



# TARGET Instant Payment Settlement

## User Detailed Functional Specifications

V0.1.0

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Version	0.1.0
Date	27/09/2017

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## 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 information for all TIPS Actors the pieces of information relevant for CBs, Participants and Reachable Parties 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 also include some information 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 to provide 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 TIPSActor's. The following parts compose a scenario:
  - o End-to-end description of the process – by means of activity diagrams and explanatory text.
  - o Involved actors
  - o Exchanged messages
  - o 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.

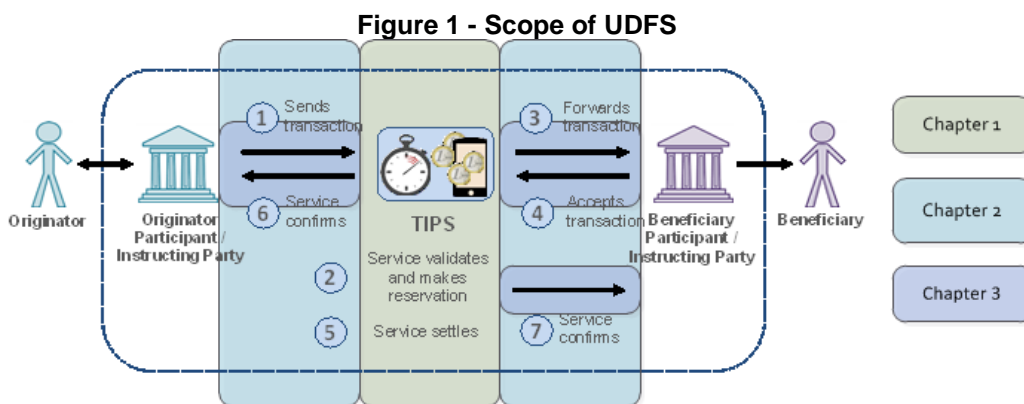
- The list of meaningful business cases is composed by:
  - o A sample data constellation;
  - o The content of the main fields of the relevant inbound messages;
  - o A description of the main steps taking place in TIPS;
  - o The content of the main fields of the resulting outbound messages.
- The 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.



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 would 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 shows with a couple of examples how business readers and technical readers may follow different reading patterns, in order to fulfil their different needs.

### **Business Oriented perspectives**

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 instructions (e.g. what is a Participant and the related Accounts it owns and how to authorize a BIC to use an account to settle Instant Payment instructions). Also section 1.4 Dynamic data is important to understand how the information are 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 checks to be performed, they may jump to 4.1 Business Rules, where the functional cheks are described.

### **Technical oriented perspectives**

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 process, 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).

Section 1.3 and 1.4 describes the reference data and 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 and 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 Infrastructure.

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 Payments 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 European RTGS System.

The TIPS service aims:

- to provide real-time gross settlement in Central Bank Money for both domestic and cross-border instant payment instructions received from TIPS Actors.
- to provide liquidity management functionalities to support the instant payment process.
- to offer 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 or PSPs) have a settlement interface to send payment instructions and receive payment confirmations or any other payment related messages based – when possible – on ISO 20022 standards and respecting the SEPA Instant Credit Transfer (SCT<sup>Inst</sup>) scheme. The participants are also provided with a query interface for investigations and the recall functionality.

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 on TIPS. TIPS account balances are taken into account in the minimum reserve calculation. 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. TIPS operates on a 24/7/365 basis.

TIPS makes use of the following Eurosystem services:

- The European Single Market Infrastructure Gateway (ESMIG) which allows TIPS Actors to gain access to all Eurosystem services, including TIPS, after being authenticated and authorise to access the relevant service. The ESMIG, moreover, guarantees sanitization 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, harmonized reference data management component that handles in a single point all data that is shared by more than one Eurosystem service. The CRDM allows participants to configure, create and keep up-to-date all the reference data needed in the different Eurosystem services, including TIPS.
- The Billing service, which produces invoices and debits the relevant accounts for the related amount based on consumption data it collects from several Eurosystem services, including 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:

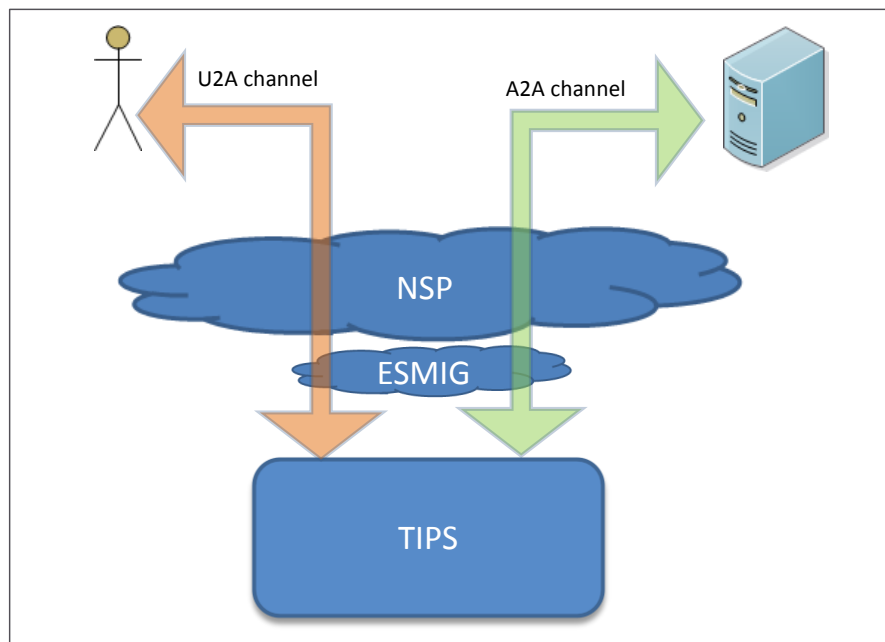
- Application-to-Application (A2A) channel, that is application-oriented and allows TIPS Actors' systems to interact with TIPS;
- User-to-Application (U2A) channel, that is user-oriented and offers human-friendly application access through a Graphical User Interface (GUI).

## 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 different Network Service Providers (NSPs) and through the ESMIG component. TIPS Actors must bilaterally define a relationship with one or more NSPs accredited to offer connectivity services for 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. 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 and the Beneficiary participant and Instructing Party) 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<sup>1</sup>, 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

### 1.2.4. Security

### 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. These functions are available on a 24/7/365 basis.

**Table 1 – TIPS U2A Functions**

Function
Block/Unblock TIPS Actor
Block/Unblock TIPS Account
Block/Unblock Credit Memorandum Balance
Adjust Credit Memorandum Balance Limit

<sup>1</sup> 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).

Query Account Balances and Status
Query CMB Limit and Status
Query Instant Payment Transaction

The TIPS User Handbook provides exhaustive information on each of the screens listed above.

### 1.3. TIPS Actors and account structure

#### 1.3.1. Parties

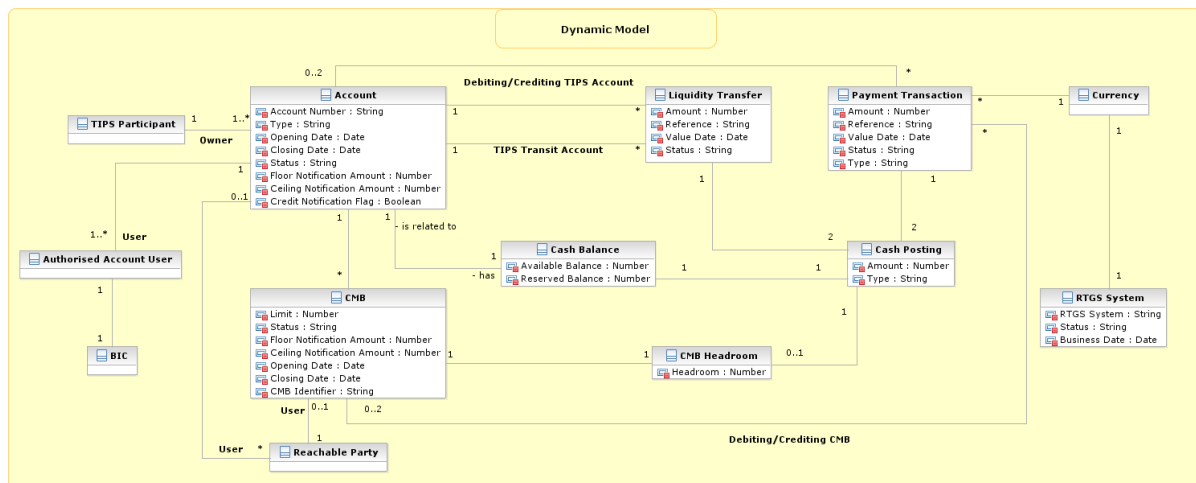
#### 1.3.2. Accounts structure and organisation

### 1.4. Dynamic data model

This section contains the description of the dynamic data model of TIPS.

It contains all the data concerning settlement-related messages (i.e. Instant Payments and Liquidity Transfers), such as transaction data, account balances and CMB headroom. 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 includes dynamic data concerning the different RTGS systems connected to TIPS (e.g. current status and business date).

**Figure 3 - Dynamic data model**



#### Payment Transaction

This entity represents data related to TIPS Instant Payment transactions, recorded from SCT<sup>inst</sup> messages covering the request of settlement and the settlement confirmation.

**Table 2 – Payment Transaction**

Attribute	Description
Reference	Transaction Identification
Amount	Amount intended to be settled by the transaction
Currency	The currency relevant for the transaction
Crediting Account	Account to be credited
Crediting Account Status	Blocking status for the account to be credited. Exhaustive list of possible values: <ul style="list-style-type: none"> <li>- blocked for credit;</li> <li>- blocked for debit;</li> <li>- blocked for credit and debit.</li> </ul>
Crediting CMB	CMB to be credited
Crediting CMB Status	Blocking status for the CMB to be credited. Exhaustive list of possible values: <ul style="list-style-type: none"> <li>- blocked for credit;</li> <li>- blocked for debit;</li> <li>- blocked for credit and debit.</li> </ul>
Debiting Account	Account to be debited
Debiting Account Status	Blocking status for the account to be debited. Exhaustive list of possible values: <ul style="list-style-type: none"> <li>- blocked for credit;</li> <li>- blocked for debit;</li> <li>- blocked for credit and debit.</li> </ul>
Debiting CMB	CMB to be debited
Debiting CMB Status	Blocking status for the CMB to be debited. Exhaustive list of possible values: <ul style="list-style-type: none"> <li>- blocked for credit;</li> <li>- blocked for debit;</li> <li>- blocked for credit and debit.</li> </ul>
Status	Status of the transaction. Exhaustive list of possible values: <ul style="list-style-type: none"> <li>- Validated</li> <li>- Reserved</li> <li>- Settled</li> <li>- Failed</li> <li>- Rejected</li> <li>- Expired</li> </ul>
Type	Type of the underlying payment transaction.

	<p>Exhaustive list of possible values:</p> <ul style="list-style-type: none"> <li>- Instant payment</li> <li>- Confirmation</li> <li>- Reject</li> <li>- Recall</li> </ul>
Value Date	Transaction settlement date in accordance to the related RTGS System

Each Payment Transaction can create up to two Cash Postings related to the impacted Accounts or CMBs.

### 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 3 - Liquidity Transfer**

Attribute	Description
Reference	Reference number of the liquidity transfer.
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	<p>Blocking status for the TIPS account to be credited for inbound liquidity transfer. Exhaustive list of possible values:</p> <ul style="list-style-type: none"> <li>- blocked for credit;</li> <li>- blocked for debit;</li> <li>- blocked for credit and debit.</li> </ul>
Debiting Account	TIPS account or RTGS account to be debited.
Debiting Account Status	<p>Blocking status for the TIPS account to be debited for outbound liquidity transfer. Exhaustive list of possible values:</p> <ul style="list-style-type: none"> <li>- blocked for credit;</li> <li>- blocked for debit;</li> <li>- blocked for credit and debit.</li> </ul>
Status	<p>Status of the liquidity transfer. Exhaustive list of possible values:</p> <ul style="list-style-type: none"> <li>- Settled</li> <li>- Failed</li> <li>- Rejected by RTGS</li> </ul>
Value Date	Liquidity transfer settlement date in accordance to the related RTGS System.

Each Liquidity Transfer references a credited and a debited Account.

## Cash Posting

A Cash Posting is 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 4 - Cash Posting**

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: <ul style="list-style-type: none"> <li>- Payment Transaction</li> <li>- Liquidity Transfer</li> </ul>

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 .

## 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 5 - Cash Balance**

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 payment transactions are executed.

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

## CMB Headroom

A CMB Headroom is created for each CMB and modified each time a Payment Transaction impacting the CMB is processed or the CMB limit is adjusted.

CMB Headroom data includes the following attributes:

**Table 6 - CMB Headroom**

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.



## 1.5. 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 instruction debiting an account followed by a request to block the same account for debiting. In this case, the payment will be processed before the account is blocked. If, on the other hand, TIPS receives the instant payment instruction after the account blocking request, the account will be blocked and the payment 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 cancel a previously settled instruction and request a refund from the beneficiary
- Recall answers for a beneficiary to confirm a refund will be issued 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 (24/7/365), with immediate effect:

- Blocking/unblocking of a TIPS Actor
- 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.

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.) by each TIPS Actor. 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 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 three types of queries:

- Account balance and status query
- CMB limit and status query
- Payment transaction 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<sup>Inst</sup> 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 7 - TIPS Payment Transaction Types**

Instruction Type	Description
Instant Payment Transaction	Forwarded from an Originator Participant to TIPS to instruct the settlement of cash on a TIPS Account. It is also forwarded by TIPS to the relevant Beneficiary Participant to request confirmation for the settlement.

Beneficiary Reply	Forwarded from a Beneficiary Participant 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 the Originator Participant and Beneficiary Participant as confirmation that settlement has been performed.
Recall	Used by an Originator Participant of a previously settled Instant Payment Transaction to request that said transaction is cancelled and a refunded amount – equal or possibly lower than the original one - is credited back to the original account. It is forwarded by the Originator Participant to TIPS and passed directly by TIPS to the relevant Beneficiary Participant.
Recall Answer	Sent from a Beneficiary Participant to TIPS as a positive response to a Recall instruction and to instruct the related settlement of cash. It is also forwarded by TIPS to the Originator Participant as confirmation.
Liquidity transfer	Used to instruct a transfer of liquidity between TIPS and a cash account in a related RTGS System, in either direction.

### 1.5.2.1. Instant payment transaction settlement process

Instant payments are initiated by an originator participant, i.e. a TIPS Actor instructing a payment to debit one of their own TIPS accounts and 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 them, 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, and in the rest of this document, the terms “Originator Participant” and “Beneficiary Participant” can also be taken to indicate instructing parties acting on behalf of the actual TIPS participants.

TIPS keeps track of the cash balance for each TIPS Account. The payment process begins with an Instant Payment Transaction message sent by the originator participant to TIPS. TIPS validates the instruction and, if no errors are detected and sufficient funds are available, reserves the amount to be debited on the originator participant's account by creating a related cash posting. TIPS then forwards the Instant Payment Transaction to the beneficiary participant. While the cash amount is reserved, it cannot be used for settlement in a different payment; in addition, if the account is blocked before the payment can be settled, the reserved amount is still eligible for settlement.

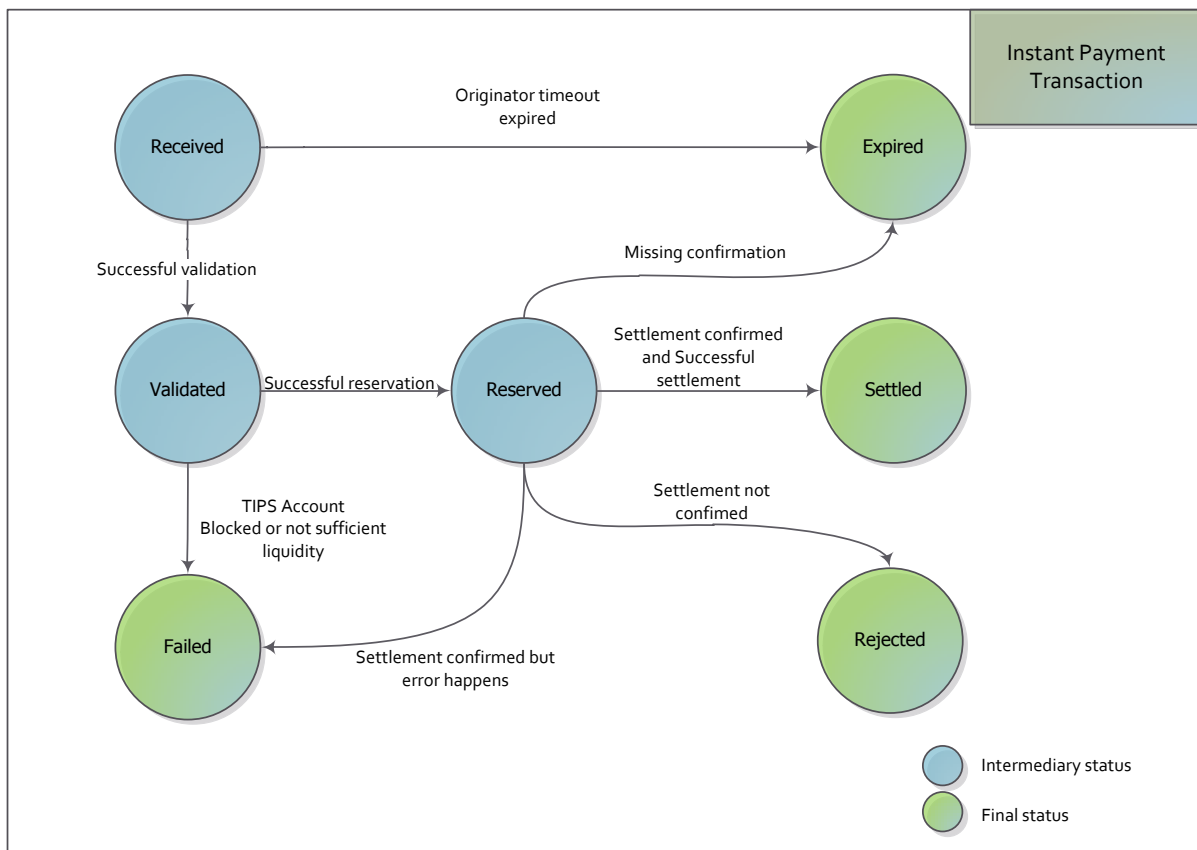
The beneficiary participant then responds to TIPS with a beneficiary reply, either confirming or rejecting the payment. Upon receiving this reply, TIPS will respectively settle or release the reserved amount, removing the cash posting and updating the originator and beneficiary account cash

balances. Subsequently, TIPS will forward a status advice to both the originator and beneficiary participant. Payments are always settled for the full amount; partial settlement is not foreseen in TIPS. If TIPS does not receive a beneficiary reply within a standard, configurable timeout period, the reserved amount is automatically released and can then be once again used for settlement.

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. When a payment transaction involving one or two CMBs is settled, in addition to updating the cash balances for the involved accounts, the headroom of the related CMBs is also modified.

The following diagram shows the possible statuses of an instant payment transaction.

**Figure 4 - Payment Transaction status transition diagram**



An instruction entering the system for the first time is temporarily in Received status while it undergoes the standard TIPS validations. While in this status, it is already possible for an instruction to surpass the timeout period, leading it to the final Expired status from which it will no longer be submitted to settlement.

If the instruction 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 instruction is set to Reserved status; if for any reason it is unsuccessful (e.g. because the cash balance on the TIPS account is insufficient or the account is blocked) it fails to settle and its status changes to Failed.

Reserved instructions may subsequently transition to one of four final statuses, depending on the outcome of the settlement attempt:

1. If TIPS does not receive the beneficiary reply within the standard timeout period, the payment times out and the instruction is *Expired*;
2. If the beneficiary participant rejects the payment, the instruction is *Rejected*;
3. If the beneficiary participant confirms the payment but any kind of error follows, the instruction is *Failed*;
4. Finally, if the beneficiary participant confirms the payment and TIPS settles it successfully, the instruction is *Settled*.

#### 1.5.2.2. Recall settlement process

After an instant payment has settled, TIPS offers the possibility for the originator participant to “recall” the original instruction and request the payment to be reversed.

The recall of an executed instant payment starts with a specific recall message sent by the originator participant. TIPS simply forwards this message to the beneficiary participant of the original payment.

The recipient (Beneficiary Participant) can answer positively or negatively to this request. A negative response is simply forwarded by TIPS to the Originator Participant or instructing party. In the event of a positive response, the Recall settlement process settles immediately the amount and sends a rejection or confirmation message to either the Originator or Beneficiary Participant or both. The Recall settlement process is not subject to an expiration timeout.

#### 1.5.2.3. Investigation process

In addition to the query functionalities (see section 1.5.5.1 Queries), and in line with the SCT<sup>Inst</sup> scheme rulebook, TIPS supports a transaction status investigation process, which can be initiated by the Originator or Beneficiary Participant. This is a special case of query that allows TIPS Actors to retrieve an already 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, set to 5 calendar days.

### **1.5.3. Liquidity Management**

1.5.3.1. Inbound Liquidity Transfer

1.5.3.2. Outbound Liquidity Transfer

1.5.3.3. Reserve calculation

### **1.5.4. Reference data management**

1.5.4.1. Data propagation

1.5.4.2. Blocking accounts

1.5.4.3. Limit management

### **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 during the whole operating day, while TIPS processes instructions, 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, CMB or Payment transaction by submitting query requests to TIPS.

Each query may be available in A2A mode and/or U2A mode.

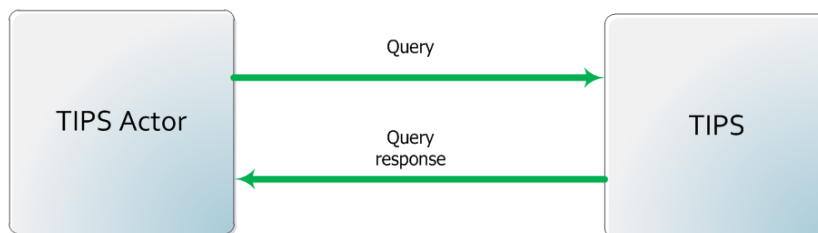
In order to manage in a timely manner the liquidity over the accounts and CMBs in the user data scope and to gather information on single transactions, the following queries can be used:

- Account balance and status query;
- CMB limit and status query;
- Payment transaction 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 (same DN of the query sender);

**Figure 5 - Queries flow**



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 for the U2A mode.

