



## Description of electronic reporting of MAPE reports

### 1 Overview

This document describes the data structures of the Payment and fraud data collection (MAPE) and the transfer of the data to the Bank of Finland. The MAPE schema files and MAPE validation file referred to in the document are available on the website of the reporting system reform, under *Instructions and recordings*:

<https://www.suomenpankki.fi/en/statistics2/to-the-reporter/raportointijarjestelman-uudistus/ohjeet/>. Reporting instructions for the payment and fraud data collection (MAPE) and other material related to reporting are available on the Bank of Finland website at <https://www.suomenpankki.fi/en/statistics2/to-the-reporter/payment-and-fraud-data/>.

The data for MAPE reporting are generated and submitted to the Bank of Finland in accordance with the descriptions provided in this document when reporting for the first time the data for the period 2024H01 (reporting of half-yearly data). As regards the reporting of quarterly data, 2024Q03 will be the first report generated and submitted in accordance with the descriptions provided herein. As regards annual reporting, 2024H01 and 2024H02 will be the first reports generated and submitted in accordance with the descriptions below.

### 2 Transfer of data to the Bank of Finland

The data for MAPE reporting is submitted to the Bank of Finland through the eRegulatory data collection service provided by Regnology France. The system is the same used in reporting to the FIN-FSA. Entities under the reporting obligation may either use the service themselves or authorise a reporter of their choosing to submit the data on their behalf. The eRegulatory data collection service is logged in via Suomi.fi authentication. Before logging in the data collection service, the obliged entity must authorise the reporting persons to report in the MAPE data collection in the authorisation service of the Suomi.fi portal. Without an authorisation, reporting is not possible. More detailed instructions about Suomi.fi authorisations are available [here](#).

There are three ways available for report submission:

- Reporting in a web template
- File submission as file upload (https upload)
- Direct encrypted access protocol between the company and the data collection service (SFTP Secure File Transfer Protocol).

Reporting in a web template is suitable for entities under the reporting obligation with little to report. The transfer of a file as file upload is suitable for obliged entities that have a lot to report and generate the report file from their own systems. Reporting using an SFTP connection is suitable for obliged entities with a lot of reportable data or reporting they want to automate. When using the SFTP data transfer, the reporter and the data collection service establish an SFTP connection between themselves to conduct the report file transfer. To order an SFTP identifier, the reporter must contact the Bank of Finland by email at ReportingSupport(at)bof.fi.

The data is submitted in the production environment of the data collection system, in addition to which reporting can be tested in a separate test environment. The test



environment and production environment will open in June 2024. The exact date will be communicated later.

The data collection service checks the technical integrity and structural validity of submitted report files and forwards valid report files to the Bank of Finland. Erroneous reports will not be forwarded to the Bank of Finland, but automatic feedback will be given on detected errors. Any errors must be corrected and the whole report resubmitted. A file with the same name may only be submitted once. The new submission will be identified by an updated time stamp (see more about naming the report in section 3.1. File naming). The time stamp will have to be updated both in the report name and Header section.

### 3 Report file

The file must be in the XML format (Extensible Markup Language), and the character set used is UTF-8.

The technical format of the file is defined in the schema files and content validations. The data content is defined in the reporting instructions.

When using the manual web template for data submission, the data will be automatically in the correct format.

The following paragraphs present the naming of the file and the main aspects of the structure of the file, using examples.

#### 3.1 File naming

The file name consists of six elements: reporter's identifier, type of reporter's identifier, frequency, survey code, reporting period and the creation date and time of the report. The separator of the elements is the underscore ("\_").

**Example 1:** Naming of the MAPE report containing data for the second half of 2024 (i.e. naming of the MAPE 2024H02 report). More detailed explanations of the elements after the examples.

FI12345678\_VAT\_H\_MAPEH\_2024-12-31\_20250227104924000.XML

**Example 2:** Naming of the MAPE report containing data for the last, i.e. fourth quarter of 2024 (i.e. naming of the MAPE 2024Q04 report). More detailed explanations of the elements after the examples.

FI12345678\_VAT\_Q\_MAPEQ\_2024-12-31\_20250129104924000.XML

Meaning of the file name components:

- **Reporter's identifier: valid VAT code.** The reporter's unique identifier used in the reporting is the business ID (VAT number). The identifier consists of the country code and the company's business ID without a hyphen, in the following format: FI<NNNNNNNN>. The reporter's identifier in the examples above is FI12345678.



