Queries, reports, notifications and statistics
R2023.NOV

Trainer Name

Banca d'Italia

Banca d'Italia
TIPS User Training Course
Date – Training type
Day 3 - Session TIPS.TR.FN.070

1	**Queries**
2	**Reports and report configuration**
3	**Notifications and message subscription**
4	**Statistical indicators**

1	**Queries**

- *Overview*
- *A2A mode*
- *U2A mode*

2	**Reports and report configuration**
3	**Notifications and message subscription**
4	**Statistical Indicators**

Overview

- **WHAT**: TIPS provides four types of queries to satisfy actors' need for information on demand:
    - Account balance and status query
    - CMB limit and status query
    - Payment transaction status query
    - Advanced Payment transaction status query
    - Liquidity transfer status query
    - Advanced Liquidity transfer status query

- **HOW**: Available in both U2A and A2A mode*

- **WHEN**: 24/7/365

- **WHY**: To manage the liquidity over the accounts and CMBs in a timely manner and to provide information on transactions and liquidity transfers.

(*) The Advanced Payment transaction status query, the Liquidity transfer status query, and the Advanced Liquidity transfer status query are available only in U2A mode

Query permissions

Actor	Account Balance and Status Query	CMB Limit and Status Query	Payment Transaction Status Query	Liquidity transfer status Query
Central Bank	Accounts under the CB's responsibility	CMBs under the CB's responsibility	Payment transactions which involve either as originator BIC or as beneficiary BIC one of the TIPS Actors belonging to the data scope of the given Central Bank.	All liquidity transfers affecting accounts in their books
Participant	Accounts for which the Participant is owner or authorised	CMB for which the Participant is owner or authorised	Payment transactions which involve the Participant or one of its authorised Reachable Parties either as originator BIC or as beneficiary BIC	All liquidity transfers affecting their accounts
Reachable party	No	No	No	No
Instructing Party on behalf of a Participant	Accounts for which the Participant's BIC is owner or authorised	CMBs for which their Participant's BIC is owner or authorised	Payment transactions which involve either as originator BIC or as beneficiary BIC the Participant the Instructing Party is acting on behalf for.	On liquidity transfers they submitted
Instructing Party on behalf of a Reachable Party	Accounts for which the Reachable Party's BIC is set as authorised user	CMBs for which their Reachable Party's BIC is set as responsible or authorised user	Payment transactions which involve either as originator BIC or as beneficiary BIC the Reachable Party the Instructing Party is acting on behalf for.	No
Ancillary system	The TIPS AS Technical account for which the Ancillary system's BIC is owner	CMBs for which the Ancillary system's BIC is owner	Payment transactions which involve, either as originator BIC or as beneficiary BIC, TIPS Participants or Reachable parties that are authorised to settle on the TIPS AS Technical Account.	All liquidity transfers affecting its TIPS AS Technical account
RTGS System	Accounts denominated in their currency	CMBs denominated in their currency	Not applicable	Not applicable

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1	**Queries**

	Overview
	A2A mode
	U2A mode

2	**Reports and report configuration**
3	**Notifications and message subscription**
4	**Statistical Indicators**

Involved messages

GetAccount (camt.003.001.06)

Sent to TIPS to get information on Account balance and status or CMB Limit and status

ReturnAccount (camt.004.001.07)

Sent by TIPS to inform on the status of the Account or CMB

GetTransaction (camt.005.001.07)

Sent to TIPS to get information on the status of previously submitted or received Instant Payment transaction or Recall Response.
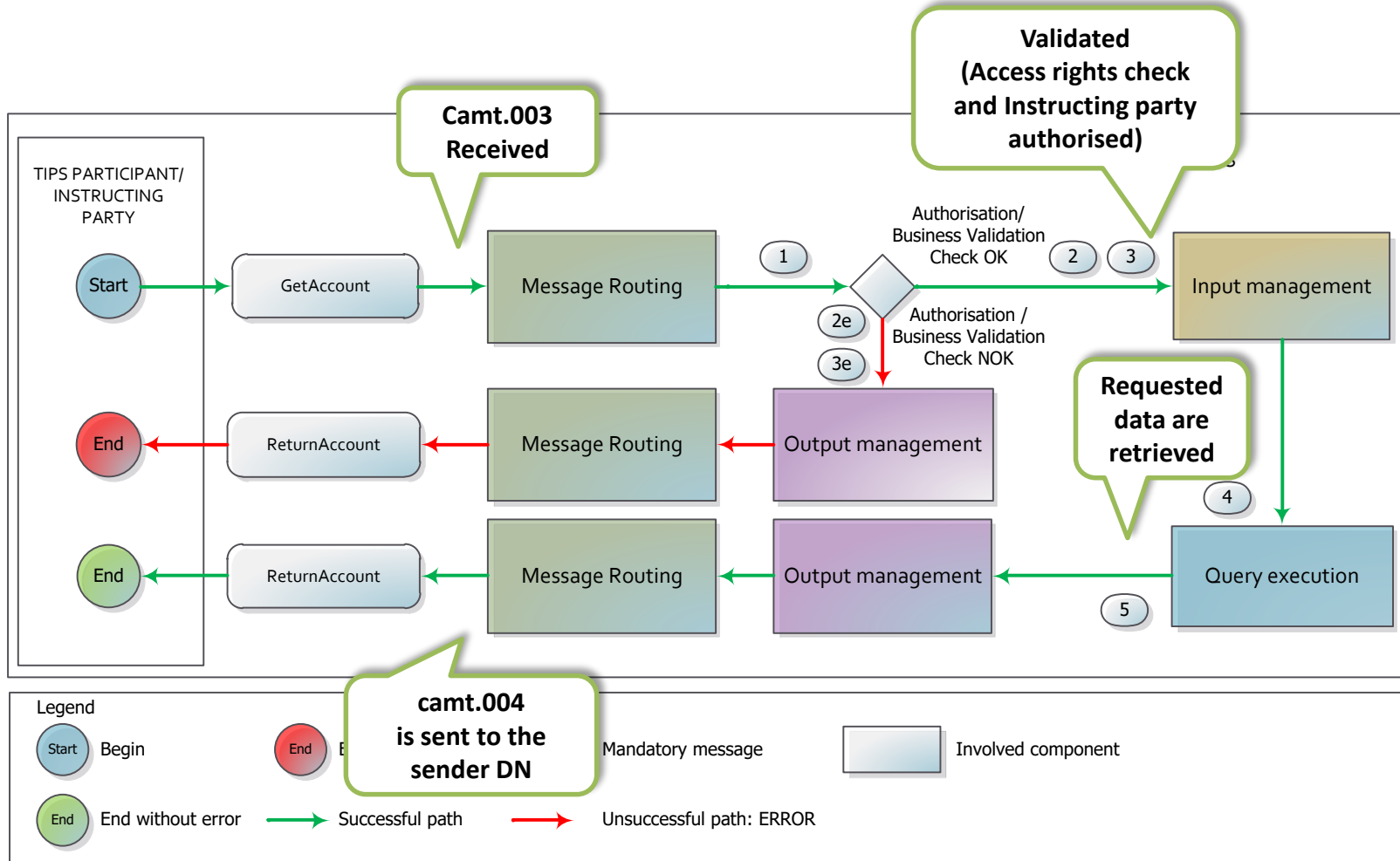
ReturnTransaction (camt.006.001.07)

Sent by TIPS to inform on the status of the Instant Payment transactions or Recall Response.