### 1.5.6. Data extraction

## 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

### 1.6.2. Eurosystem Single Market Infrastructure Gateway

### 1.6.3. Common Reference Data Management

### 1.6.4. Archiving

### 1.6.5. Billing

## 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 8 - System Parameters**

Parameter name	Description	Default value
Retention Period	The retention period for transactional data expressed in 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.	5

SCT <sup>Inst</sup> Timestamp Timeout	The time window foreseen in SCT <sup>Inst</sup> schema after which a payment transaction must be rejected due to timeout. This parameter must be configured for each currency. It is expressed in milliseconds.	20000
Originator Side Offset	It is a configurable offset for evaluation of the SCT <sup>Inst</sup> Timestamp Timeout applied to the reception of the Originator Participant message. This value can be negative. A payment instruction sent by the Originator Participant can be rejected due to timeout in the event that the message is submitted to TIPS with a timestamp (the SCT <sup>Inst</sup> timestamp, field AT-50 in DS-02) that is already past the timeout window (SCT <sup>Inst</sup> Timestamp Timeout + Originator Side Offset). This parameter must be configured for each currency. It is expressed in milliseconds.	1000
Beneficiary Side Offset	It is a configurable offset for evaluation of the SCT <sup>Inst</sup> Timestamp Timeout applied to the reception of the Beneficiary Participant message. 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 <sup>Inst</sup> timestamp, field AT-50 in DS-02) that is already past the timeout window (SCT <sup>Inst</sup> Timestamp Timeout + Beneficiary Side Offset). This parameter must be configured for each currency. It is expressed in milliseconds.	1000
Sweeping Timeout	The time window after which the sweeping daemon checks for orphan payments. It is expressed in seconds. The value can impact on the performances of the system and must be changed only after green light received by the technical support.	<i>to be specified</i>

## 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 monitoring 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 scope 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.

### **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 payment transaction and status message data and reference data for a period of ten years. Moreover, TIPS Operator shall be able to retrieve authentication and security data for a period of three months.

## 2. Dialogue between TIPS and TIPS Actors

This section aims to describe 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 T2S 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 where to find the detailed information.

### 2.1. General Communication process

#### 2.1.1. Message routing

#### 2.1.2. Input management

##### 2.1.2.1. Validation

#### 2.1.3. Logging and sequencing

##### 2.1.3.1. Duplicate check

#### 2.1.4. Check and execute instruction

## 2.1.5. Output management

## 2.1.6. Report generation

# 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 instructs the system in order to immediately transfer funds to the account of a Beneficiary Participant. The involved actors are:

- The Originator Participant or Instructing Party starting the scenario;
- the Beneficiary Participant or Recipient Party receiving the request and confirming or not the payment.

The involved messages are:

- the [FltoFICustomerCreditTransfer](#) message in order to instruct the payment and reserve the amount;
- the [FltoFIPaymentStatusReport](#) message in order to confirm (and then settle the reserved amount) or reject (and release the reserved amount) the payment and inform the actors of the result of the settlement;

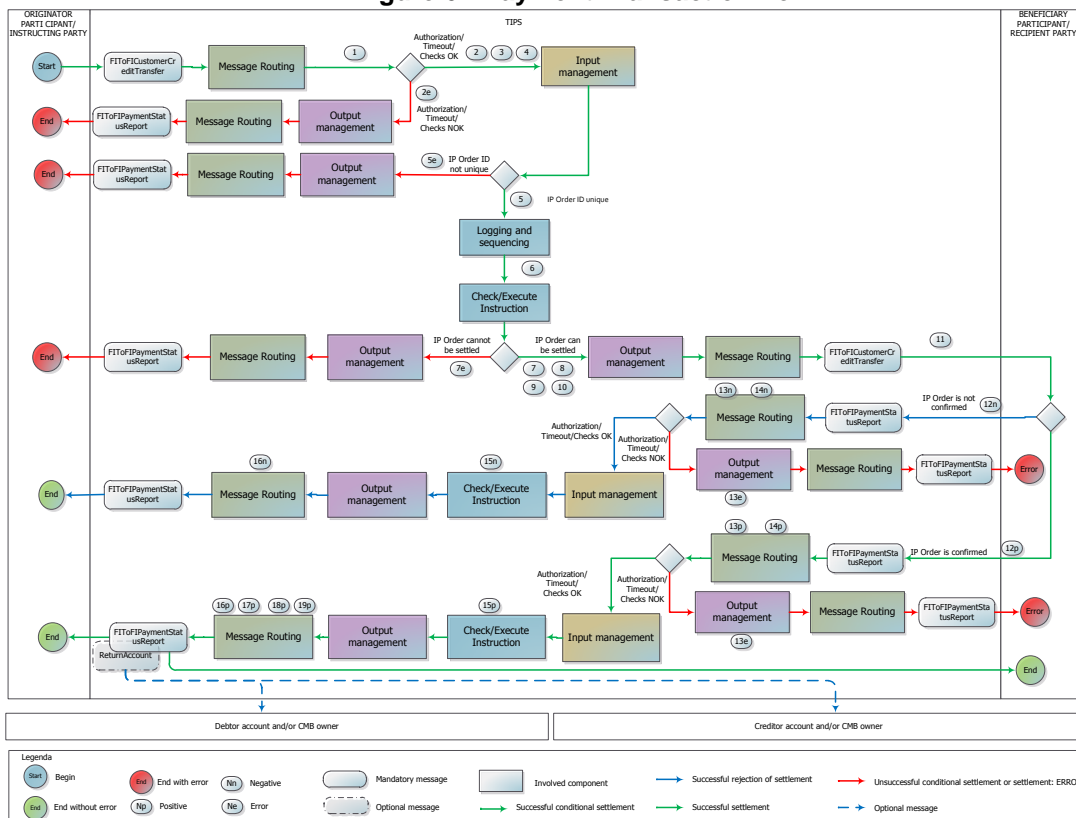
- the [ReturnAccount](#) message that can be possibly sent to Creditor Account Owner and/or Debtor Account Owner – if TIPS Actors have configured the floor and ceiling notification and if the configured threshold is reached.

All the described scenarios are triggered under the assumption that the schema 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 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.

Below is the diagram describing the process and the involved actors. The details of the steps are described in the following Table 9 - Payment Transaction steps.

**Figure 6 - Payment Transaction flow**



**Table 9 - Payment Transaction steps**

Step	Involved messages	Involved actors	Description
1	<a href="#">FltoFICustomerCreditTransfer</a>	Originator Participant or Instructing Party as Sender  TIPS as receiver	TIPS receives an incoming Payment Instruction from the Originator Participant or Instructing Party starting the conditional settlement phase of the transaction. Schema validation, check of mandatory fields and authentication checks have already been successfully executed. The timeout for the Payment Instruction has not expired.
2		TIPS	TIPS successfully executes the checks: <ul style="list-style-type: none"> <li>- Access Rights check;</li> <li>- Authorisation Check;</li> <li>- Timeout Check - Originator Side;</li> <li>- Maximum Amount not Exceeded;</li> <li>- Debtor Account or CMB existence;</li> <li>- Instructing Party authorised;</li> <li>- Creditor Account or CMB existence;</li> <li>-</li> </ul> See 103 Business Rules for details.
2e	<a href="#">FltoFIPaymentStatusReport</a>	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 - same DN of the Sender in step 1 - containing the proper error code. If the failed check is "Timeout Check - Originator Side", the system changes the transaction into "Expired"; in all the other cases, the system sets the status "Failed".

Step	Involved messages	Involved actors	Description
3		TIPS	<p>TIPS determines the account to be debited from the configured accounts information, the Originator Participant BIC and the currency of the Payment Instruction.</p> <p>In details:</p> <ul style="list-style-type: none"> <li>- the system verifies that an account, of type "TIPS Account", exists and is linked to the Originator Participant (field "debtor agent") as authorised user and has a currency equal to the one defined in the Instructed Amount.</li> <li>- if no Account is linked to the Originator Participant, the system looks for a CMB linked to the Originator BIC (field "debtor agent") as user;</li> <li>- 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 Instructed Amount.</li> </ul> <p>From now on, the account is referred to as "Originator Account" and the possible CMB as "Debiting CMB".</p>
4		TIPS	<p>TIPS determines the account to be credited from the configured accounts information and the Beneficiary Participant BIC and the currency of the Payment Instruction.</p> <p>In details:</p> <ul style="list-style-type: none"> <li>- the system verifies that an account of type "TIPS Account", exists and is linked to the Beneficiary party (field "creditor agent" ) as authorised user and has a currency equal to the one defined in the Instructed Amount.</li> <li>- if no Account, exists, the system selects the CMB linked to the Beneficiary party BIC (field "creditor agent") as user;</li> <li>- 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 Instructed Amount.</li> </ul> <p>From now on, the account is referred to as "Beneficiary Account" and the possible CMB as "Crediting CMB".</p>
5		TIPS	<p>TIPS successfully executes the checks:</p> <ul style="list-style-type: none"> <li>- Duplicate check;</li> </ul> <p>See 103 Business Rules for details.</p>

Step	Involved messages	Involved actors	Description
5e	<a href="#">FltoFIPaymentStatusReport</a>	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks listed in step 5. At the first negative check the system stops and sends a message to the Originator Participant or Instructing Party - same DN of the Sender - containing the proper error code. See 103 Business Rules for details.
6		TIPS	TIPS logs the instruction and sends it to the Check and Execute Instruction process. TIPS sets the transaction status to "Validated".
7		TIPS	TIPS successfully executes the checks: - Debiting Account not blocked; - Crediting Account not blocked; - Available amount not exceeded; See 103 Business Rules for details.
7e	<a href="#">FltoFIPaymentStatusReport</a>	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 - same DN of the Sender in step 1 - containing the proper error code. The transaction is set to "Failed" status. See 103 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".
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 of 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".

Step	Involved messages	Involved actors	Description
11	<a href="#">FltoFICustomerCreditTransfer</a>	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS forwards the received Payment Instruction to the Beneficiary DN.
12p	<a href="#">FltoFIPaymentStatusReport</a>	Beneficiary Participant or Instructing Party as sender TIPS as receiver	The Beneficiary Participant starts the settlement phase of the transaction by sending a positive payment status report that is successfully delivered to TIPS. Schema 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 (reserved) transaction existing; - Timeout Check - Beneficiary Side;  See 103 Business Rules for details.
13e		TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks listed in step 13. At the first negative check the system stops and sends a message to the Beneficiary Participant or Instructing Party (DN of the sender of the message) containing the proper error code. See 103 Business Rules for details.
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.



Step	Involved messages	Involved actors	Description
15p		TIPS	TIPS retrieves the transaction to be confirmed and confirms it. The amount is considered settled and the transaction is set to "Settled" status. The same positive amount is added to the Beneficiary Account. If a Crediting CMB is involved, the system increases its Headroom by the same amount. TIPS always executes the reserved transactions even if the involved accounts have been blocked in the meantime.
16p	<a href="#">FltoFIPaymentStatusReport</a>	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS forwards the received Payment status report to the Originator DN.
17p	FltoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS generates a positive Payment status report and send it to the Beneficiary DN. The FltoFIPaymentStatusReport contains the Transaction ID of the transaction.
18p	<a href="#">ReturnAccount</a>	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 <a href="#">ReturnAccount</a> 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 identified in the "Outbound DN-BIC Routing" mapping table.  The message contains: - the Transaction ID as original Message ID - the Originator Account Number or the Debiting CMB Number

Step	Involved messages	Involved actors	Description
19p	<a href="#">ReturnAccount</a>	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 <a href="#">ReturnAccount</a> 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 identified in the entity "Outbound DN-BIC Routing". The message contains: - the Transaction ID as original Message ID - the Beneficiary Account Number or the crediting CMB Number
12n	<a href="#">FltoFIPaymentStatusReport</a>	Beneficiary Participant or Instructing Party as sender TIPS as receiver	The Beneficiary Participant starts the settlement phase of the transaction sending a negative payment status report that is successfully delivered to TIPS. Schema 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 103 Business Rules for details.
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 (DN of the sender of the message) containing the proper error code.  See 103 Business Rules for details.
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.

Step	Involved messages	Involved actors	Description
15n		TIPS	<p>TIPS retrieves the transaction to be rejected and releases it. The transaction is set to "Rejected" status.</p> <p>The reserved amount is released in the involved Originator Account and the possibly involved Debiting CMB is increased of the same amount.</p> <p>TIPS always releases the reserved transactions even if the involved account or CMB have been blocked in the meantime.</p>
16n	<a href="#">FltoFIPaymentStatusReport</a>	<p>TIPS as sender</p> <p>Originator Participant or Instructing Party as receiver</p>	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.

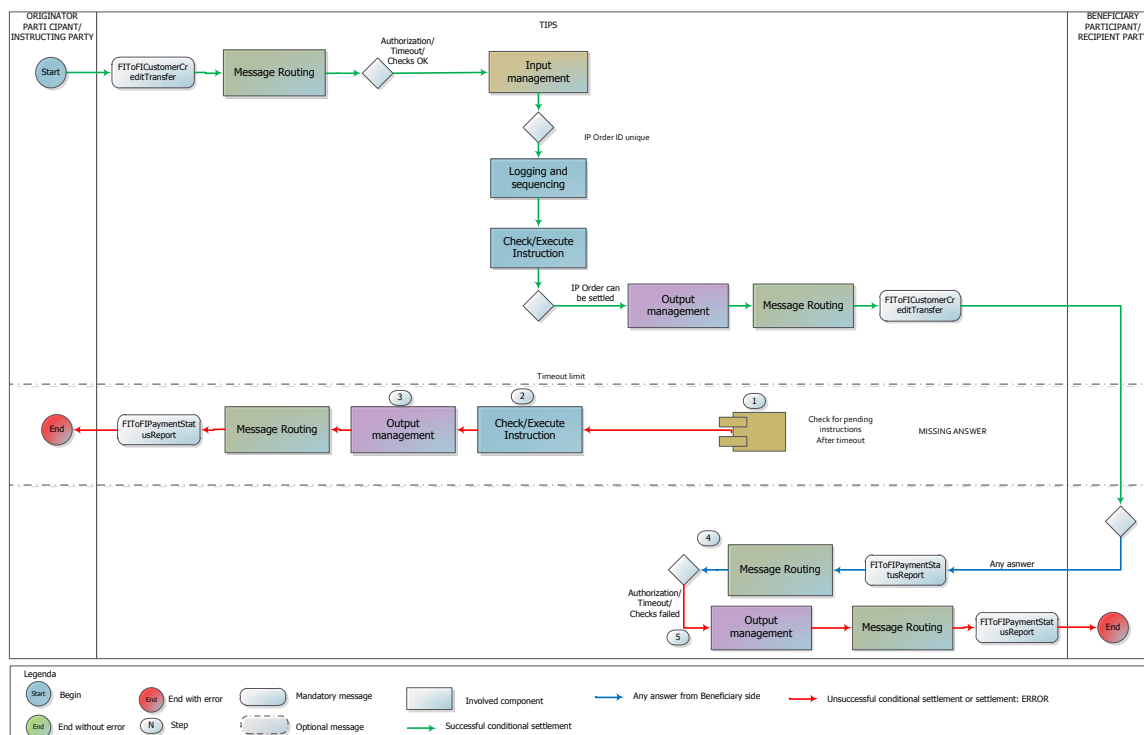
This scenario assumes that TIPS has successfully executed the conditional settlement phase of an Instant Payment.

A specific software component (Sweeping service) is always acting in background taking care of all the orphan payments – an orphan payment being a reserved payment still waiting for a confirmation/rejection. Every X seconds (X being the “Sweeping Timeout” parameter configured in the system with a value always higher than the “SCT<sup>Inst</sup> Timestamp Timeout”) a process checks all the pending payments and rejects all the instructions that have exceeded the timeout.

Since the “Sweeping Timeout” parameter has an higher value than the “SCT<sup>Inst</sup> Timestamp Timeout”, any Beneficiary-side answer that arrives in TIPS for an orphan payment already treated by the Sweeping service generates an error for timeout exceeded.

Below is the diagram describing this specific process and the involved actors. The details of the steps are described in the following Table 10 - Payment Transaction missing/delayed Beneficiary-side answer steps.

**Figure 7 - Payment Transaction missing/delayed Beneficiary-side answer flow**



**Table 10 - 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 amount of time obtained adding the "Beneficiary Side Offset" time and the "SCT <sup>Inst</sup> Timestamp Timeout" value, the payment is elected for sweeping.
2		TIPS	TIPS executes these operations for each orphan payment: - TIPS retrieves the transaction to be rejected and its ID - 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	<a href="#">FltoFIPaymentStatusReport</a>	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 <a href="#">FltoFIPaymentStatusReport</a> contains the Transaction ID of the transaction and the proper error code.
3		TIPS	TIPS determines the account to be debited from the configured accounts information and the Originator Participant BIC and the currency of the Payment Instruction. In details: - the system verifies that an account of type "TIPS Account", exists and is linked to the Originator Participant (field "debtor agent") as authorised user and has a currency equal to the one defined in the Instructed Amount - if no Account is linked to the Originator Participant, the system selects the CMB linked to the Originator BIC (field "debtor agent") as authorised user; - the system selects the TIPS Account linked to the CMB. From now on, the account is referred to as "Originator Account" and the possible CMB as "Debiting CMB".
4		TIPS	TIPS unsuccessfully executes the checks: - Timeout Check - Beneficiary Side.

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

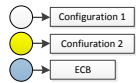
## 2.2.2. Examples

This sub-section describes some 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 constellation follows what described in 1.5.1 - General concepts.

**Figure 8 - Payment Transaction examples - data constellation**



CRDM – STATIC DATA

--

TIPS – STATIC DATA

--

CASH ACCOUNT

ACCOUNT	TIPS PARTICIPANT	VALID FROM	VALID TO	FLOOR AMOUNT	CEILING AMOUNT
ACCOUNT1	PRTYABMXXX	01/12/2017	31/12/9999	1.000€	1.050.000€
ACCOUNT2	PRTYBCMXXX	01/12/2017	31/12/9999	200€	1.000.000€
ACCOUNT3	PRTYBCMXXX	01/12/2017	31/12/9999	0€	9999999€
TRANACC - EUR	ECBOEURDXXX	01/12/2017	31/12/9999	0	0

CMBs

CMB	ACCOUNT	TIPS PARTICIPANT	VALID FROM	VALID TO	FLOOR AMOUNT	CEILING AMOUNT
CMB1	ACCOUNT1	PRTYABM234	01/12/2017	31/12/9999	100€	5.000€
CMB2	ACCOUNT2	PRTYBCM333	01/12/2017	31/12/9999	150€	400€

CRDM – STATIC DATA

DN	PARENT BIC – PARTY BIC
<ou=dept_123, o=prtyabmxxx, o=a2anet>	NCBOEURXXX - PRTYABMXXX
<ou=dept_234, o=prtyabmxxx, o=a2anet>	NCBOEURXXX - PRTYABMXXX
<ou=dept_123, o=prtyabmm123, o=a2anet>	PRTYABMXXX - PRTYABM123
<ou=dept_123, o=prtyabmm234, o=a2anet>	PRTYABMXXX - PRTYABM234
<ou=dept_abc, o=prtybcmxxx, o=a2anet>	NCBOEURXXX - PRTYBCMXXX
<ou=dept_abc, o=prtybcm123, o=a2anet>	PRTYBCMXXX - PRTYBCM123
<ou=dept_333, o=prtybcm333, o=a2anet>	PRTYBCMXXX - PRTYBCM333
<ou=dept_123, o=ecboeurdxxx, o=a2anet>	TRGTXEPMXXX - ECBOEURDXXX

Inbound DN BIC ROUTING

DN	ACTOR
<ou=dept_123, o=prtyabmxxx, o=a2anet>	PRTYABMXXX
<ou=dept_234, o=prtyabmxxx, o=a2anet>	PRTYABMXXX
<ou=dept_123, o=prtyabmxxx, o=a2anet>	PRTYABM123
<ou=dept_234, o=prtyabmxxx, o=a2anet>	PRTYABM123
<ou=dept_123, o=prtyabmm123, o=a2anet>	PRTYABM123
<ou=dept_123, o=prtyabmxxx, o=a2anet>	PRTYABM234
<ou=dept_123, o=prtyabmm234, o=a2anet>	PRTYABM234
<ou=dept_abc, o=prtybcmxxx, o=a2anet>	PRTYBCMXXX
<ou=dept_abc, o=prtybcm123, o=a2anet>	PRTYBCM123
<ou=dept_333, o=prtybcm333, o=a2anet>	PRTYBCM333
<ou=dept_abc, o=prtybcmxxx, o=a2anet>	PRTYBCM333
<ou=dept_123, o=ecboeurdxxx, o=a2anet>	ECBOEURDXXX

AUTHORIZED ACCOUNT USER

ACCOUNT	ACTOR
ACCOUNT1	PRTYABMXXX
ACCOUNT1	PRTYABM123
ACCOUNT2	PRTYBCMXXX
ACCOUNT3	PRTYBCM123

Outbound DN BIC ROUTING

DN	ACTOR
<ou=dept_123, o=prtyabmxxx, o=a2anet>	PRTYABMXXX
<ou=dept_123, o=prtyabmm123, o=a2anet>	PRTYABM123
<ou=dept_abc, o=prtybcmxxx, o=a2anet>	PRTYBCMXXX
<ou=dept_abc, o=prtybcm123, o=a2anet>	PRTYBCM123
<ou=dept_abc, o=prtybcmxxx, o=a2anet>	PRTYBCM333
<ou=dept_123, o=ecboeurdxxx, o=a2anet>	ECBOEURDXXX



### 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” (white and yellow in the above table) 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 [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

**Figure 9 - Payment Transaction successful scenario FltoFICustomerCreditTransfer**

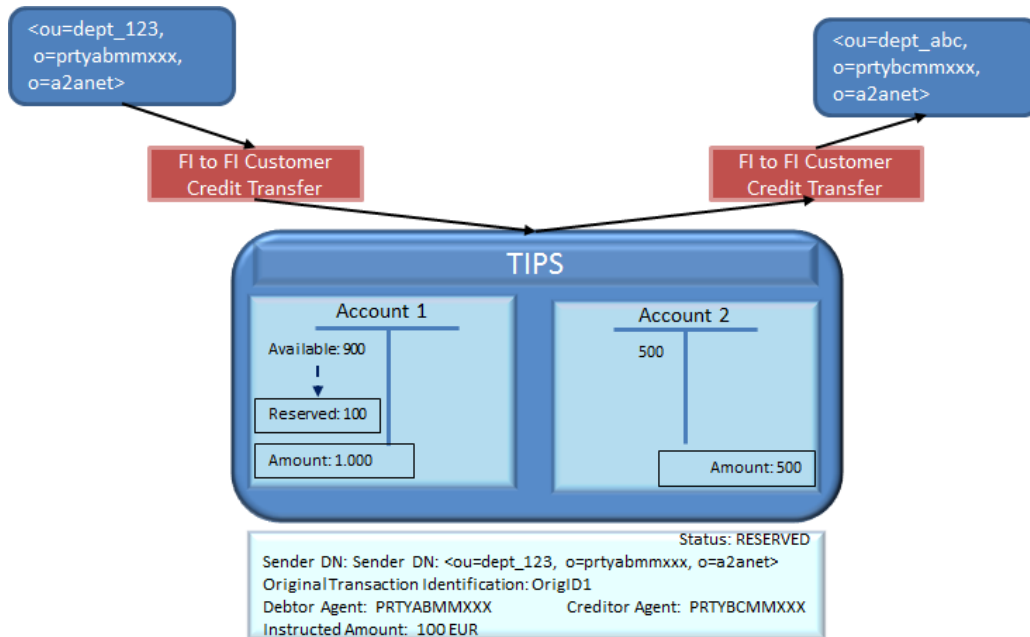


The system, after performing the expected checks successfully, sets up the settlement on the accounts as follows:

- it identifies the Originator Account (Account1) from the Debtor Agent BIC;
- it identifies the Beneficiary Account (Account2) from the Creditor Agent BIC;
- It identifies the Beneficiary DN from the “Outbound DN-BIC Routing (<ou=dept\_abc, o=prtybcmxxx, o=a2anet>);
- It reserves the amount in Account1 – the new availability for Account1 decreases from 1000 EUR to 900 EUR;
- The transaction is saved and put in status RESERVED.

