

<b>General Information (Origin of Request)</b>		
<input type="checkbox"/> User Requirements (URD) <input checked="" type="checkbox"/> Other User Functional or Technical Documentation (SYS)		
<b>Request raised by:</b> Project Managers Group	<b>Institute:</b> ECB	<b>Date raised:</b> 06/08/2014
<b>Request title:</b> Applying pagination to semt.027 and semt.040		<b>Request ref. no:</b> T2S 0461 SYS
<b>Request type:</b> Common	<b>Urgency:</b> Normal	
<b>1. Legal/business importance parameter:</b> Medium	<b>2. Market implementation efforts parameter:</b> Low	
<b>3. Operational/Technical risk parameter:</b> Low	<b>4. Financial impact parameter:</b> Low	
<b>Requestor Category:</b> T2S Sub-group	<b>Status:</b> Rejected at Steering Level	

**Reason for change and expected benefits/business motivation:**

In spring 2014 several workshops on volumetric assumptions and timeline of End-of-Day/Start-of-Day took place. Within these workshops the possibilities to query information on all securities positions resp. settlement instructions of a CSD were discussed with the aim to facilitate the CSD's reconciliation of settlement instructions and securities positions.

The option to send several queries (e. g. per account owning party or per instructing party) and to receive for each query one query response was not deemed useful. Instead, some CSDs intend to send one query and to receive one query response. The volume of the query response is expected to exceed 32 MB.

Thus, the need to allow pagination for high-volume query responses has arisen. In particular, the application of pagination was discussed for the following messages:

- semt.027: Query response messages for business data for Settlement Instruction Queries
- semt.040: Query response messages for business data for Securities Account Position (History) Query

The participants of the workshop identified this need as they expect all data related to their CSD to be included in the response to a single query.

Following UDFS v2.0 chapter "1.7.5 Real-Time Communication (Query Responses)" for query responses which are too large for the file channel (i. e. query response > 32 MB), the transmission would currently be aborted. If this CR is approved and pagination is applied, the outbound message exceeding 32 MB will be split into several parts and thus not be aborted.

Note: This CR has to be seen as a complement to another CR. That CR aims at removing restrictions regarding the selection criteria for Securities Account Position (History) Query and Settlement Instructions queries. If CSDs were allowed to send semt.025 and semt.026 without restricting the result set, the probability of a query response > 32MB is increased. Thus, the need to apply pagination and to have this complementary CR has arisen.

**Description of requested change:**

The message semt.027 is used to answer the following queries (please see UDFS v2.0 chapter 2.18.3 or chapter 3.3.7.13 SecuritiesSettlementTransactionQueryResponseV01 (semt.027.001.01)):

- Settlement Instruction Query
- Settlement Instruction Current Status Query
- Settlement Instruction Status Audit Trail Query

The message semt.040 is used to answer the following query (please see UDFS v2.0 chapter 2.18.3 or chapter 3.3.7.21 SecuritiesAccountPositionResponseV01 (semt.040.001.01)):

- Securities Account Position (History) Query

In case a query response exceeds the maximum size of 32 MB, the T2S outbound message shall be split in several parts. This shall be valid for each of the above mentioned message usages.

The message shall be split at the first level of repetitive elements (for semt.040 is SctiesAcctPosRspn/Bals; and for semt.027 is SctiesSttlmTxQryRspn/Txs). Please see UDFS v2.0 chapter 3.2.2.3 Outbound traffic exceeding given size limitations.

**Submitted annexes / related documents:**

**Proposed wording for the Change request:**

**Chapter 2.18.3 Send Query – Inbound and outbound messages p. 831**

“In general, Query Response Messages for Operational Error and Query Response Messages for Business Data are not subject to pagination.”

“It has to be mentioned that the interactions between T2S Actors and T2S may differ from the described behaviour in case of queries which use reda.012 or reda.021 or semt.027 or semt.040 as query response messages.”

**Chapter 3.2.2.3 Outbound traffic exceeding given size limitations p. 885 f.**

In case a report exceeds the maximum size of 32 MB, the T2S outbound message may split in several parts.

