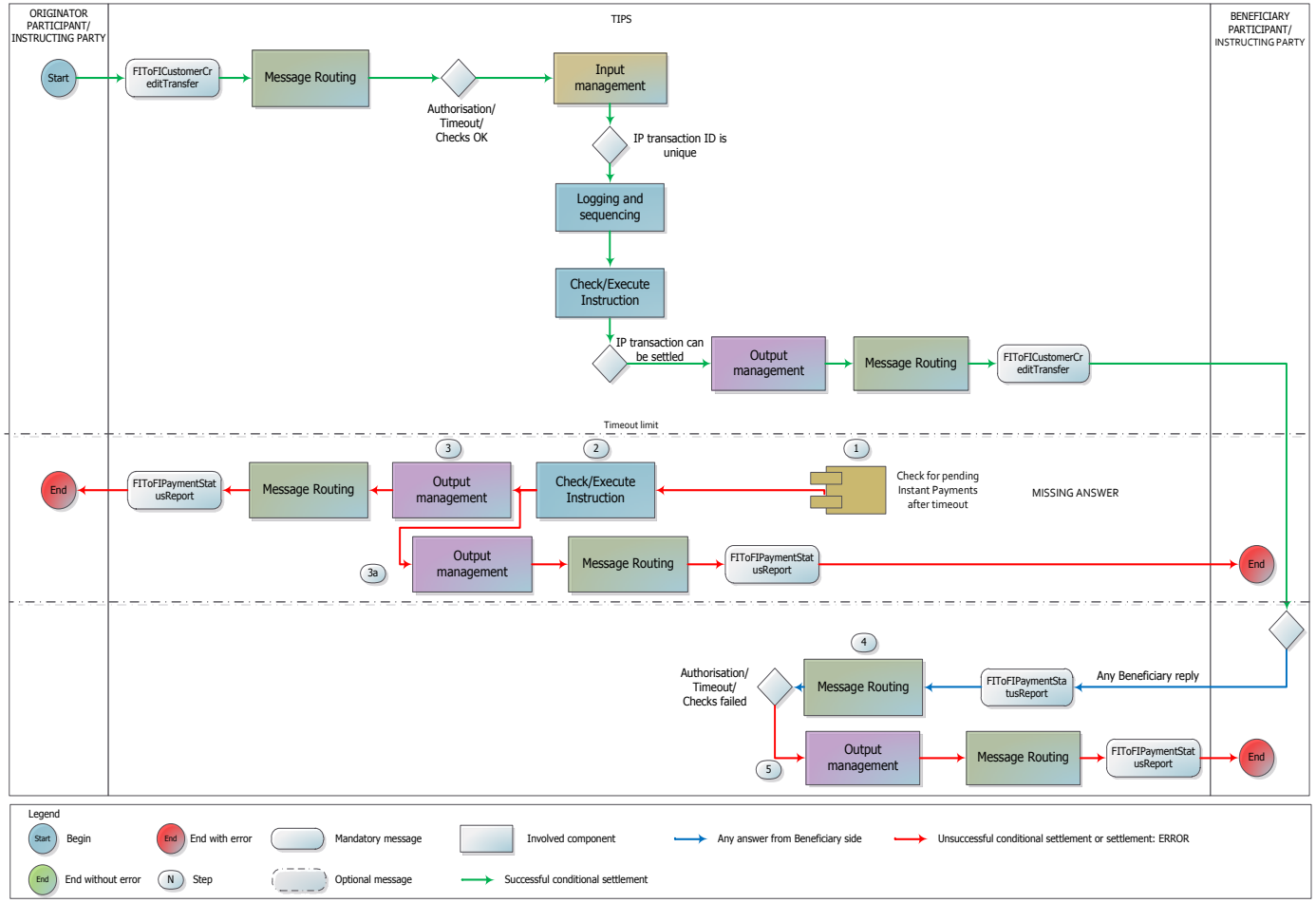


Table 22 – Instant Payment transaction missing/delayed Beneficiary-side answer steps

Step	Involved messages	Involved actors	Description
1		TIPS	Every X seconds, with "X" being defined in the "Sweeping timeout" parameter, the Sweeping service runs checking all the payment in status "*Reserved*". If the "Acceptance timestamp" of the payment has exceeded the "SCT^{Inst} Timestamp Timeout" value, the payment is elected for sweeping.
1	FIToFIPaymentStatusRequest	Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an incoming Investigation request from the Participant or Instructing Party. There is no existing generated payment transaction status advice for the transaction and no answer from Beneficiary side has reached TIPS.
2		TIPS	TIPS executes these operations for each orphan payment: - TIPS retrieves the transaction to be rejected and its ID executing the check "Timeout Check - Missing answer" (see 4.1- Business Rules for details); - The transaction is set to "*Expired*" status; - The reserved amount is released in the involved Originator Account and the possibly involved Debiting CMB is increased by the same amount TIPS always releases the reserved transactions even if the involved account or CMB have been blocked in the meantime.
3	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS sends a message to the Originator Participant or Instructing Party – same DN of the Sender taken from the transaction under analysis. The FItoFIPaymentStatusReport contains the Transaction ID of the transaction and the proper error code.
3a	FItoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS sends a message to the Beneficiary Participant or Instructing Party identified as the default DN in the entity "Outbound DN-BIC Routing" related to the Beneficiary BIC in the transaction under analysis . The FItoFIPaymentStatusReport contains the Transaction ID of the transaction and the proper error code.
4		TIPS	TIPS unsuccessfully executes the check: - Pending transaction existing. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
5	FItoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS sends a FItoFIPaymentStatusReport message to the Beneficiary Participant or Instructing Party (DN of the sender of the message) containing the proper error code.

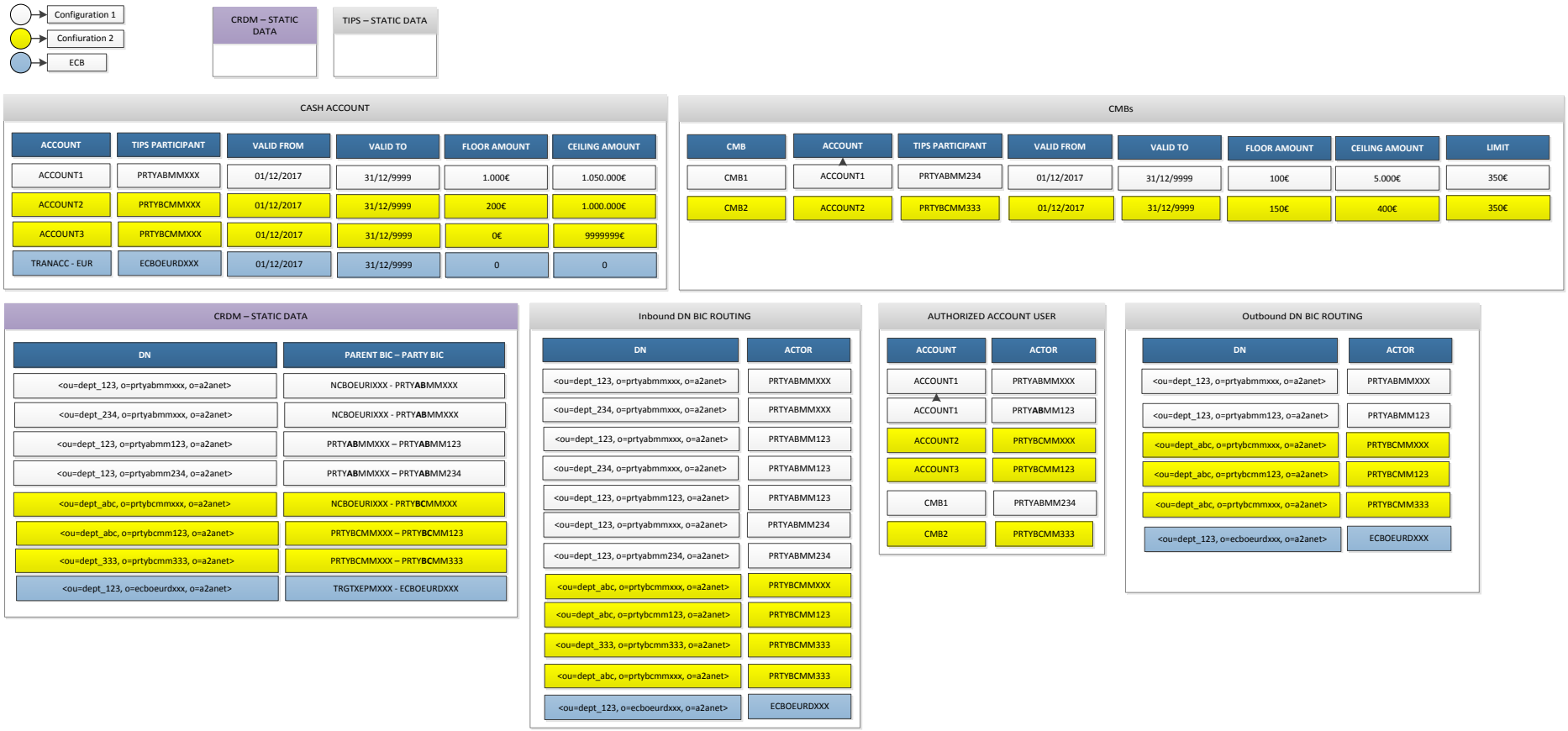
2.2.2. Examples

This sub-section includes a not exhaustive list of examples of TIPS transactions and related messages.

Each example is introduced by a description of the involved actors and involved messages and it highlights how the balances change in the accounts.

All the examples are based on the data constellation introduced below. The data constellation is depicted on the basis of the concepts introduced in 1.3.2 “Accounts structure and organisation”.

Figure 17 – Instant Payment transaction examples data constellation



2.2.2.1. Successful scenario with confirmed order – only accounts involved

This positive scenario describes a successful payment transaction between two TIPS Accounts owned and held by two TIPS Participants sending the messages on their own (no Instructing Party different from the TIPS Participant(s) foreseen). “Configuration 1” and “Configuration 2” (highlighted in white and yellow in the Figure 17 – Instant Payment transaction examples data constellation) are considered.

No errors or timeouts occur. No floor or ceiling notification expected. The current business date, in the given example, is 30/12/2017. The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one.

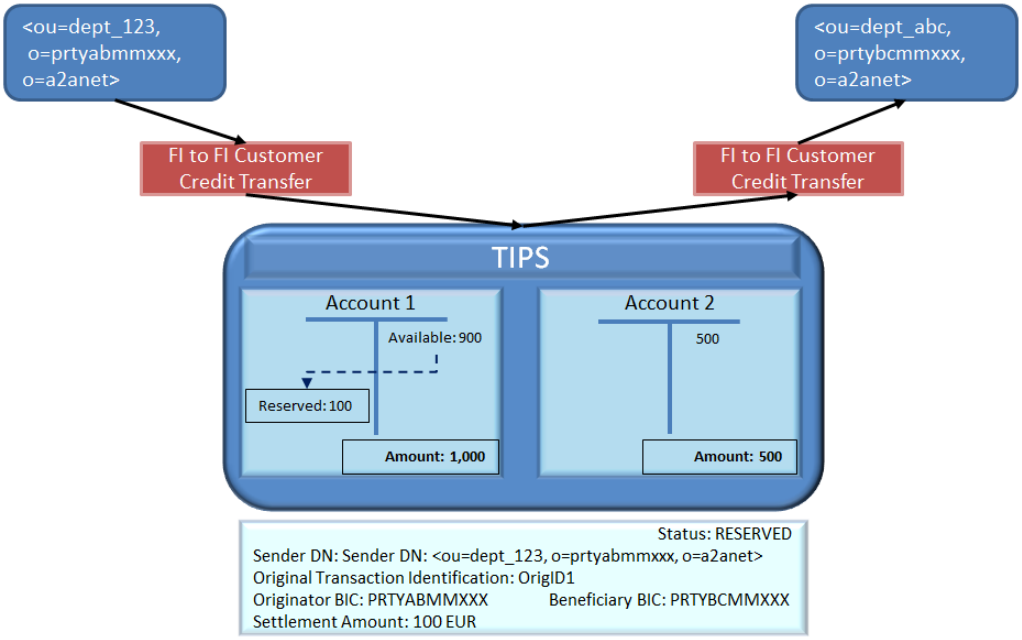
Figure 18 – Instant Payment transaction successful scenario FItoFICustomerCreditTransfer

The system, after performing the expected checks successfully, sets up the settlement on the accounts as follows:

- It identifies the Originator Account (Account1) from the Originator BIC;
- It identifies the Beneficiary Account (Account2) from the Beneficiary BIC;
- It identifies the Beneficiary DN from the “Outbound DN-BIC Routing” (<ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
- It reserves the amount in Account1 – the new availability for Account1 decreases from 1,000.00 EUR to 900.00 EUR;
- The transaction is saved and put in status *Reserved*.

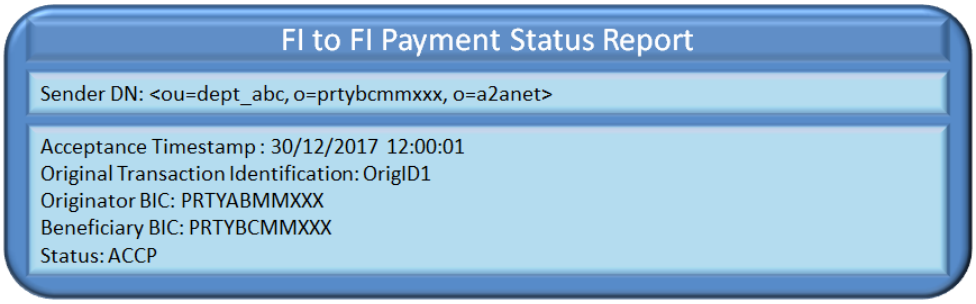
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 19 – Instant Payment transaction successful scenario reservation



The answer from the Beneficiary triggers the settlement phase. In this scenario, the Beneficiary Bank confirms the payment by sending a FItoFIPaymentStatusReport message with a positive answer. TIPS definitively settles the transaction, moving the amount from Account1 to Account2.

Figure 20 – Instant Payment transaction successful scenario FItoFIPaymentStatusReport

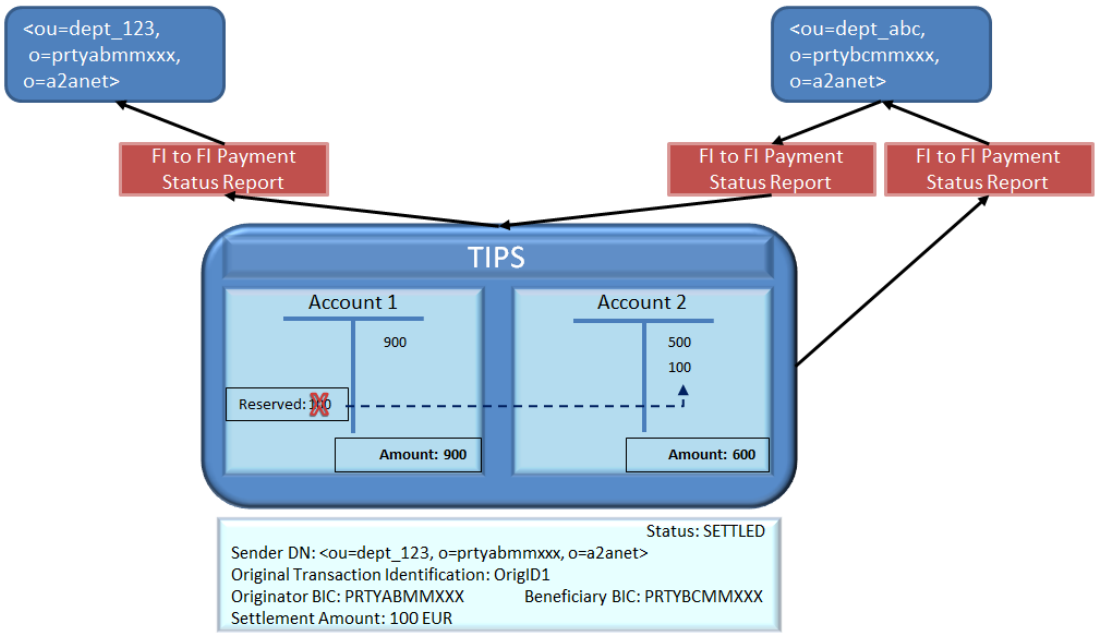


The system, after performing the expected checks successfully, finds the reserved transaction and executes the settlement on the accounts as follows:

- It identifies the transaction from the Original Transaction ID. The transaction must be in status *Reserved*.
- it identifies the Originator Account (Account1) and the Beneficiary Account (Account2) from the retrieved transaction;
- It identifies the Originator DN from the transaction;
- It definitively settles the amount moving the liquidity reserved in the Account1 to the Account2;
- The transaction status is turned into *Settled*.

TIPS then forwards the FItoFIPaymentStatusReport message to the Originator DN and sends a confirmation message for successful settlement to the Beneficiary.

Figure 21 – Instant Payment transaction successful scenario settlement



2.2.2.2. Successful scenario with confirmed order – Creditor account and debtor CMB

This positive scenario describes a successful payment transaction between a CMB held by a branch of a TIPS Participant A sending messages on its own and a TIPS Account owned by a TIPS Participant B but used by a related Reachable Party. “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

No errors or timeouts occur. No floor or ceiling notification is expected. The current business date, in the given example, is 30/12/2017. The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one.

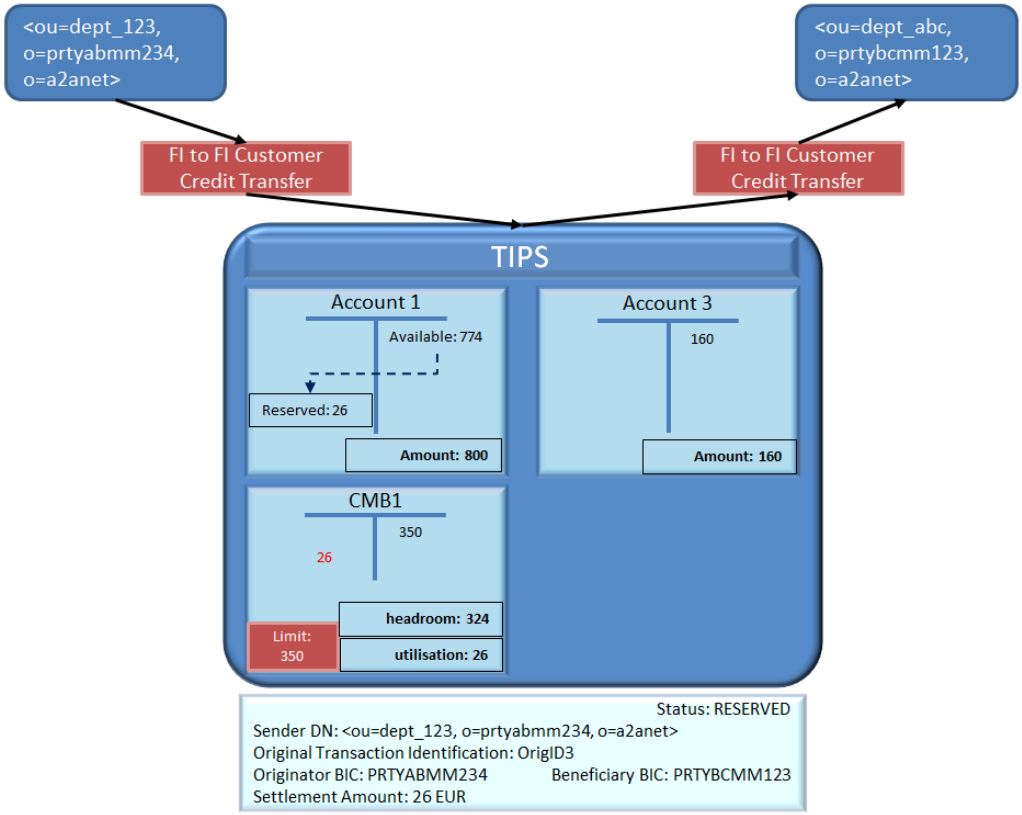
Figure 22 – Instant Payment transaction successful scenario FItoFICustomerCreditTransfer

The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- It identifies the Debiting CMB (CMB1) from the Originator BIC;
- It identifies the Originator Account from the CMB1 (Account1);
- It identifies the Beneficiary Account (Account3) from the Beneficiary BIC;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing" (<ou=dept_abc, o=prtybcmm123, o=a2anet>);
- It decreases the headroom for the involved CMB1;
- It reserves the amount for Account1 related to the CMB – the new availability for Account1 decreases from 800.00 EUR to 774.00 EUR;
- The transaction is saved and put in status *Reserved*.

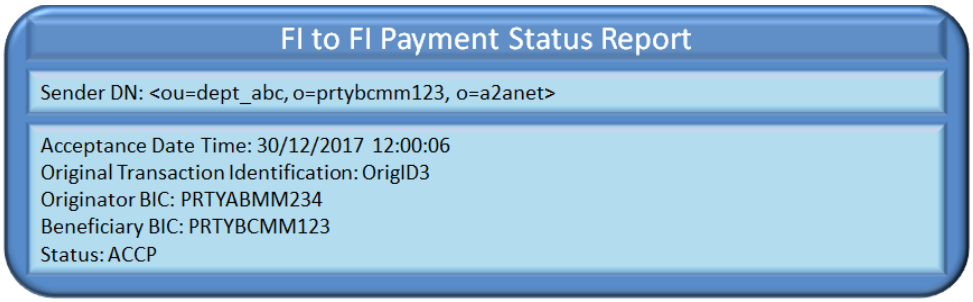
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 23 – Instant Payment transaction successful scenario reservation



The answer from the Beneficiary Participant triggers the settlement phase. In this scenario, the Beneficiary Participant confirms the payment sending a FItoFIPaymentStatusReport message with a positive answer. TIPS definitively settles the transaction, moving the amount from Account1 to Account3. The movement on CMB1 is confirmed.

Figure 24 – Instant Payment transaction successful scenario FItoFIPaymentStatusReport

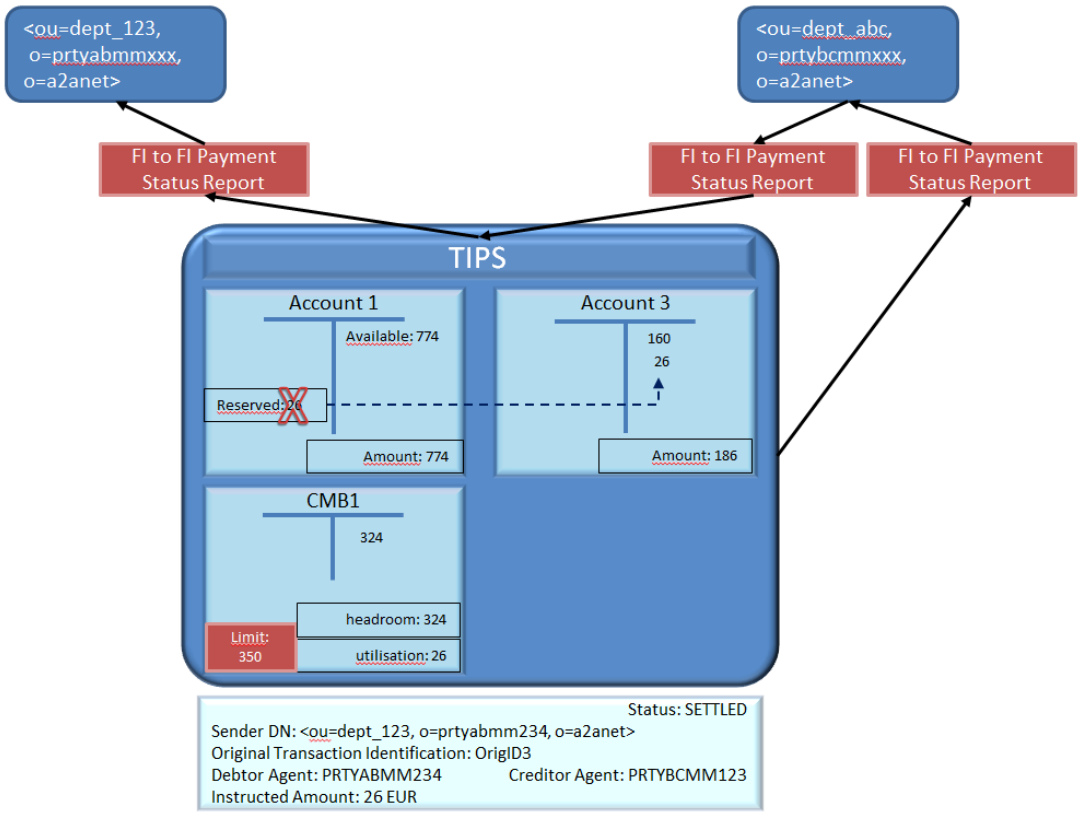


The system, after performing the expected checks successfully, finds the reserved transaction and executes the settlement on the accounts as follows:

- It identifies the transaction from the Original Transaction ID. The transaction must be in status *Reserved*.
- It identifies the Originator Account (Account1) and the Beneficiary Account (Account3) from the retrieved transaction;
- It identifies the Originator DN from the transaction;
- It definitively settles the amount by moving the liquidity reserved in the Account1 to the Account3;
- The transaction status is turned into *Settled*.

In this example, CMB1 has no additional movements – the reduction of the headroom is confirmed. The settlement phase ends and TIPS then forwards the FItoFIPaymentStatusReport message to the Originator DN and sends a confirmation message for successful settlement to the Beneficiary Participant.

Figure 25 – Instant Payment transaction successful scenario settlement



2.2.2.3. Successful scenario with confirmed order – Creditor CMB and debtor Account

This positive scenario describes a successful payment transaction between a TIPS Account owned and held by a TIPS Participant A sending the messages on its own and a CMB held by a branch of a TIPS Participant B. The TIPS Participant B acts as Instructing Party for its branch. “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

No errors or timeouts occur. No floor or ceiling notification is expected. The current business date, in the given example, is 30/12/2017. The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one.

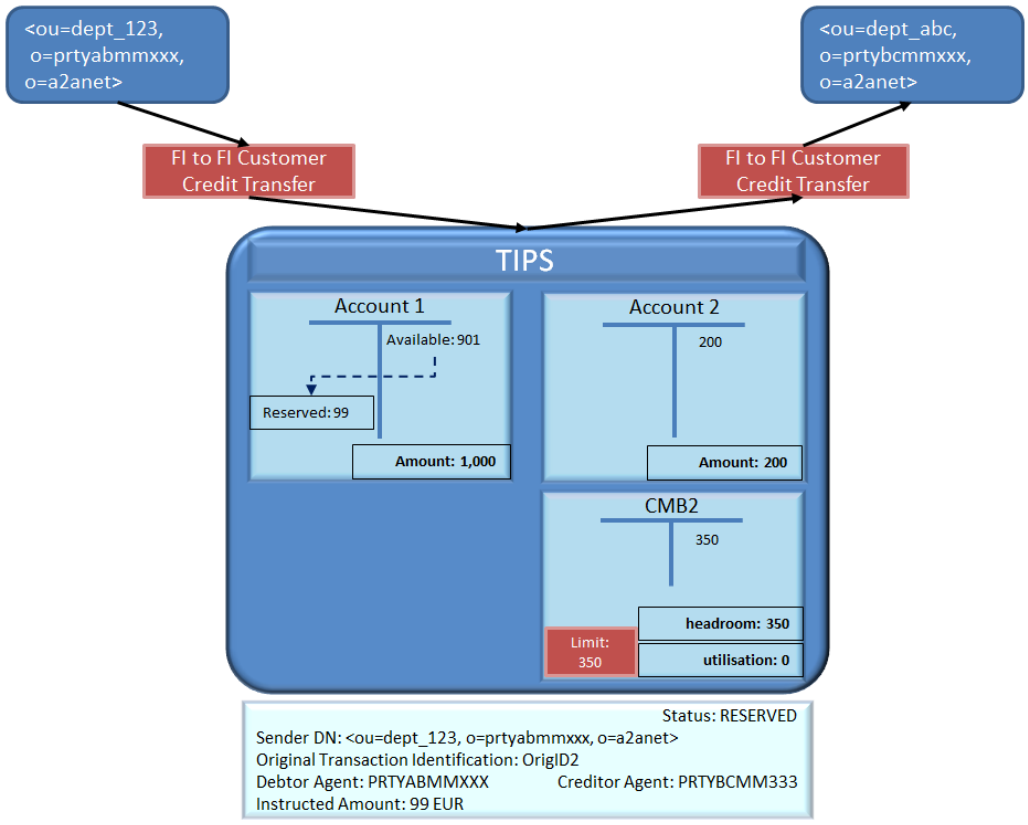
Figure 26 – Instant Payment transaction successful scenario FItoFICustomerCreditTransfer

TIPS, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- It identifies the Originator Account (Account1) from the Originator BIC;
- It identifies the Crediting CMB (CMB2) from the Beneficiary BIC;
- It identifies the Beneficiary Account (Account2) from the CMB2 in table CMBs;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing" (<ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
- It reserves the amount in Account1 – the new availability for Account1 decreases from 1,000.00 EUR to 901.00 EUR;
- The transaction is saved and put in status *Reserved*.

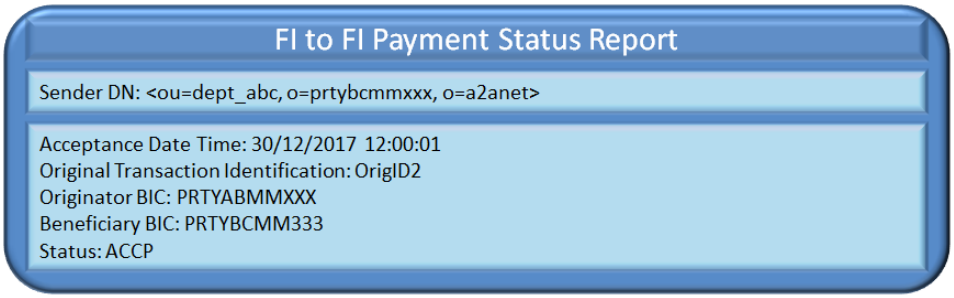
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 27 – Instant Payment transaction successful scenario reservation



The answer from the Beneficiary Participant triggers the settlement phase. In this scenario, the Beneficiary Bank confirms the payment sending a FItoFIPaymentStatusReport message with a positive answer. TIPS definitively settles the transaction, moving the amount from Account1 to Account2 and increasing the headroom for CMB2.

Figure 28 – Instant Payment transaction successful scenario FItoFIPaymentStatusReport

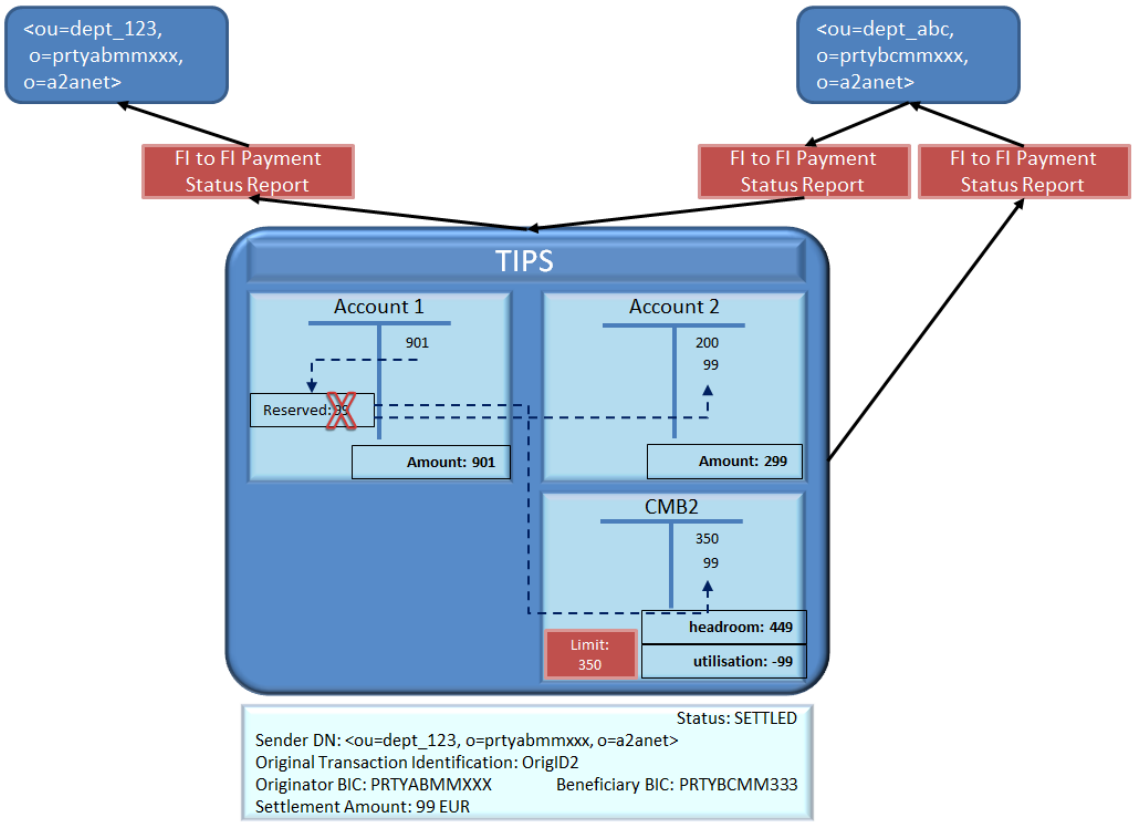


The system, after performing the expected checks successfully, finds the reserved transaction and executes the settlement on the accounts as follows:

- It identifies the transaction from the Original Transaction ID. The transaction must be in status *Reserved*.
- It identifies the Originator Account (Account1), the Crediting CMB (CMB2) and the Beneficiary Account (Account2) from the retrieved transaction;
- It identifies the Originator DN from the transaction;
- It definitively settles the amount moving the liquidity reserved in the Account1 to the Account2;
- It increases the headroom of the CMB2;
- The transaction status is turned into *Settled*.

In this example, CMB2 exceeds the defined limit for the CMB (the limit defined remains 350, the headroom is 350 + 99 = 449 and the utilisation is -99 as depicted in Figure 29 – Instant Payment transaction successful scenario settlement). The settlement phase ends and TIPS then forwards the FItoFIPaymentStatusReport message to the Originator DN and sends a confirmation message for successful settlement to the Beneficiary Participant.

Figure 29 – Instant Payment transaction successful scenario settlement



2.2.2.4. Successful scenario with rejected order

This negative scenario describes a successful reservation of funds for a transaction between a CMB held by a branch of a TIPS Participant A sending messages on its own and a TIPS Account owned by a TIPS Participant B. “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

After the successful reservation, the Beneficiary participant rejects the payment.

No errors or timeouts occur. No floor or ceiling notification is expected. The current business date, in the given example, is 30/12/2017. The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one.

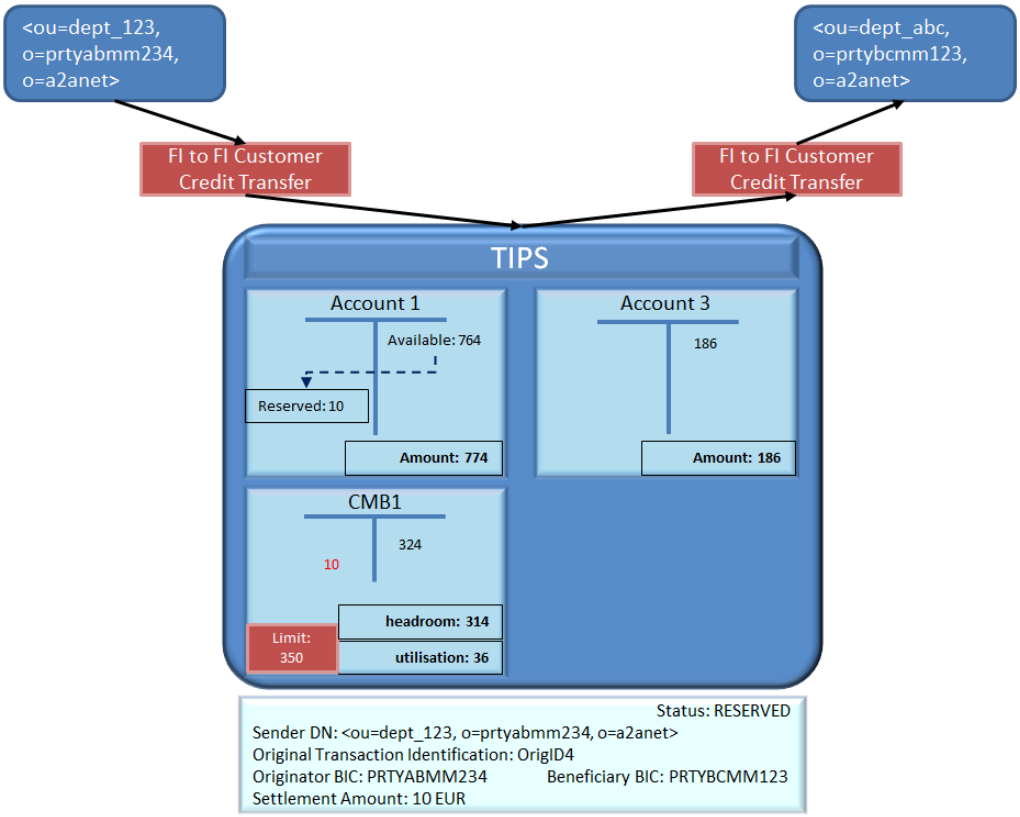
Figure 30 – Instant Payment transaction rejected order FItoFICustomerCreditTransfer

The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- It identifies the Debiting CMB (CMB1) from the Originator BIC;
- It identifies the Originator Account from the CMB1 (Account1);
- It identifies the Beneficiary Account (Account3) from the Beneficiary BIC;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing" (<ou=dept_abc, o=prtybcmm123, o=a2anet>);
- It decreases the headroom for the involved CMB1;
- It reserves the amount for the Account1 related to the CMB;
- The transaction is saved and put in status *Reserved*.

The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

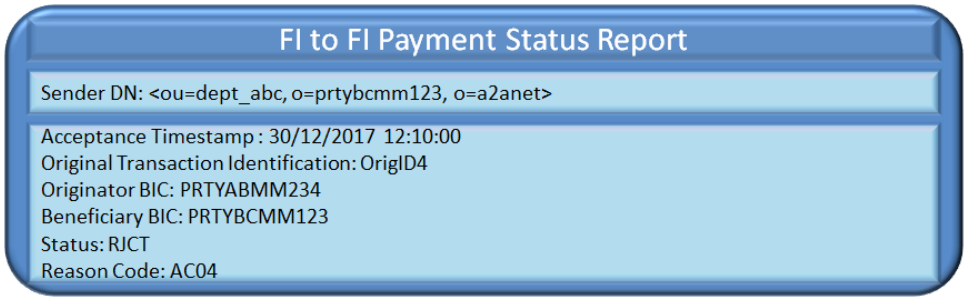
Figure 31 – Instant Payment transaction rejected order reservation



In this scenario, the Beneficiary Participant receives the forwarded FItoFICustomerCreditTransfer message with the transaction. The Beneficiary Participant rejects the payment sending a FItoFIPaymentStatusReport message with a negative answer.

The answer from the Beneficiary Participant triggers the settlement phase for a negative scenario[13]. TIPS must then increase the CMB1 headroom of the same amount of the payment and unreserve the amount on Account1.

Figure 32 – Instant Payment transaction rejected order FI to FI Status Report



The system performs the expected checks successfully. The timeout check is not performed: a negative response from the Beneficiary side must always reach the Originator side with no changes and trigger an unreservation of funds.

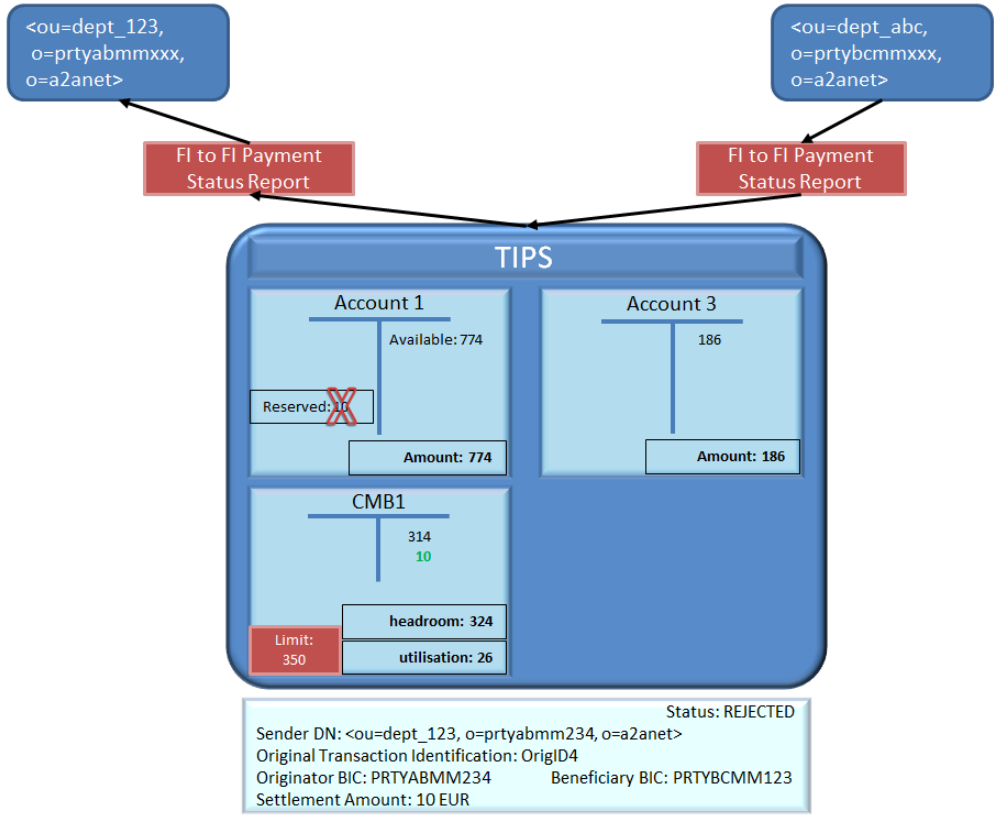
TIPS finds the reserved transaction, unreserves the funds on the accounts and increases the CMB headroom as follows:

- It identifies the transaction from the Original Transaction ID. The transaction must be in status *Reserved*.
- It identifies the Originator Account (Account1) from the retrieved transaction;
- It unreserves the amount on the Account1 and adds the same amount of the payment to CMB1;
- The transaction status is turned into *Rejected*;
- It identifies the Originator DN from the transaction.

The settlement phase ends with the rejection of the payment and TIPS then forwards the FItoFIPaymentStatusReport message to the Originator DN.

[13] The error code AC04 is used as an example in Figure 32, however the message can contain any error code sent by the beneficiary side.

Figure 33 – Instant Payment transaction rejected order unreservation



2.2.2.5. Error scenarios

This section describes some possible error scenarios that can happen when dealing with Instant Payment. This is a subset of possible error cases but the error mechanism is always the same.

For the complete list of possible error codes, see 4.2 “List of Error codes”.

Insufficient funds within the CMB

This error scenario describes a payment transaction between a CMB held by a branch of a TIPS Participant A sending messages on its own and a TIPS Account owned by a TIPS Participant. “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

The transaction fails since the requested amount exceeds the headroom of the involved CMB.

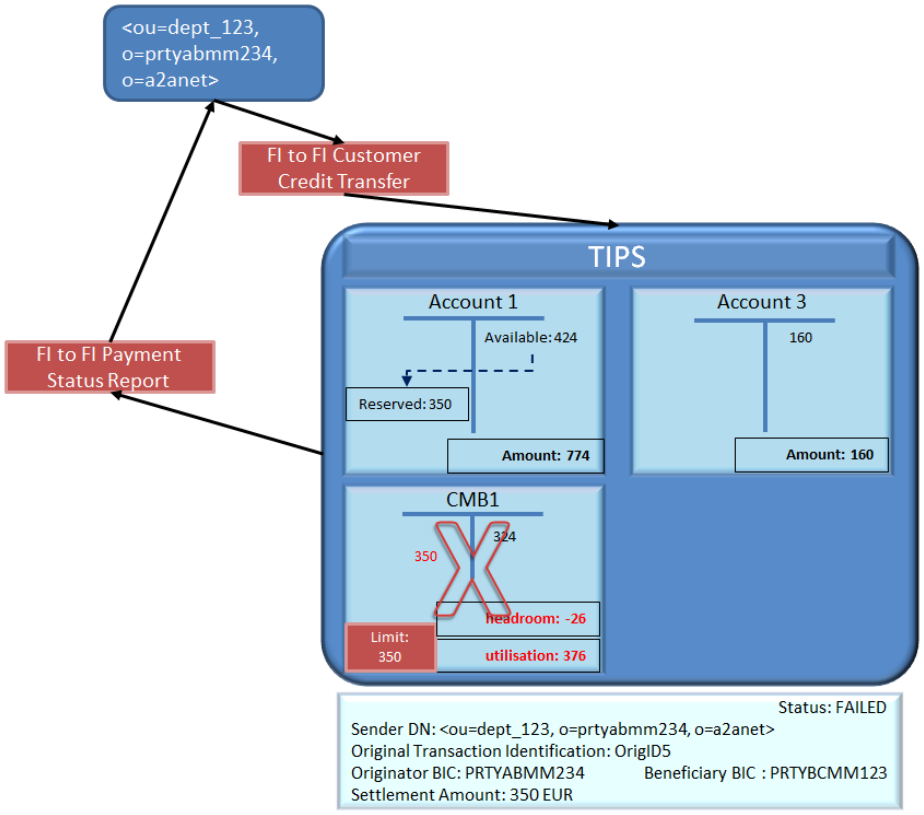
The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one:

Figure 34 – Headroom error FItoFICustomerCreditTransfer

The system executes these steps:

- It identifies the Debiting CMB (CMB1) from the Originator BIC;
- It identifies that the headroom for the involved CMB1 is lower than the request amount;
- The transaction fails. The attempt is saved as failed transaction and the sender is informed of the error.

Figure 35 – Headroom error transaction failed



TIPS then sends a FItoFIPaymentStatusReport to the sender with the proper error code.

Figure 36 – Headroom error FItoFIPaymentStatusReport

Blocked Account

This error scenario describes a payment transaction between two TIPS Accounts owned and held by two TIPS Participants sending the messages on their own (no Instructing Party different from the TIPS Participant(s) foreseen). “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

The transaction fails since the account to be debited is blocked and not available for settlement.

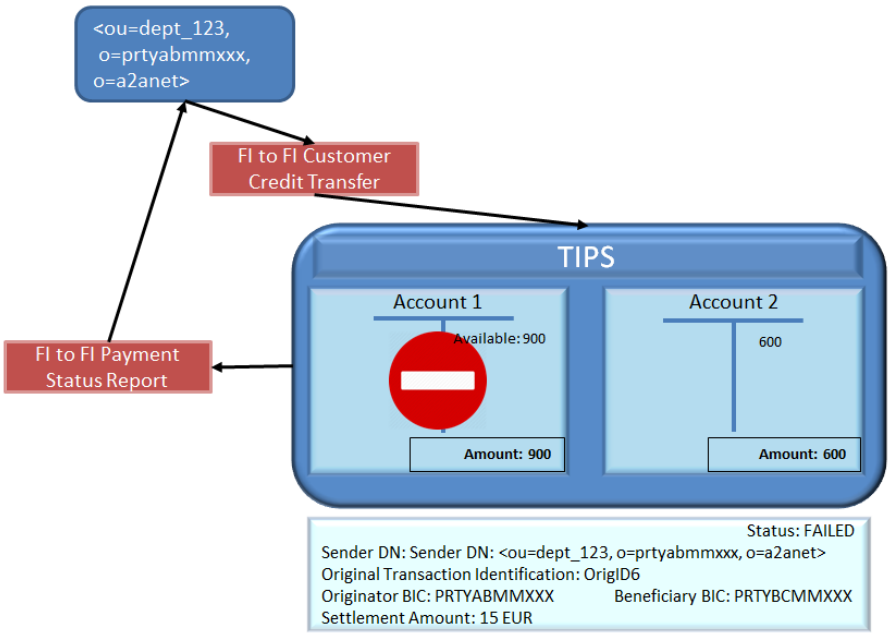
The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one.

Figure 37 – Blocked account error FItoFICustomerCreditTransfer

The system executes these steps:

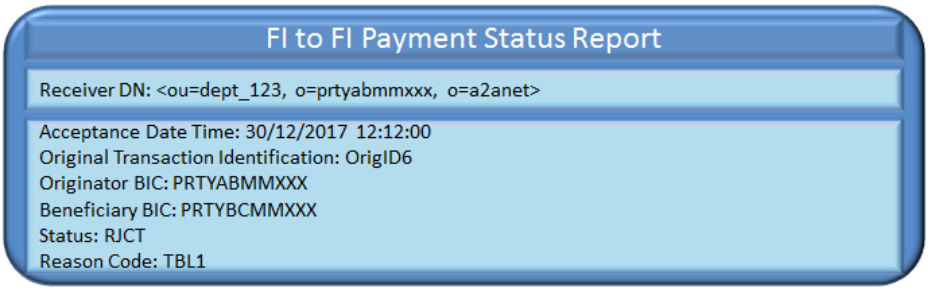
- It identifies the Debiting Account (Account1) from the Originator BIC;
- It detects that Account1 is blocked (e.g. status is either ‘blocked for debit’ or ‘blocked for credit and debit’);
- The transaction fails. The attempt is saved as failed Instant Payment transaction and the sender is informed of the error.

