Settlement of instant payments
R2023.NOV

Trainer Name
Banca d’Italia

Banca d’Italia
TIPS User Training Course
Date – Training type
Day 2 - Session TIPS.TR.FN.040
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2. SIP Settlement Model
3. Recall
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Settlement of instant payments

1. Settlement Process
   - Overview
   - Settlement stages
   - Instant Payment transaction flow
   - Missing/Delayed Beneficiary-side answer scenario
   - Status transition
   - Messages

2. SIP Settlement Model

3. Recall

4. Investigation
Settlement Process - Overview

**Originator Customer**

1. Time=0

**Originator Participant**

2. 10 sec Target Time

3. 5 sec (MAX)

4. 4

5. 5

6. 6

**TIPS**

7. 7

8. 8

**Beneficiary Participant**

These must reject any message received after start + 20 sec
Settlement of Instant Payment transactions – The actors

The perimeter of TIPS is limited to the interactions with:

- **Originator Participant**: The financial institutions or parties acting on behalf of the individuals or institutions transferring funds between each other, which may be customers of the Originator/Beneficiary Participants.

- **Beneficiary Participant**: The communication between the actual Originator and Beneficiary of a payment is **out of the TIPS scope** and handled by each participant independently.
TIPS Payment transaction types

**Instant Payment transaction**
- Forwarded from an Originator Participant to TIPS to instruct the settlement of cash on a TIPS Account, TIPS AS Technical account or CMB
- Forwarded by TIPS to the intended Beneficiary Participant to request confirmation for the settlement

**Beneficiary Reply**
- Forwarded from a Beneficiary Participant to TIPS as response to an Instant Payment transaction
- Forwarded by TIPS back to both (i) the Originator Participant and (ii) Beneficiary Participant as confirmation that settlement has been performed or ended in error
### Instant Payment transactions – Time parameters (1/2)

#### Timestamp Timeout
- The time window after which an Instant Payment transaction must be rejected due to timeout (20,000 ms)

#### Acceptable Future Time Window
- The acceptable time range for future timestamps. The rejection of an Instant Payment transaction is triggered if the received timestamp is greater than the acceptable time window (current timestamp plus this time window value) (100 ms)

#### Originator Side Offset
- An Instant Payment 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 that is already past the timeout window (Timestamp Timeout + Originator Side Offset) (-1,000 ms)

#### Beneficiary Side Offset
- 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 that is already past the timeout window (Timestamp Timeout + Beneficiary Side Offset) (+1,000 ms)

#### Sweeping Timeout
- The time window after which TIPS takes care of all the orphan payments
  - Instant Payment transaction still waiting for a confirmation/rejection
  - (5 s)
Instant Payment transactions – Time parameters (2/2)

- **Acceptance datetime < current timestamp + Acceptable Future Time Window**
  - `18:00:03:000 < 18:00:02:950 + 100 ms (=18:00:03:050)`

- **current timestamp < Acceptance Date Time + Timestamp Timeout + Beneficiary Side Offset**
  - `18:00:19:000 < 18:00:03:000 + 20,000 ms + 1,000 ms (=18:00:24:000)`

- **current timestamp < Acceptance Date Time + Timestamp Timeout + Originator Side Offset**
  - `18:00:02:950 < 18:00:03:000 + 20,000 ms -1,000 ms (=18:00:22:000)`

- **IP Transaction is received in TIPS**
- **Beneficiary Reply is received in TIPS**
Settlement Process

1. Overview
2. Settlement stages
3. Instant Payment transaction flow
4. Missing/Delayed Beneficiary-side answer scenario
5. Status transition
6. Messages

SIP Settlement Model
Recall
Investigation
Settlement Stages – Only accounts involved

The settlement process of an Instant Payment (with reservation of funds) consists of two phases: Conditional Phase and Settlement phase.

**Conditional Phase**

TIPS validates the incoming message, reserves the funds and notifies the payment to the Beneficiary Participant.

