Peppol Reporting – Operational Guideline for Service Providers

V1.0

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Version control

Version	Issue date	Summary of Change
1.0	**29.11.2023**	Initial version

Acronyms/Terminology

Term	Definition
SP	Service Provider
EUSR	End User Statistics Report
TSR	Transaction Statistics Report
SBDH	Standard Business Document Header
eDEC	eDelivery Community

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1 Introduction

1.1 Purpose of this document

This document is a guideline for Peppol Service Providers (SP) regarding Peppol reporting. It gives indicative guidance on how to comply with the Reporting Policy. The document will be updated whenever a better guidance can be given or is needed to support Service Providers as much as possible.

1.2 References

The following references are most relevant for this document

* Peppol Internal Regulations:
  https://openpeppol.atlassian.net/wiki/spaces/AF/pages/2889252865/Internal+Regulations

* Peppol Reporting Specifications: https://docs.peppol.eu/edelivery/specs/reporting/

* Peppol Envelope Specification 2.0.x: https://docs.peppol.eu/edelivery/

2 Reporting Process

Peppol reporting is split into two major parts: **End User Statistics Reporting** (EUSR) and **Transaction Statistics Reporting** (TSR). Both parts are covered in this document.

Every Peppol exchange needs to be counted, even if the sending and receiving SP are identical.

A Peppol exchange is the exchange of a document that is signed with a Production Peppol PKI Certificate.

2.1 Reporting Period

The Reporting Period is set at 1 month. Every report on a month MUST be reported within 15 calendar days of the next month.

2.2 Report submitting period

On the 11th day the SP will receive a reminder by mail if the EUSR and/or the TSR is not yet received. On the 16th day the SP will receive a mail regarding non-compliance if the EUSR and/or the TSR was not received.

The sending email address is reporting@peppol.eu – please make sure your email service can receive emails from that email address and neither blocks them nor marks them as spam or junk.

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2.3 Overview

For every Reporting Period the following steps need to be taken:

- Data sources need to be identified (chapter 3)

- Data needs to be gathered by SPs (chapter 4)

- SPs aggregate/prepare the data based on the rules and requirements of the Peppol Reporting specifications (chapter 5)

- SPs send the 2 reports via Peppol eDelivery to OpenPeppol (chapter 6)

- The data is processed further by OpenPeppol

3 Data Sources

This chapter deals with the data sources on SP side that should be used as the raw data for reporting.

3.1 Transaction Statistics Report (TSR)

The raw data of the TSR needs to be gathered for all exchanged Peppol Datasets. All necessary raw data can be gathered by looking at the transport protocol and the contents of the Standard Business Document Header (SBDH) only.

SPs need to gather the following information elements for each exchanged Dataset:

1. Timing of the exchange

2. Direction of the exchange (incoming or outgoing)

3. Sending Peppol Service Provider

4. Receiving Peppol Service Provider

5. Peppol Dataset Type (Document Type ID and Process ID)

6. Transport protocol used

7. Country code of sending End User (Corner 1)

8. Country code of receiving End User (Corner 4) (for incoming messages only)

For each of these fields a quick explanation on the source of the information is provided below.

3.1.1 Timing of the exchange

For all timings, the granularity of data gathering is the second, so milliseconds or finer time units are not needed.

All timings need to be converted into the UTC time zone to have it harmonized. The matching Reporting Period is defined AFTER the conversion to UTC.

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For messages sent and received via AS4, the content of the User Message element

```
eb:UserMessage/eb:MessageInfo/eb:Timestamp
```

must be used. This value is identical for sender and receiver and should deliver consistent results.

3.1.2 Direction of the exchange (incoming or outgoing)

The Direction of the Dataset exchange is obvious from the action that is taken – sending or receiving.

Peppol Exchanges sent out by Corner 1 only need to be counted in the category "outgoing".

Peppol Exchanges received by Corner 4 only need to be counted in the category "incoming".

