# CREDIT DATA COLLECTION DESCRIPTION OF ELECTRONIC REPORTING

Version: 1.14

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| Version | Date | Validity | Revisions |
|---|---|---|---|
| 1.14 | 21 June 2022 | | - Periodic dependency of schema files |
| 1.13 | 1 December 2021 | | - Periodic dependency of schema files |
| 1.12 | 22 April 2021 | | - New type of report file introduced for mapping changed identifiers<br>- Periodic dependency of schema files<br>- Changes according to schema version 1.12 updates |
| 1.11 | 28 August 2020 | | - References to schema, files and documents version numbering changed to format X.XX |
| 1.10 | 6 November 2019 | | - Changes according to schema version 1.10 |
| 1.9 | 28 June 2019 | | - Changes according to schema version 1.9 |
| 1.8 | 30 August 2018 | | - Changes according to schema version 1.8<br>- Removal of references concerning change reporting (submission type CHANGE and action type DELETE), paragraphs 4.3, 5, 5.1, 5.7.2 and 6 |
| 1.7 | 14 August 2018 | | - Changes according to schema version 1.7 |
| 1.6 | 13 July 2018 | | - Changes according to schema version 1.6<br>- Change of DCS2 Service Provider name to Posti Messaging Oy |
| 1.5 | 16 March 2018 | | - Changes according to schema version 1.5<br>- DCS2 production environment website published |
| 1.4 | 31 January 2018 | | - Changes according to schema version 1.4 |
| 1.3 | 28 December 2017 | | - Changes according to schema version 1.3<br>- Section 5.1.1 "Counterparty report file", revisions to table requirements for "Head office undertaking identifier", "Immediate parent undertaking identifier" and "Ultimate parent undertaking identifier"<br>- Section 5.3.2 "The schema of feedback files", the part about the feedback on validation checks performed by the Bank of Finland written in more detail |
| 1.2 | 29 September 2017 | This document is a draft version of the instructions and cannot be used for reporting to the Bank of Finland. | - Changes according to updated schema version 1.2<br>- Added in section 1 an introductory remark on the data collection service (DCS2)<br>- Added in section 5.3 XML schema and its version and information on schemas of submission files<br>- Sections 5.6.1 and 5.6.2: more details on the identifier of foreign data providers<br>- Section 5.7: more details on validation rules in new section 5.7.1 "Validation checks of the |

| | | | DCS2" and section 5.7.2 "Other technical validations of the Bank of Finland"<br>- Added in section 6 "Transmission of data do the Bank of Finland" information on the e-identification and e-authorisation services of Suomi.fi<br>- More details added in section 8 "Feedback reports" |
|---|---|---|---|
| 1.1 | 24 May 2017 | This document is a draft version of the instructions and cannot be used for reporting to the Bank of Finland. | - Changes according to updated schema version 1.1<br>- Section 5.1.2: revisions to descriptions of key identifiers for records in the monthly credit report<br>- Section 5.2 "Reported values and precision" written in more detail regarding the reporting of not applicable attributes and empty values<br>- Section 5.4 "Splitting of large report files" written in more detail<br>- Section 5.6 "File naming": changes to the creation of timestamp (EXTRACTEDTIME)<br>- New validation rules added in section 5.7 "Validation rules"<br>- Some small stylistic adjustments |
| 1.0 | 31 January 2017 | This document is a draft version of the instructions and cannot be used for reporting to the Bank of Finland. | |

Financial Stability and Statistics

## Table of content

Financial Stability and Statistics

# 1 INTRODUCTION

Credit data collection and the related reporting is based on Regulation (EU) 2016/867 of the European Central Bank on the collection of granular credit and credit risk data (ECB/2016/13) (i.e. 'the AnaCredit Regulation'). Credit data to be reported to the Bank of Finland have been supplemented with national requirements the Bank of Finland needs for the performance of its tasks.

Regulation (ECB/2016/13) obliges the Bank of Finland to collect credit data on resident credit institutions and resident foreign branches of credit institutions, regardless of whether or not they are institutions supervised under Directive 2013/36/EU of the European Parliament and of the Council[1]. The Bank of Finland's mandate for the collection of data is based on Council Regulation (EC) No 2533/98 (as amended by Regulation 2015/373) concerning the collection of information by the European Central Bank, and on the Act on the Bank of Finland (214/1998, sections 26 and 28).[2]

Regulation (ECB/2016/13) applies to all credit institutions resident in the Economic and Monetary Union. Article 7(1) of Regulation (EC) No 2533/98 provides that the ECB has the power to impose sanctions on reporting agents that fail to comply with statistical reporting requirements defined or imposed in regulations or decisions.

In Finland, entities subject to the obligation to report under the credit data collection are domestic credit institutions and Finnish branches of foreign credit institutions the Bank of Finland has individually informed about their reporting obligation.

The Bank of Finland will inform credit institutions about the commencement of the reporting obligation or cessation of reporting reliefs at least 18 months before the start of reporting. The Bank of Finland assesses the credit institutions' reporting obligations annually, on the basis of total outstanding amount of loans under Regulation (EU) No 1071/2013 concerning the balance sheet of the monetary financial institutions sector (ECB/2013/33, as amended by Regulation ECB/2014/51).
This document applies to the production and submission of AnaCredit (AC) data to the Bank of Finland as of 31 March 2018 (counterparty data) and as of 30 September 2018 (credit data).

