TECHNICAL SPECIFICATION

SPÉCIFICATION TECHNIQUE

TECHNISCHE SPEZIFIKATION

CEN/TS 16931-3-1

July 2017

ICS 35.240.20; 35.240.63

English Version

Electronic invoicing - Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice

Facturation électronique - Partie 3-1 : Méthodologie applicable aux correspondances syntaxiques des éléments essentiels d'un facture électronique

Elektronische Rechnungsstellung - Teil 3-1: Methodik für die Umsetzung der Kernelemente einer elektronischen Rechnung in eine Syntax

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Ref. No. CEN/TS 16931-3-1:2017 E

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European foreword

This document (CEN/TS 16931-3-1:2017) has been prepared by Technical Committee CEN/TC 434 "Electronic invoicing", the secretariat of which is held by NEN.

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This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This document is part of a set of documents, consisting of:

— EN 16931-1:2017, *Electronic invoicing — Part 1: Semantic data model of the core elements of an electronic invoice*;

— CEN/TS 16931-2:2017, *Electronic invoicing — Part 2: List of syntaxes that comply with EN 16931-1*;

— CEN/TS 16931-3-1:2017, *Electronic invoicing — Part 3-1: Methodology for syntax bindings of the core elements of an electronic invoice*;

— CEN/TS 16931-3-2:2017, *Electronic invoicing — Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note*;

— CEN/TS 16931-3-3:2017, *Electronic invoicing — Part 3-3: Syntax binding for UN/CEFACT XML Industry Invoice D16B*;

— CEN/TS 16931-3-4:2017, *Electronic invoicing — Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B*;

— CEN/TR 16931-4:2017, *Electronic invoicing — Part 4: Guidelines on interoperability of electronic invoices at the transmission level*;

— CEN/TR 16931-5:2017, *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*;

— FprCEN/TR 16931-6:2017, *Electronic invoicing — Part 6: Result of the test of EN 16931-1 with respect to its practical application for an end user*.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The European Commission estimates that "The mass adoption of e-invoicing within the EU would lead to significant economic benefits and it is estimated that moving from paper to e-invoices will generate savings of around EUR 240 billion over a six-year period"[1]. Based on this recognition "The Commission wants to see e-invoicing become the predominant method of invoicing by 2020 in Europe."

As a means to achieve this goal, Directive 2014/55/EU [5] on electronic invoicing in public procurement aims at facilitating the use of electronic invoices by economic operators when supplying goods, works and services to the public administration. In particular, it sets out the legal framework for the establishment of a European Standard (EN 16931-1) for the semantic data model of the core elements of an electronic invoice.

The semantic data model of the core elements of an electronic invoice – the core invoice model – as described in EN 16931-1 is based on the proposition that a limited, but sufficient set of information elements can be defined that supports generally applicable invoice-related functionalities.

In line with Directive 2014/55/EU [5], all contracting authorities and contracting entities in the EU will be obliged to receive and process an e-invoice as long as it contains all of the core elements of an invoice defined in EN 16931-1 and provided that it is represented in any of the syntaxes identified in the related Technical Specification CEN/TS 16931-2 "List of syntaxes that comply with EN 16931-1". This CEN Technical Specification CEN/TS 16931-3-1:2017 defines the method by which the core elements of the invoice should be mapped to a syntax. Subsequent CEN Technical Specifications apply this method and map the core invoice model to syntaxes such as UBL (CEN/TS 16931-3-2), UN/CEFACT XML (CEN/TS 16931-3-3) and the ISO 9735 series (UN/EDIFACT) (CEN/TS 16931-3-4).

By ensuring interoperability of electronic invoices, the European standard and its ancillary European standardization deliverables will serve to remove market barriers and obstacles to trade deriving from the existence of different national rules and standards – and thus contribute to the goals set by the European Commission.

1) http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0712:FIN:en:PDF.

