T2S CHANGE REQUEST FORM		
General Information (Origin of Request) ☐ User Requirements (URD) ☒ Other User Functional or Technical Documentation (SYS)		
Request raised by: T2S CRG	**Institute:** 4CB	**Date raised:** 14/12/2020
Request title: Intraday delta Flat File reporting and technical optimisations to enhance the flat file generation process		**Request ref. no:** T2S 752 SYS
Request type: Common	**Classification:** Scope enhancement	**Urgency:** Fast-track
1. Legal/business importance parameter[1]: High	**2. Market implementation efforts parameter[2]:** Medium	
3.Operational/Technical risk parameter[3]: Medium	**4. Financial impact parameter[4]:** Very high	
Requestor Category: Eurosystem	**Status:** Implemented	

Reason for change and expected benefits/business motivation:

As per current design, T2S offers intraday reporting via ISO reports. T2S also caters for reporting via flat files (i.e. equivalent of ISO semt.002, semt.016, semt.017, semt.018 and semt.034), however delta flat files are only generated at the T2S End of Day (EoD), thus not allowing for intraday reconciliation.

This entails that T2S CSDs cannot perform intraday reconciliation via T2S reports unless they subscribe to ISO reports, thus limiting their choice.

Another structural difference between ISO and flat file reports is that ISO reports are generated per securities account [under a T2S CSD system entity], while as flat file reports are generated per CSD. For the Statement of Holdings, the delta flat file report reflects the current securities positions within a security account, which were either newly created, changed or turned zero since the Start of Day. Contrary to the A2A version, the flat file delta version will not contain accounts where no activity has occurred, providing a more efficient reporting for T2S CSDs that may have a high number of securities accounts in T2S but regular activity only for a subset of those.

A preliminary analysis conducted by the ECB/4CB Teams has identified that the upcoming migration of Euroclear Finland (EFi) to T2S entails a high increase in the number of securities accounts on the platform, as well as an increase in the volume of settlement instructions to be processed in T2S. As part of the normal business, it is expected to receive an additional volume of settlement instructions on top of the current traffic of T2S, including occasional peaks due to standard Corporate Action (CA) events. On an exceptional basis[5], EFi will bring substantial additional volume of settlement instructions to be processed on the T2S platform due to a CA event impacting a high number of securities accounts. Flat file reporting is deemed the most suitable option from a performance standpoint. The additional volume of instructions to be reported every business day after EFi migration to T2S could nevertheless impact the performance of the EoD reporting on the critical path of the settlement day in case of volume peaks e.g. linked to CA processing.

As part of bilateral exchanges, EFi also indicated that the possibility of performing intraday reconciliation using flat file reports would be beneficial.

For these reasons, an enhancement of the flat file functionality should be considered in order to:

- Enable the generation of intraday delta flat file reports (i.e. linked to the triggering of relevant business events related to the NTS[6]), which will: (i) allow the distribution of the volumes before the EoD reporting, hence alleviating potential performance impacts during this critical phase of the T2S Settlement Day and; (ii) facilitate the intraday reconciliation for users subscribed to delta flat file

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[1] Legal/business importance parameter was set to High because it will improve the stability of T2S in case of volume peaks for the reporting.

[2] Market implementation effort parameter was set to Medium because it would require implementation efforts only for a minority of T2S actors.

[3] Operational/technical risk parameter was set to Medium because the new functionality could create additional reporting volumes throughout the business day.

[4] Low < 100kEUR < Low-Medium < 200 kEUR < Medium < 400kEUR < High < 700kEUR < Very high

[5] Frequency cannot be predicted but less than once a year according to EFi's historical calendar. According to volumetric assumptions, number of settlement instructions could reach 1.7 million.

[6] Relevant business events to be defined during the detailed assessment (e.g. per cycle)

reports, and; (iii) allow to reconcile based on intraday flat file reports during the migration weekend (i.e. after the dedicated migration sequences);
- Optimise the generation of the flat file reports to deal with volume peaks, in particular for high-volume CA events.

