



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: 4CB	Date raised: 29/09/2023
Request title: T2S Billing – LCMM and CoCos enhancements stemming from audit report		Request No.: T2S 0818 SYS
Request type: Common	Classification: Scope enhancement	Urgency: Fast-track ¹
1. Legal/business importance parameter² : Medium		2. Market implementation efforts parameter³ : Low
3. Operational/Technical risk parameter⁴ : Low		4. Financial impact parameter⁵ : Very 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Requestor Category: Eurosystem		Status: Withdrawn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 corrupted and performs the load if all files have been received. After the daily computation, aggregated data are

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.

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 source modules only to CoCos (ESMIG, CRDM, BILL, BDM and CoCo A2A/U2A Business Interfaces) and to LCMM.**

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 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).

This approach requires that the daily export to STSI for a BD x should be reproducible in the BD $x+a$, with $a= 0, 1, 2, \dots, n$ 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:

*CRG on 5 December 2023: the CRG agreed to recommend CR-0818 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-818 for T2S Steering Level authorisation.

*CSG on 21 December 2023: the CSG agreed to authorise CR-818.

*NECSG on 21 December 2023: the NECSG agreed to authorise CR-818.

*MIB on 21 December 2023: the MIB agreed to authorise CR-818.

*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		
X	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		Eurosystem Single Market Infrastructure Gateway (from R6.0 June 2022)	
	Communication	X	Communication
	Outbound Processing		Outbound Processing
	Inbound Processing		Inbound Processing
Static Data Management (until June 2022)		Common Reference Data Management	

		<i>(from R6.0 June 2022)</i>	
	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
		X	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)
		X	Business Day Management business interface (from R6.0)
	Billing (until June 2022)		Billing (from R6.0)
		X	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 provided 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 CoCos (ESMIG, CRDM, BDM, BILL and all the related A2A and U2A business interfaces) and LCMM modules source data the following mitigation measures should be put in place.

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

- a check on the quantity of the exported data and on its correspondence to the T2S 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 module's data relevant for billing purpose:
 - o CoCo modules(*ESMIG, CRDM, BDM and BILL*).
 - o LCMM module.
- 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 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.

TIMELINE: T2S modules' daily export to STSI for a BD x should be *reproducible* in the BD $x+a$, with $a=0, 1, 2, \dots, 62$. So the T2S retention period of 3 months should be guaranteed also for the daily export to STSI.

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:

- Implementation of new data quantity checks for CRDM and A2A/U2A Business Interface. Modification of data extraction and implementation of resending procedure for CRDM data to STSI. Implementation of new alarms and notifications to OT.
- Implementation of new functionality in BILL Common Component in order to detect alarms raised by following Sending Modules: CRDM, ESMIG, A2S/U2A Business Interface and LCMM.
- Amendment of the statistical data extraction process for LCMM, data should be stored longer and reloading should be possible. Implementation of alarms and notifications to OT.
- Extensive regression testing.

Impact on other TARGET Services and projects

No impact on other Eurosystem services (T2, TIPS) or projects (ECMS) has been identified during detailed assessment.

Summary of project risk

No risk has been identified during detailed assessment.

Security analysis

No adverse effect has been identified during detailed assessment.



19 January 2024

Cost assessment on Change Requests

T2S-818-SYS – T2S Billing - LCMM and CoCos enhancements stemming from audit report			
One-off	Assessment costs* - Preliminary - Detailed	not charged 0.00	Euro Euro
One-off	Development costs	811,615.92	Euro
Annual	Operational costs		
	- Maintenance costs	70,305.35	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).