



T2S CHANGE REQUEST FORM		
General Information (Origin of Request)		
<input checked="" type="checkbox"/> User Requirements (URD) or GUI Business Functionality Document (BFD) <input type="checkbox"/> Other User Functional or Technical Documentation (SYS)		
Request raised by: Bundesbank	Institute: Central bank	Date raised: 15/09/2019
Request title: Optional inbound liquidity transfer in case of negative NCB account balance at liquidity cut-off		Request ref. no: T2S 0720 URD
Request type: Common	Classification: Scope enhancement	Urgency: Normal
1. Legal/business importance parameter: High		2. Market implementation efforts parameter: Low
3. Operational/Technical risk parameter: Medium		4. Financial impact parameter: High
Requestor Category: Central bank		Status: Allocated to a release

Reason for change and expected benefits/business motivation:

In the context of the T2/T2S Consolidation, for EUR currency a feature of rule-based liquidity transfers (triggered by floor and ceiling amounts being reached¹) between a CLM MCA and a RTGS DCA will exist. The below graph (extract from CLM UDFS v1.0) shows the principle of floor and ceiling between a MCA and a RTGS DCA in future Target Services (Go-live in November 2021). This change request aims at implementing a similar principle between a T2S DCA and its connected MCA, in the specific case of a T2S.NCB account having a negative balance after the end of the current inbound LT cut-off procedure.

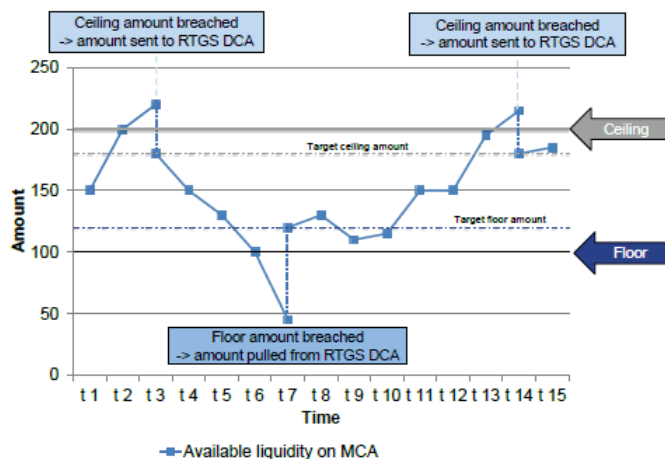


Figure 26 - Breach of floor/ceiling threshold - automatic liquidity transfer

At the moment, only the possibility to even out negative balances before the end of day is subject of this CR

Main benefits of this Change request:

- **A possible complement to CR-709:** CR-709 (Make the mandatory automated cash sweep at 17:45 optional) does not foresee to transfer negative account balances (on NCB accounts) automatically to T2 anymore. Only positive amounts will be transferred if the automated cash sweep is activated. By setting a (target) floor amount of zero on the T2S Central Bank Account, liquidity would be pulled from the NCB's CLM CB account each time needed, preventing it to go below zero.

¹ And triggered by a failed settlement mechanism for Ancillary Systems

Description of requested change:

NCB accounts are allowed to have negative balances in T2S. Some NCBs may need to zero out these balances shortly before end-of-day, to ensure there is no overnight negative balance on their T2S accounts. The requested LT mechanism is only to cover a negative balance and should be triggered by the existing event for the end-of-day optional cash sweep (OCS2 event, introduced for EUR with CR 709, set up for DKK in a near future),, for the exact amount needed to zero out the account (i.e. after the LT cut-off, there should be two exceptions: to allow liquidity in coming from this event based mechanism and to allow the LTs that carry out the optional cash sweep. From NCBs perspective, this feature should ideally be available by the go-live of T2-T2S Consolidation. The feature should be available, but not mandatory, for all CBs participating in T2².

The solution should be designed in such a way that the failure of a liquidity transfer in the cases listed above does not result in reattempting that liquidity transfer in a potentially endless loop.

In case the response of this new kind of liquidity transfer request (from CLM to T2S) arrives after the end of the real time closure phase (ERTS), then the NCB balance to be credited will remain negative in T2S, and the transfer carried out in CLM should be reverted.

This functionality should be accessible to Central banks only (DCAs of payment banks cannot have negative balances).

This feature should be designed in a multi-currency way, i.e. available for any T2S currency settling in T2.

Submitted annexes / related documents:

...

Outcome/Decisions:

*CRG on 8 November 2019: The CRG launched the preliminary assessment of CR-720.

*CRG on 27 November 2019: The CRG confirmed the launch of the preliminary assessment of CR-720.

*CRG on 17 September 2020: The CRG agreed to narrow the scope of CR-720 to include only an optional mechanism to prevent overnight negative balances on NCB accounts, and recommended the authorisation of CR-720 by the T2S Steering Level.

*CRG on 20 September 2020: The CRG agreed on the proposed parameters for CR-720 and their justification

*AMI-SeCo on 12 October 2020: The AMI-SeCo agrees with the CRG recommendation of authorisation of CR-720 by the T2S Steering Level.

*CSG on 15 October 2020: The CSG took the resolution to authorise CR-720.

*NECSG on 16 October 2020: The NECSG took the resolution to authorise CR-720.

*MIB on 03 November 2020: The MIB agreed to authorise CR-720.

*PMG on 19 November 2020: the PMG proposed to allocate CR-720 to R6.0 and launched its detailed assessment.

*PMG on 21 May 2021: due to the dependencies with CSLD CR-0067, the PMG proposed to allocate CR-720 to R7.0 and launched its detailed assessment.

*PMG on 31 August 2022: 4CB informed in the PMG Meeting that the detailed assessment of CR-720 was not feasible for R2023.JUN and it had to be put on hold.

*PMG on 14 December 2022: The PMG agreed to launch the detailed assessment of CR-720 with a view of scoping in Release R2024.JUN.

*OMG on 8 December 2023: the OMG identified no operational impact from the inclusion of CR-720 in R2025.NOV.

*CRG on 30 January 2024: the CRG agreed to recommend to the PMG the implementation of CR-0720 in the scope of R2025.NOV.

*PMG on 6 February 2024: the PMG agreed to recommend the inclusion of CR-720 in the scope of R2025.NOV.

*CSG on 20 February 2024: the CSG approved the inclusion of CR-720 in the scope of R2025.NOV.

*NECSG on 20 February 2024: the NECSG approved the inclusion of CR-720 in the scope of R2025.NOV.

² For T2S currencies not settling in T2, the existing, mandatory cash sweep already sweeps negative balances back to the relevant external RTGS system (e.g. Kronos 2)

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*MIB on 28 February 2024: the MIB approved the inclusion of CR-720 in the scope of R2025.NOV.

Documentation to be updated:

URD:

Section 6.2.2.1 General Requirements

Definition of a “zero floor” for a NCB T2S dedicated cash account

Reference ID	T2S.06.235
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The NCB account holder of the NCB T2S dedicated cash accounts shall have the possibility to define a zero floor (i.e. a zero floor to reach a balance of zero on the NCB T2S dedicated cash account), rebalancing liquidity from CLM the exact cash amount necessary to reach zero amount on the Central Bank account in T2S, to NCB T2S dedicated cash accounts with negative balances by the end-of-day.

T2S shall during the real-time settlement closure process check if the NCB T2S dedicated cash accounts with a negative cash balance check if a zero floor is defined by the NCB account holder of the NCB T2S dedicated cash account. If the Central Bank has set up a zero floor Liquidity Transfer Order, T2S triggers the rebalancing from CLM of the exact cash amount necessary to reach zero amount on the Central Bank account in T2S. If the liquidity cannot be transferred from CLM to T2S the affected balances can exceptionally remain negative overnight.

