Technical documentation – Daily Reporting of Money Market Data

SVERIGES RIKSBANK

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Document history

Version	Date	Description
1.0	2019-05-31	First version.
2.0	2019-10-30	Updated with acknowledgement file.
2.1	2021-02-15	Updated with transaction pair matching file.
2.2	2022-07-05	Editorial changes by replacing links to websites.
2.3	2023-11-07	Editorial changes to time for available acknowledgement file.

1 Background

Sveriges Riksbank collects money market transactions through the TORA system. This document describes the technical aspects of reporting money market transaction data to Sveriges Riksbank. For more background information and the user guide for reporting, please refer to "User Guide – Daily reporting on money market data" which can be found at https://www.riksbank.se/globalassets/media/statistik/swestr/user-guide--daily-reporting-on-money-market-data.pdf

2 Onboarding of reporting agent

The onboarding process is described in following steps:

Step 1: Request for access

The reporting agent downloads and fills out the form "Registration of authorisation for the TORA Transaction reporting system" https://www.riksbank.se/globalassets/media/statistik/swestr/registration-of-authorisation-for-the-tora-transaction-reporting.pdf

Step 2: User credential and connection details

Sveriges Riksbank provides user account and connection details for each reporter in test environment and production environment.

Step 3: Connection test

The reporting agent tests connection to TORA system. The test should be done from the IP addresses specified in step1 and by using the user credential received in step 2.

Step 4: File transfer test

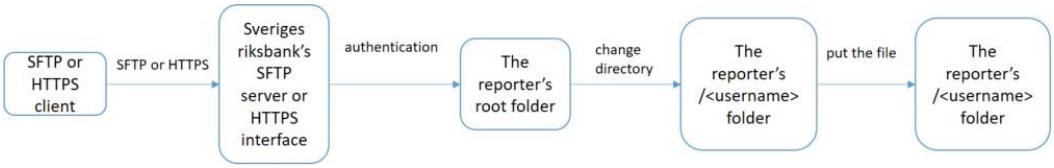
The reporting agent sends test files to Sveriges Riksbanks test environment.

Step 5: Production

Upon instructions of Sveriges Riksbank, the reporting agent starts sending files to the production environment.

3 Reporting process

There are two options of reporting to Sveriges Riksbank, SFTP and HTTPS. These two options are further explained in Chapter 4.



If error occurs during the reporting, the process exits.

4 Reporting options

4.1 Secure file transfer (SFTP)

The system TORA provides each reporting agent with a unique user account. The reporting agent connects to TORA from a SFTP client. After a successful login, the reporting agent finds the folder *<username>* under the root folder.

- The reporting agent can then upload files to the *<username>* folder.
- TORA automatically reads from the *<username>* folder and retrieves the files with expected file name and format (as described in Chapters 5 and 6). Uploaded files are removed from the *<username>* folder are soon as they are successfully retrieved.

4.2 Reporting via HTTPS

The reporting agent can manually uploads files via a web based user interface. The same user account for SFTP transfer applies to the web based user interface. The reporting agent accesses the interface by visiting the HTTPS address specified by Sveriges Riksbank.

The reporting agents root folder is presented after a successful login. The reporting agent can then change to the subfolder *<username>* and upload files by following instructions on the webpage. The result of upload shows immediately in the user interface.

5 File naming convention

All files should have unique names according to the following convention:

- <Market segment>-<Username of reporting agent>-<Date>-<Incremental>.xml
- The different file name parts should be separated by "-", chr (45).
- The file name extension should be ".xml".

File name part	Description	Example
Market segment	Market segment for the transaction. Valid values are: "ST" for secured transactions. "UT" for unsecured transactions. "FX" for FX-swap transactions. Length: 2 characters	"ST" "UT" "FX"

Username of reporting agent	The username provided by Sveriges Riksbank for file transfer.	"TORA_SRB"
Date	The reference data in format YYYYMMDD. Length: 8 characters	"20190605"
Incremental	Daily numerical incremental number that starts with "0001" for each day. Length: 4 characters	"0003"

Example of a valid file name:

ST-TORA_SRB-20190605-0003.xml

6 File format

The file format is defined in an XSD-schema in Appendix[1]:

RB_TORA_validation_ReportingMessages.xsd

A file consists of two parts:

- Business application header
- Reporting document

Both parts have XML-formats based on ISO 20022. The relevant schemas are available for download from https://www.iso20022.org/iso-20022-message-definitions (under "Authorities". Note that some message may be found in "Message Archive") or from MyStandards (SWIFT).

6.1 Business application header

The business application header format is defined in the XSD-schema:

head_001_001_01.xsd (ISO 20022)

6.1. Reporting document

The format of reporting document depends on the market segment of the reported transaction. Valid formats are:

auth_012_001_02.xsd (ISO 20022, Secured Market Statistical Report V02)

auth_013_001_02.xsd (ISO 20022, Unsecured Market Statistical Report V02)

auth_014_001_02.xsd (ISO 20022, Foreign Exchange Swap segment)

7 Validation

Files received will be validated by TORA according to TORA validation rules. The reporting agent will be informed of the validation result of each file by an email notification and an acknowledgement file.

8 Email notification

The reporting agent has to register a technical email address with Sveriges Riksbank to receive notifications. The email address should be provided in the access form.

