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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: Eurosystem	**Institute:** 4CB	**Date raised:** 14/04/2023
Request title: The monthly BILL process should not be blocked when a party does not have the invoice configuration		**Request No.:** T2S 0805 SYS
Request type: Common	**Classification:** Maintenance	**Urgency:** Fast-track[1]
1. Legal/business importance parameter[2]: Low		**2. Market implementation efforts parameter[3]:** Low
3. Operational/Technical risk parameter[4]: High		**4. Financial impact parameter[5]:** Medium
Requestor Category: Eurosystem		**Status:** Allocated to a release

Reason for change and expected benefits/business motivation:

The ESMIG Portal guides each user to the relevant service and component through a three-tiered access structure, requesting the user to select, in sequence,

1. The Service to be accessed (i.e. T2/T2S/TIPS),
2. The individual component/application
3. The logical user to impersonate among those linked to the user's certificate.

The options available in steps 1 and 2 are limited to the services and components that the user is enabled to be based on their access rights profile, which is in turn defined by the privileges granted to them in CRDM.
Specific privileges are mapped one-to-one with applications, and in certain cases related to Common Components the same privilege grants access to a Common Component under different Services' umbrellas – e.g. CRDM can be accessed with the same privilege as T2-CRDM, TIPS-CRDM and T2S-CRDM.
While the functionality offered under each Service's umbrella is in fact the same, this leads to the side effect of having, for instance, non-T2S payment banks generating traffic that is then calculated as T2S-related and therefore triggers T2S consumption charges. In the absence of a T2S Invoice Configuration for the participant, this leads to incorrect charges and blocking errors in the generation of invoices within the BILL Common Component.

In addition, this approach could cause issues on accessing to DWH for T2 and T2S, due to the fact that DWH is not able to differentiate the requesting TARGET Service.

Current implementation – Privileges for Service/Component Access

Privilege Name	Related Application/Component	Relevant Service(s) Enabled
BDM_Access	Business Day Management	T2, T2S
BILL_Access	Billing	T2, T2S, TIPS, ECMS[6]

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[1] Fast-track justification: A fast-track approach is requested in order to quickly correct the privilege segregation in the ESMIG that has a knock-on effect in the Billing functionality, namely, the generation of invoices with T2S billable items for non-T2S parties.
[2] Legal/business importance parameter was set to 'Low' because this change will not meet any particular business need requested by the CSDs/NCBs.
[3] Market implementation effort parameter was set to 'Low' because a long implementation period is not foreseen on the side of the participating CSDs, CBs and their communities in order for them to check that a complete segregation of privileges is achieved among TARGET-Services when accessing the Common Components.
[4] Operational/technical risk parameter was set to 'High' because with this change unexpected operational efforts will be avoided due to the fact that invoices with wrong information, stemming from improper use by users that do not participate in a given Service, will not have to be amended.
[5] Low < 100kEUR < Low-Medium < 200 kEUR < Medium < 400kEUR < High < 700kEUR < Very high
[6] Only for ECMS NCB and NCB Participant users intended to access to BILL Common Component.

CLM_Access	CLM	T2
Contingency_Access	ECONSII	T2
CRDM_Access	CRDM	T2, T2S, TIPS
DMT_Access	Data Migration Tool	T2, T2S, TIPS
DWH_Access	Data Warehouse	T2,T2S, TIPS, ECMS[7]
ECMS_Access	ECMS	ECMS
RTGS_Access	RTGS	T2
T2S_Access	T2S	T2S
TIPS_Access	TIPS	TIPS
TMS_Access	Trouble Management System	T2, T2S, TIPS

Description of requested change:

In case a T2 or TIPS Actor (e.g. Payment Bank, Ancillary System) enters via ESMIG into a Common Component (CRDM, BDM and BILL) via T2S service, it can generate T2S consumption which is managed by BILL. On the first day after the end of the Billing Period, BILL tries to generate the Invoice Data for the corresponding Participant and System Entity but due to the absence of a proper billing configuration for T2S (it is not a T2S party), the billing process of the entire System Entity is blocked.

The solution to be designed should guarantee that the billing process is not blocked, invoices are produced correctly and incorrect charges are not generated. This can be achieved by implementing the following process:

  i. on a daily basis, when a Party presents consumption in T2S without an Invoice Configuration, an alarm is raised to the T2S Operator;
  ii. the first day after the end of the Billing Period, in case a Party presents consumption in T2S related to the entire billing period for which the invoice is going to be produced without an Invoice configuration correctly set up in CRDM, then;
    a. the Invoice Data of the Party have to be skipped by BILL; Invoice production process for the relevant System Entity is not blocked but should continue;
    b. an alarm to the T2S Operator is raised.

