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Elektronsko izdajanje računov - 8. del: Semantični podatkovni model elementov e-potrdila ali poenostavljenega elektronskega računa

Electronic invoicing - Part 8: Semantic data model of the elements of an e-receipt or a simplified electronic invoice

Elektronische Rechnungsstellung - Teil 8: Semantisches Modell vereinfachter Rechnungen und elektronischer Belege

Facturation électronique - Partie 8 : Modèle sémantique de données des éléments d'un reçu électronique ou d'une facture électronique simplifiée

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This Technical Specification (CEN/TS) was approved by CEN on 23 September 2024 for provisional application.

The period of validity of this CEN/TS is limited initially to three years. After two years the members of CEN will be requested to submit their comments, particularly on the question whether the CEN/TS can be converted into a European Standard.

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European foreword

This document (CEN/TS 16931-8:2024) has been prepared by Technical Committee CEN/TC 434 “Electronic Invoicing”, the secretariat of which is held by NEN.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document is part of a series of documents, consisting of the following parts:

— EN 16931-1, *Electronic invoicing - Part 1: Semantic data model of the core elements of an electronic invoice*

— CEN/TS 16931-2, *Electronic invoicing - Part 2: List of syntaxes that comply with EN 16931-1*

— CEN/TS 16931-3-1, *Electronic invoicing - Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice*

— CEN/TS 16931-3-2, *Electronic invoicing - Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note*

— CEN/TS 16931-3-3, *Electronic invoicing - Part 3-3: Syntax binding for UN/CEFACT XML Cross Industry Invoice D16B*

— CEN/TS 16931-3-4, *Electronic invoicing - Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B*

— CEN/TR 16931-4, *Electronic invoicing - Part 4: Guidelines on interoperability of electronic invoices at the transmission level*

— CEN/TR 16931-5, *Electronic invoicing - Part 5: Guidelines on the use of sector or country extensions in conjunction with EN 16931-1, methodology to be applied in the real environment*

— CEN/TR 16931-6, *Electronic invoicing - Part 6: Result of the test of EN 16931-1 with respect to its practical application for an end user - Testing methodology*

— CEN/TS 16931-7, *Electronic invoicing - Part 7: Methodology for the development and use of EN 16931-1 compliant structured Core Invoice Usage Specifications*

— CEN/TS 16931-8, *Electronic invoicing - Part 8: Semantic data model of the elements of an e-receipt or a simplified electronic invoice* (this document)

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN/CENELEC Internal Regulations, the national standards organisations of the following countries are bound to announce this Technical Specification: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

What separates a receipt document from an invoice document is basically the dynamics of the usage. An invoice is mainly issued to achieve a payment for delivered goods and services and a receipt is issued to document the payment for the purchase of goods and services. In addition, the invoices always contain information about the buyer, whereas the receipt only needs that in certain cases and is for the most part issued without a buyer identification.

These conditions are regulated differently by laws and practice in different countries, and this has been taken into consideration.

This document complies at least with the following criteria:

— it is technologically neutral;

— it is compatible with relevant international standards on electronic invoicing;

— it is consistent with the relevant provisions of Directive 2006/112/EC (the “VAT directive”);

— it allows for the establishment of practical, user-friendly, flexible and cost-efficient electronic invoicing and cash register systems;

— it takes into account the special needs of small and medium-sized enterprises as well as of sub-central contracting authorities and contracting entities;

— it is suitable for use in commercial transactions between enterprises and between enterprises and consumers.

NOTE Attention is drawn to the requirements for the protection of personal data of Regulation (EU) 2016/679, having due regard to the principles of privacy and data protection by-design, data minimization, purpose limitation, necessity and proportionality.

1 Scope

This document establishes a semantic data model of an e-receipt or a simplified electronic invoice.

NOTE In the remainder of this document, when “e-receipt” is mentioned, “simplified invoice” is also meant.

The semantic model includes essential information elements that an electronic receipt needs to ensure legal (including fiscal) compliance and to enable interoperability for cross-border, cross sector and domestic trade. The semantic model can be used by organizations in the private and the public sector for documenting by issuing a receipt for the purchase of services and /or goods. It can also be used for documenting a purchase between private sector enterprises. In addition, it has been designed for the use of consumers.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 3166-1, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code (ISO 3166-1)*

ISO 4217, *Codes for the representation of currencies*

ISO 8601-1:2019, *Date and time — Representations for information interchange — Part 1: Basic rules*

ISO 15000-5:2014, *Electronic Business Extensible Markup Language (ebXML) — Part 5: Core Components Specification (CCS)*

ISO/IEC 6523 (all parts), *Information technology — Structure for the identification of organizations and organization parts*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

NOTE Business terms that are part of the semantic model are defined in the model itself.