CRDM UHBSection 2.3.2.8 Standing/Predefined Liquidity Transfer Order – Search/List Screen

• Standing/Predefined Liquidity Transfer Order – Search Criteria	
• ...	• ...
• .Order Type	Select the classification for the Liquidity Transfer Order. The exhaustive list of all possible value is as follows: IPredefined IStanding IRule-Based Floor IRule-Based Ceiling <u>IRule-Based zero Floor</u> • This field is blank as for default value.

Section 2.3.2.10 Standing/Predefined Liquidity Transfer Order – New/Edit Screen

• Standing/Predefined Liquidity Transfer Order	
• ...	• ...
• Order Type	Select the classification for the Liquidity Transfer Order. The exhaustive list of all possible value is as follows: IPredefined IStanding IRule-Based Floor

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	<p>IRule-Based Ceiling</p> <p><u>IRule-Based zero Floor</u></p> <ul style="list-style-type: none"> Reference for error message : <ul style="list-style-type: none"> <u>DCC4078</u> DCC4202 DCU4202 This field is mandatory.
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Section 4.3.2. 101 Standing/Predefined Liquidity Transfer Order – Search/List Screen

• Reference for error message	• Field or button	• Error Text	• Description
• DCD4095	• Order Type field Restore button	• Floor/Ceiling configuration already exists	• When performing a Rule-Based Liquidity Transfer Order Restore request, there can never be more than one floor configuration debiting the same Cash Account, <u>more than one zero floor configuration debiting the same Cash Account</u> or more than one ceiling configuration crediting the same Cash Account over the same validity period.

Section 4.3.2. 102 Standing/Predefined Liquidity Transfer Order – Details Screen

• Reference for error message	• Field or button	• Error Text	• Description
• DCD4095	• Order Type field Restore button	• Floor/Ceiling configuration already exists	• When performing a Rule-Based Liquidity Transfer Order Restore request, there can never be more than one floor configuration debiting the same Cash Account, <u>more than one zero floor configuration debiting the same Cash Account</u> or more than one ceiling configuration crediting the same Cash Account over the same validity period.

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

• Reference for error message	• Field or button	• Error Text	• Description
• DCC4078	<ul style="list-style-type: none"> <u>Order Type field</u> Creditor Cash Account Number field Debited Cash Account Number field Restore button 	• Invalid Creditor Cash Account	<ul style="list-style-type: none"> 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 RTGS DCA, RTGS Central Bank Account, MCA, <u>T2S Central Bank Account</u> or CLM Central Bank Account. <u>If the creditor account is a T2S Central Bank Account the order type must be Rule-Based zero floor and the</u>

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			<p><u>debited account must be a CLM Central Bank Account.</u></p> <ul style="list-style-type: none"> • • If the debited account is an RTGS DCA, the creditor account cannot be another RTGS DCA. • Furthermore, when the Creditor Account is a Cash Account, it must have the same currency as the debited Cash Account.
<ul style="list-style-type: none"> • DCC4095 	<ul style="list-style-type: none"> • Order Type field • Submit button 	<ul style="list-style-type: none"> • Floor/Ceiling configuration already exists 	<ul style="list-style-type: none"> • When performing a Rule-Based Liquidity Transfer Order Create request, there can never be more than one floor configuration debiting the same Cash Account, <u>more than one zero floor configuration debiting the same Cash Account</u> or more than one ceiling configuration crediting the same Cash Account over the same validity period.
<ul style="list-style-type: none"> • DCU4095 	<ul style="list-style-type: none"> • Order Type field • Submit button 	<ul style="list-style-type: none"> • Floor/Ceiling configuration already exists 	<ul style="list-style-type: none"> • When performing a Rule-Based Liquidity Transfer Order Create request, there can never be more than one floor configuration debiting the same Cash Account, <u>more than one zero floor configuration debiting the same Cash Account</u> or more than one ceiling configuration crediting the same Cash Account over the same validity period.

UDFS

SETT

1.4.4.4.5 Real-time settlement closure schedule

Update of the diagram 65 “**REAL-TIME SETTLEMENT CLOSURE SCHEDULE**” (PP enclosed with the CR)

Update of the diagram 66 “**REAL-TIME SETTLEMENT CLOSURE DEPENDENCIES**” (PP enclosed with the CR)

Update of table 105: add a row for the new process

TABLE 105 - DEPENDENCIES DURING THE REAL-TIME SETTLEMENT CLOSURE

T2S DETAILED PROCESSES	DEPENDENCIES	
	TYPE OF DEPENDENCY	DESCRIPTION
...		

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Optional automated cash sweep	Inbound liquidity transfer cut-off completed	This process starts after the completion of the execution of inbound liquidity transfer cut-off procedures.
Liquidity rebalancing from CLM to NCB T2S dedicated cash accounts with negative balances	Inbound liquidity transfer cut-off completed	This process starts after the completion of the execution of inbound liquidity transfer cut-off procedures.
...		

Update of table 106: add a row for the new process

TABLE 106 - PROCESSES DURING THE REAL-TIME SETTLEMENT CLOSURE

T2S PROCESSES	DESCRIPTION OF THE PROCESSES
Optional automated cash sweep	<p>This period determines the start of the optional automated cash sweep based on the set-up of stand-ing liquidity transfer orders.</p> <p>T2S creates cash sweep related liquidity transfers for the remaining cash of each T2S Dedicated cash account and central bank cash accounts to transfer it to the specified RTGS account.</p> <p>In parallel, T2S performs the following:</p> <p>I Settlement of:</p> <ul style="list-style-type: none"> – Settlement Instructions other than the ones for which cut-off is reached; – Securities Settlement Restrictions; – All liquidity transfers (i.e. inbound, internal and outbound); <p>I Execution of static data maintenance instructions;</p> <p>I Execution of Amendment Instructions, Cancellation Instructions and Hold/Release Instructions;</p> <p>I Generation of reports triggered by business or time events;</p> <p>I Responses to queries received via U2A or A2A.</p>
Liquidity rebalancing from CLM to NCB T2S dedicated cash accounts with negative balances	<p>If the Central Bank has set up a Liquidity Transfer Order in CRDM, T2S triggers the rebalancing from CLM of the exact cash amount necessary to reach zero amount on the Central Bank account in T2S.</p> <p>If the liquidity cannot be transferred from CLM to T2S the affected balances exceptionally remain negative overnight.</p>
...	

2.17 End-of-Day Cash Management

2.17.2 Activity Diagram

Addition of the new activity

Addition of a new section for the new process description:

2.17.2.5 Liquidity rebalancing between CLM and NCB T2S dedicated cash accounts with negative balances

T2S

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T2S identifies the Central Bank accounts with a negative balance on their deliverable cash balance. The Liquidity rebalancing is achieved if the Central Bank has set up a Liquidity Transfer Order. In this case, T2S triggers the rebalancing from CLM of the exact cash amount necessary to reach zero amount on the Central Bank account in T2S. If the liquidity cannot be transferred from CLM to T2S the affected balances exceptionally remain negative overnight.

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1.6.2.3 End of Day Cash Management

1.6.2.3.1 Concept

End of day (EOD) Cash Management is the process of releasing unused cash restrictions, reimbursing pending intraday credits and, in case of an RTGS system deviating from CLM, transferring each balance deviating from zero at the end of a Settlement Day to a predefined RTGS account also referred to as “automated cash sweep” [307]

~~Starting with the go live of CLM T2S will not initiate an “automated cash sweep” for Euro denominated T2S Dedicated Cash Accounts. T2S Users have the possibility to make use of a second optional cash sweep for their Euro denominated Dedicated Cash Accounts. [308]~~

Starting with the go live of CLM, T2S will not initiate an “automated cash sweep” for Dedicated Cash Accounts during the EOD Cash Management for all currencies connected to CLM. Instead of the automated cash sweep, T2S Users have the possibility to make use of a second optional cash sweep for their Dedicated Cash Accounts, which is triggered after the Inbound Liquidity Transfer Cut-off. This optional cash sweep allows to reimburse positive balances to the related MCA in CLM (valid for Payment Banks and CBs). In addition, NCBs have the possibility to trigger an automated liquidity transfer pull request with the same event in case of negative NCB account balances at liquidity cut-off.

