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

Contents

European foreword

This document (prEN 16931-8:2022) has been prepared by Technical Committee CEN/TC "Electronic Invoicing", the secretariat of which is held by NEN.

This document is currently submitted to the CEN Enquiry.

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[1], *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*

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

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[1] In preparation.

1 Scope

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

What separates the receipt document from the 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;

— the application of this document is intended to comply with the requirements for the protection of personal data of Directive 95/46/EC, having due regard to the principles of privacy and data protection by-design, data minimization, purpose limitation, necessity and proportionality. Applications of this document should fulfil all requirements of Directive 95/46/EG;

— it is consistent with the relevant provisions of Directive 2006/112/EC;

— 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.

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 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)*

4

Met opmerkingen [FvB1]: 77

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 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

125 **3.10**
126 **elements of an e-receipt**
127 set of essential information elements that an electronic receipt may contain in order to enable
128 domestic and cross-border interoperability, including the necessary information to ensure legal
129 compliance

130 **3.11**
131 **identifier**
132 character string used to establish the identity of, and distinguish uniquely, one instance of an
133 object within an identification scheme from all other objects within the same scheme

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

136 **3.12**
137 **identification scheme**
138 collection of identifiers applicable for a given type of object governed under a common set of rules

139 **3.13**
140 **POS**
141 cash register, or cash register system that allows communication between different components
142 and systems

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

145 **3.14**
146 **compliant**
147 some or all features of the e-receipt model are used and all rules of the e model are respected

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

149 **3.15**
150 **conformant**
151 all rules of the e-receipt model are respected and some additional features not defined in the
152 model are also used

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

154 ## 4   The concept of an e-receipt

155 ### 4.1 Introduction

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

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

166 It should be noted that the legislation on receipts in the EU member states has national scope – the
167 only exception is the EU VAT Directive that has been transposed into national law.

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

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

4.2 Contents of the e-receipt model

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

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

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

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

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

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

4.3 How to use the e-receipt model

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

211 Different countries have varying legislation on the content and conditions of e-receipts. In some
212 countries businesses may deduct the VAT that is specified on e-receipts, in other not. Some

Met opmerkingen [FvB8]: 132

213 countries have specific legislation on the content of e-receipts. It is the responsibility of the e-
214 receipt sender to adhere to the legislation that applies. This document does not list business rules
215 that check such legal compliance. The purpose of the business rules that are listed is to assure
216 proper calculation of totals etc.

217 **4.4 Compliance**

218 **4.4.1 Compliance of sending or receiving party**

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

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

223 **4.4.2 Compliance of a receipt document instance**

> **Met opmerkingen [FvB9]:** 24

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

226 # 5   Use cases and functionality supported by the e-receipt

227 **5.1 Introduction**

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

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

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

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

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

240 • U1: B2C and G2C e-receipts

241 • U2: Online shop e-receipt

242 • U3: e-Receipt is used to claim expenses

243 • U4: e-receipt is used for returns, guarantee and refund

244 • U5: Simplified invoice for B2B transactions
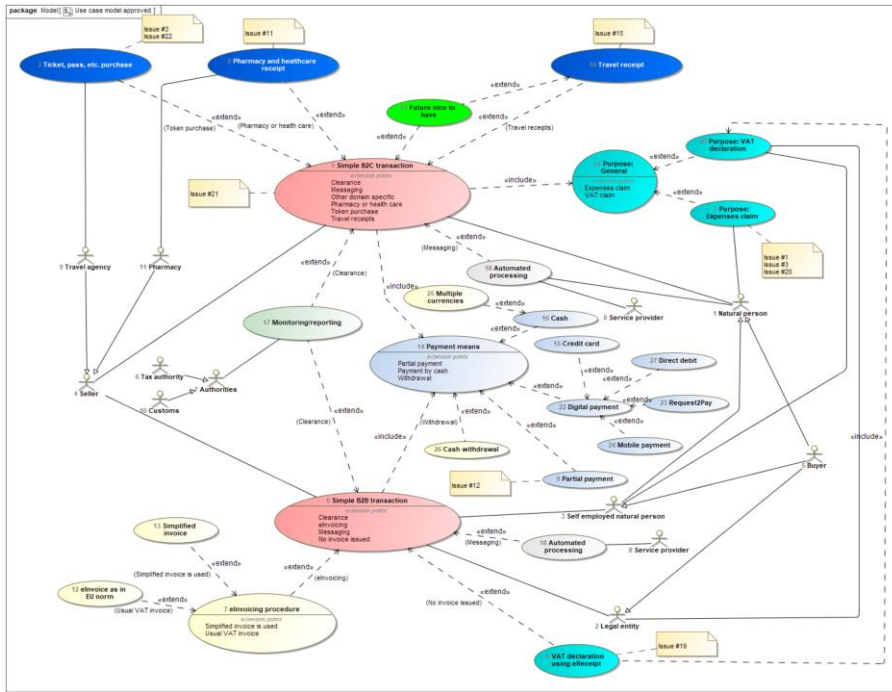
Figure 1 — Overview of use cases

> Met opmerkingen [FvB10]: Revise

5.2 U1: B2C and G2C e-receipts

> Met opmerkingen [FvB11]: 84

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.

> Met opmerkingen [FvB12]: Not verifiable

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);

> Met opmerkingen [FvB13]: Oddvar

264 • The buyer may provide their electronic address and the receipt is sent to that address,
265 possibly by means of one or more service providers.

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

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

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

> **Met opmerkingen [FvB14]:** 141

277

278 **5.2.3 Process or workflow description**
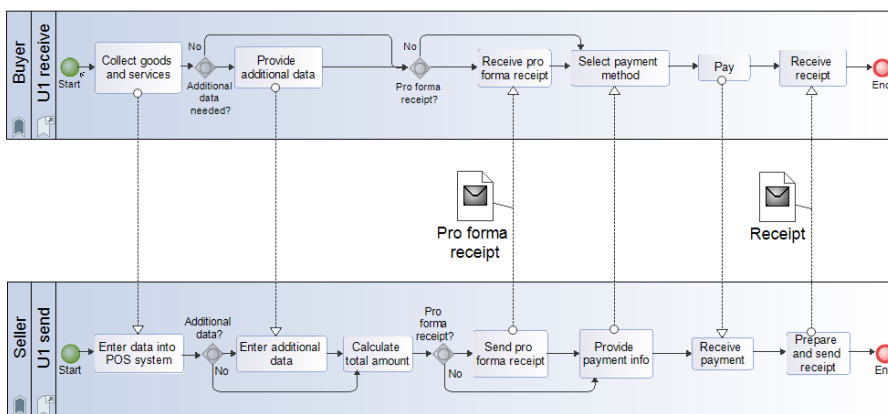
279

280 **Figure 2**

281 1. The Buyer purchases goods and/or services from the Seller

282 2. If necessary, the Buyer provides additional information to the Seller (e.g. ID number)

283 3. The Seller calculates the total amount of the purchase

284 4. The Buyer selects a payment method from the options offered by the Seller

285 5. The Buyer pays or initiates the payment (cash, voucher or with electronic means)

286 6. The Seller generates the e-receipt with their cash register and sends it to the Buyer

287 7. The Buyer imports the e-receipt in their application or in the system of a service provider

> **Met opmerkingen [FvB15]:** Oddvar

10

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:

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.

> **Met opmerkingen [FvB16]:** Oddvar

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 customer is to receive the information to their selected service in a structured format to further utilize the receipt and enable sharing this information. The receipt documents the rights or at least the ownership of a specific product or service (e.g. a concert ticket) with the reference to the seller's legal identity, obligations, etc.

The seller may be registered in accordance with VAT legislation. If applicable, the seller collects and pays the VAT to the tax authorities where the customer is living. In case the customer is a company, the VAT amount may be deducted/refunded according to local rules and regulations.