The Bank of Finland receives the reported data via the Data Collection Service 2 (DCS2) operated by Posti Messaging Oy.

ECB Regulation (ECB/2016/13) and content requirements as well as other material relating to the reporting are available on the Bank of Finland's website:

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[1] Directive 2013/36/EC of the European Parliament and of the Council of 26 June 2016 on access to the activity of credit institutions and the prudent supervision of credit institutions and investment firms, amending directive 2002/87/EC and repealing directives 2006/48/EC and 2006/49/EC (OJ L 176, 27.6.2013).
[2] The ECB's statistical regulations are available at https://www.suomenpankki.fi/en/Statistics/reporting-instructions/.

Financial Stability and Statistics

https://www.suomenpankki.fi/en/Statistics/reporting-instructions/analytical-credit-database/

Financial Stability and Statistics

## 2 CONCEPTS OF ENTITIES IN CREDIT DATA COLLECTION

*Entity subject to the reporting obligation* means a *reporting agent* as referred to in Regulation (ECB/2016/13). A credit institution that is a reporting agent is obliged to provide the Bank of Finland with the specified counterparty and credit data.

*Observed agent* is the level at which an entity subject to the reporting obligation must provide the Bank of Finland with the data. An entity subject to the reporting obligation is always an observed agent. In addition, an observed agent can also be a branch of an entity subject to the reporting obligation, the data on which the entity is required to submit to the Bank of Finland according to the specified reporting obligations.

*Data provider* means in this document the entity that actually submits the report to the Bank of Finland. A data provider is either the credit institution subject to the reporting obligation or a separate data provider.

Financial Stability and Statistics

## 3 REPORTING OBLIGATION

A credit institution subject to the reporting obligation is responsible for the accuracy of data submitted to the Bank of Finland and fulfilment of the reporting obligation. Instructions on how to register as a credit data provider are available in the test reporting service https://test.dcs.bof.fi  and in production environment https://dcs.bof.fi .

# 4 STRUCTURE OF THE CREDIT DATA REPORT

## 4.1 Characters

Credit data reporting is based on UTF-8 encoding and XML files.

## 4.2 Submission file

The file submitted to the Bank of Finland (submission file) must be compressed into a zip file, which includes a header and report files that contain the actual data.

The submission file may include credit report files of several observed agents.

**Submission file (*.zip)**
AC_2016M12_FI00000000_20170101120000.zip

**Header (*.xml)**
AC_2016M12_Header_FI00000000_20170101120000.xml

**Counterparty report file (*.xml)**
AC_2016M12_Counterparty_FI00000000_20170101120000_1.xml

**Monthly report file (*.xml)**
AC_2016M12_MonthlyAC_FI00000000_20170101120000_1.xml
AC_2016M12_MonthlyAC_FI00000000_20170101120000_2.xml

**Quarterly report file (*.xml)**
AC_2016M12_QuarterlyAC_FI00000000_20170101120000_1.xml

**Monthly report file (*.xml)**
AC_2016M12_MonthlyAC_FI00000009_20170101120000_1.xml
AC_2016M12_MonthlyAC_FI00000009_20170101120000_2.xml

**Quarterly report file (*.xml)**
AC_2016M12_QuarterlyAC_FI00000009_20170101120000_1.xml

**Identifier mapping file (*.xml)**
AC_2016M12_IdentifierMapping_FI00000009_20170101120000_1.xml

Financial Stability and Statistics

## 4.3 Header

Each submission file always contains a header that describes the reported information package with metadata. The header contains e.g. information on the data provider, the reporting period and the separate credit data files that are included in the submission file. The size of the header may not exceed 500 megabytes.

The header always begins with the definition of schema file and other namespace specifications. It must also include the following *mandatory metadata*:

| Name of element/attribute | Use |
|---|---|
| SchemaVersion (attribute) | Version number of the used schema |
| SBMSSN_TYP (Submission type - attribute) | Accepted values for the submission type attribute: FULL –Transmission for the reference period or a revision that includes all data for the reference period |
| DATA_PRVDR_ID (Data provider's identifier - element) | A code of max. 60 characters which uniquely identifies the data provider. May include both alphabetical and numerical symbols. |
| DATA_PRVDR_NM (Data provider's name - element) | Data provider's name, max. 255 characters |
| DT_RFRNC (Reference Period - element) | Reference period |
| DT_FL_CRTN_DT_TM (File creation date and time - element) | Report's creation date and time |
| TEST (Test - element ) | If the report file is a test submission, the value of the field is 'true'. If the report file is a production submission, the value of the field is 'false'. |
| EMAIL (Contact e-mail address - element) | Contact person's email address, character string of max. 254 characters |
| RPRTD_FLS (Reported files - element) | Files included in the submission file, RPRTD_FLS consists of RPRTD_FL elements |
| RPRTD_FL (Reported File - element) | Name of an individual report file |

