EUROPEAN CENTRAL BANK

EUROSYSTEM

T2S CHANGE REQUEST FORM			
General Information (Origin of Request) ☐ User Requirements (URD) or GUI Business Functionality Document (BFD) ☒ Other User Functional or Technical Documentation (SYS)			
Request raised by: 4CB	**Institute:** 4CB		**Date raised:** 29/09/2023
Request title: T2S Billing – INTF, LQMG, SETT enhancements from audit report			**Request No.:** T2S 0817 SYS
Request type: Common	**Classification:** Scope enhancement		**Urgency:** Fast-track[1]
1. Legal/business importance parameter[2]**:** Medium		**2.** Market implementation efforts parameter[3]**:** Low	
3. Operational/Technical risk parameter[4]**:** Low		**4.** Financial impact parameter[5]**:** High	
Requestor Category: Eurosystem		**Status:** Withdrawn	

Reason for change and expected benefits/business motivation:

Within the scope of the audit mission, part of the 2021 Internal Auditors Committee (IAC) work programme, was to provide reasonable assurance on the adequacy and effectiveness of the risk management, controls and governance related to the T2S with a focus on the reliability of the billing process.

As an outcome of this work, the Internal Auditors Committee (IAC) was of the overall opinion that the controls for the reliability of the T2S billing process were insufficiently effective. Due to the fact that the reconciliation of invoices with source data was not part of the T2S requirements, there is the risk that errors of overcharging/undercharging may not be promptly detected, affecting the quick implementation of the respective corrective actions which can lead to financial and reputational impact.

The IAC recommended the MIB to enhance the controls and correspondingly amend the UDFS in order to allow the 4CB as service providers and the ECB T2S financials team on behalf of Eurosystem to reconcile the invoices generated with source data and ensure that automated invoices were correct and complete.

The MIB invited the 4CB to assess options to address the IAC recommendation considering the introduction of the new billing Common Component in R6.0 in June 2022 with particular reference, among others, to:

- Analysing possible solutions at functional and operational level with all the relevant stakeholders aimed at facilitating the reconciliation processes between source data and invoices, as well as instating advanced technical checks to monitor the completeness of data transfers from the different providing backend modules to STSI and Billing.

In this context, this change request is raised with the purpose to enhance the internal control/reconciliation checks of the billing process to ensure a correct and complete production of the automated invoices and the possibility to reconcile the invoices with the T2S billing source data.

Description of requested change:

In the current design for T2S billing, T2S source modules (e.g. LCMM, SETT, INTF, CRDM, BDM…) export data to STSI6, which performs some checks during the data loading process: STSI checks that the received files are not

[1] Fast-track justification: A fast-track approach is requested in order to address as soon as possible the IAC finding and to avoid that potential new invoices are sent out without the proper billing information
[2] Legal/business importance parameter was set to 'Medium' with this change the T2S community will benefit from a moderate improvement being the increase in the consistency of the billing invoicing.
[3] Market implementation effort parameter was set to Low' because with this change will not require a long implementation time and any significant resources on the side of Participating CSDs, CBs and their communities in order for them to be able to take full benefit of the change.
[4] Operational/technical risk parameter was set to 'Low' because with this change it is expected not to threaten the Service Level for Participating CSDs or CBs or to have no or insignificant operational impact on the Participating CSDs, CBs or 4CB.
[5] Low < 100kEUR < Low-Medium < 200 kEUR < Medium < 400kEUR < High < 700kEUR < Very high
[6] Short Term Statistical Information.

corrupted and performs the load if all files have been received. After the daily computation, aggregated data are sent by STSI to BILL Common Component (from T2S R6.0 on). As a consequence of this approach, both STSI and BILL are not aware about the completeness of the source data: if data sent by the modules contains an error or is not complete, the STSI calculation could end up in a wrong calculation for the final invoices.

Mitigate the risk of the whole process results in a high complexity task, so the agreed approach is to split the mitigation measures needed to fulfil the abovementioned requirements about the T2S billing process into 4 Change Requests. **In this CR are considered checks on export data to STSI step limiting the scope of T2S specific modules (INTF, LQMG, SETT) and the reloading in STSI.**

The solution to be designed should guarantee that all data from a Business Day (BD) are complete and are correctly sent to STSI. This can be achieved by implementing a check in the exporting process to ensure that the data prepared by T2S specific source modules is exactly what the modules expected. In case of inconsistencies identified in the exporting process, then:

- an alarm to Operational Team (OT)/ Technical Team (TT)/ Last Level Intervention (LLS) teams is raised;
- it must be possible to send again the set of expected data for a specific BD (all source modules or a single module) and the acquisition on STSI side must be re-executed.

This approach requires that the daily export to STSI for a BD *x* should be reproducible in the BD *x+a*, with *a= 0, 1, 2, …, n* with the value of *n* to be decided during the CR Detailed Assessment (always within the retention period).

It should be possible to repeat the procedure in case an inconsistency is found/an alarm is raised during the extraction of the new automated flow.

