

Change Request form

General Information (Origin of Request)		
<input checked="" type="checkbox"/> User Requirements Document (URD) <input type="checkbox"/> Other User Functional or Technical Documentation (SYS) <input type="checkbox"/> Other TIPS Documentation (OTD)		
Request raised by: TIPS Consultative Group	Date raised: 19/12/2019	
Request title: Rule-based liquidity transfer orders between MCA and TIPS DCA	Name of Central Bank:	Request ref. no: TIPS-0028-URD
Categorisation of changes		
1. Functional/technical importance parameter:	4. Legal importance parameter:	
2. Operational importance parameter:	5. Financial importance parameter:	
3. Stakeholder importance parameter:		
Status: Allocated to a release		

Description of requested change:

TIPS already offers a notification to inform TIPS participants whenever a pre-defined floor or ceiling amount on the TIPS account is breached after the successful settlement of either an Instant Payment transaction or a Liquidity Transfer.

The T2/T2S Consolidation project foresees the possibility of rule-based liquidity transfer orders between the future Main Cash Accounts (MCAs) and the future RTGS DCAs, or between two MCAs. The T2S Governance is currently discussing a similar Change Request for T2S (CR720) in order to introduce this functionality also between T2S DCAs and CLM MCAs.

TIPS should allow to set-up rule-based liquidity transfers between TIPS and T2:

- in the form of a floor based mechanism (event-based): generating automatically a rule based LT from MCA to the TIPS DCA to reach a target amount when the predefined floor of the TIPS DCA is breached.
- in the form of a ceiling based mechanism (event-based): generating automatically a rule based LT from the TIPS DCA to the MCA to reach a target amount when the predefined ceiling of the TIPS DCA is breached.

In case of liquidity transfer to be triggered in parallel from CLM, the FIFO principle will apply at the CLM level. If RTGS pulls cash from CLM before TIPS, the cash will be transferred to RTGS. In any case, liquidity transfers from CLM to TIPS as described in this CR would not have access to the funds reserved in CLM for Central Bank Operations.

The solution should be designed in such a way that:

- (i) in the event of a TIPS DCA floor breach, if a dedicated CRDM rule is set up, a Liquidity Transfer (i.e. by means of a camt.050 message) shall be created by TIPS and shall be sent to CLM in order to pull from the configured MCA to the affected TIPS DCA the amount of liquidity needed to reach the specified target balance;

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(ii) in the event of a TIPS DCA ceiling breach, if a dedicated CRDM rule is set up, a Liquidity Transfer (i.e. by means of a camt.050 message) shall be created by TIPS and shall be sent to CLM in order to push from the affected TIPS DCA to the MCA the amount of liquidity needed to reach the specified target balance;

(iii) the failure of a liquidity transfer in the cases listed above does not result in reattempting that liquidity transfer in a potentially endless loop. The design of CLM and RTGS to handle similar cases should be re-used, to the extent applicable.

This new feature should be optional. As foreseen for the RTGS DCA, the TIPS DCA holder should have a choice between automated LTs and notifications or a combination of both.

The set-up of rules for this functionality should be accessible to Central banks, and to the participants (payment banks) directly as it is foreseen for this functionality for T2 in the consolidation project.

This feature should be designed in a multi-currency way.

The mechanism will be put on hold during the CLM EoD/SoD. When CLM resumes liquidity transfers (planned at 19.30), TIPS balances will be compared to the floor/ceilings and rule-based liquidity transfers will be triggered accordingly (similar to the event based variant of rule based liquidity transfer described in T2S CR720).

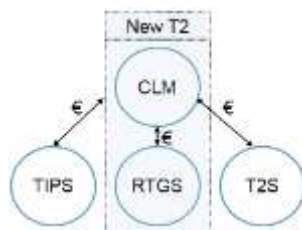
Reason for change and expected benefits/business motivation:

By setting up rule-based liquidity transfers, liquidity could be pulled from a CLM MCA to a TIPS account automatically when a defined floor amount is breached, in order to reach a target amount on the TIPS account. If there is not enough liquidity in CLM, the liquidity transfer would partially settle, but not be queued. This would especially be useful during the night when liquidity is not actively monitored by participants while payments can continue to reduce the funds on the TIPS account.

Conversely, liquidity could be pushed from a TIPS Account to a CLM MCA when a ceiling is breached, in order to reach a target amount.

Main benefits of this Change request:

- **Logical harmonisation of processes:** Processes should be harmonised across services (automated LT will be available between a MCA and a RTGS DCA and is being requested for T2S with CR T2S-0720-URD – TIPS does not have this feature). In addition, without such features, the CLM does not reach a fully integrated central liquidity management.



- **Cash management efficiency:** This CR leads to less manual intervention from cash treasurers. It allows a fully integrated and automatic cash management during the day and offers new possibilities to manage liquidity outside working hours.

- **Settlement efficiency:** The requested functionality allows TIPS participants to configure an automated funding of the TIPS DCA when the liquidity available on the account falls below the floor amount. Due to the 24/7 availability of Instant Payments, there is a risk that the TIPS DCA runs out of cash during times when no active liquidity management is performed by participants, e.g. during the night. By configuring rule-based liquidity transfers from the MCA to the TIPS DCA, this risk can be mitigated and thus reduce the rejection rate of instant payments in TIPS.

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Submitted annexes / related documents:



T2CR67_ICLUupdates_
TIPS_CLM.xlsx



List of examples for
CLM TIPS ICL.xlsx

Proposed wording for the Change request:

TIPS UDFS R2023.NOV

1) 1.4.2. Liquidity Transfer – Table 9

Attribute	Description
[...]	[...]
Crediting Account	TIPS Account, TIPS AS Technical Account, <u>Main Cash Account</u> or RTGS System Account to be credited.
[...]	[...]
Debiting Account	TIPS Account, TIPS AS Technical Account, <u>Main Cash Account</u> or RTGS System Account to be debited.
[...]	[...]

2) 1.4.6. RTGS System

[...]

Similarly to status 'Open' and 'Closed', also the 'Partially Closed' is activated per currency. Currently, its activation is only foreseen for the Danish community in the time slot between 17:00 and 18:00 of the RTGS business date for the DKK. During the partial closure window for a currency, TIPS rejects any outbound inter-service LT attempt in that currency from a non-Central Bank user whereas any inbound inter-service LT attempt can only be blocked in the connected RTGS system.

Given that a Push/Pull Rule-based LT is not generated by a Central Bank user, it will be rejected by TIPS whenever the RTGS System is in status 'Partially Closed' for that particular currency.

[...]

The following RTGS status transitions are therefore allowed, taking into consideration the example of DKK currency:

- From 'Open' to 'Closed': Any Inter-service Outbound Liquidity Transfer is rejected by TIPS, regardless of the sender.
- From 'Closed' to 'Partially Closed': Inter-service Outbound Liquidity Transfers are rejected by TIPS

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if a sender does not belong to the Central Bank¹ operating on the specific currency for which partial closure applies.

[...]

3) 1.5.1. General concepts

[...]

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

- Instant Payment transactions for the settlement of cash on a TIPS Account/TIPS AS Technical Account
- Beneficiary replies to confirm or reject an Instant Payment transaction on the beneficiary side
- Recall instructions to request a refund from the Beneficiary Participant for previously settled Instant Payment transactions
- Recall Responses from the Beneficiary Participant - for either the refund or the rejection - in response to a recall instruction
- Investigation and Request for Status Update on a Recall
- Liquidity transfers to instruct the transfer of liquidity between TIPS and an RTGS System
- Rule-based liquidity transfers to pull/push liquidity from/to a Main Cash Account
- Intra-service Liquidity transfers between a TIPS Account and a TIPS AS Technical Account
- Reference data maintenance instructions to modify TIPS local reference data.

4) 1.5.3 Liquidity Management

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

TIPS foresees ~~three~~^{four} different types of Liquidity Transfer: Inbound (from an RTGS System to TIPS), Outbound (from TIPS to an RTGS System), rule-based (from a TIPS DCA to an MCA, or vice versa) and intra-service (from a TIPS Account to a TIPS AS Technical Account or vice versa). TIPS AS Technical Accounts ~~cannot~~^{only} be used in intra-service ~~neither in Inbound nor Outbound~~ Liquidity Transfer processing.

Inbound, ~~and~~ outbound and rule-based Liquidity Transfers are settled by moving the liquidity through an RTGS System Transit Account. TIPS has one and only one Transit Account defined for each currency.

[...]

5) 1.5.3.1 Inbound Liquidity Transfer

[...]Originators of Inbound Liquidity Transfer orders do not necessarily need to be TIPS Actors. For instance, any entity who owns an MCA PM account in T2-CLM~~TARGET2~~ may trigger Inbound Liquidity Transfers in euro, even if it does not own an account in TIPS. [...]

¹ Push/Pull Rule-based LTs denominated in a currency for which a partial closure window applies will be rejected during the partial closure window for that currency.

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6) 1.5.3.x Rule-based Liquidity Transfer (new section)

A rule-based Liquidity Transfer is automatically generated by TIPS in the event of either a floor or ceiling breach in order to re-establish the target balance of a TIPS DCA. The rule-based LT setup shall be configured in CRDM and it will be propagated to TIPS in order to trigger the proper transfer of liquidity.

