TARGET Instant Payment Settlement

User Detailed Functional Specifications

V0.2.0

Author	4CB
Version	0.2.0
Date	06/11/2017

INTRODUCTION **6**

READER'S GUIDE **7**

1. GENERAL FEATURES OF TIPS **9**

1.1. INTRODUCTION TO THE TIPS SERVICE 9
1.2. ACCESS TO TIPS 11
1.2.1. Connectivity (A2A/U2A) **11**
1.2.2. Authentication and authorisation process **12**
1.2.3. Access rights **12**
1.2.4. Security ..... **13~~14~~**
1.2.4.1. Confidentiality 14
1.2.4.2. Integrity 14
1.2.4.3. Availability ..... 14~~15~~
1.2.4.4. Monitoring ..... 14~~15~~
1.2.4.5. Auditability ..... 14~~15~~
1.2.5. Graphical user interface **15**
1.3. TIPS ACTORS AND ACCOUNT STRUCTURE ..... 15~~16~~
1.3.1. Parties ..... **15~~16~~**
1.3.1.1. Setup of parties for TIPS ..... 16~~17~~
1.3.1.2. Concept of party in TIPS ..... 16~~17~~
1.3.1.3. Hierarchical party model ..... 17~~18~~
1.3.1.4. Party identification ..... 18~~19~~
1.3.1.5. Reference data for parties in TIPS ..... 19~~20~~
1.3.2. Accounts structure and organisation ..... **21~~22~~**
1.3.2.1. TIPS accounts ..... 21~~22~~
1.3.2.1.1 Transit accounts ..... 22~~23~~
1.3.2.1.2 Credit Memorandum Balance ..... 22~~23~~
1.3.2.1.3 Reference data for accounts and CMBs in TIPS ..... 22~~23~~
1.4. DYNAMIC DATA MODEL ..... 24~~25~~
1.5. TIPS FEATURES ..... 29~~30~~
1.5.1. General concepts ..... **29~~30~~**
1.5.2. Settlement of Instant Payment transactions ..... **31~~32~~**
1.5.2.1. Instant Payment transaction settlement process ..... 31~~32~~
1.5.2.2. Recall settlement process ..... 34~~35~~
1.5.2.3. Investigation process 36
1.5.3. Liquidity Management ..... **36~~37~~**
1.5.3.1. Inbound Liquidity Transfer ..... 36~~37~~
1.5.3.2. Outbound Liquidity Transfer 38
1.5.3.3. Reserve calculation ..... 39~~40~~
1.5.4. Reference data management ..... **39~~40~~**
1.5.4.1. Blocking Participants 41
1.5.4.2. Blocking accounts and CMBs ..... 41~~42~~
1.5.4.3. Limit management 42
1.5.5. Queries and reports ..... **42~~43~~**

1.5.5.1. Queries 4243
1.5.6. Data extraction 4344
1.6. INTERACTIONS WITH OTHER SERVICES 4344
1.6.1. TARGET2 and other RTGS Systems 4344
1.6.2. Eurosystem Single Market Infrastructure Gateway 4344
1.6.3. Common Reference Data Management 4344
1.6.4. Archiving 44
1.6.5. Billing 44
1.7. OPERATIONS AND SUPPORT 44
1.7.1. Service configuration 44
1.7.2. Business and operations monitoring 4546
1.7.3. Archiving management 46

2. DIALOGUE BETWEEN TIPS AND TIPS ACTORS 47
2.1. GENERAL COMMUNICATION PROCESS 47
2.1.1. Message routing 47
2.1.2. Input management 47
2.1.2.1. Validation 47
2.1.3. Logging and sequencing 47
2.1.3.1. Duplicate check 47
2.1.4. Check and execute instruction 47
2.1.5. Output management 48
2.1.6. Report generation 48
2.2. INSTANT PAYMENT TRANSACTION 48
2.2.1. Timeout scenario: missing/delayed Beneficiary-side answer 58
2.2.2. Examples 62
2.2.2.1. Successful scenario with confirmed order – only accounts involved. 64
2.2.2.2. Successful scenario with confirmed order – Creditor account and debtor CMB 67
2.2.2.3. Successful scenario with confirmed order – Creditor CMB and debtor Account 72
2.2.2.4. Successful scenario with rejected order 76
2.2.2.5. Error scenarios 80
2.2.2.6. Delayed Beneficiary-side answer scenario 89
2.3. RECALL 95
2.3.1. Examples 104
2.3.1.1. Successful scenario – Positive Recall Answer 104
2.3.1.2. Successful scenario – Negative Recall Answer 107
2.3.1.3. Unsuccessful scenario – Recall Answer Duplicate check failed 108
2.4. INVESTIGATION 111
2.4.1. Examples 113
2.4.1.1. Successful scenario - Transaction status investigation 114
2.4.1.2. Unsuccessful scenario – Transaction status investigation 115
2.5. INBOUND/OUTBOUND LIQUIDITY TRANSFERS 117
2.5.1. Inbound Liquidity Transfer 117
2.5.1.1. Examples 122

2.5.1.1.1 Successful scenario - Inbound Liquidity Transfer order is settled in TIPS 122
2.5.1.1.2 Unsuccessful scenario: Inbound LT order is rejected because LT duplicate check failed 124
2.5.2. Outbound Liquidity Transfer 126
2.5.2.1. Examples 133
2.5.2.1.1 Successful scenario - Outbound LT order settled in TIPS and RTGS System 133
2.5.2.1.2 Unsuccessful scenario – Outbound LT order rejected for insufficient funds in TIPS 136
2.5.2.1.3 Unsuccessful scenario – Outbound LT order rejected by the RTGS System 137
2.5.2.2. RTGS Alert scenario – No reply from RTGS 139
2.6. NOTIFICATIONS 141
2.6.1. Floor notification on account 142
2.6.2. Ceiling notification on CMB 143
2.7. QUERIES 146
2.7.1. Queries on Account/CMB 147
2.7.1.1. Examples 153
2.7.1.1.1 Successful scenario - Account balance and status query 154
2.7.1.1.2 Successful scenario - CMB limit and status query 154
2.7.1.1.3 Unsuccessful scenario – TIPS Account/CMB not found 156
2.7.2. Queries on Payment transactions 158
2.7.2.1. Examples 163
2.7.2.1.1 Successful scenario - Payment transaction status query 164
2.7.2.1.2 Unsuccessful scenario – Payment transaction not found 165
2.8. REPORT 167
2.9. REFERENCE DATA MANAGEMENT 167
2.9.1. Examples 175
2.9.1.1.1 Successful scenario – Block of a participant 175
2.9.1.1.2 Successful scenario – Unblock of a participant 177
2.9.1.1.3 Unsuccessful scenario – Party not existing 178
2.9.1.1.4 Successful scenario – block of a CMB 179
2.9.1.1.5 Successful scenario – unblock of an Account 180
2.9.1.1.6 Unsuccessful scenario – Restriction type not allowed 181
2.9.1.1.7 Successful scenario – Decrease of a CMB Limit 182
2.9.1.1.8 Unsuccessful scenario – User not allowed to change the Limit 184
2.10. RAW DATA EXTRACTION 184

3. CATALOGUE OF MESSAGES 185
3.1. INTRODUCTION 185
3.2. GENERAL INFORMATION 185
3.2.1. Message signing 186
3.2.2. Technical validation 186
3.2.3. Supported Character Set 186
3.3. MESSAGES USAGE 187
3.3.1. List of messages 187

3.3.2. Messages description 189
3.3.2.1. Payments Clearing and Settlement 189
3.3.2.1.1 FIToFIPaymentStatusReportV03 (pacs.002.001.03) 189
3.3.2.1.2 PaymentReturn (pacs.004.001.02) 192
3.3.2.1.3 FIToFICustomerCreditTransferV02 (pacs.008.001.02) 196
3.3.2.1.4 FIToFIPaymentStatusRequest (pacs.028.001.01) 201
3.3.2.2. Cash Management (camt) 204
3.3.2.2.1 GetAccount (camt.003.001.06) 204
3.3.2.2.2 ReturnAccount (camt.004.001.07) 204
3.3.2.2.3 ModifyLimit (camt.011.001.06) 208
3.3.2.2.4 ReturnBusinessDayInformation (camt.019.001.06) 209
3.3.2.2.5 Receipt (camt.025.001.04) 209
3.3.2.2.6 ResolutionOfInvestigation (camt.029.001.03) 210
3.3.2.2.7 LiquidityCreditTransfer (camt.050.001.04) 212
3.3.2.2.8 BankToCustomerAccountReport (camt.052.001.03) 213
3.3.2.2.9 BankToCustomerStatement (camt.053.001.03) 213
3.3.2.2.10 BankToCustomerDebitCreditNotification (camt.054.001.06) 213
3.3.2.2.11 FIToFIPaymentCancellationRequest (camt.056.001.01) 215
3.3.2.3. Account Management (acmt) 215
3.3.2.3.1 AccountRequestAcknowledgement (acmt.010.001.02) 216
3.3.2.3.2 AccountRequestRejection (acmt.011.001.02) 217
3.3.2.3.3 AccountExcludedMandateMaintenanceRequest (acmt.015.001.02) 217
3.3.2.4. Reference Data (reda) 219
3.3.2.4.1 PartyStatusAdvice (reda.016.001.01) 219
3.3.2.4.2 PartyModificationRequest (reda.022.001.01) 219

4. APPENDICES 221
4.1. BUSINESS RULES 221
4.2. LIST OF ISO ERROR CODES 229
4.3. INDEX OF FIGURES 230
4.4. INDEX OF TABLES 233
4.5. LIST OF ACRONYMS 234
4.6. LIST OF REFERENCED DOCUMENTS 235
4.7. GLOSSARY 236

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 TIPS Actor's. The following parts compose a scenario:
    - End-to-end description of the process – by means of activity diagrams and explanatory text.
    - Involved actors
    - Exchanged messages
    - List of meaningful business cases

  The description of each step of the process includes an exhaustive list of all the checks performed by TIPS. The detailed description of the business rules is reported in the list at the end of the document.
- The list of meaningful business cases is composed by:
    - A sample data constellation;
    - The content of the main fields of the relevant inbound messages;
    - A description of the main steps taking place in TIPS;
    - The content of the main fields of the resulting outbound messages.
- The third chapter provides a detailed description of all XML messages TIPS Actors may use to interact in A2A mode with TIPS. Each message specification includes the following elements:

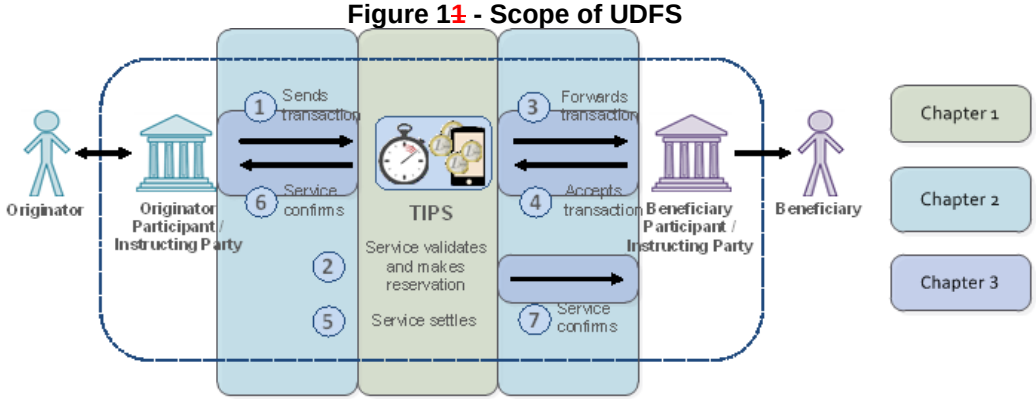
- Reference name and identifier – e.g. LiquidityCreditTransfer (camt.050.001.04)
- List of fields included in the message. Each field specification includes the following elements:
  - EPC Reference (if applicable)
  - Reference name
  - Short description
  - XML Path
  - Boolean attribute specifying whether the field is used in TIPS
  - Boolean attribute specifying whether the field is mandatory or not

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

Reader's guide

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

Figure 11 - Scope of UDFS



Different readers may have different needs and priorities and may not need to read the whole book. For instance, business readers, interested mainly in organisational issues, may not wish to enter into the full details of each and every message description, but they 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~~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~~ Payment ~~instructions~~ ~~T~~transactions (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~~~~T~~transactions). Also section ~~0 Dynamic data~~1.4 Dynamic data model~~Dynamic data model~~ 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 ~~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~~Business Rules~~, where the functional checks 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~~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~~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~~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~~TIPS Actors and account structure~~, which provides the basis for reference data organisation in TIPS;
- 1.5 TIPS Features~~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, ~~introduces the~~describes all the ~~main~~ features ~~of the~~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~~s~~ 1.3 and 1.4 describe~~s~~ the reference data and dynamic data models of~~main entities and structures relevant in~~ 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 ~~of the platform~~provided by the ~~Infrastructure~~Eurosystem.

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

1.1. Introduction to the TIPS Service

TARGET Instant Payment~~s~~ 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 I~~i~~nstant P~~p~~ayment ~~instructions~~ transactions 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 Instant ~~payment~~ Payment ~~instructions~~ transactions and receive payment confirmations or any other payment related messages based – when possible – on ISO 20022 standards and ~~respecting~~ in accordance with the SEPA Instant Credit Transfer (SCT^{Inst}) scheme. The participants are also provided with two additional functionalities to either recall settled Instant Payments transactions or ~~a query interface~~initiate ~~for~~

investigations on Instant Payments submitted to TIPS whose status confirmation has not been received yet. ~~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~~ in TIPS. In the specific scenario of the RTGS for Euro (i.e TARGET2), the TIPS account balances are taken into account ~~in~~ for the calculation of the minimum reserve ~~calculation~~and standing facility. For this reason, a snapshot of the balance on the TIPS account for the fulfilment of the minimum reserve requirement is taken at the closing time of TARGET2, immediately after the last execution of the Algo3 (i.e. shortly after the Bank-to-Bank cut-off at 18:00). TIPS operates on a 24/7/365 basis.

TIPS makes use of the following Eurosystem services:

- The Eurosystem ~~European~~ Single Market Infrastructure Gateway (ESMIG) which allows TIPS Actors to gain access to all Eurosystem services, including TIPS, after being authenticated and authorised to access the relevant service. The ESMIG, moreover, guarantees ~~sanitization~~ sanitisation of messages for security purposes and technical validation of the standard messages sent to the different services.
- The Common Reference Data Management (CRDM) service, i.e. the centralised, ~~harmonized~~ harmonised reference data management component that handles in a single point all data that is shared by more than one Eurosystem service. The CRDM allows ~~participants~~ users to configure, create and keep up-to-date all the reference data needed in the different Eurosystem services, including TIPS. As an example, the setup of reference data related to a TIPS participant like the creation of an account is up to the responsible NCB whereas a TIPS participant is responsible for the setup and configuration of CMBs.
- 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:

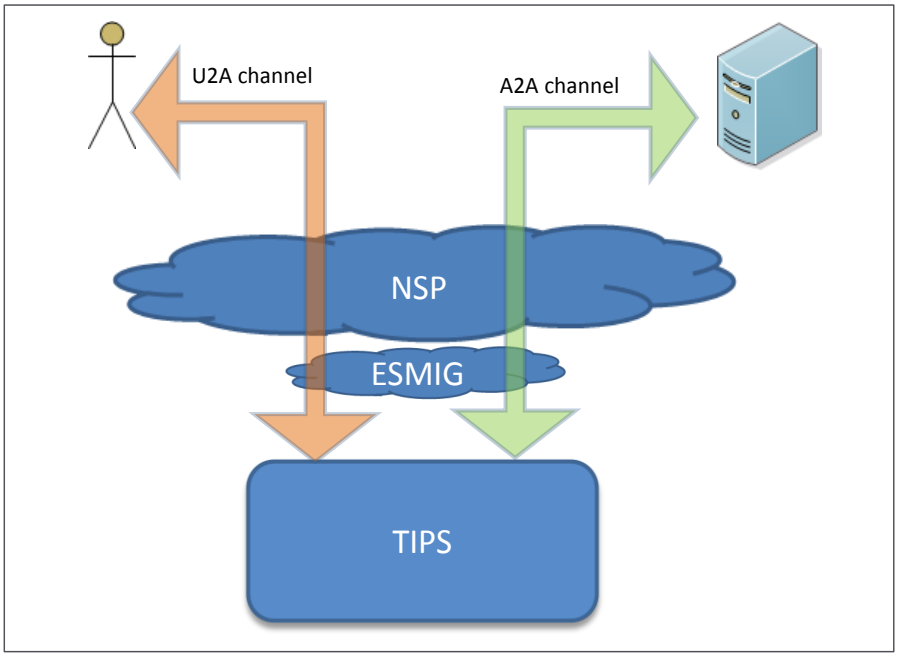
- Application-to-Application (A2A) channel, that is application-oriented and allows TIPS Actors' systems to interact with TIPS;
- User-to-Application (U2A) channel, that is user-oriented and offers human-friendly application access through a Graphical User Interface (GUI).

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 selected NSPs for the purpose of getting connected to TIPS. ~~accredited to offer connectivity services for TIPS.~~

Figure 2~~2~~ - TIPS Connectivity



1.2.1. Connectivity (A2A/U2A)

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

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

  All the exchanges of messages are executed through a realtime transfer service. This means that both parties (i.e. the Originator participant and Instructing Party 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~~Graphical user interface~~).

Formatte
spelling or

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[1], which TIPS Actors assign to their individuals (interacting with TIPS in U2A mode) or applications (interacting with TIPS in A2A mode).

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

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

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

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

1.2.3. Access rights

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

All Privileges that are relevant for TIPS are defined and stored within the CRDM, which also offers the possibility to group different Privileges into sets known as Roles. Each of these Roles will define a standard, specific business role for TIPS Actors to use to interact with TIPS. TIPS users will be

[1] 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).

assigned one or more roles in the CRDM depending on their requirements, and these roles will define their access rights configuration.

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

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

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

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

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

The role of Instructing Party constitutes a specific case. Instructing Parties are DNs that are authorised to send instructions on behalf of a specific BIC. This configuration is defined by means of a DN-BIC routing table set up within the CRDM.

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

1.2.4. Security

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

It means that the following security conditions are met:

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

1.2.4.1. Confidentiality

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

1.2.4.2. Integrity

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

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

1.2.4.3. Availability

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

1.2.4.4. Monitoring

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

In addition, the monitoring provides the TIPS Operator with an overview of the message flows.

1.2.4.5. Auditability

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

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

Logging facilities and log information are protected against tampering and unauthorised access.

1.2.5. Graphical user interface

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

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

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

Table 112 – TIPS U2A Functions

Function	Actor
Block/Unblock ~~TIPS Actor~~Participant	CB, TIPS Operator[2]
Block/Unblock TIPS Account	CB, TIPS Operator
Block/Unblock Credit Memorandum Balance	TIPS Participant, Instructing Party[3], CB, TIPS Operator
Adjust Credit Memorandum Balance Limit	TIPS Participant, Instructing Party[4], CB, TIPS Operator
Query Account Balances and Status	TIPS Participant, Instructing Party, CB, TIPS Operator
Query CMB Limit and Status	TIPS Participant, Instructing Party, CB, TIPS Operator
Query Instant Payment ~~Transaction~~transaction	TIPS Participant, Instructing Party, CB, TIPS Operator

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

1.3. TIPS Actors and account structure

1.3.1. Parties

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

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

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

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

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

1.3.1.1. Setup of parties for TIPS

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

The Operator is responsible for setting up and maintaining party reference data for all Central Banks in TIPS. Central Banks are responsible for setting up and maintaining party reference data for the banks of their national community.

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

Table 223 - Setup of Parties for TIPS

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

1.3.1.2. Concept of party in TIPS

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

- Operator
- Central Bank
- Participant
- Reachable Party

The **Operator** is the legal and organisational entity that operates TIPS. They are responsible for the initial setup and day-to-day operations of TIPS and act as single point of contact for Central Banks and directly connected TIPS Actors. They are responsible for monitoring the system and carrying out corrective actions in case of incidents or in the event of service unavailability. The Operator is also responsible for setting up and maintaining Central Banks reference data in the Common Reference

Data Management repository and, if required, they may operate on behalf of any TIPS Actor. They have full access to all live and all archived reference data and transactional data in TIPS.

Central Banks are responsible for setting up and maintaining reference data in the Common Reference Data Management repository for all the TIPS Actors belonging to their national community. Central Banks provide liquidity to Participants through Liquidity Transfers from the relevant RTGS system and can also act as Participants (see below) themselves. In addition, they can act on behalf of one of their Actors in case of need. The European Central Bank owns and manages a single Transit Account (see section 1.3.2.1.1) in euro that must exist in TIPS, in order to allow the transfer of liquidity from TARGET2 to TIPS and vice versa. With the same purpose, for each other settlement currency in TIPS, the relevant non-euro Central Bank shall define a single Transit Account for their currency.

Participants represent entities that are eligible for participation in TARGET2 (but do not necessarily own a TARGET2 PM account). They are identified by a BIC11 in TIPS and hold TIPS Accounts (see section 1.3.2.1), which cannot have a negative balance. They can manage CMBs (see section 1.3.2.1.2) linked to their own accounts as well as Instructing Party (see below) roles for Actors acting on behalf of themselves or of Reachable Parties (see below) defined as users of their accounts or CMBs. In addition, they define the access rights configuration of said Instructing Parties. They can also act as Instructing Parties and by definition they already have the prerogatives of an Instructing Party for what concerns their own accounts.

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

The role of **Instructing Party** allows an Actor to send (or receive) Instant Payments to (or from) TIPS. Participants and Reachable Parties can act as Instructing Parties. Actors can act as Instructing Parties on behalf of other Participants or Reachable Parties, taking on the subset of functionalities that are available to the Participant or Reachable Party granted them in terms of access rights,

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

For example, a Central Bank willing to make use of TIPS not only for the provision of liquidity to the Participants of its community, but also for the settlement of Instant Payments, will result in the definition of two parties, a Central Bank party and a Participant party.

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

1.3.1.3. Hierarchical party model

Legal relationship between parties in TIPS determine a hierarchical party model based on a three-level structure. The TIPS Operator is the only party on the top level of the hierarchy and it is in a legal relationship with each party of the second level, i.e. each Central Bank in TIPS. Similarly, legal relationships exist between each party belonging to the second level (i.e. a Central Bank) and all its community (i.e. Participants and Reachable Parties).

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

- The reference data scope of a Central Bank includes its reference data, plus the reference data of all its parties;
- The reference data scope of the TIPS Operator includes all the reference data non included in the data scope of any Central Bank (e.g. countries and currencies reference data).

Each Central Bank and the TIPS Operator are responsible for their own reference data scopes, i.e. each of them is responsible for the input and maintenance of all information included in its reference data scope.

1.3.1.4. Party identification

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

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

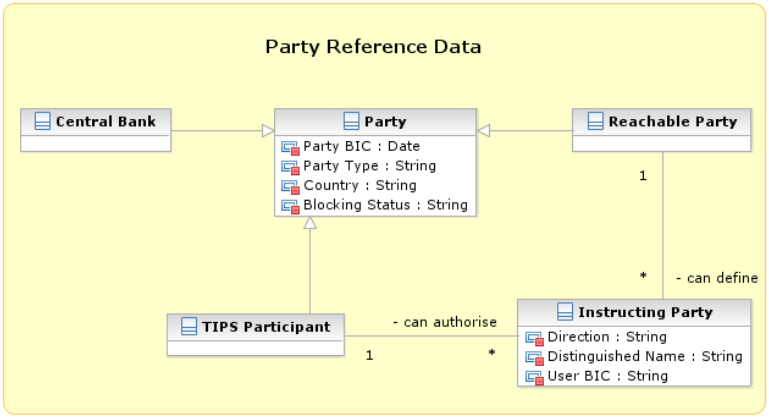
As a general rule (i.e. valid for all Eurosystem market infrastructure services), the CRDM service requires the assignment of 11-digit BICs to parties, with the only constraint that this BIC must be unique within the set of parties having established a business relationship with the same party[5]. This results in the possibility, for the same legal entity, on the one hand to establish multiple business relationships with different parties using the same 11-digit BIC. On the other hand, a given legal entity may express the business need to be defined as several different parties below the same parent party in the hierarchy: this is possible, provided that the given legal entity assigns different 11-digit BICs to the different parties created for this purpose.

On top of the general rule described above, TIPS imposes an additional constraint in the assignment of BICs related to its parties, due to the fact the settlement process must be able to infer the accounts to be debited and credit by an Instant Payment transaction based on the BICs of the Originator Participant and of the Beneficiary Participant (see also section 2.2). This circumstance implies the need to ensure that any given BIC can only be assigned to one TIPS party and that two different TIPS parties must have assigned two different BICs. For this reason, the CRDM service prevents the possibility to allow two different parties identified by the same 11-digit BIC (this may happen, for

[5] According to the hierarchical party model, this means that the BIC must be unique within the set of parties having in common the same party of the upper level of the hierarchy.

example, when one financial institution is defined two times as a party by two different Central Banks) being defined as TIPS parties. Therefore, in order to allow a given financial institution to be defined as two different TIPS parties (by the same Central Bank or by two different Central Banks), the same financial institution must be defined in the CRDM repository as two parties identified by two different 11-digit BIC.

1.3.1.5. Reference data for parties in TIPS



The following table shows the exhaustive list of Party reference data attributes that TIPS stores in its Local Reference Data Management repository.

Table 334 - Party reference data

Attribute	Description
Party BIC	11-character Bank Identifier Code (BIC11) to uniquely identify the party in TIPS.
Party Type	Type of party. The exhaustive list of party types is as follows: • Operator • Central Bank • Participant • Reachable Party
Country	Country code of the Central Bank the party belongs to.
Blocking Status	Blocking status for the Party. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.

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

Each Participant party is linked to one or many TIPS Accounts (see section 1.3.2.11~~1.3.2.11.3.2.2~~), as account owner. Each Central Bank party may be linked to one and only one Transit Account (see section 1.3.2.1.10~~1.3.2.3~~), as account owner of the Transit Account for a given currency.

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

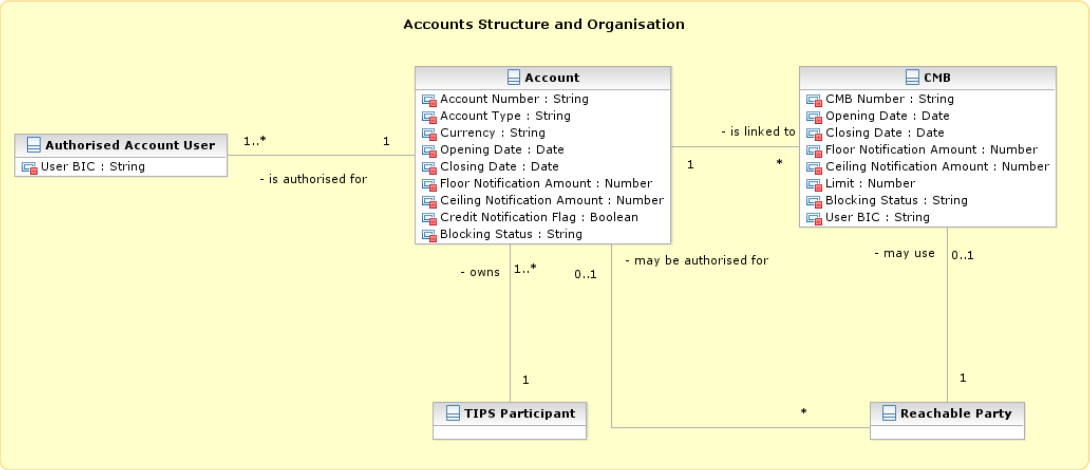
Table ~~445~~ - Instructing Party reference data

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

For inbound routing purpose, one Distinguished Name may be linked to many Originator BICs, which means the same entity may play the Instructing Party role for many Participants and Reachable Parties, possibly for many Originator BICs within the same Participant or Reachable Party. Conversely, one Originator BIC may be linked to many Distinguished Names, which means one Participant or Reachable Party may authorise many entities to play the Instructing Party role, for one or many of their BICs.

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

1.3.2. Accounts structure and organisation



Accounts are opened in TIPS for the provision of liquidity and the settlement of instant payments. This section provides a detailed description of all the reference data CRDM stores and TIPS uses for all its accounts.

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

- TIPS Accounts
- Transit Account

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

The following three sections define the above mentioned reference data objects, whereas section ~~1.3.2.4~~1.3.2.1 provides a detailed description of the reference data required by TIPS for the same reference data objects.

1.3.2.1. TIPS accounts

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

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

Central Banks create TIPS Accounts for their Participants.

1.3.2.1.1 Transit accounts

Transit Accounts are accounts that Central Banks own for providing liquidity to TIPS Participants. Transit Accounts may have a negative balance, but they cannot be used for the settlement of Instant Payments. Only one Transit Account per settlement currency can exist in TIPS. The Transit Account for euro belongs to the European Central Bank. The TIPS Operator creates Transit Accounts for the Central Banks.

1.3.2.1.2 Credit Memorandum Balance

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

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

When defining a CMB, it is possible to specify a limit, which may be initially set to null. In this case, the related Reachable Party may make use of the full payment capacity of the TIPS Account linked to the CMB.TIPS Participants create CMBs for their TIPS Accounts.

1.3.2.1.3 Reference data for accounts and CMBs in TIPS

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

Table 556 - Account Reference data

Attribute	Description
Account Number	It specifies the unique number of the Account.
Account Type	Type of account. The exhaustive list of account types is as follows: • TIPS Account • Transit Account
Currency	It specifies the currency of the Account.
Opening Date	Opening date of the Account.
Closing Date	Closing date of the Account.
Floor Notification Amount	It specifies the lower threshold for notifying the Account owner.
Ceiling Notification Amount	It specifies the upper threshold for notifying the Account owner.
Credit Notification Flag	Boolean attribute specifying whether the Account owner must receive a credit notification after the settlement of any inbound Liquidity Transfer from the relevant RTGS system.

Blocking Status	Blocking status for the TIPS account. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.

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

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

Furthermore, each TIPS Account may be linked to one or many CMBs and to one or many Authorised Account Users.

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

Table 667 - CMB reference data

Attribute	Description
CMB Number	It specifies the unique number of the Account.
Opening Date	Opening date of the CMB.
Closing Date	Closing date of the CMB.
Floor Notification Amount	It specifies the lower threshold for notifying the owner of the Account which the CMB is linked to.
Ceiling Notification Amount	It specifies the upper threshold for notifying the owner of the Account which the CMB is linked to.
Limit	It specifies the limit amount for the CMB.
Blocking Status	Blocking status for the CMB. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.
User BIC	Authorised BIC for the CMB.

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

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

The following table shows the exhaustive list of Authorised Account User reference data attributes that TIPS stores in its Local Reference Data Management repository.

Table 778 – Authorised Account User reference data

Attribute	Description
User BIC	BIC authorised for operating the account

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

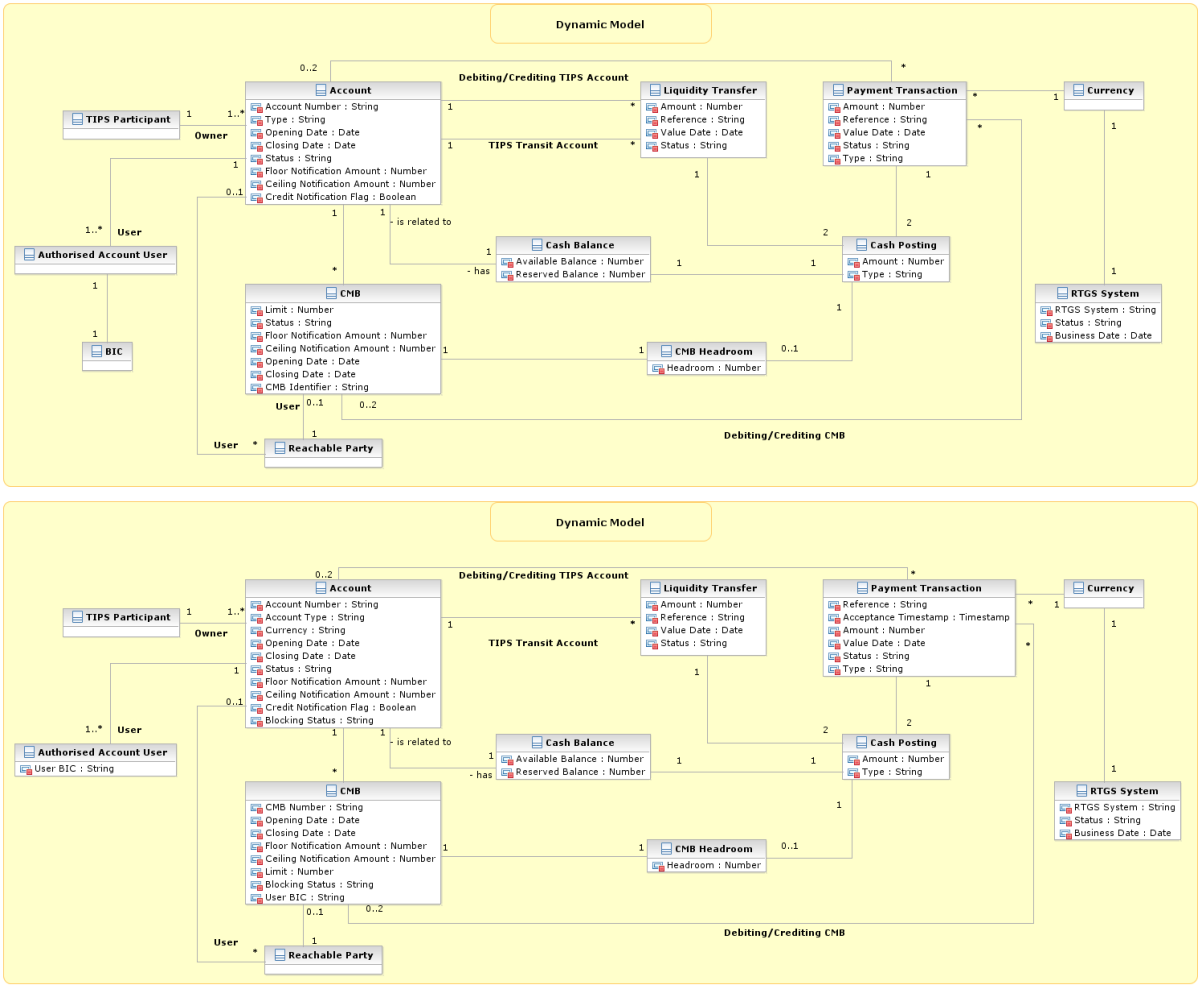
Each Authorised Account User can be linked to one and only one TIPS Account.

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~~ Payment transactions 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~~3~~ - Dynamic data model



Payment Transaction

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

Table 8~~8~~9 – Payment Transaction

Attribute	Description
Reference	The Originator Bank's reference number of the SCT Inst Transaction message.~~Transaction Identification~~
Acceptance Timestamp	Time-~~S~~stamp of the SCT Inst Transaction
Amount	Amount intended to be settled by the transaction
Currency	The currency relevant for the transaction

Crediting Account	TIPS Account to be credited
Crediting Account Status	Blocking status for the TIPS account to be credited. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked
Crediting CMB	CMB to be credited
Crediting CMB Status	Blocking status for the CMB to be credited. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.
Debiting Account	TIPS Account to be debited
Debiting Account Status	Blocking status for the TIPS account to be debited. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.
Debiting CMB	CMB to be debited
Debiting CMB Status	Blocking status for the CMB to be debited. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.
Status	Status of the transaction. Exhaustive list of possible values: - Received - Validated - Reserved - Settled - Failed - Rejected - Expired
Type	Type of the underlying payment transaction. Exhaustive list of possible values: - Instant payment

	~~- Confirmation~~ ~~- Reject~~ - Recall answer
Value Date	Transaction settlement date in accordance to the related RTGS System

Each Payment Transaction ~~can~~ creates ~~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 9~~9~~10 - 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	Blocking status for the TIPS account to be credited for inbound liquidity transfer. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.~~-~~
Debiting Account	TIPS account or RTGS account to be debited.
Debiting Account Status	Blocking status for the TIPS account to be debited for outbound liquidity transfer. Exhaustive list of possible values: - blocked for credit; - blocked for debit; - blocked for credit and debit; - unblocked.~~-~~
Status	Status of the liquidity transfer. Exhaustive list of possible values: - Received - Validated - Settled - Failed - Rejected by RTGS - Transient
Value Date	Liquidity transfer settlement date in accordance to the related RTGS System.

Each Liquidity Transfer references a credited and a debited Account.

Cash Posting

A Cash Posting is created for each Payment ~~Transaction~~ transaction or Liquidity Transfer that results in a reserved or settled amount on a TIPS Account. Cash Posting data includes the following attributes:

Table 101~~011~~ - 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: - Payment ~~Transaction~~transaction - Liquidity Transfer

Each Cash Posting is linked to a single Payment ~~Transaction~~ 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 111~~11~~12 - 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

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

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

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

CMB Headroom data includes the following attributes:

Table 121213 - 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 Instant payment Payment transactioninstruction debiting an account followed by a request to block the same account for debiting. In this case, the Instant payment Payment transaction will be processed before the account is blocked. If, on the other hand, TIPS receives the Iinstant payment Payment transactioninstruction 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 Ppayment transactions for the settlement of cash on a TIPS account
- Beneficiary replies to confirm or reject an instant Instant payment Payment transaction on the beneficiary side
- Recall instructions to request a refund from the Beneficiary Participant for previously settled Instant Payment transactionsto cancel a previously settled instruction and request a refund from the beneficiary
- Recall answers from the Beneficiary Participant for either the refund a beneficiary to confirm a refund will be issued or the rejection in response to a recall instruction
- Liquidity transfers to instruct the transfer of liquidity between TIPS and an RTGS System
- Reference data maintenance instructions to modify TIPS local reference data.

Local reference data maintenance within TIPS is limited to the following set of operations, that can be performed at any point in time (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 Delta report produced for the interested Actor.

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

Queries are available in both U2A and A2A mode, on a 24/7/365 basis, and allow users to access data in real time. TIPS provides 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^{Inst} scheme, i.e. instant payments, recalls and investigations.

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

Table 13 - TIPS Payment Transaction Types

Instruction Type	Description
Instant Payment tTransaction	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 Ttransaction. 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 Sent by an Originator Participant of a previously settled Instant Payment tTransaction to request that said the given 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 by a Beneficiary Participant to TIPS as either a positive response to refund the cash, reversing the effect of the original Instant Payment transaction, or a negative response to a Recall instruction 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 pPayment transaction settlement process

Instant payments are initiated by an originator Originator participantParticipant, ie.eg. a TIPS Actor Participant instructing a payment to debit one of their own TIPS accounts and credit the TIPS account of a beneficiary Beneficiary participantParticipant. 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 Ooriginator and beneficiary Beneficiary of a payment (i.e. the

individuals or institutions transferring funds between ~~them~~each other, which may be customers of the ~~originator~~Originator/~~beneficiary~~ Beneficiary ~~participants~~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 ~~i~~instructing ~~parties~~ Parties acting on behalf of the actual ~~TIPS~~ participants, i.e. TIPS Participants or Reachable Parties.

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

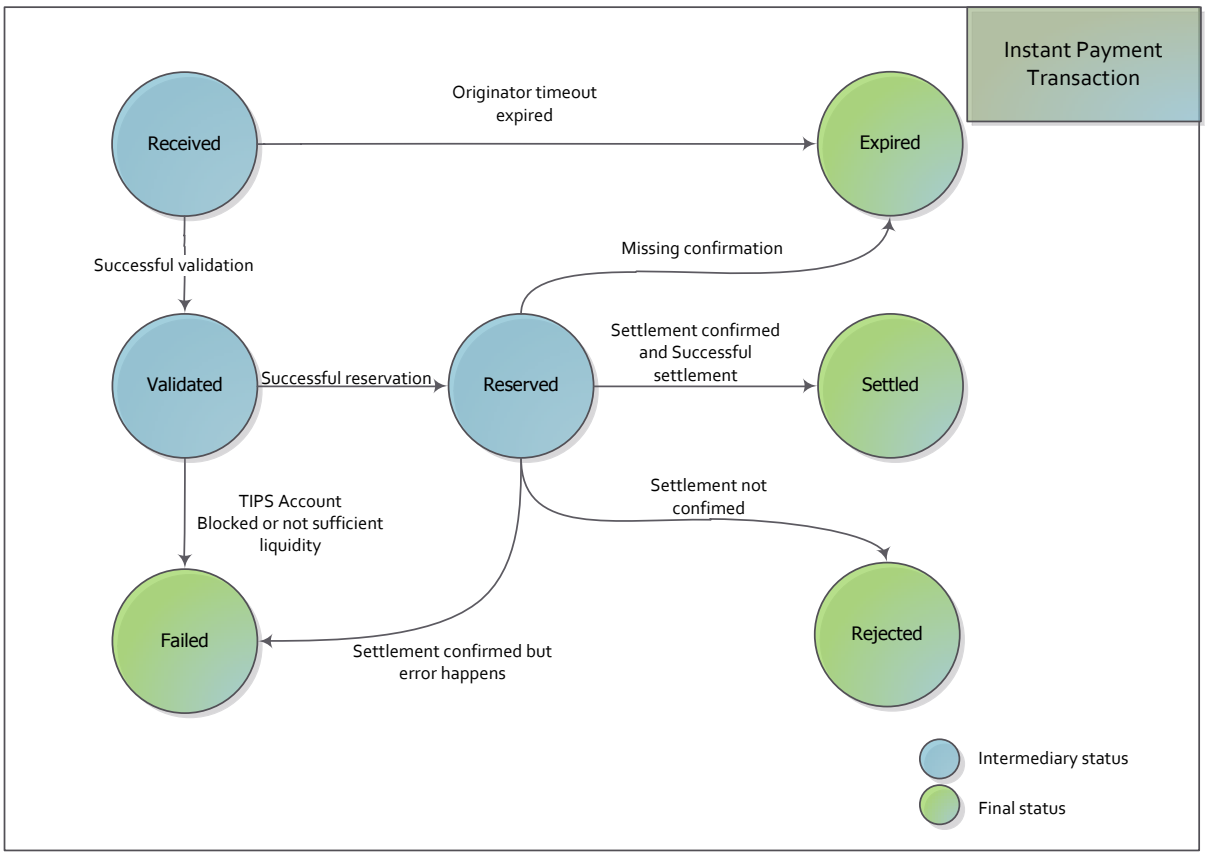
The ~~beneficiary~~ Beneficiary ~~participant~~ Participant ~~then~~ shall respond~~s~~ to TIPS with a beneficiary reply, either confirming or rejecting the payment. Upon receiving this reply, TIPS will respectively settle or release the reserved amount, removing the cash posting and updating the originator and beneficiary account cash balances. Subsequently, TIPS will forward a status advice to both the ~~originator~~ Originator and ~~beneficiary~~ Beneficiary ~~participant~~Participants. 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. In the aforementioned scenario, TIPS sends a negative status report to both the Originator and Beneficiary participants and removes the relating cash posting.

Instant P~~p~~ayment 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 an Instant ~~payment~~ Payment transaction involving one or two CMBs is settled, in addition to updating the cash balances for the involved accounts, the headroom and the limit utilisation of the related CMBs ~~is~~ are also modified.

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

Figure 4 - Payment Transaction status transition diagram



An Instant Payment transaction~~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 Instant Payment transaction~~instruction~~ to ~~surpass~~exceed the timeout period, leading it to the final Expired status from which it will no longer be submitted to settlement. This can happen when TIPS receives a message from the Originator Participant or Instructing Party that has an acceptance timestamp already older than the acceptable timeout; TIPS records the received message, replies with a timeout error message to the sender and saves the transaction as expired.

If the Instant Payment transaction~~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~~ transaction is set to Reserved status; if for any reason ~~it~~ the reservation 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~~ Instant Payment transaction may subsequently ~~transition~~ change its status into one of the four final statuses, depending on the outcome of the settlement attempt:

1. If TIPS does not receive the beneficiary reply within the standard timeout period, the Instant ~~payment~~ Payment times out and the ~~instruction~~ transaction ~~is~~ moves to status *Expired;*

2. If the ~~beneficiary~~ Beneficiary ~~participant~~ Participant rejects the Instant ~~payment~~Payment, the transaction ~~instruction~~ moves to status~~is~~ *Rejected;*
3. If the ~~beneficiary~~ Beneficiary ~~participant~~ Participant confirms the Instant ~~payment~~ Payment but any kind of error ~~follows~~occurs, the transaction ~~instruction~~ moves to status~~is~~ *Failed;*
4. Finally, if the ~~beneficiary~~ Beneficiary ~~participant~~ Participant confirms the Instant ~~payment~~ Payment and TIPS settles it successfully, the ~~instruction~~ transaction moves to status ~~is~~ *Settled.*

The detailed flow of the process, with the relevant steps, is described in section 2.2 - Instant Payment transaction and Figure 8 - Payment Transaction flow~~Figure 8 - Payment Transaction flow~~.

1.5.2.2. Recall settlement process

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

The Beneficiary Participant is authorised to send to TIPS a Recall Answer containing either the acceptance or the rejection of the request. The sender can be also an Instructing Party acting on behalf of the Beneficiary Participant. There is no time limits set for the receiver of the Recall to respond; TIPS does not perform any timeout check and it is up to the participants or instructing parties to adhere to specific time rules pertaining to recalls.

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

After running the proper checks, a negative response is simply forwarded by TIPS to the Recall Assigner.

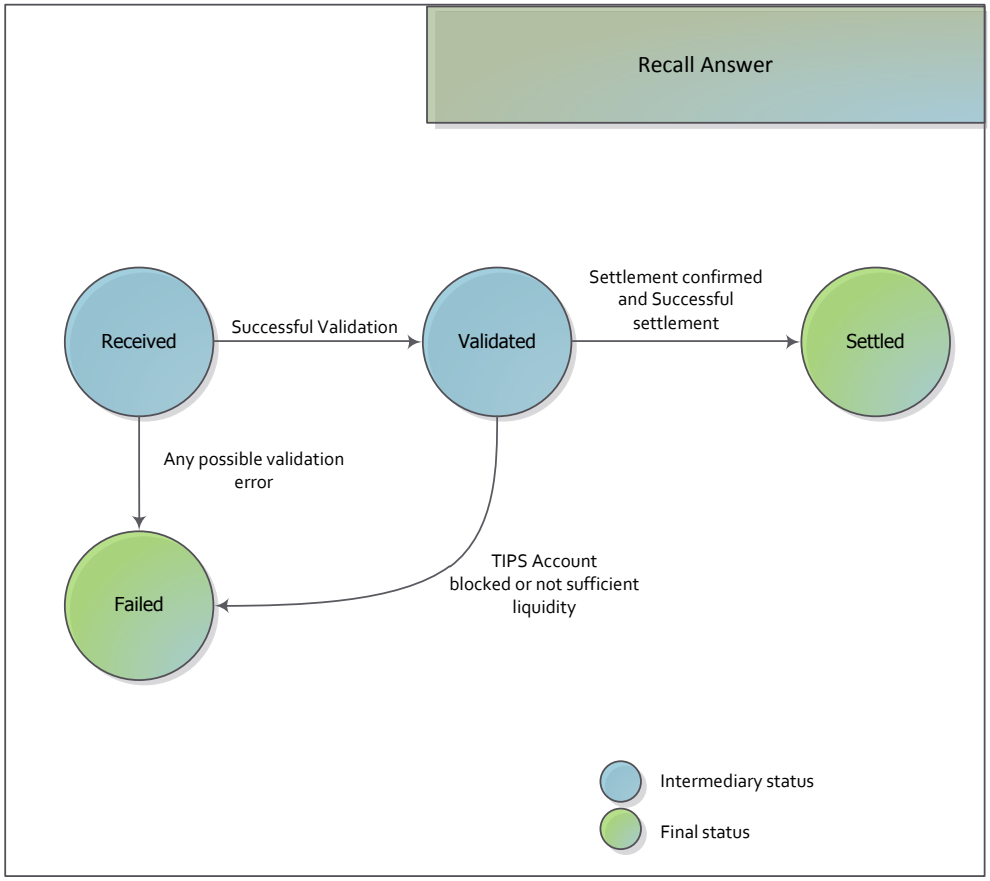
In case a positive Recall Answer is given by the Recall Assignee, additional processing has to be performed by TIPS. The system determines from the Originator Participant or Reachable party BIC and Beneficiary Participant or Reachable party BIC within the recall answer message the accounts or CMBs that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

Once the above data are retrieved, TIPS determines a suitable payment transaction dataset and immediately attempts to settle the reversed cash flow using the same or a different amount (the Recall Assignee may apply a fee for recalls). The payment process stated for the settlement of an Instant Payment transaction is for the most part applied also for payment transactions automatically

generated by TIPS during the processing of a positive Recall Answer. The latter differs from processing an Instant Payment transaction only because there is no reservation of funds and their acceptance is implicitly assumed by issuing the recall in the first place.

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

Figure 5 – Positive Recall Answer status diagram



The Recall Answer is Received once validation and authentication checks are executed; its status skips to Validated just after TIPS has performed successfully the required Access Rights and Duplicate check. If not, its status changed to Failed and TIPS sends a message to the Recall Assigner containing the proper error code. At this point the settlement process begins with the attempt to reverse the cash flow on the relevant debit account. If the settlement attempt is successful, the instruction is set to Settled status; if for any reason 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.

1.5.2.3. Investigation process

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

TIPS retains information for responding to investigations for a configurable timeframe, initially set to exactly 5 calendar days (see Table 15~~Table 15~~). Furthermore, according to the SCTInst scheme rulebook, the investigation functionality will be available only after the certainty of completion of the settlement phase of a transaction, which translates into SCTInst Timestamp Timeout expiration + Investigation Offset.

Formatte

Complementing this status investigation process TIPS provides additional queries, which can be used for the inquiry regarding the status of a particular transaction (see section 1.5.5.1) and which return a wider set of information.

The investigation functionality will be described in the section 2.4.

1.5.3. Liquidity Management

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

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

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

Liquidity transfers do not entail a reservation of funds, unlike instant payments, and are settled immediately.

1.5.3.1. Inbound Liquidity Transfer

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

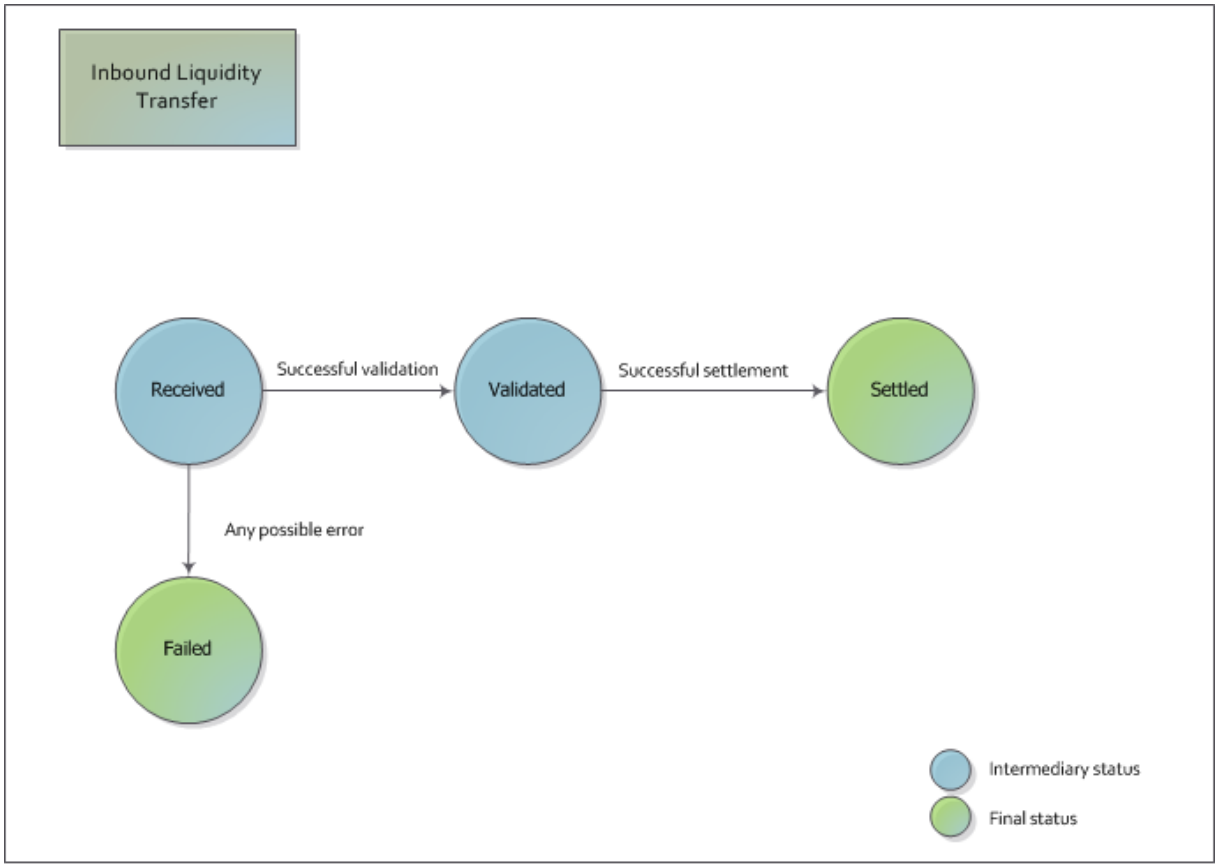
Authorised RTGS Account holders may trigger Inbound Liquidity Transfer orders in the corresponding RTGS System; the order is received, as a Liquidity Transfer message, in TIPS. A target TIPS Account must be specified in the message. Originators of Inbound Liquidity Transfer orders do not necessarily

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

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

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

Figure 6 - Inbound Liquidity Transfer status



An Inbound Liquidity Transfer order is *Received* and *Validated* by TIPS if it passes all validation checks successfully and the related TIPS account is not blocked; otherwise its status turns into a *Failed* status. Subsequently, it changes to *Settled* status once the Settlement Core component settles the full amount of the order..

1.5.3.2. Outbound Liquidity Transfer

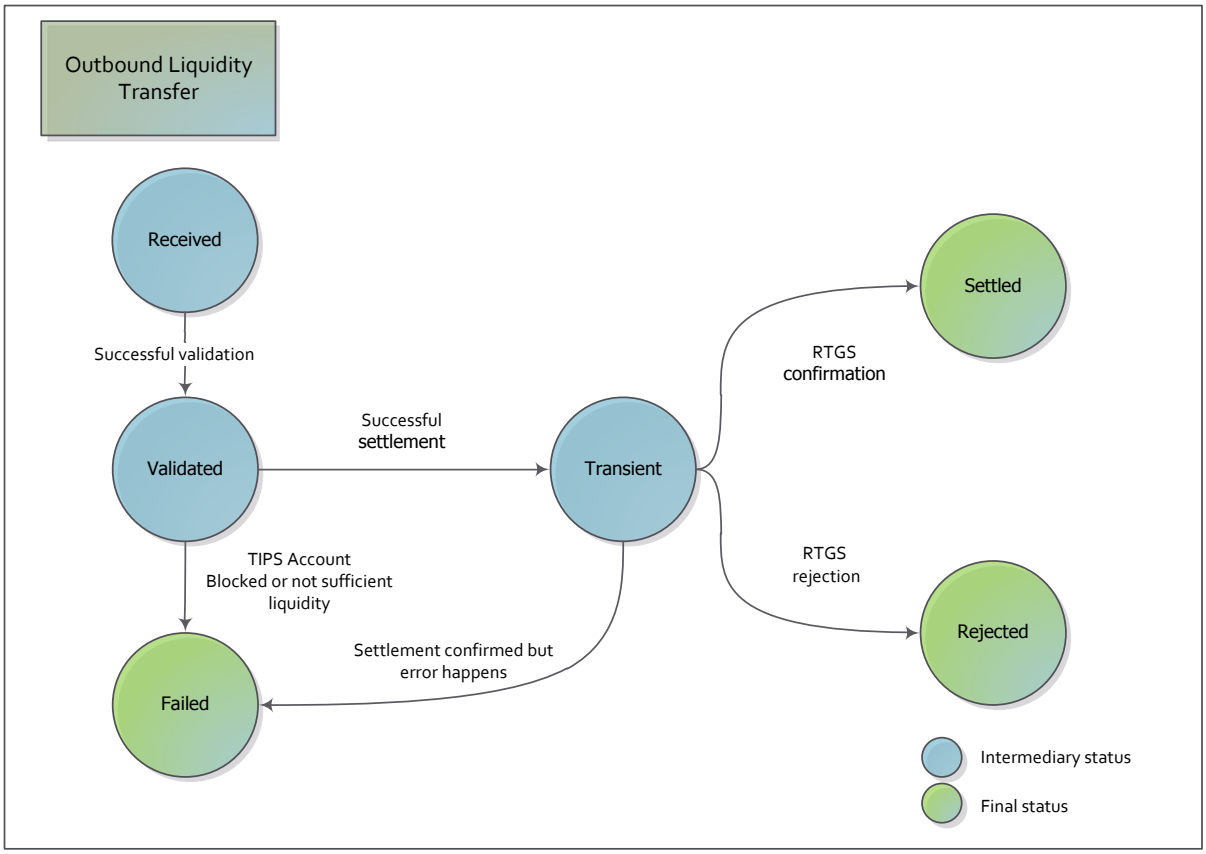
An Outbound Liquidity Transfer is used in order to repatriate liquidity from a TIPS account to the relevant RTGS System. Outbound Liquidity Transfer orders can be triggered only in TIPS and are received by the relevant RTGS System.

The process foresees that an authorised entity triggers an Outbound Liquidity Transfer order towards the corresponding RTGS System, in the form of a Liquidity Transfer message. A target RTGS Account must be specified in the message. No reservation of funds occurs in this scenario and settlement takes place immediately.