Description of requested change:

An enhancement of the flat file solution is required to allow the generation of intraday delta flat files triggered by certain business events, for the following flat file reports:

- semt.002 Statement of holdings
- semt.016 Statement of settled intra-position movements
- semt.017 Statement of transactions
- semt.018 Statement of pending instructions
- semt.034 Statement of pending intra-position movements

For these intraday delta flat file reports, the following rules will apply:

- The creation of the intraday delta flat file reports will always be linked to business events based on the CSDs flat file configuration.
- Each of the relevant business events will trigger the generation of delta flat file reports.
- The suscription of each flat file report is independent from the other flat file reports suscriptions.
- A CSD can suscribe to a delta version of the same flat file report as many times as business events triggering the flat file report generation exist throughout the business day.
- New intraday delta versions of the flat files will only provide information on the selected items whose values or status changed (i.e. depending on the type of flat file report) compared to the last previously generated delta flat file report.

All other flat files specifications remain unchanged, i.e. they also apply to the new intraday flat file reports.

The full version of flat file reports will continue being generated only once per business day at the end of the Night Time Settlement period of the next business day, outside of the EOD/SOD period.

Additionally, the flat file generation process will be redesigned to allow various delta executions per CSD and business day, as well as to optimise the parallelism between CSDs in the generation of reports, thus avoiding that extreme punctual volumes in one report may impact the general performance and affect other CSD's reporting with lower volumes.

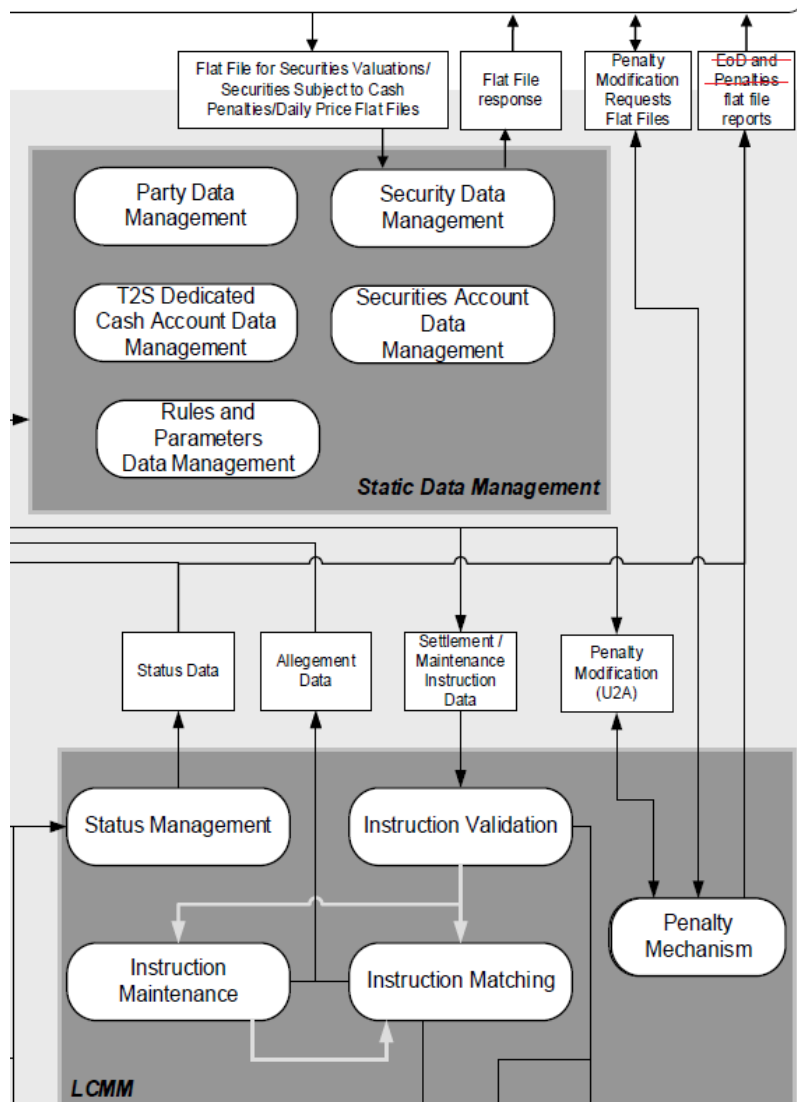**Submitted annexes / related documents:**

Outcome/Decisions:

* CRG on 18 December 2020: the CRG agreed to recommend CR-752 for authorisation by the T2S Steering Level.
* AMI-SeCo on 12 January 2021: the AMI-SeCo agreed to the CRG recommendation of CR-752 for authorization.
* CSG on 12 January 2021: the CSG agreed to authorise CR-752.
* NECSG on 12 January 2021: the NECSG agreed to authorise CR-752.
* PMG on 20 January 2021: the PMG agreed to launch the detailed assessment of CR-752 in view of R6.0
* MIB on 27 January 2021: the MIB agreed to authorise CR-752.
* CRG on 25 May 2021: the CRG agreed to recommend to the PMG the inclusion of CR-752 in R6.2.
* OMG on 28 May 2021: the OMG identified an operational impact from the inclusion of CR-752 in R6.2.
* PMG on 28 May 2021: the PMG agreed to the inclusion of CR-752 in the scope of R6.2.
* CSG on 22 June 2021: the CSG approved the inclusion of CR-752 in the scope of R6.2.
* NECSG on 23 June 2021: the NECSG approved the inclusion of CR-752 in the scope of R6.2.
* MIB on 14 July 2021: the MIB approved the inclusion of CR-752 in the scope of R6.2.

Proposed wording for the Change request:

GFS:

- Section 2.2 "Overall high level diagram": *(diagram to be updated)*

UDFS:

1.6.4.3 Flat File Report Generation for CSDs

1.6.4.3.2 Overview

(....)

~~Characteristics of a report~~

~~The moment of data extraction is determined by two existing business events – End of Day and end of Night Time Settlement, whereas all the other information about the necessary attributes in each named category is stored as an attribute domain in static data. All this information influences the generation of the flat file report. T2S Operator is responsible for configuring and maintaining this information.~~

~~The business event that triggers the generation of the full reports is the end of the Night time Settlement. In case of processing peak during this time window, the generation of the flat file report will continue till completion.~~

~~The delta reports are triggered at the EoD with the same timing than the ISO reports in order to ensure the same data scope for both modes.~~

Each of the characteristics of a report is described in the following section, but it is worth hightlighting the following:

For Instructions and Holdings related reports, the moment of data extraction is determined by existing business events:

- The business event that triggers the generation of the full reports is the end of the Night time Settlement. In case of processing peak during this time window, the generation of the flat file report will continue till completion.

- The delta reports are always triggered at the EoD with the same timing than the ISO reports in order to ensure the same data scope for both modes. Additionally, CSDs can opt for receiving, at some or at all of additional triggering business events, intraday delta reports i.e. in addition to the delta reports triggered at the End of day. Therefore, the moment of data extraction for the intraday delta reports is determined by the following business events:

  o End of Day for Delta reports, and additionally,

  o End of First Night Time Settlement Cycle,

  o End of Second Night Time Settlement Cycle,

  o End of Fourth Night Time Settlement Cycle of the additional standard NTS and*

  o End of Fifth Night Time Settlement Cycle of the additional standard NTS.*

For Penalty Mechanism related reports, the moment of data extraction is determined by the end of the Calculation, the Recalculation or the End of the Appeal Period process. The business events that triggers the generation of the full reports are, respectively, the DAPL (Daily Penalty List Report – Reporting of new penalties), MDPL (Modified Penalties List Report) and the MAGG (Monthly Aggregated Amounts Report), that are triggered after the related data extraction.

All the other information about the necessary attributes in each named category that is relevant for the characteristics of the report is stored as an attribute domain in static data. All this information influences the generation of the flat file report. T2S Operator is responsible for configuring and maintaining this information.

1.6.4.3.3 Flat File Report Generation process:
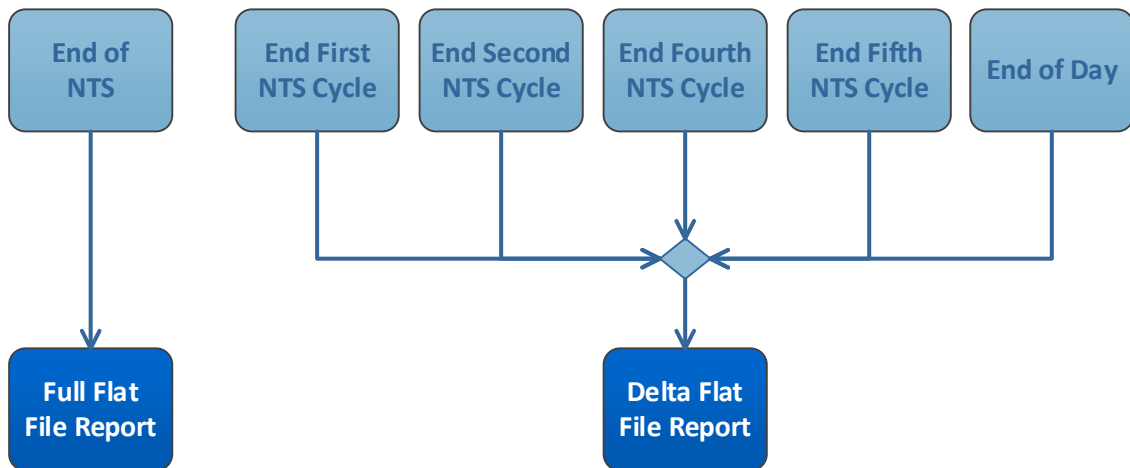
Sort of Information - Report Types
(…)