**Settlement Phase**

After TIPS has been authorised by the Beneficiary Participant, TIPS makes the payment irrevocable.
• TIPS, if sufficient funds are available, reserves the amount to be debited on the Originator side’s account by creating a related **cash posting**

• TIPS thereafter forwards the Instant Payment transaction to the Beneficiary side

• While the cash amount is reserved, it cannot be used for settlement in a different payment or liquidity transfer
Settlement Process – Settlement stages

• The Beneficiary side responds to TIPS with a beneficiary reply, either confirming or rejecting the payment.

• Upon receiving this reply, TIPS respectively settles or releases the reserved amount, removing the cash posting and updating the cash balances of the Originator and Beneficiary Participant accounts.

• If TIPS does not receive a reply from the Beneficiary Participant within a standard, configurable timeout period, the reserved amount is automatically released and can then be once again used for settlement.
Settlement Process – Settlement stages

Settlement Stages – Accounts and CMBs involved

Instant Payment transactions that involve CMBs are handled in a similar way.

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.

**Conditional Phase**

TIPS validates the incoming message, reserves the funds on the account, decreases the headroom for the involved CMB and notifies to the Beneficiary Participant.

**Settlement Phase**

After TIPS has been authorised by the Beneficiary Participant, TIPS makes the payment irrevocable.
Conditional Phase

- If sufficient funds are available in the relevant TIPS Account and the Instant Payment transaction would not exceed the current CMB Headroom of the CMB to be debited, TIPS reserves the amount to be debited on the Originator side’s account by creating a related cash posting.

- TIPS decreases the relevant CMB Headroom accordingly at the same time.

- TIPS thereafter forwards the Instant Payment transaction to the Beneficiary side.
The Beneficiary side responds to TIPS with a beneficiary reply, either confirming or rejecting the payment.

Upon receiving this reply, TIPS respectively settles or releases the reserved amount, removing the cash posting and updating the cash balances of the Originator and Beneficiary Participant accounts.

TIPS updates the CMB Headroom of the Beneficiary Participant accordingly at the same time.

If TIPS does not receive a reply from the Beneficiary Participant within a standard, configurable timeout period, the reserved amount is automatically released and the Headroom of the debited CMB is updated accordingly.
Settlement Process

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2. SIP Settlement Model
3. Recall
4. Investigation
Settlement Process – Instant Payment transaction flow

Instant Payment transaction flow - overview
Conditional Phase – Unsuccessful Scenario (1/3)

ORIGINATOR PARTICIPANT
OR INSTRUCTING PARTY*

• Access Rights Check
• Timeout Check - Originator Side
• Maximum Amount not Exceeded
• Originator Account or CMB existence
• Instructing Party authorised
• Beneficiary correctly configured
• Beneficiary Account or CMB existence

*Beneiﬁciary Participant
OR INSTRUCTING PARTY

*The Ancillary System can initiate payments on behalf of its participants
Conditional Phase – Unsuccessful Scenario (2/3)

**ORIGINATOR PARTICIPANT**

**OR INSTRUCTING PARTY***

- Access Rights Check
- Timeout Check - Originator Side
- Maximum Amount not Exceeded
- Originator Account or CMB existence
- Instructing Party authorised
- Beneficiary correctly configured
- Beneficiary Account or CMB existence

**BENEFICIARY PARTICIPANT**

**OR INSTRUCTING PARTY***

*The Ancillary System can initiate payments on behalf of its participants*
Conditional Phase – Unsuccessful Scenario (3/3)

**ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY**

- Access Rights Check
- Timeout Check - Originator Side
- Maximum Amount not Exceeded
- Originator Account or CMB existence
- Instructing Party authorised
- Beneficiary correctly configured
- Beneficiary Account or CMB existence

**BENEFICIARY PARTICIPANT OR INSTRUCTING PARTY**

- Duplicate Check
- Originator Account/CMB not blocked
- Beneficiary Account/CMB not blocked
- Available amount not exceeded

*The Ancillary System can initiate payments on behalf of its participants*
Conditional Phase – Successful Scenario

