



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: Eurosystem	Institute: ECB	Date raised: 14/12/2020
Request title: Export of T2S cash transactional data from the Data Warehouse to a Eurosystem's analytical platform		Request No.: T2S 0753 SYS
Request type: Common	Classification: Scope enhancement	Urgency: Fast-track
1. Legal/business importance parameter¹: High	2. Market implementation efforts parameter²: Low	
3. Operational/Technical risk parameter³:		4. Financial impact parameter⁴: Very High
Requestor Category: Eurosystem		Status: Implemented

Reason for change and expected benefits/business motivation:

The Eurosystem has a platform to perform analysis and simulations in euros with different software tools (e.g. Stata, Python, etc.) on cash transactional data provided by the Data Warehouse for TARGET2 (CRSS⁵).

The future T2-T2S Consolidation Data Warehouse (DWH), which replaces CRSS and the Data Warehouse for T2S (LTSl⁶), will also have an interface to the Eurosystem's analytical platform.

In order to reap the full benefits of the T2-T2S consolidation project, the DWH should also provide T2S cash transactional data from central banks (CBs) to the Eurosystem's analytical platform in addition to T2 cash transactional data so CB users can perform analysis and simulations in euros with T2 and T2S cash transactional data within the same Eurosystem's analytical platform.

Description of requested change:

T2S cash euro-denominated transactional data from central banks, in addition to T2 transactional data, should be provided every business day in a csv file format at a specific ECB technical address. This includes inter alia limits and start and end-of-day balances for T2S, in addition to T2S cash transactional data.

The solution should exclude CSD data, data from currencies other than euro and message-related table information.

An initial load of historical T2S cash transactional data in the DWH format before the T2S-T2 Consolidation project go-live should also be delivered.

¹ Legal/business importance parameter was set to High because by making T2S NCB data available to the TARGET Analytical Environment in a homogeneous way, the CR will increase the usability and correctness of the Data Warehouse for users and for analytical purposes.

² Market implementation effort parameter was set to Low because the CR does not require any adaptation by T2S users.

³ Operational/technical risk parameter is to be set once the operational assessment of the OMG on this CR is available.

⁴ Financial impact parameter was set to Very High following this classification: Low < 100kEUR < Low-Medium < 200 kEUR < Medium < 400kEUR < High < 700kEUR < Very high

⁵ CRSS: TARGET2 Customer Related System Services

⁶ LTSl: T2S Long-term Statistical Information

Transactional data of the T2S Service

The DWH shall provide at off-peak hours after the end of each business day the cash transactional data of the T2S Service in euros in comma-separated files to the Eurosystem's analytical platform on best effort basis. The files shall include:

- Liquidity transfer order executions and cancellations with time stamps.
- Intra-balance movement executions, amendments and cancellations with time stamps.
- Cash movements related to auto-collateralisation, reimbursement, substitution or relocation of collateral with time stamps.
- Cash reservations executions with time stamps.
- Cash blocking and unblocking execution information with time stamps.
- All other cash movements on T2S DCAs not mentioned above with time stamps.
- Limit modification order executions with time stamps.
- Start-of-day and end-of-day balances data related to all T2S cash accounts in euros.

The files shall include cash transactional data of the last business day that the DWH copies into its core granular data model, i.e. a delta submission. The interface shall provide each entity (database table) in the DWH as an individual file and shall use the ETL (extract, transform and load) tool of the DWH.

Reference data pertaining to the T2S Service

The DWH shall provide at off-peak hours after the end of each business day the complete set of reference data (i.e. full submission) pertaining to the T2S Service in comma-separated files to the Eurosystem's analytical platform on best effort basis. The files shall include:

- Party reference data belonging to central bank's system entities.
- Cash account reference data.
- Credit limits (e.g. Credit Memorandum balance ID, T2S DCA of credit provider, limit types, amount, effective date).
- Automated liquidity transfers (standing and predefined orders).
- Business day event schedule (T2S events).
- Calendar, currencies (and whether they are settlement currencies or not).

The interface shall provide each entity (database table) in the DWH as an individual file and shall use the ETL (extract, transform and load) tool of the DWH.

Provision of initial data load of historical LTSI data

The DWH shall provide an initial load of historical reference data and transactional data after the completion of the migration of data from the legacy data warehouse environment (i.e. LTSI) to the DWH core data. The files shall have the same technical format (CSV) as the files that the DWH shall provide in the daily data provision.

The technical transmission of the initial load shall take place through the use of an encrypted physical storage medium or an encrypted transmission using a file transfer protocol.