> **Met opmerkingen [FvB17]:** Oddvar

331 **5.3.4~~5.3.3~~** **Process or workflow description**

332 ~~5.3.4~~**5.3.3** **Process or workflow description**

333
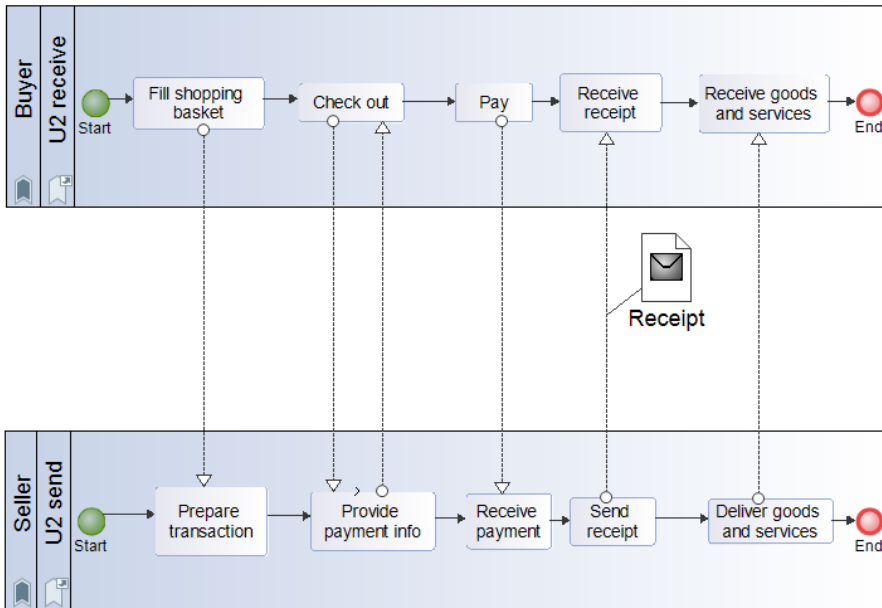
334 **Figure 3**

335 1.   The buyer finalizes their shopping basket

336 2.   The buyer initiates the payment

337 3.   The seller sends the e-receipt to the buyer or makes it available

338 **5.4 U3: e-Receipt is used to claim expenses**

339 **5.4.1 Introduction**

340 Employees frequently travel or do purchases that they may reimburse to their employer. The e-
341 receipt streamlines this process. Instead of re-keying information from hard-to-read sales slips,
342 the e-receipt as it is received from the seller can directly be read into an application of the
343 employer.

344 **5.4.2 Short description**

345 The buyer makes a purchase according to U1 or U2. The buyer then uses the receipt information
346 to claim expenses with their employer, an insurance company or any other third party. There are
347 systems that support the process connected with these claims for registering, approval routing
348 and accounting. Today this process is manual to a large degree. With e-receipts, these processes

349 can to a large degree be automated, just by entering the receipt in a structured format that will
350 ease the identification of the type of expense, and thereby the form and extent of documentation
351 needed for that specific expense type, which in turn will decide the coding and the approval
352 workflow.

353 The employee sends the e-receipt as received from the seller to the application of the employer.
354 The employer refunds the employee. In some countries the employer may use the e-receipt
355 information for VAT or income tax deduction.

Met opmerkingen [FvB19]: To replace use cases 5 and 6

356 **5.4.3 Process or workflow description**
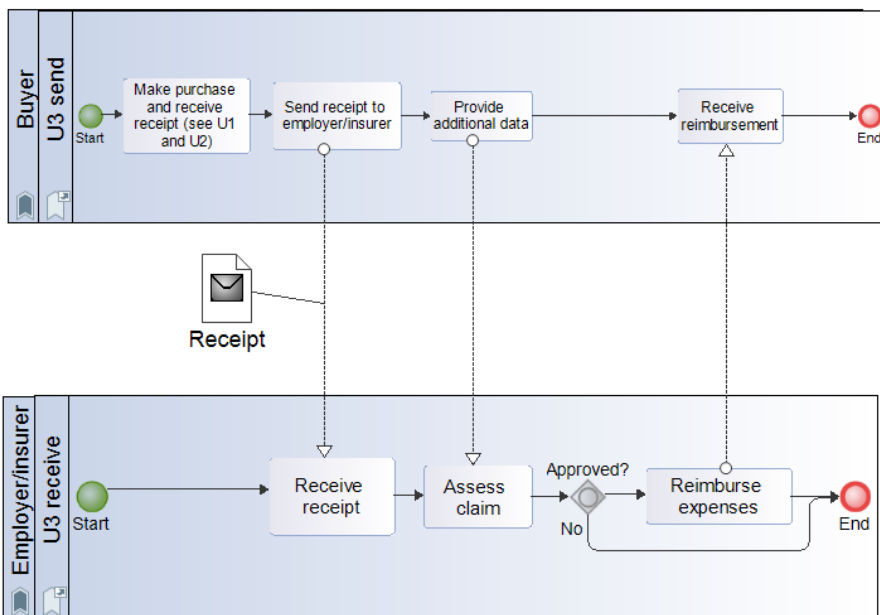
357

358   **Figure 4**

Met opmerkingen [FvB20]: Replace with BPNM

359 o   POS creates a digital receipt (see U1 or U2)

360 o   Buyer uploads the e-receipt to the Financial Management System of the employer.

361 o   The buyer might need to add some information like reason, description and ask for approval.

362 o   Someone approves the expense.

363 o   Approved expense is sent to company accounting system.

364 o   Buyer is reimbursed

365 Note: If the company uses the receipt information for deduction of VAT, the company is the legal
366 buyer.

Met opmerkingen [FvB21]: 132

367 **5.4.4 Variants**

368 Several types of expenses need specific information to be included in the receipt. With hotel
369 expenses, e.g. the dates of the stay are needed. With restaurant bills, a distinction needs to be made
370 between food and drinks. Taxi rides need the from and to locations.

371

372 **U4: e-receipt is used for returns, guarantee and refund**

373 **5.4.5 Introduction**

374 In general, the receipt is documenting a purchase and the person having the item and the receipt,
375 has the right to claim a return, a fault or damage to get a repair or refund in some way. The receipt
376 can contain such information, and part of the intention with the e-receipt is that this information
377 shall be presented in the e-receipt whenever it is relevant.

378 This is also applicable for receipt for on-line purchases.

379 **5.4.6 Short description**

380 The e-receipt as received from the seller may be used a proof of purchase when returning the
381 goods or claiming guarantee. It may also serve as a voucher in case of refunds.

382 Faults with a purchase, whether is on delivery or it arises later within the period of warranty the
383 purchase may be returned or be repaired. The receipt is used to document the purchase. The use
384 of e-receipt is simpler and identifies the contractual part / the agreement of the purchase in a
385 better way than an old faulty paper based receipt.

386 The e-receipt makes it easier to handle any claim and makes it even more obvious for the parties
387 that the receipt in fact is a contract connected to a business transaction.

388 Buyers always have the receipt with them, e.g. in mobile APP, so return is easier for all parties
389 because the receipt is not missing or in bad condition (ink faded).

390 **5.4.7 Process or workflow description**
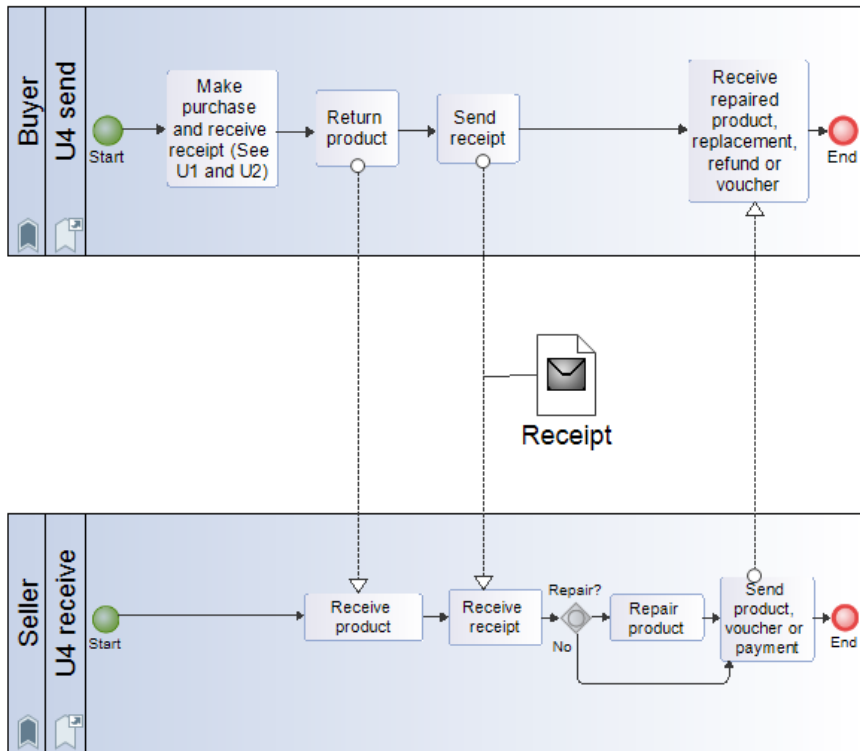
391

392 **Figure 5**

393

394 The buyer or owner presents the fault together with the receipt to the seller to prove the
395 ownership and to correct the error according to the agreement and applicable law.

396

397 **5.5 U5: Simplified invoice for B2B transactions**

398 **5.5.1 Introduction**

399 In some cases of business to business trade, simplified invoices may be used instead of normal
400 invoices. Simplified invoices do not need all information elements that are required for regular
401 invoices. The data content of an e-receipt may suffice.

