



Zentralregulierung in Peppol

Recommendation for the Implementation of Peppol-Based Central Settlement (ZR) Processing



Version History

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1 Introduction

1.1 Overview and Classification (putting into context)

Central settlement (Zentralregulierung, ZR) is a procedure to optimise payment processing in which buyers and suppliers handle invoicing and settlement via a central settlement provider (ZR). Implementing central settlement billing within the Peppol network requires the exchange of messages between the supplier, the buyer, and the central settlement provider.

These message flows differ from the conventional, well-established plain invoicing processes already defined in the Peppol network and therefore require specific rules between buyer and supplier.

The Peppol network aims to establish communication between its participants with minimal effort; ideally, no technical bilateral agreements are required beyond the execution of the underlying business process. The recommendations in this document are intended to minimise such technical coordination also when central settlement (ZR) procedures are used.

Using the recommendations described in this document, central settlement workflows can be consistently implemented within the Peppol network. No additional technical bilateral agreement between the involved parties is required.

1.2 Motivation and Objectives

This document provides recommendations for implementing central settlement (ZR)-specific workflows within the Peppol network. These recommendations aim to promote consistency in order to:

- enable participants in central settlement (ZR) processes to share know-how and operational experience,
- avoid the implementation of multiple, slightly differing variants,
- reduce barriers to entry and operational complexity,

and thereby support Peppol objectives of enabling the rapid, efficient, and scalable adoption of electronic invoicing and settlement processes.

1.3 Structure of this Document

This document first introduces the central settlement (ZR) concepts and message flows relevant to Peppol usage and places them in the context of the Peppol concepts defined in the Peppol Interoperability Framework (PIF).

Based on this foundation, recommendations for message addressing and message identification are derived.

A consolidated overview of all recommendations concludes the document and serves as a short-form reference for readers seeking a quick summary.

Appendices containing example workflows and example messages may be added at a later stage based on practical implementation feedback.

1.4 References

These recommendations supplement and are based on existing specifications.



| Reference | Dokument-title, version, and source | Origin |
|----------------|---|---|
| [ZR-Wikipedia] | Zentralregulierung (Wikipedia-Artikel) https://de.wikipedia.org/wiki/Zentralregulierung | General overview, collaboratively created and maintained. |
| [PIF] | Peppol Interoperability Framework https://peppol.org/learn-more/peppol-interoperability-framework/ | Binding specifications and agreements within the Peppol network |
| [BIS] | Peppol Business Interoperability Specifications (BIS) | Part of the “Peppol Architectural Framework” |
| [Post-Award] | Post-Award Documentation https://peppol.org/documentation/technical-documentation/post-award-documentation | Collection of specifications valid for order processing and billing |
| [BIS Billing] | Peppol BIS Billing, Version 3.0.x https://docs.peppol.eu/poacc/billing/3.0 | Application and technical specification for invoices and credit notes in Peppol |

1.5 Terms and Abbreviations

| Term / Abbreviation | Explanation |
|---------------------|--|
| 4-Corner-Modell | Fundamental architectural model of the Peppol network (see [PIF]) |
| AP | Access Point – technical adapter for document exchange |
| AS4 | Transport protocol for secure and traceable data exchange |
| BIS | Business Interoperability Specification – Peppol specifications with common syntax and semantics per document type |
| CEN | European Committee for Standardisation |
| CTC | Continuous Transaction Control – transmission of data to tax authorities |
| DNS | Domain Name System – populated by the SML |
| EN 16931-1 | European standard for a uniform semantic data model for invoices in Europe |
| PINT | Peppol INTernational Invoice |
| SML | Service Metadata Locator – central Meta-Registry |



| | |
|---|---|
| SMP | Service Metadata Publisher – dezentralised registry for metadata |
| UBL | Universal Business Language – XML-based data exchange format |
| Zentralregulierung / Central Settlement (short: ZR) | Procedure for optimised handling of payment transactions via an intermediary. |

2 Message Flows of Central Settlement in Peppol

First, the message flow is applied to the two common central settlement billing procedures using the Peppol architectural model.

