General Information (Origin of Request)		
☐ User Requirements (URD) or GUI Business Functionality Document (BFD)		
☒ Other User Functional or Technical Documentation (SYS)		

Request raised by: 4CB	Institute: 4CB	Date raised: 17/10/2017
Request title: Logical deletion and purge of matured ISINs together with their related links		Request ref. no: T2S-0670-SYS
Request type: Common		Urgency: Normal
1. Legal/business importance parameter: Low		2. Market implementation efforts parameter: Low
3. Operational/Technical risk parameter: Low		4. Financial impact parameter: Medium
Requestor Category: 4CB		Status: Allocated to a release

Reason for change and expected benefits/business motivation:

During the 41st OMG Meeting on 26/27 July 2017, customers reported that the foreseen number of matured ISINs per year is around 1.5 million. These matured ISINs should be deleted in order to:

- reduce the number of items in the data tables, thus obtaining performances benefits;
- make it possible to re-use the ISIN code.

The current design of T2S foresees a mixed A2A/U2A procedure for deleting an ISIN and the related data constellation. Customers consider this procedure too time-consuming.

The most impacting factor is that the Securities Maintaining Entity (SME) does not have complete control on the data constellation of a matured ISIN; the links related to an ISIN must be deleted before deleting the ISIN itself and the SME is not autonomous in this process – SME has no access to data created by other System Entities.

The CR proposes a solution to improve the efficiency of the present design and make the SME free to delete matured ISINs.

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Description of requested change:

The Lifecycle of the Security in T2S foresees that a Security can be logically deleted only after the logical deletion of other related items (1.6.3.3.5 Lifecycle of static data objects in UDFS and table 156 - Dependencies between Static Data Objects). This mechanism is in place to assure the respect of data consistency among the items of the database.

The logically deleted items are purged (physically deleted) from the production database and archived in the archiving database after three months.

The proposed change is to introduce a deviation from this mechanism allowing to:

- logically delete an ISIN even if related links are still present and active in the production database;
- when purging the logically deleted ISIN after three months, purge all the links related to the ISIN even if they are still active in the data table.

The system will allow the logical deletion only if the ISIN is more than x days past its maturity date, x being a parameter of the system (initially set to 365 days).

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Submitted annexes / related documents:

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Proposed wording for the Change request:

Business rule DSD1030 should be updated as follows:

UDFS Section 4.1, Index of Business Rules and Error Codes

[…]	[…]	[…]	[…]	[…]	[…]
DSD1030	When performing a Securities delete request, if the maturity date is in the past by a number of days smaller than the system parameter "Matured ISIN deletion offset", all the linked instances in a higher position within the deletion hierarchy must be deleted (i.e. Close Link, Eligible Counterpart CSD, Auto-collateralisation Eligibility Link and Security CSD Link have to be deleted before deleting the linked Securities). For Securities CSD Link, this is limited to links with Maintenance Flag = False.	reda.013	reda.030	REJT	The deletion is not allowed due to a deletion priority constraint

UHB

Sections 6.4.2.171 Securities - Search/List Screen and **6.4.2.184 Security - Details Screen (list of error messages)**

[…]	[…]	[…]	[…]
DSD1030	❚ Delete button	The deletion is not allowed due to a deletion priority constraint	When performing a Securities delete request, if the maturity date is in the past by a number of days smaller than the system parameter "Matured ISIN deletion offset", all the linked instances in a higher position within the deletion hierarchy must be deleted (i.e. Close Link, Eligible Counterpart CSD, Auto-collateralisation Eligibility Link and Security CSD Link have to be deleted before deleting the linked Securities). For Securities CSD Link, this is limited to links with Maintenance Flag = False.

High level description of Impact:

A new parameter "Matured ISIN deletion offset" must be created.