1 Scope

This Technical Specification (TS) specifies the methodology of the mapping between the semantic model of an electronic invoice, included in EN 16931-1 and a syntax. For each element in the semantic model (including sub-elements or supplementary components such as Identification scheme identifiers) it should be defined which element in the syntax is to be used to contain its information contents. Any mismatches between semantics, format, cardinality or structure are indicated.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

CEN/TS 16931-3-2:2017, *Electronic invoicing — Part 3-2: Syntax binding for ISO/IEC 19845 (UBL 2.1) invoice and credit note*

CEN/TS 16931-3-3:2017, *Electronic invoicing — Part 3-3: Syntax binding for UN/CEFACT XML Industry Invoice D16B*

CEN/TS 16931-3-4:2017, *Electronic invoicing — Part 3-4: Syntax binding for UN/EDIFACT INVOIC D16B*

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

3 Terms and definitions

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

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 [5]]

3.2
semantic data model
structured set of logically interrelated information elements

3.3
information element
semantic concept that can be defined independent of any particular representation in a syntax

3.4
syntax
machine-readable language or dialect used to represent the information elements contained in an electronic document (e.g. an electronic invoice)

3.5
business term
label assigned to a given information element which is used as a primary reference

3.6
core invoice model
semantic data model of the Core elements of an electronic invoice

3.7
core elements of an electronic invoice
set of essential information elements that an electronic invoice may contain in order to enable cross-border interoperability, including the necessary information to ensure legal compliance

3.8
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.

3.9
identification scheme
collection of identifiers applicable for a given type of object governed under a common set of rules

4 Methodology

4.1 Introduction

EN 16931-1 defines a standardized semantic model of the core elements of an electronic invoice. The purpose of the core semantic invoice model is to facilitate computer applications generate electronic invoices and then for other applications receive and process those invoices automatically. These electronic invoices are electronically transmitted and received, without the need for prior bilateral agreement on the content or elements of the invoice. However, in order to exchange electronic invoices, the model elements need to be represented in a "syntax". A syntax specification allows the computer systems to identify the content (element values) as part of a data stream.

Syntax specifications imply a semantic model. The syntax specification defines how elements are organized (structured and serialized) in a predefined way in a data stream. Each element can be identified by means of its position or sequence, or by means of tags or labels. A syntax specification also defines the semantics of the elements, by naming and/or defining them. As such each syntax, by its own rules and methods, defines a standardized semantic model of an electronic invoice.

A syntax specification also defines the grouping, hierarchy, data types, formats and cardinality of the elements. In order to represent a standardized semantic model, such as the EN 16931-1 model, in a syntax, it is defined as a subset of a given syntax specification. The elements of the syntax specification may be more precisely defined, their cardinality may be restricted and their data types may be narrowed.

A syntax binding specification (this document), or mapping, describes how a semantic model, such as the model defined in EN 16931-1 is mapped to a selection of syntax specifications.

Creating a syntax binding specification requires aligning the semantic model and the syntax specification at various levels (semantic, structural, etc.). At each level, specific alignment issues can occur that need to be resolved. The remainder of this chapter will address the alignment of each of these levels in more detail. When creating a syntax binding specification, it is advised to address each of the levels in the following order:

— semantic alignment;

— structural alignment;

— cardinality assessment;

— data type formatting;

— code definition;

— business rules.

One should keep in mind that syntax binding binds two existing specifications. 'Aligning' in this context means restricting the usage of (an element within) one of the specifications, rather than extending the use of (an element in) the other specification. The subparts of the CEN/TS 16931-3 series map the semantic model of EN 16931-1 to several syntax specifications, not the other way around. This means that the elements in the semantic model can be represented in the syntax, but not all elements in the syntax are present in the semantic model. If in practice more elements are needed, first the semantic model should be extended according to the extension methodology as specified in CEN/TR 16931-5. Then the extended model can be mapped to one or more syntaxes using the methodology described here.