2.1 Central Settlement Procedures

In general, two conceptual procedures are used in central settlement:

- **Original procedure:** The seller sends the original invoice not directly to the service recipient, but to the central settlement provider.
- **Copy procedure:** The seller sends the invoice both “as the original” to the service recipient and “as a copy” to the central settlement provider.

In both procedures, the service recipient explicitly informs the supplier that central settlement (ZR) should be used, and the supplier adjusts its invoicing accordingly. The central settlement procedure is thus explicitly known and agreed by both parties.

2.2 Original Procedure in Peppol

Transmission of the original invoice can be handled directly via Peppol workflows. For this purpose, the access point of the central settlement provider assumes the receiving function; the supplier initiates this transmission process. A second, technically independent transmission process represents the forwarding of the original invoice between the central settlement provider (ZR) and the buyer. The central settlement provider initiates this second transmission as part of its settlement processing.

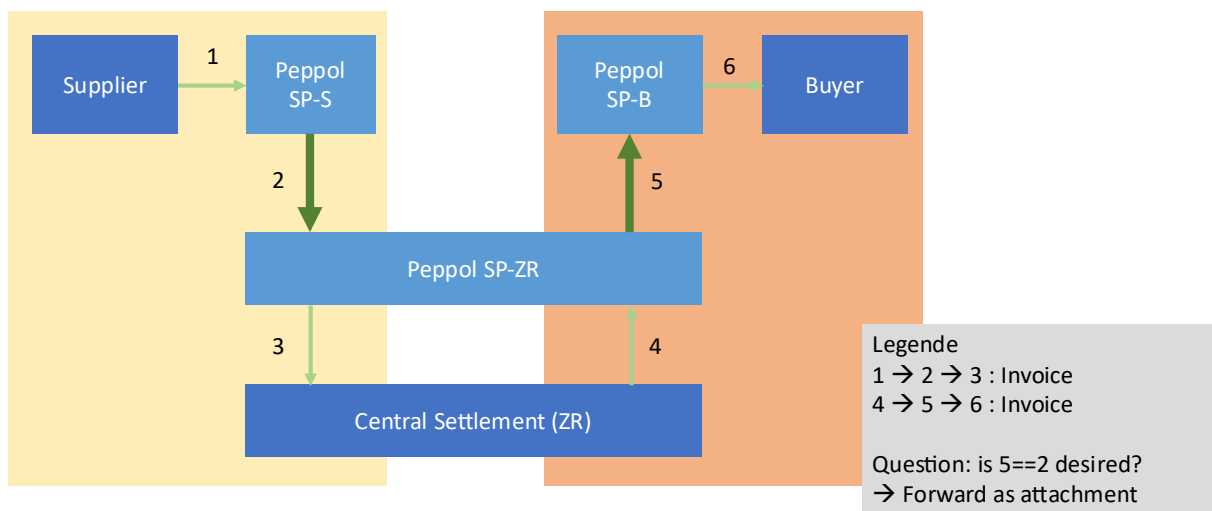


Figure 1: Message flow in the original procedure within the Peppol architecture

The diagram conceptually shows six transmission paths, each numbered. The steps for transmitting the original invoice to the central settlement provider (ZR) are as follows:



- The central settlement provider (ZR) uses a service provider (SP-ZR) to receive invoices. For this purpose, the ZR registers an appropriate Peppol Participant ID.
- The supplier has activated central settlement (ZR) for its customer and sends the invoice via its service provider (SP-S). Path 1 (between the supplier's systems, C1, and SP-S/C2) is defined bilaterally.
- Path 2 represents the Peppol-standardised transmission between C2 and C3, indicated by the bold arrow.
- Path 3, between C3 and C4, is again defined bilaterally between SP-ZR and the central settlement provider (ZR).