There are two categories of rule-based liquidity transfer envisioned:

- Push Rule-based² LT, whose aim is to push a specific amount of liquidity - defined into the rule-based setup in CRDM - from the TIPS DCA to a predefined MCA.
- Pull Rule-based LT³, whose aim is to pull a specific amount of liquidity - defined into the rule-based setup in CRDM - from a predefined MCA.

The CRDM configuration received by TIPS shall contain at least the following fields:

- TIPS DCA for which a rule-based LT is defined
- Reference to an MCA to pull/push liquidity from/to
- Type of rule-based configuration:
 - Only notification
 - Only automated rule-base LT
 - Both notification and automated rule-base LT
- Target Amount After Breaching Floor⁴ to be reached after an event of floor breach
- Target Amount After Breaching Ceiling⁵ to be reached after an event of ceiling breach

Should a negative response to a rule-based LT attempt be received from the specific RTGS System, no retry mechanism shall be put in place to avoid multiple failures or endless loops.

The mechanism of rule-based LTs shall be temporarily switched off in TIPS when the corresponding RTGS System is either in status 'closed' or 'partially closed', i.e. when settlement of inter-service liquidity transfer is not permitted.

Depending on the specific currency, the Rule-based LT mechanism will be put on hold during any time window in which the RTGS System is not available (e.g. during the EoD procedure, or during the partial closure phase). When the RTGS System resumes its normal inter-service liquidity transfer processing for a given currency, the balances of the TIPS DCAs (denominated in the same currency) for which a rule-based LT configuration exists will be compared against their floor/ceiling thresholds. As a result of

² From TIPS viewpoint, a Push rule-based LT is fully equivalent to an Outbound LT, for which a Receipt is expected by T2-CLM.

³ From TIPS viewpoint, a Pull rule-based LT is a camt.050 generated by TIPS and forwarded to T2-CLM. Once the Pull LT is processed in T2-CLM, it will trigger a camt.050 in the opposite direction (Pull response), which is equivalent to an Inbound LT.

⁴ The Target Amount After Breaching Floor is defined as a target balance X (greater than Y, being Y the floor threshold of the TIPS DCA) that has to be restored after the floor breach event. Therefore, if the TIPS DCA balance after the floor breach is Y-A, the TIPS DCA balance has to be replenished with amount [X-(Y-A)], whose value will be inserted in the TIPS-generated Pull Rule-based LT.

⁵ The Target Amount After Breaching Ceiling is defined as a target balance W (lower than Z, being Z the ceiling threshold of the TIPS DCA) that has to be reached after the ceiling breach event. Therefore, if the TIPS DCA balance after the ceiling breach is Z+B, the TIPS DCA balance has to be reduced by the amount [(Z+B)-W], whose value will be inserted in the TIPS-generated Push Rule-based LT.

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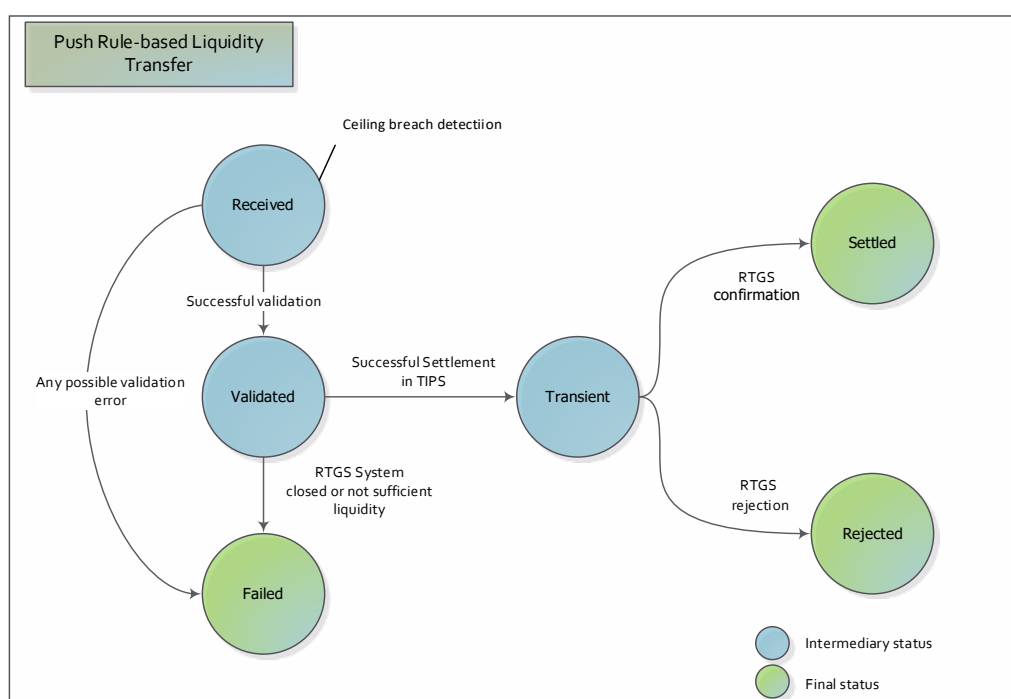
this comparison, if a TIPS DCA balance is still below the floor or above the ceiling, an appropriate rule-based liquidity transfer will be triggered in order to restore the predefined target balance of the TIPS DCA as it was defined in CRDM.

1.5.3.x.1 Push rule-based LT

A Push rule-based Liquidity Transfer order is generated by TIPS towards the corresponding RTGS System, by using a Liquidity Transfer message. A credited MCA in T2-CLM shall be specified in the message. No reservation of funds is envisioned and settlement takes place immediately.

The status transitions of Push rule-based Liquidity Transfer are shown in the following diagram.

Figure xx –Push Rule-based Liquidity Transfer status diagram



Upon a ceiling breach condition occurs, a Push Rule-based Liquidity Transfer order is generated by TIPS with status *Received*. If the formal validations are executed successfully a settlement attempt will take place; otherwise its status is set to *Failed*. Subsequently, after successful settlement in TIPS the status moves to *Transient*, i.e. (i) the funds are credited to the Transit Account denominated in the same currency of the given liquidity transfer and (ii) the message is routed to the relevant RTGS System for further processing. Conversely, if the involved TIPS Account is blocked or has insufficient funds, the Push Rule-based Liquidity Transfer is set to *Failed*.

The business case of a Push Rule-based Liquidity Transfer whose status is *Transient* shall reach its final status (i.e. *Settled* or *Rejected*) upon the reception of either a positive or negative receipt from the involved RTGS System. If the RTGS System sends a negative reply, funds are automatically reversed from the Transit Account and credited back to the given TIPS DCA.

If the RTGS System does not respond properly so that the status cannot be set to either *Settled* or *Rejected* within a configurable timeframe, an alert is raised to the TIPS Operator, in order to take

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corrective measures as explained in [Error! Reference source not found. "Error! Reference source not found."](#).

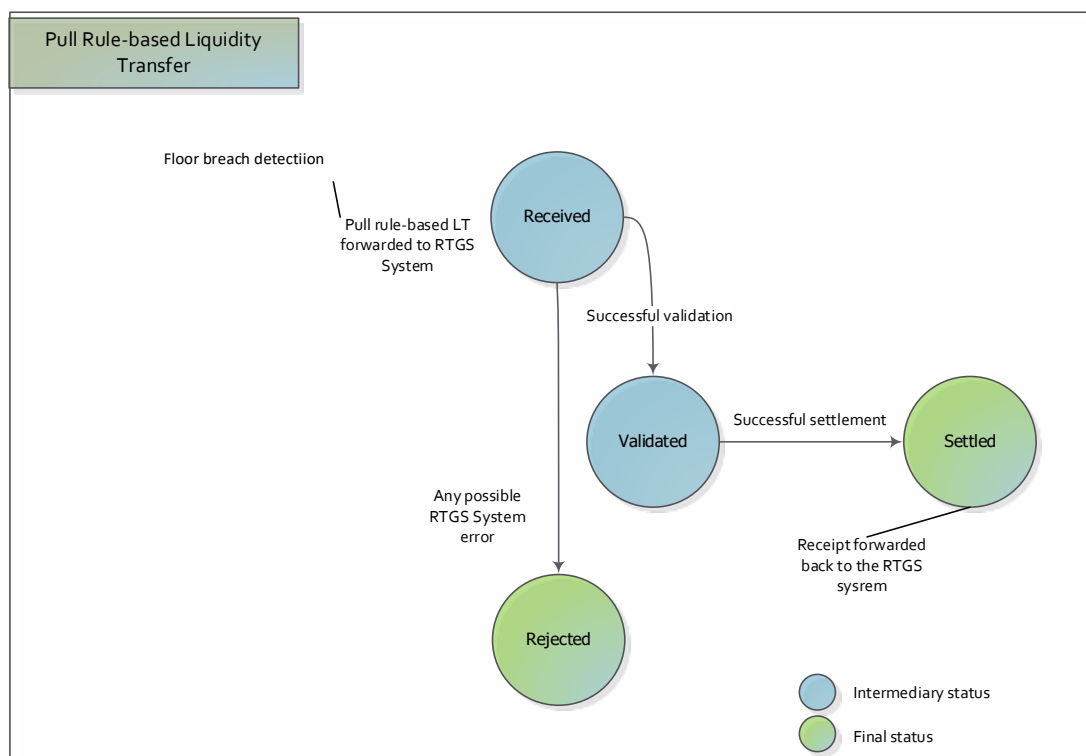
Push Rule-based Liquidity Transfers can only be internally generated in A2A mode, by using [Error! Reference source not found.](#), [Error! Reference source not found.](#) and [BankToCustomerDebitCreditNotification \(camt.054.001.06\)](#) for debit notifications.

