<table>
<tr><td colspan="3" align="center">General Information (Origin of Request)</td></tr>
<tr><td colspan="3">☒ User Requirements Document (URD)</td></tr>
<tr><td colspan="3">☒ User Detailed Functional Specification (UDFS)</td></tr>
<tr><td colspan="3">☐ User Handbook (UHB)</td></tr>
<tr><td colspan="3">☐ Other User Functional or Technical Documentation (SYS)</td></tr>
</table>

Request raised by: ECB	**Institute:** ECB	**Date raised:** November 2020
Request title: Delta set retrieval		**Request ref. no:** CSLD-0061-UDFS

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

Update 04.10.2021

RTGS/CLM UDFS chapter 11.5 business scenarios

RTGS: In Table 162, addition of a new business scenario (078) called Delta set query, with a total of 8 new examples added.

CLM: In table 96, addition of a new business scenario (077) also called Delta set query, with a total of 8 new examples added

Split in 3 sub-chapters:UDFS Chapter 11.6 Delta set retrieval functionality for cash transfer (order)s:

11.6.1   Overview (unchanged)

11.6.2   Initialisation of the delta set query : i) renamed to initialisation and execution of the delta set query and ii) partially rephrased in order to clearly indicate the difference between the two processes

Addition of 11.6.3 Full scenario example for a delta set query flow

Amendment RTGS/CLM UDFS Chapter 12 List of messages (CLM & RTGS) by delta query message examples

Reason for change and expected benefits/business motivation:

With the delta set query functionality for RTGS and CLM the transmission of high data volumes can be avoided or at least reduced. Owing to the fact that a delta query functionality is part of TARGET2, such an option is expected in future in RTGS and CLM as well.

Description of requested change:

Scope

A delta set can be queried for changes related to cash transfers and cash transfer orders in case of new entries and/or a change of the cash transfer status since the last query. New and modified items can be requested within one query. The query response will contain the new and modified items.

New: New cash transfers or cash transfer orders in RTGS/CLM since the last query with the same query name are included in the response message.

1

Modified: The modified items have already been reported with the same query name. However, its cash transfer status has changed compared to the last query response. This includes cash transfers or cash transfer orders with cash transfer status change to a final status.

New and modified items are not distinguished in the query response.

Note: Each change of cash transfer status (see RTGS UDFS section 5.6.1.3.5 Cash transfer status / CLM 5.7.1.3.4 Cash transfer status) is provided as part of delta set after the change of the cash transfer status has taken place.

Examples:

Scenario	Initialisation response	Response to delta query n	Response to delta query n+1	Response to delta query n+2
Cash transfer order A has been submitted between the initialisation query and the delta query n. A has been queued and settled between delta query n+1 and delta query n+2	---	A *(as new item with cash transfer status queued)*	---	A *(due to change of cash transfer status from queued to settled)*
Cash transfer order B has been included in the initialisation response. B has been queued. The settlement takes place between delta query n and delta query n+1.	B *(with cash transfer status queued)*	---	B *(due to change of cash transfer status from queued to settled)*	---
Cash transfer order C is submitted between the initialisation response and the delta query n. C has been revoked between the delta response n and the delta query n+1.	---	C *(as new item with cash transfer status queued)*	C *(due to change of cash transfer status from queued to revoked)*	---
Cash transfer order D is reported in the initialisation response. D is rejected between the delta response n+1 and the delta query n+2.	D *(with cash transfer status queued)*	---	---	D *(due to change of cash transfer status from queued to rejected)*

The delta set retrieval functionality is available in A2A mode only.

A delta set retrieval can be initiated in RTGS and CLM only separately.

Sequence of activities

Step 1:

The provisioning of a delta set requires a delta set initialisation query (indicated by message element <RequestType> with code "INIT" in the query message). The delta set initialisation query contains the search criteria provided in the query request relevant for future delta set queries. The search criteria cannot be modified when sending delta query requests referring to this initialisation query request.

An initialisation query request is done by sending a GetTransaction request (initialisation query – camt.005 GetTransaction). The system state of the query result is saved at the time of the delta set initialisation query, as the delta set query result has to be compared with the saved system state of the delta set initialisation query result. Each query request indicated as delta set initialisation query is considered as a new delta set initialisation query.

Step 2:

RTGS/CLM responds with a delta set initialisation query response (camt.006 – ReturnTransaction) with a query name (Message element [<QryNm>]). This query name is the reference to the search and return criteria stated in the delta set initialisation query. The query name remains the same for all following related delta set query responses. Each subsequent request that refers to this query name invokes at RTGS/CLM site a query with the referenced search criteria providing all elements defined in the referenced return criteria.

The query name only remains valid for this user of the party and that business day.

Step 3:

A delta set query request is sent by the user using a camt.005 with the relevant query name.

RTGS/CLM only provide delta set retrieval functionality for camt.005/camt.006.

_____

Submitted annexes / related documents:

None

_____

Proposed wording for the Change request:

UDFS

RTGS UDFS v2.1
5.6.3 Query management for RTGS including a new section **"5.6.3.4 Specificities for delta set queries"**

The delta set query is a specific feature, which allows to query for a reduced set of cash transfer (orders) related to new items or already reported items with changed status according to the defined search and return criteria. The following additional rules apply:

l   The feature is only available in A2A.

l   It is based on the cash transfer query messages, i.e. GetTransaction (camt.005) and cash transfer query response message, i.e.ReturnTransaction (camt.006).

l   Precondition for the usage is, that the delta set query is always sent by the same user (linked to the same party).

l   Delta set queries are possible for one or more accounts. In maximum, the user may query its full data scope within the respective settlement service (RTGS or CLM).

I For a delta set query a combination of search and return criteria is defined with the delta set initialisation query.

I A delta set query is valid for one business day. Thus, one delta set initialisation query is necessary per business day and the query name returned by RTGS/CLM is valid throughout the whole business day.