Figure 38 – Blocked account error transaction failed



TIPS then sends a FItoFIPaymentStatusReport to the sender with the proper error code.

Figure 39 – Blocked account error FItoFIPaymentStatusReport



Beneficiary side timeout

This error scenario describes a payment transaction between a CMB held by a branch of a TIPS Participant A sending messages on its own and a TIPS Account owned by a TIPS Participant. “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

The transaction fails since the answer from the Beneficiary Participant reaches TIPS after the foreseen timeout period.

The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario is shown in the following diagram.

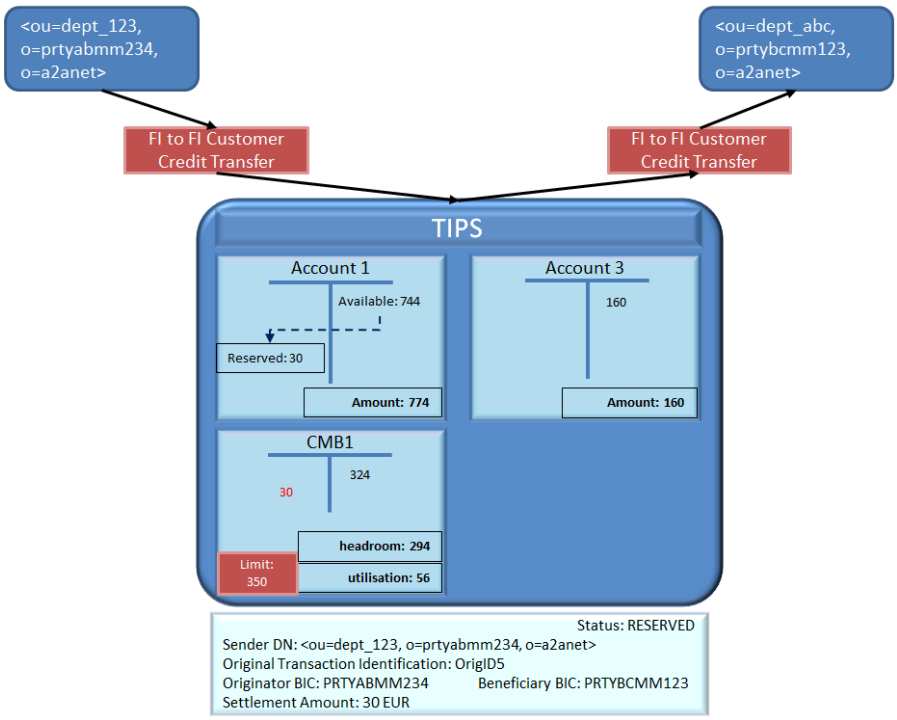
Figure 40 – Beneficiary side timeout error FItoFICustomerCreditTransfer

The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- It identifies the Debiting CMB (CMB1) from the Originator BIC;
- It identifies the Originator Account from the CMB1 (Account1);
- It identifies the Beneficiary Account (Account3) from the Beneficiary BIC;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing (<ou=dept_abc, o=prtybcmm123, o=a2anet>);
- It decreases the headroom for the involved CMB1;
- It reserves the amount for the Account1 related to the CMB – the new availability for Account1 decreases from 774.00 EUR to 744.00 EUR;
- The transaction is saved and put in status *Reserved*.

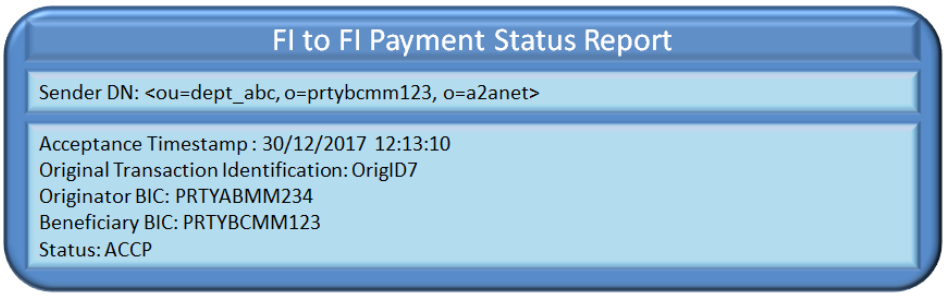
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 41 – Beneficiary side timeout error reservation



The answer from the Beneficiary Participant arrives when the timeout period is exceeded.

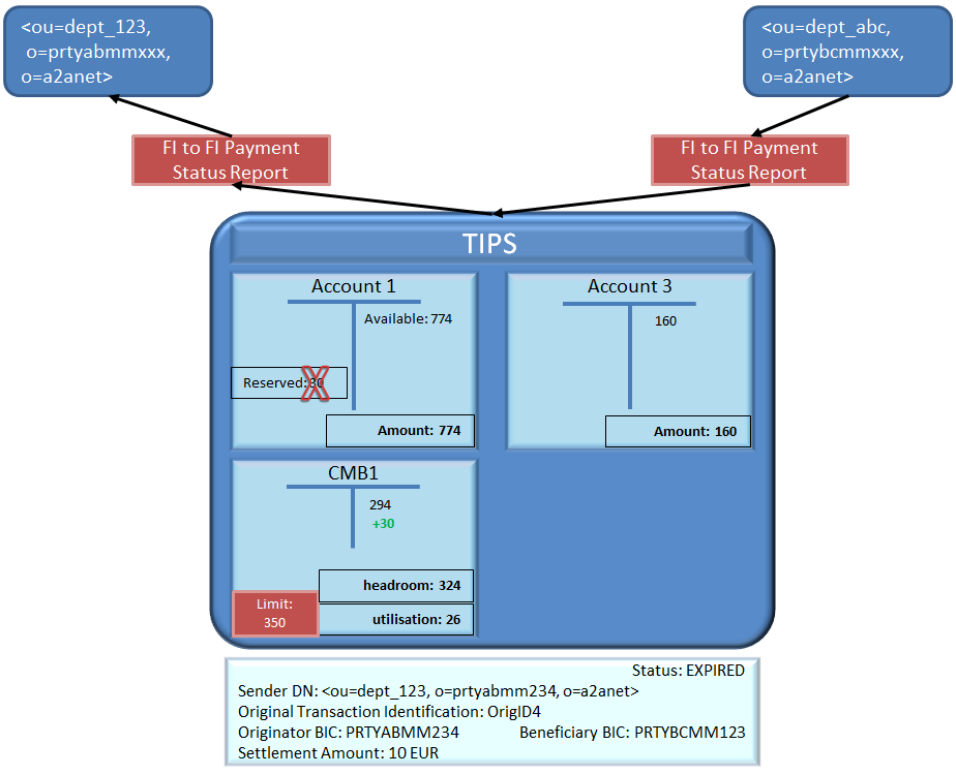
Figure 42 – Beneficiary side timeout error FItoFIPaymentStatusReport



The timeout check on Beneficiary Participant side fails. TIPS finds the reserved transaction, un-reserves the funds on the accounts and increases the CMB headroom as follows:

- It identifies the transaction from the Original Transaction ID. The transaction must be in status *Reserved*;
- It identifies the Originator Account (Account1) from the retrieved transaction;
- It un-reserves the amount on the Account1 and adds the same amount of the payment to CMB1;
- The transaction status is turned into *Expired*;
- It identifies the Originator DN from the transaction.

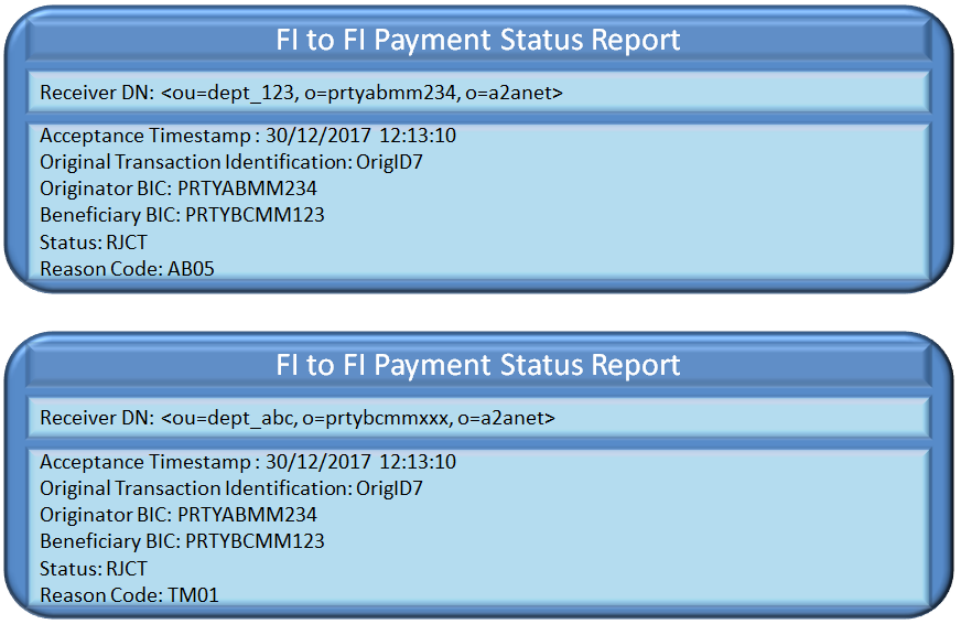
Figure 43 – Beneficiary side timeout error un-reservation



TIPS informs both sides of the transaction about the expiration. TIPS sends the message to:

- The DN of the sender of the Instant Payment transaction;
- The Beneficiary DN as configured in the “Outbound DN-BIC Routing (<ou=dept_abc, o=prtybcmm123, o=a2anet>);
- The message for the Originator Participant (reason code equal to AB05) and the Beneficiary Participant (reason code equal to TM01) are respectively generated and sent as shown in the following diagram.

Figure 44 – Beneficiary side timeout error FI to FI Status Report



2.2.2.6. Delayed Beneficiary-side answer scenario

This error scenario describes a payment transaction between two TIPS Accounts owned and held by two TIPS Participants sending the messages on their own (no Instructing Party different from the TIPS Participant(s) foreseen). “Configuration 1” and “Configuration 2” (highlighted in white and yellow in Figure 17 – Instant Payment transaction examples data constellation) are considered.

In this scenario, the confirmation message from the Beneficiary Participant is delayed and, in the meantime, the Sweeper rejects the pending payment.

The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one.

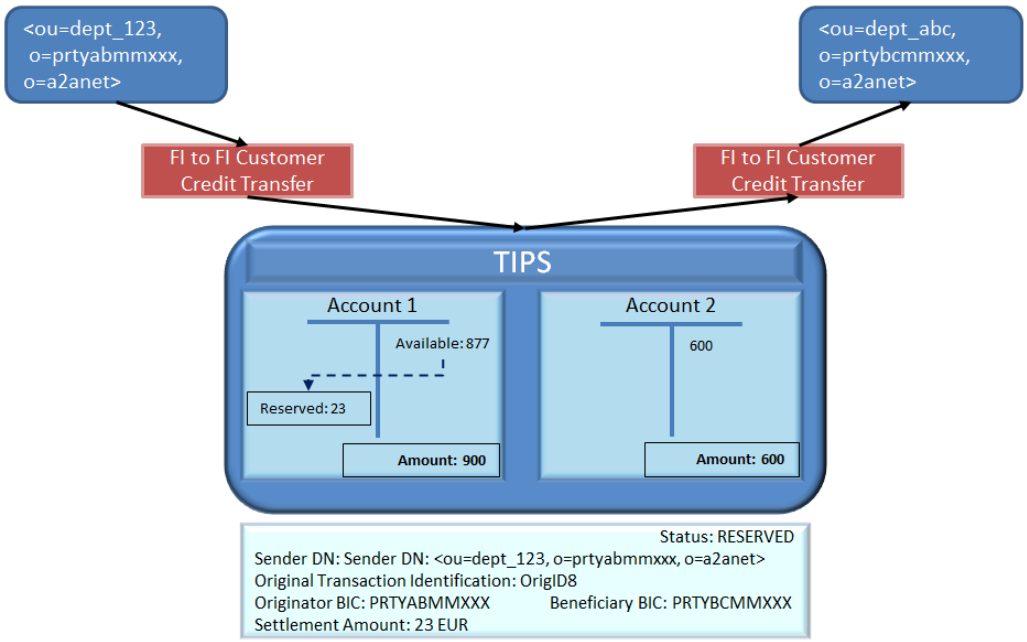
Figure 45 – Delayed Beneficiary-side answer FItoFICustomerCreditTransfer

The system, after performing the expected checks successfully, sets up the settlement on the accounts as follows:

- It identifies the Originator Account (Account1) from the Originator BIC;
- It identifies the Beneficiary Account (Account2) from the Beneficiary BIC;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing" (<ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
- It reserves the amount in Account1;
- The transaction is saved and put in status *Reserved*.

The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 46 – Delayed Beneficiary-side answer reservation

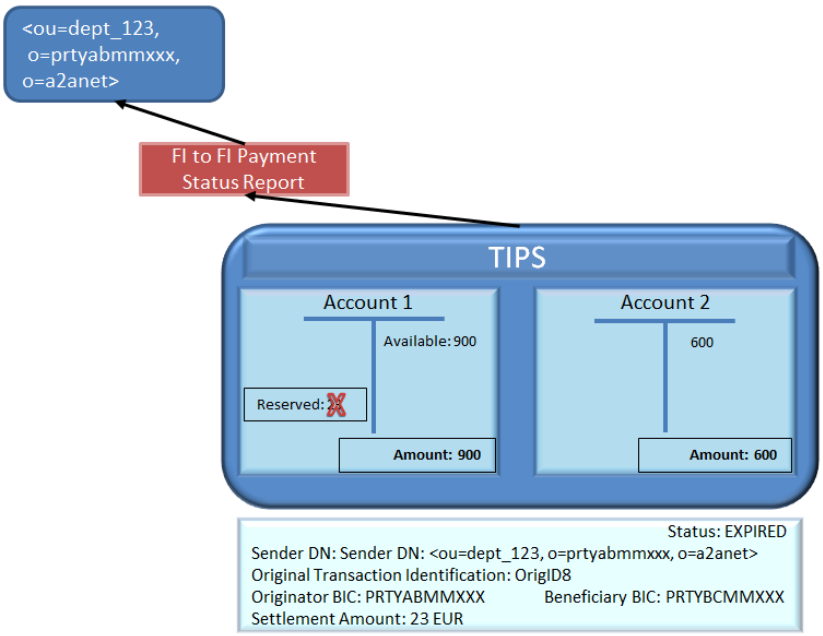


The answer from the Beneficiary side is delayed and does not reach TIPS in time to close the transaction. After a configured timeout, the Sweeper checks for pending payments. In case a pending

payment is found for which the SCT^Inst Timestamp Timeout has elapsed, TIPS triggers a timeout, rejects the transaction, un-reserves the funds on the debtor account as follows:

- It identifies the Originator Account (Account1) from the retrieved transaction;
- It un-reserves the amount on the Account1;
- The transaction status is turned into *Expired*;
- It identifies the Originator DN from the transaction;
- It identifies the Beneficiary DN from the transaction.

Figure 47 – Delayed Beneficiary-side answer unreservation



TIPS then sends a FItoFIPaymentStatusReport to both the Originator and the Beneficiary Participants with the proper error code (see respectively Figure 48 for Originator side and Figure 49 for Beneficiary side).

Figure 48 – Timeout answer FItoFIPaymentStatusReport (Originator side)

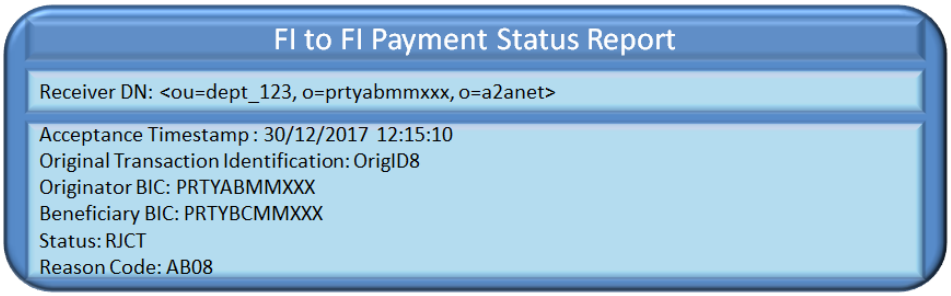
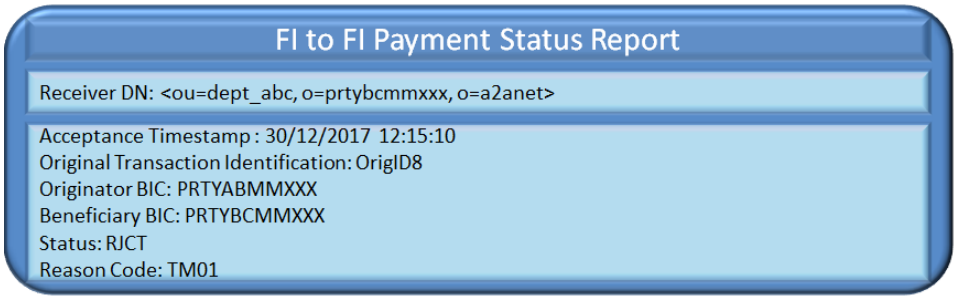
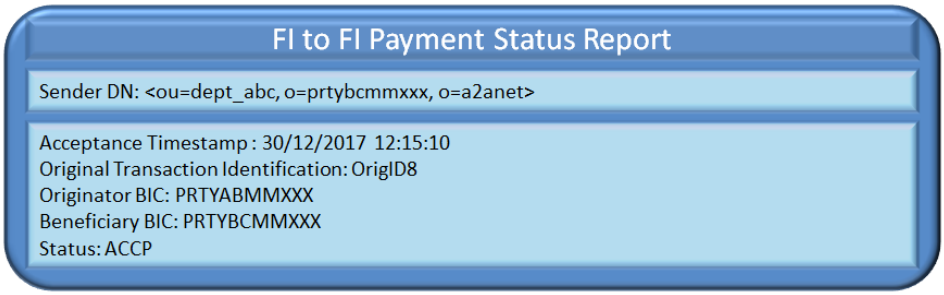


Figure 49 – Timeout answer FItoFIPaymentStatusReport (Beneficiary side)



This example scenario foresees that Beneficiary-side reply reaches TIPS after the rejection due to timeout and un-reservation of funds of the relevant pending transaction. The delayed reply message generated by the Beneficiary Participant is the following.

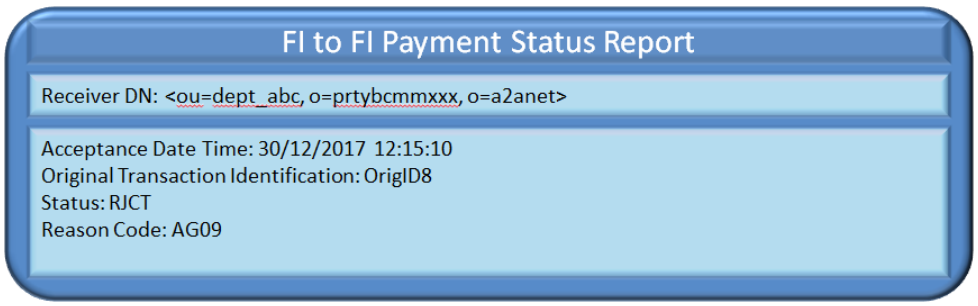
Figure 50 – Delayed Beneficiary-side response FItoFIPaymentStatusReport



TIPS rejects the message since the underlying transaction has been already rejected by the Sweeper and it is no longer in status pending.

Therefore, TIPS sends FI to FI Status Report to the same DN that sent the Beneficiary reply. The Original Transaction Identification inserted in the FI to FI Status Report is the one received in the Beneficiary reply.

Figure 51 – Delayed Beneficiary-side reply FItoFIPaymentStatusReport



2.3. Recall

This section focuses on the processing of Recall requests and provides the description of the full scenario and the related steps.

A Recall request is forwarded by the Assigner which is an Originator Participant or Instructing Party of a previously settled Instant Payment transaction to request that said transaction is refunded and the amount – equal or possibly lower than the original one – is credited back to the original account. The request is forwarded by the Assigner to TIPS and passed directly by TIPS to the Assignee which is the relevant Beneficiary or a party acting on behalf of the Beneficiary Participant. The request could be either answered negatively or positively via a Recall answer message. If the Assignee rejects the recall, the negative answer is immediately forwarded back to the Assigner of the Recall. If the Assignee answers the Recall positively TIPS attempts to settle the returned amount.

From a TIPS view point, a Recall process is independent from the transaction it is attempting to recall; the involved actors are responsible for the agreement about the refund that is sent and processed in TIPS.

The involved actors are:

- The Recall Assigner: the Originator Participant or Instructing Party of a previously settled instruction that sends the Recall request;
- The Recall Assignee: the Beneficiary Participant or Instructing Party that receives the Recall request.

The involved messages are:

- The FIToFIPaymentCancellationRequest message, used to request the cancellation of an original Instant Payment transaction and the return of funds previously settled.
- The PaymentReturn message, used to respond positively to the Recall request.
- The ResolutionOfInvestigation message, used to respond negatively to the Recall request.
- The FItoFIPaymentStatusReport message sent by TIPS in the following cases:
    - To reject a Recall request or a Recall answer as they cannot be validated;
    - To notify to the Assignee the successful settlement of the Recall request as a result of the positive Recall answer.
- The ReturnAccount message can be possibly sent to Creditor Account Owner and/or Debtor Account Owner – if TIPS Actors have configured the floor and ceiling notification and if the related configured thresholds are reached.

The process described below is triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user have already been successfully performed by ESMIG.

Besides it's important to keep in mind that when the Assigner or Assignee BIC contain a BIC8 instead of a BIC11, the message is accepted and the string is completed by appending "XXX" at the end of the BIC8 for further processing. All the steps are described considering BIC11 only.

Figure 52 – Recall flow shows the general flow for Recalls processing and contains message events and involved actors. The details of each step are provided in the following Table 23 – Recall steps.

Figure 52 – Recall flow

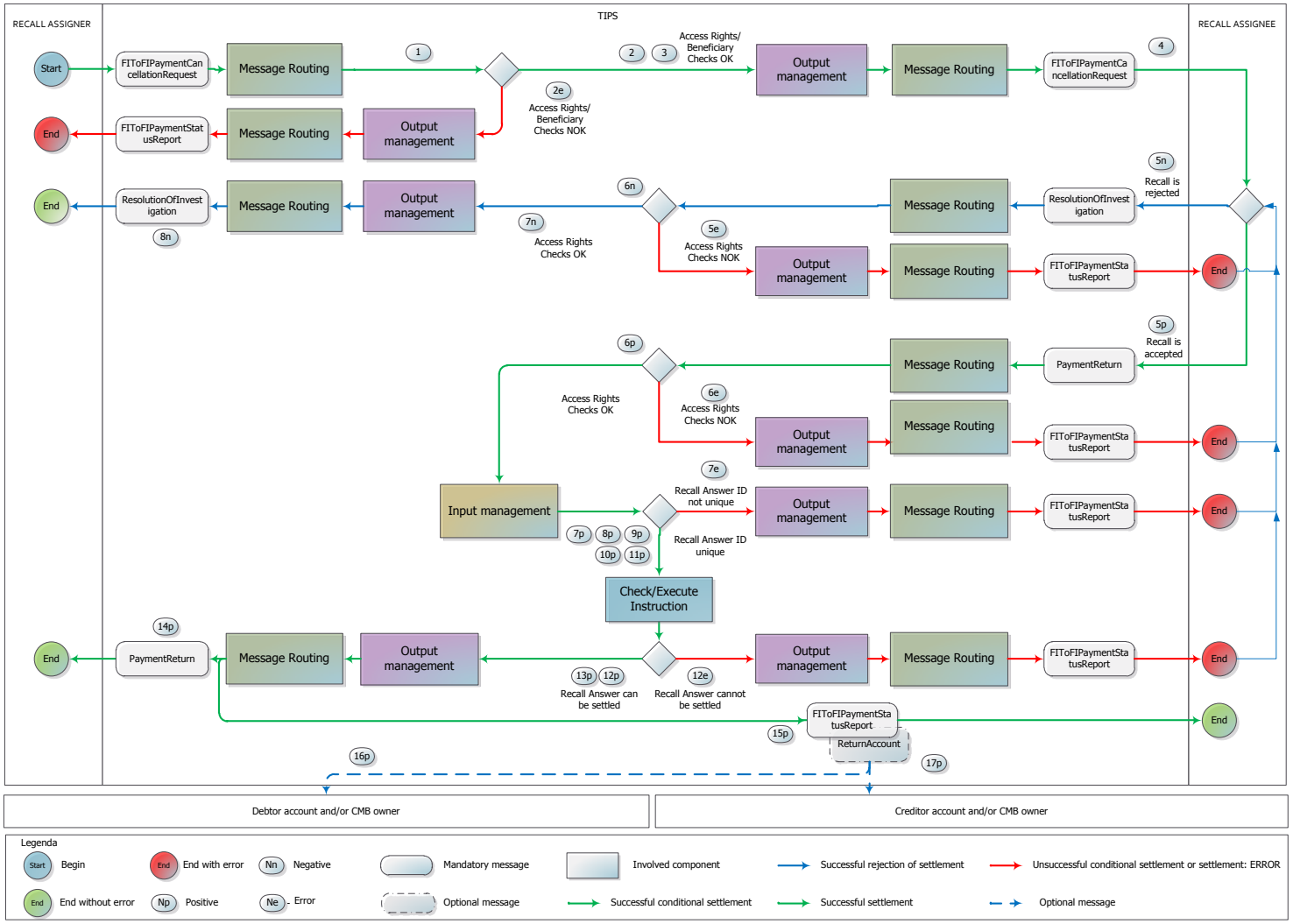


Table 23 – Recall steps

Step	Involved messages	Involved actors	Description
1	FIToFIPaymentCancellationRequest	Recall Assigner as sender TIPS as receiver	TIPS receives an incoming Recall request from the Recall Assigner. Technical validation, check of mandatory fields and authentication checks have already been successfully executed by the ESMIG.
2		TIPS	TIPS successfully executes the following checks: - Access Rights check; - Instructing Party authorised; - Originator Account or CMB existence. See 4.1- Business Rules for details.
2e	FIToFIPaymentStatusReport	TIPS as sender Recall Assigner as receiver	TIPS unsuccessfully executes one of the checks listed in step 2. At the first negative check the system stops and sends a message to the Recall Assigner – same DN of the Sender in step 1 – containing the proper error code.
3		TIPS	The DN of the Recall Assignee is identified in the "Outbound DN-BIC Routing" mapping table from the field Assignee (FIToFIPaymentCancellationRequest).
4	FIToFIPaymentCancellationRequest	TIPS as sender Recall Assignee as receiver	TIPS forwards the received Recall request to the Recall Assignee DN.
5n	ResolutionOfInvestigation	Recall Assignee as sender TIPS as receiver	The Recall Assignee sends a negative response and it is successfully delivered to TIPS. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
6n		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised – creditor side. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
5e	FIToFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the checks listed in step 6n. At the first negative check the system stops and sends a message to the Recall Assignee - same DN of the Sender – containing the proper error code. See 4.1- Business Rules for details.
7n		TIPS	The DN of the Recall Assigner is identified in the "Outbound DN-BIC Routing" mapping table from the field Assignee (ResolutionOfInvestigation).
8n	ResolutionOfInvestigation	TIPS as sender Recall Assigner as receiver	TIPS forwards the negative response received to the Recall Assigner DN.
5p	PaymentReturn	Recall Assignee as sender TIPS as receiver	The Recall Assignee sends a positive response and it is successfully delivered to TIPS. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
6p		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised – creditor side; - Originator Account or CMB existence; - Beneficiary Account or CMB existence; - Maximum Amount not exceeded for Returned Amount. See 4.1- Business Rules for details.
6e	FIToFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the checks listed in step 6p. At the first negative check the system stops and sends a message to the Recall Assignee - same DN of the Sender – containing the proper error code. The status of the Recall Answer is set to "*Failed*". In this case the Recall Assignee can submit a new Recall Answer in order to close the Recall business case. The message validation will restart from the step 5p. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
7p		TIPS	TIPS successfully executes the check: - Duplicate check for positive Recall Answer. See 4.1- Business Rules for details.
7e	FIToFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the check in step 7p. The system stops and sends a message to the Recall Assignee – same DN of the sender – containing the proper error code. The status of the Recall Answer is set to "*Failed*". In this case the Recall Assignee can submit a new Recall Answer in order to close the Recall business case. The message validation will restart from the step 5p. See 4.1- Business Rules for details.
8p		TIPS	TIPS combines the information embedded in the PaymentReturn message to determine a payment transaction dataset to send to the Check and Execute Instruction process. The status of the Recall Answer is set to "*Validated*".
9p		TIPS	The Amount to be settled (AT046 – DS-06) is retrieved and saved as information related to the transaction dataset. From now on, this amount is referred to as "Settlement Amount". The Settlement date for the positive answer to the Recall (R7 – DS-06) is retrieved and saved as information related to the transaction dataset. From now on, this date is referred to as "Settlement Date". The Recall Reference of the bank initiating the Recall (R6 – DS-06) is retrieved and saved as information related to the transaction dataset. From now on, this reference is referred to as "Transaction Identification"

Step	Involved messages	Involved actors	Description
10p		TIPS	Given the fact that the original Beneficiary Participant (field AT-23 in DS-02, subset of DS-06) has to be interpreted as the new Originator Participant for the reversed cash flow, TIPS determines the account or CMB to be debited from the configured accounts information, the Beneficiary BIC and the currency within the PaymentReturn message. In details: - The system verifies that an account, of type "TIPS Account", exists and is linked to the Beneficiary Participant (field "Beneficiary BIC") as authorised user and has a currency equal to the one defined in the Returned Amount. - If no Account is linked to the Beneficiary Participant, the system looks for a CMB linked to the Beneficiary (field "Beneficiary BIC") as user; - The system selects the TIPS Account linked to the CMB; the account related to the CMB must have a currency equal to the one defined in the Returned Amount. From now on, the account is referred to as "Originator Account" and the possible CMB as "Debiting CMB".
11p		TIPS	Given the fact that the original Originator Participant (field AT-06 in DS-02, which is part of DS-06) has to be interpreted as the new Beneficiary Participant for the reversed cash, TIPS determines the account or CMB to be credited from the configured accounts information, the Originator BIC and the currency within the PaymentReturn message. In details: - The system verifies that an account, of type "TIPS Account", exists and is linked to the Originator Participant (field "Originator BIC") as authorised user and has a currency equal to the one defined in the Returned Amount. - If no Account is linked to the Originator Participant, the system looks for a CMB linked to the Originator (field "Originator BIC") as user; - The system selects the TIPS Account linked to the CMB; the account related to the CMB must have a currency equal to the one defined in the Returned Amount. From now on, the account is referred to as "Beneficiary Account" and the possible CMB as "Crediting CMB".

Step	Involved messages	Involved actors	Description
12p		TIPS	TIPS successfully executes the checks: - Originator Account/CMB not blocked; - Beneficiary Account/CMB not blocked; - Available amount not exceeded. See 4.1- Business Rules for details.
12e	FItoFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the checks listed in step 12p. At the first negative check the system stops and sends a message to the Recall Assignee (the new Originator DN) containing the proper error code. The status of the Recall Answer is set to "*Failed*". In this case the Recall Assignee can submit a new Recall Answer in order to close the Recall business case. The message validation will restart from the step 5p. See 4.1- Business Rules for details.
13p		TIPS	TIPS settles the full amount of the payment transaction, debiting the Originator Account and adding the same positive amount to the Beneficiary Account. If a Debiting/Crediting CMB is involved, the system decreases/increases its Headroom by the same amount. TIPS sets the Recall Answer status to "*Settled*".
14p	PaymentReturn	TIPS as sender Recall Assigner as receiver	TIPS forwards the positive response received from the Recall Assignee to the Recall Assigner (the new Beneficiary DN).
15p	FItoFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS generates a positive Payment status report and send it to the Recall Assignee (the new Originator DN).

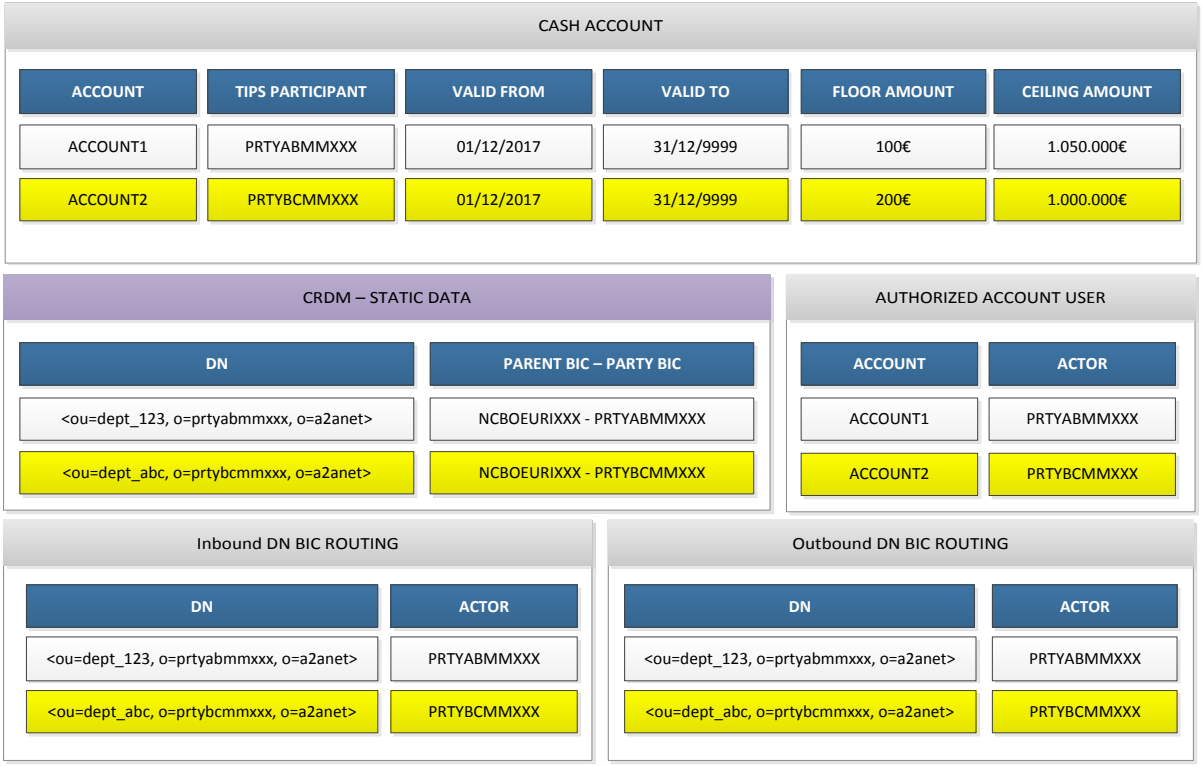
Step	Involved messages	Involved actors	Description
16p	ReturnAccount	TIPS as sender Debited Account and/or CMB Owner	TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB. If the account balance or the CMB headroom after settlement is confirmed is lower than the "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the - Originator Account Number or the Debiting CMB Number.
17p	ReturnAccount	TIPS as sender Credited Account and/or CMB Owner	TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB. If the account balance or the CMB headroom after the confirmed settlement is greater than the "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Beneficiary Account Number or the crediting CMB Number.

2.3.1. Examples

This sub-section presents examples of different scenarios related to the Recall process. The first and the second ones describe successful scenarios where a positive and a negative Recall Answer are provided by the Recall Assignee respectively; the last one outlines the rejection of a positive Recall Answer which failed the Duplicate check.

The below table summarises, for each reference data object mentioned in the following examples, the related configuration.

Figure 53 – Recall examples: data constellation

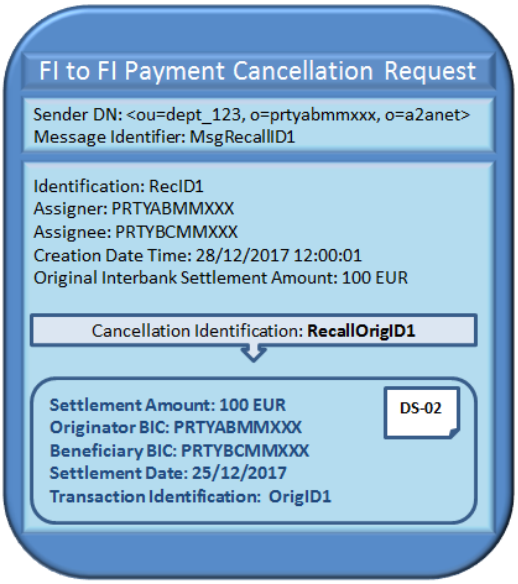


2.3.1.1. Successful scenario – Positive Recall Answer

In this scenario:

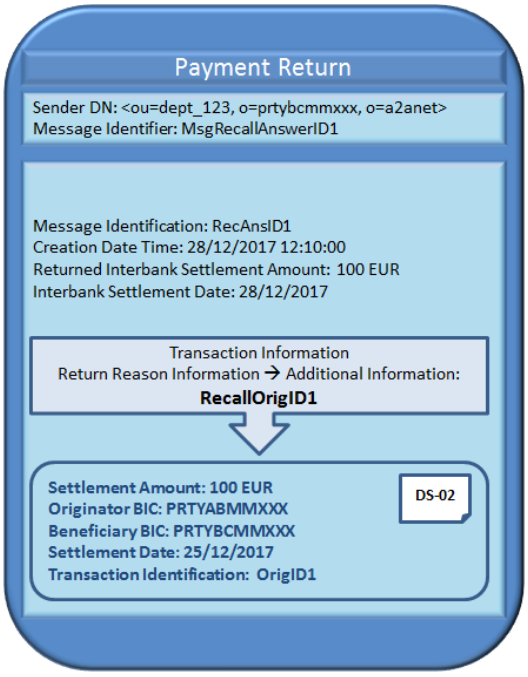
- The current business date is 28/12/2017;
- A TIPS Participant (PRTYABMMXXX) sends a FIToFIPaymentCancellationRequest message to TIPS in order to request the cancellation of an Instant Payment transaction (OrigID1) previously settled on 25/12/2017;

Figure 54 – Recall successful scenario: positive answer – FItoFIPaymentCancellationRequest



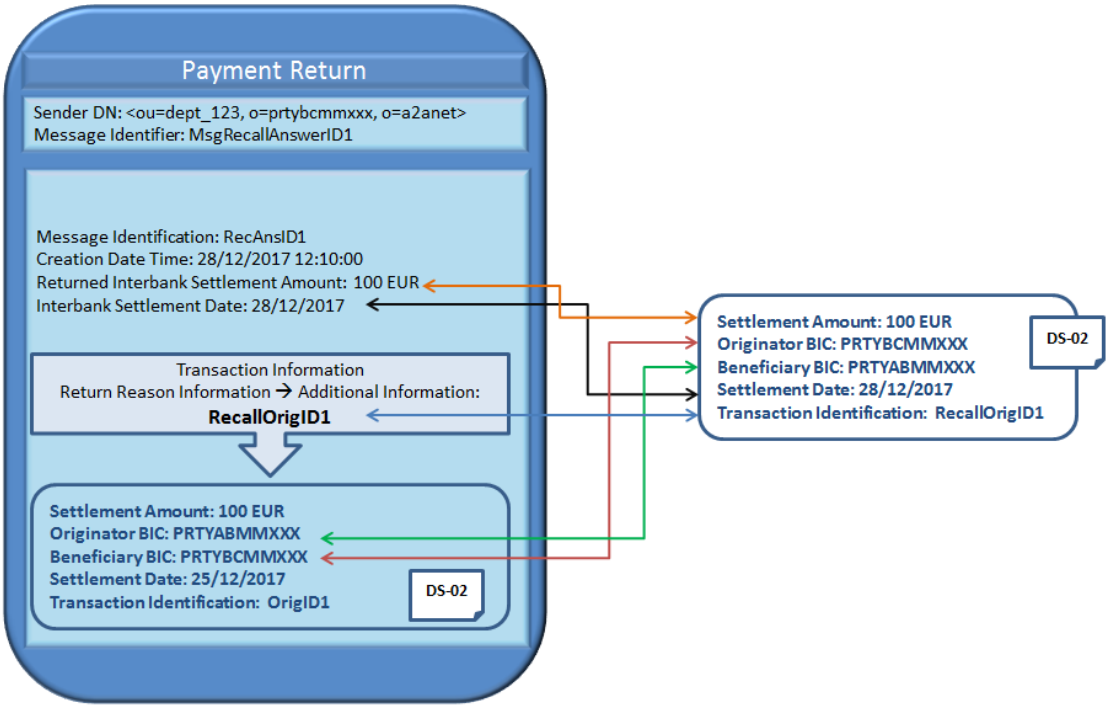
- TIPS, after performing the expected checks successfully:
  - It identifies the DN of the Assignee (<ou=dept_123, o=prtybcmmxxx, o=a2anet>);
  - It forwards the FIToFIPaymentCancellationRequest message to the Recall Assignee DN.
- The Recall Assignee (PRTYBCMMXXX) accepts the request by sending to TIPS the following PaymentReturn message.

Figure 55 – Recall successful scenario: positive answer – PaymentReturn



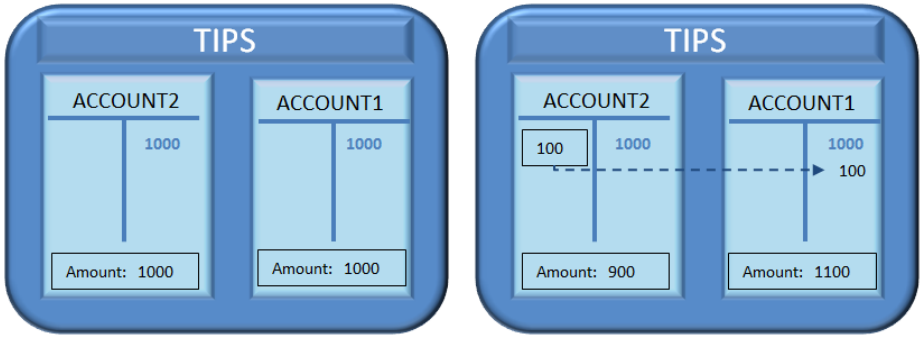
- TIPS successfully proceeds with the required validation in the context of access rights and duplicate check;
- TIPS determines the payment transaction dataset which reverses the direction of the cash flow from the original payment transaction that is recalled.

Figure 56 – Recall successful scenario: positive answer – Recall Dataset



- The system:
  - It identifies the Originator Account (Account2) from the Originator BIC;
  - It identifies the Beneficiary Account (Account1) from the Beneficiary BIC;
  - It settles the full amount of the payment transaction debiting the Originator Account of 100.00 EUR and adding the same positive amount to the Beneficiary Account.

Figure 57 – Recall successful scenario: positive answer – Settlement Process



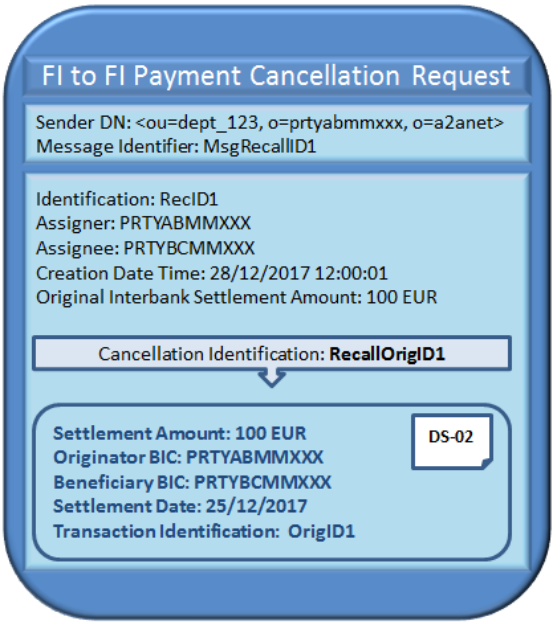
- TIPS identifies the Beneficiary DN and Originator DN from the “Outbound DN-BIC Routing” (<ou=dept_abc, o=prtyabmmxxx, o=a2anet> / <ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
- The system forwards the PaymentReturn message to the Beneficiary Participant (the Recall Assigner) and sends a FItoFIPaymentStatusReport message to the Originator DN (the Recall Assignee) after settlement of the recall took place.

2.3.1.2. Successful scenario – Negative Recall Answer

In this scenario:

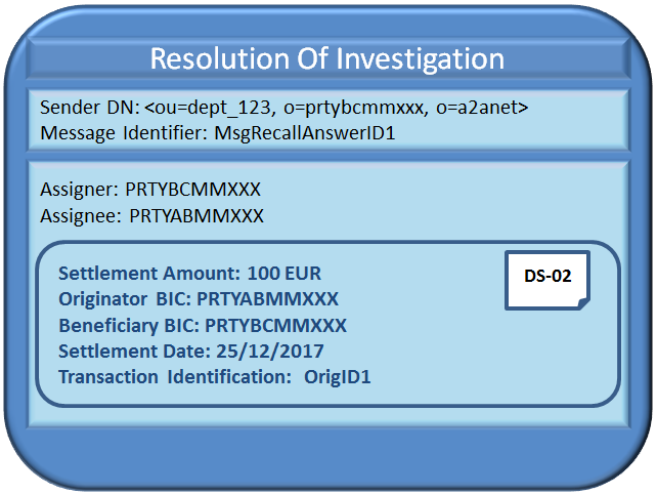
- The current business date is 28/12/2017;
- A TIPS Participant (PRTYABMMXXX) sends a FIToFIPaymentCancellationRequest message to TIPS in order to request the cancellation of a Payment transaction (OrigID1) previously settled on 25/12/2017.

Figure 58 – Recall successful scenario: negative answer – FItoFIPaymentCancellationRequest



- TIPS, after performing the expected checks successfully:
  - It identifies the DN of the Assignee (<ou=dept_123, o=prtybcmmxxx, o=a2anet>);
  - It forwards the FIToFIPaymentCancellationRequest message to the Recall Assignee DN.
- The Recall Assignee (PRTYBCMMXXX) rejects the request by sending to TIPS the following ResolutionOfInvestigation message:

Figure 59 – Recall successful scenario: negative answer – ResolutionOfInvestigation



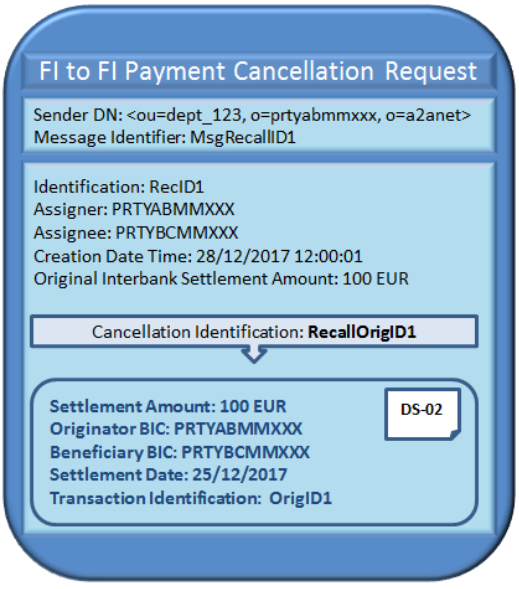
- TIPS successfully proceeds with the required checks;
- TIPS identifies the DN of the Assignee (<ou=dept_123, o=prtyabmmxxx, o=a2anet>) and forwards the ResolutionOfInvestigation message to the Assignee DN.

2.3.1.3. Unsuccessful scenario – Recall Answer Duplicate check failed

In this scenario:

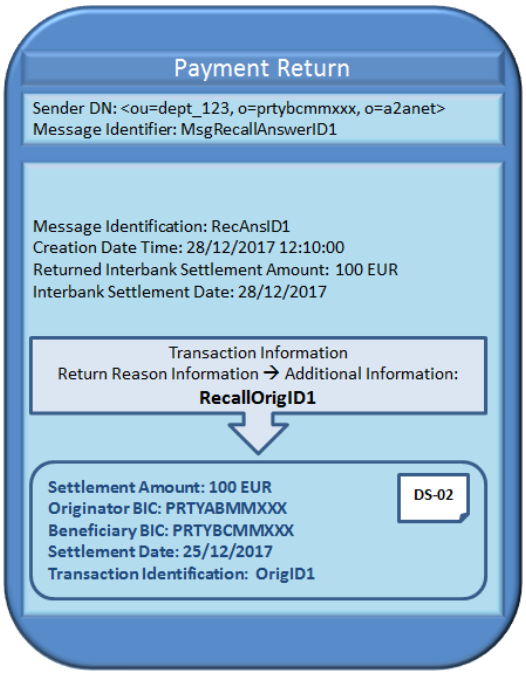
- The current business date is 28/12/2017;
- A TIPS Participant (PRTYABMMXXX) sends a FIToFIPaymentCancellationRequest message to TIPS in order to request the cancellation of a Payment transaction (OrigID1) previously settled on 25/12/2017.