Changes to Footnote [307]:

307 Additionally the T2S user has the possibility to store standing orders in CRDM and opt for triggering optional cash sweep ~~which will take place prior to the End of Day Cash Management “automated cash sweep”~~. For Euro denominated Dedicated Cash Accounts T2S Users have the possibility to make use of a and second optional cash sweep. The set up and execution of the optional cash sweeps is not described in this chapter, but in section [Liquidity Transfer](#) [546].

Deletion of Footnote [308]:

~~308 Please note that the described functionality won't be available before CSLD go live.~~

1.6.2.3.2 Overview

[...]

~~As all T2S Dedicated Cash Accounts must have a balance of zero [309] 7 at the end of any settlement day, For any T2S Actor needing a balance of zero on their T2S Dedicated Cash Accounts at the end of a settlement day, via the EOD Cash Management processes (“automated cash sweep”) (“Optional Cash Sweeps”):~~

- ~~I All the unused cash restrictions (i.e. blocking, CoSD blocking or reservation) are released;~~
- ~~I All pending intraday credits provided by a central bank are reimbursed;~~
- ~~I If there is a balance deviating from zero on the T2S Dedicated Cash Account, the balance is can be transferred to the respective RTGS or CLM accounts. T2S Central Bank cash accounts may have a negative balance [310] .~~

1.6.2.3.3 EOD Cash Management Process

At the realtime settlement closure period, T2S ~~automatically transfers~~ can transfer liquidity of all predefined T2S Dedicated Cash Accounts to the relevant linked CLM Main Cash Accounts or RTGS accounts in the RTGS system (e.g. TARGET2 T2) (via “automated optional cash sweep”).

[...]

Transfer of the cash balances to the respective RTGS or CLM accounts “automated cash sweep” “Optional Cash

T2S**Change Request: T2S-0720-URD**Sweeps

After the completion of the "optional cash sweep", T2S checks the balances of T2S Dedicated Cash Accounts. If there is still liquidity on an account, the balance is automatically transferred via the "automated cash sweep" as a Credit Transfer to the RTGS account which is linked to the respective T2S Dedicated Cash Account. the remaining liquidity can be transferred to the respective RTGS or CLM accounts via the "second optional cash sweep". In case of CB cash accounts there might also be a negative balance on the account. In this case T2S creates a Debit Transfer to transfer the missing balance (please see also End-of-Day Cash Management). In this case, CBs have the possibility to create a Zero Floor Rule Based Standing Liquidity Transfer Order to instruct an Inbound Pull Liquidity Transfer.

2.17.2.3 Optional Cash Sweep

The T2S Actor has the possibility to opt for an optional cash sweep before the End of Day Liquidity Transfers take place. This optional cash sweep is managed in the same way as the Standing and predefined Liquidity Transfers therefore no debit transfer is created in case a Central Bank account has a negative balance.

Please refer [Execution of Standing and Predefined Liquidity Transfer Orders from T2S to RTGS](#) [813]. Since the Go-Live of CLM, Euro-denominated Dedicated Cash Accounts the T2S Actor has the possibility to make use of a second optional cash sweep for their Dedicated Cash Accounts shortly after the Liquidity Transfer Cut – off. 360

Additionally, CBs have the possibility to instruct an Inbound Pull Liquidity Transfer.

Deletion of Footnote Nr. 360:

~~360 Please note that the described functionality won't be available before CSLD go-live.~~

Addition of section for Inbound Pull Liquidity Transfer/Pull Request function:

2.17.2.5: Inbound Pull Liquidity Transfer

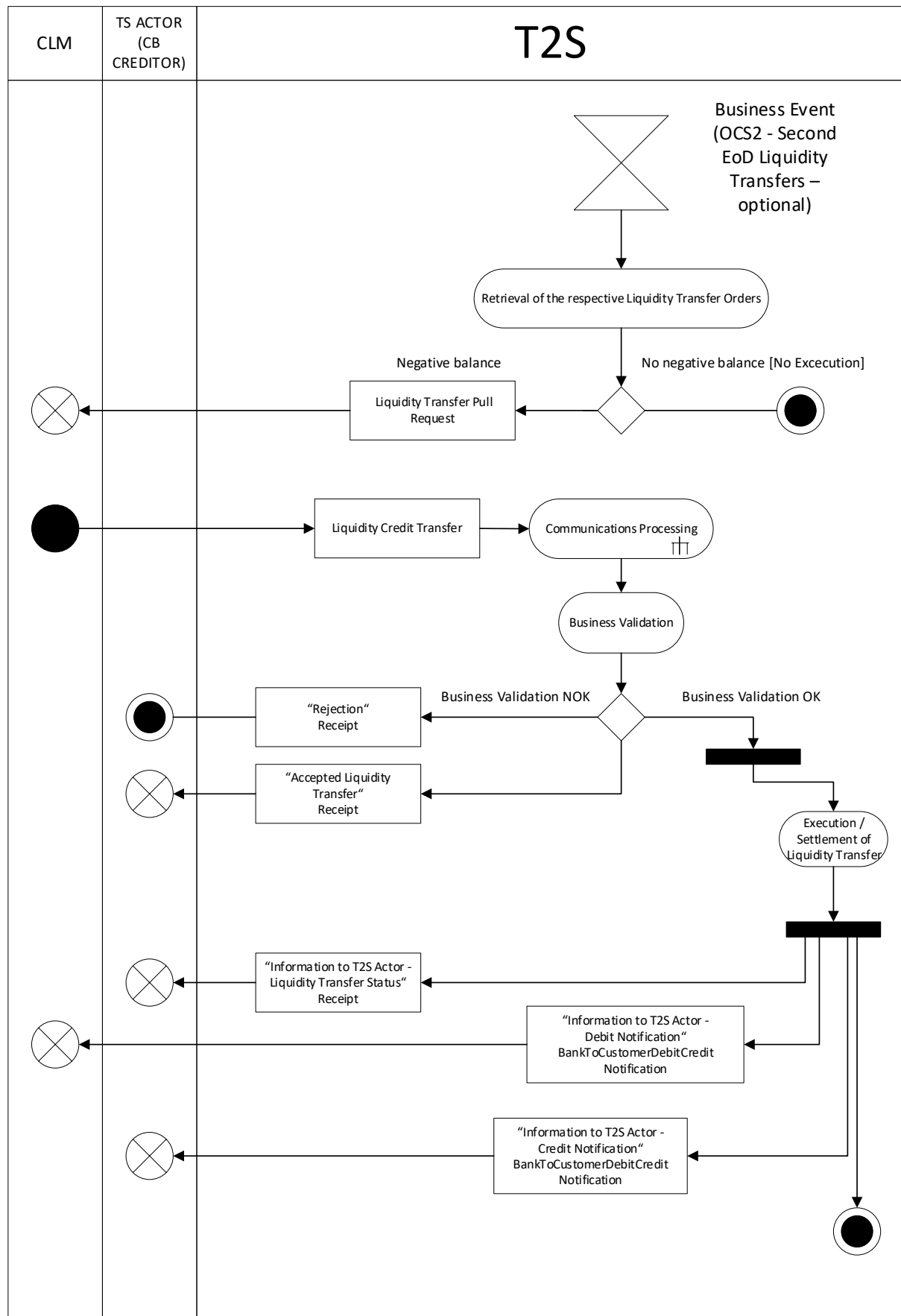
T2S Central Bank Users have the possibility to instruct an Inbound Pull Liquidity Transfer to zero out the Cash Balance of their Dedicated Cash Accounts in case of a negative account balance.

