



EUROPEAN CENTRAL BANK

EUROSYSTEM

T2S CHANGE REQUEST FORM		
General Information (Origin of Request) <input type="checkbox"/> User Requirements (URD) or GUI Business Functionality Document (BFD) <input checked="" type="checkbox"/> Other User Functional or Technical Documentation (SYS)		
Request raised by: Danmarks Nationalbank	Institute: Central Bank	Date raised: 04/11/2022
Request title: T2S settlement day processes for DKK		Request No.: T2S 0794 SYS
Request type: Common	Classification: Scope enhancement	Urgency: Normal
1. Legal/business importance parameter¹: High	2. Market implementation efforts parameter²: Low	
3. Operational/Technical risk parameter³: High	4. Financial impact parameter⁴: High	
Requestor Category: Central Bank	Status: Allocated to a release	

Reason for change and expected benefits/business motivation:

In a press release issued on 8 December 2020, Danmarks Nationalbank (DKCB) informed of its decision to discontinue its current RTGS system, Kronos2, and migrate the settlement of Danish kroner (DKK) to the European payment and securities settlement platform TARGET Services in April 2025.

With the change request T2S-0782-SYS, the DKCB accepted to keep the mandatory cash sweep event (GOLT) for T2S DKK for an interim period after the Go-Live of DKK migration to T2 and TIPS, as the timeline for development and testing of a direct balance snapshot on T2S DKK was deemed too short of a timeline with the current project plan.

In this interim period the DKK payment bank cut-off (and balance snapshot) were implemented indirectly through the LTRC and GOLT events, thus utilising already available functionality in T2S. By using the LTRC and GOLT events, DKCB ensured that no participants can hold or move liquidity to and from their T2S DCA accounts after execution of these two events.

However, it was agreed that DKCB would raise a T2S change request for implementation after the April 2025 Go-Live that further harmonizes the setup across RTGS, CLM, TIPS and T2S, and improves the functionality as started with change request T2S-0782-SYS.

A "Full scope payment bank cut-off" on T2S DKK would make it possible for DKK participants to have liquidity standing on T2S accounts overnight and leverage the full cash management functionalities across TARGET Services, as available for participants settling EUR from the Go-live of the T2-T2S Consolidation Project.

The change request 'T2S settlement day processes for DKK' T2S-0794-SYS requires that

¹ Legal/business importance parameter was set to 'High' because the change request enables the DKK community to leverage the full-scope consolidated TARGET Services functionalities, while at the same time enabling DKCB to exercise its monetary policy. This would offer significant enhancement and benefits to the DKK T2S Actors.

² Market implementation effort parameter was set to 'Low' because the functionality will leverage on what is already implemented in T2 for DKK (see CSLD-0087-URD). Thus, the DKCB will have set procedures for how to operate within this framework. The market participants are also deemed to implement the changes rather frictionless into their operations.

³ Operational/technical risk parameter was set to 'High' because the changes implement new currency dependent functionalities to the T2S settlement day process which have a significant operational impact.

⁴ Low < 100k EUR < Low-Medium < 200 k EUR < Medium < 400k EUR < High < 700k EUR < Very high

- A) the Automated mandatory cash sweep is switched to a second optional cash sweep like the OSC2 event for T2S EUR;
- B) the implementation of a balance snapshot generation directly on T2S DKK; and
- C) the implementation of a DKK Central Bank period where only DKCB DKK can make intra- and inter liquidity transfers.

This change request T2S-0794-SYS builds upon the changes in T2S-0782-SYS, as well as its counterparts, namely the T2 change request CSLD-0087-URD and TIPS change request TIPS-0049-URD, which were necessary for Danmarks Nationalbank to exercise the Danish Monetary Policy of keeping Danish kroner pegged to the Euro.

Having T2S-0794-SYS implemented, is both a request from the DKCB as well as the Danish banking industry who calls for harmonization between RTGS, CLM, TIPS and T2S, and between TARGET Services in DKK and in EUR.