Figure 60 – Recall unsuccessful scenario: Duplicate check failed – FItoFIPaymentCancellationRequest



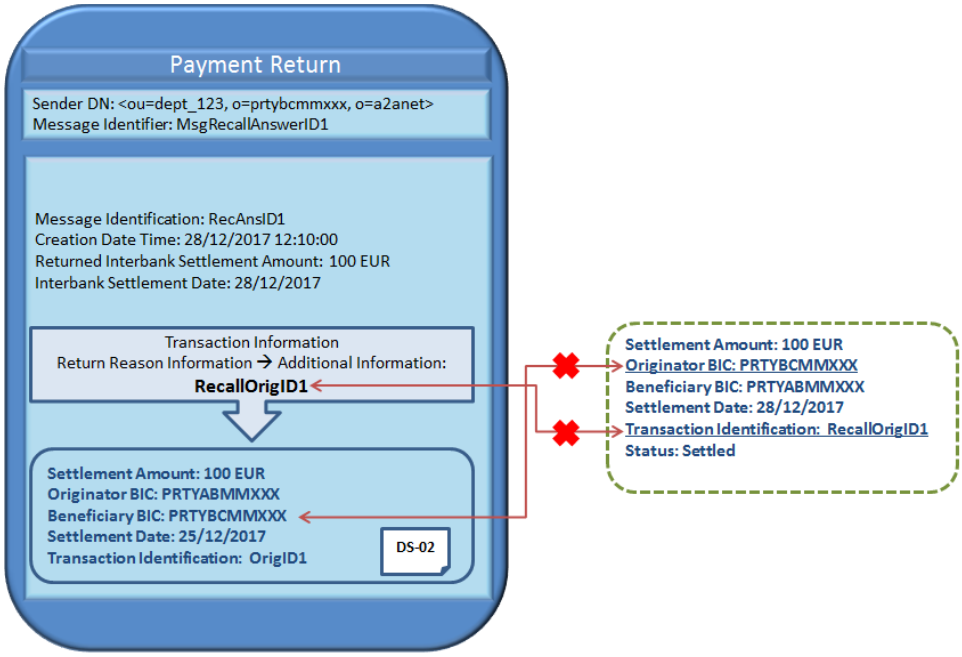
- TIPS, after performing the expected checks successfully:
  - It identifies the DN of the Assignee (<ou=dept_123, o=prtybcmmxxx, o=a2anet>);
  - It forwards the FIToFIPaymentCancellationRequest message to the Recall Assignee DN.
- The Recall Assignee (PRTYBCMMXXX) accepts the request by sending to TIPS the following PaymentReturn message.

Figure 61 – Recall unsuccessful scenario: Duplicate check failed – PaymentReturn



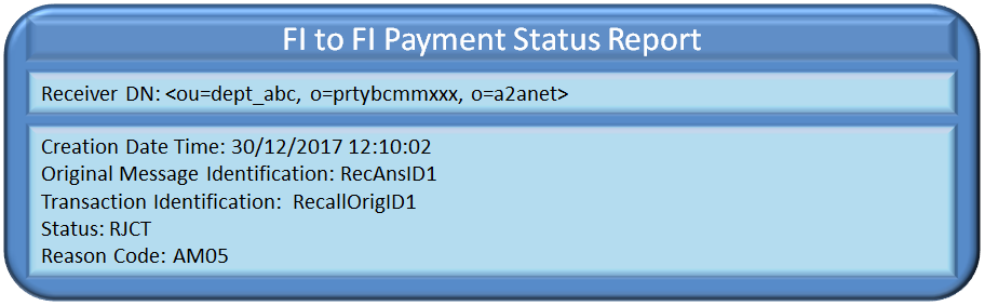
- TIPS proceeds with the required validation in the context of access rights and duplicate check and detects a duplicate submission: the couple Recall Reference of the bank initiating the Recall (AT-R6 DS-06) and Beneficiary BIC (AT-23 DS-02 subset of DS-06) embedded within the PaymentReturn message already exists as a couple Transaction Identification/Originator BIC in the list of transactions of the last X days, where X is equal to the system parameter "Retention Period".

Figure 62 – Recall unsuccessful scenario: Duplicate check failed – Duplicate submission



- The following FIToFIPaymentStatusReport message is sent by TIPS to the Recall Assignee – same DN of the sender – to reject the Recall Answer.

Figure 63 – Recall unsuccessful scenario: Duplicate check failed – FItoFIPaymentStatusReport



2.4. Investigation

This section focuses on the processing of an Investigation Request, with the description of the full scenario and its steps.

The transaction status investigation process can be initiated by Participants or Instructing Parties acting on behalf of Participants or Reachable Parties on the originator side using the transaction status inquiry message, allowing the TIPS Actors to retrieve the last generated payment transaction status advice.

TIPS answers to an investigation request only if it is received when the time-out period for Instant Payment transaction is expired for more than 5 seconds (Investigation Offset + SCT^{Inst} Timestamp Timeout), as indicated in the SCT^{Inst} scheme rulebook.

If the Investigation message is correctly received and the requested transaction is existing and still *Reserved* (meaning that no Beneficiary side confirmation/rejection has been received and no sweeping has been performed), then TIPS assumes that the Instant Payment is timed-out. In this case, TIPS does not answer to the Investigation directly, but set to *Expired* the Instant Payment transaction, informing both Originator and Beneficiary side accordingly (see 2.2.1 “Timeout scenario: missing/delayed Beneficiary-side answer”).

Involved actors and messages are:

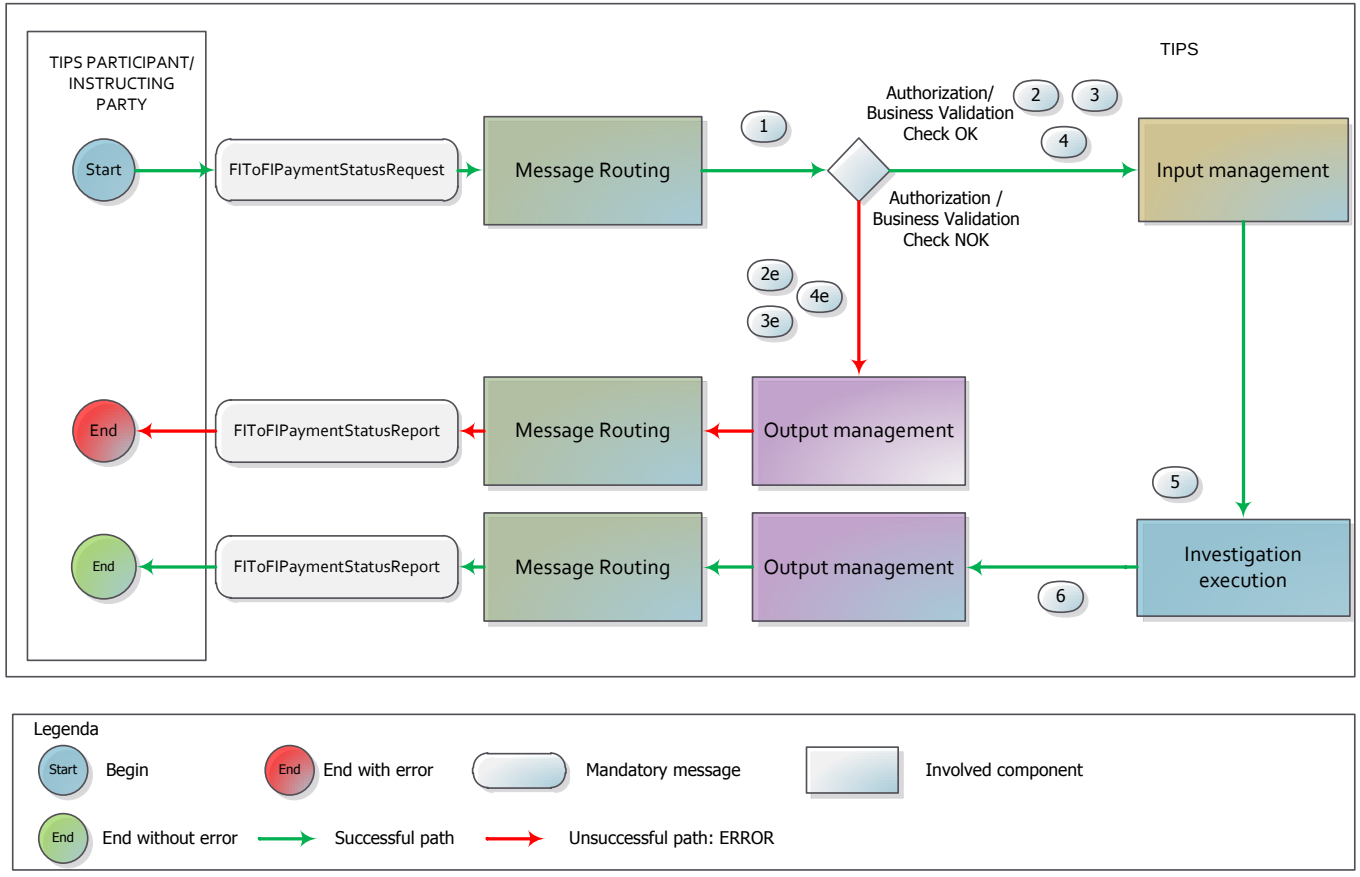
- The Participant or Instructing Party sending the Investigation Request;
- FIToFIPaymentStatusRequest message in order to instruct Investigation;
- FIToFIPaymentStatusReport message in order to receive last generated payment transaction status advice.

All the described scenarios are triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user have already been successfully performed by ESMIG.

It is important to keep in mind that when the FIToFIPaymentStatusRequest message contains a BIC8 instead of a BIC11, the message is accepted and the string is completed appending “XXX” at the end of the BIC8 for further processing. All the steps are described considering BIC11 only.

This is the diagram describing the process and the involved actors. The details of the steps are described in the following table.

Figure 64 – Investigation Flow



~~**Table 24 – Investigation steps**~~

Table 24 – Investigation steps

Step	Involved messages	Involved actors	Description
1	FIToFIPaymentStatusRequest	Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an incoming Investigation request from the Participant or Instructing Party. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised. See 4.1- Business Rules for details.
2e	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks of step 2. At the first negative check the system stops and sends a message to the Participant or Instructing Party - same DN of the Sender – containing the error.
3		TIPS	TIPS successfully executes the check: - Payment Transaction existence check. See 4.1- Business Rules for details.
3e	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 3. In the case of a negative check the system stops and sends a message to the Participant or Instructing Party – same DN of the Sender – containing the error.
4		TIPS	TIPS successfully executes the check: - Investigation allowed. TIPS checks if the Investigation request has been received after the SCT^{Inst} Timestamp Timeout + Investigation Offset. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
4e	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 4. In the case of a negative check the system stops and sends a message to the Participant or Instructing Party – same DN of the Sender – containing the error.
5	FIToFIPaymentStatusReport	TIPS	TIPS retrieves the last FIToFIPaymentStatusReport sent to the Participant initiating the investigation
6	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	The system sends the last FIToFIPaymentStatusReport to the Participant or Instructing Party – same DN of the query Sender.

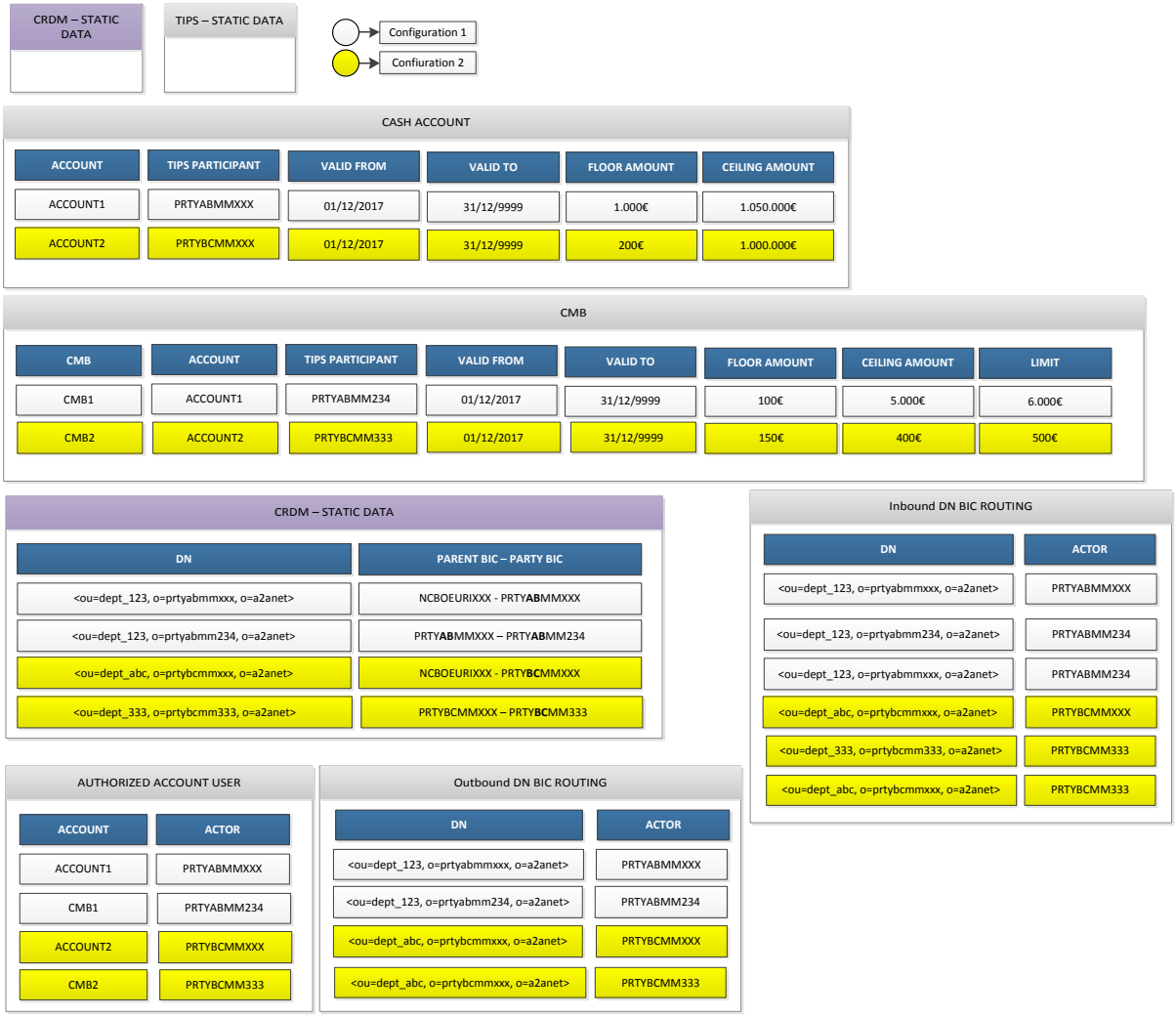
2.4.1. Examples

This sub-section presents two examples of the possible scenarios related to the transaction status investigation. Scenarios and examples are not exhaustive.

The first one provides the example of a non-empty answer to a transaction status investigation request. The second one describes an example of a TIPS rejection for a transaction status investigation request.

The below table summarises, for each reference data object mentioned in the following examples, the related configuration.

Figure 65 – Transaction status investigation examples: data constellation



2.4.1.1. Successful scenario – Transaction status investigation

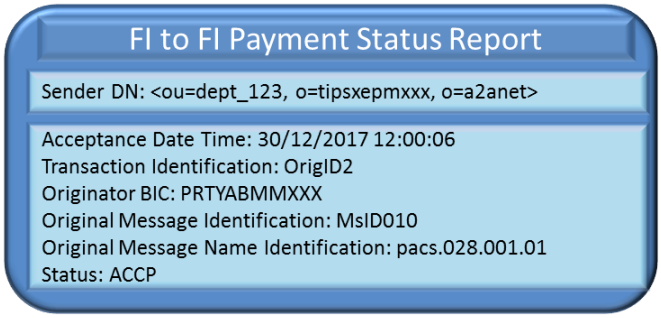
In this scenario:

- A TIPS Participant (PRTYABMMXXX) sent a FIToFIPaymentStatusRequest message to TIPS to investigate about ~~the~~ an Instant Payment transaction (OrigID2). The timestamp of the FIToFIPaymentStatusRequest is 30/12/2017 12:01:12.
- Payment transaction OrigID2 is present in TIPS for the Originator BIC PRTYABMMXXX, and it has been successfully settled. The instruction OrigID2 has 30/12/2017 12:00:01 as acceptance timestamp.

Figure 66 – Successful FIToFIPaymentStatusRequest

- TIPS identifies:
  - The DN of sender – i.e. the TIPS Participant or Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The Instant Payment transaction (OrigID2 for the Originator Participant (PRTYABMMXXX) with acceptance timestamp 30/12/2017 12:00:01);
  - The TIPS actor instructing the FIToFIPaymentStatusRequest (PRTYABMMXXX).
- The Investigation request has been received after the Instant Payment transaction SCT^{Inst} Timestamp Timeout + Investigation Offset;
- TIPS retrieves the last generated FIToFIPaymentStatusReport for the Originator;
- TIPS sends the FIToFIPaymentStatusReport to the same DN of the query Sender.

Figure 67 – Successful FIToFIPaymentStatusReport



2.4.1.2. Unsuccessful scenario – Transaction status investigation

In this scenario:

- A TIPS Participant (PRTYBCMMXXX) sent a FIToFIPaymentStatusRequest message to TIPS to receive information about an Instant Payment transaction (OrigID2); ~~The~~ the timestamp of the FIToFIPaymentStatusRequest is 30/12/2017 12:00:10.
- Instant Payment transaction OrigID2 is present in TIPS for the Originator BIC PRTYABMMXXX, with acceptance timestamp 30/12/2017 12:00:01.

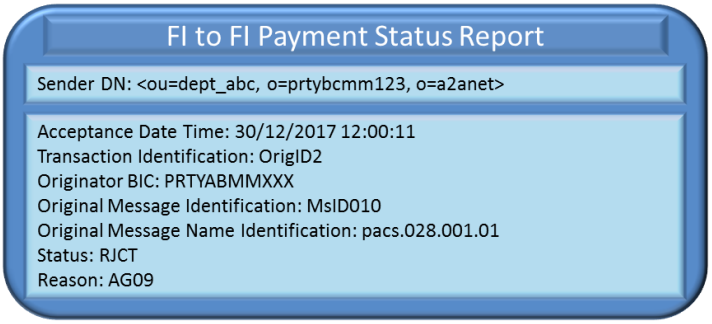
Figure 68 – Unsuccessful FIToFIPaymentStatusRequest

- TIPS identifies:
  - The DN of sender – i.e. the TIPS Participant or Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The TIPS actor instructing the FIToFIPaymentStatusRequest (PRTYABMMXXX).
  - The Instant Payment transaction (OrigID2) for the Originator Participant Party (PRTYABMMXXX), with acceptance timestamp 30/12/2017 12:00:01.

Since the SCT^{Inst} Timestamp Timeout is not expired for the Instant Payment transaction when the investigation request arrived, it cannot be satisfied.

- A FIToFIPaymentStatusReport message is sent by TIPS to the same DN of the query sender, containing the error.

Figure 69 – Unsuccessful FIToFIPaymentStatusReport



2.5. Inbound/Outbound Liquidity Transfers

TIPS supports Central Bank Money transfers between accounts denominated in the same currency from TIPS to an RTGS System or vice versa from an RTGS System to TIPS.

Liquidity Transfer from a TIPS Account to an RTGS Account starts with the request sent by the TIPS Participant owner of the TIPS Account or by an Instructing Party on behalf of the TIPS Participant.

The Liquidity Transfer shall be initiated in TIPS in Application-to-Application mode (A2A) using the Liquidity Credit Transfer message or in User-to-Application mode (U2A) through a Graphic User Interface (GUI) and it is executed immediately.

For Liquidity Transfers from RTGS Accounts to TIPS Accounts, transfers must be initiated in the RTGS System by the RTGS holder of the debited RTGS Account; the Liquidity Transfer is then forwarded by the RTGS System to TIPS through the A2A interface.

Provided that both the RTGS Account and the TIPS Account are denominated in the same currency and that the RTGS System is connected to TIPS (and known to TIPS), it is possible to transfer from any RTGS Account to any TIPS Account.

2.5.1. Inbound Liquidity Transfer

This section describes the processing of an Inbound Liquidity Transfer received in TIPS via Liquidity Credit Transfer message. Inbound Liquidity Transfer has 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). Indeed, the following section doesn't cover the starting part of the scenario where the RTGS Participant requests to transfer the liquidity from the RTGS Account to a TIPS Account as it is out of the scope of TIPS. Examples of possible scenarios are described in the following sub-section.

The following Actors are involved in the processing of an Inbound Liquidity Transfer:

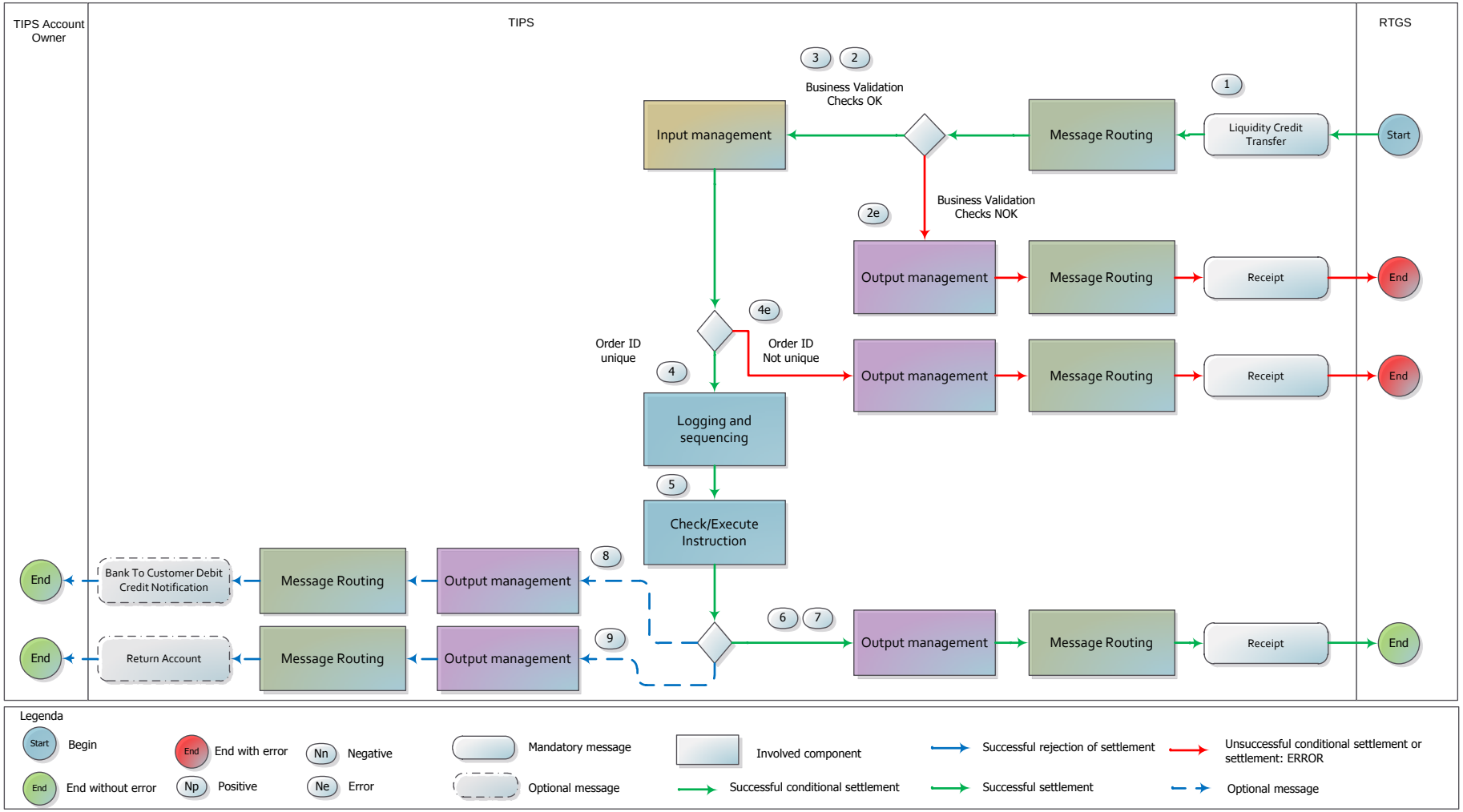
- The RTGS System that sends to TIPS the liquidity transfer order;
- TIPS that receives and confirms the request to the RTGS System;
- TIPS Account owner (or the default DN configured as receiver) which is duly informed if the account is credited or if its balance exceeds the configured threshold.

The following messages are involved in the Inbound Liquidity Transfer process:

- LiquidityCreditTransfer: the message with which the RTGS System instructs the transfer of a cash amount from an RTGS Account to a TIPS Account denominated in the same currency;
- Receipt: the message sent by TIPS to the RTGS System to confirm/reject the execution of a Liquidity Transfer;
- BankToCustomerDebitCreditNotification: the message sent by TIPS to report the settlement of a liquidity transfers to the TIPS Account owner (or the default DN configured as receiver). The notification is sent out only if previously configured by the Account owner.
- ReturnAccount: the message sent by TIPS to notify the owner of the credited TIPS Account (or the default DN configured as receiver) that the ceiling threshold is exceeded. The notification is generated for the Account owner only if the ceiling threshold is configured.

The process is graphically described in the following flow.

Figure 70 – Inbound Liquidity Transfer Order flow



The details on the single steps are described in the following table.

Table 25 – Inbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	RTGS System as Sender TIPS as receiver	TIPS receives an incoming Liquidity transfer request from the RTGS System. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the following checks: - RTGS Access Rights Check; - Currency Check; - Creditor and Creditor Account existence; - Creditor and Creditor Account not blocked; - LT Amount Check. From now on, the Creditor account indicated in the Liquidity Transfer Order~~,~~ is referred to as "Account to be credited". See 4.1- Business Rules for details.
2e	Receipt	TIPS as Sender RTGS System as receiver	TIPS unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the RTGS System – same DN of the Sender – containing the proper error code. The status of the Inbound Liquidity Transfer Order is set to "*Failed*".
3		TIPS	The system selects the Transit Account to be debited from the Transferred Amount as follows: - It retrieves from the table "Accounts" the row related to unique Account with type "Transit Account", that in table "Accounts" has the currency equal to the one defined in the Transferred Amount and is open for the current Business Date. From now on, the identified Account is referred to as "Account to be debited".

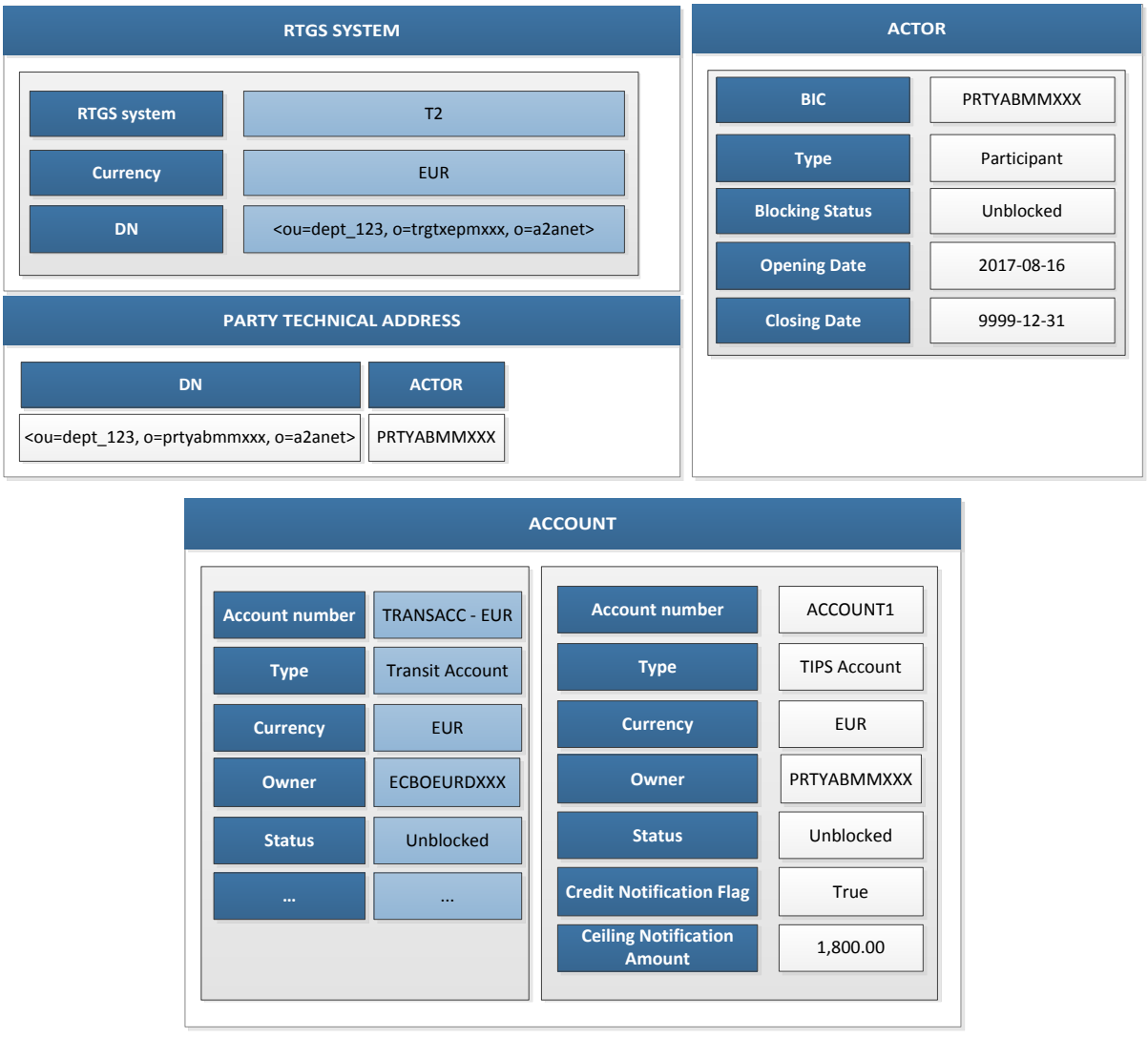
Step	Involved messages	Involved actors	Description
4		TIPS	TIPS successfully completes the execution of the following checks: - LT Duplicate Check. See 4.1- Business Rules for details.
4e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 4. The system stops and sends a message to the RTGS System – same DN of the Sender – containing the proper error code. The status of the Inbound Liquidity Transfer Order is set to "*Failed*". See 4.1- Business Rules for details.
5		TIPS	The instruction is logged and sent to the Check and Execute Instruction process. The status of the Inbound Liquidity Transfer Order is set to "*Validated*".
6		TIPS	TIPS settles the full amount of the Liquidity Transfer Order, debiting the Account to be debited and crediting the Account to be credited. The status of the Inbound Liquidity Transfer is set to "*Settled*".
7	Receipt	TIPS as Sender RTGS System as receiver	The RTGS System is notified by the Output Dispatcher component of the status of the operation.
8	BankToCustomerDebitCreditNotification	TIPS as sender TIPS Account Owner as receiver	TIPS sends a notification to the TIPS Account owner in order to report the settlement of the liquidity transfer. The message is sent to the sender DN.
9	ReturnAccount	TIPS as sender TIPS Account owner as receiver	TIPS checks the "Ceiling notification amount" configured for the credited account. If the account balance after settlement is higher than the "Ceiling notification amount", TIPS sends a ReturnAccount to the Account owner. The message is sent to the default DN of the Account Owner.

2.5.1.1. Examples

This sub-section provides an overview of the Inbound Liquidity Transfers process by describing different examples of the possible scenarios: the first one provides the case where the Liquidity Transfer order is processed smoothly with no rejection by the system and Bank To Customer Debit Credit Notification message is properly configured by the TIPS Account owner; the second one deals with the rejection of the Liquidity Transfer order due to the failure of the LT Duplicate Check.

The below table summarises, for each reference data object mentioned in the following examples, the related configuration.

Figure 71 – Inbound Liquidity Transfer Order examples: data constellation

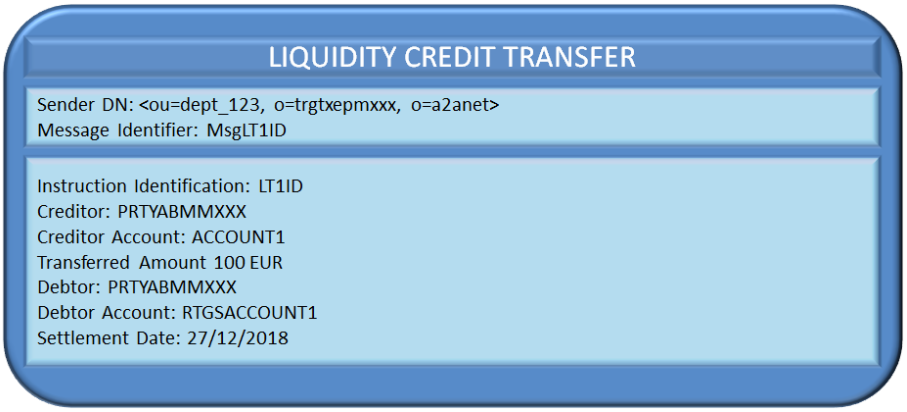


2.5.1.1.1 Successful scenario – Inbound Liquidity Transfer order is settled in TIPS

In this scenario:

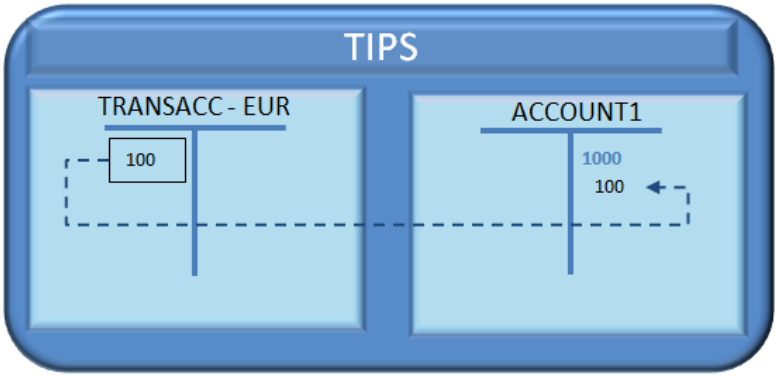
- The current business date is 27/12/2018 ;
- The RTGS Account owner and the TIPS Account owner are the same entity (PRTYABMMXXX);
- The TIPS Account balance is 1,000.00 EUR;
- The RTGS System sends a Liquidity Credit Transfer message in order to move liquidity from an RTGS Account (RTGSACCOUNT1) to a TIPS Account (ACCOUNT1);

Figure 72 – Successful Inbound Liquidity Transfer order: liquidity credit transfer



- TIPS receives the request and identifies:
  - The Account to be credited (ACCOUNT1) from the Creditor Account;
  - The Transit Account to be debited (TRANSACC – EUR) from the Transferred Amount/Currency;
- TIPS settles the full amount of the Liquidity Transfer Instruction. The Inbound Liquidity Transfer Order is set to *Settled*.

Figure 73 – Successful Inbound Liquidity Transfer order settlement

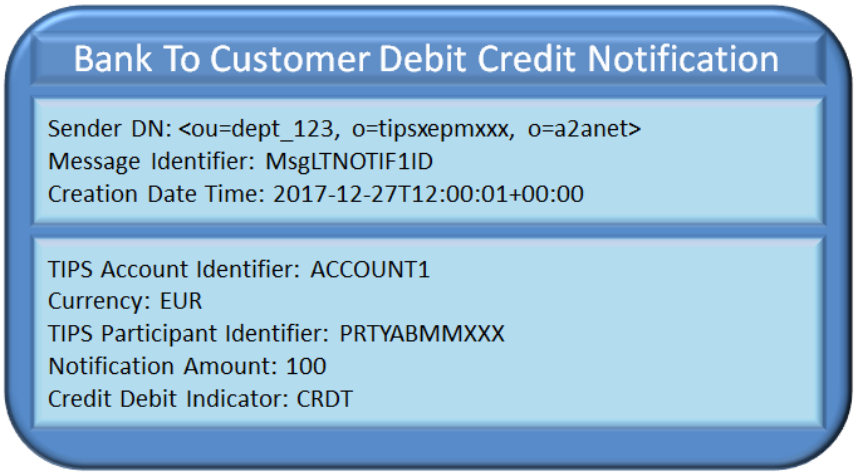


- The Receipt message is sent by TIPS to the RTGS System – same DN of the sender of the Liquidity Credit Transfer message – to confirm the execution of the order.

Figure 74 – Successful Inbound Liquidity Transfer order Receipt

- The system verifies if in table “Accounts”, the Credit Notification Flag related to the Account to be credited is set to “True”; if so, it retrieves the Account Owner DN from the “Party Technical Address” (<ou=dept_123, o=prtyabmmxxx, o=a2anet>) to be notified with a positive message (Bank To Customer Debit Credit Notification) by the Output Dispatcher component.

Figure 75 – Successful Inbound Liquidity Transfer order credit notification



2.5.1.1.2 Unsuccessful scenario: Inbound LT order is rejected because LT duplicate check failed

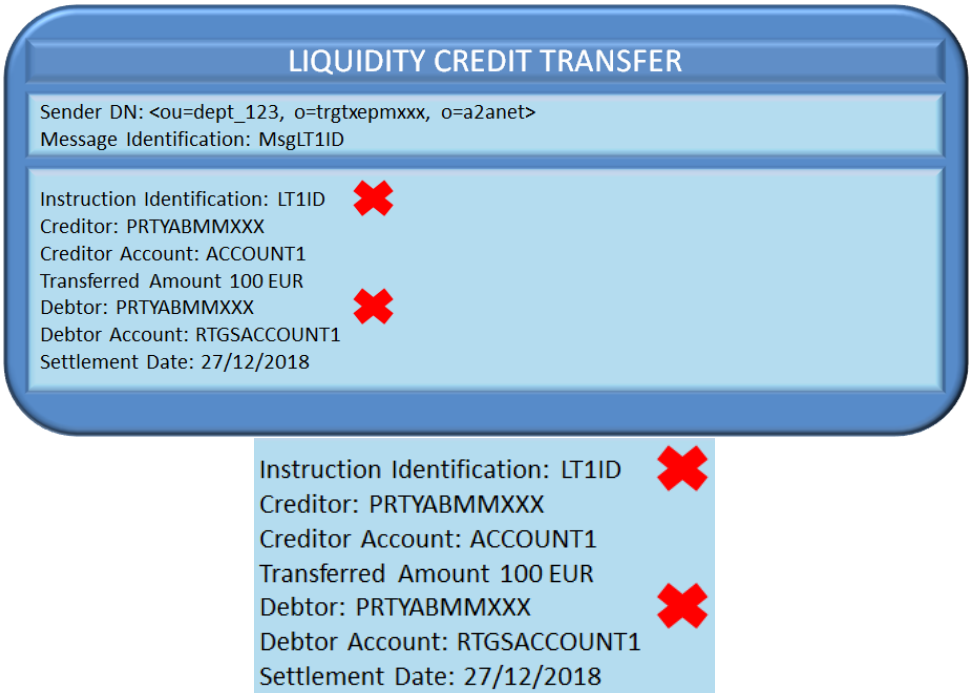
In this scenario:

- The current business date is 27/12/2018;
- The RTGS Account owner and the TIPS Account owner are the same entity (PRTYABMMXXX);
- The RTGS System sends a Liquidity Credit Transfer message in order to move liquidity from an RTGS Account (RTGSACCOUNT1) to a TIPS Account (ACCOUNT1);

Figure 76 – Unsuccessful Inbound Liquidity Transfer order: Liquidity credit transfer

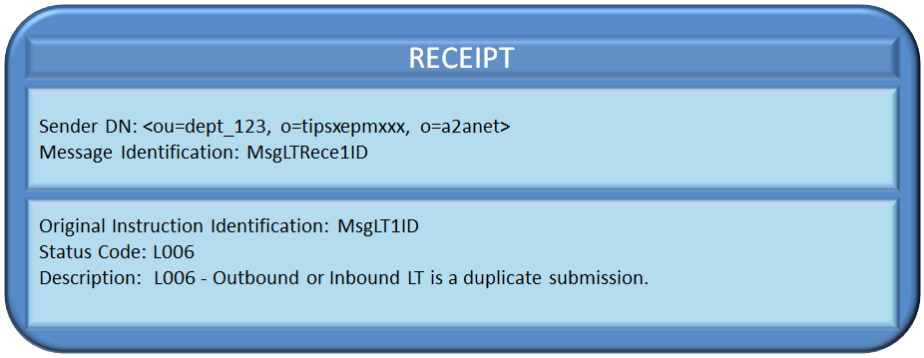
- TIPS receives the message and identifies:
  - The Account to be credited (ACCOUNT1) from the Creditor Account;
  - The Transit Account to be debited (TRANSACC – EUR) from the Transferred Amount/Currency;
- TIPS detects a duplicate submission: the Liquidity Credit Transfer message has the same Instruction Identification (LT1ID) and Debtor (PRTYABMMXXX) as another Liquidity Credit Transfer message received from the same RTGS in the last X days (where X is equal to the system parameter "Retention Period").

Figure 77 – Unsuccessful Inbound Liquidity Transfer order: duplicate submission



- The following Receipt message is sent by TIPS to the RTGS System to reject the Liquidity Transfer order.

Figure 78 – Unsuccessful Inbound Liquidity Transfer order Receipt



2.5.2. Outbound Liquidity Transfer

This section describes the processing of a Liquidity Transfer order sent by a Participant or Instructing Party acting on behalf of the Participant in order to transfer liquidity from a TIPS Account to an RTGS Account.

Dedicated sub-sections are included with the aim to provide some examples and to illustrate the scenario in which the system notifies to the TIPS Operator about a missing answer from the RTGS.

The following Actors are involved in the ~~Outbound~~ outbound liquidity transfer business process:

- The Central Bank, the TIPS Participant or Instructing Party as instructor of the Liquidity Transfer;
- TIPS that receives and confirms the request from the instructor;
- The RTGS System that receives and confirms the request from TIPS.
- TIPS Account owner (or the default DN configured as receiver) which is duly informed if the account balance goes below the configured threshold.

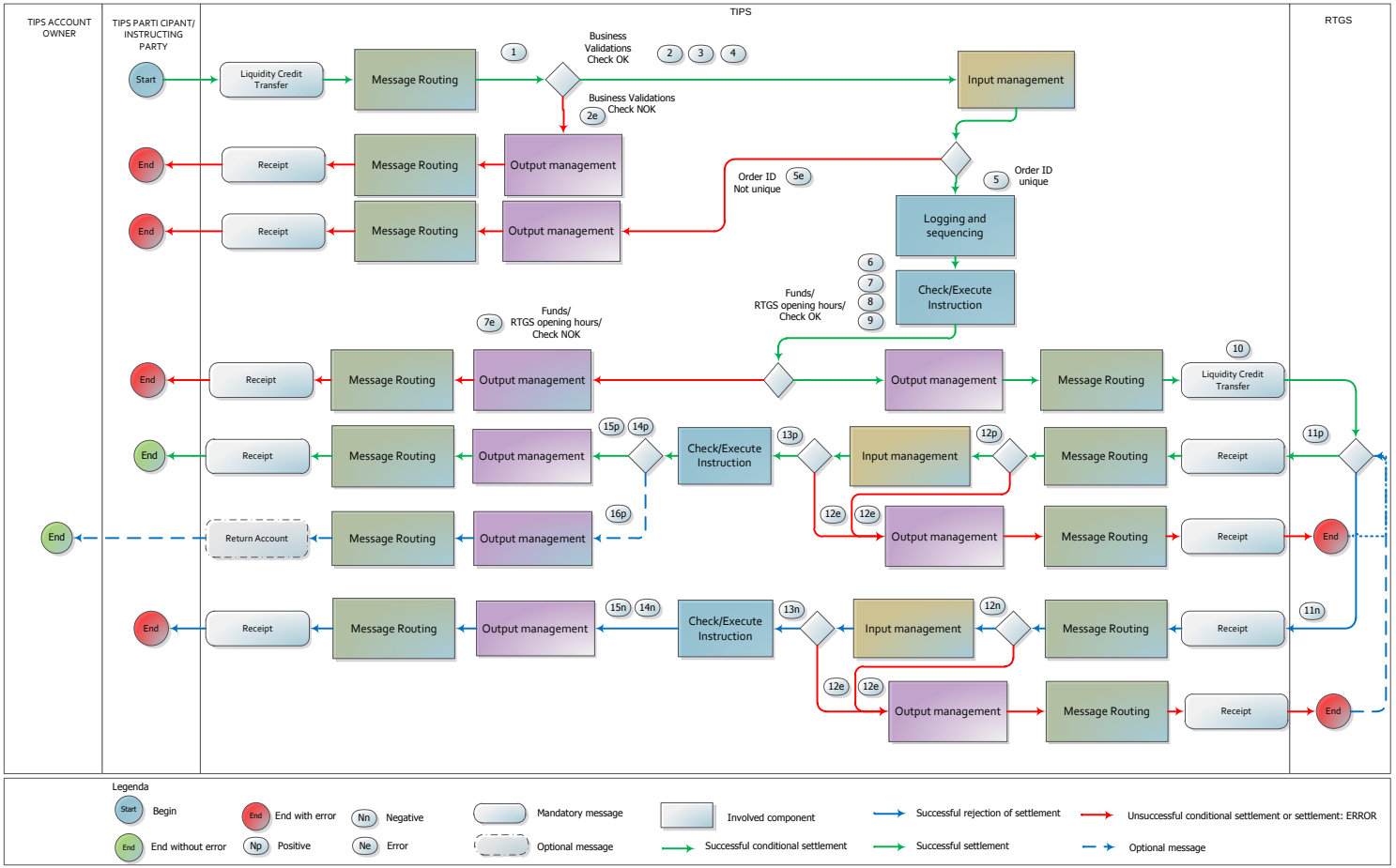
The following messages are involved in the Outbound Liquidity Transfer business process:

- Liquidity Credit Transfer: the message which enables the sender to instruct the transfer liquidity from the TIPS Account to an RTGS account;
- Receipt: the message sent by TIPS to the TIPS Participant or Instructing Party or by the RTGS System to confirm/reject the execution of a Liquidity Transfer;
- ReturnAccount: the message sent by TIPS to notify the owner of the debited TIPS Account that the floor threshold is exceeded. The notification is generated for the Account owner only if the floor threshold is configured.

Central Banks shall be able to initiate an Outbound Liquidity Transfer even if the closing date of the TIPS Account is exceeded and regardless of the TIPS account's blocking status.

The process described below is triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user has been already successfully performed by ESMIG. The following diagram describes the Outbound Liquidity business process.

Figure 79 – Outbound Liquidity Transfer Order flow



The table below describes each single step of the Outbound Liquidity Transfer process.

Table 26 – Outbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	TIPS Participant or Instructing Party as sender TIPS as receiver	TIPS receives an Outbound Liquidity transfer request from the TIPS Participant or Instructing Party. Technical validation, check of mandatory fields and authentication checks have already been successfully executed by ESMIG.
2		TIPS	TIPS successfully executes the following checks: - Access Rights check; - Instructing Party authorised; - LT Amount Check; - Debtor and Debtor Account existence; - Debtor and Debtor Account not blocked; - Currency Check. See 4.1- Business Rules for details.
2e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the TIPS Participant or Instructing Party – same DN of the sender – containing the proper error code. The status of the Outbound Liquidity Transfer Order is set to "*Failed*".
3		TIPS	From now on, the debit account indicated in the Liquidity Transfer Order, is referred to as "Account to be debited".

4		TIPS	TIPS identifies the RTGS System and the RTGS Transit Account to be credited based on the currency of the Liquidity Transfer Order. In details: - the system selects from table "RTGS Systems" the RTGS System which has the currency equal to the Transferred Amount currency. From now on, the identified RTGS System is referred to as “RTGS System”. - the system selects from table "Accounts" an account, type "Transit Account", that has the currency equal to the Transferred Amount currency. From now on, the identified account is referred to as "Account to be credited";
5		TIPS	TIPS successfully completes the execution of the following check: - LT Duplicate Check. See 4.1- Business Rules for details.
5e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check indicated in step 5. The system stops and sends a message to the TIPS Participant or Instructing Party – same DN of the sender – containing the proper error code. The status of the Outbound Liquidity Transfer Order is set to “*Failed*”. See 4.1- Business Rules for details.
6		TIPS	The order is logged and sent to the Check and Execute Instruction process. The status of the Outbound Liquidity Transfer Order is set to "*Validated*".
7		TIPS	TIPS successfully completes the execution of the following checks: - RTGS opening hours Check; - Funds Check. See 4.1- Business Rules for details.

7e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 7. At the first negative check the system stops and sends a message to the TIPS Participant or Instructing Party – same DN of the sender – containing the proper error code. The status of the Outbound Liquidity Transfer Order is set to "*Failed*".
8		TIPS	The DN of the sender in step 1 is saved as information related to the transaction. From now on, this DN is referred to as "Debtor DN".
9		TIPS	TIPS settles the full amount of the Liquidity Transfer Instruction, crediting the Account to be credited and debiting the Account to be debited. The status of the Outbound Liquidity Transfer Order is set to "*Transient*".
10	LiquidityCreditTransfer	TIPS as sender RTGS as receiver	The TIPS Output dispatcher forwards, through the Message Router, the received Liquidity transfer request to the RTGS DN. TIPS remains waiting for a RTGS Reply. The scenario where the RTGS reply is not received after a configurable timeframe (RTGS Alert) is described in section 2.5.2.2 "RTGS Alert scenario – No reply from RTGS".
11p	Receipt	RTGS as sender TIPS as receiver	TIPS receives a Receipt message sent from the RTGS System in order to confirm the transfer;
12p		TIPS	The TIPS Message Router successfully completes the execution of the following check: - RTGS Access Rights Check. See 4.1- Business Rules for details.
13p		TIPS	The Input Collector successfully performs the following checks: - Invalid status code in RTGS Answer Check; - Pending (Transient) order existing. See 4.1- Business Rules for details.
14p		TIPS	The status of the Outbound Liquidity Transfer Order is set to "*Settled*".