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Example:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<Header xmlns="http://bof.fi/AC" SBMSSN_TYP="FULL" schemaVersion="1.8"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <DATA_PRVDR_ID>FI00000000</DATA_PRVDR_ID>
    <DATA_PRVDR_NM>Luottopankki Oyj</DATA_PRVDR_NM>
    <DT_RFRNC>2016-12-31</DT_RFRNC>
    <DT_FL_CRTN_DT_TM>2017-01-01T12:00:00</DT_FL_CRTN_DT_TM>
    <TEST>false</TEST>
    <EMAIL>luottotieto@bof.fi</EMAIL>
    <RPRTD_FLS>
        <RPRTD_FL>AC_2016M12_Header_FI00000000_20170101120000.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_Counterparty_FI00000000_20170101120000_1.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_MonthlyAC_FI00000000_20170101120000_1.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_QuarterlyAC_FI00000000_20170101120000_1.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_MonthlyAC_SE00000001_20170101120000_1.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_QuarterlyAC_SE00000001_20170101120000_1.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_MonthlyAC_EE00000002_20170101120000_1.xml</RPRTD_FL>
        <RPRTD_FL>AC_2016M12_QuarterlyAC_EE00000002_20170101120000_1.xml</RPRTD_FL>
    </RPRTD_FLS>
</Header>
```

For the naming of the header, see section 5.6.

Financial Stability and Statistics

# 5 COUNTERPARTY AND CREDIT REPORT FILES

Credit data reporting consists of four data sets: counterparty data, monthly credit data,quarterly credit data and a potential identifier mapping file. The data sets are reported in separate XML report files, for each of which there are own schema files.

The set of report files pertaining to a reference period must always contain all data reported under the credit data collection.

If there are changes to the reference period data after submission of the first report, the data provider report all reference period data in full again

Counterparty data may only be submitted before or in the same submission file as the counterparty-related monthly and quarterly credit data, not thereafter.

The identifier mapping file, if any, is submitted in the same submission file where identifier changes are required.

For the naming of report files, see section 5.6.

## 5.1 General structure of report files

Counterparty, identifier mapping and credit report files always begin with the definition of schema file and other namespace specifications. Each of these files must contain the basic data presented in the table below. These data specify the report file and may occur only once in the report file.

| | Name of element/ attribute | Use | Mandatory |
|---|---|---|---|
| **BatchRecord** | SchemaVersion (attribute) | Version number of the used schema (attribute) | X |
| | DT_FL_CRTN_DT_TM (File creation date and time - element) | Creation date and time of the report file (xs:dateTime) | X |
| **ReportingAgentRecord** | SBMSSN_TYP (Submission type - attribute) | Accepted values for the submission type attribute: FULL –Transmission pertaining to a reference period or a revision that contains all data for the reference period | X |
| | RPRTNG_AGNT_ID (Reporting agent identifier - element) | A code of max. 60 characters which uniquely identifies the data provider. May include both alphabetical and numerical symbols. | X |

| | | | |
|---|---|---|---|
| TEST<br>(Test - element) | If the report file is a test submission, the value of the field is 'true'. If the report file is a production submission, the value of the field is 'false'. | X | |
| COMMENT<br>(Comment - element) | Free comment, max. 255 characters | | |
| DT_RFRNC<br>(Reference Period - element) | Identifier for the reference period (YYYY-MM-DD) (not in the identifier mapping file) | X | |

## 5.1.1 Counterparty report file

The reporting agent submits counterparty data for all observed agents that fall within the scope of its reporting obligation in one counterparty report file. Hence, each counterparty can only be reported once in the same submission file.

The attributes that are reported as mandatory for the counterparty vary according to the counterparty's location country and role. The mandatory data to be reported for the counterparty's different location countries and roles are described in more detail in the Excel document "BoF AnaCredit requirements vX.XX.xls".

If an attribute has not been defined as mandatory for a counterparty, it is permitted to report it just the same. The following table describes two examples of reporting requirements for *Finnish counterparties* whose role is that of a *debtor*.

**Mandatoriness (x) of reporting attributes for Finnish debtors who have been granted at least one credit after 1 September 2018, when these 1) have a national business register ID or 2) do not have a national business register ID or a LEI code**

| Name of element/attribute | Use | 1) | 2) |
|---|---|---|---|
| Action<br>(attribute) | Accepted values for action attribute:<br>Replace - data are added/changed | x | x |
| CNTRPRTY_ID<br>Counterparty identifier | An internal code used by the data provider to uniquely identify the counterparty | x | x |
| LEI<br>Legal Entity Identifier (LEI) | A code consisting of alphabetical and numerical symbols and assigned in accordance with the ISO 17442 standard | | |
| ENTTY_ID_TYP<br>Identifier type | Type of identifier | | x |
| DSCRPTN_OTHR_ID Description of Other identifier type | Description of national identifier in text format when ENTTY_ID_TYP = Other identifier | | |