Concerned Party
(…)

Moment of Data Extraction *(Diagram 183 updated)*

DIAGRAM 13 - MOMENT OF DATA EXTRACTION FOR INSTRUCTIONS AND HOLDINGS RELATED REPORTS

The creation of a flat files for Instructions and Holdings related reports is always triggered by the ~~end of the Night Time Settlement for full reports and the End of Day for delta reports in T2S~~ following business events:

- For full reports, the end of the Night Time Settlement

- For delta reports, the End of Day. Additionally, for delta reports available intraday:
    - The end of First Night Time Settlement Cycle
    - The end of Second Night Time Settlement Cycle
    - The end of Fourth Night Time Settlement Cycle*
    - The end of Fifth Night Time Settlement Cycle*

<u>Reporting Period</u>

(…)

T2S distinguishes between two different flat file report classifications - full reports and delta flat file reports which<u>.</u> are all based on the latest available data~~.,~~ <u>T</u>~~t~~he difference between ~~both~~ them is the time scope which is considered:

❙ Full versions for Instructions and Holdings related reports cover the previous business day and provide the values of all selected items at the EoD of previous business day. Full versions can be scheduled for generation either for each T2S business day, or on a weekly or monthly basis. The full version flat file reports are generated at the end of Night Time Settlement and include no activity records.

(…)

❙ Delta versions for Instructions and Holdings related reports consider ~~the current business day but provide only~~ information on the selected items whose values changed ~~since the Start of Day,~~ i.e. it includes cancellations, modifications and new items~~.~~ <u>since:</u>

- <u>The Start of Day, for the first delta flat file report generated for a CSD in a given day, and</u>
- <u>The last intraday delta flat file report generated, for the following delta reports for a CSD in a given day</u>

<u>Concretely:</u>

- For the statement of holdings<u>,</u> the delta flat file report reflects the current securities positions within a security account, which were either newly created, changed or turned zero since the Start of Day<u>, or since the last intraday delta statement of holdings report generated for the same CSD.</u> Contrary to the A2A version, the flat file delta version will not contain accounts where no activity has occurred.

No activity, in this case, signifies that no change in securities positions has occurred since the end of the previous business day, or since the last intraday delta statement of holdings report generated for the same CSD.

- For the statement of settled intra-position movements, it reflects the intra position movements that reached the status settled or partially settled from the Start of Day for every securities account of a given CSD, or since the last intraday delta statement of settled intra-position movements report generated for the same CSD.

- For the statement of transactions, it reflects the settlement instructions that reached the status settled or partially settled from the ~~SoD~~ Start of Day for every securities account of a given CSD, or since the last intraday delta statement of transactions report generated for the same CSD.

- For the statement of pending instructions, it reflects the changes on the unsettled or partially settled settlement instructions from the Start of Day for every securities account of a given CSD, or since the last intraday delta statement of pending instructions report generated for the same CSD. ~~,i~~I.e. it reports all the newly pending instructions from the Start of Day or since the last intraday delta statement of pending instructions report generated for the same CSD, all pending instructions that were amended from the Start of Day or since the last intraday delta statement of pending instructions report generated for the same CSD, or instructions that were formerly pending but have been cancelled since the Start of Day or since the last intraday delta statement of pending instructions report generated for the same CSD. Settlement instructions that were pending but did not suffer any modification during the reporting period are not shown in the statement (changes on reason code for unsettled are considered as variations).

- For the statement of pending intra-position movements it reflects the changes on the unsettled or partially settled intra-position movements from the Start of Day for every securities account of a given CSD, or since the last intraday delta statement of pending intra-position movements report generated for the same CSD. ~~,i~~I.e., it reports all newly pending intra position movements from the Start of Day or since the last intraday delta statement of pending intra-position movements report generated for the same CSD, all pending intra position movements that were amended from the Start of Day or since the last intraday delta statement of pending intra-position movements report for the same CSD, or intra position movements that were formerly pending but have been cancelled since the Start of Day or since the last intraday delta statement of pending intra-position movements report generated for the same CSD. Intra position movements that were pending but did not suffer any modification during the reporting period are not shown in the statement (changes on reason code for unsettled are considered as variations).