This Liquidity Transfer is handled via a Rule Based Zero Floor Standing Liquidity Transfer Order. In this case, a Liquidity Transfer Pull Request is sent to CLM for the exact amount needed to zero out the Cash Balance of the respective Dedicated Cash Account.

The following Sub Diagram shows all the interactions between the relevant T2S Actors and T2S concerning Inbound Pull Liquidity Transfers:

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T2S**Change Request: T2S-0720-URD**Retrieval of the respective Liquidity Transfer Orders

During the second optional cash sweep, T2S will check for Rule Based Zero Floor Liquidity Transfer Orders and will retrieve the Account Balances for the respective Dedicated Cash Accounts. The results can be one of the following:

| [No Negative Balance]: In case of remaining Liquidity on the T2S Dedicated Cash Account or a Balance of 0, no further steps are required and the process ends.

| [Negative Balance]: In case the remaining balance is below zero, a Liquidity Transfer Pull Request is created and sent to CLM.

In case the Liquidity Transfer Pull Request is accepted by CLM, an inbound Liquidity Credit Transfer is sent to T2S.

Communication Processing:

Detailed description can be found at section Communication processing [712].

Business Validation:

After Communication Processing, the inbound Liquidity Credit Transfer undergoes several business validations, including a privilege check. The result of these validations can be:

| [Business Validation NOK] In case the business validation was not successful a "Rejection" Receipt is sent to CLM via the CB indicating the errors which occurred.

| [Business Validation OK] In case the business validation was successful, the Liquidity transfer is processed within T2S.

Execution/Settlement of a Liquidity Transfer:

The Liquidity Transfer is submitted to Settlement.

The following messages are sent:

| "Information to T2S Actor –Liquidity Transfer Status" Receipt is sent to the T2S Actor indicating that the settlement status of the liquidity transfer is "settled".

| "Information to T2S Actor - Credit Notification" BankToCustomerDebitCreditNotification is sent to the responsible CB as T2S Actor (Creditor) indicating the reference of the T2S Dedicated Cash Account credited and the cash amount credited.

| "Information to T2S Actor - Debit Notification" BankToCustomerDebitCreditNotification is sent to CLM indicating which amount has been debited on the CLM Central Bank account and CLM dedicated transit account in the RTGS system.

Addition of new camt.050 usage to outbound messages and Inbound Liquidity Transfer to inbound messages

2.17.3 Inbound and outbound messages**2.17.3.1 Inbound message**

ISO MESSAGE/ MESSAGE UTILISATION	ISO CODE
LiquidityCreditTransfer „Inbound Liquidity Transfer“	camt.050.001.07

2.17.3.2 Outbound messages

ISO MESSAGE/ MESSAGE UTILISATION	ISO CODE
[...]	
BankToCustomerDebitCreditNotification / "Information to T2S Actor – Credit Notification"	camt.054.001.08
LiquidityCreditTransfer „Outbound Liquidity Transfer“	camt.050.001.07

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LiquidityCreditTransfer „Liquidity Transfer Pull Request“

camt.050.001.07

[...]

3.3.3.9 LiquidityCreditTransferV05 (camt.050.001.05): Add new usage to outbound usages

3.3.2.9 LiquidityCreditTransferV05 (camt.050.001.05)

3.3.2.9.1 Overview and scope of the message

[...]

Alternatively, this message is sent by T2S in the following message usage:

| Outbound Liquidity Transfer.

| Liquidity Transfer Pull Request

These instruction types... [...]

Add message usage to Message in Business Context subchapter

3.3.2.9.3 The message in business context

[...]

Instruction Type: Liquidity Transfer Pull Request

In case of a balance below zero on a T2S Central Bank Dedicated Cash Account, this instruction type enables T2S to send a liquidity transfer pull request to the RTGS system, which then sends an inbound liquidity transfer to credit the T2S Central Bank Dedicated Cash Account.

Specific message requirements

To request a liquidity transfer from a RTGS account to a T2S Central Bank Dedicated Cash Account.

CRDM**1.3.3.3 Description of the entities – 9 Liquidity Transfer Order**

ATTRIBUTE	DESCRIPTION
[...]	
Order Type	<p>It specifies a classification for the liquidity transfer order. The exhaustive list of possible values is as follows:</p> <ul style="list-style-type: none"> Predefined Standing Order Rule-Based Floor Rule-Based Ceiling <u>Rule-Based zero Floor</u>
[...]	

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3.2.5.3 Description of the functions of the module

4-Create Business Payload A2A

Module	Message	Flow (Internal Format)	Remarks	URD References
LQMG: Outbound Information Management	<u>Liquidity Credit Transfer</u>	<u>Liquidity Transfer - Pull Request</u>		
[...]	[...]	[...]	[...]	[...]

3.2.5.4 Description of the Input/Output of the module

FLOW	IN/OUT	DESCRIPTION	FROM	TO
<u>Liquidity Transfer - Pull Request</u>	<u>IN</u>		<u>LQMG: Outbound Information management</u>	
[...]	[...]	[...]	[...]	[...]

3.6 Liquidity Management: Align description of mandatory/optional Cash Sweeps with current behavior

Starting with the go live of CLM T2S will not initiate an “automated cash sweep” for ~~Euro-denominated~~ Dedicated Cash Accounts for all currencies connected to CLM. T2S Users have the possibility to make use of a second optional cash sweep for their Euro denominated Dedicated Cash Accounts. [Footnote 190]

Deletion of Footnote 190:

~~190 Please note that the described functionality won't be available before CSLD go-live.~~

3.6.3 Liquidity Operations: Adapt Outputs and Diagrams to include new Flows

3.6.3.1 Diagram of the module:



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3.6.3.3 Description of the functions of the module – *Add Liquidity Transfer Pull Request as output*

[...]

3 – Create Timed Liquidity Transfer

Triggers of the function

Reference Id	LQMG.LIO.TLT.1.1
--------------	-------------------------

The Create Timed Liquidity Transfer function generates an *Immediate Liquidity Transfer* or a *Liquidity Transfer Pull Request* after having received one of the following business or time events from the Scheduling module

{T2S.06.067}

{T2S.06.280}:

[...]

Create Liquidity Transfer Pull Request

Reference Id	<u>LQMG.LIO.TLT.5.1</u>
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Based on the events received, this function retrieves the relevant Standing and Predefined Liquidity Transfer Orders from the Reference Data {T2S.06.220} {T2S.06.280} T2S.06.340}.

The function creates relevant Liquidity Transfer Pull Requests and sends them to the function Outbound Liquidity Transfers {T2S.06.206}.

