General Information (Origin of Request)		
☐ User Requirements (URD) or GUI Business Functionality Document (BFD) ☒ Other User Functional or Technical Documentation (SYS)		
Request raised by: Deutsche Bundesbank	**Institute:** Central Bank	**Date raised:** 14/02/2014
Request title: Addition of a record separator to the flat files that are used by Central Banks to upload prices for eligible collateral		**Request ref. no:** T2S 0450 SYS
Request type: Common	**Urgency:** High	
1. Legal/business importance parameter: Low	**2. Market implementation efforts parameter:** Low	
3. Operational/Technical risk parameter: Low	**4. Financial impact parameter:** No cost impact	
Requestor Category: Central Bank	**Status:** Authorised at Steering Level	

Reason for change and expected benefits/business motivation:

The Change Request T2S-0426-SYS (Securities Valuation Bulk Process) replaced the XML file with a flat file to upload securities valuations for Central Banks. Each securities valuation within that flat file is a 181 character long "record" (containing all relevant information like BICs, date, ISIN, price etc.). All records have to be put in one XML tag in a row without any separator.

In case of a necessary manual intervention, it seems unlikely that such a long row of characters could be handled by any U2A operator. In the case of manual intervention, the flat file can be analysed easier if the records are shown each in a separate line.

In addition, there is no need to restrict the usage of a currency for prices given as a ratio because the currency could have a different business meaning (i.e. the currency of the auto-collateralisation rather than the currency of the nominal price).
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Description of requested change:

In the flat files that are used by Central Banks to upload of prices for eligible collateral, there should be a record separator after each record containing a securities valuation.

In addition, it should be allowed to enter a currency code even if the price is a ratio.

The described changes affect the document entitled File format specifications (i.e. attachment to Change Request T2S-0426-SYS). These updates are highlighted in revision marks in the attachment to this Change Request.
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Submitted annexes / related documents:

File format specifications version 0.0.4
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Proposed wording for the Change request:

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High level description of Impact:

There is no cost and no planning impact.
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Outcome/Decisions:

* Written procedure with the CRG from 24 February to 03 March 2014: The CRG recommended the approval of the Change Request.

* Advisory Group's advice on 12 March 2014: Following a written procedure from 6 to 12 March 2014, the AG was in favour of the Change Request.

* CSG resolution on 12 March 2014: Following a written procedure from 6 to 12 March 2014, the CSG adopted the resolution to approve the Change Request.

Securities Valuation

bulk file

File format specifications

Author	DIT
Version	0.0.4
Date	21/02/2014
Status	draft
Classification	
Accessible	
Classified until	

Table of Content

4CB reference: T2S_DIT_StaticDataSchedInterfaces_V0-130.doc

History of releases

RELEASE	DATE	ISSUES	STATUS[1]
V0-0-1	26/10/2123	First draft	Draft
V0-0-2	09/01/2014	XML attribute FileId added to the XML schema as sender reference to the file. Dates in yyyy-mm-dd format. Typos	Draft
V0-0-3	20/01/2014	File returned to the sender includes only rejected valuations.	Draft
V0-0-4	21/02/2014	Separator of records (CRLF) in file description. The currency code is always allowed.	Draft

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[1] Status value : Draft, Open, Final, Dismiss

Introduction

Context

The Securities Valuation collateral related data (also mentioned as SVA) are communicated by NCBs and Payment Banks to T2S on a daily basis, on time for the start of Night-time settlement.

NCBs provide SVAs via "flat files", while A2A messages and U2A screens are used by Payments Banks for "client auto-collateralisation". The U2A channel can also be used by NCBs for contingency reasons or maintenance operations concerning a limited number of records.

Purpose

The document provides a description of the structure of the "flat file" used by NCBs to send SVAs to T2S. The same structure applies to the file (so called "enriched" file) sent back from T2S to the original sender and containing status and error information of rejected SVAs[2].

Files technical Specification

The file have a simple XML format (in order to allow the network signature). All the records are included into a single "store and forward" message conveyed by the VAN provider. No business signature of the message is needed.

Within the message, the whole file is embedded in a single XML tag (<File> </EndFIle>).

Between these tags the file has fixed-length records, with no header and footer. Each record has a length of 183 characters/bytes, the last two characters are a record separator (CRLF).

Identification and routing

The messages transporting Securities Valuations files will be identified by a specific RequestType[3] set by each VAN provider.

Only authorized NCBs included in a "white list" are allowed to send the SVA files.

They must be known in advance by the T2S system and, moreover, T2S must know in advance the technical addresses, expressed in form of standard "Distinguished Names", used when sending the messages by each authorized party.

So, T2S system must have a pre-loaded configuration table, "white list", such as the following:

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[2] The "enriched" file is sent back to the NCB in any case, even if all the rows have been successfully loaded.

[3] This value is assigned to specify the type of message exchanged in the network. For SVA files a new value must be used, to be agreed with VAN providers, dedicated to this message.

Parent BIC	BIC	Sending DN
BIC1	BIC2	DN1
BIC1	BIC3	DN2
BIC1	BIC4	DN3
…	…	…

BIC2, BIC3 and BIC4 are the BICs identifying[4] the NCB in T2S and DN1, DN2 and DN3 are the technical senders that are authorised to send SVA files for the three NCBs.

This configuration table must include all the parties authorized to send SVA files and, for each party, the DN of the authorised technical sender.

The SVA file is rejected by T2S when it refers (in field 1 and 2 of the file, see below) to valuations provided by a party not present in the configuration table. It is also rejected if the XML message hasn't been sent using a DN linked, in the same table, to the party providing the valuations.