Independently, the second transmission process occurs between the central settlement provider (ZR) and the buyer. In this model, it is assumed that this transmission is handled via Peppol; however, the choice of methods is independent, and other methods are also possible. Conceptually, the following steps are required within Peppol:

- The buyer uses a Peppol service provider (SP-B) to receive invoices, possibly from multiple suppliers. The buyer's Peppol Participant ID is registered accordingly.
- The central settlement provider (ZR) has activated delivery of settled invoices to the buyer via Peppol. It sends an invoice generated in its system from the original invoice data to the buyer's Peppol Participant ID. Path 4 (C1–C2) is agreed between the ZR and SP-ZR.
- Path 5 represents the Peppol-standardised transmission (C2–C3) to the buyer's service provider (SP-B), indicated by the highlighted arrow.
- Path 6, between C3 and C4, is defined internally by the buyer.

The invoice files on paths 2 and 5 are generally not identical. The invoice on Path 5 is generated by the central settlement service provider (SP-ZR) based on data from the central settlement (ZR) system. Purely "forwarding" the original invoice file is not possible.

For technical reasons, the receiving endpoint (BT-49, the buyer's EndpointID) must differ from that of the original transmission. This difference is purely technical and does not affect the invoice content. The central settlement (ZR) invoice may also differ in structure or content—for example, it may include only aggregated data from the original invoice. These details are defined in the agreements between the member/connected organisation and the central settlement provider (ZR) and can be implemented in Peppol accordingly.

In all cases, a bit-for-bit copy of the original invoice may be transmitted. It is recommended to include this copy as an invoice-supporting attachment within the central settlement (ZR) invoice delivered to the buyer.

2.3 Copy Procedure in Peppol

In "copy procedure", the supplier sends two versions of the invoice: an "original" and a "copy." From a Peppol perspective, these two transmissions are handled as technically separate transactions. The supplier initiates both transmissions because the buyer is marked in the supplier's system as a participant in the copy procedure of central settlement (ZR).

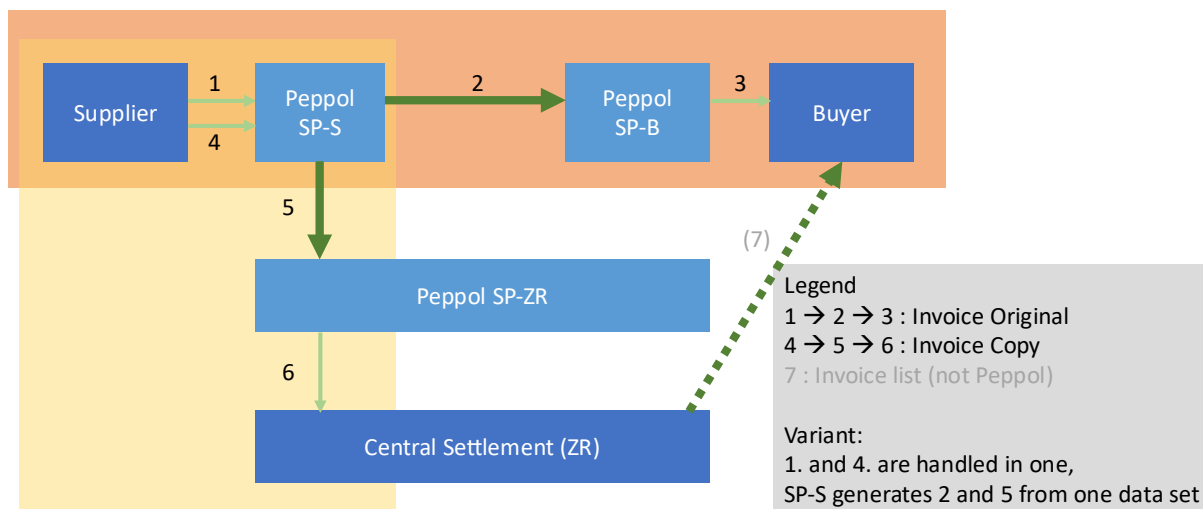


Figure 2 : Message flow in „copy procedure“ within the Peppol architecture

In a general case, a total of six individual transmission paths is created, numbered in the diagram. The transmission of the original invoice is technically identical in Peppol to the procedure without central settlement, except for the indication that central settlement (ZR) is used for invoice payment.