3.1
electronic invoice
invoice that has been issued, transmitted and received in a structured electronic format which allows for its automatic and electronic processing

[SOURCE: Directive 2014/55/EU]

3.2
simplified invoice
invoice with a total amount below a certain threshold that may contain less data elements than a normal invoice

[SOURCE: Directive 2006/112/EC]

3.3
electronic receipt
receipt that has been issued in a structured electronic format which allows for its automatic and electronic processing also to be transmitted and received by the customer if the customer so decides

3.4
semantic data model
structured set of logically interrelated information elements

3.5
information element
semantic concept that can be defined independent of any particular representation in a syntax

3.6
structured information element
information element that can be processed automatically

3.7
syntax
machine-readable language or dialect used to represent the information elements contained in an electronic document (e.g. an electronic receipt)

3.8
business term
label assigned to a given information element which is used as a primary reference

3.9
receipt model
semantic data model of the elements of an electronic receipt

3.10
elements of an e-receipt
set of essential information elements that an electronic receipt may contain in order to enable domestic and cross-border interoperability, including the necessary information to ensure legal compliance

3.11
identifier
character string used to establish the identity of, and distinguish uniquely, one instance of an object within an identification scheme from all other objects within the same scheme

Note 1 to entry: An identifier may be a word, number, letter, symbol, or any combination of those, depending on the identification scheme used.

3.12
identification scheme
collection of identifiers applicable for a given type of object governed under a common set of rules

3.13
POS
cash register, or cash register system that allows communication between different components and systems

Note 1 to entry: A POS system is designed to facilitate user-friendly administration of sales for employees. The system also helps with the management of a business.

3.14
compliant
some or all features of the e-receipt model are used and all rules of the e model are respected

Note 1 to entry: Based on TOGAF definition of a compliant specification.

3.15
conformant
all rules of the e-receipt model are respected and some additional features not defined in the model are also used

Note 1 to entry: Based on TOGAF definition of a conformant specification.

4 The concept of an e-receipt

4.1 Introduction

A receipt is a proof that payment was affected both for the seller and the customer. For the buyer the receipt is an instrument mainly for consumer protection, guaranteeing that the purchase was legitimate and correct, but in the case the buyer is a taxable business entity the receipt may also serve the buyer as verification in bookkeeping and for deduction of VAT upon fulfilment of the respective legal requirements.

It should be noted that the legislation on receipts in the EU member states has national scope – the only exception is the EU VAT Directive (directive 2006/112/EC) that has been transposed into national law.

In many countries retail businesses are required to use certified cash registers or point of sales systems (POS) to produce receipts for each transaction, and to record and preserve the sales data for audit. The purpose is to better tax compliance and set the stage for fair competition. The requirements set for the content of the receipt, and the sales data to be preserved, have strong seller emphasis, linking also to the seller's obligations for bookkeeping and VAT declaration.

The VAT directive recognizes *invoice* and *simplified invoice* as valid forms of transaction. This means that, to the extent a receipt is to substantiate reporting of VAT, it shall satisfy the requirements as either invoice or simplified invoice. But, again, while the invoice is implemented consistently across the member states, the implementation of the simplified invoice may be adapted to national practice.

Consequently, under current legal regimes the receipt has mainly domestic reach; if one wants to do transactions internationally in many cases one needs to use the invoice.

4.2 Contents of the e-receipt model

Semantic building blocks for the e-receipt have been chosen, when applicable, from EN 16931 or from simplified invoice requirements (https://ec.europa.eu/taxation_customs/business/vat/eu-vat-rules-topic/vat-invoicing-rules_en). The EU's Digital Single Market aims to overcome challenges by creating the right environment for digital networks and services to flourish.

This is not only achieved by setting the right regulatory conditions, but also by providing cross-border digital infrastructures and services.

To achieve these in the e-receipt standardization, required elements for e-receipt are chosen so that already existing national receipt solutions could find needed elements from the e-receipt standard and optional requirements support functionality that may vary depending on national interests, needs and legislation allowing future developments.

Semantic building blocks for required and optional elements have been described in Clause 5 introducing some examples of use cases.

In cases where new optional semantic elements were introduced or arise during handling of comments after enquiry from national standardization bodies, work needs to be done during the standardization process to add and introduce those into existing references e.g. to UBL or UN/CEFACT CII.

Caveat: The content of the semantic model has been drafted to satisfy a wide range of stakeholder needs and application/industry areas. Only a limited set of legislations was considered but the ambition has been to designate a framework standard that can accommodate for the various legislations in Europe. However, it cannot be guaranteed that various regulations (for tax compliance, VAT reporting, bookkeeping, and more) recognize the concept of receipt. As can be concluded from 4.1, implementation has to be done on a national level and, furthermore, implementers need to verify that the selected transaction format supports the relevant regulations.