Following the generation of alarms, the T2S Operator must inform the relevant NCB to confirm whether the Billing module was trying to generate an invoice for a T2 only or a TIPS only Party and therefore it is correct that the related invoice data are skipped, or instead for a T2S Party with missing Invoice Configuration. In order to provide additional information for the analysis, the T2S Operator may take advantage of the investigation tools made available by T2S CR804 (for the sake of clarity the OT is not in the position to know if a participant should or not receive the invoice) or refer directly to the ECB Financial team and the responsible NCB of the impacted Party. If the billing data refers to a T2S Party, then the relevant NCB is responsible for the update of any missing billing configurations before the end of the billing period for (i) or before the invoice can be processed again for (ii).

In addition, in order to simplify the access and the related validation to CSD and CSDP users, the ESMIG Portal access validations will be redesigned to segregate the usage of Common Components under different Services based on the DN connected. This in order to limit improper access to users that do not participate in a given Service. The segregation will be based on the following logic:

- In case the DN connected to ESMIG is linked only to a user belonging to Party of Type CSD or CSD Participant, then only T2S Service is shown;
- In all other cases, all TARGET Services are shown.

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[7] Only for ECMS NCB users intended to access to DWH Common Component.

The ESMIG Portal will automatically segregate accesses for CSDs and CSDP users by limiting their access to the services and components only under T2S umbrella.

An additional privilege, the DWH_T2S_Access, will be added to control access through ESMIG Portal to DWH GUI for T2S User. With the usage of the already existing Privilege "DWH_Access" only for T2, this approach allows the segregation of the T2 Users from T2S Users. TIPS and ECMS CBs are allowed to access to DWH only through T2 or T2S Services.

The new solution will imply an ARM reconfiguration for CSDs and CBs that need to use DWH for T2S Service.

Privileges for Component Access

Privilege Name	Related Application/Component	Relevant Service(s) Enabled
DWH_Access	Data Warehouse	T2~~, T2S, TIPS, ECMS~~
DWH_T2S_Access	Data Warehouse	T2S

Submitted annexes / related documents:

Outcome/Decisions:

*CRG on 27 April 2023: The CRG agreed to recommend CR-0805 for authorisation by the T2S Steering Level, following a fast-track approach.
*AMI-SeCo on 9 May 2023: The AMI-SeCo agreed with the CRG recommendation of CR-0805 for T2S Steering Level Authorisation
*CSG on 10 May 2023: the CSG agreed to authorise CR-0805.
*NECSG on 10 May 2023: the NECSG agreed to authorise CR-0805.
*MIB on 18 May 2023: the MIB agreed to authorise CR-0805.
*PMG on 6 June 2023: the PMG agreed to launch the detailed assessment of CR-0805 with a view of scoping in R2023.NOV.
*CRG on 3 May 2024: the CRG agreed to recommend to the PMG the inclusion of CR-0805 in the scope of R2025.JUN.
*OMG on 3 May 2024: the OMG identified no operational impact from the inclusion of CR-0805 in R2025.JUN.
*PMG on 6 May 2024: the PMG agreed to recommend to the T2S Steering Level the inclusion of CR-0805 within R2025.JUN.
*CSG on 14 May 2024: the CSG approved the inclusion of CR-805 in the scope of R2025.JUN.
*NECSG on 14 May 2024: the NECSG approved the inclusion of CR-805 in the scope of R2025.JUN.
*MIB on 15 May 2024: the MIB approved the inclusion of CR-805 in the scope of R2025.JUN.

Documentation to be updated:

CRDM UDFS
1.2.2.1.2 Privilege

PRIVILEGE	USER FUNCTION	DATA SCOPE
Data Migration Tool Access	Allows access to the DMT.	n/a
CRDM Access	Allows access to CRDM.	n/a
TIPS Access	Allows access to TIPS.	n/a
CLM Access	Allows access to CLM.	n/a
RTGS Access	Allows access to RTGS.	n/a
ECMS Access	Allows access to ECMS.	n/a
Contingency Access	Allows access to ECONS2.	n/a
DWH Access	Allows access to Data Warehouse for Service T2~~, TIPS, ECMS~~	n/a
DWH_T2S_Access	Allows access to Data Warehouse for Service T2S	n/a
BILL Access	Allows access to Billing component	n/a
BDM Access	Allows access to Business Day Management Component	n/a

T2S UHB
1.3.1 Setup and Login Procedures

[…]

GUI Access   The ESMIG Portal screen expects the user to select the relevant service to enter based also on the type of Party. For CSD and CSD Participant only T2S service is present.