1.5.3.x.1 Pull rule-based LT

A Pull rule-based Liquidity Transfer order is generated by TIPS towards the corresponding RTGS System, by using a Liquidity Transfer message. A debited MCA in T2-CLM shall be specified in the message.

The status transitions of a Pull Rule-based Liquidity Transfer are shown in the following diagram.

Figure xx –Pull rule-based Liquidity Transfer status diagram



Upon a floor breach condition occurs, a Pull rule-based Liquidity Transfer order is generated by TIPS and routed to the relevant RTGS System for further processing.

Upon the settlement attempt in the RTGS System, in reply to a Pull Rule-based LT two scenarios may occur:

- 1) The LT is accepted and settled by the RTGS System. The RTGS System sends back a Liquidity Transfer message in order to settle the Rule-based LT in TIPS. Upon successful settlement in TIPS the status of the LT is set to *Settled*. TIPS replies back to the RTGS system with a Receipt message.

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- 2) Should the RTGS System communicate a failure, the corresponding Rule-based LT in TIPS will be set to *Rejected*.

Pull Rule-based Liquidity Transfer can only be internally generated in A2A mode, by using [Error! Reference source not found.](#), [Error! Reference source not found.](#) and [BankToCustomerDebitCreditNotification \(camt.054.001.06\)](#) for credit notifications.

7) 1.5.3.4 Reserve calculation

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

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

8) 1.6.1.3 Change of business date of the RTGS System

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

The interaction foresees the following steps:

- 1) the RTGS System sends a status message informing TIPS that the cut-off for Liquidity Transfers has been reached;
- 2) any other Outbound Liquidity Transfer message reaching TIPS after the reception of this status message must be rejected;
- 3) any Pull/Push rule-based Liquidity Transfer internally generated stemming from a floor/ceiling breach in TIPS after the reception of the status message shall be immediately rejected;
- 4) meanwhile, both TIPS and the RTGS System keep settling the Liquidity Transfers received before the cut-off. The RTGS System keeps sending the related receiptsnotifications to TIPS, in order to align all the pending transactions. TIPS keeps accepting and processing the Incoming Liquidity Transfers, including the incoming leg relating to any Pull rule-based LTs originated by TIPS prior to the cut-off;
- 5) [...]

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9) 1.6.1.4 TIPS General Ledger

In the specific case of the RTGS System for euro, TIPS provides a general ledger to T2-CLM²⁹ for accounting and Reserve Management purposes. [...]

10) 1.6.1.4.1 TIPS General Ledgers production

When T2-CLM starts its End-of-Day process (e.g. for the euro currency), it sends a [ReturnBusinessDayInformation](#) to TIPS, in order to inform the latter that, from this point onward, no ~~new~~ more liquidity transfers denominated in euro will be ~~are~~ accepted by T2-CLM. The same logic applies also to Pull/Push rule-based LT triggered by a floor/ceiling breach of a euro denominated TIPS DCA after the cut-off. and Simultaneously, TIPS starts to finalise all pending liquidity transfers denominated in euro towards T2-CLM. [...]

11) 1.6.1.5 TIPS Snapshot

Similarly to the current End-of-Day mechanism, that leads to the generation and delivery of the TIPS General Ledger towards the RTGS System, the TIPS snapshot function is used to take a consistent picture of the balance available on the accounts of a given currency at a specific moment in time. In order to ensure consistency, there should be no liquidity transfer³¹ “in flight” between TIPS and the RTGS system when the snapshot is taken. Moreover, for the sake of consistency, before executing the snapshot command, no Pull/Push Rule-based liquidity transfer shall be pending. [...]

12) 2.2.1 Instant Payment (SCT^{Inst} scheme)

[...]

The involved messages are:

- The [FltoFICustomerCreditTransfer](#) message sent by the Originator Participant, Ancillary System or Instructing Party acting on behalf of the Participant/Reachable Party in order to (i) instruct the payment, (ii) to reserve the corresponding amount and (iii) to inform the Beneficiary Participant, Ancillary System or Instructing Party acting on behalf of the Participant/Reachable Party about the transaction received;
- The [Error! Reference source not found.](#) message sent (i) by the Beneficiary Participant, Ancillary System or Instructing Party acting on behalf of the Participant/Reachable Party to TIPS to either accept or reject the Instant Payment transaction, or (ii) by TIPS to inform the actors about the result of the settlement (i.e. settled, rejected, timed out);
- The [ReturnAccount](#) message that can be sent, on optional basis, by TIPS to the Creditor Account Owner and/or the Debtor Account Owner. The message is sent by TIPS if (i) the owner of the account (or CMB) enables the floor and ceiling notifications and (ii) the configured threshold is breached.

²⁹ Until the Go-Live of Consolidation project TIPS will continue to rely on the existing interface with TARGET2 for the delivery of the General Ledger file during the End-of-Day phase.

³¹ Denominated in the same currency for which the account balances snapshot is requested.

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- Additionally, a [LiquidityCreditTransfer](#) message can be sent in push or pull, on optional basis, by TIPS to T2-CLM in case of floor/ceiling breaches and upon the definition of a rule-based LT configuration in CRDM.

[...]

13) 2.2.1 Instant Payment (SCT^{Inst} scheme) – Table 56 - Instant Payment transaction steps

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
18p	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and floor breach)	TIPS as sender Debited Account and/or CMB Owner T2-CLM as receiver (only in case of automated LT and floor breach)	<p>TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Originator Account Number or the Debiting CMB Number.</p> <p><u>Should the TIPS DCA balance be lower than the "floor notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new pull rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p><u>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</u></p>
19p	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and ceiling breach)	TIPS as sender Credited Account and/or CMB Owner T2-CLM as receiver (only in case of	<p>TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "ceiling notification amount", TIPS sends a</p>

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Step	Involved messages	Involved actors	Description
		<u>automated LT and ceiling breach)</u>	<p>ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Beneficiary Account Number or the crediting CMB Number.</p> <p><u>Should the TIPS DCA balance be greater than the "ceiling notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new push rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p><u>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of the RTGS system.</u></p>
[...]	[...]	[...]	[...]

14) 2.2.2 Instant Payment (non-euro currencies scheme)

[...]

The involved messages are:

- The [FIToFICustomerCreditTransfer](#) message sent by the Originator Participant or Instructing Party acting on behalf of the Participant/Reachable Party in order to (i) instruct the payment, (ii) to reserve the corresponding amount in a currency different from Euro and (iii) to inform the Beneficiary Participant or Instructing Party acting on behalf of the Participant/Reachable Party about the transaction received;
- The [Error! Reference source not found.](#) message sent (i) by the Beneficiary Participant or Instructing Party acting on behalf of the Participant/Reachable Party to TIPS to either accept or reject the Instant Payment transaction, or (ii) by TIPS to inform the actors about the result of the settlement (i.e. settled, rejected, timed-out);

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- The [ReturnAccount](#) message that can be possibly sent by TIPS to Creditor Account Owner and/or Debtor Account Owner. The message is sent by TIPS if (i) the owner of the TIPS Account (or CMB) enables the floor and ceiling notifications and (ii) the configured threshold is crossed.
- Additionally, a [LiquidityCreditTransfer](#) message can be sent in push or pull, on optional basis, by TIPS to T2-CLM (serving the specific non-euro currency) in case of floor/ceiling breaches and upon the definition of a rule-based LT configuration in CRDM.

[...]

15) 2.2.2 Instant Payment (non-euro currencies scheme) – Table 58 - Instant Payment transaction steps for non-Euro currencies

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
18p	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and floor breach)	TIPS as sender Debited Account and/or CMB Owner T2-CLM as receiver (only in case of automated LT and floor breach)	<p>TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Originator Account Number or the Debiting CMB Number.</p> <p><u>Should the TIPS DCA balance be lower than the "floor notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new pull rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p><u>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</u></p>

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Step	Involved messages	Involved actors	Description
19p	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and ceiling breach)	TIPS as sender Credited Account and/or CMB Owner T2.CLM as receiver (only in case of automated LT and ceiling breach)	<p>TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Beneficiary Account Number or the crediting CMB Number.</p> <p><u>Should the TIPS DCA balance be greater than the "ceiling notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new push rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p><u>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of the RTGS system.</u></p>
[...]	[...]	[...]	[...]

16) 2.2.3 Instant Payment (SIP settlement model)

[...]