In the edge case that an SP services both Corner 1 and Corner 4, the message needs to be counted in "outgoing" AND "incoming".

3.1.3 Sending Peppol Service Provider

For outgoing Datasets (sending), the Sending Peppol Service Provider is a constant value, currently extracted from the CN of the Peppol Service Provider certificate used for signing the AS4 message.

For incoming Datasets (receiving), the Sending Peppol Service Provider can be deduced from the Peppol signing certificate that is part of the received AS4 message (X.509 Certificate Subject CN value).

3.1.4 Receiving Peppol Service Provider

For incoming Datasets (receiving), the Receiving Peppol Service Provider is a constant value, typically extracted from the CN of the Peppol Service Provider certificate used for decrypting the received AS4 Message (X.509 Certificate Subject CN value).

For outgoing Datasets (sending), the Receiving Peppol Service Provider can be deduced from the Peppol certificate extracted from the SMP query, used for the encryption of the AS4 message.

3.1.5 Peppol Dataset Type (Document Type ID)

The exchanged Peppol Dataset Type ID is part of the AS4 User Message in

```
eb:UserMessage/eb:CollaborationInfo/eb:Action
```

and the SBDH in

```
StandardBusinessDocumentHeader/BusinessScope/Scope[Type="DOCUMENTID"]
```

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Note: Dataset Type IDs are case sensitive, according to the Peppol Policy for use of Identifiers.

3.1.6 Transport protocol used

The transport protocol is defined by the technical connector that is invoked. The value to be used is the one from the eDEC code list on Transport Profiles. For the current AS4 profile the value is

```
peppol-transport-as4-v2_0
```

Note: Transport Protocol IDs are case sensitive, according to the Peppol Policy for use of Identifiers.

3.1.7 Country code of sending End User (C1)

The Country code of sending End User of a Dataset exchange requires the usage of the Peppol Envelope specification 2.0.x that defines a new field for this value.

The Country of Sender can be retrieved from the SBDH via:

```
StandardBusinessDocumentHeader/BusinessScope/Scope[Type="COUNTRY_C1"]
```

The Sender is one of the End Users of Peppol. An End Users is defined as

> "An identified or identifiable entity that is responsible for the business content of the datasets that is exchanged (by sending and/or receiving) with another such entity using Peppol Services over the Peppol Network."

or phrased in a less legal way for the Post Award domain: End Users are the buyer and supplier that have a business contract with each other. The supplier sends an invoice for its goods or services it has deliverer, therefore being C1. The buyer receives the invoice and will pay for the goods or services it has received, therefore being C4. On the invoice they are also stated as buyer and supplier.

Note: Country codes are case sensitive according to the Peppol Envelope specification.

Note: C2 needs to know the country code of C1 based on the End User Identification requirements of OpenPeppol.

3.1.8 Country code of receiving End User (C4)

The Country of Receiver of a Dataset exchange cannot consistently be determined on the sending side of an exchange (C1 or C2). That's why the country code of the receiving End User is NOT part of the updated Peppol Envelope specification 2.0.

The country code of the receiving End User (C4) needs to be determined by C3 based on the End User Identification requirements of OpenPeppol.

Note: There is no "field" in the transmitted data to hold the C4 country code. Each SP needs to determine that from other sources.

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Note: The representation of the Country Code in reporting MUST follow the rules of country code representation in the Peppol Envelope specification 2.0.

Note: If the specific Receiver has a Business Card for the Peppol Directory the Country Code required for reporting should match the Country Code of the Business Card.

3.2 End User Statistics Report (EUSR)

The data for the EUSR is very similar to the data required for TSR except that it uses a different kind of preparation mechanism.

The effective data elements needed are:

1. Timing of the exchange

2. Direction of the exchange (incoming or outgoing)

3. Peppol Dataset Type (Document Type ID and Process ID)

4. Country Code of End User (this means Country Code of sending End User (C1) for senders, and Country Code of receiving End Users (C4) for receivers).