The forwarding of the [FltoFICustomerCreditTransfer](#) message to the Beneficiary DN ends the Conditional Settlement phase.

**Figure 10 - 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 [FltoFIPaymentStatusReport](#) message with a positive answer. TIPS definitively settles the transaction, moving the amount from Account1 to Account2.

**Figure 11 - Payment Transaction successful scenario FltoFIPaymentStatusReport**

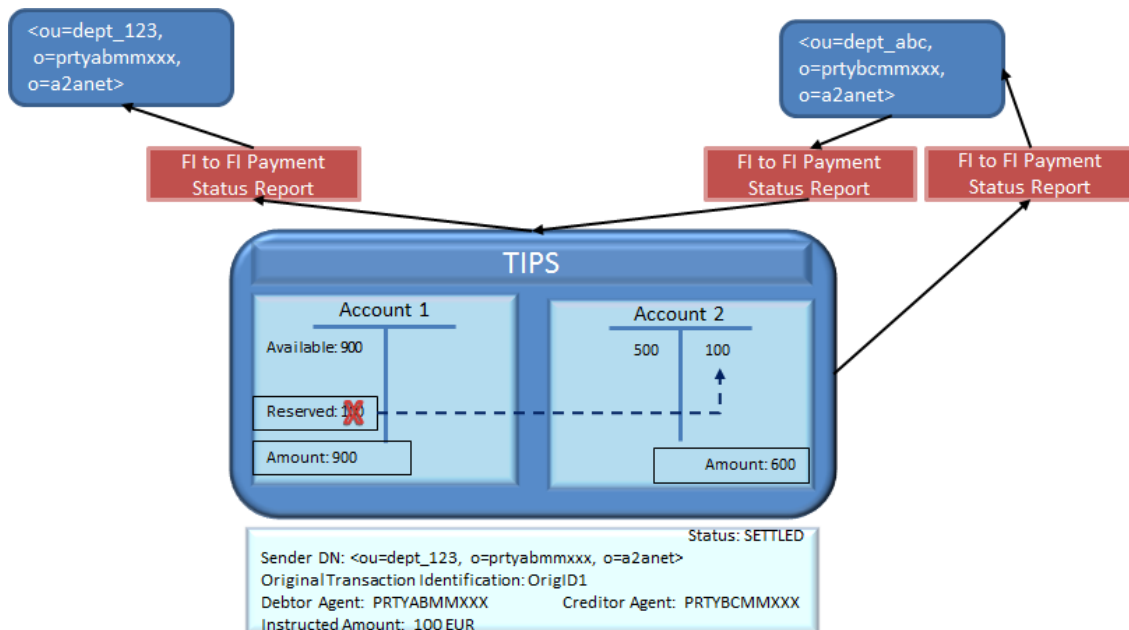


The system, after performing the expected checks successfully, find the reserved transaction and executes the settlement on the accounts as follows:

- 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 [FltoFIPaymentStatusReport](#) message to the Originator DN and sending a confirmation message for successful settlement to the Beneficiary.

**Figure 12 - Payment Transaction successful scenario settlement**

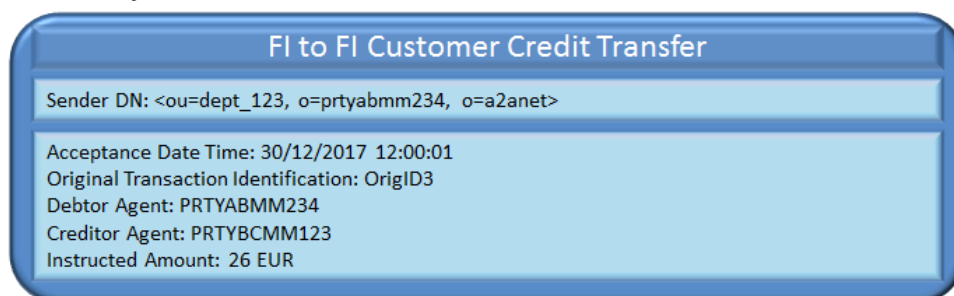


### 2.2.2.2. Successful scenario with confirmed order – Creditor account and debtor CMB

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 Participants B but used by a related Reachable Party. “Configuration 1” and “Configuration 2” (white and yellow in the above table) 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 [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

**Figure 13 - Payment Transaction successful scenario FltoFICustomerCreditTransfer**



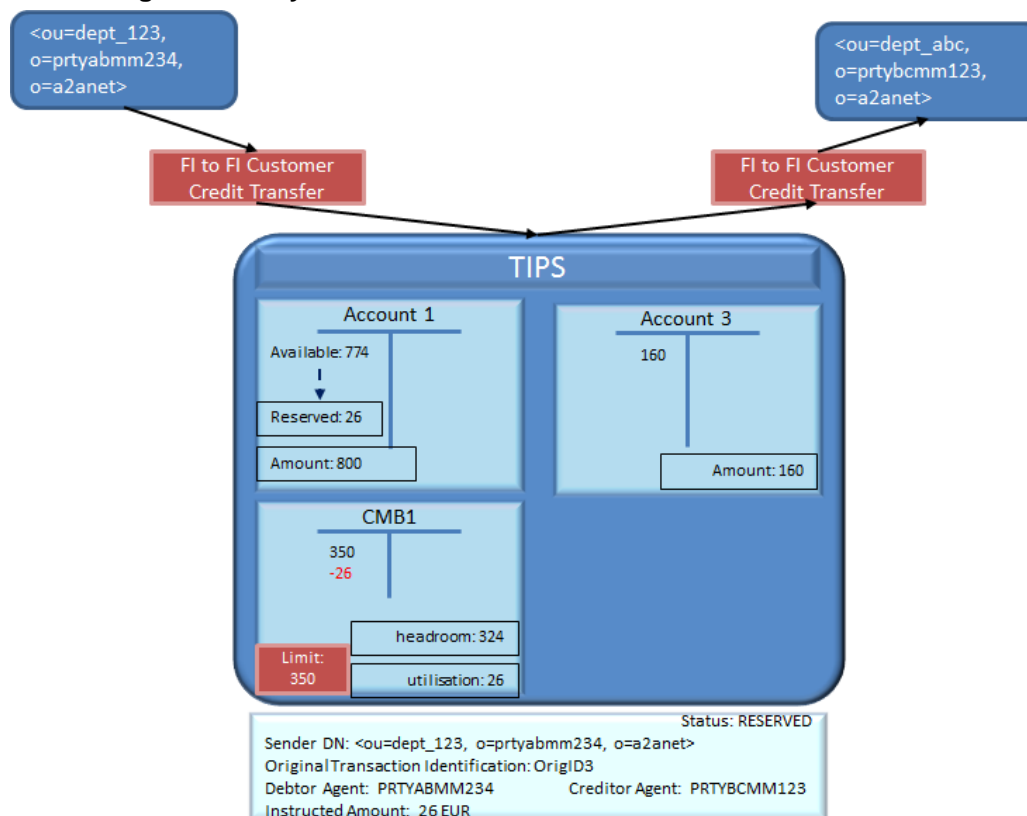
The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Debiting CMB (CMB1) from the Debtor Agent BIC;

- it identifies the Originator Account from the CMB1 (Account1);
- it identifies the Beneficiary Account (Account3) from the Creditor Agent BIC;
- It identifies the Beneficiary DN from the “Outbound DN-BIC Routing (<ou=dept\_abc, o=prtybcm123, 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 EUR to 774 EUR;
- The transaction is saved and put in status RESERVED.

The forwarding of the [FltoFICustomerCreditTransfer](#) message to the Beneficiary DN ends the Conditional Settlement phase.

**Figure 14 - Payment Transaction successful scenario reservation**



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

**Figure 15 - Payment Transaction successful scenario FItoFIPaymentStatusReport**

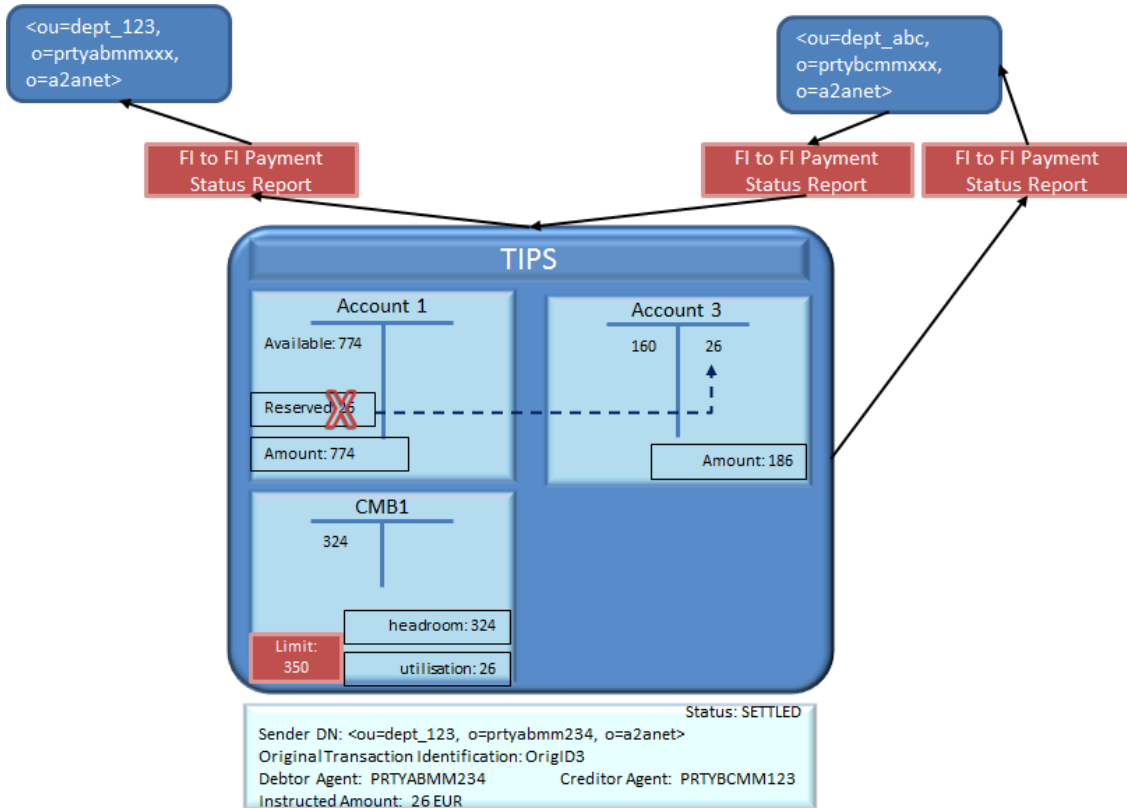


The system, after performing the expected checks successfully, find the reserved transaction and executes the settlement on the accounts as follows:

- 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 ha 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 instructing party.

**Figure 16 - Payment Transaction successful scenario settlement**

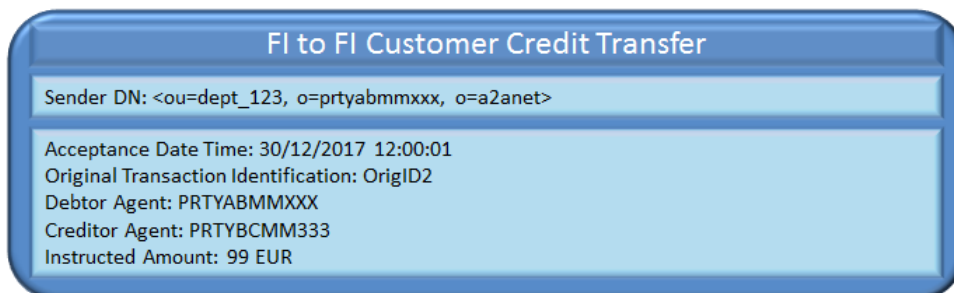


### 2.2.2.3. Successful scenario with confirmed order – Creditor CMB and debtor Account

This positive scenario describes a successful payment transaction between a TIPS Account owned and held by a TIPS Participants 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” (white and yellow in the above table) 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 [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

**Figure 17 - Payment Transaction successful scenario FltoFICustomerCreditTransfer**

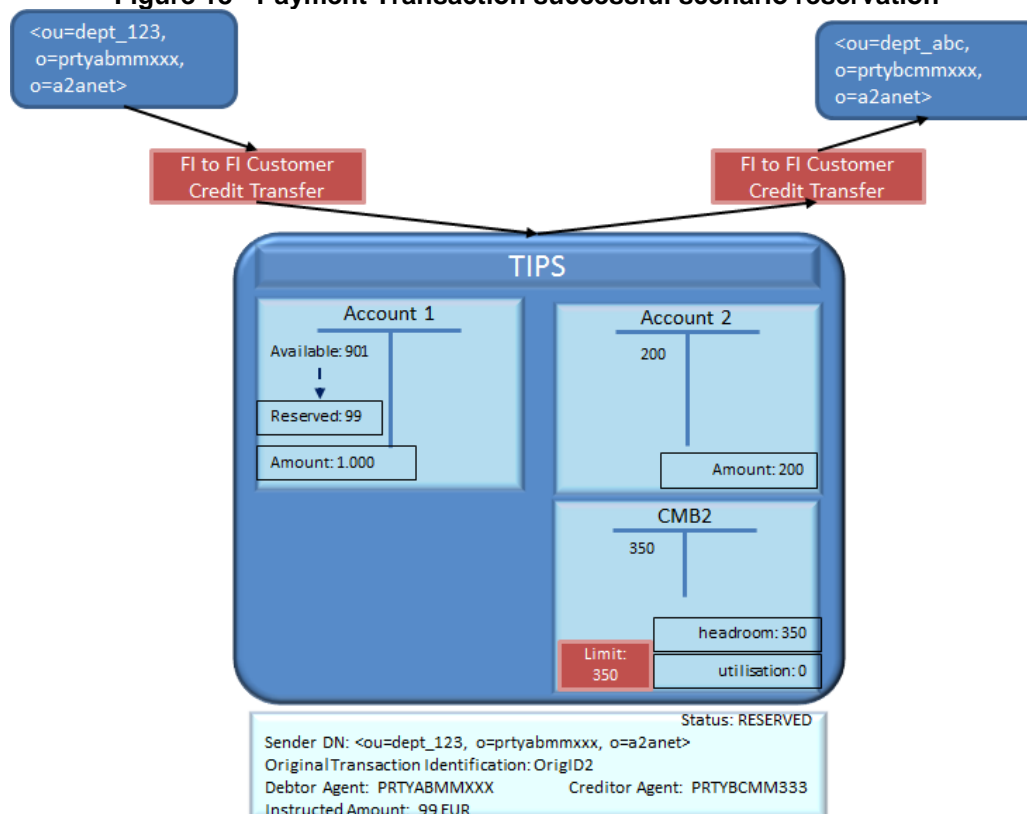


The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Originator Account (Account1) from the Debtor Agent BIC;
- it identifies the Crediting CMB (CMB2) from the Creditor Agent 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=prtybcmxxx, o=a2anet>);
- It reserves the amount in Account1 – the new availability for Account1 decreases from 1000 EUR to 901 EUR;
- The transaction is saved and put in status RESERVED.

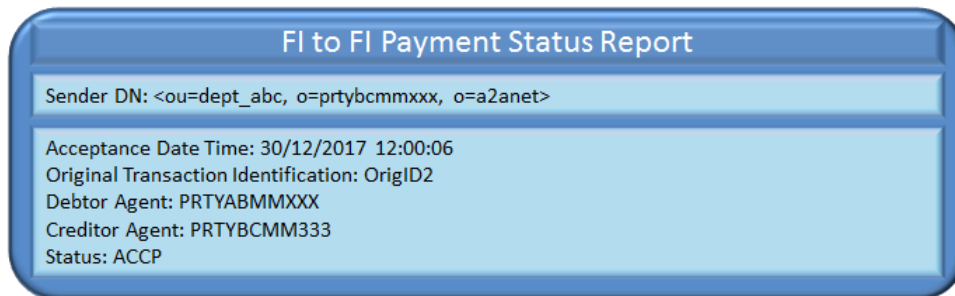
The forwarding of the [FltoFICustomerCreditTransfer](#) message to the Beneficiary DN ends the Conditional Settlement phase.

**Figure 18 - Payment Transaction successful scenario reservation**



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

**Figure 19 - Payment Transaction successful scenario FItoFIPaymentStatusReport**



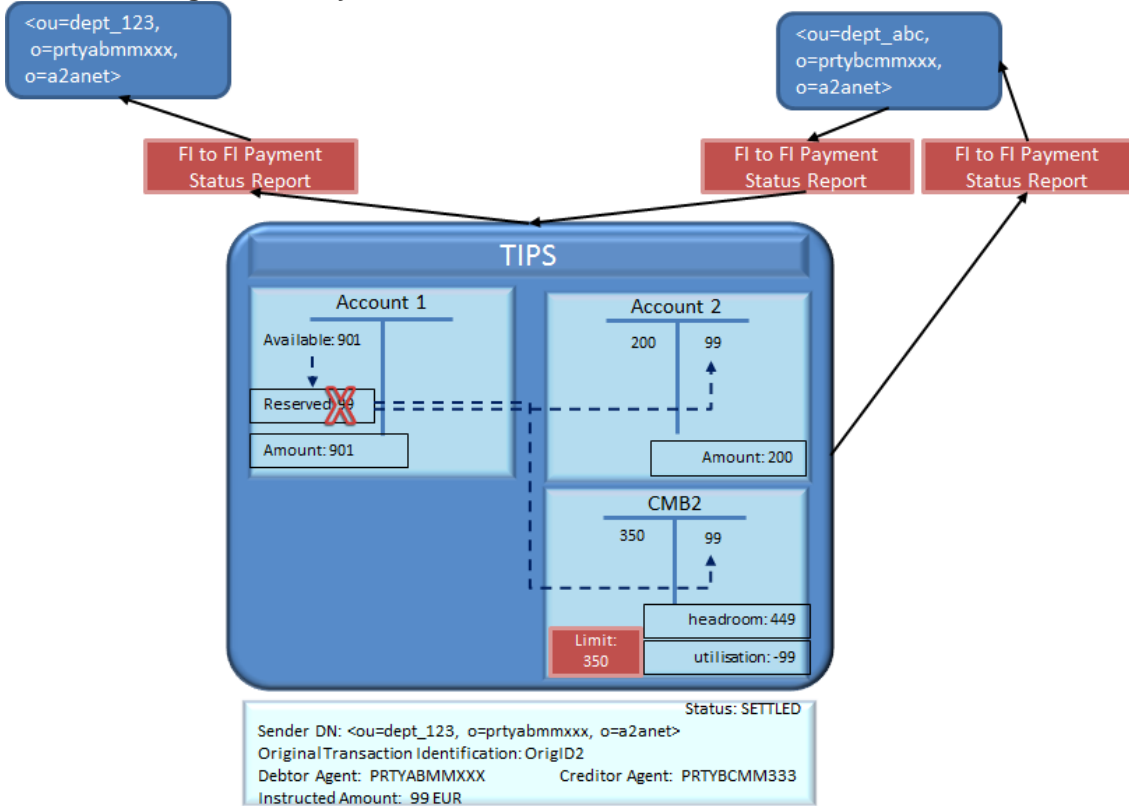
The system, after performing the expected checks successfully, find the reserved transaction and executes the settlement on the accounts as follows:

- 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;
- The transaction status is turned into SETTLED.

In this example, CMB2 exceeds the defined limit for the CMB. 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 instructing party.