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

The possible statuses of an Outbound Liquidity Transfer order are the following:

Figure 7 - Outbound Liquidity Transfer status



An Outbound Liquidity Transfer order is first *Received* and *Validated* by TIPS if it passes all validations successfully; otherwise its status turns into a *Failed* status. Subsequently, it changes to *Transient* status if settled correctly, when the funds are moved to the technical Transit Account denominated in the same currency of the corresponding liquidity transfer. Conversely, if the involved TIPS Account is blocked or has insufficient funds, the Liquidity Transfer is set to *Failed*.

Liquidity Transfers with status set to *Transient* may then settle finally (status *Settled)* upon TIPS receiving positive confirmation from the related RTGS System, or be *Rejected* if the RTGS System responds with a negative reply. If the answer received from the RTGS System does not pass validation checks successfully, the related status changes to *Failed.* If the RTGS does not respond properly and the status is not set to *Settled* or *Rejected* within a configurable timeframe, an alarm is raised to the TIPS Operator, in order to take corrective measures.

1.5.3.3. Reserve calculation

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

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

1.5.4. Reference data management

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

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

- Common reference data changes: this class of operations covers most TIPS reference data changes, notably the creation, update and deletion of Participants and Accounts. These operations are carried out by authorised users in the CRDM via its dedicated interface and propagated to TIPS on a daily basis before the change of RTGS business day. As the CRDM interface is available 22 hours a day[6], this type of operation is only available during that time window.

  TIPS may reject certain changes at the time of propagation. For example, if an Account is deleted at CRDM level but has a balance over zero when the change is propagated to TIPS, this change is rejected.

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

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

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

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

Blocking/unblocking status and CMB limit data maintenance operations are also available in the CRDM.

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

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

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

Table 14 – Reference data management functions available in TIPS

Entity	Possible operations	Responsible Actors(s)	U2A availability	A2A availability
Actor	Update of blocking status	TIPS Operator, CB	Yes	Yes
Account	Update of blocking status	TIPS Operator, CB	Yes	Yes
CMB	Update of blocking status, update of CMB limit	TIPS Operator, CB, Participant	Yes	Yes
RTGS Status	Create, Update, Delete	RTGS System (A2A), TIPS Operator (U2A)	Yes	Yes

The update of the RTGS Status table is normally performed on automatic basis upon the receipt of a camt.019 message from the relevant RTGS System. In contingency situations, it can be carried out manually by the TIPS operator.

1.5.4.1. Blocking Participants

TIPS allows Central Banks to block immediately a TIPS Participant falling under their datascope for credit operations, debit operations or both in A2A mode.

Blocking a TIPS Participant for debiting/crediting results in an equivalent blocking on all Accounts owned by that Participant and all the CMBs linked to that Account. The individual Account and CMB blocking status is not overwritten. When crediting or debiting a TIPS Account, TIPS also checks the Owner Participant blocking status.

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

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

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

1.5.4.2. Blocking accounts and CMBs

TIPS allows Central Banks to block immediately an Account or a CMB linked to TIPS Participant falling under their datascope for credit operations, debit operations or both in A2A mode. TIPS allows TIPS Participants to block immediately a CMB linked to Accounts under their datascope for credit operations, debit operations or both in A2A mode.

Blocking a TIPS Account for debiting/crediting results in an equivalent blocking on all CMBs linked to that Account. The individual CMB blocking status is not overwritten. When crediting or debiting a CMB, TIPS also credits or debits the related account.

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

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

On the contrary, TIPS verifies, before performing the block/unblock operations, if an object with an higher blocking priority is already blocked. In this case, the requested operation is rejected.

For example, if TIPS receives the request to block or unblock a CMB linked to an Account that has already a block of whatever type, TIPS rejects the request.

1.5.4.3. Limit management

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

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

It is possible, thus, that a change in the limit leads the headroom to become negative. In this case the CMB will only accept instant payments and liquidity transfers in credit until the headroom once again goes over zero.

1.5.5. Queries and reports

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

1.5.5.1. Queries

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

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

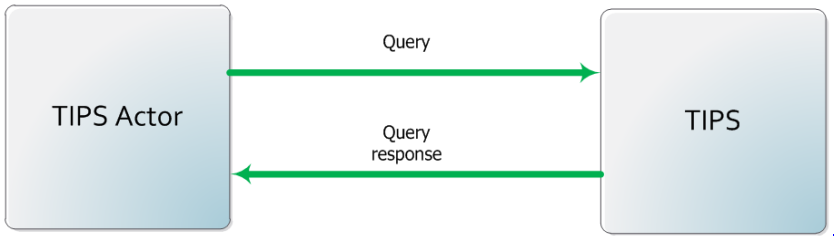
In order to manage in a timely manner the liquidity over the accounts and CMBs in the user data scope and to gather information on single transactions, the following queries can be used:

- 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 7775 - Queries flow~~



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

The Payment transaction status query is provided in addition to the Investigation functionality (see section 1.5.2.3 Investigation Process), making available a bigger set of information about a payment transaction, also to Participants or Instructing Parties acting on behalf or Participants or Reachable Parties on the beneficiary side.

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~~Queries~~ for the A2A mode;
- in the relevant section of the UHB (see TARGET Instant Payment Settlement User Handbook~~TARGET Instant Payment Settlement User Handbook~~) for the U2A mode.

Formatte

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 15 - System Parameters

Parameter name	Description	Default value
Retention Period	The retention period for transactional data expressed in calendar days. This parameter is used also for detecting the timeframe within which two instructions with the same Originator BIC (field AT-06 in DS-02) and Originator reference (field AT-43 in DS-02) must be considered as duplicates. The parameter defines the –maximum period of time for which the historical data can be accessed either via TIPS GUI or via A2A queries.	5
SCTInst Timestamp Timeout	The time window foreseen in SCTInst 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.	20,000
Originator Side Offset	It is a configurable offset for evaluation of the SCTinst Timestamp Timeout applied to the reception of the Originator Participant message. This ~~value~~ parameter can only have values smaller or equal to zero. ~~can be negative~~. An Instant ~~payment~~ Payment ~~instruction~~ Transaction 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^{Inst} timestamp, field AT-50 in DS-02) that is already past the timeout window (SCT^{Inst} Timestamp Timeout + Originator Side Offset). This parameter ~~must be configured for each currency. It~~ is expressed in milliseconds. ~~As initial setting the value will be set to 1000 milliseconds.~~	-1,000
Beneficiary Side Offset	It is a configurable offset for evaluation of the SCT^{Inst} Timestamp Timeout applied to the reception of the 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^{Inst} timestamp, field AT-50 in DS-02) that ~~is~~ already past the timeout window (SCT^{Inst} Timestamp Timeout + Beneficiary Side Offset). This parameter ~~must be configured for each currency. It~~ is expressed in milliseconds. ~~As initial setting the value will be set to 1000 milliseconds.~~	1,000
Sweeping Timeout	The time window after which the sweeping daemon ~~checks~~ looks for ~~orphan~~ pending payments for which (i) a confirmation from the Beneficiary Participant has not been received yet and (ii) the SCTInst Timestamp Timeout is elapsed. 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.	*to be specified*

Parameter name	Description	Default value
Maximum Amount	Maximum amount – defined for each settlement currency – which can be transferred by a single ~~I~~instant ~~p~~Payment transaction. The parameter must allow an "unlimited" value.	*unlimited*
Acceptable Future Time Window	The acceptable time range for future timestamps. The rejection of an Instant P~~p~~ayment transaction~~s~~ is triggered if the received timestamp is greater than the acceptable time window (current timestamp plus this time window value). It is expressed in milliseconds.	*0*
Investigation Offset	Configurable offset foreseen in SCTInst schema. An Investigation request can be accepted only if it is received at after SCTInst Timestamp Timeout of the Transaction + Investigation Offset. This parameter must be configured for each currency. It is expressed in milliseconds.	*5,000*

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

2. Dialogue between TIPS and TIPS Actors

This section aims 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 TIPS Actors can have with TIPS. These sub-sections describe the scenarios the user can go through, specifying:

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

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

When a message is referenced, it is linked to the relevant section within chapter 3 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~~TIPS in order to immediately transfer funds to the account of a Beneficiary Participant. The involved actors are:

- The Originator Participant, ~~-~~or Instructing Party acting on its behalf, starting the scenario;
- the Beneficiary Participant, or Instructing Party acting on its behalf, ~~-or Recipient Party~~ receiving the request and either confirming or ~~not~~ rejecting the payment.

The involved messages are:

- the FItoFICustomerCreditTransfer message sent by the Originator Participant ~~message~~ in order to (i) instruct the payment, ~~-and~~ (ii) to reserve the corresponding amount and (iii) to inform the Beneficiary Participant about the transaction received;
- the FItoFIPaymentStatusReport message sent (i) by the Beneficiary Participant to TIPS to either accept or reject the Instant Payment transaction, or (ii) by TIPS to inform the actors about the result of the settlement (i.e. settled, rejected, timed out); ~~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 by TIPS to Creditor Account Owner and/or Debtor Account Owner. ~~-~~The message is sent by TIPS if (i) the owner of the TIPS account (or

CMB) ~~TIPS Actors have configured~~enables the floor and ceiling notifications and ~~if~~ (ii) the configured threshold is ~~reached~~crossed.

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 16 – Instant Payment transaction steps~~Table 16 – Instant Payment transaction steps~~.

Formatte

Figure 8886 - Payment Transaction flow

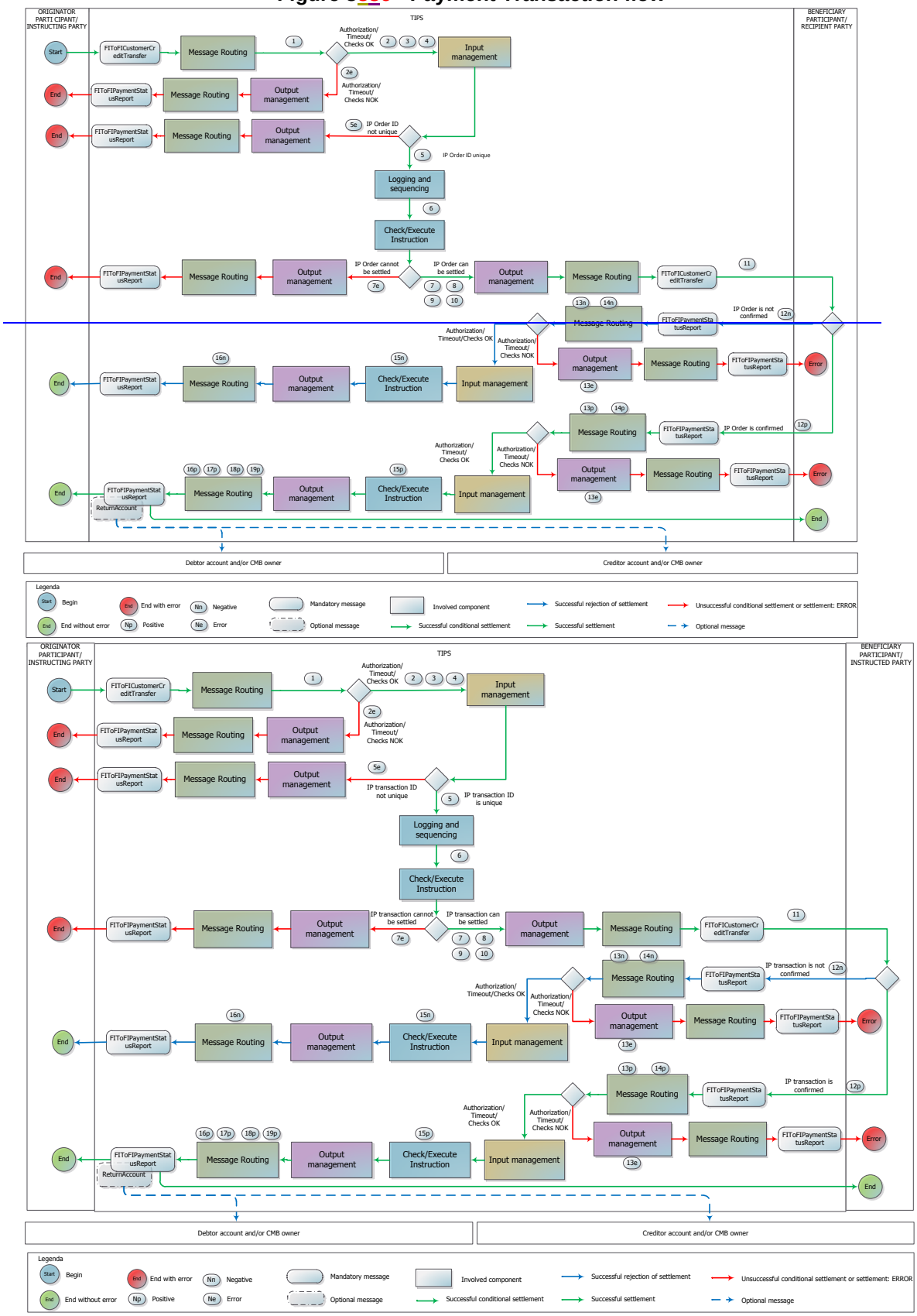


Table 16 – Instant Payment ~~Transaction~~ transaction steps

Step	Involved messages	Involved actors	Description
1	FItoFICustomerCreditTransfer	Originator Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an ~~incoming~~ Instant Payment ~~Instruction~~ transaction 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 Instant Payment ~~Instruction~~ transaction has not expired.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; - Authorisation Check; - Timeout Check - Originator Side; - Maximum Amount not Exceeded; - Debtor Account or CMB existence; - Instructing Party authorised; - Creditor Account or CMB existence; - See 4.1- Business Rules~~Business Rules~~ for details.
2e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks listed in step 2. At the first negative check the system stops and sends a message to the Originator Participant or Instructing Party - 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”.

Formatte
Font color

Step	Involved messages	Involved actors	Description
3		TIPS	TIPS determines the account to be debited from the configured accounts information, the Originator Participant BIC and the currency of the Instant Payment ~~Instruction~~transaction. In details ~~:~~ ~~- the system~~TIPS verifies that: (i) an account, ~~of~~ with type "TIPS Account"~~,~~ exists, (ii) it ~~and~~ is linked to the Originator Participant (field "~~debtor agent~~Originator BIC") as authorised user ~~an d~~ (iii) and has a currency equal to the one defined in the ~~Instructed~~ Settlement Amount. - if no TIPS Account ~~is linked to the Originator Participant~~is found, ~~the system~~TIPS looks for a CMB linked to the Originator ~~BIC~~ Participant (field "~~debtor agent~~Originator BIC") as user; - ~~the system~~TIPS 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~~ Settlement Amount. From now on, the account is referred to as "Originator Account" and the possible CMB as "Debiting CMB".
4		TIPS	TIPS determines the account to be credited from the configured accounts information, ~~and~~ the Beneficiary Participant BIC and the currency of the Instant Payment transaction~~Instruction~~. In details ~~:~~ ~~- the system~~TIPS verifies that: (i) an account, ~~of~~ with type "TIPS Account", exists, (ii) it ~~and~~ is linked to the Beneficiary ~~party~~ Participant (field "~~creditor~~ Beneficiary ~~agent~~BIC") as authorised user, (iii) ~~-~~and has a currency equal to the one defined in the ~~Instructed~~ Settlement Amount. - ~~-~~if no TIPS Account~~,~~ ~~exists~~is found, ~~the system selects~~TIPS looks for ~~the~~ a CMB linked to the Beneficiary ~~party BIC~~Participant (field "Beneficiary BIC ~~creditor agent~~") as user; - ~~the system~~TIPS 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~~ Settlement Amount. From now on, the account is referred to as "Beneficiary Account" and the possible CMB as "Crediting CMB".
5		TIPS	TIPS successfully executes the checks: - Duplicate check; See 4.1- Business Rules~~Business Rules~~ for details.

Formatte

Step	Involved messages	Involved actors	Description
5e	FItoFIPaymentStatusReport	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. The transaction is set to “Failed” status. See 4.1- Business Rules~~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~~ Originator Account not blocked; - ~~Crediting~~ Beneficiary Account not blocked; - Available amount not exceeded; See 4.1- Business Rules~~Business Rules~~ for details.
7e	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS unsuccessfully executes the checks listed in step 7. At the first negative check the system stops and sends a message to the Originator Participant or Instructing Party - same DN of the Sender in step 1 - containing the proper error code. The transaction is set to “Failed” status. See 4.1- Business Rules~~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 h~~H~~eadroom 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".

Formatte

Formatte
color: Blac

Formatte
color: Blac

Step	Involved messages	Involved actors	Description
11	FItoFICustomerCreditTransfer	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS forwards the received Instant Payment transaction ~~Instruction~~ to the Beneficiary DN.
12p	FItoFIPaymentStatusReport	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 4.1- Business Rules~~Business Rules~~ for details.
13e	FItoFIPaymentStatusReport	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. The transaction is set to "Failed" status. See 4.1- Business Rules~~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.

Formatte

Formatte

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 reserved amount of the Originator Account is decreased by the amount of the corresponding settled transaction. If a Debiting CMB is involved, TIPS decreases its headroom by the same amount. The same positive amount is added to the Beneficiary Account. If a Crediting CMB is involved, ~~the system~~TIPS increases its ~~Headroom~~ headroom by the same amount. TIPS always executes the reserved transactions even ~~if~~ though the involved accounts (or CMBs) have been blocked in the meantime.
16p	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS forwards the received Payment status report to the Originator DN.
17p	FItoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS generates a positive Payment status report and send it to the Beneficiary DN. The FItoFIPaymentStatusReport contains the Transaction ID of the transaction.
18p	ReturnAccount	TIPS as sender Debited Account and/or CMB Owner	TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB. If the account balance or the CMB headroom after settlement is confirmed is lower than the "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner 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	ReturnAccount	TIPS as sender Credited Account and/or CMB Owner	TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB. If the account balance or the CMB headroom after the confirmed settlement is greater than the "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner 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	FItoFIPaymentStatusReport	Beneficiary Participant or Instructing Party as sender TIPS as receiver	The Beneficiary Participant ~~starts~~ triggers the settlement phase of the transaction sending a negative payment status report that is successfully delivered to TIPS. In this scenario the settlement phase will end up with a rejection of the Instant Payment transaction and the un-reservation of corresponding funds. 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 4.1- Business Rules~~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 4.1- Business Rules~~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.

Formatte

Formatte

Step	Involved messages	Involved actors	Description
15n		TIPS	TIPS retrieves the transaction to be rejected and releases it. The transaction is set to "Rejected" status. The reserved amount is released in the involved Originator Account and the possibly involved Debiting CMB is increased of the same amount. TIPS always releases the reserved transactions even if the involved account or CMB have been blocked in the meantime.
16n	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS forwards the received Payment status report to the Originator DN.

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

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

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

A specific software component (Sweeping service) is always acting in background taking care of all the orphan payments – an orphan payment being a reserved Instant ~~payment~~ Payment transaction 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^{Inst} Timestamp Timeout"~~) a process checks all the pending Instant ~~payments~~ Payments transactions and rejects ~~all and~~ only th~~e instructions~~ose that have exceeded the SCTInst Timestamp Timeout~~timeout~~.

~~Since the "Sweeping Timeout" parameter has an higher value than the "SCT^{Inst} Timestamp Timeout", a~~Any Beneficiary-side answer that arrives in TIPS for an orphan payment already treated by the Sweeping service generates an error since no reserved transaction is found~~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 17 - Payment Transaction missing/delayed Beneficiary-side answer steps~~Table 17 - Payment Transaction missing/delayed Beneficiary-side answer steps~~.

Formatte

Figure 9~~97~~ - Payment Transaction missing/delayed Beneficiary-side answer flow

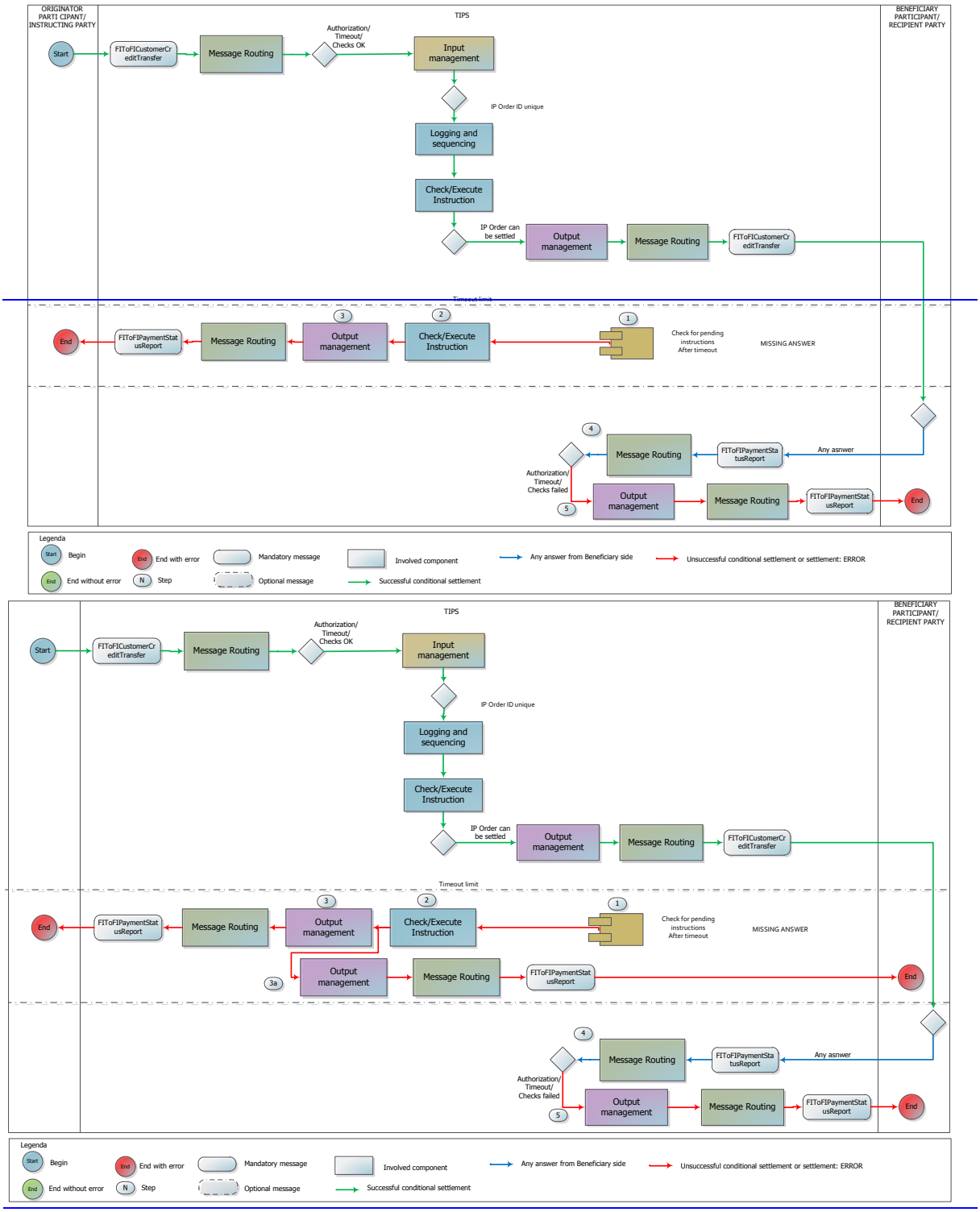


Table 17 - Payment Transaction missing/delayed Beneficiary-side answer steps

Step	Involved messages	Involved actors	Description
1		TPS	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^{Inst} 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	FItoFIPaymentStatusReport	TIPS as sender Originator Participant or Instructing Party as receiver	TIPS sends a message to the Originator Participant or Instructing Party - same DN of the Sender taken from the transaction under analysis. The FItoFIPaymentStatusReport contains the Transaction ID of the transaction and the proper error code.
3a	FItoFIPaymentStatusReport	TIPS as sender Beneficiary Participant or Instructing Party as receiver	TIPS sends a message to the Beneficiary Participant or Instructing Party - sent to the default DN of the Creditor Account Owner and/or Creditor CMB Owner identified in the entity "Outbound DN-BIC Routing". taken from the transaction under analysis. The FItoFIPaymentStatusReport contains the Transaction ID of the transaction and the proper error code.

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

2.2.2. Examples

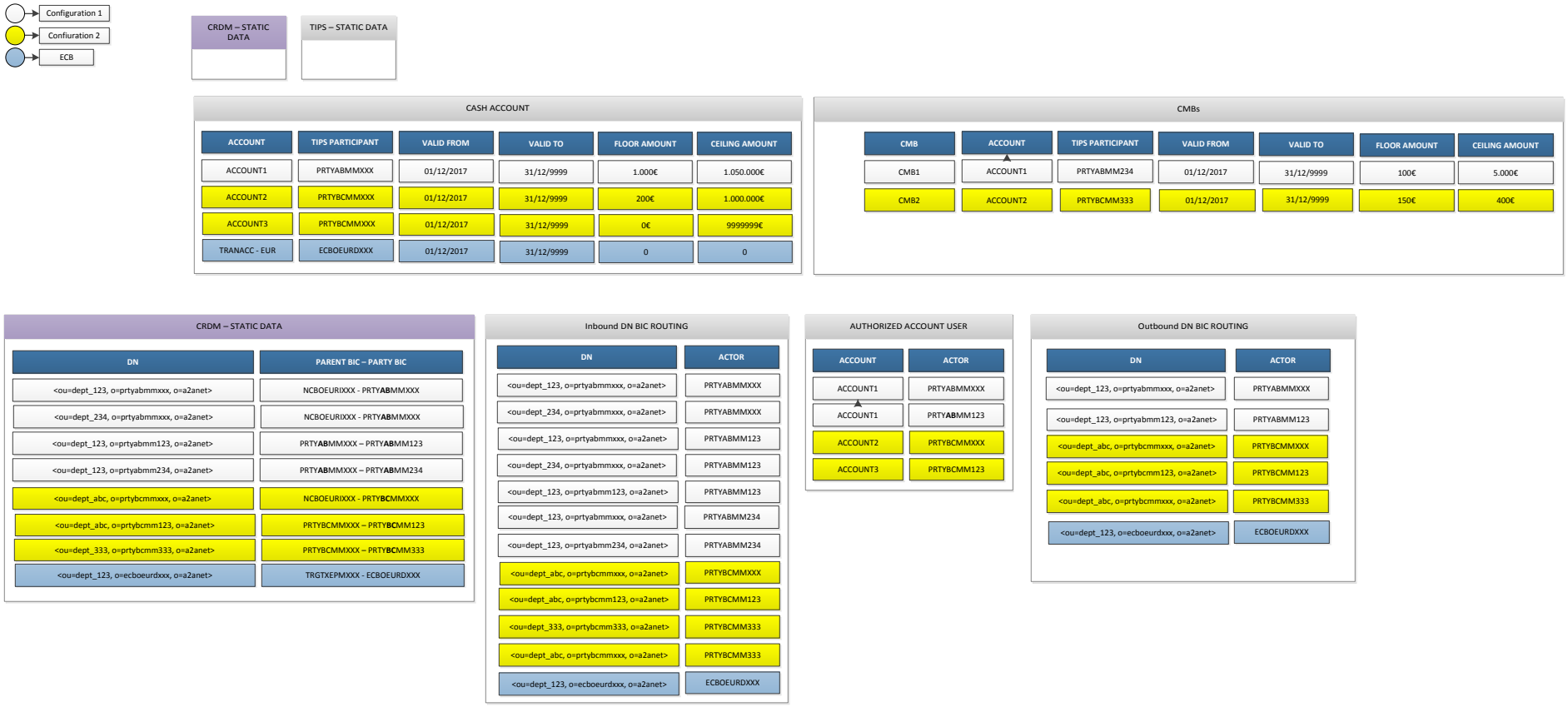
This sub-section ~~describes~~ includes a not exhaustive list of~~some~~ examples of TIPS transactions and related messages.

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~~General concepts~~.

Formatte

Figure 10~~10108~~ - Payment Transaction examples - data constellation

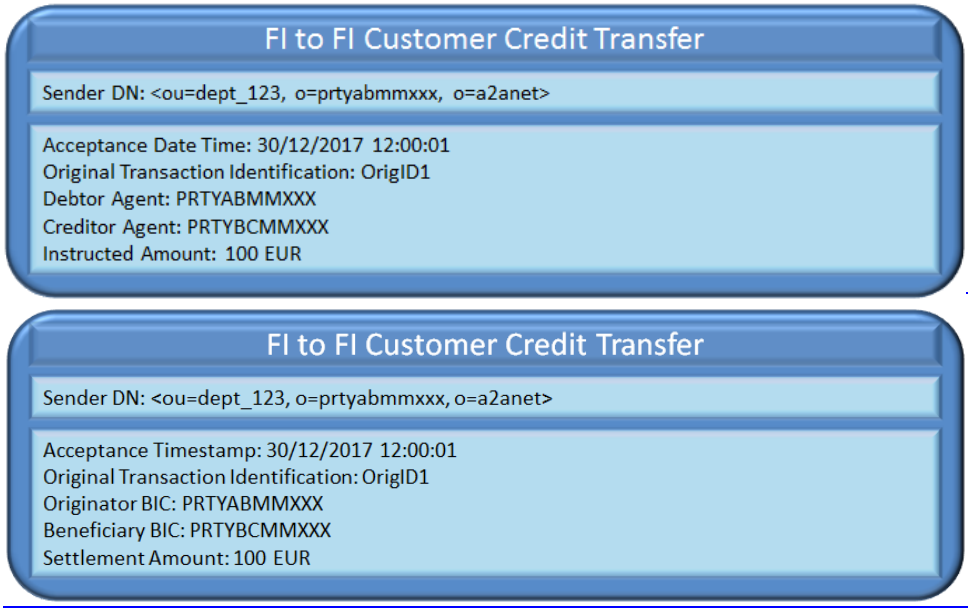


2.2.2.1. Successful scenario with confirmed order – only accounts involved

This positive scenario describes a successful payment transaction between two TIPS Accounts owned and held by two TIPS Participants sending the messages on their own (no Instructing Party different from the TIPS Participant(s) foreseen). “Configuration 1” and “Configuration 2” (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 FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one:

Figure 11~~11119~~ - Payment Transaction successful scenario FItoFICustomerCreditTransfer

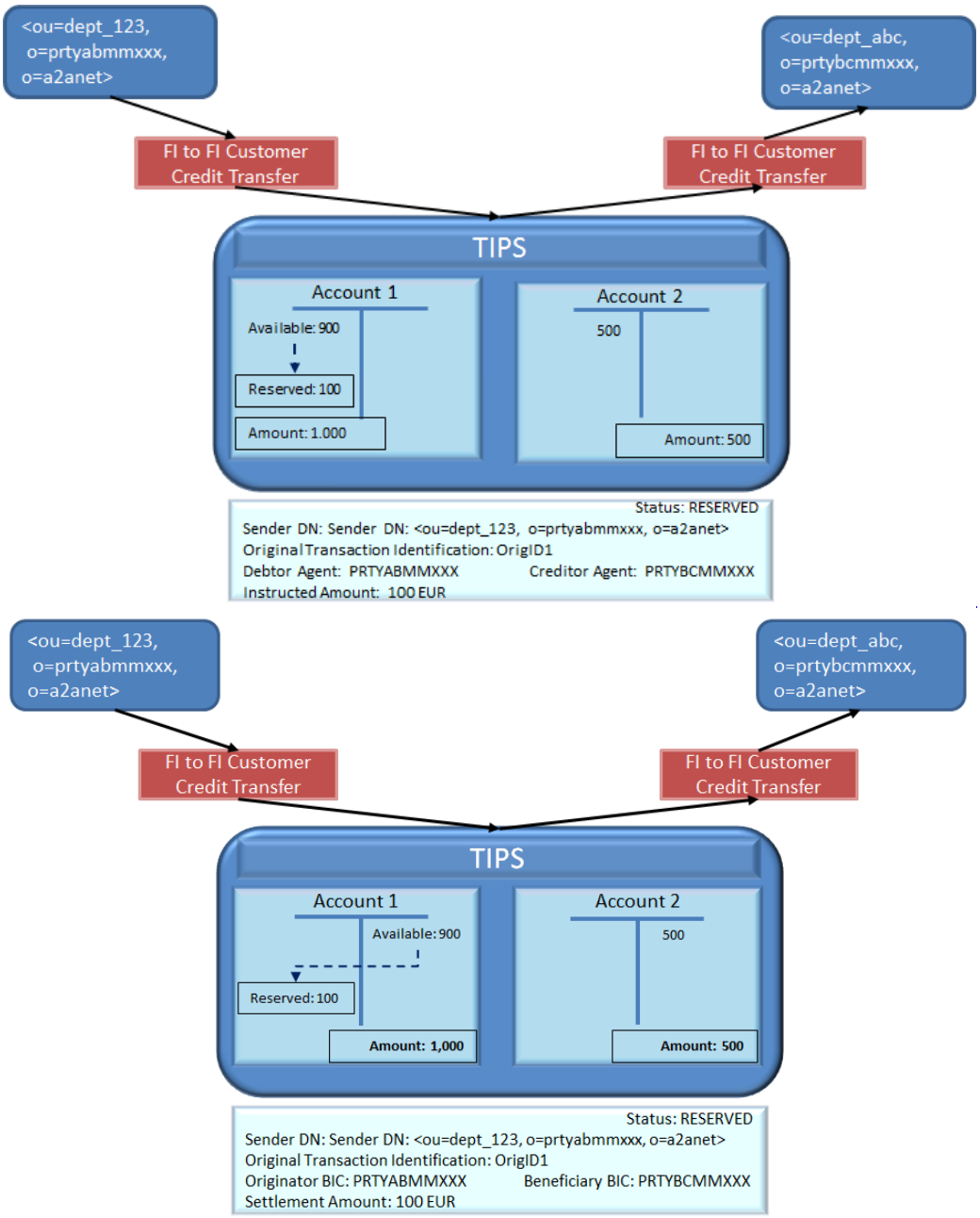


The system, after performing the expected checks successfully, sets up the settlement on the accounts as follows:

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

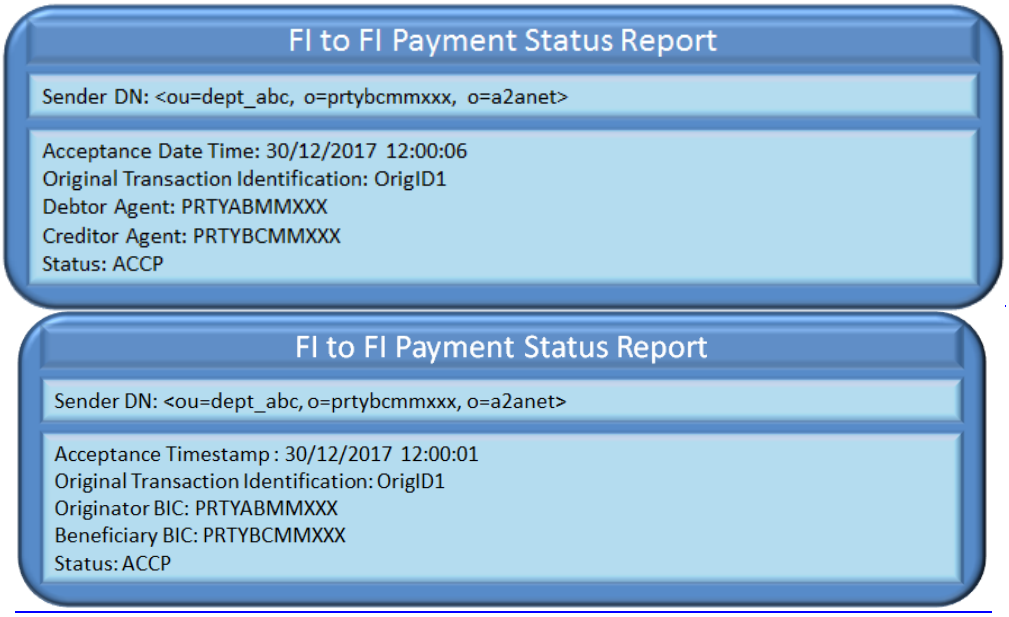
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 12~~121210~~ - Payment Transaction successful scenario reservation



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

Figure 13~~131311~~ - Payment Transaction successful scenario FItoFIPaymentStatusReport

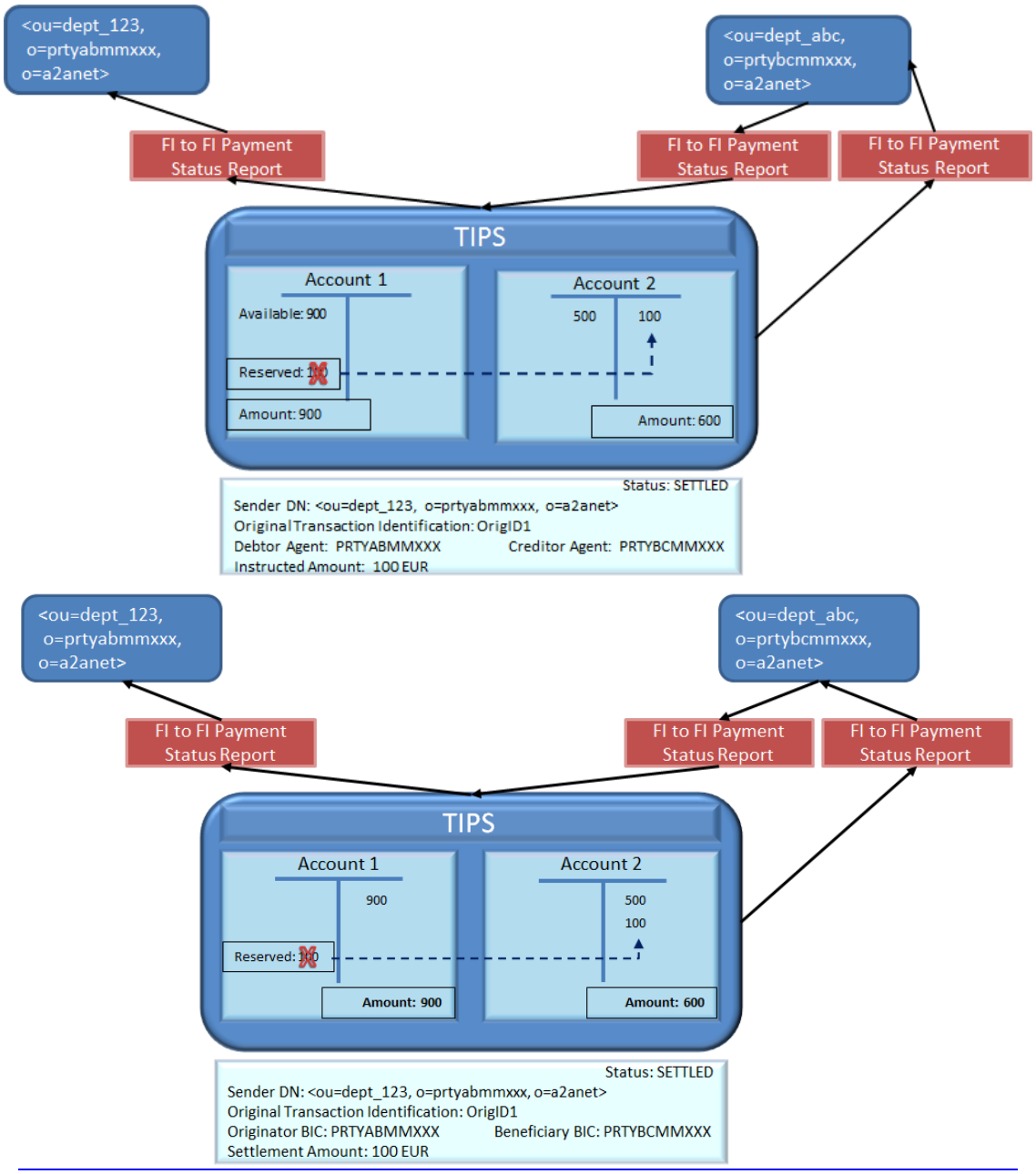


The system, after performing the expected checks successfully, find the reserved transaction and executes the settlement on the accounts as follows:

- 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 (Account2) from the retrieved transaction;
- It identifies the Originator DN from the transaction;
- It definitively settles the amount moving the liquidity reserved in the Account1 to the Account2;
- The transaction status is turned into SETTLED.

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

Figure 14141412 - Payment Transaction successful scenario settlement

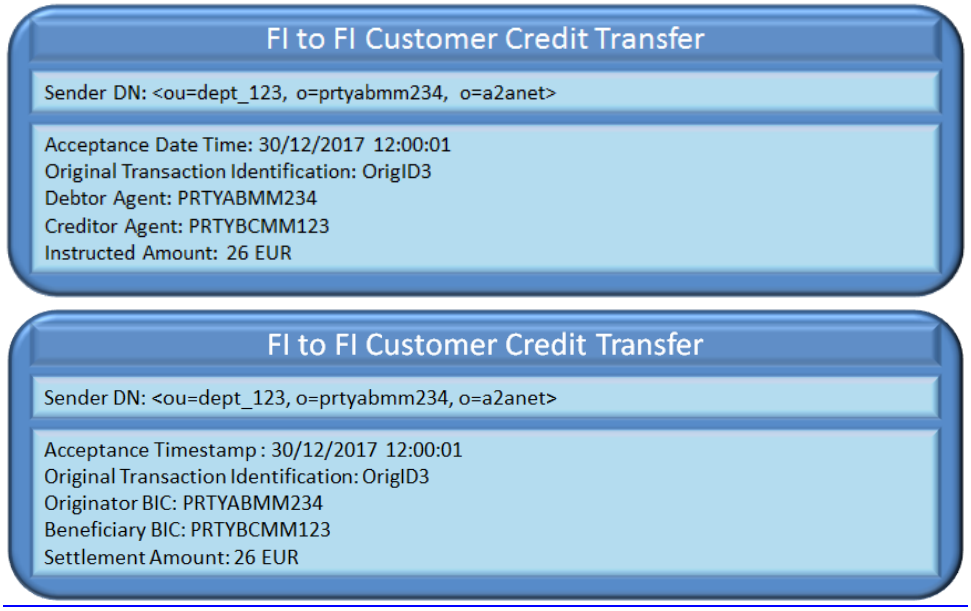


2.2.2.2. Successful scenario with confirmed order – Creditor account and debtor CMB

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

Figure 15~~1513~~13 - Payment Transaction successful scenario FItoFICustomerCreditTransfer

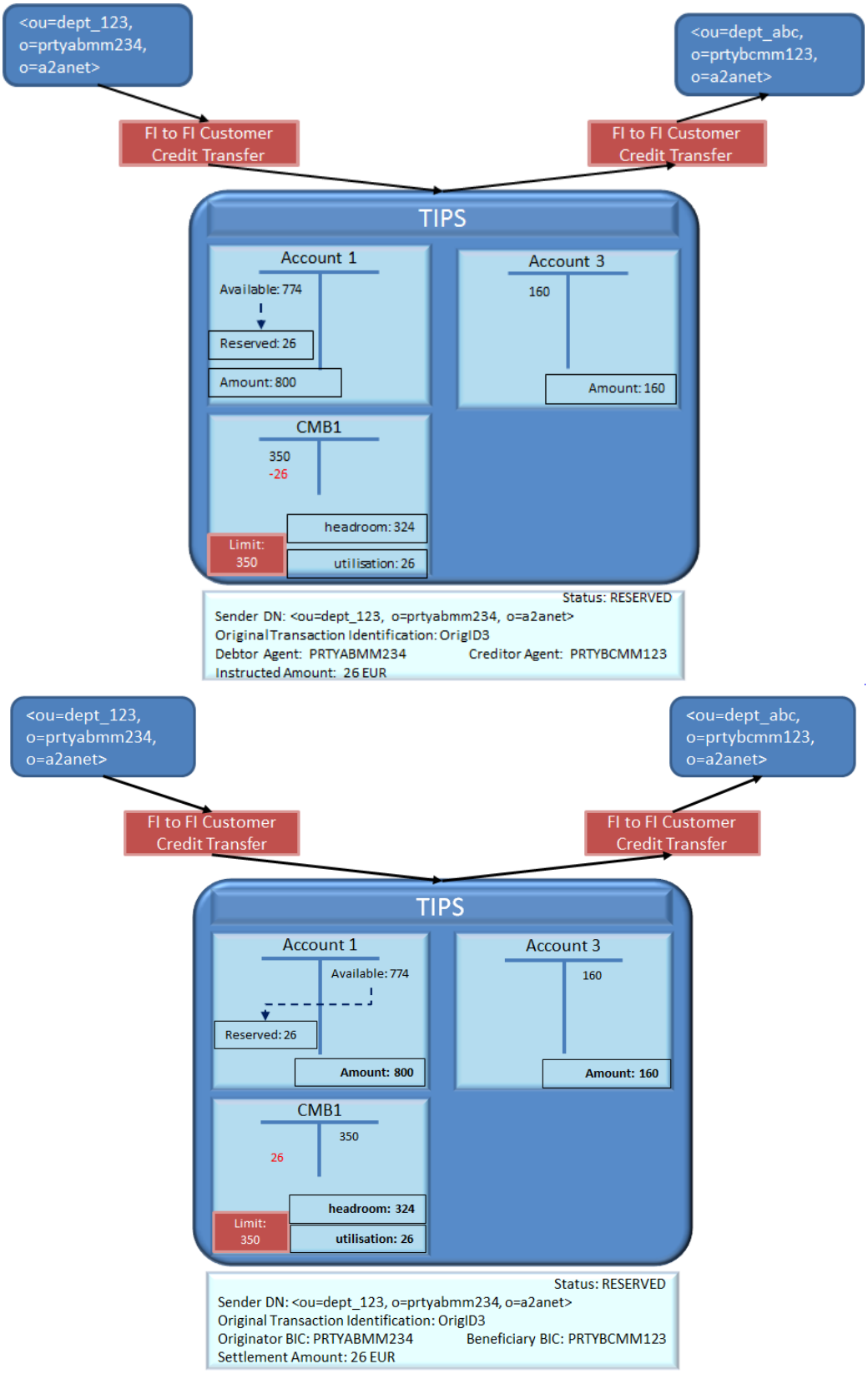


The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Debiting CMB (CMB1) from the ~~Debtor Agent~~Originator BIC;
- it identifies the Originator Account from the CMB1 (Account1);
- it identifies the Beneficiary Account (Account3) from the ~~Creditor Agent~~Beneficiary BIC;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing (<ou=dept_abc, o=prtybcmm123, o=a2anet>);
- It decreases the headroom for the involved CMB1;
- It reserves the amount for Account1 related to the CMB – the new availability for Account1 decreases from 800 EUR to 774 EUR;
- The transaction is saved and put in status RESERVED.

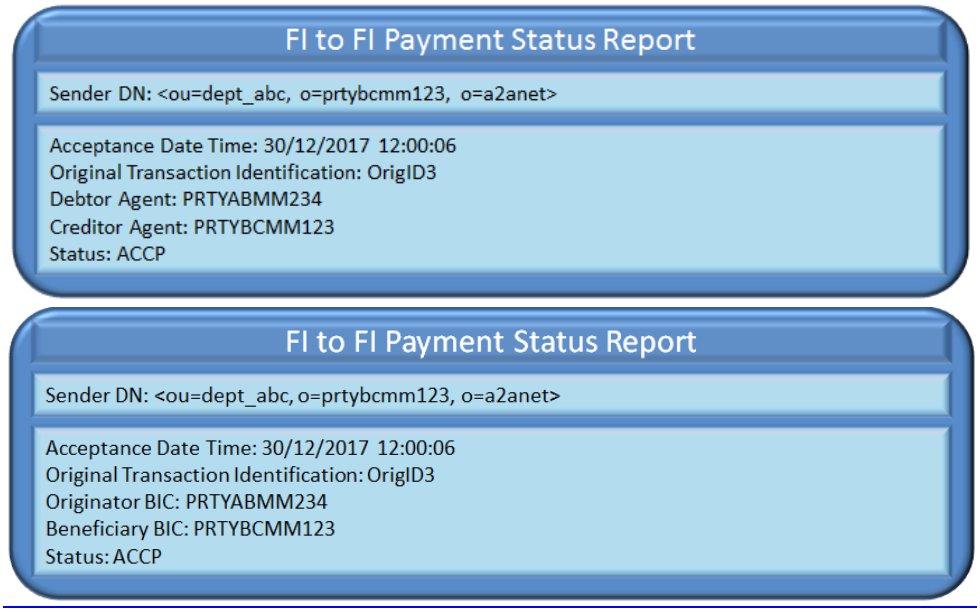
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 16~~161614~~ - Payment Transaction successful scenario reservation



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

Figure 17~~1717~~15 - Payment Transaction successful scenario FItoFIPaymentStatusReport

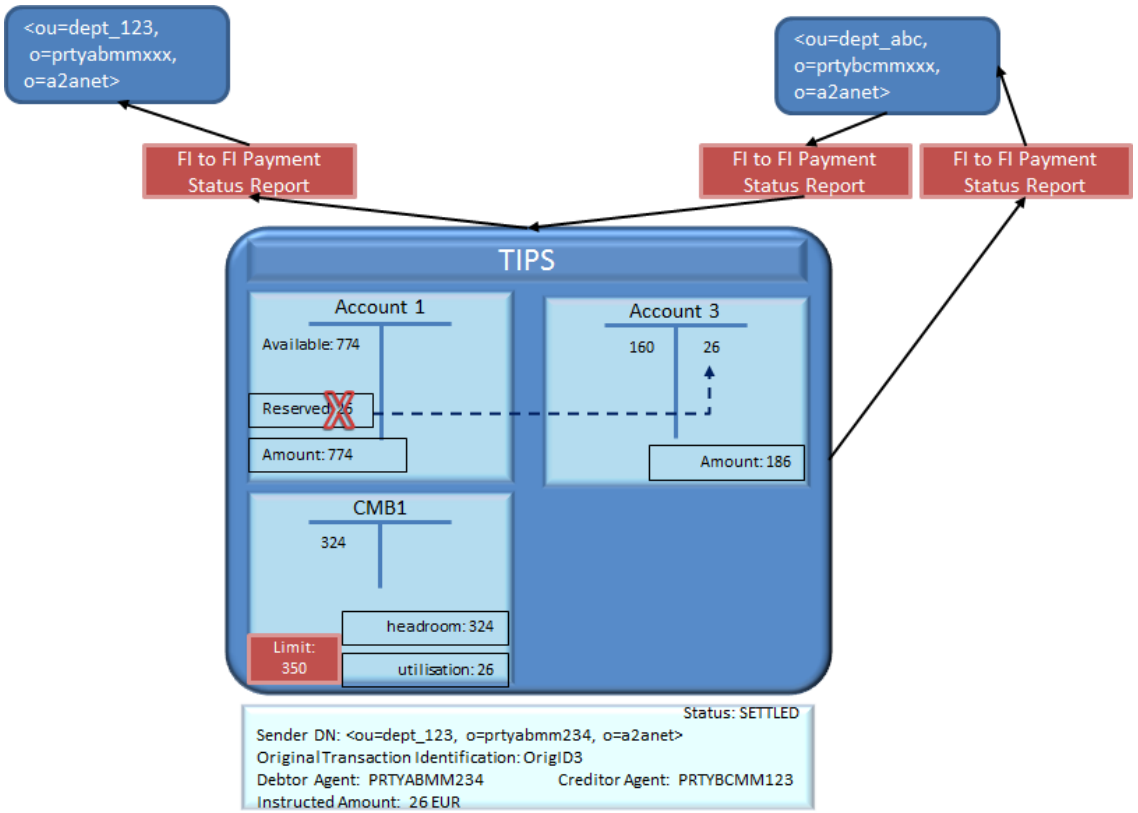


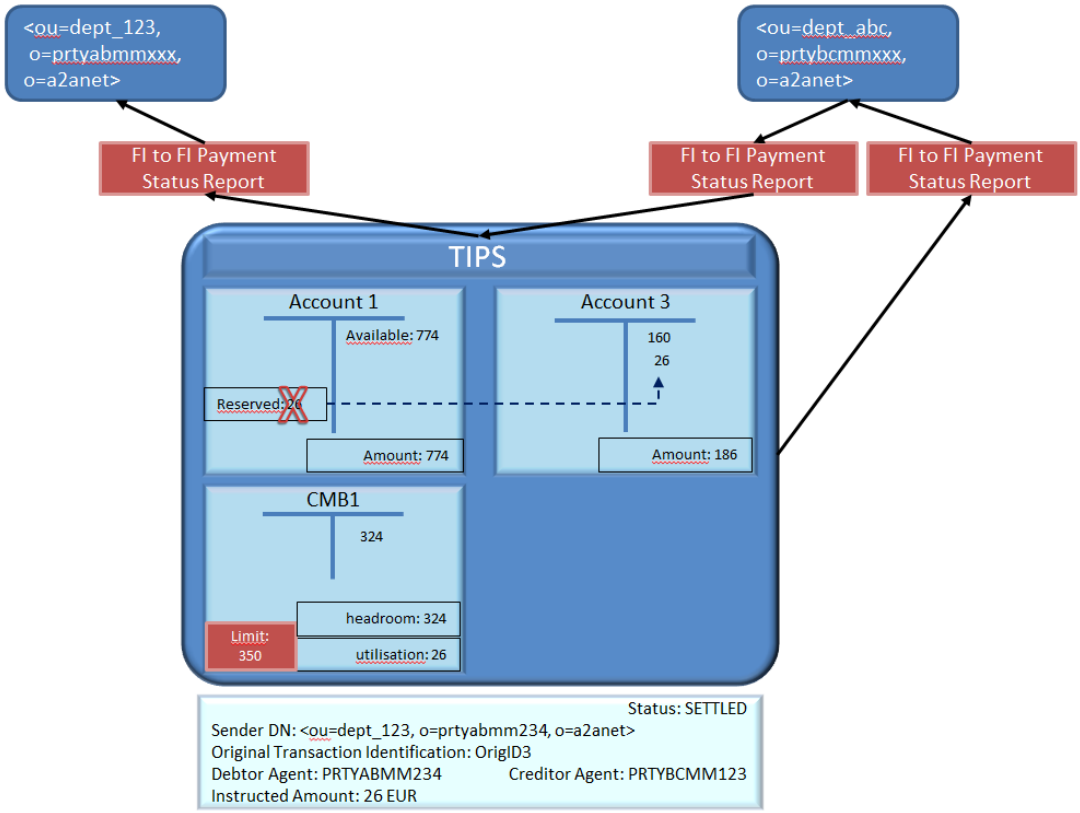
The system, after performing the expected checks successfully, find the reserved transaction and executes the settlement on the accounts as follows:

- 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 18~~181816~~ - Payment Transaction successful scenario settlement



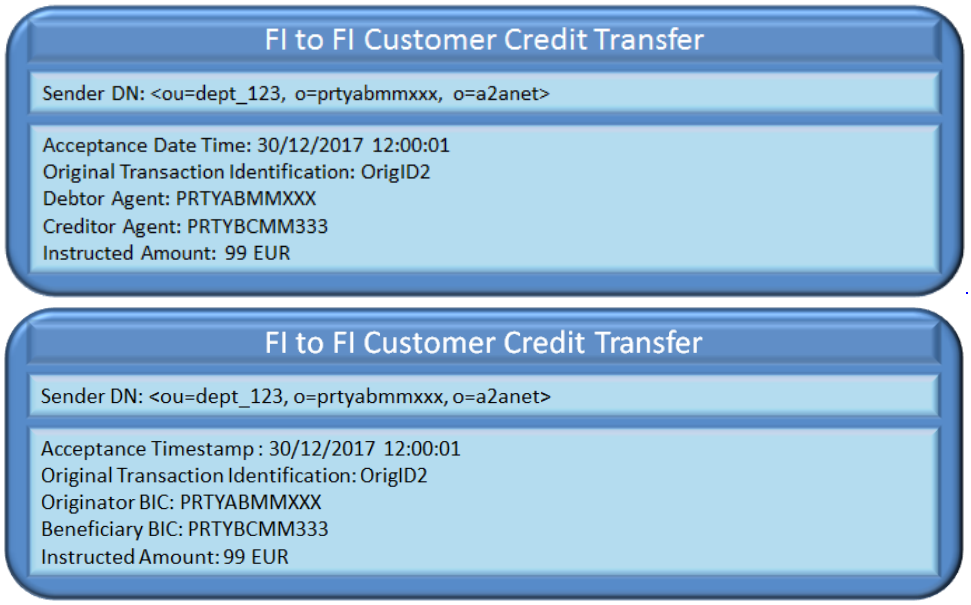


2.2.2.3. Successful scenario with confirmed order – Creditor CMB and debtor Account

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

Figure 19~~19~~19~~17~~ - Payment Transaction successful scenario FItoFICustomerCreditTransfer

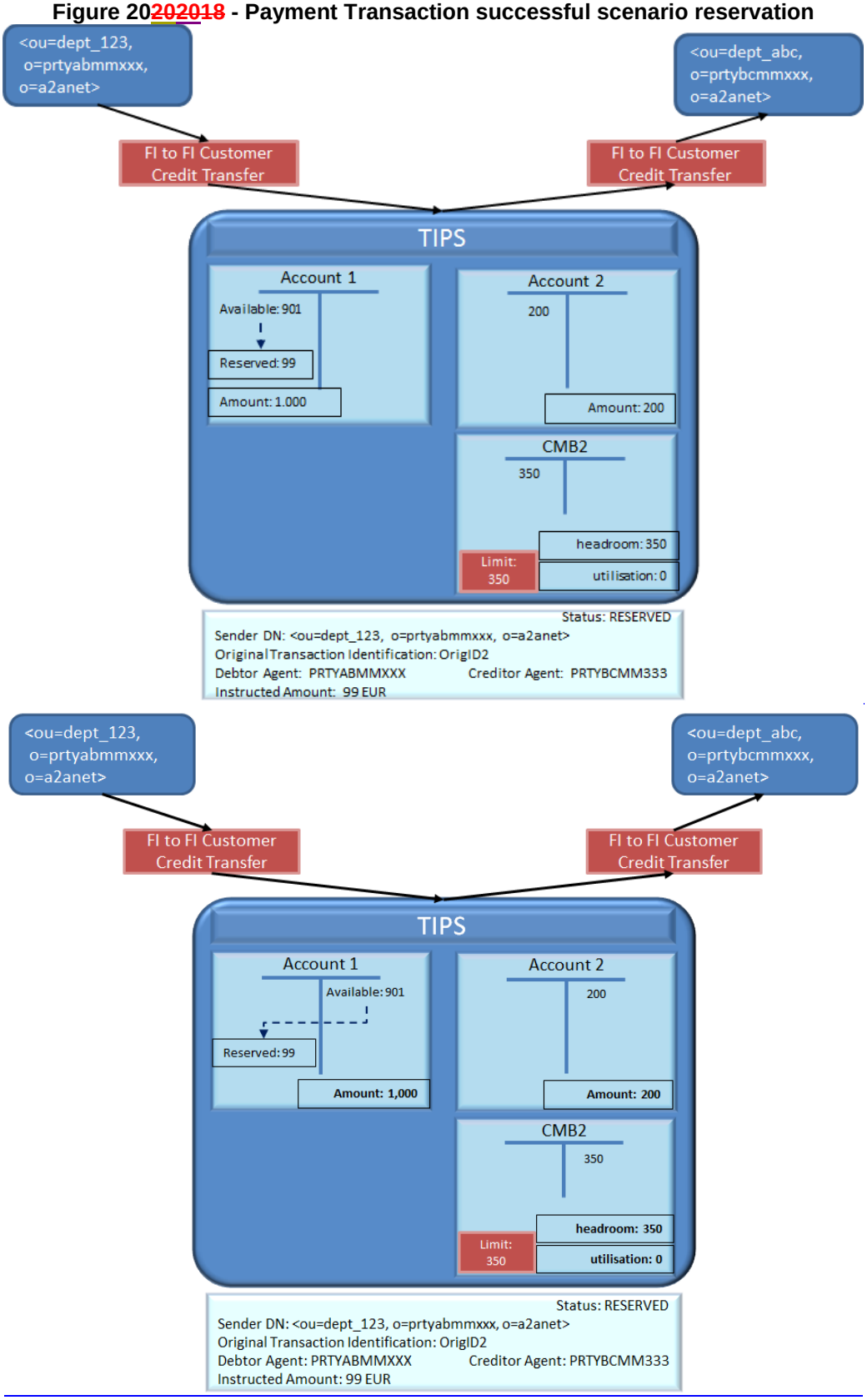


The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Originator Account (Account1) from the ~~Debtor Agent~~Originator BIC;
- it identifies the Crediting CMB (CMB2) from the ~~Creditor Agent~~Beneficiary BIC;
- it identifies the Beneficiary Account (Account2) from the CMB2 in table CMBs;
- It identifies the Beneficiary DN from the “Outbound DN-BIC Routing (<ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
- It reserves the amount in Account1 – the new availability for Account1 decreases from 1000 EUR to 901 EUR;
- The transaction is saved and put in status RESERVED.