Additionally, an internal unique identification of the End User itself is needed. This identification is only needed for identifying an End User and for aggregating data upon it but is NOT part of the data transmitted to OpenPeppol.

3.2.1 Definition of data sources

For the definition of the data sources of the data elements stated under number 1, 2 and 3 above, see above section on TSR as they are identical.

Specific to the End User Statistics Report the data element stated under number 4, Country code of End Users, are derived from the SPs own system based on the End User Identification that was conducted by the SP.

4 Data Gathering

This chapter deals with the data gathering on the SP side.

- Section 4.1 deals with EUSR

- Section 4.2 deals with TSR

- Section 4.3 tries to elaborate different variants of data gathering that can be applied to both EUSR and TSR

- Section 4.4 deals with data aggregation and processing

4.1 End User Statistics Report

Important principles:

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1. The EUSR needs to include active End Users. This means End Users that sent and/or received messages during the reporting period.

2. Messages count **only** if a positive transport level acknowledgement (like an AS4 Receipt) was sent/received. Transmissions that failed due to network, DNS or SMP errors MUST NOT be included.

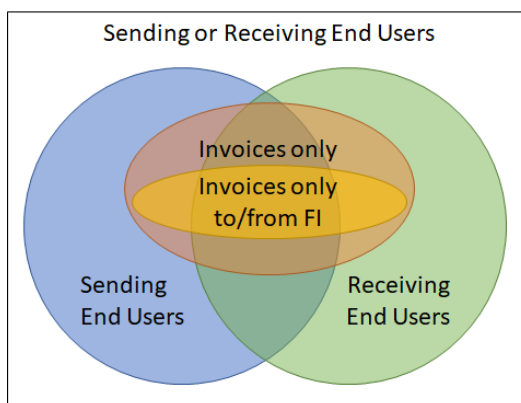For EUSR the data gathered must be assigned to sets as depicted in below figure:

Figure 1: Sets of End Users

Each Peppol Exchange matches different sets. The example sets in the above figure are:

• Sending End Users

• Receiving End Users

• Sending End Users of Invoices

• Receiving End Users of Invoices

• Sending End Users of Invoices from Finland

• Receiving End Users of Invoices to Finland

In practise the number of sets will be much higher as different sets for each Document Type ID, Process ID, End User Country might be needed.

The content of each set are the End Users that match. Usually, an End User can be identified with the Participant ID that is part of the transaction. However, if an SP has End Users that are represented using multiple Participant IDs, the SP needs to find a different End User ID internally. As the End User ID is NOT part of the report there are no rules how to do that.

4.2 Transaction Statistics Report

Important Principle:

• The TSR needs to include **only** messages for which a positive transport level acknowledgement (like an AS4 Receipt) was sent/received. Transmissions that failed due to network, DNS or SMP errors MUST NOT be included.

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Assuming that the 8 data source fields (see chapter 3.1) are available for each incoming and outgoing Peppol Dataset, the data may be gathered like this:

1. The Timing of the exchange (see 3.1.1) in UTC defines, in which Reporting Period the exchange needs to be considered.

2. For incoming exchanges, only the Sending Service Provider (see 3.1.3) needs to be gathered, because the Receiving Service Provider is a constant value and part of the TSR header information.

3. For outgoing exchanges, only the Receiving Service Provider (see 3.1.4) needs to be gathered, because the Sending Service Provider is a constant value and part of the TSR header information.