**ORIGINATOR PARTICIPANT**  
OR **INSTRUCTING PARTY***

- Received
- ORIGINATOR PARTICIPANT
- BENEFICIARY PARTICIPANT

**BENEFICIARY PARTICIPANT**  
OR **INSTRUCTING PARTY**

- Input management
- Output management

**Settlement Process – Instant Payment transaction flow**

- **Start**
- **FIToFICustomerCreditTransfer**
- **Message Routing**
- **Access Rights Check**
- **Timeout Check - Originator Side**
- **Maximum Amount not Exceeded**
- **Originator Account or CMB existence**
- **Instructing Party authorised**
- **Beneficiary correctly configured**
- **Beneficiary Account or CMB existence**

- **End**
- **FIToFIPaymentStatusReport**
- **Message Routing**
- **Output management**

- **Validated**
- **Logging and sequencing**
- **Check/Execute Instruction**
- **Reserved**
- **Reserved**

- **End**
- **FIToFIPaymentStatusReport**
- **Message Routing**
- **Output management**

*The Ancillary System can initiate payments on behalf of its participants*
Settlement Phase - Successful Scenario - Positive answer

**ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY**

- Access Rights Check
- Instructing Party authorised – creditor side
- Pending transaction existing
- Timeout Check - Beneficiary Side

**BENEFICIARY PARTICIPANT OR INSTRUCTING PARTY**

- *The Ancillary System can initiate/receive payments on behalf of its participants*

---

DEBTOR ACCOUNT AND/OR CMB OWNER

CREDITOR ACCOUNT AND/OR CMB OWNER
Settlement Phase - Successful Scenario - Negative answer

**ORIGINATOR PARTICIPANT**

**OR**

**INSTRUCTING PARTY**

**Rejected**

- Access Rights Check
- Instructing Party authorised – creditor side
- Pending transaction existing

**BENEFICIARY PARTICIPANT**

**OR**

**INSTRUCTING PARTY**

*The Ancillary System can initiate/receive payments on behalf of its participants*
Settlement Phase - Unsuccessful Scenario - Positive answer

**ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY***

- **Access Rights Check**
- **Instructing Party authorised – creditor side**
- **Pending transaction existing**
- **Timeout Check - Beneficiary Side**

**BENEFICIARY PARTICIPANT OR INSTRUCTING PARTY***

*The Ancillary System can initiate/receive payments on behalf of its participants*
Settlement Phase - Unsuccessful Scenario - Negative answer (I)

The Ancillary System can initiate/receive payments on behalf of its participants
Settlement Phase - Unsuccessful Scenario - Negative answer (II)

*The Ancillary System can initiate/receive payments on behalf of its participants
Settlement of instant payments

1 Settlement Process

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- Settlement stages
- Instant Payment transaction flow
- Missing/Delayed Beneficiary-side answer scenario
- Status transition
- Messages

2 SIP Settlement Model

3 Recall

4 Investigation
Timeout scenario (I) : Sweeper activation

**ORIGINATOR PARTICIPANT**

- **Start**
- FIToFICustomerCreditTransfer
- Message Routing
- Received
- Input management
- Logging and sequencing
- Validated
- Check/Execute Instruction
- Reserved
- Output management
- Timeout Check
- Missing Answer
- End

**BENEFICIARY PARTICIPANT**

- **Start**
- FIToFICustomerCreditTransfer
- Message Routing
- Output management
- Check/Execute Instruction
- Expired
- Output management
- Message Routing
- FIToFIPaymentStatusReport
- End

*Sweeping Service*

*The Ancillary System can initiate/receive payments on behalf of its participants*
Timeout scenario (II) : Trigger through an Investigation

*The Ancillary System can initiate/receive payments on behalf of its participants
Timeout scenario (III) : Delayed Beneficiary-side answer scenario

**ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY***

1. **Start**
2. FTofICustomerCredTransfer
3. Message Routing
4. Input management
5. Logging and sequencing
6. Check/Execute Instruction
7. **Reserved**
   - Output management
   - Message Routing
   - FTofICustomerCredTransfer
8. **Expired**
   - FTofIPaymentStatusReport
   - Message Routing
   - Output management

**BENEFICIARY PARTICIPANT OR INSTRUCTING PARTY***

1. **Start**
2. FTofIPaymentStatusRequest
3. Message Routing
4. Input management
5. Investigation execution
6. **Reserved**
   - Output management
   - Message Routing
   - FTofICustomerCredTransfer
7. **Expired**
   - FTofIPaymentStatusReport
   - Message Routing
   - Output management