402 **5.5.2 Short description**

403 Buyer use receipt information for VAT or other administrative reporting or update own inventory
404 accounting.

405 **5.5.3 Process or workflow description**
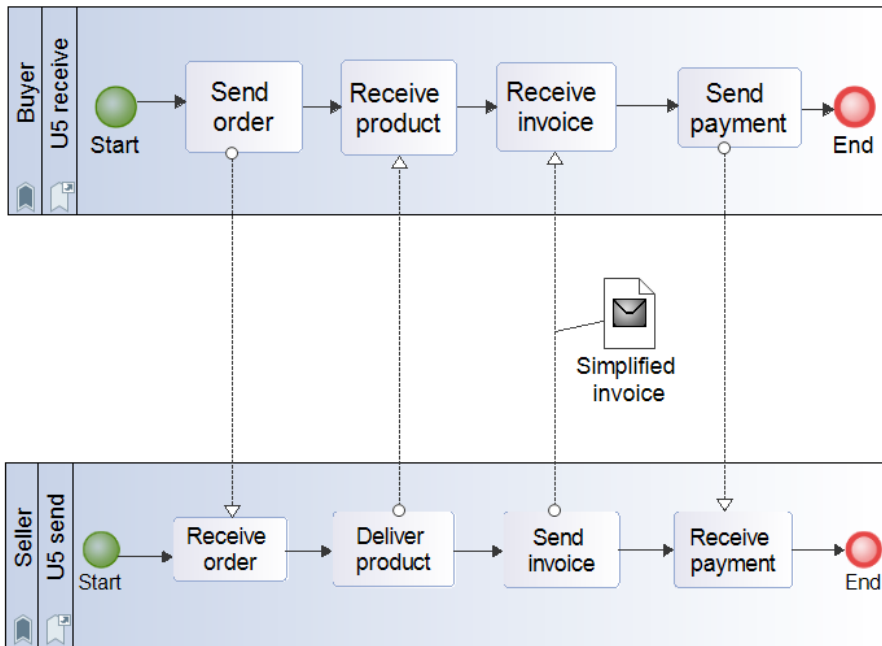
406

407 **Figure 6**

408

409 **6 The semantic data model of the elements of an e-receipt**

410 **6.1 General**

411 This Clause 6 describes the information elements, and groups of information elements, that
412 constitutes the semantic data model of the elements of an e-receipt, as well as their relationship
413 and the business rules required to ensure the integrity and consistency in the data provided in a
414 compliant instance document (an individual e-receipt).

415 For an instance document to be compliant to the e-receipt model, it shall respect all rules defined
416 in this Clause 6.

417 It is the responsibility of the e-receipt issuer to ensure that an e-receipt respects any rules defined
418 by relevant legislation, including requirements related to personal data protection, as well as rules
419 stated as part of a trading relationship between the Seller and the Buyer. An e-receipt conforming
420 to the rules of the semantic data model of the elements of an e-receipt as described in this Clause 6
421 does not guarantee its legal compliance OR compliance to contractual obligations.

422 An overview of the groups of information elements contained in the semantic model is provided
423 in Figure 15. Each of these groups and their detailed content is explained in detail in 6.2.

424 The business rules defined in order to ensure the integrity and consistency in the data provided
425 in a compliant instance document can be found in 6.3.

426 The semantic data type assigned to individual information elements in the e-receipt model to
427 specify data format and metadata requirements that apply are detailed in 6.4.

428 Calculation examples are provided in 6.5.

«enumeration» eReceipt operation type
Sale
Return

«enumeration» Authenticity data type
Control unit information
Control sum

«enumeration» Digital payment type
Card
Mobile
Request to pay

«enumeration» Transport type
Bus
Train
Plain

«enumeration» UNCL5305
S
AE
E
Z

«enumeration» Item identifier type
GTIN
NTIN
RFID
Digital product passport ID

Cash register
-Cash register identification [0..1]
-Serial number [0..1]

Cashier
-Name [0..1]
-Identifier [1]

Authenticity data
-Type : Authenticity data type [1]
-Value [1]

Location of sale
-Postal address [1]
-Identifier [1]
-Contact details [0..1]

Travel receipt
-Point A Departure
-Point B Arrival
-Type : Transport type
-Date
-Time
-Travel Id
-Additional data

Healthcare receipt

Seller
-Name [1]
-Trading name [0..1]
-Identifier [1]
-Legal registration identifier [0..1]
-VAT identifier [0..1]
-Postal address [0..1]
-Contact details [0..1]

Natural person
-Name [1]
-Postal address [0..1]
-Identifier [0..1]
-Social security number [0..1]
-Birth date [0..1]

Legal entity
-Name [1]
-Trading name [0..1]
-Identifier [0..1]
-Legal registration identifier [0..1]
-VAT identifier [0..1]
-Postal address [1]

Buyer
-EndpointID [1]

eReceipt
-Number [1]
-Operation type : eReceipt operation type [0..1]
-Date [1]
-Time [0..1]
-Total amount [1]
-Currency [1]
-Language [0..1]
-Reference to sales document [0..1]
-Payable amount [1]

Item discount
-Amount [1]
-Note [0..1]

Item charge
-Amount [1]
-Note [0..1]

eReceipt line
-Quantity [1]
-Quantity units [0..1]
-Item price [1]
-Total amount [1]

VAT tax
-Percent [1]
-VAT amount [1]
-Amount [1]
-Reverse tax [0..1]
-Type : UNCL5305 [0..1]

Item instance
-Manufacture date [0..1]
-Manufacture time [0..1]
-Best before date [0..1]
-Serial ID [0..1]
-Lot identification [0..1]

Item
-Identifier [1]
-Type [0..1]
-Name [1]
-Description [0..1]
-Additional information [0..*]
-Warranty [0..1]

Item identifier
-Type : Item identifier type [1]
-Value [1]

VAT tax
-Percent [1]
-VAT amount [1]
-Amount [1]
-Reverse tax [0..1]
-Type : UNCL5305 [0..1]

Payment
-Amount [1]
-Date [0..1]
-Currency [1]
-Currency exchange rate [0..1]

Delivery information
-Date [1]
-Time [1]
-Place of delivery [1]
-Note [0..1]
-Tracking ID [0..1]

Digital payment
-Type : Digital payment type [1]
-Authorisation ID [1]
-Transaction ID [1]

Cash
-Change [0..1]

Receipt discount
-Amount [1]
-Note [0..1]

Receipt charge
-Amount [1]
-Note [0..1]

Mobile

Card
-Card primary account number [1]
-Payment card holder name [0..1]

Additional nonVAT amount
-Amount [1]

Withdrawall

Tips

429

18

Figure 7 — Overview of the semantic model

430

431

432 **6.2 Legend**

433 Each information element, as well as groups of information elements, that constitutes the
434 semantic data model of the elements of an e-receipt is described as a row in the table documented
435 in 6.3 where the following information is provided:

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type

436 ID: An identifier for the information element (BT - Business Term) and group of information
437 elements (BG - Business terms Group). The identifiers are not necessarily consecutive or in
438 sequence.

439 Level: Indicates on which level in the model the information element occurs:

440 — +: The first level of the model;

441 — ++: The second level of the model. The information element (or the group of information
442 elements) is part of a group of information elements which is defined at the first level of the
443 model;

444 — +++: The third level of the model. The information element (or the group of information
445 elements) is part of a group of information elements which is defined at the second level of
446 the model;

447 — ++++: The fourth level of the model. The information element is part of a group of information
448 elements which is defined at the third level of the model.

449 Cardinality: Also known as multiplicity is used to indicate if an information element (or group of
450 information elements) is mandatory or conditional, and if it is repeatable. The cardinality shall
451 always be analysed in the context of where the information element is used. Example: the Payee
452 Name is mandatory in the e-receipt model, but only when a Payee is stated and is relevant.

453 The following cardinalities exist:

454 — 1..1: Mandatory, minimum 1 occurrence and maximum 1 occurrence of the information
455 element (or group of information elements) shall be present in any compliant instance
456 document;

457 — 1..n: Mandatory and repeatable, minimum 1 occurrence and unbounded upper maximum
458 occurrences of the information element (or group of information elements) shall be present
459 in any compliant instance document;

460 — 0..1: Conditional, minimum 0 occurrences and maximum 1 occurrence of the information
461 element (or group of information elements) may be present in any compliant instance
462 document; it's use depends on business rules stated as well as the regulatory, commercial and
463 contractual conditions that applies to the business transaction;

464 — 0..n: Conditional and repeatable, minimum 0 occurrences and unbounded upper maximum
465 occurrences of the information element (or group of information elements) may be present
466 in any compliant instance document; it's use depends on business rules stated as well as the
467 regulatory, commercial and contractual conditions that applies to the business transaction.

468 Business Term: The name of the information element used in the e-receipt model or the name of
469 a coherent group of related information elements, provided to give logical meaning.

470 Description: A description of the semantic meaning of the information element.

471 Usage Note: Clarifying information on how the information element shall or may be used (such as
472 calculation rules).

473 Semantic data type: The data format that applies to the information element (see 6.5).

474 Supplementary components or attributes are specified with the Business Term they belong to.

475 Note that in the naming of business terms, in descriptions and in usage notes, the term "invoice"
476 also applies to Credit notes, unless mentioned otherwise.