Submitted annexes / related documents:

Outcome/Decisions:

*ECB on 29 September 2023: the ECB team checked the completeness of the CR template, assigned change request number CR-0817 and informed the CR initiator.
*CRG on 5 December 2023: the CRG agreed to recommend CR-0817 for authorisation by the T2S Steering Level, following a fast-track approach.
*AMI-SeCo on 21 December 2023: the AMI-SeCo agreed with the CRG recommendation of CR-817 for T2S Steering Level authorisation.
*CSG on 21 December 2023: the CSG agreed to authorise CR-817.
*NECSG on 21 December 2023: the NECSG agreed to authorise CR-817.
*MIB on 21 December 2023: the MIB agreed to authorise CR-817.
*13 June 2024: The CR initiator has decided to withdraw this change request since an agreement with the Eurosystem on who should bear the developments costs could not be reached. The 4CB will address the audit recommendation on the BILL functionality by other means other than a change request.

Documentation to be updated:

Preliminary assessment:

Not performed

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		
	NCB Business Procedures		
	Liquidity Operations		
T2S Interface		**Eurosystem Single Market Infrastructure Gateway** (from R6.0 June 2022)	
X	Communication		Communication
	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		Rules and parameters data management
Statistics and archive		**Statistics and archive**	
	Statistical information (until June 2022)	X	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)*	
	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			No impact	
Impacted UDFS chapter			To be delivered during CR implementation.	
Additional deliveries for Message Specification (UDFS, MyStandards, MOP contingency templates)			No impact	
UHB			No impact	
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

In order to fulfil the requirements contained in the CR text for the enhancing of the internal control/reconciliation checks of the billing process for a correct and complete production of the automated invoices and to allow the reconciliation of the invoices with the T2S billing source data in particular T2S specific source modules (e.g. *INTF, LQMG, SETT*).
The following mitigation measures should be put in place on T2S specific modules export data and reload in STSI :

Mitigation measures on T2S modules/components – STSI interaction

A check should be implemented in the exporting process of each T2S specific module interested in the computation of T2S invoices to ensure that the data prepared by T2S specific source modules is exactly what the modules expected:

- a check on the quantity of the exported data and on its correspondence to the T2S specific module raw data has to be put in place;
- the check has to be performed as soon as the export is ready for the sending to STSI;
- the check should be performed on all the T2S specific modules (excluding Common Component modules*)* data relevant for billing purpose (*INTF, LQMG, SETT*).
- in case of any inconsistency identified, an alarm will be raised to Operational Team (OT)/ Technical Team (TT) by the interested T2S module/component. *Only in case the alarm is raised during the last day of the month the sending of the daily T2S Billing files by STSI to BILL is blocked;*
- the resolution of the issue and the new corrected export and sending to STSI should be performed by the last day of the billing period by the interested T2S specific module(s). In case this would not be possible, an operational procedure for the data inclusion in an invoice or in a credit/debit note should be put in place.

  STSI should be updated in order to delete the incorrect data and the related daily aggregation, then a new import from the interested source module(s) should be possible, with the new computation of the related daily aggregated billable items.

TIMELINE: T2S modules' daily export to STSI for a BD *x* should be *reproducible* in the BD x+a, with a= 0, 1, 2, …, 62. So the T2S retention period of 3 months should be guaranteed also for the daily export to STSI. In case the daily aggregated billable items have already sent to BILL by STSI and the related invoice was not already created by BILL, then an operational procedure should be put in place in order to delete the wrong daily consumption data and to perform a new acquisition after the new STSI computation.

It should be possible to repeat the procedure in case an inconsistency is found/an alarm is raised during the extraction of the new automated flow.

In case an inconsistency is found the last day of the billing period, then this procedure could lead to a delay of the sending of the invoices for the S.E. (for CSD on the first BD of the month, and eventually for CBs).

Main cost drivers:

- Adaptations to the INTF, LQMG and SETT data extraction, implementation of integrity checks on each of the data files produced for T2S STSI used for the billing calculation;
- New circuit in LQMG to enable the resending of extracted data files from a past date (up to the retention period).
- Implementation of new monitoring alarms and notifications from INTF and LQMG
- Adaptations in BILL Common Component and STSI to react on alarms and notifications from INTF, LQMG and SETT and allow reloading of files.
- Extensive regression testing.

Impact on other TARGET Services and projects
No impact on other Eurosystem services (T2, TIPS) or projects (ECMS) has been identified.
Summary of project risk
No risk has been identified during detailed assessment.
Security analysis
No adverse effect has been identified during security assessment

DG - MARKET INFRASTRUCTURE & PAYMENTS ECB-PUBLIC

19 January 2024

Cost assessment on Change Requests

T2S-817-SYS – T2S Billing - INTF, LQMG, SETT enhancements from audit report			
One-off	Assessment costs* - Preliminary - Detailed	 not charged 0.00	 Euro Euro
One-off	Development costs	392,180.72	Euro
Annual	Operational costs - Maintenance costs - Running costs	 33,987.14 0.00	 Euro 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).