Example of flow - Account balance status query

1	Queries

Overview

A2A mode

U2A mode

2	Reports and report configuration

3	Notifications and message subscription

4	Statistical Indicators

Queries – U2A mode

1 User *ABC* sends an Account balance and status query on the TIPS GUI

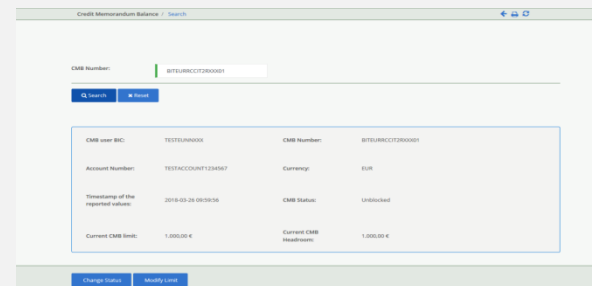User *ABC*

3 The query result appears on the screen
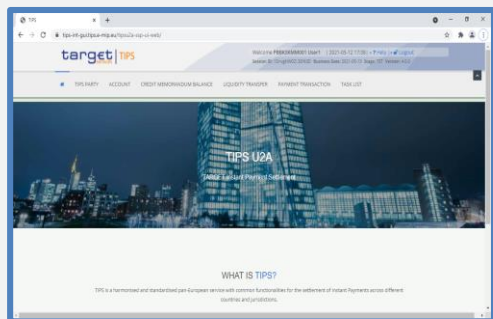
2 The backend checks that the user has been granted the needed privileges and that the queried account is in the data scope of the Party the user belongs to

Queries - U2A mode - Account balance status query example

The information is retrieved through the TIPS GUI, available 24/7/365

TIPS Account / Search

TIPS ACCOUNT LIST
search for TIPS accounts

One *Search* criterion

TIPS Account Number: ITEURDCCSEPXXX1

Q Search   ✖ Reset

Query results available in the same screen

TIPS Participant:	TESTEUNNXXX	Account Number:	ITEURDCCSEPXXX1
Currency:	EUR	Account Status:	Unblocked
Timestamp of the reported balance:	2018-03-26 09:41:18	Current Account Balance:	77.000,00 €

Change Status

Queries - U2A mode – Advanced Liquidity transfer status query example

The information is retrieved through the TIPS GUI, available 24/7/365

LIQUIDITY TRANSFER ADVANCED LIST

Advanced search for Liquidity Transfer

High number of available *Search* criteria

Query results available in a *sortable list* in the same screen

Liquidity Transfer referen...	Debtor BIC	Creditor BIC	Debited Cash Acc...	Credited Cash Acc...	Status	Amount	Settlement ...
TIPLT00230315600	DABAIE2D	BABAIE2B	ACCOUNTNUMBER001	ACCOUNTNUMBER002	Settled	100	2023-03-15
TIPLT00230315601	DABAIE2D	CABAIE2C	ACCOUNTNUMBER001	ACCOUNTNUMBER003	Settled	100	2023-03-15
TIPLT00230315603	CABAIE2C	DABAIE2D	ACCOUNTNUMBER003	ACCOUNTNUMBER004	Settled	200	2023-03-14

Total rows: 3

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1	Queries

2	Reports and report configuration

- Overview
- Statement of Account Turnover
- Statement of Accounts
- TIPS Directory
- Report configuration

3	Notifications and message subscription

4	Statistical Indicators

Reports: supporting reconciliation activities

- **WHAT**: TIPS provides three types of reports:
    - Statement of Account Turnover
    - Statement of Accounts
    - TIPS Directory

- **HOW**: All the reports are available in A2A push mode (at the RTGS System End of Day or at a scheduled frequency during the day). The TIPS Directory can also be download in pull mode via U2A mode from a dedicated CRDM screen.

- **WHEN**: At the end of the relevant RTGS System business day and/or at predefined frequencies depending on the report type

- **WHY**: To support TIPS Actors business monitoring and reconciliation activities

Report permissions

Actor	Statement of Account Turnover	Statement of Accounts
Central Bank	No	No
TIPS Participant	Own accounts	Own accounts
Reachable party	No	No
Instructing Party on behalf of a Participant	Accounts of the Participant on behalf of which the Instructing Party is operating	Accounts of the Participant on behalf of which the Instructing Party is operating
Instructing Party on behalf of a Reachable Party	No	No
Ancillary system	Own TIPS AS technical account	Own TIPS AS technical account

1	**Queries**

2	**Reports and report configuration**

- *Overview*
- *Statement of Account Turnover*
- *Statement of Accounts*
- *TIPS Directory*
- *Report configuration*

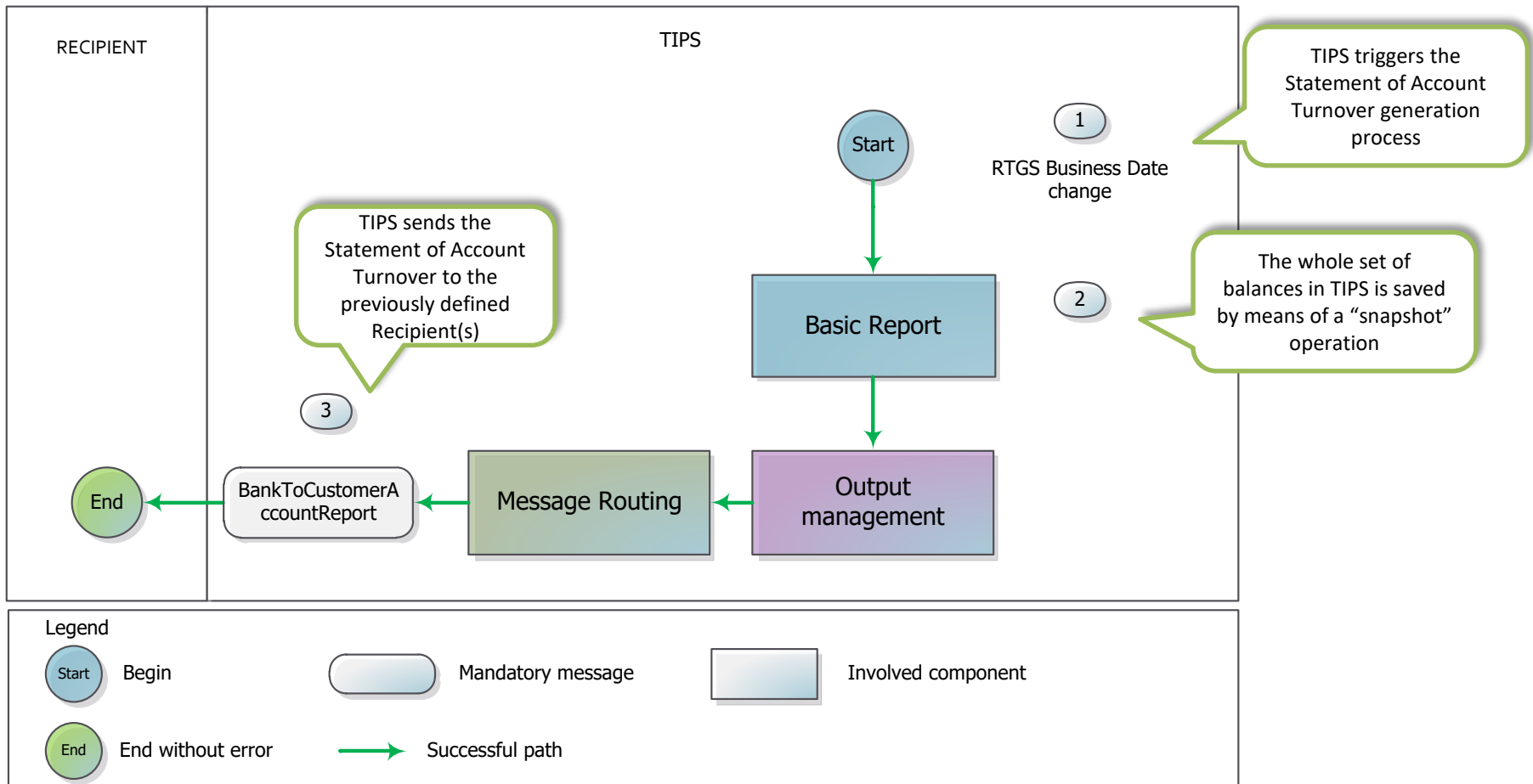| 3	**Notifications and message subscription**