I A cash transfer (order) which newly fulfils the search criteria, is part of the delta set query response on the next delta set query. Additionally each cash transfer status update is part of the delta set query response. A cash transfer (order) which no longer fulfils the search criteria (e.g. due to modified cash transfer priority), is no longer part of the query response even if the status changes between two delta set queries.

I In case a delta set query response is missing, a new delta set initialisation query is necessary to avoid gaps in the reported result sets.

9.22.1.2 Messages (Send RTGS query)

Cash transfer query[x]	GetTransaction (camt.005) [▷ **Error! Bookmark not defined.**]	ReturnTransaction (camt.006) [▷ **Error! Bookmark not defined.**]	ReturnTransaction (camt.006) [▷ **Error! Bookmark not defined.**]

Footnote: "This query is available in full and delta set."

11.5 Business Scenarios

Scenario 076 […]	[…]	[…]
Scenario 078 – Delta set query	During a business day, 4 payment orders are variously submitted to RTGS (payment order message examples not provided here). During the same business day, the authorized party BIC COBADEFFXXX uses a delta set to achieve hourly activity reports starting at 09:00, and ending at 12:00. Time line overview: Before 09:00, two payment orders (called B and D) are entered and queued. At 09:00 an initial delta query request returns details for payment orders B and D shows them as queued, and also returns a reference for the delta set. Before 10:00, 2 more payment orders (called A and C) are entered and queued. At 10:00, the returned delta set reference is used for a further delta query request, which returns details showing payment orders A and C as queued and B and D are still queued but do not appear on the delta report	camt.005_RTGS_GetTransation_INIT_bs078.xml camt.006_RTGS_ReturnTransaction_INIT_bs078.xml camt.005_RTGS_GetTransaction_DLT1_bs078.xml camt.006_RTGS_ReturnTransaction_DLT1_bs078.xml camt.005_RTGS_GetTransaction_DLT2_bs078.xml camt.006_RTGS_ReturnTransaction_DLT2_bs078.xml camt.005_RTGS_GetTransaction_DLT3_bs078.xml camt.006_RTGS_ReturnTransaction_DLT3_bs078.xml

	as their status has not changed since the previous initial query (at 09:00). Before 11:00, payment order B reaches settlement and payment order C is revoked. At 11:00, the returned delta set reference is used for a delta query request, which returns details showing payment order B as settled and C as cancelled. Payment orders A and D are still queued but do not appear on the delta report as their status has not changed since the previous query (at 10:00). Before 12:00, payment order A reaches settlement and payment order D is rejected. At 12:00, the returned delta set reference is used for a delta query request, which returns details showing payment order A as settled and D as rejected. Payment orders B and C are still settled respectively cancelled do not appear on the delta report as their status has was already reported as final in a previous query (at 11:00).	
Scenario 081 […]	[…]	[…]

Table 162 – Table of Business Scenarios

11.6 Delta set retrieval functionality for cash transfer (order)s

11.6.1   Overview

New and changed items can be requested within a delta set query referring to a previously sent delta set initialisation query and its defined search and return criteria. The query response will contain new items and items with changed status.

Modifications of settlement priority or requested execution time do not represent a change of a cash transfer status and will therefore not be reported in delta set query responses.

A set of delta set queries with defined search and return criteria are linked by the query name (message element [<QryNm>]) which is assigned by RTGS in response on the delta set initialisation query.

l   **New** cash transfers or cash transfer orders in RTGS since the last delta set query with the same query name are included in the delta set query response message.

l   **Changed** cash transfer orders, which have already been reported in response of a previous delta set (initialisation) query can be included in another delta set query response in case the cash transfer status has changed in the meantime compared to the previous delta set query response. This includes cash transfer orders where the status changed from an intermediate to another intermediate or to a final status (i.e. settled, rejected or

revoked). Cash transfers with a final status are reported only once since a final status ~~not changes anymore~~ does not change any more.

l   There is no further distinction between new items and changed items (with a changed status) in the delta set query response.

Note: Each change of cash transfer status (see RTGS UDFS section 5.6.1.3.5 Cash transfer status) is provided as part of delta set after the change of the cash transfer status has taken place.

11.6.2   Initialisation of the delta set query and subsequent delta reports

The initialisation query for the delta set retrieval functionality requires its indication by using code word « INIT » in element <RequestType> and the requested search and return criteria.

Within the delta set initialisation query response, the user receives an identifier provided in element <QueryName>. The query name serves as an identifier for subsequent delta set queries.. Once a delta set is initialised, the subsequent modification of search and return criteria for the delta set query is not possible. For this purpose a new delta set initialisation query needs to be sent to RTGS.

The query name needs to be provided in element <QueryName> in the delta report requests following the delta set initialisation query. No additional entries in <SearchCriteria> are considered in these subsequent delta report queries.

There is no limit regarding the number of delta set queries during a business day. With the start of a new business day the business sender needs to initialise new delta set queries because RTGS deletes the delta set queries during the end-of-day processing.

Sequence of activities

Step 1 –delta set initialisation query:

The provisioning of a delta set retrieval functionality requires a delta set initialisation query. A delta set initialisation query request is flagged with code "INIT" in element <RequestType>. If this code is not used in the camt.005 Get Transaction message, the query is not considered as a delta set initialisation query and thus not stored in RTGS for subsequent delta set queries. The code word "INIT" triggers the generation of a query name which is provided in element <QueryName> of related delta set initialisation query response.

The delta set initialisation query also provides the search and return criteria to be applied on all subsequent delta set queries. In case no search and return criteria are provided in the delta set initialisation query the subsequent delta set query responses will consider full data scope of the business sender and will return all available information for each returned item.

All cash transfers to be reported based on the specified search criteria and their status are stored in RTGS at the time of the delta set initialisation query. The stored cash transfer status serves as basis for comparison with updated cash transfer status at the time of a newly received delta set query.

Step 2 –delta set initialisation query response:

RTGS sends a delta set initialisation query response camt.006 ReturnTransaction with a query name in element <QueryName>. This query name is the identifier to the stated cash transfer search criteria. The query name remains the same for all related delta set query responses. Each subsequent request that refers to this query name invokes at RTGS a delta set query based on the stored search criteria.