The Business Rule preventing the deletion of the ISIN if links exist (DSD1030) must be amended in order to allow the SME to delete ISINs if they are over x days past their maturity date without considering the status of any of the related Links.

x is the value of "Matured ISIN deletion offset".

The purge process must be amended so that, when purging a logically deleted ISIN, it will also purge the links related to it (Security CSD links, Eligible counterpart CSD Links, Close Links, Auto-collateralization Eligibility Links) whatever their status.

During the timeframe where securities are already logically deleted but their corresponding links are still in place, the respective queries will return these links despite the deletion of the ISIN. The following queries are impacted:

- Eligible Counterpart CSD Links List Query
  The Eligible Counterpart CSD Links will be shown although the Security is deleted.
- Auto-collateralisation Eligibility Link List Query:
  The Auto-collateralisation Eligibility Links will be shown although the Security is deleted.
- Close Link List Query:
  Close Links will be shown although the Security is deleted.
- Securities CSD Link Query
  Securities CSD Links will be shown and reported in reda.010 with ISINs deleted.

An operational procedure will be put in place aiming to reduce the possibility to have open positions when deleting the ISINs. Considering the "matured ISIN deletion offset" set to x days (initially set to 365 days), the operational procedure will foresee to:

- provide the T2S Operator with an SQL query that selects all the ISINs matured for more than x-30 days (initially set to 11 months). The result of this query will be used as input for a new query that returns the list of ISINs with related open positions and the involved CSDs;
- the T2S Operator will inform the involved CSDs about existing open positions in order to empty them;
- to avoid informing the participants everyday about the same instructions, the query should provide only new positions and positions that have changed since the previous run of the query;

The procedure cannot assure the absence of open positions when logically deleting an ISIN. The Settlement module must be amended in order to "park", upon logical deletion of the ISIN, any possible remaining position, i.e. to save it and keep it available for when the ISIN is restored.

Simultaneously an alarm will be raised to the T2S Operator in order to:

- Allow the SME to restore the ISIN;
- Allow involved CSDs to empty the open positions.

A lean report will be produced containing the list of ISINs deleted during a month and that have still active links. The resulting list of ISINs will be sent to all the customers to inform them about the closure of the matured ISINs performed by the SME so that the customers can align their own systems.

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Outcome/Decisions:

* CRG meeting on 23 October 2017: The CRG agreed to recommend the launch of the detailed assessment to the T2S Steering Level in principle and subject to the positive OMG feedback.

* OMG meeting on 26-27 October 2017: The OMG provided a positive feedback on the resolution of the issue related to the logical deletion and purge of matured ISINs via the CR670. In addition to the CRG request to the 4CB regarding having a report with the deleted ISINs and information on the T2S performance deterioration due the huge number of matured securities, the OMG also asked the 4CB to check during the detailed assessment:

- Why are links only deleted with the purge and not immediately after the logically deletion of the ISIN (or one day after)?

* Advisory Group on 8 November 2017: In a written procedure from 2 to 8 November 2017, the Advisory Group was in favour of launching the detailed assessment on the Change Request.

* CSD Steering Group on 9 November 2017: In a written procedure from 2 to 9 November 2017, the CSD Steering Group was in favour of launching the detailed assessment on the Change Request.

* CRG on 26 March 2018: the CRG agreed to recommend to the T2S Steering Level the approval of this CR and its inclusion in T2S release 3.0, subject to a written procedure with CRG members until 6 April 2018

* PMG/RMSG on 19 April 2018: The PMG proposed the allocation of the CR to the R.3.0 pending the positive feedback from the CRG on the exact content of the CR

* CRG written procedure ended 20 April 2018: following an update of the timeframe during which ISIN deletions can be executed without performance impact, the CRG confirmed its recommendation to the T2S Steering Level on the approval of this CR and its inclusion in T2S release 3.0.

* OMG on 26 April 2018: the OMG did not object to the implementation of the CR on account of operational impacts.