- **Type of reporter’s identifier: VAT.** The identifier type used in MAPE is always VAT.
- **Frequency: Q or H.** The frequency for quarterly reports is Q and for half-yearly reports and annual reports H. For more information on the determination of the frequency, see Table 1, *Determination of survey code, frequency and reporting period*.
- **Survey code: MAPEQ or MAPEH.** The survey code for quarterly reports is MAPEQ and for half-yearly and annual reports MAPEH. For more information on the determination of the survey code, see Table 1, *Determination of survey code, frequency and reporting period*.
- **Reporting period: last day of the reference period.** The reporting period is the last day of the reportable (reference) period. Example 1 above is concerned with the data for the second half of 2024 (i.e. data for the period 1 July–31 December 2024), and so the reporting period is indicated as 2024-12-31. Example 2 above is concerned with the data for the last (fourth) quarter of (i.e. data for the period 1 October–31 December 2024), and so the reporting period is indicated as 2024-12-31.  
For more information on the determination of the reporting period, see Table 1, *Determination of survey code, frequency and reporting period*.
- **Creation date and time: <YYYY><MM><DD><HH><MM><SS><000> (time stamp).** Time stamp is the time when the data for the report was retrieved. It is unique for each data submission. In the case of a revision file, the time stamp will have to be replaced, since it is not possible to re-send a report with the exact same name. The data retrieval time takes the format: year + month + day + hour + minute + second + 000. The last three digits are always 000. (I.e. 17 characters, zeroes in the front where necessary).
- **Note. The elements of the file name are separated by an underscore (“\_”).**

Table 1. Determination of survey code, frequency and reporting period.

Reporting	Reporting periods	Frequency	Survey code	Reporting period – example for 2025
Quarterly reporting	Q1	Q	MAPEQ	2025-03-31
	Q2	Q	MAPEQ	2025-06-30
	Q3	Q	MAPEQ	2025-09-30
	Q4	Q	MAPEQ	2025-12-31
Half-yearly reporting	H1	H	MAPEH	2025-06-30
	H2	H	MAPEH	2025-12-31
Annual reporting	H1	H	MAPEH	2025-06-30
	H2	H	MAPEH	2025-12-31



### 3.2 Structure of this report

The structure of the XML document is defined by the MAPE schema, consisting of two separate XSD files: the XSD file defining the file structure, named as MAPE\_1.0.xsd and the XSD file defining the data content of the file, named MAPE\_Types\_1.0.xsd. In addition, the structure/data content is defined by content validations presented in the document MAPE reporting – validation rules.

The file consists of general specifications at the beginning, one Header section and one or more so-called content sections.

#### 3.2.1 General information

At the beginning of the report, there is a description of the XML version, character set used, schema information and description of the name universe. The schema version changes when changes are made to the MAPE schema. One schema is valid on each reporting date. When revising an old report from a period with a different schema from that used on the revision date, the revision report must be based on the schema valid during the period of the report being revised (identifying the schema version by the version number of the MAPE schema).

XML version	1.0
Character set used	utf-8
Schema instance	<a href="http://www.w3.org/2001/XMLSchema-instance">http://www.w3.org/2001/XMLSchema-instance</a>
Schema	<a href="http://www.w3.org/2001/XMLSchema">http://www.w3.org/2001/XMLSchema</a>
Schema version	1.0 (version number of the MAPE schema)
Definition of the name universe	<code>xmlns="http://bof.fi/MAPE"</code>

Example 3. General information at the beginning of the report

```
<?xml version="1.0" encoding="utf-8"?>  
<mapeReport xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" schemaVersion="1.0"  
  xmlns="http://bof.fi/MAPE">
```

#### 3.2.2 Header section

The first section of the report is a Header section, which always includes the mandatory meta data to be included in the report: These are the type of data provider's identifier, data provider's VAT code, type of reporter's identifier, reporter's VAT code, identifier of the data collection, last date of the reporting reference period, reporting frequency, report creation date and time and possibly a comment concerning the report. The elements contained in the Header section and their more detailed explanations are provided in Table 2, *Elements contained in the Header section*.



Table 2. Elements contained in the Header section

Element name	Explanation
typeOfDataProviderIdentifier	Type of data provider's identifier, "VAT"
dataProviderIdentifier	Data provider's VAT number in format FI<NNNNNNNN>
typeOfReporterIdentifier	Type of reporter's identifier, "VAT"
reporterIdentifier	Reporter's VAT number in format FI<NNNNNNNN>
surveyCode	"MAPE"
reportingPeriodEnd	Last day of the reportable month, YYYY-MM-DD
frequency	"Q" or "H"
creationDate	Creation date and time <YYYY>-<MM>-<DD>T<HH>:<MM>:<SS>
entitysComment	Possible short comment relating to the report.