| ENTTY_NTNL_ID<br>National identifier | National identifier | | x |

| INTRNTNL_ORG_ID International organisation identifier | International organisation identifier | | |
|---|---|---|---|
| RIAD<br>RIAD code | RIAD code | | |
| HD_OFFC_UNDRT_ID<br>Head office undertaking ID | Head office undertaking identifier | x | x |
| IMMDT_PRNT_UNDRT_ID<br>Immediate parent undertaking ID | Immediate parent undertaking identifier | x | x |
| ULTMT_PRNT_UNDRT_ID<br>Ultimate parent undertaking ID | Ultimate parent undertaking identifier | x | x |
| NM_ENTTY<br>Name | Name, max. 255 characters | x | x |
| STRT<br>Street | Address: street, max. 255 characters | | x |
| CTY<br>City/town/village | Address: city/town/village, max. 255 characters | | x |
| PSTL_CD<br>Postal code | Address: postal code, max. 255 characters | | x |
| CNTRY<br>Country | Address: country, max. 255 characters | x | x |
| LGL_FRM<br>Legal form | Legal form | | x |
| INSTTTNL_SCTR<br>Institutional sector | Institutional sector | | x |
| ECNMC_ACTVTY<br>Economic activity | Economic activity | | x |
| LGL_PRCDNG_STTS<br>Status of legal proceedings | Status of legal proceedings | | x |
| DT_INTTN_LGL_PRCDNGS<br>Date of initiation of legal proceeding | Date of initiation of legal proceedings | | x |
| ENTRPRS_SZ<br>Enterprise size | Enterprise size | | x |
| DT_ENTRPRS_SZ<br>Date of enterprise size | Date of enterprise size | | x |
| NMBR_EMPLYS<br>Number of employees | Number of employees | | x |
| BLNC_SHT_TTL<br>Balance sheet total | Balance sheet total | | x |
| ANNL_TRNVR<br>Annual turnover | Annual turnover | | x |
| ACCNTNG_FRMWRK_SL<br>Accounting standard | Accounting standard | | |

## 5.1.2 Monthly credit report file

One monthly credit report file may contain data on only one observed agent. If the reporting agent is obliged to submit data on more than one observed agent, each observed agent must be reported in their own monthly credit report file.

A monthly credit report file contains the mandatory basic data described in section 5.1 as well as data on loan instruments relating to an observed agent, protection relating to the loan instruments, the roles and commitments of loan counterparties and data on counterparties' risks.

Monthly credit data are reported in six records. The mandatory identifiers to be reported for a record create a key identifier that identifies the record. A record may occur with the same key identifier value only once in the submission file.

Monthly credit report data consist of the following records:

1. **Instrument information records** (InstrumentInformationRecords): key identifier is a combination of the contract identifier and the related instrument's identifier (CNTRCT_ID, INSTRMNT_ID).
2. **Counterparty-instrument records** (CounterpartyInstrumentRecords): key identifier is a combination of the contract identifier, the related instrument's identifier, the identifier of the counterparty to the instrument and the role of the counterparty (CNTRCT_ID, INSTRMNT_ID, CNTRPRTY_ID, ENTTY_RL).
3. **Protection records** (ProtectionRecords): key identifier is the protection identifier (PRTCTN_ID).
4. **Instrument-protection records** (InstrumentProtectionRecords): key identifier is a combination of the contract identifier, the instrument identifier and the protection identifier (CNTRCT_ID, INSTRMNT_ID, PRTCTN_ID).
5. **Protection provider records** (ProtectionProviderRecords): key identifier is a combination of the protection identifier and the identifier of the counterparty providing protection (PRTCTN_ID, CNTRPRTY_ID).
6. **Counterparty risk and default records** (CounterpartyRiskAndDefaultRecords): key identifier is the counterparty identifier (CNTRPRTY_ID).

For detailed description of the data to be reported, see the schema "AC_LoanDataTypesX.XX.xsd."

## 5.1.3 Quarterly credit report file

One quarterly credit report file may contain data on only one observed agent. If the reporting agent is obliged to submit data on more than one observed

Financial Stability and Statistics

agent, each observed agent must be reported in their own quarterly credit report file.

A quarterly credit report file contains the mandatory basic data specified in section 5.1 and data on instruments relating to an observed agent. The same combination of contract and instrument identifier (CNTRCT_ID, INSTRMNT_ID) may occur in the report only once.

### 5.1.4 Identifier mapping file

If any of the identifiers used in reporting (CounterpartyIdentifier, ContractIdentifier, InstrumentIdentifier, ProtectionIdentifier) changes, a separate identifier mapping file must be submitted on the change of identifier. The identifier mapping file allows the data to be re-combined across reports based on different identifiers. In case of any change to the identifiers, you must **always** contact the Bank of Finland in advance at luottotieto@bof.fi.

The identifier mapping file is submitted when identifiers change, and the changes are valid from the date of submission for all periods reported. The identifier mapping file is submitted whenever there is a change of an identifier, and it always replaces the previous identifier mapping file. When revising data, either the new or old identifiers can be used in the credit report files.

A change can be specified to an individual observed agent by adding an OBSRVD_AGNT_ID attribute to the IdentifierMappingRecords element:

```
<IdentifierMappingRecords OBSRVD_AGNT_ID="OBSRVD_AGNT_ID1">
  <IdentifierMappingRecord SRC_ID="SRC_ID1" TGT_ID="TGT_ID1" IdentifierType="Counterparty" Action="Replace" />
</IdentifierMappingRecords>
```

### 5.2 Reported values and precision

Specifications describe for each cell the data type, limit value and content requirements, e.g. the code list used and the required format. The precision of the value reported in each cell is specified in the schema files or in the Excel file "AC XSD Elements vX.XX.xls".

In case the attribute to be reported is not applicable for the target in question or it is not required to be reported (and information is not reported on a voluntary basis) the particular xml element must be left out from the file. Reporting of empty xml elements is not allowed. As an exception for the not applicable values are code list based attributes where a certain "Not applicable" value is specified. In such a case the value in accordance with the code list must be reported.

### 5.3 XML schema and its version

This section describes the schema of submission and report files and the schema of feedback files.

### 5.3.1 The schema of submission and report files

Each XML file must include the version number of the schema that is used.

AC schema version X.XX consists of 14 separate XSD files.

Of these, 9 XSD files describe the schema of the submission and report files send to the Bank of Finland.

- AC_CodelistsX.XX.xsd
- AC_CommonDataTypesX.XX.xsd
- AC_CounterpartyBatchRecordX.XX.xsd
- AC_CounterpartyDataTypesX.XX.xsd
- AC_DataTypesX.XX.xsd
- AC_HeaderX.XX.xsd
- AC_LoanDataTypesX.XX.xsd
- AC_MonthlyBatchRecordX.XX.xsd
- AC_QuarterlyBatchRecordX.XX.xsd
- AC_IdentifierMappingBatchRecordX.XX.xsd
- AC_IdentifierMappingDataTypesX.XX.xsd
- AC_BOF_FDBKX.XX.xsd
- AC_DCS_FDBKX.XX.xsd
- AC_FDBK_CommonDataTypesX.XX.xsd
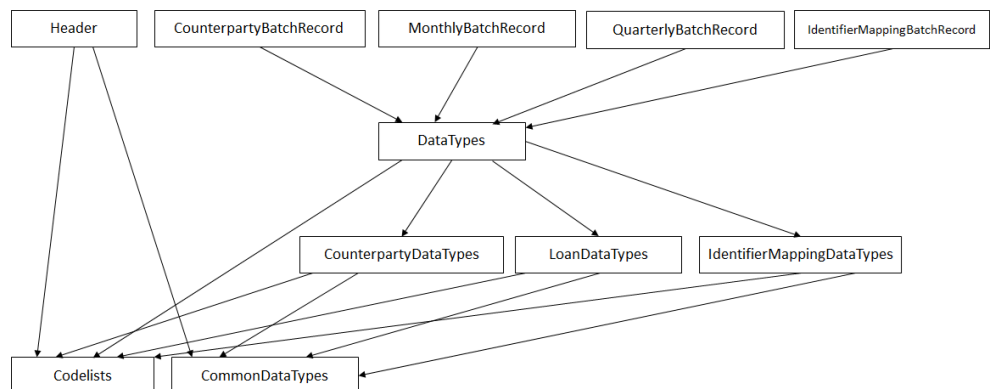


### 5.3.2 The schema of feedback files

Feedback on reported data is given in two parts: on the basis of validation checks performed by the Data Collection Service and on the basis of validation checks performed by the Bank of Finland.

Financial Stability and Statistics
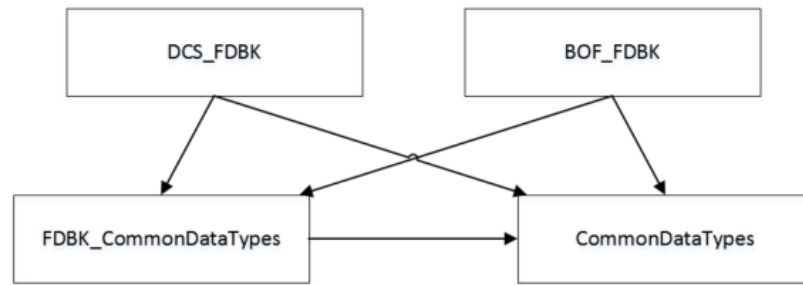
For more information on feedback reports, see section 8 Feedback reports.

### 5.3.2.1 The schema of feedback files for validation checks performed by the Data Collection Service

Three XSD files describe the schema of the feedback file generated on the basis of validation checks performed by the Data Collection Service:

- AC_DCS_FDBKX.XX.xsd
- AC_FDBK_CommonDataTypesX.XX.xsd
- AC_CommonDataTypesX.XX.xsd

### 5.3.2.2 The schema of feedback files for validation checks performed by the Bank of Finland

Three XSD files describe the schema of the feedback file generated on the basis of validation checks performed by the Bank of Finland:

- AC_BOF_FDBKX.XX.xsd
- AC_FDBK_CommonDataTypesX.XX.xsd
- AC_CommonDataTypesX.XX.xsd

### 5.3.3 Periodic dependencies of the schema files

A schema version is defined separately for each reporting period. The report for the period must be valid against the respective schema, example:

| Schema version | Valid from | Valid to |
|----------------|------------|----------|
| 1.11 | 2018M03 | 2021M03 |
| 1.12 | 2021M04 | 2021M11 |
| 1.13 | 2021M12 | 2022M08 |
| 1.14 | 2022M09 | |

### 5.4 Splitting of large report files

As a rule, counterparty data reported at the level of a reporting agent are reported in one counterparty report file, and credit data reported at the level of

an observed agent are reported in two report files (monthly and quarterly credit report files).

A single report file may contain a total of max. 100,000 recurring child elements (records). In addition, the size of a report file may not exceed 500 megabytes. The following table presents on a file-by-file basis the names of child elements (and their parent elements) to be considered in the calculation:

| File type | Name of parent element | Name of child element, i.e. record |
|---|---|---|
| Counterparty data | CounterpartyReference Records | CounterpartyReference Record |
| | | |
| Monthly credit data | InstrumentInformation Records | InstrumentInformation Record |
| | CounterpartyInstrument-Records | CounterpartyInstrument-Record |
| | ProtectionRecords | ProtectionRecord |
| | InstrumentProtection Records | InstrumentProtection Record |
| | ProtectionProvider Records | ProtectionProvider Record |
| | CounterpartyRiskAnd DefaultRecords | CounterpartyRiskAnd DefaultRecord |
| | | |
| Quarterly credit data | AccountingRecords | AccountingRecord |

If an XML report file contains more than 100,000 recurring child elements from all the parent elements, the report must be split into multiple files so that the aforementioned maximum value will not be exceeded. For naming of split report files, see section 5.6.

There are alternative methods for splitting recurring elements into different report files so that the maximum value will not be exceeded.

For example, if a credit report file that contains monthly data includes 60,000 ProtectionProviderRecord elements and 50,000 ProtectionRecord elements, the total number of elements is 110,000 and the file must be split into multiple files.

Here are two possible ways to split up a file (there are also other methods):

1) ProtectionProviderRecord elements are in their own file and ProtectionRecord elements are in another file.