* Advisory Group on Market Infrastructures for Securities and Collateral (AMI-SeCo) on 30 April 2018: Following a written procedure from 23 to 27 April 2018, the AMI-SeCo was in favour of approving the Change Request and its inclusion in T2S Release 3.0

* CSD Steering Group on 30 April 2018: Following a written procedure from 23 to 27 April 2018, the CSG was in favour of approving the Change Request and its inclusion in T2S Release 3.0

EUROSYSTEM ANALYSIS – GENERAL INFORMATION				

		Static data management		**Interface**
Impact On T2S		Party data management		Communication
	X	Securities data management		Outbound processing
		T2S Dedicated Cash account data management		Inbound processing
		Securities account data management		
	X	Rules and parameters data management		
		Settlement		**Liquidity management**
	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		**LCMM**
		Auto-collateralisation		Instructions validation
				Status management
		Operational services		Instruction matching
		Data Migration		Instructions maintenance
		Scheduling		**Statistics, queries reports and archive**
		Billing		Report management
		Operational monitoring		Query management
			X	Statistical information
				Legal archiving
		All modules (Infrastructure request)		
		No modules (infrastructure request)		
		Business operational activities		
		Technical operational activities		

Impact on major documentation		
Document	**Chapter**	**Change**
Impacted GFS chapter		
Impacted UDFS chapter	**SDMG:** 1.6.3.3.4 Static data archiving and purging	Describe the deviation to the standard mechanism when purging the logically deleted ISIN after three months. The purge process must be amended so that, when purging a logically deleted ISIN, it will also purge the links related to it (Security CSD links, Eligible counterpart CSD

		Links, Close Links, Auto-collateralization Eligibility Links) whatever their status.
	1.6.3.3.5 Lifecycle of static data objects	The lifecycle of security and the Table 156 – Dependencies between static Data objects shall be amended
	4.1 Index of Business Rules and Error Codes	Modification of the description of the DSD1030
Additional deliveries for Message Specification		
UHB	**SDMG:** 6.4.2.171 Securities - Search/List Screen 6.4.2.184 Security - Details Screen (References for Error Messages for GUI Screens)	Modification of the description of the DSD1030 in the related sub-sections.
	2.5.2.1 Auto-collateralisation eligibility link – Search/List screen	On ISIN field in the Search Criteria section the word "active" must be deleted: "Enter the active ISIN of the security"
	2.5.2.10 Security CSD Links - Search/List Screen	On ISIN field in the List section the word "active" must be deleted: "Shows the active ISIN of the security."
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

The solution foresees that, if the maturity date of an ISIN is older than x days (x being the value of the "Matured ISIN deletion offset" parameter), then a SME can delete such matured ISIN even if its related links (Security CSD links, Eligible counterpart CSD Links, Close Links, Auto-collateralization Eligibility Links) are still active.
The logical deletion of an ISIN must create a notification for all backend modules subscribed in order to check if there are any open positions. If so, these positions are "parked". A specific alert is raised to the Technical Monitoring tool so that the T2S Operator can inform the involved customers who have to restore the ISIN and empty the open positions. After this clean up the SME can delete the affected ISIN again. No check on the pending instructions is needed since, when deleting the ISINs, all possible pending instructions will be cancelled during revalidation process which is triggered once the static data notification is received by LCMM.

Additionally, according to the proposal accepted by the OMG, a lean functionality to report on a monthly basis the list of logically deleted ISINs should be provided to allow CSDs and CBs to align their internal systems.
In order to comply with the request of producing a 'lean report', no ISO message-based solution will be evaluated in the context of this Change Request. To reduce further the cost of automation, the report could rely on the execution of an ad-hoc SQL query, on a monthly basis.
The query will extract all the matured ISINs:
    (i)   whose status has changed to 'deleted' in the past calendar month,
            and
    (ii)   for which there are active instances of Security CSD links (different from the maintainer's one), Eligible counterpart CSD Links, Close Links, Auto-collateralization Eligibility Links linked to those ISINs.
The result of the query should be a single file containing all the selected ISINs. Being the ISINs visible to all the customers, the file can be sent by the T2S Operator to all the interested parties.