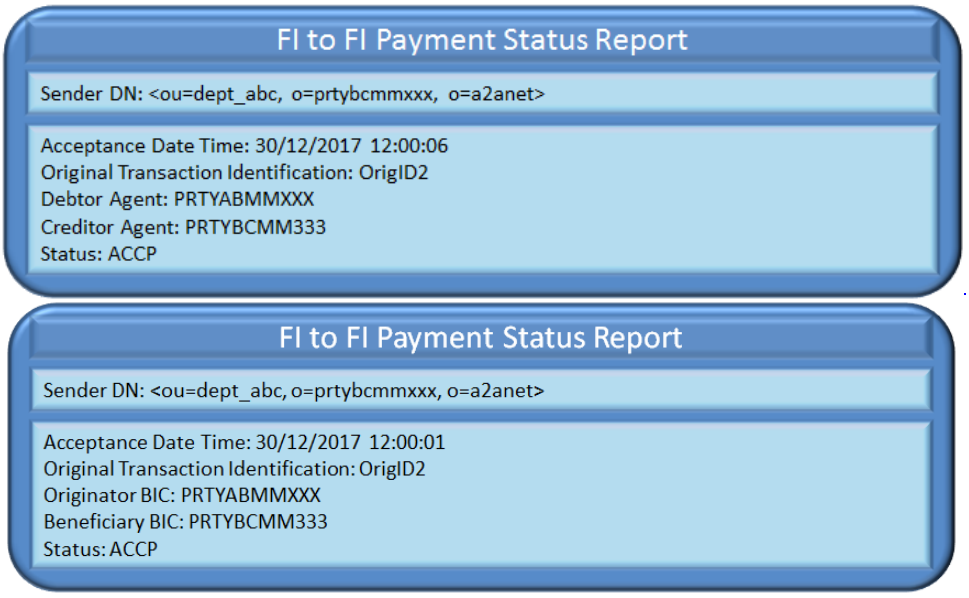
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 20202018 - 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 FItoFIPaymentStatusReport message with a positive answer. TIPS definitively settles the transaction, moving the amount from Account1 to Account2 and increasing the headroom for CMB2.

Figure 21~~212119~~ - Payment Transaction successful scenario FItoFIPaymentStatusReport

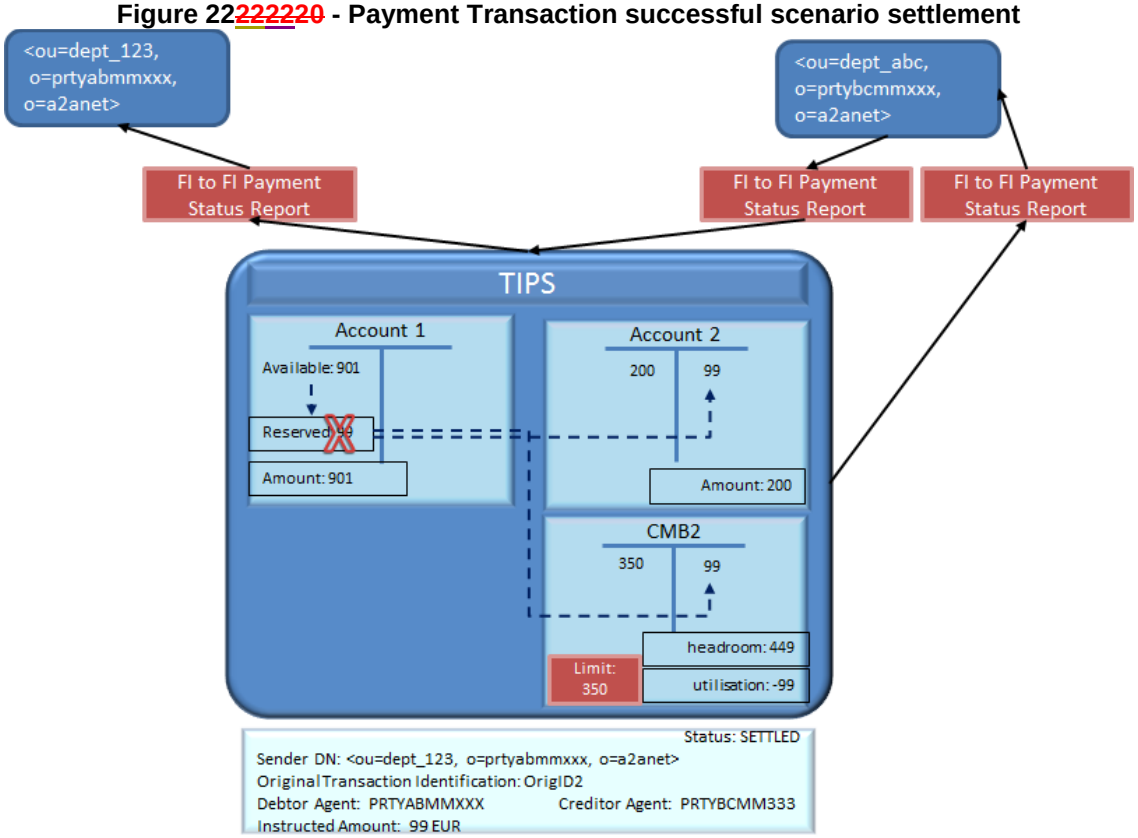


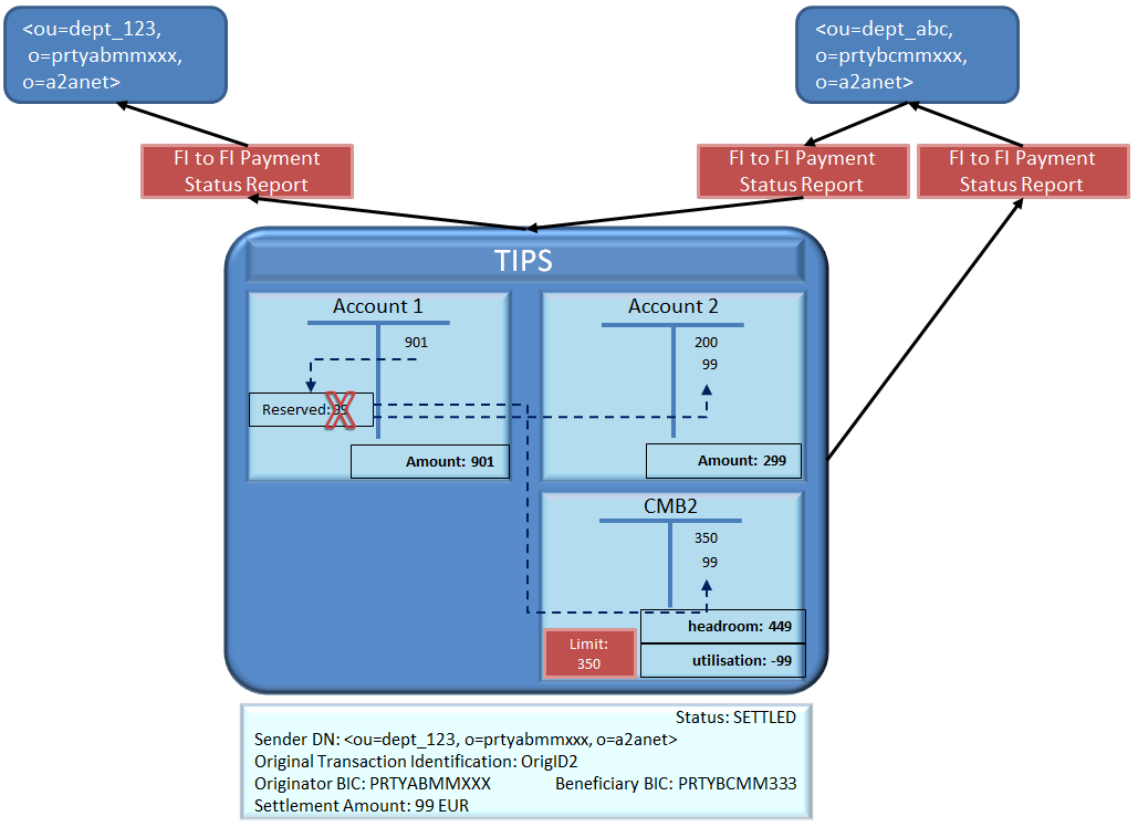
The system, after performing the expected checks successfully, find the reserved transaction and executes the settlement on the accounts as follows:

- 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;
- It increases the headroom of the CMB2;
- The transaction status is turned into SETTLED.

In this example, CMB2 exceeds the defined limit for the CMB. The 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 22~~222220~~ - Payment Transaction successful scenario settlement





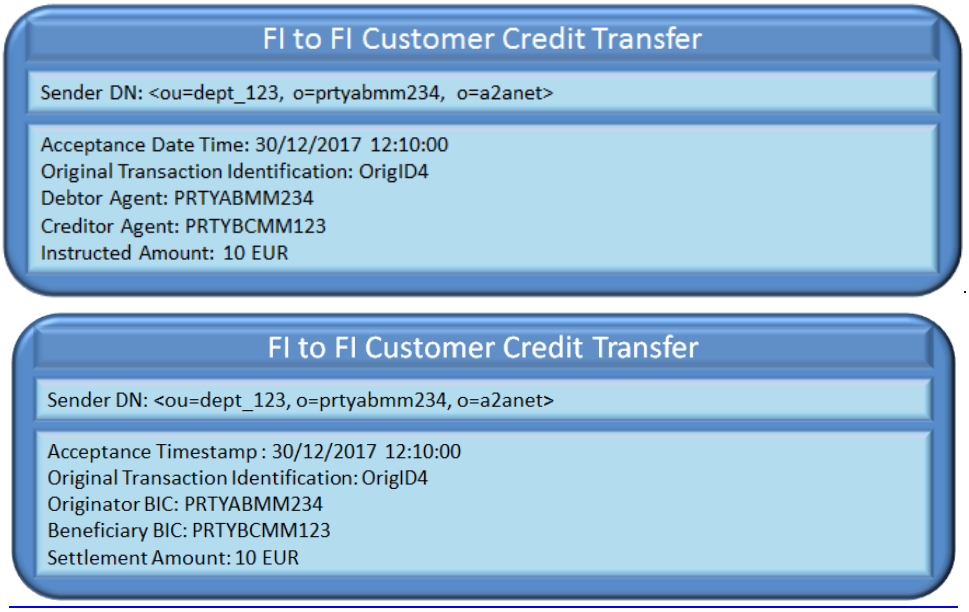
2.2.2.4. Successful scenario with rejected order

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

Figure 23~~232321~~ - Payment Transaction rejected order FItoFICustomerCreditTransfer

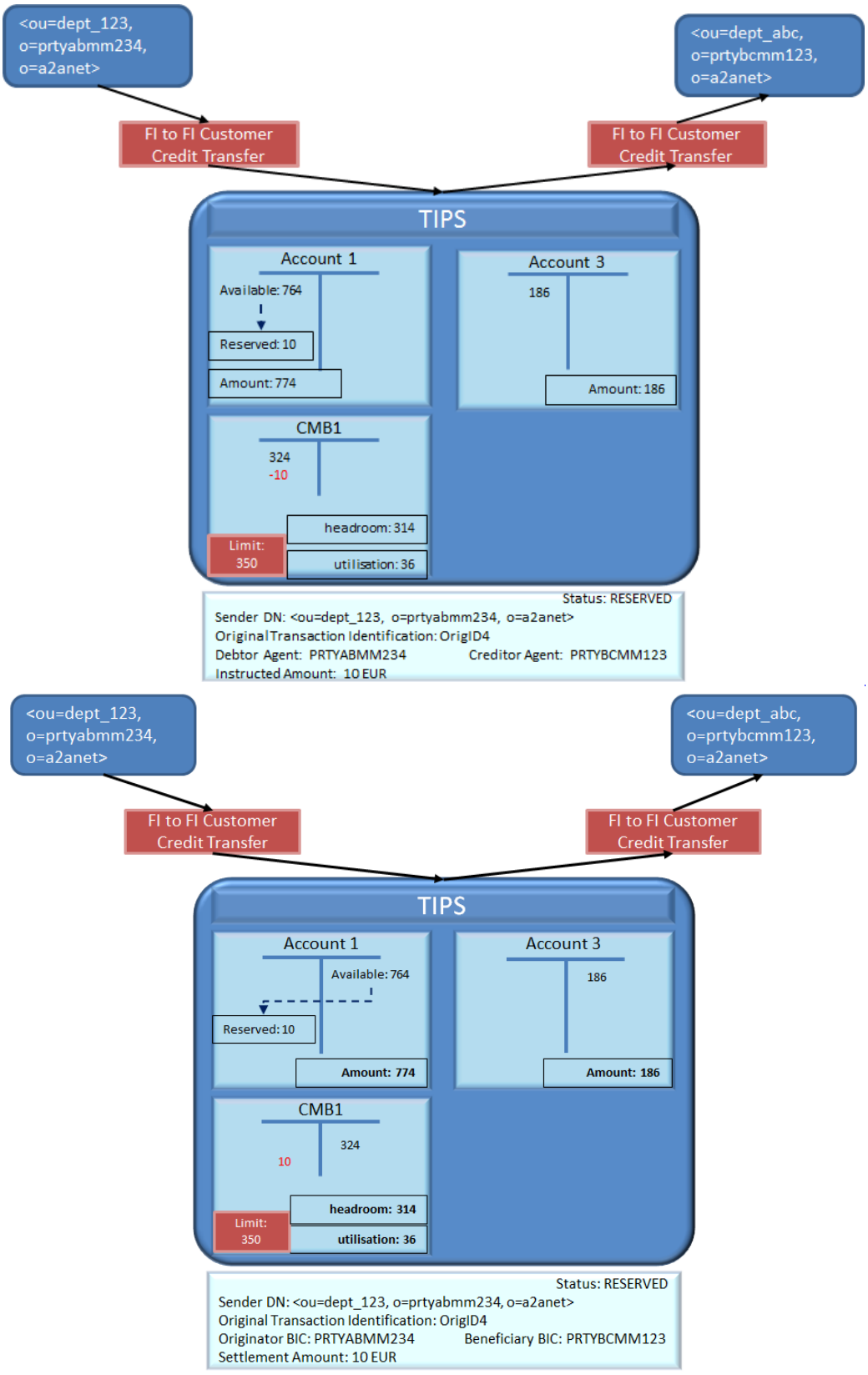


The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

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

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

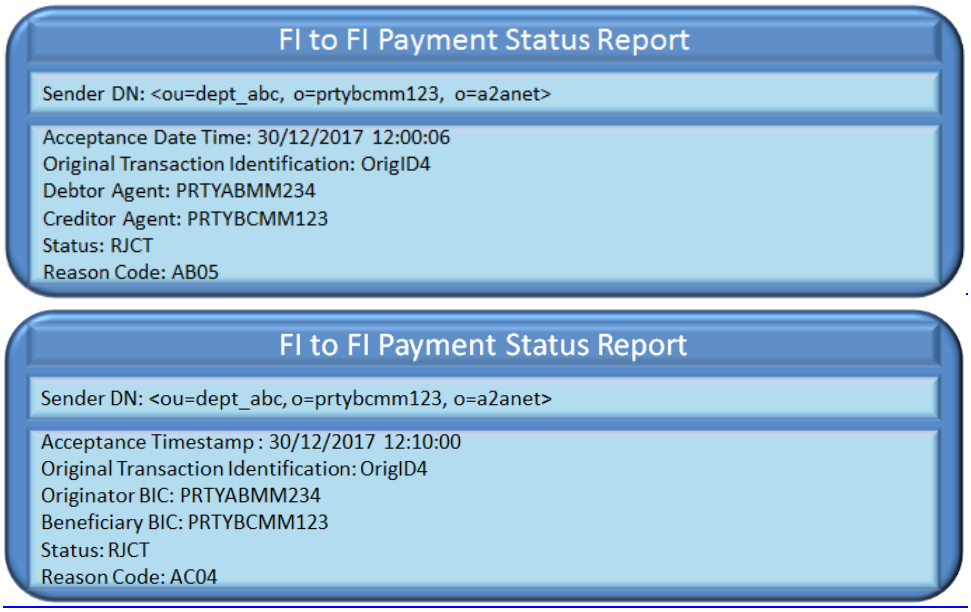
Figure 24~~2422422~~ - Payment Transaction rejected order reservation



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

The answer from the Beneficiary 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 25~~252523~~ - Payment Transaction rejected order FI to FI Status Report



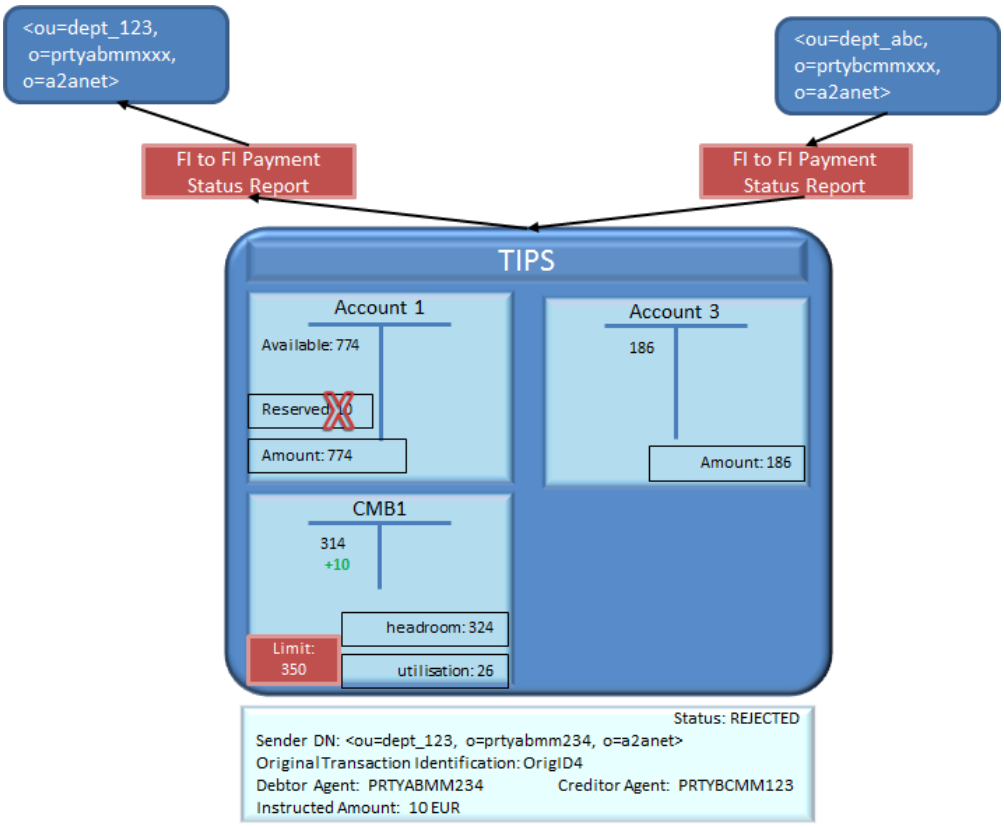
The system performs the expected checks successfully. The timeout check is not performed: a negative response from the Beneficiary side must always reach the Originator side with no changes and trigger a unreservation of funds.

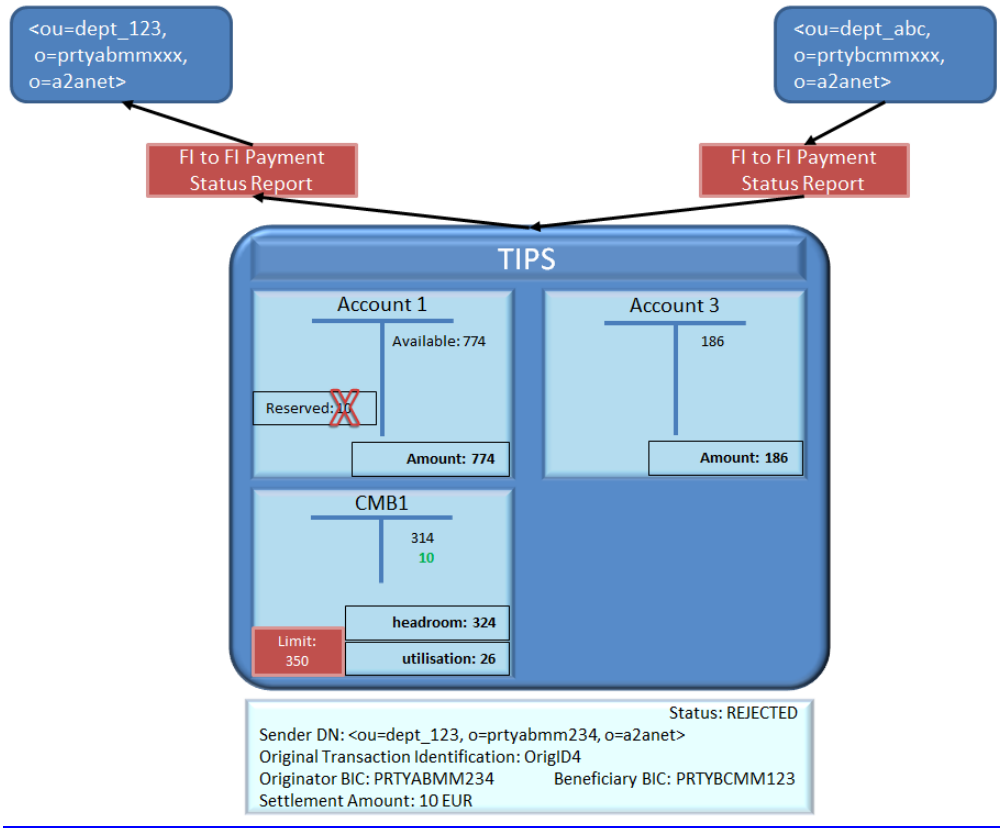
TIPS finds the reserved transaction, unreserves the funds on the accounts and increases the CMB headroom as follows:

- 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 FItoFIPaymentStatusReport message to the Originator DN.

Figure 26~~2626~~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~~List of ISO Error codes~~.

Formatte

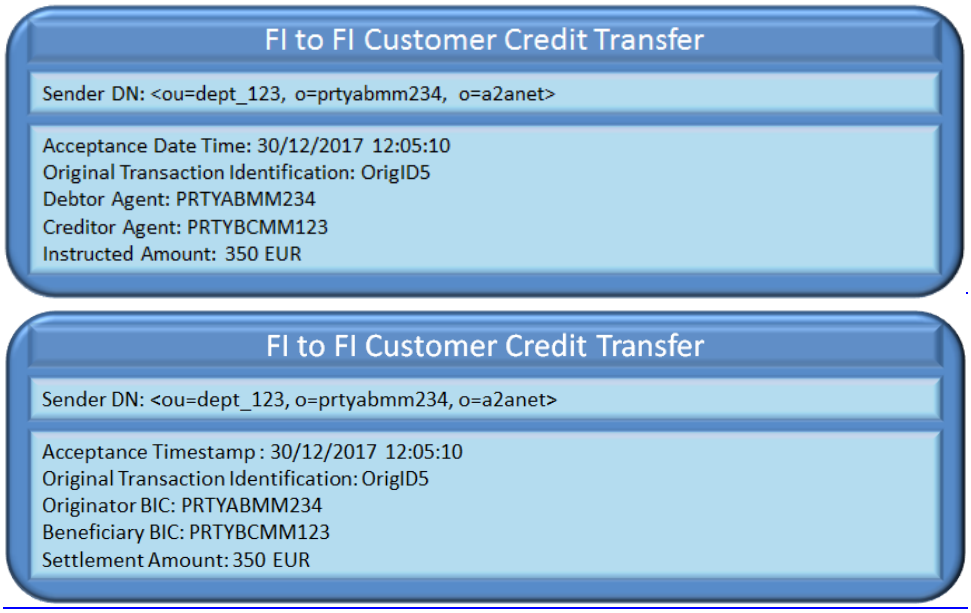
Insufficient funds within the CMB

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

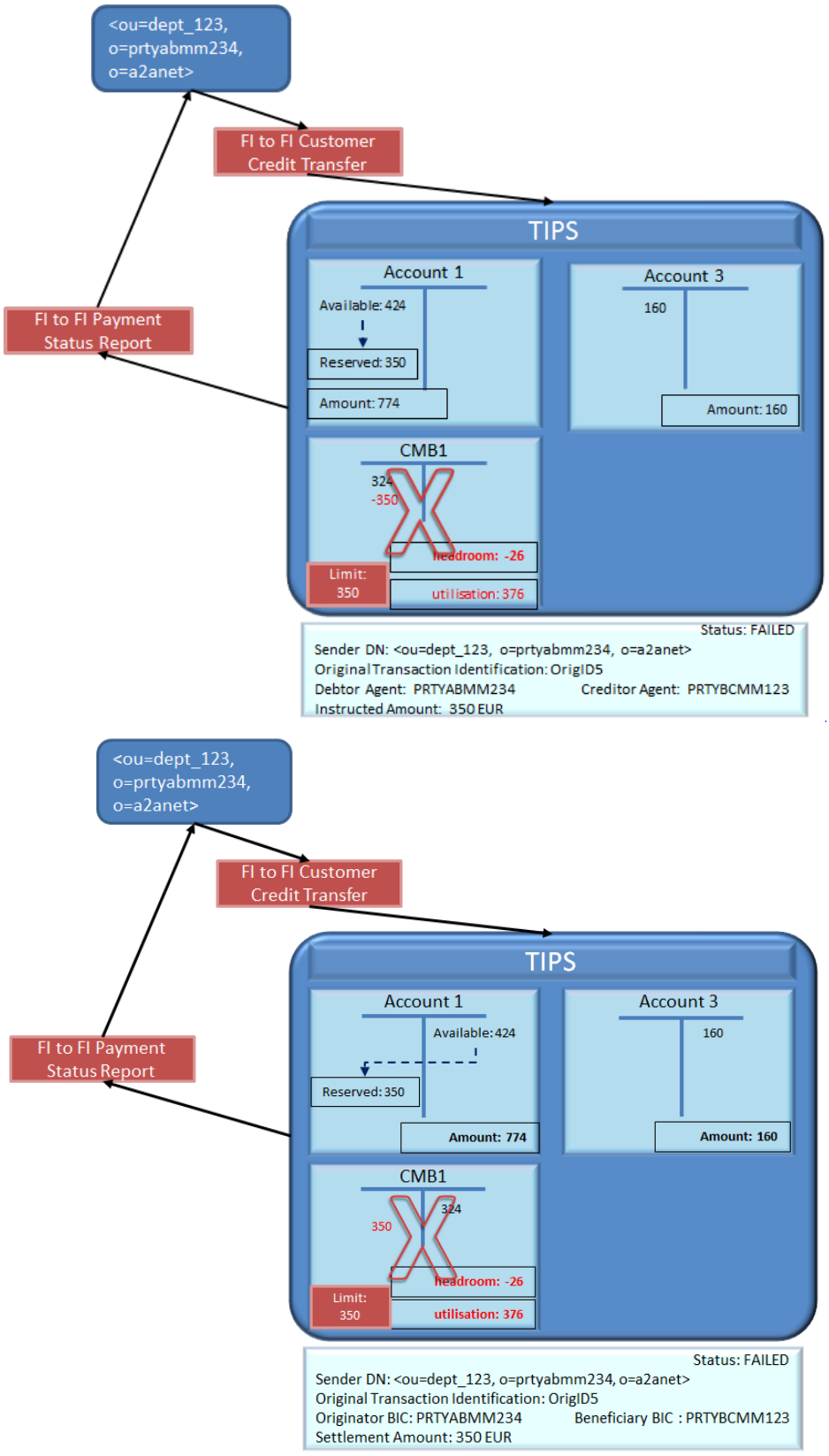
Figure 27~~272725~~ - Headroom error FItoFICustomerCreditTransfer



The system executes these steps:

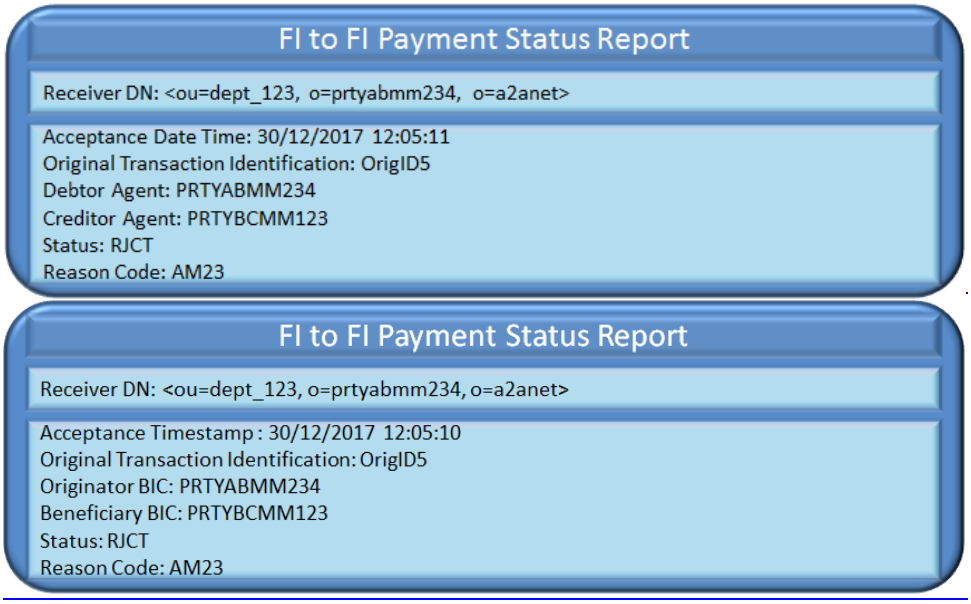
- it identifies the Debiting CMB (CMB1) from the ~~Debtor Agent~~Originator BIC;
- it identifies that the headroom for the involved CMB1 is lower than the request amount;
- the transaction fails. The attempt is saved as failed transaction and the sender is informed of the error.

Figure 28~~282826~~ - Headroom error transaction failed



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

Figure 29~~292927~~ - Headroom error FItoFIPaymentStatusReport



Blocked Account

This error scenario describes a payment transaction between two TIPS Accounts owned and held by two TIPS Participants sending the messages on their own (no Instructing Party different from the TIPS Participant(s) foreseen). “Configuration 1” and “Configuration 2” (white and yellow in the above table) are considered.

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

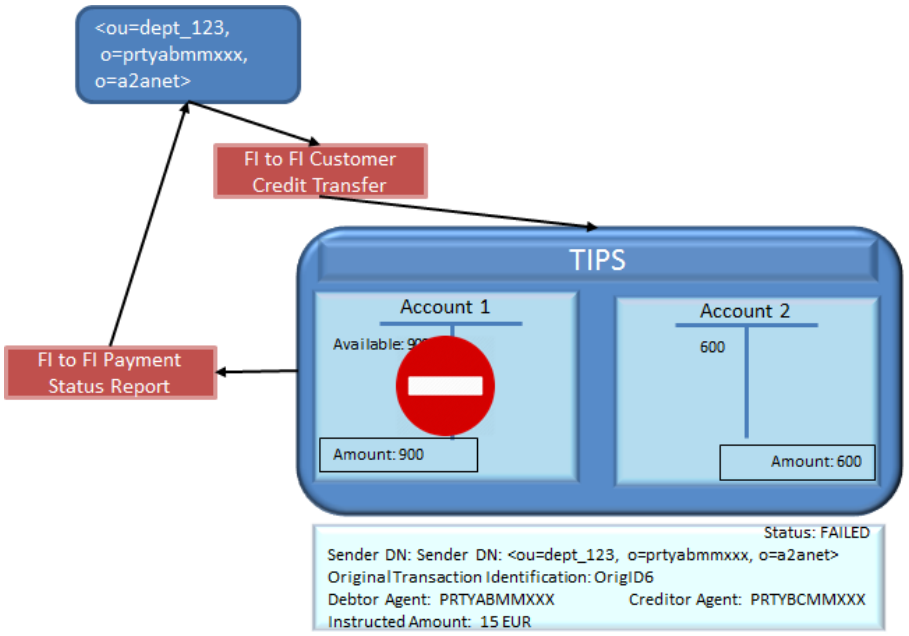
The FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one:

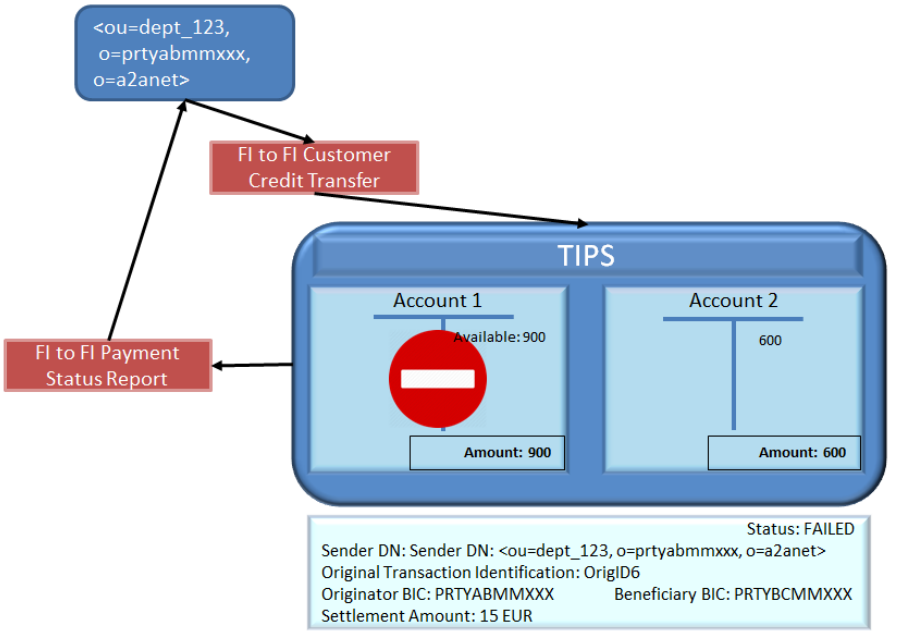
Figure 30~~303028~~ - Blocked account error FItoFICustomerCreditTransfer

The system executes these steps:

- it identifies the Debiting Account (Account1) from the ~~Debtor~~ Originator~~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.

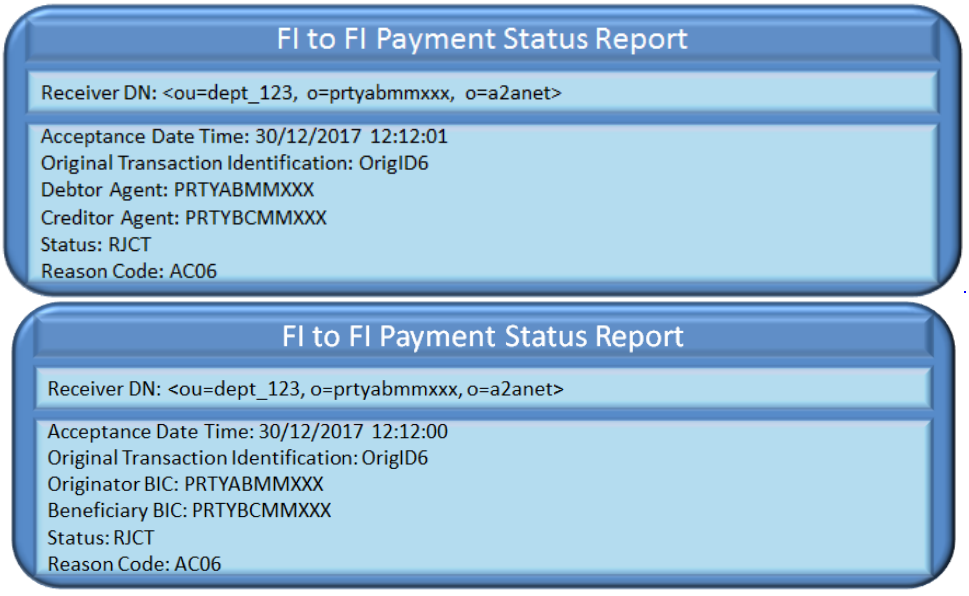
Figure 31~~31312~~9 - Blocked account error transaction failed





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

Figure 32~~323230~~ - Blocked account error FItoFIPaymentStatusReport



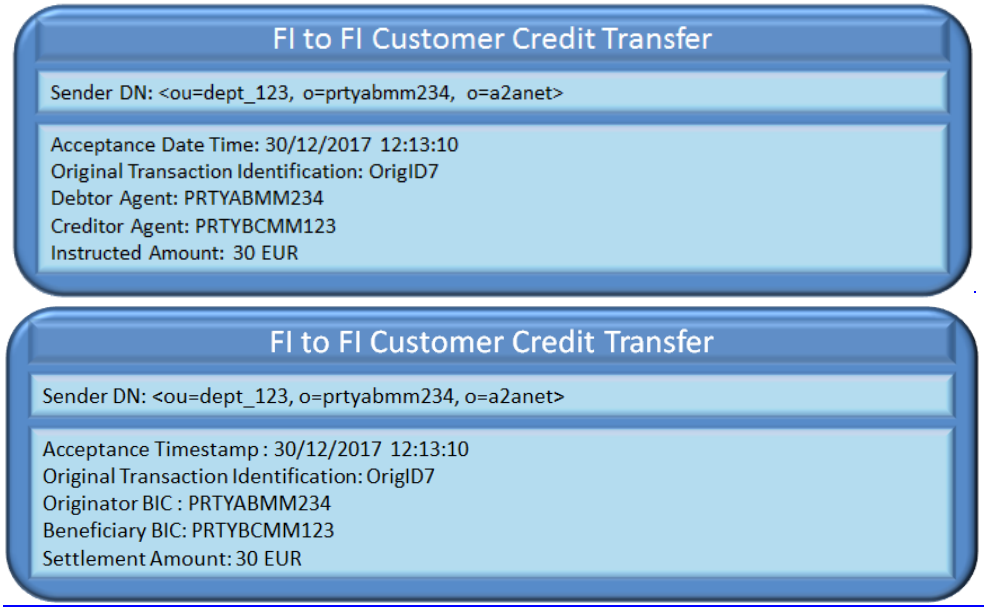
Beneficiary side timeout

This error scenario describes a payment transaction between a CMB held by a branch of a TIPS participant A sending messages on its own and a TIPS Account owned by a TIPS 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 FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one:

Figure 33~~333331~~ - Beneficiary side timeout error FItoFICustomerCreditTransfer

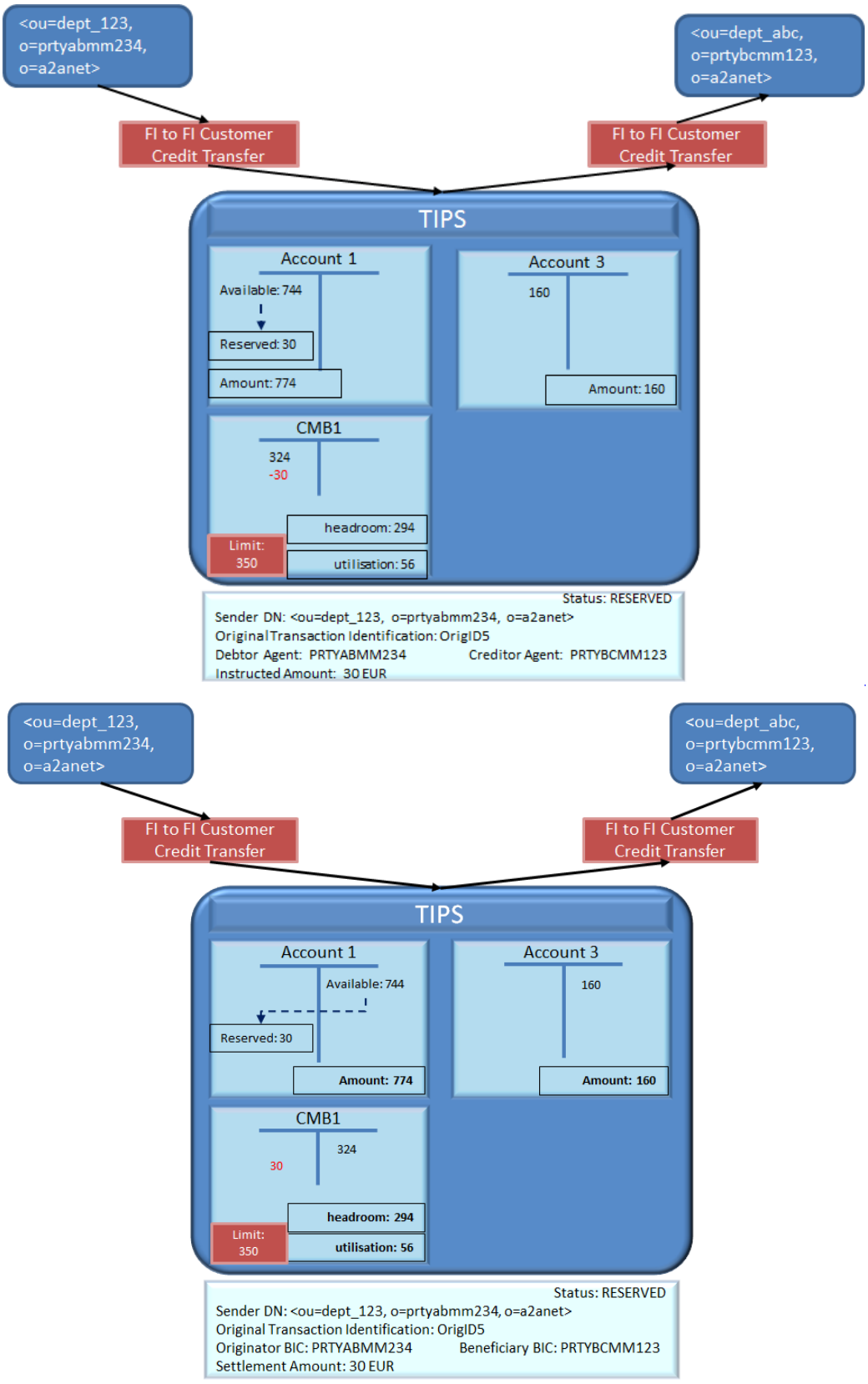


The system, after performing the expected checks successfully, sets up the settlement on the accounts and on the CMB as follows:

- it identifies the Debiting CMB (CMB1) from the ~~Debtor Agent~~Originator BIC;
- it identifies the Originator Account from the CMB1 (Account1);
- it identifies the Beneficiary Account (Account3) from the ~~Creditor Agent~~Beneficiary BIC;
- It identifies the Beneficiary DN from the "Outbound DN-BIC Routing (<ou=dept_abc, o=prtybcmm123, o=a2anet>);
- It decreases the headroom for the involved CMB1;
- It reserves the amount for the Account1 related to the CMB – the new availability for Account1 decreases from 774 EUR to 744 EUR;
- The transaction is saved and put in status RESERVED.

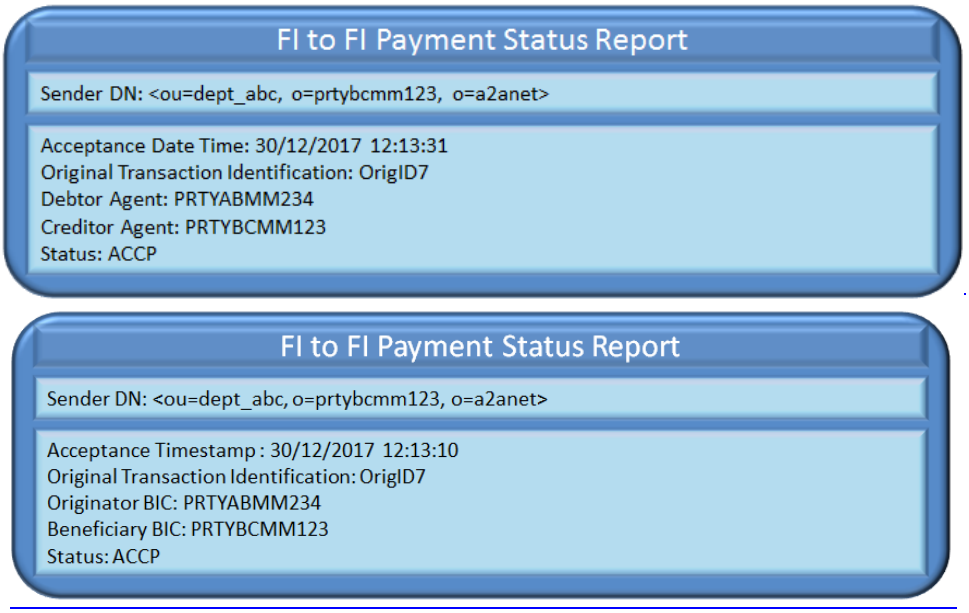
The forwarding of the FItoFICustomerCreditTransfer message to the Beneficiary DN ends the Conditional Settlement phase.

Figure 34~~343432~~ - Beneficiary side timeout error reservation



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

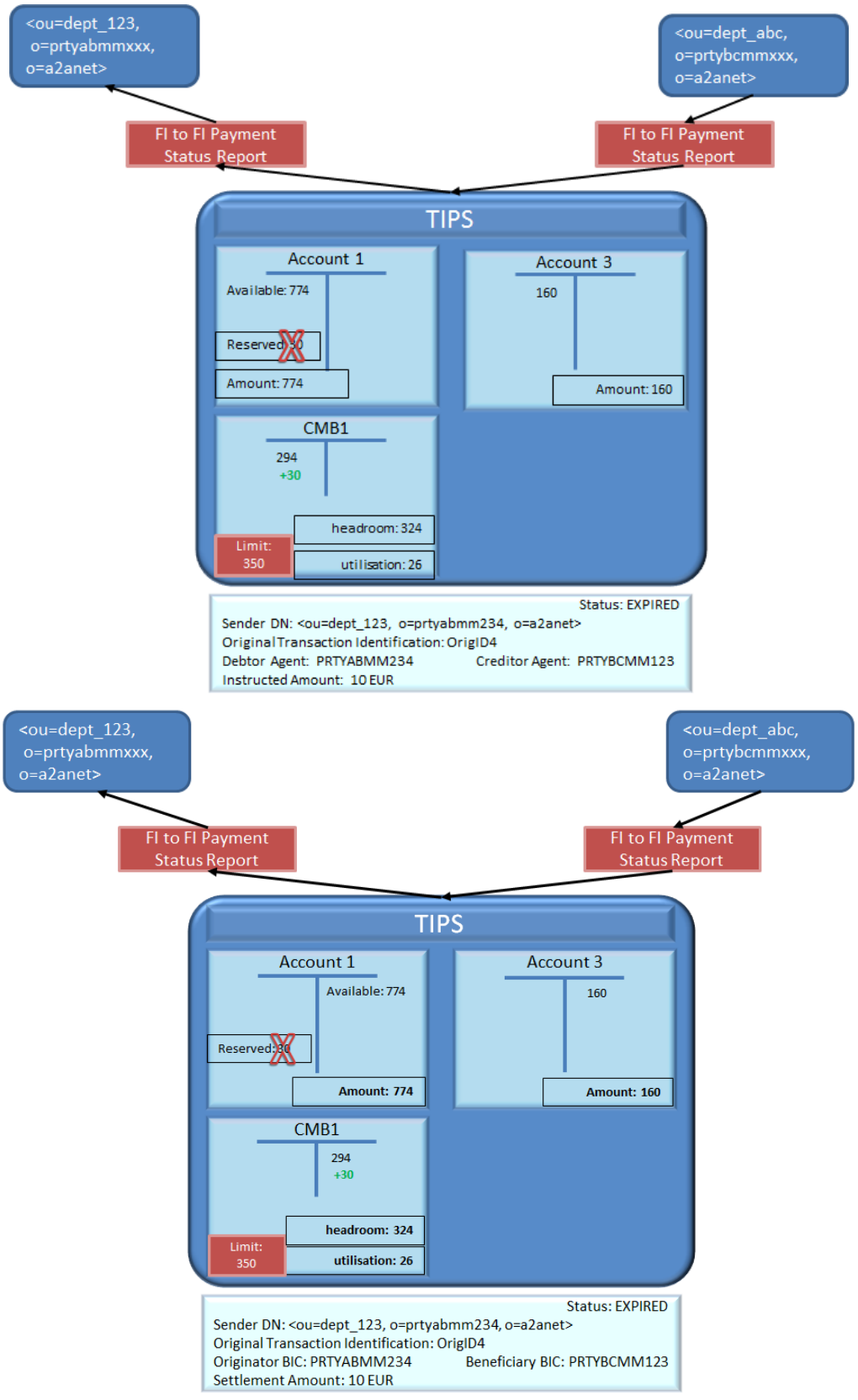
Figure 35~~353533~~ - Beneficiary side timeout error FItoFIPaymentStatusReport



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

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

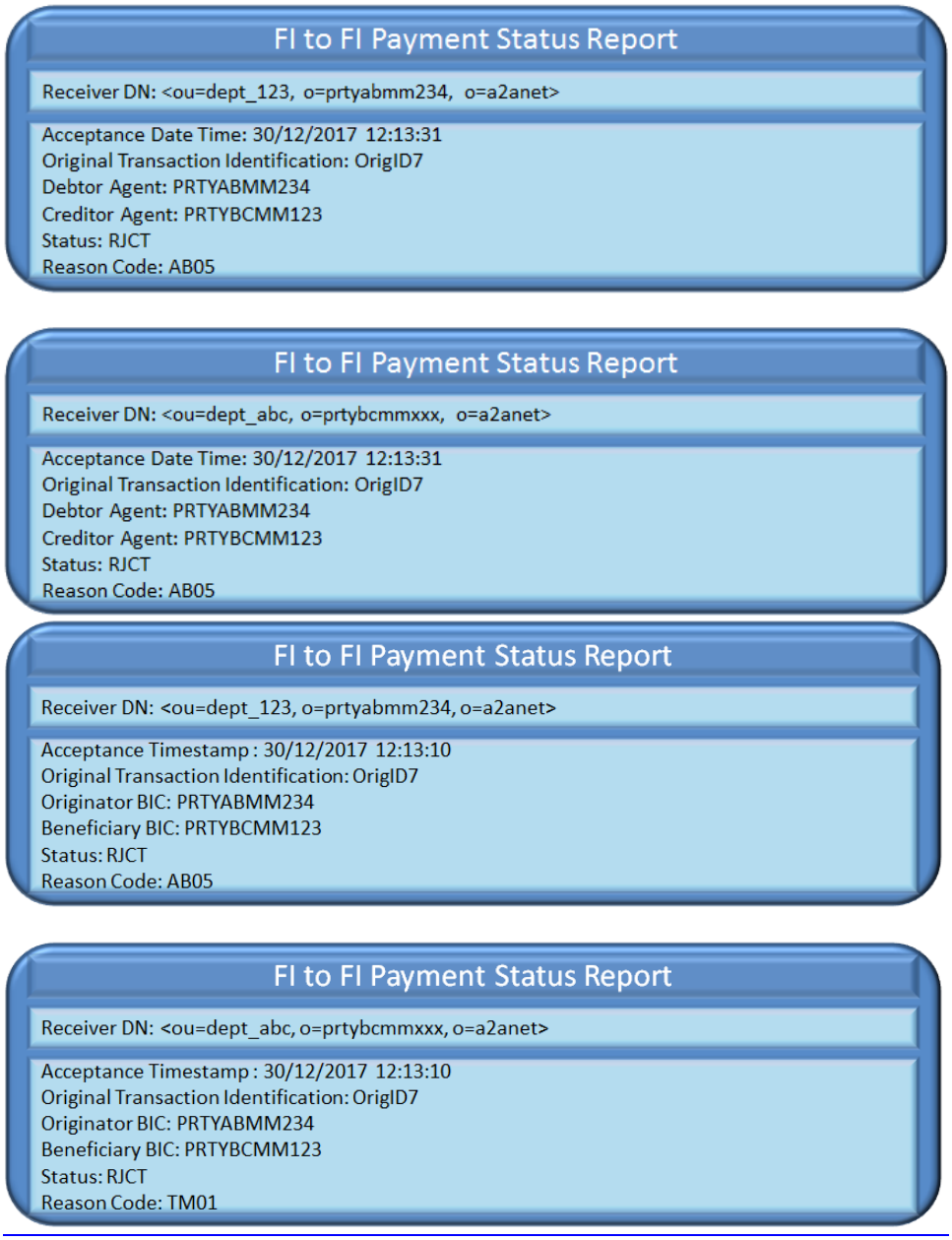
Figure 36~~363634~~ - Beneficiary side timeout error un-reservation



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=prtybcmm123, o=a2anet>);

Figure 37~~373735~~ - Beneficiary side timeout error FI to FI Status Report



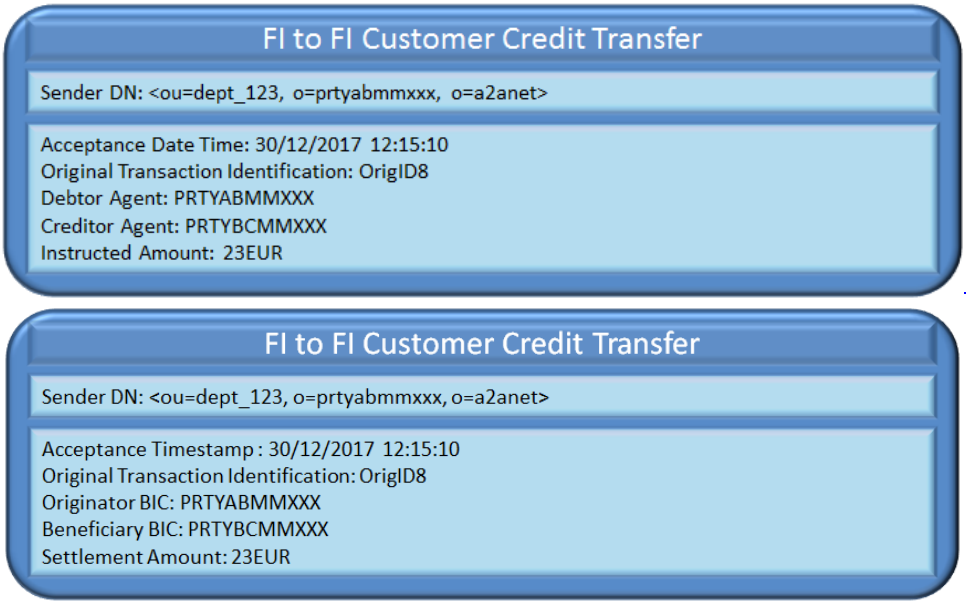
2.2.2.6. Delayed Beneficiary-side answer scenario

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 Figure 10~~Figure 10~~~~Figure 10~~~~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 FItoFICustomerCreditTransfer message received by TIPS and triggering the scenario looks like the following one:

Figure 38~~383836~~ - Delayed Beneficiary-side answer FItoFICustomerCreditTransfer

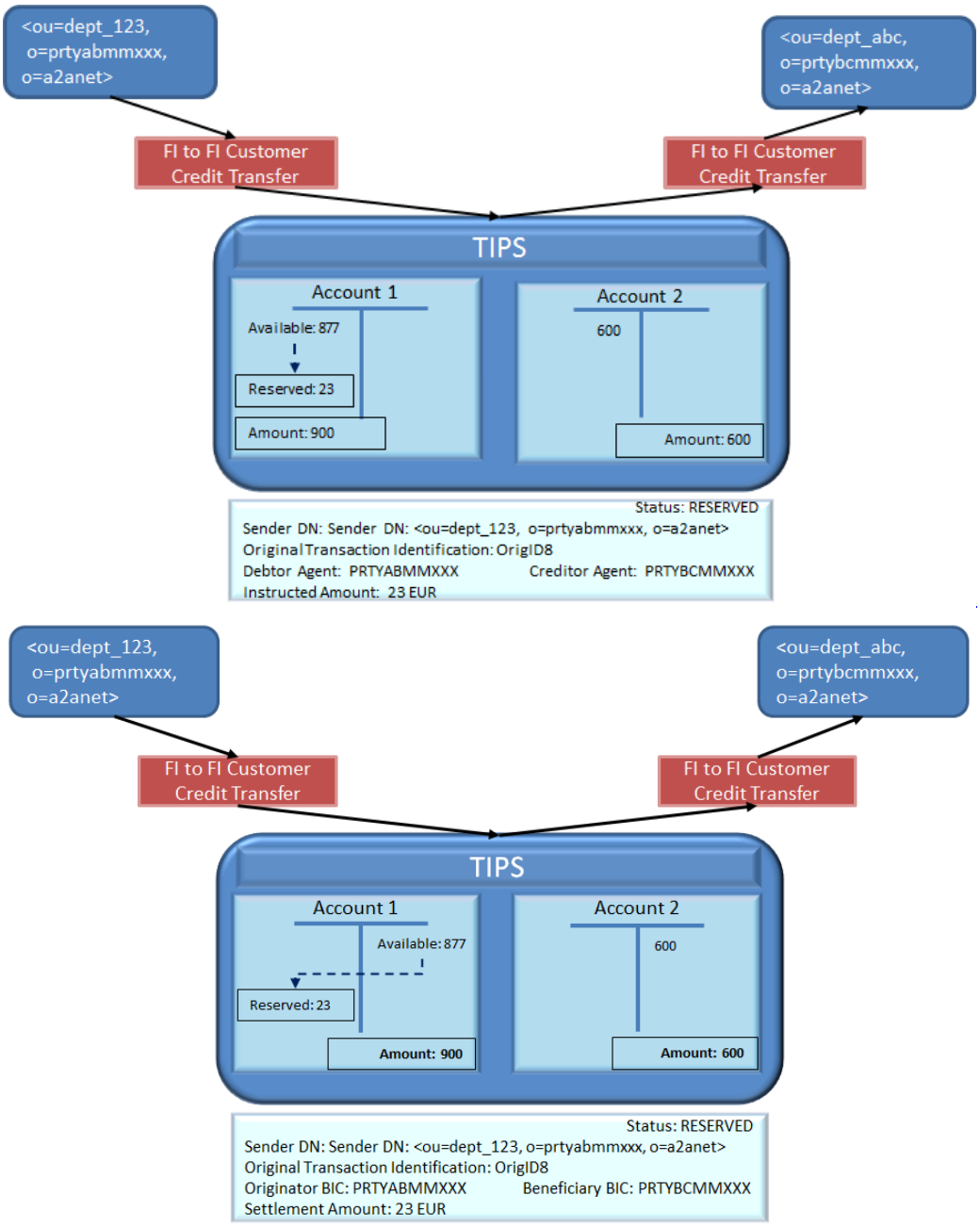


The system, after performing the expected checks successfully, sets up the settlement on the accounts as follows:

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

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

Figure 39~~393937~~ - Delayed Beneficiary-side answer reservation

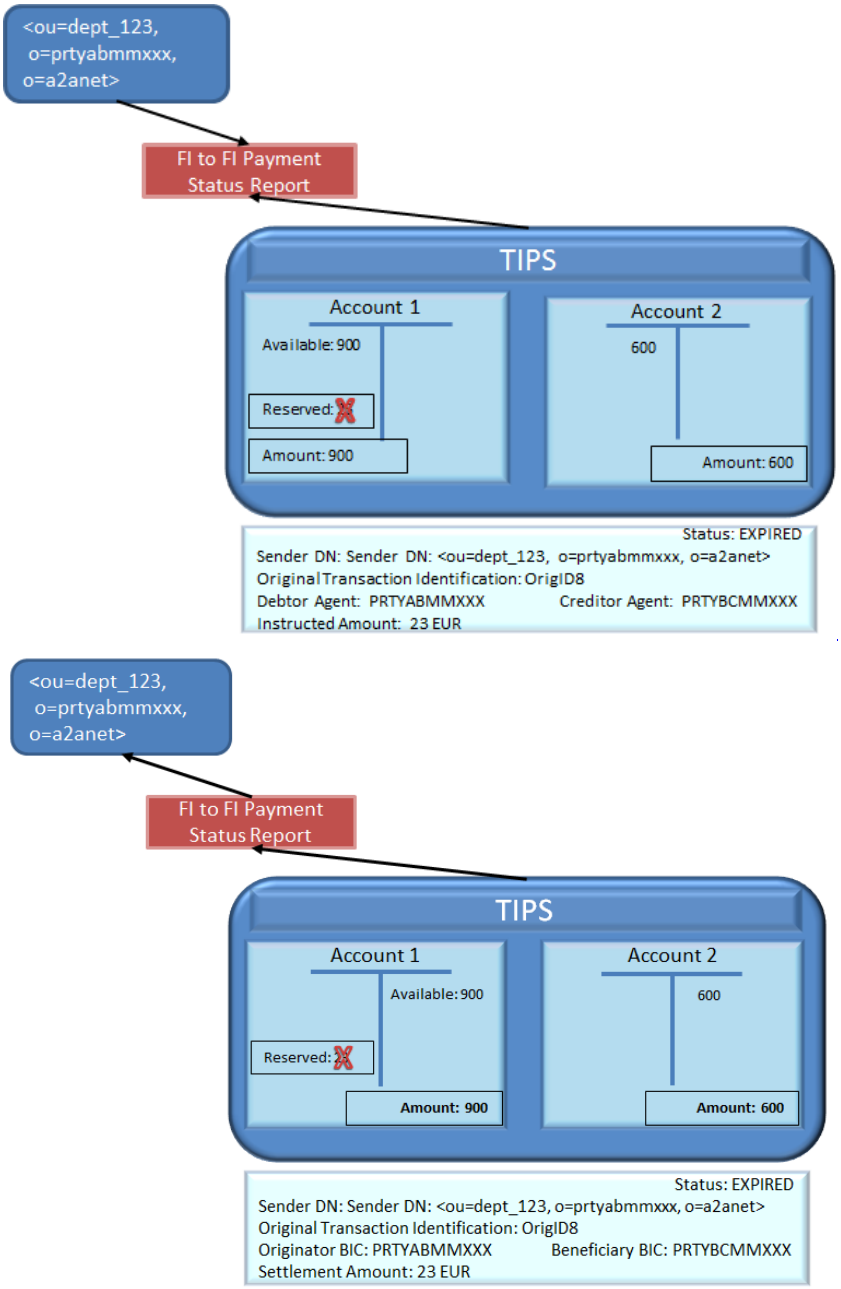


The answer from the Beneficiary side is delayed and does not reach TIPS in time to close the transaction. After a configured timeout, the Sweeper checks for pending payments. In case a pending payment is found for which the SCTInst Timestamp Timeout is elapsed, TIPS triggers a timeout, rejects the transaction, ~~and~~ un-reserves ~~the payment waiting for confirmation and~~ the funds on the debtor account~~s and increases the CMB headroom~~ as follows:

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

- It identifies the Beneficiary DN from the transaction.