3.6.3.4 Description of the Input/Output of the module: *Update Inputs/Outputs*

FLOW	IN/OUT	DESCRIPTION	FROM	TO
Immediate/ Inbound Liquidity Transfer	IN	Immediate Liquidity Transfer originally coming from T2S Act-ors / Inbound Liquidity Transfer coming from RTGS systems	INTF: Inbound Processing Module	
Liquidity Transfer Approval Request	IN	Approval requests coming from T2S Act-ors related to the Four-Eyes principle	INTF: Inbound Processing Module	
Time/Business Event [Condition for Standing/ Predefined Liquidity Transfer Orders is reached]	IN	Trigger for processing standing/ predefined orders	<u>OPSR: Scheduling Business Day Management</u>	
Business Event [End of cycle n/ sequence y]	IN	End of cycle	<u>OPSR: Scheduling Business Day Management</u>	
EoD Liquidity Transfer Information	IN	EoD Liquidity Transfer Information for processing EoD Liquidity	LQMG: CB Business Procedures	

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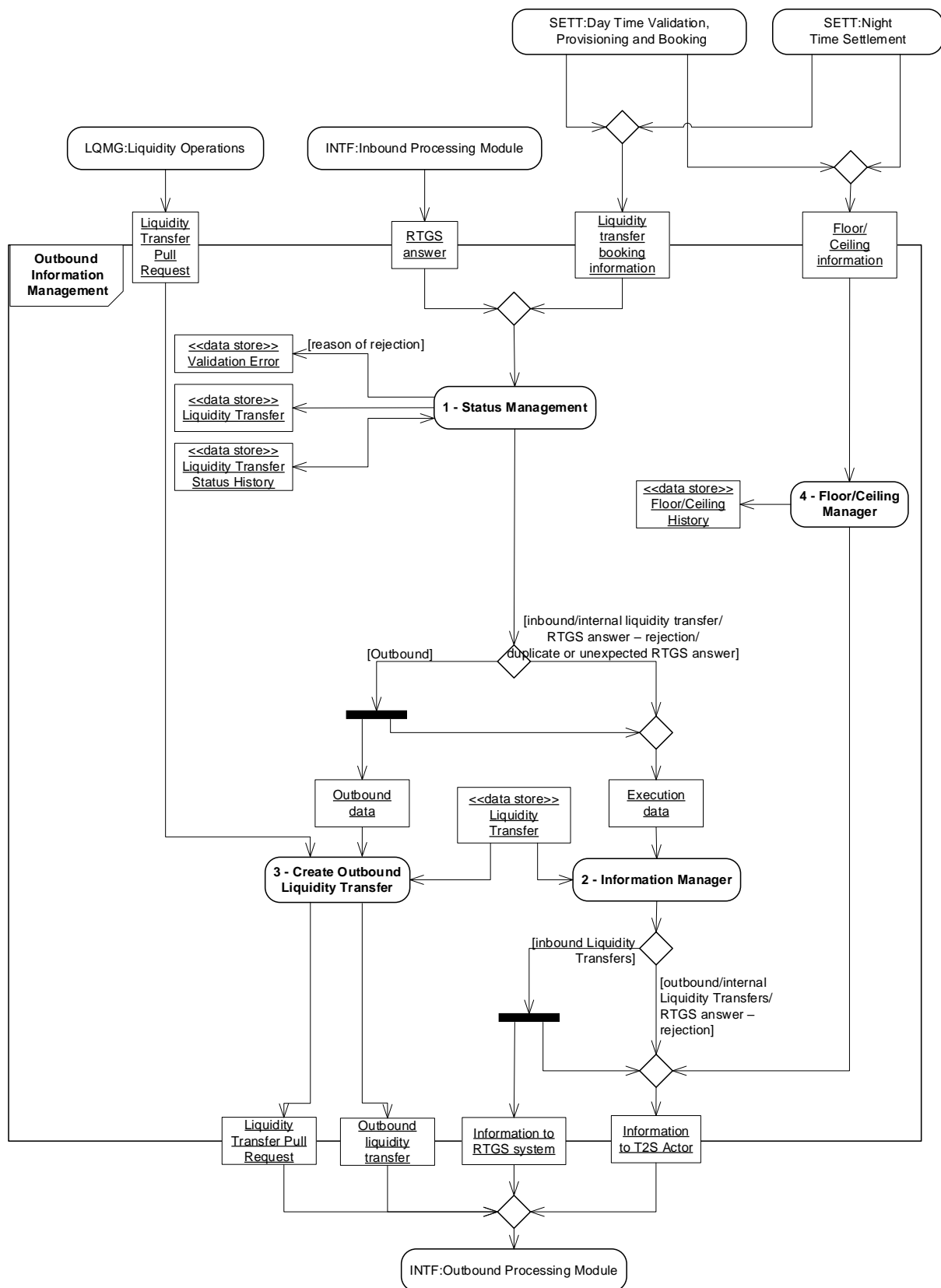
Rejection	OUT	Transfers For failed business validation or missing permission		INTF: Outbound Processing Module
Liquidity Information	OUT	Request to create a settlement transaction		SETT:SPS
Accepted Liquidity Transfer	OUT	Information to T2S Actor, that the business validation has been successful		INTF: Outbound Processing Module
End of Process Event	OUT	Finalisation of former triggering event sent by scheduler		OPSR: Scheduling Business Day Management
<u>Liquidity Transfer Pull Request Information</u>	<u>OUT</u>	<u>Information for Request to CLM to send an Inbound Liquidity Transfer</u>		<u>LQMG: Outbound Information Management</u>

3.6.4 Outbound Information Management: *Adapt Descriptions and Diagrams to include new Flows*

3.6.4.1 Diagram of the module

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3.6.4.2 Description of the module

P.563:

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Triggers of the module:

The Outbound Information Management receives the following incoming information:

I RTGS Answer;

I Floor/Ceiling Information (fall under predefined floor, excess of predefined ceiling);

I Liquidity Transfer booking information.

I Liquidity Transfer Pull Request information

3.6.4.3 Description of functions of the module: *Add Pull Requests to relevant parts*

[...]

3 – Create Outbound Liquidity Transfer

Reference Id **LQMG.OIM.OLT.1.1**

After receiving *Outbound Data* from the *Status Management* function the *Create Outbound Liquidity Transfer* function collects all business information needed from *Liquidity Transfer* and sends this data as *Outbound Liquidity Transfer* to the *Outbound Processing Module* of the *Interface* domain. Data for *Liquidity Transfer Pull Requests* is also received from the *Liquidity Operations* module, which is then processed and sent to the *Outbound Processing Module* of the *Interface* domain.

3.6.4.4 Description of the Input/Output of the module: *Add Pull Request Information as Input and Output*

FLOW	IN/OUT	DESCRIPTION	FROM	TO
Floor/Ceiling Information	IN	Information, that T2S Dedicated Cash Account balance falls under the defined minimum amount (floor) or exceeds the defined maximum amount (ceiling)	SETT: Validation, Provisioning and Booking and SETT: Night Time Settlement	
Liquidity Transfer booking information	IN	Result of settlement	SETT: Validation, Provisioning and Booking and SETT: Night Time Settlement	
RTGS Answer	IN	Answer from RTGS, confirmation or rejection including a reason code	INTF: Inbound Processing Module	
<u>Liquidity Transfer Pull Request Information</u>	<u>IN</u>	<u>Information for Request to CLM to send an Inbound Liquidity Transfer</u>	<u>LQMG: Liquidity Operations</u>	
Information to T2S Actor	OUT	T2S Actor is informed about settlement status and/ or RTGS status and/or the alerts due to floor		INTF: Outbound Processing Module

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		or ceiling violations		
Outbound Liquidity Transfer	OUT	All business information of the Outbound Liquidity Transfer		INTF: Outbound Processing Module
Information to RTGS System	OUT	RTGS is informed about the settlement status of Inbound Liquidity Transfers		INTF: Outbound Processing Module
<u>Liquidity Transfer Pull Request</u>	<u>OUT</u>	<u>Request to CLM to send an Inbound Liquidity Transfer</u>		<u>INTF: Outbound Processing Module</u>

3.6.5 CB Business Procedures: Adapt Chapter to include current system behaviour, add footnote to Description:

3.6.5.2 Description of the module

Introduction

This module is in charge of creating Liquidity Transfers related to the End-of-Day procedures of T2S.

Please note that the activities described in this module are not related to the optional End-of-Day “second optional cash sweep”, which is configured in CRDM as a *Standing Liquidity Transfer Order*.