Examples– Reporting period for Instructions and Holdings related reports depending on the delta flat file reports configurations

Example XXX – CSD configured only to a delta flat file report at End of Day

A CSD configures a statement of pending instructions (i.e. semt.018) as delta flat file at End of Day. Then, the CSD will receive the following report and the information contained in them will be as follows:

- The first and only delta flat file semt.018 report will be received at the End of Day on business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the Start of Day for every securities account of the given CSD.

Example XXX – CSD configured to a delta flat file report at End of Day and intraday

A CSD configures a statement of pending instructions (i.e. semt.018) as delta flat file at End of Day and, additionally, configures intraday delta flat file reports in two of the available business events:

1. at the end of First Night Time Settlement Cycle
2. at the end of the Second Night Time Settlement Cycle

When a CSD configures a report as delta flat file, the End of Day report is subscribed by default[7]. Then, the CSD will receive the following reports and the information contained in them will be as follows:

- The first intraday delta flat file semt.018 report will be received at the end of the first NTS Cycle on business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the Start of Business Day "D" until the end of the first NTS Cycle, for every securities account of the given CSD.

- The second intraday delta flat file semt.018 report will be received at the end of the second NTS Cycle on the business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the end of the first NTS Cycle until the end of the second NTS Cycle, for every securities account of the given CSD.

- The third intraday delta flat file semt.018 report will be received at the End of Day on business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the end of the second NTS Cycle until the End of Day, for every securities account of the given CSD.

T2S provides all flat file report types for Instructions and Holdings related reports in full and delta versions. Delta versions are also available intraday, in the business events already defined in the previous section.

TABLE 194 - PREDEFINED FLAT FILE REPORTS

REPORT TYPES	FULL REPORT	DELTA REPORT (including intraday delta reports)
Statement of Holdings	x	x
Statement of Transactions	x	x
Statement of Pending Instructions	x	x
Statement of pending Intra-Position Movements	x	x
Statement of settled Intra-Position Movements	x	x

Possible Recipients of a Flat File Report
(...)

Preconditions for Flat File Report Creation
(...)

Communication Channel
(...)

Parameter synthesis

The following parameters are specified for the Setup of a Flat File Report.

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[7] This is necessary in order to avoid missing information about changes occurred since the last intraday flat file report configured and the EoD, as the first delta report generated of the day includes changes only from the Start of Day, not from the previous business day.

CONCERNED PROCESS	PARAMETER	CREATED BY	UPDATED BY	MANDATORY/ OPTIONAL	POSSIBLE VALUES	STANDARD OR DEFAULT VALUE
Setup of a Report	Report Type	T2S Operator	T2S Operator	Mandatory	semt.002, semt.016, semt.017, semt.018, semt.034, semt.144, semt.244, semt.344	N/A
Setup of a Report	Report Type	T2S Operator	T2S Operator	Mandatory	"Statement of Holdings", "Settled Restrictions on Securities", "Statement of Transactions", "Statement of Pending Instructions", "Pending Restrictions on Securities", "Daily Penalty List", "List of Modified Penalties", "Monthly Aggregated Amounts".	N/A
Setup of a Report	System Entity	T2S Operator	T2S Operator	Mandatory	System Entity of the relevant Concerned Party (i.e.CSD)	N/A

Setup of a Report	Technical Address	T2S Operator	T2S Operator	Mandatory	Technical address of the receiving CSD	N/A
Setup of a Report	Technical Service Identification	T2S Operator	T2S Operator	Mandatory	Network service used to send the report.	N/A
Setup of a Report	Compression	T2S Operator	T2S Operator	Mandatory	ZIP NONE	ZIP
Setup of a Report	Valid From	T2S Operator	T2S Operator	Mandatory	Format "yyyymm-dd"	N/A
Setup of a Report	Valid To	T2S Operator	T2S Operator	Mandatory	Format "yyyymm-dd"	N/A
Setup of a Report	Delta Mode	T2S Operator	T2S Operator	Mandatory	T/F[xx1]	N/A
Setup of a Report	Intraday Delta Mode	T2S Operator	T2S Operator	Optional[xx2]	C1R4 [xx3] C2RZ C4R4* C5RZ* C1DP C2DP C4DP* C5DP*	EMPTY
Setup of a Report	Full Mode Frequency [367]	T2S Operator	T2S Operator	Mandatory	DAIL WEEK MONT NONE	MONT
Setup of a Report	Full Mode Day	T2S Operator	T2S Operator	Mandatory	LAST NONE	N/A