**Figure 20 - Payment Transaction successful scenario settlement**



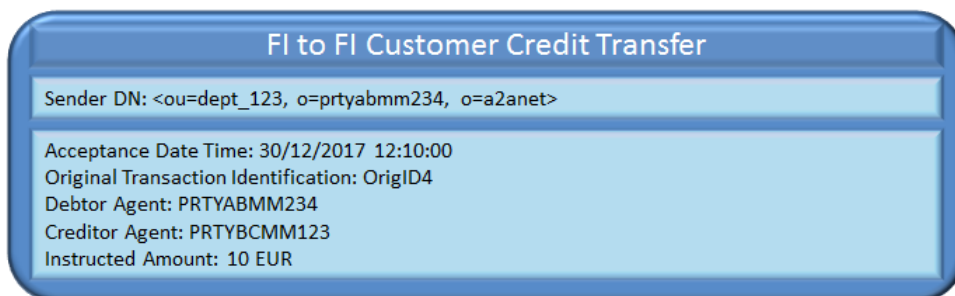
#### 2.2.2.4. Successful scenario with rejected order

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 Participants B. "Configuration 1" and "Configuration 2" (white and yellow in the above table) 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 [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

**Figure 21 - Payment Transaction rejected order FltoFICustomerCreditTransfer**

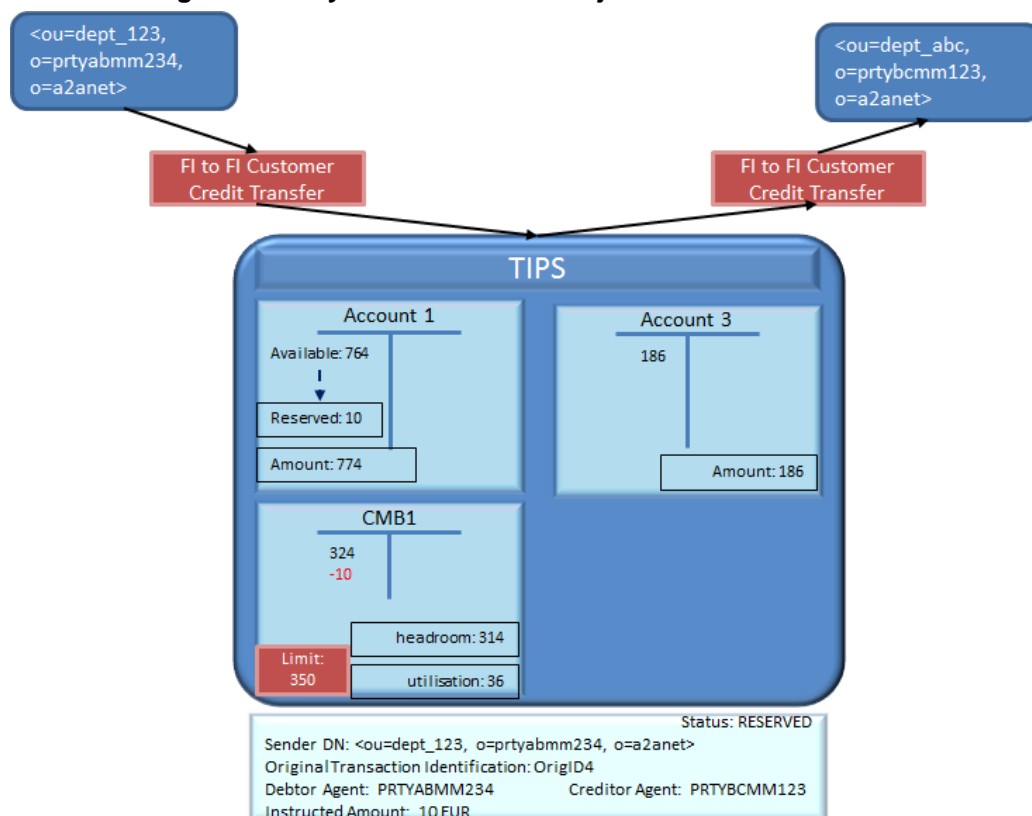


The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Debiting CMB (CMB1) from the Debtor Agent BIC;
- it identifies the Originator Account from the CMB1 (Account1);
- it identifies the Beneficiary Account (Account3) from the Creditor Agent BIC;
- It identifies the Beneficiary DN from the “Outbound DN-BIC Routing (<ou=dept\_abc, o=prtybcm123, 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 [FltoFICustomerCreditTransfer](#) message to the Beneficiary DN ends the Conditional Settlement phase.

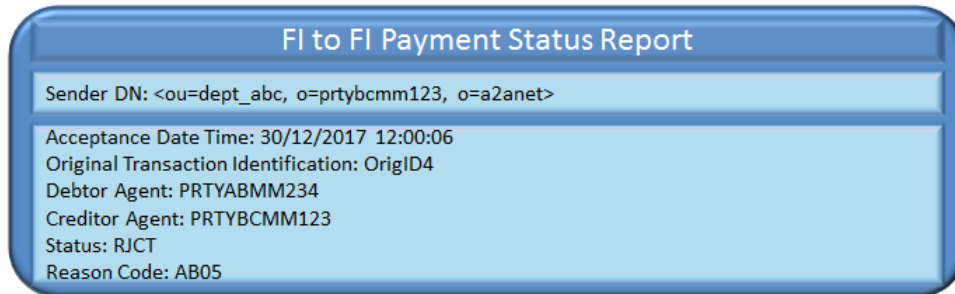
**Figure 22 - Payment Transaction rejected order reservation**



In this scenario, the Beneficiary Participant receives the forwarded [FltoFICustomerCreditTransfer](#) message with the transaction. The Beneficiary Participant rejects the payment sending a [FltoFIPaymentStatusReport](#) message with a negative answer.

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

**Figure 23 - Payment Transaction rejected order FI to FI Status Report**



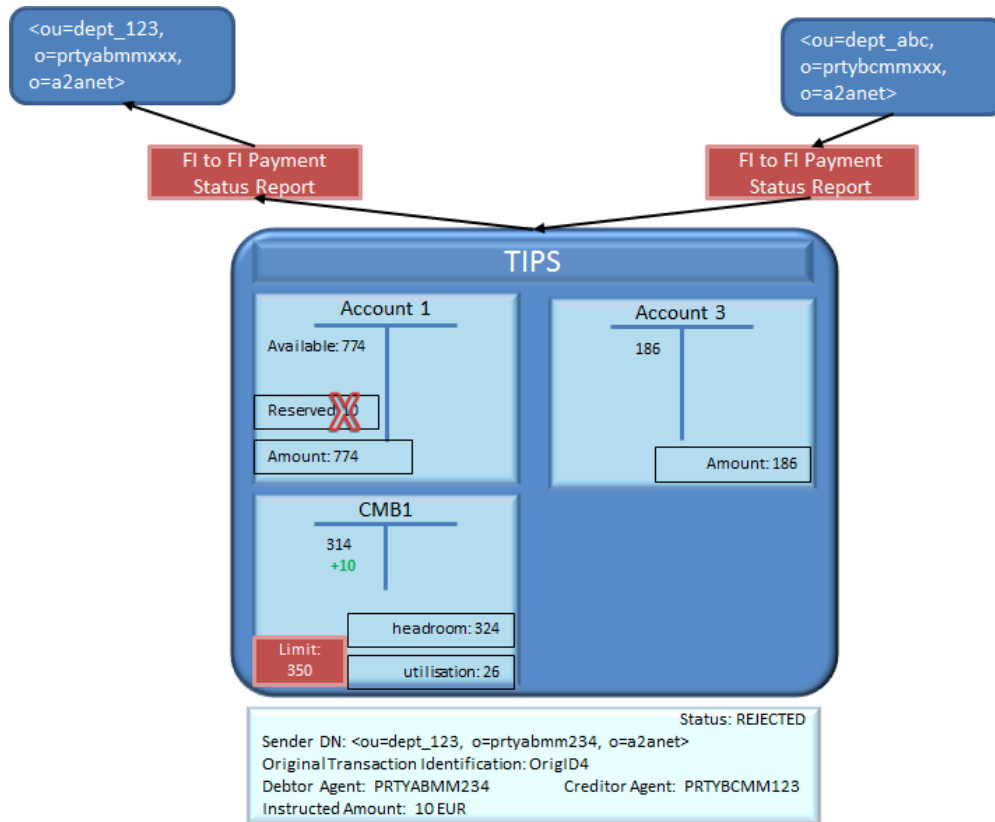
The system performs the expected checks successfully. The timeout check is not performed: a negative response from the Beneficiary side must always reach the Originator side with no changes and trigger a unreservation of funds.

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 [FltoFIPaymentStatusReport](#) message to the Originator DN.

**Figure 24 - 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 ISO Error codes.

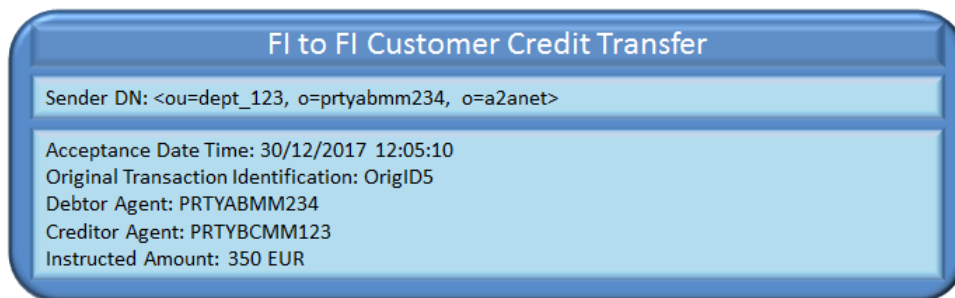
#### Insufficient funds within the CMB

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 Participants. “Configuration 1” and “Configuration 2” (white and yellow in the above table) are considered.

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

The [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

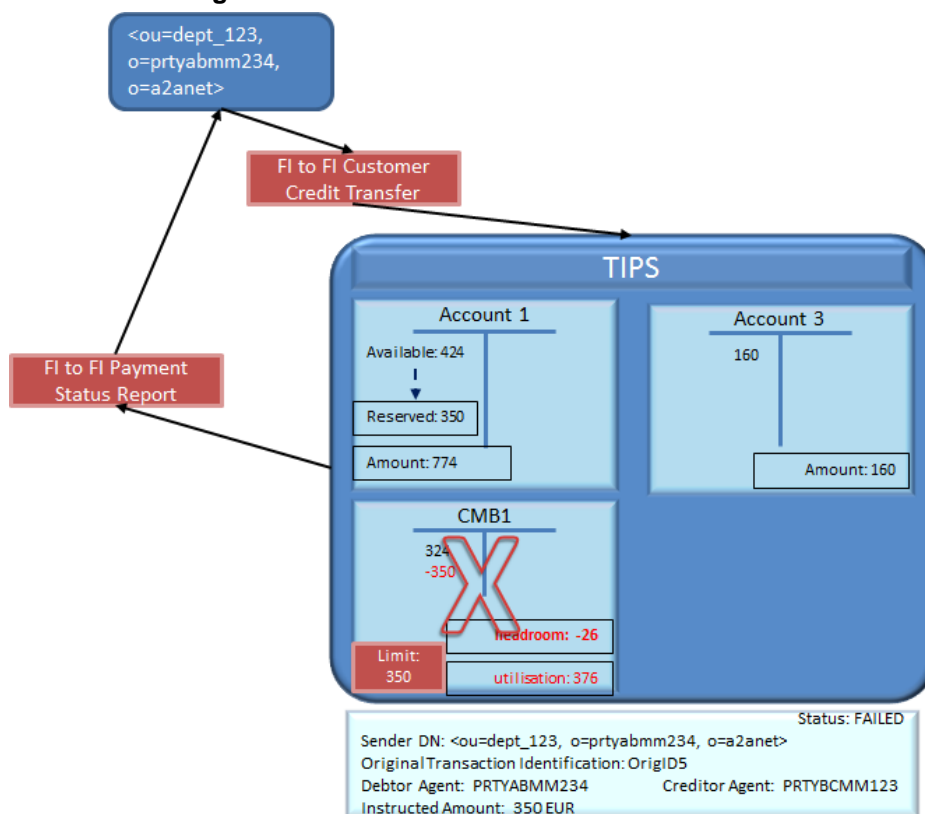
**Figure 25 - Headroom error FItoFICustomerCreditTransfer**



The system executes these steps:

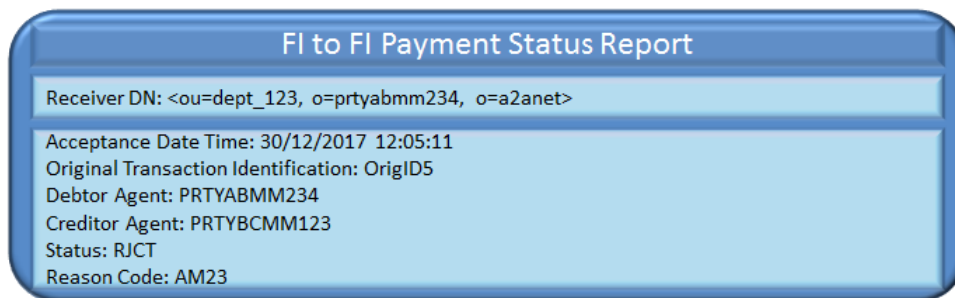
- it identifies the Debiting CMB1 (CMB1) from the Debtor Agent BIC;
- it identifies that the headroom for the involved CMB1 is lower than the request amount;
- the transaction fails. The attempt is saved as failed transaction and the sender is informed of the error.

**Figure 26 - Headroom error transaction failed**



TIPS then sends a [FItoFIPaymentStatusReport](#) to the sender with the proper error code.

**Figure 27 - Headroom error FltoFIPaymentStatusReport**



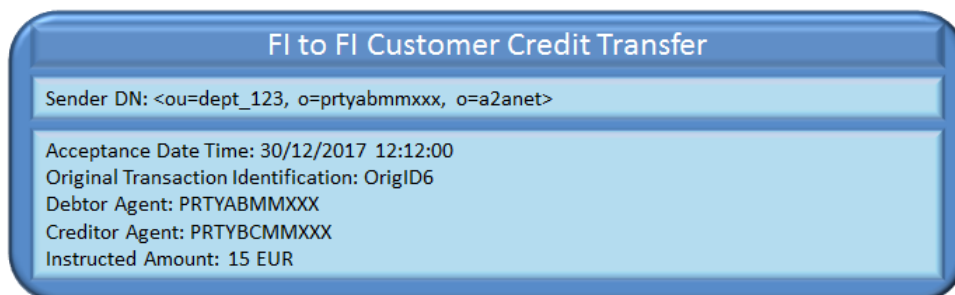
### Blocked Account

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” (white and yellow in the above table) are considered.

The transaction fails since the debtor account is blocked and not available for settlement.

The [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

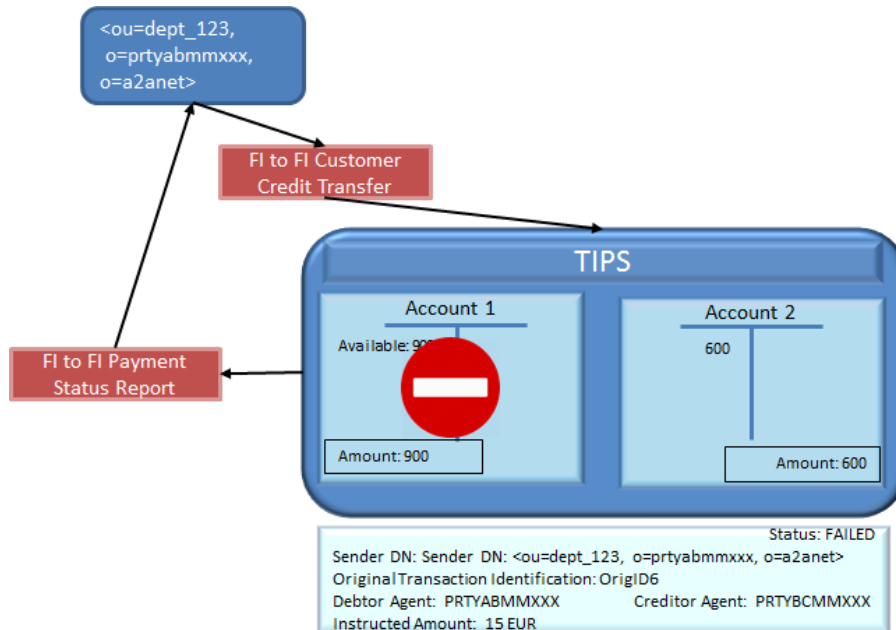
**Figure 28 - Blocked account error FltoFICustomerCreditTransfer**



The system executes these steps:

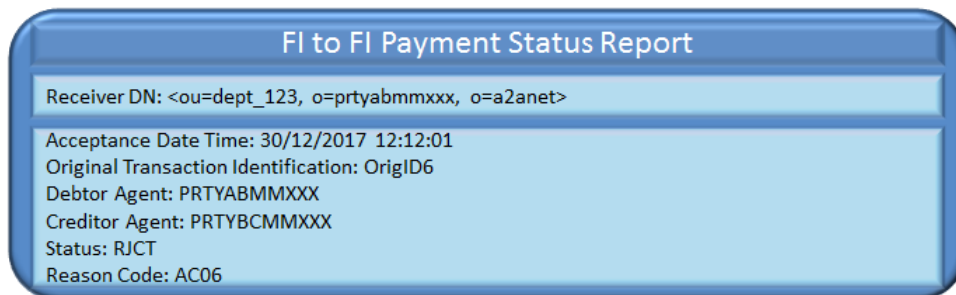
- it identifies the Debiting Account (Account1) from the Debtor Agent BIC;
- it recognise that blocking status on Account1;
- the transaction fails. The attempt is saved as failed transaction and the sender is informed of the error.

**Figure 29 - Blocked account error transaction failed**



TIPS then sends a [FltoFIPaymentStatusReport](#) to the sender with the proper error code.

**Figure 30 - Blocked account error FltoFIPaymentStatusReport**



**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 Participants. “Configuration 1” and “Configuration 2” (white and yellow in the above table) are considered.

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

The [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

**Figure 31 - Beneficiary side timeout error FItoFICustomerCreditTransfer**



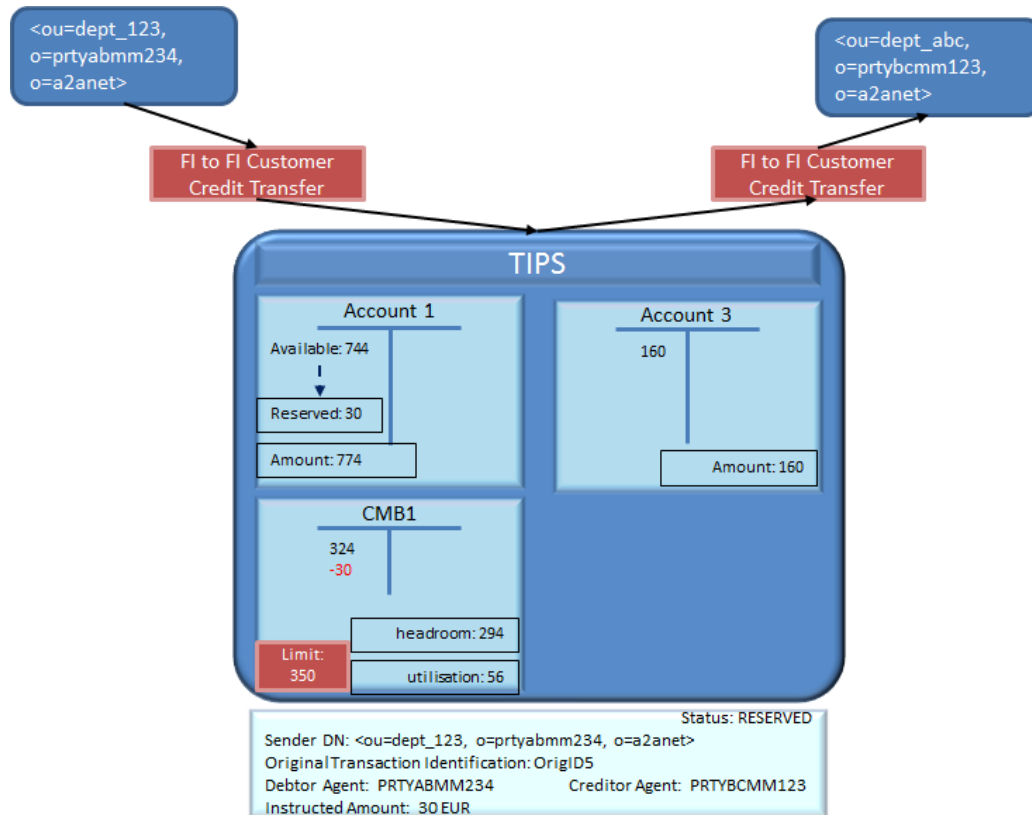
The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Debiting CMB (CMB1) from the Debtor Agent BIC;
- it identifies the Originator Account from the CMB1 (Account1);
- it identifies the Beneficiary Account (Account3) from the Creditor Agent 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 EUR to 744 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.