- Path 1 for the original invoice is agreed between the supplier system and its service provider (SP-S / C1).
- Path 2 is the Peppol-standardised transmission to the buyer’s service provider (SP-B), who has the buyer registered as the invoice recipient.
- Path 3 is an internal path between the buyer’s internal systems and its service provider. Payment of the incoming invoice is processed according to the ZR agreement.

For the copy, the supplier sends a separate invoice file:

- Path 4 is analogous to Path 1, agreed bilaterally between the supplier and SP-S.
- Path 5 transmits the copy to the ZR via Peppol and requires addressing to a Peppol Participant ID registered for the ZR.
- Path 6 is again agreed bilaterally between the ZR and its Peppol service provider (SP-ZR).

General implementation options at the supplier’s Peppol service provider (SP-S), depending on capabilities, are:

- Option 1: The supplier system (C1) generates both the ZR copy and the buyer copy and sends two files to its service provider (SP-S / C2). In this case, SP-S is not involved in ZR processing; the standard Peppol functionality is sufficient.
- Option 2: C1 generates a single invoice and sends the raw data once to its service provider (SP-S / C2). SP-S recognizes the requested ZR handling, generates two files, and sends them accordingly. The raw data contains sufficient information to address both files.

In any case, two files exist on Paths 2 and 5, differing in addressing and marking in the same way as in standard processing. It is crucial that the chosen implementation ensures that all accounting and, in particular, VAT-relevant information remains identical. This can be achieved, for example, by generating both files from shared invoice data. The correct marking of “original” and “copy” is handled by the supplier in Option 1, and by SP-S in Option 2.

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Message Flows of Central Settlement in Peppol



The order of transmission is determined by the supplier; Peppol does not impose any restrictions on whether the original or the copy invoice is sent first. Error handling should be implemented as in non-Peppol processing.

2.4 Central Settlement Provider as Peppol Service Provider

These considerations assume that the central settlement provider (ZR) uses a certified Peppol service provider for processing.

A special case may occur if the ZR operates its own Peppol Access Point. This does not require any changes to the recommendations when used internally by the ZR.

When operating for suppliers and/or buyers, it is advisable to maintain any “local” Peppol transmission paths to preserve the logical separation of suppliers, buyers, and the ZR.

In mixed scenarios, where some buyers or suppliers use their own Peppol service providers while others use the ZR’s, the logical workflow remains consistent and can be adjusted at any time if service providers are changed.

3 Recommendation for Implementation

The central settlement procedure is generally initiated at the request of the buyer, which the supplier must consider when issuing invoices and processing subsequent payments. Accordingly, these recommendations assume that the buyer provides the supplier with all information required for the desired procedure in advance.

The transmission of ZR-related information from the buyer to the supplier is not part of these recommendations.

On the supplier side, ZR-related information is typically stored in the customer master data or contract; this management is also outside the scope of this document.

3.1 Addressing and Registration

To transmit messages between the supplier, the buyer, and the central settlement provider (ZR), special addressing is used in the Peppol network. This addressing must be adapted for central settlement (ZR) to ensure that messages reach the correct recipient. Recommendations for specifying the ZR Peppol Participant IDs are provided below.

It is important to distinguish these addresses from the data fields used to identify the business transaction participants. The roles of supplier and buyer do not fundamentally change in ZR-based procedures; accordingly, the invoice content should continue to use the standard identifiers for the buyer and supplier.

The supplier must have a valid Peppol Participant ID to send invoices to the buyer and/or ZR.