4.2 Semantic alignment

The first step in mapping a semantic model to a syntax is to determine if each element in the semantic model has a corresponding element in the syntax. The corresponding element in the syntax shall have a similar or wider semantic definition with respect to the definition of the semantic model element. The definition of the syntax element may be implied by the name of that element. For example: an element named "VAT Amount" in the semantic model may be mapped to an element named "Tax Amount" in the syntax specification. As VAT is a type of tax, the element "Tax Amount" is a wider concept than VAT Amount. The semantic relation between elements from the semantic model and elements from the syntax specification can be specified using SKOS[2)] relation types.

At the semantic level the following types of semantic mismatches between individual elements may occur:

2) https://www.w3.org/2004/02/skos/

Table 1 —Semantic alignment

ID	SOURCE	TARGET	Example	Issue	Resolution
SEM-1	wider	smaller	SOURCE specifies 'Taxes', while TARGET specifies 'VAT' (SKOS: narrower)	The semantic rules of TARGET may be violated.	1) find another element in TARGET to put the violating instances (those taxes that are not VAT) 2) accept that you are abusing an element in TARGET for something it was not (entirely) designed for. 3) Request to widen semantic definition of TARGET
SEM-2	smaller	wider	SOURCE specifies "VAT", Target specifies "Taxes" (SKOS: broader)	All instances that comply to SOURCE will also comply to TARGET, but some of the semantics are lost: the type of Tax is not specified any more.	Unless other elements are mapped to the wider element as well, specify the narrower meaning in the documentation (VAT instead of Tax).
SEM-3	overlap	overlap	SOURCE specifies Employee (including teachers, staff, researchers –that are on payroll- etc) and TARGET specifies Researcher (can be both enlisted as employee, but also be a student). (SKOS: related)	The semantic rules of TARGET may be violated.	1) accept that you are abusing an element in TARGET for something it was not (entirely) designed for. 2) Request to widen semantic definition of TARGET
SEM-4	match	no match	TARGET is missing any element to specify a person.	It is not possible to put certain information in the TARGET.	1) Use a (more) generic element 2) Request to add an element in TARGET.

4.3 Structural alignment

The second step is to review the "structural context" of the information element in the respective syntaxes. The structural context of an element is part of its semantic definition. Electronic messages in the different syntaxes represent data in different levels, groupings and sequences. For example, a VAT Amount element on line level in the model should not be mapped on a VAT Amount element on document level in the syntax specification.

The following structural mismatches may occur.

Table 2 —Structural alignment

ID	SOURCE	TARGET	Example	Issue	Resolution
STR-1	Hierarchical order one to many	Hierarchical order many to one	Packing of items can be listed as items and then where they are packed or as a list of packs and what items are in each pack.	Yes	Complex mapping. Packs are lifted to higher level and equivalent packs need to be combined.
STR-2	element on higher level	element on lower level	SOURCE specifies element at top level with a single repetition but TARGET is in a class that is also used for other data that requires repetition of the class.	Possibly if higher level cardinalities cause conflicts.	
STR-3	grouping A-B-C	different grouping	SOURCE may define a group of elements such as payment instructions that may be repeated as a group but if those elements are differently grouped in TARGET, that repetition may be problematic.	Possibly.	
STR-4	higher detail	less detail	SOURCE has < name/firstname and name/lastname > and TARGET only has < name > .	Yes.	Agree on a rule to concatenate elements from SOURCE to TARGET
STR-5	less detail	higher detail	TARGET has < name/firstname and name/lastname > and SOURCE only has < name > .	Depends	Agree on a rule (if possible) to split the SOURCE element into several TARGET elements

4.4 Cardinality assessment

Cardinality defines whether or not an element shall be used, may be omitted and how many times it might be repeated in a specific context. The cardinality of an element in the syntax shall be the same or less restrictive than the corresponding element in the model. An element that is mandatory in the model may be optional in the syntax specification, but not the other way around. An element that is repeating in the model shall also be repeating in the syntax specification.