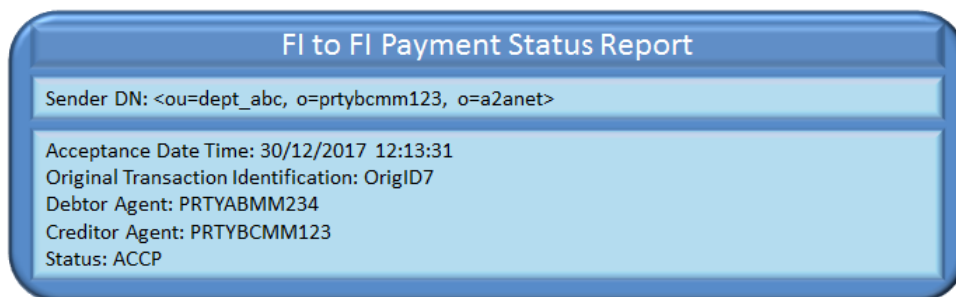


**Figure 32 - Beneficiary side timeout error reservation**



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

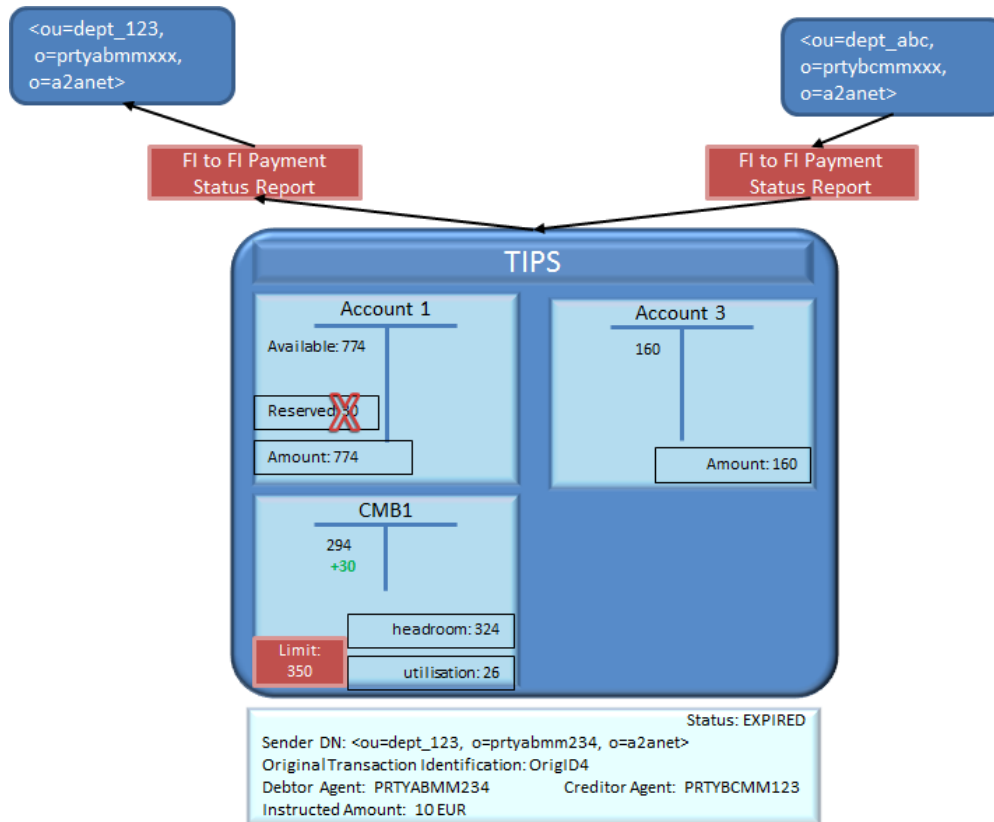
**Figure 33 - Beneficiary side timeout error FltoFIPaymentStatusReport**



The timeout check on Beneficiary Side fails. 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 EXPIRED;
- It identifies the Originator DN from the transaction.

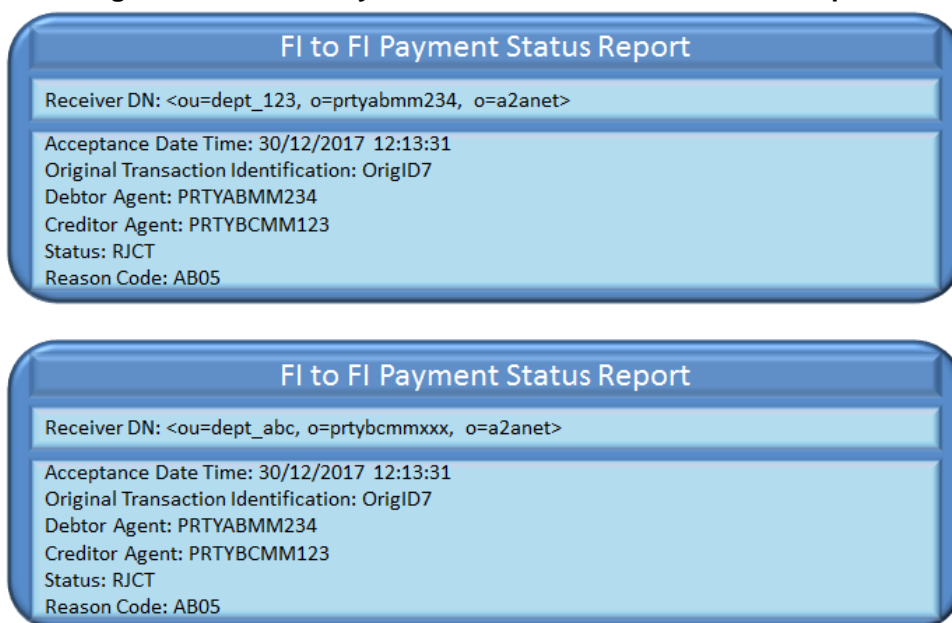
**Figure 34 - Beneficiary side timeout error unreservation**



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

- The DN of the sender of the transaction;
- the Beneficiary DN as configured in the "Outbound DN-BIC Routing (<ou=dept\_abc, o=prtybcm123, o=a2anet>);

**Figure 35 - Beneficiary side timeout error FI to FI Status Report**



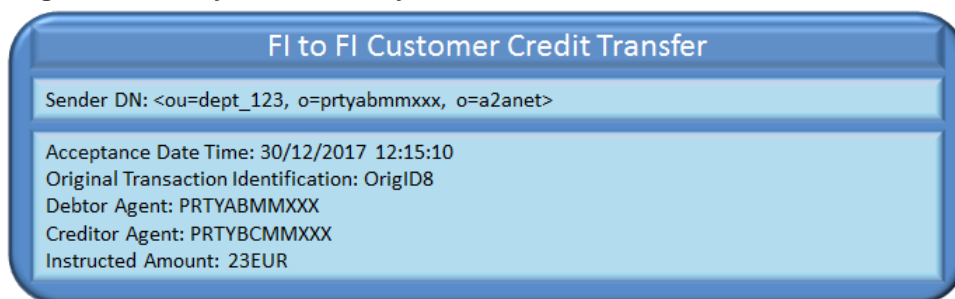
### 2.2.2.6. Delayed Beneficiary-side answer scenario

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” (white and yellow in the above table) 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 [FltoFICustomerCreditTransfer](#) message received by TIPS and triggering the scenario looks like the following one:

**Figure 36 - Delayed Beneficiary-side answer FltoFICustomerCreditTransfer**

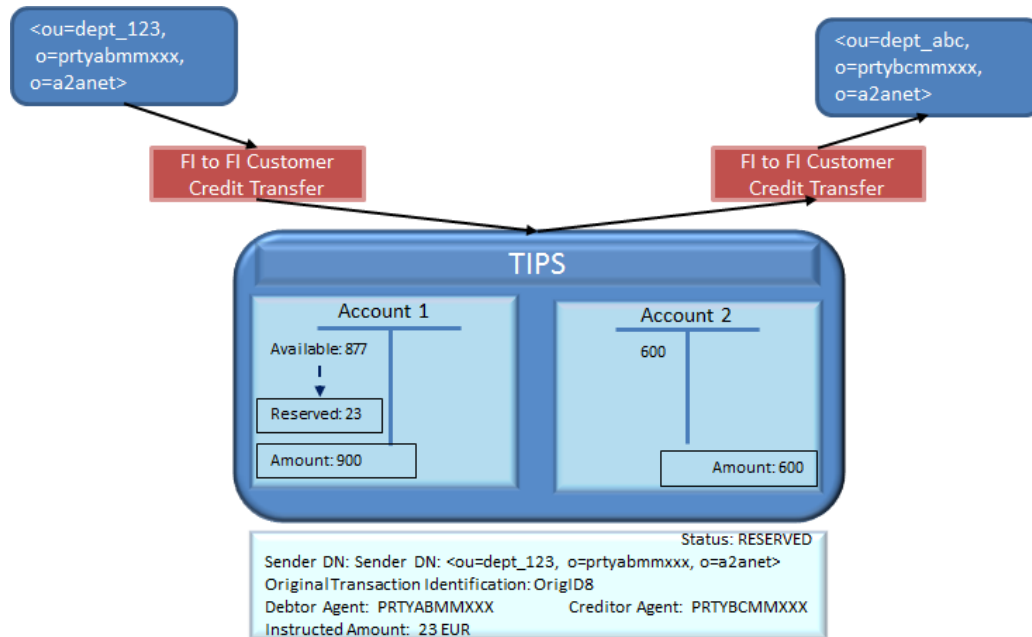


The system, after performing the expected checks successfully, sets up the settlement on the accounts as follows:

- it identifies the Originator Account (Account1) from the Debtor Agent BIC;
- it identifies the Beneficiary Account (Account2) from the Creditor Agent BIC;
- It identifies the Beneficiary DN from the “Outbound DN-BIC Routing (<ou=dept\_abc, o=prtybcmxxx, o=a2anet>);
- It reserves the amount in Account1;
- The transaction is saved and put in status RESERVED.

The forwarding of the [FltoFICustomerCreditTransfer](#) message to the Beneficiary DN ends the Conditional Settlement phase.

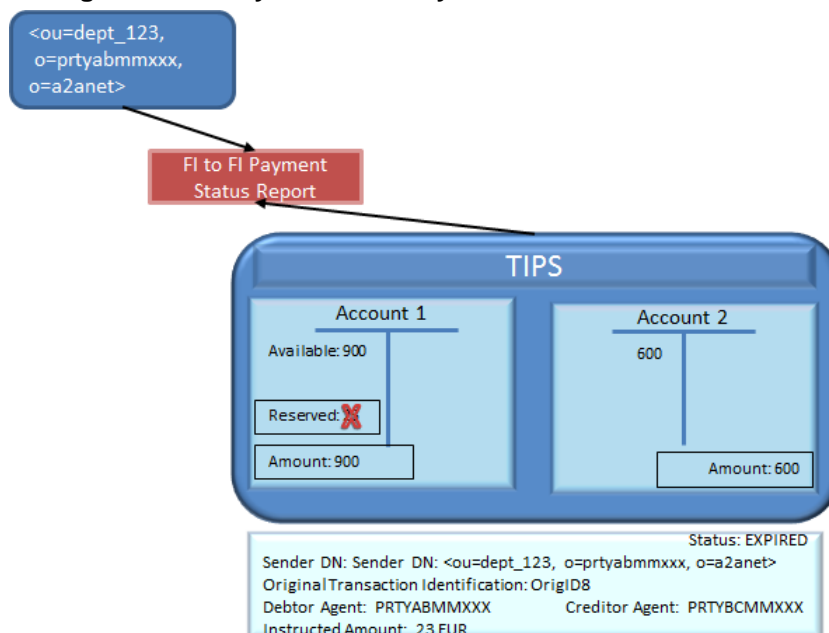
**Figure 37 - Delayed Beneficiary-side answer reservation**



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 and unreserves the payment waiting for confirmation and the funds on the accounts and increases the CMB headroom as follows:

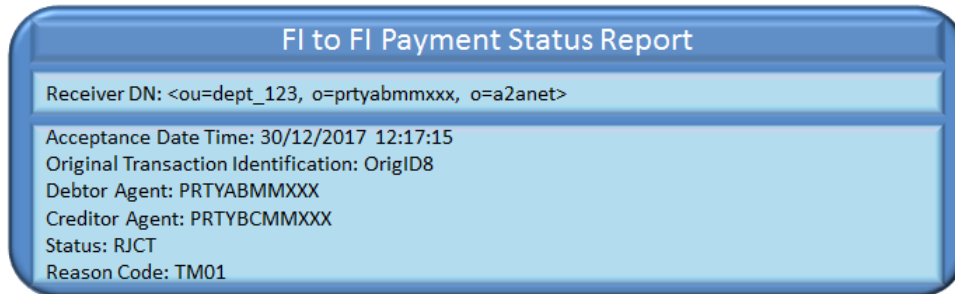
- it identifies the Originator Account (Account1) from the retrieved transaction;
- It unreserves the amount on the Account1;
- The transaction status is turned into EXPIRED;
- It identifies the Originator DN from the transaction.

**Figure 38 - Delayed Beneficiary-side answer unreservation**



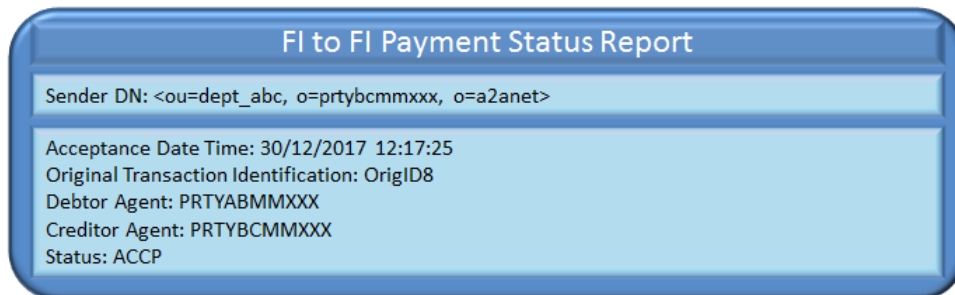
TIPS then sends a [FltoFIPaymentStatusReport](#) to the sender with the proper error code.

**Figure 39 - Delayed Beneficiary-side answer FltoFIPaymentStatusReport**



This example scenario foresees that Beneficiary-side reply reaches TIPS after the unreservation of the pending transaction. The sent message is as follows:

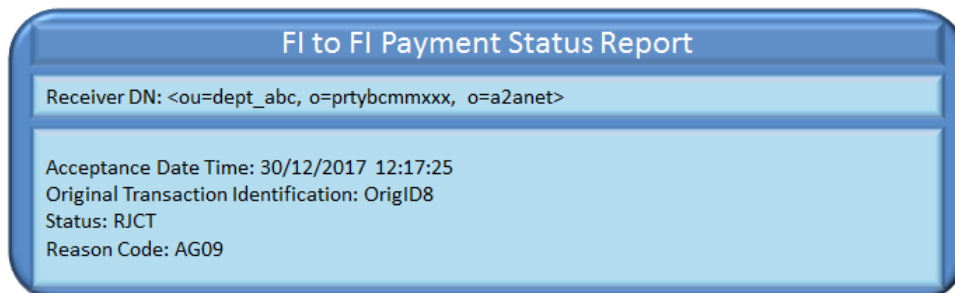
**Figure 40 - Delayed Beneficiary-side answer FltoFIPaymentStatusReport**



TIPS rejects this message since the pending transaction does not exist.

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 41 - Delayed Beneficiary-side answer FltoFIPaymentStatusReport**



## 2.3. Recall

## 2.4. Investigation

## 2.5. Inbound/Outbound Liquidity Transfers

### 2.5.1. Inbound Liquidity Transfer



## TARGET Instant Payment Settlement User Detailed Functional Specification

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### 2.5.1.1. Examples

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

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

### 2.5.2. Outbound Liquidity Transfer





## TARGET Instant Payment Settlement User Detailed Functional Specification

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### 2.5.2.1. Examples

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

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

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

2.5.2.1.4 RTGS Alert scenario – No reply from RTGS

○

## 2.6. Floor and ceiling notifications

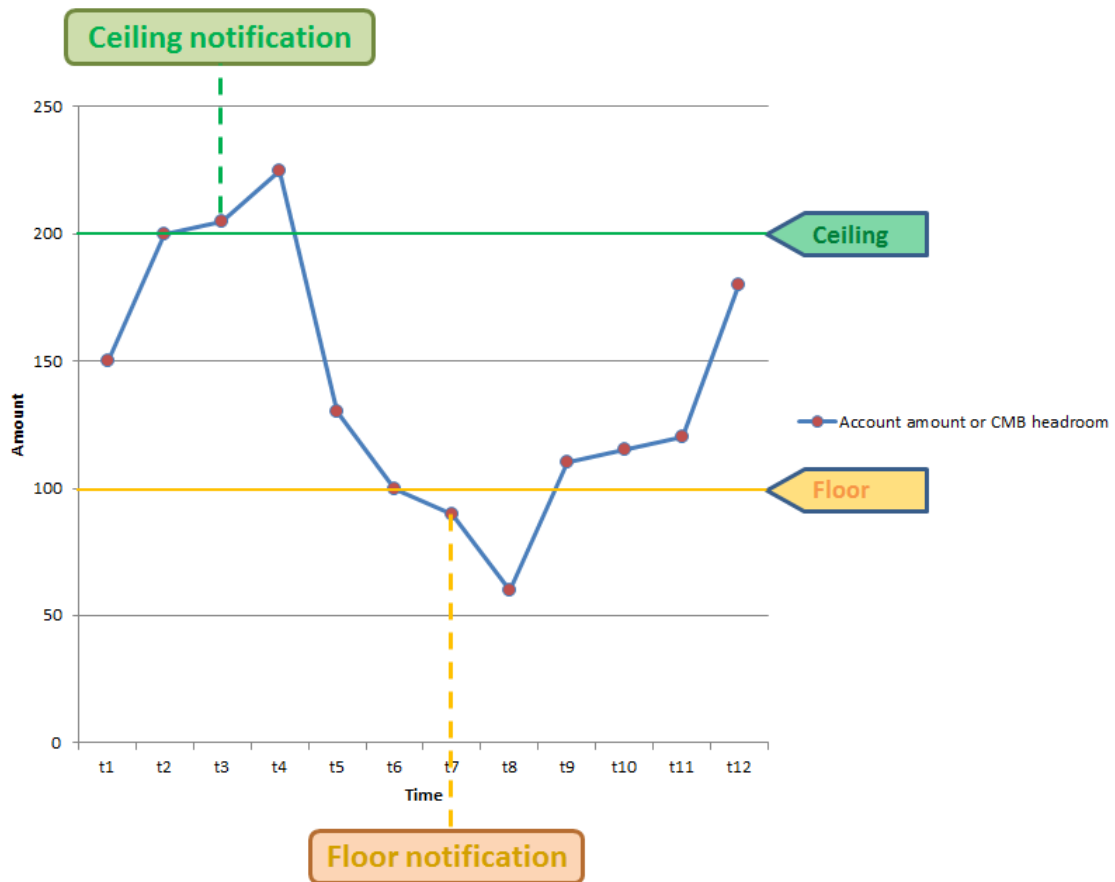
The floor and ceiling notification process manages the sending of the notifications whenever, after a successful settlement process, the amount (or headroom) of the account (or the CMB) undercuts the floor amount or exceeds the ceiling amount configured by the account or CMB owner.

TIPS can generate a floor and ceiling notification related to an account after both Instant Payment or Liquidity Transfer settlement.

TIPS can generate a floor and ceiling notification related to a CMB only after Instant Payment settlement.

The notifications are generated every time the threshold is undercut (floor) or exceeded (ceiling). TIPS does not generate notifications if, after trespassing the threshold, the account amount or CMB headroom remains over the ceiling threshold or under the floor threshold.

Figure 42 - Floor and ceiling notification triggers



The examples below are based on IP cases.

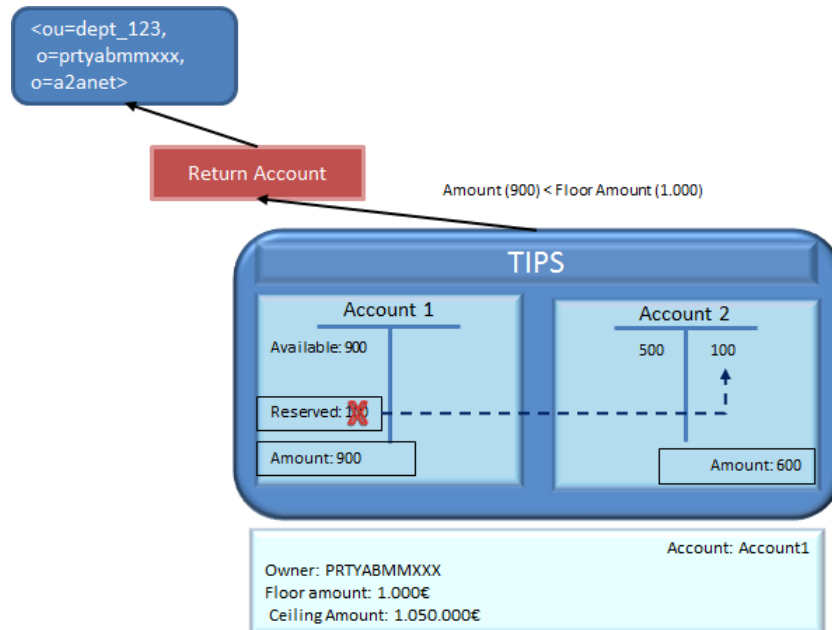
### 2.6.1.1. Floor notification on account

This positive scenario describes a successful payment transaction between two TIPS Account 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 goes 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€. At the end of the settlement phase, the payment is confirmed and the Amount of the account is 900€.

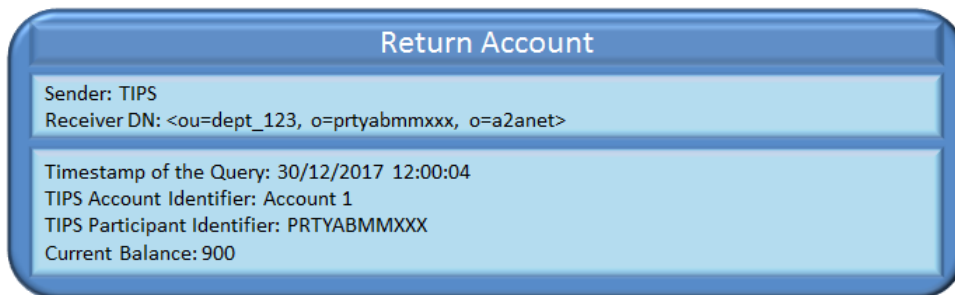
The system recognises that the account goes under the threshold defined by the customer and it starts the notification process.

**Figure 43 - Floor notification settlement**



TIPS selects the owner of the account and its Outbound DN and sends the message as follow.

**Figure 44 - Floor notification ReturnAccount**



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

Since 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 to separate messages, one notifying about the undercut for CMB and the other notifying undercut for the Account.