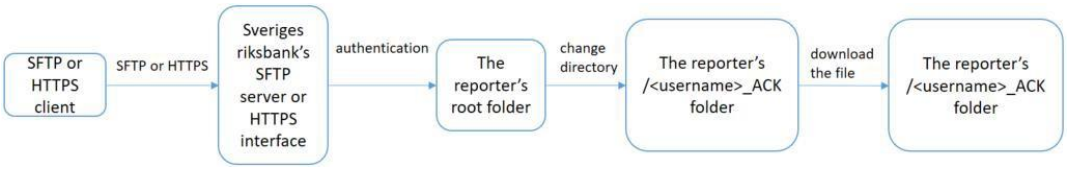
When a file is received by TORA, the reporting agent will receive an email notification with success or failure information. The email consists of:

- Filename.
- Timestamp of receiving.
- Status:
    - OK if the file is received and validated successfully.
    - NOK and error message if an error occurs.

9 Acknowledgement file

File received by TORA will be validated according to the validation rules. An acknowledgement file with the validation result are then stored on the reporters acknowledgement folder.

The files are available for download with either SFTP or HTTPS. After a successful login, the reporting agent finds the acknowledgement file under the *<username>_ACK* folder. After a successful download the reporting agent are responsible for deleting the acknowledgement file.



9.1 Filename

The acknowledgement file is named *<incoming report filename>*-ack.xml. Example of acknowledgement filename:

ST-TORA_SRB-20190605-0003-ack.xml

9.2 Acknowledgement format

The format of acknowledgement document.

auth_028_001_01.xsd (ISO 20022, Money Market Statistical Report Status Advice V01)

9.3 Additional acknowledgement file from pair-matching check

All transactions related to the Swestr calculation are matched against the counterparty´s reported transactions. In the case the corresponding transactions does not match, a report is created to both parties. The report document can be found under the <username>_ACK folder. This report should be available after 07:30 each bankday.

The file is named <*username*>-<*current* date>-*PairMatchError.xml.* Example of filename:

TORA_SRB-20201015-PairMatchError.xml

The format is described in appendix [2] RB_TORA_verification.xsd.

10 Appendix

[1] RB_TORA_validation_ReportingMessages.xsd

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

<xs:schema xmlns="urn:iso:std:iso:20022:tech:xsd:head.003.001.01"
        xmlns:xs="http://www.w3.org/2001/XMLSchema"
        xmlns:bah="urn:iso:std:iso:20022:tech:xsd:head.001.001.01"
        xmlns:secured="urn:iso:std:iso:20022:tech:xsd:auth.012.001.02"
        xmlns:unsecured="urn:iso:std:iso:20022:tech:xsd:auth.013.001.02"
        xmlns:fx="urn:iso:std:iso:20022:tech:xsd:auth.014.001.02"
        xmlns:status="urn:iso:std:iso:20022:tech:xsd:auth.028.001.01"
        targetNamespace="urn:iso:std:iso:20022:tech:xsd:head.003.001.01"
        elementFormDefault="qualified">

 <xs:import namespace="urn:iso:std:iso:20022:tech:xsd:head.001.001.01"
         schemaLocation="head_001_001_01.xsd" />
 <xs:import namespace="urn:iso:std:iso:20022:tech:xsd:auth.012.001.02"
         schemaLocation="auth_012_001_02.xsd" />
 <xs:import namespace="urn:iso:std:iso:20022:tech:xsd:auth.013.001.02"
         schemaLocation="auth_013_001_02.xsd" />
 <xs:import namespace="urn:iso:std:iso:20022:tech:xsd:auth.014.001.02"
         schemaLocation="auth_014_001_02.xsd" />
 <xs:import namespace="urn:iso:std:iso:20022:tech:xsd:auth.028.001.01"
         schemaLocation="auth_028_001_01.xsd" />

 <xs:element name="TORAMessage" type="TORAMessage" />
 <xs:complexType name="TORAMessage">
  <xs:sequence>
   <xs:element ref="bah:AppHdr" />
   <xs:choice>
    <xs:element ref="secured:Document" />
    <xs:element ref="unsecured:Document" />
    <xs:element ref="fx:Document" />
    <xs:element ref="status:Document" />
```

```
    </xs:choice>
   </xs:sequence>
  </xs:complexType>
</xs:schema>
```

[2] RB_TORA_verification.xsd

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

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
                    xmlns="http://www.riksbank.se/ToraVerification"
                    targetNamespace="http://www.riksbank.se/ToraVerification"
                    elementFormDefault="qualified"
                    attributeFormDefault="unqualified">

<xs:element name="TransactionVerification">
    <xs:complexType>
        <xs:sequence>
          <xs:element name="CounterpartyId" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="PrtryTxId" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="CtrPtyPrtyTxId" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="VerificationNumber" type="xs:string" form="unqualified"/>
          <xs:element name="RuleId" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="ErrorMessage" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="Amount" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="Rate" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="SenderTransactionType" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="TradeDate" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="SettlementDate" type="xs:string" form="unqualified" minOccurs="0"/>
          <xs:element name="MaturityDate" type="xs:string" form="unqualified" minOccurs="0"/>
        </xs:sequence>
    <xs:attribute name="SenderIdentification" type="xs:string"/>
    </xs:complexType>
</xs:element>
</xs:schema>
```