Figure 40404038 - Delayed Beneficiary-side answer unreservation



TIPS then sends a FItoFIPaymentStatusReport to both the Originator and the Beneficiary Participants sender with the proper error code (see respectively Figure 41Figure 41Figure 41 for Originator side and Figure 42Figure 42Figure 42 for Beneficiary side).

Figure 414~~4139~~ - ~~Delayed Beneficiary side~~Timeout ~~-~~answer FItoFIPaymentStatusReport (Originator side)

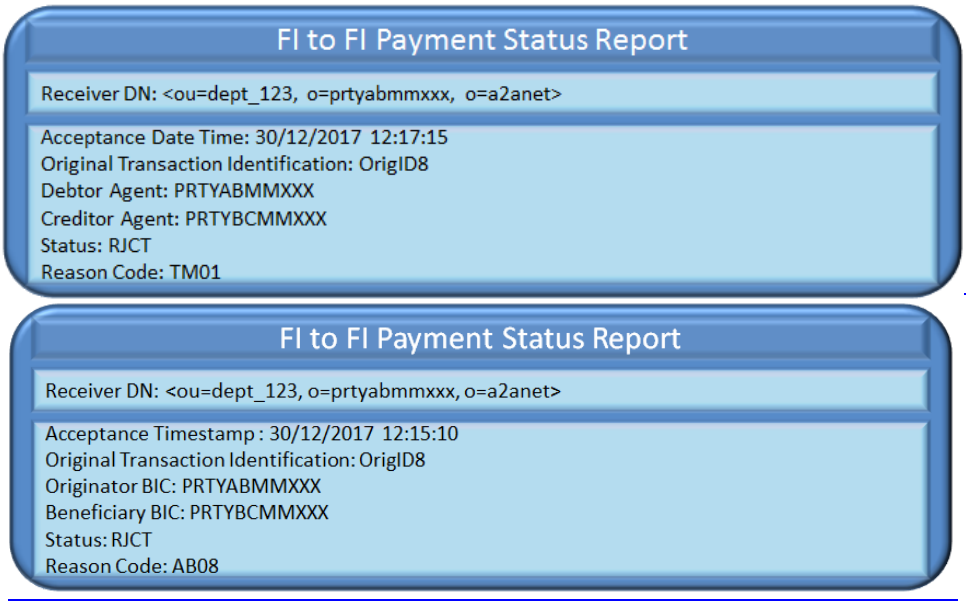
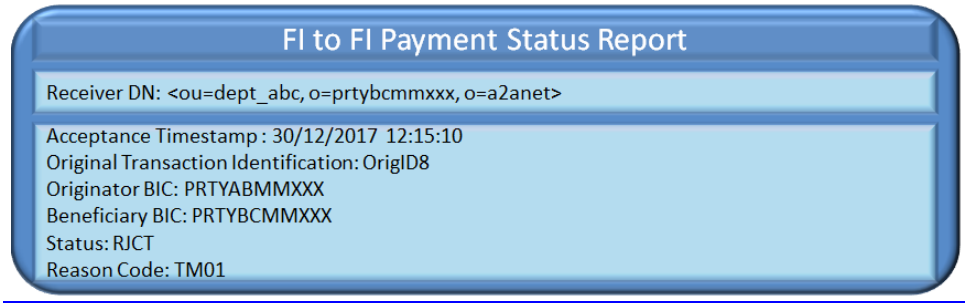
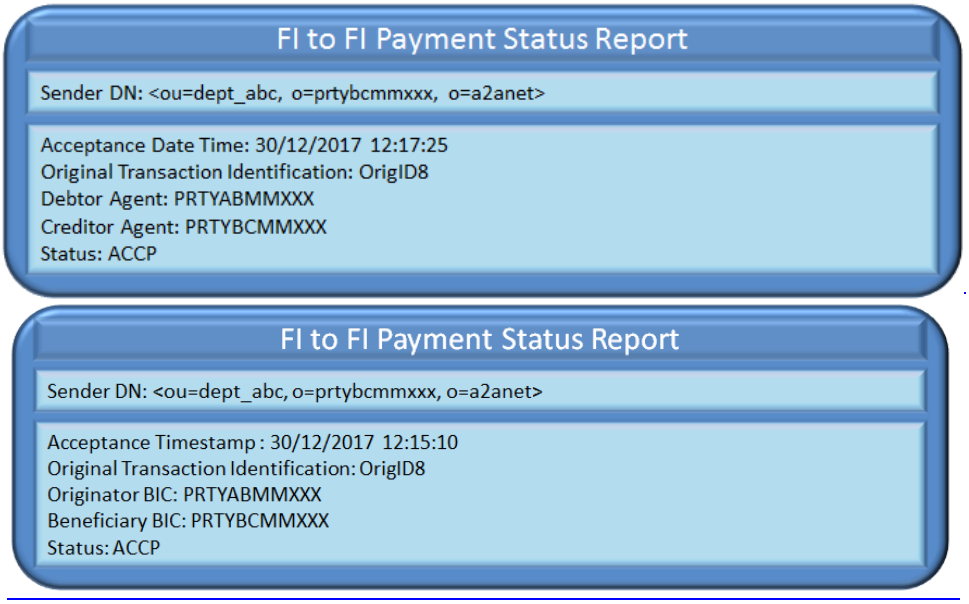


Figure 42 – Timeout answer FItoFIPaymentStatusReport (Beneficiary side)



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

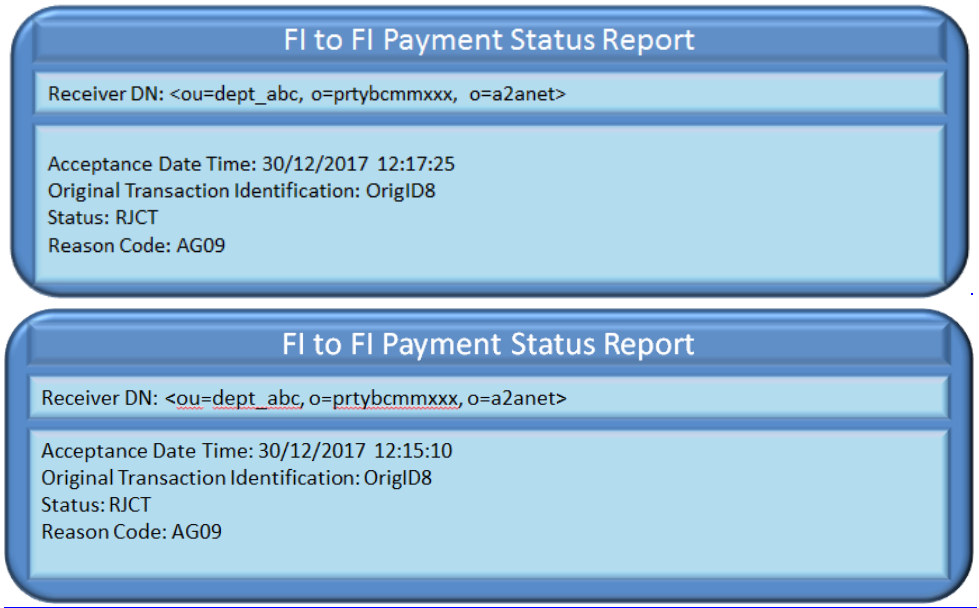
Figure 43~~424240~~ - Delayed Beneficiary-side ~~answer~~ response FItoFIPaymentStatusReport



TIPS rejects ~~this~~ the message since the underlying ~~pending~~ transaction ~~does not exist~~has been already rejected by the Sweeper and it is no longer in status pending.

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

Figure 44~~434341~~ - Delayed Beneficiary-side ~~answer~~ reply FItoFIPaymentStatusReport



2.3. Recall

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

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

The involved actors are:

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

The involved messages are:

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

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

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

Figure 45 - Recall flowFigure 45 - Recall flowFigure 45 - Recall flow shows the general flow for Recalls processing and contains message events and involved actors. The details of each step are provided in the following Table 18 - Recall stepsTable 18 - Recall stepsTable 18 - Recall steps.

Figure 45 - Recall flow

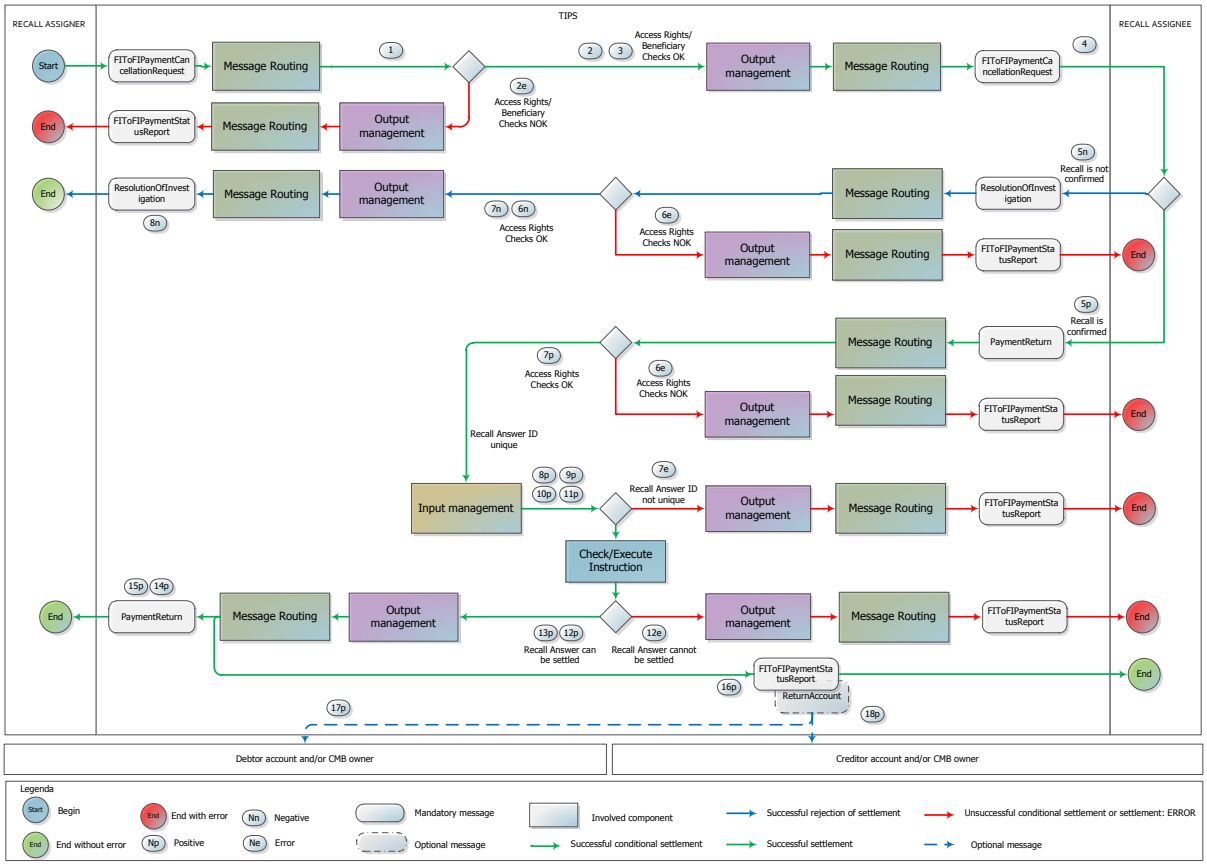


Table 18 - Recall steps

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

Formatte
(U.S.)

Step	Involved messages	Involved actors	Description
4	FIToFIPaymentCancellationRequest	TIPS as sender Recall Assignee as receiver	TIPS forwards the received Recall request to the Recall Assignee DN.
5n	ResolutionOfInvestigation	Recall Assignee as sender TIPS as receiver	The Recall Assignee sends a negative response and it is successfully delivered to TIPS. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
6n		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised – creditor side. See Business Rules for details.
6e	FIToFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the checks listed in step 6n/6p. At the first negative check the system stops and sends a message to the Recall Assignee - same DN of the Sender - containing the proper error code. See 4.1- Business Rules~~Business Rules~~ for details.
7n		TIPS	The DN of the Recall Assigner is identified in the "Outbound DN-BIC Routing" mapping table from the field Assignee (ResolutionOfInvestigation).

Formatte
(U.S.)

Step	Involved messages	Involved actors	Description
8n	ResolutionOfInvestigation	TIPS as sender Recall Assigner as receiver	TIPS forwards the negative response received to the Recall Assigner DN.
5p	PaymentReturn	Recall Assignee as sender TIPS as receiver	The Recall Assignee sends a positive response and it is successfully delivered to TIPS. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
6p		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorised – creditor side; - Beneficiary Account or CMB existence; - Originator Account or CMB existence; - Maximum Amount not exceeded for Returned Amount. See Business Rules for details.
7p		TIPS	TIPS successfully executes the checks: - Duplicate check for Recall Answer. See 4.1- Business Rules~~Business Rules~~ for details.

Formatte
color: Blac

Step	Involved messages	Involved actors	Description
7e		TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the check in step 7p. The system stops and sends a message to the Recall Assignee - same DN of the sender - containing the proper error code. The status of the Recall Answer is set to “Failed”. See 4.1- Business Rules~~Business Rules~~ for details.
8p		TIPS	TIPS combines the information embedded in the PaymentReturn message to determine a payment transaction dataset to send to the Check and Execute Instruction process. The status of the Recall Answer is set to “Validated”.
9p		TIPS	The Amount to be settled (AT046 – DS06) is retrieved and saved as information related to the transaction dataset. From now on, this amount is referred to as "Settlement Amount”. The Settlement date for the positive answer to the Recall (R7 – DS06) is retrieved and saved as information related to the transaction dataset. From now on, this amount is referred to as "Settlement Date”. The Recall Reference of the bank initiating the Recall (R6 – DS06) is retrieved and saved as information related to the transaction dataset. From now on, this amount is referred to as “Transaction Identification”
10p		TIPS	Because the original Beneficiary Participant (field AT-23 in DS-02, subset of DS-06) has to be interpreted as the new Originator Participant for the reversed cash flow, TIPS determines the account or CMB to be debited from the configured accounts information, the Beneficiary BIC and the currency within the PaymentReturn message. In details: - the system verifies that an account, of type "TIPS Account", exists and is linked to the Beneficiary Participant (field "Beneficiary BIC") as authorised user and has a currency equal to the one defined in the Returned Amount. - if no Account is linked to the Beneficiary Participant, the system looks for a CMB linked to the Beneficiary (field "Beneficiary BIC") as user;

Formatte
(U.S.)

Step	Involved messages	Involved actors	Description
			- the system selects the TIPS Account linked to the CMB; the account related to the CMB must have a currency equal to the one defined in the Returned Amount. From now on, the account is referred to as "Originator Account" and the possible CMB as "Debiting CMB".
11p		TIPS	Because the original Originator Participant (field AT-06 in DS-02, which is part of DS-06) has to be interpreted as the new Beneficiary Participant for the reversed cash, TIPS determines the account or CMB to be credited from the configured accounts information, the Originator BIC and the currency within the PaymentReturn message. In details: - the system verifies that an account, of type "TIPS Account", exists and is linked to the Originator Participant (field "Originator BIC") as authorised user and has a currency equal to the one defined in the Returned Amount. - if no Account is linked to the Originator Participant, the system looks for a CMB linked to the Originator (field "Originator BIC") as user; - the system selects the TIPS Account linked to the CMB; the account related to the CMB must have a currency equal to the one defined in the Returned Amount. From now on, the account is referred to as "Beneficiary Account" and the possible CMB as "Crediting CMB".
12p		TIPS	TIPS successfully executes the checks: - Originator Account not blocked; - Beneficiary Account not blocked; - Available amount not exceeded. See 4.1- Business Rules~~Business Rules~~ for details.
12e	FItoFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS unsuccessfully executes the checks listed in step 12p. At the first negative check the system stops and sends a message to the Recall Assignee (the new Originator DN) containing the proper error code. TIPS sets the Recall Answer status to “Failed”. See Business Rules for details.

Formatte
color: Blac

Step	Involved messages	Involved actors	Description
13p		TIPS	The Settlement Core component settles the full amount of the payment transaction, debiting the Originator Account and adding the same positive amount to the Beneficiary Account. If a Debiting/Crediting CMB is involved, the system decreases/increase its Headroom by the same amount. TIPS sets the Recall Answer status to "Settled".
14p	PaymentReturn	TIPS as sender Recall Assigner as receiver	TIPS forwards the positive response received from the Recall Assignee to the Recall Assigner (the new Beneficiary DN).
15p	FItoFIPaymentStatusReport	TIPS as sender Recall Assignee as receiver	TIPS generates a positive Payment status report and send it to the Recall Assignee (the new Originator DN).
16p	ReturnAccount	TIPS as sender Debited Account and/or CMB Owner	TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB. If the account balance or the CMB headroom after settlement is confirmed is lower than the "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner identified in the "Outbound DN-BIC Routing" mapping table. The message contains: - the Transaction ID; - the Originator Account Number or the Debiting CMB Number.

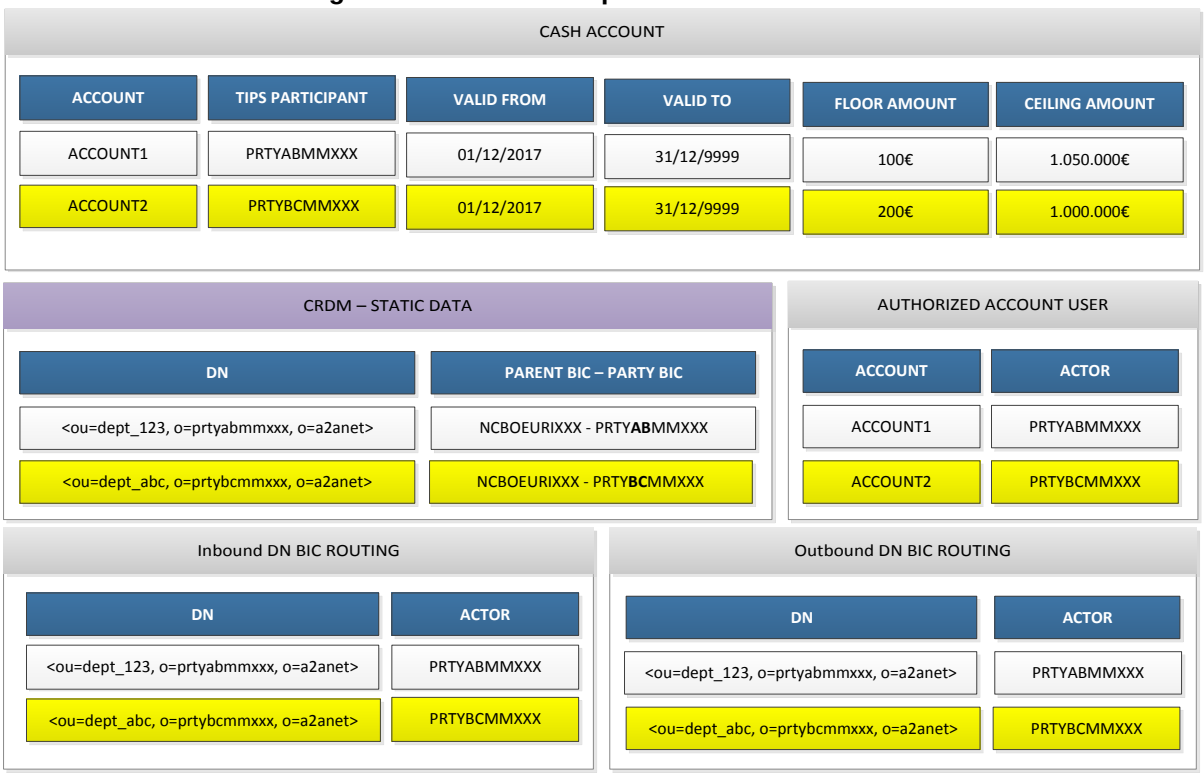
Step	Involved messages	Involved actors	Description
17p	ReturnAccount	TIPS as sender Credited Account and/or CMB Owner	TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB. If the account balance or the CMB headroom after the confirmed settlement is greater than the "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction. The message is sent to the default DN of the Account Owner and/or CMB Owner identified in the entity "Outbound DN-BIC Routing". The message contains: - the Transaction ID; - the Beneficiary Account Number or the crediting CMB Number.

2.3.1. Examples

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

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

Figure 46 - Recall examples - data constellation

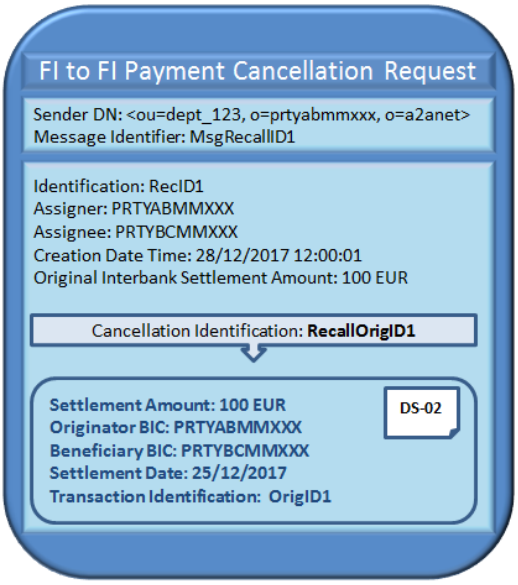


2.3.1.1. Successful scenario – Positive Recall Answer

In this scenario:

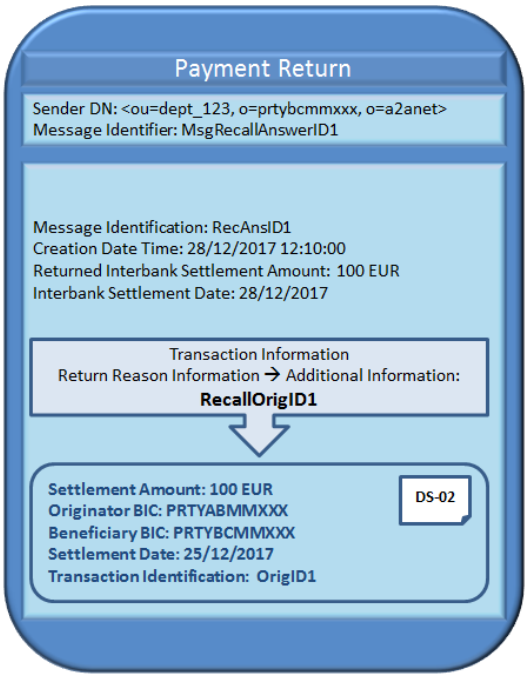
- The current business date is 28/12/2017;
- A TIPS participant (PRTYABMMXXX) sends a FIToFIPaymentCancellationRequest message to TIPS in order to request the cancellation of a Payment transaction (OrigID1) previously settled on 25/12/2017;

Figure 47 - Recall successful scenario - positive answer - FItoFIPaymentCancellationRequest



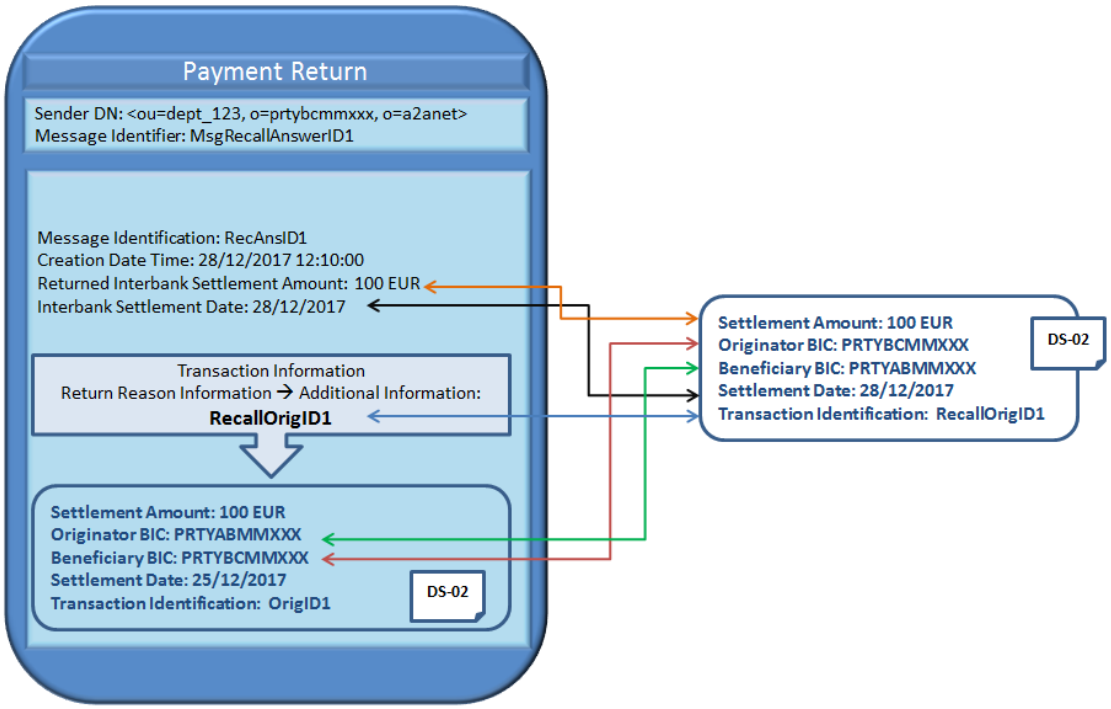
- TIPS, after performing the expected checks successfully:
  - It identifies the DN of the Assignee (<ou=dept_123, o=prtybcmmxxx, o=a2anet>);
  - It forwards the FIToFIPaymentCancellationRequest message to the Recall Assignee DN.
- The Recall Assignee (PRTYBCMMXXX) accepts the request by sending to TIPS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

Figure 48 - Recall successful scenario - positive answer - PaymentReturn



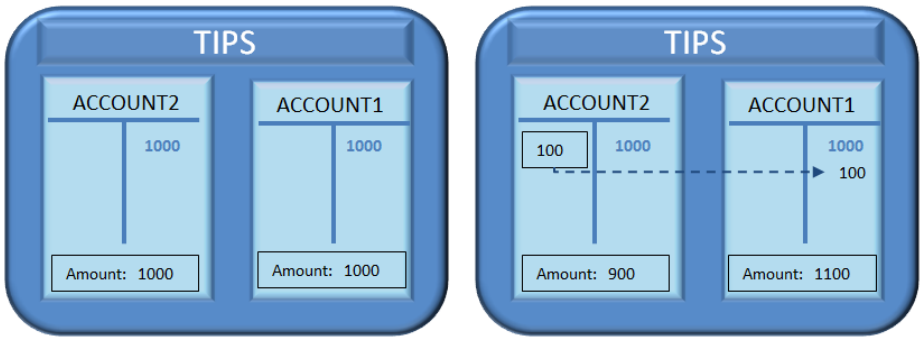
- TIPS successfully proceeds with the required validation in the context of Access rights and Duplicate check;
- TIPS determines the payment transaction dataset which reverses the direction of the cash flow from the original payment transaction that is recalled.

Figure 49 - Recall successful scenario - positive answer - Recall Dataset



- The system:
  - it identifies the Originator Account (Account2) from the Originator BIC;
  - it identifies the Beneficiary Account (Account1) from the Beneficiary BIC;
  - it settles the full amount of the payment transaction - debiting the Originator Account of 100 EUR and adding the same positive amount to the Beneficiary Account;

Figure 50 - Recall successful scenario - positive answer - Settlement Process



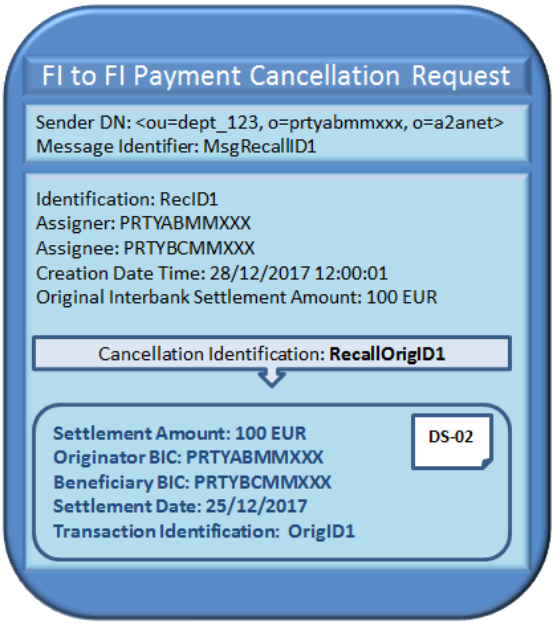
- TIPS identifies the Beneficiary DN and Originator DN from the "Outbound DN-BIC Routing (<ou=dept_abc, o=prtyabmmxxx, o=a2anet> / <ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
- The system forwards the PaymentReturn message to the Beneficiary Participant (the Recall Assigner) and sends a FItoFIPaymentStatusReport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

2.3.1.2. Successful scenario – Negative Recall Answer

In this scenario:

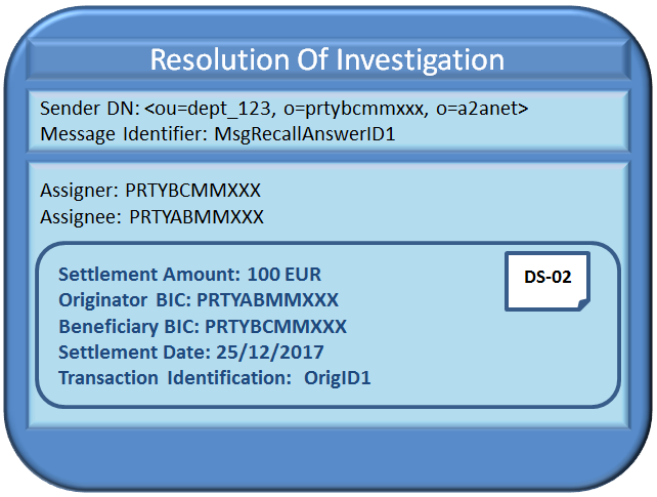
- The current business date is 28/12/2017;
- A TIPS participant (PRTYABMMXXX) sends a FIToFIPaymentCancellationRequest message to TIPS in order to request the cancellation of a Payment transaction (OrigID1) previously settled on 25/12/2017;

Figure 51 - Recall successful scenario - negative answer - FItoFIPaymentCancellationRequest



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

Figure 52 - Recall successful scenario - negative answer - ResolutionOfInvestigation



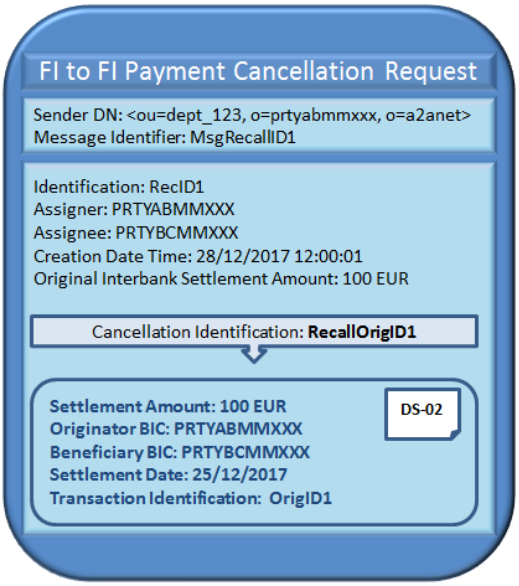
- TIPS successfully proceeds with the required checks
- TIPS identifies the DN of the Assignee (<ou=dept_123, o=prtyabmmxxx, o=a2anet>) and forwards the ResolutionOfInvestigation message to the Assignee DN.

2.3.1.3. Unsuccessful scenario – Recall Answer Duplicate check failed

In this scenario:

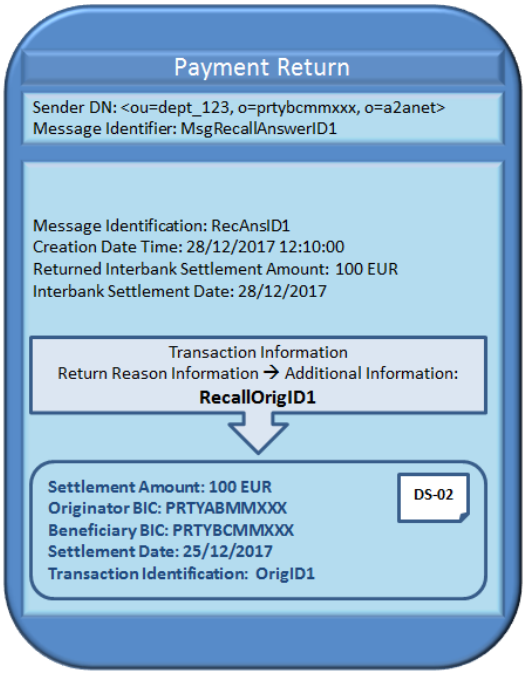
- The current business date is 28/12/2017;
- A TIPS participant (PRTYABMMXXX) sends a FIToFIPaymentCancellationRequest message to TIPS in order to request the cancellation of a Payment transaction (OrigID1) previously settled on 25/12/2017;

Figure 53 - Recall unsuccessful scenario - Duplicate check failed - FItoFIPaymentCancellationRequest



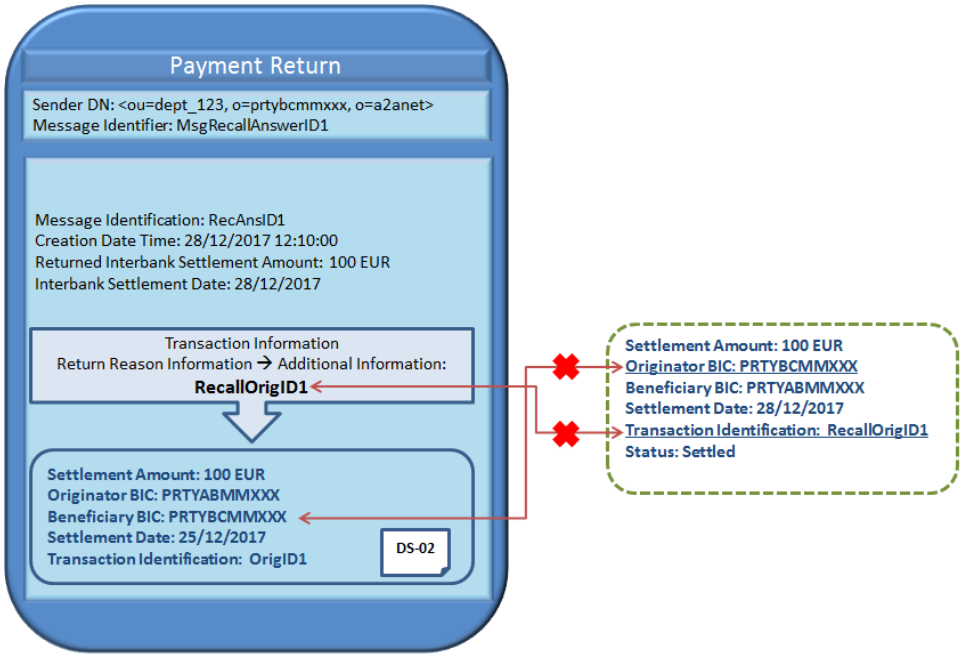
- TIPS, after performing the expected checks successfully:
  - It identifies the DN of the Assignee (<ou=dept_123, o=prtybcmmxxx, o=a2anet>);
  - It forwards the FIToFIPaymentCancellationRequest message to the Recall Assignee DN.
- The Recall Assignee (PRTYBCMMXXX) accepts the request by sending to TIPS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

Figure 54 - Recall unsuccessful scenario - Duplicate check failed - PaymentReturn



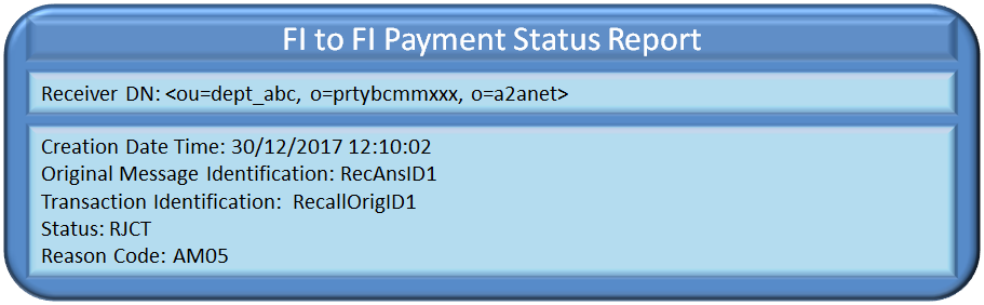
- TIPS proceeds with the required validation in the context of Access rights and Duplicate check and detects a duplicate submission: the couple Recall Reference of the bank initiating the Recall (AT-R6 DS06) and Beneficiary BIC (AT-23 DS-02 subset of DS06) embedded within the PaymentReturn message already exists as a couple Transaction Identification/Originator BIC in the list of transactions of the last X days, where X is equal to the system parameter "data retention period".

Figure 55 - Recall unsuccessful scenario - Duplicate check failed - Duplicate submission



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

Figure 56 - Recall unsuccessful scenario - Duplicate check failed - FItoFIPaymentStatusReport



2.4. Investigation

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

The transaction status investigation process can be initiated by Participants or Instructing Parties acting on behalf or Participants or Reachable Parties on the originator side using the transaction status inquiry message, allowing the TIPS Actors to retrieve the last generated payment transaction status advice. If no payment transaction status advice is present, an error is returned.

TIPS answers to an investigation request only if the following conditions are satisfied:

- The Payment transaction did not cross its retention period;
- The investigation request is received only when there is the certainty that the Payment transaction is in a final state (Investigation Offset + SCT^{Inst} Timestamp Timeout), as indicated in the SCT^{Inst} scheme rulebook.

Involved actors and messages are:

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

All the described scenarios are triggered under the assumption that the 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 FIToFIPaymentStatusRequest message contains a BIC8 instead of a BIC11, the message is accepted and the string is completed appending “XXX” at the end of the BIC8 for further processing. All the steps are described considering BIC11 only.

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

Figure 57 - Investigation Flow

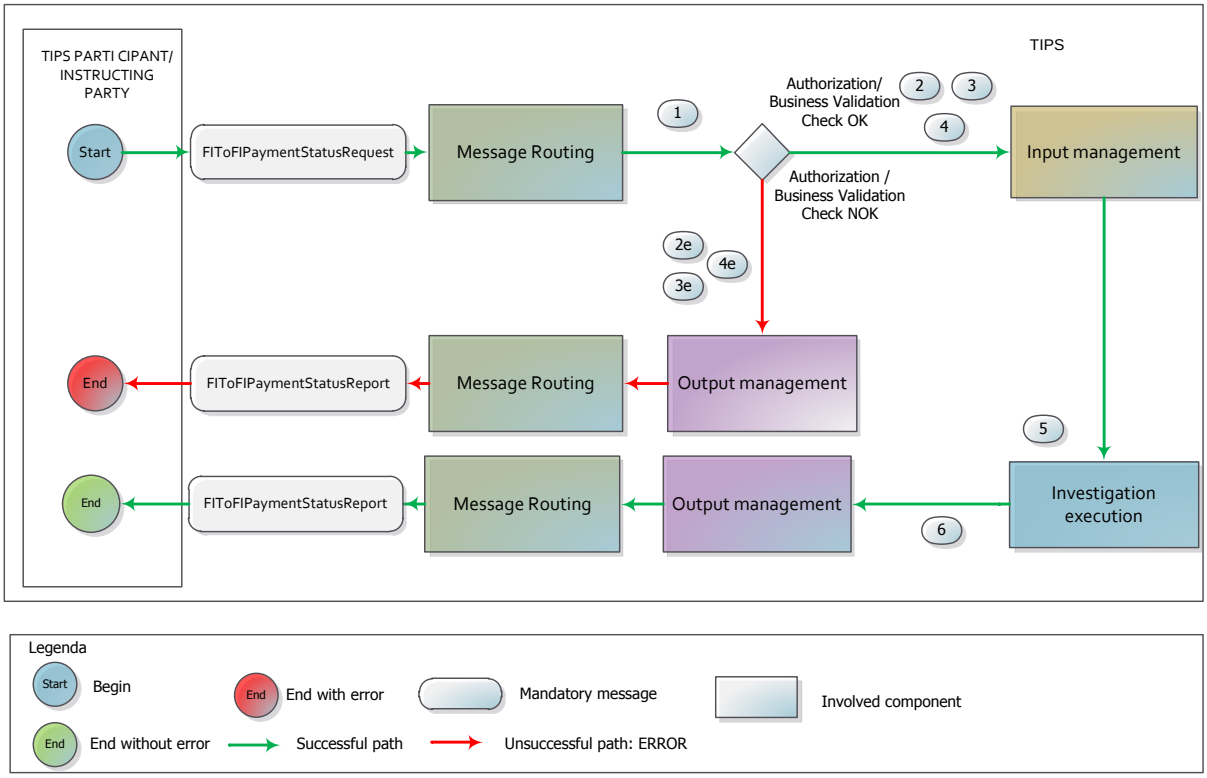


Table 19 - Investigation steps

Step	Involved messages	Involved actors	Description
1	FIToFIPaymentStatusRequest	Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an incoming Investigation request from the Participant or Instructing Party. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; - Instructing Party authorized; See 4.1- Business RulesBusiness Rules for details.
2e	FIToFIPaymentStatusReport	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 error.
3		TIPS	Payment Transaction existence check: TIPS checks that: - an item related to the Transaction Identification and to the Originator BIC exists in the transactional entity "Instant Payment" - the TIPS actor is the Originator of the interested Payment transaction or the Instructing party acting on behalf of

Formatte

			Participants or Reachable Parties on the originator side. See 4.1- Business RulesBusiness Rules for details.
3e	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 3. In the case of a negative check the system stops and sends a message to the Participant or Instructing Party - same DN of the Sender - containing the error.
4		TIPS	TIPS checks that the Investigation request has been received only after the SCT^{Inst} Timestamp Timeout + Investigation Offset. See 4.1- Business RulesBusiness Rules for details.
4e	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 4. In the case of a negative check the system stops and sends a message to the Participant or Instructing Party - same DN of the Sender - containing the error.
5	FIToFIPaymentStatusReport	TIPS	TIPS retrieves the last FIToFIPaymentStatusReport sent to the Participant initiating the investigation
6	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	The system sends the last FIToFIPaymentStatusReport to the Participant or Instructing Party - same DN of the query Sender.

Formatte

Formatte

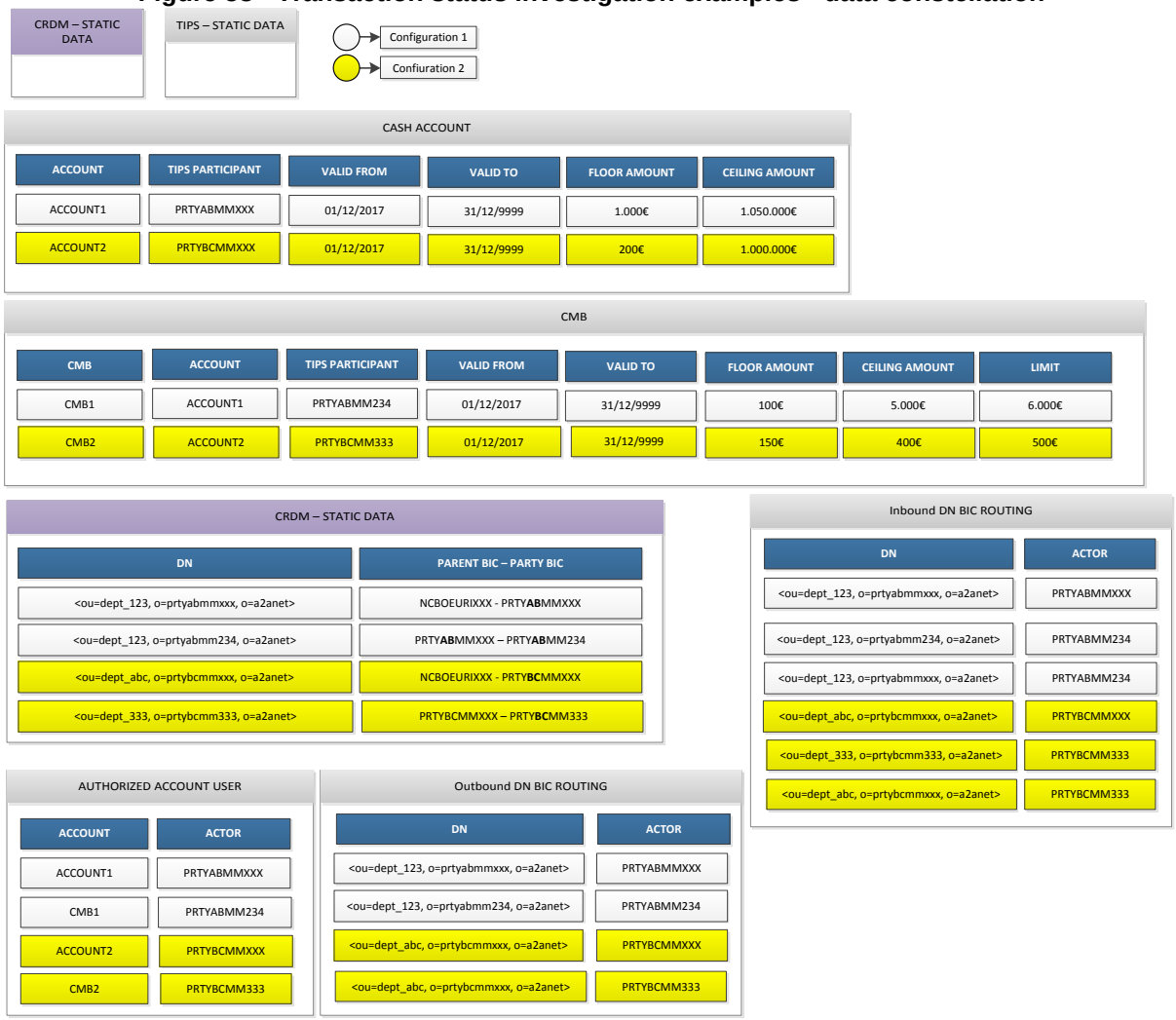
2.4.1. Examples

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

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

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

Figure 58 - Transaction status investigation examples - data constellation

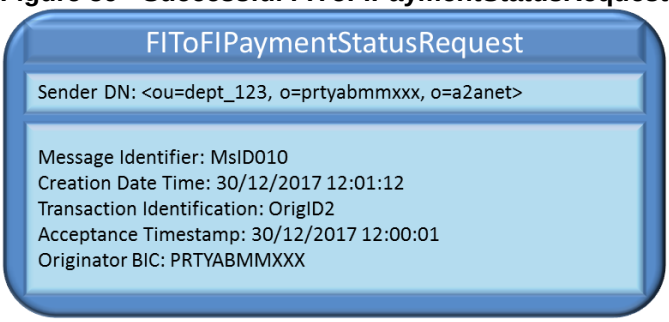


2.4.1.1. Successful scenario - Transaction status investigation

In this scenario:

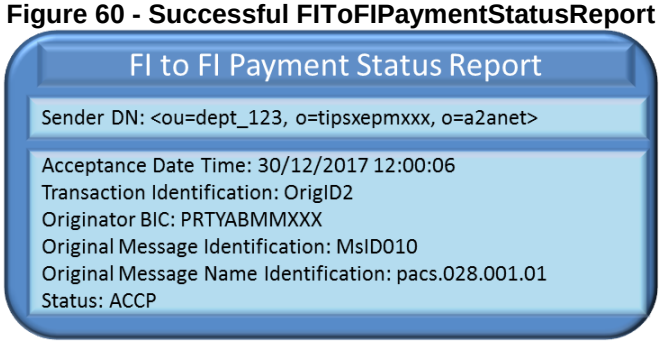
- A TIPS participant (PRTYABMMXXX) sent a FIToFIPaymentStatusRequest message to TIPS to investigate about the a Payment transaction (OrigID2). The timestamp of the FIToFIPaymentStatusRequest is 30/12/2017 12:01:12.
- Payment transaction OrigID2 is present in TIPS for the Originator BIC PRTYABMMXXX, and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

Figure 59 - Successful FIToFIPaymentStatusRequest



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

Figure 60 - Successful FIToFIPaymentStatusReport



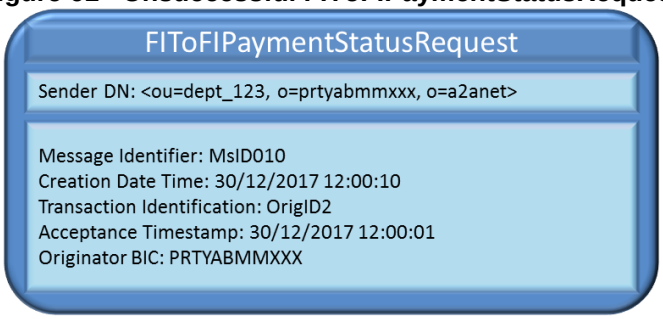
2.4.1.2. Unsuccessful scenario – Transaction status investigation

In this scenario:

- A TIPS participant (PRTYBCMMXXX) sent a FIToFIPaymentStatusRequest message to TIPS to receive information about a Payment transaction (OrigID2); The timestamp of the FIToFIPaymentStatusRequest is 30/12/2017 12:00:10.

- Payment transaction OrigID2 is present in TIPS for the Originator BIC PRTYABMMXXX, with acceptance timestamp 30/12/2017 12:00:01.

Figure 61 - Unsuccessful FIToFIPaymentStatusRequest

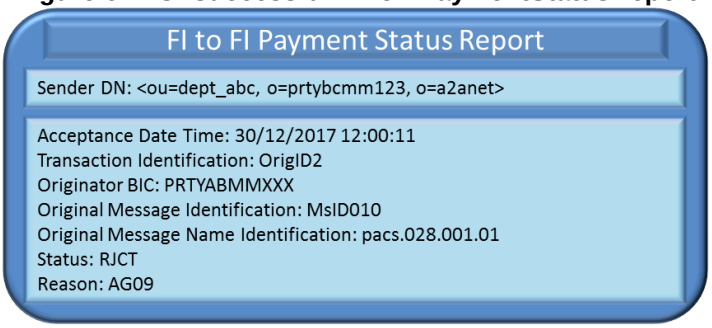


- TIPS identifies:
  - the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - the TIPS actor instructing the FIToFIPaymentStatusRequest (PRTYABMMXXX).
  - the Payment transaction (OrigID2) for the Originator Participant Party (PRTYABMMXXX), with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

Since SCTInst Timestamp Timeout not expired for the Payment transaction when the investigation request arrived, it cannot be satisfied.

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

Figure 62 - Unsuccessful FIToFIPaymentStatusReport



2.5. Inbound/Outbound Liquidity Transfers

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

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

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

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

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

2.5.1. Inbound Liquidity Transfer

This section describes the processing of an Inbound Liquidity Transfer received in TIPS via Liquidity Credit Transfer message. Inbound Liquidity Transfer has to be initiated by the RTGS account holder (or any authorised third party) in the relevant RTGS System (i.e. Inbound Liquidity Transfers cannot be triggered in TIPS). Indeed, the following section doesn't cover the starting part of the scenario where the RTGS Participant requests to transfer the liquidity from the RTGS Account to a TIPS Account as it is out of the scope of TIPS.