Step 3 –delta set query:

One or several delta set query request(s) is/are sent by the same user sending a camt.005 GetTransaction with the relevant query name in element <QueryName>.

Examples:

Scenario	Response to delta set initialisation query	Response to delta set query n	Response to delta set query n+1	Response to delta set query n+2
Cash transfer order A has been submitted between the delta set initialisation query and the delta set query n. A has been queued and settled between delta set query n+1 and delta set query n+2	---	A (as new item with cash transfer status queued)	---	A (due to change of cash transfer status from queued to settled)
Cash transfer order B has been included in the delta set initialisation query response. B has been queued. The settlement takes place between delta set query n and delta set query n+1.	B (with cash transfer status queued)	---	B (due to change of cash transfer status from queued to settled)	---
Cash transfer order C is submitted between the delta set initialisation query response and the delta set query n. C has been queued and revoked between the delta set query response n and the delta set query n+1.	---	C (as new item with cash transfer status queued)	C (due to change of cash transfer status from queued to revoked)	---
Cash transfer order D is reported in the delta set initialisation query response. D has been queued and is rejected between the delta set	D (with cash transfer	---	---	D (due to change of cash transfer status from

Table nnn – Delta query cash transfer sceanrios

11.6.3 Full scenario example for delta set query

Overview
During a processing day, 4 payment orders are variously sent to RTGS (payment order message examples not provided here). During the same day, party COBADEFFXXX with authority for RTGS DCA "RDEEURCOBADEFFXXXCOBADEBB120" uses a delta set to achieve hourly activity reports starting at 09:00, and ending at 12:00.

Note: This scenario describes the payment order activity, but only contains actual example messages for the camt.005 and camt.006 (query & response) messages.

Business requirement
The scenario defines a base report criteria set and a schedule of deltas

Time	Action	Query criteria
09:00	Execute query and initiate delta set	Select all transactions for RTGS DCA "RDEEURCOBADEFFXXXCOBADEBB120" Return data attributes: Payment status, Interbank settlement amount and End-to-end Id
10:00	Execute a delta of the above criteria	*Delta will use above criteria*
11:00	Execute a delta of the above criteria	*Delta will use above criteria*
12:00	Execute a delta of the above criteria	*Delta will use above criteria*

Table nnn – Delta query business scenario query schedule

Data
Transactions used in this scenario:

Payment order	Payment Type	Interbank settlement amount	Credit or Debit Entry	End-to-end Id
A	pacs.009	EUR 1000	Credit	Inp009b078A-BAH
B	pacs.009	EUR 2000	Credit	Inp009b078B-BAH
C	pacs.009	EUR 3000	Debit	Inp009b078C-BAH
D	pacs.009	EUR 4000	Debit	Inp009b078D-BAH

Table nnn – Delta query business scenario cash transfers

Scenario timeline
The presence of data on each report is totally dependent upon the time at which certain activity occurred.

	Payment orders				Query/Response
Time	A	B	C	D	
07:20		Queued			
08:45				Queued	
09:00					A camt.005 query (with QueryType of "INIT") is sent to initialise the delta set with the search and return criteria required (above) Example: camt.005_RTGS_GetTransaction_INIT_bs078.xml A camt.006 response is received from RTGS with: - a delta set reference of "RTGSDELTA-b078" - Payment B is shown with a pending status "PSTL" - Payment D is shown with a pending status "PSTL" Example: camt.006_RTGS_ReturnTransaction_INIT_bs078.xml
09:10	Queued				

09:11			Queued		
10:00					A camt.005 query (with QueryName of "RTGSDELTA-b078") is sent to retrieve a delta report Example: camt.005_RTGS_GetTransaction_DLT1_bs078.xml A camt.006 response is received from RTGS with: - a delta set reference of "RTGSDELTA-b078" - Payment A is shown with a pending status "PSTL" - Payment C is shown with a pending status "PSTL" - Payments B and D are still pending, but are not shown because their status has not changed since the previous query (the INIT at 09:00) Example: camt.006_RTGS_ReturnTransaction_DLT1_bs078.xml
10:15	Settled				
10:50			Revoked		
11:00					A camt.005 query (with QueryName of "RTGSDELTA-b078") is sent to retrieve a delta report Example: camt.005_RTGS_GetTransaction_DLT2_bs078.xml A camt.006 response is received from RTGS with: - a delta set reference of "RTGSDELTA-b078" - Payment B is shown with a settled status "STLD" - Payment C is shown with a cancelled status "CAND" - Payments A and D are still pending, but are not shown because their status has not changed since the previous query (the delta at 10:00) Example: camt.006_RTGS_ReturnTransaction_DLT2_bs078.xml
11:25	Settled				
11:35				Rejected	
12:00					A camt.005 query (with QueryName of "RTGSDELTA-b078") is sent to retrieve a delta report Example: camt.005_RTGS_GetTransaction_DLT3_bs078.xml A camt.006 response is received from RTGS with: - a delta set reference of "RTGSDELTA-b078" - Payment A is shown with a settled status "STLD" - Payment D is shown with a rejected status "RJTD" - Payments B and C were already settled respectively cancelled and therefore not shown because they were reported with final status in a previous query (the delta at 11:00) Example: camt.006_RTGS_ReturnTransaction_DLT3_bs078.xml

Table nnn – Delta query business scenario timeline

12.2.3 Get Transaction (camt.005)

12.2.3.1 Overview and scope of the message

[…]

The usage of this message can be found in chapter Usage of Messages.

The GetTransaction message also provides the possibility to perform a delta set request. The reported information is reduced to include only the modifications of cash transfer status relative to the previous delta set query. For detailed information please refer to chapter 11.6 Delta Set Retrieval Functionality.

In response to the Get transaction message […]

12.2.3.2 Schema

[…]

MessageHeader

This building block is mandatory and non-repetitive. It must contain an identification assigned by the sending party to uniquely and unambiguously identify the message. It also contains the initialise and query name parameters required for delta set reporting.