477

478   **6.3 The semantic model**

479   **Table 1 — Semantic data model of the e-receipt / simplified invoice**

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-1	+	1..1	Receipt number	A unique identification of the receipt.	Sequential number	Identifier	eReceipt/Number
BT-2	+	1..1	Receipt issue date	The date when the Receipt was issued		Date	eReceipt/Date
BT-256	+	0..1	Start of transaction	The time the sales transaction started		Time	
BT-201	+	0..1	Time of sale	Exact time when the ~~e-receipt was issued~~transaction completed	Time of 24-hour day	Time	eReceipt/Time
BT-202	+	0..1	Operation type	Business transaction type		Code	eReceipt/Operation type
BT-3	+	1..1	Receipt type code	A code specifying the functional type of the Receipt		Code	
BT-5	+	1..1	Receipt currency code		The currency in which all Receipt amounts are given according to ISO4217	Code	eReceipt/Currency
BT-259	+	1..1	Receipt VAT incl/excl indicator	Indication whether the calculations in the receipt are inclusive or exclusive of VAT		Indicator	
BT-270	±	0..1	VAT country code	Country where VAT is due	For One Stop Shopping transactions. Code according to ISO3166-1 alpha2	Code	
~~BT-203~~	~~+~~	~~0..1~~	~~Equipment designation~~	~~Designation of the receipt-producing equipment~~	~~Equipment may be for example a cash register~~	~~Identifier~~	

[2] The suffix ".Type" has been deleted for readability.

22

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-204	+	0..1	Reference to sales document	Reference to the sales document related to eReceipt		Reference	eReceipt/Reference to sales document
BG-33	+	0..n	RECEIPT OBJECT	an object on which the receipt is based, given by the Seller			
BT-18	++	0..1	Receipt object identifier	An identifier for an object on which the receipt is based.	It may be a subscription number, telephone number, patient, meter point, vehicle, person etc., as applicable.	Identifier	
		0..1	Scheme identifier	The identification scheme identifier of the receipt object identifier.	A scheme identifier should be used that shall be chosen from the UNTDID 1153 code list [6] entries.		
BT-258	++	0..1	Receipt object text	A description of the receipt object		Text	
BG-1	+	0..n	RECEIPT NOTE	A group of business terms providing textual notes that are relevant for the Receipt, together with an indication of the note subject.			
BT-21	++	0..1	Receipt note subject code	The subject of the textual note in BT-xx		Code	
BT-22	++	1..1	Receipt note	A textual note that gives unstructured information that is relevant to the Receipt as a whole.		Text	

Tabel met opmaak

Met opmerkingen [FvB31]: 176

23

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BG-4	+	1..1	SELLER	A group of business terms providing information about the Seller.			
BT-27	++	1..1	Seller name	The full formal name by which the Seller is registered in the national registry of legal entities or as a Taxable person or otherwise trades as a person or persons.		Text	Seller/Name
BT-28	++	0..1	Seller trading name	A name by which the Seller is known, other than Seller name (also known as Business name).		Text	Seller/Trading name
BT-271	++	0..1	Seller logo	The logo of the Seller.	Logo as picture to be shown on screen and print.	Binary object	
BT-29	++	0..1 / 1..1	Seller identifier / Scheme identifier	An identification of the Seller. / The identification scheme identifier of the Seller identifier.		Identifier	Seller/Identifier

Tabel met opmaak

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ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-30	++	0..1 1..1	Seller legal registration identifier Scheme identifier	An identifier issued by an official registrar that identifies the Seller as a legal entity or person. The identification scheme identifier of the Seller legal registration identifier.		Identifier	Seller/Legal registration identifier
BT-31	++	0..1	Seller VAT identifier	The Seller's VAT identifier (also known as Seller VAT identification number).		Identifier	Seller/VAT Identifier
BT-34	++	0..1	Seller electronic address	Identifies the Seller's electronic address to which the application level response to the receipt may be delivered.		Identifier	
		1..1	Scheme identifier	The identification scheme identifier of the Seller legal registration identifier.			
BG-35	++	1..1	SELLER POSTAL ADDRESS	A group of business terms providing information about the address of the Seller.			Seller/Postal address
BT-35	+++	0..1	Seller address line 1	The main address line in an address.	Usually the street name and number or post office box.	Text	Seller/Postal address

Tabel met opmaak

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heeft opmaak toegepast: Tekstkleur: Rood

25

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-36	+++	0..1	Seller address line 2	An additional address line in an address that can be used to give further details supplementing the main line.		Text	Seller/Postal address
BT-162	+++	0..1	Seller address line 3	An additional address line in an address that can be used to give further details supplementing the main line.		Text	
BT-37	+++	0..1	Seller city	The common name of the city, town or village, where the Seller address is located.		Text	Seller/Postal address
BT-38	+++	0..1	Seller post code	The identifier for an addressable group of properties according to the relevant postal service.	Such as a ZIP code or a post code.	Text	Seller/Postal address
BT-39	+++	0..1	Seller country subdivision	The subdivision of a country.			Text
BT-40	+++	1..1	Seller country code	A code that identifies the country.	The country where VAT is liable. The lists of valid countries are registered with the EN ISO 3166-1 Maintenance agency, "Codes for the representation of names of countries and their subdivisions".	Code	Seller/Postal address

Tabel met opmaak

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BG-6	++	0..1	SELLER CONTACT	A group of business terms providing contact information about the Seller.			Seller/Contact details
BT-41	+++	0..1	Seller contact point	A contact point for a legal entity or person.		Text	Seller/Contact details
BT-42	+++	0..1	Seller contact telephone number	A phone number for the contact point.		Text	Seller/Contact details
BT-43	+++	0..1	Seller contact email address	An e-mail address for the contact point.		Text	Seller/Contact details
BG-7	+	0..1	BUYER	A group of business terms providing information about the Buyer.			
BT-44	++	0..1	Buyer name	The full name of the Buyer.		Text	Natural person/Name
BT-46	++	0..1 / 0..1	Buyer identifier / Scheme identifier	An identifier of the Buyer. / The identification scheme identifier of the Buyer identifier.		Identifier	Legal entity/Name
BT-47	++	0..1	Buyer legal registration identifier	An identifier issued by an official registrar that identifies the Buyer as a legal entity or person.			Legal entity/Legal registration identifier

Tabel met opmaak

Met opmerkingen [FvB32]: 191

27

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
		0..1	Scheme identifier	The identification scheme identifier of the Buyer legal registration identifier.			
BT-48	++	0..1	Buyer VAT identifier	The Buyer's VAT identifier (also known as Buyer VAT identification number).		Identifier	Legal entity/VAT identifier
BT-49	++	0..1 1..1	Buyer electronic address Scheme identifier	Identifies the Buyer's electronic address to which the receipt is delivered.		Identifier	Buyer/EndpointID
BG-8	++	0..1	BUYER POSTAL ADDRESS	A group of business terms providing information about the postal address for the Buyer.			Natural person/Postal address
BT-50	+++	0..1	Buyer address line 1	The main address line in an address.		Text	Legal entity/ Postal address
BT-51	+++	0..1	Buyer address line 2	An additional address line in an address that can be used to give further details supplementing the main line.			
BT-163	+++	0..1	Buyer address line 3	An additional address line in an address that can be used to give further details supplementing the main line.			
BT-52	+++	0..1	Buyer city	The common name of the city, town or village, where the Buyer's address is located.		Text	

28

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-53	+++	0..1	Buyer post code	The identifier for an addressable group of properties according to the relevant postal service.	Such as a ZIP code or a post code.	Text	
BT-54	+++	0..1	Buyer country subdivision	The subdivision of a country.		Text	
BT-55	+++	1..1	Buyer country code	A code that identifies the country.	The lists of valid countries are registered with the EN ISO 3166-1 Maintenance agency, "Codes for the representation of names of countries and their subdivisions".	Code	
BG-13	+	0..1	DELIVERY INFORMATION	A group of business terms providing information about where and when the goods and services are delivered.			
BT-70	++	0..1	Deliver to party name	The name of the party to which the goods and services are delivered.		Text	
BT-205	++	0..1	Delivery date	the date on which the supply of goods or services was or will be made or completed		Date	Delivery information /Date

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-206	++	0..1	Time			Time	Delivery information /Time
BT-207	++	0..1	Note			Text	Delivery information /Note
BT-208	++	0..1	Tracking ID			Text	Delivery information /Tracing ID
BG-15	++	0..1	DELIVER TO ADDRESS	information about the address to which goods and services were or are delivered			Delivery information /Place of delivery
BT-75	+++	0..1	Deliver to address line 1	The main address line in an address.		Text	Delivery information /Place of delivery
BT-76	+++	0..1	Deliver to address line 2	An additional address line in an address that can be used to give further details supplementing the main line.			
BT-165	+++	0..1	Deliver to address line 3	An additional address line in an address that can be used to give further details supplementing the main line.			
BT-77	+++	0..1	Deliver to city	The common name of the city, town or village, where the deliver to address is located.		Text	Delivery information /Place of delivery

