

| General Information (Origin of Request) | | |
|--|---|---------------------------------------|
| <input checked="" type="checkbox"/> User Requirements Document (URD) <input checked="" type="checkbox"/> User Detailed Functional Specification (UDFS) <input type="checkbox"/> User Handbook (UHB) <input type="checkbox"/> Other User Functional or Technical Documentation (SYS) | | |
| Request raised by: 4CB | Institute: ECB | Date raised: July 2020 |
| Request title: Adapter between TIPS and CLM | | Request ref. no: CSLD-0050-URD |
| Request type: common | | |
| 1. Legal/business importance parameter: | 2. Market implementation efforts parameter – Stakeholder impact: | |
| 3. Operational impact: | 4. Financial impact parameter: | |
| 5. Functional/ Technical impact: | 6. Interoperability impact: | |
| Requestor Category: Central Banks | | Status: Approved |

Reason for change and expected benefits/business motivation:

The aim of this CR is to assess the realisation of an Adapter between CLM and TIPS, built as a new, independent software component, which will make possible for both TIPS and CLM to function smoothly with limited changes.

Description of requested change:

The CLM Adapter.

This new component will have the following characteristics:

- 1) The CLM adapter will be independent from both CLM and TIPS. All the messages sent from CLM to TIPS will pass through the Adapter for the necessary transformation. The same will happen the other way round, for all the messages sent by TIPS to CLM.
 From a technical point of view, the Adapter will:
 - a. Intercept any incoming message (from CLM to TIPS) shortly after the “get” from the incoming queue, it will convert it into a MEPT message compliant to the current TIPS interface (as defined by the CR-0025);
 - b. Convert any outgoing message (from TIPS to CLM) into the format requested by CLM, shortly before the “put” of the message on the outgoing queue.
- 2) The message transformation will act both at level of technical interfaces and business payload, affecting, if needed, XML schema as well.
- 3) The former transformation should comply with a “stateless” approach as much as possible. This will not be possible in all cases. One exception of this approach has been identified so far: due to the use of the BAH between CLM and the adapter, the Adapter needs to reconcile each request (camt.050/025) sent to CLM with the reply received from CLM. This introduces the need to persist the data of each request and to update such data when the reply is received and all the connected tasks of such data store (e.g. to periodically evict unnecessary data, etc.).
 From a technical point of view, a new database instance will be defined for this purpose.
- 4) The LeA (legal Archiving) for TIPS incoming messages (from CLM to TIPS) will include the messages after the conversion took place, not the original messages, as sent by CLM.

- 5) The solution will NOT realize any solution to the problem raised by INC-265708 (whereas it is asked to provide reconciliation between camt.050 and camt.053), which is not relevant for the definition of the interfaces between TIPS and CLM.
- 6) It is needed to distinguish between the two business cases of "inbound LT" and "pull outbound LT" (in both cases a camt.050 message is sent from CLM to TIPS). This should be possible by using a piece of information into the message received by TIPS.

Submitted annexes / related documents:

Proposed wording for the Change request:

UDFS

CLM UDFS

6.4.2 General features of Legal Archiving

Addition of « Camt.050/camt.025 – sent by TIPS (Adapter) to CLM » to the list of messages to be archived

12.2.12.3 The message in business context

Addition of use of Creditor and Debtor BIC in camt.050 message in utilisation of the elements. The current annotations need to be amended.

RTGS UDFS

12.2.19.3 The message in business context

Addition of use of Debtor BIC in camt.050 message in utilisation of the element. The current annotation needs to be amended.