2) Alternatively, ProtectionProviderRecord elements and 40,000 ProtectionRecord elements are in the first file and the remaining 10,000 ProtectionRecord elements are in the second file.

Financial Stability and Statistics

When splitting files, it must be noted that the same validation rules that apply to a single report file also apply to the full set of split files that refer either to the monthly or quarterly credit data of an individual observed agent or the counterparty data of a reporting agent.

However, the reported data may not be split so that e.g. each individual credit and the related records are reported in their own report files. When splitting up report files, the starting point is that, for counterparty report files reported at the level of a reporting agent, and for monthly or quarterly credit report files reported at the level of an observed agent, the average number of records per report file should not be below 20,000.

## 5.5 Compression of report files

The XML files of a submission file are compressed into a zip file that contains one header and n number of report files.

In compressing zip files, please note the following:
- Compression level: normal
- Compression method: deflate

## 5.6 File naming

The timestamp (EXTRACTEDTIME), i.e. the date and time of data extraction, must be identical for the submission file and the header. In addition, these timestamps must be same or newer than the timestamp (extraction time) in the file names of the report file included in the submission file.

### 5.6.1 Name of the submission file

The name of the submission file is in format
AC_[PERIOD] _[DATAPROVIDER]_[EXTRACTEDTIME].zip,
in which
- [PERIOD] is in format

  year + 'M' + month, for example 2016M12
  The length is exactly 7 characters. Use leading zeros in months, if necessary.
- [DATAPROVIDER] is in format

  FI + data provider's business ID without the hyphen.
  This is the case for a Finnish data provider. If the data provider is a foreign entity without a business ID, the Bank of Finland will define a separate identifier to the data provider.
- [EXTRACTEDTIME] is in format

  year + month + day + hour + minute + second
  (14 characters, with leading zeros if necessary).

Example:
AC_2016M12_FI00000000_20170101120000.zip.

Financial Stability and Statistics

## 5.6.2 Name of the header

The name of the header included in the submission file (zip) is in format
AC_[PERIOD]_Header_[DATAPROVIDER]_[EXTRACTEDTIME].xml,
in which

- [PERIOD] is in format
  year + 'M' + month, for example 2016M12
  The length is exactly 7 characters. Use leading zeros in months, if necessary.
- [DATAPROVIDER] is in format
  FI + data provider's business ID without the hyphen. This is the case for a Finnish data provider. If the data provider is a foreign entity without a business ID, the Bank of Finland will define a separate identifier to the data provider.
- [EXTRACTEDTIME] is in format
  year + month + day + hour + minute + second
  (14 characters, with leading zeros if necessary).

Example:
AC_2016M12_Header_FI00000000_20170101120000.xml.

## 5.6.3 Names of report files

Report files (BatchRecord files) included in the submission file (zip) are either reporting agent-specific or observed agent-specific.

The name of the counterparty report file is in format
AC_[PERIOD]_Counterparty_[REPAGENT]_[EXTRACTEDTIME]_[N].xml,
in which

- [PERIOD] is in format
  year + 'M' + month, for example 2016M12
  The length is exactly 7 characters. Use leading zeros in months, if necessary.
- [REPAGENT] is in format
  FI + reporting agent's business ID without the hyphen.
- [EXTRACTEDTIME] is in format
  year + month + day + hour + minute + second
  (14 characters, with leading zeros if necessary).
- [N] is a sequential number denoting splitting of report files (see section 5.4 Splitting of large report files). The names of split files differ from each other only with respect to the sequential number. For unsplit files, N=1.

Example:
AC_2016M12_Counterparty_FI00000000_20170101120000_1.xml.

The name of the credit data report file (monthly and quarterly credit report file) is in format

AC_[PERIOD]_ [X]_[OBSAGENT]_[EXTRACTEDTIME]_[N].xml
in which

- [PERIOD] is in format
  year + 'M' + month,   for example   2016M12
  The length is exactly 7 characters. Use leading zeros in months, if necessary.
- [X] is either MonthlyAC or QuarterlyAC, depending on the content of the file. The name of a QuarterlyAC can only include periods M03, M06, M09 or M12.
- [OBSAGENT] is in format
  FI + observed agent's business ID without the hyphen.
  This is the case for a Finnish observed agent.
  If the observed agent is a foreign branch of a Finnish credit institution, the Bank of Finland will assign a separate identifier to the reporting agent.
- [EXTRACTEDTIME] is in format
  year + month + day + hour + minute + second
  (14 characters, with leading zeros if necessary).
- [N] is a sequential number denoting splitting of report files (see section 5.4 Splitting of large report files). Names of split files differ from each other only with respect to the sequential number. For unsplit files, N=1.

Examples:
AC_2016M12_MonthlyAC_FI00000000_20170101120000_1.xml.
AC_2016M12_MonthlyAC_FI00000000_20170101120000_2.xml.
AC_2016M12_QuarterlyAC_FI00000000_20170101120000_1.xml.

The name of the identifier mapping file is in format
AC_[PERIOD]_IdentifierMapping_[REPAGENT]_[EXTRACTEDTIME]_[N].xml
, in which