Description of requested change:

A. Switch from Automated Mandatory Cash Sweep to Second Optional Cash Sweep

T2S DKK participants should be allowed to have overnight liquidity on their T2S DCA accounts. Thus, the Automated cash sweep at 4:45 p.m. should be switched with a Second optional cash sweep like the OCS2 event for T2S EUR. The timing and sequence of events are not expected to change from the already approved changes in T2S-0782-SYS, see Table 1 (changes in yellow).

T2S settlement day events / processes	EUR TIME (Current)	DKK TIME (Current)	DKK TIME (Future Interim period)	DKK TIME (After Interim Period)
DVP cut-off	4:00 p.m.	4:00 p.m.	4:00 p.m.	4:00 p.m.
Cash restriction cut-off	4:00 p.m.	4:00 p.m.	4:00 p.m.	4:00 p.m.
Release of unused cash restriction	4:00 p.m.	4:00 p.m.	4:00 p.m.	4:00 p.m.
End of DVP cut-off (EDVP)	At the end of DVP cut-off	At the end of DVP cut-off	At the end of DVP cut-off	At the end of DVP cut-off
Automatic reimbursement of collateralisation	4:30 p.m.	4:10 p.m.	4:30 p.m.	4:30 p.m.
Optional cash sweep (standing liquidity transfers)	4:30 p.m.	4:15 p.m.	4:30 p.m.	4:30 p.m.
Bilaterally Agreed Treasury Management (BATM) cut-off	5:40 p.m.	4:15 p.m.	4:40 p.m.	4:40 p.m.
Central Bank Operations (CBO) cut-off	5:40 p.m.	4:15 p.m.	4:40 p.m.	4:40 p.m.
Inbound liquidity transfer cut-off	5:45 p.m.	4:20 p.m.	4:45 p.m.	4:45 p.m.
Automated cash sweep / Second optional cash sweep	5:45 p.m.	4:20 p.m.	4:45 p.m.	4:45 p.m.*
Balance snapshot processing DKK	n/a	n/a	n/a	5:00 p.m.
Securities restriction cut-off	6:00 p.m.			
FOP cut-off	6:00 p.m.			

**Automated mandatory cash sweep should be switched to a Second optional cash sweep following the implementation of T2S-CR-0794.*

B. Balance snapshot

DKCB DKK needs a consistent balance snapshot of all DKK account balances in all TARGET settlement services at 5 p.m. Each of the TARGET settlement services, i.e. CLM, RTGS, T2S and TIPS, processes such balance snapshot as soon as any remaining non-final cash transfers have been rejected after a payment bank cut-off. The balance snapshots must be consistent across TARGET settlement services in the sense that all liquidity must be recorded once and only once at 5 p.m. After a balance snapshot is generated, each settlement service will forward it to T2 CLM. After T2 CLM has processed its own balance snapshot and received the balance snapshots from T2 RTGS, TIPS and T2S, it sends the collective balance snapshot A2A to DKCB DKK. The collective balance snapshot consists of several messages, i.e. one message per settlement service.

The balance snapshot should have the report name "Balance snapshot (DKK-CB only)" and use the ISO message BankToCustomerStatement (camt.053). For each account, the balance snapshot should state the balance at SoD (with Balance Type Code "OPBD") and the interim booked balance (with Balance Type Code "ITBD"). T2S DKK will also generate a general ledger (GL) file during the EoD phase⁵. The GL file have the report name "General ledger (CB only)" and also uses the ISO message BankToCustomerStatement (camt.053). The GL file will also be sent to T2 CLM (like it does for EUR)⁶. The GL file will state the balance at SoD (with Balance Type Code "OPBD") and the balance at EoD (with Balance Type Code "CLBD") for each account - just like in EUR. To reduce the impact on the schema, the element «Additional Information» in the camt.053 should for both the "Balance snapshot (DKK-CB only)" and the "General Ledger (CB only)" always contain the fixed value «General Ledger». The balance snapshot can be identified by existence of the Balance Type Code «ITBD».