The CB Business Procedures module performs at End-of-Day the End-of-Day Liquidity Transfer for Cash Sweep. Based on Business event [EoD Liquidity Transfer] received from ~~the Scheduling module~~ Business Day Management [*Footnote 1XX*], the CB Business Procedures module checks the balances of all T2S Dedicated Cash Accounts (data store Cash Balance).

The linked external RTGS accounts are retrieved from the reference data and the respective Outbound Liquidity Transfers are triggered (using the flow EoD Liquidity Transfer Information) via the Liquidity Operations module.

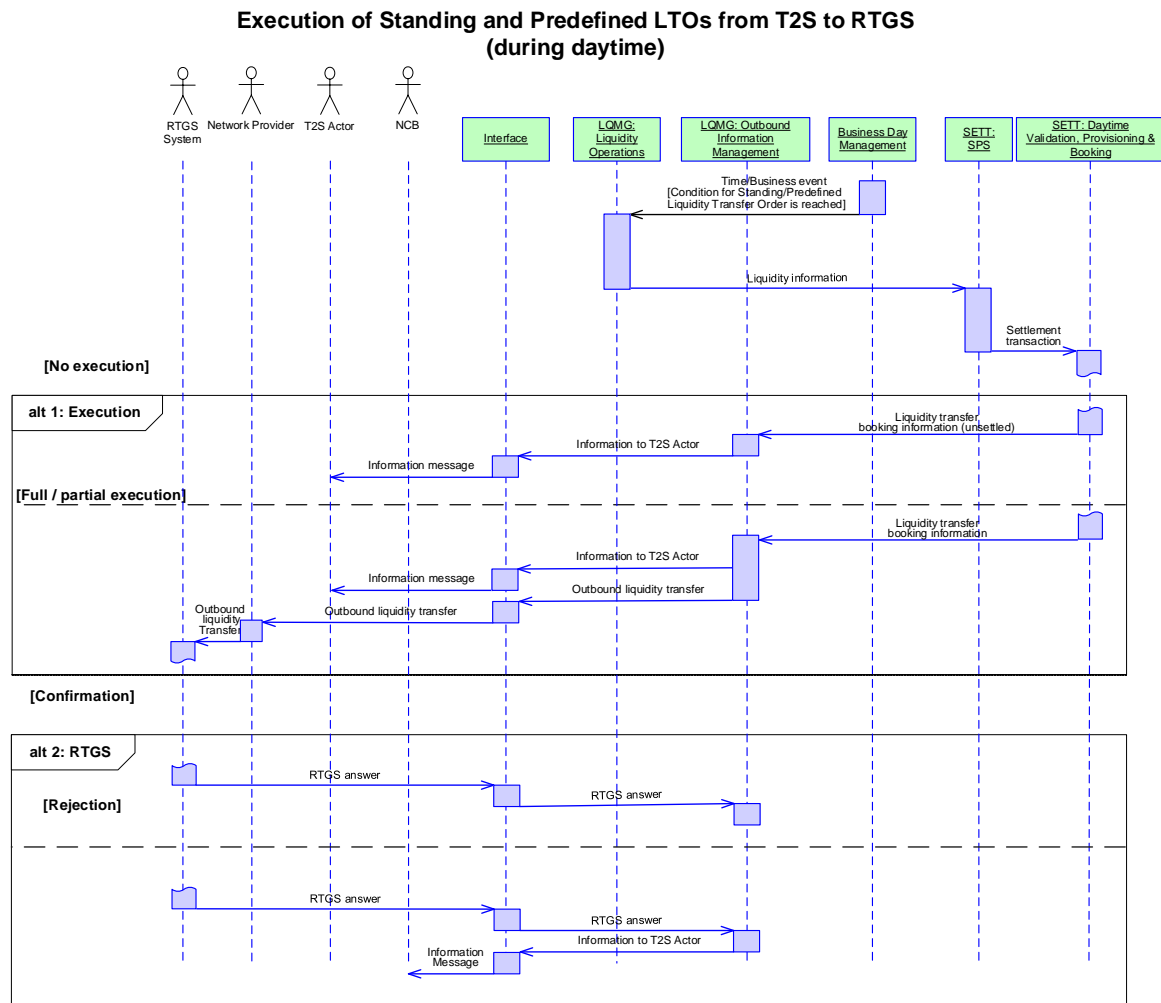
Footnote [1XX]:

Please note that for all Currencies connected to CLM, Business Event [EoD Liquidity Transfer] will not be scheduled.

3.6.7.4 Processing of UC-LT-4: Execution of Standing and Predefined Liquidity Transfer Orders from T2S to RTGS

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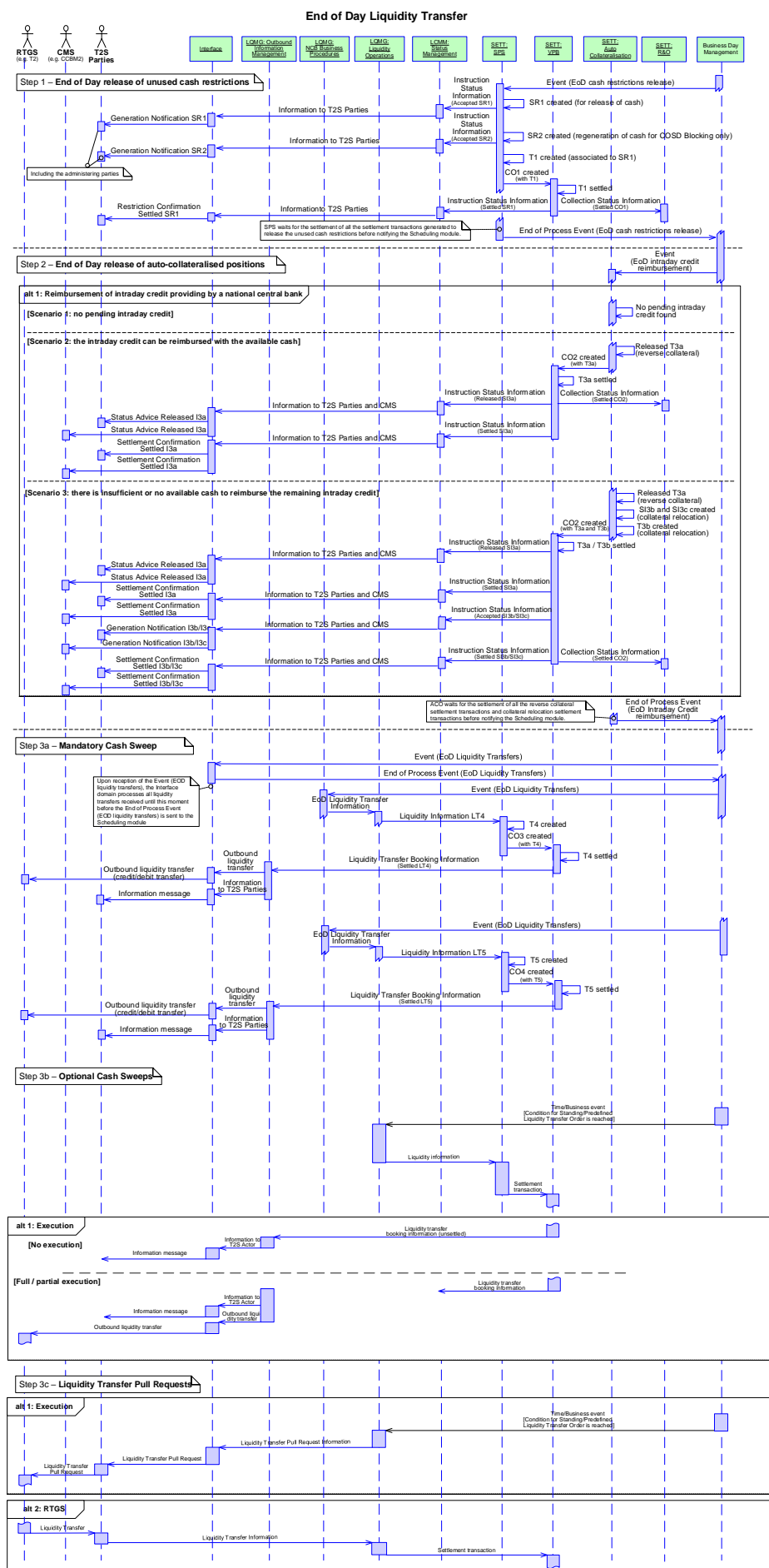
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3.6.7.5 Processing of UC-LT-5: End-of-Day Liquidity transfer

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[...]