4	**Statistical Indicators**

Statement of Account Turnover

- Provides information on the opening/closing balances at start/end of RTGS System business day and the sum of debits/credits for all the accounts in the data scope of the TIPS Actor who subscribed it in CRDM:
    - For any **TIPS Participant**, the report includes all the TIPS Accounts owned by the Party
    - For any **Ancillary System**, the report includes the TIPS AS Technical account owned by the AS

- The report is produced only in **full mode**

- TIPS actors can configure their report subscription and the related routing configuration in the Common Reference Data Management

- **Multiple recipients** can be set up for the same report issue, i.e. in case several DNs have to be notified, through the routing configuration

Statement of Account Turnover flow

RECIPIENT

TIPS

Start

1

RTGS Business Date change

TIPS triggers the Statement of Account Turnover generation process

TIPS sends the Statement of Account Turnover to the previously defined Recipient(s)

Basic Report

2

The whole set of balances in TIPS is saved by means of a "snapshot" operation

3

End

BankToCustomerAccountReport

Message Routing

Output management

Legend

Start — Begin

Mandatory message

Involved component

End — End without error

→ Successful path

1	**Queries**

2	**Reports and report configuration**

- *Overview*
- *Statement of Account Turnover*
- *Statement of Accounts*
- *TIPS Directory*
- *Report configuration*

| 3	**Notifications and message subscription**

4	**Statistical Indicators**

Statement of Accounts

- Provides information on the balances available at the time of report creation for all the accounts in the data scope of each TIPS Actor. For each account, detailed information on the related settled transactions (Instant Payments, positive Recall Responses and Liquidity Transfers) during the reporting period is provided:

  - For any **TIPS Participant**, the report includes all the TIPS Accounts owned by the Party

  - For any **Ancillary System**, the report includes the TIPS AS Technical account owned by the AS

- The report is produced both in **full** and **delta mode**

- Delta reports include only the relevant data that has changed since the previous generation of the report

- TIPS actors can configure their report subscriptions and the related routing configuration in the Common Reference Data Management

- **Multiple recipients** can be set up for the same report issue, i.e. in case several DNs have to be notified, through the routing configuration

Statement of Accounts flow
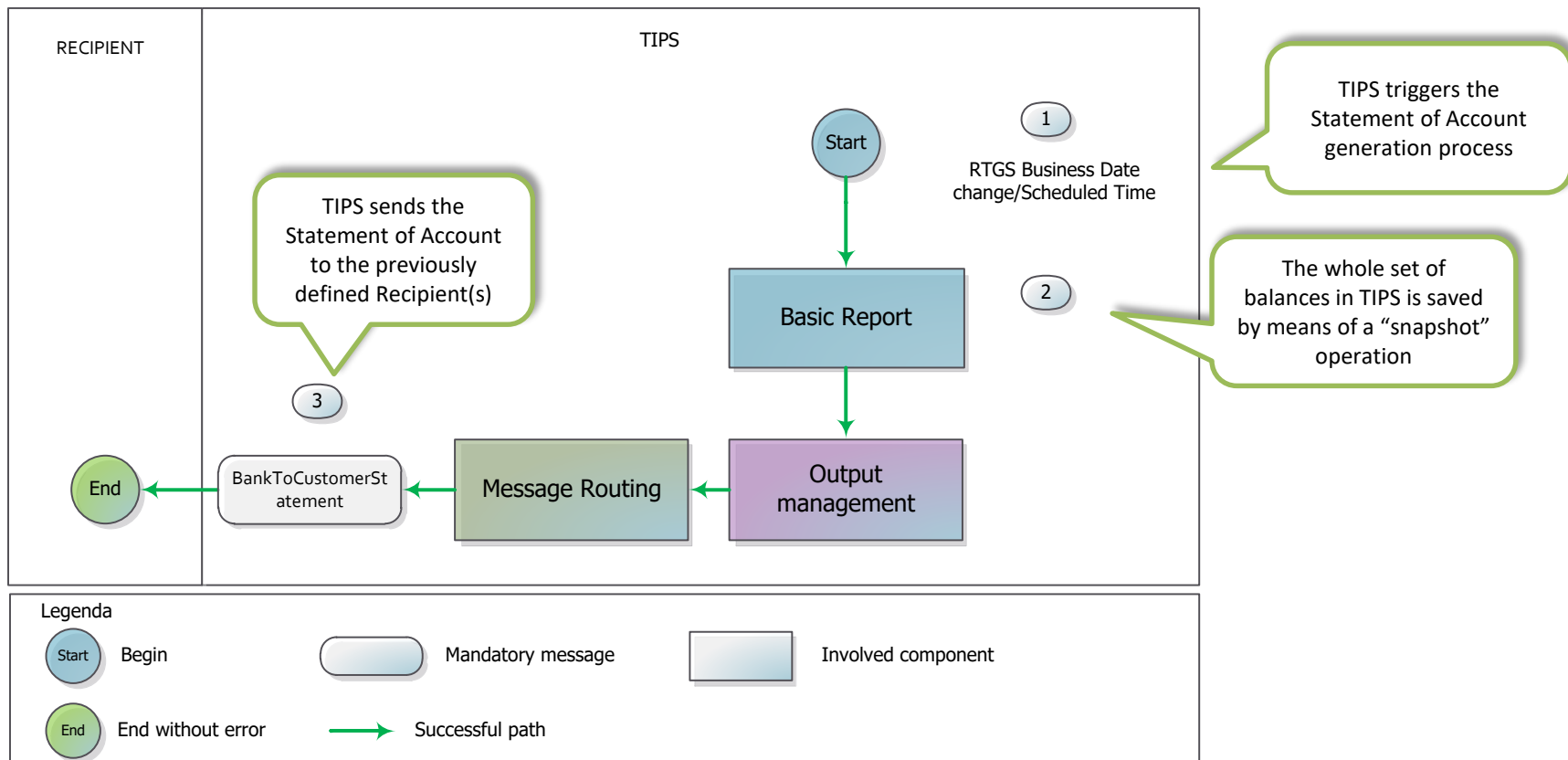
New reconciliation process (1/2)

- The information required for reconciliation during the day or at the End-of-Day is conveyed to TIPS Actors by enhancing the **Message Exchange Processing for TIPS** (MEPT) protocol, which is used in the communication between TIPS and the Network Service Providers.