4.3 How to use the e-receipt model

This document lists business terms (information elements) and business term groups that may be included in an e-receipt or electronic simplified invoice. An e-receipt is transmitted between a sending and a receiving application. Sending applications may take any subset of the set of business terms listed in this document, provided it respects the stated cardinality (mandatory/conditional status and minimum/maximum repetition) and the business rules that apply to the business terms used. Receiving applications shall be able to receive all business terms listed, but may interpret and process only the information elements they need for their purpose. No prior agreement between sending and receiving applications is needed. Sending applications obviously should advertise to their users for what purposes the e-receipt transmitted is fit, e.g. by identifying the type of document it is.

Different countries have varying legislation on the content and conditions of e-receipts. In some countries, businesses may deduct the VAT that is specified on e-receipts, in other not. Some countries have specific legislation on the content of e-receipts. It is the responsibility of the e-receipt sender to adhere to the legislation that applies. This document does not list business rules that check such legal compliance. The purpose of the business rules that are listed is to ensure proper calculation of totals etc.

4.4 Compliance

4.4.1 Compliance of sending or receiving party

A receiving party may only claim compliance to the e-receipt model if it can accept all documents that comply with the model. It nevertheless only needs to understand and process the information elements that it needs for its purposes.

A sending party may claim compliance if it sends documents that comply with the e-receipt model.

4.4.2 Compliance of a receipt document instance

An e-receipt document instance is compliant to the model if it respects all rules and cardinalities defined for the e-receipt model.

5 Use cases and functionality supported by the e-receipt

5.1 Introduction

This subclause describes processes that are supported by the e-receipt model. How the receipts are electronically exchanged is not described in the process models. Parties may handle document exchange with their own resources or outsource (part of) it. See also CEN/TR 16931-4.

The processes described here are examples. The set of processes is not exhaustive. The process models included in this subclause are intended to indicate the business contexts that are supported by the e-receipt model. The models do not give a full definition of those processes.

The process models focus on the external activities of the parties and do not describe internal activities.

The process model diagrams are presented in the Business Process Model and Notation (BPMN) of the Object Management Group (OMG). A short legend of the symbols used can be found in Annex B.

The following processes are supported by the e-receipt model:

- U1: B2C and G2C e-receipts,
- U2: Online shop e-receipt,
- U3: e-Receipt is used to claim expenses,
- U4: e-receipt is used for returns, guarantee and refund,
- U5: Simplified invoice for B2B transactions.

5.2 U1: B2C and G2C e-receipts

5.2.1 Introduction

The most common case for an e-receipt is when a consumer purchases goods or services, pays and receives the receipt as proof of purchase and payment.

5.2.2 Short description

The receipt is a result of a purchase process carried out by a Consumer. The receipt is issued by a cash register (ECR/POS) or with a ticket or vending machine, after the payment has been made.

There exist different options how the document is sent to the buyer.

- The document can be transferred to the buyer's mobile device by means of a wireless protocol (e.g. NFC, Bluetooth);
- The document (or a link to the document) can be represented in a barcode (e.g. a QR-code) which is scanned by the buyer;
- The buyer may use a service provider (e.g. a bank or an application provider) to receive the e-receipts, so that the buyer may represent a secondary address, as the service provider is the primary address (applicable in a "four corner" network);
- The buyer may provide their electronic address and the receipt is sent to that address, possibly by means of one or more service providers;

- The buyer may use an app to receive the receipt. That app may contain another address for sending the receipt further e.g. to a bookkeeping system.

The cash register and the payment terminal may not be connected with each other. In that case either the e-receipt may not contain payment authorization information or the buyer's application gets the payment information through another channel from the payment terminal. It is also possible that the e-receipt is completed (manually) with payment authorization information by the seller or the buyer.

The buyer may use the receipt information to get an overview of their spending and to reconcile the spending with the payment record (credit or debit card slip / bank statement).

The Seller uses the information on the e-receipt for his bookkeeping and VAT administration. In some countries the cash registers may directly be connected to the system of the tax authorities. A copy of the e-receipt as provided to the customer may then be sent to the tax system as proof of the tax declaration to support sellers' and buyers' automated electronical VAT-filing.