Maintenance requirements

Changes to the core layer data content or structure affecting any T2S entity provided to the Eurosystem's analytical platform, shall be reflected directly in the ETL process for the creation of the files and therefore in the structure and content of the file that the DWH uses to submit the data to the Eurosystem's analytical platform after the end of each business day. Any change triggering an impact on the data content or structure affecting any entity provided to Eurosystem's analytical platform should be clearly documented in the relevant change request so the user communities are informed about this.

Timing requirements

The 4CB delivery of the impacted Scope Defining Documents (SDD) updates with regard to the T2S data objects to be sent to the Eurosystem's analytical platform are needed by 1 September 2021.

Test files will be provided in January 2023

Submitted annexes / related documents:

High level description of Impact:

The DWH will extract T2S cash transactional data as well as CB/Payment Bank static data and provide them to the Eurosystem's analytical platform (in line with the above mentioned requirements).

To extract only data related to the cash side (transactional data), for euro and the last business day, filter have to apply. For static data (cash side) a full submission is required, therefore filter for euro and CB/Payment Bank data will apply.

The same filter are applicable for LTSI data which shall be provided as an initial load.

Out of each database table an individual file will be created in csv format.

Outcome/Decisions:

- *CRG on 18 December 2020: the CRG agreed to recommend CR-753 for authorisation by the T2S Steering Level.
- *AMI-SeCo on 12 January 2021: the AMI-SeCo agreed to the CRG recommendation to authorise CR-753.
- *CSG on 12 January 2021: the CSG agreed to authorise CR-753.
- *NECSG on 12 January 2021: the NECSG agreed to authorise CR-753.
- *PMG on 19 January 2021: the PMG launched the detailed assessment of CR-753 in a view to R6.0.
- *MIB on 27 January 2021: the MIB agreed to authorise CR-753.
- *CRG on 07 July 2021: the CRG agreed to recommend CR-753 for inclusion in R7.0, subject to the OMG operational assessment
- *OMG on 23 September 2021: the OMG identified an operational impact from the inclusion of CR-753 in R7.0.
- *CRG on 04 October 2021: the CRG agreed to recommend CR-753 for authorisation by the T2S Steering Level
- *PMG on 05 October 2021: the PMG agreed to recommend CR-753 for authorisation by the T2S Steering Level
- *CSG on 20 October 2021: the CSG approved the inclusion of CR-753 in the scope of R7.0
- *NECSG on 20 October 2021: the NECSG approved the inclusion of CR-753 in the scope of R7.0
- *MIB on 20 October 2021: the MIB approved the inclusion of CR-753 in the scope of R7.0
- *PMG on 25 May 2023: the PMG agreed to recommend to the T2S Steering Level the descoping of CR-0753 from R2023.JUN.
- *CSG on 30 May 2023: the CSG approved the removal of CR-0753 from the scope of R2023.JUN.
- *NECSG on 30 May 2023: the NECSG approved the removal of CR-0753 from the scope of R2023.JUN.
- *MIB on 30 May 2023: the MIB approved the removal of CR-0753 from the scope of R2023.JUN.
- *CSG on 14 June 2023: the CSG approved the inclusion of CR-0753 in the scope of R2023.NOV.
- *NECSG on 14 June 2023: the NECSG approved the inclusion of CR-0753 in the scope of R2023.NOV.
- *MIB on 21 June 2023: the MIB approved the inclusion of CR-0753 in the scope of R2023.NOV.
- *PMG on 3 November 2023: the PMG agreed to recommend to the T2S Steering Level the descoping of CR-0753 from R2023.NOV.
- *MIB on 9 November 2023: the MIB approved the removal of CR-0753 from the scope of R2023.NOV.
- *PMG on 17 November 2023: the PMG agreed to recommend the inclusion of CR-0753 in the scope of R2024.FEB.
- *CSG on 28 December 2023: the CSG approved the inclusion of CR-0753 in the scope of R2024.FEB.
- *NECSG on 28 December 2023: the NECSG approved the inclusion of CR-0753 in the scope of R2024.FEB.
- *MIB on 10 January 2024: the MIB approved the inclusion of CR-0753 in the scope of R2024.FEB.
- *PMG on 1 February 2024: the PMG agreed to recommend to the T2S Steering Level the descoping of CR-0753 from R2024.FEB.
- *CSG on 8 February 2024: the CSG approved the removal of CR-0753 from the scope of R2024.FEB.
- *NECSG on 8 February 2024: the NECSG approved the removal of CR-0753 from the scope of R2024.FEB.
- *MIB on 8 February 2024: the MIB approved the removal of CR-0753 from the scope of R2024.FEB.