The involved messages are:

- The [FIToFICustomerCreditTransfer](#) message sent by the Single Instructing Party acting on behalf of the counterparties in order to instruct the instant payment in a non-Euro currency;
- The [Error! Reference source not found.](#) message sent by TIPS to inform the Single Instructing Party about the result of the settlement (i.e. settled, rejected, timed-out) in a non-Euro currency;
- The [Error! Reference source not found.](#) message sent by the Single Instructing Party acting on behalf of the counterparties in order to instruct the instant payment in Euro currency;

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- The [Error! Reference source not found.](#) message sent by TIPS to inform the Single Instructing Party actor about the result of the settlement (i.e. settled, rejected, timed-out) in Euro currency;
- The [Error! Reference source not found.](#) message that is sent, on optional basis, by TIPS to the Single Instructing Party actor. The message is sent by TIPS if (i) the owner of the TIPS Account (or CMB) enables the floor and ceiling notifications and (ii) the configured threshold is crossed.
- Additionally, a [LiquidityCreditTransfer](#) message can be sent in push or pull, on optional basis, by TIPS to T2-CLM in case of floor/ceiling breaches and upon the definition of a rule-based LT configuration in CRDM.

[...]

17) 2.2.3 Instant Payment (SIP settlement model) – Table 60 - Instant Payment transaction steps for SIP settlement model

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
11	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and floor breach)	TIPS as sender Debited Account and/or CMB Owner T2-CLMas receiver (only in case of automated LT and floor breach)	<p>TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Originator Account Number or the Debiting CMB Number.</p> <p><u>Should the TIPS DCA balance be lower than the "floor notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM (serving the given non-euro currency);</u> • <u>If automated LT and notification are enabled, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new pull rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u>

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Step	Involved messages	Involved actors	Description
			<p>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</p>
12	<p>ReturnAccount</p> <p>LiquidityCreditTransfer (only in case of automated LT and ceiling breach)</p>	<p>TIPS as sender</p> <p>Credited Account and/or CMB Owner</p> <p>T2-CLM as receiver (only in case of automated LT and ceiling breach)</p>	<p>TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Beneficiary Account Number or the crediting CMB Number.</p> <p><u>Should the TIPS DCA balance be greater than the "ceiling notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM (serving the non-euro currency);</u> • <u>If automated LT and notification are enabled, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new push rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</p>
[...]	[...]	[...]	[...]

18) 2.3 Recall

[...]

The involved messages for SCT^{Inst} scheme 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.

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- The [ResolutionOfInvestigation](#) message, used to respond negatively to the Recall request.
 - The [Error! Reference source not found.](#) message sent by TIPS in the following cases within the SCT^{Inst} scheme:
 - o To reject a Recall request or a Recall Response as they cannot be validated;
 - o 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.
 - Additionally, a [LiquidityCreditTransfer](#) message can be sent in push or pull, on optional basis, by TIPS to T2-CLM in case of floor/ceiling breaches and upon the definition of a rule-based LT configuration in CRDM.
- [...]

19) 2.3 Recall – Table 61 – Recall steps

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
16p	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and floor breach)	TIPS as sender Debited Account and/or CMB Owner T2-CLM as receiver (only in case of automated LT and floor breach)	<p>TIPS checks the "Floor notification amount" configured for the involved Originator Account or Debiting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "floor notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner.</p> <p>The message contains the Originator Account Number or the Debiting CMB Number.</p> <p><u>Should the TIPS DCA balance be lower than the "floor notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new pull rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u>

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Step	Involved messages	Involved actors	Description
			<p>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</p>
17p	<p>ReturnAccount</p> <p>LiquidityCreditTransfer (only in case of automated LT and ceiling breach)</p>	<p>TIPS as sender</p> <p>Credited Account and/or CMB Owner</p> <p>T2-CLM as receiver (only in case of automated LT and ceiling breach)</p>	<p>TIPS checks the "Ceiling notification amount" configured for the involved Beneficiary Account or Crediting CMB.</p> <p>After settlement confirmation, if the account balance and/or the CMB headroom crosses the threshold configured as "ceiling notification amount", TIPS sends a ReturnAccount to the Account and/or CMB owners involved in the transaction.</p> <p>The message is sent to the default DN of the Account Owner and/or CMB Owner. The message contains the Beneficiary Account Number or the crediting CMB Number.</p> <p>Should the TIPS DCA balance be greater than the "ceiling notification amount", TIPS shall check the rule-based LT configuration:</p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new push rule-based LT towards the corresponding RTGS System:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if eligible, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</p>

20) §2.5 Inbound/Outbound, rule-based and intra-service Liquidity Transfers

[...]

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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.

Additionally, rule-based Liquidity Transfers can be settled in TIPS. Rule-based liquidity transfers are optionally captured in the CRDM configuration and are initiated by TIPS in the event of a floor/ceiling breach detected by TIPS and forwarded to T2-CLM in the form of a Push/Pull rule-base Liquidity Transfer message.

[...]

21) 2.5.1 Inbound Liquidity Transfer

[...]

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 System account to a TIPS Account denominated in the same currency; Additionally, it can also be sent by TIPS to the T2-CLM in push, on optional basis in case of ceiling breaches and upon the definition of a rule-based LT configuration in CRDM.
- [Error! Reference source not found.](#): the message sent by TIPS to the RTGS System to confirm/reject the execution of a Liquidity Transfer;

[...]

22) 2.5.1 Inbound Liquidity Transfer - Table 63 - Inbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
9	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and ceiling breach)	TIPS as sender TIPS Account owner as receiver T2-CLM as receiver (only in case of automated LT and ceiling breach)	<p>TIPS checks the "Ceiling notification amount" configured for the credited account.</p> <p>If the account balance after settlement is higher than the "Ceiling notification amount", TIPS sends</p> <p><u>Should the TIPS DCA balance be greater than the "ceiling notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner;</u> • <u>If automated LT only is selected, a Push LiquidityCreditTransfer is sent to is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new push rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p>The ReturnAccount message is sent to the default DN of the Account Owner <u>whereas, if needed, the LiquidityCreditTransfer is sent to the DN of T2-CLM,</u></p>

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23) 2.5.2 Outbound Liquidity Transfer

[...]

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 System account; Additionally, it can also be sent by TIPS to the T2-CLM in pull, on optional basis, in case of floor breaches and upon the definition of a rule-based LT configuration in CRDM.
- [Error! Reference source not found.](#): the message sent by TIPS to the TIPS Participant or Instructing Party to confirm/reject the execution of a Liquidity Transfer;

[...]

24) 2.5.2 Outbound Liquidity Transfer - Table 50 - Outbound Liquidity Transfer Order steps

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
16p	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and floor breach)	TIPS as sender TIPS Account owner as receiver T2-CLM as receiver (only in case of automated LT and floor breach)	<p>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.</p> <p>If the account balance is lower than the "floor notification amount", TIPS should the TIPS DCA balance be lower than the "floor notification amount", TIPS shall check the rule-based LT configuration:</p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the Account owner involved in the transaction;</u> • <u>If automated LT only is selected, a Pull LiquidityCreditTransfer is eligible to be sent to the relevant RTGS System (e.g. T2-CLM for euro);</u> • <u>If automated LT and notification are enabled, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS Account owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new pull rule-based LT towards the corresponding T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p>sends a ReturnAccount to the Account owner (or the default DN configured as receiver) involved in the transaction. The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if needed, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</p>
[...]	[...]	[...]	[...]

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25) 2.5.3 Intra-service Liquidity Transfer

[...]

The following messages are involved in the Intra-service Liquidity Transfer business process:

- **Liquidity Credit Transfer:** the message which enables the sender to transfer liquidity from the TIPS Account to a TIPS AS Technical account (or vice versa);. Additionally, it can also be sent by TIPS to T2-CLM in pull/push, on optional basis, respectively in case of TIPS DCA floor/ceiling breaches and upon the definition of a rule-based LT configuration in CRDM.
- **Error! Reference source not found.:** the message sent by TIPS to the TIPS Participant, Ancillary System or Instructing Party to confirm/reject the execution of an intra-service Liquidity Transfer;

[...]