- More in detail, TIPS uses additional optional properties at transport level for each Payment Transaction (i.e., Instant Payment or Recall Response) and Liquidity Transfer having a final status equal to "Settled".

- The content of these properties is:

    o **Current RTGS Business date**, i.e. the RTGS business date when the settlement took place (*already available as of R3.1*);

    o **Sequence number**, indicating the number of postings since the last business date change (*only available as of R4.1*);

    o **Final balance of the accounts**, after successful settlement of the underlying transaction (*only available as of R4.1*).

New reconciliation process (2/2)

- The additional information will be included in the MEPT protocol in the following business cases:

    - *Settled instant payment:* pacs.002 of positive confirmation

    - *Settled positive Recall Response:* pacs.002 and pacs.004

    - *Settled Incoming Liquidity Transfer:* camt.054 (credit) notification message

    - *Settled Outgoing Liquidity Transfer:* camt.025 and camt.054 (debit) notification message

    - *Settled intra-service Liquidity Transfer:* camt.025 and camt.054 (debit and credit) notification messages

    - *Investigation:* re-generated pacs.002 of positive confirmation

    - *Query:* ReturnTransaction message

- Available for both (i) standard and (ii) SIP settlement models for the account(s) under the scope of the message receiving entity.

- The same information is also available in the TIPS GUI, when querying a Payment Transaction or a Liquidity Transfer.

1	**Queries**

2	**Reports and report configuration**

Overview

Statement of Account Turnover

Statement of Accounts

TIPS Directory

Report configuration

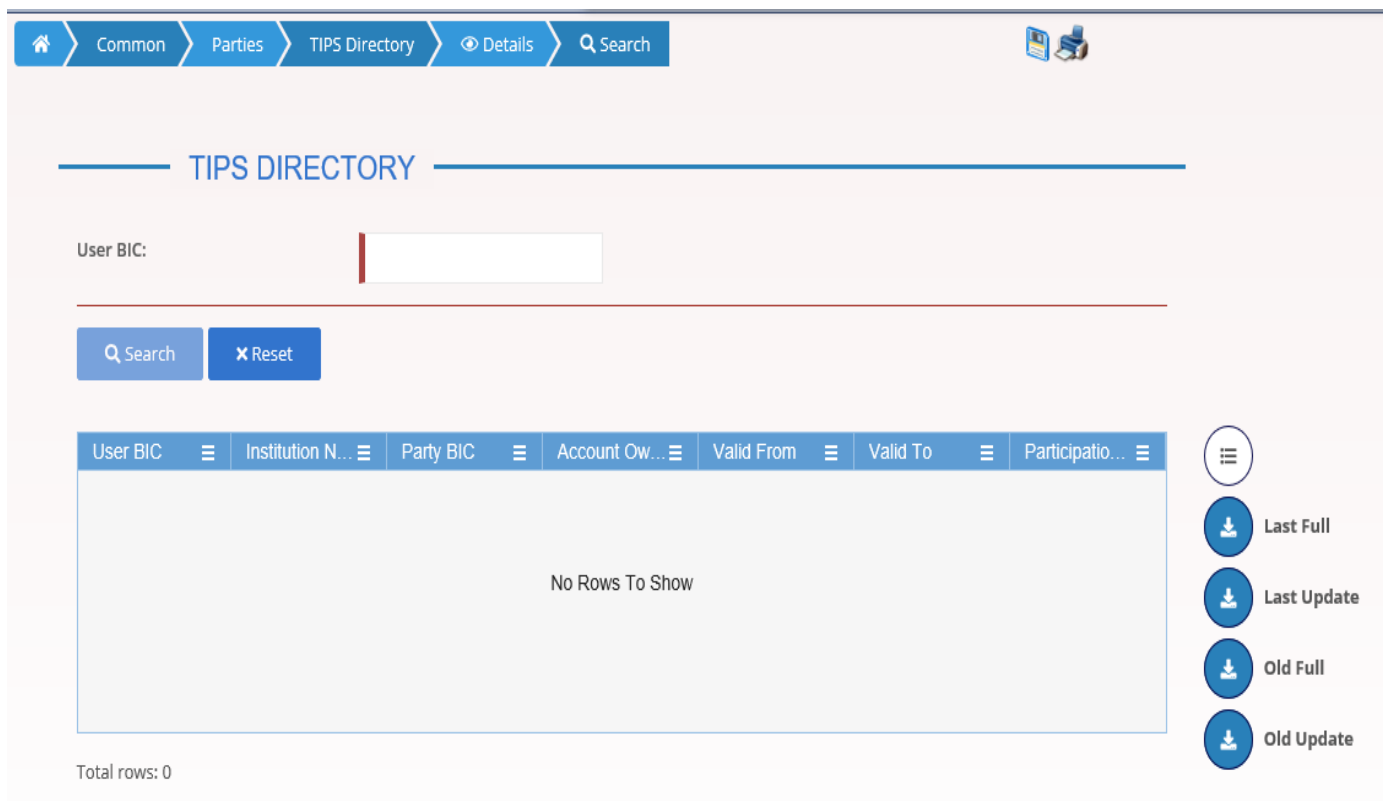| 3	**Notifications and message subscription**

4	**Statistical Indicators**

TIPS Directory (1/4)

- The TIPS Directory provides routing information needed to support the settlement of instant payments in a given currency

- It includes the list of TIPS Participants and Reachable Parties BICs that are addressable within TIPS for a specified currency

- "Full" or "update" version generated as a flat file each day at 17:00 CET; not produced in delta mode

- The "update" version includes only changes with respect to the previous version of the TIPS Directory

- TIPS actors can configure their report subscription and the related routing configuration in the Common Reference Data Management in order to receive the TIPS Directory right in **push mode** after its generation. The TIPS Directory will include only the records related to the currency of the Central Bank to which the TIPS actor belongs to

TIPS Directory (2/4)

- Alternatively, TIPS actors may download either the "full" or "update" version from a CRDM web page in **pull mode**, at any time during the service hours of CRDM

TIPS Directory (3/4)

- One TIPS Directory per currency is generated

- The format of the Directory is the following:

FIELD NAME	DESCRIPTION
User BIC	BIC configured as Authorised Account User in TIPS and used to address Instant Payments in TIPS.
Institution Name	It is the name stored in the CRDM BIC Directory together with the User BIC.
Party BIC	BIC that identifies a TIPS Participant or a Reachable Party in TIPS. This BIC is for information purpose only and it allows grouping all User BICs configured by a given TIPS Participant or Reachable Party. It cannot be used to address Instant Payments in TIPS.
Account Owner BIC	BIC of the TIPS Participant (or TIPS Ancillary System) owning the TIPS Account (or TIPS AS Technical Account) for which the User BIC has been authorised, also through a CMB.
Type of Change	A – Added ; M – Modified; D – Deleted; U – Unchanged.
Valid From	Date from which the entry is valid.
Valid To	Date up to which the entry is valid.
Participation Type	01 – TIPS Participant; 02 – Reachable Party.
Maximum IP_Amount	Maximum Amount accepted by the corresponding TIPS Participant or Reachable Party into an incoming Instant Payment transaction.