[…]

12.2.3.3 The message in business context

[…]	
Message Identification /Document/GetTx/MsgHdr/MsgId	[…]
Request Type /Document/GetTx/MsgHdr/ReqTp/Prtry/Id	For set up of delta set retrieval requests the code "INIT" must be used. The code word "INIT" triggers the generation of a query name which is provided in element <QueryName> of the related query response message. The code "INIT" is also provided in the related response message of the delta set initialisation query.
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	The query name recalls the criteria (search and return criteria) defined in the delta set initialisation query. The query name, which serves as an identifier for a delta set retrieval, is provided within the previously returned ReturnTransaction message element <QueryName>.
New Criteria […]	[…]

Table 195 - GetTransaction (camt.005)

Usage case: Delta set reporting query (Initialise) camt.005 (Scenario 078)
In this example, the business sender is requesting information for all transactions on RTGS DCA (Id: RDEEURCOBADEFFXXXCOBADEBB120). For the purposes of this scenario, this message was sent at 09:00 on 25th August, 2021. The query also includes the request type 'INIT' indicating that RTGS should use this search criteria to initialise and save a delta set for subsequent delta requests.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF

Request Type /Document/GetTx/MsgHdr/ReqTp/Prtry/Id	INIT
Account Identification /Document/GetTx/TxQryDef/TxCrit/NewCrit/SchCrit/AcctNtrySch/AcctId/EQ/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Payment Instruction Status Indicator /Document/GetTx/TxQryDef/TxCrit/NewCrit/RtrCrit/PmtRtrCrit/InstrStsRtrCrit/PmtInstrStsInd	true
Interbank Settlement Amount Indicator /Document/GetTx/TxQryDef/TxCrit/NewCrit/RtrCrit/PmtRtrCrit/IntrBkSttlmAmtInd	true
End To End Identification Indicator /Document/GetTx/TxQryDef/TxCrit/NewCrit/RtrCrit/PmtRtrCrit/EndToEndIdInd	true

Table nnn – GetTransaction (camt.005) – usage case delta set query - initialisation (Scenario 078)

Usage case example: camt.005_RTGS_GetTransaction_INIT_bs078.xml

Usage case: Delta set reporting query (first delta query) camt.005 (Scenario 078)
In this example, the business sender is requesting a delta report update based upon the previously initiated delta set with the name "RTGSDELTA-b078".
All search and response criteria are taken from the previously initiated delta set stored in RTGS.
For the purpose of this scenario, this message was sent at 10:00 on 25th August, 2021.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	RTGSDELTA-b078

Table nnn – GetTransaction (camt.005) – usage case delta set query – first delta query (Scenario 078)

Usage case example: camt.005_RTGS_GetTransaction_DLT1_bs078.xml

Usage case: Delta set reporting query (second delta query) camt.005 (Scenario 078)
In this example, the business sender is requesting a delta report update based upon a previously initiated delta set with the name "RTGSDELTA-b078".
All search and response criteria are taken from the previously initiated delta set stored in RTGS.
The expected result will also take into consideration all previous delta queries since initialisation.
For the purposes of this scenario, this message was sent at 11:00 on 25th August, 2021.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	RTGSDELTA-b078

Table nnn – GetTransaction (camt.005) – usage case delta set query – second delta query (Scenario 078)

Usage case example: camt.005_RTGS_GetTransaction_DLT2_bs078.xml

Usage case: Delta set reporting query (third delta query) camt.005 (Scenario 078)
In this example, the business sender is requesting a delta report update based upon a previously initiated delta set with the name "RTGSDELTA-b078".
All search and response criteria are taken from the previously initiated delta set stored in RTGS.
The expected result will also take into consideration all previous delta queries since initialisation.
For the purposes of this scenario, this message was sent at 12:00 on 25th August, 2021.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	RTGSDELTA-b078

Table nnn – GetTransaction (camt.005) – usage case delta set query – third delta query (Scenario 078)

Usage case example: camt.005_RTGS_GetTransaction_DLT3_bs078.xml

Usage case: RTGS Get Transaction camt.005 (Scenario 302)
[…]

12.2.4 Return Transaction (camt.006)

12.2.4.1 Overview and scope of the message
[…]
In the case of the use of delta set retrieval functionality, the reported information is reduced to to include only the modifications of cash transfer order status relative to the previous delta set query. For detailed information please refer to chapter 11.6 Delta Set Retrieval Functionality.

12.2.4.2 Schema
[…]

MessageHeader

This building block is mandatory and non-repetitive. It contains an identification assigned by the sending party to uniquely and unambiguously identify the message. It also contains the initialise and queryname information required for delta set reporting.

[…]

12.2.4.3 The message in business context

[...]	
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	[...]
Request Type /Document/RtrTx/MsgHdr/ReqTp/Prtry/Id	The code "INIT" is provided only in response of the delta set initialisation query.
Query Name /Document/RtrTx/MsgHdr/QryNm	The query name is provided only for delta set requests.
Business Report – Transaction Report [...]	

Table 202 - ReturnTransaction (camt.006)

Usage case: Delta set reporting query (Initialise) camt.006 (Scenario 078)

In this example, RTGS is responding to the business sender with the transaction information resulting from a valid camt.005 query for all transactions on RTGS DCA (Id: RDEEURCOBADEFFXXXCOBADEBB120) which were entered before 09:00:00 on the business day of "2021-08-25". RTGS has also initialised a delta set with this search criteria and result set, with a name of "RTGSDELTA-b078".