The aim of this report is to provide CSDs and CBs with the projection of the ISINs that will be purged in T2S after three months. The parties can, thus, check their internal systems and align them accordingly in case they have any active links.

The management of the deletion for the matured ISIN must be initiated by the customer. No automatic solution will be put in place.

4CB highlight that a maximum of 50.000 ISINs deletions can be executed on a daily basis in the agreed timeframe between 7:00 and 10:00 CET without impact on the performance , respecting the following conditions:
- Related A2A messages will be sent in files containing 5.000 to 10.000 messages as maximum.
  - Each file will only be sent out after the last notification of the previous file has been received.

SDMG changes

As long as it is possible to restore a logically deleted matured ISIN, the option to purge immediately the links related to a logically deleted matured ISIN is not valid.
When purging the logically deleted ISINs after three months, the purge must remove all the links related to each ISIN even though they are still active in the T2S database.

A new attribute domain has to be defined to store the number of days after which it is possible to delete an ISIN even though it is related to active links. The value will be initially set to 365 ("Matured ISIN deletion offset").

BR DSD1030 must be amended in order to allow deleting an ISIN even if there are active links linked to it, only if the maturity date is older than the "Matured ISIN deletion offset".

A query must be created in order to extract all the matured ISINs:
- (i)   whose status has changed to 'deleted' in the past calendar month, and
- (ii)   for which there are active instances of Security CSD links (different from the maintainer's one), Eligible counterpart CSD Links, Close Links, Auto-collateralization Eligibility Links linked to those ISINs.

A tool for transforming the result of this query into a csv file must be foreseen.

The current implementation of the following screens does not allow to show in the ISIN select box the ISINs of deleted items.
After the implementation of the CR 670, this does not allow to properly show the links and delete them
The documentation must be amended in order to show deleted items in the ISIN select boxes. Software should be amended accordingly.
The impacted screens are:
- - Auto-collateralisation eligibility link – Search/List screen
- Security CSD links – Search/List screen

Main cost drivers:
- Functional changes to the Purge and Delete Securities functions
- Setup of new attribute domain
- Support for definition of query to extract matured ISINs
- Testing effort for above changes

Settlement changes

Upon logically deletion of an ISIN, Settlement will check if any related securities position remains not empty. In such a case, an alert will be raised and the non-empty securities positions will be parked. The parked Securities Positions will no longer be reported in the semt.002 nor be visible on the GUI. After the ISIN has been restored, Settlement will unpark all related Securities Positions. They will then be available again for customers anew via standard functionalities (settlement, GUI, semt.002).

LTSI changes

Processing of new information from Static Data.
Treatment of deletion of links (as not logically deleted in T2S) relating to the deleted ISIN.
TNR on static data loading and ISIN historical management.

Main cost drivers:
- To test the production of the alert and the parking of not empty securities positions of matured ISIN
- To test also the unparking of the Securities positions to make them available again for settlement functionalities

- LTSI regression tests

LCMM impact

The logical deletion of an ISIN must continue creating notifications for all backend modules subscribed. For that reason a check on the pending instructions can be disregarded since, when deleting the ISINs, all possible pending instructions are cancelled during revalidation process triggered once the static data notification is received in LCMM.

Summary of project risk
None.

Security analysis
No adverse effect has been identified during security assessment.

23 March 2018

Cost assessment on Change Requests

T2S-670-SYS – Logical deletion and purge of matured ISINs together with their related links			
One-off	Assessment costs* - Preliminary - Detailed	2,000.00 10,000.00	Euro Euro
One-off	Development costs	371,189.91	Euro
Annual	Operational costs - Maintenance costs - Running costs	 32,887.08 0.00	 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).