After the selection of the Service, the user is invited to select a specific component or application.

As a third step, once the component or application is selected, the user is requested to select the System User.

After submitting the screen, the user is redirected to the selected component or application.

ESMIG UDFS

1.2.5   ESMIG Portal

Users of TARGET Services and applications belonging to the appropriate closed group of users, defined and enforced at NSP level, can communicate in U2A mode via a web-based GUI.

Those users are directed to an initial page named ESMIG Portal that ensures proper routing to the web applications according to the user access rights profiles.

In particular, the ESMIG Portal shows to the user all the applications the user is authorised to access. These applications are linked ~~one-to-one~~ to special system privileges (stored in CRDM) the user has been previously granted with and that are specifically dedicated to those web applications. <u>Access to applications is allowed by granting the proper privilege for the application itself combined with the type of Party to which the DN belongs to. In case the DN is linked only to user(s) belonging to Party(s) of party Type CSD or CSD Participant, then only the T2S Service is available. Otherwise all Services are present.</u>

When accessing the ESMIG Portal without any authentication, the user is redirected to the IAM page that asks user to authenticate the access validating the user's distinguished name (DN). Thus, the authentication process, at IAM level, securely associates the DN to the person accessing the system.

After authentication, the person must choose the logical "user" he wants to impersonate, selecting it among a set of user-IDs that have been previously linked to his DN. This selection is done in the ESMIG Portal.

Therefore, the ESMIG portal allows and guides the person accessing the system to:

l   **choose the service** among the authorised services accessible by at least one user-ID linked to the DN of the user;

l   **choose the component/application** among the authorised components and applications accessible by at least one user-ID linked to the DN of the user;

l   **choose the user** to impersonate when accessing such an application.

After this process, the ESMIG Portal redirects the user to the homepage of the application selected (e.g. CRDM, DMT, TIPS, etc.).

An example of how the ESMIG Portal GUI ~~will~~ look<u>s</u> like is shown in the following picture.

Preliminary assessment:

n.a. – fast track DA

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		**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** *(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)		X	Billing (from R6.0)
			Billing business interface (from R6.0)
Operational Monitoring		X	Operational and Business Monitoring
MOP Contingency Templates			

Impact on major documentation		
Document	**Chapter**	**Change**
Impacted GFS chapter		No impact
Impacted UDFS chapter	**ESMIG** 1.2.5 ESMIG Portal **CRDM UDFS** 1.2.2.1.2 Priviege	Description of the TARGET service access driven by the various newly introduced privileges. Description of the new DWH_T2S_Access and change of the applicability for the DHW_Access privilege.
Additional deliveries for Message Specification (UDFS, MyStandards, MOP contingency templates)		No impact
UHB	**CRDM UHB** 1.2.1 Setup and Login Procedures	Update for the visibility of T2S service only for CSD and CSDP.
Other impacted documentation (FA Sch. 05, FA Sch. 07)		No impact
Impacted GDPR message/ screen fields		No impact
Other documentations		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

The following process should be put in place on BILL side:

    i.   on a daily basis, when a Party presents consumption in T2S without an Invoice Configuration, an alarm is raised to the T2S Operator;

    ii.   the first day after the end of the Billing Period, in case a Party presents consumption in T2S related to the entire billing period for which the invoice is going to be produced without an Invoice configuration correctly set up in CRDM, then;

            a.   the Invoice Data of the Party have to be skipped by BILL; Invoice production process for the relevant System Entity is not blocked but should continue;

            b.   an alarm to the T2S Operator is raised.

Following the generation of alarms, the T2S Operator must put in place an operational procedure in order to understand if the party is a T2 or a TIPS only Party and therefore it is correct that the related invoice data are skipped, or instead for a T2S party with missing Invoice Configuration. If the billing data refers to a T2S Party, then the relevant NCB is responsible for the update of any missing billing configurations before the end of the billing period for (i) or before the invoice can be processed again for (ii).

The ESMIG Portal access validations will be redesigned to segregate the usage of Common Components under different Services based on the DN connected. This in order to limit improper access to users that do not participate in a given Service. The segregation will be based on the following logic:

-    In case the DN connected to ESMIG is linked only to a user belonging to Party of Party Type CSD or CSD Participant, only T2S Service is shown;

-    In all other cases, all TARGET Services are shown.