UHB

CLM UHB

To be provided after implementation

RTGS UHB

To be provided after implementation

High level description of Impact:

Impacts on other projects and products:

Outcome/Decisions:

| EUROSYSTEM ANALYSIS – GENERAL INFORMATION | | | | | | |
|---|-----------------------|--|---------|------------------|--------------------------|-----------------------------|
| | | | Process | User Interaction | Business Data Definition | Non-functional Requirements |
| CENTRAL LIQUIDITY MANAGEMENT (CLM) | GENERAL | CLM Payment Order | | | | |
| | | CLM Liquidity Transfer Order | X | | | |
| | | CLM Liquidity Reservation | | | | |
| | CENTRAL BANK SERVICES | Modify Credit Line | | | | |
| | | Connected Payments | | | | |
| | | Overnight Deposit | | | | |
| | | Marginal Lending | | | | |
| | | Minimum Reserve Management | | | | |
| | | EoD General Ledger Files | | | | |
| REAL-TIME GROSS SETTLEMENT (RTGS) | GENERAL | RTGS Payment Order | | | | |
| | | Queue Management | | | | |
| | | RTGS Liquidity Transfer Order | | | | |
| | | RTGS Liquidity Reservation | | | | |
| | | RTGS Services for Ancillary Systems (AS) | | | | |
| | CB SERVICES | | | | | |
| COMMON | GENERAL | ESMIG | | | | |
| | | CRDM | X | | | |

| | | | | | | |
|-------------------------|-----------------------|---------------------------|---|--|--|--|
| | | Business Day | | | | |
| | | User Roles and Access | | | | |
| | | Information and Reporting | X | | | |
| | | Data Warehouse Services | X | | | |
| | CENTRAL BANK SERVICES | Billing | | | | |
| | | Legal Archiving | X | | | |
| | | Contingency Settlement | | | | |
| | | | | | | |
| 4CB internal categories | | Operational Tools | | | | |
| | | Automation | | | | |

| Impact on major documentation | | | | |
|--|--|---|-------|--|
| Document | Chapter | Change | | |
| Impacted UDFS chapter | CLM UDFS 6.4.2 General features of Legal Archiving 12.2.12.3 The message in business context | Update see above | | |
| | MyS camt.050 message usage guideline | | | |
| | RTGS UDFS: 12.2.19.3 The message in business context | | | |
| | MyS camt.050 message usage guideline | | | |
| Additional deliveries for Message Specification/ MyStandards | Update internal Usage guideline (annotations, validations) and XSD. | Add annotation specific for CLM-TIPS use | | |
| | Update usage guideline for external XSD of camt.050 in MyStandards for RTGS and CLM | Add annotations to creditor and debtor elements specific for LT from RTGS or CLM towards TIPS | | |
| UHB | CLM UHB RTGS UHB | Updates to be provided after implementation | | |
| External training materials | | | | |
| Other documentations | | | | |
| Links with other requests | | | | |
| Links | Reference | | Title | |
| OVERVIEW OF THE IMPACT OF THE REQUEST ON THE T2SYSTEM AND ON THE PROJECT | | | | |
| Summary of functional, technical, operational, stakeholder, financial and interoperability impacts | | | | |

For the communication between CLM and TIPS a new, dedicated component, the TIPS CLM Adapter, will be responsible for converting all the messages flowing between the two settlement services.

The main task of the Adapter will be to transform messages in order to circumvent the following differences:

1. Use of head.001 (BAH)

The business application header (head.001) shall be added to the messages sent from TIPS and forwarded to CLM. Information for creating the BAH shall be taken by the message payload.

The business application header (head.001) shall be removed from the messages sent from CLM and forwarded to TIPS. Information included into the BAH shall be, if needed, added to the message payload.

2. Dedicated message schemas

The Adapter shall be responsible for supporting the message schemas used by each of the two systems and for implementing the parsing logic.

3. Linking of messages

The standard linkage for TIPS messages relies on different identifiers.

A dedicated linkage between the message request and the message answer shall be put in place. Such a linkage shall make use of a dedicated database structure.

4. Use of BICs in camt.050 and camt.025 messages.

TIPS makes use of BICs of participants to perform authorisation checks and account identifiers for account identification.

The Adapter shall make available fixed value BICs (CLM BIC) to fill the payload tags needed by TIPS (e.g. « debtor » and « creditor ») in case of missing BICs from the customer.