15p	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	The TIPS Output Dispatcher forwards to the “Debtor DN”, through the Message Router, the Receipt message received from the RTGS System.
16p	ReturnAccount	TIPS as sender TIPS Account owner as receiver	Once the status of the Outbound Liquidity Transfer Order is set to “*Settled*”, TIPS checks the "Floor notification amount" configured for the involved Account to be debited. If the account balance is lower than the "floor notification amount", TIPS sends a ReturnAccount to the Account owner (or the default DN configured as receiver) involved in the transaction. The message is sent to the sender DN.
12e	Receipt	TIPS as sender RTGS as receiver	TIPS unsuccessfully executes the checks included in steps 12p/13p or 12n/13n. The system stops and sends a message to the RTGS – containing the proper error code. In the first scenario, if the rejected message was a positive receipt being sent at step 11p, the RTGS can send a new positive receipt triggering the restart of the processing from step 11p. In the second scenario, if the rejected message was a negative receipt being sent at step 11n, the RTGS can send a new negative receipt triggering the restart of the processing from step 11n.
11n	Receipt	RTGS as sender TIPS as receiver	TIPS receives a Receipt message sent from the RTGS System in order to reject the transfer;
12n		TIPS	TIPS successfully completes the execution of the following check: - RTGS Access Rights Check. See 4.1- Business Rules for details.
13n		TIPS	The Input Collector successfully performs the following checks: - Invalid status code in RTGS Answer Check; - Pending (Transient) order existing. See 4.1- Business Rules for details.

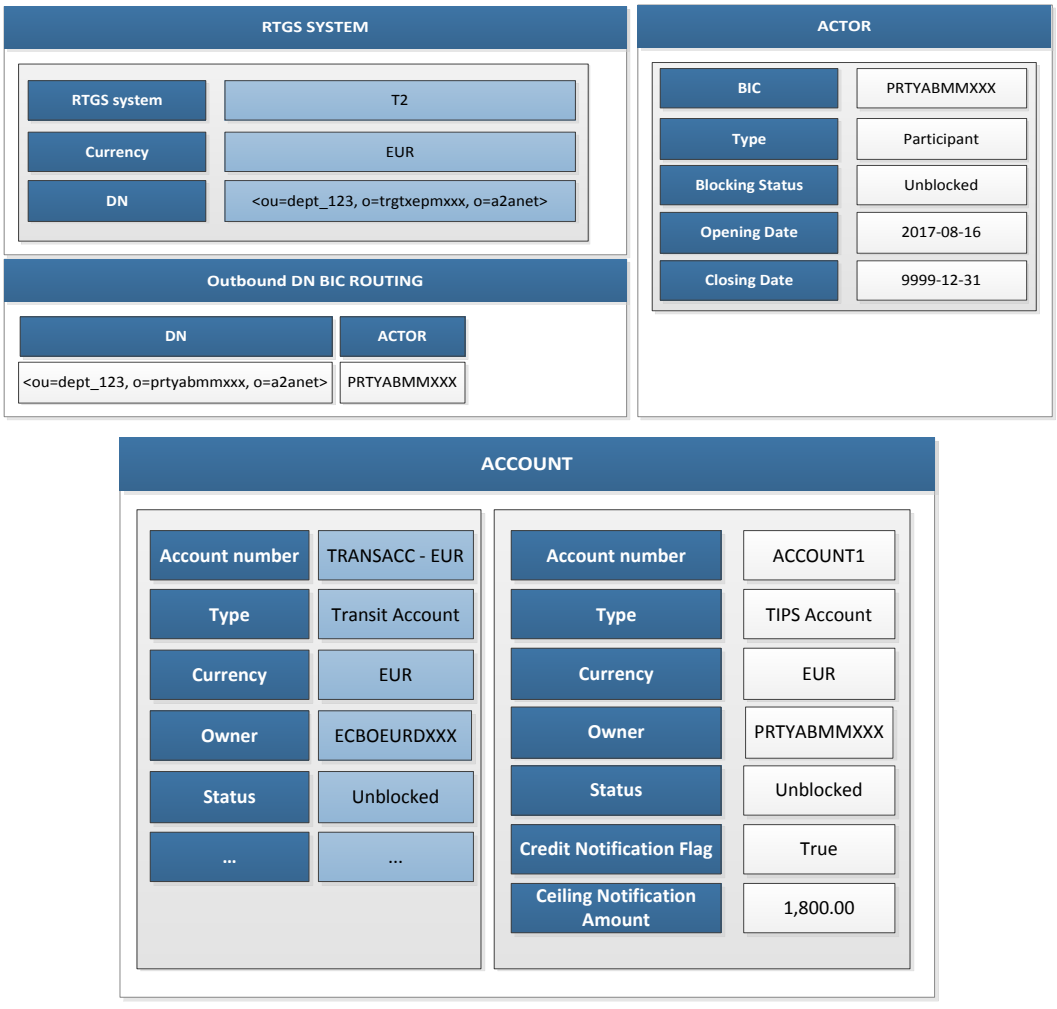
14n		TIPS	TIPS performs an automatic reverse of funds from the original Account to be credited and the original Account to be debited. The transaction is set to "*Rejected*" status.
15n	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	The TIPS Output Dispatcher forwards to the “Debtor DN”, through the Message Router, the Receipt message received from the RTGS System.

2.5.2.1. Examples

This sub-section presents different examples related to the Outbound Liquidity Transfer process. The first one describes the successful scenario where the Liquidity Transfer order is processed smoothly; the second and third ones deal with the rejection of the Liquidity Transfer order by TIPS for insufficient funds and by the RTGS, respectively.

The below table summarises, for each reference data object mentioned in the following examples, the related configuration.

Figure 80 – Outbound Liquidity Transfer Order examples: data constellation



2.5.2.1.1 Successful scenario – Outbound LT order settled in TIPS and RTGS System

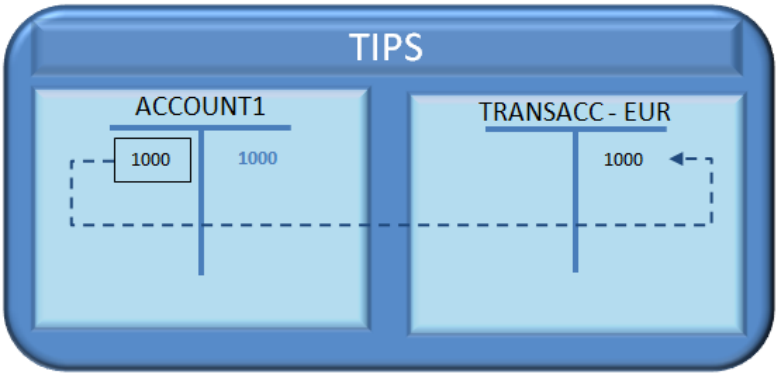
In this scenario:

- The current business date is 27/12/2018;
- A TIPS Participant sends a Liquidity Transfer request in order to move liquidity from the TIPS Account (ACCOUNT1) to an RTGS account (RTGSACCOUNT1);

Figure 81 – Successful Outbound Liquidity Transfer order: Liquidity Credit Transfer

- TIPS identifies:
  - The DN of sender – i.e. the TIPS Participant or Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The RTGS System and the related DN (<ou=dept_123, o=trgtxepmxxx, o=a2anet>) from the Transferred Amount/Currency;
  - The Transit Account to be credited (TRANSACC – EUR) from the Transferred Amount/Currency;
  - The Debtor (PRTYABMMXXX)
  - The Account to be debited (ACCOUNT1) from the Debtor Account;
- The status of the Outbound Liquidity Transfer Order is set to *Validated*.
- TIPS settles the full amount of the Liquidity Transfer Instruction. The Outbound Liquidity Transfer Order is set to *Transient*.

Figure 82 – Successful Outbound Liquidity Transfer order settlement



- The Liquidity Transfer request is forwarded to the interested RTGS System for the related settlement.

Figure 83 – Successful Outbound Liquidity Transfer order: Liquidity Credit Transfer

- The following Receipt message is sent by the RTGS System to TIPS to confirm the execution of the liquidity transfer. The status of the Outbound Liquidity Transfer Order is set to *Settled*.

Figure 84 – Successful Outbound Liquidity Transfer order Receipt received by TIPS

- The TIPS Participant or Instructing Party is notified by the Output Dispatcher component with a positive message (Receipt).

Figure 85 – Successful Outbound Liquidity Transfer order Receipt sent by TIPS

2.5.2.1.2 Unsuccessful scenario – Outbound LT order rejected for insufficient funds in TIPS

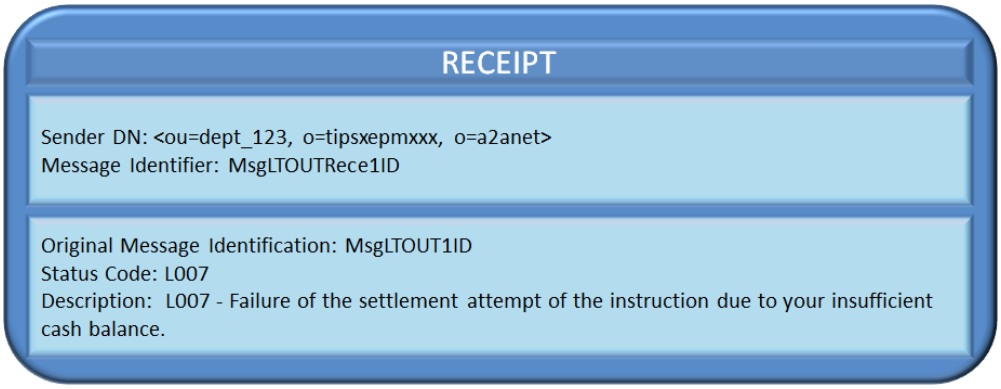
In this scenario:

- The current business date is 27/12/2018;
- The TIPS Account balance is 150.00 EUR;
- A TIPS Participant sends a Liquidity Transfer request in order to move liquidity from the TIPS Account (ACCOUNT1) to an RTGS account (RTGSACCOUNT1);

Figure 86 – Unsuccessful Outbound Liquidity Transfer order: Liquidity Credit Transfer

- The message router component processes the incoming request and performs the relevant checks related to the authorisations of the sending party and several business validations.
- The system identifies:
    - The DN of the sender – i.e. the TIPS Participant or Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
    - The RTGS System and the related DN (<ou=dept_123, o=trgtxepmxxx, o=a2anet>) from the Transferred Amount/Currency;
    - The Transit Account to be credited (TRANSACC – EUR) from the Transferred Amount/Currency;
    - The Debtor (PRTYABMMXXX)
    - The Account to be debited (ACCOUNT1) from the Debtor Account.
- The system detects that the resources available on the cash balance involved in the settlement under process, are insufficient.
- The status of the Outbound Liquidity Transfer Order is set to *Failed* and a Receipt message is sent by TIPS in order to inform the TIPS Participant.

Figure 87 – Unsuccessful Outbound Liquidity Transfer order Receipt sent by TIPS



2.5.2.1.3 Unsuccessful scenario – Outbound LT order rejected by the RTGS System

In this scenario:

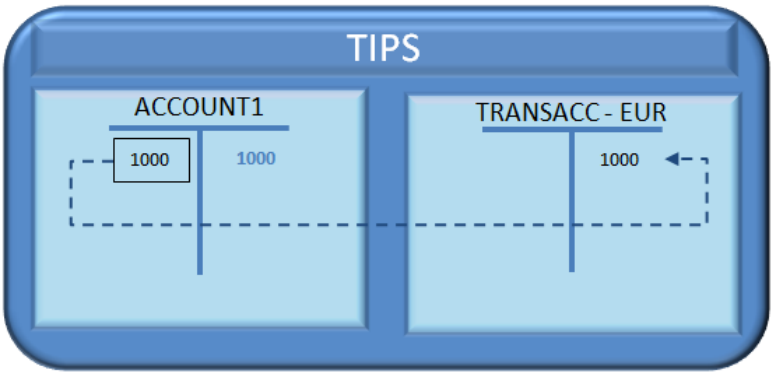
- The current business date is 27/12/2018;
- A TIPS Participant sends a Liquidity transfer request in order to move liquidity from the TIPS Account (ACCOUNT1) to an RTGS account (RTGSACCOUNT1).

Figure 88 – Outbound Liquidity Transfer order: incoming message

- TIPS receives the message and identifies:
  - The DN of the sender – i.e. the TIPS Participant or Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The RTGS System and the related DN (<ou=dept_123, o=trgtxepmxxx, o=a2anet>) from the Transferred Amount/Currency;
  - The Transit Account to be credited (TRANSACC – EUR) from the couple Transferred Amount and Currency;
  - The Debtor (PRTYABMMXXX);
  - The Account to be debited (ACCOUNT1) from the Debtor Account.

- The status of the Outbound Liquidity Transfer Order is set to *Validated*;
- TIPS settles the full amount of the Liquidity Transfer Order by debiting the Account to be debited (ACCOUNT1) and crediting the Transit Account (TRANSACC – EUR). The Outbound Liquidity Transfer Order is set to *Transient*.

Figure 89 – Outbound Liquidity Transfer order: settlement in TIPS

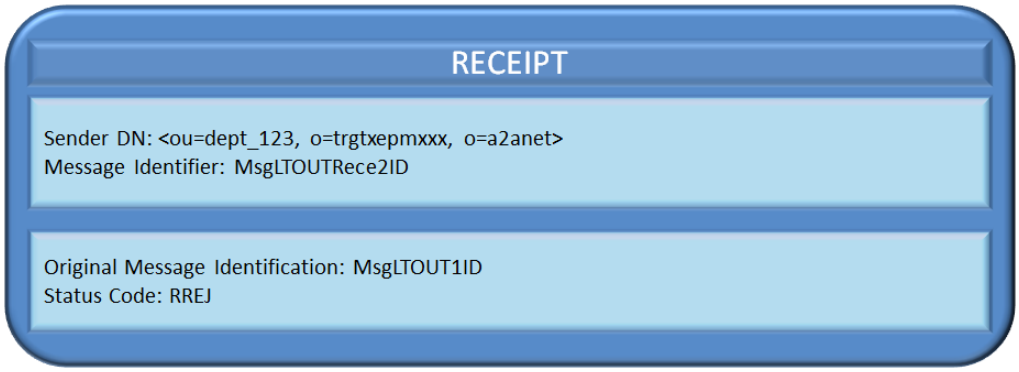


- The Liquidity transfer request is forwarded to the pertinent RTGS System for the settlement in the related currency.

Figure 90 – Outbound Liquidity Transfer order: forwarding to the RTGS

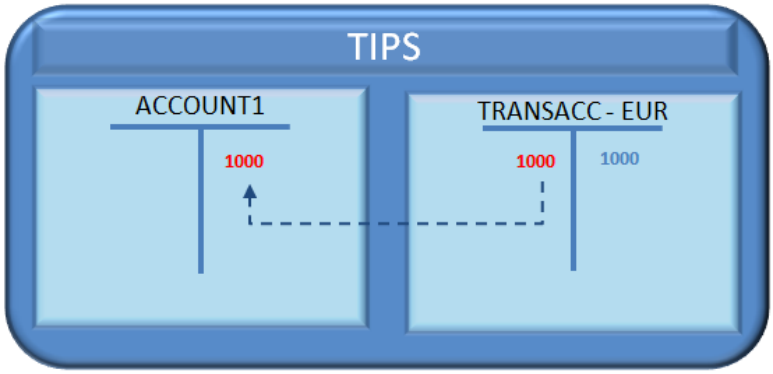
- The following Receipt message is sent by the RTGS System to TIPS to reject liquidity transfer order.

Figure 91 – Outbound Liquidity Transfer order: negative Receipt sent by the RTGS



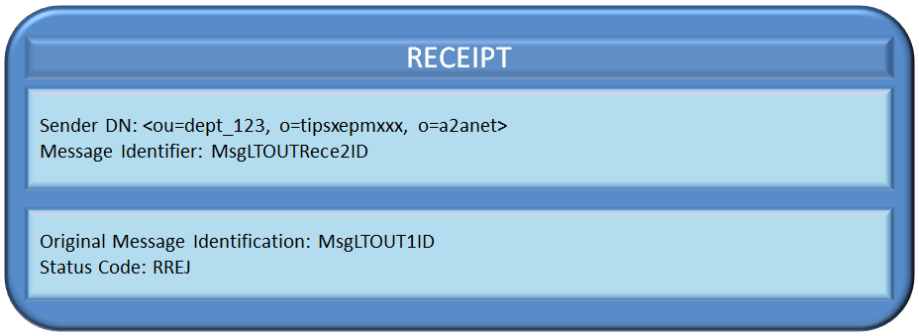
- TIPS performs an automatic reverse of funds from the RTGS Transit Account to the TIPS Account originally debited.

Figure 92 – Outbound Liquidity Transfer order: reverse settlement



- The status of the Outbound Liquidity Transfer Order is set to *Rejected* and a Receipt message is sent by TIPS in order to inform the TIPS Participant.

Figure 93 – Outbound Liquidity Transfer order: negative Receipt sent by TIPS



2.5.2.2. RTGS Alert scenario – No reply from RTGS

TIPS Participants can initiate outbound Liquidity transfers in TIPS using a Liquidity Transfer Order message. After having performed the necessary validations, TIPS transfers the requested amount

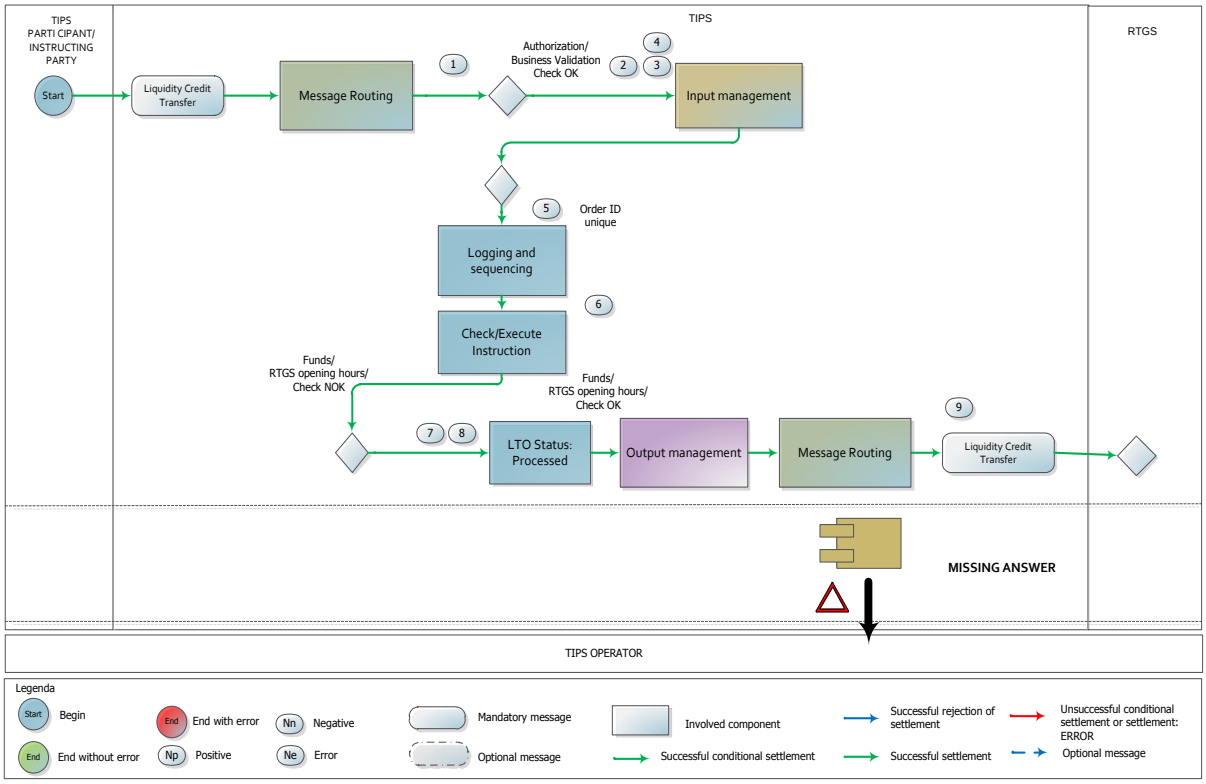
from the TIPS Account to the Transit Account. Thereafter, TIPS forwards the liquidity transfer to the corresponding RTGS System and waits for an answer. The RTGS is expected to reply with either a confirmation or a rejection message within a configurable timeframe.

A specific software component is always acting in background detecting Liquidity Transfer Orders whose status is *Transient* and for which the lapse of time between the time the order is received in TIPS and the current timestamp is longer than X minutes (X being the "RTGS Alert" system parameter, see 1.7 "Service configuration").

In case the RTGS does not provide any suitable answer within the aforementioned timeframe, TIPS alerts the TIPS Operator who can then initiate an appropriate operational procedure (depending on the reason for the timeout and the current status of TIPS and the RTGS System).

The following diagram illustrates the process where the Liquidity Transfer Order is successfully processed and forwarded by TIPS to the RTGS System but no proper RTGS answer is received from the RTGS within the configured time window.

Figure 94 – Outbound Liquidity Transfer: Missing RTGS answer flow



All the single steps from 1 to 10 are described in Table 26 – Outbound Liquidity Transfer Order steps. The remaining steps are described in Table 27 – Outbound Liquidity Transfer: Missing RTGS answer steps below.

Table 27 – Outbound Liquidity Transfer: Missing RTGS answer steps

Step	Involved messages	Involved actors	Description
11		TIPS	The specified period of time configured as RTGS Alert has elapsed since the Liquidity Transfer request has been received by TIPS from the TIPS Participant (step 1) and neither a confirmation nor a rejection has been received from the RTGS System. TIPS raises an alert to the TIPS Operator.
12		TIPS Operator	Operational procedures are put in place in order to either confirm the Liquidity Transfer and inform the Instructing Party, or move back the liquidity from the RTGS Transit Account to the TIPS Participant Account.

2.6. Notifications

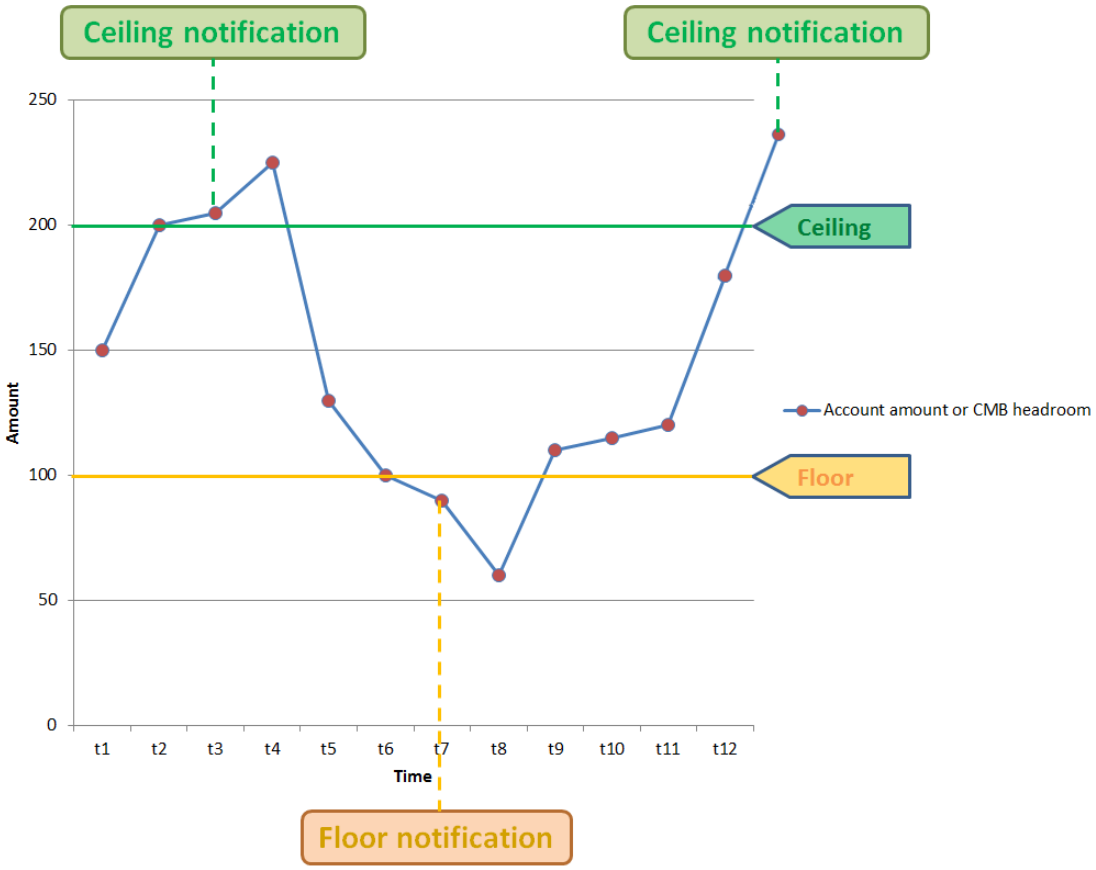
The floor and ceiling notification process manages the sending of the notifications whenever, after a successful settlement process, the amount (or headroom) of the account (or the CMB) undercuts the floor amount or exceeds the ceiling amount configured by the account or CMB owner.

TIPS can generate a floor and ceiling notification related to an account after the successful settlement of either an Instant Payment transaction or a Liquidity Transfer.

TIPS can generate a floor and ceiling notification related to a CMB only after the successful settlement of an Instant Payment transaction.

The notifications are generated every time the threshold is undercut (floor) or exceeded (ceiling). TIPS does not generate new notifications if, after trespassing the threshold, the account balance or the CMB headroom remains consistently above the ceiling threshold or below the floor threshold.

Figure 95 – Floor and ceiling notification triggers



The examples below are based on Instant Payment transaction cases.

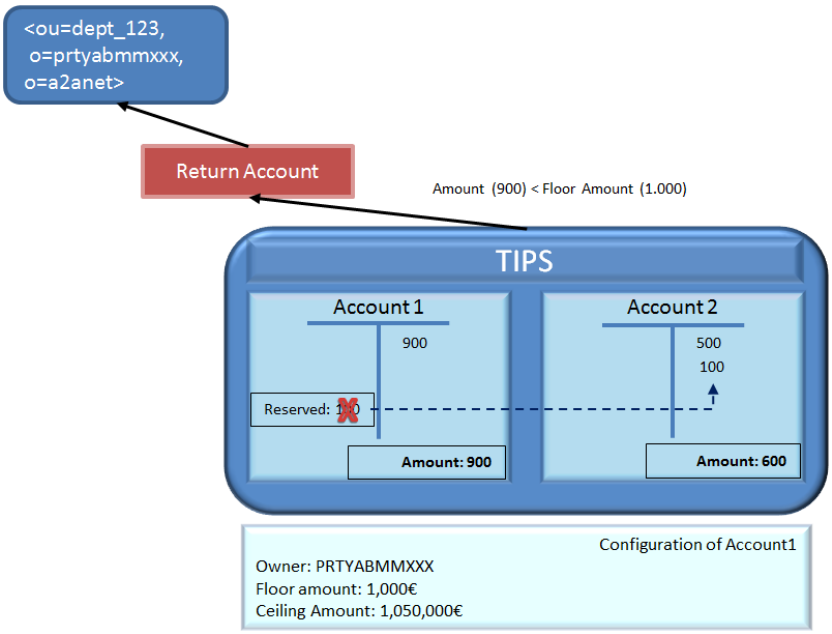
2.6.1. Floor notification on account

This positive scenario describes a successful Instant Payment transaction between two TIPS Accounts that generates a floor notification on the debited account. The scenario described is only an example for the floor notification and how the message is triggered. The scenario is similar when the headroom of the CMB falls below the defined threshold. In this case, the message is generated and sent to the owner of the account linked to the CMB.

This example starts at the end of the 2.2.2.1 "Successful scenario with confirmed order – only accounts involved". The Account 1 has a Floor Amount set to 1,000.00 EUR. At the end of the settlement phase, the payment is confirmed and the Amount of the account is 900.00 EUR.

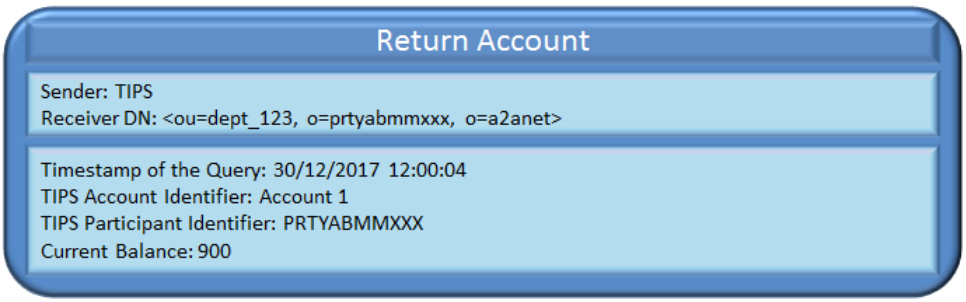
The system recognises that the account falls below the threshold defined by the customer and it starts the notification process.

Figure 96 – Floor notification settlement



TIPS selects the Outbound DN of the owner of the account (or the default DN configured as receiver) and sends the message as follow.

Figure 97 – Floor notification ReturnAccount



The message is generated when a transaction is successfully settled and the account amount goes under the configured threshold.

Since both the CMB and the Account have their own and separate floor amount, when settling on a CMB it can happen that both CMB and Account go below their threshold. In this case, the owner of the account receives two separate messages, one notifying about the current headroom of the CMB and the other notifying the current account balance.

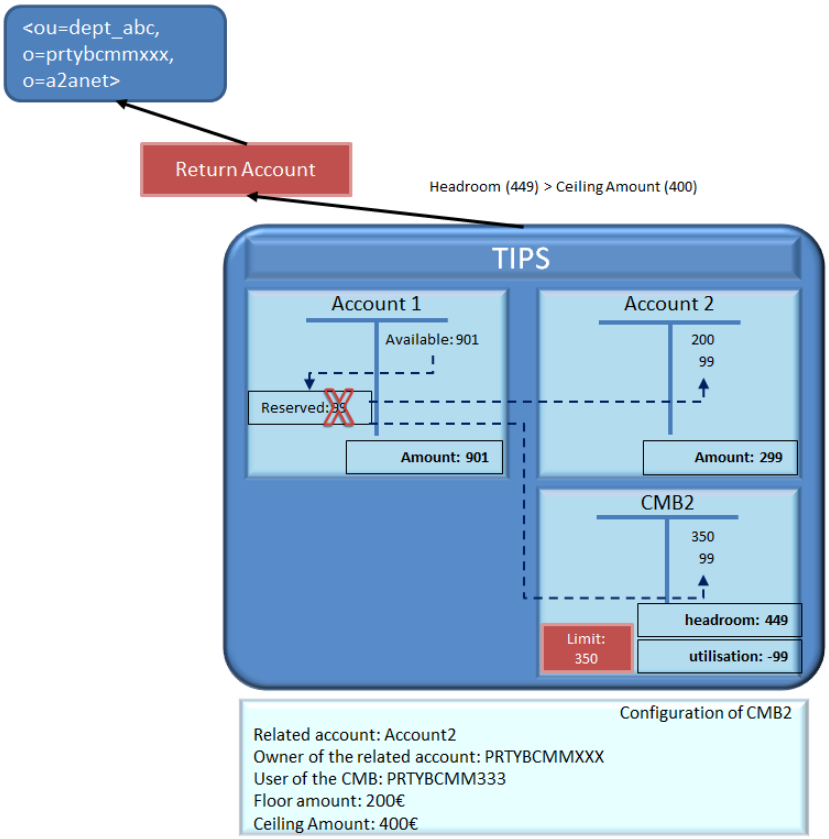
2.6.2. Ceiling notification on CMB

This positive scenario describes a successful Instant Payment transaction between two TIPS Actors that generates a ceiling notification on the credited CMB. The scenario described is only an example for the ceiling notification and how the message is triggered.

This example starts at the end of the 2.2.2.3 "Successful scenario with confirmed order – Creditor CMB and debtor Account". The CMB2 has a Ceiling Amount set to 400.00 EUR. At the end of the settlement phase, the payment is confirmed and the headroom of CMB2 is 449.00 EUR.

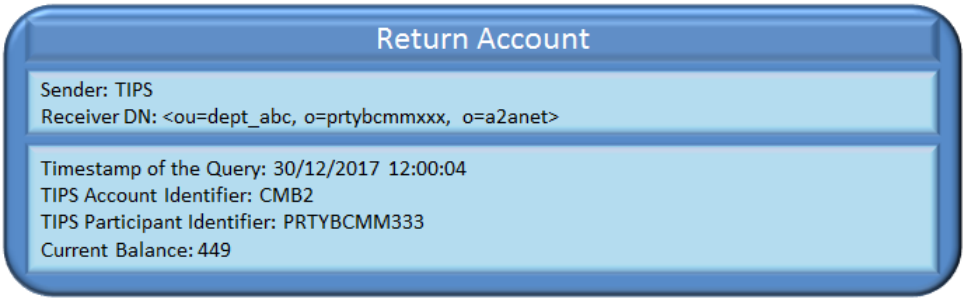
The system recognises that the CMB's headroom has exceeded the threshold configured by the TIPS Actor and it triggers the notification process.

Figure 98 – Ceiling notification settlement



TIPS selects the owner of the account related to the CMB2 and its Outbound DN. Then TIPS sends the message as follow.

Figure 99 – Ceiling notification ReturnAccount



The message is generated when a transaction is successfully settled and the account amount exceeds the configured threshold.

Since both the CMB and the account have their own and separate ceiling amount, when settling on a CMB it can happen that both CMB and account exceed their threshold. In this case, the owner of the account receives two separate messages, one notifying about the current headroom of the CMB and the other notifying the current account balance.

2.7. Queries

This section focuses on the processing of a Query Request, with the description of the full scenario and its steps.

The section covers the scenarios in which a Participant or Instructing Party queries the system in order to obtain information belonging to the balance and the status of an account or to the limit and the status of a CMB. This process is characterized by two different kinds of query:

- Account balance and status query;
- CMB limit and status query.

The remaining part of this chapter contains steps of the general flow and examples of possible scenarios for the *Account balance and status query* and *CMB limit and status query*, with a focus on possible failing ones. Each example shows the relevant messages and how the main fields are filled.

TIPS shall take into account all access rights while processing queries and only return results if the queried data are part of the TIPS Actor data scope, as defined in the following table.

Table 28 – Query permissions

Actor	Account Balance and Status Query	CMB Limit and Status Query
Central Bank	Accounts under the CB's responsibility	CMBs under the CB's responsibility
Participant	Accounts for which the Participant is owner	CMB for which the Participant is owner
Reachable party	No	No
Instructing Party on behalf of a Participant	Accounts for which the Participant's BIC is owner	CMBs for which their Participant's BIC is owner
Instructing Party on behalf of a Reachable Party	Accounts for which the Reachable Party's BIC is set as authorised user	CMBs for which their Reachable Party's BIC is set as authorised user
RTGS System	Accounts denominated in their currency	CMBs denominated in their currency

If the queried data do not fall under the TIPS Actor data scope, an error is returned.

Involved actors and messages in Account balance and status query and the CMB limit and status query are:

- The Participant or Instructing Party sending the query;

- GetAccount message in order to instruct query;
- ReturnAccount message in order to receive the query response.

The Account balance and status query allows the authorised actor to get the detailed information for one account, specifying the TIPS account identifier.

Returned data are:

- TIPS Participant identifier;
- TIPS account identifier;
- Current account balance;
- Currency linked to the account;
- Account status;
- Timestamp of the query.

The CMB limit and status query allows the authorised actor to get the detailed information for one CMB, specifying as input parameter the TIPS CMB identifier.

Returned data are:

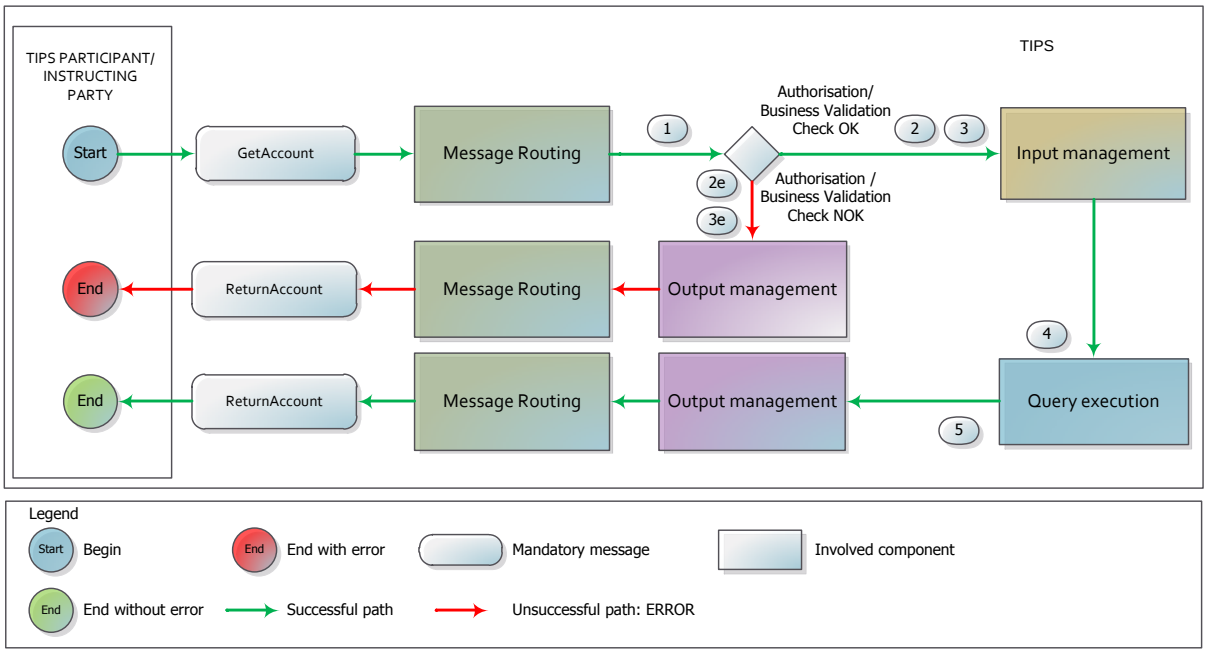
- TIPS Participant identifier;
- TIPS account identifier for the account linked to the CMB;
- TIPS CMB identifier;
- CMB limit;
- CMB headroom;
- Currency of the account to which the CMB is linked;
- CMB status;
- Timestamp of the query.

All the described scenarios are triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user have already been successfully performed by ESMIG.

It is important to keep in mind that when the Get Account message contains a BIC8 instead of a BIC11, the message is accepted and the string is completed appending “XXX” at the end of the BIC8 for further processing. All the steps are described considering BIC11 only.

The diagram below describes the process and the involved actors.

Figure 100 – Account Balance Status query flow



The details of the steps are described in the following table.

Table 29 – Account Balance Status query steps

Step	Involved messages	Involved actors	Description
1	GetAccount	Participant or Instructing Party as sender TIPS as receiver	TIPS receives an incoming Query from the Participant or Instructing Party. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised for queries. See 4.1- Business Rules for details.
2e	ReturnAccount	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the Participant or Instructing Party – same DN of the sender – containing the proper error code.
3		TIPS	TIPS perform the following checks on the value of the field “Account or CMB Identifier” of the GetAccount message (Account/CMB existence) : - for Account balance and status query, TIPS verifies that the value corresponds to an account type "TIPS Account" in the table "Cash Accounts" and if the Participant or Instructing Party is authorised to query on it based on the query permission (see Query permissions table). - for CMB limit and status query, TIPS verifies that the value corresponds to a CMB in the table "CMB" and if the Participant or Instructing Party is authorised to query on it based on the query permission (see Query permissions table). The system selects also the TIPS Account linked to the CMB; See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
3e	ReturnAccount	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 3. At the first negative check the system stops and sends a message to the Participant or Instructing Party – same DN of the sender – containing the proper error code.
4		TIPS	TIPS retrieves the data corresponding to the submitted query and its input parameters.
5	ReturnAccount	TIPS as sender Participant or Instructing Party as receiver	The system sends a message to the Participant or Instructing Party – same DN of the query sender – containing the query results.

2.7.1. Examples

This sub-section presents different examples of the possible different scenarios related to the queries on Account/CMB. Scenarios and examples are not exhaustive.

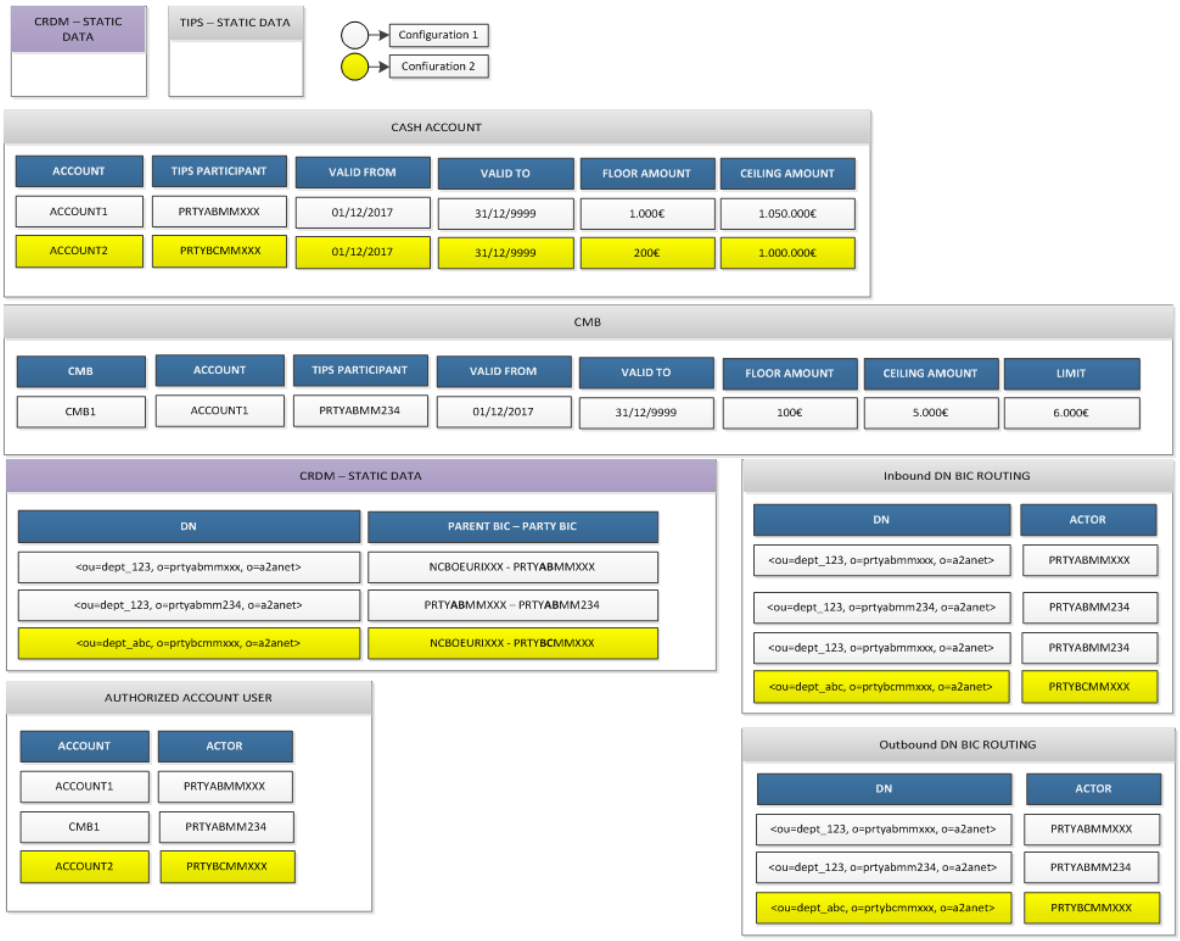
The first one provides the example of a non-empty answer to an Account balance and status query.

The second one describes a non-empty answer to a CMB limit and status query.

The last one provides an example of a TIPS rejection for the TIPS Account/CMB not found.

The ~~table~~ figure below summarises, for each reference data object mentioned in the following examples, the related configuration.

Figure 101 – Queries examples: data constellation



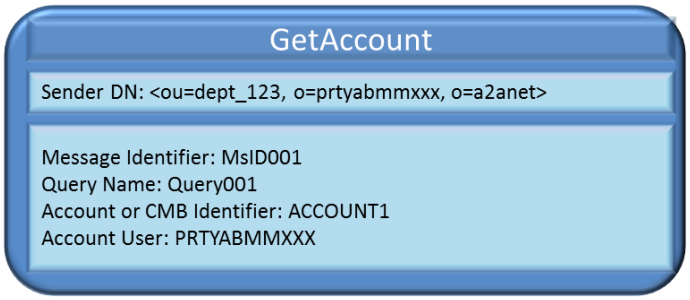
2.7.1.1. Successful scenario – Account balance and status query

In this scenario:

- A TIPS Participant (PRTYABMMXXX) sends a GetAccount message to TIPS to query the balance and the status an account (ACCOUNT1);
- The TIPS Account balance for ACCOUNT1 is 10,000.00 EUR;

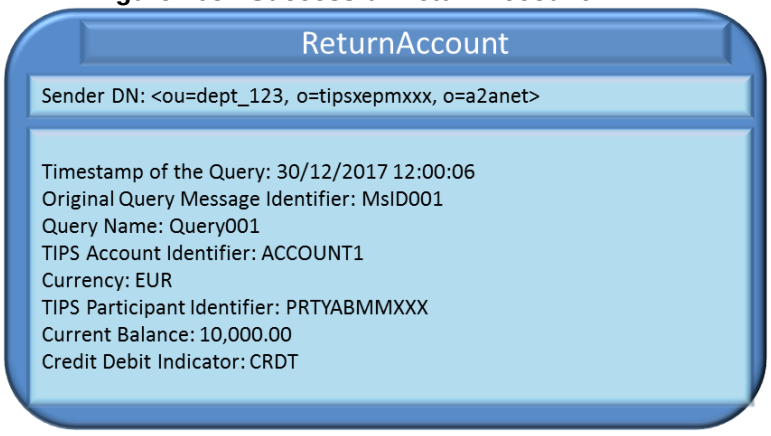
- The TIPS Account is active, open and not blocked..

Figure 102 – Successful Get Account



- TIPS identifies:
  - The DN of the sender – i.e. the TIPS Participant or Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The Account (ACCOUNT1);
  - The Account Owner (PRTYABMMXXX).
- TIPS selects the actual balance of the Account;
- A ReturnAccount message is sent by TIPS to the same DN of the query sender, containing the query results.

Figure 103 - Successful ReturnAccount



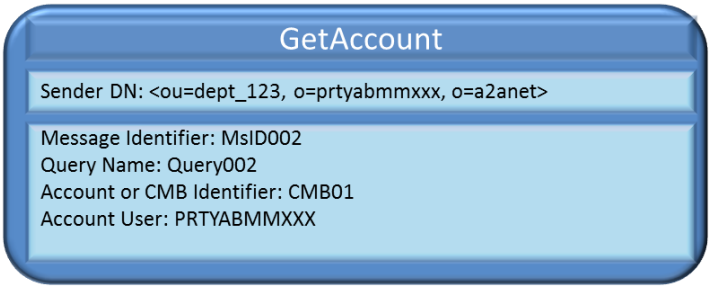
2.7.1.2. Successful scenario – CMB limit and status query

In this scenario:

- A TIPS Participant (PRTYABMMXXX) sends a GetAccount message to TIPS to query the status of a CMB (CMB01), linked to a TIPS Account (ACCOUNT1), used by the Reachable Party;

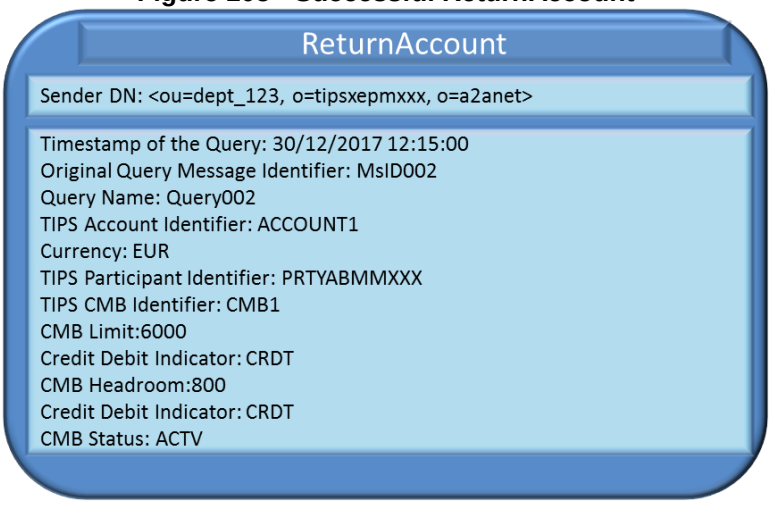
- The TIPS CMB limit for CMB1 is 6,000.00 EUR;
- The TIPS CMB utilisation for CMB1 is 5,200.00 EUR;
- The TIPS CMB Headroom for CMB1 is 800.00 EUR;
- The CMB is active, open and not blocked.

Figure 104 – Successful Get Account



- TIPS identifies:
  - The DN of the sender – i.e. the TIPS Instructing Party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The CMB (CMB1);
  - The Account (ACCOUNT1);
  - The Account Owner (PRTYABMMXXX).
- TIPS identifies the actual balance of the Account
- A ReturnAccount message is sent by TIPS to the same DN of the query sender, containing the query results.