In this case, there are 2 payment orders queued, awaiting settlement.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b078In-BAH
Request Type /Document/RtrTx/MsgHdr/ReqTp/Prtry/Id	INIT
Query Name /Document/RtrTx/MsgHdr/QryNm	RTGSDELTA-b078
Transaction Report	

Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	RTGS-p009b078B
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	CRDT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 2000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b078B-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	COBADEFFXXX

Transaction Report

Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	RTGS-p009b078D
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	DBIT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL

Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 4000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b078D-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	COBADEFFXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query - initialisation (Scenario 078)

Usage case example: camt.006_RTGS_ReturnTransaction_INIT_bs078.xml

Usage case: Delta set reporting query (first delta query) camt.006 (Scenario 078)

In this example, RTGS is responding to the business sender with the transaction information resulting from a valid camt.005 delta request based upon delta set with the name "RTGSDELTA-b078".

For the purposes of this scenario, this message will show delta payment order activity on RTGS DCA (Id: RDEEURCOBADEFFXXXCOBADEBB120) between 09:00 and 10:00 on the business day of "2021-08-25".

In this case, there are 2 payment orders queued, awaiting settlement.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b078D1-BAH
Query Name /Document/RtrTx/MsgHdr/QryNm	RTGSDELTA-b078
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	RTGS-p009b078A

Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	CRDT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 1000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b078A-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ow nr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ow nr/Id/OrgId/AnyBIC Transaction Report	COBADEFFXXX
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	RTGS-p009b078C
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	DBIT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 3000.00

Message item	Utilisation
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b078C-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ow nr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	COBADEFFXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query – first delta query (Scenario 078)

Usage case example: camt.006_RTGS_ReturnTransaction_DLT1_bs078.xml

Usage case: Delta set reporting query (second delta query) camt.006 (Scenario 078)
In this example, RTGS is responding to the business sender with the transaction information resulting from a valid camt.005 delta request based upon delta set with the name "RTGSDELTA-b078".
For the purposes of this scenario, this message will show delta payment order activity on RTGS DCA (Id: RDEEURCOBADEFFXXXCOBADEBB120) between 10:00 and 11:00 on the business day of "2021-08-25".
In this case, there are 2 payment orders: one has settled; the other has been revoked.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b078D2-BAH
Query Name /Document/RtrTx/MsgHdr/QryNm Transaction Report	RTGSDELTA-b078
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	RTGS-p009b078B
Credit Debit Indicator	CRDT

/Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	STLD
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 2000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b078B-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	COBADEFFXXX
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	RTGS-p009b078C
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	DBIT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	CAND
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 3000.00

End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b078C-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	COBADEFFXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query – second delta query (Scenario 078)

Usage case example: camt.006_RTGS_ReturnTransaction_DLT2_bs078.xml

Usage case: Delta set reporting query (third delta query) camt.006 (Scenario 078)
In this example, RTGS is responding to the business sender with the transaction information resulting from a valid camt.005 delta request based upon delta set with the name "RTGSDELTA-b078".
For the purposes of this scenario, this message will show delta payment order activity on RTGS DCA (Id: RDEEURCOBADEFFXXXCOBADEBB120) between 11:00 and 12:00 on the business day of "2021-08-25".
In this case, there are 2 payment orders: one has settled; the other has been rejected.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b078D3-BAH
Query Name /Document/RtrTx/MsgHdr/QryNm	RTGSDELTA-b078
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	RTGS-p009b078A
Credit Debit Indicator	CRDT

/Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	STLD
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 1000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b078A-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	COBADEFFXXX
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	RTGS-p009b078D
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	DBIT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	RJTD
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 4000.00

End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b078D-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	RDEEURCOBADEFFXXXCOBADEBB120
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	CommerzBank, Frankfurt
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	COBADEFFXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query – third delta query (Scenario 078)

Usage case example: camt.006_RTGS_ReturnTransaction_DLT3_bs078.xml

Usage case: RTGS Return Transaction camt.006 (Scenario 302)
[…]

CLM UDFS v2.1
5.7.3.3 Query management for CLM including a new section **"5.6.3.4 Specificities for delta set queries"**
Same text like for RTGS UDFS

9.25.1.2 Messages (Send CLM query)

Cash transfer query[x]	GetTransaction (camt.005)	ReturnTransaction (camt.006)	ReturnTransaction (camt.006)

Footnote: "This query is available in full and delta set."

11.5 Business Scenarios

Scenario 074 […]	[…]	[…]
Scenario 077 – Delta set query	During a processing day, 4 payment orders are variously entered into CLM (payment order message examples not provided here). During the same day, the authorized party BIC SOLADESTXXX uses a delta set to achieve hourly activity reports starting at 09:00, and ending at 12:00. Time line overview:	camt.005_CLM_GetTransaction_INIT_bs077.xml camt.006_CLM_ReturnTransaction_INIT_bs077.xml camt.005_CLM_GetTransaction_DLT1_bs077.xml camt.006_CLM_ReturnTransaction_DLT1_bs077.xml camt.005_CLM_GetTransaction_DLT2_bs077.xml

	Before 09:00, two payment orders (called B and D) are entered and queued. At 09:00 an initiating query returns details for payment orders B and D shows them as queued, and also returns a reference for the delta set. Before 10:00, 2 more payment orders (called A and C) are entered and queued. At 10:00, the returned delta set reference is used for a delta query request, which returns details showing payment orders A and C as queued. Payment orders B and D are still queued but do not appear on the delta report as they have not changed since the previous query (at 09:00). Before 11:00, payment order B reaches settlement and payment order C is revoked. At 11:00, the returned delta set reference is used for a delta query request, which returns details showing payment order B as settled and C as cancelled. Payment orders A and D are still queued but do not appear on the delta report as they have not changed since the previous query (at 10:00). Before 12:00, payment order A reaches settlement and payment order D is rejected. At 12:00, the returned delta set reference is used for a delta query request, which returns details showing payment order A as settled and D as rejected. Payment orders B and C are still settled and cancelled respectively but do not appear on the delta report as they have not changed since the previous query (at 11:00).	camt.006_CLM_ReturnTransaction_DLT2_bs077.xml camt.005_CLM_GetTransaction_DLT3_bs077.xml camt.006_CLM_ReturnTransaction_DLT3_bs077.xml
Scenario 079 […]	[…]	[…]

Table 96 – Table of business scenarios

11.6 Delta Set Retrieval Functionality

11.6.1 and 11.6.2
 - Same text like for RTGS UDFS with reference to CLM and "see CLM UDFS section 5.7.1.3.4 Cash transfer status"

11.6.3   Full scenario example for delta set query

Overview
During a processing day, 4 payment orders are variously entered into CLM (payment order message examples not provided here). During the same day, a party with authority for MCA "MDEEURSOLADESTXXXSOLADESTXXX" uses a delta set to achieve hourly activity reports starting at 09:00, and ending at 12:00.