*The Ancillary System can initiate/receive payments on behalf of its participants

- Access Rights Check
- Instructing Party authorised – creditor side
- Pending transaction existing
## Settlement of instant payments

### Settlement Process

1. **Overview**
2. **Settlement stages**
3. **Instant Payment transaction flow**
4. **Missing/Delayed Beneficiary-side answer scenario**
5. **Status transition**
6. **Messages**

### SIP Settlement Model

2. **Recall**
3. **Investigation**
Instant Payment transaction – Status transition

- **Received**
  - Successful validation
  - Any possible validation error
  - TIPS Account blocked or not sufficient liquidity

- **Validated**
  - Successful reservation

- **Reserved**
  - Missing Beneficiary confirmation
  - Beneficiary confirms and successful settlement
  - Beneficiary confirms but error happens

- **Failed**
  - Beneficiary rejects the payment

- **Expired**
  - Originator timeout expired

- **Settled**
  - Beneficiary confirms and successful settlement

- **Rejected**

The flowchart illustrates the status transition process for an Instant Payment transaction.
# Settlement Process

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Involved messages for $SCT^{Inst}$ as of R2023.NOV

**FIToFICustomerCreditTransfer**
(pacs.008.001.08)
To instruct the payment
To reserve the corresponding amount
To inform the Beneficiary Participant about the transaction received

**FIToFIPaymentStatusReport**
(pacs.002.001.10)
To accept/reject the Instant Payment transaction
To inform the actors about the result of the settlement

**ReturnAccount**
(camt.004.001.07)
To notify the owner of the account (or CMB) that the floor/ceiling configured threshold is crossed
Involved messages for non-Euro Settlement Models

**FIToFICustomerCreditTransfer**  
(pacs.008.001.08)  
To instruct the payment  
To reserve the corresponding amount  
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Overlapping messages for $SCT_{\text{Inst}}$ and non-Euro Settlement Models as of R2023.NOV

Need to append a **suffix** to the value of the existing $MsgType$ MEPT* property in order to distinguish the two datasets at transport level.

**FIToFICustomerCreditTransfer**
(pacs.008.001.08) for $SCT_{\text{Inst}}$

MsgType = pacs.008.001.08.EPC for messages sent in EUR compliant with the $SCT_{\text{Inst}}$ specifications

**FIToFICustomerCreditTransfer**
(pacs.008.001.08) for non-Euro Settlement Models

MsgType = pacs.008.001.08.NPC for messages sent (e.g. in SEK) compliant with the non-Euro specifications

* Message Exchange Processing for TIPS – transport protocol used between TIPS and the Network Service Providers
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SIP Settlement Model - Overview

**Single Instructing Party**

1. **TIPS**
2. **Originator Participant**
3. **Beneficiary Participant**
SIP Settlement Model - Overview

**Single Instructing Party**

1. Originator Participant

2. Beneficiary Participant

3. TIPS

4. 6a

5. 6b

6. 4

7. 3

8. 2

9. 1
SIP Settlement Model - Overview

Single Instructing Party

Originator Participant

Beneficiary Participant

TIPS

1

2

3

4

5

6a

6b
Settlement of Instant Payment transactions – The actors

The perimeter of TIPS is limited to the interactions with:

The **entity who validates the Instant Payments**, with the involvement of both the **Originator PSP** and the **Beneficiary PSP** (which accepts the transaction before it is submitted to TIPS). Following validation, the SIP sends the payment to TIPS for immediate settlement.

The **communication between the SIP, the Originator and the Beneficiary PSPs**, as well as the communication with the actual Originator and Beneficiary of a payment, is **out of the TIPS scope** and handled by each participant independently.

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**Single Instructing Party (SIP)**

1. TIPS
2. Settlement
3. Single Instructing Party
TIPS Payment transaction types

**Instant Payment transaction**
- Sent by the Single Instructing Party acting on behalf of the counterparties to TIPS in order to instruct the instant payment.