The following cardinality mismatches may occur:

Table 3 —Alignment of cardinalities

ID	SOURCE	TARGET	Example	Issue	Resolution
CAR-1	optional (0..x)	mandatory (1..x)		If the element is not present, the target rules are violated.	Agree on 'default value if missing' (e.g. 0, 1–1-1970, AAA).
CAR-2	mandatory (1..x)	optional (0..x)		None.	Add a rule in the target that the element shall be present.
CAR-3	single (X..1)	multiple (X..N)		None.	Add a rule in the target that the element shall not be repeated.
CAR-4	multiple (X..N)	single (X..1)		Repeating elements cannot be handled.	1) If possible, repeat a higher level in the structure 2) In the case of text elements, concatenate the repeating elements
CAR-5	element missing	element mandatory		Yes.	Agree on 'default value if missing' (e.g. 0, 1–1-1970, AAA).

4.5 Data type formatting

EN 16931-1 defines the following semantic data types:

Table 4 —Semantic data types

Basic type	Definition
Amount. Type	An amount states a numerical monetary value. The currency of the amount is defined as a separate business term. This EN 16931_ Amount. Type is based on the Amount. Type as defined in ISO 15000-5:2014, Annex A. EN 16931_ Amount. Type is floating up to two fraction digits.
Unit Price Amount. Type	A unit price amount states a numerical monetary amount value for data elements that contain item prices that may be multiplied by item quantities. The currency of the amount is defined as a separate business term. This EN 16931_ Unit Price_ Amount. Type is based on the Amount. Type as defined in ISO 15000-5:2014, Annex A.
Quantity. Type	Quantities are used to state a number of units such as for items. The code for the Unit of Measure is defined as a separate business term. This EN 16931_ Quantity. Type is based on the Quantity. Type as defined in ISO 15000-5:2014, Annex A. EN 16931_ Quantity. Type is floating up to five fraction digits.
Percentage. Type	Percentages are given as fractions of a hundred (per cent) e.g. the value 34,78 % in percentage terms is given as 34.78. This EN 16931_ Percentage_ Numeric. Type is based on the Numeric. Type as defined in ISO 15000-5:2014, Annex A. EN 16931_ Percentage_ Numeric.
Identifier. Type	Identifiers (IDs) are keys that are issued by either the sender or recipient of a document or by a third party. For each identifier in the model it is stated whether an identification scheme shall be defined and if so, from what list the identification schemes may be chosen. This EN 16931_ Identifier. Type is based on the Identifier. Type as defined in ISO 15000-5:2014, Annex A. The Scheme identifier Identifies the scheme on which the identifier is based. The use of this attribute is specified for each information element in the semantic model.
Document Reference. Type	Identifiers that were assigned to a document or document line by the Buyer, the Seller or by a third party. This EN 16931_ Document Reference_ Identifier. Type is based on the Identifier. Type as defined in ISO 15000-5:2014, Annex A.
Date. Type	Dates shall be in accordance to the “Calendar date complete representation” as specified by ISO 8601 (see ISO 8601:2004, 5.2.1.1). Calendar dates do not include a specification for the time of the day. This EN 16931_ Date_ Date Time. Type is based on the Date Time. Type as defined in ISO 15000-5:2014, Annex A.
Text. Type	Text is the actual wording of anything written or printed. The language of the textual business terms in the invoice is defined in a separate business term in the model (BT-4 Invoice language code). This EN 16931_ Text. Type is based on the Text. Type as defined in ISO 15000-5:2014, Annex A. Line breaks in the text may be present.
Binary Object. Type	Binary objects can be used to describe files which are transmitted together with the Invoice. Attachments shall be transmitted together with the Invoice. There shall be only one way defined per syntax. This EN 16931_ Binary Object. Type is based on the Binary Object. Type as defined in ISO 15000-5:2014, Annex A. EN 16931_ Binary Object. Type has two supplementary components: a Mime Code, which specifies the Mime type of the attachment and a Filename that is provided by (or on behalf of) the sender of the invoice.