26) 2.5.3 Intra-service Liquidity Transfer - Table 66 – Intra-service Liquidity Transfer steps

Step	Involved messages	Involved actors	Description
[...]	[...]	[...]	[...]
11	ReturnAccount LiquidityCreditTransfer (only in case of automated LT and floor breach)	TIPS as sender Owner of the debited account as receiver T2-CLM as receiver (only in case of automated LT and floor breach)	<p>Once the status of the Intra-service Liquidity Transfer Order is set to "Settled", TIPS checks the "Floor notification amount" configured for the involved account to be debited.</p> <p>If the <u>TIPS AS Technical</u> account balance is lower than the "Floor notification amount", TIPS sends a ReturnAccount to the account owner (or the default DN configured as receiver) involved in the transaction.</p> <p><u>Should the TIPS DCA balance be lower than the "floor notification amount", TIPS shall check the rule-based LT configuration:</u></p> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the TIPS DCA owner involved in the transaction;</u> • <u>If automated LT only is selected, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM;</u> • <u>If automated LT and notification are enabled, a Pull LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS DCA owner is notified with a ReturnAccount.</u> <p><u>If the following condition is successfully met, TIPS generates a new pull rule-based LT towards T2-CLM:</u></p> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <p><u>The ReturnAccount message is sent to the default DN of the Account Owner, whereas, if needed, the LiquidityCreditTransfer is sent to the DN of T2-CLM.</u></p>
[...]	[...]	[...]	[...]
13	ReturnAccount LiquidityCreditTransfer (only in case of automated LT)	TIPS as sender Owner of the credited	<p>Once the status of the Intra-service Liquidity Transfer Order is set to "Settled", TIPS checks the "Ceiling notification amount" configured for the credited account.</p> <p>If the <u>TIPS AS Technical</u> account balance is higher than the "Ceiling notification amount", TIPS sends a ReturnAccount to the account</p>

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	<u>and ceiling breach)</u>	account as receiver T2-CLM as receiver (only in case of automated LT and ceiling breach)	owner (or the default DN configured as receiver) involved in the transaction. <u>Should the TIPS DCA balance be greater than the "ceiling notification amount", TIPS shall check the rule-based LT configuration:</u> <ul style="list-style-type: none"> • <u>If no rule exists, a ReturnAccount is sent to the TIPS DCAAccount owner;</u> • <u>If automated LT only is selected, a Push LiquidityCreditTransfer is sent to is eligible to be sent T2-CLM;</u> • <u>If automated LT and notification are enabled, a Push LiquidityCreditTransfer is eligible to be sent to T2-CLM and the TIPS DCA owner is notified with a ReturnAccount.</u> <u>If the following condition is successfully met, TIPS generates a new push rule-based LT towards T2-CLM:</u> <ul style="list-style-type: none"> - <u>RTGS opening hours Check.</u> <u>The ReturnAccount message is sent to the default DN of the Account Owner whereas, if needed, the LiquidityCreditTransfer is sent to the DN of T2-CLM,</u>
[...]	[...]	[...]	[...]

27) 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 TIPS Account, TIPS AS Technical Account (or the CMB) undercuts the floor amount or exceeds the ceiling amount configured by the ~~account or CMB~~ owner in CRDM.

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

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

Each TIPS DCA owner may configure in CRDM a rule-based liquidity transfer to trigger automatic injection to or drain from one of its TIPS DCAs that breached either the floor or the ceiling amount after a successful settlement attempt.

The rule-based Liquidity Transfer Order shall indicate from/to which Main Cash Account (MCA) the liquidity has to be pulled/pushed in case a floor/ceiling breach occurs on a TIPS DCA.

Besides the floor and ceiling amount thresholds, the TIPS DCA owner shall also be able to configure the Floor notification', 'Ceiling notification', 'Target Amount After Breaching Floor' and 'Target Amount After Breaching Ceiling' which are used by TIPS to request to T2-CLM the amount of liquidity needed to restore the predefined target balance after a floor/ceiling breach.

By enabling such a configuration, the TIPS DCA owner may also decide to choose between one of these three options:

- Keep the current 'default' configuration, which implies that the TIPS DCA owner is notified by TIPS whenever⁸ a floor/ceiling breach is detected;

⁸ Provided that floor and ceiling threshold amounts have been set in CRDM at account level.

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- b. Replace⁹ the TIPS DCA owner notification with an automated injection/drain of liquidity driven by a rule-based LT initiated by TIPS;
- c. Trigger both (i) the notification to the TIPS DCA owner whenever a floor/ceiling breach is detected and (i) the automated injection/drain of liquidity driven by a rule-based LT initiated by TIPS.

These rule-based configurations neither apply to TIPS CMBs nor to TIPS AS Technical Accounts. For those types of accounts, the owner is always notified by TIPS whenever⁷ a floor/ceiling breach is detected.

The notifications related to both TIPS CMBs and TIPS AS Technical Accounts are generated every time the threshold is undercut (floor) or exceeded (ceiling) whereas for TIPS Accounts it depends on the configuration option chosen by the TIPS Account owner.

In the event of a floor/ceiling breach taking place during the timeframe in which the RTGS System is closed (e.g., when the channel between T2-CLM and TIPS is closed, e.g. during the Maintenance Window) the following processing is executed in TIPS:

- If the breach is related to a TIPS CMB or a TIPS AS Technical account, the normal processing applies, i.e. the TIPS Account owner is immediately notified.
- If the TIPS DCA is not eligible for automated rule-based LT, (options (a) above), the normal processing applies, i.e. the TIPS DCA owner is immediately notified.
- If the TIPS DCA is eligible for automated rule-based LT, (options (b) and (c) above) no rule-based LT is generated towards the RTGS System. However, with option (c), the TIPS DCA owner can still be notified immediately.

As soon as the RTGS System returns back to status 'open' for a given currency, TIPS checks the balances of all the TIPS DCAs denominated in that currency.

For any TIPS DCA whose balance is still below the floor, a Pull Rule-based Liquidity Transfer is generated and routed to the corresponding RTGS System. No action shall be undertaken by TIPS if the balance is above the floor threshold.

For any TIPS DCA whose balance is still above the ceiling, a Push Rule-based Liquidity Transfer is generated and routed to the corresponding RTGS System. No action shall be undertaken by TIPS if the balance is below the ceiling threshold.

Any Push/Pull Rule-based Liquidity Transfer delivery attempt is executed by TIPS only once. In case of any failure, the attempt is not repeated to avoid endless loops. A new attempt for a given TIPS DCA is only initiated by TIPS if a brand new floor or ceiling breach is detected.

TIPS does not generate new notifications if, after trespassing the threshold, the account balance or the CMB headroom remains consistently above the ceiling threshold or below the floor threshold.

28) 2.6.1 Floor notification on a TIPS account

This positive scenario describes a successful Instant Payment transaction between two TIPS Accounts that generates a floor notification on the debited account. The scenario described is only an example for the floor notification and how the message is triggered, assuming the rule-based configuration is not present in CRDM for

⁹ By using this option, the TIPS Account owner will no longer be notified in case of floor/ceiling breaches.

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the TIPS Accounts involved in the transaction and that 'floor notification' flag is set to 'TRUE' in CRDM. The scenario is similar when the headroom of the CMB falls below the defined threshold. In this case, the message is generated and sent to the owner of the account linked to the CMB.

[...]

29) **2.6.3 Floor notification on a TIPS account with rule-based LT and RTGS System in status 'open' (new section)**

This example describes a successful Instant Payment transaction between two TIPS DCAs that triggers a floor breach on the debited account.

This example takes as precondition the execution of example [Error! Reference source not found. "Error! Reference source not found."](#). The Account 1 has a Floor Amount set to 1,000.00 EUR. At the end of the settlement phase, the payment is confirmed and the Amount of the account is decreased to 900.00 EUR.

TIPS detects that the account balance breached the floor threshold defined by the customer and it checks the existence of any rule-based LT automation.

Assuming that the DCA owner configured a rule-based LT for which both (i) an automated LT to T2-CLM and a (ii) floor notification to the TIPS DCA owner have to be triggered, TIPS will generate:

- a floor notification to the TIPS DCA owner, and
- a Pull rule-based LT towards T2-CLM;

[...]

30) **2.6.4 Floor notification on a TIPS account with rule-based LT and RTGS System in status 'closed' (new section)**

This example describes a successful Instant Payment transaction between two TIPS Accounts that generates a floor notification on the debited account.

This example takes as precondition the execution of example [Error! Reference source not found. "Error! Reference source not found."](#). The Account 1 has a Floor Amount set to 1,000.00 EUR. At the end of the settlement phase, the payment is confirmed and the Amount of the account is decreased to 900.00 EUR.

TIPS detects that the account balance breached the floor threshold defined by the customer and it checks the existence of any rule-based LT automation.

Assuming that the DCA owner configured a rule-based LT for which both (i) an automated LT to T2-CLM and a (ii) floor notification to the TIPS DCA owner have to be triggered, for the former TIPS shall not take any immediate action. For the latter, TIPS generates a [ReturnAccount](#) message to notify immediately the TIPS DCA owner.

As soon as the relevant RTGS System reverts back to status 'open', TIPS checks the current balance of the TIPS DCAs. If the account balance is still below the floor, TIPS generates a pull rule-based LT towards the corresponding RTGS System.

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31) 4.1.3.3 Liquidity Transfer status – Advanced Search/List screen

Advanced Query Liquidity Transfer: Search criteria	
Object	Required Format
[...]	[...]
Direction	<p>This field offers the possibility to restrict the result list to liquidity transfers, <u>including rule-based LTs</u>, either debiting or crediting the account (or both).</p> <p>Possible values:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Credit or Debit <input type="checkbox"/> Credit <input type="checkbox"/> Debit <p>Default value: 'Credit or Debit'</p>
[...]	[...]

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1.3.3.3 Description of the entities

[...]

12 Account Threshold configuration

This specific *Account Configuration* includes the required attributes to configure the notifications for the related *Cash Account*. It applies to RTGS Dedicated Cash Accounts, RTGS Central Bank Accounts, Main Cash Accounts, CLM CB Accounts and TIPS Dedicated Cash Account.

[...]