**Status Report**
- Sent by TIPS to inform the Single Instructing Party about the result of the settlement.
Instant Payment transactions – Time parameters (1/2)

**Timestamp Timeout**

The time window after which an Instant Payment transaction must be rejected due to timeout (20,000 ms)

**Acceptable Future Time Window**

The acceptable time range for future timestamps. The rejection of an Instant Payment transaction is triggered if the received timestamp is greater than the **acceptable future time window** (current timestamp plus this time window value) (100 ms)

**Originator Side Offset**

An Instant Payment 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 that is already past the timeout window (**Timestamp Timeout + Originator Side Offset**) (- 1,000 ms)
Instant Payment transactions – Time parameters (2/2)

PACS.008
Acceptance datetime: 18:00:03:000

Acceptance datetime < current timestamp + Acceptable Future Time Window
18:00:03:000 < 18:00:02:950 + 100ms (=18:00:03:050)

current timestamp < Acceptance Date Time + Timestamp Timeout + Originator Side Offset
18:00:02:950 < 18:00:03:000 + 20,000 ms -1,000 ms (=18:00:22:000)

IP Transaction is received in TIPS
IP Transaction is settled in TIPS
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Settlement Stages – Only accounts involved (1/3)

The settlement of an Instant Payment (without reservation of funds) is a one-stage process (i.e. it consists only of a settlement phase with no conditional phase). TIPS validates the incoming message before triggering the payment settlement.

TIPS checks whether the Beneficiary PSP has authorised the sender of the payment to act on its behalf and verifies whether the sender certificate is enabled to use the SIP model for that specific Originator BIC.

After the checks have been successfully performed, **TIPS settles the payment immediately.** The available balance of the Originator Account is decreased by the amount of the corresponding settled transaction. The same positive amount is added to the Beneficiary Account.
Settlement Stages – Only accounts involved (2/3)

Everytime an Instant Payment transaction enters the system, it undergoes the following TIPS validations:

- Firstly, TIPS checks whether the Beneficiary PSP has authorised the sender of the payment to act on its behalf. More specifically, TIPS verifies whether the sender certificates of the payment is the same as the one configured as receiver certificate for the Beneficiary BIC.

- Only if the certificates (sender and receiver) match, TIPS verifies whether the sender certificate is enabled to use the SIP model for that specific Originator BIC. If it is not enabled to do that, TIPS verifies whether the sender is authorised to instruct a payment under the standard settlement process.

- If the two certificates do not match, TIPS verifies directly whether the sender certificate is enabled to instruct a payment under the standard settlement process for that specific Originator BIC.
The sender certificate and the receiver certificate of the Beneficiary BIC match

Yes

No

The sender certificate is assigned to “Instruct IP as SIP” for that specific Originator BIC

Yes

No

The sender certificate is assigned to “Instruct IP” for that specific Originator BIC

Yes

No

TIPS reserves funds in the Originator account and forwards the received IP to the Beneficiary DN.

TIPS settles the payment immediately and sends a confirmation that the payment is settled to the Sender

The payment is rejected
Settlement Stages – Accounts and CMBs involved

Instant Payment transactions that involve CMBs are handled in a similar way.

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.

**Settlement Phase**

TIPS checks whether the Beneficiary PSP has authorised the sender of the payment to act on its behalf and verifies whether the sender certificate is enabled to use the SIP model for that specific Originator BIC.

After the checks have been successfully performed, **TIPS settles the payment immediately.** The available balance of the Originator Account is decreased by the amount of the corresponding settled transaction. If a Debiting CMB is involved, the system decreases its headroom by the same amount.

The same positive amount is added to the Beneficiary Account. If a Crediting CMB is involved, TIPS increases its headroom by the same amount.
Settlement process

SIP Settlement Model

Overview

Settlement stages

Instant Payment transaction flow

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Recall

Investigation
Instant Payment transaction flow - overview
Settlement Phase - Unsuccessful Scenario (1/3)

ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY

Start

- FIToFICustomerCreditTransfer
- FIToFICustomerCreditTransferV08

Message Routing

Received

Input management

• Access Rights Check
• Timeout Check - Originator Side
• Maximum Amount not Exceeded
• Originator Account or CMB existence
• Instructing Party authorised
• Beneficiary correctly configured
• Beneficiary Account or CMB existence