Footnote xx1: if selected value is T, then by default the EoD delta flat file report is configured
Footnote xx2: if previous parameter Delta Mode has a value T, CSDs can opt for receiving intraday delta flat file reports, on top of the EoD delta flat file report, by selecting all or some of the available business events. Configuration for each report is independent of the other reports (i.e. events chosen for one type of intraday flat file report may differ from the events chosen for other type of intraday flat file report).
Footnote xx3: C1R4 ("End of First NTS cycle"), C2RZ ("End of Second NTS cycle"), C4R4 ("End of Fourth NTS cycle"), C5RZ ("End of Fifth NTS cycle") events are used to configure intraday Delta Flat File reports semt.016, semt.017, semt.018, semt.034.
C1DP ("End of First NTS cycle"), C2DP ("End of Second NTS cycle"), C4DP ("End of Fourth NTS cycle"), C5DP ("End of Fifth NTS cycle") events are used to configure intraday Delta Flat File report semt.002.

Footnote 367: The Full Mode Frequency parameter for the Daily Penalty List and the List of Modified Penalties should only be set up with value "DAIL", while the Monthly Aggregated Amounts should have value "MONT"

Detailed information on the Sort of information - Flat File Report types
(...)

For all above descriptions with an asterisk (*):

Intraday delta flat file reports for cycles Fourth and Fifth will be available only once CR762- Additional dedicated NTS short cycles and additional standard NTS cycles for peak volumes of corporate actions is implemented.
If CR752 is delivered in a previous release than CR762 - Additional dedicated NTS short cycles and additional standard NTS cycles for peak volumes of corporate actions, these sequences should be removed from the SDDs and included with CR 762 - Additional dedicated NTS short cycles and additional standard NTS cycle for peak volumes of corporate actions

Detailed assessment:

EUROSYSTEM ANALYSIS – GENERAL INFORMATION	

T2S Specific Components		Common Components	
LCMM			
	Instructions validation		
X	Status management		
	Instruction matching		
	Instructions maintenance		
	Penalty Mechanism		
Settlement			
	Standardisation and preparation to settlement		
X	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 *(as of June 2022 without Static Data Management, Communication for SDMG, Scheduler, Billing)*			
	Communication		
	Outbound 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
X	Rules and parameters data management	X	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)	X	Legal archiving (from R6.0)
			Data Warehouse (from R6.0)

Information *(until June 2022 containing reference data)*		CRDM business interface *(from R6.0 June 2022)*	
	Report management		Report management
	Query management		Query management
			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		Operational and Business Monitoring
	MOP Contingency Templates		

Impact on major documentation		
Document	**Chapter**	**Change**
Impacted GFS chapter	Section 2.2 "Overall high level diagram"	Diagram updated
Impacted UDFS chapter	1.6.4.3 Flat File Report Generation	Flat File Report Generation process section is updated to describe the enhancement of the Flat File functionality to allow intraday delta flat files
Additional deliveries for Message Specification (UDFS, MyStandards, MOP contingency templates)		
UHB		
External training materials		
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

Currently, flat files are available in full or delta mode (for the following report types: semt.002, semt.016, semt.017, semt.018, semt.034), with delta Flat Files being generated and sent at the EoD.

Flat file functionality will be enhanced to allow the current delta flat file reports types to be generated not only in the EoD but also intraday.

Intraday delta flat file reports will be linked to business events that will trigger their generation.

Accordingly, CSDs will be able to subscribe to intraday delta flat files (on top of the EOD delta flat file report) at one or more of the following phases of the Business Day:

- At the End of the First NTS Cycle
- At the End of the Second NTS Cycle
- At the End of the Fourth NTS Cycle
- At the End of the Fifth NTS Cycle
- At the end of the special Migration Settlement Sequence for FOPs and SRs.

Intraday delta flat file reports semt.016, semt.017, semt.018 and semt.034 are triggered (i.e. generated and sent) with the already existing business events C1R4, C2RZ, and the two new reporting events of the new additional standard NTS cycles 4 and 5[8]. And for the migrations sequences, the existing business events CMR4, CMR6, CMR7 (for settling FOPs and SRs) are used.