In "copy procedure", the buyer must have a valid Peppol Participant ID to receive invoices from the supplier.

In all cases, the central settlement provider (ZR) must establish appropriate Peppol Participant IDs to receive invoices for its members/connected organisations.

3.1.1 Mapping the ZR-Address in Peppol

The ZR may use either separate Peppol Participant IDs for each of its ZR customers or a single uniform Participant ID for all. Separate IDs simplify processing and help reliably identify "misrouted" invoices. Using a single uniform Peppol Participant ID requires evaluating the buyer's Party ID or the ZR attribute (see below) but simplifies adding recipients because no further SMP/SML registration or corresponding message flows are required.

The ZR Peppol Participant ID may, for example, be its own VAT number (USt-ID, VAT-ID) with schema 0246 (which would allow using an extension like .ZR) or 9930. This works as a central entry point for all ZR invoices. All suppliers receive the same ZR Participant ID for participating members.

If buyer-specific ZR Participant IDs are desired, a GLN can be used to assign a dedicated number to each member within a reserved number range. Suppliers then receive different ZR Participant IDs per member for inclusion in their customer master data.

Additional segmentation or mapping is possible and lies in the responsibility of the ZR.



| | |
|---|---|
| ZR-ADDR-1 | ZR-Peppol Participant-ID different from those used by the buyer |
| Regardless of the chosen strategy for assigning ZR Peppol Participant IDs, the ZR Peppol Participant ID always is distinct from any other Peppol Participant IDs used by the buyer. | |

| | |
|---|--|
| ZR-ADDR-2 | Central settlement (ZR) Participant ID as electronic address (BT-49) |
| In invoices received by the ZR, the ZR's Peppol Participant ID is placed in field BT-49 (ubl:Invoice / cac:AccountingCustomerParty / cac:Party / cbc:EndpointID). | |

| | |
|--|--|
| ZR-ADDR-3 | Central settlement (ZR) Participant ID in SML/SMP registration |
| For invoices received by the ZR via Peppol, the corresponding document types (at a minimum, Peppol BIS Billing) must be registered under the respective ZR Peppol Participant ID in the SML/SMP. | |
| No technical marking as a "ZR procedure" is provided. | |
| It is recommended to indicate the ZR procedure in the SMP service description for processing purposes. A URL for additional information or support may be included in the TechnicalContactUrl. | |

Direct registration of the buyer address as Peppol recipient solely with the Endpoint/EndpointReference/Address ZR Access Point is technically possible but not recommended. This would, according to the Peppol Interoperability governance, imply the capability (and intent) to also process direct invoices to the buyer.

Separation of ZR and direct invoices would then rely only on the presence of the ZR marking, while both would arrive at the ZR Access Point.

3.1.2 Additional Data Fields for Participants

The supplier generates the Peppol invoice as if no central settlement exists (especially regarding the buyer). Therefore, for data fields beyond the buyer's electronic address (BT-49):

- BG-4 (AccountingSupplierParty) – always the logical supplier
- BG-7 (AccountingCustomerParty) – always the (logical) buyer, not the ZR
- BG-10 (PayeeParty), BG-11 (TaxRepresentativeParty) – unchanged compared to non-ZR procedures
- No dedicated "Invoice Recipient" exists in EN16931-1 / UBL

From the supplier's perspective, BG-10 (PayeeParty) is always themselves. In the original procedure, BG-10 may optionally be used for the ZR in Path 5, but this is redundant given the payment arrangements between member and ZR.

3.2 Identification of Transmitted Documents

To ensure correct identification of all documents transmitted via central settlement (ZR), the supplier must mark each invoice with a unique identifier. This allows ZR and buyer to distinguish between ZR-regulated and direct invoices.