This scenario describes the payment order activity, but only contains actual example messages for the camt.005 and camt.006 (query & response) messages.

Business requirement
The scenario defines a base report criteria set and a schedule of deltas

Time	Action	Query criteria
09:00	Execute query and initiate delta set	Select all transactions for MCA "MDEEURSOLADESTXXXSOLADESTXXX" Show data attributes: Payment status, Interbank settlement amount and End-to-End Id
10:00	Execute a delta of the above criteria	*Delta will use above criteria*
11:00	Execute a delta of the above criteria	*Delta will use above criteria*
12:00	Execute a delta of the above criteria	*Delta will use above criteria*

Table nnn – Delta query business scenario query schedule

Data
Transactions used in this scenario:

Payment order	Payment Type	Interbank settlement amount	Credit or Debit Entry	End-to-end Id
A	pacs.009	EUR 1000	Credit	Inp009b077A-BAH
B	pacs.009	EUR 2000	Credit	Inp009b077B-BAH
C	pacs.009	EUR 3000	Debit	Inp009b077C-BAH
D	pacs.009	EUR 4000	Debit	Inp009b077D-BAH

Table nnn – Delta query business scenario cash transfers

Scenario timeline
The presence of data on each report is totally dependent upon the time at which certain activity occurred.

Time	Payment orders				Query/Response
	A	B	C	D	
07:20		Queued			
08:45				Queued	
09:00					A camt.005 query (with QueryType of "INIT") is sent to initialise the delta set with the search and return criteria required (above) Example: camt.005_CLM_GetTransaction_INIT_bs077.xml A camt.006 response is received from CLM with: - a delta set reference of "CLMDELTA-b077" - Payment B is shown with a pending status "PSTL" - Payment D is shown with a pending status "PSTL" Example: camt.006_CLM_ReturnTransaction_INIT_bs077.xml
09:10	Queued				
09:11			Queued		
10:00					A camt.005 query (with QueryName of "CLMDELTA-b077") is sent to retrieve a delta report Example: camt.005_CLM_GetTransaction_DLT1_bs077.xml A camt.006 response is received from CLM with: - a delta set reference of "CLMDELTA-b077" - Payment A is shown with a pending status "PSTL" - Payment C is shown with a pending status "PSTL" - Payments B and D are still pending, but are not shown because their status has not changed since the previous query (the INIT at 09:00)

Time					
					Example: camt.006_CLM_ReturnTransaction_DLT1_bs077.xml
10:15		Settled			
10:50			Revoked		
11:00					A camt.005 query (with QueryName of "CLMDELTA-b077") is sent to retrieve a delta report Example: camt.005_CLM_GetTransaction_DLT2_bs077.xml A camt.006 response is received from CLM with: - a delta set reference of "CLMDELTA-b077" - Payment B is shown with a settled status "STLD" - Payment C is shown with a cancelled status "CAND" - Payments A and D are still pending, but are not shown because their status has not changed since the previous query (the delta at 10:00) Example: camt.006_CLM_ReturnTransaction_DLT2_bs077.xml
11:25	Settled				
11:35				Rejected	
12:00					A camt.005 query (with QueryName of "CLMDELTA-b077") is sent to retrieve a delta report Example: camt.005_CLM_GetTransaction_DLT3_bs077.xml A camt.006 response is received from CLM with: - a delta set reference of "CLMDELTA-b077" - Payment A is shown with a settled status "STLD" - Payment D is shown with a rejected status "RJTD" - Payments B and C were already settled respectively cancelled and therefore not shown because they were already reported with final status in a previous query (the delta at 11:00) Example: camt.006_CLM_ReturnTransaction_DLT3_bs077.xml

Table nnn – Delta query business scenario timeline

12.2.3 Get Transaction (camt.005)

12.2.3.1 and 12.2.3.2 - Same text like for RTGS UDFS

12.2.3.3
Same table change as per RTGS, but table in CLM is "Table 120". (not Table 195 as per RTGS)

Table 120 - GetTransaction (camt.005)

Usage case: Delta set reporting query (Initialise) camt.005 (Scenario 077)
In this example, the business sender is requesting information for all transactions on MCA (Id: MDEEURSOLADESTXXXSOLADESTXXX). For the purposes of this scenario, this message was sent at 09:00 on 25th August, 2021. The query also includes the type INIT indicating that CLM should use this search criteria to initialise and save a delta set for subsequent delta requests.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF
Request Type /Document/GetTx/MsgHdr/ReqTp/Prtry/Id	INIT

Account Identification /Document/GetTx/TxQryDef/TxCrit/NewCrit/SchCrit/AcctNtrySch/AcctId/EQ/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Payment Instruction Status Indicator /Document/GetTx/TxQryDef/TxCrit/NewCrit/RtrCrit/PmtRtrCrit/InstrStsRtrCrit/PmtInstrStsInd	true
Interbank Settlement Amount Indicator /Document/GetTx/TxQryDef/TxCrit/NewCrit/RtrCrit/PmtRtrCrit/IntrBkSttlmAmtInd	true
End To End Identification Indicator /Document/GetTx/TxQryDef/TxCrit/NewCrit/RtrCrit/PmtRtrCrit/EndToEndIdInd	true

Table nnn – GetTransaction (camt.005) – usage case delta set query - initialisation (Scenario 077)