For semt.002 intraday delta flat file, 10 new scheduling events are needed for triggering (i.e. generate and sent) the intraday delta flat file reports: 2 for each NTS cycle (Cycles 1, 2, 4 and 5[9]) and 2 for the special Migration NTS sequence (Cycles M4, M6 and M7).

The following rules should apply:
- Intraday delta flat files are available for the following flat file report types:
  - Semt.002
  - Semt.016
  - Semt.017
  - Semt.018
  - Semt.034

- The kind of subscription chosen by a CSD for each flat file report is independent from the other flat file reports subscriptions of the CSD (i.e. a CSD can configure intraday delta flat file report for the semt.016 but full EoD flat file report for the semt.017)

- Receiving delta flat files at the EoD for a given flat file report remains possible, but, additionally, CSDs can opt for receiving the intraday delta flat files of this report at some or at all the new available business events (i.e. a CSD subscribed to a delta flat file report will always receive the delta flat file at the EoD and, additionally, it will receive intraday delta flat files in the events that it configured).

- New intraday delta flat file reports will only provide information on the selected items whose values or status changed (i.e. depending on the type of flat file report) compared to the last previously generated delta flat file report, or compared to the Start of Day for the first generated delta flat file of the day.

  Example: If a CSD configures the semt.018 as delta flat file and configures intraday delta flat file reports (i) at the end of the NTS Cycle 1 and (ii) at the end of the NTS Cycle 2, then it will receive the following reports and the information contained in them will be as follows:

  - The first semt.018 intraday flat file report will be received at the end of the NTS Cycle 1 on business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the Start of Business Day "D" until the end of the NTS Cycle 1, for every securities account of the given CSD
  - The second semt.018 intraday flat file report will be received at the end of the NTS Cycle 2 on the business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the end of the NTS Cycle 1 until the end of the NTS Cycle 2, for every securities account of the given CSD
  - The third semt.018 intraday flat file report will be received at the EoD[10] on business day "D", and it will include changes on the unsettled or partially settled settlement instructions from the end of the NTS Cycle 2 until the EoD, for every securities account of the given CSD

  The following graph shows an example of different casuistic of intraday delta flat file reports configurations (i.e. depending on which events a CSD configures the subscription to delta flat file
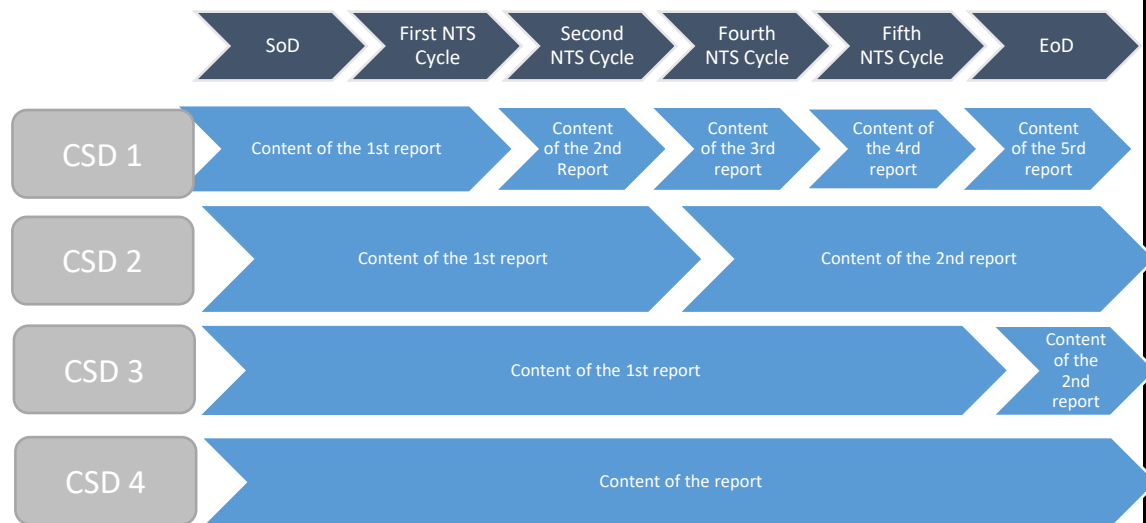
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[8] Events are created with the CR762- Additional dedicated NTS short cycles and additional standard NTS cycles for peak volumes of corporate actions

[9] Additional standard NTS Cycles 4 and 5 are created with the CR762-. CR752 only creates the needed events for semt.002 intraday delta flat file reporting.