Figure 105 - Successful ReturnAccount

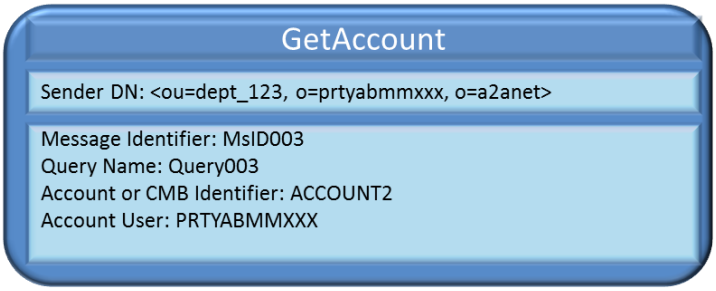


2.7.1.3. Unsuccessful scenario – TIPS Account/CMB not found

In this scenario:

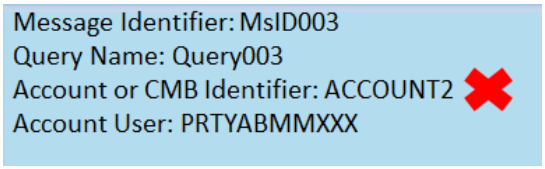
- A TIPS Participant (PRTYABMMXXX) sends a GetAccount message to TIPS to query the balance and the status of an account (ACCOUNT2);
- ACCOUNT2 is not a TIPS Account.

Figure 106 – Unsuccessful GetAccount



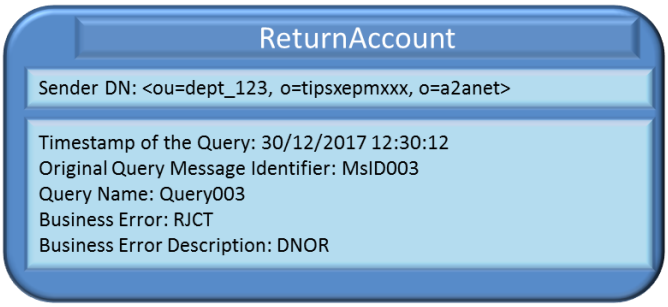
- TIPS does not identify ACCOUNT2 as TIPS Account/CMB.

Figure 107 – Unsuccessful GetAccount: account retrieval failure



- A ReturnAccount message is sent by TIPS to the same DN of the query sender, containing the error code.

Figure 108 – Unsuccessful ReturnAccount



2.8. Reports

This section describes the processing steps for the creation of reports available in TIPS and their sending out from TIPS to the TIPS Actors who subscribe to them.
TIPS provides the following report types:

- Statement of Account Turnover;
- Statement of Accounts.

The above reports are generated using the data available at the time scheduled in the report subscription or at the end of day of the corresponding RTGS System.

TIPS provides TIPS actors with reports on their accounts based on the permissions listed in the following table.

Table 30 – Report permissions and data scope

Actor	Statement of Account Turnover	Statement of Accounts
Central Bank	No	No
Participant	Own accounts	Own accounts[14]
Reachable party	No	No
Instructing Party on behalf of a Participant	Accounts of the Participant on behalf of which the Instructing Party is operating	Accounts of the Participant on behalf of which the Instructing Party is operating
Instructing Party on behalf of a Reachable Party	No	No

2.8.1. Statement of Account Turnover

The Statement of Account Turnover report provides the following information for all the TIPS accounts in the data scope of the Recipient actor:

- RTGS business date for which the information is retrieved;
- TIPS Participant identifier;
- TIPS account identifier;
- Currency of the TIPS account;
- Opening balance at start of RTGS business day;
- Closing balance at end of RTGS business day;
- Sum of debits for the TIPS account;
- Sum of credits for the TIPS account.

TIPS provides the Statement of Account Turnover in a complete version only (Full mode) and covers the time between start and end of RTGS business day[15].

[14] The Statement of Accounts contains settled transactions on CMBs linked to the Participant's accounts as well.

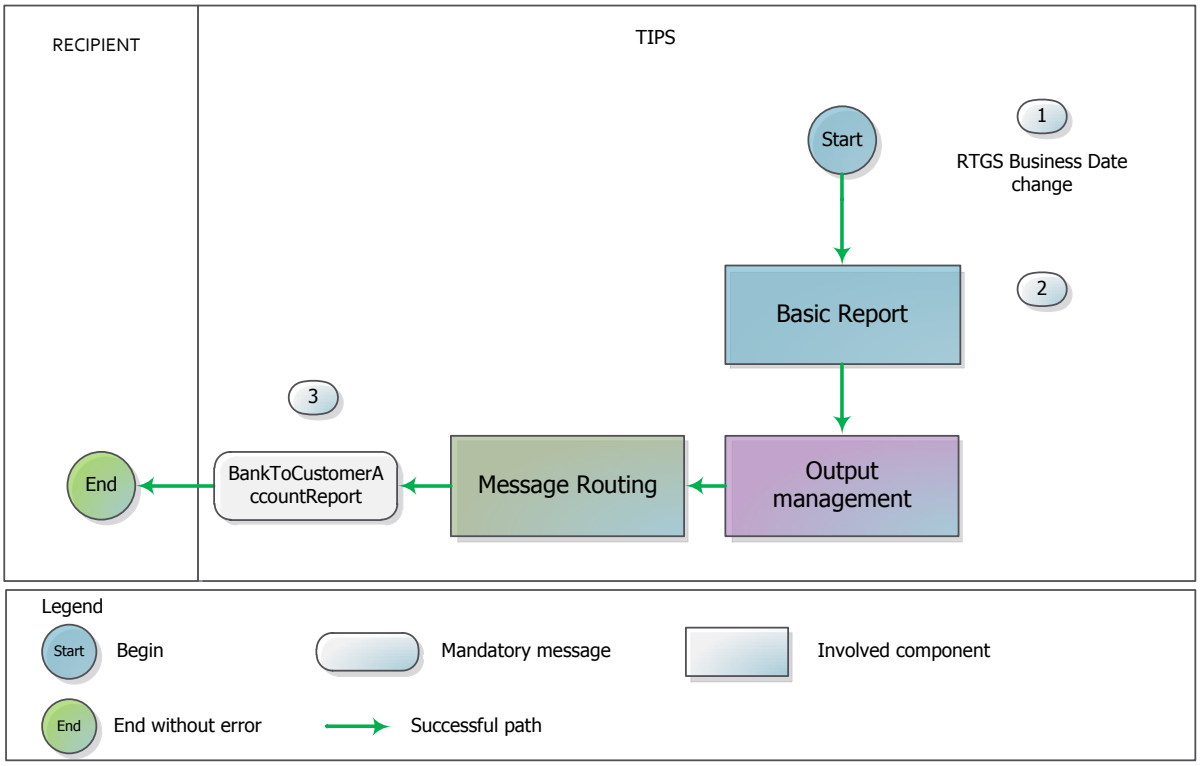
Reserved amounts are included in the calculation of the Opening balance at start of RTGS business day and the Closing balance at end of RTGS business day.

The involved actors and messages are:

- The Recipient: The subscribing Participant who receives the report;
- BankToCustomerAccountReport message sent from TIPS to the Recipient in order to provide the Statement of Account Turnover report.

The following diagram displays the Statement of Account Turnover generation process which is triggered in TIPS.

Figure 109 – Statement of Account Turnover flow



[15] Because Scheduled Frequency is an irrelevant report subscription parameter for full reports, the trigger could be only an RTGS business day change.

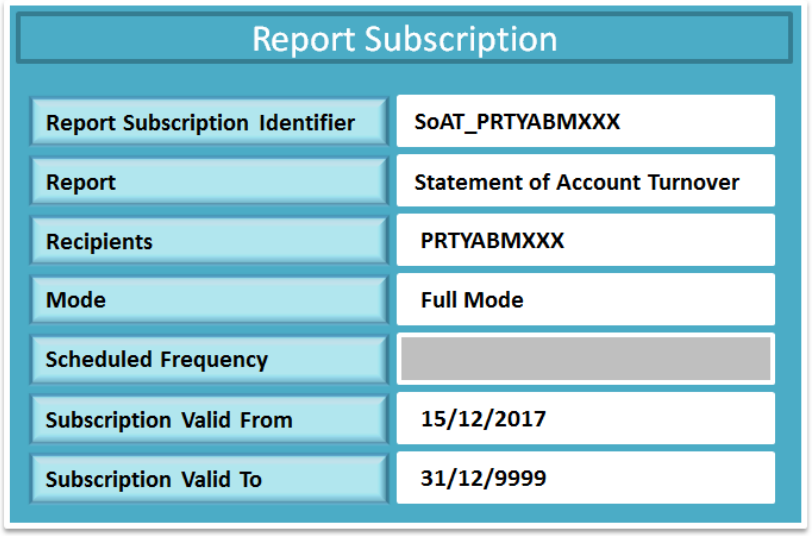
The details of the steps are described in the following table.

Table 31 – Statement of Account Turnover steps

Step	Involved messages	Involved actors	Description
1		TIPS	Following the change of the business date of the relevant RTGS system, TIPS triggers the Statement of Account Turnover generation process.
2		TIPS	The whole set of balances in TIPS is saved by means of a "snapshot" operation, TIPS processes all data from the snapshot necessary for the report generation in accordance with the relevant configuration, adding transactional data and enriching it with reference data. Subsequently, the report data is grouped and formatted. The Statement of Account Turnover is created.
3	BankToCustomerAccountReport	TIPS as sender Recipient as receiver	TIPS sends the Statement of Account Turnover to the previously defined Recipient.

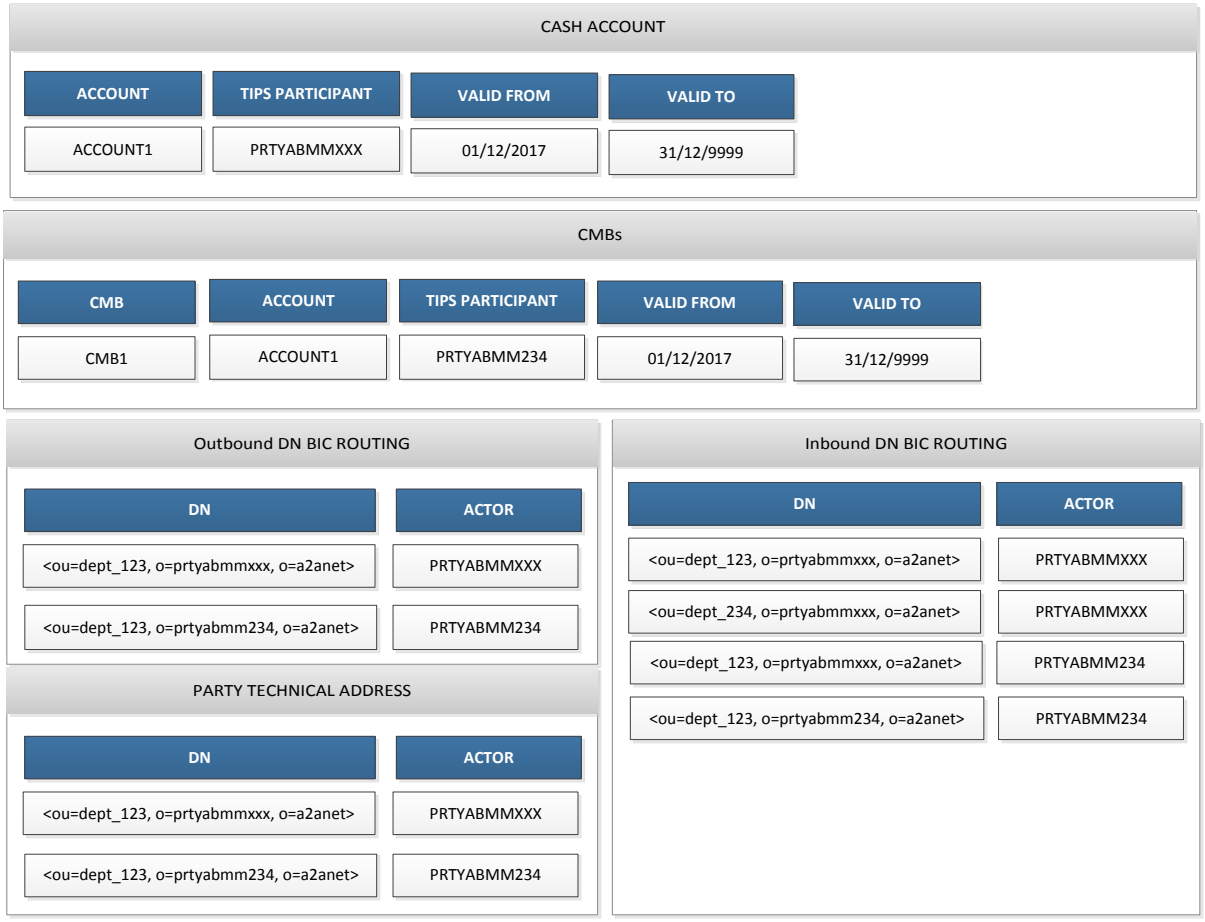
The following example shows how the Statement of Account Turnover creation process takes place in accordance to the following report configuration. Scenarios and examples are not exhaustive.

Figure 110 – Statement of Account Turnover example: report subscription



This representative case is based on the data constellation provided hereunder.

Figure 111 – Statement of Account Turnover example: data constellation

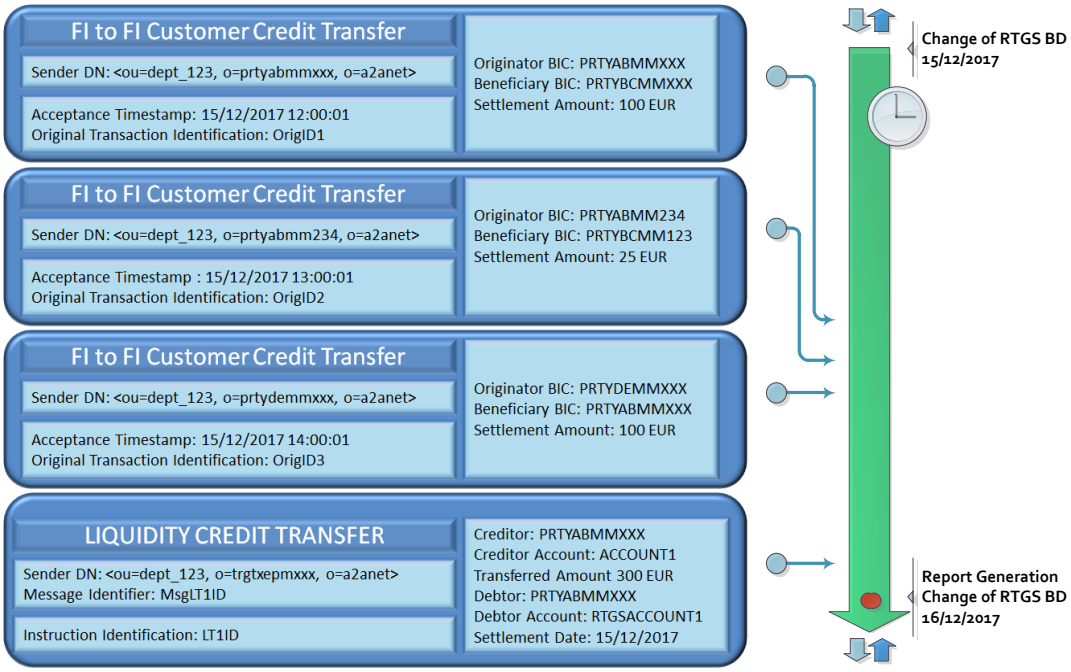


2.8.1.1.1Statement of Account Turnover

For the sake of this example, it is assumed that: i) the opening balance at the start of RTGS business day (15/12/2017) for the ACCOUNT1 is 500.00 EUR; ii) the RTGS system open at 7 a.m. and close at 6 p.m.; no interruption of the service or disruptive event would occur.

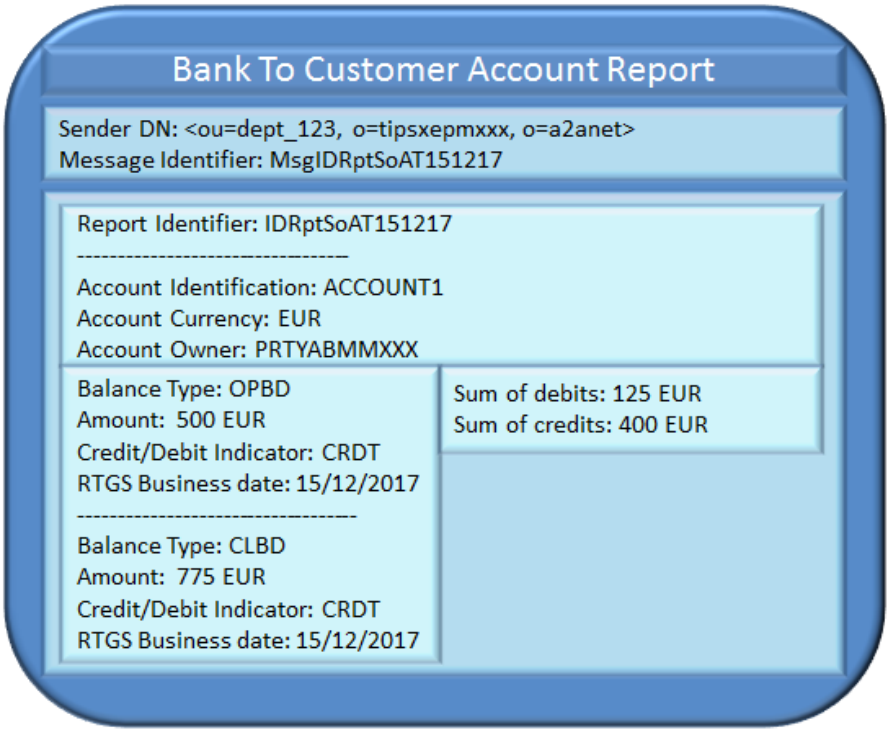
- The following payment transactions are received and settled in TIPS during the current RTGS business date (15/12/2017).

Figure 112 – Statement of Account Turnover example: list of transactions



- On receipt of the notification made by the relevant RTGS system, the RTGS business date parameter is updated accordingly in TIPS (16/12/2017);
- The snapshot of in-memory balances is taken as it is needed to produce the report;
- The Basic Report component retrieves the data to be included in the Statement of Account Turnover;
- The system identifies the Recipient DN from the “Party Technical Address” (<ou=dept_abc, o=prtyabmmxxx, o=a2anet>);
- The Message Router component sends the following BankToCustomerAccountReport message to the Recipient.

Figure 113 - Statement of Account Turnover example: BankToCustomerAccountReport



2.8.2. Statement of Accounts

The Statement of Accounts report provides detailed information on the activities recorded for all the TIPS accounts in the data scope of the Recipient actor.

The report contains:

- RTGS business date for which the information is retrieved;
- TIPS Participant identifier;
- TIPS account identifier;
- Currency of the TIPS account;
- Account Balance (based on the latest data available);
- Start Timestamp for which the account statement is issued;
- End Timestamp for which the account statement is issued;

For all the transactions settled[16] on the reported TIPS Accounts, TIPS provides the following details:

- Payment transaction reference;
- BIC of the Originator Participant of the transaction;

[16] These transactions are payment transactions or liquidity transfers.

- Payment transaction Amount;
- Bank transaction code of the transaction;
- Initial balance before the execution of the payment transaction;
- Final balance after the execution of the payment transaction;
- Settlement timestamp.

TIPS provides the Statement of Accounts in Full or Delta mode.

Delta report covers the time between the last report trigger and the trigger time scheduled in the report subscription. When subscribing for a report in Delta mode, the end of day of the relevant RTGS System triggers in any case a last report generation for the business day which contains all the data remaining between the trigger itself and the last report produced for the interested Actor.

Full report covers the time since the start RTGS business day and the end of RTGS business day[17].

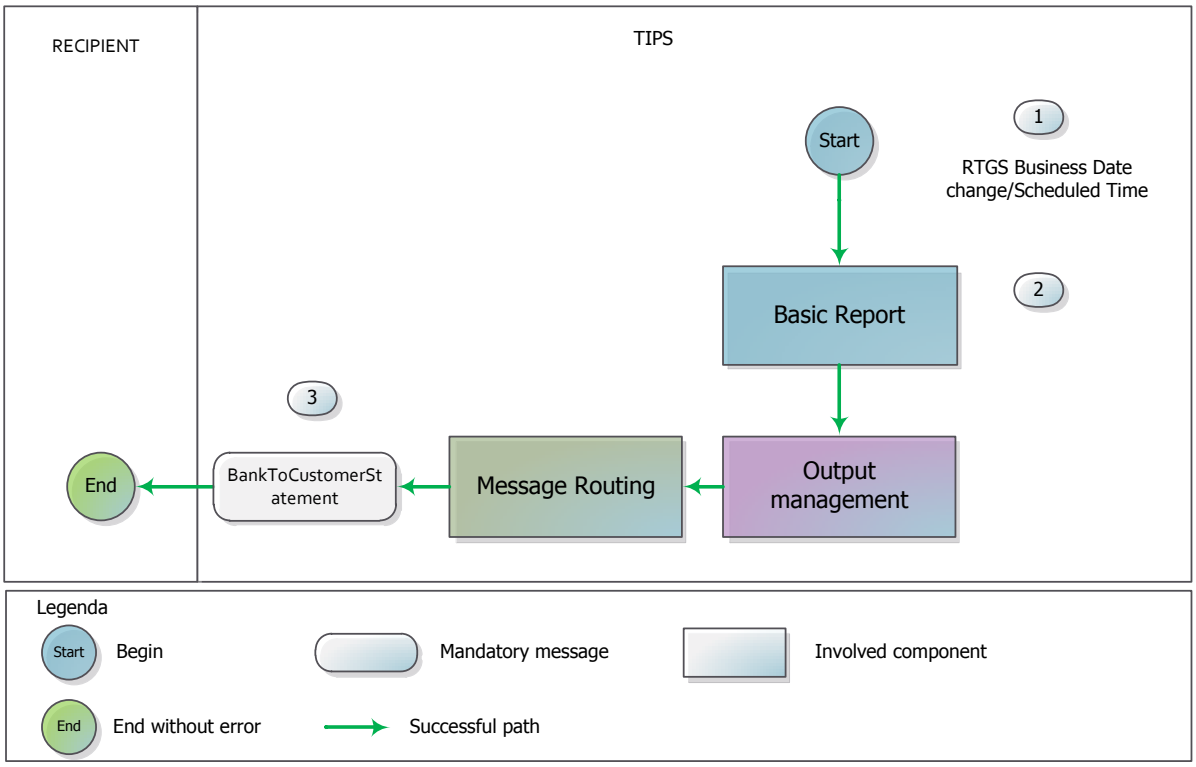
The involved actors and messages are:

- The Recipient: The subscribing Participant who receives the report;
- BankToCustomerStatement message sent from TIPS to the Recipient in order to provide the Statement of Accounts report.

The following diagram displays the Statement of Accounts generation process which is triggered in TIPS.

[17] Because Scheduled Frequency is an irrelevant report subscription parameter for full reports, the trigger could be only an RTGS business day change.

Figure 114 – Statement of Accounts flow



The details of the steps are described in the following table.

Table 32 – Statement of Accounts steps

Step	Involved messages	Involved actors	Description
1		TIPS	Following the change of the business date of the relevant RTGS system or when the scheduled time is reached, TIPS triggers the Statement of Accounts generation process.
2		TIPS	The whole set of balances in TIPS is saved by means of a “snapshot” operation, TIPS processes all data from the snapshot necessary for the report generation in accordance with the relevant configuration, adding transactional data and enriching it with reference data. Subsequently, the report data is grouped and formatted. The Statement of Accounts is created.
3	BankToCustomerStatement	TIPS as sender Recipient as receiver	TIPS sends the Statement of Accounts to the previously defined Recipient.

2.8.2.1. Examples

The following examples show how the Statement of Accounts creation process takes place in accordance to the following report configurations. Scenarios and examples are not exhaustive.

Figure 115 and Figure 116 show the report subscription underlying the first and second example respectively.

Figure 115 – Statement of Accounts example: report subscription (full mode)

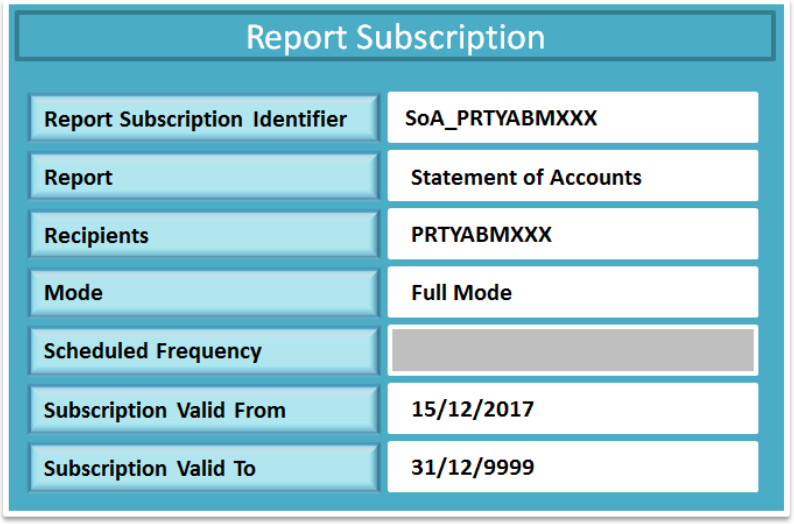


Figure 116 – Statement of Accounts example: report subscription (delta mode)

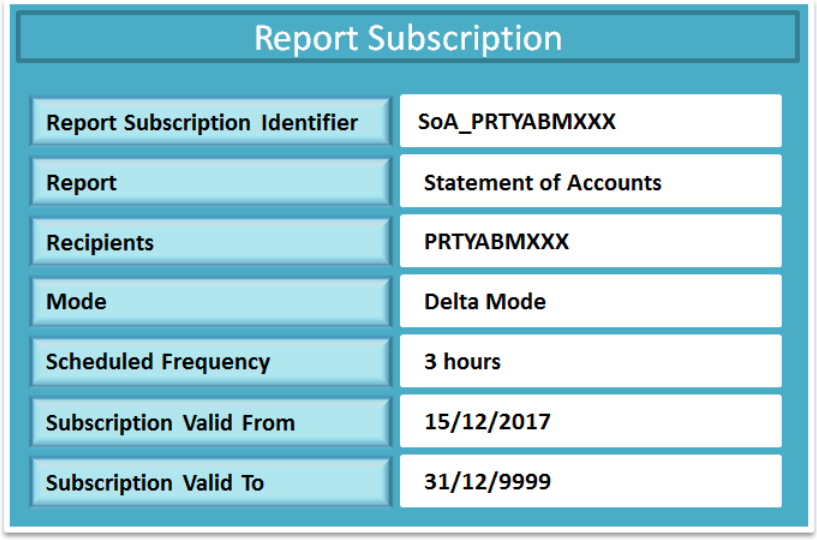
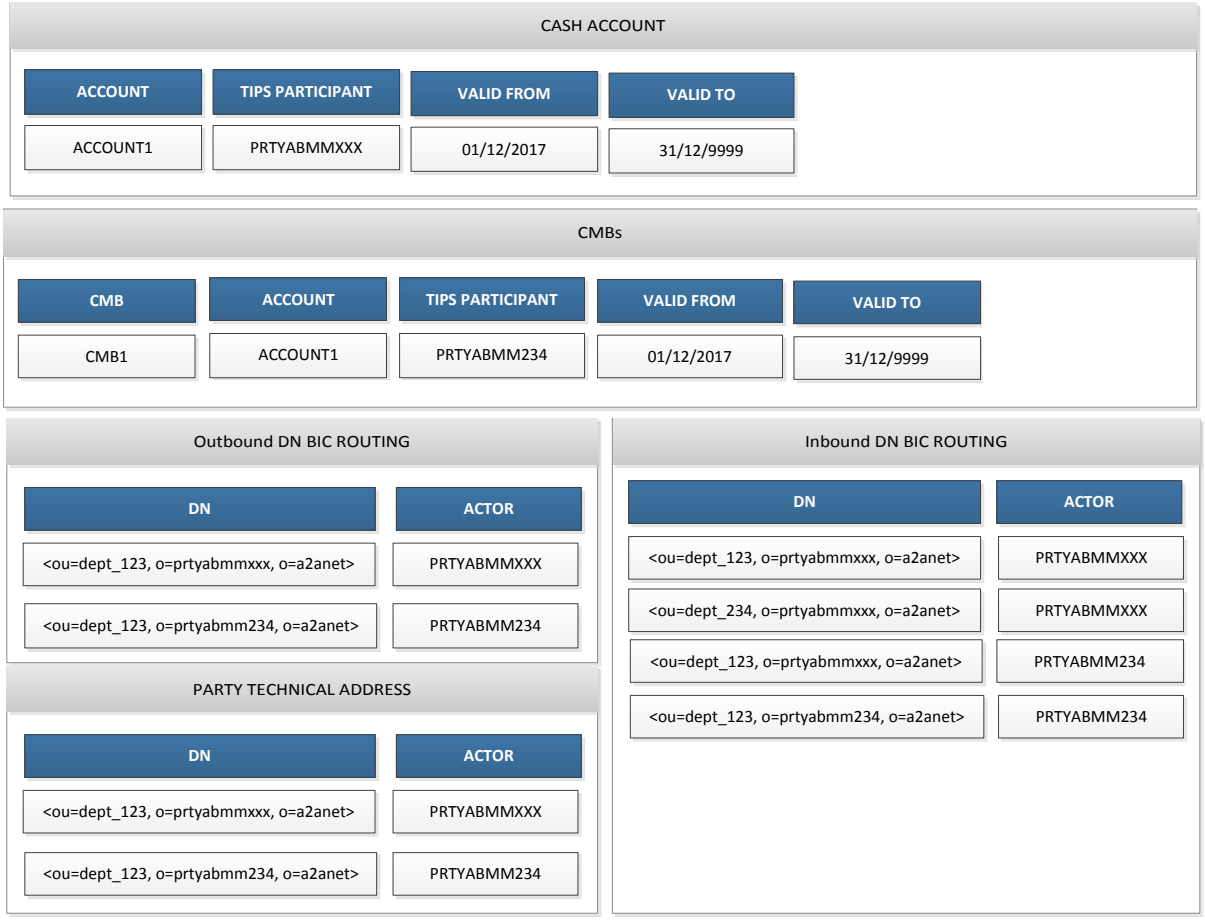


Figure 117 shows the details of the reference data setup for both the examples.

Figure 117 – Statement of Accounts example: data constellation

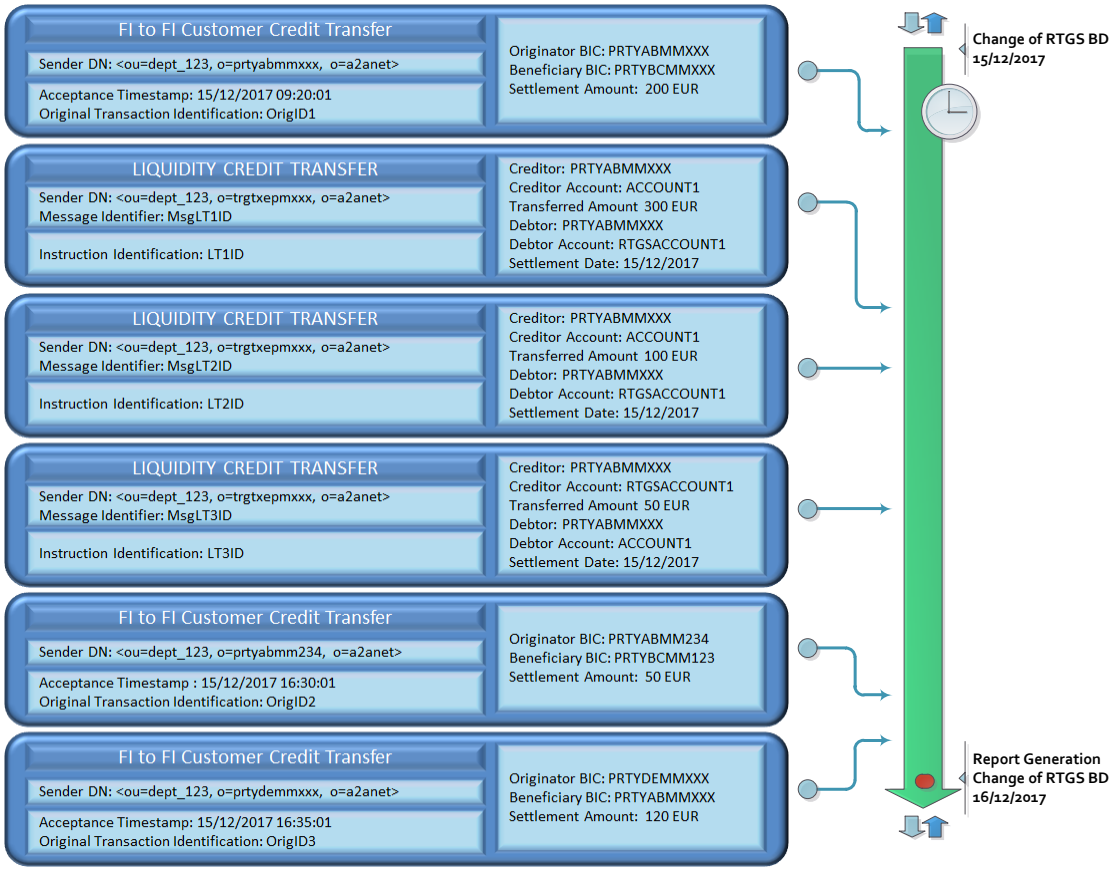


2.8.2.1.1Statement of Accounts – Full mode

The underlying assumptions for this representative case are the following: i) the opening balance at the start of RTGS business day (15/12/2017) for the ACCOUNT1 is 500.00 EUR; ii) the RTGS system open at 7 a.m. and close at 6 p.m.; no interruption of the service or disruptive event would occur.

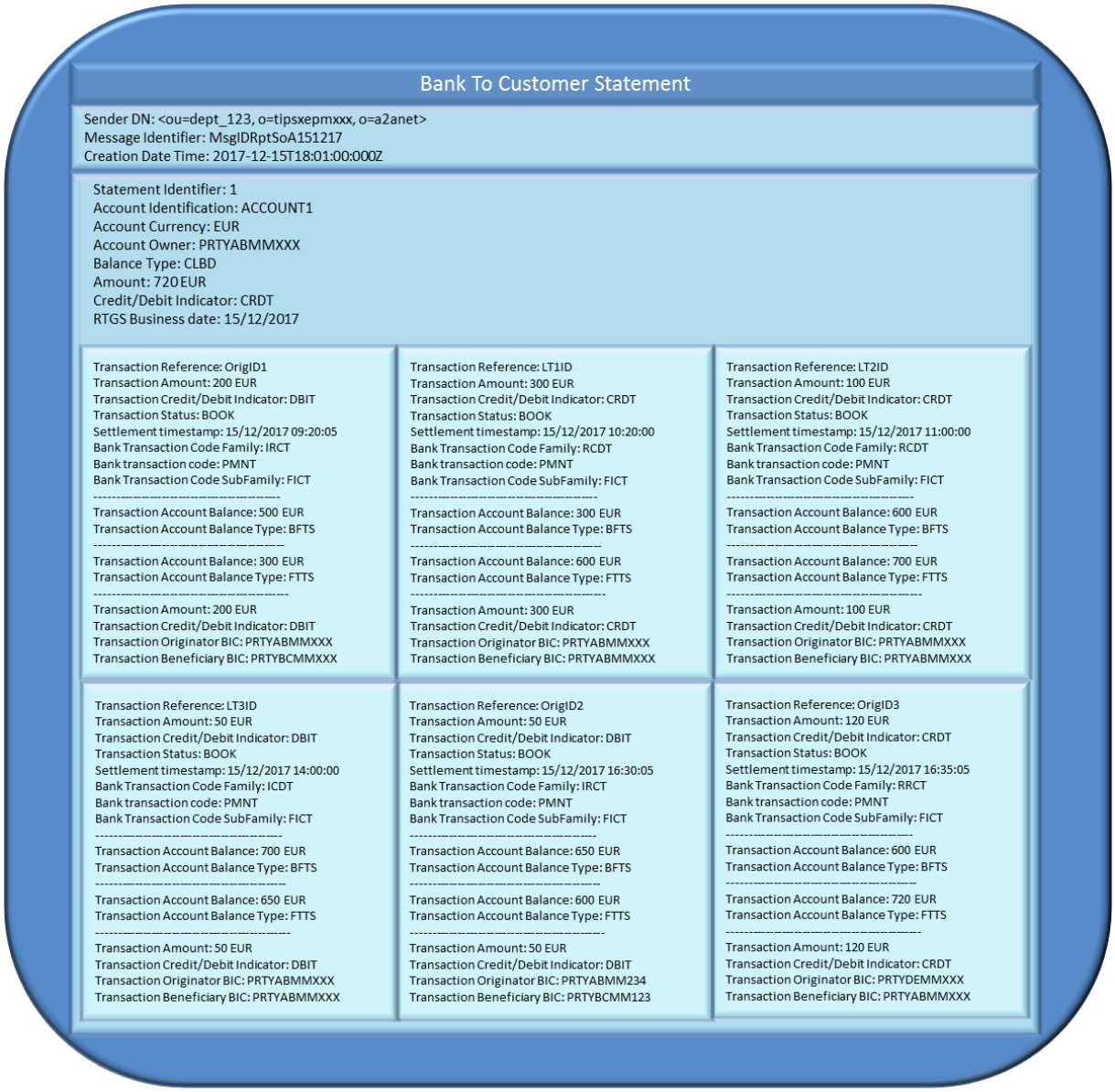
- The following payment transactions are received and settled in TIPS during the current RTGS business date (15/12/2017).

Figure 118 – Statement of Accounts example: list of transactions (full mode)



- On receipt of the notification made by the relevant RTGS system, the RTGS business date parameter is updated accordingly in TIPS (16/12/2017);
- The system takes the snapshot of in-memory balances and downloads transaction data from the database;
- The Basic Report component retrieves the data to be included in the Statement of Accounts;
- The system identifies the Recipient DN from the “Party Technical Address” (<ou=dept_abc, o=prtyabmmxxx, o=a2anet>);
- The Message Router component sends the following BankToCustomerStatement message to the Recipient.

Figure 119 – Statement of Accounts example: BankToCustomerStatement

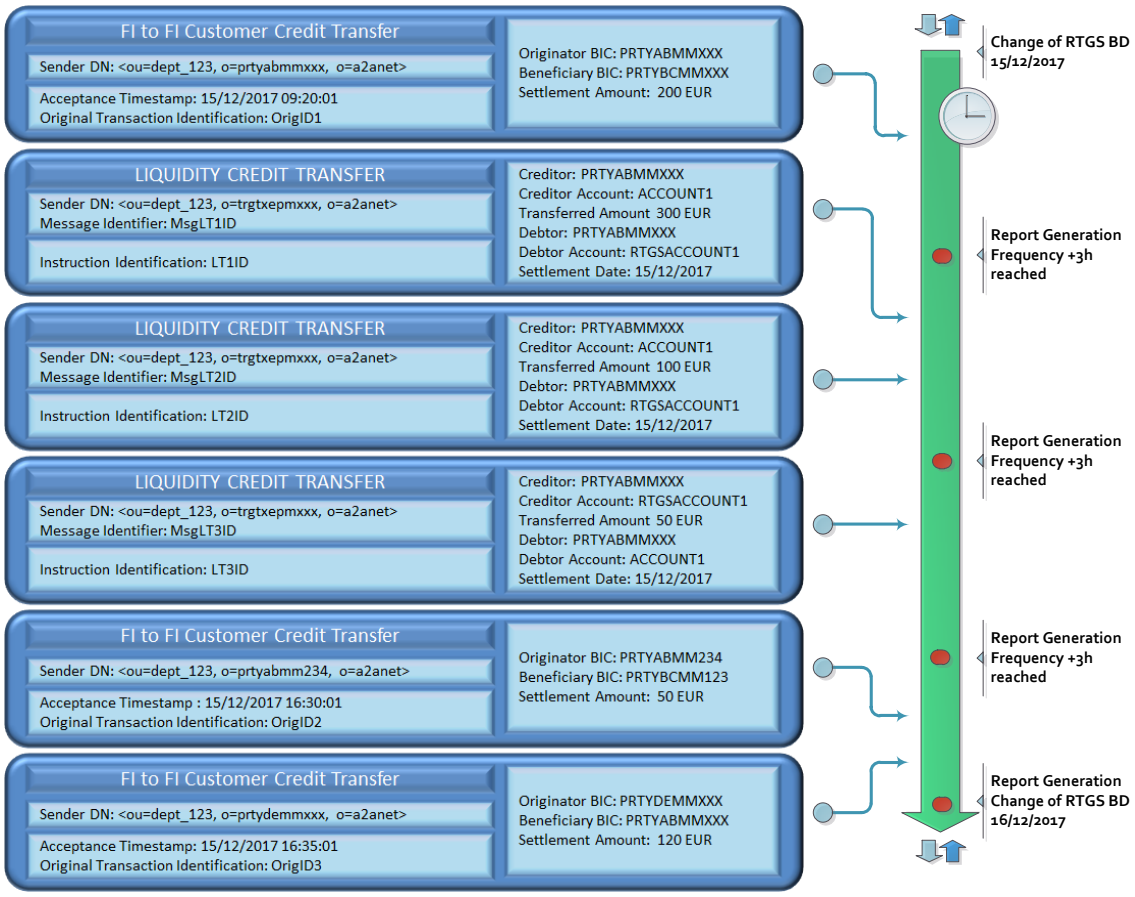


2.8.2.1.2 Statement of Accounts – Delta mode

The same assumptions are used in this example as in the above example illustrating the creation of a Statement of Accounts in Full mode.

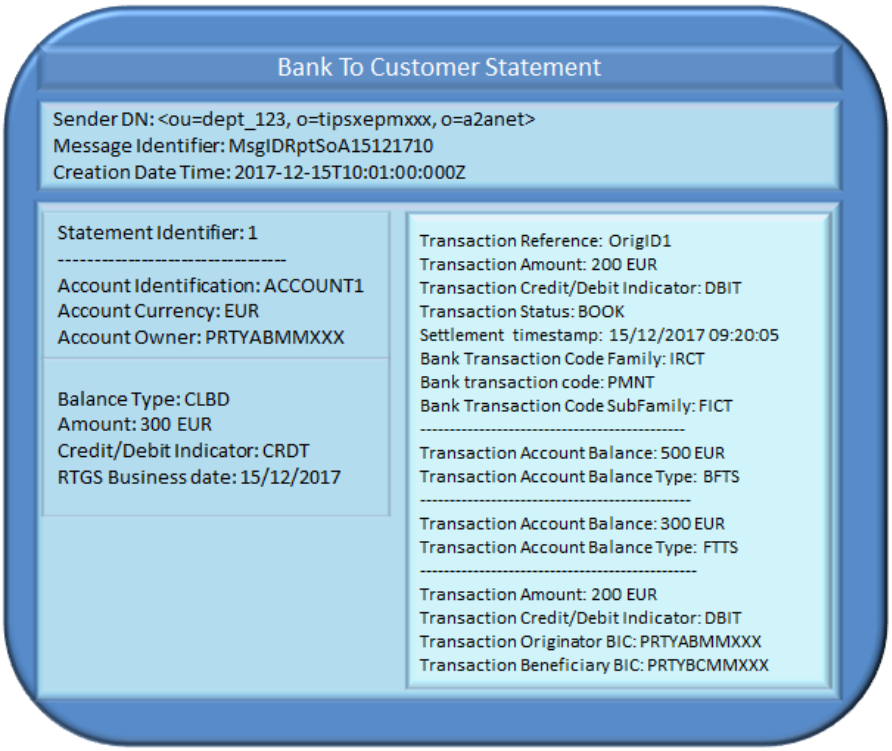
- The following payment transactions are received and settled in TIPS during the current RTGS business date (15/12/2017).

Figure 120 – Statement of Accounts example: list of transaction (delta mode)



- The period of time configured in the report subscription (scheduled frequency: 3 hours) is elapsed from the last change of RTGS business date (15/12/2017);
- The system takes the snapshot of in-memory balances and downloads transaction data from the database;
- The Basic Report component retrieves the data to be included in the Statement of Accounts.
- The system identifies the Recipient DN from the “Party Technical Address” (<ou=dept_abc, o=prtyabmmxxx, o=a2anet>);
- The Message Router component sends the following BankToCustomerStatement message to the Recipient.

Figure 121 – Statement of Accounts example: scheduled frequency n.1



- As shown in Figure 120, the creation of the report is triggered other three times throughout the current RTGS business day. The last generation is activated by the RTGS business date update in TIPS (16/12/2017). The following messages are sent in chronological order by the Message Router to the Recipient.

Figure 122 – Statement of Accounts example: scheduled frequency n.2

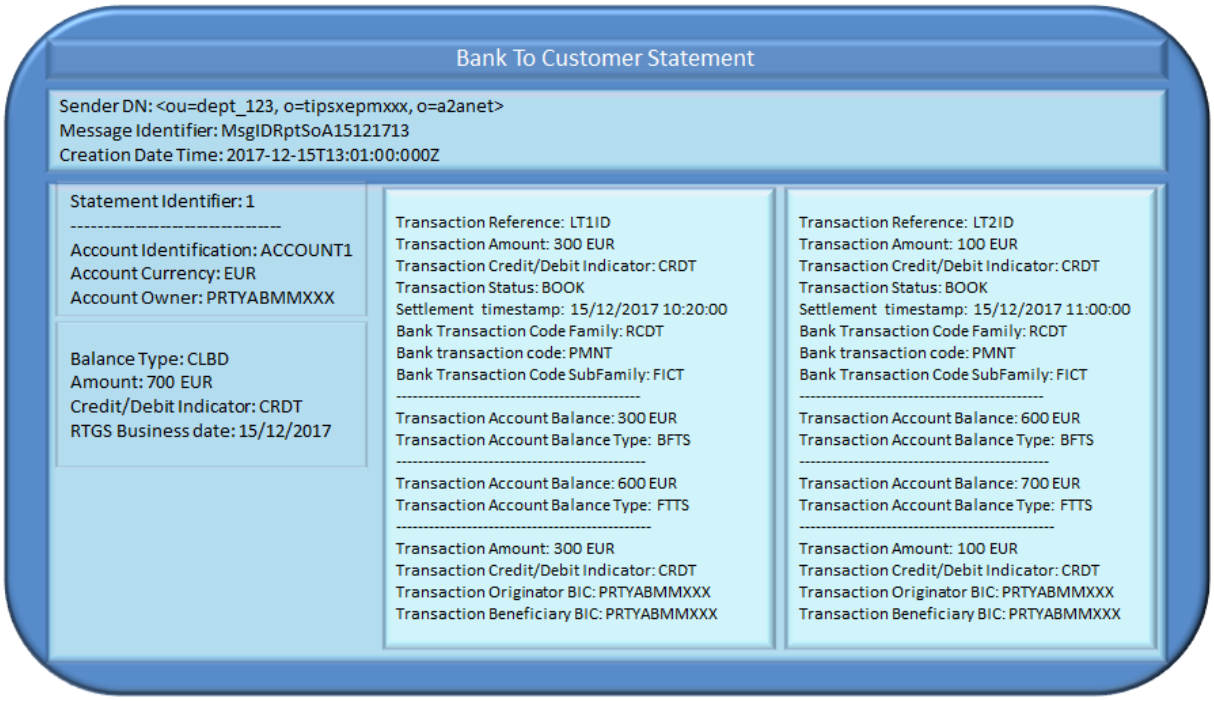


Figure 123 – Statement of Accounts example: scheduled frequency n.3

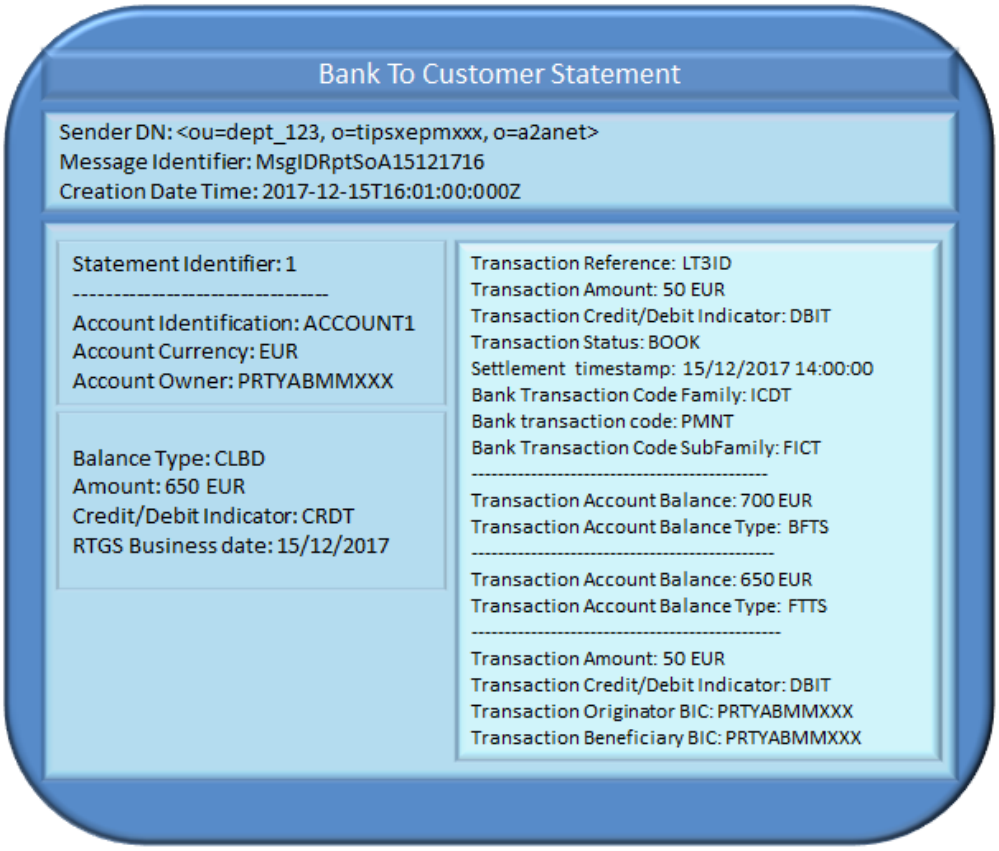
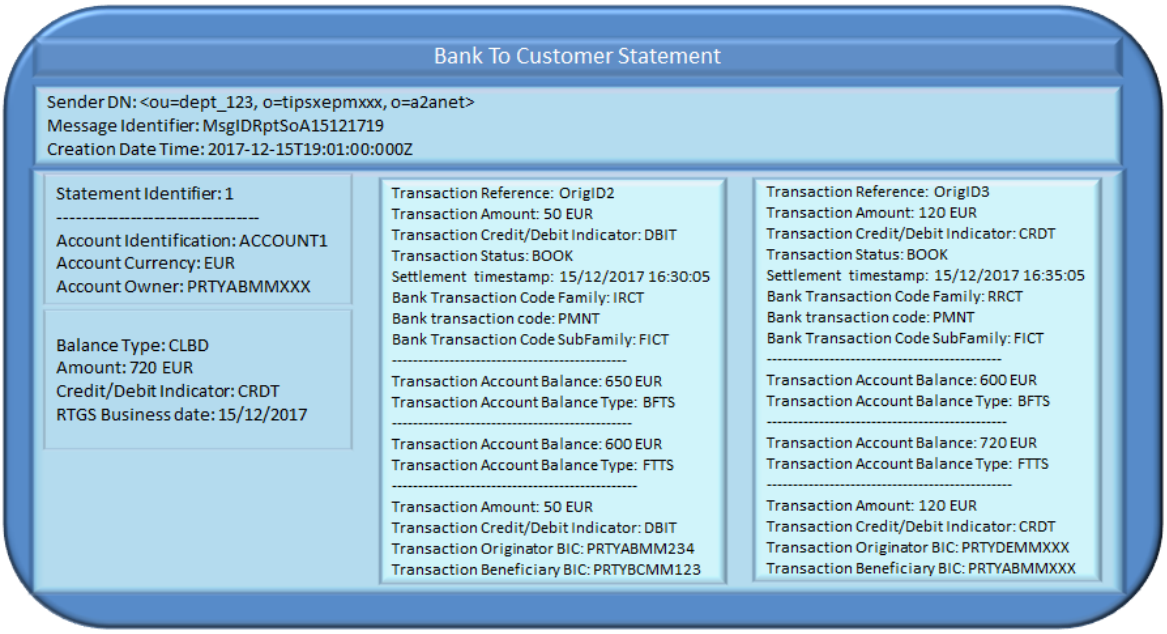


Figure 124 – Statement of Accounts example: scheduled frequency n.4



2.9. Reference data management

This section focuses on the management of the pieces of information that the user can amend with the functionalities available in TIPS (see Table 15 – Reference data management functions available in TIPS for references). Only the A2A aspects of these operations are described. The U2A details are described in the TIPS User Handbook.