Usage case example: camt.005_CLM_GetTransaction_INIT_bs077.xml

Usage case: Delta set reporting query (first delta query) camt.005 (Scenario 077)
In this example, the business sender is requesting a delta report update based upon a previously initiated delta set with the name "CLMDELTA-b077".
All search and response criteria are taken from the previously initiated delta set stored in CLM.
For the purposes of this scenario, this message was sent at 10:00 on 25th August, 2021.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	CLMDELTA-b077

Table nnn – GetTransaction (camt.005) – usage case delta set query – first delta query (Scenario 077)

Usage case example: camt.005_CLM_GetTransaction_DLT1_bs077.xml

Usage case: Delta set reporting query (second delta query) camt.005 (Scenario 077)
In this example, the business sender is requesting a delta report update based upon a previously initiated delta set with the name "CLMDELTA-b077".
All search and response criteria are taken from the previously initiated delta set stored in CLM.
The expected result will also take into consideration all previous delta queries since initialisation.
For the purposes of this scenario, this message was sent at 11:00 on 25th August, 2021.

Message item	Utilisation
Message Identification	NONREF

/Document/GetTx/MsgHdr/MsgId	
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	CLMDELTA-b077

Table nnn – GetTransaction (camt.005) – usage case delta set query – second delta query (Scenario 077)

Usage case example: camt.005_CLM_GetTransaction_DLT2_bs077.xml

Usage case: Delta set reporting query (third delta query) camt.005 (Scenario 077)
In this example, the business sender is requesting a delta report update based upon a previously initiated delta set with the name "CLMDELTA-b077".
All search and response criteria are taken from the previously initiated delta set stored in CLM.
The expected result will also take into consideration all previous delta queries since initialisation.
For the purposes of this scenario, this message was sent at 12:00 on 25th August, 2021.

Message item	Utilisation
Message Identification /Document/GetTx/MsgHdr/MsgId	NONREF
Query Name /Document/GetTx/TxQryDef/TxCrit/QryNm	CLMDELTA-b077

Table nnn – GetTransaction (camt.005) – usage case delta set query – third delta query (Scenario 077)

Usage case example: camt.005_CLM_GetTransaction_DLT3_bs077.xml

12.2.4 Return Transaction (camt.006)

12.2.3.1 and 12.2.3.2 - Same text like for RTGS UDFS

12.2.3.3
Same table change as per RTGS, but table in CLM is "Table 127". (not Table 202 as per RTGS)

Table 127 - GetTransaction (camt.005)

Usage case: Delta set reporting query (Initialise) camt.006 (Scenario 077)
In this example, CLM is responding to the business sender with the transaction information resulting from a valid camt.005 query for all transactions on MCA (Id: MDEEURSOLADESTXXXSOLADESTXXX) which were entered before 09:00:00 on the business day of "2021-08-25". CLM has also initialised a delta set with this search criteria and result set, with a name of "CLMDELTA-b077".
In this case, there are 2 payment orders queued, awaiting settlement.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF

Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b077In-BAH
Request Type /Document/RtrTx/MsgHdr/ReqTp/Prtry/Id	INIT
Query Name /Document/RtrTx/MsgHdr/QryNm	CLMDELTA-b077
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	CLM-p009b077B
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	CRDT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 2000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b077B-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	SOLADESTXXX
Transaction Report	

Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	CLM-p009b077D
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	DBIT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 4000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b077D-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	SOLADESTXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query - initialisation (Scenario 077)

Usage case example: camt.006_CLM_ReturnTransaction_INIT_bs077.xml

Usage case: Delta set reporting query (first delta query) camt.006 (Scenario 077)
In this example, CLM is responding to the business sender with the transaction information resulting from a valid camt.005 delta request based upon delta set with the name "CLMDELTA-b077".
For the purposes of this scenario, this message will show delta payment order activity on MCA (Id: MDEEURSOLADESTXXXSOLADESTXXX) between 09:00 and 10:00 on the business day of "2021-08-25".
In this case, there are 2 payment orders queued, awaiting settlement.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF

Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b077D1-BAH
Query Name /Document/RtrTx/MsgHdr/QryNm	CLMDELTA-b077
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	CLM-p009b077A
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	CRDT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 1000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b077A-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	SOLADESTXXX
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Pmt Id/PrtryId	CLM-p009b077C
Credit Debit Indicator	DBIT

/Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/CdtDbtInd	
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	PSTL
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 3000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b077C-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	SOLADESTXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query – first delta query (Scenario 077)

Usage case example: camt.006_CLM_ReturnTransaction_DLT1_bs077.xml

Usage case: Delta set reporting query (second delta query) camt.006 (Scenario 077)
In this example, CLM is responding to the business sender with the transaction information resulting from a valid camt.005 delta request based upon delta set with the name "CLMDELTA-b077".
For the purposes of this scenario, this message will show delta payment order activity on MCA (Id: MDEEURSOLADESTXXXSOLADESTXXX) between 10:00 and 11:00 on the business day of "2021-08-25".
In this case, there are 2 payment orders: one has settled; the other has been revoked.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b077D2-BAH
Query Name	CLMDELTA-b077

/Document/RtrTx/MsgHdr/QryNm	
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	CLM-p009b077B
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	CRDT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	STLD
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 2000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b077B-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	SOLADESTXXX
Transaction Report	
Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	CLM-p009b077C
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	DBIT

Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/Sts/Cd/Pdg	CAND
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 3000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b077C-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	SOLADESTXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query – second delta query (Scenario 077)

Usage case example: camt.006_CLM_ReturnTransaction_DLT2_bs077.xml

Usage case: Delta set reporting query (third delta query) camt.006 (Scenario 077)
In this example, CLM is responding to the business sender with the transaction information resulting from a valid camt.005 delta request based upon delta set with the name "CLMDELTA-b077".
For the purposes of this scenario, this message will show delta payment order activity on MCA (Id: MDEEURSOLADESTXXXSOLADESTXXX) between 11:00 and 12:00 on the business day of "2021-08-25".
In this case, there are 2 payment orders: one has settled; the other has been rejected.