This is the case for the following exhaustive list of messages:

- semt.017 (Statement of Transactions);
- semt.018 (Statement of Pending Instructions);
- semt.002 (Statement of Holdings);
- camt.053 (Statement of Accounts).
- reda.009 (Statement of Static Data for Securities)
- reda.012 (SecurityReport)
- reda.021 (SecuritiesAccountReport)
- reda.035 (Statement of Static Data for Securities Accounts)
- semt.027 (SecuritiesSettlementTransactionQueryResponse)
- semt.040 (SecuritiesAccountPositionResponse)

**Chapter 3.3.7.13 SecuritiesSettlementTransactionQueryResponseV01 (semt.027.001.01) p. 1247**

This chapter illustrates the SecuritiesSettlementTransactionQueryResponseV01 message.

The SecuritiesSettlementTransactionQueryResponseV01 message is sent by T2S to a CB, CSD or a directly connected T2S participant (e. g. payment bank/settlement bank). This message is used to provide information on Settlement Instructions. In case the size of the message to be sent exceeds the maximum size of 32 MB, the message will be split into several messages (Please see section 3.2.2.3 “Outbound traffic exceeding given size limitations”).

To request the SecuritiesSettlementTransactionQueryResponseV01 message, the sender sends a semt.026.001.01 message containing search criteria to restrict the query.

This message is sent by T2S in the following message usages:

- Settlement Instruction Query Response;
- Settlement Instruction Current Status Query Response;
- Settlement Instruction Status Audit Trail Query Response.

These message usages are described in the section "The message in business context".

**Chapter 3.3.7.21 SecuritiesAccountPositionResponseV01 (semt.040.001.01) p. 1271**

Addition of following text referring to the splitting of the message:

‘In case the size of the message to be sent exceeds the maximum size of 32 MB the message will be split into several messages (Please see section 3.2.2.3 “Outbound traffic exceeding given size limitations”).’

**Chapter 4.1 Index of Business Rules and Error Codes**

BR NAME	DESCRIPTION	INBOUND MESSAGE	REPLY MESSAGE	CODE USE	REASON CODE	ERROR TEXT
IOCP001	The query request is answered with a query response informing the T2S actor that the data volume generated is too big to provide it with a query response. Instead T2S continues to prepare the response applying pagination functionality. The created response pages will be sent out via store-and-forward.	reda.010	reda 012		REJT	High data volume - Response will be sent applying pagination functionality and in store-and-forward mode.

IOCP001	The query request is answered with a query response informing the T2S actor that the data volume generated is too big to provide it with a query response. Instead T2S continues to prepare the response applying pagination functionality. The created response pages will be sent out via store-and-forward.	reda.019	reda.021		REJT	High data volume - Response will be sent applying pagination functionality and in store-and-forward mode.
IOCP001	<u>The query request is answered with a query response informing the T2S actor that the data volume generated is too big to provide it with a query response. Instead T2S continues to prepare the response applying pagination functionality. The created response pages will be sent out via store-and-forward.</u>	semt.026	sese.022		REJT	High data volume - Response will be sent applying pagination functionality and in store-and-forward mode.
IOCP001	<u>The query request is answered with a query response informing the T2S actor that the data volume generated is too big to provide it with a query response. Instead T2S continues to prepare the response applying pagination functionality. The created response pages will be sent out via store-and-forward.</u>	semt.025	sese.022		REJT	High data volume - Response will be sent applying pagination functionality and in store-and-forward mode.

**High level description of Impact:**

Additional text added to section 3.3.7.13 and 3.3.7.21 concerning the splitting of the message and relating to section 3.2.2.3 as found in other messages subject to pagination. Chapters 2.18.3 and 4.1 are updated accordingly.

**Outcome/Decisions:**

- \* CRG meeting of 8 September 2014: The CRG agreed to make some updates to the Change Request and recommended to launch the detailed assessment on the Change Request.
- \* Advisory Group's advice on 2 October 2014: Following a written procedure from 25 September to 2 October 2014, the AG was in favour of launching the detailed assessment on the Change Request.
- \* CSG resolution on 2 October 2014: Following a written procedure from 25 September to 2 October 2014, the CSG was in favour of launching the detailed assessment on the Change Request.
- \* CRG telco of 2 December 2014: The CRG decided to recommend the rejection of the Change Request.
- \* Advisory Group's advice on 20 January 2015: Following a written procedure, the AG was in favour of the rejection of the Change Request.
- \* CSG resolution on 21 January 2015: Following a written procedure, the CSG adopted the resolution to reject the Change Request.