4. Depending on the Direction of exchange (see 3.1.2):

   o Every exchange must increase the "total amount of exchanges" in the Reporting Period.

   o Every exchange must increase the "total amount of exchanges per Transport Protocol" (see 3.1.6) in the Reporting Period.

   o Every exchange must increase the "total amount of exchanges per Service Provider and Dataset Type". This requires a combined key, consisting of the Service Provider ID of the opposite side (for sending the Receiving SP (see 3.1.4), for receiving the Sending SP (see 3.1.3)) and the Dataset Type ID (see 3.1.5).

   o Every exchange must increase the "total amount of exchanges per Service Provider and Dataset Type and Countries". This requires a combined key, consisting of the Service Provider ID of the opposite side (for sending the Receiving SP (see 3.1.4), for receiving the Sending SP (see 3.1.3)), the Dataset Type ID (see 3.1.5), the Sender Country Code (see 3.1.7) and the Receiver Country Code (see 3.1.8).

4.3 Variants of data gathering

There are two variants of how the amounts can be counted:

1. All the raw data elements are stored in a table like structure (e.g. a database table) for each exchange and aggregated/prepared from this table for the creation of the TSR and EUSR. This variant has the advantage, that additional aggregations can be created more easily. However, the amount of stored data is larger compared to the other variant.

2. The data is already collected in a way that it matches the required aggregations. This variant uses less storage volume, but the effort for creating new reporting aggregations is higher.

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5   Data Aggregation and preparation

This section deals with the data aggregation on SP side.

Data aggregation is defined in this context as the process of transforming and processing data of a single Reporting Period for the purpose of creating a Peppol report. Data aggregation and preparation happens after all the data for a Reporting Period is available.

5.1.1 End User Statistics Report

Based on the technical requirements of the specification, and the chosen variant of data gathering (see chapter 4.3) all data of a single Reporting Period needs to be prepared into the different sets so that it matches the specification requirements.

5.1.2 Transaction Statistics Report

Based on the technical requirements of the specification, and the chosen variant of data gathering (see chapter 4.3) all data of a single Reporting Period needs to be aggregated so that it matches the specification requirements.

5.1.3 Handling missing country codes

It could be the case that not all exchanged messages will contain the required C1 country code in the SBDH.

if so, messages with a missing C1 country code MUST be counted for TSR using the special country code "ZZ". This only applies to the TSR. For EUSR all country codes must be known to the SP based on the End User Idenitfication.

6   Data Transmission

This chapter deals with the data transmission on the SP side.

Note: The Document Type IDs and Process IDs for the transmission and SMP lookup are part of the specifications.

6.1 End User Statistics Report

The steps to transmit an EUSR are:

1. Create the EUSR XML representation based on the Peppol EUSR specification
2. Validate the EUSR against the EUSR Schematron
3. Send the message to the OpenPeppol Access Point via the Peppol eDelivery network
4. Ensure you receive a positive transport level acknowledgement

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6.2 Transaction Statistics Report

The steps to transmit a TSR are:

1. Create the TSR XML representation, based on the Peppol TSR specification

2. Validate the TSR against the TSR Schematron

3. Send the message to the OpenPeppol Access Point via the Peppol eDelivery network

4. Ensure you receive a positive transport level acknowledgement

6.3 Special Considerations on data transmission

• The receiving Peppol ID of OpenPeppol is 9925:be0848934496

• Both TSR and EUSR needs to be wrapped in an SBDH envelope.

• The Sender Country Code in the SBDH needs to be Country Code of the country where the SP is domiciled that is reporting the data.

• Invalid reports will not be processed by OpenPeppol. The SP is informed by mail what the errors are in the received invalid reports. The sending email address is reporting@peppol.eu – please make sure your email service can receive emails from that email address and neither blocks them nor marks them as spam or junk.

7 Testing

7.1 Testbed

OpenPeppol provides a testsuite in the Testbed where SPs are able to test their implementation of the TSR and EUSR. The Testbed will provide test results so SPs can determine if the implementation was done correctly.

7.2 Test environment Reporting Mechanism

OpenPeppol provides the ability to send test reports to the test environment of the Reporting Mechansim. This is enabled by using SMK.

SPs are able to determine if they are able to send in a valid report.

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