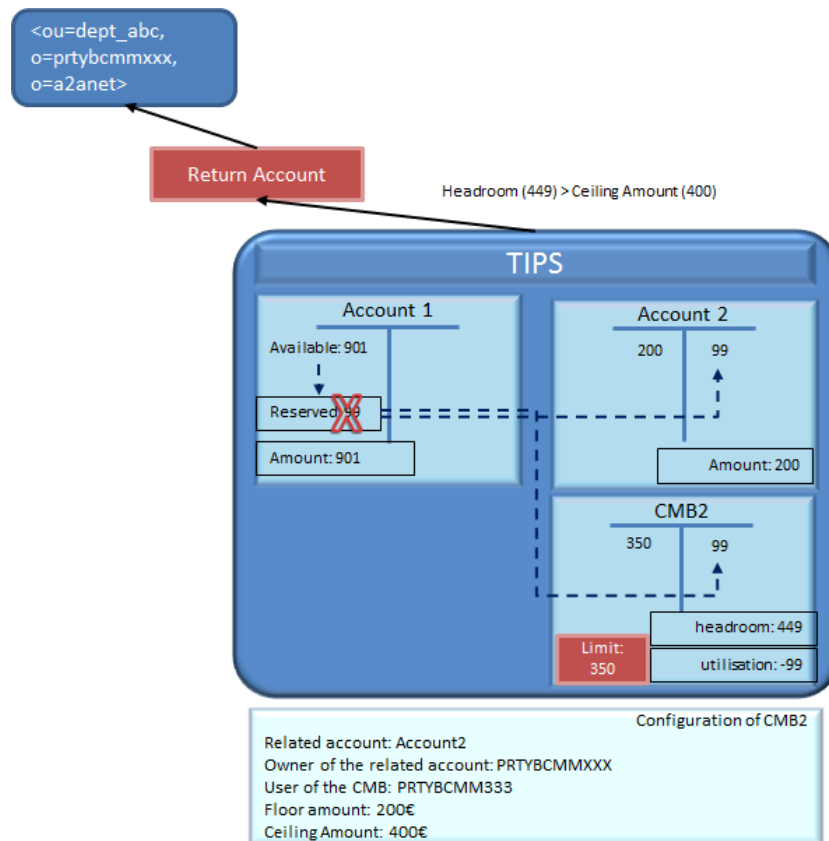
### 2.6.1.2. Ceiling notification on CMB

This positive scenario describes a successful payment transaction between two TIPS Actors that generates a ceiling notification on the credited CMB or account. The scenario described is only an example for the ceiling notification and how the message is triggered. The scenario is similar when the available amount of an Account exceeds the defined threshold. In this case, the message is generated and sent to the owner of the account.

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€. At the end of the settlement phase, the payment is confirmed and the headroom of CMB2 is 900€.

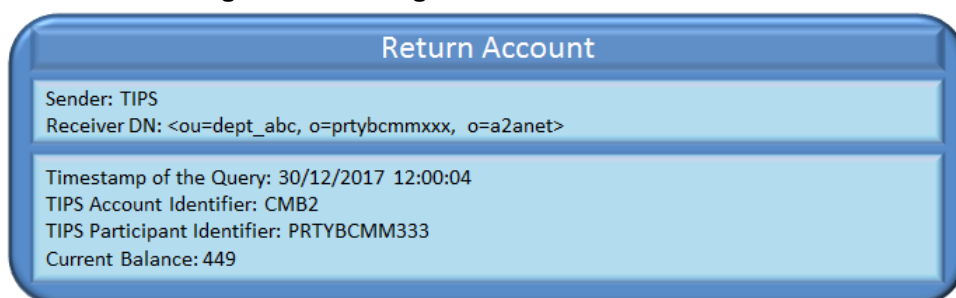
The system recognises that the CMB's headroom has exceeded the threshold configured by the TIPS Actor and it starts the notification process.

**Figure 45 - Ceiling notification settlement**



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

**Figure 46 - Ceiling notification ReturnAccount**



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

Since 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 to separate messages, one notifying about the current headroom of CMB and the other notifying the amount of the account.

## 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, to the limit and the status of a CMB, or to one payment transaction. This process is characterized by three different kinds of query:

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

Basing on the subject affected by queries, they can be grouped into two groups:

- Queries on Accounts/CMB (Account balance and status query and CMB limit and status query);
- Queries on Payment transactions (Payment transaction status query);

This subdivision is reflected into the following two sub-sections of this chapter, each one containing the steps of the general flow and examples of possible scenarios, with a focus on possible failing ones: each example shows the relevant messages and how the main fields are filled.

### 2.7.1. Queries on Account/CMB

Regarding the Account balance and status query and the CMB limit and status query the involved actors and messages are:

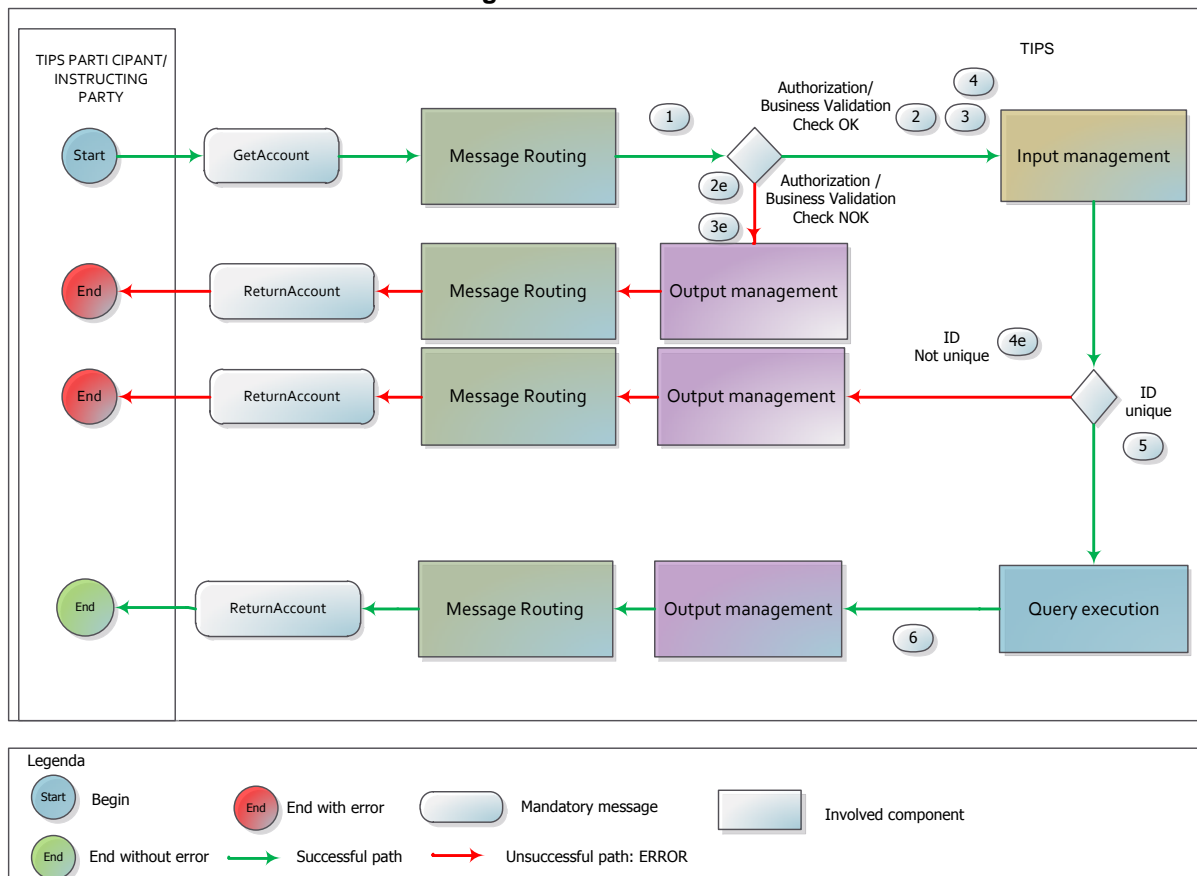
- The Participant or Instructing Party sending the query;
- [GetAccount](#) message in order to instruct query;
- [ReturnAccount](#) message in order to receive the query response.

All the described scenarios are triggered under the assumption that the schema 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.

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

**Figure 47 - Queries flow**



**Table 11 - Queries steps**

Step	Involved messages	Involved actors	Description
1	<a href="#">GetAccount</a>	Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an incoming Query from the Participant or Instructing Party. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: <ul style="list-style-type: none"> <li>- Access Rights check;</li> <li>- Authorization Check;</li> <li>- Account or CMB existence;</li> <li>- Instructing Party authorized;</li> </ul> See table XXX for details.

Step	Involved messages	Involved actors	Description
2e	<a href="#">ReturnAccount</a>	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the check 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 <a href="#">GetAccount</a> message:  - for the Account balance and status query, TIPS verifies that the value corresponds to an account type "TIPS Account" in the table "Cash Accounts" and it is linked to the TIPS Participant as Account Owner or Authorized Participant on the Account.  - for the CMB limit and status query, TIPS verifies that the value corresponds to a CMB in the table and it is linked to the TIPS Participant as CMB owner or Authorized Reachable Party on the CMB. The system selects also the TIPS Account linked to the CMB;
3e	<a href="#">ReturnAccount</a>	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the check 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 successfully executes the check: - Duplicate check; See table XXX for details.
4e	<a href="#">ReturnAccount</a>	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks at step 4. In the case of a negative check the system sends a message to the Participant or Instructing Party - same DN of the Sender - containing the proper error code. See table XXX for details.
5		TIPS	TIPS retrieves the data corresponding to the submitted query and its input parameters.
6	<a href="#">ReturnAccount</a>	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.

### 2.7.1.1. Examples

This sub-section presents different examples of the possible different scenarios related to the queries on Account/CMB.

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.

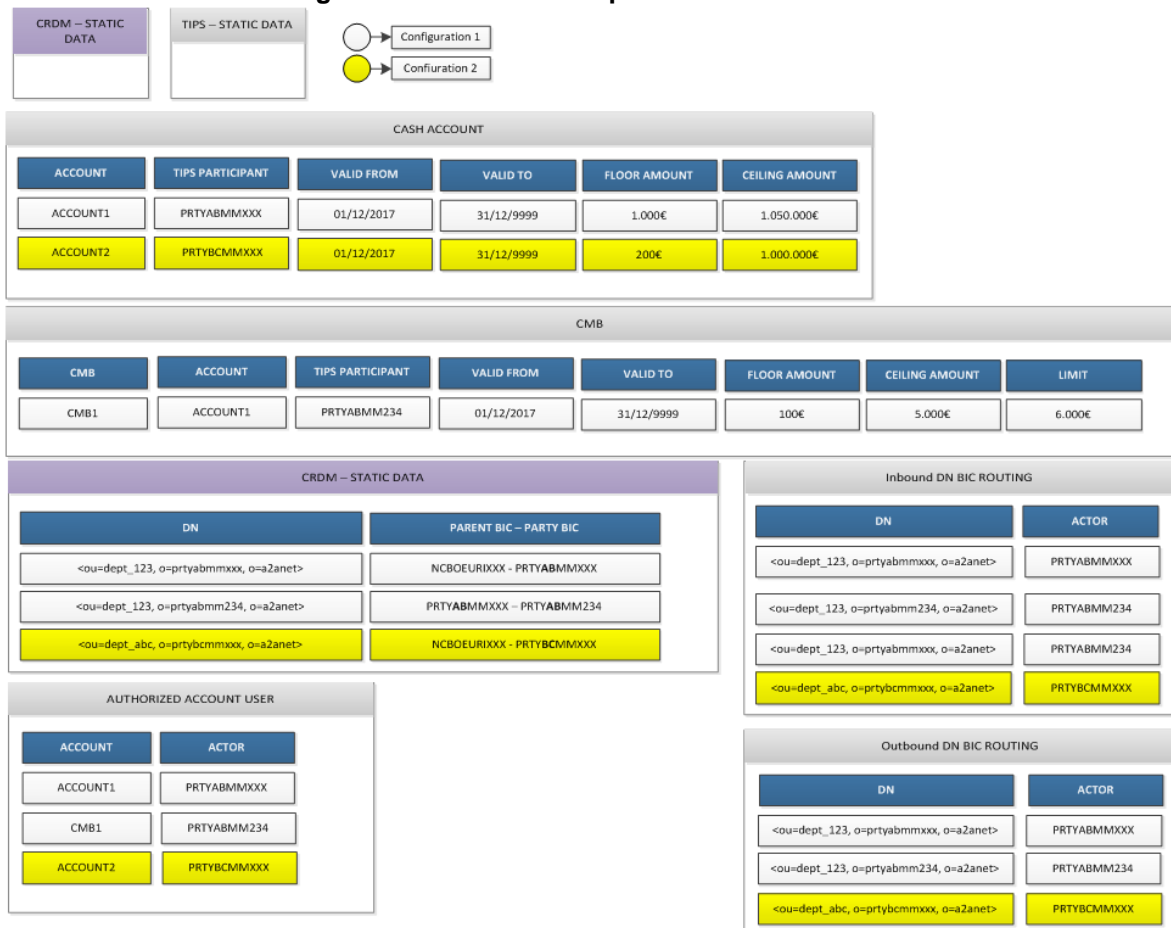


The third one provides an example of a TIPS rejection for the TIPS Account/CMB not found.

The last one provides an example of a TIPS rejection due to the failure of the duplicate check.

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

**Figure 48 - Queries examples - data constellation**

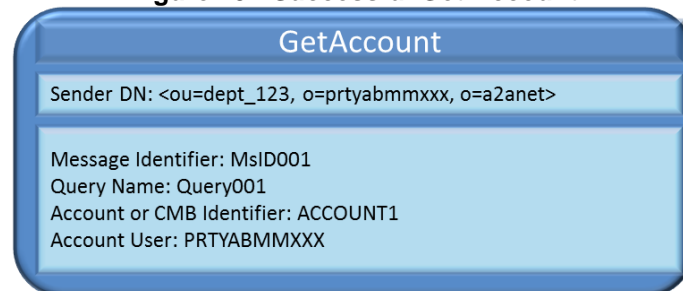


### 2.7.1.1.1 Successful scenario - Account balance and status query

In this scenario:

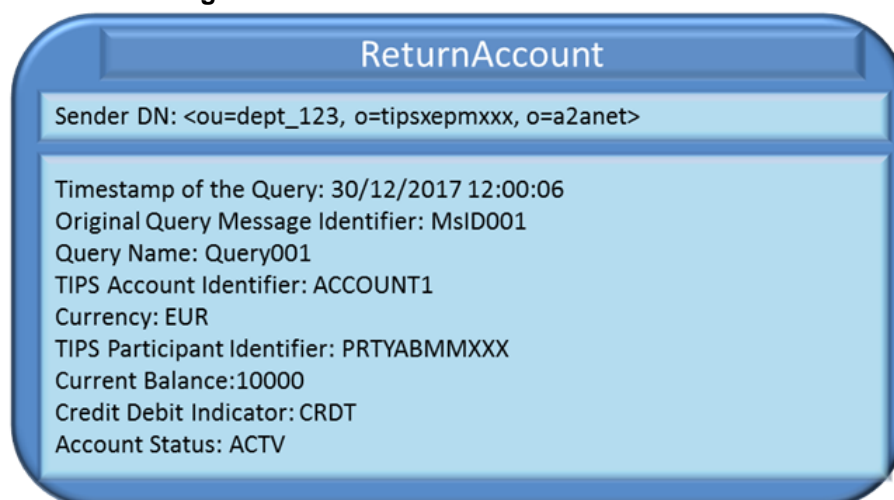
- a TIPS participant (PRTYABMMXXX) sent a [GetAccount](#) message to TIPS to query the balance and the status an account (ACCOUNT1);
- the TIPS Account balance for ACCOUNT1 is 10,000.00 EUR;
- The TIPS Account is active and opened.

**Figure 49 - Successful Get Account**



- TIPS identifies:
  - o the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept\_123, o=prtyabmmxxx, o=a2anet>);
  - o the Account (ACCOUNT1);
  - o The 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 50 - Successful ReturnAccount**



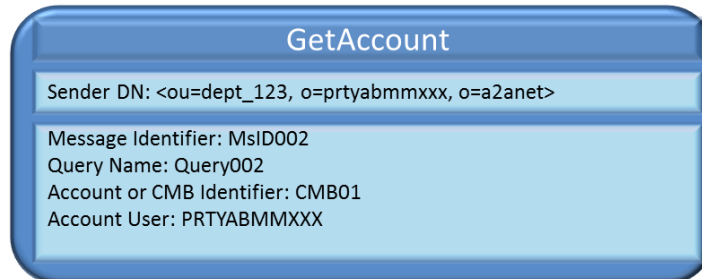
#### 2.7.1.1.2 Successful scenario - CMB limit and status query

In this scenario:

- a TIPS Participant (PRTYABMMXXX) sent a [GetAccount](#) message to TIPS to query the status of a CMB (CMB01), used by the Reachable Party;
- the TIPS CMB limit for CMB01 is 6,000.00 EUR;
- the TIPS CMB utilization for CMB01 is 5,200.00 EUR;

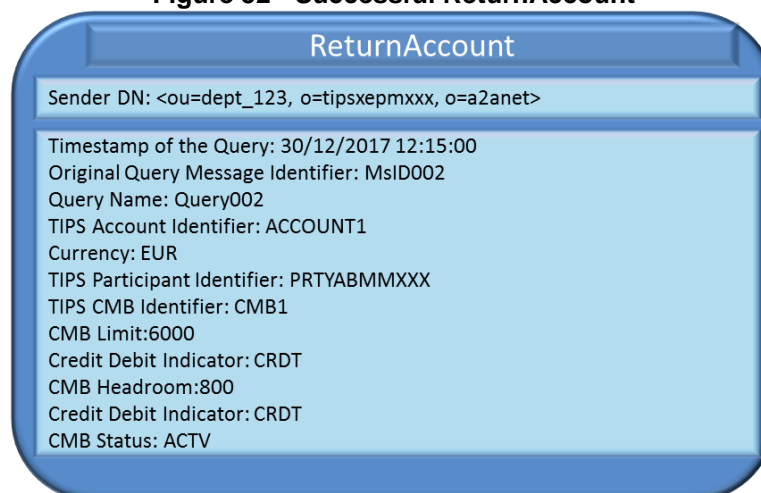
- the TIPS CMB Headroom for CMB01 is 800.00 EUR;
- the CMB is active and opened.

**Figure 51 - Successful Get Account**



- TIPS identifies:
  - o the DN of sender – i.e. the TIPS instructing party (<ou=dept\_123, o=prtyabmmxxx, o=a2anet>);
  - o the CMB (CMB1);
  - o the 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 52 - Successful ReturnAccount**



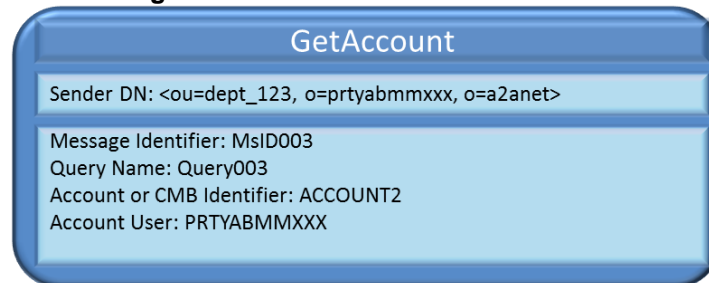
### 2.7.1.1.3 Unsuccessful scenario – TIPS Account/CMB not found

In this scenario:

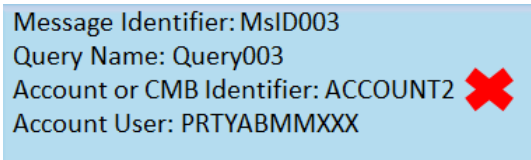
- a TIPS participant (PRTYABMMXXX) sent a [GetAccount](#) message to TIPS to query the balance and the status an account (ACCOUNT2);

- ACCOUNT2 is not a TIPS Account.

**Figure 53 - Unsuccessful Get Account**

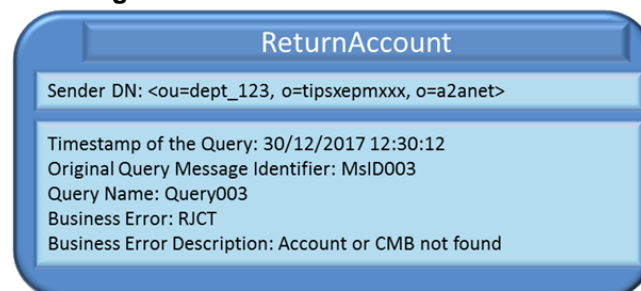


- TIPS does not identify ACCOUNT2 as TIPS Account/CMB.



- A [ReturnAccount](#) message is sent by TIPS to the same DN of the query Sender, containing the error code and description.

**Figure 54 - Unsuccessful ReturnAccount**

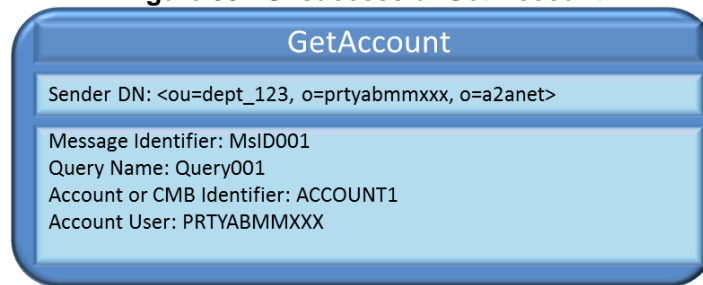


#### 2.7.1.1.4 Unsuccessful scenario – Duplicate check failed

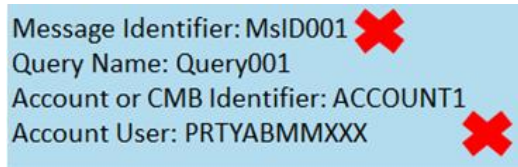
In this scenario:

- a TIPS participant (PRTYABMMXXX) sent 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 and opened.

**Figure 55 - Unsuccessful Get Account**

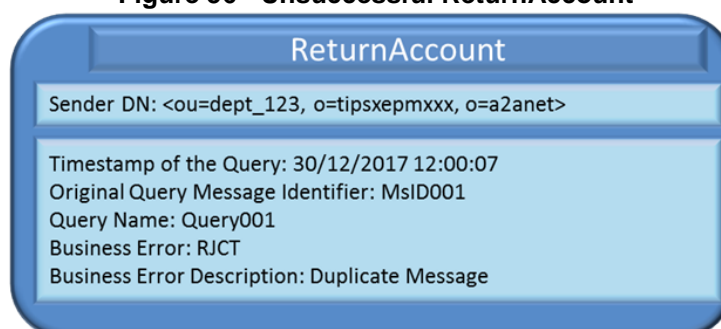


- TIPS identifies:
  - o the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept\_123, o=prtyabmmxxx, o=a2anet>);
  - o the Account (ACCOUNT1);
  - o the Participant (PRTYABMMXXX).
- TIPS detects a duplicate submission: the [GetAccount](#) message has the same Message Identifier (MsID001) of another query message received from the same Participant Identifier (PRTYABMMXXX) in the last X days (where X is equal to the system parameter "data retention period").



- A [ReturnAccount](#) message is sent by TIPS to the same DN of the query Sender, containing the error code and description.