Step 3 - End of Day liquidity transfer (i.e. cash sweep)**Step 3a: Mandatory Cash Sweep**

After receiving the Event (EOD Liquidity Transfers) from the ~~Scheduling module~~ *Business Day Management*, the *CB Business Procedures* module checks the cash balances of all *T2S Dedicated Cash Accounts*.

For all T2S Dedicated Cash Accounts (except those with a balance equal zero), the CB Business Procedure module sends the EOD data (transfer amount, T2S Dedicated Cash Account, currency, RTGS Account) to Liquidity Operations module to reset the accounts to zero. An Outbound Liquidity Transfer LT4 is created and a Liquidity Information is sent to the Standardisation and Preparation to Settlement module.

At the receipt of the Liquidity Information, the Standardisation and Preparation to Settlement module creates the associated Settlement Transaction T4 with Settlement Transaction Category "Liquidity Transfer".

Then, the Standardisation and Preparation to Settlement module sends the Settlement Transaction T4 in a Collection CO3 to the Daytime Validation, Provisioning and Booking module.

Upon successful settlement, the Daytime Validation, Provisioning and Booking module:

- I Sets to "Settled" the Settlement Transaction Status of T4 and the Settlement Status of the Liquidity Transfer LT4;
- I Sends a Collection Status Information to the Daytime Recycling and Optimisation module;
- I Sends a Liquidity Transfer Booking Information to the Outbound Information Management module

On this basis, the Outbound Liquidity Transfer is forwarded to the Interface and further on sent to the RTGS System (as Credit or Debit Transfer 206), as described in LT-UC-4. On the same basis an Information message is sent to the T2S Actors (depending on their Message Subscription preferences).

Step 3b: Optional Cash Sweeps

The optional cash sweeps will zero out positive account balances and are configured according to the needs of the T2S Actor in CRDM as a *Standing or Predefined Liquidity Transfer Order*.

After receiving the *Event (EoD Liquidity Transfers - optional cash sweep)* or the *Event (Second EoD Liquidity Transfers – optional)* from *Business Day Management*, the *Liquidity Operations* module is notified. It creates an Outbound *Liquidity Transfer* LT4 to set any positive balance to zero and a *Liquidity Information* is sent to the *Standardisation and Preparation to Settlement* module.

Then, the *Standardisation and Preparation to Settlement* module sends the *Settlement Transaction* T4 in a *Collection* CO3 to the *Daytime Validation, Provisioning and Booking* module.

Upon successful settlement, the *Daytime Validation, Provisioning and Booking* module:

- I Sets to "Settled" the Settlement Transaction Status of T4 and the Settlement Status of the *Liquidity Transfer* LT4;
- I Sends a *Collection Status Information* to the *Daytime Recycling and Optimisation* module;
- I Sends a *Liquidity Transfer Booking Information* to the *Outbound Information Management* module.

On this basis, the *Outbound Liquidity Transfer* is forwarded to the *Interface* and further on sent to the RTGS System (as Credit Transfer), as described in LT-UC-4. On the same basis, an *Information message* is sent to the T2S Actors (depending on their Message Subscription preferences).

Thereafter the *Liquidity Operations* module receives an RTGS Response as described in LT-UC-4 and processes it accordingly.

After all relevant bookings on the *T2S Dedicated Cash Accounts* are successfully processed, the accounts have a cash balance of zero.

Step 3c: Liquidity Transfer Pull Requests

The Liquidity Transfer Pull Requests will zero out negative account balances and are configured according to the needs of the T2S Actor in CRDM as a *Standing or Predefined Liquidity Transfer Order*.

After receiving the *Event (Second EoD Liquidity Transfers – optional)* from *Business Day Management*, the *Liquidity Operations* module sends a *Liquidity Transfer Pull Request Information* to the *Outbound Information Management* module to zero out negative balances.

On this basis, the *Liquidity Transfer Pull Request* is created by the *Outbound Information Management* module to

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be forwarded to the *Interface* and further on sent to the RTGS System.

After successful processing in the RTGS System, the *Interface* receives an *inbound Liquidity Transfer* which will be processed as described in UC-LT-3.

After all relevant bookings on the *T2S Dedicated Cash Accounts* are successfully processed, the accounts have a cash balance of zero.

Impact on message documentation on MyStandards / schema:

camt.050.001.05:

- LqdyCdtTrf: Update of the T2S-Use: In case the Liquidity Transfer is sent from T2S to the RTGS system (Outbound Liquidity Transfer) it is necessary that the receiving RTGS account is set up in T2S static data CRDM.
The message can be used to send a liquidity pull request from T2S to the RTGS system.

head.001.001.01:

- /AppHdr/PrtY: Addition to the T2S-Use: In case the message is sent as liquidity transfer pull request to a corresponding RTGS system, the code "04" will be provided. When the message is received as liquidity transfer pull response it will contain the code "104".

Detailed assessment:**EUROSYSTEM ANALYSIS – GENERAL INFORMATION**

T2S Specific Components		Common Components	
LCMM			
	Instructions validation		
	Status management		
	Instruction matching		
	Instructions maintenance		
	Penalty Mechanism		
Settlement			
X	Standardisation and preparation to settlement		
	Night-time Settlement		
	Daytime Recycling and optimisation		
	Daytime Validation, provisioning & booking		
	Auto-collateralisation		
Liquidity Management			
X	Outbound Information Management		
X	NCB Business Procedures		
X	Liquidity Operations		
T2S Interface		Eurosystem Single Market Infrastructure Gateway (from R6.0 June 2022)	
	Communication		Communication
X	Outbound Processing		Outbound Processing
X	Inbound Processing		Inbound Processing
Static Data Management (until June 2022)		Common Reference Data Management (from R6.0 June 2022)	
	Party data management		Party data management
	Securities data management		Securities data management
	Cash account data management	X	Cash account data management
	Securities account data management		Securities account data management
	Rules and parameters data management		Rules and parameters data management
Statistics and archive		Statistics and archive	

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	Statistical information (until June 2022)		Short term statistical information
	Legal archiving (until June 2022)		Legal archiving (from R6.0)
		X	Data Warehouse (from R6.0)
Information (until June 2022 containing reference data)		CRDM business interface (from R6.0 June 2022)	
	Report management		Report management
	Query management		Query management
			Communication
			Outbound Processing
			Inbound Processing
Operational Services			
	Data Migration (T2S DMT)		Data Migration (CRDM DMT, from R6.0)
	Scheduling (until June 2022)		Business Day Management (from R6.0)
			Business Day Management business interface (from R6.0)
	Billing (until June 2022)		Billing (from R6.0)
			Billing business interface (from R6.0)
	Operational Monitoring		Operational and Business Monitoring
	MOP Contingency Templates		