Below is an example of the Header section of the XML report.

Example 4. Header section of the 2024H01 report

```

4 <header>
5   <typeOfDataProviderIdentifier>VAT</typeOfDataProviderIdentifier>
6   <dataProviderIdentifier>FI12345671</dataProviderIdentifier>
7   <typeOfReporterIdentifier>VAT</typeOfReporterIdentifier>
8   <reporterIdentifier>FI12345671</reporterIdentifier>
9   <surveyCode>MAPE</surveyCode>
10  <reportingPeriodEnd>2024-06-30</reportingPeriodEnd>
11  <frequency>H</frequency>
12  <creationDate>2024-08-29T10:49:24</creationDate>
13  <entitysComment>Test</entitysComment>
14 </header>

```

### 3.2.3 Content sections of the report

The content sections are named in the structural part of the MAPE schema file (MAPE\_1.0.xsd) as follows:

- ACCO = accoRecords
- CARD = cardRecords
- TERM = termRecords
- HPAY = hpayRecords
- APAY = apayRecords
- QPAY = qpayRecords
- SERV = servRecords

The content sections reported on the report depend on the reporting frequency and whether the reporter belongs within the scope of full or reduced reporting.

For entities within the scope of full reporting,

- content sections of H reports comprise the following:
  - ACCO section (1)
  - CARD section (0–1)
  - TERM section (0–1)



- HPAY section (0–1)
- SERV section (0–1)
- content sections of the Q reports comprise the following:
  - QPAY section (0–1)

For entities within the scope of reduced reporting,

- content sections of H reports comprise the following:
  - ACCO section (1)
  - CARD section (0–1)
  - TERM section (0–1)
  - APAY section (0–1)

Actual data contents are reported using content elements (records), comprising acco elements, card elements, term elements, hpay elements, qpay elements, apay elements and serv elements. The number of the content elements is presented in the following table.

Table 3. Number of content elements/records.

Report	Content section	Number of content sections	The content section contains the following content elements/records	Number of content elements/records
H report (full reporter)	ACCO (accoRecords)*	1	acco	1 - unlimited
	CARD (cardRecords)	0-1	card	0 - unlimited
	TERM( termRecords)	0-1	term	0 - unlimited
	HPAY (hpayRecords)	0-1	hpay	0 - unlimited
	SERV (servRecords)	0-1	serv	0 - unlimited
Q report (full reporter)	QPAY (qpayRecords)	0-1	qpay	0 - unlimited
H report (tail reporter)	ACCO (accoRecords)*	1	acco	1 - unlimited
	CARD (cardRecords)	0-1	card	0 - unlimited
	TERM( termRecords)	0-1	term	0 - unlimited
	APAY (apayRecords)	0-1	apay	0 - unlimited

\* The content section is always mandatory

Data items (elements) contained in the content elements/records have been listed in the tables at the end of this document. They are also found in the schema file MAPE\_TYPE.xsd and MAPE validation rules, which also define the details of the data types, threshold values, content requirements, value accuracies, code lists used and required formats.

Below is a simple example report, first in the currently used csv format and second in the new XML format, as well as brief descriptions of the report contents.

**Example 5: Card issuer's H report for the 2024H01 period.**

The card issuer (VAT code = FI08460714) issues MasterCard credit cards for private customers in Finland. The cards are chip cards without a contactless payment function and cash withdrawal function. Card payments have been made in Finland, both as chip





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**Xml report for the example case:**

```
<mapeReport xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" schem
aVersion="1.0" xmlns="http://bof.fi/MAPE">
<header>
<typeOfDataProviderIdentifier>VAT</typeOfDataProviderIdentif
ier>
<dataProviderIdentifier>FI08460714</dataProviderIdentifier>
<typeOfReporterIdentifier>VAT</typeOfReporterIdentifier>
<reporterIdentifier>FI08460714</reporterIdentifier>
<surveyCode>MAPE</surveyCode>
<reportingPeriodEnd>2024-06-30</reportingPeriodEnd>
<frequency>H</frequency>
<creationDate>2024-08-29T11:43:49</creationDate>
<entitysComment>Comment</entitysComment>
</header>
<accoRecords>
<acco>
<accountsDepositsAndOffices>A050</accountsDepositsAndOffices
>
<amount>1</amount>
</acco>
<acco>
<accountsDepositsAndOffices>A020</accountsDepositsAndOffices
>
<eMoneyAccount>>false</eMoneyAccount>
<paymentServiceUser>P</paymentServiceUser>
<amount>100</amount>
</acco>
</accoRecords>
<cardRecords>
<card>
<cardType>C130</cardType>
<scheme>MCRD</scheme>
<cashFunction>>false</cashFunction>
<combinationCard>NC</combinationCard>
<cardTechnology>C2</cardTechnology>
<paymentServiceUser>P</paymentServiceUser>
<country>FI</country>
<amount>100</amount>
</card>
</cardRecords>
<hpayRecords>
<hpay>
<reportersRole>ER</reportersRole>
<informationType>PT</informationType>
<paymentService>CP</paymentService>
<paymentServiceUser>P</paymentServiceUser>
```





