target | T2S
services

T2S-0574-URD

Annex 1: User Detailed Functional Specification (UDFS)

Draft sections provided for CR-574 – Applying additional haircuts to own-used assets in T2S auto-collateralisation

Updates of existing UDFS sections are shown as underlined text when it is new, or as crossed text when it is removed.

For new UDFS sections included, the text is not shown underlined because everything is new. Whether a sections is new is market at the beginning of the section in green.

3.3.6.18 CollateralValueCreationRequestV01 (reda.024.001.01)

3.3.6.18.1 Overview and scope of the message

This chapter illustrates the *CollateralValueCreationRequestV01* message.

The *CollateralValueCreationRequestV01* is sent to T2S by CBs, payment banks, external collateral management systems.

It is used for instructing the creation of a securities valuation by providing details about the securities valuation to be created.

In the response, T2S sends reda.028.001.01 [▶ 1407] when the creation of the securities valuation has been successfully processed, queued or has been rejected.

3.3.6.18.2 The T2S-specific schema

Outline of the schema

The *CollateralValueCreationRequestV01* message is composed of the following message building blocks:

Message~~Identification~~Header

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.

CollateralValue

This building block is mandatory and non repetitive. It contains detailed information related to the collateral value creation message. It includes the following elements: security identifier, valuation date and price for the security, own-use valuation price (in cases where a Close Link exists), ~~with~~ the related currency.

NCBorPaymentBank

This building block is mandatory and non repetitive. It contains the identification of the Central Bank or Payment Bank providing the collateral value.

References/Links

The T2S-specific schema and documentation in HTML/PDF format as well as the message examples are provided outside of this document under the following link:

http://www.swift.com/mystandards/T2S/reda.024.001.01_T2S

Business rules applicable to the schema

MESSAGE ITEM	DATA TYPE/ CODE	BUSINESS RULES
CollateralValueCreationRequestV01 Document/CollValCreReq	CollateralValueCreationRequestV01	DSC3001 [▶ 1759]
SecurityIdentification Document/CollValCreReq/CollVal/SctyId	ISINOct2015Identifier	DSC3040 [▶ 1760] DSC3050 [▶ 1760]

MESSAGE ITEM	DATA TYPE/ CODE	BUSINESS RULES
ValuationDate Document/CollValCreReq/CollVal/ValtnDt	RestrictedISODate	DSC3205 [▶ 1760] DSC3050 [▶ 1760]
ValuationCurrency Document/CollValCreReq/CollVal/ValtnCcy	ActiveCurrencyCode	DSC3030 [▶ 1760] DSC3050 [▶ 1760]
Amount Document/CollValCreReq/CollVal/ValtnPric/Amt	RestrictedFINImpliedCurrencyAndAmount	DSC3020 [▶ 1759] DSC3800 [▶ 1761]
Coefficient Document/CollValCreReq/CollVal/ValtnPric/Coeff	RestrictedFINDecimalNumber	DSC3020 [▶ 1759]
Valuation Close Link Price – Amount Document/CollValCreReq/CollVal/ValtnClsLkPric/Amt	RestrictedFINImpliedCurrencyAndAmount	DSC3020 [▶ 1759] DSC3800 [▶ 1761]
Valuation Close Link Price – Coefficient /Document/CollValCreReq/CollVal/ValtnClsLkPric/Coeff	RestrictedFINDecimalNumber	DSC3020 [▶ 1759]
NCBIdentification Document/CollValCreReq/NCBOrPmtBk/NCBId/Id/AnyBIC	BICFIIdentifier	DSC3060 [▶ 1760] DSC3050 [▶ 1760]
~~RelatedParty~~Identification Document/CollValCreReq/NCBOrPmtBk/PmtBkId/~~RltdPtyId~~Id/Id/AnyBIC	BICFIIdentifier	DSC3060 [▶ 1760] DSC3050 [▶ 1760]
ResponsiblePartyIdentification Document/CollValCreReq/NCBOrPmtBk/PmtBkId/RspnsblPtyId/Id/AnyBIC	BICFIIdentifier	DSC3060 [▶ 1760] DSC3050 [▶ 1760]

3.3.6.18.3 The message in business context

Message example: reda.024.001.01_T2S_CollateralValueCreation_Example.xml

In this example Central Bank with BIC "NCBAXXYYAAA" requests the creation of a securities valuation in T2S.

Valuation is provided for security with ISIN "XXABCDEFGHIJ" and price is 14.65 EUR. It is valid for date "2011-01-01".

4.5 Securities valuation bulk file format specifications

4.5.1 Introduction

4.5.1.1   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.

4.5.1.2   Purpose

This chapter 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 [1].

4.5.2   Files technical Specification

The files 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 ~~181~~251 characters/bytes, the last character is a record separator (LF).

4.5.2.1   Identification and routing

The messages transporting Securities Valuations files will be identified by a specific RequestType [2] 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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[1]   The "enriched" file is sent back to the NCB in any case, even if all the rows have been successfully loaded.

[2]   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 [3] 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.

4.5.2.2   Structure

In order to ensure full compatibility with existing CMS applications, T2S supports two versions of the flat file. Version A will continue being supported until the go-live of ECMS.