Tabel met opmaak

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-78	+++	0..1	Deliver to post code	The identifier for an addressable group of properties according to the relevant postal service.	Such as a ZIP code or a post code.	Text	Delivery information /Place of delivery
BT-79	+++	0..1	Deliver to country subdivision	The subdivision of a country.			
BT-80	+++	1..1	Deliver to country code	A code that identifies the country.	The lists of valid countries are registered with the EN ISO 3166-1 Maintenance agency, "Codes for the representation of names of countries and their subdivisions".	Code	Delivery information /Place of delivery
BG-16	+	1..n	PAYMENT INFORMATION	A group of business terms providing information about the payment.			
BT-81	++	1..1	Payment means type code	The means, expressed as code, for how a payment has been settled.		Code	
BT-82	++	0..1	Payment means text	The means, expressed as text, for how a payment has been settled.		Text	
BT-211	++	1..1	Amount	Paid amount in selected method		Amount	BT-211
BT-212	++	0..1	Date	Date when the payment is made		Date	Payment/Date
BT-213	++	1..1	Currency	The currency of the payment		Code	

Tabel met opmaak

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-214	++	0..1	Currency exchange rate	Currency exchange rate if differs from document currency		Decimal	Payment/Currency exchange rate
BT-233	++	0..1	Withdrawal amount	Amount that will be handed to consumer in cash		Amount	Additional nonVAT amount/Amount
BT-234	++	0..1	Tip amount	Amount of the tip		Amount	Additional nonVAT amount/Amount
BG-50	++	0..1	CASH PAYMENT				
BT-209	+++	0..1	given amount	cash amount customer gave	Applicable to cash payment method only	Amount	
BT-210	+++	0..1	Change	An amount in cash that must be handed to buyer.	Applicable to cash payment method only	Amount	Cash/Change
BG-51	++	0..1	DIGITAL OR CARD PAYMENT	Payments by digital methods			
BT-215	+++	1..1	Type	Digital method type		Code	Digital payment/Type
BT-264	+++	0..1	Merchant ID			Text	
BT-265	+++	0..1	Client ID			Text	

Tabel met opmaak

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-216	+++	1..1	Authorisation ID	Transaction authorization ID		Text	Digital payment/Authorisation ID
BT-217	+++	1..1	Transaction ID	Transaction ID linking the payment and bank statement and the eReceipt with the Credit card report to find the specific transaction		Text	Digital payment/Transaction ID
BT-87	+++	10..1	Card primary account number	The Primary Account Number (PAN) of the card used for payment.		Text	Card/Card primary account number
BT-88	+++	0..1	Payment card holder name	The name of the payment card holder.		Text	Card/Payment card holder name
BT-267	+++	0.1	Terminal ID			Text	
BG-19	++	0..1	DIRECT DEBIT	A group of business terms to specify a direct debit.	Also used for A2A (access to account)		
BT-268	+++	0..1	Debtor name			Text	
BT-89	+++	0..1	Mandate reference identifier	Unique identifier assigned by the Payee for referencing the direct debit mandate.		Text	
BT-90	+++	0..1	Bank assigned creditor identifier	Unique banking reference identifier of the Payee or Seller assigned by the Payee or Seller bank.		Text	

Tabel met opmaak

Met opmerkingen [FvB35]: Proposed by Finland

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Met opmerkingen [FvB36]: 288

33

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-91	+++	0..1	Debited account identifier	The account to be debited by the direct debit.		Text	
BT-266	+++	0..1	Credited account identifier	The account to be credited in case of Access to Account		Text	
BG-34	++	0..1	VOUCHER PAYMENT	Payment with a voucher			
BT-262	+++	0..1	Voucher number	ID of the voucher		Text	
BT-272	+++	0..1	Voucher text	Description of the voucher		Text	
BG-20	+	0..n	DOCUMENT LEVEL ALLOWANCES	A group of business terms providing information about allowances applicable to the Receipt as a whole.			
BT-260	++	0..1	Document level allowance amount with VAT	The amount of an allowance with VAT	Either BT-260 or BT-92 must be present, or both, depending on BT-259	Amount	
BT-92	++	0..1	Document level allowance amount without VAT	The amount of an allowance, Without VAT.	Either BT-260 or BT-92 must be present, or both, depending on BT-259	Amount	
BT-93	++	0..1	Document level allowance base amount	The base amount that may be used, in conjunction with the document level allowance percentage, to calculate the document level allowance amount.		Amount	
BT-94	++	0..1	Document level allowance percentage	The percentage that may be used, in conjunction with the document level allowance base amount, to calculate the document level allowance amount.		Percentage	

Tabel met opmaak

Met opmerkingen [FvB37]: 246

Met opmerkingen [FvB38]: 266

Met opmerkingen [FvB39]: 171

Met opmerkingen [FvB40]: 178

34

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-95	++	1..1	Document level allowance VAT category code	A coded identification of what VAT category applies to the document level allowance.		Code	
BT-96	++	0..1	Document level allowance VAT rate	The VAT rate, represented as percentage that applies to the document level allowance.		Percentage	
BT-97	++	0..1	Document level allowance reason	The reason171 for the document level allowance, expressed as text.		Text	
BT-98	++	0..1	Document level allowance reason code	The reason for the document level allowance, expressed as a code.		Code	
BG-21	+	0..n	DOCUMENT LEVEL CHARGES	A group of business terms providing information about charges and taxes other than VAT, applicable to the receipt as a whole.			
BT-261	++	0..1	Document level charge amount with VAT	The amount of a charge with VAT	Either BT-261 or BT-99 must be present, or both, depending on BT-259	Amount	
BT-99	++	0..1	Document level charge amount without VAT	The amount of a charge, without VAT.	Either BT-261 or BT-99 must be present, or both, depending on BT-259	Amount	
BT-100	++	0..1	Document level charge base amount	The base amount that may be used, in conjunction with the document level charge percentage, to calculate the document level charge amount.		Amount	

Tabel met opmaak

Met opmerkingen [FvB41]: 32

Met opmerkingen [FvB42]: 24

Met opmerkingen [FvB43]: 171

Met opmerkingen [FvB44]: 177

35

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-101	++	0..1	Document level charge percentage	The percentage that may be used, in conjunction with the document level charge base amount, to calculate the document level charge amount.		Percentage	
BT-102	++	1..1	Document level charge VAT category code	A coded identification of what VAT category applies to the document level charge.		Code	
BT-103	++	0..1	Document level charge VAT rate	The VAT rate, represented as percentage that applies to the document level charge.		Percentage	
BT-104	++	0..1	Document level charge reason	The reason for the document level charge, expressed as text.		Text	
BT-105	++	0..1	Document level charge reason code	The reason for the document level charge, expressed as a code.		Code	
BG-22	+	1..1	DOCUMENT TOTALS	A group of business terms providing the monetary totals for the Receipt.			
BT-231	++	1..1	Sum of Receipt lines	Sum of Receipt lines (VAT included)		Amount	
BT-107	++	0..1	Sum of allowances on document level	Sum of all allowances on document level in the Receipt		Amount	
BT-108	++	0..1	Sum of charges on document level	Sum of all charges on document level in the receipt		Amount	

Tabel met opmaak

Met opmerkingen [FvB45]: 31

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-109	++	0..1	Receipt total amount without VAT	The total amount of the receipt without VAT.		Amount	
BT-110	++	0..1	Receipt total VAT amount	The total VAT amount for the receipt.		Amount	eReceipt/Payable amount
BT-112	++	1..1	Receipt total amount with VAT	The total amount of the receipt with VAT.		Amount	
BT-232	++	1..1	Payable amount	Amount to be paid	Total amount - CHARGE/DISCOUNT/Prepaid / loyalty savings Total amount + Withdrawal = Payable amount	Amount	VAT tax/Amount
BG-23	+	1..n	VAT BREAKDOWN	A group of business terms providing information about VAT breakdown by different categories, rates and exemption reasons			VAT tax/VAT amount
BT-116	++	1..1	VAT category taxable amount	Sum of all taxable amounts subject to a specific VAT category code and VAT category rate (if the VAT category rate is applicable).		Amount	VAT tax/Type
BT-117	++	1..1	VAT category tax amount	The total VAT amount for a given VAT category.		Amount	VAT tax/Percent

Tabel met opmaak

Met opmerkingen [FvB46]: 24

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-118	++	1..1	VAT category code	Coded identification of a VAT category.		Code	
BT-119	++	~~1~~0..1	VAT category rate	The VAT rate, represented as percentage that applies for the relevant VAT category.		Decimal	
BT-120	++	0..1	VAT exemption reason text	A textual statement of the reason why the amount is exempted from VAT or why no VAT is being charged		Text	
BT-121	++	0..1	VAT exemption reason code	A coded statement of the reason for why the amount is exempted from VAT.		Code	
BT-233	+	0..1	Withdrawal amount	Amount that will be handed to consumer in cash		Amount	
BT-234	+	0..1	Tip amount	Amount of the tip		Amount	Cash register/Cash register identification
BG-53	+	0..1	CASH REGISTER				Cash register/Serial number
BT-235	++	0..1	Cash register identification	Identification number of the cash register		Text	
BT-236	++	0..1	Serial number	Serial number of the cash register		Text	Cashier/Name