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```
<electronic>true</electronic>
<paymentScheme>MCRD</paymentScheme>
<cardType>C130</cardType>
<remoteNonRemote>NRP</remoteNonRemote>
<terminal>T011</terminal>
<initiationChannel>CR</initiationChannel>
<customerAuthentication>SCA</customerAuthentication>
<counterpartysPSPLocation>FI</counterpartysPSPLocation>
<terminalLocation>FI</terminalLocation>
<amount>1000</amount>
<value>50000</value>
</hpay>
<hpay>
<reportersRole>ER</reportersRole>
<informationType>PT</informationType>
<paymentService>CP</paymentService>
<paymentServiceUser>P</paymentServiceUser>
<electronic>true</electronic>
<paymentScheme>MCRD</paymentScheme>
<cardType>C130</cardType>
<remoteNonRemote>R</remoteNonRemote>
<terminal>T012</terminal>
<initiationChannel>CR</initiationChannel>
<customerAuthentication>SCA</customerAuthentication>
<counterpartysPSPLocation>FI</counterpartysPSPLocation>
<terminalLocation>FI</terminalLocation>
<amount>200</amount>
<value>12000</value>
</hpay>
<hpay>
<reportersRole>ER</reportersRole>
<informationType>PT</informationType>
<paymentService>CP</paymentService>
<paymentServiceUser>P</paymentServiceUser>
<electronic>true</electronic>
<paymentScheme>MCRD</paymentScheme>
<cardType>C130</cardType>
<remoteNonRemote>R</remoteNonRemote>
<terminal>T012</terminal>
<initiationChannel>MP</initiationChannel>
<mobilePaymentType>C2B</mobilePaymentType>
<customerAuthentication>SCA</customerAuthentication>
<counterpartysPSPLocation>FI</counterpartysPSPLocation>
<terminalLocation>FI</terminalLocation>
<amount>150</amount>
<value>3000</value>
</hpay>
<hpay>
<reportersRole>ER</reportersRole>
<informationType>FT</informationType>
<paymentService>CP</paymentService>
<electronic>true</electronic>
```



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```
<paymentScheme>MCRD</paymentScheme>
<cardType>C130</cardType>
<remoteNonRemote>R</remoteNonRemote>
<terminal>T012</terminal>
<initiationChannel>CR</initiationChannel>
<customerAuthentication>SCA</customerAuthentication>
<fraudType>F02</fraudType>
<counterpartysPSPLocation>FI</counterpartysPSPLocation>
<terminalLocation>FI</terminalLocation>
<amount>1</amount>
<value>300</value>
</hpay>
<hpay>
<reportersRole>ER</reportersRole>
<informationType>LF</informationType>
<paymentService>CP</paymentService>
<liabilityBearer>PSP</liabilityBearer>
<value>300</value>
</hpay>
</hpayRecords>
</mapeReport>
```

### Comparison of CSV and XML reports

In the CSV file, data on the reporter and reporting period as well as other general information are provided in the batch record on the 000 row at the beginning of the report (marked in blue). In the XML report, the header section (marked in blue) corresponds to the 000 row of the CSV report.

The actual reportable statistics i.e. individual records are reported in the CSV file as rows. For example, card payments using the chip at a POS (section 4) are reported on the fifth row of the CSV report (marked in green). The corresponding data in the XML report is reported within the hpay element (marked in green). Note that in the XML report, all hpay elements are located within the hpayRecords element (marked in purple). Hence, each content element of the XML report (individual acco, card, term, hpay, qpay, apay and serv element) corresponds to an individual row in the csv report.

