



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: 4CB	Institute: 4CB	Date raised: 29/03/2021
Request title: Enhance optimisation during RTS to maximise transaction throughput on the same resource		Request ref. no: T2S-761-SYS
Request type: Common	Classification: Scope enhancement	Urgency: Fast-track
1. Legal/business importance parameter¹: High	2. Market implementation efforts parameter²: Medium	
3. Operational/Technical risk parameter³: Medium	4. Financial impact parameter: (provided by 4CB)	
Requestor Category: Eurosystem		Status: Proposed for a release

Reason for change and expected benefits/business motivation:

T2S is designed to support settlement of high volumes of transactions [e.g. Corporate Actions (CA)] during the NTS period which is tailored for the sequencing and the processing of those high volumes using specific mechanisms (NTS algorithms, batch settlement under NTS cycles and sequences).

T2S also settles continuous flows of transactions during RTS in compliance with the ceilings and KPI defined in the SLA⁴ relying on a settlement processing capacity of 8000 transactions per minute without concentration of resources and 1200 transactions per minute otherwise⁵.

An analysis conducted by the ECB/4CB in the context of the upcoming migration of Euroclear Finland (EFi) to T2S, as end-investor market, has identified the possibility of infrequent massive volumes of transactions that would be submitted instantaneously to a settlement attempt, e.g.:

- For CA processing related transactions: (i) concentrated on the same security or cash resource, (ii) put under Intraday restriction and (iii) then released and massively recycled upon receipt of new resources (up to circa 350 000 CA related transactions in the EFi scenario).
- Under extreme contingency cases where peak volumes of transactions (up to circa 850 000 for EFi CA scenario) remain unsettled at the end of NTS period. In this situation, this massive volume of unsettled transactions are submitted to the RTS processes for settlement.

Under these conditions, massive volumes of transactions would be submitted to a settlement attempt *concurrently*⁶, in addition to the regular flow of injected settlement instructions.

Such scenario could cause strong side-effects on settlement in RTS, and change requests shall be considered to support the following objectives:

- Objective 1: Enhance the RTS settlement processing in order to keep the Real-time settlement time compliant with the SLA despite any possible massive volume of transactions submitted concurrently to a settlement attempt. These enhancements aim to handle such exceptional massive concurrent settlement attempts for one CSD without impact on the other CSDs.
- Objective 2: Enhance the processing capacity of 1200 transactions per minute in case of concentration of resources in order to reach an improved timeframe for the recycling and settlement of up to circa 350.000 transactions during RTS.

¹ Legal/business importance: High because it will improve the stability of T2S in case of peaks in settlement volume

² Market implementation efforts: Medium as it would require implementation efforts only for a minority of T2S actors

³ Operational/technical risk: Medium because even if the changes are made on the T2S settlement module, they apply only in very specific scenarios (exceptionally high volumes of settlement instructions).

⁴ See FA Schedule 6 KPI for Real-time settlement time

⁵ Currently the maximum throughput in Settlement booking does not exceed 1 200 collections updates/minute in case the collection involves the same debited cash or securities account or the same credited securities account. This limit is due to a technical constraint (database simultaneously update limit).

⁶ **Concurrently** means at the same time, in addition to instructions that are injected and submitted to a settlement attempt for which the Real-time settlement time KPI applies

Description of requested change:

This change request CR-761 is mainly addressing the second objective above, together with a limited improvement of the Optimization process in relation to the first objective⁷.

- **In order to contribute to the first objective** the settlement process shall be enhanced by removing transactions with no chance of success in RTS Optimization processes.
- **For the second objective a mechanism is created** to improve VPB (Validation Provisioning and Booking) collections throughput for concentrated resources.

In case of high concentration of transactions on the same resource (i.e. debiting or crediting the same DCA, SAC or CMB and not allowed to be negative) and in order to avoid facing a VPB congestion due to the current throughput, this mechanism groups transactions without any business links between each other into a single collection. The grouping allows then to embed several Settlement transactions for each update on resource and thus to increase the throughput in total number of transactions/minutes/resources

The grouping aims at circumventing the technical limit of 1200 collections updates per minutes involving the same resource. It has no impact on the booking functional model nor it affects the definition of the existing interfaces with LCMM.

Such a mechanism shall improve the settlement efficiency in terms of booking duration and will benefit all CSDs regarding the existing business activities as well as T2S performance. The aim with the implementation of the CR-761 is to reach a throughput of up to 8000 transactions per minute

Submitted annexes / related documents:

Outcome/Decisions:

- * CRG on 2 September 2021: the CRG agreed to recommend CR-0761 for authorization by the T2S Steering Level, following a fast-tracked approach.
- * AMI-SeCo on 10 September 2021: the AMI-SeCo advised to authorise CR-0761.
- * CSG on 10 September 2021: the CSG agreed to authorise CR-0761.
- * NECSG on 10 September 2021: the NECSG agreed to authorise CR-0761.
- * PMG on 13 September 2021: the PMG proposed to allocate the CR to R7.0 and launched its detailed assessment.
- * MIB on 15 September 2021: the MIB agreed to authorise CR-0761.

Documentation to be updated:

⁷ A second change request CR-770 is fully dedicated to the first objective.