5. Use of account types in camt.050 messages

The Adapter shall put the account types needed by TIPS by deriving them from the values inserted into the BAH (e.g. in order to properly distinguish an "inbound LT" and "pull outbound LT").

6. Dedicated TIPS status codes in camt.025

The Adapter shall convert the status codes used by TIPS into the status codes expected by CLM, and vice-versa.

7. Duplicate checks

TIPS and CLM adopts different duplicate check logics. As there is no need to harmonise the two systems for this feature, the Adapter shall not perform nothing (the system that perform the « stricter » duplicate check, shall reject the message to the system that perform the less strict check).

8. Technical interfaces

The Adapter shall be responsible for creating and adding the TIPS technical interface (MEPT like) and the CLM dedicated internal technical interface (DEP like). Details will be agreed during implementation.

9. Leading and trailing blanks.

The CLM standard approach for all messages is not to allow leading or trailing blanks in any message tag. Nevertheless, the Adapter shall not perform any transformation (e.g. it will not drop leading and trailing blanks): if a user inserts unnecessary blanks, CLM will reject the message according to its rules.

10. No reconciliation between camt.050 and camt.053 is required

The possible need for an external actor to be able to match a settlement in two services by matching one ID of the camt.050 in the originating service with one ID of a camt.053 in the receiving service is not requested in this CR.

Business flows :

The business cases for liquidity transfers to be processed by the Adapter are :

1. Liquidity transfer from CLM to TIPS, push,
2. Liquidity transfer from CLM to TIPS, pull (CLM U2A only)
3. Liquidity transfer from TIPS to CLM, push
4. Liquidity transfers from RTGS to TIPS via CLM
5. Liquidity transfers from TIPS to RTGS via CLM
6. Liquidity transfers from T2S to TIPS via CLM
7. Liquidity transfers from TIPS to T2S via CLM

8. General ledger from TIPS to CLM (per currency)
9. Specific synchronisation message for end-of day, start-of-day and CLM maintenance window: End of day (a,b) / start of day (c) / maintenance window (a,c) / currency specific closing (a,c) :
 - a. Stop liquidity transfers arriving from CLM
 - b. Change of Business date
 - c. Start liquidity transfers arriving from CLM

Query balances of other services accounts:

Account query (up to 100 accounts, originated by the CLM GUI, if CLM needs to allow users to exceed this limit, it shall send multiple messages, each for 1-100 accounts).

General considerations:

- The functional assessment provides details on the additional efforts compared to the TIPS interface as originally foreseen in the offer. Moreover, as the requirements for legal archiving came only later and as TIPS is not covered by CR 46 for CLM, the respective impact and workload is added as well.
- TIPS restricts the number of account balances that can be queried with one single request to 100 accounts. There are cases when CLM needs to query more than 100 accounts. To overcome this TIPS restriction CLM shall use a dedicated logic to a) split queries to TIPS including more than 100 accounts and b) aggregate several query results from TIPS in the result view.
- Changes of this CR have no impact on data propagation.
- As the CLM adapter is operated within TIPS perimeter, respective tickets and functional/development/testing efforts are within responsibility of Bdl.
- Details on the population of messages are provided in the attached ICL (see annex). There the details for immediate push, immediate pull and standing order LTs are defined. However, TIPS does not distinguish between immediate and standing order LTs in it's processing.

The CLM impacts are related to the following three items:

- 1) Camt.050 with BIC
- 2) Limitation of 100 accounts per query
- 3) LEA related aspects not covered in CR 46

Summary of dependencies

Dependency to TIPS-CR0025

Dependency to T2S:

The only (potential) impact on T2S side identified is related to the standing order liquidity transfer and the (potential) need from TIPS to receive the Debtor BIC for these LTs within the camt.050.

No dependencies for ECMS

Summary of project risk

None

Security analysis

No potentially adverse effect was identified during the security assessment.