These data types are further defined in EN 16931-1. These definitions are based on the data type definitions in ISO 15000-5. Data types are composites, consisting of a content and zero or more supplementary components. Syntax specifications may deviate from the EN 16931-1 definitions, while

being based on the same ISO 15000-5 data types. For example, the set of supplementary components may be different. They also may define different restrictions, such as field lengths.

The following issues may arise at data format level when mapping the model to a syntax:

Table 5 —Data type alignment

ID	SOURCE	TARGET	Example	Issue	Resolution
SYN-1	wider	Smaller	the SOURCE element has datatype string, TARGET has datatype integer (or: DateTime vs Date).	Yes, since some of the values SOURCE instances can hold, will not be valid in TARGET.	
SYN-2	smaller	Wider	SOURCE is integer, TARGET is string.	No	Not needed.
SYN-3	match	no match	Source has DateTime, TARGET Timestamp.	Yes	Add tranformation logic.

4.6 Code values

The EN 16931-1 model defines a number of code lists and code values to be used. Syntaxes define their own code lists. When mapping a model element on a syntax element, it shall be verified that the code list(s) supported by the syntax contain the code values (not necessarily the code representations) as defined in the model. The following mismatches may occur:

Table 6 —Code alignment

ID	SOURCE	TARGET	Example	Issue	Resolution
COD-1	codelist A specified	codelist A not allowed	Source states that country shall be expressed using ISO 3166-1 alpha-2 but TARGET only provides for other geographical code lists.	Yes	Provide mapping between code values.
COD-2	generalized code	specialized code	SOURCE lists generalized code values that are mapped to TARGET code lists.	Possibly in transformations if mapping of code list in TARGET A is not aligned with mapping to code list in TARGET B.	

4.7 Business rules

EN 16931-1 specifies a number of business rules for validating instance documents. These business rules are also valid for the syntax representation of invoices, but they need to be reformulated in order to use the business terms used in the specific syntax, rather than the business terms used in the model. Syntax mapping may lead to additional business rules, e.g. to resolve the mapping issues stated in previous sections.

Some syntaxes allow for formalizing syntax oriented business rules by means of some formal language (e.g. Schematron). For other syntaxes structured English is to be used, preferably according to some

standard (e.g. SBVR: Semantics of Business Vocabulary and Rules[3]). The syntax rules are part of the validation artefacts, that are published with this Technical Specification.

4.8 Documentation

Each syntax binding contains a general section and two tables. The general section describes topics such as namespaces, service segments, data type definitions, etc. The two tables define the mapping. The first table maps the elements of the semantic model on the syntax elements. This table is normative. The table is represented as follows:

Table 7 —Semantic model to syntax elements table lay-out

Semantic model						Syntax specification									
A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**
ID	**Level**	**Card.**	**BT**	**Desc.**	**DT**	**Level**	**Path**	**Type**	**Card.**	**Name**	**DT**	**Desc**	**Match**	**Mapping remarks**	**Rules**

The first table contains the following columns:

Column A: Business Term ID (in the semantic model)

Column B: Structural level (in the semantic model)

Column C: Cardinality (in the semantic model)

Column D: Business Term (in the semantic model)

Column E: Description (in the semantic model)

Column F: Semantic data type (from the semantic model):

— A = Amount

— B = Binary Object

— C = Code

— D = Date

— I = Identifier

— M = Numeric

— *N* = Normalized string

— *P* = Percentage

— Q = Quantity

— S = String

— T = Text

— U = Unit Price Amount

Column G: Structural level (in the syntax)

3) http://www.omg.org/spec/SBVR/.

Column H: Path (to the element in the syntax)

Column I: Type

— A = Attribute

— C = Composite

— E = Element

— G = Aggregate

— S = Segment

Column J: Cardinality (in the syntax)

Column K: Element Name (in the syntax)

Column L: Data Type / Format (in the syntax)

Column M: Description of the element

Column N: Degree of matching (see 4.5)

Column O: Mapping remarks

Column P: Rules

NOTE 1 Not all columns are present for all syntaxes.