**Figure 56 - Unsuccessful ReturnAccount**



### 2.7.2. Queries on Payment transactions.

Regarding the Payment transaction status query the involved actors and messages are:

- The Participant or Instructing Party sending the query;

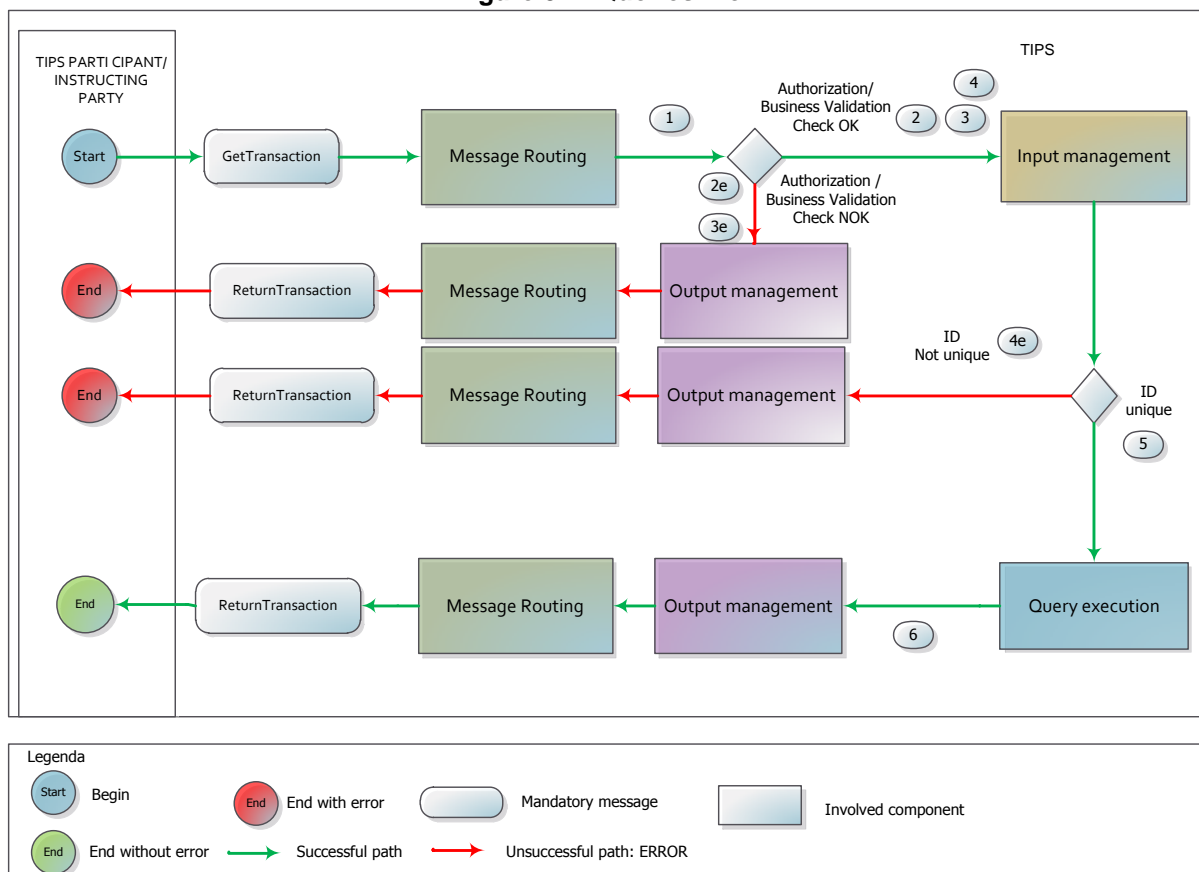
- [FIToFIStatusRequest](#) message in order to instruct query;
- [FIToFIPaymentStatusReport](#) message in order to receive the query response.

All the described scenarios are triggered under the assumption that the schema 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 [FIToFIStatusRequest](#) 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 57 - Queries Flow**



**Figure 58 - Queries steps**

Step	Involved messages	Involved actors	Description
1	<a href="#">FIToFIStatusRequest</a>	Participant or Instructing Party Sender as TIPS as	TIPS receives an incoming Query from the Participant or Instructing Party. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.

		receiver	
2		TIPS	TIPS successfully executes the checks: - Access Rights check; - Authorization Check; - Payment Transaction existence; - Instructing Party authorized;  See table XXX for details.
2e	<a href="#">FIToFIPaymentStatusReport</a>	TIPS as sender Participant Instructing Party as receiver	TIPS unsuccessfully executes one of the check 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 checks if the TIPS actor instructing the query is the Beneficiary of the interested Payment transaction.
3e	<a href="#">FIToFIPaymentStatusReport</a>	TIPS as sender Participant 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 proper error code.
4		TIPS	TIPS successfully executes the check: - Duplicate check; See table XXX for details.
4e	<a href="#">FIToFIPaymentStatusReport</a>	TIPS as sender Participant Instructing Party as receiver	TIPS unsuccessfully executes the checks at step 4. In the case of a negative check the system sends a message to the Participant or Instructing Party - same DN of the Sender - containing the proper error code. See table XXX for details.
5		TIPS	TIPS retrieves the data corresponding to the required Payment transaction.
6	<a href="#">FIToFIPaymentStatusReport</a>	TIPS as sender Participant 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.

### 2.7.2.1. Examples

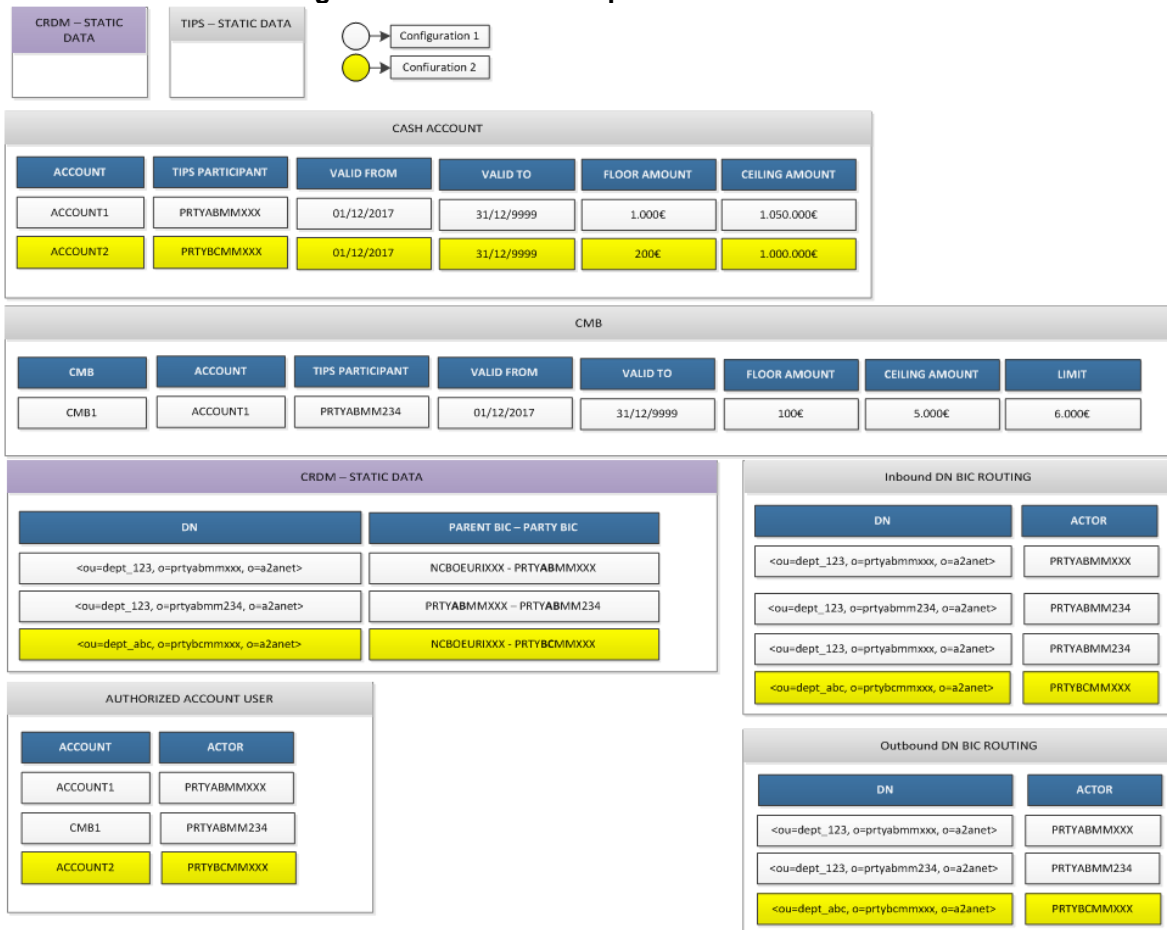
This sub-section presents two examples of the possible scenarios related to the queries on Payment transaction.

The first one provides the example of a non-empty answer to a Payment transaction status query.

The second one describes an example of a TIPS rejection for Payment transaction not found.

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

**Figure 59 - Queries examples - data constellation**



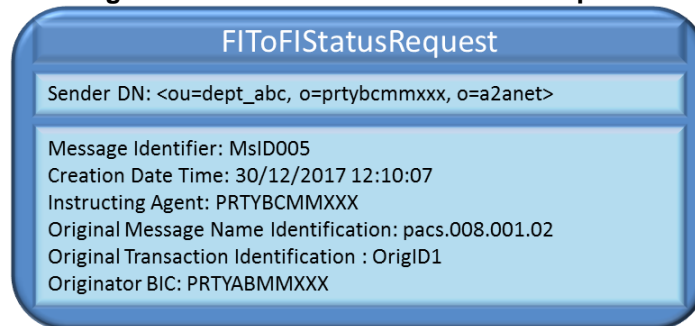
#### 2.7.2.1.1 Successful scenario - Payment transaction status query

In this scenario:



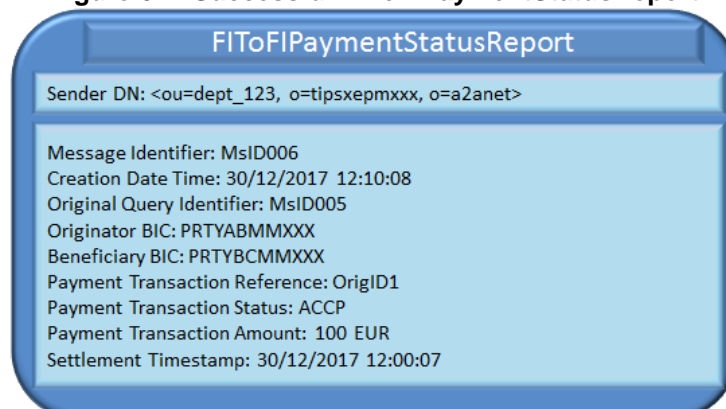
- A TIPS participant (PRTYBCMMXXX) sent a [FIToFIStatusRequest](#) message to TIPS to receive information about a Payment transaction (OrigID1).
- Payment transaction OrigID1 is present in TIPS for the Originator BIC PRTYABMMXXX, and it has been successfully settled.

**Figure 60 - Successful FIToFIStatusRequest**



- TIPS identifies:
  - o the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept\_abc, o=prtybcmxxx, o=a2anet>);
  - o the Payment transaction (OrigID1 for the Originator Participant/Reachable Party (PRTYABMMXXX));
  - o the TIPS actor instructing the [FIToFIStatusRequest](#) (PRTYBCMMXXX).
- TIPS selects information related to the Payment transaction;
- A [FIToFIPaymentStatusReport](#) message is sent by TIPS to the same DN of the query Sender, containing the query results.

**Figure 61 - Successful FIToFIPaymentStatusReport**

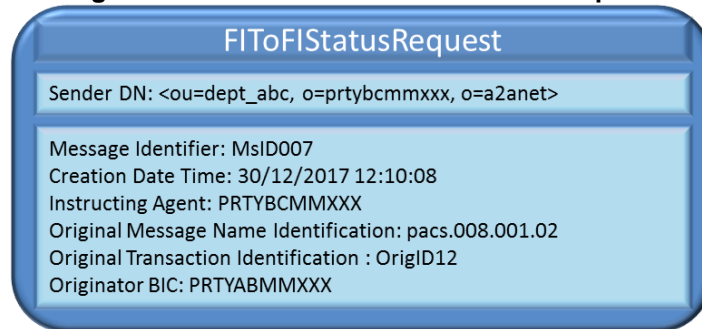


### 2.7.2.1.2 Unsuccessful scenario – Payment transaction not found

In this scenario:

- A TIPS participant (PRTYBCMMXXX) sent a [FIToFIStatusRequest](#) message to TIPS to receive information about a Payment transaction (OrigID12);
- Payment transaction OrigID12 is not present in TIPS for the Originator BIC PRTYABMMXXX.

**Figure 62 - Unsuccessful FIToFIStatusRequest**

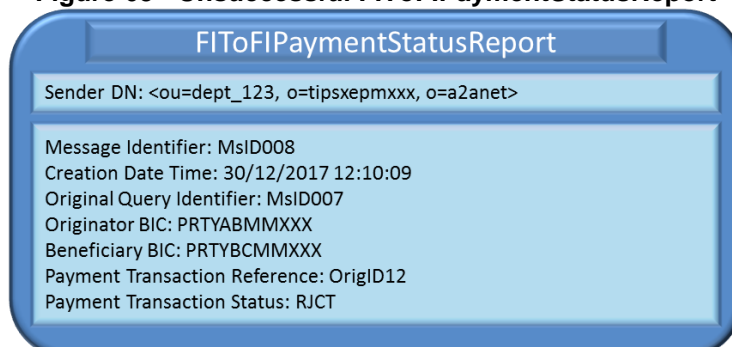


- TIPS identifies:
  - o the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept\_abc, o=prtybcmxxx, o=a2anet>);
  - o the TIPS actor instructing the [FIToFIStatusRequest](#) (PRTYBCMMXXX).
- TIPS does not find the Payment transaction (OrigID12) for the Originator Participant/Reachable Party (PRTYABMMXXX);

Message Identifier: MsID007  
 Creation Date Time: 30/12/2017 12:10:08  
 Instructing Agent: PRTYBCMMXXX  
 Original Message Name Identification: pacs.008.001.02  
 Original Transaction Identification : OrigID12 ❌  
 Originator BIC: PRTYABMMXXX ❌

- A [FIToFIPaymentStatusReport](#) message is sent by TIPS to the same DN of the query Sender , containing the query error.

**Figure 63 - Unsuccessful FIToFIPaymentStatusReport**



## 2.8. Report

## 2.9. Reference data management

## 2.10. Raw data extraction

## 3. Catalogue of messages

### 3.1. Introduction

### 3.2. General information

A2A Interactions with TIPS are based on XML ISO20022 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 chapters, which are not necessarily under TIPS responsibility.

#### 3.2.1. Message signing

#### 3.2.2. Message enveloping

#### 3.2.3. Schema validation

Schema validation for incoming A2A XML messages is performed by the ESMIG using standard parser components.

As ESMIG checks the compliance of the received XML message with the appropriate Xml Schema Definition, the message forwarded by ESMIG to TIPS will have all the mandatory fields filled in and every piece of information will be valid according to the specific Data Types and restrictions as defined in the XSD.

#### 3.2.4. Message validation

When receiving a A2A XML message, TIPS performs additional business validation checks which cannot be done in the schema validation phase (e.g. Cross fields validation).

The type and quantity of the checks performed, vary depending on the message type.

### 3.2.5. Supported Character Set

Following the SEPA Instant Credit Transfer specifications, the allowed character set is restricted 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

ISO Message	Message Name	Scenario
<b><u>Payments Clearing and Settlement (pacs)</u></b>		
<a href="#">pacs.002.001.03</a>	FIToFIPaymentStatusReport	Settlement of Instant Payments transactions Settlement of Recall Investigation
<a href="#">pacs.004.001.02</a>	PaymentReturn	Settlement of Recall
<a href="#">pacs.008.001.02</a>	FIToFICustomerCreditTransfer	Settlement of Instant Payments transactions
<a href="#">pacs.028.001.01</a>	FIToFIPaymentStatusRequest	Investigation
<b>Cash Management (camt)</b>		

ISO Message	Message Name	Scenario
<a href="#">camt.003.001.06</a>	GetAccount	Reports and queries
<a href="#">camt.004.001.07</a>	ReturnAccount	Settlement of Instant Payments transactions Liquidity Management Reports and queries
<a href="#">camt.011.001.06</a>	ModifyLimit	Reference data maintenance
<a href="#">camt.019.001.06</a>	ReturnBusinessDayInformation	Reports and queries
<a href="#">camt.025.001.04</a>	Receipt	Liquidity Management Reference data maintenance
<a href="#">camt.029.001.03</a>	ResolutionOfInvestigation	Recall
<a href="#">camt.050.001.04</a>	LiquidityCreditTransfer	Liquidity Management
<a href="#">camt.052.001.03</a>	BankToCustomerAccountReport	Reports and queries
<a href="#">camt.053.001.03</a>	BankToCustomerStatement	Reports and queries
<a href="#">camt.054.001.03</a>	BankToCustomerDebitCreditNotification	Liquidity Management
<a href="#">camt.056.001.01</a>	FIToFIPaymentCancellationRequest	Recall
<b><u>Account Management (acmt)</u></b>		
<a href="#">acmt.010.001.02</a>	AccountRequestAcknowledgement	Reference Data management
<a href="#">acmt.011.001.02</a>	AccountRequestRejection	Reference Data management
<a href="#">acmt.015.001.021</a>	AccountExcludedMandateMaintenanceRequest	Reference Data management
<b><u>Reference Data (reda)</u></b>		
<a href="#">reda.016.001.01</a>	PartyStatusAdviceV01	Reference Data management
<a href="#">reda.022.001.01</a>	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

- It is sent by TIPS to the Originator to report a rejection for a pacs.008 instruction
- It is sent by the Beneficiary PSP to TIPS to report the processing result of a pacs.008 sent by TIPS upon request of an Originator PSP.
- The same message is then sent back to the Originator PSP
- It is sent by TIPS to the Originator PSP after a Status Investigation request

Additionally, It is sent by TIPS to the requestor upon a Payment Transaction Status Query. This business case is detailed in a separate table.

Message specification is compliant to EPC DS-03 Confirmation Message as described in the SEPA Instant Credit Transfer scheme Rulebook.

#### **Description of the fields for DS-03 Dataset vs pacs.002.001.03**

EPC Reference	Reference Name	EPC Description	XML path	Mandato ry	TIPS Usage
AT-06	Originator BIC	The BIC code of the Originator Bank	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/DbtrAgt/FinInstnId/BIC	Yes	
AT-41	End To End Identification	The Originator's reference of the SCT Inst Transaction	FIToFIPmtStsRpt/TxInfAndSts/OrgnlEndToEndId	Yes	

EPC Reference	Reference Name	EPC Description	XML path	Mandato ry	TIPS Usage
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT Inst Transaction message	FItoFIPmtStsRpt/TxInfAndSts/OrgnlTxId	Yes	
AT-R1	Group Status Transaction Status	The type of "R" message	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/GrpSts FItoFIPmtStsRpt/TxInfAndSts/TxSts	Yes	
AT-R2	Originator	The Identification of the type of party initiating the "R" message	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Orgtr	Yes	
AT-R3	Reason	The reason code for non-acceptance of the SCT Inst Transaction	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Rsn/Cd	No	
AT-R4	Status Identification	The specific reference of the party initiating the Reject	FItoFIPmtStsRpt/TxInfAndSts/StsId	Yes	
AT-51	Status Identification	The Beneficiary Bank's reference of the SCT Inst Transaction (status ID)	FItoFIPmtStsRpt/TxInfAndSts/StsId	Yes	

### Payment Transaction Status query response

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message	FItoFIPmtStsRpt/GrpHdr/MsgId	Yes	
Creation Date Time	Date and time at which the message was created,	FItoFIPmtStsRpt/GrpHdr/CreDtTm	Yes	
Original Query Identifier	Identification of the query message originating the response	FItoFIPmtStsRpt/OrgnlGrpInfAndSts/OrgnlMsgId	Yes	
Originator BIC	The BIC code of the Originator Bank	FItoFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/DbtrAgt/FinInstnId/BIC	Yes	
Beneficiary BIC	The BIC code of the Beneficiary Bank	FItoFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/CdtrAgt/FinInstnId/BIC	Yes	
Payment Transaction Reference	The Originator Bank's reference number of the SCT Inst Transaction message	FItoFIPmtStsRpt/TxInfAndSts/OrgnlTxId	Yes	



Field Name	Description	XML path	Mandatory	TIPS Usage
Payment Transaction Status	Status of the SCT Inst Transaction message	FItoFIPmtStsRpt/TxInfAndSts/TxSts	Yes	
Payment Transaction Amount	Amount of the SCT Inst Transaction message	FItoFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/IntrBkSttlmAmt	No	This field is not filled when the transaction is not retrieved
Settlement Timestamp	Date and time at which the SCT Inst instruction was settled.	FItoFIPmtStsRpt/TxInfAndSts/StsRsnrInf/AddtlInf	No	This field reports the settlement timestamp only if the payment transaction has been settled.

### 3.3.2.1.2 PaymentReturnV02 (pacs.004.001.02)

### 3.3.2.1.3 FItoFICustomerCreditTransferV02 (pacs.008.001.02)

The FItoFICustomerCreditTransfer message allows instructing TIPS for an instant payment of a positive amount of money from the instructing party account to a beneficiary account.