Tabel met opmaak

Met opmerkingen [FvB47]: Proposed by Finland

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ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BG-54	+	0..1	CASHIER				Cashier/Identifier
BT-237	++	0..1	Name	Name of the cashier		Text	
BT-238	++	1..1	Identifier	Identification number of the cashier		Text	Authenticity data/Type
BG-55	+	0..n	AUTHENTICITY DATA				Authenticity data/Value
BT-239	++	1..1	Type			Code	
BT-240	++	1..1	Value			Text	Location of sale/Postal address
BG-56	+	0..1	LOCATION OF SALE				Location of sale/Identifier
BT-241	++	1..1	Postal address			Text	Location of sale/Contact details
BT-242	++	1..1	Identifier Scheme ID			Identifier	
BT-243	++	0..1	Contact details			Text	
BG-25	+	1..n	RECEIPT LINE		Invoice line in case of an invoice		
BT-126	++	1..1	Receipt line identifier	A unique identifier for the individual line within the Receipt	Invoice line identifier in case of an invoice	Text	Item/Identifier

Tabel met opmaak

Met opmerkingen [FvB48]: 11, 185, 186

Met opmerkingen [FvB49]: Spell out (Line 1, 2, etc)?

heeft opmaak toegepast: Tekstkleur: Rood

Met opmerkingen [FvB50]: 185, 186

heeft opmaak toegepast: Tekstkleur: Rood

39

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-127	++	0..1	Receipt line note	textual note that gives unstructured information that is relevant to the receipt line.	Invoice line note in case of an invoice	Text	eReceipt line/Quantity
BT-129	++	1..1	Quantity	The quantity of items (goods or services) that is charged in the Receipt line.		Quantity	
BT-130	++	0..1	Quantity unit of measure code	The unit of measure that applies to the quantity.		Code	
BT-131	++	1..1	Receipt line net amount	The total amount of the Receipt line.		Amount	
BT-244	++	1..1	Receipt line amount with VAT			Amount	
BG-58	++	0..1	RECEIPT LINE OBJECT	An object on which the receipt line is based			
BT-128	+++	0..1	Receipt line object identifier Scheme identifier	An identifier for an object on which the receipt line is based, given by the Seller The identification scheme identifier of the receipt line object identifier	It may be a subscription number, telephone number, meter point etc., as applicable.	Identifier	eReceipt line/Quantity units
BT-263	+++	0..1	Receipt line object text			Text	

40

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BG-26	++	0..1	RECEIPT LINE PERIOD	A group of business terms providing information about the period relevant for the receipt line.			
BT-134	+++	0..1	Receipt line period start date	The date when the period for this Receipt line starts		Date	
BT-245	+++	0..1	Receipt line period start time	The time when the period for this Receipt line starts		Time	
BT-135	+++	0..1	Receipt line period end date	The date when the period for this Receipt line ends.		Date	
BT-246	+++	0..1	Receipt line period end time	The time when the period for this Receipt line ends		Time	
BG-27	++	0..n	RECEIPT LINE ALLOWANCES	A group of business terms providing information about allowances applicable to the individual Receipt line.			
BT-136	+++	0..1	Receipt line allowance amount without VAT	The amount of an allowance, without VAT.		Amount	

Tabel met opmaak

Met opmerkingen [FvB53]: Including time? Time not separate?

Met opmerkingen [FvB54]: Including time? Time not separate?

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-274	+++	0..1	Receipt line allowance amount with VAT	The amount of an allowance, with VAT.		Amount	
BT-137	+++	0..1	Receipt line Allowance base amount	The base amount that may be used, in conjunction with the receipt line allowance percentage, to calculate the receipt line allowance amount.		Amount	Item discount/Note
BT-138	+++	0..1	Receipt line allowance percentage	The percentage that may be used, in conjunction with the Receipt line allowance base amount, to calculate the Receipt line allowance amount.		Percentage	
BT-139	+++	0..1	Receipt line allowance reason	The reason for the receipt line allowance, expressed as text.		Text	
BG-28	++	0..n	RECEIPT LINE CHARGES	group of business terms providing information about charges and taxes other than VAT applicable to the individual Receipt line.			
BT-141	+++	0..1	Receipt line charge amount without VAT	The amount of a charge, without VAT		Amount	

Tabel met opmaak

Met opmerkingen [FvB55]: Request from Finland

heeft opmaak toegepast: Tekstkleur: Rood

heeft opmaak toegepast: Tekstkleur: Rood

42

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-275	+++	0..1	Receipt line charge amount with VAT	The amount of a charge, with VAT		Amount	
BT-142	+++	0..1	Receipt line charge base amount	The base amount that may be used, in conjunction with the receipt line charge percentage, to calculate the receipt line charge amount.		Amount	Item charge/Note
BT-143	+++	0..1	Receipt line charge percentage	The percentage that may be used, in conjunction with the Receipt line charge base amount, to calculate the receipt line charge amount.		Percentage	
BT-144	+++	0..1	Receipt line charge reason	The reason for the receipt line charge, expressed as text.		Text	
BG-29	++	1..1	PRICE DETAILS	A group of business terms providing information about the price applied for the goods and services on the Receipt line.			eReceipt line/Item price
BT-247	+++	0..1	Item net price with VAT	The price of an item, inclusive of VAT, after subtracting item price discount		Amount	
BT-248	+++	0..1	Item gross price with VAT	The unit price, inclusive of VAT, before subtracting Item price discount.		Amount	

Tabel met opmaak

Met opmerkingen [FvB56]: Request from Finland

heeft opmaak toegepast: Tekstkleur: Rood

heeft opmaak toegepast: Tekstkleur: Rood

Met opmerkingen [FvB57]: 24

Met opmerkingen [FvB58]: 24

Met opmerkingen [FvB59]: 181,182

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-146	+++	0..1	Item net Price without VAT	The price of an item, exclusive of VAT, after subtracting item price discount		Amount	
BT-148	+++	0..1	Item gross Price without VAT	The unit price, exclusive of VAT, before subtracting Item price discount.		Amount	~~VAT tax/Type~~
BG-30	++	1..1	LINE VAT INFORMATION	A group of business terms providing information about the VAT applicable for the goods and services on the Receipt line			VAT tax/Type~~VAT tax/Percent~~
BT-151	+++	1..1	Receipt item VAT category code	The VAT category code for the item.		Code	VAT tax/Type~~VAT tax/Percent~~
BT-152	+++	0..1	Item VAT rate	The VAT rate, represented as percentage that applies to the item.		Percentage	VAT tax/Type~~VAT tax/Percent Item/Name~~
BG-31	++	1..1	ITEM INFORMATION	A group of business terms providing information about the goods and services..			VAT tax/Percent Item/Name~~Item/Description~~
BT-153	+++	1..1	Name	A name for an item.		Text	Item/Name~~Item/Description~~

Tabel met opmaak

Met opmerkingen [FvB60]: 24

Met opmerkingen [FvB61]: 24

Met opmerkingen [FvB62]: 24

Met opmerkingen [FvB63]: 24

44

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-154	+++	0..1	Description	A description for an item.	The Item description allows for describing the item and its features in more detail than the Item name.	Text	Item/NameItem/Description
BT-155	+++	0..1	Item Seller's identifier	An identifier, assigned by the Seller, for the item.		Text	Item/Description
BT-157	+++	0..1n	Item standard identifier	An item identifier based on a registered scheme.		Identifier	
		1..1	Scheme identifier	The identification scheme identifier of the Item standard identifier			
BT-158	+++	0..n	Item classification identifier	A code for classifying the item by its type or nature.		Identifier	Item/Additional information
			Scheme identifier	The identification scheme identifier of the Item classification identifier			
BT-159	+++	0..1	Item country of origin			Code	Item/Warranty
BT-249	+++	0..n	Additional information			Text	Item/Additional information Item/Warranty

Met opmerkingen [FvB64]: Jonas

heeft opmaak toegepast: Tekstkleur: Rood

heeft opmaak toegepast: Tekstkleur: Rood

Tabel met opmaak

Met opmerkingen [FvB65]: 12

Met opmerkingen [FvB66]: 11, 185, 186

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-250	+++	0..1	Warranty			Text	Item/Additional information Item/Warranty~~Item instance/Manufacture date~~
BG-57	++	0..n	ITEM INSTANCE				Item/Additional information Item/Warranty~~Item instance/Manufacture date~~Item instance/Manufacture time
BT-251	+++	0..1	Manufacture date		May be represented as yyyy-mm	Date	Item/Additional information Item/Warranty~~Item instance/Manufacture date~~Item instance/Manufacture time~~Item instance/Best before date~~