Examples of possible scenarios are described in the following sub-section.

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

- The RTGS System that sends to TIPS the liquidity transfer order;
- TIPS that receives and confirms the request to the RTGS System.
- TIPS Account owner which is duly informed if the account is credited and if its balance goes up the configured threshold.

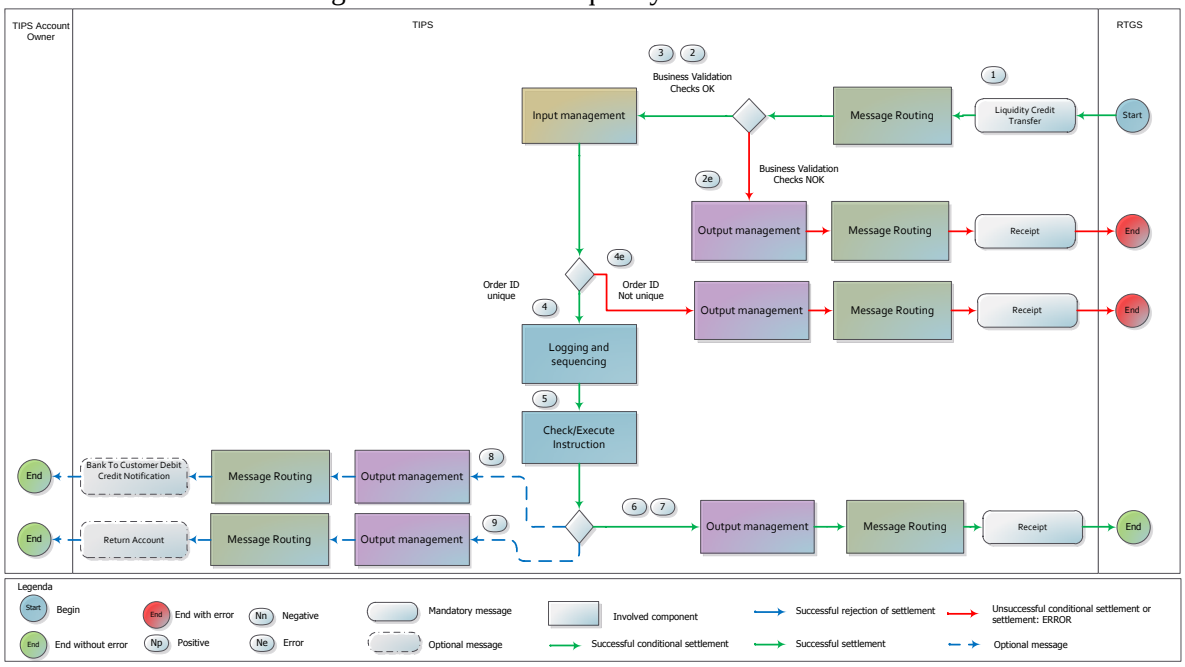
The following messages are involved in the Inbound Liquidity Transfer process:

- LiquidityCreditTransfer: the message with which the RTGS System instructs the transfer of a cash amount from an RTGS Account to a TIPS Account denominated in the same currency;
- Receipt: the message sent by TIPS to the RTGS System to confirm/reject the execution of a Liquidity Transfer;
- BankToCustomerDebitCreditNotification: the message sent by TIPS to report the settlement of a liquidity transfers to the TIPS Account owner. The notification is sent out only if previously configured by the Account owner.

- ReturnAccount: the message sent by TIPS to notify the owner of the credited TIPS Account that the ceiling threshold is exceeded. The notification is generated for the Account owner only if the ceiling threshold is configured.

The process is graphically described in the following flow.

Figure 63 – Inbound Liquidity Transfer Order flow



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

Table 20 – Inbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	RTGS System as Sender TIPS as receiver	TIPS receives an incoming Liquidity transfer request from the RTGS System. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the following checks: - Currency Check; - Creditor Check. From now on, the Creditor account indicated in the Liquidity Transfer Order, is referred to as "Account To be Credited". See 4.1- Business Rules for details.
2e	Receipt	TIPS as Sender RTGS System as receiver	TIPS unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the RTGS System - same DN of the Sender - containing the proper error code. The status of the Inbound Liquidity Transfer Order is set to “Failed”.

Step	Involved messages	Involved actors	Description
3		TIPS	The system select the Transit Account to be debited from the Transferred Amount as follows: - It retrieves from the table "Accounts" the row related to the one and only one Account, type "Transit Account", that in table "Accounts" has the currency equal to the one defined in the Transferred Amount and is open for the current Business Date. From now on, the identified Account is referred to as "Account to be Debited";
4		TIPS	TIPS successfully completes the execution of the following checks: - LT Duplicate Check; See 4.1- Business Rulesfor details.
4e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 4. The system stops and sends a message to the RTGS System - same DN of the Sender - containing the proper error code. See 4.1- Business Rules for details. The status of the Inbound Liquidity Transfer Order is set to “Failed”.
5		TIPS	The instruction is logged and sent to the Check and Execute Instruction process. The status of the Inbound Liquidity Transfer Order is set to "Validated".
6		TIPS	The Settlement Core component settles the full amount of the Liquidity Transfer Order, debiting the Account to be Debited and crediting the Account To be Credited. The status of the Inbound Liquidity Transfer is set to “Settled".

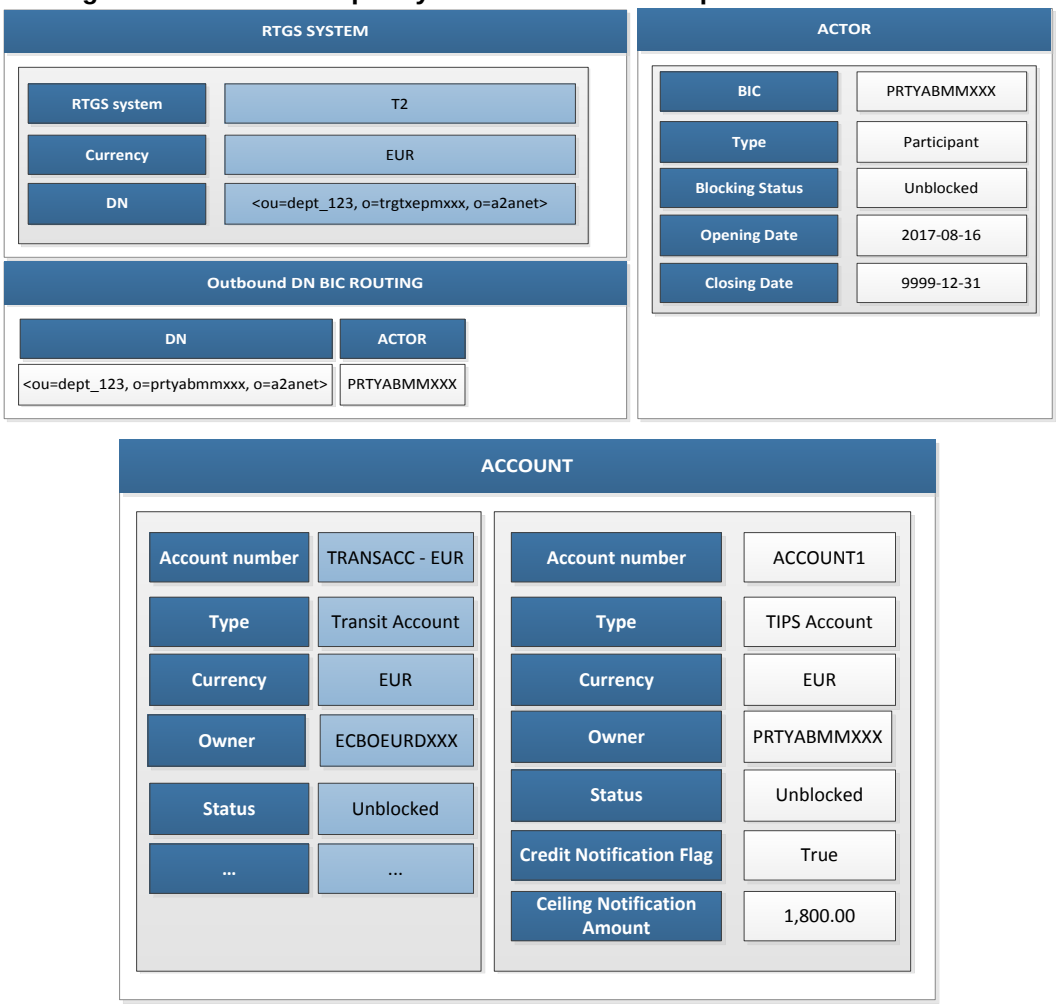
Step	Involved messages	Involved actors	Description
7	Receipt	TIPS as Sender RTGS System as receiver	The RTGS System is notified by the Output Dispatcher component of the status of the operation.
8	BankToCustomerDebitCreditNotification	TIPS as sender TIPS Account owner as receiver	TIPS sends a notification to the TIPS Account owner in order to report the settlement of the liquidity transfer. The message is sent to the default DN of the Account owner identified in the "Outbound DN-BIC Routing" mapping table.
9	ReturnAccount	TIPS as sender TIPS Account owner as receiver	TIPS checks the "Ceiling notification amount" configured for the credited account. If the account balance after settlement is higher than the "Ceiling notification amount", TIPS sends a ReturnAccount to the Account owner. The message is sent to the default DN of the Account Owner identified in the "Outbound DN-BIC Routing" mapping table.

2.5.1.1. Examples

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

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

Figure 64 – Inbound Liquidity Transfer Order examples - data constellation



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

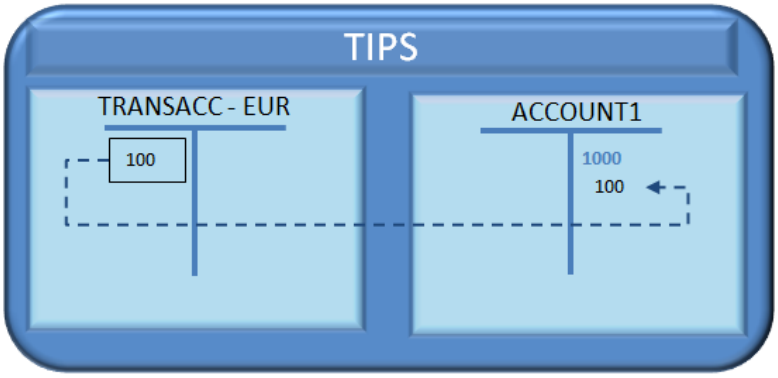
In this scenario:

- The current business date is 30/12/2017 ;
- The RTGS Account owner and the TIPS Account owner are the same entity (PRTYABMMXXX);
- The TIPS Account balance is 1,000.00 EUR;
- The RTGS System sends a Liquidity Credit Transfer message in order to move liquidity from an RTGS Account (RTGSACCOUNT1) to a TIPS Account (ACCOUNT1);

Figure 65 – Successful Inbound Liquidity Transfer order – Liquidity credit transfer

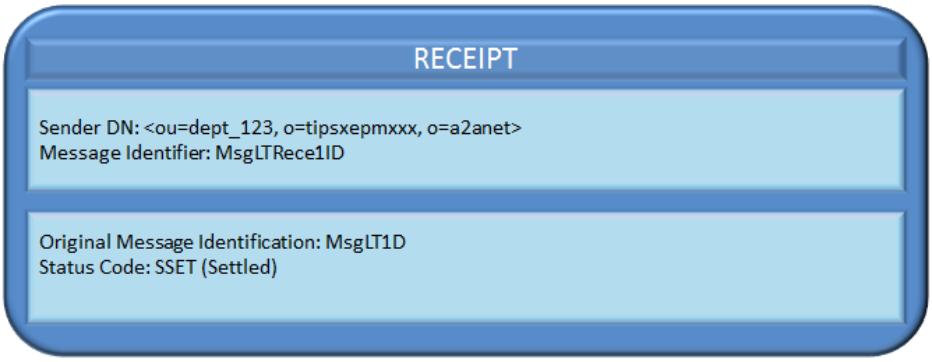
- TIPS receives the request and identifies:
  - The Account to be Credited (ACCOUNT1) from the Creditor Account;
  - The Account to be Debited (TRANSACC – EUR) from the Transferred Amount/Currency;
- TIPS settles the full amount of the Liquidity Transfer Instruction. The Inbound Liquidity Transfer Order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

Figure 66 – Successful Inbound Liquidity Transfer order settlement



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

Figure 67 – Successful Inbound Liquidity Transfer order Receipt



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

Figure 68 – Successful Inbound Liquidity Transfer order credit notification

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

In this scenario:

- The current business date is 30/12/2017;
- The RTGS Account owner and the TIPS Account owner are the same entity (PRTYABMMXXX);
- The RTGS System sends a Liquidity Credit Transfer message in order to move liquidity from an RTGS Account (RTGSACCOUNT1) to a TIPS Account (ACCOUNT1);

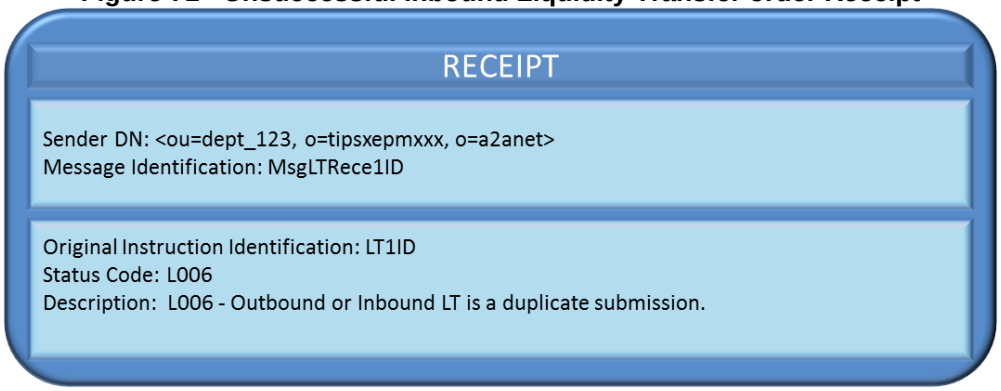
Figure 69 - Unsuccessful Inbound Liquidity Transfer order – Liquidity credit transfer

- TIPS receives the message and identifies:
  - The Account to be Credited (ACCOUNT1) from the Creditor Account;
  - The Account to be Debited (TRANSACC – EUR) from the Transferred Amount/Currency;
- TIPS detects a duplicate submission: the Liquidity Credit Transfer message has the same Instruction Identification (LT1ID), refers to the same Debtor Account (RTGSACCOUNT1) and Creditor Account (ACCOUNT1) and has the same Transferred Amount (100 EUR) as another Liquidity Credit Transfer message received from the same RTGS in the last X days (where X is equal to the system parameter "data retention period").

Figure 70 - Unsuccessful Inbound Liquidity Transfer order – Duplicate Submission

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

Figure 71 - Unsuccessful Inbound Liquidity Transfer order Receipt



2.5.2. Outbound Liquidity Transfer

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

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

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

- The TIPS Participant or Instructing Party as instructor of the Liquidity Transfer;
- TIPS that receives and confirms the request from the instructor;
- The RTGS System that receives and confirms the request from TIPS.
- TIPS Account owner which is duly informed if the account balance goes under the configured threshold.

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

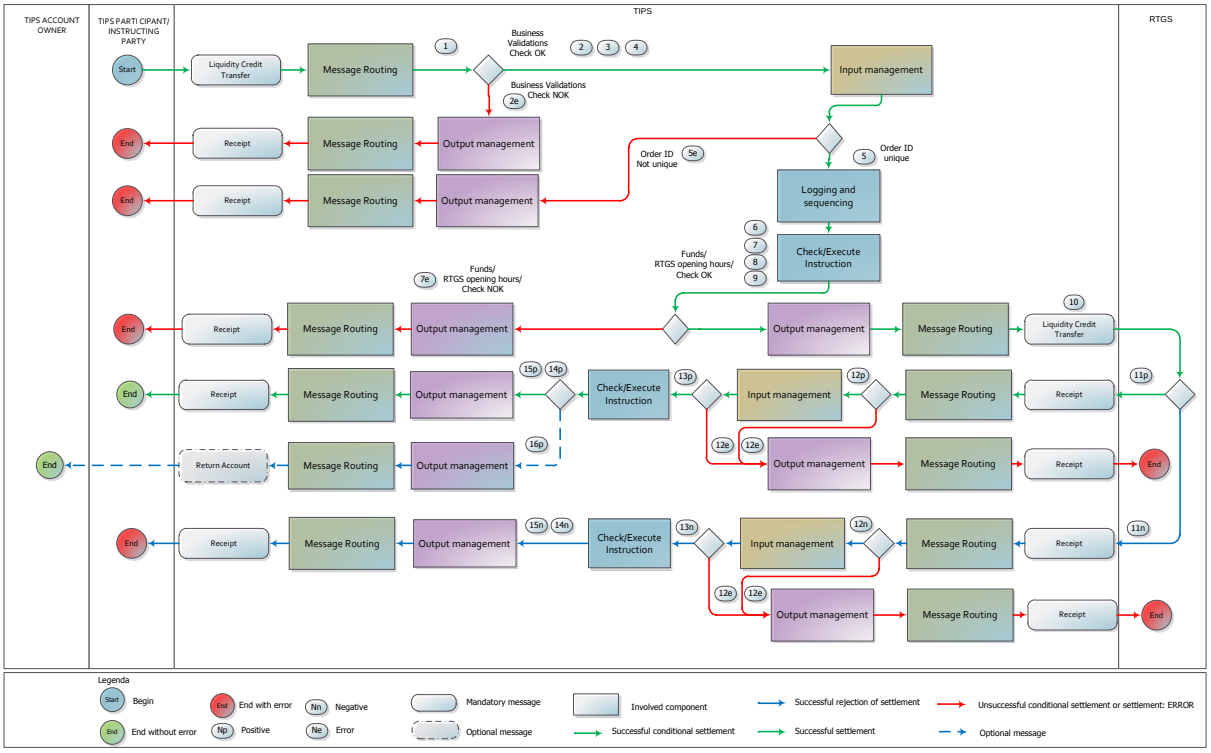
- Liquidity Credit Transfer: the message which enables the sender to instruct the transfer liquidity from the TIPS Account to an RTGS account;
- Receipt: the message sent by TIPS to the TIPS Participant or instructing party or by the RTGS System to confirm/reject the execution of a Liquidity Transfer;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

Central Banks shall be able to initiate an Outbound Liquidity Transfer regardless of the TIPS account's blocking status and regardless of whether the account is open or closed.

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

The following diagram describes the Outbound Liquidity business process.

Figure 72 - Outbound Liquidity Transfer Order flow



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

Table 21 - Outbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
1	LiquidityCreditTransfer	TIPS Participant or Instructing Party as sender TIPS as receiver	TIPS receives an incoming Liquidity transfer request from the TIPS Participant or instructing party. Schema validation, check of mandatory fields and authentication checks have already been successfully executed by ESMIG.
2		TIPS	TIPS successfully executes the following checks: - Access Rights check; - Instructing Party authorised; - RTGS Creditor Account inclusion Check; - Debtor Check; - Debtor Account Check; - Currency Check; See 4.1- Business Rules~~Business Rules~~ for details.
2e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 2. At the first negative check the system stops and sends a message to the TIPS Participant or instructing party - same DN of the Sender - containing the proper error code. The status of the Outbound Liquidity Transfer Order is set to “Failed”.
3		TIPS	From now on, the debit account indicated in the Liquidity Transfer Order, is referred to as "Account to be debited".

Formatte

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

Step	Involved messages	Involved actors	Description
7		TIPS	TIPS successfully completes the execution of the following checks: - RTGS opening hours Check; - Funds Check. See 4.1- Business Rules for details.
7e	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	TIPS unsuccessfully executes one of the checks of step 7. At the first negative check the system stops and sends a message to the TIPS Participant or Instructing Party - same DN of the Sender - containing the proper error code. The status of the Outbound Liquidity Transfer Order is set to “Failed”.
8		TIPS	The DN of the Sender in step 1 is saved as information related to the transaction. From now on, this DN is referred to as "Debtor DN".
9		TIPS	TIPS settles the full amount of the Liquidity Transfer Instruction, crediting the Account to be credited and debiting the Account to be debited. The status of the Outbound Liquidity Transfer Order is set to "Transient".
10	LiquidityCreditTransfer	TIPS as sender RTGS as receiver	The TIPS Output dispatcher forwards, through the Message Router, the received Liquidity transfer request to the RTGS DN. TIPS remains waiting for a RTGS Reply.
11p	Receipt	RTGS as sender TIPS as receiver	TIPS receives a Receipt message sent from the RTGS System in order to confirm the transfer;
12p		TIPS	The TIPS Message Router successfully completes the execution of the following check: - RTGS Access Rights check; See 4.1- Business Rules for details.

Step	Involved messages	Involved actors	Description
13p		TIPS	The Input Collector successfully performs the following checks: - Not defined status code in RTGS Answer Check; - Pending (Transient) order existing Check. See 4.1- Business Rules for details.
14p		TIPS	The status of the Outbound Liquidity Transfer Order is set to “Settled”.
15p	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	The TIPS Output Dispatcher forwards to the “Debtor DN”, through the Message Router, the Receipt message received from the RTGS System.
16p	ReturnAccount	TIPS as sender TIPS Account owner as receiver	Once the status of the Outbound Liquidity Transfer Order is set to “Settled”, TIPS checks the "Floor notification amount" configured for the involved Account to be debited. If the account balance is lower than the "floor notification amount", TIPS sends a ReturnAccount to the Account owner involved in the transaction. The message is sent to the default DN of the Account Owner identified in the "Outbound DN-BIC Routing" mapping table.
12e	Receipt	TIPS as sender RTGS as receiver	TIPS unsuccessfully executes the checks included in steps 12p/13p or 12n/13n. The system stops and sends a message to the RTGS - containing the proper error code. The status of the Outbound Liquidity Transfer Order is set to “Failed”.
11n	Receipt	RTGS as sender TIPS as receiver	TIPS receives a Receipt message sent from the RTGS System in order to reject the transfer;

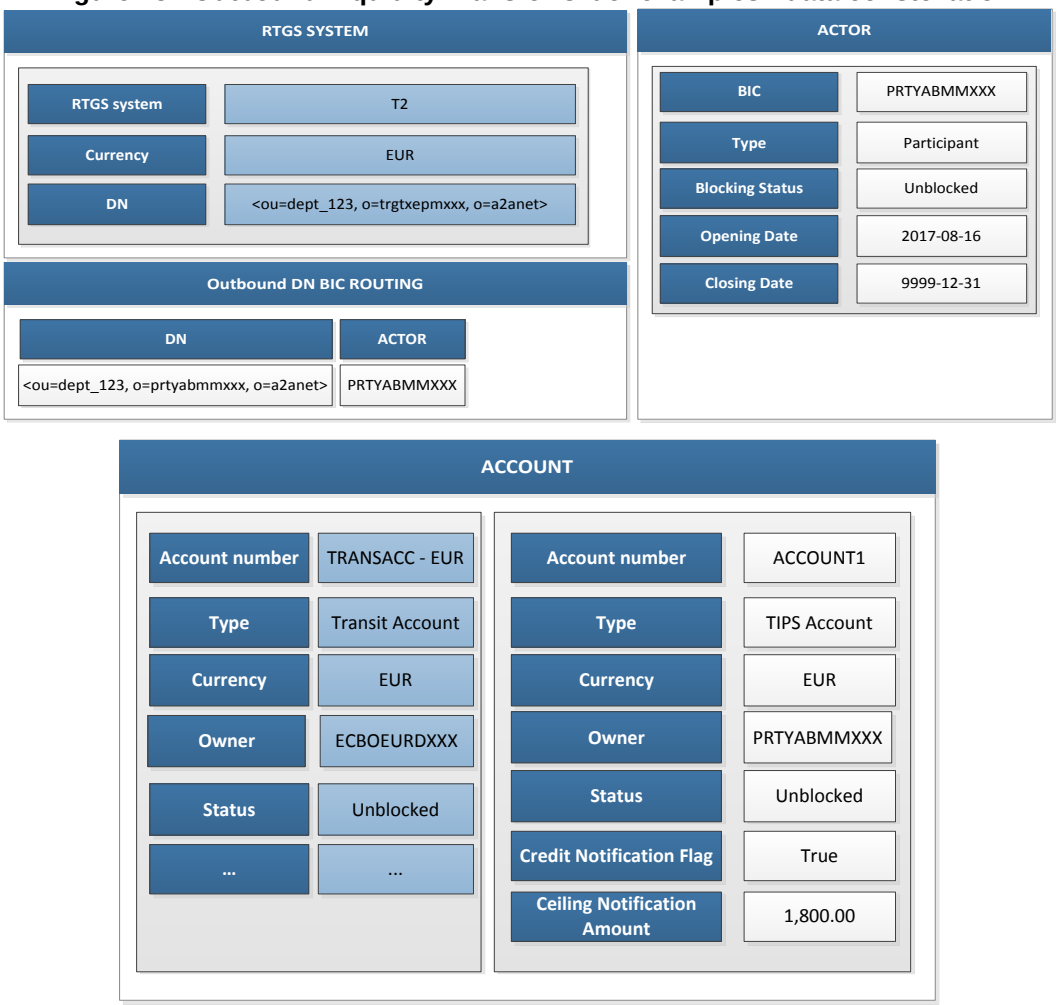
Step	Involved messages	Involved actors	Description
12n		TIPS	TIPS successfully completes the execution of the following check: - RTGS Access Rights check; See 4.1- Business Rules for details.
13n		TIPS	The Input Collector successfully performs the following checks: - Not defined status code in RTGS Answer Check; - Pending (Transient) order existing Check. See 4.1- Business Rules for details.
14n		TIPS	TIPS performs an automatic reverse of funds from the original Account to be credited and the original Account to be debited. The transaction is set to "Rejected" status.
15n	Receipt	TIPS as sender TIPS Participant or Instructing Party as receiver	The TIPS Output Dispatcher forwards to the “Debtor DN”, through the Message Router, the Receipt message received from the RTGS System.

2.5.2.1. Examples

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

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

Figure 73 - Outbound Liquidity Transfer Order examples - data constellation



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

In this scenario:

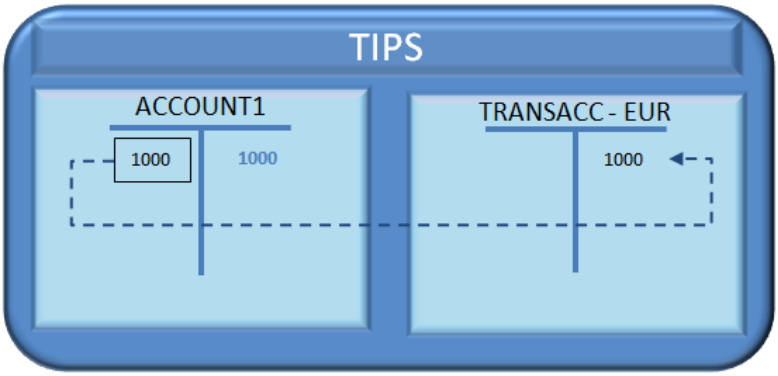
- The current business date is 30/12/2017;

- A TIPS Participant sends a Liquidity transfer request in order to move liquidity from the TIPS Account (ACCOUNT1) to an RTGS account (RTGSACCOUNT1);

Figure 74 - Successful Outbound Liquidity Transfer order Liquidity Credit Transfer

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

Figure 75 - Successful Outbound Liquidity Transfer order settlement

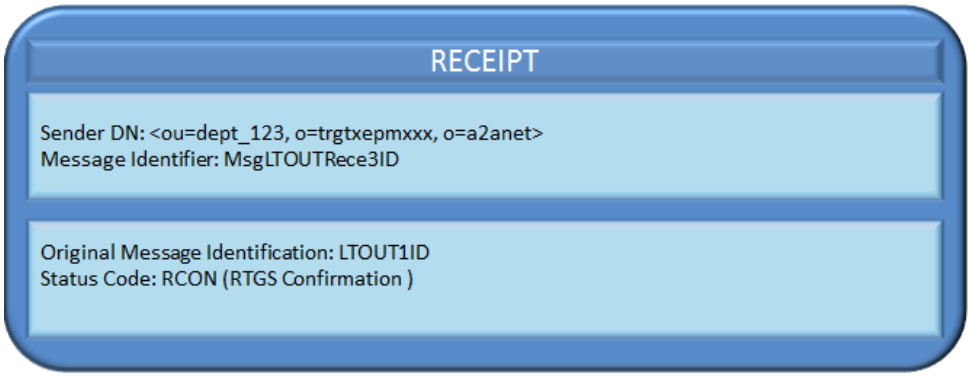


- The Liquidity transfer request is forwarded to the interested RTGS System for the related settlement.

Figure 76 - Successful Outbound Liquidity Transfer order Liquidity Credit Transfer

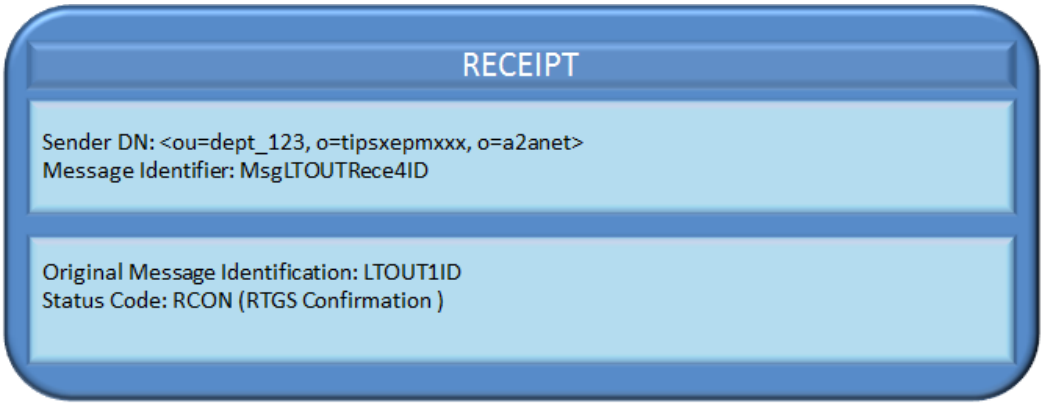
- The following Receipt message is sent by the RTGS System to TIPS to confirm the execution of the liquidity transfer. The status of the Outbound Liquidity Transfer Order is set to “Settled”.

Figure 77 - Successful Outbound Liquidity Transfer order Receipt received by TIPS



- The TIPS participant or instructing party is notified by the Output Dispatcher component with a positive message (Receipt).

Figure 78 - Successful Outbound Liquidity Transfer order Receipt sent by TIPS



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

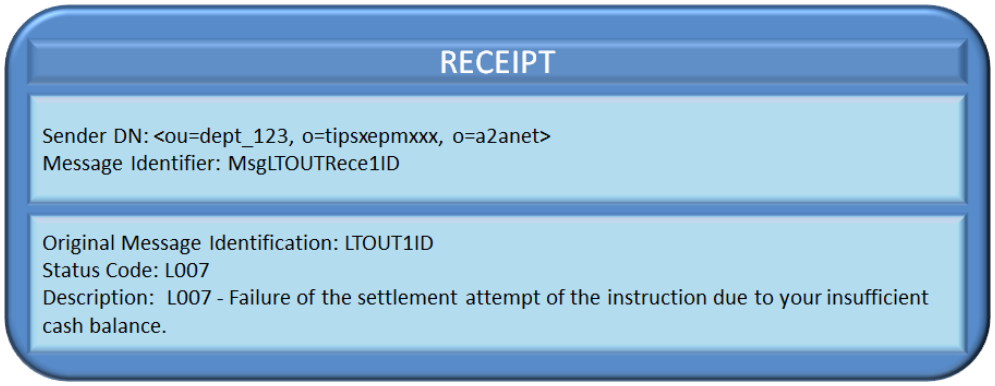
In this scenario:

- The current business date is 30/12/2017;
- The TIPS Account balance is 150.00 EUR;
- A TIPS Participant sends a Liquidity transfer request in order to move liquidity from the TIPS Account (ACCOUNT1) to an RTGS account (RTGSACCOUNT1);

Figure 79 - Unsuccessful Outbound Liquidity Transfer order Liquidity Credit Transfer

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

Figure 80 - Unsuccessful Outbound Liquidity Transfer order Receipt sent by TIPS

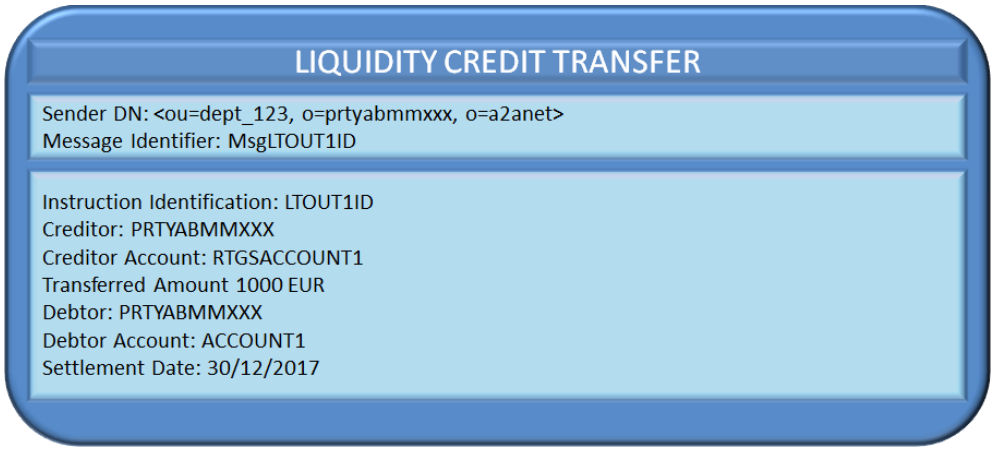


2.5.2.1.3 Unsuccessful scenario – Outbound LT order rejected by the RTGS System

In this scenario:

- The current business date is 30/12/2017;
- A TIPS Participant sends a Liquidity transfer request in order to move liquidity from the TIPS Account (ACCOUNT1) to an RTGS account (RTGSACCOUNT1);

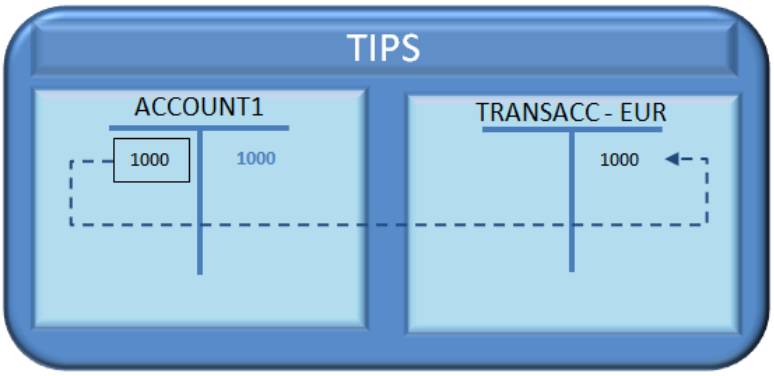
Figure 81 - Rejected Outbound Liquidity Transfer order Liquidity Credit Transfer



- TIPS receives the message and identifies:
  - The DN of the sender – i.e. the TIPS participant or instructing party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - The RTGS System and the related DN (<ou=dept_123, o=trgtxepmxxx, o=a2anet>) from the Transferred Amount/Currency;
  - The Account to be Credited (TRANSACC – EUR) from the Transferred Amount/Currency;
  - The Debtor (PRTYABMMXXX)
  - The Account to be Debited (ACCOUNT1) from the Debtor Account;
- The status of the Outbound Liquidity Transfer Order is set to "Validated".

- TIPS settles the full amount of the Liquidity Transfer Order. The Outbound Liquidity Transfer Order is set to "Transient".

Figure 82 - Rejected Outbound Liquidity Transfer order settlement

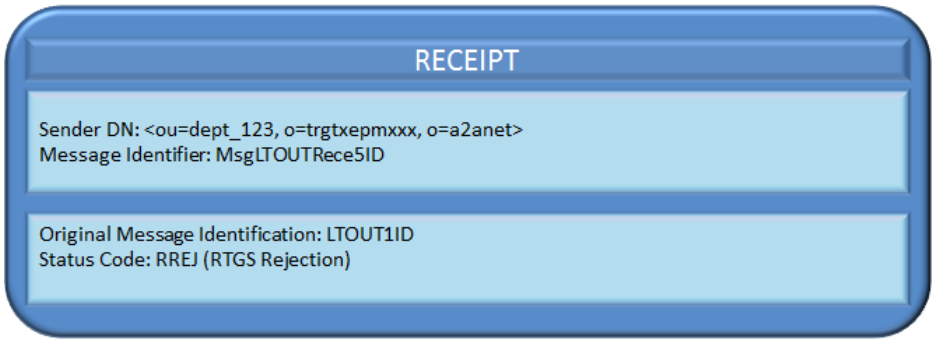


- The Liquidity transfer request is forwarded to the interested RTGS System for the related settlement.

Figure 83 - Rejected Outbound Liquidity Transfer order Liquidity Credit Transfer

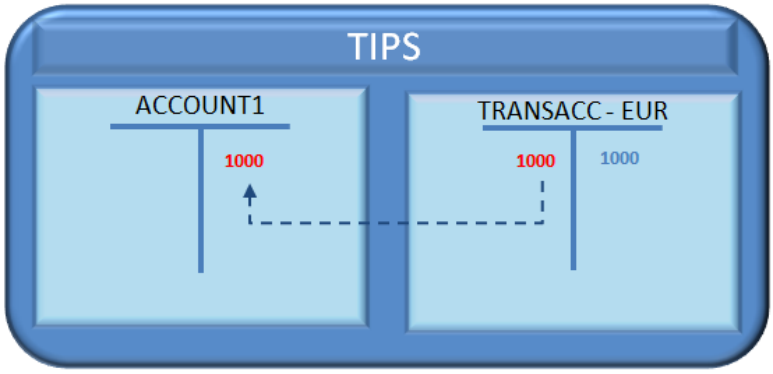
- The following Receipt message is sent by the RTGS System to TIPS to reject liquidity transfer order.

Figure 84 - Rejected Outbound Liquidity Transfer order Receipt received by TIPS



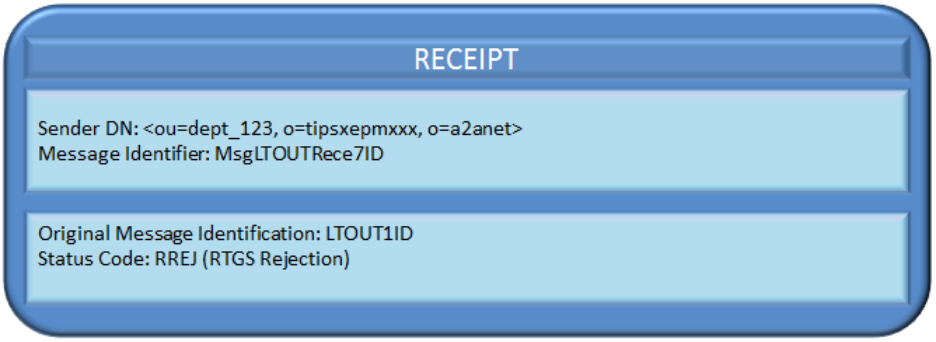
- TIPS performs an automatic reverse of funds from the RTGS Transit Account to the TIPS Account.

Figure 85 - Rejected Outbound Liquidity Transfer order reverse settlement



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

Figure 86 - Rejected Outbound Liquidity Transfer order Receipt sent by TIPS



2.5.2.2. RTGS Alert scenario – No reply from RTGS

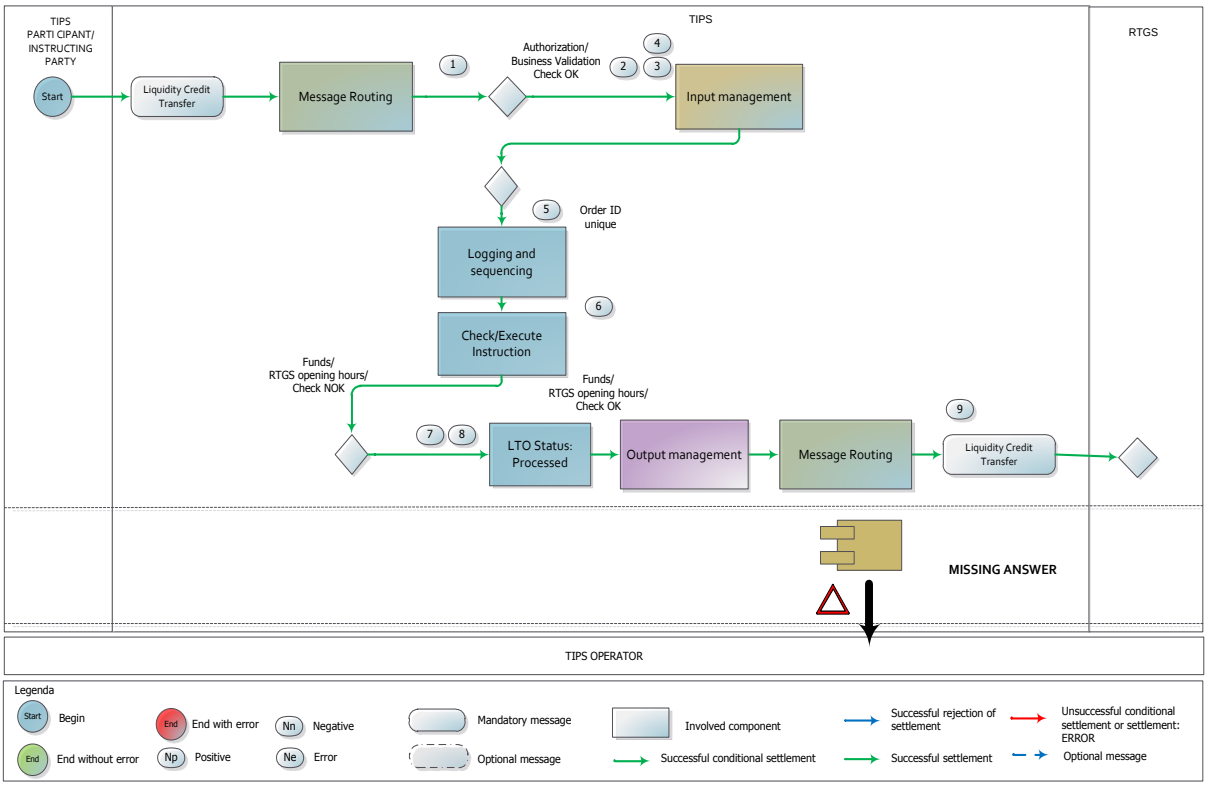
TIPS Participants can trigger outbound liquidity transfers in TIPS using a Liquidity Transfer Order message. After performed necessary validations TIPS transfers the requested amount from the TIPS Account to the Transit Account. After that TIPS informs the corresponding RTGS System about the liquidity transfer and waiting for an answer. The RTGS is expected to reply with either a confirmation or a rejection message within a configurable timeframe.

A specific software component is always acting in background detecting Liquidity Transfer Orders with status different from *Settled, Rejected* and *Failed* for which the lapse of time between the time the order is received in TIPS and the current timestamp is longer than X minutes (X being the “RTGS Alarm” system parameter).

In case the RTGS does not give a suitable answer within the above timeframe, TIPS alerts the TIPS Operator which can then initiate appropriate further actions (depending on the reason for this timeout and the current status of TIPS and the RTGS System).

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

Figure 87 - Outbound Liquidity Transfer - Missing RTGS answer flow



All the single step from 1 to 10 are described in Table 21 – Outbound Liquidity Transfer Order steps. The remaining steps are described in Table xx - Outbound Liquidity Transfer Order steps – Missing RTGS answer below.

Figure 88 - Outbound Liquidity Transfer – Missing RTGS answer steps

Step	Involved messages	Involved actors	Description
11		TIPS	The specified period of time configured as RTGS Alert has elapsed since the Liquidity Transfer request has been received by TIPS from the TIPS Participant (step 1) and no confirmation or rejection has been received from the RTGS System. TIPS raises an alert to the TIPS Operator.

Step	Involved messages	Involved actors	Description
12		TIPS OPERATOR	Operational procedures are put in place in order to either confirm the Liquidity Transfer and inform the instructing party, or move back the liquidity from the RTGS Transit Account to the TIPS Participant Account.

2.6. Notifications

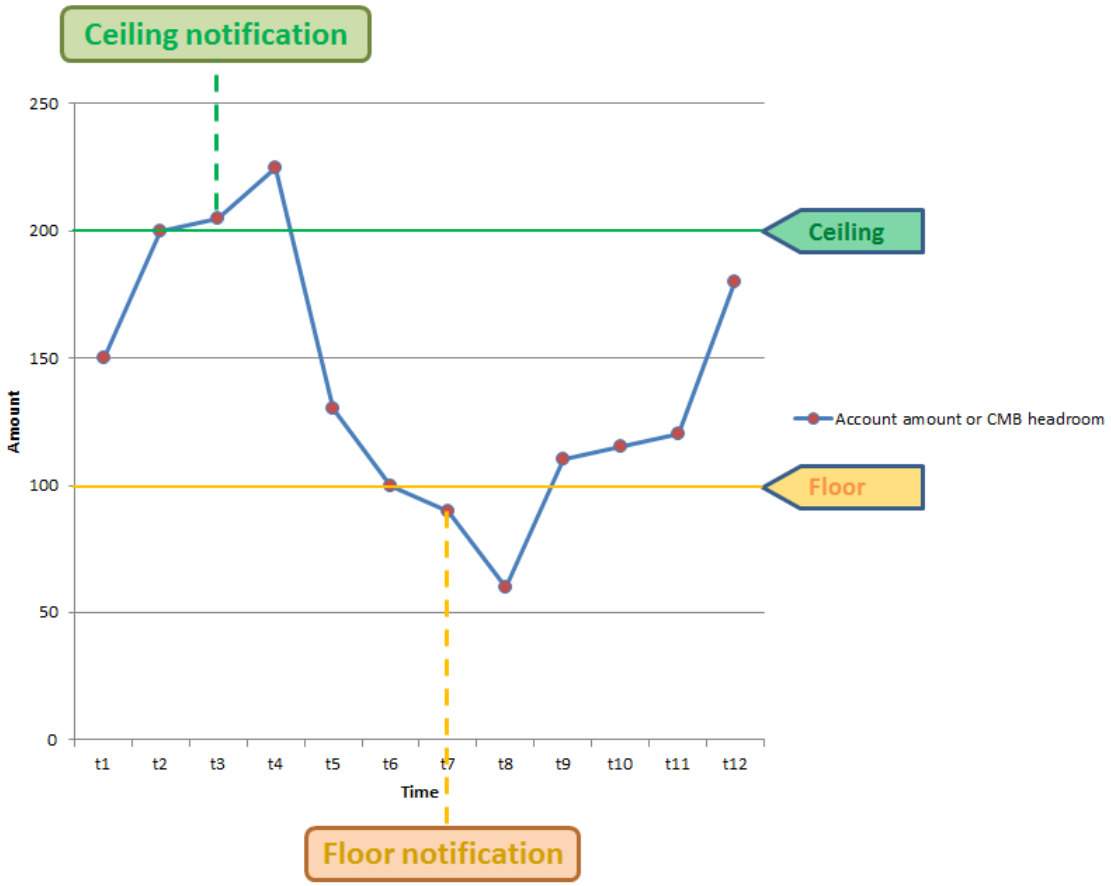
The floor and ceiling notification process manages the sending of the notifications whenever, after a successful settlement process, the amount (or headroom) of the account (or the CMB) undercuts the floor amount or exceeds the ceiling amount configured by the account or CMB owner.

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

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

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

Figure 8977 - Floor and ceiling notification triggers



The examples below are based on IP cases.

2.6.1. Floor notification on account

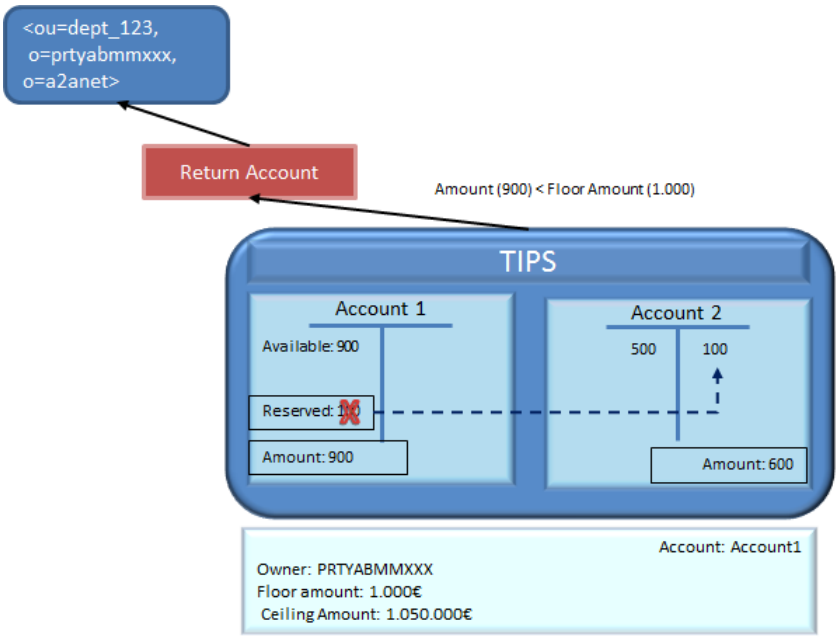
This positive scenario describes a successful payment transaction between two TIPS Account that generates a floor notification on the debited account. The scenario described is only an example for the floor notification and how the message is triggered. The scenario is similar when the headroom of the 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~~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€.

Formatte

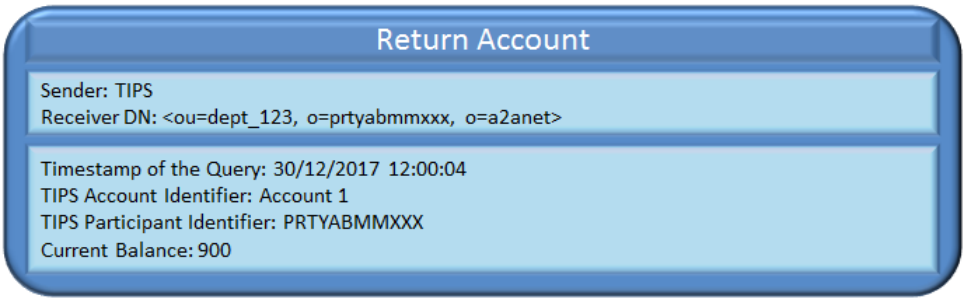
The system recognises that the account goes under the threshold defined by the customer and it starts the notification process.

Figure 9078 - Floor notification settlement



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

Figure 9179 - 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.

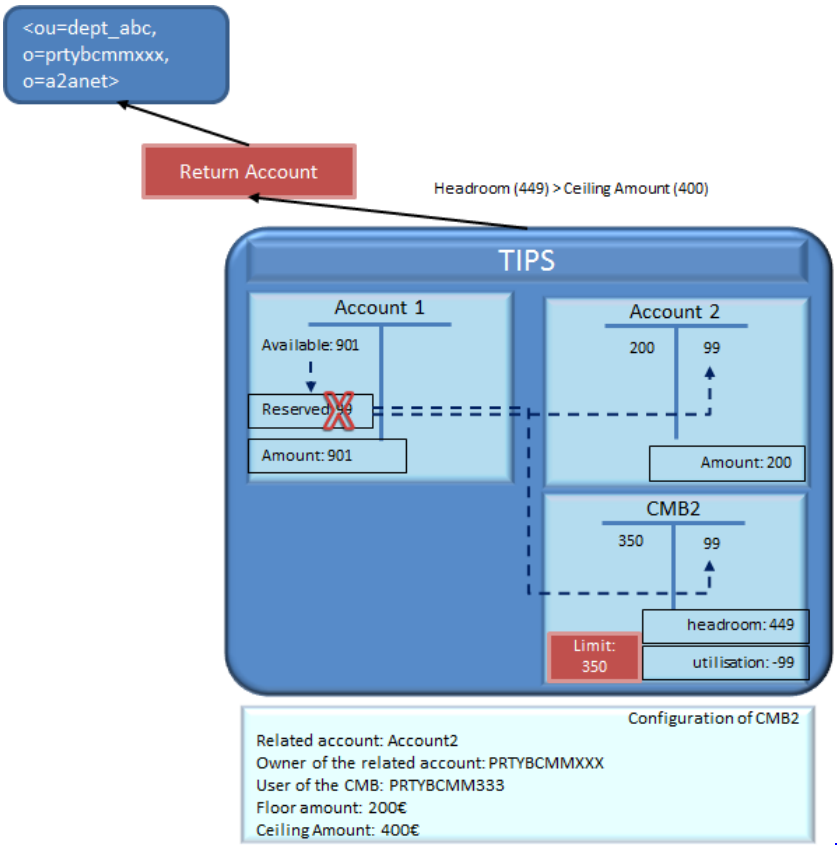
2.6.2. Ceiling notification on CMB

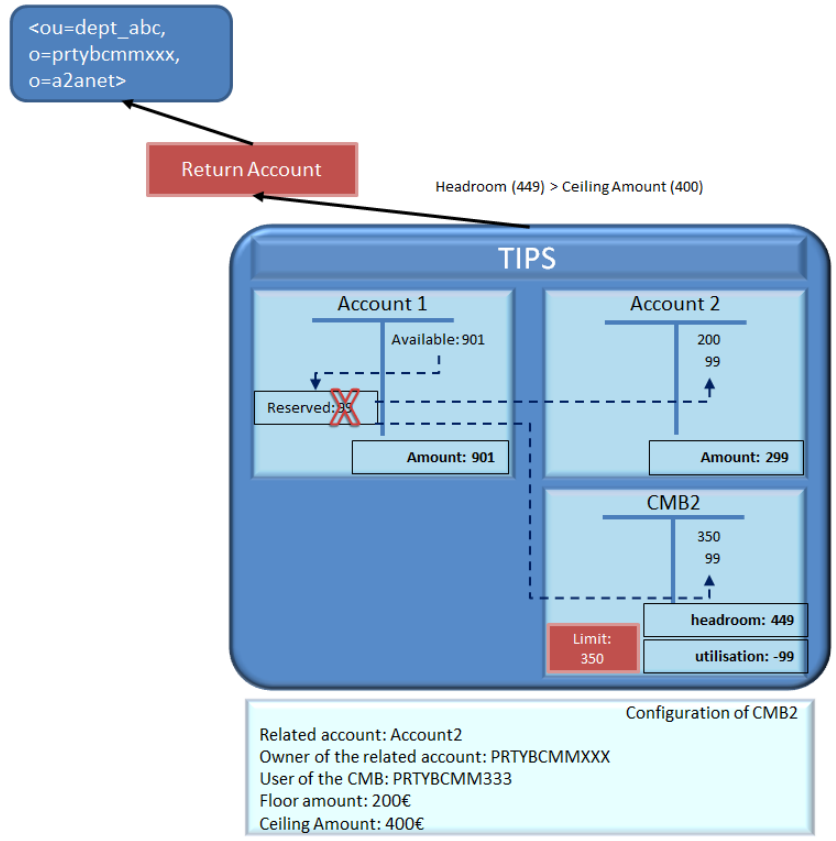
This positive scenario describes a successful payment transaction between two TIPS Actors that generates a ceiling notification on the credited CMB or account. The scenario described is only an example for the ceiling notification and how the message is triggered. The scenario is similar when the available 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~~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~~449€.

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

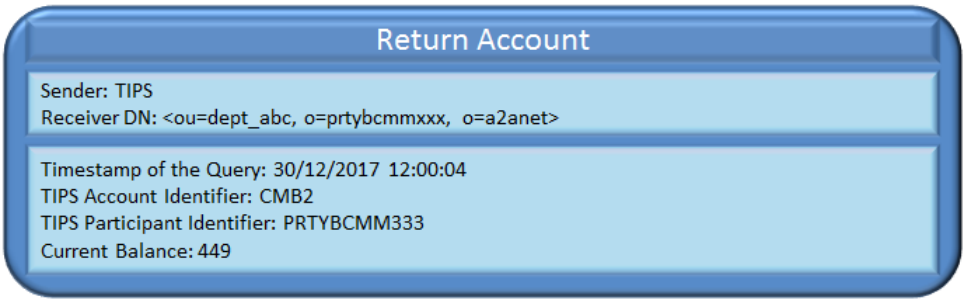
Figure 92~~80~~ - Ceiling notification settlement





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

Figure 9381 - Ceiling notification ReturnAccount



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

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

2.7. Queries

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

The section covers the scenarios in which a Participant or Instructing Party queries the system in order to obtain information belonging to the balance and the status of an account, 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.

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

Table 22 - Query permissions

Actor	Account Balance and Status Query	CMB Limit and Status Query	Payment Transaction Status Query
Central Bank	Accounts under the CB's responsibility	CMBs under the CB's responsibility	Payment data affecting Accounts and CMBs under the CB's responsibility
Participant	Accounts for which the Participant is owner	CMB for which the Participant is owner	Payment data affecting their accounts or CMBs
Reachable party	No	No	No
Instructing party on behalf of a Participant	Accounts for which the Participant's BIC is set as authorized user	CMBs for which their Participant's BIC is set as authorized user	Payment data for which the Participant is Originator or Beneficiary
Instructing party on behalf of a Reachable Party	Accounts for which the Reachable Party's BIC is set as authorized user	CMBs for which their Reachable Party's BIC is set as authorized user	Payment data for which the Reachable Party is Originator or Beneficiary

RTGS System	Accounts denominated in their currency	CMBs denominated in their currency	Payment data affecting Accounts and CMBs denominated in their currency

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

Furthermore, an authorized TIPS actor can query only Payment Transaction data which have not exceeded their retention period.

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.