ANALYSIS – GENERAL INFORMATION			
<b>Impact On T2S</b>	<b>Static data management</b>		<b>Interface</b>
		Party data management	Communication
		Securities data management	X Outbound processing
		T2S Dedicated Cash account data management	Inbound processing
		Securities account data management	
		Rules and parameters data management	
	<b>Settlement</b>		<b>Liquidity management</b>
	X	Standardisation and preparation to settlement	Outbound Information Management
		Night-time Settlement	NCB Business Procedures
		Daytime Recycling and optimisation	Liquidity Operations
		Daytime Validation, provisioning & booking	<b>LCMM</b>
		Auto-collateralisation	
			Instructions validation
			Status management
	<b>Operational services</b>		Instruction matching
		Data Migration/Support tools	Instructions maintenance
		Scheduling	<b>Statistics, queries reports and archive</b>
		Billing	
		Operational monitoring	X Query management
			Statistical information
			Legal archiving
		All modules (Infrastructure request)	
		No modules (infrastructure request)	
	Business operational activities		
	Technical operational activities		

Impact on major documentation		
Impacted GFS chapter		
Impacted UDFS chapter	2.18.3 Send Query – Inbound and outbound messages 3.2.2.3 Outbound traffic exceeding given size limitations 3.3.7.13 SecuritiesSettlementTransactionQueryResponse V01 (semt.027.001.01) 3.3.7.21 SecuritiesAccountPositionResponseV01 (semt.040.001.01) 4.1 Index of Business Rules and Error Codes	Include text concerning the splitting of the message and relating to section 3.2.2.3. Addition of text in the Section 3.3.7.21 p. 1323
Additional deliveries for Message Specification		
UHB		
Internal training materials	Functional Advanced Training: Workshop 4: Application Process – Information Management → Query Management	Note for slide 38 "Receiving a Query Response (1/5) requires an update. The list of queries for which the response messages may be paged is enlarged. Not only queries triggered by reda.010 or reda.019 may be subject to pagination but also queries triggered by semt.025 or semt.026.
External training materials	Functional Advanced Training: Workshop 4: Application Process – Information Management → Query Management	Note for slide 38 "Receiving a Query Response (1/5) requires an update. The list of queries for which the response messages may be paged is enlarged. Not only queries triggered by reda.010 or reda.019 may be subject to pagination but also queries triggered by semt.025 or semt.026.
Other documentations		
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

Interface and Query Management have to apply pagination for semt.027 and semt.040.

Regarding the **update of the functional documentation**, the UDFS section 3.3.7.13.1 SecuritiesSettlementTransactionQueryResponseV01 (semt.027.001.01) must be modified to include text relating to the splitting of the message and relating to section 3.2.2.3.

It will request the following action in the Section 3.3.7.21 SecuritiesAccountPositionResponseV01 (semt.040.001.01):

Addition of following text referring to the splitting of the message:

'In case the size of the message to be sent exceeds the maximum size of 32 MB the message will be split into several messages (Please see section 3.2.2.3 "Outbound traffic exceeding given size limitations").'

Pagination process is done at functional Interface level. However, a clarification in the Query Management UDFS chapter has to be given, that two additional messages may be subject to pagination.

The **testing activities** of the new pagination functionality for semt.027 and semt.040 will require two separate approaches:

- as functional test environments currently pose strict practical and performance restrictions on the amount of test data that can be introduced, there will be the need to reduce the pagination threshold for both semt.027 and semt.040 to a more manageable size (probably in the hundreds of KBs).
- regression testing of all 4 impacted queries (Settlement Instruction Query, Settlement Instruction Current Status Query, Settlement Instruction Status Audit Trail Query and Securities Account Position (History) Query) will have to be thorough due to the impacted queries' complexity.

The modification of both flows (QM\_semt026 & QM\_semt025) in order to allow pagination of response messages will require the testing of both query result messages (with pagination / without pagination).

The **training material** related to the Functional Advanced module needs to be updated (Workshop 4: Application Process – Information Management → Query Management).

Summary of project risk

Security analysis

No security impact (do not entail any additional costs related to the implementation of security controls).

## COST ASSESSMENT ON CHANGE REQUESTS

<b>T2S-0461-SYS Applying pagination to semt.027 and semt.040</b>		
Project phase costs (total)	43,895.15	in Euro
Running costs (annual average over cost recovery period)	3,930.02	in Euro