A Payment bank cut-off prior to the balance snapshot preventing any cash transfer debiting or crediting T2S accounts needs to be in place. Such cut-off can be implemented using the already existing Inbound liquidity transfer cut-off, LTRC. The change requests CSLD-0087-URD and TIPS-0049-URD, implement a DKK payment bank cut-off and snapshot of account balances at 5:00 p.m. on T2 (RTGS and CLM) and TIPS, respectively. The LTRC event for DKK currency will take place at 4:45 p.m., allowing time for the second optional cash sweep to complete prior to 5:00 p.m.⁷ In the timespan between the payment bank cut-off / LTRC and the balance snapshot processing, all DKK cash transfers to and from T2S (except the Second optional cash sweep), as well as between accounts in T2S, must be rejected.

The Balance Snapshot processing on T2S will be triggered by a new dedicated Event at 5:00 p.m. after the Payment bank cut-off (4:45 p.m. / LTRC event) and the rejection of incoming balance transfers received between the Payment bank cut-off and 5:00 p.m., see Table 1. The Balance Snapshot processing DKK event must be implemented in a flexible way to support the possibility that it can be postponed by the operator from 5:00 p.m. to a later point in time⁸. The possibility to change execution time should be possible during the business day in case of a need for postponement, or in case DKCB in the future decides a different execution time more permanently. Event execution should keep in line with the fixed sequence and timing of other currency-specific and non-currency specific events.

Note that to allow for a certain flexibility on the T2S side and to reduce the dependencies between the implementation on T2 and T2S side, the snapshot functionality is implemented in T2 in a way to provide the whole functionality, but to define a date as of when T2S will provide the snapshot.

C. DKK Central Bank Period

⁵ With T2S CR-0782 the General Ledger process in the INTF should become currency dependent.

⁶ See MIB-WP-2022-211

⁷ The Second optional cash sweep follows the LTRC event in sequence i.e. once the LTRC has completed the Second optional cash sweep will start.

⁸ As is the case with the Inbound liquidity transfer cut-off (LTRC) event.

Once the balance snapshot has been processed and sent to CLM and until latest T2S Settlement Day closing at 6:00 p.m., DKCB DKK must be able to move liquidity within T2S and between T2S and the other TARGET settlement services (CLM, RTGS and TIPS). That is, DKCB DKK gets a timeslot every day after the completion and sending of the snapshot, when:

- Payment banks and ancillary systems under the DKCB DKK system entity cannot instruct cash transfers debiting or crediting T2S, RTGS, CLM account, nor inter-service liquidity transfers debiting or crediting TIPS accounts.
- The scope of allowed DKK instruction after the generation and sending of the snapshot is:
 - DKCB DKK can perform
 - In T2S: any (A2A and U2A) inter- or intra-service liquidity transfer orders (to the extent the debited/credited account combinations are already supported).
 - The following functionality is unchanged to current behaviour after LTRC:
 - Last event for execution of Standing and Predefined Liquidity Transfer Orders is "Inbound Liquidity Transfer Cut-off" (LTRC).

D. Impacts

There should be no impacts to EUR functionality/business day.

Submitted annexes / related documents:

None

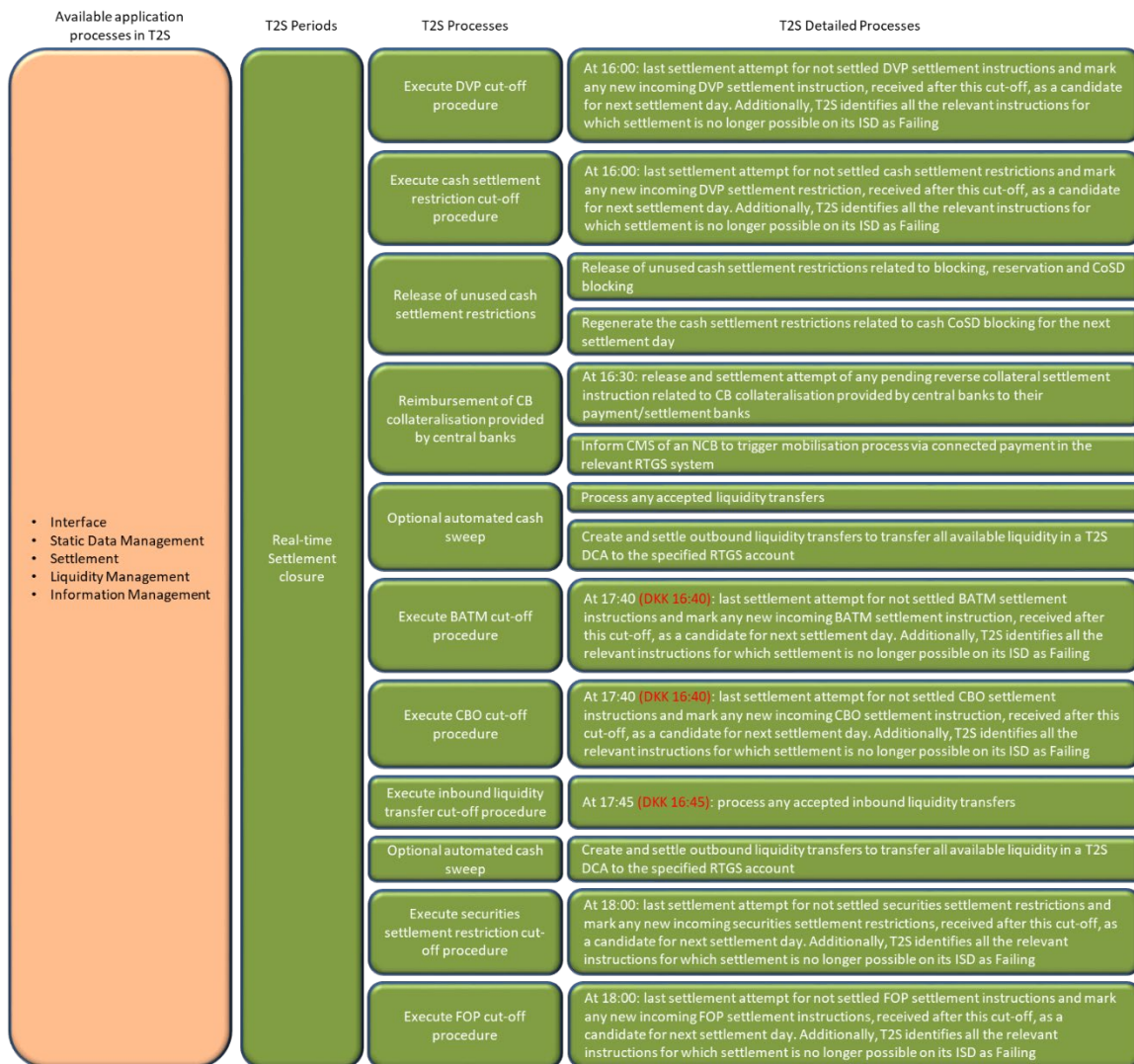
Outcome/Decisions:

- *CRG on 13 January 2023: the CRG agreed to launch the preliminary assessment of CR-794.
- *CRG on 31 May 2023: the CRG agreed to recommend CR-794 for authorisation by the T2S Steering Level.
- *AMI-SeCo on 16 June 2023: the AMI-SeCo agreed with the CRG recommendation of CR-794 for T2S Steering Level Authorisation.
- *CSG on 14 June 2023: the CSG agreed to authorise CR-794.
- *NECSG on 14 June 2023: the NECSG agreed to authorise CR-794.
- *MIB on 22 June 2023: the MIB agreed to authorise CR-794.
- *PMG on 30 June 2023: the PMG agreed to launch the detailed assessment of CR-794 with a view of scoping in Release 2025.NOV.
- *CRG on 3 May 2024: the CRG agreed to recommend to the PMG the inclusion of CR-0794 in the scope of R2025.NOV.
- *OMG on 3 May 2024: the OMG identified no operational impact from the inclusion of CR-0794 in R2025.NOV.
- *PMG on 6 May 2024: the PMG agreed to recommend to the T2S Steering Level the inclusion of CR-0794 within R2025.NOV.
- *CSG on 12 June 2024: the CSG approved the inclusion of CR-0794 in the scope of R2025.NOV.
- *NECSG on 12 June 2024: the NECSG approved the inclusion of CR-0794 in the scope of R2025.NOV.
- *MIB on 19 June 2024: the MIB approved the inclusion of CR-0794 in the scope of R2025.NOV.

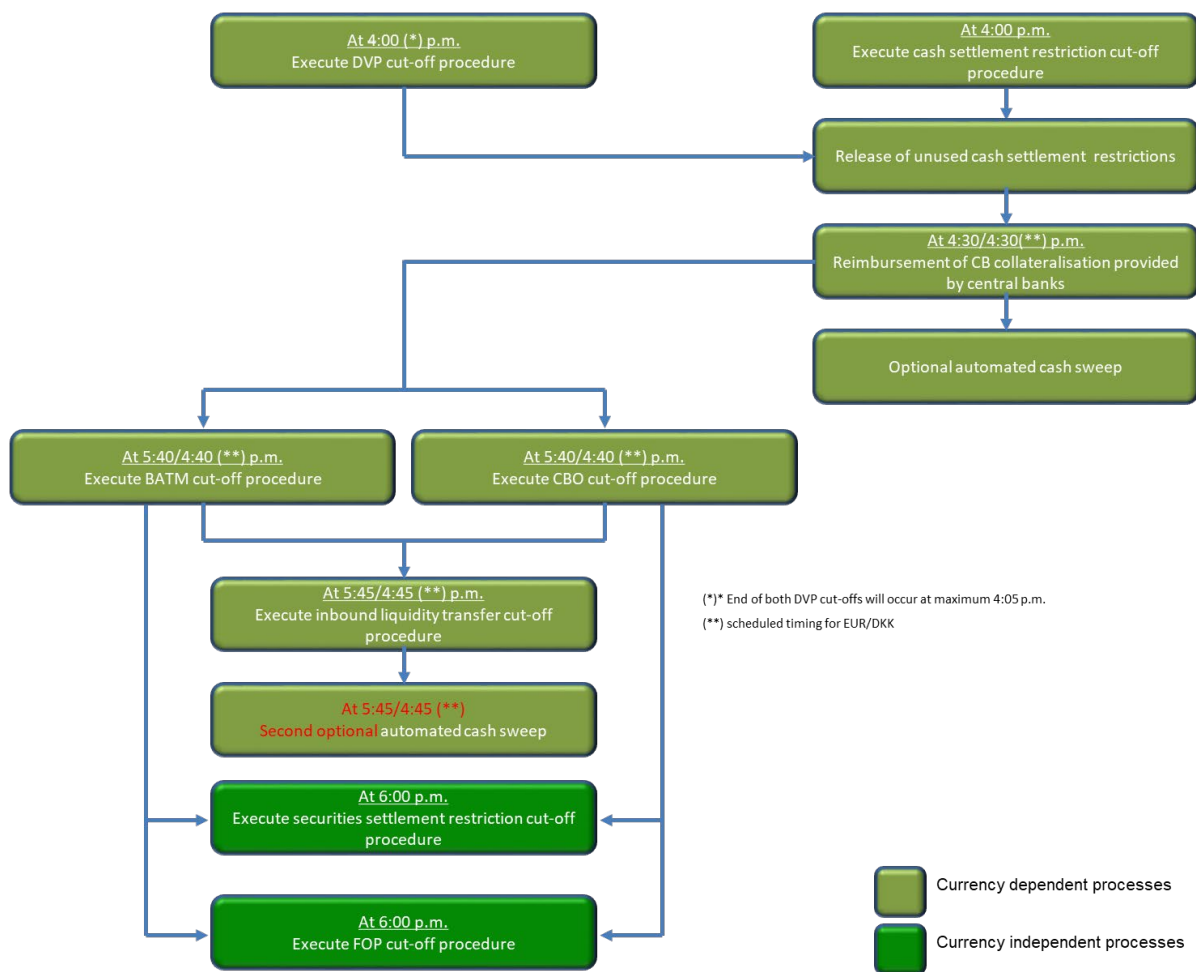
Documentation to be updated:

UDFS

1.4.4.4.5 Diagram 49 Real-time settlement closure schedule



1.4.4.4.6 Diagram 50 Real-time settlement closure dependencies



1.4.4.4.6 Table 47 Dependencies during the real-time settlement closure

TABLE 1 - DEPENDENCIES DURING THE REAL-TIME SETTLEMENT CLOSURE

T2S DETAILED PROCESSES	DEPENDENCIES	
	TYPE OF DEPENDENCY	DESCRIPTION
Execute DVP cut-off procedure	Time: 16:00	This process starts at 16:00. If it has not already occurred, the end of the process is forced at 16:05. In case of emergency situations a change of DVP cut-off is only possible according to a process to be defined in the T2S MOP.
Execute cash Settlement Restriction cut-off procedure	Time: 16:00	This process starts at 16:00. In case of emergency situations a change of cash Settlement Restriction cut-off is only possible according to a process to be defined in the T2S MOP.

T2S DETAILED PROCESSES	DEPENDENCIES	
	TYPE OF DEPENDENCY	DESCRIPTION
Release of unused cash settlement restrictions	DVP cut-off completed and Cash Settlement Restriction cut-off completed	This process starts after the execution of DVP cut-off procedures and the completion of the cash Settlement Restriction cut-off.
Reimbursement of CB collateralisation provided by central banks	Release of unused cash settlement restrictions completed And Time: 16:30	This process starts after the completion of the release of unused cash Settlement Restrictions. In addition this process does not start before 16:30.
Optional automated cash sweep	Reimbursement of CB collateralisation completed	This process starts after the completion of the reimbursement of CB collateralisation.
Execute BATM cut-off procedure	Reimbursement of CB collateralisation completed and Time: 17:40 (DKK 16:40)	This process starts after the execution of reimbursement of CB collateralisation. In addition this process does not start before 17:40 In case of emergency situations a change of BATM cut-off is only possible according to a process to be defined in the T2S MOP.
Execute CBO cut-off procedure	Reimbursement of CB collateralisation completed and Time: 17:40 (DKK 16:40)	This process starts after the execution of reimbursement of CB collateralisation. In addition this process does not start before 17:40. In case of emergency situations a change of CBO cut-off is only possible according to a process to be defined in the T2S MOP.
Execute incoming liquidity transfer cut-off procedure	BATM cut-off completed and CBO cut-off completed and Time: 17:45 (DKK 16:45)	This process starts after the completion of the execution of BATM and CBO cut-off procedures. In addition this process does not start before 17:45. In case of emergency situations a change of incoming liquidity transfers cut-off is only possible according to a process to be defined in the T2S MOP.

T2S DETAILED PROCESSES	DEPENDENCIES	
	TYPE OF DEPENDENCY	DESCRIPTION
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.
Execute securities Settlement Restriction cut-off procedure	BATM cut-off completed and CBO cut-off completed and Time: 18:00	This process starts after the completion of the execution of BATM and CBO cut-off procedures. In addition this process does not start before 18:00. In case of emergency situations a change of securities Settlement Restriction cut-off is only possible according to a process to be defined in the T2S MOP.
Execute FOP cut-off procedure	BATM cut-off completed and CBO cut-off completed and Time: 18:00	This process starts after the completion of the execution of BATM and CBO cut-off procedures. In addition this process does not start before 18:00. In case of emergency situations a change of FOP cut-off is only possible according to a process to be defined in the T2S MOP.