The introductory part of the section presents the general flow, including all the steps, for the single possible operations (block/unblock of TIPS Participant, Account or CMB, update of a CMB Limit).

All the remaining sub-sections contain examples of the possible scenarios for each operation, starting from a successful one and detailing possible failure scenarios. Each example shows the relevant messages and how the main fields are filled.

Block/unblock of TIPS Participant

The process covers the scenarios in which a Central Bank instructs the system in order to immediately block/unblock a TIPS Participant for debiting and/or crediting operations. The involved actor is:

- The Central Bank starting the scenario and receiving the answer.

The involved messages are:

- The PartyModificationRequest message in order to request the block/unblock of the TIPS Participant;
- The PartyStatusAdvice message in order to report the successful or unsuccessful execution of the requested block/unblock operation.

Block/unblock of Account/CMB

The process covers the scenarios in which a Central Bank instructs the system in order to immediately block/unblock an Account/CMB for debiting and/or crediting operations or a TIPS Participant (possibly through its Instructing Party) instructs the system in order to immediately block/unblock a CMB for debiting and/or crediting operations. The involved actors are:

- The Central Bank or the TIPS Participant (and possibly its Instructing Party) starting the scenario and receiving the answer.

The involved messages are:

- AccountExcludedMandateMaintenanceRequest message in order to request the block/unblock of the Account or CMB;
- AccountRequestAcknowledgement message in order to report the successful block/unblock operation;
- AccountRequestRejection message in order to report the unsuccessful block/unblock operation.

Update of a CMB Limit

The process covers the scenarios in which a TIPS Participant (possibly through its Instructing Party) or a Central Bank instructs the system in order to immediately update a CMB Limit, increasing or decreasing it. The involved actors are:

- The Central Bank or the TIPS Participant (and possibly its Instructing Party) starting the scenario and receiving the answer.

The involved messages are:

- ModifyLimit message in order to request the amendment of the CMB Limit;
- Receipt message in order to report the successful or unsuccessful execution of the requested update limit operation.

All the described scenarios are triggered under the assumption that the technical validation, check of mandatory fields and authentication of the user have already been successfully performed by ESMIG.

Below is the diagram describing the process and the involved actors. The details of the steps are described in the following Table 33 – Block/unblock Participant steps, Table 34 – Block/unblock Account/CMB steps and Table 35 – Update of a CMB Limit steps.

Figure 125 – Reference Data Messages flow

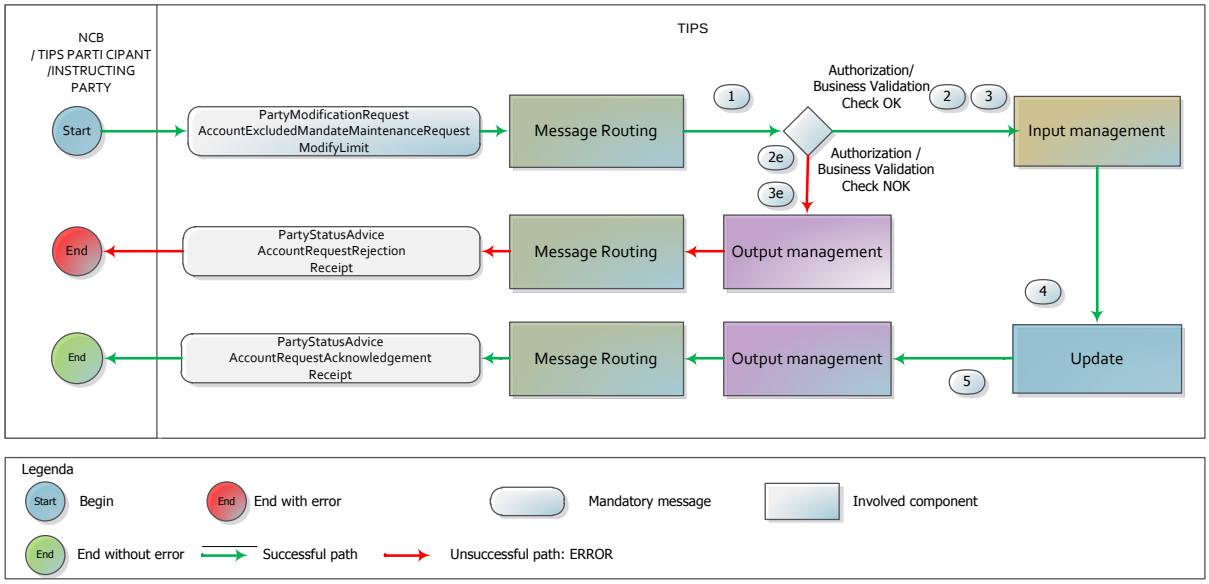


Table 33 – Block/unblock Participant steps

Step	Involved messages	Involved actors	Description
1	PartyModificationRequest	Central Bank as sender TIPS as receiver	TIPS receives an incoming request for the amendment of a Party (block/unblock Participant for debit/credit or both) from the National Central Bank. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; See 4.1- Business Rules for details.
2e	PartyStatusAdvice	TIPS as sender Central Bank as receiver	TIPS unsuccessfully executes the check of step 2. The system stops and sends a message to the Central Bank – same DN of the sender – containing the proper error code.
3		TIPS	TIPS successfully executes the checks: - TIPS Participant block/unblock type allowed; - Party existence; - Party type allowed. See 4.1- Business Rules for details.
3e	PartyStatusAdvice	TIPS as sender Central Bank as receiver	TIPS unsuccessfully executes one of the checks of step 3. At the first negative check the system stops and sends a message to the Central Bank – same DN of the sender – containing the proper error code. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
4		TIPS	TIPS executes the requested operation. If the received message requests to insert a restriction, then: - If the specified Restriction Type is “Block for credit”, the system sets the blocking status to “Blocked for credit” on the specified TIPS Participant data; - If the specified Restriction Type is “Block for debit”, the system sets the blocking status to “Blocked for debit” on the specified TIPS Participant data; - If the specified Restriction Type is “Block for both debit and credit”, the system sets the blocking status to “Blocked for both debit and credit” on the specified TIPS Participant data. If the received message requests to remove a restriction: - If the removed Restriction Type removed is “Block for credit”, the system sets the blocking status to “Unblocked for credit” on the specified TIPS Participant data; - If the removed Restriction Type is “Block for debit”, the system sets the blocking status to “unblocked for debit” on the specified TIPS Participant data; - If the removed Restriction Type is “Block for both debit and credit”, the system sets the blocking status to “Unblocked for both debit and credit” on the specified TIPS Participant data.
5	PartyStatusAdvice	TIPS as sender Central Bank as receiver	The system sends a message to the Central Bank – same DN of the sender – containing the proper information of successful execution.

Table 34 – Block/unblock Account/CMB steps

Step	Involved messages	Involved actors	Description
1	AccountExcludedMandateMaintenanceRequest	Central Bank or TIPS Participant/Instructing Party as sender TIPS as receiver	TIPS receives an incoming request for the amendment of an Account (block/unblock Account for debit/credit or both) from the National Central Bank or amendment of a~~n~~ CMB (block/unblock CMB for debit/credit or both) from the TIPS Participant (possibly through its Instructing Party) or National Central Bank. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.

Step	Involved messages	Involved actors	Description
2		TIPS	TIPS successfully executes the following check: - Access Rights check. See 4.1- Business Rules for details.
2e	AccountRequestRejection	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	TIPS unsuccessfully executes the check of step 2. The system stops and sends a message to the sender containing the proper error code.
3		TIPS	TIPS successfully executes the checks: - Account/CMB block/unblock type allowed; - Account/CMB existence; - User allowed to block/unblock operation; - Currency of the Account/CMB. See 4.1- Business Rules for details.
3e	AccountRequestRejection	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 3. At the first negative check the system stops and sends a message to the sender containing the proper error code. See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
4		TIPS	TIPS executes the requested operation. If the received message requests to insert a restriction and : - If the specified Restriction Type is “Block for credit”, the system sets the blocking status to “Blocked for credit” on the specified Account or CMB data; - If the specified Restriction Type is “Block for debit”, the system sets the blocking status to “Blocked for debit” on the specified Account or CMB data; - If the specified Restriction Type is “Block for both debit and credit”, the system sets the blocking status to “Blocked for both debit and credit” on the specified Account or CMB data. If the received message requests to remove a restriction: - If the removed Restriction Type is “Block for credit”, the system sets the blocking status to “Unblocked for credit” on the specified Account or CMB data; - If the removed Restriction Type is “Block for debit”, the system sets the blocking status to “Unblocked for debit” on the specified Account or CMB data; - If the removed Restriction Type is “Block for both debit and credit”, the system sets the blocking status to “Unblocked for both debit and credit” on the specified Account or CMB data.
5	AccountRequestAcknowledgement	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	The system sends a message to the DN of the sender containing the proper information of successful execution.

Table 35 – Update of a CMB Limit steps

Step	Involved messages	Involved actors	Description
1	ModifyLimit	Central Bank or TIPS Participant/Instructing Party as sender TIPS as receiver	TIPS receives an incoming request for the amendment of a CMB Limit from the TIPS Participant (possibly through its Instructing Party) or National Central Bank. Technical validation, check of mandatory fields and authentication checks have already been successfully executed.

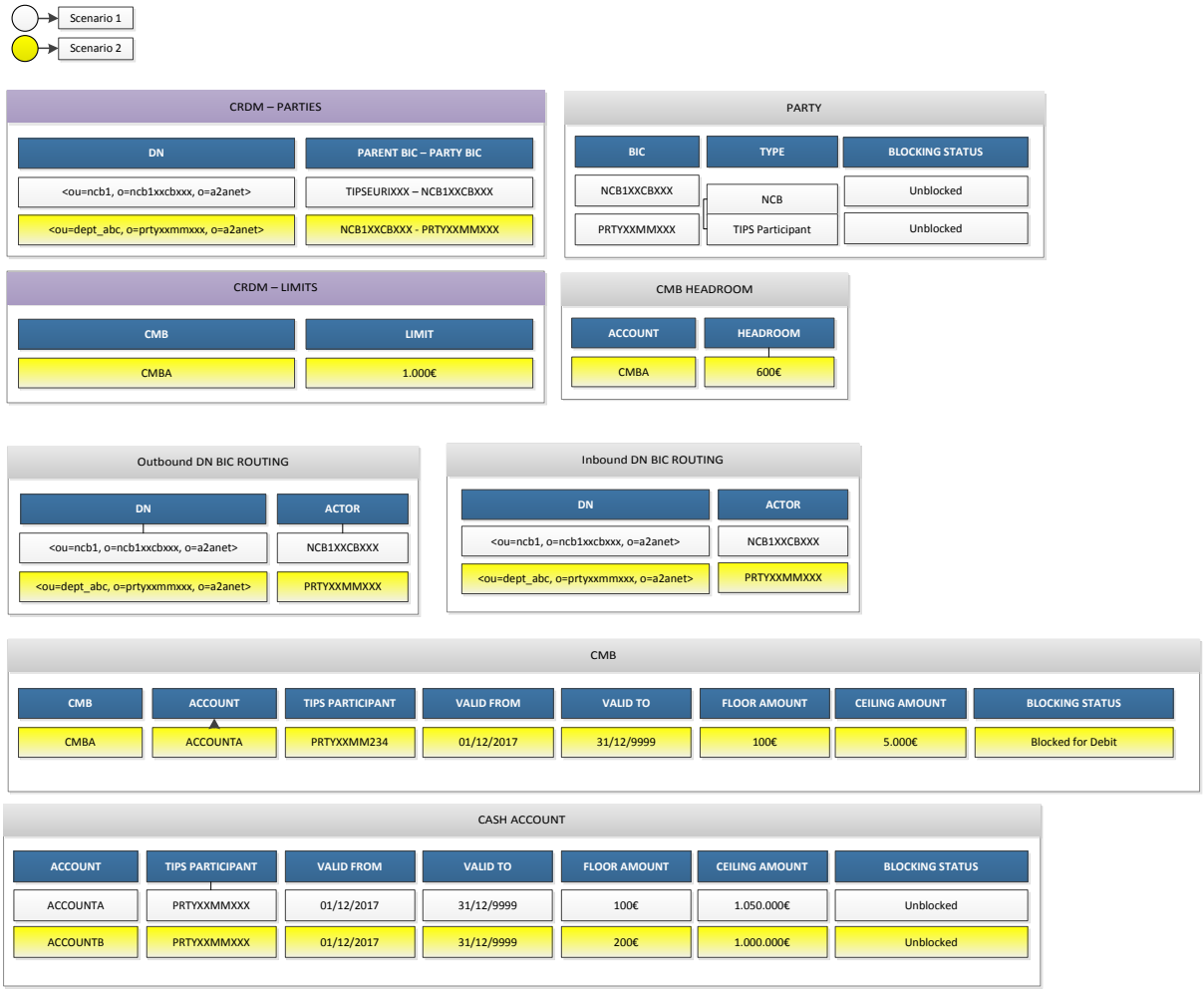
Step	Involved messages	Involved actors	Description
2		TIPS	TIPS successfully executes the checks: - Access Rights check; See 4.1- Business Rules for details.
2e	Receipt	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	TIPS unsuccessfully executes the check of step 2. The system stops and sends a message to the sender containing the proper error code.
3		TIPS	TIPS successfully executes the checks: - CMB existence; - User allowed to change Limit. See 4.1- Business Rules for details.
3e	Receipt	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 3. At the first negative check the system stops and sends a message to the sender containing the proper error code. See 4.1- Business Rules for details.
4		TIPS	TIPS executes the requested operation, setting the limit to the new value and adjusting the headroom accordingly.
5	Receipt	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	The system sends a message to the DN of the sender containing the proper information of successful execution.

2.9.1. Examples

This sub-section presents a non-exhaustive list of examples of the possible scenarios related to the Reference data management in A2A mode for each kind of operation.

The figure below ~~table~~ summarises, for each reference data object mentioned in the following examples, the related configuration.

Figure 126 – Reference Data Management examples: data constellation

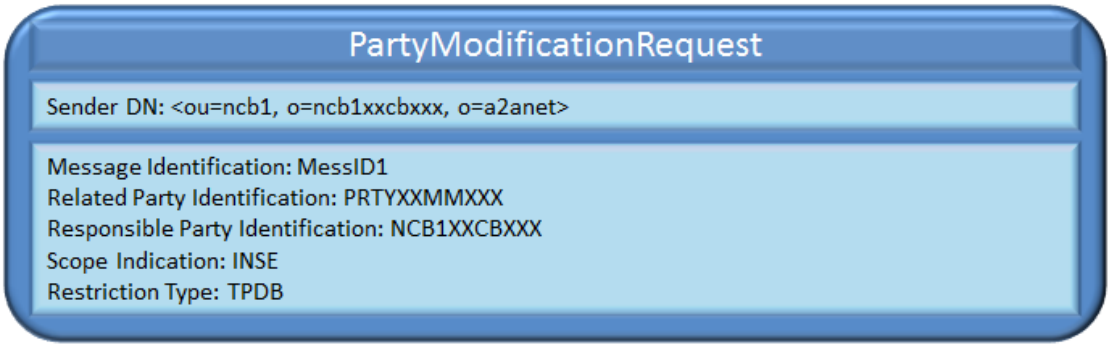


2.9.1.1.1 Successful scenario – Block of a participant

In this positive scenario a Central Bank successfully blocks for debit a TIPS Participant. “Scenario 1” (white in the above table) is considered.

The PartyModificationRequest message received by TIPS and triggering the scenario looks like the following one.

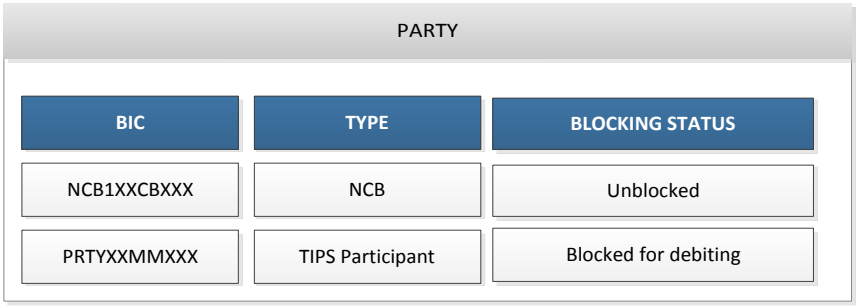
Figure 127 – Block of a TIPS Participant successful scenario: PartyModificationRequest



The system, after performing the expected checks successfully, performs the requested amendment:

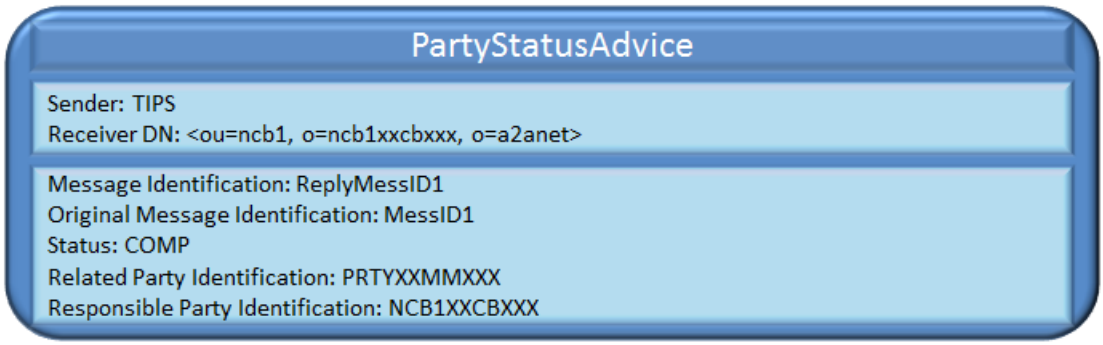
- It identifies the TIPS Participant from the Related Party Identification (PRTYXXMMXXX);
- It identifies the type of block to be performed from the Restriction Type;
- It amends the TIPS Participant reporting the requested type of block.

Figure 128 – TIPS Participant blocked for debiting



After the amendment, TIPS sends a confirmation message to the Central Bank sending the request. The PartyStatusAdvice message sent by TIPS and triggering the scenario looks like the following one.

Figure 129 – Block of a TIPS Participant successful scenario: PartyStatusAdvice

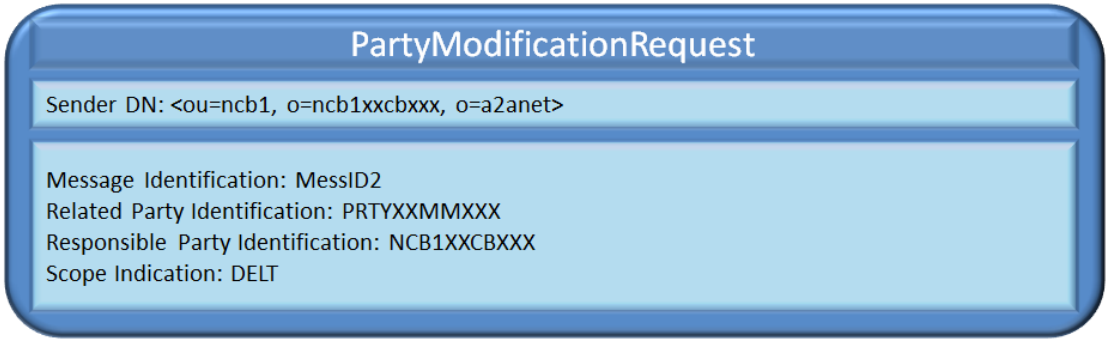


2.9.1.1.2 Successful scenario – Unblock of a participant

In this positive scenario a Central Bank successfully unblocks a TIPS Participant. “Scenario 1” (highlighted in white in Figure 126 – Reference Data Management examples: data constellation) is considered.

No errors occur. The PartyModificationRequest message received by TIPS and triggering the scenario looks like the following one.

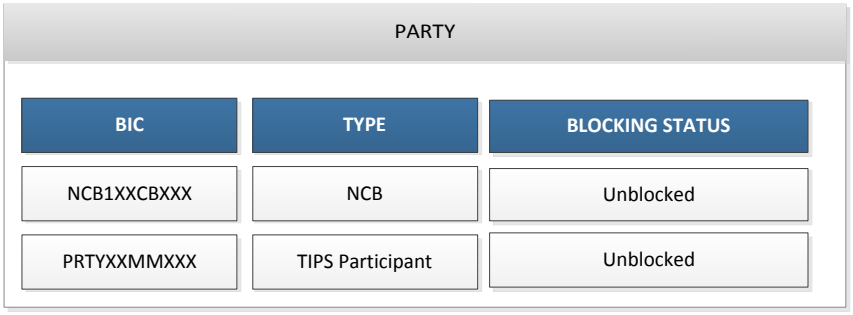
Figure 130 – Unblock of a TIPS Participant successful scenario: PartyModificationRequest



The system, after performing the expected checks successfully, performs the requested amendment:

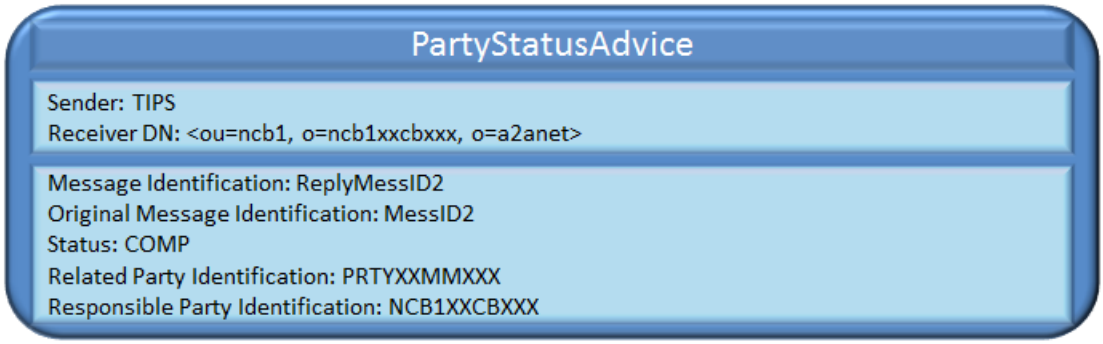
- It identifies the TIPS Participant from the Related Party Identification (PRTYXXMMXXX);
- It identifies the type of block to be performed from the Restriction Type;
- It amends the TIPS Participant setting the party as unblocked.

Figure 131 – TIPS Participant unblocked



After the amendment, TIPS sends a confirmation message to the Central Bank sending the request. The PartyStatusAdvice message sent by TIPS and triggering the scenario looks like the following one.

Figure 132 – Unblock of a TIPS Participant successful scenario: PartyStatusAdvice

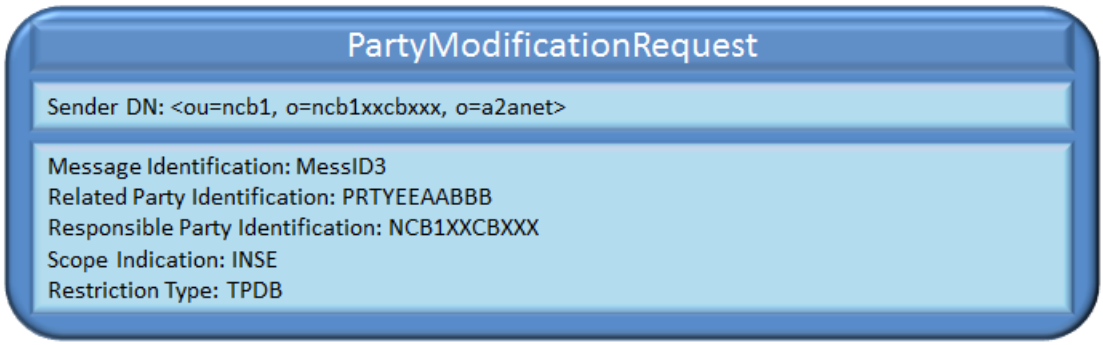


2.9.1.1.3 Unsuccessful scenario – Party not existing

In this negative scenario a Central Bank sends a message for blocking a TIPS Participant but the specified BIC does not match with a Participant in the TIPS reference data. “Scenario 1” (highlighted in white in Figure 126 – Reference Data Management examples: data constellation) is considered.

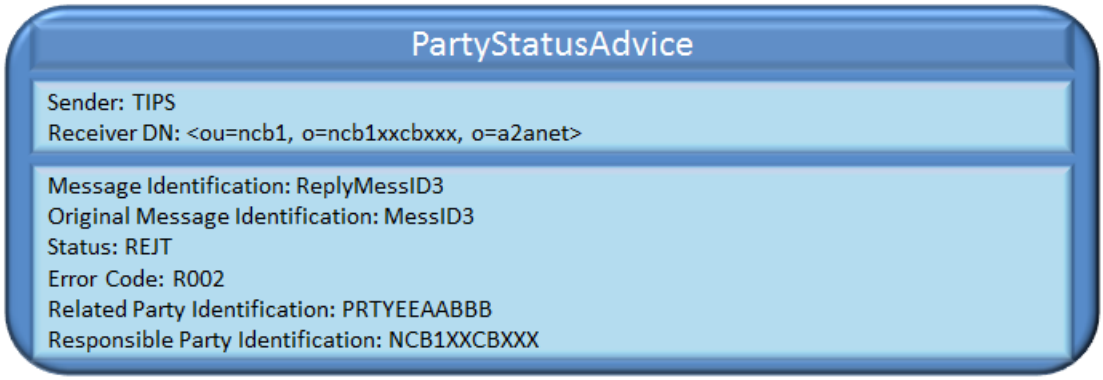
In this case, the system rejects the request since the referenced party does not exist. The PartyModificationRequest message received by TIPS and triggering the scenario looks like the following one.

Figure 133 – Block of a TIPS Participant unsuccessful scenario: PartyModificationRequest



The system, when performing the expected checks, cannot find the referenced TIPS Participant and returns the related message. The PartyStatusAdvice message sent by TIPS and triggering the scenario looks like the following one:

Figure 134 – Block of a TIPS Participant successful scenario: PartyStatusAdvice

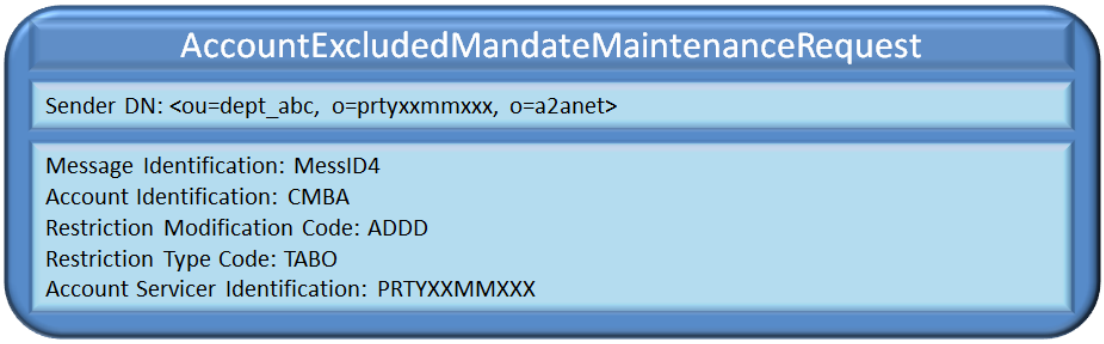


2.9.1.1.4 Successful scenario – ~~block~~ Block of a CMB

In this positive scenario a TIPS Participant successfully blocks for both credit and debit a CMB. "Scenario 2" (highlighted in yellow in Figure 126 – Reference Data Management examples: data constellation) is considered.

No errors occur. The AccountExcludedMandateMaintenanceRequest message received by TIPS and triggering the scenario looks like the following one.

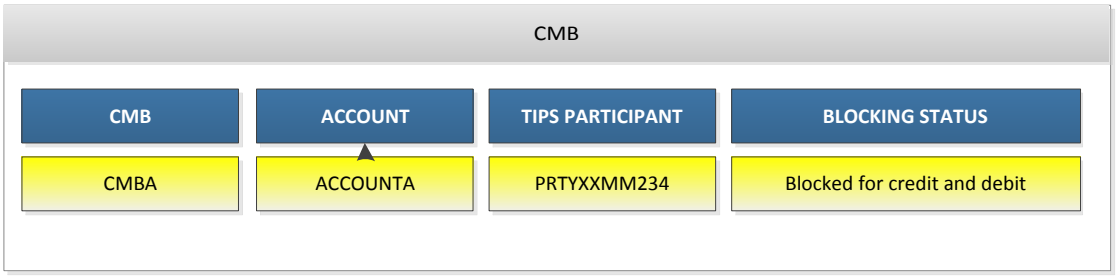
Figure 135 – Block of a CMB successful scenario: AccountExcludedMandateMaintenanceRequest



The system, after performing the expected checks successfully, performs the requested amendment:

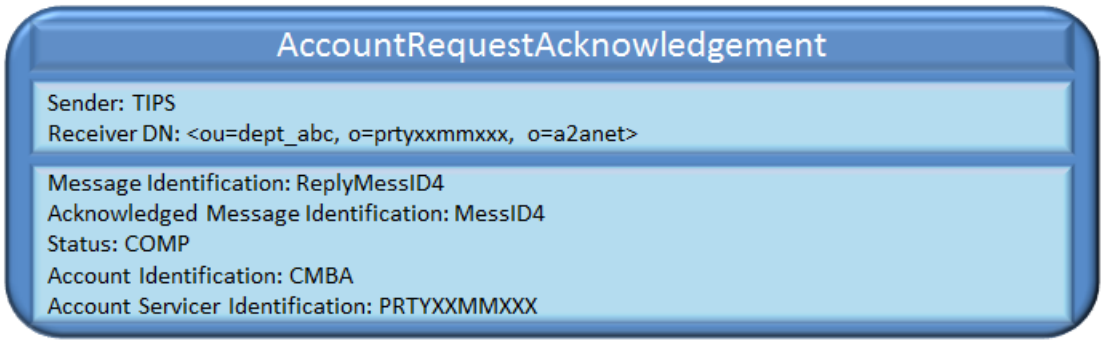
- It identifies the CMB from the Account Identification;
- It identifies the type of block to be performed from the Restriction Type Code;
- It amends the CMB setting the requested type of block.

Figure 136 – CMB blocked for both credit and debit



After the amendment, TIPS sends a confirmation message to the TIPS Participant or Instructing Party sending the request. The AccountRequestAcknowledgement message sent by TIPS and triggering the scenario looks like the following one.

Figure 137 – Block of a CMB successful scenario: AccountRequestAcknowledgement

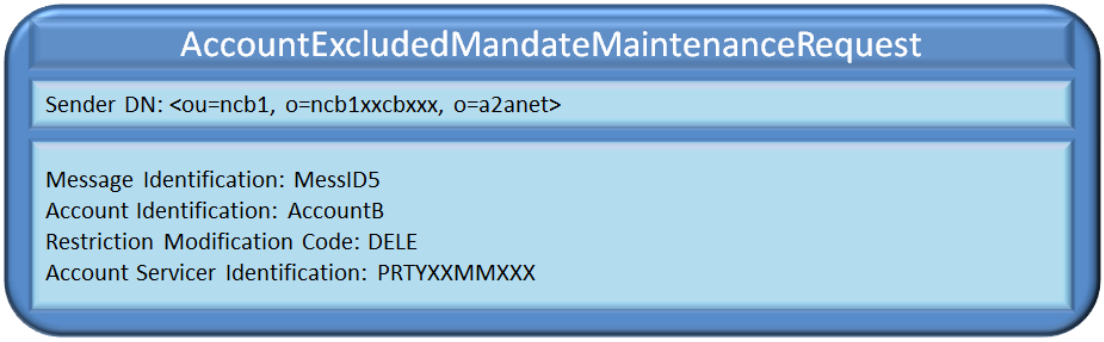


2.9.1.1.5 Successful scenario – ~~unblock~~ Unblock of an Account

In this positive scenario a Central Bank successfully unblocks an Account. “Scenario 1” and “Scenario 2” (highlighted in white and yellow in Figure 126 – Reference Data Management examples: data constellation) are considered.

No errors occur. The AccountExcludedMandateMaintenanceRequest message received by TIPS and triggering the scenario looks like the following one.

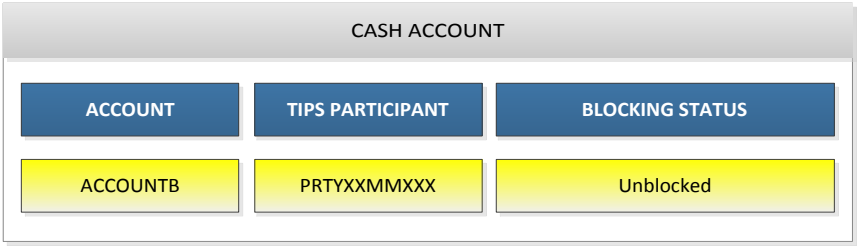
Figure 138 – Unblock of an Account successful scenario: AccountExcludedMandateMaintenanceRequest



The system, after performing the expected checks successfully, applies the requested amendment:

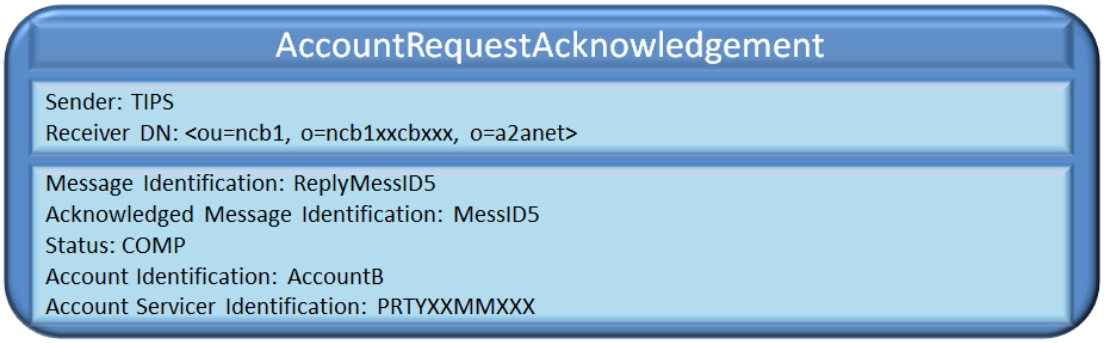
- It identifies the Account from the Account Identification;
- It amends the Account setting it as unblocked.

Figure 139 – Account unblocked



After the amendment, TIPS sends a confirmation message to the TIPS Participant or Instructing Party sending the request. The AccountRequestAcknowledgement message sent by TIPS and triggering the scenario looks like the following one.

Figure 140 – Unblock of an Account successful scenario: AccountRequestAcknowledgement

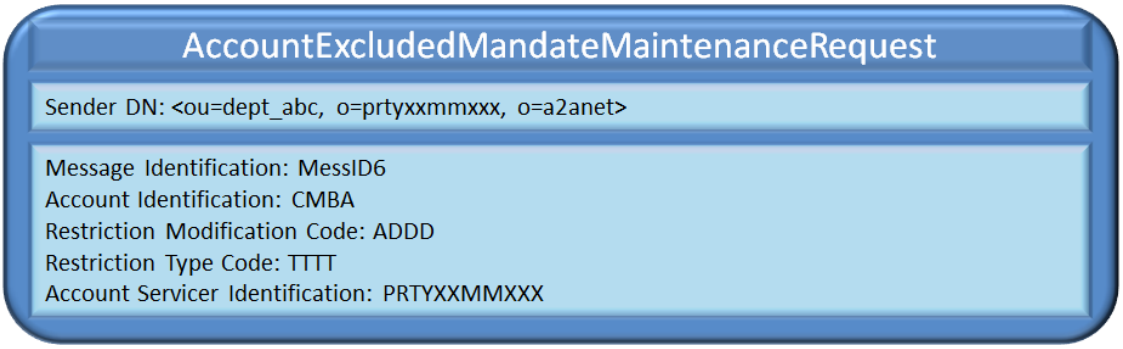


2.9.1.1.6 Unsuccessful scenario – Restriction type not allowed

In this negative scenario a TIPS Participant sends a message for blocking a CMB. The message contains a wrong reference to the type of blocking operation (e.g. 'TTTT' is an invalid Restriction Type Code) and an error is raised and notified. "Scenario 2" (highlighted in yellow in Figure 126 – Reference Data Management examples: data constellation) is considered.

The AccountExcludedMandateMaintenanceRequest message received by TIPS and triggering the scenario looks is described in the following figure.

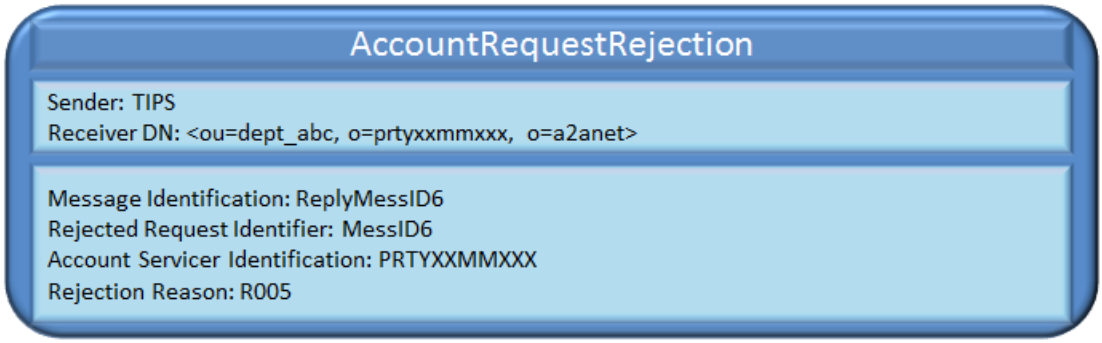
Figure 141 – Block of a CMB unsuccessful scenario: AccountExcludedMandateMaintenanceRequest



The system, when performing the expected checks, cannot identify the requested block type and consequently it raises the error (i.e. 'R005' - Restriction Type not allowed).

TIPS notifies the error with a rejection message to the TIPS Participant sending the request. The AccountRequestRejection message sent by TIPS and triggering the scenario looks like the following one.

Figure 142 – Block of a CMB unsuccessful scenario: AccountRequestRejection

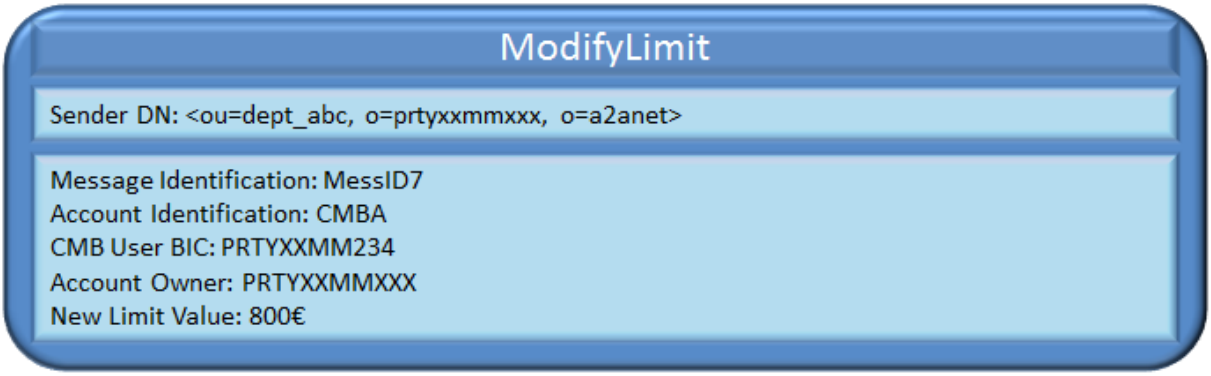


2.9.1.1.7 Successful scenario – Decrease of a CMB Limit

In this positive scenario a TIPS Participant successfully decreases the CMB Limit of a CMB under its data scope. "Scenario 2" (highlighted in yellow in Figure 126 – Reference Data Management examples: data constellation) is considered. The CMB Headroom is amended accordingly.

The ModifyLimit message received by TIPS and triggering the scenario looks like the following one:

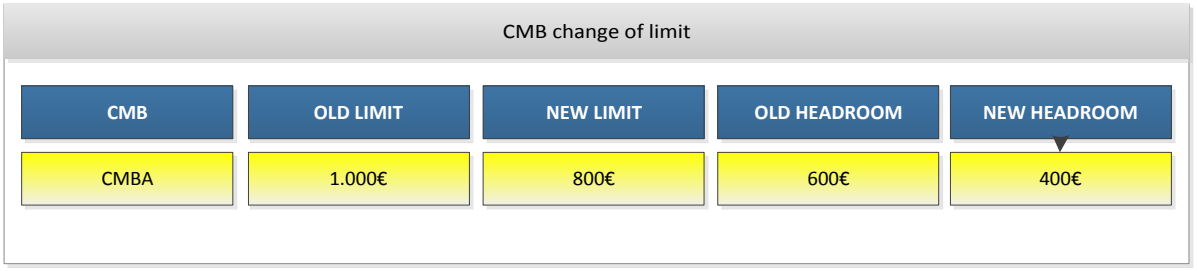
Figure 143 – Decrease of a CMB Limit successful scenario ModifyLimit



The system, after performing the expected checks successfully, completes the requested amendment:

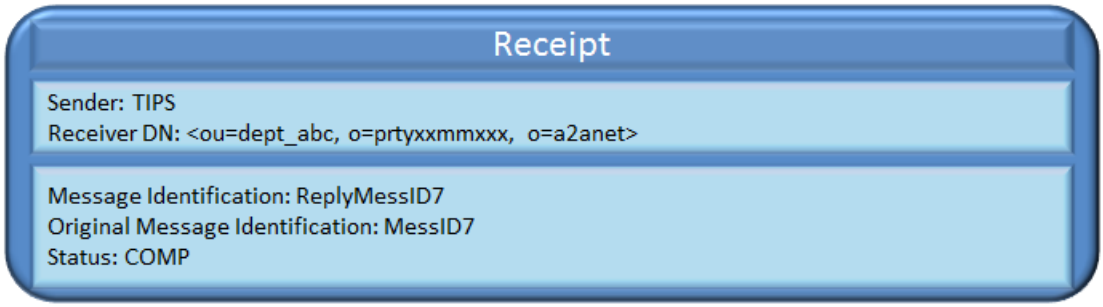
- It sets the new Limit for the CMB to 800.00 EUR;
- It amends the CMB Headroom decreasing it by the difference between the old limit value and the new limit value. In this example, the headroom of the CMB is 600.00 EUR and must be adjusted of 200.00 EUR (old limit 1,000.00 EUR – new limit 800.00 EUR) reaching the final value of 400.00 EUR.

Figure 144 – CMB successful decrease of Limit



After the amendment, TIPS sends a confirmation message to the TIPS Participant or Instructing Party sending the request. The Receipt message sent by TIPS and triggering the scenario looks like the following one.

Figure 145 – Decrease of a CMB Limit successful scenario: Receipt



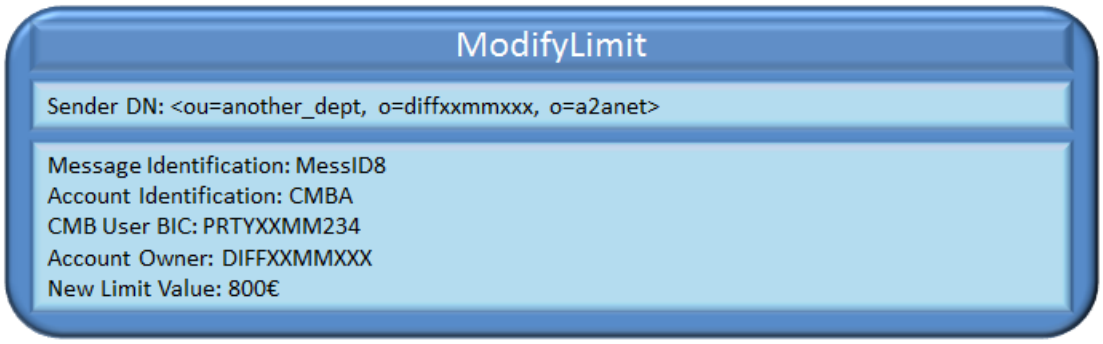
2.9.1.1.8 Unsuccessful scenario – User not allowed to change the Limit

In this negative scenario a TIPS Participant tries to decrease the CMB Limit of a CMB that does not fall under its data scope. “Scenario 2” (highlighted in yellow in Figure 126 – Reference Data Management examples: data constellation) is considered.

The system rejects the request and no actions are executed on the CMB.

The ModifyLimit message received by TIPS and triggering the scenario looks like the following one.

Figure 146 – Decrease of a CMB Limit unsuccessful scenario ModifyLimit



The system, performing the expected checks, verifies that the Account Owner is not correctly reported and it is not the owner of the CMB to be modified.

In this case, the system returns an error and sends a confirmation message to the TIPS Participant sending the request. The Receipt message sent by TIPS and triggering the scenario looks like the following one.

Figure 147 – Decrease of a CMB Limit unsuccessful scenario: Receipt

3. Catalogue of messages

This section aims at describing the detailed specifications of the A2A messaging resources used in TIPS. It is the reference guide for business readers checking the adherence to the SCT Inst scheme and completeness of information to cover the business needs. Together with published XSD schemas, it is the reference guide for developing software components interacting with TIPS.

All of the messages are registered in ISO 20022 standards or have been submitted to the Registration Authority for starting the registration process.

3.1. Introduction

Following ISO 20022 business domains classification, messages from four different domains are used to cover the different business scenarios:

- Payments Clearing and Settlement
- Cash Management
- Account Management
- Reference Data

Payments Clearing and Settlement messages are used to adhere with SEPA SCT^{Inst} rulebook and Interbank Guidelines. The description includes the related Data Source reference when available.

Cash Management messages are used to provide complete coverage for SEPA SCT^{Inst} investigation and recall processes as specified by the EPC SCT^{Inst} Scheme and to let users instruct liquidity transfers, query TIPS Accounts and CMBs balances and modify CMB limits.

Account Management messages are used to let users change the blocking status for TIPS Accounts.