32) Business rules DCC4069 and DCC4078 of the Create LTO object

The BRs have to be amended in order to take into account the additional rule-based combinations of accounts, including TIPS DCAs. The following internal specification shall be amended accordingly:

- *IDFS_BdI_CRDM-CSA-CRE-04*

33) New parameters at Cash account level for TIPS DCAs (Back-end and data model)

The fields *Target Amount After Breaching Floor*, *Target Amount After Breaching Ceiling*, *Ceiling notification* and *Floor notification* will be introduced for the TIPS DCA also introducing a dedicated business rule¹⁰ to guarantee consistency and avoid endless loop via the following condition:

¹⁰ This rule DCC1232 will be introduced via CR T2-0118-SYS that will be available in November 2024.

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- 'Target Amount After Breaching Floor' shall be smaller than the ceiling.
- 'Target Amount After Breaching Ceiling' shall be greater than the floor.

The following internal specification shall be amended accordingly:

- *IDFS_BdI_CRDM-CSA-CRE-01*
- *IDFS_BdI_CRDM-CSA-UPD-01*
- *Screen documentation CRDM Cash Account*

34) Data propagation from CRDM to TIPS

Impacts on the data propagation between CRDM and TIPS are envisaged to export in the LRDM database the information related to the rule-based LT processing and the notification options selected by each TIPS DCA owner. This includes the information related to the rule-based LT processing for TIPS DCAs.

The relevant IDFS to be amended is the following:

- *IDFS_BdI_TIPS_ALL-EXT_Data Extraction for TIPS*

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2.3.2.3 Cash Account – New/Edit Screen

[...]

Account Threshold Configuration	
These attributes must be present for <u>TIPS DCA</u> , RTGS DCAs, RTGS CB Accounts, Main Cash Accounts and CLM CB Accounts and. Once created, this group cannot be deleted.	
Target Amount After Breaching Floor	Enter the target amount after breaching floor notification amount. Reference for error message []: <ul style="list-style-type: none"> ■ DCC1800 ■ DCU1232 ■ DCU1800 This field is only allowed if "Floor Notification Amount" is used. Required format is: Amount.
Target Amount After Breaching Ceiling	Enter the target amount after breaching ceiling notification amount. Reference for error message []: <ul style="list-style-type: none"> ■ DCC1800 ■ DCU1232 ■ DCU1800

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Account Threshold Configuration	
	<p>This field is only allowed if "Ceiling Notification Amount" is used.</p> <p>Required format is: Amount.</p>
Associated LT Account	<p>Enter or select the unique number of the associated LT account.</p> <p>This field is only allowed if Account Type is Main Cash Account or RTGS Dedicated Cash Account. It is disabled and empty otherwise.</p> <p>Reference for error message []:</p> <ul style="list-style-type: none"> DCC1220 DCU1230 <p>Required format is: max. 34x characters.</p>
Floor Notification	<p>Select whether the floor notification is configured or not.</p> <p>Reference for error message []:</p> <ul style="list-style-type: none"> DCC1101 DCU1101 <p>This field is only allowed if "Floor Notification Amount" is used.</p>
Ceiling Notification	<p>Select whether the ceiling notification is configured or not.</p> <p>Reference for error message []:</p> <ul style="list-style-type: none"> DCC1101 DCU1101 <p>This field is only allowed if "Ceiling Notification Amount" is used.</p>
Rule-Based LT for Queued High Priority Payments	<p>Select whether the Rule-Based LT for queued high priority payments is configured or not.</p> <p>This field can only be used for RTGS DCA and it is only allowed if "Associated LT Account" is used.</p> <p>This field is selectable only in edit mode.</p> <p>Reference for error message []:</p> <ul style="list-style-type: none"> DCC1440 DCU1231
Rule-Based LT for Queued Urgent Priority Payments	<p>Select whether the Rule-Based LT for queued urgent priority payments is configured or not.</p> <p>This field can only be used for RTGS DCA and it is only allowed if "Associated LT Account" is used.</p>

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Account Threshold Configuration	
	This field is selectable only in edit mode.
	Reference for error message []:
	<ul style="list-style-type: none"> ▮ DCC1440 ▮ DCU1231

[...]

4.3.2.103 Standing/Predefined Liquidity Transfer Order – New/Edit Screen

Reference for error message	Field or Button	Error Text	Description
DCC4069	<ul style="list-style-type: none"> ▮ Debited Cash Account Number field ▮ Submit button 	Invalid Debited Cash Account	When performing a Rule-Based Liquidity Transfer Order Create request, the specified Cash account to be debited must refer to an existing, active and open instance in CRDM with cash account type <u>TIPS DCA</u> , RTGS DCA, RTGS Central Bank Account, MCA or CLM Central Bank Account.
[...]			
DCC4078	<ul style="list-style-type: none"> ▮ Creditor Cash Account Number field ▮ Submit button 	Invalid Creditor Cash Account	<p>When performing a Rule Based Liquidity Transfer Order Create request, the specified Creditor Account must be a Cash Account and it must refer to an existing, active and open instance in CRDM with cash account type <u>TIPS DCA</u>, RTGS DCA, RTGS Central Bank Account, MCA or CLM Central Bank Account,</p> <p>If the debited account is an RTGS DCA, the creditor account cannot be another RTGS Dedicated Cash Account.</p> <p><u>If a TIPS DCA is involved, the other account must be a Main Cash Account.</u></p> <p>If the debited account is a CLM CB</p>

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Reference for error message	Field or Button	Error Text	Description
			Furthermore, when the Creditor Account is a Cash Account, it must have the same currency as the debited Cash Account.

35) Cash Account screens (New/Edit, Details)

Additionally, the *Account Threshold Configuration* have to be configured for TIPS DCAs.

- *Section 2.3.2.2 Cash Account – Details*
- *Section 2.3.2.3 Cash Account – New/Edit Screen*

TIPS Training material

36) N.040_Settlement of instant payments

Update of the training material slides in order to take into consideration the new rule-based LT automation.

37) FN.050_Liquidity management

Update of the training material slides in order to take into consideration the new rule-based LT automation.

38) N.070_Queries, reports and notification

Update of the training material slides in order to take into consideration the new rule-based LT automation, describing also the aspects related to CRDM configuration.

High-level description of Impact:

The Change Request aims at introducing the rule-based liquidity transfer concept also for the TIPS Accounts (i) as it was introduced for CLM/RTGS accounts with CSLD-022 and (ii) as it will apply to TARGET2-Securities with CR-0720.

In order to support this new functionality, adaptations have to be deployed both (i) in CRDM and (ii) TIPS application to cope with the following aspects:

- Apply the rule-based LT configuration for TIPS Accounts. Two new Liquidity Transfer Orders, i.e. (i) Rule-based floor and (ii) Rule-based ceiling, have already been introduced in CRDM with the CSLD-0022.
- Extend the usage of the fields (i) '*Target Amount After Breaching Floor*', (ii) '*Target Amount After Breaching Ceiling*', (iii) '*Floor notification*' and (iv) '*Ceiling notification*', already envisaged in the CRDM GUI for T2, to the TIPS DCA configuration to determine the target amount of liquidity that TIPS shall push/pull from T2-CLM after a floor/ceiling breach on a TIPS DCA is detected.
- Develop a LT daemon in TIPS capable to sweep all the TIPS DCAs with the aim of generating pull/push rule-based LTs towards T2-CLM in case of floor/ceiling breaches occurred during the timeframe in which T2-CLM was not operating (e.g. during the Maintenance Window or within Banking Holidays) that are still in a breach condition.
- Amend the daily propagation processes from CRDM to TIPS in order to cope with the new rule-based LT automation and relevant configuration parameters.

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- Amend the CRDM GUI, backend and data model to add TIPS DCAs combinations and configuration parameters to the existing rule-based LT already in use for T2.

General description and migration aspects

Currently, floor and ceiling notifications are enabled in TIPS by defining certain threshold amount at TIPS DCA level. Moreover, upon proper network service configuration, the notifications are delivered to the TIPS DCA owner's DN whenever one of the thresholds is breached.

In order to cope with the automated injection and repatriation of liquidity mechanism, the current notification component in TIPS shall be enriched in the following way:

- The floor/ceiling notification for TIPS DCAs shall allow a choice between three possible options:
 - a. No configuration: This is the 'default' option; by enabling this option the TIPS DCA owner will continue to be notified in case of floor/ceiling breaches according to the existing mechanism (i.e. via dedicated camt.004 message). However, due to the introduction of the two boolean flags 'floor notification' and 'ceiling notification' a migration effort has to be evaluated for customers who are already working in TIPS even though they are not interested in using such a new functionality. The migration will also affect existing TIPS CMBs and TIPS AS Technical Accounts for which the rule-based mechanism does not apply.
 - b. Automated LT only: This option will replace the sending of notifications to the TIPS DCA owner - in case of floor/ceiling breaches - with a rule-based LT generated by TIPS towards T2-CLM. The LT aims at triggering the relevant push/pull of liquidity in order to re-establishing the optimal level of liquidity¹¹ on the TIPS DCA balance as captured in CRDM through the parameters (i) '*Target Amount After Breaching Floor*' and (ii) '*Target Amount After Breaching Ceiling*'.
 - c. Automated LT and notification: This option will imply that - in case of floor/ceiling breaches - the TIPS DCA owner (for informational purpose) will be notified while in parallel a rule-based LT generated by TIPS towards T2-CLM will trigger the relevant push/pull of liquidity to re-establishing the desired level of liquidity on the TIPS DCA balance as captured in CRDM through the parameters (i) '*Target Amount After Breaching Floor*' and (ii) '*Target Amount After Breaching Ceiling*'.
- The floor/ceiling notification processing envisioned for TIPS CMB and TIPS AS Technical Account shall remain unchanged compared to the behaviour currently supported.