Expired

End

- FIToFIPaymentStatusReport
- FIToFIPaymentStatusReportV10

Message Routing

Output management

Logging and sequencing

End

- FIToFIPaymentStatusReport
- FIToFIPaymentStatusReportV10

Message Routing

Output management
Settlement Phase – Unsuccessful Scenario (2/3)

**ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY**

Start:
- FIToFICustomerCreditTransfer
- FIToFICustomerCreditTransferV08

End:
- FIToFIPaymentStatusReport
- FIToFIPaymentStatusReportV10

**Input management**
- Access Rights Check
- Timeout Check - Originator Side
- Maximum Amount not Exceeded
- Originator Account or CMB existence
- Instructing Party authorised
- Beneficiary correctly configured
- Beneficiary Account or CMB existence

**Failed**
- Duplicate Check

Logging and sequencing
SIP Settlement Model – Instant Payment transaction flow

Settlement Phase – Unsuccessful Scenario (3/3)

ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY

- Originator Account/CMB not blocked
- Beneficiary Account/CMB not blocked
- Available amount not exceeded

Failed
Settlement Phase – Successful Scenario

**ORIGINATOR PARTICIPANT OR INSTRUCTING PARTY**

- Originator Account/CMB not blocked
- Beneficiary Account/CMB not blocked
- Available amount not exceeded

1. **FitToFIPaymentStatusReport**
2. **FitToFIPaymentStatusReportV10**
3. **Message Routing**
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6. **Check/Execute Instruction**
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SIP Settlement Model – Status transition

Instant Payment transaction – Status transition

- Received
  - Successful validation
    - Validated
      - Successful settlement
        - Settled
      - TIPS Account blocked or not sufficient liquidity
        - Failed
  - Any possible validation error
    - Failed
  - Originator timeout expired
    - Expired

Intermediary status
Final status
# Settlement of instant payments - Table of Contents

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Involved messages for SCT\textsuperscript{Inst} as of R2023.NOV

**FIToFICustomerCreditTransfer**
(pacs.008.001.08)

- To instruct the payment
- To reserve the corresponding amount
- To inform the Beneficiary Participant about the transaction received

**FIToFIPaymentStatusReport**
(pacs.002.001.10)

- To accept/reject the Instant Payment transaction
- To inform the actors about the result of the settlement

**ReturnAccount**
(camt.004.001.07)

- To notify the owner of the account (or CMB) that the floor/ceiling configured threshold is crossed
Involved messages for non-Euro Settlement Models

**FIToFICustomerCreditTransfer**
(pacs.008.001.08)
- To instruct the payment
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- To notify the owner of the account (or CM B) that the floor/ceiling configured threshold is crossed
Overlapping messages for \(\text{SCT}^\text{Inst}\) and non-Euro Settlement Models as of R2023.NOV

Need to append a **suffix** to the value of the existing \(\text{MsgType}\) MEPT* property in order to distinguish the two datasets at transport level.

**FIToFICustomerCreditTransfer**

\[
(\text{pacs.008.001.08}) \text{ for } \text{SCT}^\text{Inst}
\]

\(\text{MsgType}= \text{pacs.008.001.08.EPC}\) for messages sent in EUR compliant with the \(\text{SCT}^\text{Inst}\) specifications

**FIToFICustomerCreditTransfer**

\[
(\text{pacs.008.001.08}) \text{ for non-Euro Settlement Models}
\]

\(\text{MsgType}= \text{pacs.008.001.08.NPC}\) for messages sent (e.g. in SEK) compliant with the non-Euro specifications

* Message Exchange Processing for TIPS – transport protocol used between TIPS and the Network Service Providers
| 1 | Settlement process |
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### Overview

#### Recall flow

#### Status transition

#### Messages
Recall - Overview

TIPS Recall overview

1. **Originator Participant**
2. **TIPS**
3. **Beneficiary Participant**

Steps:
1. Originator initiates the TIPS transaction.
2. TIPS process starts.
3. Beneficiary completes the transaction.