Reference Data messages are used to let Central Banks change the blocking status for a TIPS Participant.

3.2. General information

A2A Interactions with TIPS are based on XML ISO 20022 standards as described in the EPC SEPA Inst Scheme.

The processing of the incoming XML messages is performed in different steps described in the following sections, which are not necessarily under TIPS responsibility.

3.2.1. Message signing

The message signature is handled in the ESMIG TIPS plug-in component. After successful validation, the ESMIG TIPS plug-in passes on to TIPS Message Router pieces of information that will be stored within TIPS repository, including sender's information and signature and technical network parameters, that would be required for Non-Repudiation of Origin (NRO) purposes.

No further processing but storing is performed in TIPS with such pieces of information.

3.2.2. Technical validation

Technical validation of incoming TIPS messages is performed in two different steps:

1) Schema validation;
2) Additional technical validation.

Both steps are performed within the ESMIG component. The schema validation is performed using standard parser components. Every message is validated against the published XSD subset for TIPS. The additional technical validation includes all of the checks which cannot be done in the schema validation with an automated parsing process (e.g. cross fields validation). They are performed only for messages which have passed the schema validation.

The type and quantity of the checks performed vary depending on the message type and on the SEPA SCT^{Inst} or ISO message constraints.

Rejection occurring for both schema validation and additional technical validation check is reported in the same way, that is with the same message type.

3.2.3. Supported Character Set

TIPS fully supports UTF-8 Character Set.

Following the SEPA Instant Credit Transfer specifications, the character set is restricted for references and identifiers to support the Latin characters which are commonly used in international communication.

The complete list is as follows:

a b c d e f g h i j k l m n o p q r s t u v w x y z

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

0 1 2 3 4 5 6 7 8 9

/ - ? : ( ) . , ' +

As additional rules, it is required that references, identifications and identifiers must not start or end with ‘/’ or contain ‘//’.

3.3. Messages usage

3.3.1. List of messages

In the following table, messages are grouped by ISO 20022 business domain.

Table 36 – List of messages

ISO Message	Message Name	Scenario
Payments Clearing and Settlement		

ISO Message	Message Name	Scenario
pacs.002.001.03	FIToFIPaymentStatusReport	Settlement of Instant Payments Settlement of Recall Investigation
pacs.004.001.02	PaymentReturn	Settlement of Recall
pacs.008.001.02	FIToFICustomerCreditTransfer	Settlement of Instant Payments
pacs.028.001.01	FIToFIPaymentStatusRequest	Investigation
Cash Management		
camt.003.001.06	GetAccount	Reports and queries
camt.004.001.07	ReturnAccount	Settlement of Instant Payments Liquidity Management Reports and queries
camt.011.001.06	ModifyLimit	Reference data maintenance
camt.019.001.06	ReturnBusinessDayInformation	Reports and queries
camt.025.001.04	Receipt	Liquidity Management Reference data maintenance
camt.029.001.03	ResolutionOfInvestigation	Recall
camt.050.001.04	LiquidityCreditTransfer	Liquidity Management
camt.052.001.06	BankToCustomerAccountReport	Reports and queries
camt.053.001.06	BankToCustomerStatement	Reports and queries
camt.054.001.06	BankToCustomerDebitCreditNotification	Liquidity Management
camt.056.001.01	FIToFIPaymentCancellationRequest	Recall
Account Management (acmt)		
acmt.010.001.02	AccountRequestAcknowledgement	Reference Data management
acmt.011.001.02	AccountRequestRejection	Reference Data management
acmt.015.001.02	AccountExcludedMandateMaintenanceRequest	Reference Data management
Reference Data (reda)		
reda.016.001.01	PartyStatusAdviceV01	Reference Data management
reda.022.001.01	PartyModificationRequestV01	Reference Data management

3.3.2. Messages description

3.3.2.1. Payments Clearing and Settlement

3.3.2.1.1 FIToFIPaymentStatusReportV03 (pacs.002.001.03)

The FItoFIPaymentStatusReport message is used in several business cases

1. It is sent by TIPS to the Originator Participant to report a rejection for a pacs.008 transaction.
2. It is sent by the Beneficiary Participant or Instructing Party to TIPS to report the processing result of a pacs.008 sent by TIPS upon request of an Originator Participant.
3. The message as received by the Beneficiary Participant is forwarded to the Originator Participant.
4. It is sent by TIPS to the Beneficiary Participant as a confirmation for processing of the pacs.002 received from the Beneficiary Participant itself.
5. It is sent by TIPS to the Originator Participant after a Status Investigation request.
6. It is sent by TIPS to either the Originator Participant or the Beneficiary Participant in case of errors (e.g. to Beneficiary Participant in response to a delayed positive confirmation, in case of timeout condition triggered by TIPS).
7. It is sent by TIPS to the sender of the Recall in case of errors.
8. It is sent by TIPS to the sender of the positive Recall Answer in case of errors (e.g. not sufficient funds to settle the positive recall or validation error related to the Recall Answer).
9. It is sent by TIPS to the sender of the negative Recall Answer in case of errors (e.g. missing access rights).

Message specification is compliant to EPC DS-03 Confirmation Message as described in the SEPA Instant Credit Transfer scheme Rulebook.

Table 37 – Description of the fields for DS-03 Dataset vs pacs.002.001.03

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Message Identification	The Identification of the message.	FIToFIPmtStsRpt/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	FIToFIPmtStsRpt/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	FIToFIPmtStsRpt/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	FIToFIPmtStsRpt/GrpHdr/InstdAgt	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Original Message Identification	Message Identification of the originating message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/OrgnlMsgId	Yes	This field matches with the Identification of the original message. Business cases 1,2,3, 6: FIToFICstmrCdtTrf/GrpHdr/MsgId Business case 4; FIToFIPmtStsRpt/GrpHdr/MsgId Business case 5: FIToFIPmtStsReq/GrpHdr/MsgId Business case 7: FIToFIPmtCxlReq/Assgnmt/Id Business case 8: PmtRtr/GrpHdr/MsgId Business case 9: RsltnOfInvstgtn/Assgnmt/Id
n/a	Original Message Name Identification	Message identifier of the originating message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/OrgnlMsgNmId	Yes	Business cases 1,2,3, 6 : pacs.008.001.02 Business case 4: pacs.002.001.03 Business case 5: pacs.028.001.01 Business case 7: camt.056.001.01 Business case 8: pacs.004.001.02 Business case 9: camt.029.001.03
AT-R1	Group Status Transaction Status	The type of “R” message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/GrpSts FIToFIPmtStsRpt/TxInfAndSts/TxSts	No	Either Group Status or Transaction Status must be used. If incoming pacs.002 from beneficiary does not include any status or both are filled in, connected payment transaction will be rejected by TIPS. In outgoing pacs.002 messages produced by TIPS, Group Status will be used for positive confirmation while Transaction Status will be included for negative acknowledgements,

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
AT-R3	Reason	The reason code for non-acceptance of the SCT^{Inst} Transaction	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Rsn/Cd	No	This field is used for negative confirmation message only.
n/a	Transaction Information And Status	Information concerning the original transactions, to which the status report message refers.	FIToFIPmtStsRpt/TxInfAndSts	No	Only one occurrence is allowed
AT-R4 **AT-51**	Status Identification	The specific reference of the party initiating the Reject	FIToFIPmtStsRpt/TxInfAndSts/StsId	Yes	For positive confirmation it is the AT-51. For negative confirmation it is the AT-R4
n/a	Original Instruction Identification	Unique identification, as assigned by the original Instructing Party for the original instructed party.	FIToFIPmtStsRpt/TxInfAndSts/OrgnlInstrId	No	Only schema validation is performed.
AT-41	Original End To End Identification	The Originator's reference of the SCT^{Inst} Transaction	FIToFIPmtStsRpt/TxInfAndSts/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Original Transaction Identification	The Originator Bank's reference number of the SCT^{Inst} Transaction message	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxId	Yes	
AT-R2	Originator	The Identification of the type of party initiating the "R" message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Orgtr FIToFIPmtStsRpt/TxInfAndSts/StsRsnInf/Orgtr	No	These fields are used for negative confirmation message only.
AT-R3	Reason	The reason code for non-acceptance of the SCT^{Inst} Transaction	FIToFIPmtStsRpt/TxInfAndSts/StsRsnInf/Rsn/Cd	No	This field is used for negative confirmation message only.
AT-50	Acceptance Timestamp	Time Stamp of the SCT^{Inst} Transaction	FIToFIPmtStsRpt/TxInfAndSts/AccptncDtTm	Yes	Only schema validation is performed.
n/a	Original Transaction Reference	Set of key elements used to identify the original transaction that is being referred to.	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef	Yes	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT^{Inst} Scheme	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/PmtTpInf/SvcLvl/Cd FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	Yes	Possible values are checked within schema validation.
AT-45	Category Purpose	The category purpose of the SCT^{Inst} Instruction	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-06	Originator BIC	The BIC code of the Originator Bank	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/DbtrAgt/FinInstnId/BIC	Yes	

3.3.2.1.2 PaymentReturn (pacs.004.001.02)

The PaymentReturn message is sent by the Assignee Participant as a confirmation for a Recall instructed by the Assigner Participant.

After processing the request, TIPS forwards the PaymentReturn message to the Assigner Participant who formerly instructed the Recall and sends a PaymentStatusReport message to the Assignee Participant.

Message specification is compliant to EPC DS-06 Answer to a Recall of an SCT^{Inst} Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

Table 38 – Description of the fields for DS-06 Dataset vs pacs.004.001.02

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Message Identification	The Identification of the message.	PmtRtr/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	PmtRtr/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Number Of Transactions	Number of individual transactions contained in the message.	PmtRtr/GrpHdr/NbOfTxs	Yes	TIPS supports only one transaction per message. If this field is not "1", message will be rejected.
n/a	Total Returned Interbank Settlement Amount	Total amount of money moved.	PmtRtr/GrpHdr/TtlRtrdIntrBkSttlmAmt	Yes	Only schema validation is performed.
AT-R7	Interbank Settlement Date	The Settlement Date for the positive answer to the Recall	PmtRtr/GrpHdr/IntrBkSttlmDt	Yes	Only schema validation is performed.
n/a	Settlement Method	Method used to settle the Instant Payment Transaction.	PmtRtr/GrpHdr/SttlmInf/SttlmMtd	Yes	Possible values are checked within schema validation.
n/a	Settlement Account	A specific purpose account used to post debit and credit entries as a result of the transaction.	PmtRtr/GrpHdr/SttlmInf/SttlmAcct	No	Only schema validation is performed.
n/a	Clearing System	Specification of a pre-agreed offering between clearing agents or the channel through which the Instant Payment transaction is processed.	PmtRtr/GrpHdr/SttlmInf/ClrSys	No	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	PmtRtr/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	PmtRtr/GrpHdr/InstdAgt	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Original Group Information	Information concerning the original group of transactions, to which the message refers.	PmtRtr/OrgnlGrpInf	No	Sub-elements of 'Original Group Information' must be present in either 'Original Group Information' or in 'Transaction Information'. If any of these sub-elements is included in both components, message will be rejected.
n/a	Original Group Information + Original Message Identification	Point to point reference, as assigned by the original instructing party, to unambiguously identify the original message.	PmtRtr/OrgnlGrpInf/OrgnlMsgId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Original Group Information + Original Message Name Identification	Specifies the original message name identifier to which the message refers.	PmtRtr/OrgnlGrpInf/OrgnlMsgNmId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Transaction Information	Information concerning the original transactions, to which the return message refers.	PmtRtr/TxInf	Yes	TIPS supports only one transaction per message. If more than one Transaction Information block is included, message will be rejected.
n/a	Return Identification	Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the returned transaction.	PmtRtr/TxInf/RtrId	Yes	Only schema validation is performed.
n/a	Transaction Information + Original Group Information	Information concerning the original group of transactions, to which the message refers.	PmtRtr/TxInf/OrgnlGrpInf	No	Sub-elements of 'Original Group Information' must be present in either 'Original Group Information' or in 'Transaction Information'. If any of these sub-elements is included in both components, message will be rejected.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Transaction Information + Original Group Information ++ Original Message Identification	Point to point reference, as assigned by the original instructing party, to unambiguously identify the original message.	PmtRtr/TxInf/OrgnlGrpInf/OrgnlMsgId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Transaction Information + Original Group Information ++ Original Message Name Identification	Specifies the original message name identifier to which the message refers.	PmtRtr/TxInf/OrgnlGrpInf/OrgnlMsgNmId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party, to unambiguously identify the original instruction.	PmtRtr/TxInf/OrgnlInstrId	No	It is mandatory if provided in the original transaction. Only schema validation is performed.
AT-41	Original End To End Identification	The Originator's reference of the SCT^{Inst} Instruction.	PmtRtr/TxInf/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Original Transaction Identification	The Originator Bank's reference of the SCT^{Inst} Transaction message.	PmtRtr/TxInf/OrgnlTxId	Yes	Only schema validation is performed.
AT-04	Original Interbank Settlement Amount	The amount of the SCT^{Inst} in euro.	PmtRtr/TxInf/OrgnlIntrBkSttlmAmt	Yes	Only schema validation is performed.
AT-46	Returned Interbank Settlement Amount	The returned amount of the positive answer to the Recall in euro	PmtRtr/TxInf/RtrdIntrBkSttlmAmt	Yes	Amount to be settled in TIPS.
n/a	Returned Instructed Amount	Amount of money to be moved between the debtor and the creditor, before deduction of charges, in the returned transaction.	PmtRtr/TxInf/RtrdInstdAmt	No	Only schema validation is performed.
n/a	Charge Bearer	Specifies which party/parties will bear the charges associated with the processing of the payment transaction.	PmtRtr/TxInf/ChrgBr	No	Only schema validation is performed.
AT-47	Charges Information + Amount	The fee for the positive answer to a Recall in euro (optional)	PmtRtr/TxInf/ChrgsInf/amt	No	It is mandatory if Charges Information component is included. Only schema validation is performed.
AT-23	Charges Information + Party ++ Financial Institution Identification	The BIC code of the Beneficiary Bank.	PmtRtr/TxInf/ChrgsInf/Pty/FinInstnId	No	It is mandatory if Charges Information component is included. Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Transaction Information + Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	PmtRtr/TxInf/InstgAgt	No	Only schema validation is performed.
n/a	Transaction Information + Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	PmtRtr/TxInf/InstdAgt	No	Only schema validation is performed.
AT-R1		The type of "R" message			
AT-R2	Return Reason Information + Originator	The Identification of the type of party initiating the "R" message	PmtRtr/TxInf/RtrRsnInf/orgtr/Id/OrgId/BICOrBEI	Yes	Only schema validation is performed.
AT-R3	Return Reason Information + Reason	The reason code for non-acceptance of the SCT^{Inst}.	PmtRtr/TxInf/RtrRsnInf/Rsn/Cd	Yes	Only schema validation is performed.
AT-R6	Return Reason Information + Additional Information	The specific reference of the bank initiating the Recall	PmtRtr/TxInf/RtrRsnInf/addtlInf	Yes	TIPS uses this field for the duplicate check.
AT-42	Interbank Settlement Date	The Settlement Date of the SCT^{Inst} Transaction.	PmtRtr/TxInf/OrgnlTxRef/IntrBkSttlmDt	No	Only schema validation is performed.
n/a	Settlement Information	Specifies the details on how the settlement of the original transaction between the instructing agent and the instructed agent was completed.	PmtRtr/TxInf/OrgnlTxRef/SttlmInf	No	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT^{Inst} Scheme	PmtRtr/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd PmtRtr/TxInf/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	No	Only schema validation is performed.
AT-45	Category Purpose	The category purpose of the SCT^{Inst} Instruction.	PmtRtr/TxInf/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-05	Remittance Information	The Remittance information.	PmtRtr/TxInf/OrgnlTxRef/RmtInf	No	Only schema validation is performed.
AT-08	Ultimate Debtor + Name	The name of the Originator Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtDbtr/Nm	No	Only schema validation is performed.
AT-09	Ultimate Debtor + Identification	The identification code of the Originator Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtDbtr/Id	No	Only schema validation is performed.
AT-02	Debtor + Name	The name of the Originator.	PmtRtr/TxInf/OrgnlTxRef/Dbtr/Nm	No	Only schema validation is performed.
AT-03	Debtor + Postal Address	The address of the Originator.	PmtRtr/TxInf/OrgnlTxRef/Dbtr/PstlAdr	No	Only schema validation is performed.
AT-10	Debtor + Identification	The Originator identification code.	PmtRtr/TxInf/OrgnlTxRef/Dbtr/Id	No	Only schema validation is performed.
AT-01	Debtor Account	The IBAN of the account of the Originator.	PmtRtr/TxInf/OrgnlTxRef/DbtrAcct	Yes	Only schema validation is performed.
AT-06	Debtor Agent	The BIC code of the Originator Bank.	PmtRtr/TxInf/OrgnlTxRef/DbtrAgt	No	Only schema validation is performed.
AT-23	Creditor Agent	The BIC code of the Beneficiary Bank.	PmtRtr/TxInf/OrgnlTxRef/CdtrAgt	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
AT-21	Creditor + Name	The name of the Beneficiary.	PmtRtr/TxInf/OrgnlTxRef/Cdtr/Nm	No	Only schema validation is performed.
AT-22	Creditor + Postal Address	The address of the Beneficiary.	PmtRtr/TxInf/OrgnlTxRef/Cdtr/PstlAdr	No	Only schema validation is performed.
AT-24	Creditor + Identification	The Beneficiary identification code.	PmtRtr/TxInf/OrgnlTxRef/Cdtr/Id	No	Only schema validation is performed.
AT-20	Creditor Account	The IBAN of the account of the Beneficiary.	PmtRtr/TxInf/OrgnlTxRef/CdtrAcct	Yes	Only schema validation is performed.
AT-28	Ultimate Creditor + Name	Name of the Beneficiary Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Ultimate Creditor + Identification	Identification code of the Beneficiary Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtCdtr/Id	No	Only schema validation is performed.

3.3.2.1.3 FIToFICustomerCreditTransferV02 (pacs.008.001.02)

The FItoFICustomerCreditTransfer message allows instructing TIPS for an Instant Payment transaction of a positive amount of money from the originator participant account to the beneficiary participant account.

Message specification is compliant to EPC DS-02 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

Table 39 – Description of the fields for DS-02 Dataset vs pacs.008.001.02

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Message Identification	Point to point reference, as assigned by the instructing party.	FIToFICstmrCdtTrf/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	FIToFICstmrCdtTrf/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Number Of Transactions	Number of individual transactions contained in the message.	FIToFICstmrCdtTrf/GrpHdr/NbOfTxs	Yes	Possible values are checked within schema validation.
n/a	Total Interbank Settlement Amount	Total amount of money moved between the instructing agent and the instructed agent.	FIToFICstmrCdtTrf/GrpHdr/TtlIntrBkSttlmAmt	Yes	Only schema validation is performed.
AT-42	Settlement Date	The Settlement Date of the SCT^{Inst} Transaction	FIToFICstmrCdtTrf/GrpHdr/intrBkSttlmDt	Yes	Only schema validation is performed.
n/a	Settlement Information	Specifies the details on how the settlement of the transaction between the instructing agent and the instructed agent is completed.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf	Yes	Only schema validation is performed.
n/a	Settlement Method	Method used to settle the Instant Payment Transaction.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf/SttlmMtd	Yes	Possible values are checked within schema validation.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Settlement Account	A specific purpose account used to post debit and credit entries as a result of the transaction.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf/SttlmAcct	No	Only schema validation is performed.
n/a	Clearing System	Specification of a pre-agreed offering between clearing agents or the channel through which the Instant Payment transaction is processed.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf/ClrSys	No	Only schema validation is performed.
n/a	Payment Type Information	Set of elements used to further specify the type of transaction.	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf	Yes	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT^{Inst} Scheme	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/SvcLvl/Cd FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/LclInstrm/Cd	Yes	Possible values are checked within schema validation.
AT-45	Category Purpose	The category purpose of the SCT^{Inst} Instruction	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	FIToFICstmrCdtTrf/GrpHdr/instgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	FIToFICstmrCdtTrf/GrpHdr/instdAgt	No	Only schema validation is performed.
n/a	Credit Transfer Transaction Information	Set of elements providing information specific to the individual credit transfer.	FIToFICstmrCdtTrf/CdtTrfTxInf	Yes	Only schema validation is performed.
n/a	Instruction Identification	Unique identification, as assigned by an instructing party for an instructed party.	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/InstrId	No	Only schema validation is performed.
AT-41	End To End Identification	The Originator's reference of the SCT^{Inst} Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/EndToEndId	Yes	Only schema validation is performed. In the event that no reference was given, 'NOTPROVIDED' must be used.
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT^{Inst} Transaction message	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/TxId	Yes	The Transaction Reference used to identify the Instant Payment transaction and perform the duplicate check
AT-04	Settlement Amount	The amount of SCT^{Inst} in euro	FIToFICstmrCdtTrf/CdtTrfTxInf/IntrBkSttlmAmt	Yes	The currency of the Settlement Amount must be the same of the Creditor and Debtor Accounts
AT-50	Acceptance Timestamp	Time Stamp of the SCT^{Inst} Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/AccptncDtTm	Yes	The Acceptance Timestamp is used as a starting point in time for the Instant Payment transaction processing at Originator Bank level.
n/a	Charge Bearer	Specifies which party/parties will bear the charges associated with the processing of the payment transaction.	FIToFICstmrCdtTrf/CdtTrfTxInf/ChrgBr	Yes	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
AT-08	Originator Reference Party Name	The name of the Originator Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Nm	No	Only schema validation is performed.
AT-09	Originator Reference Party Identification Code	The identification code of the Originator Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id	No	Only schema validation is performed.
n/a	Ultimate Debtor + Identification ++ Organisation Identification	Unique and unambiguous way to identify an organisation.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Ultimate Debtor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id/PrvtId	Yes	Only schema validation is performed.
n/a	Debtor	Party that owes an amount of money to the (ultimate) creditor.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr	Yes	Only schema validation is performed.
AT-02	Originator Name	The name of the Originator	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Nm	Yes	Only schema validation is performed.
AT-03	Originator Address	The address of the Originator	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr	No	Only schema validation is performed.
n/a	Debtor + Postal Address ++ Country Code	Nation with its own government.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr/Ctry	No	Only schema validation is performed.
n/a	Debtor + Postal Address ++ Address Line	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr/AdrLine	No	Only schema validation is performed.
AT-10	Originator Identification Code	The Originator identification code	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id	No	Only schema validation is performed.
n/a	Debtor + Identification ++ Organisation Identification	Unique and unambiguous way to identify an organisation	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Debtor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id/PrvtId	Yes	Only schema validation is performed.
AT-01	Originator IBAN	The IBAN of the account of the Originator	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAcct/Id/IBAN	Yes	Only schema validation is performed.
AT-06	Originator BIC	The BIC code of the Originator Bank	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/BIC	Yes	The Distinguished Name of the sender must be authorised to instruct for the Originator BIC The Originator BIC must be stored as an Account Authorised BIC or CMB user
AT-23	Beneficiary BIC	The BIC code of the Beneficiary Bank	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAgt/FinInstnId/BIC	Yes	The Beneficiary BIC must be linked with at least one Distinguish Name for outbound message routing
n/a	Creditor	Party to which an amount of money is due.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr	Yes	Only schema validation is performed.
AT-21	Creditor Name	The name of the Beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Nm	Yes	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
AT-22	Creditor Address	The address of the Beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr	No	Only schema validation is performed.
n/a	Creditor + Postal Address ++ Country Code	Nation with its own government.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr/Ctry	No	Only schema validation is performed.
n/a	Creditor + Postal Address ++ Address Line	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr/AdrLine	No	Only schema validation is performed.
AT-24	Creditor Identification	The Beneficiary identification code	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id	No	Only schema validation is performed.
n/a	Creditor + Identification ++ Organisation Identification	Unique and unambiguous way to identify an organisation	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Creditor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id/PrvtId	Yes	Only schema validation is performed.
AT-20	Creditor Account	The IBAN of the account of the beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAcct/Id/IBAN	Yes	Only schema validation is performed.
n/a	Ultimate Creditor	Ultimate party to which an amount of money is due.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr	No	Only schema validation is performed.
AT-28	Ultimate Creditor Name	The name of the Beneficiary Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Ultimate Creditor Identification	The identification code of the Beneficiary Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id	No	Only schema validation is performed.
n/a	Ultimate Creditor + Identification ++ Organisation Identification	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Ultimate Creditor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id/PrvtId	Yes	Only schema validation is performed.
AT-44	Purpose	The purpose of the SCT^{Inst} Instruction	FIToFICstmrCdtTrf/CdtTrfTxInf/Purp	No	Only schema validation is performed.
AT-05	Remittance Information	The Remittance Information	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf	No	Only schema validation is performed.
n/a	Remittance Information + Unstructured	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an account~~s'~~ receivable system, in an unstructured form.	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf/Ustrd	No	Either Unstructured or Structured may be present. If both components are included, the message will be rejected during the schema validation process.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Remittance Information + Structured	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf/Strd	No	Either Unstructured or Structured may be present. If both components are included, the message will be rejected during the schema validation process.
n/a	Remittance Information + Structured ++ Creditor Reference Information	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf/Strd	No	As the Creidtor Bank is not obliged to validate the reference information, TIPS will apply schema validation to this component and included sub-components.

3.3.2.1.4 FIToFIPaymentStatusRequest (pacs.028.001.01)

The FI to FI Payment Status Request message allows instructing TIPS for retrieving the status of an Instant Payment transaction.

This message covers the scenario of Status investigation message:

- The Originator Bank or Instructing Party can start the investigation process on a previously instructed Instant Payment Transaction

Message specification is compliant to EPC DS-07 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

Additional optional and mandatory fields not included in the DS-07 definition or in the following table, but foreseen by the EPC Inst Interbank Implementation Guidelines, are not used in TIPS.

Table 40 – Status investigation Message EPC DS-07 vs pacs.028.001.01

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mand.	TIPS Usage
n/a	Message Identification	Point to point reference, as assigned by the instructing party.	FIToFIPmtStsReq/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	FIToFIPmtStsReq/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	FIToFIPmtStsReq/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	FIToFIPmtStsReq/GrpHdr/InstdAgt	No	Only schema validation is performed.
n/a	Original Message Identification	Message Identification of the originating message	FIToFIPmtStsReq/OrgnlGrpInf/OrgnlMsgId	Yes	Only schema validation is performed.
n/a	Original Message Name Identification	Message identifier of the originating message	FIToFIPmtStsReq/OrgnlGrpInf/OrgnlMsgNmId	Yes	Possible allowed value “pacs.008.001.02”

n/a	Status Request Identification	Unique identification, as assigned by an instructing party for an instructed party.	FIToFIPmtStsReq/TxInf/stsReqId	Yes	Only schema validation is performed.
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party	FIToFIPmtStsReq/TxInf/OrgnlInstrId	No	Only schema validation is performed.
AT-41	Original End To End Identification	The Originator's reference of the SCT^{Inst} Transaction	FIToFIPmtStsReq/TxInf/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT^{Inst} Transaction message	FIToFIPmtStsReq/TxInf/OrgnlTxId	Yes	Identification of the Payment Transaction to be investigated.
AT-50	Acceptance Timestamp	Time Stamp of the SCT^{Inst} Transaction	FIToFIPmtStsReq/TxInf/accptncDtTm	Yes	Acceptance timestamp of the Payment Transaction to be investigated.
AT-45	Category Purpose	The category purpose of the SCT^{Inst} Instruction	FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT^{Inst} Scheme	FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	Yes	Possible values are checked within schema validation.
AT-06[18]	Originator BIC	The BIC code of the Originator Bank	FIToFIPmtStsReq/TxInf/OrgnlTxRef/DbtrAgt/FinInstnId/BICFI	Yes	This field is used in combination with the requestor Distinguish Name to check user access rights.

3.3.2.2. Cash Management (camt)

3.3.2.2.1 GetAccount (camt.003.001.06)

This message is sent by the Participant or Instructing Party to TIPS to instruct the following queries:

- Account Balance and Status Query;
- CMB Limit and Status Query.

The table describes the message elements to be filled.

Table 41 – GetAccount (camt.003.001.06)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	GetAcct/MsgHdr/MsgId	Yes	This information will be included in the resulting camt.004
Account or CMB Identifier	Identification of the Account or CMB to query	GetAcct/AcctQryDef/AcctCrit/NewCrit/SchCrit/AcctId/EQ/Othr/Id	Yes	
Account User	Identification of the BIC of the	GetAcct/AcctQryDef/AcctCrit/NewCrit/SchCrit/AcctOwnr/Id/OrgId/AnyBIC	Yes	TIPS uses this BIC in combination with the

[18] This field is not included in the EPC DS-07 requirements. TIPS uses this information to derive the user access rights granted to the instructing party performing the investigation and therefore it has been added to the table.

Field Name	Description	XML path	Mand.	TIPS Usage
	user of the Account or CMB			Distinguished Name to derive access rights granted to the requestor

3.3.2.2.2 ReturnAccount (camt.004.001.07)

This message is sent by TIPS to the interested Participant or Instructing Party in the following business cases:

- Account Balance and Status Query response;
- CMB Limit and Status Query response;
- Query response error;
- Account Floor and Ceiling notifications;
- CMB Floor and Ceiling notifications.

The message content differs depending on the business case. All the optional fields which are out of the related table~~,~~ will not be included in the message.

Table 42 – Account Balance and Status Query response

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Query	Timestamp assigned when retrieval of records has been performed	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is filled with originating Message Identfier when the camt.004 is a query response.
TIPS Account Identifier	Account identifier retrieved from reference data repository	RtrAcct/RptOrErr/AcctRpt/AcctId/Othr/Id	Yes	
Currency	Currency for which the returned account is issued	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ccy	Yes	
TIPS Participant Identifier	BIC code of the account owner	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ownr/Id/OrgId/AnyBIC	Yes	Field is always filled when the camt.004 is a response for Account Balance and Status query
Current Balance	Current balance of the account	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/Amt	Yes	The balance is the sum of unreserved and reserved balances
Credit Debit Indicator	Specifies if balance is below or above	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/CdtDbtInd	Yes	As negative balances are not foreseen, only the

Field Name	Description	XML path	Mand.	TIPS Usage
	zero			value “CRDT” is expected
Account Status	Status details for the retrieved account	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/RstrctnTp	No	This message component is included only if the account is blocked
Restriction Type Identification	Restriction Type identifier applied to the account	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/RstrctnTp/Tp/Id	Yes	Restriction Type code. If not provided, this field must be filled with “BLCK”
Processing Type	Specifies the processing type for the restriction type applied to the account	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/RstrctnTp/PrcgTp/Cd	Yes	Filled with “BLCK”

Table 43 – CMB Limit and Status Query response

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Query	Timestamp assigned when retrieval of records has been performed	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is filled with originating Message Identfier when the camt.004 is a query response.
TIPS Account Identifier	Account identifier retrieved from reference data repository	RtrAcct/RptOrErr/AcctRpt/AcctId/Othr/Id	Yes	
Currency	Currency of the account linked to the returned CMB	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ccy	Yes	
TIPS Participant Identifier	BIC code of the CMB user	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/CtrPtyId/FinInstnId/BICFI	Yes	
TIPS CMB Identifier	Identification of the CMB	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Nm	Yes	Field is always filled
CMB Limit	Limit amount of the CMB for the counterparty	Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/LmtAmt	Yes	
Credit Debit Indicator	Specifies if limit which has been set up for the CMB is below or above zero	Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/CdtDbtInd	Yes	As negative limits are not foreseen, only the value “CRDT” is expected
CMB Headroom	Dynamic headroom of the CMB limit	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/BilBal/amt	Yes	
Credit Debit Indicator	Specifies if the current headroom for the CMB is below or above zero	Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/BilBal/CdtDbtInd	Yes	As negative limits are not foreseen, only the value “CRDT” is expected

Field Name	Description	XML path	Mand.	TIPS Usage
CMB Status	Specifies the status of the CMB	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/BilBal/Tp/Cd	No	This field is filled only if the CMB is blocked. It must be filled with “BLCK”

Table 44 – Query response error

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Query	Timestamp assigned when retrieval of records has been performed	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is always filled when the camt.004 is a query response.
Business Error	Specifies the error occurred when processing the originating query message	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/BizErr/Err/Prtry	Yes	
Business Error Description	Provides with additional error description	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/BizErr/Desc	No	

Table 45 – CMB Floor and Ceiling notification

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Notification	Timestamp assigned when notification has been triggered	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is not required by the business case and will be filled with “NOTPROVIDED”
TIPS Account Identifier	Account identifier retrieved from reference data repository	RtrAcct/RptOrErr/AcctRpt/AcctId/Othr/Id	Yes	
Currency	Currency of the account linked to the related CMB	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ccy	Yes	
TIPS Participant Identifier	BIC code of the CMB user	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/CtrPtyId/FinInstnId/BICFI	Yes	
TIPS CMB Identifier	Identification of the CMB	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Nm	Yes	Field is always filled
CMB Headroom	Dynamic headroom of the CMB limit	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/CurBilLmt/BilBal/Amt	Yes	
Credit Debit Indicator	Specifies if the current headroom for the CMB is below or above zero	Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/act/CurBilLmt/BilBal/CdtDbtInd	Yes	As negative limits are not foreseen, only the value “CRDT” is expected

Table 46 – Account Floor and Ceiling notification

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Notification	Timestamp assigned when notification has been triggered	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is not required by the business case. A "NOTPROVIDED"will be included in the field.
TIPS Account Identifier	Account identifier retrieved from reference data repository	RtrAcct/RptOrErr/AcctRpt/AcctId/Othr/Id	Yes	
Currency	Currency for which the returned account is issued	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ccy	Yes	
TIPS Participant Identifier	BIC code of the account owner	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/Ownr/Id/OrgId/AnyBIC	Yes	Field is always filled when the camt.004 is a response for Account Balance and Status query
Current Balance	Current balance of the account	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/Amt	Yes	The balance is the sum of unreserved and reserved balances
Credit Debit Indicator	Specifies if balance is below or above zero	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/CdtDbtInd	Yes	As negative balances are not foreseen, only the value "CRDT" is expected

3.3.2.2.3 ModifyLimit (camt.011.001.06)

The ModifyLimit message is used in TIPS to manage the limit definition for CMBs.

It is sent by a Participant or authorised Instructing Party to request an immediate change to the allowed Limit on a specific account for a CMB user.

Table 47 – ModifyLimit (camt.011.001.06)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	ModfyLmt/MsgHdr/MsgId	Yes	Field is referenced in the resulting camt.025 message
Creation Date Time	Timestamp assigned when message has been generated	ModfyLmt/MsgHdr/CreDtTm	Yes	Only schema validation is performed.
CMB User BIC	BIC of the CMB user	ModfyLmt/LmtDtls/LmtId/Cur/BilLmtCtrPtyId/FinInstnId/BICFI	Yes	Field is used to retrieve the unique CMB defined for the BIC

Field Name	Description	XML path	Mand.	TIPS Usage
Limit Type	Type of the limit to be modified	ModfyLmt/LmtDtls/LmtId/Cur/Tp/Cd	Yes	Only allowed value is “BILI”. Possible values are checked within schema validation.
Account Owner	BIC of the requestor party	ModfyLmt/LmtDtls/LmtId/Cur/AcctOwnr/FinInstnId/BICFI	Yes	Field is used in combination with the requestor DN to perform the access rights check
Account Identification	Identification of the account linked to the referenced CMB	ModfyLmt/LmtDtls/LmtId/Cur/AcctId/Othr/Id	Yes	Field is used to identify the limit
New Limit Value	New limit to be applied to the CMB	ModfyLmt/LmtDtls/NewLmtValSet/Amt/AmtWthCcy	Yes	Possible values are checked within schema validation.

3.3.2.2.4 ReturnBusinessDayInformation (camt.019.001.06)

The ReturnBusinessDayInformation message is sent by the RTGS system to TIPS to:

- Notify the change of RTGS Business Date
- Enable or disable the acceptance of outbound liquidity transfers instructed to TIPS

Table 48 – ReturnBusinessDayInformation (camt.019.001.06)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message .	RtrBizDayInf/MsgHdr/MsgId	Yes	Identifier which will be referenced in the Receipt.
Creation Date Time	Timestamp assigned when message has been generated.	RtrBizDayInf/MsgHdr/CreDtTm	Yes	Only schema validation is performed.
Market Infrastructure Identification	Identification code of the Market Infrastructure.	RtrBizDayInf/RptOrErr/BizRpt/SysId/MktInfrstrctrId/Cd	Yes	Only schema validation is performed.
System Date	Business date of the RTGS System.	RtrBizDayInf/RptOrErr/BizRpt/BizDayOrErr/BizDayInf/SysDt	Yes	In case the message is sent for the change of business date, this field contains the next RTGS business date.
System Status	Status of the RTGS System	RtrBizDayInf/RptOrErr/BizRpt/BizDayOrErr/BizDayInf/SysSts/Sts/Prtry/Id	Yes	Status change of the RTGS System.

3.3.2.2.5 Receipt (camt.025.001.04)

The Receipt message is used in TIPS in different business cases related to Liquidity Credit Transfer area and CMB limit modification.

In the Inbound Liquidity Transfer scenario, it is sent by TIPS to the RTGS System to report about the execution of the liquidity transfer.

In the outbound liquidity transfer scenario, it is sent by the RTGS System to TIPS to report about the execution of the liquidity transfer.

The Receipt message as received from the RTGS System, is then sent to the Originator of the Outbound Liquidity Transfer.

In the CMB Limit modification context, it is sent by TIPS to the interested Participant or Instructing Party originating the Modify Limit message.

Table 49 – Receipt (camt.025.001.04)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	Rct/MsgHdr/MsgId	Yes	Only schema validation is performed.
Creation Date Time	Timestamp of the creation of the message	Rct/MsgHdr/CreDtTm	No	Timestamp when the request has been processed.
Original Message Identification	Identification of the originating liquidity credit transfer or limit modification request	Rct/RctDtls/OrgnlMsgId/MsgId	Yes	
Status Code	Specifies the status of the originating liquidity credit transfer or limit modification request	Rct/RctDtls/ReqHdlg/StsCd	Yes	
Status Description	Additional information on the reported status of the originating liquidity credit transfer or limit modification request	Rct/RctDtls/ReqHdlg/Desc	No	It must be filled whenever an error occurs

3.3.2.2.6 ResolutionOfInvestigation (camt.029.001.03)

The Resolution of Investigation message is sent by the Assignee party as a negative response to a recall request triggered by the Assigner party for a formerly settled Instant Payment transaction.

Message specification is compliant to EPC DS-06 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

TIPS receives this message by the Assignee party, checks the related access rights and the reachability of the Assigner party.

No further processing but message schema validation is performed as the message is directly forwarded to the party which formerly triggered the Recall process.

Table 50 – ResolutionOfInvestigation (camt.029.001.03)

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
n/a	Assignment + Identification	Uniquely identifies the case assignment.	RsltnOfInvstgtn/Assgnmt/Id	Yes	Only schema validation is performed.
n/a	Assigner	Party who sends the Resolution of Investigation message.	RsltnOfInvstgtn/Assgnmt/Assgnr/Agt/FinInstnId/BIC	Yes	This field must be filled with the BIC of the party sending the Resolution of Investigation message and is used in combination with the requestor Distinguish Name to check user access rights.

n/a	Assignee	Party to which the case is assigned	RsltnOfInvstgtn/Assgnmt/Assgne/Agt/FinInstnId/BIC	Yes	This field must be filled with the BIC of the party to which the Resolution of Investigation message is forwarded.
n/a	Assignment + Creation Date Time	Date and time at which the assignment was created.	RsltnOfInvstgtn/Assgnmt/CreDtTm	Yes	Only schema validation is performed.
n/a	Status + Confirmation	Specifies the status of the investigation, in a coded form.	RsltnOfInvstgtn/Sts/Conf	Yes	Possible values are checked within schema validation.
n/a	Cancellation Status Identification	Unique and unambiguous identifier of a cancellation request status, as assigned by the assigner.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsId	Yes	Only schema validation is performed.
n/a	Original Message Identification	Message Identification of the originating message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlGrpInf/OrgnlMsgId	Yes	Only schema validation is performed.
n/a	Original Message Name Identification	Message identifier of the originating message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlGrpInf/OrgnlMsgNmId	Yes	Possible allowed value “pacs.008.001.02”
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party	FIToFIPmtStsReq/TxInf/OrgnlInstrId	No	Only schema validation is performed.
AT-41	Original End To End Identification	The Originator’s reference of the SCT^{Inst} Transaction	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Original Transaction Identification	The Originator Bank’s reference number of the SCT^{Inst} Transaction message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxId	Yes	Only schema validation is performed.
n/a	Transaction Cancellation Status	Specifies the status of the transaction cancellation request.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/TxCxlSts	Yes	Possible values are checked within schema validation.
n/a	Cancellation Status Reason Information	Set of elements used to provide detailed information on the cancellation status reason.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf	Yes	Only schema validation is performed.
AT-R2	Cancellation Status Reason Information + Originator	The Identification of the type of party initiating the “R” message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Orgtr	Yes	Only schema validation is performed.
AT-R5	Cancellation Status Reason Information + Reason	The Reason Code for non-acceptance of the Recall.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Rsn	Yes	Only schema validation is performed.
n/a	Cancellation Status Reason Information + Reason ++ Code	Reason for the cancellation status, in a coded form.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Rsn/Cd	Yes	Only schema validation is performed.
n/a	Cancellation Status Reason Information + Reason ++ Proprietary	Reason for the status, in a proprietary form.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Rsn/Prtry	Yes	Only schema validation is performed.
n/a	Cancellation Status Reason Information + Additional Information	Further details on the cancellation status reason.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/AddtlInf	No	Only schema validation is performed.
n/a	Original Transaction Reference	Set of key elements used to identify the original transaction that is being referred to.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef	Yes	Only schema validation is performed.
AT-04	Interbank Settlement Amount	The amount of the SCT^{Inst} in euro.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/IntrBkSttlmAmt	No	Only schema validation is performed.
AT-42	Interbank Settlement Date	The Settlement Date of the SCT^{Inst} Transaction.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/IntrBkSttlmDt	No	Only schema validation is performed.

AT-40	Scheme Identification Code	The identification code of the SCT^{Inst} Scheme	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/PmtTpInf/SvcLvl/Cd RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	No	Possible values are checked within schema validation.
AT-45	Category Purpose	The category purpose of the SCT^{Inst} Instruction	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-05	Remittance Information	Information supplied to enable the matching of an entry with the items that the transfer is intended to settle	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/RmtInf	No	Only schema validation is performed.
AT-08	Ultimate Debtor + Name	The name of the Originator Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtDbtr/Nm	No	Only schema validation is performed.
AT-09	Ultimate Debtor + Identification	The identification code of the Originator Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtDbtr/Id	No	Only schema validation is performed.
AT-02	Debtor + Name	The name of the Originator.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Dbtr/Nm	No	Only schema validation is performed.
AT-03	Debtor + Postal Address	The address of the Originator.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Dbtr/PstlAdr	No	Only schema validation is performed.
AT-10	Debtor + Identification	The Originator identification code.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Dbtr/Id	No	Only schema validation is performed.
AT-01	Debtor Account	The IBAN of the account of the Originator.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/DbtrAcct	Yes	Only schema validation is performed.
AT-06	Debtor Agent	The BIC code of the Originator Bank.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/DbtrAgt	No	Only schema validation is performed.
AT-23	Creditor Agent	The BIC code of the Beneficiary Bank.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/CdtrAgt	No	Only schema validation is performed.
AT-21	Creditor + Name	The name of the Beneficiary.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Cdtr/Nm	No	Only schema validation is performed.
AT-22	Creditor + Postal Address	The address of the Beneficiary.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Cdtr/PstlAdr	No	Only schema validation is performed.
AT-24	Creditor + Identification	The Beneficiary identification code.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Cdtr/Id	No	Only schema validation is performed.
AT-20	Creditor Account	The IBAN of the account of the Beneficiary.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/CdtrAcct	Yes	Only schema validation is performed.
AT-28	Ultimate Creditor + Name	Name of the Beneficiary Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Ultimate Creditor + Identification	Identification code of the Beneficiary Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtCdtr/Id	No	Only schema validation is performed.

3.3.2.2.7 LiquidityCreditTransfer (camt.050.001.04)

The Liquidity Credit Transfer message is used in TIPS in order to instruct inbound and outbound liquidity transfers to/from RTGS Systems to fund accounts of TIPS Participants or repatriate money in the related RTGS System.

Authorised technical user (RTGS System) can send inbound liquidity transfers from the corresponding RTGS to TIPS. In case the validation is successful TIPS transfers the requested amount from the (technical) transit account to the TIPS account.

Participants or Instructing Parties acting on behalf of Participants can trigger outbound liquidity transfers in TIPS using a liquidity transfer order message.

Table 51 – LiquidityCreditTransfer (camt.050.001.04)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	GetAcct/MsgHdr/MsgId	Yes	
Instruction Identification	Identification of the requested credit transfer	LqdtyCdtTrf/LqdtyCdtTrf/LqdtyTrfId/InstrId	Yes	
End to End Identification	End to end identifier for the requested credit transfer	LqdtyCdtTrf/LqdtyCdtTrf/LqdtyTrfId/EndToEndId	Yes	If not used, it must be filled with 'NOTPROVIDED'
Creditor	BIC of Financial Institution owning the account to be credited	LqdtyCdtTrf/LqdtyCdtTrf/Cdtr/FinInstnId/BICFI	No	This field must be included in outbound liquidity transfers.
Creditor Account	Account to be credited	LqdtyCdtTrf/LqdtyCdtTrf/CdtrAcct/Id/Othr/Id	Yes	
Creditor Account Type	Type of the account to be credited	LqdtyCdtTrf/LqdtyCdtTrf/CdtrAcct/Tp	No	This field must not be included in the request. The message will be rejected in that case.
Transferred Amount	Amount to be transferred from the debited account to the credited account	LqdtyCdtTrf/LqdtyCdtTrf/TrfdAmt/AmtWthCcy	Yes	
Debtor	BIC of Financial Institution owning the account to be debited	LqdtyCdtTrf/LqdtyCdtTrf/Dbtr/FinInstnId/BICFI	Yes	
Debtor Account	Account to be debited	LqdtyCdtTrf/LqdtyCdtTrf/DbtrAcct/Id/Othr/Id	Yes	
Debtor Account Type	Type of the account to be debited	LqdtyCdtTrf/LqdtyCdtTrf/DbtrAcct/Tp	No	This field must not be included in the request. The message will be rejected in that case.
Settlement Date	Settlement date of the Credit Transfer	LqdtyCdtTrf/LqdtyCdtTrf/SttlmDt	No	This must be included in outgoing Credit Transfer. It must be filled with the stored RTGS business date.

3.3.2.2.8 BankToCustomerAccountReport (camt.052.001.06)

The Bank To Customer Account Report is used in TIPS to provide information regarding all the TIPS accounts in the data scope of the TIPS actor.

Table 52 – BankToCustomerAccountReport (camt.052.001.06)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	BkToCstmrAcctRpt/GrpHdr/MsgId	Yes	
Creation Date Time	Timestamp of the creation of the message	BkToCstmrAcctRpt/GrpHdr/CreDtTm	Yes	

Field Name	Description	XML path	Mand.	TIPS Usage
Report Identifier	Unique identification, as assigned by TIPS , to unambiguously identify each report: contains Sequential Number of the report.	BkToCstmrAcctRpt/Rpt/Id	Yes	
Creation Date Time	Timestamp of the creation of the report	BkToCstmrAcctRpt/Rpt/CreDtTm	Yes	Must be equal to the Creation Date Time of the message
Account Identification	Account reported	BkToCstmrAcctRpt/Rpt/Acct/Id/Othr/Id	Yes	
Account Currency	Currency of the Account	BkToCstmrAcctRpt/Rpt/Acct/Ccy	Yes	
Account Owner	BIC of Financial Institution owning the account reported	BkToCstmrAcctRpt/Rpt/Acct/Ownr/Id/OrgId/AnyBIC	Yes	
Balance	Set of elements to define the balance.	BkToCstmrAcctRpt/Rpt/Bal	Yes	For every Report of the statement, two Balance blocks are included. These blocks provide with the Opening and Closing Balance for the reported Account.
Balance Type	Type of the balance reported	BkToCstmrAcctRpt/Rpt/Bal/Tp/CdOrPrtry/Prtry	Yes	Allowed values: - OPBD: Opening balance at start of RTGS business day; - CLBD: Closing balance at end of RTGS business day.
Amount	Balance Amount with currency	BkToCstmrAcctRpt/Rpt/Bal/Amt	Yes	
Credit/debit Indicator	Specifies if the Amount is credited or debited	BkToCstmrAcctRpt/Rpt/Bal/CdtDbtInd	Yes	
RTGS business date	RTGS business date for which the information is retrieved;	BkToCstmrAcctRpt/Rpt/Bal/Dt	Yes	It must be filled with the stored RTGS business date.
Sum of credits	Sum of he credits occurred on the Account for the pre-agreed account reporting period.	BkToCstmrAcctRpt/Rpt/TxsSummry/TtlCdtNtries/Sum	Yes	
Sum of debits	Sum of the debits occurred on the Account for the pre-agreed account reporting period.	BkToCstmrAcctRpt/Rpt/TxsSummry/TtlDbtNtries/Sum	Yes	

3.3.2.2.9 BankToCustomerStatement (camt.053.001.06)

The Bank To Customer Statement provides detailed information on the activities recorded for all the TIPS accounts in the data scope of the recipient actor.