- [PERIOD] is in format year + month as M+mm, for example 2016M12. The length of the period name is exactly 7 characters; with a leading zero before the sequential number of the month if necessary.
- [REPAGENT] is FI+ reporter's business ID without a hyphen
- [EXTRACTEDTIME] i.e. the time of extraction in format year+ month + day + hour + minute + second (14 characters, with leading zeros if necessary)
- [N] is a sequential number derived from the splitting of large report files (for more detail, see section 5.4 Splitting of large report files); the split files differ from each other only in terms of this sequential number. For non-split files, N=1.

Example:
AC_2016M12_IdentifierMapping_FI00000000_20170101120000_1.xml.

In a single submission file, the names of split files relating to the same observed agent must be identical except for the sequential number; timestamps (EXTRACTEDTIME) must be identical.

## 5.7 Technical validation rules

This section primarily presents technical validation rules.

### 5.7.1 Validation checks of the DCS2 (error codes in brackets)

The DCS2 performs technical checks for the submission file (ZIP) and the included header and report files before the submission file is approved and sent to the Bank of Finland.

#### 5.7.1.1 Validation checks pertaining to the submission file

MUST
  o The name of the submission file must meet the specifications (101101).
  o The generation time of the submission file must meet the specifications (101102).
  o The schema version used for the header and the report files must be a version supported and defined by the Bank of Finland for the period reported, and must be identical for all header and report files included in a submission file (101103).
  o Submission file can be unzipped (101201).
  o Data provider's identifiers and reference dates in the name of the submission file and the header match each other (101314).
  o Period data of the same submission file match each other (101316).

#### 5.7.1.2 Validation checks pertaining to the header

MUST
  o The name of the report file meets the specifications (101313).
  o The generation time of the report file meets the specifications (101310).
  o Only 1 header is reported in a submission file (101311).
  o The header's reference date must be the last day of the month (102130).
  o The report files specified in the header to be included in a submission file match with the report files in the submission file (102131).
  o The header's schema version is supported during the reporting period (102132).
  o The header is generated in accordance with the schema (102133).

#### 5.7.1.3 Validation checks pertaining to report files

MUST

- o No single report file may exceed 500 megabytes. The rule does not pertain to the submission file (101317).
- o The report file's reference date is the last day of the month (102240).
- o The report file is technically readable. (102242).
- o The report file's schema version is supported during the reporting period (102243).
- o The report file is generated in accordance with the schema (102244).
- o If the report file is intended to be submitted in the production environment, it may not be specified as a test report (103101).
- o The only acceptable periods in the name of a quarterly credit report file (QuarterlyAC) are M03, M06, M09 and M12 (102244).
- o The reporting agent/observed agent is subject to the reporting obligation during the reference period (105101).
- o Quarterly reporters may only report data for periods M03, M06, M09 and M12 (105201).

## 5.7.2 Other technical checks of the Bank of Finland

MUST
- o The report files reported for a reference period must always contain all data reported under the credit data collection.
- o If a report file must be split up, all the separate report files must be contained in the same submission file.
- o The maximum sum of records in a single report file is 100,000. Records are elements that are described in the following three validation rules.
- o In a counterparty report file, or a full set of split counterparty report files, each counterparty reference record (CounterpartyReference Record) must be uniquely identifiable by a CNTRPTY_ID key.
- o In an observed agent's quarterly report, or a full set of split quarterly report files, each accounting record (AccountingRecord) must be uniquely identifiable by a key consisting of fields CNTRCT_ID and INSTRMNT_ID.
- o In an observed agent's monthly report, or a full set of split monthly report files, each record must be uniquely identifiable by a key in accordance with the table below.

| Name of record | Fields that comprise a key identifier |
|---|---|
| InstrumentInformationRecord | CNTRCT_ID<br>INSTRMNT_ID |
| CounterpartyInstrumentRecord | CNTRCT_ID<br>INSTRMNT_ID<br>CNTRPRTY_ID<br>ENTTY_RL |
| ProtectionRecord | PRTCTN_ID |

| InstrumentProtectionRecord | CNTRCT_ID<br>INSTRMNT_ID<br>PRTCTN_ID |
|---|---|
| ProtectionProviderRecord | CNTRPRTY_ID<br>PRTCTN_ID |
| CounterpartyRiskAndDefaultRecord | CNTRPRTY_ID |

# 6 TRANSMISSION OF DATA TO THE BANK OF FINLAND

The Bank of Finland uses a data collection service 2 (DCS2) operated by Posti Messaging Oy in the transmission of credit data.