4.5.2.2.1   Securities Valuations Flat File - Version A

XML schema for the request

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

```
<?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="(.{181,181}\n)+"/>
 </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>
```

Example of XML request

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

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

XML schema for the response

```
<?xml version="1.0" ?>
<xs:schema xmlns="urn:T2S:SecuritiesValuationBulkFileResponse"
    xmlns:xs="http://www.w3.org/2001/XMLSchema"
 targetNamespace="urn:T2S:SecuritiesValuationBulkFileResponse"
 elementFormDefault="qualified">
<xs:simpleType name="RestrictedFileType">
 <xs:restriction base="xs:string">
  <xs:pattern value="(.{181,181}\n)*"/>
 </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>
```

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

Example of empty XML response

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

In case the flat file cannot be processed due to an invalid file format or due to internal T2S technical reasons, the response message will have the following formats depending on the underlying reason:

Example of rejection for invalid file format reason XML response

```
<?xml version="1.0" encoding="UTF-8"?>
<File fileId = "T2SSVAFile20150630" xmlns="urn:T2S:SecuritiesValuationBulkFileResponse">
    0001-01-01
    00000000000000000000000000000000000000000000000000000000000000FERRFile not
    processed because of invalid file format
</File>
```

Example of rejection for internal T2S technical reason XML response

```
<?xml version="1.0" encoding="UTF-8"?>
<File fileId = "T2SSVAFile20150630" xmlns="urn:T2S:SecuritiesValuationBulkFileResponse">
    0001-01-01
```

00000000000000000000000000000000000000000000000000000000000000TERRFile not processed because of T2S technical error
</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

4.5.2.2.2   Securities Valuations Flat File - Version B

XML schema for the request

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

```
<?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="(.{181251,181251}\n)+"/>
 </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>
```

Example of XML request

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

XML schema for the response

```
<?xml version="1.0" ?>
<xs:schema xmlns="urn:T2S:SecuritiesValuationBulkFileResponse"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
  targetNamespace="urn:T2S:SecuritiesValuationBulkFileResponse"
  elementFormDefault="qualified">
<xs:simpleType name="RestrictedFileType">
 <xs:restriction base="xs:string">
  <xs:pattern value="(.{181251,181251}\n)*"/>
 </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>
```

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

Example of empty XML response

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

In case the flat file cannot be processed due to an invalid file format or due to internal T2S technical reasons, the response message will have the following formats depending on the underlying reason:

Example of rejection for invalid file format reason XML response

```
<?xml version="1.0" encoding="UTF-8"?>
<File fileId = "T2SSVAFile20150630" xmlns="urn:T2S:SecuritiesValuationBulkFileResponse">
0001-01-01
00000000000000000000000000000000000000000000000000000000000000000000000000000000000
000000000000000000000000000000000000000000000000000000000FERRFile not processed
because of invalid file format
</File>
```

Example of rejection for internal T2S technical reason XML response

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<File fileId = "T2SSVAFile20150630" xmlns="urn:T2S:SecuritiesValuationBulkFileResponse">
0001-01-01
00000000000000000000000000000000000000000000000000000000000000000000000000000000000000
0000000000000000000000000000000000000000000000000000000000TERRFile not processed
because of T2S technical error
</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

4.5.3   Format of Structured Files

4.5.3.1   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.

4.5.3.2 Format of records

FLAT FILE COLUMN	COLUM 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	

FLAT FILE COLUMN	COLUM NAME	FORMAT	DESCRIPTION	RULES
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 for price as amount	NUMERIC (4)	Price as coefficient (i.e. with currency) – number of fractional digits	Example as above
10	Own-Used Asset Price coefficient[4]	NUMERIC (31)	Price for own used assets as coefficient – without any decimal point / comma	Example as above
11	Number of decimal digits for own-use price as coefficient[4]	NUMERIC (4)	Price for own used assets as coefficient (i.e. without currency) – number of fractional digits	Example as above
12	Own-Used Asset Price as amount[4]	NUMERIC (31)	Price for own used assets as amount (i.e. with currency) – without any decimal point / comma	Example as above

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[4] Field only present in Version B of the flat file.

FLAT FILE COLUMN	COLUM NAME	FORMAT	DESCRIPTION	RULES
13	Number of decimal digits for own-use price as amount[4]	NUMERIC (4)	Price for own used assets as coefficient (i.e. with currency) – number of fractional digits	Example as above
~~10~~14	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~~15	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~~16	Record separator	CHAR(1)	Fixed value: LF	LF = Line Feed (x'0A')
Last row				
1	Tag of end file	CHAR (7)	"</File>"	

4.5.3.3   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

FLAT FILE COLUMN	FIELD	POSSIBLE VALUES	DESCRIPTION	RULES
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 values provided for the Price and Own-Used Asset Type 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 values provided for Price (as amount) and Own-Used Asset Price (as amount) must be compliant with the number of	

FLAT FILE COLUMN	FIELD	POSSIBLE VALUES	DESCRIPTION	RULES
			decimals foreseen for the relevant currency.	