Responses:
- **Positive response**: Green arrow
- **Negative response**: Red arrow

**TIPS**
- **Beneficiary**
  - Participant: Beneficiary's bank
  - Originator: Beneficiary's bank

**Originator**
- **Participant**: Originator's bank
  - Beneficiary: Originator's bank

**TIPS**
- **Originator**
  - Participant: Originator's bank
  - Beneficiary: Originator's bank

**Beneficiary**
- **Participant**: Beneficiary's bank
  - Originator: Beneficiary's bank
Settlement of a Recall – the actors

The involved actors are:

- **Recall Assigner**: The Originator Participant or Instructing Party* of a previously settled instruction that sends the Recall request

- **Recall Assignee**: The Beneficiary Participant or Instructing Party* that receives the Recall request

*The Ancillary System can send/receive recall request on behalf of its participants
TIPS Payment transaction types

**Recall**
- Forwarded from the Recall Assigner to TIPS to request that the underlying transaction is refunded and a refunded amount – equal or possibly lower than the original one – is credited back to the original account.
- Forwarded by TIPS to the Recall Assignee.

**Recall Response**
- Forwarded from the Recall Assignee 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.
- Forwarded by TIPS back to the Recall Assigner as confirmation.
Settlement process

SIP Settlement Model

Recall

Overview

Recall flow

Status transition

Messages

Investigation
Recall flow

Recall Request flow

Recall Response flow
Recall Request flow - Unsuccessful Scenario

- Access Rights Check
- Instructing Party authorised
- Originator Account or CMB existence
Recall Request flow - Successful Scenario

- Access Rights Check
- Instructing Party authorised
- Originator Account or CMB existence
Positive Recall Response flow - Successful Scenario

**RECALL ASSIGNER**

- Access Rights check
- Instructing Party authorised – creditor side
- Originator Account or CMB existence
- Beneficiary Account or CMB existence
- Maximum Amount not exceeded for Returned Amount

**RECALL ASSIGNEE**

- Duplicate check for positive Recall Answer

- **Input management**
  - **Check/Execute Instruction**
  - **Output management**
  - **Message Routing**
  - **PaymentReturn**

- **Received**
  - **Message Routing**
  - **Output management**
  - **Message Routing**
  - **FIToFIPaymentStatusReport**

- **Settled**
  - **Originator Account/CMB not blocked**
  - **Beneficiary Account/CMB not blocked**
  - **Available amount not exceeded**

- **Validated**
  - **PaymentReturn**
  - **Message Routing**
  - **Output management**
  - **Message Routing**
  - **FIToFIPaymentStatusReport**

**DEBTOR ACCOUNT AND/OR CMB OWNER**

**CREDITOR ACCOUNT AND/OR CMB OWNER**
Negative Recall Response flow - Successful Scenario

- Access Rights check;
- Instructing Party authorised – creditor side.
Negative Recall Response flow - Unsuccessful Scenario

- Access Rights check
- Instructing Party authorised – creditor side
Positive Recall Response flow - Unsuccessful Scenario (1/3)

- Access Rights check
- Instructing Party authorised – creditor side
- Originator Account or CMB existence
- Beneficiary Account or CMB existence
- Maximum Amount not exceeded for Returned Amount
Positive Recall Response flow - Unsuccessful Scenario (2/3)

- Access Rights check
- Instructing Party authorised – creditor side
- Originator Account or CMB existence
- Beneficiary Account or CMB existence
- Maximum Amount not exceeded for Returned Amount

Failed

- Duplicate check for positive Recall Answer

Received

RECALL ASSIGNER

Input management

RECALL ASSIGNEE

Message Routing

PaymentReturn

Output management

Message Routing

FIToFiPaymentStatusReport

End

Check/Execute Instruction

Output management

Message Routing

FIToFiPaymentStatusReport

End

Output management

Message Routing

FIToFiPaymentStatusReport

End

PaymentReturn

Message Routing

Output management

Message Routing

FIToFiPaymentStatusReport

End

FIToFiPaymentStatusReport

RETURNACCOUNT

End
Positive Recall Response flow - Unsuccessful Scenario (3/3)

- Access Rights check
- Instructing Party authorised – creditor side
- Originator Account or CMB existence
- Beneficiary Account or CMB existence
- Maximum Amount not exceeded for Returned Amount