The main identifier is the “ZR attribute” in the invoice, which should be placed in a buyer-specified data element.

| | |
|--|---|
| ZR-FLAG-1 | Marking as ZR-document in BT-10 („Buyer Reference“) |
| <p>The ZR indicator must be provided by the buyer in data field BT-10 (Buyer Reference: field is used with the identifier for the ZR procedure as specified).</p> <p>The provided identifier may include additional elements to facilitate processing on the receiving side and could, for example, have the following schematic structure:</p> <pre>##ZR#<ZR-Nr Mitglied/Anschlusshaus>#<ZR-Nr Lieferant>##</pre> <p>The opening and closing markers ##ZR## indicate the ZR attribute.</p> <p>Optional elements may be included using double-hash separators. Exact syntax is agreed bilaterally and evaluated by the receiving system.</p> | |

Additional ZR-related information (e.g., procedure ID, supplier/buyer IDs in ZR) can be included for easier automated processing. There is no formal length limitation for the Buyer Reference field (BT-10). These ZR-related data facilitate automated processing at both the ZR recipient and the buyer. The information may include, for example:

- An identification number for the ZR procedure
- Or the identification numbers of the supplier and the buyer within the ZR procedure

By applying these markings, documents can be correctly identified and processed, ensuring that all information transmitted as part of central settlement (ZR) reaches the correct recipient.

3.3 Additional Data Elements in Peppol Invoices

For payment information (BG-16 – PaymentMeans), it is technically possible to provide multiple payment entries. The supplier may wish to override these with their preferred payment instructions, which are typically used by the ZR for settlement. Additionally, the supplier may, for example at the request of the centrally-settled customer, include a symbolic payment entry in

BT-81 (PaymentMeansCode) „ZZZ“ / @name=“Zentralregulierung“

This can be used to help prevent direct payments. This marking is supplementary to the "identification of transmitted documents" described above.



4 Summary

4.1 Message Flows

Original Procedure: One or two independent Peppol transmissions occur:

- Transmission of the original invoice from the supplier to the ZR
- Transmission of the ZR-settled original from the ZR to the buyer

Copy Procedure: Two Peppol transmissions occur:

- Supplier transmits the original invoice to the buyer
- Supplier transmits the copy invoice to the ZR

4.2 Addressing

4.2.1 Assignment of ZR Peppol Participant ID

The central settlement provider (ZR) determines the Peppol Participant ID to be used. This may be either a central ID or member-specific IDs. The buyer or ZR communicates the Participant ID to the supplier prior to invoicing. The supplier stores ZR-related data in their customer management system.

The assigned ZR Peppol Participant ID is used: In the SBDH *Receiver* in UBL as the EndpointID of the buyer (BT-49).

In the original procedure, this is sufficient for transmitting the original invoice.

In the copy procedure, the supplier (or their service provider) generates one file for the ZR invoice and one for the buyer invoice. These differ in the electronic address of the recipient (BT-49) accordingly.

In all cases, the logically correct Party ID (*PartyIdentification*) of the buyer is included in the invoice.

4.2.2 Registrations

The ZR registers the central ZR entry or, under the assigned ZR Peppol Participant IDs, the ZR entries for its members. Separation of ZR processing from direct invoices is possible and must be observed.

In the copy procedure, the recipient registers its own Peppol Participant ID for receiving and processing ZR invoices. Direct invoices are processed differently based on the ZR marking.

4.3 Identification / Marking

To mark „ZR invoices“, field BT-10 (Buyer Reference: the identifier for the ZR procedure as specified by the buyer) must be used. The exact format of the identifier is determined by the ZR. Example:

```
##ZR#<ZR-Nr Mitglied/AnschlussHaus>#<ZR-Nr Lieferant>##
```

In this example, the double hashes (##) serve as field separators, and values are provided without angle brackets. Other formats are possible. Formal standardisation is not required due to the possibility of buyer-specified identifiers.

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Summary



The identifier to be used must be communicated to the supplier before invoicing.

For references to additional documents, Peppol BIS Billing provides further fields for automatic assignment at the buyer.