5.2.3 Process or workflow description

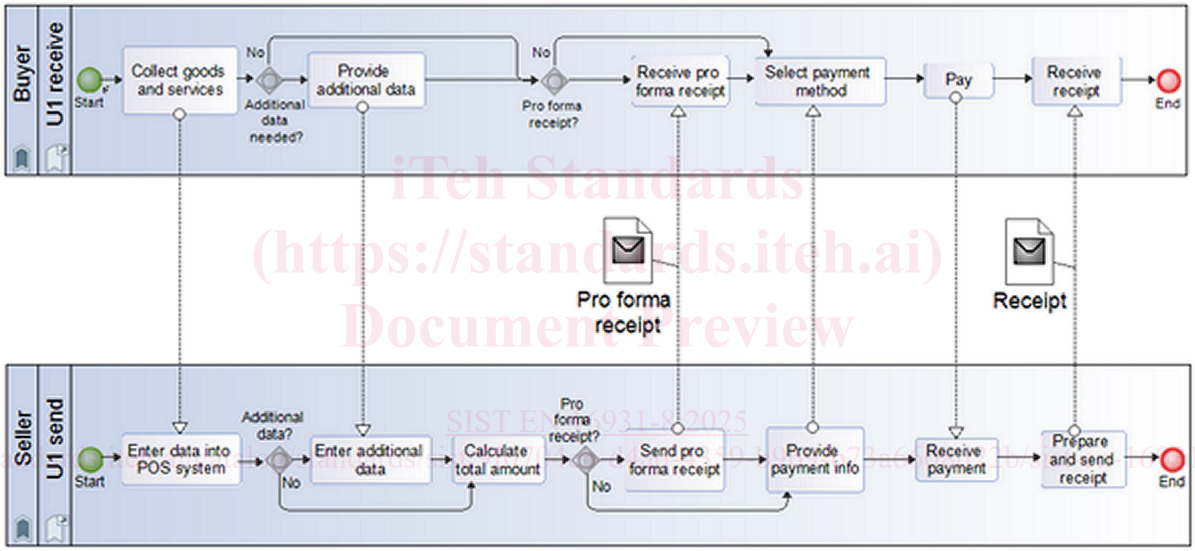

Figure 1

1. The Buyer purchases goods and/or services from the Seller.
2. If necessary, the Buyer provides additional information to the Seller (e.g. ID number).
3. The Seller calculates the total amount of the purchase.
4. The Buyer selects a payment method from the options offered by the Seller.
5. The Buyer pays or initiates the payment (cash, voucher or with electronic means).
6. The Seller generates the e-receipt with their cash register and sends it to the Buyer.
7. The Buyer imports the e-receipt in their application or in the system of a service provider.

5.2.4 Variants

Many payment options exist that may be offered to the Buyer. Some options need specific information that is included in the receipt. Options include cash, vouchers and electronic payments of several kinds. Parts of the amounts may be paid with different means. In some cases, a cash withdrawal may be part of the transaction. In other cases, a tip may be given that increases the calculated amount.

In some cases (e.g. in restaurants) first a pro-forma receipt is issued and after payment the final receipt is generated.

In some environments specific (product) information needs to be included in the receipt:

— For selected product categories sold in Europe a Digital Product Passport is required. A DPP identifier enables linking to the verified product information, adding transparency of the full life cycle of a product. The passport will tell how sustainably materials are sourced, what are the social and environmental impacts of used materials, production, use and end of life;

— When purchasing **food**, Best Before dates, lot numbers, a list of ingredients, information about the source, quality labels, nutrition value and allergy issues may need to be given;

— With **textile** products, the composition, washing instructions and a non-child labour statement may be needed;

— With **electronics**, serial numbers, warrantee information and safety instruction may need to be included;

— With **cultural events** or facilities and means of transport, a unique token may need to be included together with rang and seat information;

— With **pharmaceuticals** or medical services, the receipt may need to include information identifying the patient, the prescriber and the treatment, in order for the patient to reimburse the expense. Each country has different legislation with regards to financing or refunding pharmacy and health care services. In some cases, the State or an insurance company directly pays the health care provider, in other cases the buyer needs to pay and may later get refunded. In both cases the buyer may be entitled to receive a receipt. Usually the patient (who can be different from the buyer) is identified on the receipt, as is the doctor who prescribed the pharmaceutical or treatment.

5.3 U2: Online shop e-receipts

5.3.1 Introduction

In online sales to consumers the receipt is by definition electronic.

5.3.2 Short description

Usually, after having ordered the goods or services and having initiated the payment, the buyer receives the e-receipt as a download on the web page or in their mailbox, possibly together with a PDF representation. The e-receipt is provided to the buyer after ordering, in some cases after delivery.

The purpose of the e-receipt for the Seller is to provide the required information related to the purchase to fulfil the obligations set by the law and ensure that the customer has a good customer experience so as to minimize customer service costs. The purpose for the buyer is to receive the information to their selected service in a structured format to further utilize the receipt and enable