TIPS Directory (4/4)

- Also AAU with future validity dates are included

- The 'Account Owner BIC' field may report the ACH BIC owning the technical account for which the BIC of the financial institution (as Reachable Party) has been authorised

- Different Max IP Amounts can be set for the same financial institution, depending on its configuration in TIPS (i.e., TIPS Participant or Reachable Party)

User BIC	[…]	Account Owner BIC	[…]	Maximum IP Amount
PSPA0234XXX	[…]	ACH10XYZXXX	[…]	150.000
PSPA0123XXX	[…]	PSPA0123XXX	[…]	100.000

1	**Queries**

2	**Reports and report configuration**

- *Overview*
- *Statement of Account Turnover*
- *Statement of Accounts*
- *TIPS Directory*
- *Report configuration*

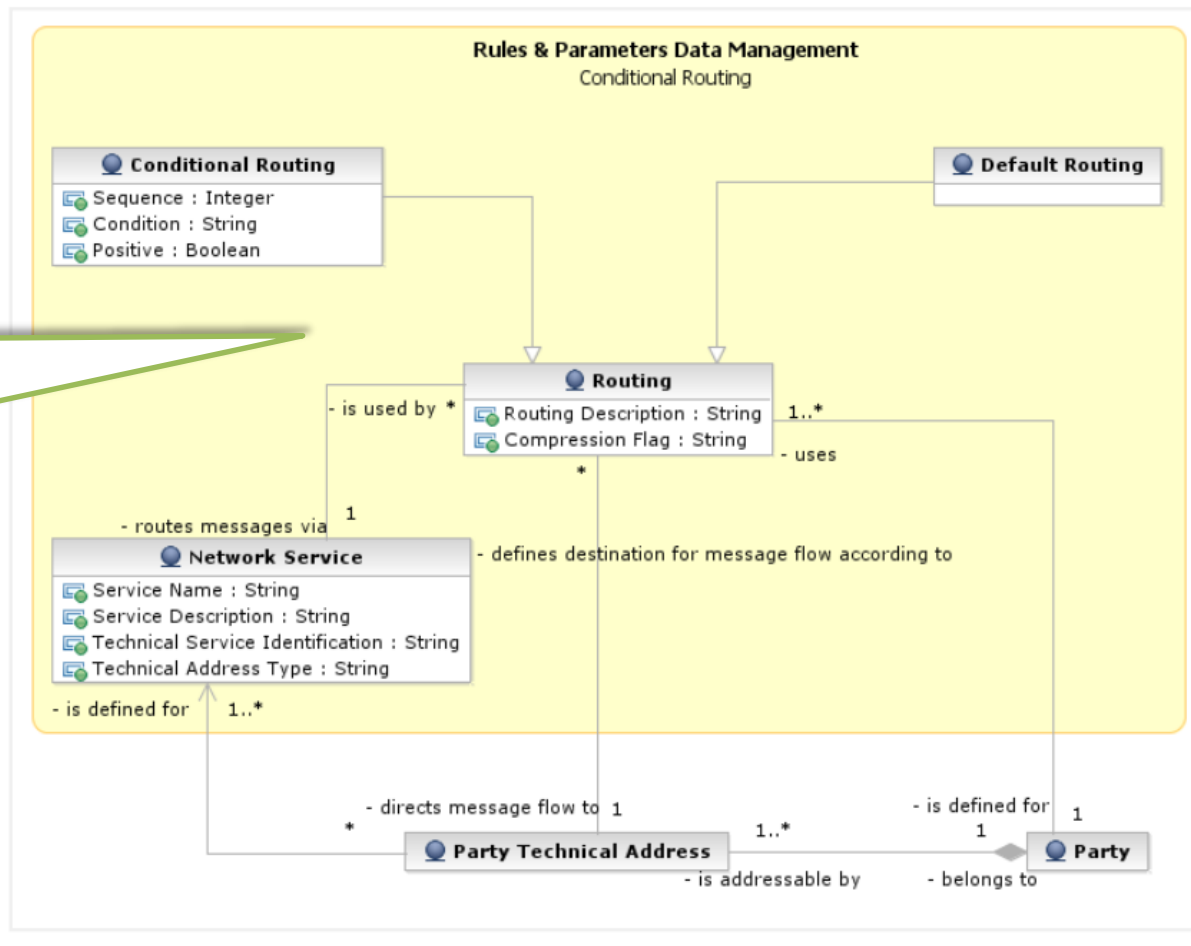| 3	**Notifications and message subscription**

4	**Statistical Indicators**

Report configuration

Each *Report Configuration* specifies a type of report, its data scope (i.e. full or delta report) and the frequency

Rules & Parameters Data Management

Report Configuration

Report Configuration
- Configuration Name : String
- Configuration Description : String
- Delta Mode : Boolean
- System Entity Wide Reporting : Boolean
- Frequency : Number

1

- is linked to   *

*

Report Configuration Party Link
- Push Mode : Boolean
- Valid From : Date
- Valid To : Date

*

1   - is defined for

Report Type
- Report Name : String
- Report Description : String
- Delta Availability : Boolean

*

- provides

1

1   - is provided by

Party

Service

Routing configuration

Each *Routing Configuration* specifies the types of messages to be routed to each Party Technical Address

Rules & Parameters Data Management
Conditional Routing

Conditional Routing
- Sequence : Integer
- Condition : String
- Positive : Boolean

Default Routing

Routing
- Routing Description : String
- Compression Flag : String

- is used by *

1..*

- uses

*

- routes messages via

1

Network Service
- Service Name : String
- Service Description : String
- Technical Service Identification : String
- Technical Address Type : String