1.6.2.3.3: General Features of T2S - End of Day Cash Management

2.17: Dialogue between T2S and T2S Actors End of Day Cash Management

Wording Proposals and updated Diagrams for both subchapters will be provided during the implementation phase.

Preliminary assessment:

Financial Impact: Medium

Impacted Modules: LQMG, INTF, SETT

Impact on other Eurosystem Services or Projects: No impact on ECMS, TIPS, T2

Risk analysis: No risk has been identified during the preliminary assessment

Findings:

- The creation of the snapshot file represents a new functionality to be introduced to T2S Report Management. The existing T2S Report Management functionalities can be re-used in the same way as for GL file.
- Inclusion of special Central bank period within Liquidity Management. This phase should be started when the respective camt.019 from CLM arrives.
- Create a new Message usage Balance snapshot (DKK-CB only) for camt.053 including new codewords
- Test of new functionality (mainly 17:00 GL snapshot, NCB period and cut-off, new optional cash sweep) necessary

Open issues:

- It should be clarified if the same communication based on camt.019 between CLM and T2S is required as it is done for GL. Are there special requirement of CLM for the sending of the snapshot?
- New events have to be created for DKK balance snapshot, can we reuse set-up for 18:00 GL creation (events GLCR, CLCA, GLSE)?
- 4CB to manage which transfers (i.e. only NCB transfers) are allowed during the "DKK NCB period"?
- Propose to manage the NCB LT transfers without cut-off by sending a "LATE" reply after ERTS event.

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			
	Outbound Information Management		
	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
	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		Cash account data management
	Securities account data management		Securities account data management
	Rules and parameters data management	X	Rules and parameters data management
Statistics and archive		Statistics and archive	
	Statistical information (until June 2022)		Short term statistical information
	Legal archiving (until June 2022)		Legal archiving (from R6.0)
			Data Warehouse (from R6.0)
Information (until June 2022 containing reference data)		CRDM business interface (from R6.0 June 2022)	
X	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 GFS chapter		none
Impacted UDFS chapter	1.4.4.4.5 Diagram 49 Real-time settlement closure schedule	Modify diagram to add DKK divergent times.
	1.4.4.4.6 Diagram 50 Real-time settlement closure dependencies	Modify diagram to add DKK divergent times.
	1.4.4.4.6 Table 47 Dependencies during the real-time settlement closure	Modify table to add DKK divergent times.
Additional deliveries for Message Specification (UDFS, MyStandards, MOP contingency templates)	Msg: camt.053 ICL UDFS: 1.6.2.3.3 2.17	Msg: MyStandards: Add Code ITBD for camt.053 usage "Balance snapshot (DKK-CB only)" under /Document/BkToCstmrStmt/Stmt/Bal/Tp/CdOrPrtry/Cd Wording Proposals and updated Diagrams for both subchapters will be provided during the implementation phase.
UHB		none
Other impacted documentation (FA Sch. 05, FA Sch. 07)		none
Impacted GDPR message/ screen fields		none
Links with other requests: T2S-082-SYS, CSLD-0087-URD, TIPS-0049-URD		
Links	Reference	Title