Structure

XML schema

The following is the XML schema used to embed the file into a "store and forward" message:

```xml
<?xml version="1.0" ?>
<xs:schema xmlns="urn:T2S:SecuritiesValuationBulkFile"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="urn:T2S:SecuritiesValuationBulkFile"
  elementFormDefault="qualified">
<xs:simpleType name="RestrictedFileType">
  <xs:restriction base="xs:string">
    <xs:pattern value="(.{183,183})+"/>
  </xs:restriction>
</xs:simpleType>
<xs:element name="File" type="File"/>
  <xs:complexType name="File">
    <xs:simpleContent>
      <xs:extension base="RestrictedFileType">
        <xs:attribute name="fileId" type="xs:string" default="" />
      </xs:extension>
    </xs:simpleContent>
  </xs:complexType>
</xs:schema>
```

---

[4] As the sending parties are only NCBs, BIC1 is always the BIC of T2S Operator.

XML example:

```
<?xml version="1.0" encoding="UTF-8"?>
<File fileId = "T2SSVAFile20150630"
xmlns="urn:T2S:SecuritiesValuationBulkFile">Record1
Record2
…
Recordn
</File>
```

When the XML is sent back from T2S to the NCB ("enriched" file) and no records have been rejected, the embedded file is empty:

```
<?xml version="1.0" encoding="UTF-8"?>
<File fileId = "T2SSVAFile20150630"
xmlns="urn:T2S:SecuritiesValuationBulkFile"></File>
```

Encoding

The encoding of the flat file is UTF-8 with no Byte Order Mark (BOM).

Default Values

Default values are not used because there are no optional fields

ISO 15022 Interoperability

In order to ensure the interoperability to the ISO 15022 standard the character set of all fields is restricted to the SWIFT X Character Set (see below).

Character Set

All characters belong to the **SWIFT X Character Set**. The character set is as follows:

```
a b c d e f g h i j k l m n o p q r s t u v w x y z
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9
/ - ? : ( ) . , ' + { }
CR LF Space
```

Format of Structured Files

Format types

The values appear in the format as in the table below:

Format type	
DATE	The format is « yyyy-mm-dd » with no timezone indication. Example: "2015-06-30"

CHAR(n)	String with exactly n characters.
NUMERIC(p)	Number with maximum p integer places and no decimal places.

Format of records

Flat file column	Column Name	Format	Description	Rules
First row				
1	Tag of start of file	CHAR (60)	" " or "<File>"	The optional attribute *fileId* is a file reference that can be assigned by the sender. It is optional and it can be used to link the file returned by T2S and the file originally sent to T2S. The length of value assigned to *fileId* is from 0 to 54 characters.
Rows from #2 on				
1	Parent BIC	CHAR(11)	Parent BIC of the NCB providing the valuations	It must be known in advance by T2S system and included in the configuration table (see above).
2	BIC	CHAR(11)	BIC of the NCB providing the valuations	It must be known in advance by T2S system and included in the configuration table (see above).
3	Valuation Date	DATE	Date of the valuation	
4	ISIN	CHAR(12)	ISIN code of the securities	
5	Currency	CHAR (3)	ISO Currency code for the valuations	
6	Price coefficient	NUMERIC (31)	Price as coefficient – without any decimal point / comma	Example: If the price is 123,45 must be: 000…00012345 (number of leading zeroes is 26)
7	Number of decimal digits for price as coefficient	NUMERIC (4)	Price as coefficient (i.e. without currency) – number of fractional digits	Example: If the price is 123,45 must be: 0002
8	Price as amount	NUMERIC (31)	Price as amount (i.e. with currency) – without any decimal point / comma	Example as above
9	Number of decimal digits	NUMERIC (4)	Price as coefficient (i.e. with currency) – number	Example as above

				for price as amount		of fractional digits	

10	Status	CHAR (4)	Status of the row	It must be blank in the input file This information is updated by T2S in the file provided back to the sending NCB
11	Error description	CHAR(60)	Description of the error (if any) detected when the row was processed by SDMG	It must be blank in the input file This information is updated by T2S in the file provided back to the sending NCB
12	Record separator	CHAR(2)	Fixed value: CRLF	CR = Carriage Return (x'0D') LF = Line Feed (x'0A')
Last row				
1	Tag of end of file	CHAR (7)	"</File>"	

Format of "Enriched Files" from T2S to NCBs

The format of the enriched files is based on the format of the flat files that have been submitted to T2S. It includes only rows which have not been accepted by T2S (whose status is REJT, rejected). The submitted data remains unchanged but is supplemented with "Status" and "Error description".

Status and error supplementary fields

These data are located right to the record data.

Flat file column	Field	Possible values	Description	Rules
10	Status		**Status of the processing for the row.**	n/a
		REJT	Rejected	n/a
11	Error Description		**Description of the error.**	
		Technical sender not allowed	The technical sender of this Securities Valuation is not authorised to create Securities Valuations for this Party.	
		Price not compliant with Securities Settlement Type	When performing a Securities Valuation Create request, the value provided for the Price must be compliant with the Securities Settlement Type.	
		Unknown currency	When performing a Securities Valuation Create request, the Currency Code must refer to an existing instance in T2S.	
		Unknown or invalid Party	When performing a Securities Valuation Create request, the referenced Party must refer to existing and active NCB or Payment Bank in T2S.	
		Unknown Securities	When performing a Securities Valuation Create request, the Securities Mnemonic must refer to an existing and valid Security in T2S.	
		Invalid valuation date	When performing a Securities Valuation Create request, the Securities Valuation Date specified in the request must be equal to or greater than the current date.	
		Invalid number of decimals	When performing a Securities Valuation Create request, the number of decimals in the value provided for Price must be compliant with the number of decimals foreseen for the relevant currency.	

End of Document