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

Returned data are :

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

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

Returned data are:

- TIPS participant identifier;
- TIPS account identifier for the account linked to the CMB;
- TIPS CMB identifier;
- CMB limit;
- CMB headroom;
- Currency of the account to which the CMB is linked;

- CMB status;
- Timestamp of the query.

All the described scenarios are triggered under the assumption that the 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 7647 - Queries flow~~

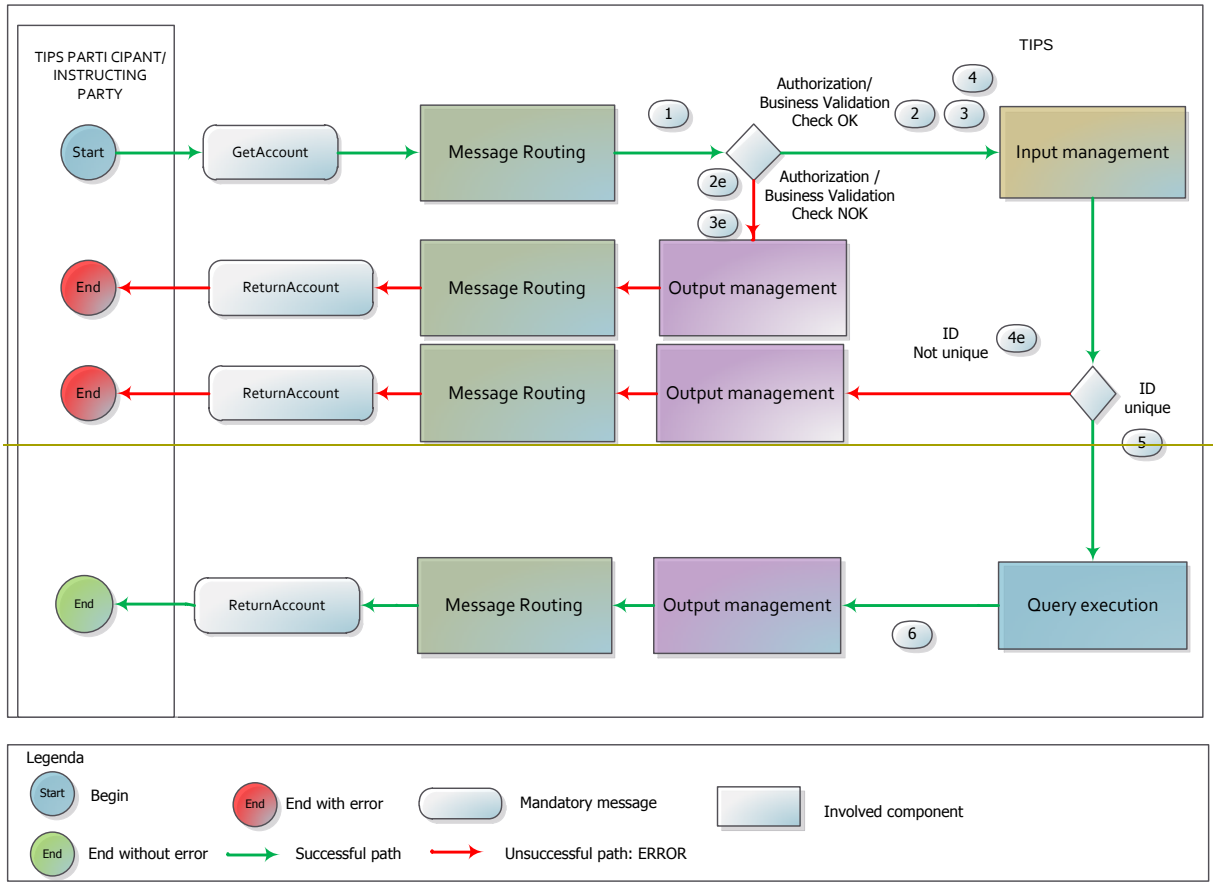


Figure 9476 - Queries flow

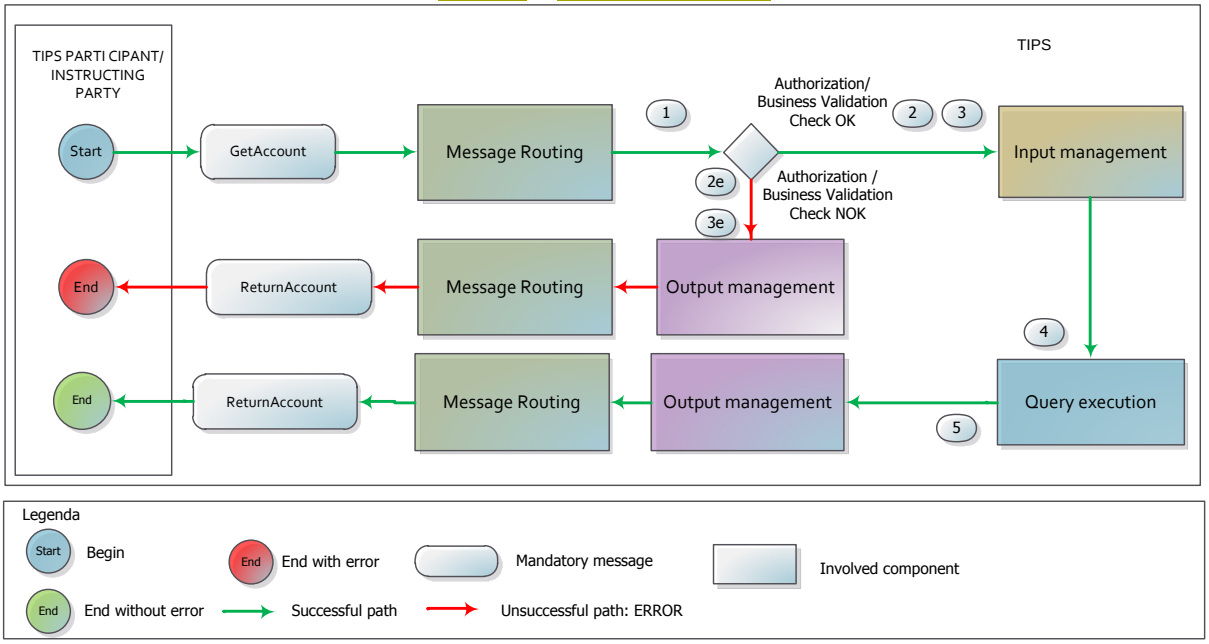


Table 23 - Queries steps

Step	Involved messages	Involved actors	Description
1	GetAccount	Participant or Instructing Party as Sender TIPS as receiver	TIPS receives an incoming Query from the Participant or Instructing Party. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; ~~- Authorization Check;~~ ~~- Account or CMB existence;~~ - Instructing Party authorized; See 4.1- Business Rules~~Business Rules~~ for details.~~See table XXX for details.~~
2e	ReturnAccount	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.

Formatte

3		TIPS	TIPS perform the following checks on the value of the field “Account or CMB Identifier” of the GetAccount message (Account or CMB existence check) : - 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 if the Participant or Instructing Party is authorized to query on it basing on the query permission (see Query permissions table).~~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 "CMB" and if the Participant or Instructing Party is authorized to query on it basing on the query permission (see Query permissions 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; See 4.1- Business Rules~~Business Rules~~ for details.
3e	ReturnAccount	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 retrieves the data corresponding to the submitted query and its input parameters.~~TIPS successfully executes the check: - Duplicate check; See table XXX for details.~~
~~5~~4~~e~~	ReturnAccount	TIPS as sender Participant or Instructing Party as receiver	The system sends a message to the Participant or Instructing Party - same DN of the query Sender - containing the query results. ~~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.~~

Formatte

~~6~~	~~ReturnAccount~~	~~TIPS as sender Participant or Instructing Party as receiver~~	~~The system sends a message to the Participant or Instructing Party - same DN of the query Sender - containing the query results.~~

2.7.1.1. Examples

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

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

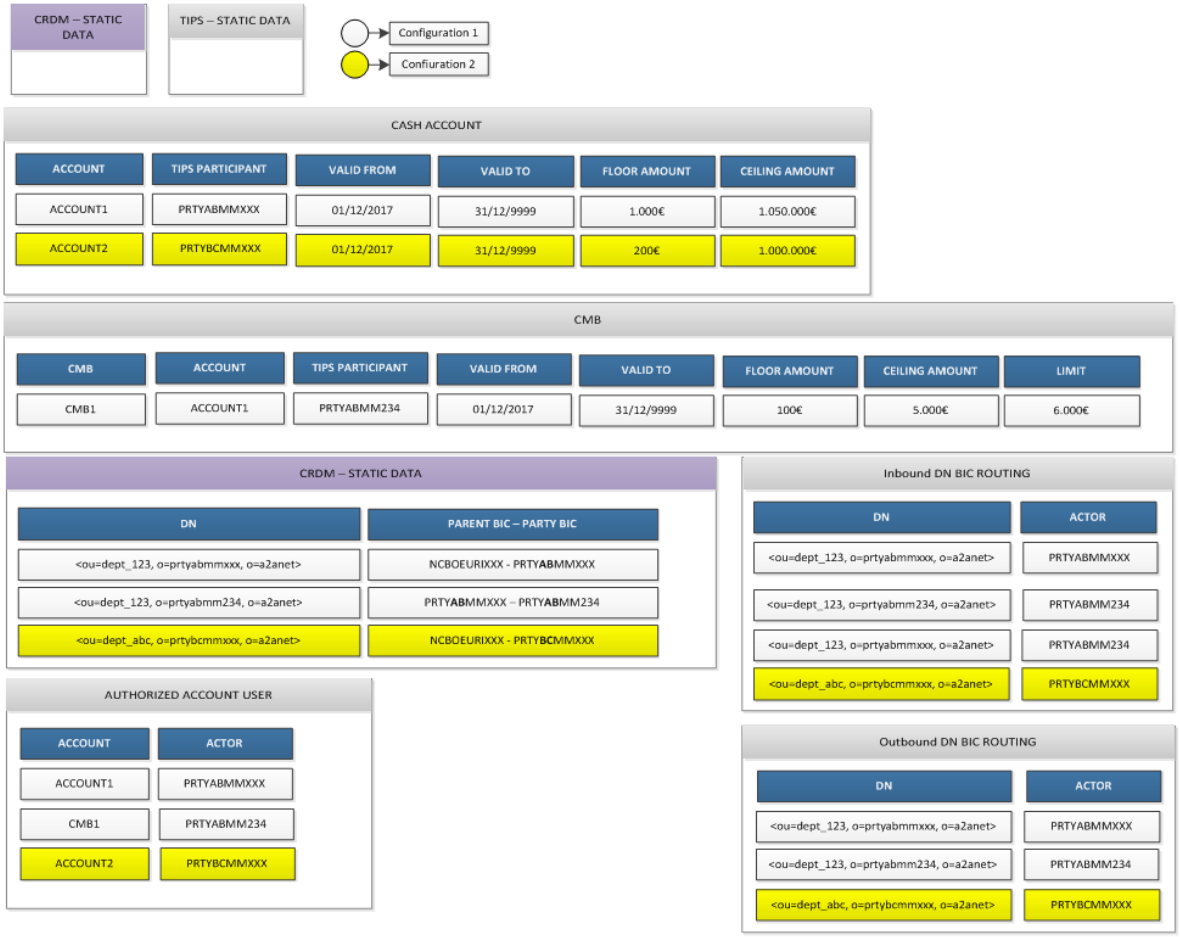
The second one describes a non-empty answer to a CMB limit and status query.

The last one ~~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 95~~77~~~~48~~ - Queries examples - data constellation

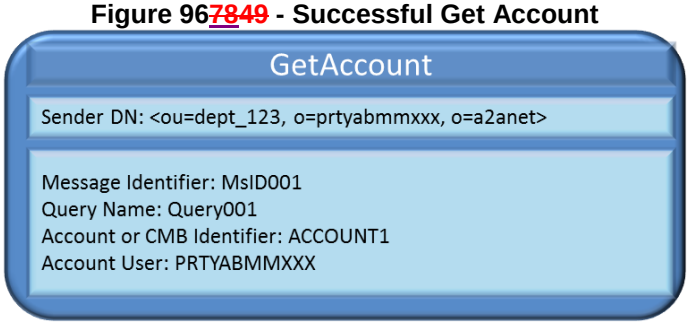


2.7.1.1.1 Successful scenario - Account balance and status query

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.

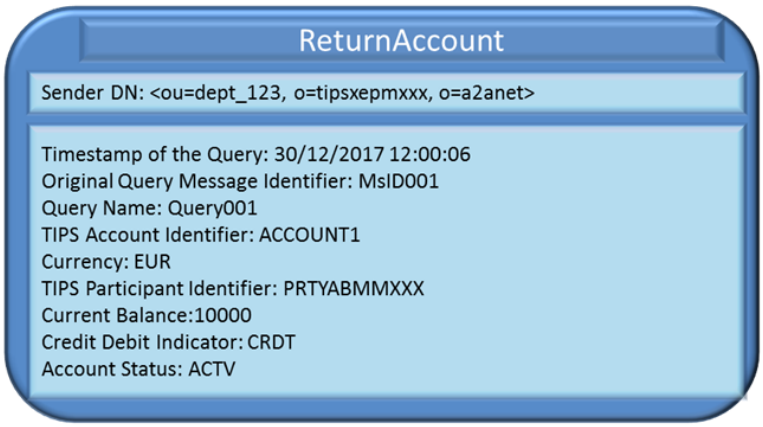
Figure 967849 - Successful Get Account



- TIPS identifies:
  - the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - the Account (ACCOUNT1);

    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 977950 - Successful ReturnAccount

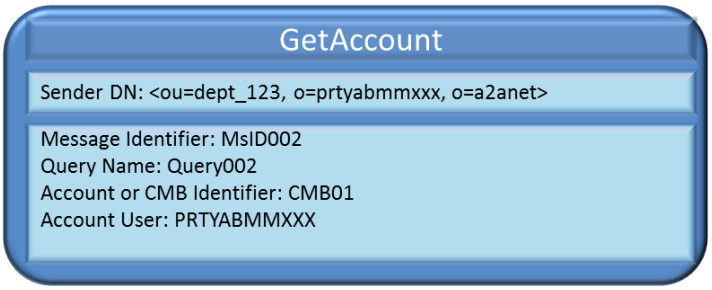


2.7.1.1.2 Successful scenario - CMB limit and status query

In this scenario:

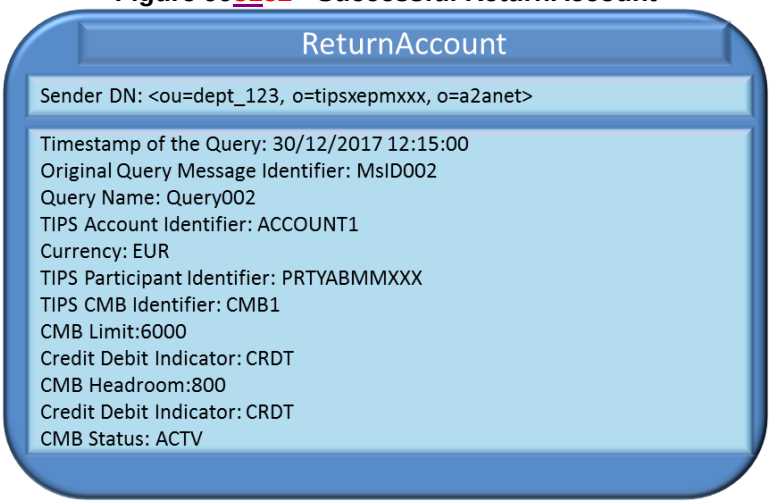
- a TIPS Participant (PRTYABMMXXX) sent a GetAccount message to TIPS to query the status of a CMB (CMB01), used by the Reachable Party;
- the TIPS CMB limit for CMB01 is 6,000.00 EUR;
- the TIPS CMB utilization for CMB01 is 5,200.00 EUR;
- the TIPS CMB Headroom for CMB01 is 800.00 EUR;
- the CMB is active and opened.

Figure 988051 - Successful Get Account



- TIPS identifies:
  - the DN of sender – i.e. the TIPS instructing party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - the CMB (CMB1);
  - 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 998152 - Successful ReturnAccount

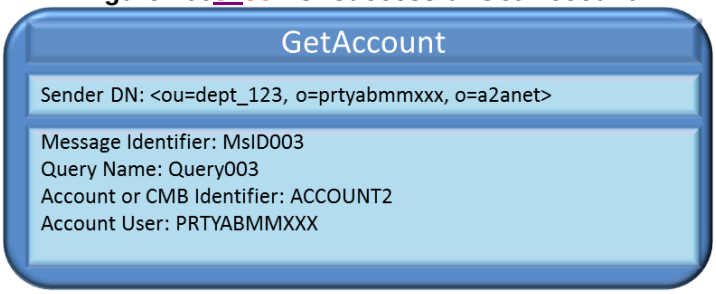


2.7.1.1.3 Unsuccessful scenario – TIPS Account/CMB not found

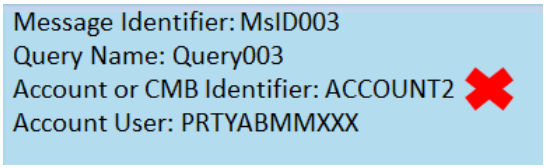
In this scenario:

- 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 10083~~253~~ - 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 101 - Unsuccessful ReturnAccount

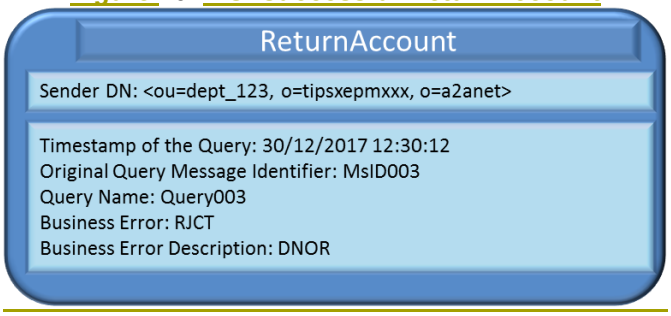
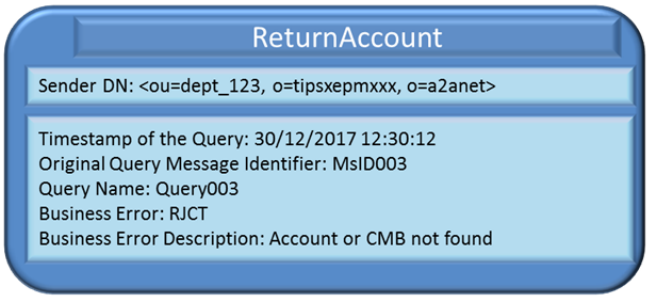


Figure 8354 - Unsuccessful ReturnAccount

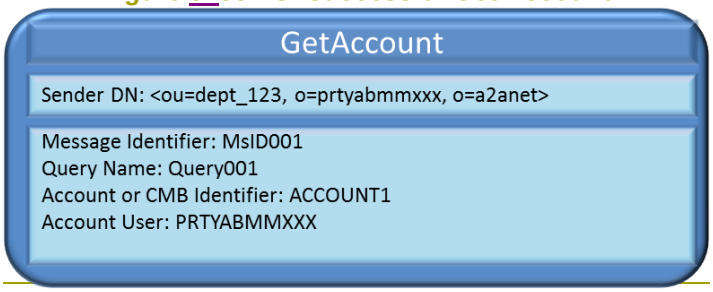


2.7.1.1.4Unsuccessful scenario – Duplicate check failed

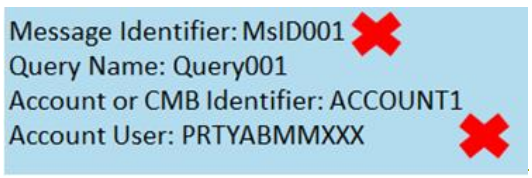
In this scenario:

- 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 8455 - Unsuccessful Get Account

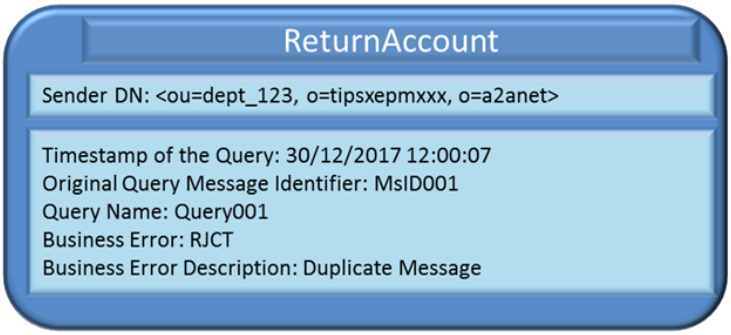


- TIPS identifies:
  - the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept_123, o=prtyabmmxxx, o=a2anet>);
  - the Account (ACCOUNT1);
  - the Participant (PRTYABMMXXX).
- TIPS detects a duplicate submission: the GetAccount message has the same Message Identifier (MsID001) of 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 8556 - 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;
- FIToFIPaymentStatusRequest~~FIToFIStatusRequest~~ message in order to instruct query;
- FIToFIPaymentStatusReport message in order to receive the query response.

The Payment transaction status query allows the authorised actor to get the detailed information for one Instant P~~p~~ayment transaction (which not expired its retention period) specified by the Payment transaction reference and the Originator BIC

Returned data are :

- Originator BIC of the Instant Payment transaction;
- Beneficiary BIC of the Instant Payment transaction;
- Instant Payment transaction reference;
- Instant Payment transaction status;
- Amount of the ~~p~~Instant Payment transaction;
- Settlement timestamp, for a settled Instant Payment transaction~~s~~.

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 FIToFIPaymentStatusRequest~~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 8657 - Queries Flow~~

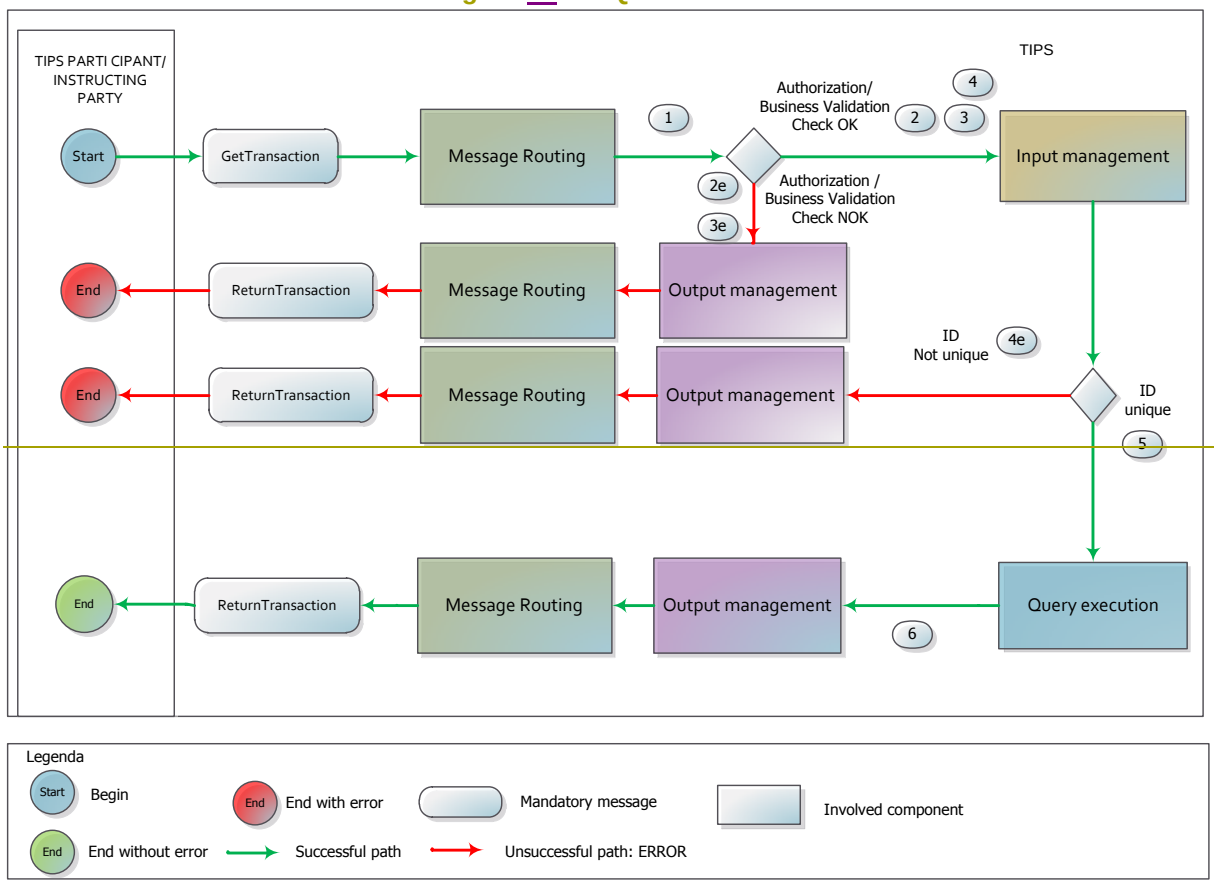
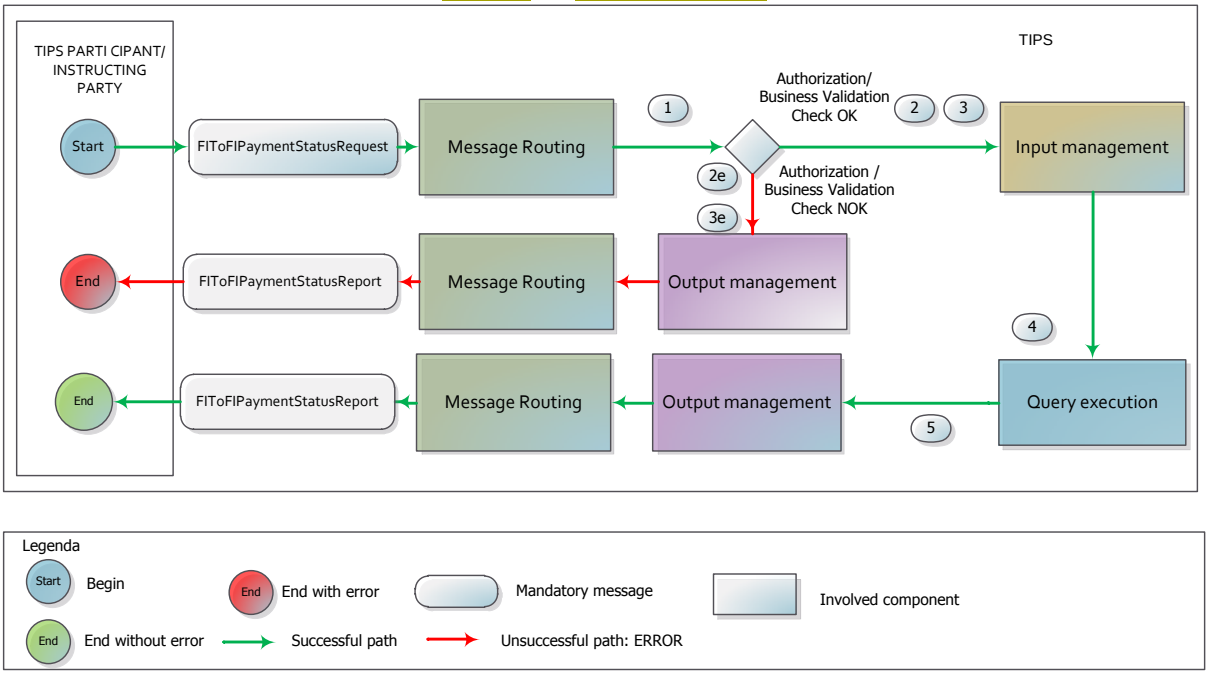


Figure 102 - Queries Flow



~~Figure 8758 - Queries steps~~
Table 24 - Queries steps

Step	Involved messages	Involved actors	Description
1	~~FIToFIStatusRequest~~ FIToFIPaymentStatusRequest	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: - Access Rights check; ~~- Authorization Check;~~ ~~- Payment Transaction existence;~~ - Instructing Party authorized; See 4.1- Business Rules~~Business Rules~~ for details.~~See table XXX for details.~~
2e	FIToFIPaymentStatusReport	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	Payment Transaction existence check for Payment transaction status query: the system checks that an item related to the Transaction Identification and to the Originator BIC exists in the transactional entity "Instant Payment" and if the Participant or Instructing Party (field Query Sender) is authorized to query the transaction basing on the query permission (see Query permissions table). ~~TIPS checks if the TIPS actor instructing the query is the Beneficiary of the interested Payment transaction.~~ See 4.1- Business Rules~~Business Rules~~ for details.
3e	FIToFIPaymentStatusReport	TIPS as sender Participant or Instructing Party as receiver	TIPS unsuccessfully executes the check of step 3. In the case of a negative check the system stops and sends a message to the Participant or Instructing Party - same DN of the Sender - containing the proper error code.

Formatte

Formatte

4		TIPS	TIPS retrieves the data corresponding to the required Payment transaction. ~~TIPS successfully executes the check:~~ ~~- Duplicate check;~~ ~~See table XXX for details.~~
5~~4e~~	FIToFIPaymentStatusReport	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. ~~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~~	~~FIToFIPaymentStatusReport~~	~~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.~~

2.7.2.1. Examples

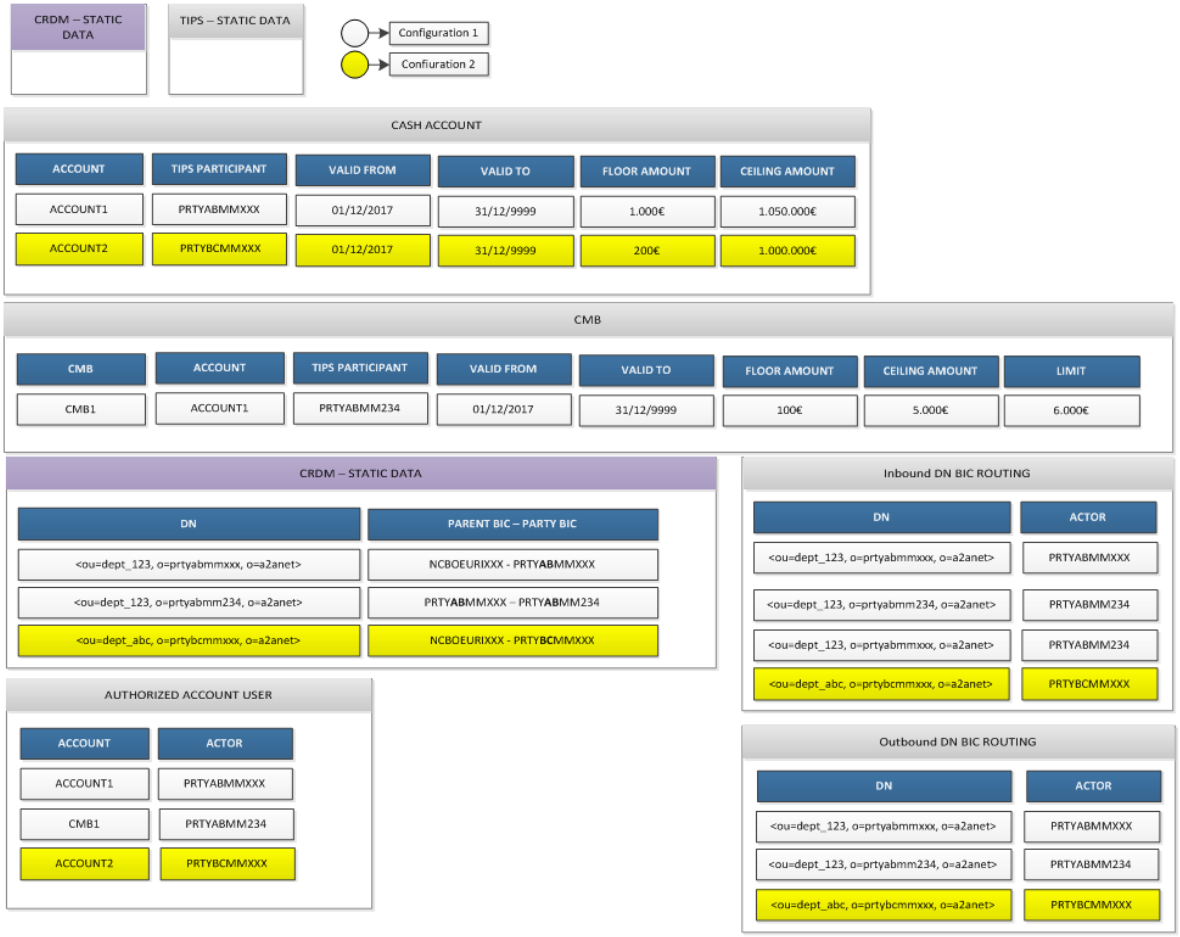
This sub-section presents two examples of the possible scenarios related to the queries on Payment transaction. Scenarios and examples are not exhaustive.

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 103~~88~~59 - Queries examples - data constellation

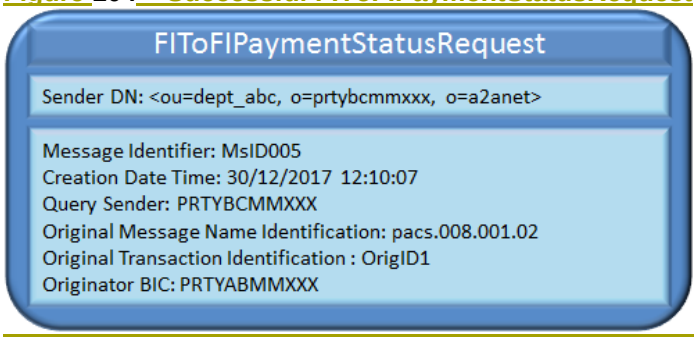


2.7.2.1.1 Successful scenario - Payment transaction status query

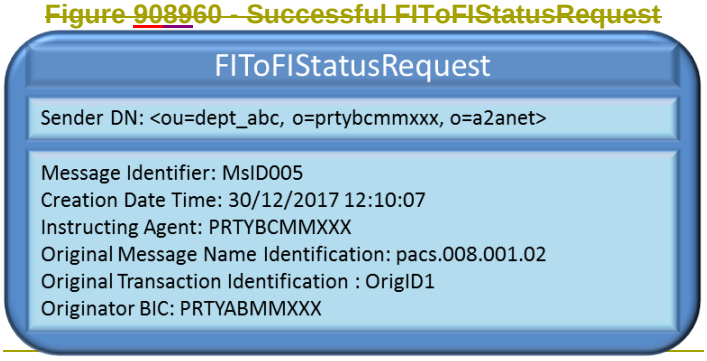
In this scenario:

- A TIPS participant (PRTYBCMMXXX) sent a FIToFIPaymentStatusRequest ~~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 104 – Successful FIToFIPaymentStatusRequest

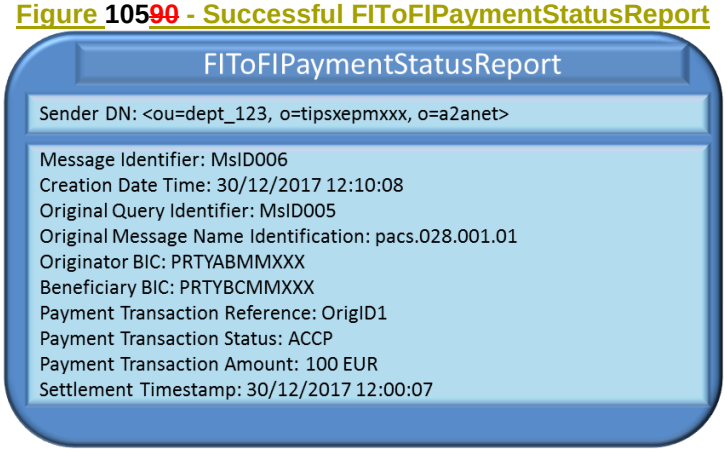


~~**Figure 908960 - Successful FIToFIStatusRequest**~~

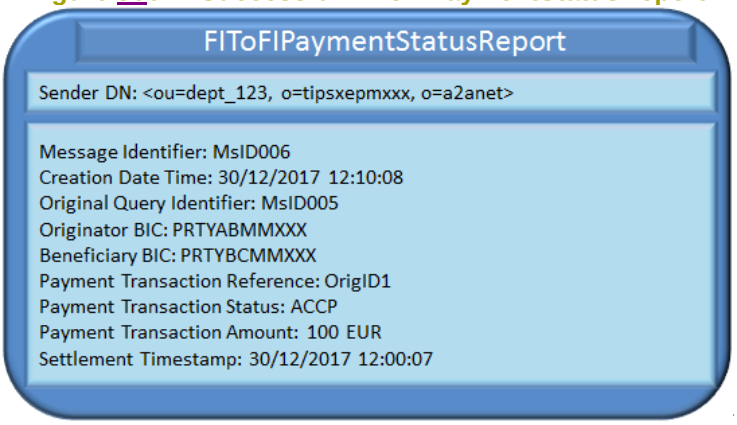


- TIPS identifies:
  - the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
  - the Payment transaction (OrigID1 for the Originator Participant/Reachable Party (PRTYABMMXXX));
  - the TIPS actor instructing the FIToFIPaymentStatusRequest ~~FIToFIStatusRequest~~ (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 10590 - Successful FIToFIPaymentStatusReport



~~Figure 9061 - Successful FIToFIPaymentStatusReport~~

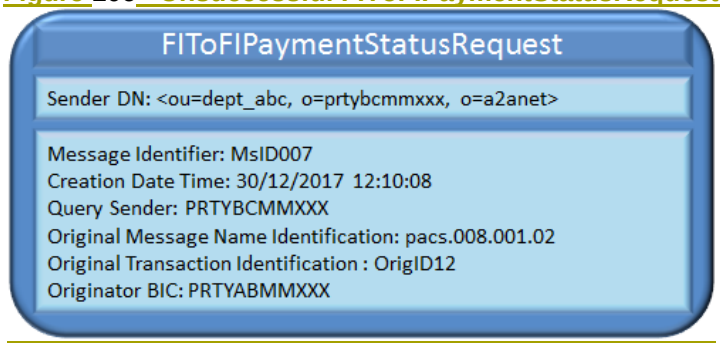


2.7.2.1.2 Unsuccessful scenario – Payment transaction not found

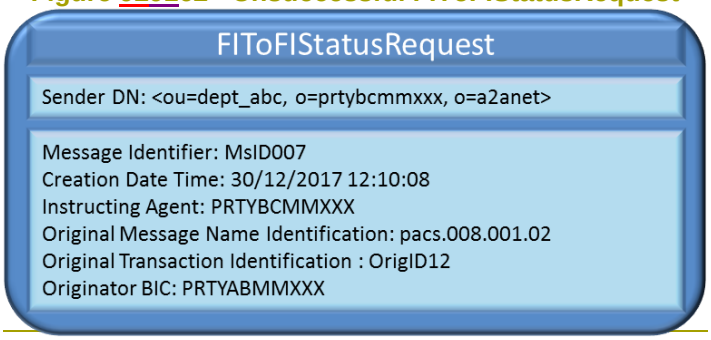
In this scenario:

- A TIPS participant (PRTYBCMMXXX) sent a FIToFIPaymentStatusRequest~~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.

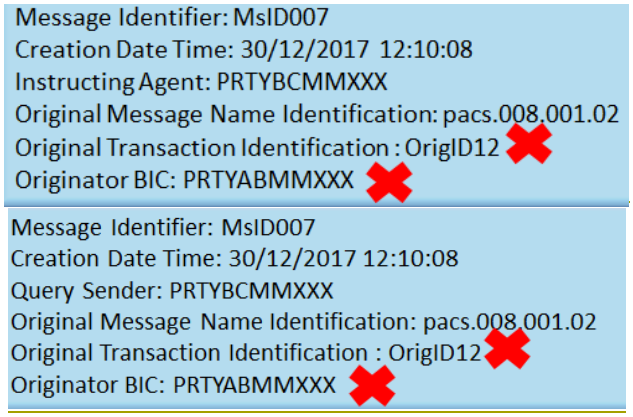
Figure 106 - Unsuccessful FIToFIPaymentStatusRequest



~~**Figure 92916 2 - Unsuccessful FIToFIStatusRequest**~~

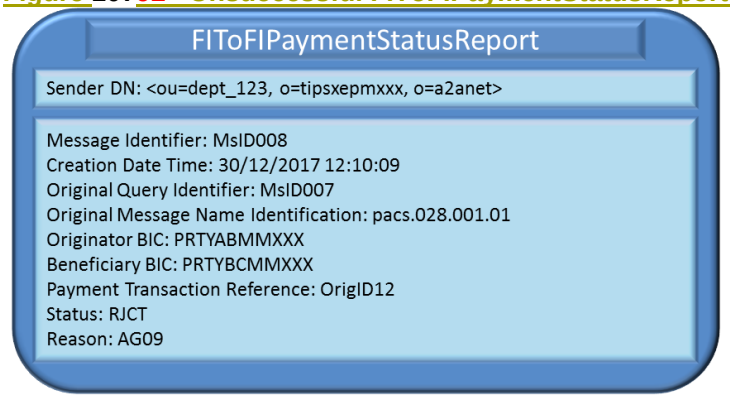


- TIPS identifies:
  - the DN of sender – i.e. the TIPS participant or instructing party (<ou=dept_abc, o=prtybcmmxxx, o=a2anet>);
  - the TIPS actor instructing the FIToFIPaymentStatusRequest~~FIToFIStatusRequest~~ (PRTYBCMMXXX).
- TIPS does not find the Payment transaction (OrigID12) for the Originator Participant/Reachable Party (PRTYABMMXXX);

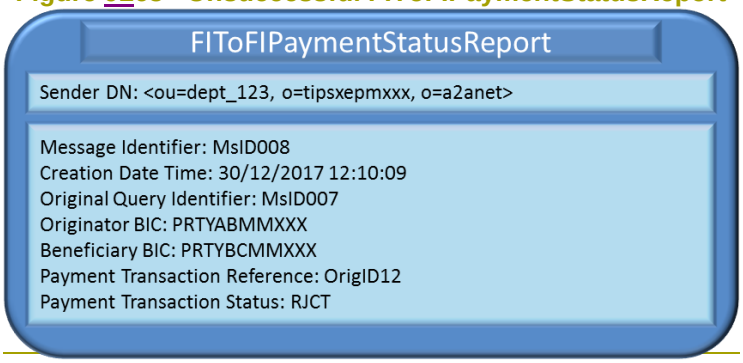


- A FIToFIPaymentStatusReport message is sent by TIPS to the same DN of the query Sender , containing the query error.

Figure 10792 - Unsuccessful FIToFIPaymentStatusReport



~~Figure 9263 - Unsuccessful FIToFIPaymentStatusReport~~



2.8. Report

2.9. Reference data management

This section focuses on the management of the pieces of information that the user can amend with the functionalities available in TIPS (see Table 14 – Reference data management functions available in TIPS~~Table 14 – Reference data management functions available in TIPS~~ for references). Only the A2A aspects of these operations are described. The U2A details are described in the TIPS User Handbook.

Formatte

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

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

Block/unblock of TIPS Participant

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

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

The involved messages are:

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

Block/unblock of Account/CMB

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

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

The involved messages are:

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

Update of a CMB Limit

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

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

The involved messages are:

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

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.

Below is the diagram describing the process and the involved actors. The details of the steps are described in the following Table 25 – Block/unblock Participant stepsTable 25 – Block/unblock Participant steps, Table 26 – Block/unblock Account/CMB stepsTable 26 – Block/unblock Account/CMB steps and Table 27 – Update of a CMB Limit stepsTable 27 – Update of a CMB Limit steps.

Formatte
Formatte
Formatte

Figure 108 – Reference Data Messages flow

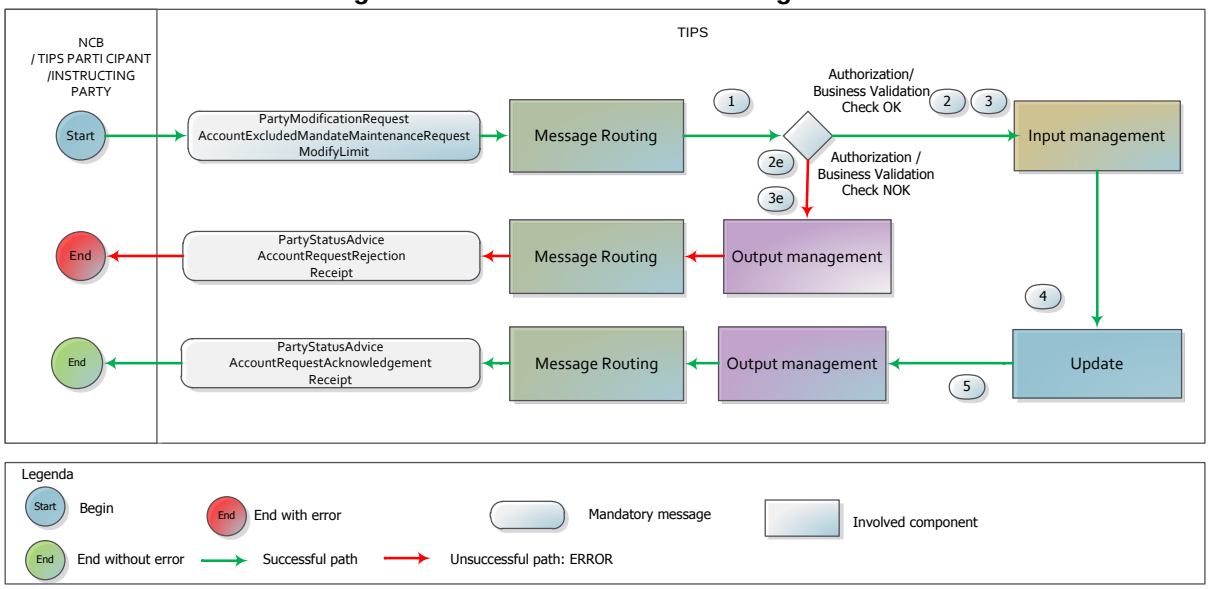


Table 25 – Block/unblock Participant steps

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

Formatte

Formatte

Formatte

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

Table 26 – Block/unblock Account/CMB steps

Step	Involved messages	Involved actors	Description
1	AccountExcludedMandateMaintenanceRequest	Central Bank or TIPS Participant/Instructing Party as Sender TIPS as receiver	TIPS receives an incoming request for the amendment of an Account (block/unblock Account for debit/credit or both) from the National Central Bank or amendment of an CMB (block/unblock CMB for debit/credit or both) from the TIPS Participant (possibly through its Instructing Party) or National Central Bank. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; See 4.1- Business Rules~~Business Rules~~ for details.

Formatte

2e	AccountRequestRejection	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	TIPS unsuccessfully executes the check of step 2. The system stops and sends a message to the Sender containing the proper error code.
3		TIPS	TIPS successfully executes the checks: - Account/CMB block/unblock type allowed; - Account/CMB existence; - Currency of the Account/CMB; - User allowed to block/unblock operation; - Related Participant or related Account with higher priority unblocked See 4.1- Business Rules~~Business Rules~~ for details.
3e	AccountRequestRejection	TIPS as sender Central Bank or TIPS Participant/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 Sender containing the proper error code. See 4.1- Business Rules~~Business Rules~~ for details.
4		TIPS	TIPS executes the requested operation. If the received message requests to insert a restriction and : - if the specified Restriction Type is “Block for credit”, the system sets the blocking status to “Blocked for credit” on the specified Account or CMB data; - if the specified Restriction Type is “Block for debit”, the system sets the blocking status to “Blocked for debit” on the specified Account or CMB data; - if the specified Restriction Type is “Block for both debit and credit”, the system sets the blocking status to “Blocked for both debit and credit” on the specified Account or CMB data. If the received message requests to remove a restriction: - the system sets the blocking status to “Blocked for both debit and credit” on the specified Account or CMB data.
5	AccountRequestAcknowledgement	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	The system sends a message to the DN of the Sender containing the proper information of successful execution.

Formatte

Formatte

Table 27 – Update of a CMB Limit steps

Step	Involved messages	Involved actors	Description
1	ModifyLimit	Central Bank or TIPS Participant/Instructing Party as Sender TIPS as receiver	TIPS receives an incoming request for the amendment of a CMB Limit from the TIPS Participant (possibly through its Instructing Party) or National Central Bank. Schema validation, check of mandatory fields and authentication checks have already been successfully executed.
2		TIPS	TIPS successfully executes the checks: - Access Rights check; See 4.1- Business Rules~~Business Rules~~ for details.
2e	Receipt	TIPS as sender Central Bank or TIPS Participant/Instructing Party as receiver	TIPS unsuccessfully executes the check of step 2. The system stops and sends a message to the Sender containing the proper error code.
3		TIPS	TIPS successfully executes the checks: - CMB existence; - User allowed to change Limit. See 4.1- Business Rules~~Business Rules~~ for details.
3e	Receipt	TIPS as sender Central Bank or TIPS Participant/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 Sender containing the proper error code. See 4.1- Business Rules~~Business Rules~~ for details.

Formatte

Formatte

Formatte

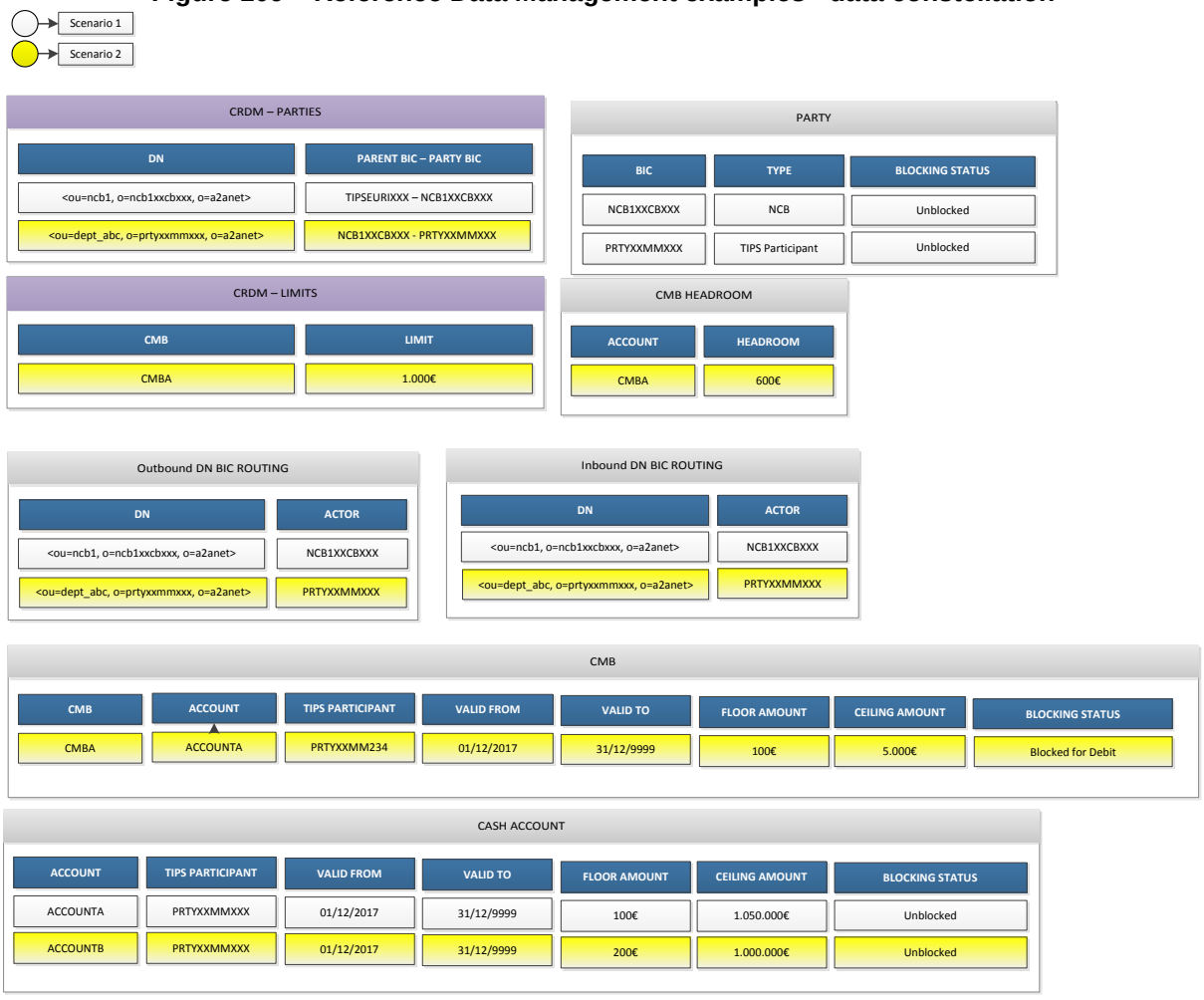
4		TIPS	TIPS executes the requested operation. If the received message requests to insert a restriction and : - if the specified Restriction Type is “Block for credit”, the system sets the blocking status to “Blocked for credit” on the specified Account or CMB data; - if the specified Restriction Type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

2.9.1. Examples

This sub-section presents a non-exhaustive list of examples of the possible scenarios related to the Reference data management in A2A mode for each kind of operation. Scenarios and examples are not exhaustive.

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

Figure 109 – Reference Data Management examples - data constellation

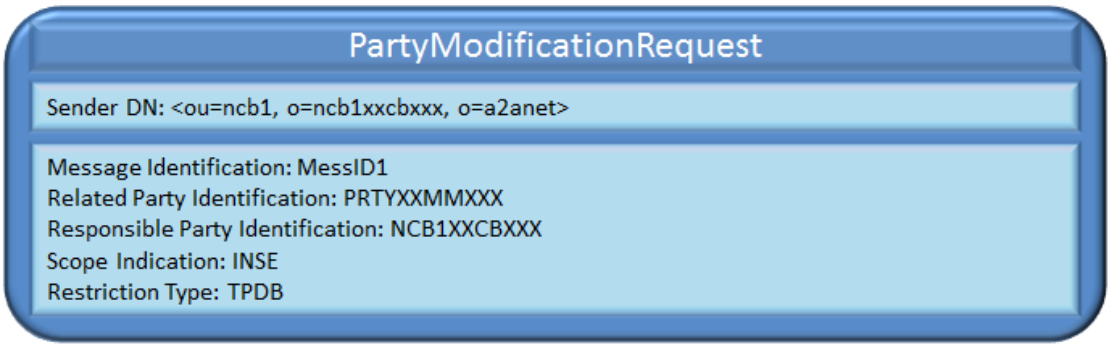


2.9.1.1.1 Successful scenario – Block of a participant

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

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

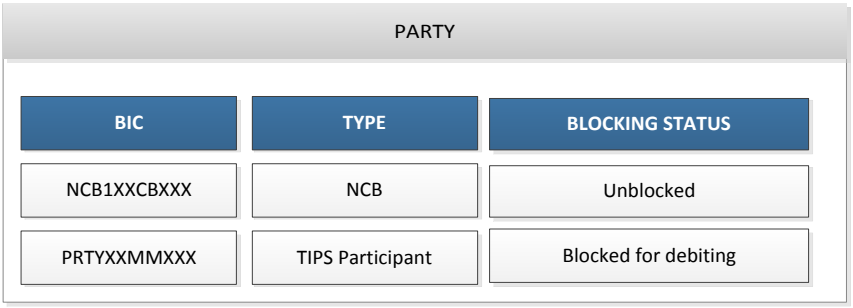
Figure 110 - Block of a TIPS Participant successful scenario PartyModificationRequest



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

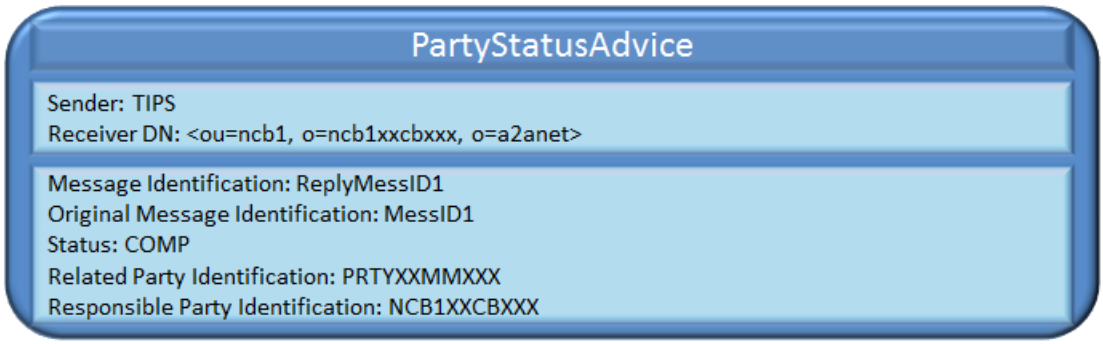
- it identifies the TIPS Participant from the Related Party Identification (PRTYXXMMXXX);
- it identifies the type of block to be performed from the Restriction Type;
- it amends the TIPS Participant reporting the requested type of block.

Figure 111 - TIPS Participant blocked for debiting



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

Figure 112 - Block of a TIPS Participant successful scenario PartyStatusAdvice

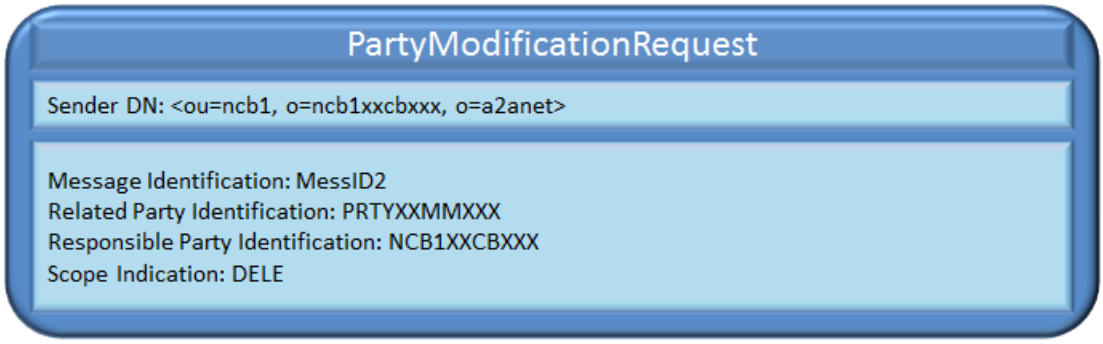


2.9.1.1.2Successful scenario – Unblock of a participant

In this positive scenario a Central Bank successfully unblocks a TIPS Participants. “Scenario 1” (white in the above table) is considered.