[10] When a CSD configures a report as delta flat file, the EoD report is subscribed by default, then, additionally, the CSD can configure intraday delta flat files. This is necessary in order to avoid missing information about changes occurred since the last intraday flat file report configured and the EoD, as the first delta report generated of the day includes changes only from the Start of Day, not from the previous business day.

reports), and what information is provided in each delta flat file report, please note that this is not an exhaustive list of the possible casuistic:

- CSD 1 configures all the available intraday delta flat files (i.e. (i) at the end of the First NTS Cycle, (ii) at the end of the Second NTS Cycle, (iii) at the end of the Fourth NTS Cycle and (iv) at the end of the Fifth NTS Cycle)
- CSD 2 configures one intraday delta flat file at the end of the Second NTS Cycle.
- CSD 3 configures one intraday delta flat file at the end of the Fifth NTS Cycle Additional Standard NTS
- CSD 4 does not configure any intraday delta flat file, it only configures delta flat file.

- Other already defined specifications for flat file reports remain unchanged, and also will apply to the new intraday flat file reports.

- CSDs will be able to configure intraday delta flat files in the migration Settlement Sequences for FOPs and SRs, included in the specific settlement day specific for the migration weekend.

  - These intraday delta flat file reports will only provide information on the selected items whose values or status changed (i.e. depending on the type of flat file report) compared to the last previously generated delta flat file report (i.e. if a sequence is repeated several times, delta flat file will include changes from the end of the previous sequence until the current sequence).

- Intraday delta flat files linked to special events (migration or additional NTS cycles) will not be available in regular Business Days configuration, i.e.:

  - Intraday delta flat files linked to the special NTS migration cycle, will only be available with the special Operating Day for the Migration weekend

  - Intraday delta flat files linked to the new NTS cycles defined for EFi CA, will only be available with this special Operating Day configuration

Additionally, Flat file functionality is enhanced to optimise the extraction and generation of the flat file reports related to instructions.
This enhancement will improve the performance of both delta and full flat file reports.
The new design uses native features of DB2 to allow concurrent access to data of different reports executed at the same time, ensuring that all reports (semt.016, semt.017, semt.018 and semt.034) can be generated simultaneously. Additionally, a restructuring of data to be processed will also be carried out, reducing delays caused by input/output of data and boosting the process in memory, reducing significantly the time needed for the extraction and generation of the reports.

This enhancement will avoid bottlenecks in specific scenarios with punctual high volumes of a particular CSD, because its extraction and generation will not affect the extraction and generation of other reports for other CSDs.

Main Cost Drivers:

For semt.002, semt.016, semt.017, semt.018 and semt.034:
- Implementation of intraday delta flat files at 4 different moments of the settlement day, as well as for migration ad-hoc sequences;
- Overall redesign to optimise the flat file data extraction and report generation for higher volumes;
- NFTs campaign preparation, execution and support activities:
  New processes to provide intraday flat file reporting as well as technical optimisations to enhance flat file provision, which significantly increase the ARM checks in the respective NTF cycles. The flat file functionality is enhanced to optimize the extraction and generation of the flat file reports related to instructions, which will improve the performance of both delta and full flat file reports. This is done by updating the database, which requires its testing. Subject to the results of the planned NFT, CR-0752 is deemed to have an impact of about 7% of the resources needed to support daily peak (especially during NTS and EoD), to be purchased for both regions, each at 160.000,00 € excluding VAT, as annual running costs. If the capacity is not enlarged the consequences will be a possible higher queuing effect caused by the new flat file functionality and consequently possible delay in the cut-offs.

Impact on other TARGET Services and projects
ECMS: no impact TIPS: no impact CSLD: no impact TARGET2: no impact
Summary of project risk
None
Security analysis
No potentially adverse effect has been identified during the security assessment.

DG - Market Infrastructure & Payments   **ECB-PUBLIC**

10 May 2021

Cost assessment on Change Requests

T2S-752-SYS – Intraday delta Flat File reporting and technical optimisations to enhance the flat file generation process			
One-off	Assessment costs* - Preliminary - Detailed	2,000.00 10,000.00	Euro Euro
One-off	Development costs	987,549.60	Euro
Annual	Operational costs - Maintenance costs - Running costs	 91,667.34 385,600.00	 Euro Euro

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