Table 53 – BankToCustomerStatement (camt.053.001.06)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	BkToCstmrStmt/GrpHdr/MsgId	Yes	
Creation Date Time	Timestamp of the creation of the message	BkToCstmrStmt/GrpHdr/CreDtTm	Yes	

Statement Identifier	Sequential number, as assigned by TIPS, to unambiguously identify each reported Account in the statement.	BkToCstmrStmt/Stmt/Id	Yes	
Creation Date Time	Timestamp of the creation of the statement	BkToCstmrStmt/Stmt/CreDtTm	Yes	Must be equal to the Creation Date Time of the message
Start Timestamp	Start Timestamp for which the account statement is issued	BkToCstmrStmt/Stmt/FrToDt/FrDtTm	No	Filled only for delta statement
End Timestamp	End Timestamp for which the account statement is issued	BkToCstmrStmt/Stmt/FrToDt/ToDtTm	No	Filled only for delta statement
Account Identification	Account reported	BkToCstmrStmt/Stmt/Acct/Id	Yes	
Account Currency	Currency of the Account	BkToCstmrStmt/Stmt/Acct/Ccy	Yes	
Account Owner	BIC of Financial Institution owning the account reported	BkToCstmrStmt/Stmt/Acct/Ownr/Id/OrgId/AnyBIC	Yes	
Balance Type	Type of the balance reported	BkToCstmrStmt/Stmt/Bal/Tp/CdOrPrtry/Prtry	Yes	Allowed value: - CLBD: Balance of the account at the end of the pre-agreed account reporting period.
Amount	Balance Amount with currency	BkToCstmrStmt/Stmt/Bal/Amt	Yes	
Credit/debit Indicator	Specifies if the Account balance is positive or negative	BkToCstmrStmt/Stmt/Bal/CdtDbtInd	Yes	
RTGS business date	RTGS business date for which the information is retrieved	BkToCstmrStmt/Stmt/Bal/Dt	Yes	It must be filled with the stored RTGS business date.
Entry	Entries of the statement	BkToCstmrStmt/Stmt/Ntry	No	Every Entry block contains the details of an Instant Payment Transaction or Liquidity Transfer which resulted in a movement for the reported account. If no activity occurred for the reported account during the pre-agreed account reporting period, no Entry blocks will be returned.
Transaction Reference	Payment transaction or Liquidity transfer reference	BkToCstmrStmt/Stmt/Ntry/NtryRef	Yes	This the Transaction Identification of the reported Instant Payment Transaction or Liquidity Transfer.
Transaction Amount	Transaction Amount with currency	BkToCstmrStmt/Stmt/Ntry/Amt	Yes	
Transaction Credit/debit Indicator	Specifies if the transaction Amount is credited or debited on the account	BkToCstmrStmt/Stmt/Ntry/CdtDbtInd	Yes	
Transaction Status	Specifies the status of the transaction	BkToCstmrStmt/Stmt/Ntry/Sts	Yes	Only “BOOK” is allowed as only settled transactions are reported.
Settlement timestamp	Settlement timestamp of the transaction	BkToCstmrStmt/Stmt/Ntry/BookgDt/DtTm	Yes	
Bank transaction code	Bank transaction code of the transaction, which allows to distinguish between Payment Transactions and Liquidity transfer Orders.	BkToCstmrStmt/Stmt/Ntry/BkTxCd/Domn/Cd	Yes	Used codes are based on the ExternalBankTransactionDomain ISO documentation. The Domain code allowed value is “PMNT” (Payments). -

Bank Transaction Code Family	Family of the Bank Transaction Code.	BkToCstmrStmt/Stmt/Ntry/BkTxCd/Domn/Fmly/Cd	Yes	Allowed values depend on the type of reported payment. - ICDT : Outbound Liquidity Transfers - RCDT : Inbound Liquidity Transfers - IRCT : Debited Instant Payment Transaction - RRCT : Credited Instant Payment Transaction
Bank Transaction Code SubFamily	SubFamily of the Bank Transaction Code.	BkToCstmrStmt/Stmt/Ntry/BkTxCd/Domn/Fmly/SubFmlyCd	Yes	In terms of reporting, both Instant Payment Transactions and Liquidity Transfers, are defined as Financial Instituion Credit Transfer. The allowed value for this field is “FICT”.
Amount Details + ProprietaryAmount	Additional information for Account balance	BkToCstmrStmt/Stmt/Ntry/AmtDtls/PrtryAmt/Amt	Yes	For every Entry of the statement, two Proprietary Amount blocks are included. These blocks define the Account Balance before and after the settlement of the Instant Payment Transaction or Liquidity Transfers occurred.
Transaction Account Balance	Balance of the Account before/after the execution of the transaction	BkToCstmrStmt/Stmt/Ntry/AmtDtls/PrtyAmt/Amt	Yes	Amount of the Account Balance for the related Entry.
Transaction Account balance type	Type of the balance	BkToCstmrStmt/Stmt/Ntry/AmtDtls/PrtyAmt/Tp	Yes	Definition of the type of returned Proprietary Amount.Allowed values: - BFTS: Before the settlement of the Transaction - FTTS: After the settlement of the Transaction.
Transaction Amount	Transaction Amount with currency	BkToCstmrStmt/Stmt/Ntry/NtryDtls TxDtls/Amt	Yes	Same value of the field BkToCstmrStmt/Stmt/Ntry/amt
Transaction Credit/debit Indicator	Specifies if the transaction Amount is credited or debited on the account	BkToCstmrStmt/Stmt/Ntry/NtryDtls/TxDtls/CdtDbtInd	Yes	Same value of the field BkToCstmrStmt/Stmt/Ntry/cdtDbtInd
Transaction Originator BIC	BIC of the Originator Participant of the transaction	BkToCstmrStmt/Stmt/Ntry/NtryDtls/TxDtls/RltdAgts/DbtrAgt/FinInstnId/BICFI	Yes	It contains: - the Originator BIC in case of an Instant Payment Transaction; - The Debtor BIC in case of a Liquidity Transfer Order
Transaction Beneficiary BIC	BIC of the Beneficiary Participant of the transaction	BkToCstmrStmt/Stmt/Ntry/NtryDtls/TxDtls/RltdAgts/CdtrAgt/FinInstnId/BICFI	Yes	It contains : - The Beneficiary BIC in case of an Instant Payment Transaction - The Creditor BIC in case of a Liquidity Transfer Order

3.3.2.2.10 BankToCustomerDebitCreditNotification (camt.054.001.06)

The Bank To Customer Debit Credit Notification message is used in TIPS in order to report the settlement of a liquidity transfer credited on an own TIPS account.

Table 54 – BankToCustomerDebitCreditNotification (camt.054.001.06)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	BkToCstmrDbtCdtNtfctn/GrpHdr/MsgId	Yes	
Creation Date Time	Timestamp of the creation of the message	BkToCstmrDbtCdtNtfctn/GrpHdr/CreDtTm	Yes	
Notification Identifier	Identifier of the notification	BkToCstmrDbtCdtNtfctn/Ntfctn/Id	Yes	This field will be equal to the Message Identifier
Notification Creation Date Time	Timestamp of the creation of the notification	BkToCstmrDbtCdtNtfctn/Ntfctn/CreDtTm	Yes	This field will be equal to the Creation Date Time
Account Identifier	Account for which the notification has been generated	BkToCstmrDbtCdtNtfctn/Ntfctn/Acct/Id/Othr/Id	Yes	
Notification Amount	Amount tha has been transferred to the Account	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/Amt	Yes	
Credit Debit Indicator	Specifies if the Amount has been credited or debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/CdtDbtInd	Yes	As notification is generated for credit movements only, this field will be “CRDT”
Status	Status of the underlying payment	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/Sts	Yes	As notification is generated for settled credit movements only, this field will be “BOOK”
Booking Date	Date and time of Booking	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BookgDt/DtTm	Yes	Timestamp of when the settlement occurred in TIPS
Bank Transaction Code Domain	Bank Transaction Code of the underlying transaction	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BkTxCd/Domn/Cd	Yes	Only Liquidity Transfers are reported. They belong to Payment Domain so this field will be “PMNT”
Bank Transaction Family Code	Bank Transaction Family Code of the underlying transaction	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BkTxCd/Domn/Fmly/Cd	Yes	Only credited Liquidity Transfers are reported. This field will be “RCDT”
Bank Transaction SubFamily Code	Bank Transaction SubFamily Code of the underlying transaction	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BkTxCd/Domn/Fmly/SubFmlyCd	Yes	Only credited Liquidity Transfers from Financial Institutions are reported. This field will be “FICT”
Instruction Identification	Instruction identifier for the credit	/BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/Refs/InstrId	Yes	This field will contain the Liquidity Transfer reference

Field Name	Description	XML path	Mand.	TIPS Usage
	transfer			
End to End Identification	End to end identifier for the requested credit transfer	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/Refs/EndToEndId	Yes	If not used, it must be filled with 'NOTPROVIDED'
Transaction Amount	Amount tha has been transferred to the Account	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/Amt	Yes	This field will be equal to the Notification Amount
Credit Debit Indicator	Specifies if the Amount has been credited or debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/CdtDbtInd	Yes	As notification is generated for credit movements only, this field will be "CRDT"
Debtor	BIC of Financial Institution owning the account to be debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/Dbtr/Id/OrgId/AnyBIC	Yes	
Debtor Account	Account to be debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/dbtrAcct/Id/Othr/Id	Yes	
Creditor	BIC of Financial Institution owning the account to be credited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/Cdtr/Id/OrgId/AnyBIC	Yes	
Creditor Account	Account to be credited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/cdtrAcct/Id/Othr/Id	Yes	

3.3.2.2.11 FIToFIPaymentCancellationRequest (camt.056.001.01)

The FI To FI Payment Cancellation Request message allows instructing TIPS to trigger a recall process for a formerly settled Instant Payment transaction.

Message specification is compliant to EPC DS-05 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

TIPS receives this message by the Assigner party, checks the related access rights and the reachability of the Assignee party.

No further processing but message schema validation is performed as the message is directly forwarded to the party to which the case is assigned.

Table 55 – FIToFIPaymentCancellationRequest (camt.056.001.01)

EPC Reference	Reference Name	EPC Description	XML path	Mand.	TIPS Usage
n/a	Assignment Identification	Uniquely identifies the case assignment.	FIToFIPmtCxlReq/Assgnmt/Id	Yes	Only schema validation is performed.

EPC Reference	Reference Name	EPC Description	XML path	Mand.	TIPS Usage
n/a	Assigner	Party who assigns the case.	FIToFIPmtCxlReq/Assgnmt/Assgnr/Agt/FinInstnId/BIC	Yes	This field must be filled with the BIC of the originating party and is used in combination with the requestor Distinguish Name to check user access rights.
n/a	Assignee	Party to which the case is assigned	FIToFIPmtCxlReq/Assgnmt/Assgne/Agt/FinInstnId/BIC	Yes	This field must be filled with the BIC of the party to which the Cancellation Request is forwarded.
n/a	Creation Date Time	Date and time at which the assignment was created.	FIToFIPmtCxlReq/Assgnmt/CreDtTm	Yes	Only schema validation is performed.
n/a	Number Of Transactions	Number of individual transactions contained in the message.	FIToFIPmtCxlReq/CtrlData/NbOfTxs	No	Only a single transaction can be included. Fixed value for the Message Element is '1'.
n/a	Underlying	Identifies the payment instruction to be cancelled.	FIToFIPmtCxlReq/Undrlyg	Yes	Only a single Underlying element is allowed in TIPS.
n/a	Transaction Information	Set of elements used to provide information on the original transactions to which the cancellation request message refers.	FIToFIPmtCxlReq/Undrlyg/TxInf	Yes	Only a single Transaction Information element is allowed in TIPS.
AT-R6	Cancellation Identification	The specific reference of the bank initiating the Recall.	FIToFIPmtCxlReq/Undrlyg/TxInf/CxlId	Yes	
n/a	Original Message Identification	Point to point reference assigned by the original instructing party to unambiguously identify the original transaction.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlGrpInf/OrgnlMsgId	Yes	Only schema validation is performed.
n/a	Original Message Name Identification	Specifies the original message name identifier to which the message refers.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlGrpInf/OrgnlMsgNmId	Yes	Only 'pacs.008.001.02' is allowed.
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party, to unambiguously identify the original instruction.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlInstrId	No	Only schema validation is performed.
AT-41	Original End To End Identification	The Originator's reference of the SCT Inst Transaction.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Original Transaction Identification	The Originator Bank's reference of the SCT Inst Transaction message.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxId	Yes	Reference of the Instant Payment Transaction for which the Recall is requested.
AT-04	Original Interbank Settlement Amount	The amount of the SCT Inst in euro.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmAmt	Yes	Amount of the Instant Payment Transaction for which the Recall is requested.

EPC Reference	Reference Name	EPC Description	XML path	Mand.	TIPS Usage
AT-42	Original Interbank Settlement Date	The Settlement Date of the SCT Inst Transaction.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlIntrBkSttlmDt	Yes	Settlement Date of the Instant Payment Transaction for which the Recall is requested.
n/a	Cancellation Reason Information	Set of elements used to provide detailed information on the cancellation reason.	FIToFIPmtCxlReq/Undrlyg/TxInf/CxlRsnInf	Yes	Only one occurrence is allowed.
AT-R2	Cancellation Reason Information + Originator	Identification of the type of party initiating the R-message.	FIToFIPmtCxlReq/Undrlyg/TxInf/CxlRsnInf/Orgtr	Yes	Only schema validation is performed.
AT-48	Cancellation Reason Information + Reason	The Recall reason code.	FIToFIPmtCxlReq/Undrlyg/TxInf/CxlRsnInf/Rsn	Yes	Only schema validation is performed.
AT-49	Cancellation Reason Information + Additional Information	Additional information to AT-48 The Recall reason code.	FIToFIPmtCxlReq/Undrlyg/TxInf/CxlRsnInf/AddtlInf	No	Only schema validation is performed.
n/a	Original Transaction Reference	An exact copy of all attributes of the initially sent DS-02 which is to be cancelled.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef	Yes	Only schema validation is performed.
n/a	Settlement Information	Specifies the details on the settlement.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/SttlmInf	No	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT^{Inst} Scheme	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	No	Only schema validation is performed.
AT-45	Category Purpose	The category purpose of the SCT^{Inst} Instruction	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-05	Remittance Information	The Remittance information.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/RmtInf	No	Only schema validation is performed.
AT-08	Originator Reference Party Name	The name of the Originator Reference Party	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtDbtr/Nm	No	Only schema validation is performed.
AT-09	Originator Reference Party Identification Code	The identification code of the Originator Reference Party	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtDbtr/Id	No	Only schema validation is performed.
AT-02	Debtor + Name	The name of the Originator.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Dbtr/Nm	No	Only schema validation is performed.
AT-03	Debtor + Postal Address	The address of the Originator.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Dbtr/pstlAdr	No	Only schema validation is performed.
AT-10	Debtor + Identification	The Originator identification code.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Dbtr/Id	No	Only schema validation is performed.
AT-01	Debtor Account	The IBAN of the account of the Originator.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAcct	Yes	Only schema validation is performed.
AT-06	Debtor Agent	The BIC code of the Originator Bank.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/DbtrAgt	No	Only schema validation is performed.
AT-23	Creditor Agent	The BIC code of the Beneficiary Bank.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAgt	No	Only schema validation is performed.
AT-21	Creditor + Name	The name of the Beneficiary.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Cdtr/Nm	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC Description	XML path	Mand.	TIPS Usage
AT-22	Creditor + Postal Address	The address of the Beneficiary.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Cdtr/pstlAdr	No	Only schema validation is performed.
AT-24	Creditor + Identification	The Beneficiary identification code.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/Cdtr/Id	No	Only schema validation is performed.
AT-20	Creditor Account	The IBAN of the account of the Beneficiary.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/CdtrAcct	Yes	Only schema validation is performed.
AT-28	Ultimate Creditor + Name	Name of the Beneficiary Reference Party.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Ultimate Creditor + Identification	Identification code of the Beneficiary Reference Party.	FIToFIPmtCxlReq/Undrlyg/TxInf/OrgnlTxRef/UltmtCdtr/Id	No	Only schema validation is performed.

3.3.2.3. Account Management (acmt)

3.3.2.3.1 AccountRequestAcknowledgement (acmt.010.001.02)

The Account Request Acknowledgement message is sent by TIPS to the TIPS Participant upon successful processing of a formerly instructed Account Excluded Mandate Maintenance Request message.

This message notifies the sender that the blocking status of the TIPS Account or CMB has been changed.

Table 56 – AccountRequestAcknowledgement (acmt.010.001.02)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	AcctReqAck/Refs/MsgId/Id	Yes	
Creation Date Time	Date of creation of the message.	AcctReqAck/Refs/MsgId/CreDtTm	Yes	
Process Identification	Identification of the process.	AcctReqAck/Refs/PrcId/Id	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Message Identifier.
Process Date Time	Date of creation of the message.	AcctReqAck/Refs/PrcId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.
Acknowledged Message Identification	Identification of the originating Account Excluded Maintenance Request message.	AcctReqAck/Refs/AckdMsgId/Id	Yes	
Acknowledged Date Time	Date of the acknowledgement of the message.	AcctReqAck/Refs/AckdMsgId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.

Status	Specifies the status of the Account Excluded Maintenance Request message.	AcctReqAck/Refs/Sts	Yes	Only possible status is “COMP” = Completed
Account Identification	Identification of the TIPS Account or CMB related to the originating Account Excluded Maintenance Request message.	AcctReqAck/AcctId/Id/Othr/Id	Yes	
Currency	Currency of the TIPS Account or CMB related to the originating Account Excluded Maintenance Request message.	AcctReqAck/AcctId/Ccy	Yes	
Organisation Identification	BIC of the TIPS Participant owning the TIPS Account or CMB User.	AcctReqAck/OrgId/AnyBIC	Yes	This field must be filled either with the BIC of the TIPS Account owner or the BIC of the CMB user.
Account Servicer Identification	BIC of the TIPS Participating owning the TIPS Account,	AcctReqAck/AcctSvcrId/FinInstnId/BICFI	Yes	This field must be filled with the BIC of the TIPS Account owner.

3.3.2.3.2 AccountRequestRejection (acmt.011.001.02)

The Account Request Rejection message is sent by TIPS to the TIPS Participant upon rejection of a formerly instructed Account Excluded Maintenance Request message.

This message notifies the sender that the request to modify the blocking status of the TIPS Account or CMB has been rejected.

Table 57 – AccountRequestRejection (acmt.011.001.02)

Field Name	Description	XML path	Mand.	TIPS Usage
Rejection Reason	Reason of the message rejection	AcctReqRjctn/Refs/RjctnRsn	Yes	Reports the detailed error information
Rejected Request Identifier	Identification of the rejected request message.	AcctReqRjctn/Refs/RjctdReqId/Id	Yes	
Rejected Request Date Time	Date of creation of the message.	AcctReqRjctn/Refs/RjctdReqId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.
Message Identification	Identification of the message.	AcctReqRjctn/Refs/MsgId/Id	Yes	
Creation Date Time	Date of creation of the message.	AcctReqRjctn/Refs/MsgId/CreDtTm	Yes	
Process Identification	Identification of the process.	AcctReqRjctn/Refs/PrcId/Id	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Message Identifier.
Process Date Time	Date of creation of the message.	AcctReqRjctn/Refs/PrcId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.

Field Name	Description	XML path	Mand.	TIPS Usage
Account Servicer Identification	BIC of the TIPS Participating owning the TIPS Account,	AcctReqRjctn/AcctSvcrId/FinInstnId/BICFI	Yes	This field must be filled with the BIC of the TIPS Account owner.
Organisation Identification	BIC of the TIPS Participant owning the TIPS Account or CMB User.	AcctReqRjctn/OrgId/AnyBIC	Yes	This field must be filled either with the BIC of the TIPS Account owner or the BIC of the CMB user.

3.3.2.3.3 AccountExcludedMandateMaintenanceRequest (acmt.015.001.02)

The Account Excluded Mandate Maintenance Request message is sent by a TIPS authorised actor to request a change on the blocking status for a TIPS Account or CMB.

If the request is successfully executed, TIPS notifies the sender with an acmt.010.001.02 message.

If the request is rejected, TIPS notifies the sender with an acmt.011.001.02 message.

Table 58 – AccountExcludedMandateMaintenanceRequest (acmt.015.001.02)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	AcctExcldMndtMntncReq/Refs/MsgId/Id	Yes	
Creation Date Time	Date of creation of the message.	AcctExcldMndtMntncReq/Refs/MsgId/CreDtTm	Yes	
Process Identification	Identification of the message.	AcctExcldMndtMntncReq/Refs/PrcId/Id	Yes	Not used in TIPS but required by ISO Standards.
Process Date Time	Date of creation of the message.	AcctExcldMndtMntncReq/Refs/PrcId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards.
Account Identification	Identification of the TIPS Account or CMB.	AcctExcldMndtMntncReq/Acct/Id/Othr/Id	Yes	
Currency	Currency of the TIPS Account or CMB.	AcctExcldMndtMntncReq/Acct/Ccy	Yes	
Floor Notification Amount	Specifies the value of the balance under which a notification will be sent to the account owner.	AcctExcldMndtMntncReq/Acct/FlrNtfctnAmt	No	Not used in TIPS. Usage is described in CRDM documentation.
Ceiling Notification Amount	Specifies the value of the balance above which a notification will be sent to the account owner.	AcctExcldMndtMntncReq/Acct/ClngNtfctnAmt	No	Not used in TIPS. Usage is described in CRDM documentation.
Closing Date	Date when the account will be or was closed.	AcctExcldMndtMntncReq/Acct/ClsgDt	No	Not used in TIPS. Usage is described in CRDM documentation.
Restriction Modification Code	Specifies the type of change.	AcctExcldMndtMntncReq/Acct/Rstrctn/ModCd	Yes	Possible values: - ADDD : Block - DELE : Unblock
Restriction Type Code	Type of the Restriction.	AcctExcldMndtMntncReq/Acct/Rstrctn/Rstrctn/RstrctnTp/Cd	Yes	Possible values are: - TACR: Block for credit - TADE: Block for debit - TABO: Block for both debit and credit
Restriction Valid From	Date from which the Restriction is valid.	AcctExcldMndtMntncReq/Acct/Rstrctn/Rstrctn/VldFr	Yes	Not used in TIPS.

Field Name	Description	XML path	Mand.	TIPS Usage
Account Servicer Identification	BIC of the TIPS Participating owning the TIPS Account,	AcctExcldMndtMntncReq/AcctSvcrId/FinInstnId/BICFI	Yes	This field must be filled with the BIC of the TIPS Account owner. It is used in combination with the requestor Distinguish Name to check user access rights.
Organisation	Organised structure that is set up for a particular purpose.	AcctExcldMndtMntncReq/Org	Yes	Any element included in this message component which are mandatory in ISO 20022 Standard, are not used in TIPS.

3.3.2.4. Reference Data (reda)

3.3.2.4.1 PartyStatusAdvice (reda.016.001.01)

The Party Status Advice message is sent by TIPS to report the results of the execution of the related Party Modification Request to the requesting Central Bank.

The XSD schema is shared with Common Reference Data Management to enable users to use a single implementation for the two services.

Table 59 – PartyStatusAdvice (reda.016.001.01)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	PtyStsAdvc/MsgId/Id	Yes	
Original Message Identification	Identification of the originating Party Modification Request message.	PtyStsAdvc/OrgnlMsgId/Id	Yes	
Status	Status of the execution of the originating Party Modification Request message.	PtyStsAdvc/PtySts/Sts	Yes	Possible values: - COMP: Completed - REJT : Rejected
Status Reason	Additional information on rejected requests.	PtyStsAdvc/PtySts/StsRsn	No	This component will be included only in case of a rejected Party Modification Request message.
Error Code	Error code raised during the processing of the originating Party Modification Request message.	PtyStsAdvc/PtySts/StsRsn/Rsn/Prtry	No	This component will be included only in case of a rejected Party Modification Request message.
Additional Information	Possible additional text information to the requestor.	PtyStsAdvc/PtySts/StsRsn/AddtlInf	No	Not currently used in TIPS.
Related Party Identification	Unique identification to unambiguously identify the party within the system.	PtyStsAdvc/PtySts/SysPtyId/RltdPtyId	No	This field will be included only in case of completed Party Modification Request messages. BIC of the TIPS Participant for which the change of blocking status is requested.
Responsible Party Identification	Unique identification to unambiguously identify the party within the system.	PtyStsAdvc/PtySts/SysPtyId/RspnsblPtyId	No	This field will be included only in case of completed Party Modification Request messages. BIC of the Central Bank requesting the change of

Field Name	Description	XML path	Mand.	TIPS Usage
				blocking status for a TIPS Participant they are responsible for.

3.3.2.4.2 PartyModificationRequest (reda.022.001.01)

The Party Modification Request message is sent by a Central Bank to request a change on the blocking status for a TIPS Participant.

The sender is notified by TIPS with a reda.016.001.01 message with the result of the execution.

The XSD schema is shared with Common Reference Data Management to enable users to use a single implementation for the two services.

Table 60 – PartyModificationRequest (reda.022.001.01)

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	PtyModReq/MsgId/Id	Yes	
Related Party Identification	Unique identification to unambiguously identify the party within the system.	PtyModReq/SysPtyId/RltdPtyId	Yes	BIC of the TIPS Participant for which the change of blocking status is requested.
Responsible Party Identification	Unique identification to unambiguously identify the party within the system.	PtyModReq/SysPtyId/RspnsblPtyId	Yes	Not used in TIPS. The authorisation is checked at DN level which must belong to a Central Bank user.
Scope Indication	Specifies the type of requested modification.	PtyModReq/Mod/ScpIndctn	Yes	Possible values: - INSE: Block - DELT: Unblock
System Party	Specifies the party reference data, as assigned by the system.	PtyModReq/Mod/ReqdMod/SysPty	Yes	Not used in TIPS but required for CRDM functionality implementation.
Party Identification	Unique identification to unambiguously identify the party within the system.	PtyModReq/Mod/ReqdMod/PtyId	Yes	Not used in TIPS but required for CRDM functionality implementation.
Party Name	Specifies the name by which a party is known and which is usually used to identify that party.	PtyModReq/Mod/ReqdMod/PtyNm	Yes	Not used in TIPS but required for CRDM functionality implementation.
Technical Address	Unique technical address to unambiguously identify a party for receiving messages from the executing system.	PtyModReq/Mod/ReqdMod/TechAdr	Yes	Not used in TIPS but required for CRDM functionality implementation.
Party Address	Information that locates and identifies a specific address, as defined by postal services.	PtyModReq/Mod/ReqdMod/PtyAdr	Yes	Not used in TIPS but required for CRDM functionality implementation.
System Restriction	Specifies the date from which the restriction is valid.	PtyModReq/Mod/ReqdMod/SysRstrctn/VldFr	Yes	Not used in TIPS but required for CRDM functionality implementation.
Valid To	Specifies the date until which the restriction is valid.	PtyModReq/Mod/ReqdMod/SysRstrctn/VldTo	No	Not used in TIPS.
Restriction Type	Specifies the identification of a restriction.	PtyModReq/Mod/ReqdMod/SysRstrctn/Tp	Yes	Possible values are: - TPCR: Block for credit - TPDB: Block for debit - TPBO: Block for both debit and credit

Field Name	Description	XML path	Mand.	TIPS Usage
Market Specific Attribute	Additional attributes defined by a system entity for a party.	PtyModReq/Mod/ReqdMod/MktSpcfcAttr	Yes	Not used in TIPS but required for CRDM functionality implementation.

4. Appendices

4.1. Business Rules

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
All	Access Rights check	000001	Sender User Role Entity	The DN of the Message sender as User of the Party is assigned to privilege XXX through its own role in the User Role Entity. List of couples service - privilege: - XXX - YYY	If no row is present: - error code DS14	The user is unknown on the server
Instant Payment transaction business process	Duplicate check	000002	Original Transaction Identification Debtor Agent System parameter: data retention period	The couple (Original Transaction Identification, Debtor Agent) must not exist in the list of transactions of the last X days, where X is equal to the system parameter "Retention Period"	If a couple (Original Transaction Identification, Debtor Agent) already exists: - error code AM05	
Instant Payment transaction business process	Timeout Check - Originator Side	010001	Acceptance Date Time Parameter "SCT^{Inst} Timestamp Timeout" Parameter "Originator Side Offset" Parameter "Acceptable Future Time Window" Current timestamp	The "Acceptance Date Time" of the message sent by the Originator Participant or Instructing Party must respect this check: Acceptance Date Time < (current timestamp + Acceptable Future Time Window) current timestamp < (Acceptance Date Time + SCT^{Inst} Timestamp Timeout + Originator Side Offset)	If the check is not respected: - error code AB06	Timeout debtor side exceeded or "Acceptance datetime" too far in the future – acceptable future offset exceeded.
Instant Payment transaction business process	Timeout Check - Beneficiary Side	010002	Acceptance Date Time Parameter "SCT^{Inst} Timestamp Timeout" Parameter "Beneficiary Side Offset" Current timestamp	The "Acceptance Date Time" of the message sent for initiating the transaction must respect this check: current timestamp < (Acceptance Date Time + SCT^{Inst} Timestamp Timeout + Beneficiary Side Offset)	If the check is not respected: - error code AB05 to the Originator Side - error code TM01 to the Beneficiary side	Timeout creditor side exceeded
Instant Payment transaction business process	Timeout Check - Missing answer	010003	Transaction acceptance time Parameter "SCT^{Inst} Timestamp Timeout" Parameter "Beneficiary Side Offset" Current timestamp	The "Acceptance Date Time" of the transaction must respect this check: current timestamp < (Acceptance Date Time + SCT^{Inst} Timestamp Timeout + Beneficiary Side Offset)	If the check is not respected: - error code AB08 to the Originator Side - error code TM01 to the Beneficiary side	Timeout creditor side - missing answer in the proper time

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process Recall business process	Originator Account or CMB existence	000003	Debtor Agent Settlement amount Business Date	The system verifies that in table "Authorised Account User" the Debtor Agent exists and it is linked to one and only one Account, having type "TIPS Account", that in table "Cash Accounts" has the currency equal to the one defined in the Settlement amount and is open for the current Business Date. If no Account exists, the system verifies that in table "Authorised Account User" the Debtor Agent exists and it is linked to one and only one CMB linked to an Account that has the currency equal to the one defined in the Settlement amount and open for the current Business Date.	If the check is not respected: - error code DNOR	Originator Account or CMB not found – not existing or not yet open or already closed
All	Instructing Party authorised	000004	Sender Debtor Agent	For instant payment and recall operations, the system checks the existence of the couple (Sender, Debtor Agent) in the entity "Inbound DN-BIC Routing". For queries and outbound liquidity transfers the system checks that the Sender is defined as an Instructing Party for the relevant Account Owner.	If no row is present: - DNOR error code is returned	
Instant Payment transaction business process Recall business process	Beneficiary Account or CMB existence	000005	Creditor Agent Settlement amount Business Date	The system verifies that in table "Authorised Account User" the Creditor Agent exists and it is linked to one and only one Account, having type "TIPS Account", that in table "Cash Accounts" has the currency equal to the one defined in the Settlement amount and is open for the current Business Date. If no Account exists, the system verifies that in table "Authorised Account User" the Creditor Agent exists and it is linked to one and only one CMB linked to an Account that has the currency equal to the one defined in the Settlement amount and open for the current Business Date.	If the check is not respected: - error code CNOR	Beneficiary Account or CMB not found – not existing or not yet open or already closed
Instant Payment transaction business process	Maximum Amount not Exceeded	010005	Settlement amount Parameter "Maximum Amount"	The "Maximum Amount" parameter for the currency of the transaction is selected. The "Settlement amount" of the message must be lower than or equal to the "Maximum Amount".	If the check is not respected: - return error code AM02	Amount exceeds the maximum authorised amount
Instant Payment transaction business process Recall business process	Originator Account/CMB not blocked	000006	Debtor Agent Settlement amount Business Date	The system select Originator Account/CMB from the Debtor Agent as follows: - Queries the table "Authorised Account User" the row related to the Debtor Agent linked to one and only one Account, type "TIPS Account", that in table "Cash Accounts" has the currency equal to the one defined in the Settlement amount and is open for the current Business Date - If no Account is returned, queries that in table "Cash Accounts" the row related to the Debtor Agent linked in table "Authorised Account User" to one and only one "TIPS CMB", for the currency equal to the one defined in the Settlement amount and open for the current Business Date. If an Originator Account is involved, the system checks that the Blocking Status of the account is not "Blocked" or "Blocked for debiting". If an Originator CMB is involved, the system checks that the Blocking Status of the CMB and the related account are not "Blocked" or "Blocked for debiting". If the previous checks are passed, the system checks that the TIPS Participant related to the Debtor Agent and to the Account (directly involved or involved through a CMB) has Blocking Status different from "Blocked" or "Blocked for debiting".	If the check is not respected: - return error code TBL1	The owner of the debtor account or the debtor account/CMB is blocked

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process Recall business process	Beneficiary Account/CMB not blocked	000007	Creditor Agent Settlement amount Business Date	The system selects Beneficiary Account/CMB from the Creditor Agent as follows: - the system selects the row related to the Creditor Agent linked to one and only one Account in the table "Authorised Account User", type "TIPS Account"; in table "Cash Accounts" the system checks that this Account has the currency equal to the one defined in the Settlement amount and it is open for the current Business Date - if the previous step fails, the system selects the row related to the Creditor Agent linked in table "Authorised Account User" to one and only one "TIPS CMB"; this CMB must have the currency equal to the one defined in the Settlement amount and must be open for the current Business Date. If a Beneficiary Account is involved, the system checks that the Blocking Status of the account is not "Blocked" or "Blocked for crediting". If a Beneficiary CMB is involved, the system checks that the Blocking Status of the CMB and the related account are not "Blocked" or "Blocked for crediting". If the previous checks are passed, the system checks that the TIPS Participant related to the Creditor Agent and to the Beneficiary Account (directly involved or involved through a CMB) has Blocking Status different from "Blocked" or "Blocked for crediting".	If the check is not respected: - return error code TBL2	The owner of the creditor account or the creditor account/CMB is blocked
Instant Payment transaction business process Recall business process	Available amount not exceeded	000008	Debtor Agent Settlement amount Business Date	The system selects Originator Account/CMB from the Debtor Agent as follows: - the system selects the row related to the Debtor Agent linked to one and only one Account in the table "Authorised Account User", type "TIPS Account"; in table "Cash Accounts" the system checks that this Account has the currency equal to the one defined in the Settlement amount and it is open for the current Business Date - if the previous step fails, the system selects the row related to the Debtor Agent linked in table "Authorised Account User" to one and only one "TIPS CMB"; this CMB must have the currency equal to the one defined in the Settlement amount and must be open for the current Business Date. Then the system retrieves the available balance of the Originator Account (directly involved or linked to the Debiting CMB) and/or the Debiting CMB Headroom. The system checks that the Settlement amount is lower than or equal to the Originator Account available balance. If a Debiting CMB is involved, the system checks that (i) the Settlement amount is lower than or equal to its limit headroom is lower and that (ii) the Settlement amount is lower than or equal to the Originator Account available balance.	If the check is not respected: - return error code AM23	
Instant Payment transaction business process	Beneficiary correctly configured	010006	Creditor Agent	The system checks that a unique item related to the Creditor Agent exists in the entity "Outbound DN-BIC".	If no row is or multiple rows are returned: - return error code MS01	Beneficiary DN not found
Instant Payment transaction business process	Pending transaction existing	010007	Original Transaction Identification Debtor Agent	The system checks that a unique item related to the Original Transaction Identification and to the Debtor Agent with status "*Reserved*" exists in the transactional entity "Instant Payment".	If no row is or multiple rows are returned: - return error code AG09	Transaction not found

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process Recall Business Process	Instructing Party authorised – creditor side	000009	Sender Creditor Agent	The system checks the existence of the couple (Sender, Creditor Agent) in the entity "Inbound DN-BIC Routing".	If no row is present: - CNOR error code is returned	
Queries business process Investigation business process	Instructing Party authorised for queries	000010	Sender Account User/ Originator BIC	The system checks the existence of the couple (Sender, Account User/ Originator BIC) in the entity "Inbound DN-BIC Routing", or, alternatively, that the Sender is defined as an Instructing Party for the Account Owner Party.	If no row is present: Business error RJCT is returned, error code DNOR	Instructing party not authorised to send query
Queries business process	Account or CMB existence	070001	Account or CMB Identifier Account User	For Account balance and status query, TIPS verifies that the Account or CMB Identifier corresponds to an account type "TIPS Account" in the table "Cash Accounts" and if the Participant or Instructing Party is authorised to query on it based on the query permission. For CMB limit and status query, TIPS verifies that the Account or CMB Identifier corresponds to a CMB in the table “CMB” and if the Participant or Instructing Party is authorised to query on it based on the query permission. The system selects also the TIPS Account linked to the CMB.	If the check is not respected: Business error RJCT, error code DNOR	Account or CMB not found – not existing or not yet open or already closed
Investigation business process	Payment Transaction existence	030001	Transaction Identification Originator BIC	The system checks that: - an item related to the Transaction Identification and to the Originator BIC exists in the transactional entity "Instant Payment" (Data retention period not expired) - the TIPS actor is the Originator of the interested Payment transaction or the Instructing Party acting on behalf of the Participant or Reachable Party on the originator side.	If no row is present: - Business error RJCT, error code AG09	
Investigation business process	Investigation allowed	030002	Transaction Identification Originator BIC Acceptance date time SCT^{Inst} Timestamp Timeout Investigation Offset Current timestamp	Current Timestamp => (Transaction_ Acceptance Date Time + SCT^{Inst} Timestamp Timeout + Investigation Offset)	If the check is not respected: - Business error RJCT, error code AG09	Investigation not allowed for the Payment Transaction
Liquidity Transfer business process	Creditor and Creditor Account existence	040001	Creditor Creditor Account	The Creditor of an Inbound Liquidity Transfer should be an existing and active TIPS Actor. The TIPS Account to be credited of an Inbound Liquidity Transfer exists with closing date equal or greater than the current RTGS Business day.	If the check is not respected: - error code L001	Unknown Creditor or Creditor Account

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Liquidity Transfer business process	Debtor and Debtor Account existence	040002	Debtor Debtor Account Sender DN	The Debtor of an Outbound Liquidity Transfer should be an existing and active TIPS Participant. The Debtor Account of an outbound Liquidity Transfer should be an existing TIPS Account with closing date equal or later than the current business day of the relevant RTGS system. The responsible Central Bank is able to initiate an Outbound Liquidity Transfer even if the closing date of the TIPS Account is exceeded (e.g. if the balance of a closed account is still greater than zero).	If the check is not respected: - error code L002	Unknown Debtor or Debtor Account
Liquidity Transfer business process	Currency Check	040003	Transferred Amount	The currency of the incoming flow should be the same as the currency of the TIPS Account to be credited/debited, otherwise the incoming Outbound or Inbound Liquidity Transfer will be rejected.	If the check is not respected: - error code L003	Currency of incoming flow differs from Account currency.
Liquidity Transfer business process	Creditor and Creditor Account not blocked	040004	Creditor Creditor Account	The system checks that: - The Creditor has a Blocking Status different from "Blocked" or "Blocked for crediting". - The Blocking Status of the account to be credited is not "Blocked" or "Blocked for crediting".	If the check is not respected: - return error code L004	The Creditor or the Creditor Account is blocked.
Liquidity Transfer business process	Debtor and Debtor Account not blocked	040005	Debtor Debtor Account Sender DN	The system checks that: - The Debtor of an Outbound Liquidity Transfer has a Blocking Status different from "Blocked" or "Blocked for debiting". - The Blocking Status of the TIPS Account to be debited is not "Blocked" or "Blocked for debiting". The responsible Central Bank is able to initiate an Outbound Liquidity Transfer regardless of the TIPS account's blocking status.	If the check is not respected: Business error RJCT, error code L005	The Debtor or the Debtor Account is blocked.
Liquidity Transfer business process	LT Duplicate Check	040006	Instruction Identification Debtor	The couple (Instruction Identification, Debtor) must not exist in the list of transactions of the last X days, where X is equal to the system parameter "Retention Period"	If the check is not respected: - return error code L006	Outbound or Inbound LT is a duplicate submission
Liquidity Transfer business process	Funds Check	040007	Transferred Amount	The Transferred Amount must be lower or equal to the Available Balance (Cash Balance) on the account to be debited.	If the check is not respected: - return error code L007	Failure of the settlement attempt of the instruction due to insufficient cash balance

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Liquidity Transfer business process	RTGS opening hours Check	040008	RTGS system data - RTGS Status	The value of the attribute "RTGS Status" is "Open" for the RTGS system.	If the check is not respected: - error code L008	RTGS system is closed
Liquidity Transfer business process	Invalid status code in RTGS Answer Check	040009	Status code	TIPS expects that an RTGS Answer returns only one RTGS status, either 'RREJ[19], or 'RCON'[20]. If the status value is neither 'RREJ' nor 'RCON' the RTGS answer will be rejected.	If the check is not respected: - error code L009	Invalid content of the field RTGS Status
Liquidity Transfer business process	RTGS Access Rights Check	040010	Sender DN Transferred Amount	The sender DN is an existing and active RTGS DN in TIPS. The RTGS currency corresponds to the currency of the Inbound Liquidity Transfer	If the check is not respected: - error code L010	Unknown RTGS System DN
Liquidity Transfer business process	Pending (Transient) order existing	040011	Original Message Identification	The system checks that a unique item related to the Original Message Identification with status "*Transient*" exists in TIPS.	If the check is not respected: - error code L011	Order not found
Liquidity Transfer business process	LT Amount Check	040012	Transferred Amount	The Transferred Amount must be greater than zero.	If the check is not respected: - error code L012	The amount is lower or equal to zero.
Recall business process	Maximum Amount not exceeded for Returned Amount	020001	Returned Amount (AT-46 DS-06) Parameter "Maximum Amount"	The "Maximum Amount" parameter for the currency of the transaction is selected. The "Returned Amount" of the message must be lower than or equal to the "Maximum Amount".	If the check is not respected: - return error code AM02	Amount exceeds the maximum authorised amount
Recall business process	Duplicate check for positive Recall Answer	020002	Recall Reference of the bank initiating the Recall (R6 – DS-06) Beneficiary BIC (AT23 – DS-02 subset of DS-06) System parameter: Retention Period	The couple Recall Reference of the bank initiating the Recall (R6 – DS-06) and Beneficiary BIC (to be interpreted as new Originator BIC) must not exist as a couple Transaction ID/Originator BIC in the list of transactions of the last X days with status "*Settled*", where X is equal to the system parameter "Retention Period".	If the check is not respected: - error code AM05	
Reference data management	TIPS Participant block/unblock type allowed	050001	Restriction Type Code	The Restriction Type Code must be TPCR (Block for credit), TPDB (Block for debit) or TPBO (Block for both debit and credit).	If the check is not respected: - error code R001	Restriction Type for TIPS Participant not allowed
Reference data management	Party existence	050002	Related Party Identification	The party identified by the Related Party Identification must exist.	If the check is not respected: - error code R002	Party not existing

[19] RREJ (RTGS "Rejected") status code informs the sender of the Outbound Liquidity Transfer about a rejection at RTGS level.

[20] RCON (RCON "Confirmation") status code informs the sender of the Outbound Liquidity Transfer about successful settlement at the RTGS level.

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Reference data management	Party type allowed	050003	Related Party Identification	The party identified by the Related Party Identification must be a TIPS Participant.	If the check is not respected: - error code R003	Party Type not allowed for blocking/unblocking operations
Reference data management	Account/CMB block/unblock type allowed	050005	Restriction Type Code	The Restriction Type Code must be TACR (Block for credit), TADE (Block for debit) or TABO (Block for both debit and credit).	If the check is not respected: - error code R005	Restriction Type for Account/CMB not allowed
Reference data management	Account/CMB existence	050006	Account Identification	The Account or CMB identified by the Account Identification must exist.	If the check is not respected: - error code R006	Account/CMB not existing
Reference data management	Currency of the Account/CMB	050007	CurrencyAccount Identification	The Currency must be the same of the Account/CMB specified by the Account or CMB identified by the Account Identification.	If the check is not respected: - error code R007	Currency not correct
Reference data management	User allowed to block/unblock operation	050008	Sender DN Account Identification	If the Account Identification identifies an Account, the system checks that the user of a Central Bank and that the owner of the Account is under the Central Bank responsibility. If the Account Identification identifies a CMB, the system checks that user of the party Account owner is: - Either a Central Bank and that the owner of the Account linked to the CMB is under the Central Bank responsibility; - Or the TIPS Participant owner of the Account linked to the CMB.	If the check is not respected: - error code R008	User not allowed to block/unblock the TIPS Account/CMB
Reference data management	CMB existence	050020	Account Identification CMB User BIC	The CMB identified by the Account Identification must exist and its user must be CMB User BIC.	If the check is not respected: - error code R020	CMB not existing
Reference data management	User allowed to change Limit	050021	Account Owner	The system checks that the party identified by the Account Owner is: - Either a Central Bank and that the owner of the Account linked to the CMB is under the Central Bank responsibility; - Or the TIPS Participant owner of the Account linked to the CMB.	If the check is not respected: - error code R021	User not allowed to change the Limit

4.2. List of Error codes

4.2.1. List of ISO Error codes

The table below contains the exhaustive list of ISO error codes generated by TIPS in case of error detected during the validation processes.

ISO Code	ISO Name	SEPA Core Reason as specified in the Rulebook	Comments
AB05	TimeoutCreditorAgent	Transaction stopped due to timeout at the Creditor Agent.	
AB06	TimeoutInstructedAgent	Transaction stopped due to timeout at the Instructed Agent.	
AB08	OfflineCreditorAgent	Creditor Agent is not online.	Used in TIPS for the orphan payments
AG09	PaymentNotReceived	Original payment never received.	Pending item to be confirmed not existing or already expired
AM02	NotAllowedAmount	Amount exceeds the maximum authorised amount for SCT^{Inst}	
AM03	NotAllowedCurrency	Specified message amount is an non processable currency outside of existing agreement	Not present in SEPA document – introduced for checking the validity of the currency since TIPS is multi-currency
AM05	Duplication	Duplicate payment	
AM23	AmountExceedsSettlementLimit	Transaction amount exceeds settlement limit.	
CNOR	Creditor bank is not registered	Beneficiary bank is not registered under this BIC in the CSM	
DNOR	Debtor bank is not registered	Originator bank is not registered under this BIC in the CSM	
DS14	UserDoesNotExist	The user is unknown on the server	Not present in SEPA document.
MS01	NotSpecifiedReason	Reason not specified	Currently used for generic error when no related error code has been defined in the ISO documentation. Not present in SEPA document.
TM01	InvalidCutOffTime	Time-out – maximum execution time has been exceeded	

4.2.2. List of non-ISO Error codes

The table below contains the exhaustive list of non-ISO error codes generated by TIPS in case of error detected during the validation processes.

Error Code	Error description
L001	Unknown Creditor or Creditor Account
L002	Unknown Debtor or Debtor Account
L003	Currency of incoming flow differs from Account currency
L004	The Creditor or the Creditor Account is blocked
L005	The Debtor or the Debtor Account is blocked
L006	Outbound or Inbound LT is a duplicate submission
L007	Failure of the settlement attempt of the instruction due to insufficient cash balance
L008	RTGS system is closed
L009	Invalid content of the field RTGS Status
L010	Unknown RTGS System DN
L011	Order not found
L012	The amount is lower or equal to zero
R001	Restriction Type for TIPS Participant not allowed
R002	Party not existing
R003	Party Type not allowed for blocking/unblocking operations
R005	Restriction Type for Account/CMB not allowed
R006	Account/CMB not existing
R007	Currency not correct
R008	User not allowed to block/unblock the TIPS Account/CMB
R020	CMB not existing
R021	User not allowed to change the Limit
TBL1	The owner of the debtor account or the debtor account/CMB is blocked
TBL2	The owner of the creditor account or the creditor account/CMB is blocked

4.3. Index of figures

4.4. Index of tables

4.5. List of acronyms

Item	Description
24/7/365	24-hour and seven-day around the year
A2A	Application-to-Application
BIC	Business Identifier Code
CAMT	Cash Management
CET	Central European Time
CMB	Credit Memorandum Balance
CRDM	Common Reference Data Management
DN	Distinguished Name
DS	Dataset
ECB	European Central Bank
EPC	European Payments Council
ESMIG	Eurosystem Single Market Infrastructure Gateway
GL	General Ledger
GUI	Graphical User Interface (see U2A)
IBAN	International Bank Account Number
ILT	Inbound Liquidity Transfer
LRDM	Local Reference Data Management
NCB	National Central Bank
NRO	Non-Repudiation of Origin
NSP	Network Service Provider
OLT	Outbound Liquidity Transfer
PACS	Payments Clearing and Settlement
RTGS	Real Time Gross Settlement
SEPA	Single Euro Payments Area
T2S	TARGET2-Securities
TIPS	TARGET Instant Payment Settlement
U2A	User-to-Application
UDFS	User Detailed Functional Specifications
UHB	User Handbook
UR	User Requirement
URD	User Requirements Document
XML	Extensible Mark-up Language

4.6. List of referenced documents

	Title	Source
[1]	SEPA Instant Credit Transfer (SCT^{Inst}) Scheme Rulebook, Version 1.1, 2017	EPC
[2]	SEPA Instant Credit Transfer Scheme Interbank Implementation Guidelines, Version 1.2, 2017	EPC
[3]	TARGET Instant Payment Settlement User Requirements	ECB
[4]	TARGET Instant Payment Settlement User Handbook	4CB
[5]	TIPS Connectivity Guide	4CB