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

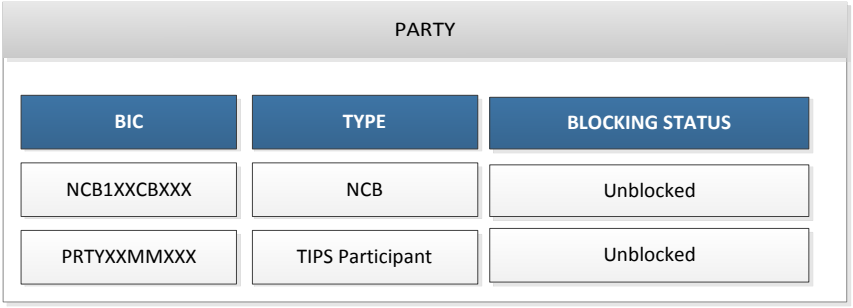
Figure 113 - Unblock of a TIPS Participant successful scenario PartyModificationRequest



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

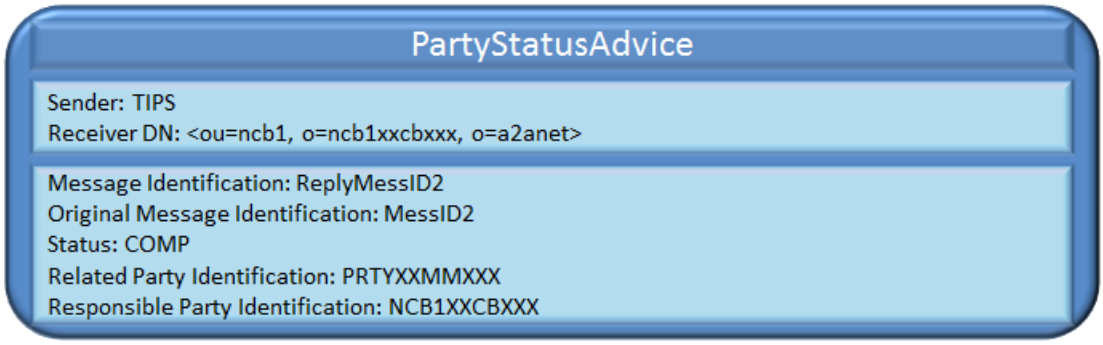
- it identifies the TIPS Participant from the Related Party Identification (PRTYXXMMXXX);
- it identifies the type of block to be performed from the Restriction Type;
- it amends the TIPS Participant setting the party as unblocked.

Figure 114 - TIPS Participant unblocked



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

Figure 115 - Block of a TIPS Participant successful scenario PartyStatusAdvice

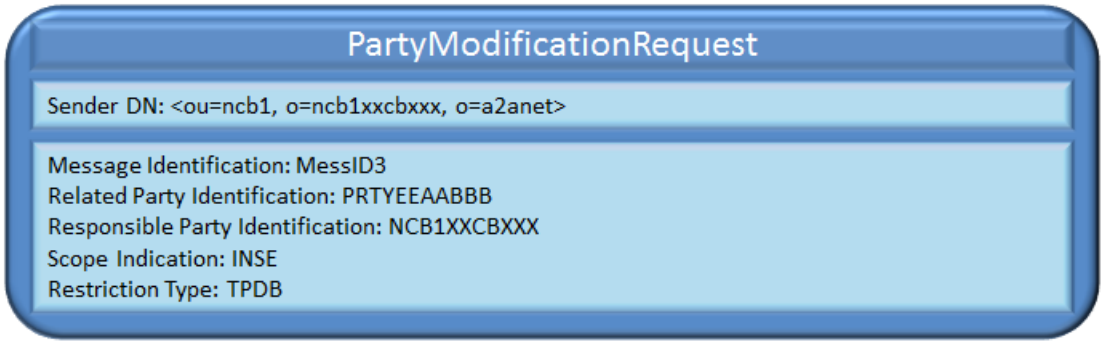


2.9.1.1.3 Unsuccessful scenario – Party not existing

In this negative scenario a Central Bank sends a message for blocking a TIPS Participant but the specified BIC does not match with a Participant in the TIPS reference data. “Scenario 1” (white in the above table) is considered.

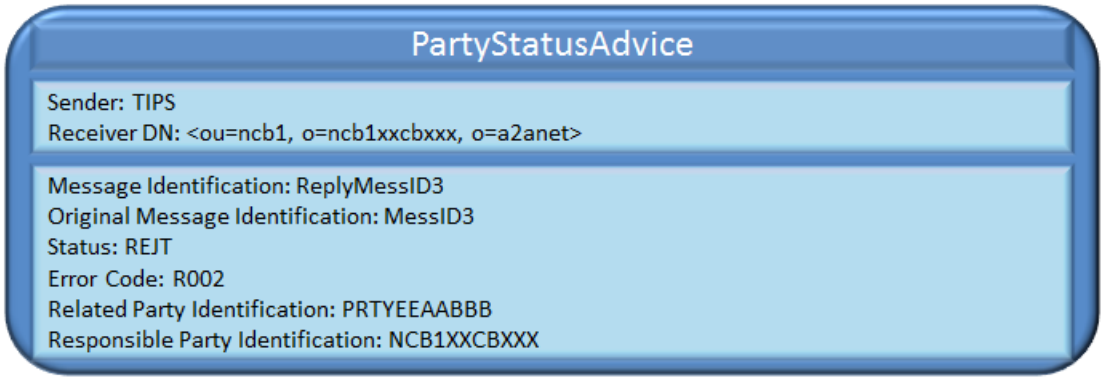
In this case, the system rejects the request since the referenced party does not exist. The PartyModificationRequest message received by TIPS and triggering the scenario looks like the following one:

Figure 116 - Block of a TIPS Participant unsuccessful scenario PartyModificationRequest



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

Figure 117 - Block of a TIPS Participant successful scenario PartyStatusAdvice

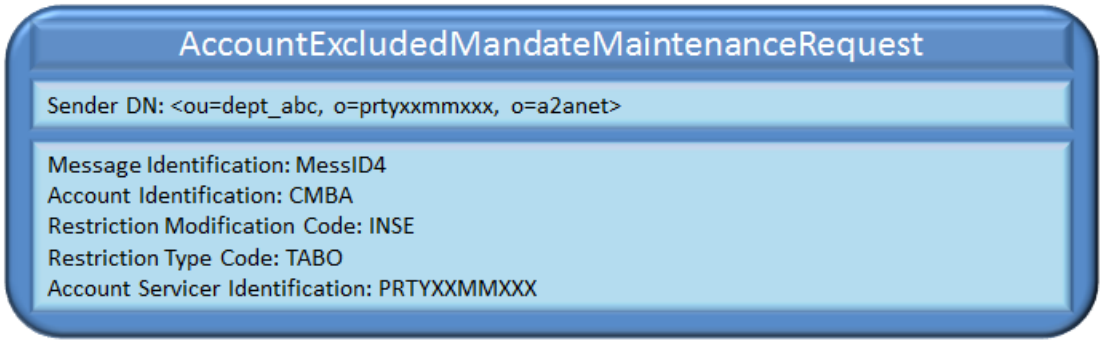


2.9.1.1.4 Successful scenario – block of a CMB

In this positive scenario a TIPS Participant successfully blocks for both credit and debit a CMB. “Scenario 2” (yellow in the above table) is considered.

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

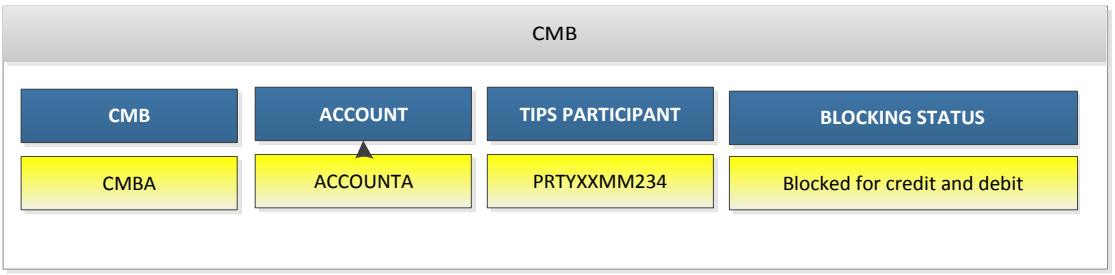
Figure 118 - Block of a CMB successful scenario AccountExcludedMandateMaintenanceRequest



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

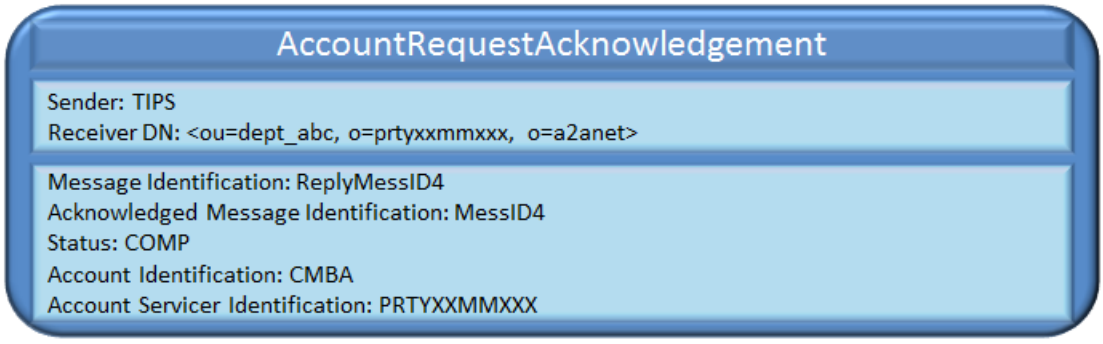
- it identifies the CMB from the Account Identification;
- it identifies the type of block to be performed from the Restriction Type Code;
- it amends the CMB setting the requested type of block.

Figure 119 - CMB blocked for both credit and debit



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

Figure 120 - Block of a CMB successful scenario AccountRequestAcknowledgement

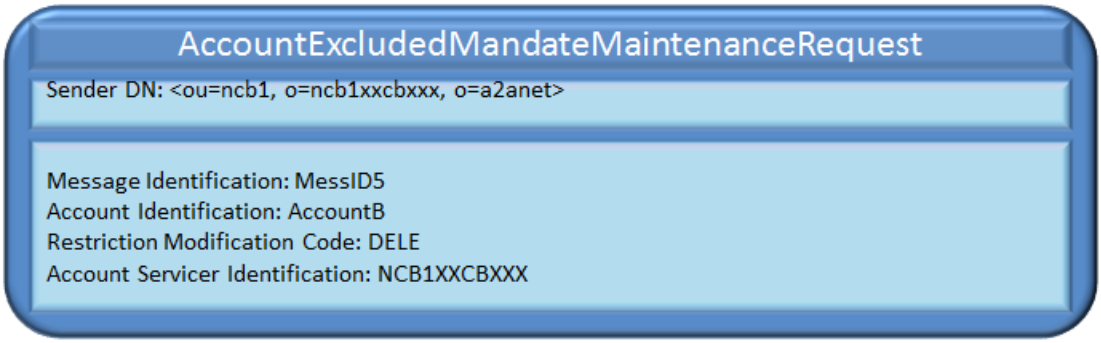


2.9.1.1.5Successful scenario – unblock of an Account

In this positive scenario a Central Bank successfully unblocks an Account. “Scenario 1” and “Scenario 2” (white and yellow in the above table) are considered.

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

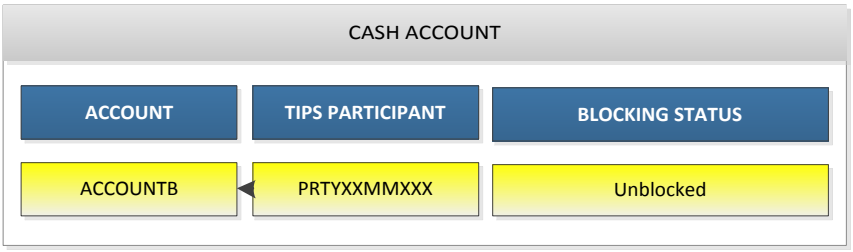
Figure 121 - Block of an Account successful scenario AccountExcludedMandateMaintenanceRequest



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

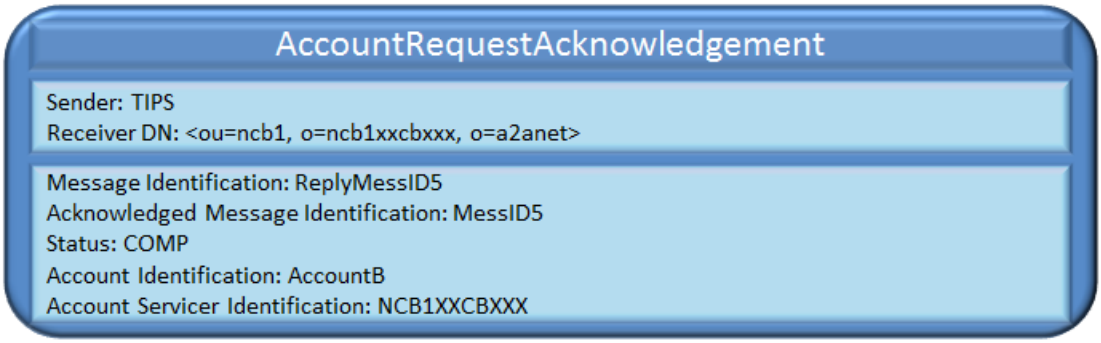
- it identifies the Account from the Account Identification;
- it amends the Account setting it as unblocked.

Figure 122 - Account unblocked



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

Figure 123 - Unblock of an Account successful scenario AccountRequestAcknowledgement

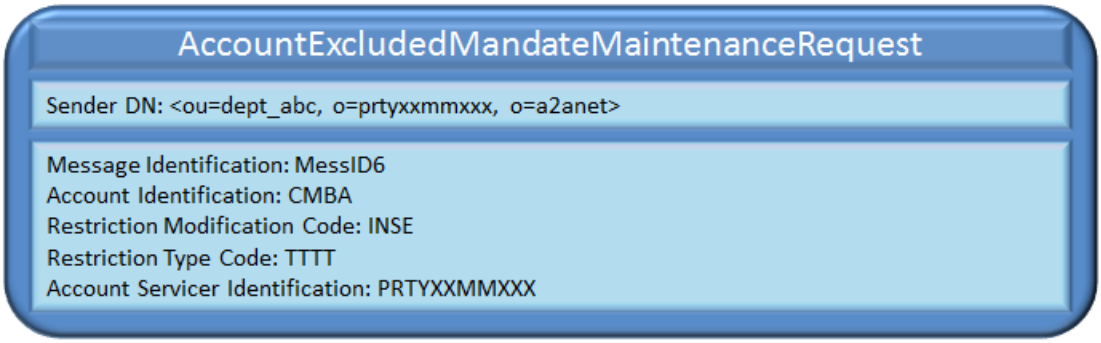


2.9.1.1.6Unsuccessful scenario – Restriction type not allowed

In this negative scenario a TIPS Participant sends a message for blocking a CMB. The message contains a wrong reference to the type of blocking operation and an error is raised and notified. “Scenario 2” (yellow in the above table) is considered.

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

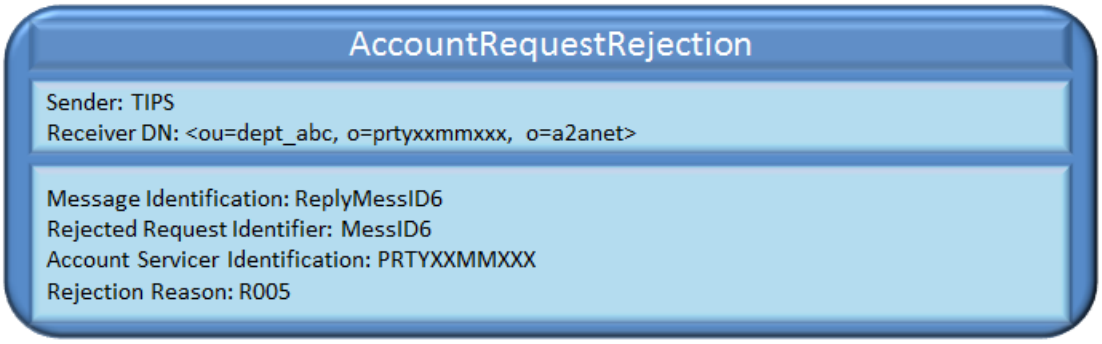
Figure 124 - Block of a CMB unsuccessful scenario AccountExcludedMandateMaintenanceRequest



The system, performing the expected checks, cannot identify the requested block and raise the error.

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

Figure 125 - Block of a CMB unsuccessful scenario AccountRequestRejection



2.9.1.1.7 Successful scenario – Decrease of a CMB Limit

In this positive scenario a TIPS Participant successfully decrease the CMB Limit of a CMB under its datascope. “Scenario 2” (yellow in the above table) is considered.

No errors occur. The CMB Headroom is amended accordingly.

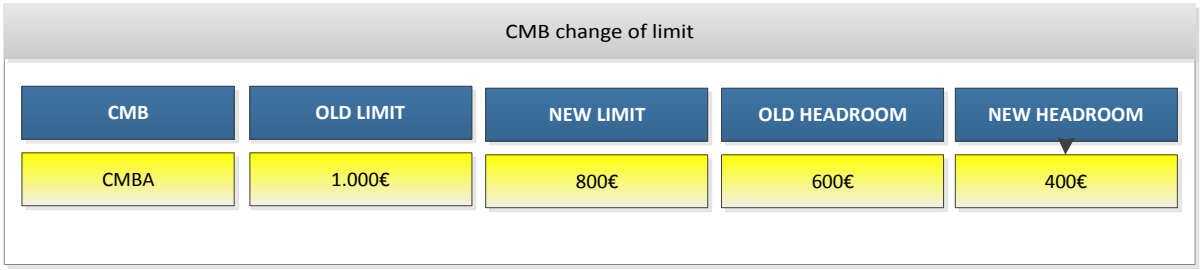
The ModifyLimit message received by TIPS and triggering the scenario looks like the following one:

Figure 126 – Decrease of a CMB Limit successful scenario ModifyLimit

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

- it sets the new Limit for the CMB to 800€;
- it amends the CMB Headroom decreasing it of the difference from the old limit value and the new limit value. In this example, the Headroom of the CMB is 600€ and must be adjusted of 200€ (old limit 1000€ - new limit 800€) reaching the final value of 400€.

Figure 127 - CMB successful decrease of Limit



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

Figure 128 - Decrease of a CMB Limit successful scenario Receipt

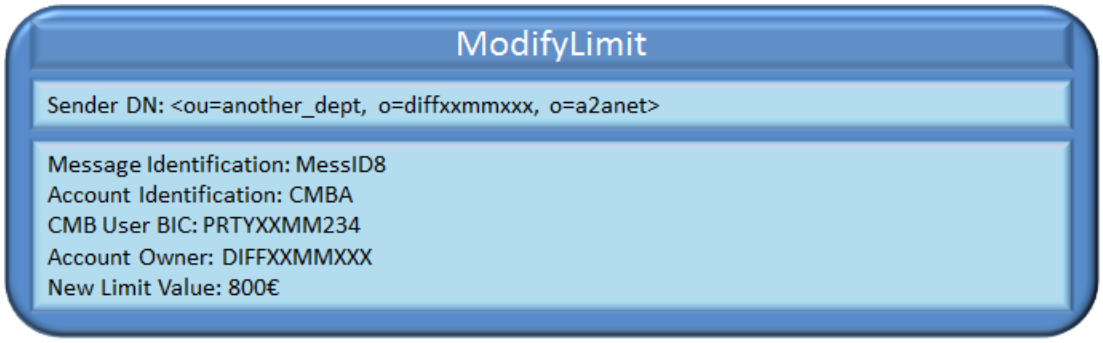
2.9.1.1.8 Unsuccessful scenario – User not allowed to change the Limit

In this negative scenario a TIPS Participant tries to decrease the CMB Limit of a CMB that does not fall under its datascope. “Scenario 2” (yellow in the above table) is considered.

The system rejects the request and no actions are executed on the CMB.

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

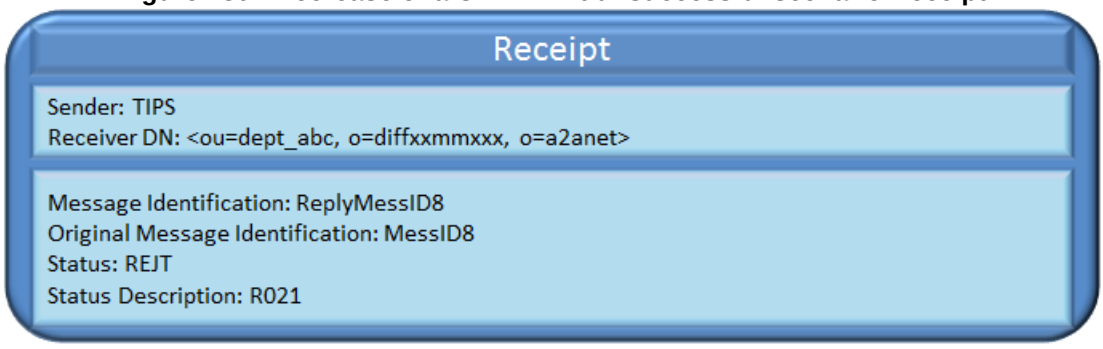
Figure 129 – Decrease of a CMB Limit unsuccessful scenario ModifyLimit



The system, performing the expected checks, verifies that the Account Owner is not correctly reported and it is not the owner of the CMB to be modified.

In this case, the system returns an error and sends a confirmation message to the TIPS Participant sending the request. The Receipt message sent by TIPS and triggering the scenario looks like the following one:

Figure 130 - Decrease of a CMB Limit unsuccessful scenario Receipt



2.10. Raw data extraction

3. Catalogue of messages

This section aims at describing the detailed specifications of the A2A messaging resources used in TIPS.

It is the reference guide for business readers checking the adherence to the schema and completeness of information to cover the business needs.

Together with published XSD schemas, it is the reference guide for developing software components interacting with TIPS.

All of the messages are registered in ISO20022 standards or have been submitted to the Registration Authority for starting the registration process.

3.1. Introduction

Following ISO20022 business domains classification, messages from four different domains are used to cover the different business scenarios:

- Payments Clearing and Settlement
- Cash Management
- Account Management
- Reference Data

Payments Clearing and Settlement messages are used to adhere with SEPA SCT Inst rulebook and Interbank Guidelines. The description includes the related Data Source reference when available.

Cash Management messages are used to provide complete coverage for SEPA SCT Inst investigation and recall processes and to let users instruct liquidity transfers, query TIPS Accounts and CMBs balances and modify CMB limits.

Account Management messages are used to let users change the blocking status for TIPS Accounts.

Reference Data messages are used to let Central Banks change the blocking status for a TIPS Participant.

3.2. General information

A2A Interactions with TIPS are based on XML 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

The message signature is handled in the ESMIG TIPS plug-in component.

After successful validation, the ESMI TIPS plug-in passes on to TIPS Message Router pieces of information that will be stored within TIPS repository, including sender's information and signature and technical network parameters, that would be required for NRO purposes.

No further processing but storing is performed in TIPS with such pieces of information.

3.2.2. Technical validation

Technical validation of incoming TIPS messages is performed in two different steps:

1) Schema validation
2) Additional technical validation

Both steps are performed within the ESMIG component.

The schema validation is performed using standard parser components. Every message is validated against the published XSD subset for TIPS.

The additional technical validation include all of the checks which cannot be done in the schema validation with an automated parsing process (e.g. cross fields validation). They are performed only for messages which have passed the schema validation.

The type and quantity of the checks performed, vary depending on the message type and on the SEPA SCT Inst or ISO message constraints.

Rejection occurring for both schema validation and additional technical validation check is reported in the same way, that is with the same message type.

3.2.3. Supported Character Set

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

In the following table, messages are grouped by ISO20022 business domain.

ISO Message	Message Name	Scenario
Payments Clearing and Settlement (pacs)		
pacs.002.001.03	FIToFIPaymentStatusReport	Settlement of Instant Payments transactions Settlement of Recall Investigation
pacs.004.001.02	PaymentReturn	Settlement of Recall
pacs.008.001.02	FIToFICustomerCreditTransfer	Settlement of Instant Payments transactions
pacs.028.001.01	FIToFIPaymentStatusRequest	Investigation
Cash Management (camt)		
camt.003.001.06	GetAccount	Reports and queries
camt.004.001.07	ReturnAccount	Settlement of Instant Payments transactions Liquidity Management Reports and queries
camt.011.001.06	ModifyLimit	Reference data maintenance
camt.019.001.06	ReturnBusinessDayInformation	Reports and queries
camt.025.001.04	Receipt	Liquidity Management

ISO Message	Message Name	Scenario
		Reference data maintenance
camt.029.001.03	ResolutionOfInvestigation	Recall
camt.050.001.04	LiquidityCreditTransfer	Liquidity Management
camt.052.001.03	BankToCustomerAccountReport	Reports and queries
camt.053.001.03	BankToCustomerStatement	Reports and queries
camt.054.001.06	BankToCustomerDebitCreditNotification	Liquidity Management
camt.056.001.01	FIToFIPaymentCancellationRequest	Recall
Account Management (acmt)		
acmt.010.001.02	AccountRequestAcknowledgement	Reference Data management
acmt.011.001.02	AccountRequestRejection	Reference Data management
acmt.015.001.02	AccountExcludedMandateMaintenanceRequest	Reference Data management
Reference Data (reda)		
reda.016.001.01	PartyStatusAdviceV01	Reference Data management
reda.022.001.01	PartyModificationRequestV01	Reference Data management

3.3.2. Messages description

3.3.2.1. Payments Clearing and Settlement

3.3.2.1.1 FIToFIPaymentStatusReportV03 (pacs.002.001.03)

The FItoFIPaymentStatusReport message is used in several business cases

1. It is sent by TIPS to the Originator Participant to report a rejection for a pacs.008 ~~instruction~~transaction
2. It is sent by the Beneficiary ~~PSP~~ Participant to TIPS to report the processing result of a pacs.008 sent by TIPS upon request of an Originator Participant~~PSP~~.
3. The message as received by the Beneficiary Participant ~~PSP~~ is forwarded to the Originator~~The same message is then sent back to the Originator PSP~~
3.4. It is sent by TIPS to the Beneficiary Participant as a confirmation for processing of the pacs.002 received from the Beneficiary Participant ~~PSP~~ itself.
5. It is sent by TIPS to the Originator Participant ~~PSP~~ after a Status Investigation request
4.6. It is sent by TIPS to either the Originator Participant or the Beneficiary Participant in case of errors (e.g. to Beneficiary Participant in response to a delayed positive confirmation, in case of timeout condition triggered by TIPS)

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/ISO Description	XML path	Mandatory	TIPS Usage
n/a	Message Identification	The Identification of the message.	FIToFIPmtStsRpt/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	FIToFIPmtStsRpt/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	FIToFIPmtStsRpt/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	FIToFIPmtStsRpt/GrpHdr/InstdAgt	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory	TIPS Usage
n/a	Original Message Identification	Message Identification of the originating message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/OrgnlMsgId	Yes	This field matches with the Identification of the original message
n/a	Original Message Name Identification	Message identifier of the originating message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/OrgnlMsgNmId	Yes	Scenario 1, 2,3 : pacs.008.001.02 Scenario 4: pacs.002.001.03 Scenario 5: pacs.028.001.01
AT-R1	Group Status Transaction Status	The type of “R” message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/GrpSts FIToFIPmtStsRpt/TxInfAndSts/TxSts	No	This field is used for negative confirmation message only. Either Group Status or Transaction Status must be used. If incoming pacs.002 from beneficiary does not include any status or both are filled in, connected payment transaction will be rejected by TIPS. In outgoing pacs.002 messages produced by TIPS, Group Status will be used for positive confirmation while Transaction Status will be included for negative acknowledgements,
AT-R3	Reason	The reason code for non-acceptance of the SCT Inst Transaction	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Rsn/Cd	No	This field is used for negative confirmation message only.
n/a	Transaction Information And Status	Information concerning the original transactions, to which the status report message refers.	FIToFIPmtStsRpt/TxInfAndSts	No	Only one occurrence is allowed
AT-R4 AT-51	Status Identification	The specific reference of the party initiating the Reject	FIToFIPmtStsRpt/TxInfAndSts/StsId	Yes	For positive confirmation it is the AT-51. For negative confirmation it is the AT-R4
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party.	FIToFIPmtStsRpt/TxInfAndSts/OrgnlInstrId	No	Only schema validation is performed.
AT-41	Original End To End Identification	The Originator’s reference of the SCT Inst Transaction	FIToFIPmtStsRpt/TxInfAndSts/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Original Transaction Identification	The Originator Bank’s reference number of the SCT Inst Transaction message	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxId	Yes	
AT-R2	Originator	The Identification of the type of party initiating the “R” message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/StsRsnInf/Orgtr	No	This field is used for negative confirmation message only.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory	TIPS Usage
AT-R3	Reason	The reason code for non-acceptance of the SCT Inst Transaction	FIToFIPmtStsRpt/TxInfAndSts/StsRsnInf/Rsn/Cd	No	This field is used for negative confirmation message only.
AT-50	Acceptance Timestamp	Time Stamp of the SCT Inst Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/AccptncDtTm	Yes	Only schema validation is performed.
n/a	Original Transaction Reference	Set of key elements used to identify the original transaction that is being referred to.	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef	Yes	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT Inst Scheme	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/PmtTpInf/SvcLvl/Cd FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	Yes	Possible values are checked within schema validation.
AT-45	Category Purpose	The category purpose of the SCT Inst Instruction	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-06	Originator BIC	The BIC code of the Originator Bank	FIToFIPmtStsRpt/TxInfAndSts/OrgnlTxRef/DbtrAgt/FinInstnId/BIC	Yes	

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

~~EPC Reference~~	~~Reference Name~~	~~EPC Description~~	~~XML path~~	~~Mandatory~~	~~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~~	
~~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	
Original Message Name Identification	Message identifier of the originating message	FIToFIPmtStsRpt/OrgnlGrpInfAndSts/OrgnlMsgNmId	Yes	This field is filled with "pacs.028.001.01"
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	
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/StsRsnInf/AddtlInf	No	This field reports the settlement timestamp only if the payment transaction has been settled.

3.3.2.1.2 PaymentReturn~~V02~~ (pacs.004.001.02)

The PaymentReturn message is sent by the Assignee PSP as a confirmation for a Recall instructed by the Assigner PSP.

After processing the request, TIPS forwards the the PaymentReturn message to the Assigner PSP who formerly instructed the Recall and sends a PaymentStatusReport message to the Assignee PSP.

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-06 Dataset vs pacs.004.001.02

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory	TIPS Usage
n/a	Message Identification	The Identification of the message.	PmtRtr/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	PmtRtr/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Number Of Transactions	Number of individual transactions contained in the message.	PmtRtr/GrpHdr/NbOfTxs	Yes	TIPS supports only one transaction per message. If this field is not "1", message will be rejected.
n/a	Total Returned Interbank Settlement Amount	Total amount of money moved.	PmtRtr/GrpHdr/TtlRtrdIntrBkSttlmAmt	Yes	Only schema validation is performed.
AT-R7	Interbank Settlement Date	The Settlement Date for the positive answer to the Recall	PmtRtr/GrpHdr/IntrBkSttlmDt	Yes	Only schema validation is performed.
n/a	Settlement Method	Method used to settle the Instant Ppayment Transactioninstruction.	PmtRtr/GrpHdr/SttlmInf/SttlmMtd	Yes	Possible values are checked within schema validation.
n/a	Settlement Account	A specific purpose account used to post debit and credit entries as a result of the transaction.	PmtRtr/GrpHdr/SttlmInf/SttlmAcct	No	Only schema validation is performed.
n/a	Clearing System	Specification of a pre-agreed offering between clearing agents or the channel through which the Instant Ppayment instructionTransaction is processed.	PmtRtr/GrpHdr/SttlmInf/ClrSys	No	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	PmtRtr/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	PmtRtr/GrpHdr/InstdAgt	No	Only schema validation is performed.
n/a	Original Group Information	Information concerning the original group of transactions, to which the message refers.	PmtRtr/OrgnlGrpInf	No	Sub-elements of 'Original Group Information' must be present in either 'Original Group Information' or in 'Transaction Information'. If any of these sub-elements is included in both components, message will be rejected.
n/a	Original Group Information + Original Message Identification	Point to point reference, as assigned by the original instructing party, to unambiguously identify the original message.	PmtRtr/OrgnlGrpInf/OrgnlMsgId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory	TIPS Usage
					If it is included in both components, message will be rejected.
n/a	Original Group Information + Original Message Name Identification	Specifies the original message name identifier to which the message refers.	PmtRtr/OrgnlGrpInf/OrgnlMsgNmId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Transaction Information	Information concerning the original transactions, to which the return message refers.	PmtRtr/TxInf	Yes	TIPS supports only one transaction per message. If more than one Transaction Information block is included, message will be rejected.
n/a	Return Identification	Unique identification, as assigned by an instructing party for an instructed party, to unambiguously identify the returned transaction.	PmtRtr/TxInf/RtrId	Yes	Only schema validation is performed.
n/a	Transaction Information + Original Group Information	Information concerning the original group of transactions, to which the message refers.	PmtRtr/TxInf/OrgnlGrpInf	No	Sub-elements of 'Original Group Information' must be present in either 'Original Group Information' or in 'Transaction Information'. If any of these sub-elements is included in both components, message will be rejected.
n/a	Transaction Information + Original Group Information ++ Original Message Identification	Point to point reference, as assigned by the original instructing party, to unambiguously identify the original message.	PmtRtr/TxInf/OrgnlGrpInf /OrgnlMsgId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Transaction Information + Original Group Information ++ Original Message Name Identification	Specifies the original message name identifier to which the message refers.	PmtRtr/TxInf/OrgnlGrpInf /OrgnlMsgNmId	Yes	This information must be present in either 'Original Group Information' or in 'Transaction Information'. If it is included in both components, message will be rejected.
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party, to unambiguously identify the original	PmtRtr/TxInf/OrgnlInstrId	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory	TIPS Usage
		instruction.			
AT-41	Original End To End Identification	The Originator's reference of the SCT Inst Instruction.	PmtRtr/TxInf/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Original Transaction Identification	The Originator Bank's reference of the SCT Inst Transaction message.	PmtRtr/TxInf/OrgnlTxId	Yes	Only schema validation is performed.
AT-04	Original Interbank Settlement Amount	The amount of the SCT Inst in euro.	PmtRtr/TxInf/OrgnlIntrBkSttlmAmt	Yes	Only schema validation is performed.
AT-46	Returned Interbank Settlement Amount	The returned amount of the positive answer to the Recall in euro	PmtRtr/TxInf/RtrdIntrBkSttlmAmt	Yes	Amount to be settled in TIPS.
n/a	Returned Instructed Amount	Amount of money to be moved between the debtor and the creditor, before deduction of charges, in the returned transaction.	PmtRtr/TxInf/RtrdInstdAmt	No	Only schema validation is performed.
n/a	Charge Bearer	Specifies which party/parties will bear the charges associated with the processing of the payment transaction.	PmtRtr/TxInf/ChrgBr	No	Only schema validation is performed.
AT-47	Charges Information + Amount	The fee for the positive answer to a Recall in euro (optional)	PmtRtr/TxInf/ChrgsInf/Amt	No	It is mandatory if Charges Information component is included. Only schema validation is performed.
AT-23	Charges Information + Party ++ Financial Institution Identification	The BIC code of the Beneficiary Bank.	PmtRtr/TxInf/ChrgsInf/Amt	No	It is mandatory if Charges Information component is included. Only schema validation is performed.
n/a	Transaction Information + Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	PmtRtr/TxInf/InstgAgt	No	Only schema validation is performed.
n/a	Transaction Information + Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	PmtRtr/TxInf/InstdAgt	No	Only schema validation is performed.
AT-R1		The type of "R" message			
AT-R2	Return Reason Information + Originator	The Identification of the type of party initiating the "R" message	PmtRtr/TxInf/RtrRsnInf/Orgtr/Id/OrgId/BICOrBEI	Yes	Only schema validation is performed.
AT-R3	Return Reason Information + Reason ++ Reason	The reason code for non-acceptance of the SCT Inst.	PmtRtr/TxInf/RtrRsnInf/Rsn	Yes	Only schema validation is performed.
AT-R6	Return Reason Information + Additional Information	The specific reference of the bank initiating the Recall	PmtRtr/TxInf/RtrRsnInf/AddtlInf	Yes	TIPS uses this field for the duplicate check.
AT-42	Interbank Settlement Date	The Settlement Date of the SCT Inst Transaction.	PmtRtr/TxInf/OrgnlTxRef/IntrBkSttlmDt	No	Only schema validation is performed.
n/a	Settlement Information	Specifies the details on how the settlement of the original transaction between the instructing agent and the instructed agent was completed.	PmtRtr/TxInf/OrgnlTxRef/SttlmInf	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory	TIPS Usage
AT-40	Scheme Identification Code	The identification code of the SCT Inst Scheme	PmtRtr/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd PmtRtr/TxInf/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	No	Only schema validation is performed.
AT-45	Category Purpose	The category purpose of the SCT Inst Instruction.	PmtRtr/TxInf/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-05	Remittance Information	The Remittance information.	PmtRtr/TxInf/OrgnlTxRef/RmtInf	No	Only schema validation is performed.
AT-08	Ultimate Debtor + Name	The name of the Originator Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtDbtr/Nm	No	Only schema validation is performed.
AT-09	Ultimate Debtor + Identification	The identification code of the Originator Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtDbtr/Id	No	Only schema validation is performed.
AT-02	Debtor + Name	The name of the Originator.	PmtRtr/TxInf/OrgnlTxRef/Dbtr/Nm	No	Only schema validation is performed.
AT-03	Debtor + Postal Address	The address of the Originator.	PmtRtr/TxInf/OrgnlTxRef/Dbtr/PstlAdr	No	Only schema validation is performed.
AT-10	Debtor + Identification	The Originator identification code.	PmtRtr/TxInf/OrgnlTxRef/Dbtr/Id	No	Only schema validation is performed.
AT-01	Debtor Account	The IBAN of the account of the Originator.	PmtRtr/TxInf/OrgnlTxRef/DbtrAcct	Yes	Only schema validation is performed.
AT-06	Debtor Agent	The BIC code of the Originator Bank.	PmtRtr/TxInf/OrgnlTxRef/DbtrAgt	No	Only schema validation is performed.
AT-23	Creditor Agent	The BIC code of the Beneficiary Bank.	PmtRtr/TxInf/OrgnlTxRef/CdtrAgt	No	Only schema validation is performed.
AT-21	Creditor + Name	The name of the Beneficiary.	PmtRtr/TxInf/OrgnlTxRef/Cdtr/Nm	No	Only schema validation is performed.
AT-22	Creditor + Postal Address	The address of the Beneficiary.	PmtRtr/TxInf/OrgnlTxRef/Cdtr/PstlAdr	No	Only schema validation is performed.
AT-24	Creditor + Identification	The Beneficiary identification code.	PmtRtr/TxInf/OrgnlTxRef/Cdtr/Id	No	Only schema validation is performed.
AT-20	Creditor Account	The IBAN of the account of the Beneficiary.	PmtRtr/TxInf/OrgnlTxRef/CdtrAcct	Yes	Only schema validation is performed.
AT-28	Ultimate Creditor + Name	Name of the Beneficiary Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Ultimate Creditor + Identification	Identification code of the Beneficiary Reference Party.	PmtRtr/TxInf/OrgnlTxRef/UltmtCdtr/Id	No	Only schema validation is performed.

3.3.2.1.3 FIToFICustomerCreditTransferV02 (pacs.008.001.02)

The FItoFICustomerCreditTransfer message allows instructing TIPS for an instant payment 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/ISO Description	XML path	~~Mandatory~~ Mand.	TIPS Usage
n/a	Message Identification	Point to point reference, as assigned by the instructing party.	FIToFICstmrCdtTrf/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	FIToFICstmrCdtTrf/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Number Of Transactions	Number of individual transactions contained in the message.	FIToFICstmrCdtTrf/GrpHdr/NbOfTxs	Yes	Possible values are checked within schema validation.
n/a	Total Interbank Settlement Amount	Total amount of money moved between the instructing agent and the instructed agent.	FIToFICstmrCdtTrf/GrpHdr/TtlIntrBkSttlmAmt	Yes	Only schema validation is performed.
AT-42	Settlement Date	The Settlement Date of the SCT Inst Transaction	FIToFICstmrCdtTrf/GrpHdr/IntrBkSttlmDt	Yes	Only schema validation is performed.
n/a	Settlement Information	Specifies the details on how the settlement of the transaction between the instructing agent and the instructed agent is completed.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf	Yes	Only schema validation is performed.
n/a	Settlement Method	Method used to settle the Instant ~~p~~Payment Transaction~~instruction~~.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf/SttlmMtd	Yes	Possible values are checked within schema validation.
n/a	Settlement Account	A specific purpose account used to post debit and credit entries as a result of the transaction.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf/SttlmAcct	No	Only schema validation is performed.
n/a	Clearing System	Specification of a pre-agreed offering between clearing agents or the channel through which the Instant ~~p~~Payment ~~instruction~~Transaction is processed.	FIToFICstmrCdtTrf/GrpHdr/SttlmInf/ClrSys	No	Only schema validation is performed.
n/a	Payment Type Information	Set of elements used to further specify the type of transaction.	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf	Yes	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT Inst Scheme	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/SvcLvl/Cd FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/LclInstrm/Cd	Yes	Possible values are checked within schema validation.
AT-45	Category Purpose	The category purpose of the SCT Inst Instruction	FIToFICstmrCdtTrf/GrpHdr/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	FIToFICstmrCdtTrf/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	FIToFICstmrCdtTrf/GrpHdr/InstdAgt	No	Only schema validation is performed.
n/a	Credit Transfer Transaction Information	Set of elements providing information specific to the individual credit transfer.	FIToFICstmrCdtTrf/CdtTrfTxInf	Yes	Only schema validation is performed.
n/a	Instruction Identification	Unique identification, as assigned by an instructing party for an instructed party.	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/InstrId	No	Only schema validation is performed.
AT-41	End To End Identification	The Originator's reference of the SCT Inst Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/PmtId/EndToEndId	Yes	Only schema validation is performed.
AT-43	Transaction	The Originator Bank's	FIToFICstmrCdtTrf/CdtTrfT	Yes	The Transaction

EPC Reference	Reference Name	EPC/ISO Description	XML path	~~Mandatory~~ Mand.	TIPS Usage
	Identification	reference number of the SCT Inst Transaction message	xInf/PmtId/TxId		Identification is used to couple an Instant Payment ~~Instruction~~Transaction with the related A2A messages
AT-04	Settlement Amount	The amount of SCT Inst in euro	FIToFICstmrCdtTrf/CdtTrfTxInf/IntrBkSttlmAmt	Yes	The currency of the Settlement Amount must be the same of the Creditor and Debtor Accounts
AT-50	Acceptance Timestamp	Time Stamp of the SCT Inst Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/AccptncDtTm	Yes	The Acceptance Timestamp is used as a starting point in time for the Instant Payment ~~Instruction~~Transaction processing
n/a	Charge Bearer	Specifies which party/parties will bear the charges associated with the processing of the payment transaction.	FIToFICstmrCdtTrf/CdtTrfTxInf/ChrgBr	Yes	Only schema validation is performed.
AT-08	Originator Reference Party Name	The name of the Originator Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Nm	No	Only schema validation is performed.
AT-09	Originator Reference Party Identification Code	The identification code of the Originator Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id	No	Only schema validation is performed.
n/a	Ultimate Debtor + Identification ++ Organisation Identification	Unique and unambiguous way to identify an organisation.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Ultimate Debtor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtDbtr/Id/PrvtId	Yes	Only schema validation is performed.
n/a	Debtor	Party that owes an amount of money to the (ultimate) creditor.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr	Yes	Only schema validation is performed.
AT-02	Originator Name	The name of the Originator	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Nm	Yes	Only schema validation is performed.
AT-03	Originator Address	The address of the Originator	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr	No	Only schema validation is performed.
n/a	Debtor + Postal Address ++ Country Code	Nation with its own government.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr/Ctry	No	Only schema validation is performed.
n/a	Debtor + Postal Address ++ Address Line	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/PstlAdr/AdrLine	No	Only schema validation is performed.
AT-10	Originator Identification Code	The Originator identification code	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id	No	Only schema validation is performed.
n/a	Debtor + Identification ++ Organisation Identification	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Debtor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr/Id/PrvtId	Yes	Only schema validation is performed.
AT-01	Originator IBAN	The IBAN of the account of the Originator	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAcct/Id/IBAN	Yes	Only schema validation is performed.~~Not used in TIPS~~

EPC Reference	Reference Name	EPC/ISO Description	XML path	~~Mandatory~~ Mand.	TIPS Usage
AT-06	Originator BIC	The BIC code of the Originator Bank	FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/BIC	Yes	The Distinguished Name of the Sender must be authorised to instruct for the Originator BIC The Originator BIC must be stored as an Account Authorised BIC or CMB user
AT-23	Beneficiary BIC	The BIC code of the Beneficiary Bank	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAgt/FinInstnId/BIC	Yes	The Beneficiary BIC must be linked with at least one Distinguish Name for outbound message routing
~~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 Creditor and Debtor Accounts~~
n/a	Creditor	Party to which an amount of money is due.	FIToFICstmrCdtTrf/CdtTrfTxInf/Dbtr	Yes	Only schema validation is performed.
AT-21	Beneficiary Name	The name of the Beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Nm	Yes	Only schema validation is performed.
AT-22	Beneficiary Address	The address of the Beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr	No	Only schema validation is performed.
n/a	Creditor + Postal Address ++ Country Code	Nation with its own government.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr/Ctry	No	Only schema validation is performed.
n/a	Creditor + Postal Address ++ Address Line	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/PstlAdr/AdrLine	No	Only schema validation is performed.
AT-24	Beneficiary Identification Code	The Beneficiary identification code	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id	No	Only schema validation is performed.
n/a	Creditor + Identification ++ Organisation Identification	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id/OrgId	Yes	Only schema validation is performed.
n/a	Creditor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/Cdtr/Id/PrvtId	Yes	Only schema validation is performed.
AT-20	Beneficiary IBAN	The IBAN of the account of the beneficiary	FIToFICstmrCdtTrf/CdtTrfTxInf/CdtrAcct/Id/IBAN	Yes	Only schema validation is performed.
n/a	Ultimate Creditor	Ultimate party to which an amount of money is due.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr	No	Only schema validation is performed.
AT-28	Beneficiary Reference Party Name	The name of the Beneficiary Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Beneficiary Reference Party Identification Code	The identification code of the Beneficiary Reference Party	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id	No	Only schema validation is performed.
n/a	Ultimate Creditor + Identification ++ Organisation Identification	Information that locates and identifies a specific address, as defined by postal services, presented in free format text.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id/OrgId	Yes	Only schema validation is performed.

EPC Reference	Reference Name	EPC/ISO Description	XML path	~~Mandatory~~ Mand.	TIPS Usage
n/a	Ultimate Creditor + Identification ++ Private Identification	Unique and unambiguous identification of a person, eg, passport.	FIToFICstmrCdtTrf/CdtTrfTxInf/UltmtCdtr/Id/PrvtId	Yes	Only schema validation is performed.
AT-44	Purpose	The purpose of the SCT Inst Instruction	FIToFICstmrCdtTrf/CdtTrfTxInf/Purp	No	Only schema validation is performed.
AT-05	Remittance Information	The Remittance Information	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf	No	Only schema validation is performed.~~Not used in TIPS~~
n/a	Remittance Information + Unstructured	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in an unstructured form.	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf/Ustrd	No	Either Unstructured or Structured may be present. If both components are included, the message will be rejected during the schema validation process.
n/a	Remittance Information + Structured	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf/Strd	No	Either Unstructured or Structured may be present. If both components are included, the message will be rejected during the schema validation process.
n/a	Remittance Information + Structured ++ Creditor Reference Information	Information supplied to enable the matching/reconciliation of an entry with the items that the payment is intended to settle, such as commercial invoices in an accounts' receivable system, in a structured form.	FIToFICstmrCdtTrf/CdtTrfTxInf/RmtInf/Strd	No	As the Creidtor Bank is not obliged to validate the reference information, TIPS will apply schema validation to this component and included sub-components.
~~AT-06~~	~~Originator BIC~~	~~The BIC code of the Originator Bank~~	~~FIToFICstmrCdtTrf/CdtTrfTxInf/DbtrAgt/FinInstnId/BIC~~	~~Yes~~	~~The Distinguished Name of the Sender must be authorised to instruct for the Originator BIC~~ ~~The Originator BIC must be stored as an Account Authorised BIC or CMB user~~
~~AT-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/FinInstnId/BIC~~	~~Yes~~	~~The Beneficiary BIC must be linked with at least one Distinguish~~

EPC Reference	Reference Name	EPC/ISO Description	XML path	Mandatory Mand.	TIPS Usage
					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/LclInstrm/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	
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/PmtTpInf/CtgyPurp	No	Not used in TIPS
AT-50	Acceptance Timestamp	Time Stamp of the SCT Inst Transaction	FIToFICstmrCdtTrf/CdtTrfTxInf/AccptncDtTm	Yes	The Acceptance Timestamp is used as a starting point in time for the 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 an Instant Ppayment instructionTransaction.

This message covers two business scenarios:

- Status investigation message
  - The Originator Bank can start the investigation process on a previously instructed Instant payment Payment instructionTransaction
- Payment transaction status query
  - The Originator Bank and the Beneficiary Bank can query TIPS to retrieve details on the status of a payment transaction which involved them.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/ISO Description	XML path	~~Mandatory~~Mand.	TIPS Usage
n/a	Message Identification	Point to point reference, as assigned by theinstructing party.	FIToFIPmtStsReq/GrpHdr/MsgId	Yes	Only schema validation is performed.
n/a	Creation Date Time	Date and time at which the message was created.	FIToFIPmtStsReq/GrpHdr/CreDtTm	Yes	Only schema validation is performed.
n/a	Instructing Agent	Agent that instructs the next party in the chain to carry out the instruction.	FIToFIPmtStsReq/GrpHdr/InstgAgt	No	Only schema validation is performed.
n/a	Instructed Agent	Agent that is instructed by the previous party in the chain to carry out the instruction.	FIToFIPmtStsReq/GrpHdr/InstdAgt	No	Only schema validation is performed.
n/a	Original Message Identification	Message Identification of the originating message	FIToFIPmtStsReq/OrgnlGrpInf/OrgnlMsgId	Yes	Only schema validation is performed.
n/a	Original Message Name Identification	Message identifier of the originating message	FIToFIPmtStsReq/OrgnlGrpInf/OrgnlMsgNmId	Yes	Possible allowed value "pacs.008.001.02"
n/a	Status Request Identification	Unique identification, as assigned by an instructing party for an instructed party.	FIToFIPmtStsReq/TxInf/StsReqId	Yes	Only schema validation is performed.
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party	FIToFIPmtStsReq/TxInf/OrgnlInstrId	No	Only schema validation is performed.
AT-41	End To End Identification	The Originator's reference of the SCT Inst Transaction	FIToFIPmtStsReq/TxInf/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT Inst Transaction message	FIToFIPmtStsReq/TxInf/OrgnlTxId	Yes	~~This field is used in combination with the requestor Distinguish Name to check user access rights.~~Identification of the Payment Transaction to be investigated.
AT-50	Acceptance Timestamp	Time Stamp of the SCT Inst Transaction	FIToFIPmtStsReq/TxInf/AccptncDtTm	Yes	Acceptance timestamp of the Payment Transaction to be investigated.
AT-45	Category Purpose	The category purpose of the SCT Inst Instruction	FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT Inst Scheme	FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf/SvcLvl/Cd FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	Yes	Possible values are checked within schema validation.

EPC Reference	Reference Name	EPC/ISO Description	XML path	~~Mandatory~~Mand.	TIPS Usage
AT-06[7]	Originator BIC	The BIC code of the Originator Bank	FIToFIPmtStsReq/TxInf/OrgnlTxRef/DbtrAgt/FinInstnId/BICFI	Yes	This field is used in combination with the requestor Distinguish Name to check user access rights.

Payment Transaction Status query

Field Name	Description	XML path	~~Mandatory~~Mand.	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~~Query Sender	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	Only schema validation is performed.~~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	Only schema validation is performed.~~Not used in TIPS~~
Original Instruction Identification	Unique identification given to the original instruction	FIToFIPmtStsReq/TxInf/OrgnlInstrId	No	Only schema validation is performed.~~Not used in TIPS~~
Original End To End Identification	Unique identification given to the original instruction	FIToFIPmtStsReq/TxInf/OrgnlEndToEndId	Yes	Only schema validation is performed.~~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/AccptncDtTm	Yes	Only schema validation is performed.~~Not used in TIPS~~

[7] 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~~Mand.	TIPS Usage
Payment Type Information	Set of elements to further specify the type of transaction	FIToFIPmtStsReq/TxInf/OrgnlTxRef/PmtTpInf	No	Only schema validation is performed.~~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	Mand.	TIPS Usage
Message Identifier	Identification of the message	GetAcct/MsgHdr/MsgId	Yes	This information will be included in the resulting camt.004
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/OrgId/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	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Query	Timestamp assigned when retrieval of records has been performed	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is always filled when the camt.004 is a query response.
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/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
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 Identificatio	Restriction Type identifier	RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/RstrctnTp/Tp/Id	Yes	Restriction Type code. If not provided, this field

n	applied to the account			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	Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Query	Timestamp assigned when retrieval of records has been performed	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is always filled when the camt.004 is a query response.
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

Field Name	Description	XML path	Mand.	TIPS Usage
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~~Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Query	Timestamp assigned when retrieval of records has been performed	RtrAcct/MsgHdr/CreDtTm	Yes	
Original Query Message Identifier	Identification of the originating query message	RtrAcct/MsgHdr/OrgnlBizQry/MsgId	Yes	Field is always filled when the camt.004 is a query response.
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~~Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Notification	Timestamp assigned when notification has been triggered	RtrAcct/MsgHdr/CreDtTm	Yes	
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/CurBilLmt/BilBal/CdtDbtInd	Yes	As negative limits are not foreseen, only the value “CRDT” is expected

- Account Floor and Ceiling notifications

Field Name	Description	XML path	~~Mandatory~~Mand.	TIPS Usage
Message Identifier	Identification of the message assigned by TIPS	RtrAcct/MsgHdr/MsgId	Yes	
Timestamp of the Notification	Timestamp assigned when notification has been triggered	RtrAcct/MsgHdr/CreDtTm	Yes	
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	Mand.	TIPS Usage
Message Identifier	Identification of the message	ModfyLmt/MsgHdr/MsgId	Yes	Field is referenced in the resulting camt.025 message
Creation Date Time	Timestamp assigned when message has been generated	ModfyLmt/MsgHdr/CreDtTm	Yes	Only schema validation is performed.
CMB User BIC	BIC of the CMB user	ModfyLmt/LmtDtls/LmtId/Cur/BilLmtCtrPtyId/FinInstnId/BICFI	Yes	Field is used to retrieve the unique CMB defined for the

Field Name	Description	XML path	Mand.	TIPS Usage
				BIC
Limit Type	Type of the limit to be modified	ModfyLmt/LmtDtls/LmtId/Cur/Tp/Cd	Yes	Only allowed value is "BILI". Possible values are checked within schema validation.
Account Owner	BIC of the requestor party	ModfyLmt/LmtDtls/LmtId/Cur/AcctOwnr/FinInstnId/BICFI	Yes	Field is used in combination with the requestor DN to perform the access rights check
Account Identification	Identification of the account linked to the referenced CMB	ModfyLmt/LmtDtls/LmtId/Cur/AcctId/Othr/Id	Yes	Field is used to identify the limit
New Limit Value	New limit to be applied to the CMB	ModfyLmt/LmtDtls/NewLmtValSet/Amt/AmtWthCcy	Yes	Possible values are checked within schema validation.

3.3.2.2.4 ReturnBusinessDayInformation (camt.019.001.06)

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	Mand.	TIPS Usage
Message Identifier	Identification of the message	Rct/MsgHdr/MsgId	Yes	Only schema validation is performed.
Creation Date Time	Timestamp of the creation of the message	Rct/MsgHdr/CreDtTm	Yes	This must be filled with the Identification of the originating credit transfer.
Original Message Identification	Identification of the originating liquidity credit transfer or limit modification request	Rct/RctDtls/OrgnlMsgId/MsgId	Yes	
Status Code	Specifies the status of the originating liquidity credit transfer or limit modification request	Rct/RctDtls/ReqHdlg/StsCd	Yes	

Field Name	Description	XML path	Mand.	TIPS Usage
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

3.3.2.2.6ResolutionOfInvestigation (camt.029.001.03)

The Resolution of Investigation message is sent by the Assignee party as a negative response to a recall request triggered by the Assigner party for a formerly settled Instant Payment transaction.

Message specification is compliant to EPC DS-06 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

TIPS receives this message by the Assignee party, checks the related access rights and the reachability of the Assigner party.

No further processing but message schema validation is performed as the message is directly forwarded to the party which formerly triggered the Recall process.