Tabel met opmaak

Met opmerkingen [FvB67]: 12

Met opmerkingen [FvB68]: 172

heeft opmaak toegepast: Tekstkleur: Rood

Met opmerkingen [FvB69]: Jonas

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-252	+++	0..1	Manufacture time			Time	Item/WarrantyItem instance/Manufacture dateItem instance/Manufacture timeItem instance/Best before dateItem instance/Serial ID
BT-253	+++	0..1	Best before date		May be represented as yyyy-mm	Date	Item instance/Manufacture dateItem instance/Manufacture timeItem instance/Best before dateItem instance/Serial IDItem instance/Lot identification

Tabel met opmaak

heeft opmaak toegepast: Tekstkleur: Rood

Tabel met opmaak

Met opmerkingen [FvB70]: Jonas

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-254	+++	0..1	Serial ID			Text	Item instance/Manufacture dateItem instance/Manufacture timeItem instance/Best before dateItem instance/Serial IDItem instance/Lot identification
BT-255	+++	0..1	Lot identification			Text	Item instance/Manufacture timeItem instance/Best before dateItem instance/Serial IDItem instance/Lot identificationItem identifier/Type

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-269	+++	0..1	Item token	QR code or barcode	E.g. for entrance to an event	Binary object	Item instance/Best before dateItem instance/Serial IDItem instance/Lot identificationItem identifier/Type
BT-273	+++	0..1	Item token text	Textual representation of the receipt line token		Text	Item instance/Serial IDItem instance/Lot identificationItem identifier/Type
BG-32	++	0..n	ITEM ATTRIBUTE				Item instance/Lot identificationItem identifier/TypeItem identifier/Value

Tabel met opmaak

Met opmerkingen [FvB71]: 250

Met opmerkingen [FvB72]: 11, 185, 186

Tabel met opmaak

49

ID	Level	Cardinality	Business Term	Description	Usage Note	Semantic data type[2]	Location in model
BT-160	+++	1..1	Item attribute name	The name of the attribute or property of the item.		Text	Item identifier/TypeItem identifier/Value
BT-161	+++	1..1	Item attribute value	The value of the attribute or property of the item.		Text	Item identifier/TypeItem identifier/Value
							Item identifier/ Value
							Item identifier/ Value
							Item identifier/ Value

Tabel met opmaak

480

481 **6.4 Business rules**

482 **6.4.1 Integrity constraints**

483 **Table 2 — Business rules - Integrity constraints**

ID	Description	Target / context	Business term / group
	A Receipt shall have a Receipt number		BT-1
	A Receipt shall have a Receipt issue date		BT-2
	A Receipt shall have a Receipt type code		BT-3
	A Receipt shall have a Receipt currency code		BT-5
	A Receipt shall contain the Seller name		BT-27
	A Receipt shall contain the Seller's address		BG-3
	The Seller's address shall contain a Seller country code		BT-40
	A Receipt shall have the Sum of Receipt lines		BT-231
	A Receipt shall have the Receipt total amount without VAT		BT-109
	A Receipt shall have the Receipt total amount with VAT		BT-112
	A Receipt shall have at least one Receipt line		BG-25
	Each Receipt line shall have a Receipt line identifier		BT-126
	Each Receipt line shall have an item quantity		BT-129
	Each Receipt line shall contain the Item name		BT-153
	Each Receipt line shall contain the Item price including VAT		BT-247
	Each VAT breakdown shall have a VAT category taxable amount		BT-116
	Each VAT breakdown shall have a VAT category tax amount		BT-117
	Each VAT breakdown shall be defined through a VAT category code		BT-118
	Receipt shall contain at least one payment information group		BG-16
	Payment information shall contain type code		BT-81
	Payment information shall contain amount		
	Payment information shall contain currency		
	If both Receipt line period start date and Receipt line period end date are given then the Receipt line period end date shall be later or equal to the Invoice line period start date.		BG-26
	Additional non VAT amount		

ID	Description	Target / context	Business term / group
	Each Document level allowance shall have a Document level allowance amount		BT-92 or BT-93
	Each Document level charge shall have a Document level charge amount		BT-261 or BT-99
	Each Receipt line shall be categorized with an Invoiced item VAT category code		BT-151
	Each Receipt line shall have VAT rate where category code is Z or S		BT-152
	Each allowance or charge at receipt level shall be categorized with an Invoiced item VAT category code		BT-95 and BT-102
	Each allowance or charge at receipt level shall have VAT rate where category code is Z or S		BT-96 and BT-103
	Receipt total VAT amount = Σ VAT category tax amount		BT-110
	Sum of Receipt total amount with VAT = Σ Receipt line VAT inclusive amount		BT-244
	Sum of allowances on document level = Σ Document level allowance amount.		BT-107
	An Invoice shall at least have one VAT breakdown group		BG-23
	Invoice total VAT amount = Σ VAT category tax amount		BT-110
	For the buyer to automatically identify a supplier, the Seller identifier, the Seller legal registration identifier and/or the Seller VAT identifier shall be present.		

6.5 Semantic data types

6.5.1 Introduction

Semantic data types are used to bridge the gap between the semantic concepts expressed by the information elements defined in the semantic model and their possible technical implementation. The semantic data types define the allowed value domain for the content, and any additional information components (attributes) needed in order to ensure its precise interpretation.

Semantic data type content may be of the following primitive types. These primitive types were taken from ISO 15000-5:2014, Annex B.

492 **Table 4 — Primitive types**

Primitive type	Definition
Binary	A set of finite-length sequences of binary digits.
Date	Particular *calendar day* represented by its *calendar year*, its *calendar month* and its *calendar day of month* [ISO 8601-1:2019].
Decimal	A subset of the real numbers, which can be represented by decimal numerals.
String	A finite sequence of characters.

493 The semantic data types described in 6.5.2 to 6.5.13 are used in the semantic data model of the elements
494 of an e-receipt, where various features such as attributes, format and decimals as well as the basic type
495 are defined for each semantic data type. They are based on ISO 15000-5. When used in an instance of an
496 receipt, each data element will contain data. In Tables 5 to 14 this is identified as the "content". Whenever
497 a business term is used in an e-receipt this term shall always have content and therefore the content is
498 always mandatory.

499 **6.5.2 Amount. Type**

500 An amount states a numerical monetary value. The currency of the amount is defined as a separate
501 business term. This EN 16931_ Amount. Type[3] is based on the Amount. Type as defined in
502 ISO 15000-5:2014, Annex B. EN 16931_ Amount. Type is floating up to two fraction digits.

503 **Table 5 — Data type - Amount. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	Decimal	10000.25

504 **6.5.3 Unit Price Amount. Type**

505 A unit price amount states a numerical monetary amount value for data elements that contain item prices
506 that may be multiplied by item quantities. The currency of the amount is defined as a separate business
507 term. This EN 16931_ Unit Price_ Amount. Type is based on the Amount. Type as defined in
508 ISO 15000-5:2014, Annex B.

509 **Table 6 — Data type - Unit price amount. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	Decimal	10000.1234

510 **6.5.4 Quantity. Type**

511 Quantities are used to state a number of units such as for items. The code for the Unit of Measure is
512 defined as a separate business term. This EN 16931_ Quantity. Type is based on the Quantity. Type as
513 defined in ISO 15000-5:2014, Annex B.

Met opmerkingen [FvB73]: 24

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[3] Dictionary Entry Name as defined in ISO 15000-5:2014.

514

Table 7 — Data type - Quantity. Type

Component	Use	Primitive Type	Example
Content	Mandatory	Decimal	10000.1234

515 **6.5.5 Percentage. Type**

516 Percentages are given as fractions of a hundred (per cent) e.g. the value 34,78 % in percentage terms is
517 given as 34,78. This EN 16931_ Percentage_ Numeric. Type is based on the Numeric. Type as defined in
518 ISO 15000-5:2014, Annex B.

519 **Table 8 — Data type - Percentage. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	Decimal	·34.78·

520 **6.5.6 Identifier. Type**

521 Identifiers (IDs) are keys that are issued by the sender or recipient of a document or by a third party. For
522 each identifier in the model it is stated whether an identification scheme or a scheme version ID may or
523 shall be defined and if so, from what list the identification schemes may be chosen. This EN 16931_
524 Identifier. Type is based on the Identifier. Type as defined in ISO 15000-5:2014, Annex B. The Scheme
525 identifier and the Scheme version ID identify the scheme on which the identifier is based.

526 The use of the attributes is specified for each information element in the semantic model.

527 **Table 9 — Data type - Identifier. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	String	abc:123-DEF
Scheme identifier	Conditional	String	~~GLN~~
~~Scheme version identifier~~	~~Conditional~~	~~String~~	~~1.0~~

> **heeft opmaak toegepast:** Tekstkleur: Rood, Doorhalen
>
> **heeft opmaak toegepast:** Doorhalen
>
> **heeft opmaak toegepast:** Tekstkleur: Rood, Doorhalen

528 **6.5.7 Document Reference. Type**

529 Identifiers that were assigned to a document or document line by the Buyer, the Seller or by a third party.
530 This EN 16931_ Document Reference_ Identifier. Type is based on the Identifier. Type as defined in
531 ISO 15000-5:2014, Annex B.