*PMG on 6 February 2024: the PMG agreed to recommend the inclusion of CR-0753 in the scope of R2024.JUN.

*CSG on 20 February 2024: the CSG approved the inclusion of CR-0753 in the scope of R2024.JUN.

*NECSG on 20 February 2024: the NECSG approved the inclusion of CR-0753 in the scope of R2024.JUN.

*MIB on 28 February 2024: the MIB approved the inclusion of CR-0753 in the scope of R2024.JUN.

Documentation to be updated:

Preliminary assessment:

Detailed assessment:

EUROSYSTEM ANALYSIS – GENERAL INFORMATION			
T2S Specific Components		Common Components	
LCMM			
	Instructions validation		
	Status management		
	Instruction matching		
	Instructions maintenance		
	Penalty Mechanism		
Settlement			
	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		
	Liquidity Operations		
T2S Interface (as of June 2022 without Static Data Management, Communication for SDMG, Scheduler, Billing)			
	Communication		
	Outbound 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		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)
		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 GFS chapter		
Impacted UDFS chapter		
Additional deliveries for Message Specification (UDFS, MyStandards, MOP contingency templates)		
UHB		
Impacted GDPR message/ screen fields		No impact
External training materials		
Other documentations	Interface Specification DWH-AE	
Links with other requests CSLD CR-0043		
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

Assumption: The realisation of this CR is foreseen after T2 Go-Live.

In general the data for AE will be extracted from the Core Layer of the DWH. The data for AE will be extracted and put into file format as soon as the DWH Core Layer is loaded completely.

Business Day Event Schedule will be classified as "transactional data" to avoid sending each day the whole history of the last 10 years of business day events (up to).

Tables and filter

Note: The Core data model for T2S and CRDM (T2S data) is still under implementation, therefore an exact

number of tables and the respective filter can't be provided in this DA. File definition (tables and content) will be part of the interface specification which will be provided during the implementation phase (latest in March 2022)

Only transactional data (cash side) in euros and finalised on the last business day (no pending instructions as they are not included in the DWH) will be delivered to AE.

All CRDM Tables will be fully submitted in case there was a change in at least on reference data instance. In case there was no change in any reference data instance empty files will be provided (one per table).

Reference data will be filtered for euro. CSD data (transactional as well as static data) will be excluded from the data provisioning by using filter for tables where security and cash information are included.

Dedicated routing for AE purposes

Dedicated routing for AE will be set up by the OT in an attribute domain. This attribute domain will include two values (AE DN and the network service). The mapping for the usage in the A2A flow must be described.

Historical data

For historical data that can be mapped into the DWH Core T2S table structure, the same filter can apply. As the data migration is still under implementation a statement regarding additional tables has to be clarified during the implementation phase and incorporated into the interface specification between DWH and AE. Historical data will be provided in csv format only once.

Historical data will be transmitted via a physical medium.

The structure of LTSI is different to the one in the DWH.

It is planned to schedule the workload for extraction flows completely during the night, since otherwise the CR would have a noticeable performance impact on the underlying hardware systems and related running costs. Even if the workload does not generate a new peak by itself, non-negligible consumption which will block the chosen time frame for other user activities is expected. Accordingly, the provision of T2S DWH data to AE is planned to be scheduled to start 00:01 to 05:00 hrs on Tuesday to Friday inclusive (if T2S is open on these T2S Settlement Days) The T2S R7.0 NFT report will include a dedicated section on assessing the impact of using this aforementioned timeframe.

Main cost drivers:

- the analysis and definition of tables to be extracted and the filters to be used for the extraction.
- implementation of filter definition to create export files.
- performance test is needed to prove that estimated volumes can be processed

Impact on other TARGET Services and projects

CSLD: No impact but corresponding CSLD CR 0043 to export T2 transactional data from DWH to AE.

TIPS: No impact.

ECMS: No impact.

TARGET2: No impact.

Summary of project risk No risks have been identified during detailed assessment

Security analysis

No potentially adverse effect was identified during the security assessment.

DG - MARKET INFRASTRUCTURE & PAYMENTS

ECB-PUBLIC



01 July 2021

Cost assessment on Change Requests

T2S-753-SYS – Export of T2S cash transactional data from the Data Warehouse to a Eurosystem’s analytical platform			
One-off	Assessment costs*		
	- Preliminary	0.00	Euro
	- Detailed	0.00	Euro
One-off	Development costs	0.00	Euro
Annual	Operational costs		
	- Maintenance costs	48,437.65	Euro
	- Running costs	101,390.00	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).