If the reportable data element is not applicable to the reportable content element, the XML element concerned must be left altogether unreported. The reporting of empty XML elements is not allowed. As an example, for card payments (*informationType=PT*) the user of payment service is reported – in this case, a private customer (*paymentServiceUser = P*) – but not in the case of fraudulent card payments (*informationType=FT*). The user of payment service is shown in the csv report in red P letters in field 7 (rows 5–7) and in the XML report on red rows `<paymentServiceUser>P</paymentServiceUser>`. In the case of a fraudulent card payment, field 7 is left blank in the csv report (row 8, marked in yellow), but in the XML report, the hpay element containing a fraudulent card payment does not include at all the element `<paymentServiceUser>P</paymentServiceUser>` (this hpay element is marked in orange).



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#### 4 Further information

Further inquiries about the submission of the report should be sent by email at [ReportingSupport\(at\)bof.fi](mailto:ReportingSupport(at)bof.fi). Further inquiries about the content should be sent by email at [paystat\(at\)bof.fi](mailto:paystat(at)bof.fi).



APPENDIX Elements contained in the content elements/records as a table

Elements contained in an ACCO element (ACCO record)

XML element	Explanation
accountsDepositsAndOffices	Reportable service etc. (accounts, deposits, branches etc.)
depositType	Type of deposit
assetsTransferableViaNetwork	Assets are transferable via network
eMoneyAccount	Indication whether the account is an e-money account.
paymentServiceUser	User of payment service
country	In the case of Payment accounts accessed by AISPs, the country of location of the AISPs, and in the case of AISPs' customers, the country of location of the customers in accordance with the ISO 3166 classification.
amount	Amount
value	Value

Elements contained in a CARD element (CARD record)

XML element	Explanation
cardType	Card type
eMoneyCardType	Type of e-money card
scheme	Scheme (card scheme)
cashFunction	Indication whether the card has a cash function
combinationCard	Indication whether the card is a combination card
cardTechnology	Card technology
paymentServiceUser	User of payment service
country	Cardholder's residency in accordance with the ISO 3166 classification.
amount	Amount

Elements contained in a TERM element (TERM record)

XML element	Explanation
terminalType	Type of terminal
eftpos	EFTPOS
contactlessPayment	Terminal accepting contactless payments
terminalAcceptingEMoney	Terminal accepting e-money
eMoneyLoadingUnloading	Loading/unloading of e-money
country	Country of location of terminal in accordance with the ISO 3166 classification.
amount	Amount



Elements contained in a HPAY element (HPAY record)

XML element	Explanation
reportersRole	Reporter's role
informationType	Information to be reported
paymentService	Payment service
paymentServiceUser	User of payment service
electronic	Indication whether the payment is electronic
paymentOrder	Payment order
channelForGivingConsent	Channel in which consent is given
paymentScheme	Scheme
instantPayment	Indication whether the payment is an instant payment
cardType	Card type
eMoneyType	Type of e-money
remoteNonRemote	Remote/non-remote payment
contactlessTechnology	Contactless payment technology
terminal	Terminal
initiationChannel	Channel in which the payment is initiated
mobilePaymentType	Type of mobile payment
customerAuthentication	Manner of authentication
reasonForNonSCA	The reason, if non-SCA is used
fraudType	Type of fraud
liabilityBearer	The bearer of liability for loss
counterpartysPSPLocation	Country of location of the counterparty's PSP
terminalLocation	Country of location of terminal
currency	Currency
amount	Amount
value	Value



Elements contained in a QPAY element (QPAY record)

XML element	Explanation
reportersRole	Reporter's role
informationType	Information to be reported
paymentService	Payment service
paymentServiceUser	User of payment service
electronic	Indication whether the payment is electronic
remoteNonRemote	Remote/non-remote payment
counterpartysPSPLocation	Country of location of counterparty's PSP in accordance with the ISO 3166 classification.
terminalLocation	Country of location of terminal in accordance with the ISO 3166 classification.
industry	Industry according to the ISO 18245 "Merchant Category Code" (MCC) classification
amount	Amount
value	Value

Elements contained in a APAY element (APAY record)

XML element	Explanation
reportersRole	Reporter's role
informationType	Information to be reported
paymentService	Payment service
electronic	Electronic
channelForGivingConsent	Channel in which consent is given
cardType	Card type
remoteNonRemote	Remote/non-remote payment
terminal	Terminal
customerAuthentication	Manner of authentication
reasonForNonSCA	The reason, if non-SCA is used
fraudType	Type of fraud
liabilityBearer	The bearer of liability for loss
counterpartysPSPLocation	Country of location of counterparty's PSP in accordance with the ISO 3166 classification.
terminalLocation	Country of location of terminal in accordance with the ISO 3166 classification.
amount	Amount
value	Value



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Elements contained in a SERV element (SERV record)

XML element	Explanation
service	Service
amount	Amount