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
n/a	Assignment + Identification	Uniquely identifies the case assignment.	RsltnOfInvstgtn/Assgnmt/Id	Yes	Only schema validation is performed.
n/a	Assigner	Party who sends the Resolution of Investigation message.	RsltnOfInvstgtn/Assgnmt/Assgnr/Pty/Id/OrgId/BICOrBEI	Yes	This field must be filled with the BIC of the party sending the Resolution of Investigation message and is used in combination with the requestor Distinguish Name to check user access rights.
n/a	Assignee	Party to which the case is assigned	RsltnOfInvstgtn/Assgnmt/Assgne/Pty/Id/OrgId/BICOrBEI	Yes	This field must be filled with the BIC of the party to which the Resolution of Investigation message is forwarded.
n/a	Assignment + Creation Date Time	Date and time at which the assignment was created.	RsltnOfInvstgtn/Assgnmt/CreDtTm	Yes	Only schema validation is performed.
n/a	Status + Confirmation	Specifies the status of the investigation, in a coded form.	RsltnOfInvstgtn/Sts/Conf	Yes	Possible values are checked within schema validation.
n/a	Cancellation Status Identification	Unique and unambiguous identifier of a cancellation request status, as assigned by the assigner.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsId	Yes	Only schema validation is performed.
n/a	Original Message Identification	Message Identification of the originating message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlGrpInf/OrgnlMsgId	Yes	Only schema validation is performed.
n/a	Original Message Name Identification	Message identifier of the originating message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlGrpInf/OrgnlMsgNmId	Yes	Possible allowed value “pacs.008.001.02”

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
n/a	Original Instruction Identification	Unique identification, as assigned by the original instructing party for the original instructed party	FIToFIPmtStsReq/TxInf/OrgnlInstrId	No	Only schema validation is performed.
AT-41	End To End Identification	The Originator's reference of the SCT Inst Transaction	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlEndToEndId	Yes	Only schema validation is performed.
AT-43	Transaction Identification	The Originator Bank's reference number of the SCT Inst Transaction message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxId	Yes	Only schema validation is performed.
n/a	Transaction Cancellation Status	Specifies the status of the transaction cancellation request.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/TxCxlSts	Yes	Possible values are checked within schema validation.
n/a	Cancellation Status Reason Information	Set of elements used to provide detailed information on the cancellation status reason.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf	Yes	Only schema validation is performed.
AT-R2	Cancellation Status Reason Information + Originator	The Identification of the type of party initiating the "R" message	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Orgtr	Yes	Only schema validation is performed.
AT-R5	Cancellation Status Reason Information + Reason	The Reason Code for non-acceptance of the Recall.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Rsn	Yes	Only schema validation is performed.
n/a	Cancellation Status Reason Information + Reason ++ Code	Reason for the cancellation status, in a coded form.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Rsn/Cd	Yes	Only schema validation is performed.
n/a	Cancellation Status Reason Information + Reason ++ Proprietary	Reason for the status, in a proprietary form.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/Rsn/Prtry	Yes	Only schema validation is performed.
n/a	Cancellation Status Reason Information + Additional Information	Further details on the cancellation status reason.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/CxlStsRsnInf/AddtlInf	No	Only schema validation is performed.
n/a	Original Transaction Reference	Set of key elements used to identify the original transaction that is being referred to.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef	Yes	Only schema validation is performed.
AT-04	Interbank Settlement Amount	The amount of the SCT Inst in euro.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/IntrBkSttlmAmt	No	Only schema validation is performed.
AT-42	Interbank Settlement Date	The Settlement Date of the SCT Inst Transaction.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/IntrBkSttlmDt	No	Only schema validation is performed.
AT-40	Scheme Identification Code	The identification code of the SCT Inst Scheme	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/PmtTpInf/SvcLvl/Cd RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/PmtTpInf/LclInstrm/Cd	No	Possible values are checked within schema validation.
AT-45	Category Purpose	The category purpose of the SCT Inst Instruction	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/PmtTpInf/CtgyPurp	No	Only schema validation is performed.
AT-05	Remittance Information	Information supplied to enable the matching of an entry with the items that the transfer is intended to settle	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/RmtInf	No	Only schema validation is performed.
AT-08	Ultimate Debtor + Name	The name of the Originator Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtDbtr/Nm	No	Only schema validation is performed.

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
AT-09	Ultimate Debtor + Identification	The identification code of the Originator Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtDbtr/Id	No	Only schema validation is performed.
AT-02	Debtor + Name	The name of the Originator.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Dbtr/Nm	No	Only schema validation is performed.
AT-03	Debtor + Postal Address	The address of the Originator.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Dbtr/PstlAdr	No	Only schema validation is performed.
AT-10	Debtor + Identification	The Originator identification code.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Dbtr/Id	No	Only schema validation is performed.
AT-01	Debtor Account	The IBAN of the account of the Originator.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/DbtrAcct	Yes	Only schema validation is performed.
AT-06	Debtor Agent	The BIC code of the Originator Bank.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/DbtrAgt	No	Only schema validation is performed.
AT-23	Creditor Agent	The BIC code of the Beneficiary Bank.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/CdtrAgt	No	Only schema validation is performed.
AT-21	Creditor + Name	The name of the Beneficiary.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Cdtr/Nm	No	Only schema validation is performed.
AT-22	Creditor + Postal Address	The address of the Beneficiary.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Cdtr/PstlAdr	No	Only schema validation is performed.
AT-24	Creditor + Identification	The Beneficiary identification code.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/Cdtr/Id	No	Only schema validation is performed.
AT-20	Creditor Account	The IBAN of the account of the Beneficiary.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/CdtrAcct	Yes	Only schema validation is performed.
AT-28	Ultimate Creditor + Name	Name of the Beneficiary Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtCdtr/Nm	No	Only schema validation is performed.
AT-29	Ultimate Creditor + Identification	Identification code of the Beneficiary Reference Party.	RsltnOfInvstgtn/CxlDtls/TxInfAndSts/OrgnlTxRef/UltmtCdtr/Id	No	Only schema validation is performed.

3.3.2.2.7 LiquidityCreditTransfer (camt.050.001.04)

The Liquidity Credit Transfer message is used in TIPS in order to instruct inbound and outbound liquidity transfers to/from RTGS Systems to fund accounts of TIPS Participants or repatriate money in the related RTGS System.

Authorised technical user (RTGS System) can send inbound liquidity transfers from the corresponding RTGS to TIPS. In case the validation is successful TIPS transfers the requested amount from the (technical) transit account to the TIPS account.

Participants or Instructing Parties acting on behalf of Participants can trigger outbound liquidity transfers in TIPS using a liquidity transfer order message.

Field Name	Description	XML path	Mand.	TIPS Usage

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

3.3.2.2.8 BankToCustomerAccountReport (camt.052.001.03)

3.3.2.2.9 BankToCustomerStatement (camt.053.001.03)

3.3.2.2.10 BankToCustomerDebitCreditNotification (camt.054.001.06)

The Bank To Customer Debit Credit Notification message is used in TIPS in order to report the settlement of a liquidity transfers credited on an own TIPS account.

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identifier	Identification of the message	BkToCstmrDbtCdtNtfctn/GrpHdr/MsgId	Yes	
Creation Date Time	Timestamp of the creation of the message	BkToCstmrDbtCdtNtfctn/GrpHdr/CreDtTm	Yes	
Notification Identifier	Identifier of the notification	BkToCstmrDbtCdtNtfctn/Ntfctn/Id	Yes	This field will be equal to the Message Identifier

Field Name	Description	XML path	Mand.	TIPS Usage
Notification Creation Date Time	Timestamp of the creation of the notification	BkToCstmrDbtCdtNtfctn/Ntfctn/CreDtTm	Yes	This field will be equal to the Creation Date Time
Account Identifier	Account for which the notification has been generated	BkToCstmrDbtCdtNtfctn/Ntfctn/Acct/Id/Othr/Id	Yes	
Notification Amount	Amount tha has been transferred to the Account	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/Amt	Yes	
Credit Debit Indicator	Specifies if the Amount has been credited or debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/CdtDbtInd	Yes	As notification is generated for credit movements only, this field will be “CRDT”
Status	Status of the underlying payment	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/Sts	Yes	As notification is generated for settled credit movements only, this field will be “SETT”
Booking Date	Date and time of Booking	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BookgDt/DtTm	Yes	Timestamp of when the settlement occurred in TIPS
Bank Transaction Code Domain	Bank Transaction Code of the underlying transaction	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BkTxCd/Domn/Cd	Yes	Only Liquidity Transfers are reported. They belong to Payment Domain so this field will be “PMNT”
Bank Transaction Family Code	Bank Transaction Family Code of the underlying transaction	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BkTxCd/Domn/Fmly/Cd	Yes	Only credited Liquidity Transfers are reported. This field will be “RCDT”
Bank Transaction SubFamily Code	Bank Transaction SubFamily Code of the underlying transaction	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/BkTxCd/Domn/Fmly/SubFmlyCd	Yes	Only credited Liquidity Transfers from Financial Institutions are reported. This field will be “FICT”
Instruction Identification	Instruction identifier for the credit transfer	/BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/Refs/InstrId	Yes	This field will contain the Liquidity Transfer reference
End to End Identification	End to end identifier for the requested credit transfer	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/Refs/EndToEndId	Yes	If not used, it must be filled with ‘NOTPROVIDED’
Transaction Amount	Amount tha has been transferred to the Account	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/Amt	Yes	This field will be equal to the Notification Amount
Credit Debit Indicator	Specifies if the Amount has been credited or debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/CdtDbtInd	Yes	As notification is generated for credit movements only, this field will be “CRDT”
Debtor	BIC of Financial Institution	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/Dbtr/Id/OrgId/AnyBIC	Yes	

Field Name	Description	XML path	Mand.	TIPS Usage
	owning the account to be debited			
Debtor Account	Account to be debited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/DbtrAcct/Id/Othr/Id	Yes	
Creditor	BIC of Financial Institution owning the account to be credited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/Cdtr/Id/OrgId/AnyBIC	Yes	
Creditor Account	Account to be credited	BkToCstmrDbtCdtNtfctn/Ntfctn/Ntry/NtryDtls/TxDtls/RltdPties/CdtrAcct/Id/Othr/Id	Yes	

3.3.2.2.11 FIToFIPaymentCancellationRequest (camt.056.001.01)

The FI To FI Payment Cancellation Request message allows instructing TIPS to trigger a recall process for a formerly settled Instant Payment transaction.

Message specification is compliant to EPC DS-05 Interbank Payment Dataset as described in the SEPA Instant Credit Transfer scheme Rulebook.

TIPS receives this message by the Assigner party, checks the related access rights and the reachability of the Assignee party.

No further processing but message schema validation is performed as the message is directly forwarded to the party to which the case is assigned.

EPC Reference	Reference Name	EPC Description	XML path	Mandatory	TIPS Usage
n/a	Assigner	Party who assigns the case.	FIToFIPmtCxlReq/Assgnmt/Assgnr/Pty/Id/OrgId/BICOrBEI	Yes	This field must be filled with the BIC of the originating party and is used in combination with the requestor Distinguish Name to check user access rights.
n/a	Assignee	Party to which the case is assigned	FIToFIPmtCxlReq/Assgnmt/Assgne/Pty/Id/OrgId/BICOrBEI	Yes	This field must be filled with the BIC of the party to which the Cancellation Request is forwarded.

3.3.2.3. Account Management (acmt)

3.3.2.3.1 AccountRequestAcknowledgement (acmt.010.001.02)

The Account Request Acknowledgement message is sent by TIPS to the TIPS participant upon successful processing of a formerly instructed Account Excluded Maintenance Request message.

This message notifies the sender that the blocking status of the TIPS Account or CMB has been changed.

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	AcctReqAck/Refs/MsgId/Id	Yes	
Creation Date Time	Date of creation of the message.	AcctReqAck/Refs/MsgId/CreDtTm	Yes	
Process Identification	Identification of the message.	AcctReqAck/Refs/PrcId/Id	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Message Identifier.
Process Date Time	Date of creation of the message.	AcctReqAck/Refs/PrcId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.
Acknowledged Message Identification	Identification of the originating Account Excluded Maintenance Request message.	AcctReqAck/Refs/AckdMsgId/Id	Yes	
Acknowledged Date Time	Date of the acknowledgement of the message.	AcctReqAck/Refs/AckdMsgId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.
Status	Specifies the status of the Account Excluded Maintenance Request message.	AcctReqAck/Refs/Sts	Yes	Only possible status is “COMP”
Account Identification	Identification of the TIPS Account or CMB related to the originating Account Excluded Maintenance Request message.	AcctReqAck/AcctId/Id/Othr/Id	Yes	
Currency	Currency of the TIPS Account or CMB related to the originating Account Excluded Maintenance Request message.	AcctReqAck/AcctId/Ccy	Yes	
Organisation Identification	BIC of the TIPS Participant owning the TIPS Account or CMB User.	AcctReqAck/OrgId/AnyBIC	Yes	This field must be filled either with the BIC of the TIPS Account owner or the BIC of the CMB user.
Account Servicer Identification	BIC of the TIPS Participating owning the TIPS Account,	AcctReqAck/AcctSvcrId/FinInstnId/BICFI	Yes	This field must be filled with the BIC of the TIPS Account owner.

3.3.2.3.2 AccountRequestRejection (acmt.011.001.02)

The Account Request Rejection message is sent by TIPS to the TIPS participant upon rejection of a formerly instructed Account Excluded Maintenance Request message.

This message notifies the sender that the request to modify the blocking status of the TIPS Account or CMB has been rejected.

Field Name	Description	XML path	Mand.	TIPS Usage
Rejection Reason	Reason of the message rejection	AcctReqRjctn/Refs/RjctnRsn	Yes	Reports the detailed error information
Rejected Request Identifier	Identification of the rejected request message.	AcctReqRjctn/Refs/RjctdReqId/Id	Yes	
Rejected Request Date Time	Date of creation of the message.	AcctReqRjctn/Refs/RjctdReqId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.
Message Identification	Identification of the message.	AcctReqRjctn/Refs/MsgId/Id	Yes	
Creation Date Time	Date of creation of the message.	AcctReqRjctn/Refs/MsgId/CreDtTm	Yes	
Process Identification	Identification of the message.	AcctReqRjctn/Refs/PrcId/Id	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Message Identifier.
Process Date Time	Date of creation of the message.	AcctReqRjctn/Refs/PrcId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards. This field is filled with the same content of the Creation Date Time.
Account Servicer Identification	BIC of the TIPS Participating owning the TIPS Account,	AcctReqRjctn/AcctSvcrId/FinInstnId/BICFI	Yes	This field must be filled with the BIC of the TIPS Account owner.
Organisation Identification	BIC of the TIPS Participant owning the TIPS Account or CMB User.	AcctReqRjctn/OrgId/AnyBIC	Yes	This field must be filled either with the BIC of the TIPS Account owner or the BIC of the CMB user.

3.3.2.3.3 AccountExcludedMandateMaintenanceRequest (acmt.015.001.02)

The Account Excluded Mandate Maintenance Request message is sent by a TIPS authorised actor to request a change on the blocking status for a TIPS Account or CMB.

If the request is successfully executed, TIPS notifies the sender with an acmt.010.001.02 message.

If the request is rejected, TIPS notifies the sender with an acmt.011.001.02 message.

Field Name	Description	XML path	Mand.	TIPS Usage

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	AcctExcldMndtMntncReq/Refs/MsgId/Id	Yes	
Creation Date Time	Date of creation of the message.	AcctExcldMndtMntncReq/Refs/MsgId/CreDtTm	Yes	
Process Identification	Identification of the message.	AcctExcldMndtMntncReq/Refs/PrcId/Id	Yes	Not used in TIPS but required by ISO Standards.
Process Date Time	Date of creation of the message.	AcctExcldMndtMntncReq/Refs/PrcId/CreDtTm	Yes	Not used in TIPS but required by ISO Standards.
Account Identification	Identification of the TIPS Account or CMB..	AcctExcldMndtMntncReq/Acct/Id/Othr/Id	Yes	
Currency	Currency of the TIPS Account or CMB.	AcctExcldMndtMntncReq/Acct/Ccy	Yes	
Floor Notification Amount	Specifies the value of the balance under which a notification will be sent to the account owner.	AcctExcldMndtMntncReq/Acct/FlrNtfctnAmt	No	Not used in TIPS. Usage is described in CRDM documentation.
Ceiling Notification Amount	Specifies the value of the balance above which a notification will be sent to the account owner.	AcctExcldMndtMntncReq/Acct/ClngNtfctnAmt	No	Not used in TIPS. Usage is described in CRDM documentation.
Closing Date	Date when the account will be or was closed.	AcctExcldMndtMntncReq/Acct/ClsgDt	No	Not used in TIPS. Usage is described in CRDM documentation.
Restriction Modification Code	Specifies the type of change.	AcctExcldMndtMntncReq/Acct/Rstrctn/ModCd	Yes	Possible values: - ADDD : Block - DELE : Unblock
Restriction Type Code	Type of the Restriction.	AcctExcldMndtMntncReq/Acct/Rstrctn/Rstrctn/RstrctnTp/Cd	Yes	Possible values are: - TACR: Block for credit - TADE: Block for debit - TABO: Block for both debit and credit
Restriction Valid From	Date from which the Restriction is valid.	AcctExcldMndtMntncReq/Acct/Rstrctn/Rstrctn/VldFr	Yes	Not used in TIPS.
Account Servicer Identification	BIC of the TIPS Participating owning the TIPS Account,	AcctExcldMndtMntncReq/AcctSvcrId/FinInstnId/BICFI	Yes	This field must be filled with the BIC of the TIPS Account owner. It is used in combination with the requestor Distinguish Name to check user access rights.
Organisation	Organised structure that is set up for a particular purpose.	AcctExcldMndtMntncReq/Org	Yes	Any element included in this message component which are mandatory in ISO20022 Standard, are not used in TIPS.

3.3.2.4. Reference Data (reda)

3.3.2.4.1 PartyStatusAdvice (reda.016.001.01)

The Party Status Advice message is sent by TIPS to report the results of the execution of the related Party Modification Request to the requesting Central Bank.

The XSD schema is shared with Common Reference Data Management to enable users to use a single implementation for the two services.

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	PtyStsAdvc/MsgId/Id	Yes	
Original Message Identification	Identification of the originating Party Modification Request message.	PtyStsAdvc/OrgnlMsgId/Id	Yes	
Status	Status of the execution of the originating Party Modification Request message.	PtyStsAdvc/PtySts/Sts	Yes	Possible values: - COMP: Completed - REJT : Rejected
Status Reason	Additional information on rejected requests.	PtyStsAdvc/PtySts/StsRsn	No	This component will be included only in case of a rejected Party Modification Request message.
Error Code	Error code raised during the processing of the originating Party Modification Request message.	PtyStsAdvc/PtySts/StsRsn/Rsn/Prtry	No	This component will be included only in case of a rejected Party Modification Request message.
Additional Information	Possible additional text information to the requestor.	PtyStsAdvc/PtySts/StsRsn/AddtlInf	No	Not currently used in TIPS.
Related Party Identification	Unique identification to unambiguously identify the party within the system.	PtyStsAdvc/PtySts/SysPtyId/RltdPtyId	No	This field will be included only in case of completed Party Modification Request messages. BIC of the TIPS participant for which the change of blocking status is requested.
Responsible Party Identification	Unique identification to unambiguously identify the party within the system.	PtyStsAdvc/PtySts/SysPtyId/RspnsblPtyId	No	This field will be included only in case of completed Party Modification Request messages. BIC of the Central Bank requesting the change of blocking status for a TIPS Participant they are responsible for.

3.3.2.4.2 PartyModificationRequest (reda.022.001.01)

The Party Modification Request message is sent by a Central Bank to request a change on the blocking status for a TIPS Participant.

The sender is notified by TIPS with a reda.016.001.01 message with the result of the execution.

The XSD schema is shared with Common Reference Data Management to enable users to use a single implementation for the two services.

Field Name	Description	XML path	Mand.	TIPS Usage
Message Identification	Identification of the message.	PtyModReq/MsgId/Id	Yes	
Related Party Identification	Unique identification to unambiguously identify the party within the system.	PtyModReq/SysPtyId/RltdPtyId	Yes	BIC of the TIPS participant for which the change of blocking status is requested.
Responsible Party Identification	Unique identification to unambiguously identify the party within the system.	PtyModReq/SysPtyId/RspnsblPtyId	Yes	BIC of the Central Bank requesting the change of blocking status for a TIPS Participant they are responsible for. It is used in combination with the requestor Distinguish Name to check user access rights.
Scope Indication	Specifies the type of requested modification.	PtyModReq/Mod/ScpIndctn	Yes	Possible values: - INSE: Block - DELT: Unblock
System Party	Specifies the party reference data, as assigned by the system.	PtyModReq/Mod/ReqdMod/SysPty	Yes	Not used in TIPS but required for CRDM functionality implementation.
Party Identification	Unique identification to unambiguously identify the party within the system.	PtyModReq/Mod/ReqdMod/PtyId	Yes	Not used in TIPS but required for CRDM functionality implementation.
Party Name	Specifies the name by which a party is known and which is usually used to identify that party.	PtyModReq/Mod/ReqdMod/PtyNm	Yes	Not used in TIPS but required for CRDM functionality implementation.
Technical Address	Unique technical address to unambiguously identify a party for receiving messages from the executing system.	PtyModReq/Mod/ReqdMod/TechAdr	Yes	Not used in TIPS but required for CRDM functionality implementation.
Party Address	Information that locates and identifies a specific address, as defined by postal services.	PtyModReq/Mod/ReqdMod/PtyAdr	Yes	Not used in TIPS but required for CRDM functionality implementation.
System Restriction	Specifies the date from which the restriction is valid.	PtyModReq/Mod/ReqdMod/SysRstrctn/VldFr	Yes	Not used in TIPS but required for CRDM functionality implementation.
Valid To	Specifies the date until which the restriction is valid.	PtyModReq/Mod/ReqdMod/SysRstrctn/VldTo	No	Not used in TIPS.
Restriction Type	Specifies the identification of a restriction.	PtyModReq/Mod/ReqdMod/SysRstrctn/Tp	Yes	Possible values are: - TPCR: Block for credit - TPDB: Block for debit - TPBO: Block for both debit and credit
Market Specific Attribute	Additional attributes defined by a system entity for a party.	PtyModReq/Mod/ReqdMod/MktSpcfcAttr	Yes	Not used in TIPS but required for CRDM functionality implementation.

4. Appendices

4.1. Business Rules

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
All	Access Rights check	000001	Sender User Role Entity	The DN of the Message sender as User of the Party is assigned to privilege XXX through its own role in the User Role Entity. List of couples service - privilege: - XXX - YYY	If no row is present: - when pacs.002, error code DS14 - all other cases, error code A001	
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	
Instant Payment transaction business process	Timeout Check - Originator Side	010001	Acceptance Date Time Parameter " SCT^{Inst} 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 + SCTinst Timestamp Timeout + Originator Side Offset)	If the check is not respected: - error code ~~TM01~~AB06	Timeout ~~debitor~~debtor side exceeded or “Acceptance datetime” too far in the future – acceptable future offset exceeded.
Instant Payment transaction business process	Timeout Check - Beneficiary Side	010002	Acceptance Date Time Parameter " SCT^{Inst} Timestamp Timeout" Parameter "Beneficiary Side Offset" for the Currency specified for	The "Acceptance Date Time" of the message sent for initiating the transaction must respect this check: current timestamp < (Acceptance Date Time + SCTinst Timestamp Timeout + Beneficiary Side Offset)	If the check is not respected: - error code AB05	Timeout creditor side exceeded

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
			the credited account Current timestamp			
Instant Payment transaction business process	Timeout Check - Missing answer	010003	Transaction acceptance time Parameter " SCT^{Inst} 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 + SCTinst 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 Recall business process	Originator Account or CMB existence	01000035	Debtor Agent Instructed Amount Business Date	The system verifies that in table "Authorised Account User" the Debtor Agent exists and it is linked to one and only one Account, 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
All ~~Instant Payment transaction business process~~	Instructing Party authorised	01000046	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 Recall business process	Beneficiary Account or CMB existence	01000058	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
Instant Payment transaction business process	Same currency	0100094	Debtor Agent Creditor Agent Instructed Amount Business Date	The system selects Originator Account/CMB from the Debtor Agent as follows: - the system selects the row related to the Debtor Agent linked to one and only one Account in the table "Authorised Account User", type "TIPS Account"; in table "Cash Accounts" the system checks that this Account has the currency equal to the one defined in the Instructed Amount and it is open for the current Business Date - if the previous step fails, the system selects the row related to the Debtor Agent linked to one and only one CMB in table "CMB"; this CMB must be linked to an	If the check is not respected: - AM03 error code is returned	Incoherent currencies

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
				account having the currency equal to the one defined in the Instructed Amount and must be open for the current Business Date. The system selects Beneficiary Account/CMB from the Creditor Agent as follows: - the system selects the row related to the Creditor Agent linked to one and only one Account in the table "Authorised Account User", type "TIPS Account"; in table "Cash Accounts" the system checks that this Account has the currency equal to the one defined in the Instructed Amount and it is open for the current Business Date - if the previous step fails, the system selects the row related to the Creditor Agent linked 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. Both accounts/CMB must have the same currency and must be equal to the currency defined in the Instructed Amount.		
Instant Payment transaction business process	Maximum Amount not Exceeded	0100~~0510~~	Instructed Amount Parameter "Maximum Amount"	The "Maximum Amount" parameter for the currency of the transaction is selected. The "Instructed Amount" of the message must be lower than or equal to the "Maximum Amount".	If the check is not respected: - return error code AM02	Amount exceeds the maximum authorised amount
Instant Payment transaction business process Recall business process	Originator Account not blocked	0~~1~~00~~611~~	Debtor Agent Instructed Amount Business Date	The system select Originator Account/CMB from the Debtor Agent as follows: - Queries the table "Authorised Account User" the row related to the Debtor Agent linked to one and only one Account, type "TIPS Account", that in table "Cash Accounts" has the currency equal to the one defined in the Instructed Amount and is open for the current Business Date - If no Account is returned, queries that in table "Cash Accounts" the row related to the Debtor Agent linked 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. If an Originator Account is involved, the system checks that the Blocking Status of the account is not "Blocked" or "Blocked for debiting". If an Originator CMB is involved, the system checks that the Blocking Status of the CMB and the related account are not "Blocked" or "Blocked for debiting". If the previous checks are passed, the system checks that the TIPS Participant related to the Debtor Agent and to the Account (directly involved or involved through a CMB) have Blocking Status different from "Blocked" or "Blocked for debiting".	If the check is not respected: - return error code AC06	The Originator Account is blocked OR the Debiting CMB is blocked
Instant Payment transaction business process Recall business process	Beneficiary Account not blocked	0~~1~~00~~712~~	Creditor Agent Instructed Amount Business Date	The system selects Beneficiary Account/CMB from the Creditor Agent as follows: - the system selects the row related to the Creditor Agent linked to one and only one Account in the table "Authorised Account User", type "TIPS Account"; in table "Cash Accounts" the system checks that this Account has the currency equal to the one defined in the Instructed Amount and it is open for the current Business Date - if the previous step fails, the system selects the row related to the Creditor Agent linked 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.	If the check is not respected: - return error code AC06	The Beneficiary Account is blocked OR The Crediting CMB is blocked

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
				If a Beneficiary Account is involved, the system checks that the Blocking Status of the account is not "Blocked" or "Blocked for debiting". 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". 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".		
Instant Payment transaction business process Recall business process	Available amount not exceeded	0~~1~~0000~~813~~	Debtor Agent Instructed Amount Business Date	The system selects Originator Account/CMB from the Debtor Agent as follows: - the system selects the row related to the Debtor Agent linked to one and only one Account in the table "Authorised Account User", type "TIPS Account"; in table "Cash Accounts" the system checks that this Account has the currency equal to the one defined in the Instructed Amount and it is open for the current Business Date - if the previous step fails, the system selects the row related to the Debtor Agent linked 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. Then the system retrieves the available balance of the Originator Account (directly involved or linked to the Debiting CMB) and/or the Debiting CMB Headroom. The system checks that the Instructed Amount is lower than or equal to the Originator Account available balance. If a Debiting CMB is involved, the system checks that (i) the Instructed Amount is lower than or equal to its limit headroom is lower and ~~than or equal to~~that the Instructed Amount is lower than or equal to the Originator Account available balance.	If the check is not respected: - return error code AM23	
Instant Payment transaction business process	Beneficiary correc~~t~~ly configured	0100061~~4~~	Creditor Agent	The system checks that a unique item related to the Creditor Agent exists in the entity "Outbound DN-BIC".	If no row is or multiple rows are retuned: - return error code MS03	Beneficiary DN not found
Instant Payment transaction business process	Pending transaction existing	0100071~~5~~	Original Transaction Identification Debtor Agent	The system checks that a unique item related to the Original Transaction Identification and to the Debtor Agent with status "Reserved" exists in the transactional entity "Instant Payment".	If no row is or multiple rows are retuned: - return error code AG09	Transaction not found
Instant Payment transaction business process Recall Business Process	Instructing Party authorised – creditor side	0~~1~~00091~~7~~	Sender Creditor Agent	The system checks the existence of the couple (Sender, Creditor Agent) in the entity "Inbound DN-BIC Routing".	If no row is present: - CNOR error code is returned	
Queries business process, Investigation business process	Instructing Party authorized	0~~1~~0010~~18~~	Sender Account User/Query Sender /Originator BIC	The system checks the existence of the couple (Sender, Account User/Query Sender/Originator BIC) in the entity "Inbound DN-BIC Routing".	If no row is present: Business error RJCT is returned, error code DNOR	Instructing party not authorized to send query

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Queries business process	Account or CMB existence	017001901	Account or CMB Identifier Account User	For Account balance and status query, TIPS verifies that the Account or CMB Identifier corresponds to an account type "TIPS Account" in the table "Cash Accounts" and if the Participant or Instructing Party is authorized to query on it basing on the query permission. For CMB limit and status query, TIPS verifies that the Account or CMB Identifier corresponds to a CMB in the table "CMB" and if the Participant or Instructing Party is authorized to query on it basing on the query permission. The system selects also the TIPS Account linked to the CMB.	If the check is not respected: Business error RJCT, error code DNOR	Account or CMB not found – not existing or not yet open or already closed
Payment transaction status query	Payment Transaction existence	017002002	Transaction Identification Originator BIC Query Sender	The system checks that an item related to the Transaction Identification and to the Originator BIC exists in the transactional entity "Instant Payment" and if the Participant or Instructing Party (field Query Sender) is authorized to query the transaction basing on the query permission.	If no row is present: Business error RJCT, error code AG09	
Investigation business process	Payment Transaction existence	013002001	Transaction Identification Originator BIC	The system checks that: - an item related to the Transaction Identification and to the Originator BIC exists in the transactional entity "Instant Payment" (Data retention period not expired) - the TIPS actor is the Originator of the interested Payment transaction or the Instructing party acting on behalf of Participants or Reachable Parties on the originator side.	If no row is present: - Business error RJCT, error code AG09	
Investigation business process	SCTInst Timestamp Timeout expired	013002102	Transaction Identification Originator BIC	Investigation Timestamp > (Transaction_ Acceptance Date Time + SCTInst Timestamp Timeout + Investigation Offset)	If the check is not respected: - Business error RJCT, error code AG09	Transaction in final status not found
Liquidity Transfer business process	RTGS Creditor Account inclusion Check	040001	Creditor Account	The Creditor Account field must be populated.	If the check is not respected: -error code L001	
Liquidity Transfer business process	Debtor Account Check	040002	Debtor Account	The Debtor Account of an outbound Liquidity Transfer should be an existing and active TIPS Cash Account (neither blocked nor logically deleted and no RTGS Transit Account) otherwise the incoming Outbound Liquidity Transfer will be rejected.	If the check is not respected: - error code L002	Debtor Account of outbound LT is neither an existing nor an active TIPS Account.
Liquidity Transfer business process	Currency Check	040003	Transferred Amount	The currency of the incoming flow should be the same as the currency of the TIPS Account to be credited/debited, otherwise the incoming Outbound or Inbound Liquidity Transfer will be rejected.	If the check is not respected: - error code L003	
Liquidity Transfer business process	Creditor Check	040004	Creditor Account	The Creditor of an Inbound Liquidity Transfer should be an existing and active TIPS Actor having Blocking Status different from "Blocked" or "Blocked for crediting". The TIPS Account to be credited of an Inbound Liquidity Transfer should be an existing and active TIPS Cash Account (neither blocked nor logically deleted and no RTGS Dedicated Transit Account), otherwise the incoming Inbound Liquidity Transfer will be rejected.	If the check is not respected: - return error code L004	The Creditor is blocked OR The Creditor Account is blocked
Liquidity Transfer business process	Debtor Check	040005	Debtor	The Debtor of an Outbound Liquidity Transfer should be an existing and active TIPS Participant and has Blocking Status different from "Blocked" or "Blocked for debiting".	If the check is not respected: Business error RJCT, error code L005	Debtor of outbound LT is neither an existing nor an active TIPS Participant.

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Liquidity Transfer business process	LT Duplicate Check	040006	Instruction Identification Debtor Account Transferred Amount Creditor Account	If the Incoming Outbound or Inbound Liquidity Transfer has the same Instruction ID, refers to the same Debit and Credit Account and has the same Transferred Amount as another Outbound or Inbound Liquidity Transfer in the list of orders of the last X days, where X is equal to the system parameter "data retention period", then it is a duplicate submission. The second and any further submission will be rejected.	If the check is not respected: - return error code L006	Outbound or Inbound LT is a duplicate submission
Liquidity Transfer business process	Funds Check	040007	Transferred Amount	The Transferred Amount must be lower or equal to the Available Balance (Cash Balance) on the account to be debited.	If the check is not respected: - return error code L007	Failure of the settlement attempt of the instruction due to your insufficient cash balance
Liquidity Transfer business process	RTGS opening hours Check	040008	RTGS system data - RTGS Status	The value of the attribute "RTGS Status" is "Open" for the RTGS system.	If the check is not respected: - error code L008	
Liquidity Transfer business process	Not defined status code in RTGS Answer Check	040009	Status code	TIPS expects that an RTGS Answer returns only one RTGS status, either ‘RREJ’ or ‘RCON’. If the status value is neither ‘RREJ’ nor ‘RCON’ the RTGS answer will be rejected.	If the check is not respected: - error code L009	Invalid content of the field RTGS Status
Liquidity Transfer business process	RTGS Access Rights check	040010	Sender DN	The sender DN should be an existing and active RTGS DN in TIPS.	If the check is not respected: - error code L010	Insufficient Privileges for sending the RTGS Answer.
Liquidity Transfer business process	Pending (Transient) order existing	040011	Original Message Identification	The system checks that a unique item related to the Original Message Identification with status "Transient" exists in TIPS.	If the check is not respected: - error code L011	Order not found
Recall business process	Maximum Amount not exceeded for Returned Amount	020001	Returned Amount (AT-46 DS06) Parameter "Maximum Amount"	The "Maximum Amount" parameter for the currency of the transaction is selected. The "Returned Amount" of the message must be lower than or equal to the "Maximum Amount".	If the check is not respected: - return error code AM02	Amount exceeds the maximum authorised amount
Recall business process	Duplicate check for Recall Answer	020002	Recall Reference of the bank initiating the Recall (R6 – DS06) Beneficiary BIC (AT23 – DS02 subset of DS06) System parameter: data retention period	The couple Recall Reference of the bank initiating the Recall (R6 – DS06) and Beneficiary BIC must not exist as a couple Transaction ID/Beneficiary BIC in the list of transactions of the last X days with status “Failed”, where X is equal to the system parameter "data retention period". The couple Recall Reference of the bank initiating the Recall (R6 – DS06) and Beneficiary BIC (to be interpreted as new Originator BIC) must not exist as a couple Transaction ID/Originator BIC in the list of transactions of the last X days with status “Settled”, where X is equal to the system parameter "data retention period".	If the check is not respected: - error code AM05	
Reference data management	TIPS Participant block/unblock type allowed	050001	Restriction Type	The Restriction Type must be TPCR (Block for credit), TPDB (Block for debit) or TPBO (Block for both debit and credit).	If the check is not respected: - error code R001	Restriction Type not allowed
Reference data management	Party existence	050002	Related Party Identification	The party identified by the Related Party Identification must exist.	If the check is not respected: - error code R002	Party not existing

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description
Reference data management	Party type allowed	050003	Related Party Identification	The party identified by the Related Party Identification must be a TIPS Participant.	If the check is not respected: - error code R003	Party Type not allowed for blocking/unblocking operations
Reference data management	User allowed to the Update of Participants	050004	Responsible Party Identification Related Party Identification	The system checks that the party identified by the Responsible Party Identification is a Central Bank and that the party identified by the Related Party Identification is under the Central Bank responsibility.	If the check is not respected: - error code R004	User not allowed to block/unblock the TIPS Participant
Reference data management	Account/CMB block/unblock type allowed	050005	Restriction Type Code	The Restriction Type Code must be TACR (Block for credit), TADE (Block for debit) or TABO (Block for both debit and credit).	If the check is not respected: - error code R005	Restriction Type not allowed
Reference data management	Account/CMB existence	050006	Account Identification	The Account or CMB identified by the Account Identification must exist.	If the check is not respected: - error code R006	Account/CMB not existing
Reference data management	Currency of the Account/CMB	050007	Currency Account Identification	The currency identified by the Currency must be the same of the Account/CMB specified by the Account or CMB identified by the Account Identification.	If the check is not respected: - error code R007	Currency not correct
Reference data management	User allowed to block/unblock operation	050008	Account Servicer Identification Account Identification	If the Account Identification identifies an Account, the system checks that the party identified by the Account Servicer Identification is a Central Bank and that the owner of the Account is under the Central Bank responsibility. If the Account Identification identifies a CMB, the system checks that the party identified by the Account Servicer Identification is: - Either a Central Bank and that the owner of the Account linked to the CMB is under the Central Bank responsibility; - Or the TIPS Participant owner of the Account linked to the CMB.	If the check is not respected: - error code R008	User not allowed to block/unblock the TIPS Account/CMB
Reference data management	Related Participant or related Account with higher priority unblocked	050009	Account Identification	If the Account Identification identifies an Account, the system checks that the party owner of the Account is unblocked otherwise does not proceed in the blocking/unblocking. If the Account Identification identifies a CMB, the system checks that the both the account the CMB is linked to and the Participant owner of the account the CMB is linked to are unblocked otherwise does not proceed in the blocking/unblocking. .	If the check is not respected: - error code R009	Related Participant or related Account with an higher priority blocked
Reference data management	CMB existence	050020	Account Identification CMB User BIC	The CMB identified by the Account Identification must exist and its user must be CMB User BIC.	If the check is not respected: - error code R020	CMB not existing
Reference data management	User allowed to change Limit	050021	Account Owner	the system checks that the party identified by the Account Owner is: - Either a Central Bank and that the owner of the Account linked to the CMB is under the Central Bank responsibility; - Or the TIPS Participant owner of the Account linked to the CMB.	If the check is not respected: - error code R021	User not allowed to change the Limit

Business process	BR Name	Check ID	Input Fields and parameters	Business check	Error codes	Error Description

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.	
AB06	TimeoutInstructedAgent	Transaction stopped due to timeout at the Instructed Agent.	
AB08	OfflineCreditorAgent	Creditor Agent is not online.	Used in TIPS for the orphan payments
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	

4.3. Index of figures

Figure 1 - Scope of UDFS 7
Figure 2 - TIPS Connectivity 11
Figure 3 - Dynamic data model 2526
Figure 4 - Payment Transaction status transition diagram 3334
Figure 5 – Positive Recall Answer status diagram 3536
Figure 6 - Inbound Liquidity Transfer status 3738
Figure 7 - Outbound Liquidity Transfer status 3839
Figure 8 - Payment Transaction flow 50
Figure 9 - Payment Transaction missing/delayed Beneficiary-side answer flow 59
Figure 10 - Payment Transaction examples - data constellation 63
Figure 11 - Payment Transaction successful scenario FItoFICustomerCreditTransfer 64
Figure 12 - Payment Transaction successful scenario reservation 65
Figure 13 - Payment Transaction successful scenario FItoFIPaymentStatusReport 66
Figure 14 - Payment Transaction successful scenario settlement 67
Figure 15 - Payment Transaction successful scenario FItoFICustomerCreditTransfer 68
Figure 16 - Payment Transaction successful scenario reservation 69
Figure 17 - Payment Transaction successful scenario FItoFIPaymentStatusReport 70
Figure 18 - Payment Transaction successful scenario settlement 71
Figure 19 - Payment Transaction successful scenario FItoFICustomerCreditTransfer 72
Figure 20 - Payment Transaction successful scenario reservation 73
Figure 21 - Payment Transaction successful scenario FItoFIPaymentStatusReport 74
Figure 22 - Payment Transaction successful scenario settlement 75
Figure 23 - Payment Transaction rejected order FItoFICustomerCreditTransfer 76
Figure 24 - Payment Transaction rejected order reservation 77
Figure 25 - Payment Transaction rejected order FI to FI Status Report 78
Figure 26 - Payment Transaction rejected order unreservation 79
Figure 27 - Headroom error FItoFICustomerCreditTransfer 80
Figure 28 - Headroom error transaction failed 81
Figure 29 - Headroom error FItoFIPaymentStatusReport 82
Figure 30 - Blocked account error FItoFICustomerCreditTransfer 82
Figure 31 - Blocked account error transaction failed 83
Figure 32 - Blocked account error FItoFIPaymentStatusReport 84
Figure 33 - Beneficiary side timeout error FItoFICustomerCreditTransfer 85
Figure 34 - Beneficiary side timeout error reservation 86
Figure 35 - Beneficiary side timeout error FItoFIPaymentStatusReport 87
Figure 36 - Beneficiary side timeout error un-reservation 88
Figure 37 - Beneficiary side timeout error FI to FI Status Report 89
Figure 38 - Delayed Beneficiary-side answer FItoFICustomerCreditTransfer 90
Figure 39 - Delayed Beneficiary-side answer reservation 91
Figure 40 - Delayed Beneficiary-side answer unreservation 92
Figure 41 - Timeout answer FItoFIPaymentStatusReport (Originator side) 93
Figure 42 – Timeout answer FItoFIPaymentStatusReport (Beneficiary side) 93
Figure 43 - Delayed Beneficiary-side response FItoFIPaymentStatusReport 94
Figure 44 - Delayed Beneficiary-side reply FItoFIPaymentStatusReport 94
Figure 45 - Recall flow 96
Figure 46 - Recall examples - data constellation 104

Figure 47 - Recall successful scenario - positive answer - FItoFIPaymentCancellationRequest 105
Figure 48 - Recall successful scenario - positive answer - PaymentReturn 105
Figure 49 - Recall successful scenario - positive answer - Recall Dataset 106
Figure 50 - Recall successful scenario - positive answer - Settlement Process 106
Figure 51 - Recall successful scenario - negative answer - FItoFIPaymentCancellationRequest 107
Figure 52 - Recall successful scenario - negative answer - ResolutionOfInvestigation 108
Figure 53 - Recall unsuccessful scenario - Duplicate check failed - FItoFIPaymentCancellationRequest 109
Figure 54 - Recall unsuccessful scenario - Duplicate check failed - PaymentReturn 109
Figure 55 - Recall unsuccessful scenario - Duplicate check failed - Duplicate submission 110
Figure 56 - Recall unsuccessful scenario - Duplicate check failed - FItoFIPaymentStatusReport 110
Figure 57 - Investigation Flow 112
Figure 58 - Transaction status investigation examples - data constellation 114
Figure 59 - Successful FIToFIPaymentStatusRequest 115
Figure 60 - Successful FIToFIPaymentStatusReport 115
Figure 61 - Unsuccessful FIToFIPaymentStatusRequest 116
Figure 62 - Unsuccessful FIToFIPaymentStatusReport 116
Figure 63 – Inbound Liquidity Transfer Order flow 118
Figure 64 – Inbound Liquidity Transfer Order examples - data constellation 122
Figure 65 – Successful Inbound Liquidity Transfer order – Liquidity credit transfer 123
Figure 66 – Successful Inbound Liquidity Transfer order settlement 123
Figure 67 – Successful Inbound Liquidity Transfer order Receipt 123
Figure 68 – Successful Inbound Liquidity Transfer order credit notification 124
Figure 69 - Unsuccessful Inbound Liquidity Transfer order – Liquidity credit transfer 125
Figure 70 - Unsuccessful Inbound Liquidity Transfer order – Duplicate Submission 125
Figure 71 - Unsuccessful Inbound Liquidity Transfer order Receipt 126
Figure 72 - Outbound Liquidity Transfer Order flow 127
Figure 73 - Outbound Liquidity Transfer Order examples - data constellation 133
Figure 74 - Successful Outbound Liquidity Transfer order Liquidity Credit Transfer 134
Figure 75 - Successful Outbound Liquidity Transfer order settlement 134
Figure 76 - Successful Outbound Liquidity Transfer order Liquidity Credit Transfer 135
Figure 77 - Successful Outbound Liquidity Transfer order Receipt received by TIPS 135
Figure 78 - Successful Outbound Liquidity Transfer order Receipt sent by TIPS 135
Figure 79 - Unsuccessful Outbound Liquidity Transfer order Liquidity Credit Transfer 136
Figure 80 - Unsuccessful Outbound Liquidity Transfer order Receipt sent by TIPS 137
Figure 81 - Rejected Outbound Liquidity Transfer order Liquidity Credit Transfer 137
Figure 82 - Rejected Outbound Liquidity Transfer order settlement 138
Figure 83 - Rejected Outbound Liquidity Transfer order Liquidity Credit Transfer 138
Figure 84 - Rejected Outbound Liquidity Transfer order Receipt received by TIPS 138
Figure 85 - Rejected Outbound Liquidity Transfer order reverse settlement 139
Figure 86 - Rejected Outbound Liquidity Transfer order Receipt sent by TIPS 139
Figure 87 - Outbound Liquidity Transfer - Missing RTGS answer flow 140
Figure 88 - Outbound Liquidity Transfer – Missing RTGS answer steps 140
Figure 89 - Floor and ceiling notification triggers 142
Figure 90 - Floor notification settlement 143
Figure 91 - Floor notification ReturnAccount 143

Figure 92 - Ceiling notification settlement 144
Figure 93 - Ceiling notification ReturnAccount 145
Figure 94 - Queries flow 149
Figure 95 - Queries examples - data constellation 153
Figure 96 - Successful Get Account 154
Figure 97 - Successful ReturnAccount 154
Figure 98 - Successful Get Account 155
Figure 99 - Successful ReturnAccount 155
Figure 100 - Unsuccessful Get Account 156
Figure 101 - Unsuccessful ReturnAccount 156
Figure 102 - Queries Flow 160
Figure 103 - Queries examples - data constellation 163
Figure 104 – Successful FIToFIPaymentStatusRequest 164
Figure 105 - Successful FIToFIPaymentStatusReport 165
Figure 106 - Unsuccessful FIToFIPaymentStatusRequest 166
Figure 107 - Unsuccessful FIToFIPaymentStatusReport 167
Figure 108 – Reference Data Messages flow 169
Figure 109 – Reference Data Management examples - data constellation 175
Figure 110 - Block of a TIPS Participant successful scenario PartyModificationRequest 176
Figure 111 - TIPS Participant blocked for debiting 176
Figure 112 - Block of a TIPS Participant successful scenario PartyStatusAdvice 176
Figure 113 - Unblock of a TIPS Participant successful scenario PartyModificationRequest 177
Figure 114 - TIPS Participant unblocked 177
Figure 115 - Block of a TIPS Participant successful scenario PartyStatusAdvice 178
Figure 116 - Block of a TIPS Participant unsuccessful scenario PartyModificationRequest 178
Figure 117 - Block of a TIPS Participant successful scenario PartyStatusAdvice 179
Figure 118 - Block of a CMB successful scenario AccountExcludedMandateMaintenanceRequest 179
Figure 119 - CMB blocked for both credit and debit 180
Figure 120 - Block of a CMB successful scenario AccountRequestAcknowledgement 180
Figure 121 - Block of an Account successful scenario AccountExcludedMandateMaintenanceRequest 180
Figure 122 - Account unblocked 181
Figure 123 - Unblock of an Account successful scenario AccountRequestAcknowledgement 181
Figure 124 - Block of a CMB unsuccessful scenario AccountExcludedMandateMaintenanceRequest 182
Figure 125 - Block of a CMB unsuccessful scenario AccountRequestRejection 182
Figure 126 – Decrease of a CMB Limit successful scenario ModifyLimit 183
Figure 127 - CMB successful decrease of Limit 183
Figure 128 - Decrease of a CMB Limit successful scenario Receipt 183
Figure 129 – Decrease of a CMB Limit unsuccessful scenario ModifyLimit 184
Figure 130 - Decrease of a CMB Limit unsuccessful scenario Receipt 184

4.4. Index of tables

Table 1 – TIPS U2A Functions ..... 15~~16~~
Table 2 - Setup of Parties for TIPS ..... 16~~17~~
Table 3 - Party reference data ..... 19~~20~~21
Table 4 - Instructing Party reference data ..... 20~~21~~
Table 5 - Account Reference data ..... 22~~23~~
Table 6 - CMB reference data ..... 23~~24~~
Table 7 – Authorised Account User reference data ..... 24~~25~~
Table 8 – Payment Transaction ..... 25~~26~~
Table 9 - Liquidity Transfer ..... 27~~28~~27
Table 10 - Cash Posting ..... 28~~29~~28
Table 11 - Cash Balance ..... 28~~29~~
Table 12 - CMB Headroom ..... 29~~30~~29
Table 13 - TIPS Payment Transaction Types ..... 31~~32~~31
Table 14 – Reference data management functions available in TIPS ..... 40~~41~~
Table 15 - System Parameters ..... 44~~45~~
Table 16 – Instant Payment transaction steps 51
Table 17 - Payment Transaction missing/delayed Beneficiary-side answer steps ..... 60~~60~~59
Table 18 - Recall steps ..... 97~~97~~86
Table 19 - Investigation steps ..... 112~~112~~101
Table 20 – Inbound Liquidity Transfer Order steps ..... 119~~119~~108
Table 21 - Outbound Liquidity Transfer Order steps ..... 128~~128~~117
Table 22 - Query permissions ..... 146~~146~~134
Table 23 - Queries steps ..... 150~~150~~137
Table 24 - Queries steps ..... 161~~161~~144
Table 25 – Block/unblock Participant steps ..... 170~~170~~152
Table 26 – Block/unblock Account/CMB steps ..... 171~~171~~153
Table 27 – Update of a CMB Limit steps ..... 173~~173~~155

4.5. List of acronyms

Item	Description
24/7/365	24-hour and seven-day around the year
A2A	Application-to-Application
BIC	Bank Identifier Code
CAMT	Cash Management
CRDM	Common Reference Data Management
CMB	Credit Memorandum Balance
DN	Distinguished Name
DS	Dataset
ECB	European Central Bank
EPC	European Payments Council
ESMIG	Eurosystem Single Market Infrastructure Gateway
GL	General Ledger
GUI	Graphical User Interface (see U2A)
IBAN	International Bank Account Number
NSP	Network Service Provider
PACS	Payments Clearing and Settlement
SEPA	Single Euro Payments Area
T2S	TARGET2-Securities
TIPS	TARGET Instant Payments Settlement Service
TRGS	*tbd*
U2A	User-to-Application
UDFS	User Detailed Functional Specifications
UHB	User Handbook
UR	User Requirement
URD	User Requirements Document
XML	Extensible Mark-up Language

4.6. List of referenced documents

	Title	Source
[1]	SEPA Instant Credit Transfer (SCT Inst) Scheme Rulebook, Version 1.0, 2016	EPC
[2]	SEPA Instant Credit Transfer Scheme Interbank Implementation Guidelines, Version 1.1, 2017	EPC
[3]	TARGET Instant Payment Settlement User Requirements	ECB
[4]	TARGET Instant Payment Settlement User Handbook	4CB

4.7. Glossary

Item	Description	Source
A2A	See application-to-application	ECB
application-to-application	A technical mode of communication that permits the exchange of information between different software applications without a graphical user interface.	ECB
Beneficiary	A customer identified in the SCT Inst transaction to whom the funds are sent to.	EPC
Beneficiary Participant	A Beneficiary account servicing payment services provider.	EPC
Business Identifier Code	An international standard for identification of institutions within the financial services industry. It consists of eight or eleven contiguous characters, comprising a financial institution code (four characters), a country code (two characters), a location code (two characters) and, optionally, a branch code (three characters).	ECB
camt	See Cash Management message	ECB
Cash Management message	(Camt) ISO 20022 standard for XML messages to be used to manage cash.	ECB
Ceiling	An upper threshold for notifying the account owner that a defined account balance or CMB limit has been reached.	ECB
Central Bank Money	Liabilities of a central bank, in the form of either banknotes or bank deposits held at a central bank, which can be used for settlement purposes.	ECB
Credit Memorandum Balance	A credit limit that is linked to a TIPS account.	ECB
Dataset	It specifies the full range of data to be provided in the relevant ISO 20022 XML message.	ECB
Delta report	A delta report is a report which only contains data for which the status/content has changed since the generation of the previous report.	ECB
Distinguished name	A name that uniquely identifies an entry in a directory or network. Usually it is a sequence of attribute-value assertions (e.g. "cn=smith") separated by commas, e.g. <cn=smith,ou=t2s-ops, o=bnkacctt,o=nsp-1>.	ECB
European Payments Council	An association representing payment service providers that supports and promotes payments integration and development in Europe. The primary task of the EPC is to manage the SEPA payment schemes.	EPC
Eurosystem	The central banking system of the euro area. It comprises the ECB and the national central banks of those EU Member States whose currency is the euro.	ECB

Item	Description	Source
Extensible Mark-up Language	(XML) An open standard developed and maintained by World Wide Web Consortium (W3C), for describing and structuring data for the transmission and exchange of information between computer applications and organisations / humans.	ECB
Floor	A lower threshold for notifying the account owner that a defined account balance or CMB limit has been reached.	ECB
Headroom	The (remaining) headroom of a CMB specifies the current cash amount available to the user of the CMB for settlement of instant payment transactions. The headroom is the limit minus limit utilisation.	ECB
Instant Payment	A payment that can be executed 24 hours a day, each day of the year, and resulting in the immediate or close-to-immediate interbank clearing of the transaction and crediting of the payee's account with the confirmation to the payer within seconds of payment initiation. This is irrespective of the underlying payment instrument used and of the underlying arrangements for clearing and settlement that makes this possible.	ERPB
Instant Payment Transaction	A transaction or message requesting the transfer of funds from a debtor to a creditor by means of an instant payment.	ECB
Instructing Party	An entity acting on behalf of either a Participant or a Reachable Party and communicate with TIPS directly (i.e. send and receive messages). Participants and Reachable Parties can act as Instructing Parties and impersonate them.	ECB
International Bank Account Number	An International Organization for Standardization (ISO) technical code that is an expanded version of the basic bank account number (BBAN). Intended for use internationally, the IBAN uniquely identifies an individual account at a specific financial institution in a particular country. The IBAN also includes the bank identifier of the financial institution servicing that account.	ECB
ISO 20022	The international standard for financial services messaging, maintained by the International Organization for Standardisation.	ECB
Limit	Quantitative limit on the funds transfer activity of participants in a system; limits may be set by each participant or imposed by the body managing the system.	ECB
Limit utilisation	The limit utilisation of a CMB specifies the amount by which its limit is already reduced by settlement of instant payments. The limit utilisation is the limit minus headroom.	ECB
Liquidity transfer	An instruction to transfer central bank money from an RTGS account to a TIPS account or vice versa from a TIPS account to an RTGS account.	ECB
National Central Bank	A Central Bank that provides cash account services to Participants for settlement of instant payments in central bank money	ECB
Originator	A Customer who initiates directly or indirectly the SCT Inst by providing the Originator Participant with an instruction.	EPC
Originator Participant	An Originator account servicing payment services provider.	EPC

Item	Description	Source
pacs	See Payments Clearing and Settlement message	ECB
Participant	An entity which has a BIC and own at least a TIPS (and/or linked CMBs); their accounts cannot have a negative balance. This entity is responsible for the setup and configuration of CMBs linked to their accounts.	ECB
Payment Transaction	See Instant Payment Transaction	
Payments Clearing and Settlement message	(Pacs) ISO 20022 standard for XML messages to be used to manage payments clearing and settlement.	ECB
Reachable Party	An entity which does not have TIPS accounts and have to rely on a Participant to allow them to use an account (or CMB). Reachable parties can interact with TIPS directly (i.e. send payment transactions) if they assume the role of an Instructing Party; however, responsibility remains with the Participant.	ECB
Real-Time Gross Settlement system	A settlement system in which processing and settlement take place on a transaction-by-transaction basis (without netting) in real time.	ECB
Recall	A recall occurs when the Originator Participant requests to cancel an SCT Inst Transaction. The Recall procedure can be initiated only by the Originator Participant which may do it on behalf of the Originator.	EPC
Reservation of funds	A process of preventing the transfer of a specified amount of funds in a specific currency in one account to any other account except for the purpose for which the funds were reserved.	ECB
Scheme	A scheme can be considered as a set of procedures, rules and technical standards governing the execution of payment transactions.	ECB
Settlement	An act that discharges obligations in respect of funds or securities transfers between two or more parties.	ECB
Single Euro Payments Area	A process initiated by European banks and supported, inter alia, by the Eurosystem and the European Commission with a view to integrating retail payment systems and transforming the euro area into a true domestic market for the payment industry.	ECB
System User	An individual or a technical process/application that can log into the service with a login name and password.	ECB
T2S	See TARGET2-Securities	ECB
TARGET2	The Eurosystem's single shared platform enabling the settlement of payments in central bank money in Europe, supporting the implementation of the Eurosystem's monetary policy.	ECB
TARGET2-Securities	The Eurosystem's single technical platform enabling central securities depositories (CSDs) and national central banks to provide core, borderless and neutral securities settlement services in central bank money in Europe.	ECB
Timestamp	A timestamp is a sequence of characters, denoting the date and/or time at which a certain event occurred.	ECB

Item	Description	Source
TIPS Operator	The Operator is the legal and/or organisational entity/entities that operates/operate the instant payment service.	ECB
Transit Account	A cash account in the RTGS system and in TIPS held and used by the responsible system operator to transfer funds between the two. The transit account opened within TIPS is referred as RTGS dedicated transit account and the transit account opened within the RTGS system is referred as TIPS dedicated transit account.	ECB
U2A	See user-to-application	ECB
user-to-application	A mode of technical communication that permits the exchange of information between software applications of TIPS and a TIPS system user through a graphical user interface.	ECB