Message specification is compliant to EPC DS-02 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

#### **Description of the fields for DS-02 Dataset vs pacs.008.001.02**

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
AT-01	Originator IBAN	The IBAN of the account of the Originator	FItoFICstmrCdtTrf/CdtTrfTxInf/DbtrAcct/Id/IBAN	Yes	Not used in TIPS
AT-02	Originator Name	The name of the Originator	FItoFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Nm	Yes	Not used in TIPS
AT-03	Originator Address	The address of the Originator	FItoFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr	No	Not used in TIPS
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

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EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
					Creditor and Debtor Accounts
AT-05	Remittance Information	The Remittance Information	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf	No	Not used in TIPS
AT-06	Originator BIC	The BIC code of the Originator Bank	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinlnstnId/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-08	Originator Reference Party Name	The name of the Originator Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Nm	No	Not used in TIPS
AT-09	Originator Reference Party Identification Code	The identification code of the Originator Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id	No	Not used in TIPS
AT-10	Originator Identification Code	The Originator identification code	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id	No	Not used in TIPS
AT-20	Beneficiary IBAN	The IBAN of the account of the beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAcct/Id/IBAN	Yes	Not used in TIPS
AT-21	Beneficiary Name	The name of the Beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Nm	Yes	Not used in TIPS
AT-22	Beneficiary Address	The address of the Beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr	No	Not used in TIPS
AT-23	Beneficiary BIC	The BIC code of the Beneficiary Bank	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAgt/FinlnstnId/BIC	Yes	The Beneficiary BIC must be linked with at least one Distinguish Name for outbound message routing
AT-24	Beneficiary Identification Code	The Beneficiary identification code	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id	No	Not used in TIPS
AT-28	Beneficiary Reference Party Name	The name of the Beneficiary Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Nm	No	Not used in TIPS
AT-29	Beneficiary Reference Party Identification Code	The identification code of the Beneficiary Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id	No	Not used in TIPS
AT-40	Scheme Identification Code	The identification code of the SCT Inst Scheme	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/SvcLvl/Cd  FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/LclInstm/Cd	Yes	Not processed in TIPS as possible allowed values for these XML elements are checked within Schema Validation
AT-41	End To End Identification	The Originator's reference of the SCT Inst Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/EndToEndId	Yes	Not used in TIPS
AT-42	Settlement Date	The Settlement Date of the SCT Inst Transaction	FIToFICstmrCdtTrf/GrpHdr/IntrBkSttlmDt	Yes	

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT Inst Transaction message	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/TxId	Yes	The Transaction Identification is used to couple a Payment Instruction with the related A2A messages
AT-44	Purpose	The purpose of the SCT Inst Instruction	FIToFICstmrCdtTrf/CdtTrfTxInf/Purp	No	Not used in TIPS
AT-45	Category Purpose	The category purpose of the SCT Inst Instruction	FIToFICstmrCdtTrf/GrpHdr/PmtTplnf/CtgyPurp	No	Not used in TIPS
AT-50	Acceptance Timestamp	Time Stamp of the SCT Inst Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/AcptncDtTm	Yes	The Acceptance Timestamp is used as a starting point in time for the Payment Instruction processing

#### 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 a payment instruction.

This message covers two business scenarios:

- Status investigation message
  - o The Originator Bank can start the investigation process on a previously instructed payment instruction
- Payment transaction status query
  - o The Beneficiary Bank can query TIPS to retrieve details on the status of a payment transaction it has been addressed

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.

#### Status investigation Message EPC DS-07 vs pacs.028.001.01

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
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EPC Reference	Reference Name	EPC Description	XML path	Mandato ry	TIPS Usage
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT Inst Transaction message	FIToFIPmtStsReq/TxInf/OrgnITxId	Yes	This field is used in combination with the requestor Distinguish Name to check user access rights.
AT-50	Acceptance Timestamp	Time Stamp of the SCT Inst Transaction	FIToFIPmtStsReq/TxInf/AcceptncDtTm	Yes	
AT-06 <sup>2</sup>	Originator BIC	The BIC code of the Originator Bank	FIToFIPmtStsReq/TxInf/OrgnITxRef/DbtrAgt/FinInstnId/BICFI	Yes	This field is used in combination with the requestor Distinguish Name to check user access rights.

### Payment Transaction Status query

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message	FIToFIPmtStsReq/GrpHdr/MsgId	Yes	
Creation Date Time	Date and time at which the message was created,	FIToFIPmtStsReq/GrpHdr/CreDtTm	Yes	
Instructing Agent	BIC of the TIPS actor instructing the query	FIToFIPmtStsReq/GrpHdr/InstgAgt/FinInstnId/BICFI	Yes	This field is used in combination with the requestor Distinguish Name to check user access rights.
Original Message Identification	Point to point reference	FIToFIPmtStsReq/OrgnlGrpInf/OrgnlMsgId	Yes	Not used in TIPS
Original Message Name Identification	Specifies the original message name identifier	FIToFIPmtStsReq/OrgnlGrpInf/OrgnlMsgNmId	Yes	Only "pacs.008.001.02" is allowed
Status Request Identification	Unique identification to identify the status request	FIToFIPmtStsReq/TxInf/StsReqId	Yes	Not used in TIPS
Original Instruction Identification	Unique identification given to the original instruction	FIToFIPmtStsReq/TxInf/OrgnlInstrId	No	Not used in TIPS

<sup>2</sup> 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	Mandatory	TIPS Usage
Original End To End Identification	Unique identification given to the original instruction	FItoFIPmtStsReq/TxInf/OrgnlEndToEndId	Yes	Not used in TIPS
Original Transaction Identification	Unique identification given to the original instruction	FItoFIPmtStsReq/TxInf/OrgnlTxId	Yes	This field is used to retrieve the payment transaction
Acceptance Date and Time	Time Stamp of the SCT Inst Transaction	FItoFIPmtStsReq/TxInf/AcceptncDtTm	Yes	Not used in TIPS
Payment Type Information	Set of elements to further specify the type of transaction	FItoFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf	No	Not used in TIPS
Originator BIC	The BIC code of the Originator Bank	FItoFIPmtStsReq/TxInf/OrgnlTxRef/DbtrAgt/FinInstnId/BICFI	Yes	This field is used in combination with the Transaction Identification to retrieve the payment transaction

### 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.

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message	GetAcct/MsgHdr/MsgId	Yes	This information will be included in the resulting camt.004

Field Name	Description	XML path	Mandatory	TIPS Usage
Query Name	Mnemonic for the query	GetAcct/AcctQryDef/AcctCrit/QryNm	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 user of the Account or CMB	GetAcct/AcctQryDef/AcctCrit/NewCrit/SchCrit/AcctOwnr/Id/Orgld/AnyBIC	Yes	TIPS uses this BIC in combination with the 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.

- Account Balance and Status Query response

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/Msgld	Yes	

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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/Msgld	Yes	Field is always filled when the camt.004 is a query response.
Query Name	Mnemonic of the originating query message	RtrAcct/MsgHdr/QryNm	Yes	Field is always filled 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/Orgld/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
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/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"

- CMB Limit and Status Query response

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/Msgld	Yes	

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Field Name	Description	XML path	Mandatory	TIPS Usage
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.
Query Name	Mnemonic of the originating query message	RtrAcct/MsgHdr/QryNm	Yes	Field is always filled 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
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"

- Query response error

Field Name	Description	XML path	Mandatory	TIPS Usage
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Field Name	Description	XML path	Mandatory	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.
Query Name	Mnemonic of the originating query message	RtrAcct/MsgHdr/QryNm	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	

- CMB Floor and Ceiling notifications

Field Name	Description	XML path	Mandatory	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	
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/Acct/CurBillLmt/BilBal/CdtDbtInd	Yes	As negative limits are not foreseen, only the value "CRDT" is expected
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- Account Floor and Ceiling notifications

Field Name	Description	XML path	Mandatory	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	
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.

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message	ModfyLmt/MsgHdr/MsgId	Yes	Field is referenced in the

Field Name	Description	XML path	Mandatory	TIPS Usage
				resulting camt.025 message
Creation Date Time	Timestamp assigned when message has been generated	ModfyLmt/MsgHdr/CreDtTm	Yes	
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
Limit Type	Type of the limit to be modified	ModfyLmt/LmtDtls/LmtId/Cur/Tp/Cd	Yes	Only allowed value is "BILI"
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	

#### 3.3.2.2.4 ReturnBusinessDayInformation (camt.019.001.06)

#### 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 by 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.

Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message	Rct/MsgHdr/MsgId	Yes	
Creation Date Time	Timestamp of the creation of the message	Rct/MsgHdr/CreDtTm	Yes	
Original Message Identification	Identification of the originating liquidity credit transfer or limit modification request	Rct/RctDtls/OrgnMsgId/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 ResolutionOfInvestigationV03 (camt.029.001.03)

### 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.

Field Name	Description	XML path	Mandatory	TIPS Usage
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Field Name	Description	XML path	Mandatory	TIPS Usage
Message Identifier	Identification of the message	GetAcct/MsgHdr/MsgId	Yes	
Creation Date Time	Timestamp of the creation of the message	LqdyCdtTrf/MsgHdr/CreDtTm	No	It must be filled for outbound Credit Transfers
Instruction Identification	Identification of the requested credit transfer	LqdyCdtTrf/LqdyCdtTrf/LqdyTrfId/InstrId	No	
End to End Identification	End to end identifier for the requested credit transfer	LqdyCdtTrf/LqdyCdtTrf/LqdyTrfId/EndToEndId	Yes	If not used, it must be filled with 'NOTPROVIDED'
Creditor	BIC of Financial Institution owning the account to be credited	LqdyCdtTrf/LqdyCdtTrf/Cdtr/FinInstnId/BICFI	Yes	
Creditor Account	Account to be credited	LqdyCdtTrf/LqdyCdtTrf/CdtrAcct/Id/Othr/Id	Yes	
Transferred Amount	Amount to be transferred from the debited account to the credited account	LqdyCdtTrf/LqdyCdtTrf/TrfdAmt/AmtWthCcy	Yes	
Debtor	BIC of Financial Institution owning the account to be debited	LqdyCdtTrf/LqdyCdtTrf/Dbtr/FinInstnId/BICFI	Yes	
Debtor Account	Account to be debited	LqdyCdtTrf/LqdyCdtTrf/DbtrAcct/Id/Othr/Id	Yes	
Settlement Date	Settlement date of the Credit Transfer	LqdyCdtTrf/LqdyCdtTrf/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.052.001.03)

### 3.3.2.2.9 BankToCustomerStatement (camt.053.001.03)

3.3.2.2.10 BankToCustomerDebitCreditNotification (camt.054.001.03)

3.3.2.2.11 FIToFIPaymentCancellationRequest (camt.056.001.01)

3.3.2.3. Account Management (acmt)

3.3.2.3.1 AccountRequestAcknowledgement (acmt.010.001.02)

3.3.2.3.2 AccountRequestRejection (acmt.011.001.02)

3.3.2.3.3 AccountExcludedMandateMaintenanceRequest (acmt.015.001.02)

3.3.2.4. Reference Data (reda)

### 3.3.2.4.1 PartyStatusAdvice (reda.016.001.01)

### 3.3.2.4.2 PartyModificationRequest (reda.022.001.01)

## 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: - when pacs.002, error code DS14	
All	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 "data retention period"	If a couple (Original Transaction Identification, Debtor Agent) already exists: - error code AM05	

## TARGET Instant Payment Settlement User Detailed Functional Specification

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process	Timeout Check - Originator Side	010001	Acceptance Date Time Parameter " SCT <sup>Inst</sup> Timestamp Timeout" Parameter "Originator Side Offset" for the Currency specified for the debited account 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 <sup>Inst</sup> Timestamp Timeout + Originator Side Offset)	If the check is not respected: - error code TM01	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 <sup>Inst</sup> Timestamp Timeout" Parameter "Beneficiary Side Offset" for the Currency specified for the credited account Current timestamp	The "Acceptance Date Time" of the message sent for initiating the transaction must respect this check: current timestamp < (Acceptance Date Time + SCT <sup>Inst</sup> Timestamp Timeout + Beneficiary Side Offset)	If the check is not respected: - error code AB05	Timeout creditor side exceeded
Instant Payment transaction business process	Timeout Check - Missing answer	010003	Transaction acceptance time Parameter " SCT <sup>Inst</sup> Timestamp Timeout" Parameter "Beneficiary Side Offset" for the Currency specified for the credited account Current timestamp	The "Acceptance Date Time" of the transaction must respect this check: current timestamp < (Acceptance Date Time + SCT <sup>Inst</sup> Timestamp Timeout + Beneficiary Side Offset)	If the check is not respected: - error code AB08	Timeout creditor side - missing answer in the proper time
Instant Payment transaction business process	Originator Account or CMB existence	010005	Debtor Agent Instructed Amount Business Date	The system verifies that in table "Autorised Account User" the Debtor Agent exists and it is 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 Instructed Amount and is open for the current Business Date.  If no Account exists, the system verifies that in table "CMB" the Debtor Agent exists and it is linked to one and only one item. The CMB must be related to an Account that has the currency equal to the one defined in the Instructed 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
Instant Payment transaction business process	Instructing Party authorised	010006	Sender Debtor Agent	The system checks the existence of the couple (Sender, Debtor Agent) in the entity "Inbound DN-BIC Routing".	If no row is present: - DNOR error code is returned	
Instant Payment transaction business process	Beneficiary Account or CMB existence	010008	Creditor Agent Instructed 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, type "TIPS Account", that in table "Cash Accounts" has the currency equal to the one defined in the Instructed Amount and is open for the current Business Date.  If no Account exists, the system verifies that in table "CMB" 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 Instructed 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



## TARGET Instant Payment Settlement User Detailed Functional Specification

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process	Same currency	010009	Debtor Agent Creditor Agent Instructed Amount Business Date	<p>The system selects Originator Account/CMB from the Debtor Agent as follows:</p> <ul style="list-style-type: none"> <li>- 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 Instructed Amount and it is open for the current Business Date</li> <li>- if the previous step fails, the system selects the row related to the Debtor Agent linked to one and only one CMB in table "CMB"; this CMB must be linked to an account having the currency equal to the one defined in the Instructed Amount and must be open for the current Business Date.</li> </ul> <p>The system selects Beneficiary Account/CMB from the Creditor Agent as follows:</p> <ul style="list-style-type: none"> <li>- 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 Instructed Amount and it is open for the current Business Date</li> <li>- if the previous step fails, the system selects the row related to the Creditor Agent linked to one and only one CMB in table "CMB"; this CMB must be linked to an account having the currency equal to the one defined in the Instructed Amount and must be open for the current Business Date.</li> </ul> <p>Both accounts/CMB must have the same currency and must be equal to the currency defined in the Instructed Amount.</p>	<p>If the check is not respected:</p> <ul style="list-style-type: none"> <li>- AM03 error code is returned</li> </ul>	Incoherent currencies
Instant Payment transaction business process	Maximum Amount not Exceeded	010010	Instructed Amount Parameter "Maximum Amount"	<p>The "Maximum Amount" parameter for the currency of the transaction is selected.</p> <p>The "Instructed Amount" of the message must be lower than or equal to the "Maximum Amount".</p>	<p>If the check is not respected:</p> <ul style="list-style-type: none"> <li>- return error code AM02</li> </ul>	Amount exceeds the maximum authorised amount

## TARGET Instant Payment Settlement User Detailed Functional Specification

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process	Originator Account not blocked	010011	Debtor Agent Instructed Amount Business Date	<p>The system select Originator Account/CMB from the Debtor Agent as follows:</p> <ul style="list-style-type: none"> <li>- 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 Instructed Amount and is open for the current Business Date</li> <li>- If no Account is returned, queries that in table "Cash Accounts" the row related to the Debtor Agent linked to one and only one Account, type "TIPS CMB", for the currency equal to the one defined in the Instructed Amount and open for the current Business Date.</li> </ul> <p>If an Originator Account is involved, the system checks that the Blocking Status of the account is not "Blocked" or "Blocked for debiting".</p> <p>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".</p> <p>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) have Blocking Status different from "Blocked" or "Blocked for debiting".</p>	<p>If the check is not respected:</p> <ul style="list-style-type: none"> <li>- return error code AC06</li> </ul>	<p>The Originator Account is blocked OR the Debiting CMB is blocked</p>
Instant Payment transaction business process	Beneficiary Account not blocked	010012	Creditor Agent Instructed Amount Business Date	<p>The system selects Beneficiary Account/CMB from the Creditor Agent as follows:</p> <ul style="list-style-type: none"> <li>- 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 Instructed Amount and it is open for the current Business Date</li> <li>- if the previous step fails, the system selects the row related to the Creditor Agent linked to one and only one Account, type "TIPS CMB", in table "Cash Accounts"; this CMB must have the currency equal to the one defined in the Instructed Amount and must be open for the current Business Date.</li> </ul> <p>If a Beneficiary Account is involved, the system checks that the Blocking Status of the account is not "Blocked" or "Blocked for debiting".</p> <p>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 debiting".</p> <p>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 debiting".</p>	<p>If the check is not respected:</p> <ul style="list-style-type: none"> <li>- return error code AC06</li> </ul>	<p>The Beneficiary Account is blocked OR The Crediting CMB is blocked</p>

## TARGET Instant Payment Settlement User Detailed Functional Specification

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Instant Payment transaction business process	Available amount not exceeded	010013	Debtor Agent Instructed Amount Business Date	<p>The system selects Originator Account/CMB from the Debtor Agent as follows:</p> <ul style="list-style-type: none"> <li>- 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 Instructed Amount and it is open for the current Business Date</li> <li>- if the previous step fails, the system selects the row related to the Debtor Agent linked to one and only one Account, type "TIPS CMB", in table "Cash Accounts"; this CMB must have the currency equal to the one defined in the Instructed Amount and must be open for the current Business Date.</li> </ul> <p>Then the system retrieves the balance of the Originator Account (directly involved or linked to the Debiting CMB) and/or the Debiting CMB Headroom.</p> <p>The system checks that the Instructed Amount is lower than or equal to the Originator Account balance.</p> <p>If a Debiting CMB is involved, the system checks that its limit headroom is lower than or equal to the Originator Account balance.</p>	<p>If the check is not respected:</p> <ul style="list-style-type: none"> <li>- return error code AM23</li> </ul>	
Instant Payment transaction business process	Beneficiary correctly configured	010014	Creditor Agent	The system checks that a unique item related to the Creditor Agent exists in the entity "Outbound DN-BIC".	<p>If no row is or multiple rows are returned:</p> <ul style="list-style-type: none"> <li>- return error code MS03</li> </ul>	Beneficiary DN not found
Instant Payment transaction business process	Pending transaction existing	010015	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".	<p>If no row is or multiple rows are returned:</p> <ul style="list-style-type: none"> <li>- return error code AG09</li> </ul>	Transaction not found
Instant Payment transaction business process	Instructing Party authorised – creditor side	010017	Sender Creditor Agent	The system checks the existence of the couple (Sender, Creditor Agent) in the entity "Inbound DN-BIC Routing".	<p>If no row is present:</p> <ul style="list-style-type: none"> <li>- CNOR error code is returned</li> </ul>	

## 4.2. List of ISO Error codes

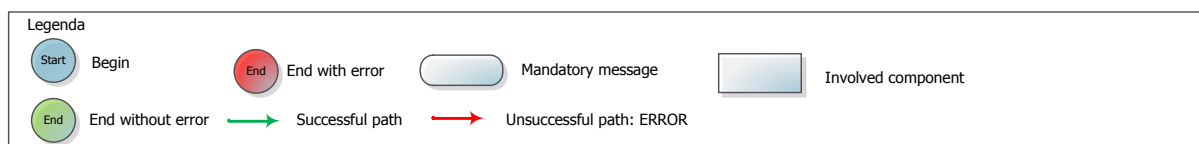
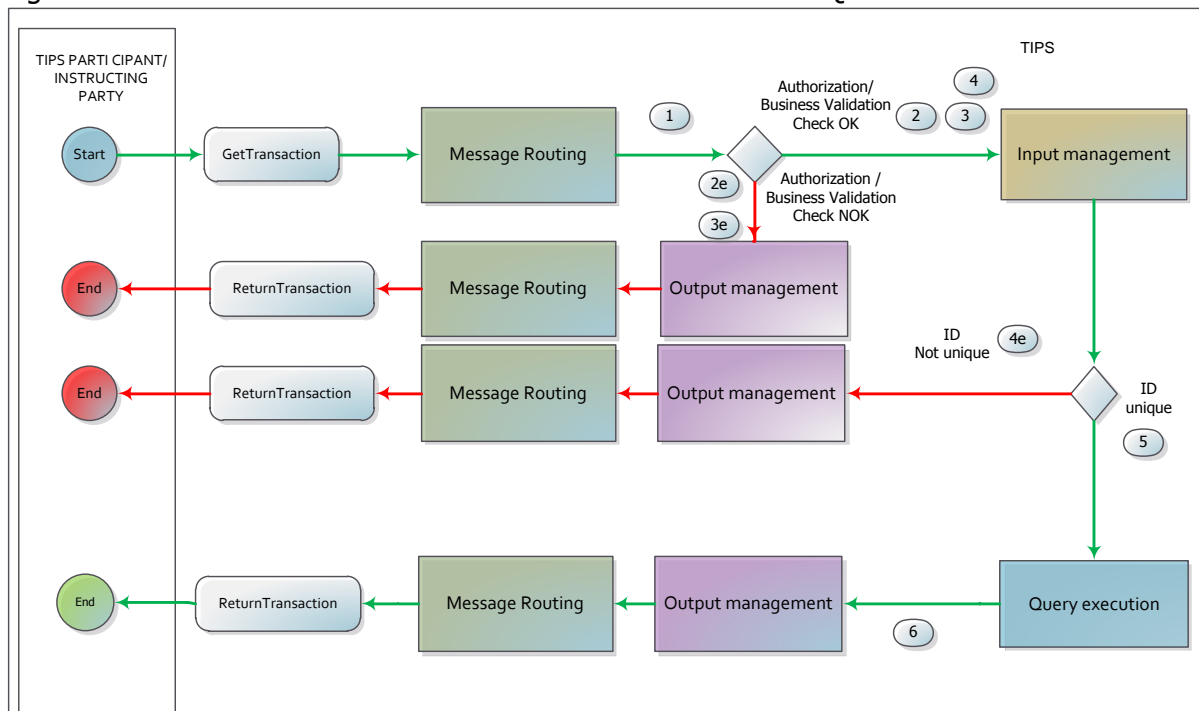
ISO Code	ISO Name	SEPA Core Reason as specified in the Rulebook	Comments
AB05	TimeoutCreditorAgent	Transaction stopped due to timeout at the Creditor Agent.	
AB08	OfflineCreditorAgent	Creditor Agent is not online.	Used in TIPS for the orphan payments
AC06	BlockedAccount	Account blocked, reason not specified	
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.	
DS14	UserDoesNotExist	The user is unknown on the server	Not present in SEPA document
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	
MS03	NotSpecifiedReasonAgentGenerated	Reason not specified	Currently used for generic error when no related error code has been defined in the ISO documentation
TM01	InvalidCutOffTime	Time-out – maximum execution time has been exceeded	

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