Impact on major documentation		
Document	Chapter	Change
Impacted URD chapter	URD: 6.2.1 Liquidity transfer order business process	
Impacted GFS chapter	INTF: 3.2.5.3 Description of the functions of the module 4-Create Business Payload A2A	Addition of new flow sent from LQMG to INTF
	3.2.5.4 Description of the Input/ Output of the module	Addition of new flow sent from LQMG to INTF
	LQMG 3.6.7.5 Processing of UC-LT-5: End-of-Day Liquidity transfer	Update the sections with the changed EoD process
	3.6.5 CB Business Procedures	
Impacted UDFS chapter	SETT: 1.4.4.4.5 Real-time settlement closure schedule	Update - Diagrams 65 & 66 - Tables 105 & 106 With the description of the new activity "Liquidity rebalancing from CLM to NCB T2S DCA with negative balances"
	LQMG: 2.17.2.4 End of Day Liquidity Transfers 1.6.2.3 End of Day Cash Management	Update the section for EoD liquidity transfers
	3.3.3.13 LiquidityCreditTransferV05 (camt.050.001.05)	Add a new usage for the pull liquidity request
Additional deliveries for Message Specification (UDFS, MyStandards, MOP contingency templates)	My Standards:	
	head.001 camt.050	Add information that the priority tag is used to identify liquidity pull requests Update of the schema (editorial) Upload to MyStandards Add a new usage for the liquidity pull request Update of the schema (editorial)

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		Creation of a new message example Upload to MyStandards
UHB	CRDM UHB: Section 2.3.2.8 Standing/Predefined Liquidity Transfer Order – Search/List Screen Section 2.3.2.10 Standing/Predefined Liquidity Transfer Order – New/Edit Screen Section 4.3.2.101 Standing/Predefined Liquidity Transfer Order – Search/List Screen Section 4.3.2.102 Standing/Predefined Liquidity Transfer Order – Details Screen Section 4.3.2.103 Standing/Predefined Liquidity Transfer Order – New/Edit Screen	Introduction of a new order type. Amendment of Business Rules' description in order to specify the different Rule-Based Liquidity transfers
Other impacted documentation (FA Sch. 05, FA Sch. 07)		No impact
Impacted GDPR message/ screen fields		No impact
Links with other requests		
Links	Reference	Title

OVERVIEW OF THE IMPACT OF THE REQUEST ON THE T2S SYSTEM AND ON THE PROJECT

Summary of functional, development, infrastructure and migration impacts

This CR is a complement for CR 709 which introduced the Optional Cash Sweep for Euro, but is intended for any currency settling in T2.

Regarding NCB accounts balances in euro, upon receipt of the existing Optional Cash Sweep 2 (OCS2) event, in case the NCB has subscribed, T2S (LQMG) will send a camt.050 "Pull" message to CLM to request the generation of Rule-based Liquidity Transfers crediting the cash accounts of the NCB up to zero when their balance is negative. Then, CLM will answer with a regular camt.050 message ("push") to T2S.

In the unlikely case where the camt.050 response sent by CLM reaches T2S after the ERTS event marking the end of the acceptance by SETT of the Liquidity Transfers not submitted to LTRC event, the LTs will be rejected and as an exceptional case, the balances of the concerned NCB accounts will remain negative overnight. As a consequence, a reversal LT must be generated and settled in CLM.

T2S should not depend on the availability of CLM and in case of unavailability of CLM T2S must keep running normally as usual.

Potential technical dependency with CR-0794³. Considering that both CR-720 and CR-794 impacts the same LQMG module, 4CB see synergies if CR-794 was feasible for the same release R2025.NOV, since the implementation and testing effort would be less than a delivery in different releases. Therefore, there is no current technical dependency with CR-794 but this could be the case if CR-794 was approved for implementation in the same release. If that was the case, both CRs could only be delivered together. If this happens, the upcoming detailed assessment of CR-0794 will reflect this point.

As DKK will migrate to T2 with CR 782, but to the Optional Cash Sweep only with CR 794, the complete functionality of CR 720 will only be available together with CR 794 for DKK.
But as soon as CR 720 is implemented negative balances during the mandatory Cash Sweep will trigger a camt.050 pull request.

LQMG:

Based on the receipt of the OCS2 event or in case of the Mandatory Cash Sweep at EoD LQMG will check for which NCB cash account a Floor breach mark was set in CRDM. For the relevant accounts LQMG will request the negative balance from SETT and will send a camt.050 liquidity pull request to CLM. This Liquidity pull

³ T2S-0794-SYS T2S settlement day processes for DKK

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request will be identified via a code in the priority tag in the BAH.

After sending the pull request LQMG is expecting to receive a camt.050 from CLM triggering the transfer of the required amount. LQMG will ensure that these LTs are handled although they arrive after the cut-off.

To guarantee that the LTs are accepted also after the cut-off, LQMG will also need a Code word from CLM. The code of the priority tag provided by CLM is used for this, this information is sent via the INTF to LQMG.

Only the priority code "104 - (LRFB) = Rule-based liquidity transfer pull response - floor breach" will be processed, the other codes (01, 02, 07) will not be considered by T2S.

INTF:**INP**

Interface receives the camt.050 from CLM with a Code in the Priority Tag of BAH. Interface then processes the Code to the LQMG backend.

OUP

Camt.050 pull request must be introduced to the Outbound processing of INTF. When the camt.050 pull request is sent to CLM the code for the usage will be in the BAH (head.001) under the priority Tag. The Interface is responsible to insert Code 04 into the Priority Tag in case of the new liquidity pull usage.

For all other camt.050 messages sent by T2S no change is foreseen. No value will be included in the priority-tag of BAH.

CRDM:

Introduction of a new order type for liquidity transfer order object. This new order type would only allow T2S NCB Account as creditor account and CLM CB account as debited account. For this order type, the fields Amount, Dedicated Amount, All Cash, Event Type, Execution Time and AS Procedure are not relevant. This means that the configuration of the triggering event of the liquidity transfers should not be performed at CRDM level but is left on T2 side.

DWH:

Change to the statistical classification framework by adding one or several additional filters.

Main Cost Drivers:

- Specification and implementation of a new process in LQMG for the "pull" liquidity transfers (e.g. retrieval of the new liquidity transfer orders from CRDM, retrieval of new balance request from SETT, handling of the OCS2 event, modification of the optional cash sweep process, Update of IDFS documentation, etc.);
- Specifications and implementation of the new process also in INTF, adaptation of the camt.050 and head.001 message;
- Specification and implementation of the new activity "Liquidity rebalancing from CLM to NCB T2S DCA with negative balances" in SETT, adjustments of the settlement day;
- Specification and implementation of the new order type for liquidity transfers in CRDM;
- Update interfaces with LQMG for handling camt.050 messages
- Introduction of a new order type for liquidity transfer order object, impacting both CRDM BE processes (Create, Update, Delete) and CRDM GUI screens (New, Edit, Search/List, Details).
- Update test cases and perform the required testing activities:
 - o Test of the new function, Optional and mandatory cash sweep (EUR and DKK) testing
 - o Testing the new inbound liquidity transfer process in a non-regression testing campaign. Execution of regression tests.

Impact on other TARGET Services and projects

No ECMS impact. Impact on T2 is reflected in the corresponding T2-0067-URD and on TIPS in TIPS-0028-URD.

Summary of project risk

No project risk has been identified during detailed assessment.

Security analysis

No adverse effect has been identified during detailed assessment.

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DG - MARKET INFRASTRUCTURE & PAYMENTS

ECB-PUBLIC



16 October 2023

Cost assessment on Change Requests

T2S-720-SYS – Optional inbound liquidity transfer in case of negative NCB account balance at liquidity cut-off			
One-off	Assessment costs*		
	- Preliminary	2,000.00	Euro
	- Detailed	10,000.00	Euro
One-off	Development costs	630,455.07	Euro
Annual	Operational costs		
	- Maintenance costs	61,790.53	Euro
	- Running costs	0.00	Euro

*The relevant assessment costs will be charged regardless of whether the CR is implemented (Cf. T2S Framework Agreement, Schedule 7, par. 5.2.3).