532 **Table 10 — Data type - Document Reference. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	String	abc:123-DEF

533 **6.5.8 Code. Type**

534 Codes are used to specify allowed values in elements as well as for lists of options. Code is different from
535 Identifier in that allowed values have standardized meanings that can be known by the recipient. This
536 EN 16931_ Code. Type is based on the Code. Type as defined in ISO 15000-5:2014, Annex B.

537 The semantic model specifies the code list to be used for each coded business term. Codes shall be entered
538 exactly as shown in the selected code list of the applicable syntax. The latest published version of the code
539 lists (at the time of syntax binding) shall be used.

540

Table 11 — Data type - Code. Type

Component	Use	Primitive Type	Example
Content	Mandatory	String	Abc123

541 **6.5.9 Date. Type**

542 Dates shall be in accordance to the "Calendar date complete representation" as specified by ISO 8601-1
543 (see ISO 8601-1:2019, 5.2.2.1). Calendar dates do not include a specification for the time of the day. This
544 EN 16931_ Date_ Date Time. Type is based on the Date Time. Type as defined in ISO 15000-5:2014,
545 Annex B. The content of the Date Time. Format. Text attribute is left to the syntax in which the Date is
546 represented.

547 **Table 12 — Data type - Date. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	Date	2015–06–10

548 **6.5.10 Time. Type**

549 Times shall be in accordance to the representation as specified by ISO 8601-1 (see ISO 8601-1:2019).

550 **Table 13 — Data type - Time. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	Time	13:00.00

551 **6.5.10 6.5.11   Text. Type**

552 Text is the actual wording of anything written or printed. This EN 16931_ Text. Type is based on the Text.
553 Type as defined in ISO 15000-5:2014, Annex B. Line breaks in the text may be present.

554 **Table 13 14 — Data type - Text. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	String	"5% allowance when paid within 30 days"

555 **6.5.11 6.5.12   Binary Object. Type**

556 Binary objects can be used to describe files which are transmitted together with the receipt.

557 Attachments shall be transmitted together with the receipt. There shall be only one way defined per
558 syntax. This EN 16931_ Binary Object. Type is based on the Binary Object. Type as defined in
559 ISO 15000-5:2014, Annex B. EN 16931_ Binary Object. Type has two supplementary components: a Mime
560 Code, which specifies the Mime type of the attachment and a Filename that is provided by (or on behalf
561 of) the sender of the receipt.

562 **Table 14 15 — Data type - Binary Object. Type**

Component	Use	Primitive Type	Example
Content	Mandatory	Binary	

55

Component	Use	Primitive Type	Example
Mime Code	Mandatory	String	"image/jpeg"
Filename	Mandatory	String	"drawing5.jpg"

563 A Receiver of an receipt, compliant to the e-receipt model shall accept and process attachments that are
564 of the following mime types (commonly used file extensions are added between brackets):

565 — application/pdf (.pdf);

566 — application/xml (.xml);

567

568 — image/png (.png);

569 — image/jpeg (.jpg);

570 — text/csv (.csv);

571 — application/vnd.openxmlformats-officedocument.spreadsheetml.sheet (.xslx);

572 — application/vnd.oasis.opendocument.spreadsheet (.ods).

573 Length limitations may apply. Guidance is given in the transmission guideline CEN/TR 16931-4.

574 6.5.126.5.13   **Decimals**

575 The allowed maximum number of decimals for the various business terms is specified in Table 15.

576 **Table 15 16 — Allowed number of decimals**

BT ID	Business term name	Allowed maximum number of decimals
BG-20	DOCUMENT LEVEL ALLOWANCES	
BT-92	Document level allowance amount	2
BT-93	Document level allowance base amount	2
BG-21	DOCUMENT LEVEL CHARGES	
BT-99	Document level charge amount	2
BT-100	Document level charge base amount	2
BG-22	DOCUMENT TOTALS	
BT-106	Sum of receipt line net amount	2
BT-107	Sum of allowances on document level	2
BT-108	Sum of charges on document level	2
BT-109	Receipt total amount without VAT	2

56

BT ID	Business term name	Allowed maximum number of decimals
BT-110	Receipt total VAT amount	2
BT-112	Receipt total amount with VAT	2
BT-111	Receipt total VAT amount in accounting currency	2
BT-113	Paid amount	2
BT-114	Rounding amount	2
BT-115	Amount due for payment	2
BG-23	VAT BREAKDOWN	
BT-116	VAT category taxable amount	2
BT-117	VAT category tax amount	2
BG-25	RECEIPT LINE	
BT-131	Receipt line net amount	2
BG-27	RECEIPT LINE ALLOWANCES	
BT-136	Receipt line allowance amount	2
BT-137	Receipt line allowance base amount	2
BG-28	RECEIPT LINE CHARGES	
BT-141	Receipt line charge amount	2
BT-142	Receipt line charge base amount	2

Met opmerkingen [FvB79]: 24

577 ~~6.5.13~~6.5.14   **Rounding**

578 Rules to minimize the risk of differences due to rounding as illustrated in the examples are:

579 — All document level totals shall be rounded to two decimals for accounting;

580 — Rounding shall be done on the final calculation results not on any intermediate results;

581 — VAT category tax amount (BT-110) shall be rounded on document level and not as a summation of
582   rounded receipt line VAT amounts.

Met opmerkingen [FvB80]: 24

583 **Annex A**
584 (informative)
585
586 **Examples**

587 **A.1 Calculation examples**

588 **A.2 Number of decimals and rounding**

589 **A.3 Use cases**

590 **Annex B**
591 (informative)
592
593 **BPMN symbols**

594 The following symbols are used in the process diagrams. For a full explanation, see the Business Process
595 Model and Notation (BPMN) specification.

— A Pool is the graphical representation of a Participant in a Collaboration. It also acts as a "swim lane" and a graphical container for partitioning a set of Activities from other Pools, usually in the context of B2B situations.

— A Lane is a sub-partition within a Process within a Pool, and will extend the entire length of the Process. Lanes are used to organize and categorize Activities.

— An Activity is a generic term for work that an organization performs in a Process. Activities are represented by rounded rectangles.

An Activity can be atomic (no icon inside) or non-atomic (compound: with a small plus sign near the bottom).

Activities that consist of sending a message have a black envelope in the upper right corner.

Activities that consist of receiving a message have a white envelope in the upper right corner.

— A message is represented as an envelope.

— Circles represent events. An event that starts a process has a thin border; an event that ends a process has a thick border
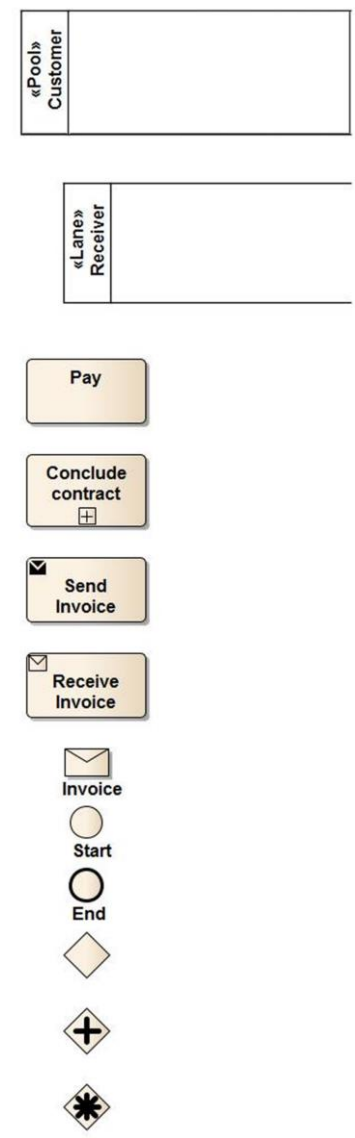
Figure B.1

— Diamond shapes represent gateways indicating the type of flow control behaviour. The types of control include:

• Exclusive decision and merging (no icon in the diamond);

• Parallel Gateway forking and joining (a plus sign inside the diamond);

• Complex Gateway; complex conditions and situations, e.g. 3 out of 5 (a star inside the diamond).
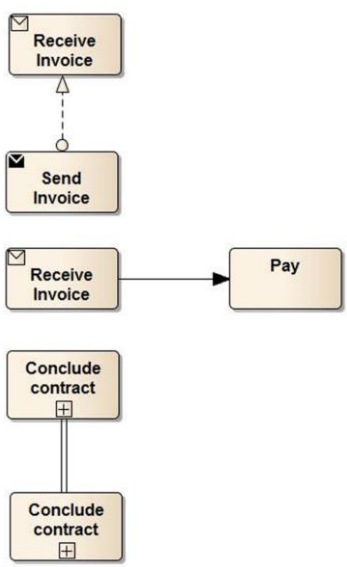
Figure B.2

— Message flows are indicated with a dotted arrow.

— Sequence flows are indicated with an arrow.

— Conversations (multiple communication flows that are not further detailed) are indicated with a double line.

596

597

Bibliography

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601   *organization parts*

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