In the scenarios where automated LTs are enabled (i.e. former options (b) and (c)), whenever the floor/ceiling breach occurs in a timeframe when the T2-CLM is not open, the rule-based LT will be rejected. As soon as the RTGS System changes its status back to 'open', a dedicated new TIPS component will assess again the floor/ceiling breach condition. Should the condition of either lack or surplus of liquidity be still ongoing for a given TIPS DCA (if a rule-based LT configuration is defined), a corresponding rule-based LT shall be generated and routed towards T2-CLM. The delivery of the rule-based LT will never be repeated by TIPS in order to avoid any loop or endless retries.

Assumptions

Besides the necessary changes in CRDM and TIPS, the assumptions in developing such CR for the euro currency are the following:

- TIPS shall introduce a new mechanism to pull liquidity from T2-CLM, through the CLM Adapter component.

¹¹ The optimal level is calculated on the basis of the CRDM fields (i) *Floor/Ceiling Amounts* and (ii) *Target Amount After Breaching Floor/Target Amount After Breaching Ceiling*.

E.g., if (i) the floor threshold is X, (ii) the *Target Amount After Breaching Floor* is Y and (iii) the account balance after the floor breach is X-Z, the automated liquidity transfer shall pull in TIPS an amount corresponding to [Y-(X-Z)].

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- In order to execute the rule-based LTs, the interface between T2-CLM and TIPS shall rely on the existing camt.050/camt.025 messages.
- In case of any race condition between concurrent liquidity transfer attempts in T2-CLM, the FIFO principle shall apply.
- Liquidity transfers from T2-CLM to TIPS, as described in this CR, would not have access to the funds reserved in CLM for Central Bank Operations.

Multicurrency aspects

For any non-Euro currency managed within T2-CLM, the same mechanism and assumptions described for euro should also apply.

For any non-Euro currency managed by connected external RTGS System, the rule-based LT automation shall not be available, as it would entail additional adaptations in the external RTGS System functionalities (e.g., the authorisation to pull liquidity directly from TIPS, changes into the RTGS System itself).

If this request will materialize in the future, a new dedicated CR will be required to make the necessary changes both in CRDM and assess the impact on the external connected RTGS System.

Legal Archiving consideration

Any camt.050 and camt.025 exchanged in the interface between TIPS and T2-CLM, stemming from a floor/ceiling rule-based LT, will also be sent to the Legal Archiving (LeA) common component following the existing rules, i.e. the delivery to LeA of any message is responsibility of the receiver entity.

On TIPS only the following rule-based related messages will be stored:

- the camt.050 message representing the LT order generated for the (outbound or push rule-based) LT scenario
- the camt.025 message representing the T2-CLM reply for the (outbound or push rule-based) LT scenario
- the camt.050 message representing the inbound pull response received from T2-CLM in the pull rule-based LT scenario

Impacts on other projects and products:

- T2: impacts were detected during the CSIA. On T2 side the corresponding CR is T2-0067
- ECMS: no impact
- T2S: impacts were detected during the CSIA. On T2S side the corresponding CR is T2S-720

Outcome/Decisions:

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L3 analysis - General Information	
Impact on TIPS	
Business Interface	
X	A2A Interface
X	U2A Interface
Settlement Engine	
X	Payment Transaction
X	Liquidity Transfer
X	Recall
Queries and Reports	
	Queries
	Reports
Other functions	
X	Local Reference Data Management
	Statistics
	Complex Queries and Reports
	Mobile Proxy Look-up
Common Components	
	ESMIG
X	CRDM
	Archiving
	Billing
	DMT
Operational Tools	
	SLA Reporting
	TMS
	Technical Monitoring
	Change Management
	Capacity Management
Infrastructure request	

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	Application components impacted	
	Application components not impacted	
Operational activities		
	Business activities impacted	
	Technical activities impacted	
New functionalities		
Impact on documentation		
Document	Chapter	Change
TIPS UDFS	1.4.2 Liquidity Transfer	Amendment to Table 9
	1.4.6 RTGS System	Editorial changes
	1.5.1 General Concepts	Editorial changes
	1.5.3 Liquidity Management	Editorial changes and new sections
	1.5.3.x Rule-based Liquidity Transfer	New section and subsections
	1.5.3.4 Reserve calculations	Editorial changes
	1.6.1.3 Change of business date of the RTGS system	Editorial changes
	1.6.1.4 TIPS General Ledger	Editorial changes
	1.6.1.4.1 TIPS General Ledger production	Editorial changes
	1.6.1.5 TIPS Snapshot	Editorial changes
	2.2.1 Instant Payment (SCTInst scheme)	Description of the new rule-based LT automation
	2.2.2 Instant Payment (non-euro currencies scheme)	Description of the new rule-based LT automation
	2.2.3 Instant Payment (SIP settlement model)	Description of the new rule-based LT automation
	2.3 Recall	Description of the new rule-based LT automation
	2.5 Inbound/Outbound Liquidity Transfers	Description of the new rule-based LT automation
	2.5.1 Inbound Liquidity Transfer	Description of the new rule-based LT automation
2.5.2 Outbound Liquidity Transfer	Description of the new rule-based LT automation	

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	2.5.3 Intra-service Liquidity Transfer	Description of the new rule-based LT automation – Table 66
	2.6 Notifications	Changes into the notification engine in TIPS stemming from this CR
	2.6.1 Floor notification on account	Editorial amendments
	New sections 2.6.3 and 2.6.4	Examples of the new rule-based LT notification processing
ESMIG UDFS	N/A	
CRDM UDFS	1.3.3.3 Description of the entities	Extension of account threshold configuration for TIPS
TIPS UHB	4.1.3.3 Liquidity Transfer status – advanced Search/List screen	Inclusion of the new rule-based LT in the search criteria and displayed results
CRDM TIPS UHB	2.3.2.3 Cash Account – New/Edit Screen	Extension of account threshold configuration for TIPS DCA
	4.3.2.103 Standing/Predefined Liquidity Transfer Order – New/Edit Screen	Amendment of business rules DCC4069 and DCC4078
Training documentation	FN.040_Settlement of instant payments FN.050_Liquidity management FN.070_Queries, reports and notifications	Amend the training material slides in order to take into consideration the newly introduced rule-based LT automation.
Other documents	CRDM Internal functional specification for GUI, data propagation and backend	Rule-based LT automation extended to TIPS

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Overview of the impact of the request on TIPS (L2 view)

Summary of functional, development, infrastructure, operational and security impacts

Summary of functional impact:

In order to support this new functionality, adaptations have to be deployed both (i) in CRDM and (ii) TIPS application to cope with the following aspects:

- Apply the rule-based LT configuration for TIPS DCAs. Two new Liquidity Transfer Orders, i.e. (i) Rule-based floor and (ii) Rule-based ceiling, have already been introduced in CRDM with the CSLD-0022.
- Extend the usage of the fields (i) 'Target Amount After Breaching Floor', (ii) 'Target Amount After Breaching Ceiling', (iii) 'Floor notification' and (iv) 'Ceiling notification', already envisaged in the CRDM GUI for T2, to the TIPS Account configuration to determine the target amount of liquidity after the notification of a breach.
- Develop a new function/component in TIPS capable to deliver ex-post push/pull rule-based LTs towards T2-CLM if the balance is consistently below the floor or above the ceiling when T2-CLM system status is back to 'open'.
- Amend the daily propagation processes from CRDM to TIPS in order to cope with the new rule-based LT automation and relevant configuration parameters.
- Amend the CRDM GUI, backend and data model to add TIPS Accounts combinations and configuration parameters to the existing rule-based LT stemming from T2.

Currently, floor and ceiling notifications are enabled in TIPS by defining certain threshold amount at TIPS Account level. Moreover, upon proper network service configuration, the notifications are delivered to the TIPS Account owner's DN whenever one of the thresholds is breached.

In order to cope with the automated injection and repatriation of liquidity mechanism, the current notification component in TIPS shall be enriched in the following way:

- The floor/ceiling notification for TIPS Accounts shall allow a choice between three possible options:
 - a. No configuration: This is the 'default' option; by enabling this option the Account owner will continue to be notified in case of floor/ceiling breaches according to the existing mechanism (i.e. via dedicated camt.004 message). However, due to the introduction of the two boolean flags 'floor notification' and 'ceiling notification' a migration effort has to be evaluated for customers who are already working in TIPS, even though they are not interested in using such a new functionality. The migration will also impact existing TIPS CMBs and TIPS AS Technical Accounts for which the rule-based mechanism does not apply.
 - b. Automated LT only: This option replaces the sending of notifications to the TIPS DCA owner - in case of floor/ceiling breaches - with a rule-based LT towards T2-CLM. The push/pull rule-based LT aims at re-establishing the optimal level of liquidity¹² on the TIPS DCA balance.
 - c. Automated LT and notification: This option implies that - in case of floor/ceiling breaches - the TIPS DCA owner will be notified (for informational purpose) and a rule-based LT towards T2-CLM will be generated by TIPS.