- defines destination for message flow according to

- is defined for   1..*

- directs message flow to 1

*

Party Technical Address

1..*

- is addressable by

- is defined for

1

- belongs to

Party

1

Report configuration – CRDM GUI

The report subscription can be performed only via CRDM GUI

Same screen to mantain all types of Reports for different Services

Not relevant for full reports

Not relevant for TIPS Reports
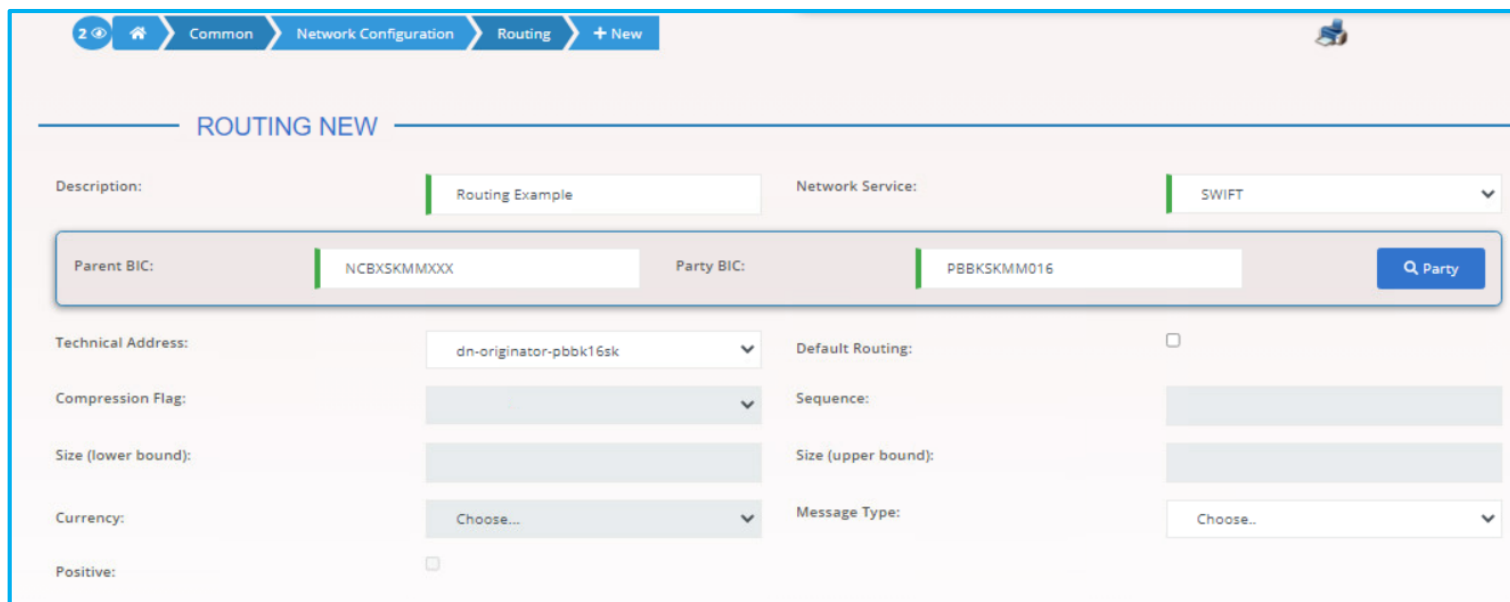
List of available TIPS reports

Routing configuration – CRDM GUI

The routing configuration can be performed only via CRDM GUI :
- TIPSCRDM.XXX *Network Service* has to be used for receiving TIPS Directory
- (optionally) To define multiple recipient [CR-10]

1	**Queries**

2	**Reports and report configuration**

3	**Notifications and message subscription**

- *Overview*
- *Message Subscription*
- *Ceiling notification*
- *Floor notification*

4	**Statistical Indicators**

Overview

- Notification messages are sent by TIPS to the relevant interested actors (i) upon proper configuration in CRDM and (ii) when a certain event occurs:

    - **Message subscription** for debit/credit notification

    - **Floor and ceiling thresholds** at TIPS Account, TIPS AS Technical Account or CMB level

- The relevant messages are:

    - **BankToCustomerDebitCreditNotification (camt.054.001.06)**
        - In case of Debit and Credit notification upon settlement of a Liquidity Transfer

    - **ReturnAccount (camt.004.001.07)**
        - In case of Ceiling notification

    - **ReturnAccount (camt.004.001.07)**
        - In case of Floor notification

- The notifications are handled by TIPS following the TANSL (Technical Address Network Service Link) configuration captured in CRDM:

    - Each DN captured as **Party Technical Address** (PTA) shall be linked to a ***.NOTIF** Network Service (e.g. SWIFT.NOTIF , SIA.NOTIF)

    - Only one PTA per Party can be linked to the ***.NOTIF** Network Service

1	**Queries**
2	**Reports and report configuration**
3	**Notifications and message subscription**

- *Overview*
- *Message Subscription*
- *Ceiling notification*
- *Floor notification*

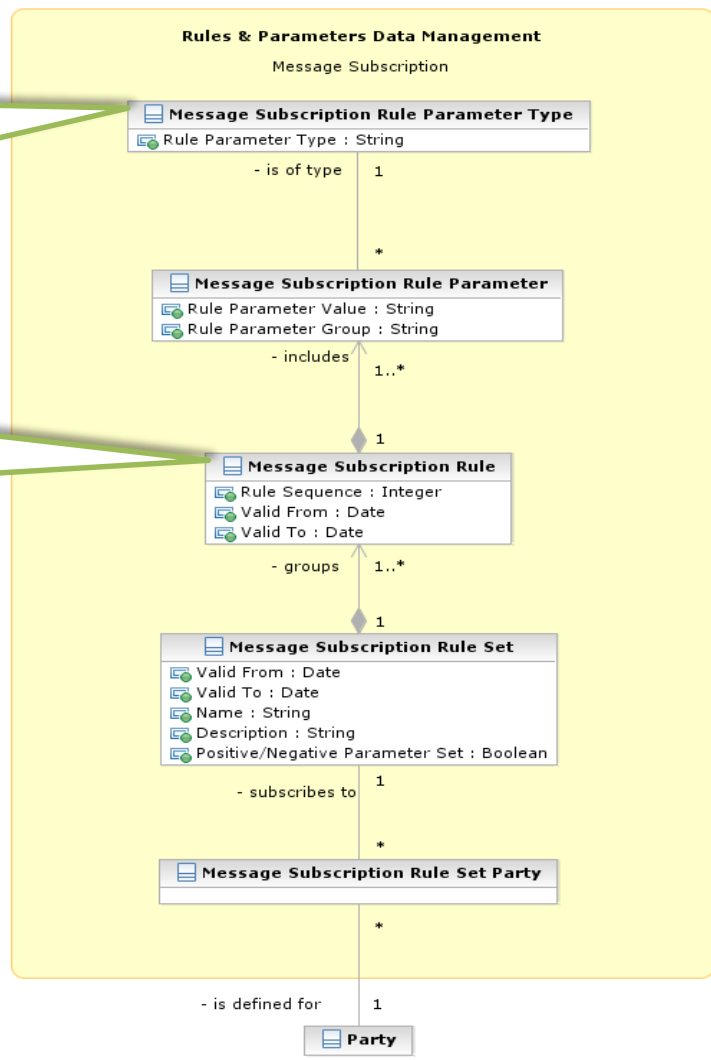| 4	**Statistical Indicators**

Message Subscription for Credit/Debit notifications (1/2)

- **WHAT**: Central Banks can configure, for participants they are responsible for, the subscription for credit/debit notifications for liquidity transfers occurring on selected accounts owned by their TIPS Actors

- **HOW**: Subscription is defined in U2A mode. The relevant notification is provided in A2A via camt.054 message

- **WHEN**: Every time a TIPS Account or TIPS AS Technical Account is credited/debited through a Liquidity Transfer

- **WHY**:
  - (i) to inform the TIPS Account owner that a liquidity transfer credited one of their accounts or,
  - (ii) to confirm that a liquidity transfer debited successfully one of their account

Message Subscription for Credit/Debit notifications (2/2)

Three parameters must be configured: message type, cash account number and currency

In the CRDM for TIPS there can be a rule for every Account owned by the relevant Party

Rules & Parameters Data Management

Message Subscription

Message Subscription Rule Parameter Type
Rule Parameter Type : String

- is of type   1

*

Message Subscription Rule Parameter
Rule Parameter Value : String
Rule Parameter Group : String

- includes   1..*

1

Message Subscription Rule
Rule Sequence : Integer
Valid From : Date
Valid To : Date

- groups   1..*

1

Message Subscription Rule Set
Valid From : Date
Valid To : Date
Name : String
Description : String
Positive/Negative Parameter Set : Boolean

- subscribes to   1

*

Message Subscription Rule Set Party

*

- is defined for   1

Party

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Notification in case of intra-service Liquidity Transfers