- Duplicate check for positive Recall Response

- Originator Account/CMB not blocked
- Beneficiary Account/CMB not blocked
- Available amount not exceeded
Settlement of instant payments

1. Settlement process
2. SIP Settlement Model
3. Recall
   - Overview
   - Recall flow
   - Status transition
   - Messages
4. Investigation
Recall Response – Status transition

- **Received**
  - Successful Validation → **Validated**
  - Access Rights Or Duplicate check failed → **Failed**

- **Validated**
  - Successful settlement → **Settled**
  - TIPS Account Blocked or not sufficient liquidity → **Failed**

- **Failed**

**Status transition**:
- Intermediary status
- Final status
Settlement of instant payments

1. Settlement process
2. SIP Settlement Model
3. Recall
   - Overview
   - Recall flow
   - Status transition
   - Messages
4. Investigation
Involved messages for SCT\textsuperscript{Inst} as of R2023.NOV

- FIToFIPaymentCancellationRequest (camt.056.001.08)
- ResolutionOfInvestigation (camt.029.001.09)
- PaymentReturn (pacs.004.001.09)
- FIToFIPaymentStatusReport (pacs.002.001.10)
- ReturnAccount (camt.004.001.07)
Involved messages for non-Euro Settlement Models

- FIToFIPaymentCancellationRequest (camt.056.001.08)
- ResolutionOfInvestigation (camt.029.001.09)
- PaymentReturn (pacs.004.001.09)
- FIToFIPaymentStatusReport (pacs.002.001.10)
- ReturnAccount (camt.004.001.07)
Settlement of instant payments

1. Settlement process

2. SIP Settlement Model

3. Recall

4. Investigation
   - Overview
   - Investigation flow
   - Messages
Investigation overview

Originator Participant → TIPS → Beneficiary Participant

Time=0

10''
Investigation – The actors

The Participant or Instructing Party* acting on behalf of Participants or Reachable Parties on the originator side that request information on a transaction for which no confirmation message has reached the Originator PSP after the time-out deadline.

*The Ancillary System can initiate investigations on behalf of its participants
Investigation – TIPS Payment Transaction types

It is sent by the Originator Participant or Instructing Party* acting on behalf of the Originator Participant or Reachable Party to TIPS in order to retrieve the last generated payment transaction status advice.

*The Ancillary System can initiate investigations on behalf of its participants
Investigation – Time parameters

- **Timestamp Timeout**: The time window after which an Instant Payment transaction must be rejected due to timeout (20,000 ms)

- **Investigation Offset**: The investigation functionality will be available only after the certainty of completion of the settlement phase of a transaction, which translates into Timestamp Timeout + Investigation Offset (SCT<sub>inst</sub> scheme: 5,000 ms; non-Euro currency: -10,000 ms)

- **Retention Period**: TIPS retains information for responding to investigations for a specified period of time (**Retention Period**) (5 calendar days)
Settlement of instant payments

1. Settlement process
2. SIP Settlement Model
3. Recall
4. Investigation
   - Overview
   - Investigation flow
   - Messages
Investigation flow
Investigation flow – Successful Scenario

TIPS PARTICIPANT/INSTRUCTING PARTY*

- Access Rights check
- Instructing Party authorised
- Payment Transaction existence check
- Investigation allowed

*The Ancillary System can initiate investigations on behalf of its participants
Investigation flow – Unsuccessful Scenario

TIPS PARTICIPANT/INSTRUCTING PARTY*

*The Ancillary System can initiate investigations on behalf of its participants
Settlement of instant payments

1. Settlement process
2. SIP Settlement Model
3. Recall
4. Investigation

- Overview
- Investigation flow
- Messages
Involved messages for SCT\textsuperscript{Inst} as of R2023.NOV

- **FIToFIPaymentStatusRequest**
  (pacs.028.001.03)

- **FIToFIPaymentStatusReport**
  (pacs.002.001.10)
Involved messages for non-Euro Settlement Models

**FIToFIPaymentStatusRequest**
(pacs.028.001.03)

**FIToFIPaymentStatusReport**
(pacs.002.001.10)
Thank you for the attention!