The second table is mapping syntax elements on the elements of the semantic model. This table is informative and may be helpful to implementers.

Table 8 —Syntax elements to semantic model table lay-out

Syntax specification								Semantic model							
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Level	ID	Path	Type	Card	Name	DT/ Length	Note	ID	Level	Card	BT	Description	DT	Note	Example

Column A: Level (in the syntax)

Column B: ID of the element

Column C: Path

Column D: Type:

— G = Aggregate

— C = Composite

— E = Element

— A = Attribute

— S = Segment

Column E: Cardinality (in the syntax)

Column F: Element Name (in the syntax)

Column G: Data Type / Format / Field Length (in the syntax)

Column H: Note

Column I: Business Term ID (in the semantic model)

Column J: Level (in the semantic model)

Column K: Cardinality (in the semantic model)

Column L: Business Term (in the semantic model)

Column M: Description (in the semantic model)

Column N: Data Type (in the semantic model)

Column O: Note

Column P: Example

NOTE 2 Not all columns are present for all syntaxes.

5 Cross-mapping between syntaxes

5.1 Introduction

As the semantic model is mapped to syntaxes, it is in principle possible to cross-map between syntaxes. Cross-mapping is however only possible without information loss if the mapping is complete and if no mapping issues exist, as described in 4.7. If mapping issues exist, it still may be possible to cross-map from a syntax with an incomplete mapping to a syntax with a complete mapping without information loss, but not vice versa.

Invoices according to EN 16931-1 that are transferred using a specific syntax, use a defined profile on that syntax. The profile is identified in the message (element BT-20). This means that all elements in the invoice are defined in the semantic model. In fact the definition in the semantic model overrules the definition in the syntax specification. A receiving system therefore can be certain that no other elements need to be mapped than those existing in the semantic model.

As listed in 4.7, mapping issues may exist on the semantic level, on structural level, on cardinality level or on data type level. For each level an assessment can be made of the issues that may arise when cross-mapping between syntaxes.

5.2 Semantic level

Table 9 —Semantic mismatches

	Match	SEM-1 smaller	SEM-2 wider	SEM-3 overlap	SEM-4 no match
Source	+	+	+	-	+
Target	+	-	+	?	-

A + designates that cross-mapping may be performed without information loss. A – designates that for the element information loss may occur. A ? designates that whether information loss occurs depends on the two syntax definitions: if the source syntax has the same deviation from the semantic model as the target syntax (or if it has a smaller definition compared to the target syntax) no information loss will occur. If not, the risk on information loss exists.

Wider semantics in the syntax usually pose no problems. In the profile documentation, the semantics are narrowed, to fit the semantic model.

5.3 Structural level

A similar assessment may be made for the structural mismatches.

Table 10 —Structural mismatches

	Match	STR-1 Hierarchical order many to one	STR-2 element on lower level	STR-3 different grouping	STR-4 less detail	STR-5 higher detail
Source	+	+	+	?	-	+
Target	+	+	?	?	+	-

5.4 Syntactical level

The syntactical (data type) issues are listed in the following table:

Table 11 —Data type mismatches

	Match	SYN-1 Smaller	SYN-2 Wider	SYN-3 No match
Source	+	+	-	-
Target	+	-	+	-

5.5 Cardinality level

The cardinality mismatches are:

Table 12 —Cardinality mismatches

	Match	CAR-1 mandatory (1..x)	CAR-2 optional (0..x)	CAR-3 multiple (X..N)	CAR-4 single (X..1)	CAR-5 element mandatory
Source	+	+	?	-	+	+
Target	+	-	+	+	-	-