¹² The optimal level is calculated on the basis of the CRDM fields (i) *Floor/Ceiling Amounts* and (ii) *Target Amount After Breaching Floor/Target Amount After Breaching Ceiling*.

E.g., if (i) the floor threshold is X, (ii) the *Target Amount After Breaching Floor* is Y and (iii) the account balance after the floor breach is X-Z, the automated liquidity transfer shall inject in TIPS an amount corresponding to [Y-(X-Z)].

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- The floor/ceiling notification processing envisioned for TIPS CMB and TIPS AS Technical Account shall remain unchanged compared to the behaviour currently supported.

In the scenarios where automated LTs are enabled (i.e. former options (b) and (c)), whenever the floor/ceiling breach occurs in a timeframe when T2-CLM is closed, the rule-based LTs will not be executed. Only notification will be sent immediately towards the TIPS DCA owner for options (a) and (c). However, as soon as T2-CLM changes its status back to 'open', TIPS will assess again the floor/ceiling breach condition. Should at that time the condition of either lack or surplus of liquidity be still ongoing for any TIPS DCA, a corresponding rule-based LT will be generated and routed towards T2-CLM.

The delivery of the rule-based LT will never be repeated by TIPS in order to avoid any endless loop.

Stemming from the abovementioned changes, the following SDD documentation has to be changed:

- TIPS UDFS
- TIPS UHB
- CRDM UDFS
- CRDM UHB
- TIPS User Training Material

Moreover, CRDM IDFS for GUI, data propagation and backend have to be amended accordingly.

Migration aspects

A migration effort has to be taken into consideration as long as the floor/ceiling notification becomes optional.

For this reason, the two newly introduced boolean flags "floor notification/ceiling notification" have to be propagated to TIPS. Moreover, in order to comply with the requirement of having optional notifications to the TIPS Account owner the following migration of data has to be carried out:

- for TIPS Accounts, TIPS CMBs and TIPS AS Technical Accounts whereby the Floor Notification Amount and Ceiling Notification Amount are not configured, both Floor Notification and Ceiling Notification have to be initialised to 'FALSE';
- for TIPS Accounts, TIPS CMBs and TIPS AS Technical Accounts whereby the Floor Notification Amount and Ceiling Notification Amount are configured with a value greater than zero, both Floor Notification and Ceiling Notification have to be initialised to 'TRUE'.

Summary of application development impact:

Impact on the TIPS application:

1. Add a new component, named **TIPS Liquidity Management (TILM)**, responsible for handling (i.e. sending, reconciling) all LTOs triggered by "breach notifications" (see point 3 below) for "inbound pull LT and outbound LT. Such a new component will deliver LTO to T2-CLM. The TILM component will be in charge for:
 - a. Receive the "breach notification" and, if the case, translate it into a LTO (camt.050) to be sent to T2-CLM;
 - b. When T2-CLM (for the EUR currency) begins a new business day (reception of camt.019 STRT message), TILM will analyse all the balances in the currency of the RTGS, to find out the accounts where the balance is under the floor / over the ceiling. TILM will receive a snapshot of the accounts taken by the Settlement core and, for each of those accounts – where the condition was reached during the not operating hours – a single notification will be "simulated", i.e. the corresponding LTO will be sent to T2-CLM (if the breaches occurred multiple times during the not operating hours, this will not affect this

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process, as the only relevant information is the status of the balance at the moment of the RTGS starts the new day);

- c. Receive negative or positive notifications from T2-CLM (camt.025) and process them in order to: (1) log any negative results arriving from the T2-CLM (for analysis and monitoring purposes). All negative replies shall not trigger any action (such as re-proposition), except the cases when the LT must be reverted into T2-CLM.
2. Enhance the component "CLM Adapter" in order to allow the processing of the "Inbound pull LT" (which is, currently, not envisaged).
 3. Enhance the logic that triggers notifications in event of breaches of floor/ceiling. The logic has to be changed in order to:
 - a. send the notification to the TILM component in the event of a breach to the floor/ceiling as defined in the local reference data (the same data now used to trigger the notification to the account owner).

The notification to T2-CLM is:

Conditions (in AND)				Action taken
Balance after settlement	Account configuration	Floor notification amount	Ceiling notification amount	
Balance becomes < floor	' <u>No configuration</u> '	Any		No notification to the TILM component
Balance becomes < floor	' <u>Automated LT and notification</u> '	>0		Send notification to the TILM component
Balance becomes < floor	' <u>Automated LT and notification</u> '	=0		No notification to the TILM component
Balance becomes < floor	' <u>Automated LT only</u> '	>0		Send notification to the TILM component
Balance becomes < floor	' <u>Automated LT only</u> '	=0		No notification to the TILM component
Balance becomes > ceiling	' <u>No configuration</u> '		Any	No notification to the TILM component
Balance becomes > ceiling	' <u>Automated LT and notification</u> '		>0	Send notification to the TILM component
Balance becomes > ceiling	' <u>Automated LT and notification</u> '		=0	No notification to the TILM component

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Balance becomes > ceiling	'Automated LT only'		>0	Send notification to the TILM component
Balance becomes > ceiling	'Automated LT only'		=0	No notification to the TILM component

b. Use the two new boolean flags 'floor notification' and 'ceiling notification', received from CRDM, to send, in addition to the above notification to the TILM component, the notification to the account owners.

4. Extend the internal representation of reference data, in order to include the new configuration parameters needed to process the rule-based LT notifications, received by the CRDM.

Impact on CRDM:

1. CRDM-backend and data model: changes on the Cash account (CSH) and Liquidity Transfer Order (LTO) objects:

a. Apply the rule-based LT configuration for TIPS DCAs. Two new LTOs, i.e. (i) Rule-based floor and (ii) Rule-based ceiling, have already been introduced in CRDM with the CSLD-0022.

The following business rules will be amended:

- o DCC4069: the TIPS DCA will be allowed as debited account for a rule-base floor/ceiling liquidity transfer order
- o DCC4078: the TIPS DCA will be allowed as creditor account for a rule-base floor/ceiling liquidity transfer order. Furthermore, if a TIPS DCA is specified as creditor or debited account, the other account (debited or credited) must be an MCA.

b. Add TIPS DCAs combinations and configuration parameters to the existing rule-based LT stemming from T2. In particular, the floor/ceiling notification for TIPS DCAs shall allow a choice between three possible options:

- o No configuration: this is the 'default' option; by enabling this option the Account owner will continue to be notified in case of floor/ceiling breaches according to the existing mechanism (i.e. via dedicated camt.004 message).
- o Automated LT only: this option will replace the sending of notifications to the TIPS DCA owner - in case of floor/ceiling breaches - with a rule-based LT towards T2-CLM. The LT aims at triggering the relevant Push/Pull to/from CLM and re-establishing the optimal level of liquidity of the TIPS DCA balance.
- o Automated LT and notification: this option will imply that - in case of floor/ceiling breaches - the TIPS DCA owner will be notified (for informational purpose) and a rule-based LT towards T2-CLM serving the relevant currency will be generated by TIPS.

c. Extend the usage of the fields (i) 'Target Amount After Breaching Floor', (ii) 'Target Amount After Breaching Ceiling', (iii) 'Floor notification' and (iv) 'Ceiling notification', already envisaged in the CRDM GUI for T2, to the TIPS Accounts configuration.

In particular, (iii) 'Floor notification' and (iv) 'Ceiling notification' must have boolean values (to be communicated to TIPS) and have to be set according to the following rules:

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Conditions (in AND)			Value to be assigned
Account configuration	Floor notification amount	Ceiling notification amount	
' <u>No configuration</u> '	>0		Floor notification flag = on
' <u>Automated LT and notification</u> '	>0		Floor notification flag = on
' <u>Automated LT only</u> '	Any		Floor notification flag = off
' <u>No configuration</u> '		>0	Ceiling notification flag = on
' <u>Automated LT and notification</u> '		>0	Ceiling notification flag = on
' <u>Automated LT only</u> '		Any	Ceiling notification flag = off

2. CRDM-GUI: enhance the GUI in order to support what listed on point 1.c and 1.d
3. Amend the daily propagation processes from CRDM to TIPS in order to add the information listed in point 1 above.
4. Amend the daily propagation processes from CRDM to T2-CLM in order to add the information listed in point 1d above.
5. Implement a migration functionality to assign values to the two boolean flags 'floor notification' and 'ceiling notification'. This functionality will update the accounts already active in TIPS, even though they are not interested in using such a new functionality. The migration will also affect existing TIPS CMBs and TIPS AS Technical Accounts for which the rule-based mechanism does not apply.

Summary of infrastructure impact:
No additional HW or SW is foreseen.

Summary of operational impact:
No operational impact.

Summary of security impact:
See Change Request Analysis.