Entities subject to the reporting obligation can use the DCS2 themselves or authorise a data provider to submit the credit data collection data on their behalf. Unlike with the earlier data collections, resident entities responsible for credit data reporting must identify themselves in accordance with strong electronic identification using the e-identification and e-authorisation services of Suomi.fi. More detailed instructions on how to log in to the service can be found on the home page of the test reporting service, at the address https://test.dcs.bof.fi and in production environment https://dcs.bof.fi .

Credit data collection files must be created in accordance with this document and the annexed record descriptions.
Annexes:
- AC XSD vX.XX.zip (schema files)
- AC XSD Elements vX.XX.xls
- AC_2016M12_FI00000000_20170101120000.zip
  - AC_2016M12_Header_FI00000000_20170101120000.xml
  - AC_2016M12_Counterparty_FI00000000_20170101120000_1.xml
  - AC_2016M12_MonthlyAC_FI00000000_20170101120000_1.xml
  - AC_2016M12_MonthlyAC_SE00000001_20170101120000_1.xml
  - AC_2016M12_MonthlyAC_EE00000002_20170101120000_1.xml
  - AC_2016M12_QuarterlyAC_FI00000000_20170101120000_1.xml
  - AC_2016M12_QuarterlyAC_SE00000001_20170101120000_1.xml
  - AC_2016M12_QuarterlyAC_EE00000002_20170101120000_1.xml
- AC Record Structure vX.XX.xls

The data provider transmits the credit data collection file to the DCS2. The DCS2 checks the technical integrity of the report file and accuracy of the record format and sends a correct file to the Bank of Finland.

Financial Stability and Statistics

The data provider receives automated feedback on any errors detected in the file at this stage, so that the data provider can take measures to correct the errors and resend the file.

The data submission relating to each reference period is a full submission (submission type SBMSSN_TYP = Full), after which the data provider can send a new full submission (SBMSSN_TYP = Full). The new full submission does not allow changes to data submitted previously; new full submission data remain valid as such.

The names of the files must contain a timestamp, i.e. the date and time at which the data were extracted. In some cases, the file name must also include a sequential number for the determination of the chronological order of the files.

There can be only one file submitted with the same name. A new submission must be specified with the timestamp of the extraction time. The timestamp is the date and time at which the data were extracted. Files must be submitted to the DCS2 in the order of data extraction. In other words, an earlier-extracted submission file may not be submitted after submission of a file that was extracted more recently.

The most recent full submission pertaining to a reference period remains valid. If the file is large, it must be split into multiple files that are numbered consecutively (see section 5.4).

Financial Stability and Statistics

21 June 2022
BOF/FIN-FSA-UNRESTRICTED
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# 7 REPORTING METHODS

In credit data reporting, data providers can choose between two reporting methods:

- File upload over HTTPS
- SFTP (Secure File Transfer Protocol) data transfer between the institution and the DCS2.

## 7.1 HTTPS upload

The data provider submits the report by logging in to the DCS2 and uploading the submission file via the service (HTTPS upload). Instructions on how to log in to the service can be found on the home page of the test reporting service, at the address https://test.dcs.bof.fi . DCS2 production environment is located at https://dcs.bof.fi  where reporting entitites are required to apply for a user ID.

## 7.2 SFTP file transfer

SFTP offers a direct and secure connection for the transfer of credit data files. The method is for data providers who submit large report files or who wish to automatize reporting.

In SFTP data transfer, the data provider and the DCS2 establish an SFTP connection transferring the files. For access to the service, the reporting institutions receive an SFTP account (user ID and password) from the DCS2. Instructions for an SFTP account subscription are available to registered users in the test reporting service https://test.dcs.bof.fi  and in production environment https://dcs.bof.fi .

## 8 FEEDBACK REPORTS

There are two kinds of feedback reports related to the credit data collection:
- feedback based on validation checks of the DCS2
- feedback based on validation checks of the Bank of Finland.

This section describes the content of validation checks at the general level.

### 8.1 Feedback based on validation checks of the DCS2

Technical checks performed by the DCS2 result either in a successful or unsuccessful delivery of the submission file. In both cases the DCS2 generates a feedback report which is available for the data provider in the service. The service also generates a list of any errors found in a rejected submission file. The list is saved for the data provider in the service. For the fulfilment of the reporting obligation, the submission file must successfully pass the DCS2 validation checks.

### 8.2 Feedback based on validation checks of the Bank of Finland

The Bank of Finland performs both technical and content-related validation checks for successfully delivered submission files. The validation checks performed by the Bank of Finland are described in a separate document "Validation checks for credit data collection". Any errors and observations detected in the submission file during the Bank's validation phase are listed, and the list is send to the DCS2 for the data provider.