- In the scenario of a successfully settled intra-service Liquidity Transfer both involved accounts are defined in TIPS (i.e. a TIPS Account and a TIPS AS technical account)

- Therefore, upon subscription of the debit/credit notification for both account owners, TIPS notifies the two counterparts about the successful settlement

- Moreover, it may happen that the sender who is injecting liquidity on the TIPS AS Technical Account is acting as a liquidity provider on behalf of another TIPS Participant BIC or Reachable Party

- In order to convey such a relevant information to the Ancillary System (i.e. on which counterpart's behalf the liquidity is transferred to the TIPS AS Technical account), the creditor BIC field will contain the BIC of TIPS Participant BIC or Reachable Party

- The same logic applies also to the intra-service Liquidity Transfers settled in the opposite direction, i.e. when the Ancillary System repatriates liquidity on the counterpart TIPS Account for one of their Reachable Parties

Message Subscription for Credit/Debit notifications – CRDM GUI

The message
subscription can
only be captured via
CRDM GUI

Only camt.054
message
can be subscribed

Inbound Liquidity Transfer Order flow: reception of camt.054 – Example for credit notification
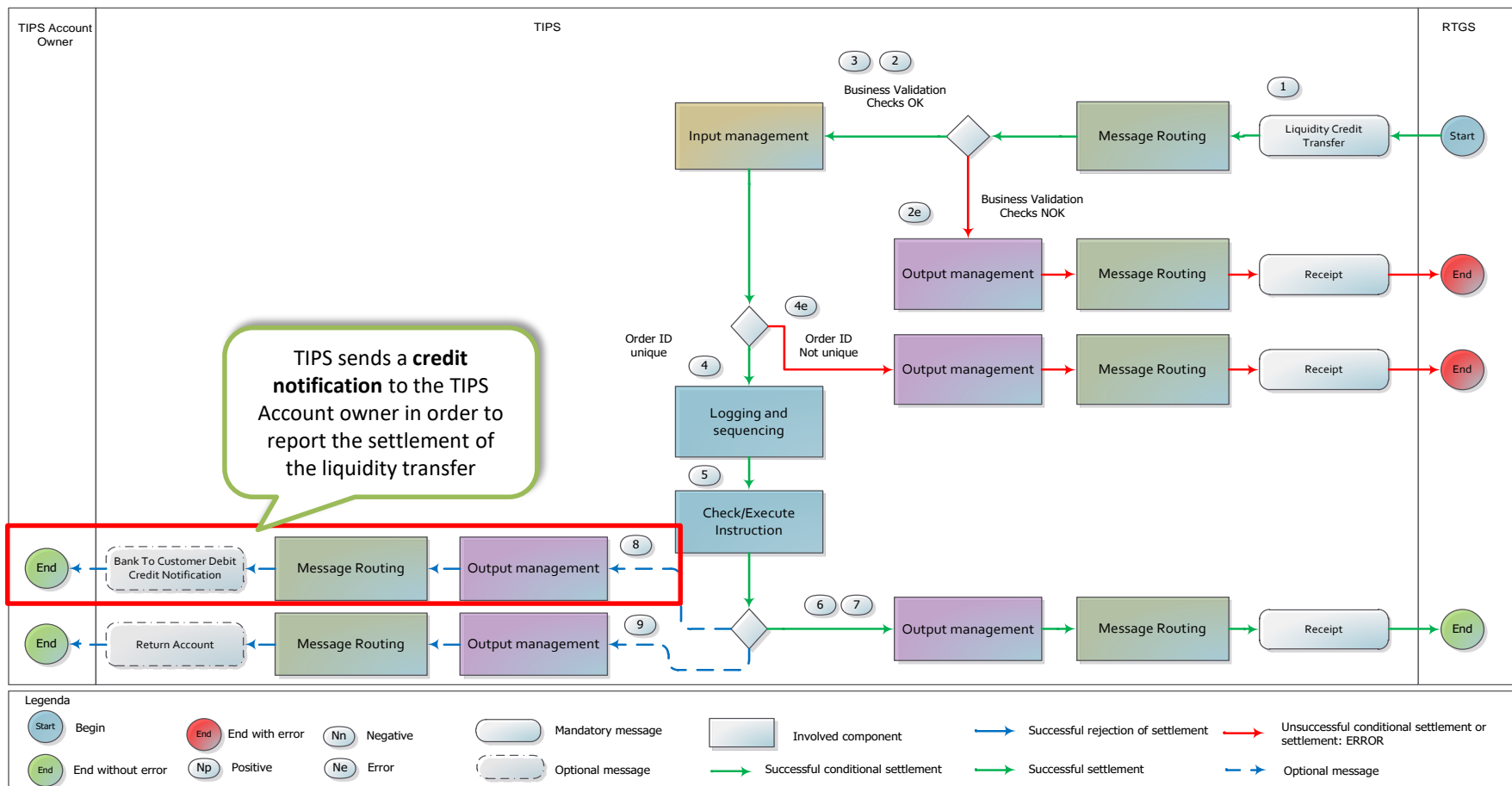
TIPS sends a **credit notification** to the TIPS Account owner in order to report the settlement of the liquidity transfer

1	**Queries**

2	**Reports and report configuration**

3	**Notifications and message subscription**

- *Overview*
- *Message Subscription*
- *Ceiling notification*
- *Floor notification*

4	**Statistical Indicators**

Ceiling notification

- **Account usage**: it specifies the **upper threshold of the account balance** for notifying the account owner (i.e. the TIPS Participant or the Ancillary System). When the value is set to zero, the relevant notification is not produced

- **CMB usage**: it specifies the **upper threshold of the CMB headroom** for notifying the owner of the account which the CMB is linked to. When the value is set to zero, the relevant notification is not produced

- TIPS sends a camt.004 message when the account ceiling threshold is exceeded after the successful settlement of an Instant Payment transaction, positive Recall Response or Liquidity Transfer on the creditor side

- Subscription to ceiling notification is defined in U2A mode in CRDM through the Cash Account screen

CRDM GUI Ceiling notification

- Ceiling notification messages can be received only if configured in the CRDM GUI (Cash Account screen)

- **Ceiling Notification Amount** must be greater than **Floor Notification Amount**