OVERVIEW OF THE IMPACT OF THE REQUEST ON THE T2S SYSTEM AND ON THE PROJECT
<p>Summary of functional, development, infrastructure and migration impacts</p> <p>With CR 794, DKK moves from the mandatory Cash sweep⁹ to the Optional Cash Sweep. As the events are currency related, this does not cause sweeping changes on LQMG side.</p> <p>For DKCB, a daily "balance snapshot" is introduced, usually at 17:00 and a special settlement period after the balance snapshot is foreseen. In a first step, CLM will signal to T2S the cut off for DKK Payment Banks with a camt.019, which will be answered by T2S with a camt.025 similar to the camt.025 CMPT sent in the EOD procedures. This means the check for finality of Liquidity Transfers in DKK will occur twice per day. This will also mark the creation of the Balance Snapshot for DKCB. The snapshot will be sent after a second camt.019 message from CLM. After the snapshot has been sent, new event WACA will be used to align the start of the DKCB Special Settlement Period. It will end after being answered by CLM with another camt.019 message. Upon Closure of WACA, new event SPLT being opened and closed signals the beginning of the Special Settlement Period and LQMG will accept liquidity transfers again, but only those sent by DKCB, or the parties authorised by DKCB. This will be checked by a check on the Instructing Party. The information which Parties belonging to DKCB or CLM can send Liquidity Transfers will be stored in the CRDM Attribute Domain. These LTs will be possible until FLTC, a new setup event to close the special settlement period. Afterwards, the usual GL file creation process will start.</p> <p>In case of U2A entries, the information of the instructing party is forwarded by INTF to LQMG and no codeword is required. Based on this information, LQMG can identify the LT as having been sent by DKCB.</p> <p>The creation of General Ledger File for DKK is triggered during End of Day phase(unchanged, already implemented with the change request T2S-0782-SYS).</p> <p>Additionally DKK Balance snapshot File will be created. This creation will be triggered by receiving a new dedicated event.</p> <p>The produced DKK Balance snapshot (one camt.053 message containing all DKK T2S DCAs) will be sent to T2 CLM.</p> <p>The DKK Balance snapshot will not be accessible via GUI and can't be queried using the admi.005 message.</p> <p>In INTF we will have introduction of the communication process between T2S and CLM for DKK Balance snapshot.</p> <p>Modifications to settlement day to take into consideration the move from automated cash sweep to second optional cash sweep for DKK (16:45) and DKK balance snapshot (17:00). New/modified events to be considered.</p> <p>The acknowledgement of the parties allowed to send liquidity transfers during the DKK settlement period will be realised with new attribute domain "DKK settlement period parties" configured by the T2S Operator. In particular the BIC11 of the Danish Central Bank (DKNBDKKKXXX) will be included into the CRDM Attribute domain.</p> <p>This attribute domain will be available to all the users with access to CRDM GUI screen, not only the T2S Operator or to DKNBDKKKXXX party.</p> <p>The new functionalities within this change request is DKK currency specific, i.e., in case another non-euro currency than DKK want the same functionalities within T2S, this will require a new T2S change request.</p> <p>Main Cost Drivers:</p> <ul style="list-style-type: none"> • Amendment of the settlement day process to consider the optional cash sweep for DKK, special period for DKCB for accepting DKK currency LTs and the balance snapshot for DKK as well as new/ modified events. • Creation of Balance Snapshot file for DKK and respective INTF adjustments, i.e. establish new communication between T2S INTF and CLM and events to manage the snapshot • Creation of new attribute domain "DKK settlement period parties" • Extensive validations and non-regression testing.
<p>Impact on other TARGET Services and projects</p> <p>No impact on ECMS, T2 or TIPS.</p>
<p>Summary of project risk</p> <p>No project risk has been identified during detailed assessment.</p>
<p>Security analysis</p>

⁹ The mandatory cash sweep functionality will not be decommissioned from T2S, the functionality will remain dormant in T2S and can be used in the future for other non-euro currencies than DKK in T2S.

No adverse effect has been identified during detailed assessment.



17 April 2024

Cost assessment on Change Requests

T2S-794-SYS – T2S settlement day processes for DKK			
One-off	Assessment costs*		
	- Preliminary	2,000.00	Euro
	- Detailed	10,000.00	Euro
One-off	Development costs	472,644.70	Euro
Annual	Operational costs		
	- Maintenance costs	43,247.25	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).