Message item	Utilisation
Message Identification /Document/RtrTx/MsgHdr/MsgId	NONREF
Original Business Query /Document/RtrTx/MsgHdr/OrgnlBizQry/MsgId	Inc005b077D3-BAH
Query Name /Document/RtrTx/MsgHdr/QryNm	CLMDELTA-b077
Transaction Report	

Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	CLM-p009b077A
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	CRDT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	STLD
Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 1000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/EndToEndId	Inp009b077A-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBIC	SOLADESTXXX

Transaction Report

Payment Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/PmtId/PrtryId	CLM-p009b077D
Credit Debit Indicator /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/CdtDbtInd	DBIT
Status Code Pending /Document/RtrTx/RptOrErr/BizRpt/TxRpt/TxOrErr/Tx/Pmt/Sts/Cd/Pdg	RJTD

Interbank Settlement Amount /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/IntrBkSttlmAmt/AmtWthCcy	EUR 4000.00
End To End Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/Pmt/EndToEndId	Inp009b077D-E2EId
Account Identification /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Id/Othr/Id	MDEEURSOLADESTXXXSOLADESTXXX
Account Owner Name /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Nm	Landesbank Baden-Wuerttemberg, Stuttgart
Account Owner BIC /Document/RtrTx/RptOrErr/BizRpt/TxRpt/Tx OrErr/Tx/AcctNtry/Acct/Ownr/Id/OrgId/AnyBI C	SOLADESTXXX

Table nnn – ReturnTransaction (camt.006) – usage case delta set query – third delta query (Scenario 077)

Usage case example: camt.006_CLM_ReturnTransaction_DLT3_bs077.xml

Usage case: CLM Return Transaction camt.006 (Scenario 102)
[…]

MyStandards change camt.005 CLM and RTGS

x-path	Annotation	T2 data type (MyS only)
Request Type /Document/GetTx/MsgHdr/ReqTp/Prtr y/Id	For set up of delta set retrieval requests the Code "INIT" must be used. The code word "INIT" triggers the generation of a query name which is provided in element <QueryName> of the related query response message. The code "INIT" is also provided in the related response message of the delta set initialisation query.	TARGET_QueryTypeCode "INIT"
Query Name /Document/GetTx/TxQryDef/TxCrit/Qr yNm	The query name recalls the criteria (search and return criteria) defined in the delta set initialisation query. The query name, which serves as an	TARGET_RestrictedFINXMax35 Text

	identifier for a delta set retrieval, is provided within the previously returned ReturnTransaction message element <QueryName>.	

MyStandards change camt.006 CLM and RTGS

x-path	Annotation	T2 data type (MyS only)
Request Type /Document/RtrTx/MsgHdr/ReqTp/ Prtry/Id	The code "INIT" is provided only in response of the delta set initialisation query.	TARGET_ QueryTypeCode "INIT"
Query Name /Document/RtrTx/MsgHdr/QryNm	The query name is provided only for delta set requests.	TARGET_RestrictedFINXMax35 Text

_____

High level description of Impact:

_____

Impacts on other projects and products:

Outcome/Decisions:

Update 4th October 2021: As a follow up after the MIB approval of CR061 on 9.8.2021 the scope of the CR document has been amended with detailed examples descriptions including their business scenarios.

			Process	User Interaction	Business Data Definition	Non-functional Requirements
CENTRAL LIQIDITY MANAGEMENT (CLM)	**GENERAL**	CLM Payment Order				
		CLM Liquidity Transfer Order				
		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 SER-VICES					
COMMON COMPONENTS	**GENRAL**	ESMIG				
		CRDM				
		Business Day				
		User Roles and Access				
		Information and Reporting	**X**			
		Data Warehouse Services				

	CENTRAL BANK SERVICES	Billing				
		Legal Archiving				
		Contingency Settlement				
4CB internal categories		Operational Tools				
		Automation				

Impact on major documentation		
Document	**Chapter**	**Change**

Impacted UDFS chapter	**RTGS UDFS v2.2**
	• Chap 5.6.3 Query management for RTGS including a new section "5.6.3.4 Specificities for delta set queries"
	• Chap 9.22.1 Send RTGS query
	• Chap 11.5 Business scenarios
	• Chap 11.6 Delta Set Retrieval Functionality
	• Chap 12.2.3 Get Transaction (camt.005)
	• Chap 12.2.4 Return Transaction (camt.006)
	
	CLM UDFS v2.2
	• Chap 5.7.3.3 Query management for CLM including a new section "5.6.3.4 Specificities for delta set queries"
	• Chap 9.25.1 Send CLM query
	• Chap 11.5 Business scenarios
	• Chap 11.6 Delta Set Retrieval Functionality
	• Chap 12.2.3 Get Transaction (camt.005)
	• Chap 12.2.4 Return Transaction (camt.006)
		• Provision information about delta set retrieval functionality
		  o Purpose
		  o How to use
		  o Restrictions
		  o Example delta set processing sequences of delta set queries in RTGS/CLM
		  o Amendment message scope camt.005/006 and reopening elements to be used

Additional deliveries for Message Specification/ MyStandards	**MyStandards for CLM and RTGS:** Get Transaction (camt.005) Return Transaction (camt.006) Including examples	
UHB		
External training materials		
Other documentations		

Links with other requests				
Links	Reference		Title	

OVERVIEW OF THE IMPACT OF THE REQUEST ON THE T2 SYSTEM AND ON THE PROJECT
Summary of functional, technical, operational, stakeholder, financial and interoperability impacts
Delta set retrieval foresees A2A only cash transfer queries on RTGS and CLM, i.e. neither U2A/GUI nor DWH feature foreseen. Because of the possible high workload it is deemed necessary to investigate by a POC if and how the short response time requirements of the real-time request can be fulfilled. With the delta set retrieval complex queries will reach the system with possible high impact on the resource consumption of the system. To assess the consumption and optimise the system, a row of performance tests are necessary.
Summary of dependencies
None
Summary of project risk
None
Security analysis
No potential adverse effect was identified during the security assessment