1	**Queries**

2	**Reports and report configuration**

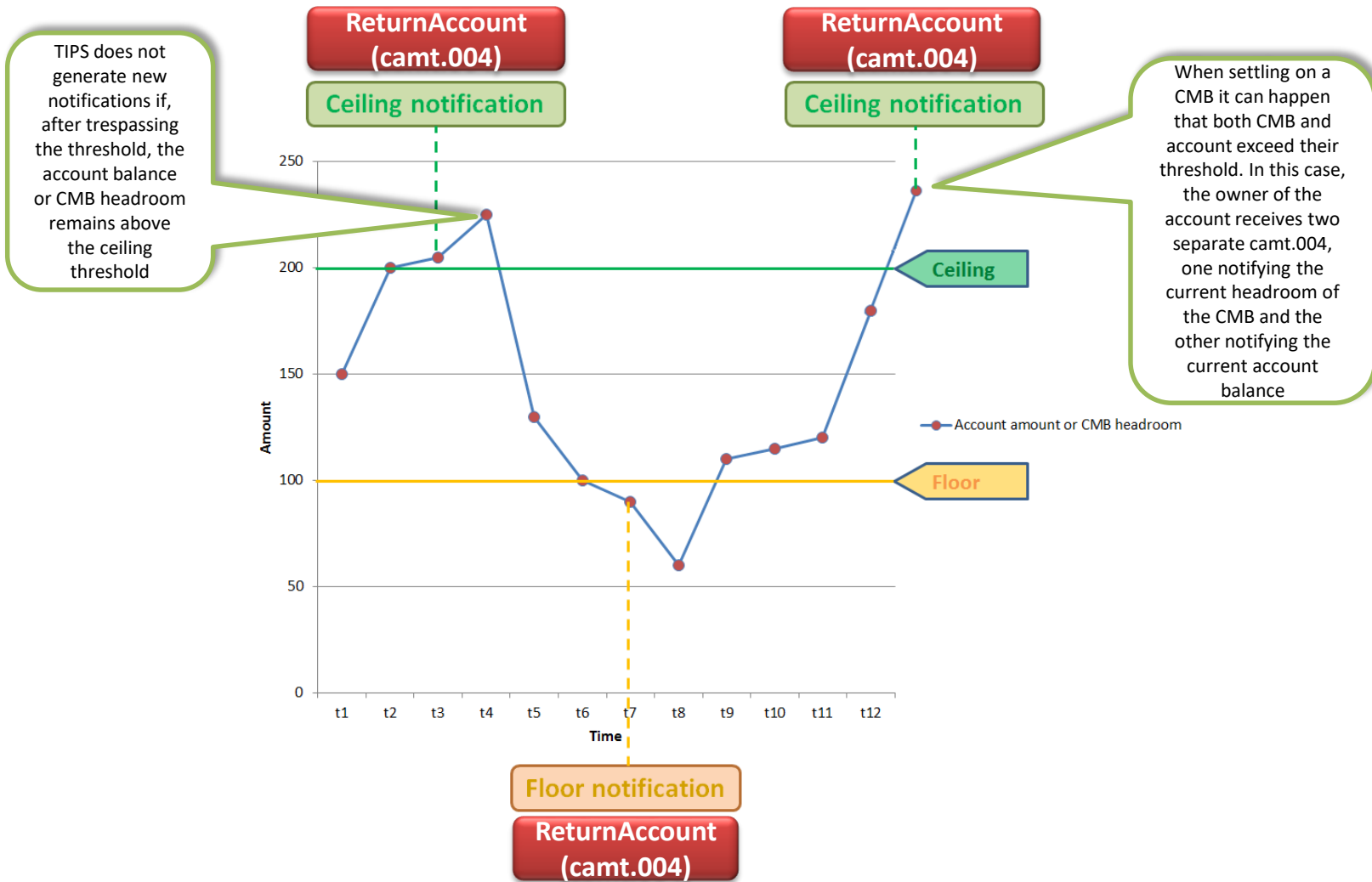| 3	**Notifications and message subscription**

- *Overview*
- *Message Subscription*
- *Ceiling notification*
- *Floor notification*

4	**Statistical Indicators**

Floor notification

- **Account usage**: it specifies the **lower threshold of the account balance** for notifying the account owner. When the value is set to zero, the relevant notification is not produced

- **CMB usage**: It specifies the **lower threshold of the CMB headroom** for notifying the owner of the account which the CMB is linked to. When the value is set to zero, the relevant notification is not produced

- TIPS sends a camt.004 message when the account floor threshold is crossed after the successful settlement of an Instant Payment transaction, positive Recall Response or Liquidity Transfer on the debtor side

- Subscription to floor notification is defined in U2A mode in CRDM through the Cash Account screen

Ceiling/Floor notification processing

1	**Queries**
2	**Reports and report configuration**
3	**Notifications and message subscription**
3	**Statistical Indicators**

For EUR currency – EPC statistics

For non-EUR currency

Enhanced Information Database

The Indicators are divided into four main categories (1/2):

1. **General SCT Inst**: it provides *general information* about transactions in TIPS, not focusing on qualitative aspects (e.g. the country code of the BIC of the Originator or the Beneficiary) of the operations, but only on *quantitative* measures.

2. **National Transactions**: it provides information about IP transactions, recall requests and request for recall by the originator executed in a *national context* in a given *month*/*quarter* of the year. Consequently, the operations taken into consideration refer to an Originator PSP and a Beneficiary PSP that belong to the same country and therefore hold the *same Country code* of the BIC.

The Indicators are divided into four main categories (2/2):

3. **Cross-border Transactions**: it provides information about TIPS *cross-border* transactions, recall requests and request for recall in a given *month/quarter* of the year. Consequently, the operations taken into consideration refer to an Originator PSP and a Beneficiary PSP that belong to different countries and therefore hold *different Country codes* of the BIC.

4. **Overall monthly figures on payment transactions processed by TIPS**: it provides general information about *volume and value* of payment transactions* settled in TIPS. Two main sets of indicators belong to this category:

   - Volume and value of national payment transactions settled;

   - Volume and value of cross-border transactions settled.

   For both categories, the statistical indicators will provide the breakdown by country code of the settled payment transactions. The relevant figures will be provided to the interested parties by means of an operational report generated on a monthly basis.

*A payment transaction in this context includes Instant Payments and Positive Recall Responses successfully settled.

1	**Queries**
2	**Reports and report configuration**
3	**Notifications and message subscription**
3	**Statistical Indicators**

- *For EUR currency – EPC statistics*
- *For non-EUR currency*
- *Enhanced Information Database*

The Indicators are divided into two main categories:

1. **General figures**: it provides *general information* about transactions in TIPS transactions denominated in a *currency different from euro* (e.g. SEK), not focusing on qualitative aspects (e.g. the country code of the BIC of the Originator or the Beneficiary) of the operations, but only on *quantitative* measures.

2. **National Transactions**: it provides information about IP transactions, recall requests and request for recall by the originator executed in a *national context* in a given *month/quarter* of the year. Consequently, the operations taken into consideration refer to an Originator PSP and a Beneficiary PSP that belong to the same country and therefore hold the *same Country code* of the BIC.

Future enhancement – Customized indicators for DKK currency :

Besides the customization of the existing statistical indicators for non-euro currencies, a new set of DKK-specific statistical indicators will be implemented as part of the activities for the onboarding in TIPS of the Danish community:

1. **New indicators for DKK and raw data provision**: it will be managed (i) by enriching the current reporting capabilities (e.g. by introducing a *new flat-file report*) and (ii) by providing *raw data* with a predefined schedule (e.g. on a daily basis into a monthly report).

2. **Adaptation of existing non-euro currency indicators**: it will be managed by enriching the current reporting with (i) the information related to *DKK currency* and (ii) the introduction of a new category for *Cross-border transactions*.

1	**Queries**
2	**Reports and report configuration**
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3	**Statistical Indicators**

For EUR currency – EPC statistics

For non-EUR currency

Enhanced Information Database

Dedicated new tool available for CB users:

- **Access to the Tool via ESMIG portal**

- **New data aggregation**: the aggregation will happen on a *daily basis* and the retention period will be of *three months*.

- **Aggregation Keys**:

  - Calendar date; Business Date; Transaction Type; Transaction Status; Currency Unit; Direction; Country Code; Originator/Beneficiary BIC; Amount; Transactional error code.

- **Aggregated data**

NAME	FUNCTION
Amount	Sum
Records	Count

Thank you for the attention!