The ESMIG Portal will automatically segregate accesses for CSDs and CSDP users by limiting their access to the T2S links only. No changes will be implemented in regards to CB and PB users (potentially multi-service users);

Additional privileges will be added to control access through ESMIG Portal to DWH GUI segregating T2 Users from T2S Users. The new solution will imply an ARM reconfiguration for CSDs and CBs that need to use DWH for T2S Service.

    Overview of possible access ways:

- if a user is granted with "DWH_Access" privilege and the same user selects via ESMIG Portal GUI screen the Service T2 then a (re)direction to [(already existing): https://cpdwhcg1.csld.e-mip.eu:9300/bi/?CAMNamespace=CognosUsersExternal] is applied

- if a user is granted with "DWH_T2S_Access" privilege and the same user selects via ESMIG Portal GUI screen the Service T2S then a (re)direction to [(new): https://cpdwhcg1.csld.e-mip.eu:9300/bi/?CAMNamespace=CognosUsersExternalT2S] is applied

- if a user is granted with both "DWH_Access" and "DWH_T2S_Access" privileges, then the same user can select via ESMIG Portal GUI screen the Service T2 OR the Service T2S --> then a (re)direction as in (1) or (2) is applied

- The expectation is, that the https-request sent by ESMIG remains the same (currently the User-ID is provided with tag "T2SWP-User-Tech-Id")

Main cost drivers:

- Implementation of new check each business day and on the first business day after the end of the Billing Period for Parties with T2S consumption but without any Invoice Configuration in CRDM related to T2S Service. Implementation of a skipping procedure.

- ARM reconfiguration for CSDs and CBs that need to use DWH for T2S Service.

During the CR-805 detailed assessment review by the technical groups, the following clarifications were provided by 4CB:

- There will be a change to ESMIG, which do not allow DNs linked to users only belonging to CSDs and CSDPs to access TARGET Services different from T2S and a solution on BILL side which main purpose is to not block the billing of the T2S NCBs for users which DN is linked to parties both on cash (T2 and TIPS NCB/NCB Participant) and Security side (T2S CSD/CSDP) accessing to T2S using a user linked to a T2 or TIPS party only.

- With this CR, only the privilege for the access to DWH for T2S will be amended. There will not be a change at all to all the other privileges in respect to what is in place today and is described in the SDDs.

- For the configuration of the new T2S DWH privilege, there will be a period before the go-live phase during which the privilege can be configured in the system, even though it may not be fully operational yet. Normally this period starts a month before, but in any case, this can be agreed differently if there is a need.

- BILL assigns a billable item to a TARGET Services based on the Service used to "enter" into the common component. Thus, selecting T2 and then entering in CRDM via a T2S user, the billable item is considered for T2 Service, thus not billed as for the current T2 Pricing Policy.

- The issue of a user belonging to a party T2/TIPS <u>only</u> which access via CRDM to a Common Component is not related to the access itself. The issue on Billing side happens in case a user performs queries that are under the T2S pricing policy scope. As soon as BILL recognises that such a party is <u>not configured</u> for T2S billing, has a consumption in T2S, the alarm will be raised and the check on OT/NCB side should be put in place. For CSDs, there is certainty that a CSD or CSDP party has to be only access to T2S, thus the ESMIG portal will be designed in order to show only T2S Service for the DNs which are linked to users <u>only belonging to party/parties with party type CSD/CSDP</u>: no check is needed in this case.
  On the contrary, in case a DN is configured for users belonging to T2/TIPS <u>and</u> a T2S party and it access to T2S by mistake, the actions it performs will be correctly billed under the T2S invoice. No issue/alarm will be raised in this case, considering that the party is configured for the T2S billing. The purpose of this CR is indeed to avoid blocking condition in the billing happened in the past for entire T2S communities, not to try to avoid manual error of the user which will result in higher/lower invoice costs which are related to Pricing Policies not harmonised between TARGET Services.

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

01 March 2024

Cost assessment on Change Requests

T2S-805-SYS – The monthly BILL process should not be blocked when a party does not have the invoice configuration*			
One-off	Assessment costs** - Preliminary - Detailed	0.00 0.00	Euro Euro
One-off	Development costs	289,140.78	Euro
Annual	Operational costs - Maintenance costs - Running costs	 20,454.71 0.00	 Euro Euro

* "The cost for the delivery of the Change Request T2S-0805-SYS will be covered by 4CB but the implementation will use T2S CR implementation capacity".

**The relevant assessment costs will be charged regardless of whether the CR is implemented (Cf. T2S Framework Agreement, Schedule 7, par. 5.2.3).