Bibliography

[1] W3C XML Schema Parts 0,1 and 2

[2] UN/CEFACT library www.unece.org/cefact.html

[3] UN/ECE Rec. 20 Codes for units of measure used in international trade

[4] UN/ECE Rec. 21 Codes for types of cargo, packages and packaging materials

[5] Directive 2014/55/EU of the European Parliament and of The Council of 16 April 2014 on electronic invoicing in public procurement [viewed 2015-07-26] Available from http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014L0055

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

[7] 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*

[8] ISO 9735 (all parts), *Electronic data interchange for administration, commerce and transport (EDIFACT) — Application level syntax rules (Syntax version number: 4, Syntax release number: 1)*

[9] ISO 3166-1, *Codes for the representation of names of countries and their subdivisions— Part 1: Country codes*

Waarom betaalt u voor een norm?
Normen zijn afspraken voor en door de markt, zo ook deze norm. NEN begeleidt het gehele normalisatieproces. Van het bijeenbrengen van partijen, het maken en vastleggen van de afspraken en het bieden van hulp bij de toepassing van de normen. Om deze diensten te kunnen bekostigen betalen alle belanghebbende partijen die aan tafel zitten voor het normalisatieproces, en u als gebruiker voor normen en trainingen. NEN is een stichting en heeft geen winstoogmerk.

Wat is nu precies de toegevoegde waarde van normen?
Stelt u zich eens voor … u wilt in het buitenland geld pinnen, maar uw bankpas past niet. Of uw nieuwe telefoon herkent uw simkaart niet. De samenstelling van de benzine over de grens is anders waardoor u niet kunt tanken. Het dagelijks leven zou zonder goede afspraken over producten, processen en diensten een stuk complexer zijn.

Het maken en vastleggen van afspraken door belanghebbende partijen noemen we het normalisatieproces. Normalisatie had vanouds betrekking op techniek en producten. Nu worden steeds vaker normen voor diensten ontwikkeld. Zo zijn er afspraken op het gebied van gezondheidszorg, schuldhulpverlening, kennisintensieve dienstverlening, externe veiligheid en MVO.

Normen zorgen voor verbetering van producten, diensten en processen; qua veiligheid, gezondheid, efficiëntie, kwaliteit en duurzaamheid. Dit ziet u op de werkvloer, in de omgang met elkaar en in de samenleving als geheel. Organisaties die normalisatie onderdeel van hun strategie maken, vergroten hun professionaliteit, betrouwbaarheid en concurrentiekracht.

Wat doet NEN?
NEN ondersteunt in Nederland het normalisatieproces. Als een partij zich tot NEN richt met de vraag om een afspraak tot stand te brengen, gaan wij aan de slag. We onderzoeken in hoeverre normalisatie mogelijk is en er interesse voor bestaat. Wij nodigen vervolgens alle belanghebbende partijen uit om deel te nemen. Een breed draagvlak is een randvoorwaarde. De afspraken komen op basis van consensus tot stand en worden vastgelegd in een document. Dit is meestal een norm. Afspraken die in een NEN-norm zijn vastgelegd mogen niet conflicteren met andere geldige NEN-normen. NEN-normen vormen samen een coherent geheel. Een belanghebbende partij kan een producent, ondernemer, dienstverlener, gebruiker, maar ook de overheid of een consumenten- of onderzoeksorganisatie zijn. De vraag is niet altijd om een norm te ontwikkelen. Vanuit de overheid komt regelmatig het verzoek om te onderzoeken of er binnen een bepaalde sector of op een bepaald terrein normalisatie mogelijk is. NEN doet dan onderzoek en start afhankelijk van de uitkomsten een project. Deelname staat open voor alle belanghebbende partijen. NEN beheert ruim 30.000 normen. Dit zijn de in Nederland aanvaarde internationale (ISO, IEC), Europese (EN) en nationale normen (NEN). In totaal zijn er ruim 800 normcommissies actief met in totaal bijna 5.000 normcommissieleden. Een goed beheer van de omvangrijke normencollectie en de afstemming tussen nationale, Europese en internationale normcommissies vereisen dan ook een zeer goede infrastructuur.

Betalen kleine organisaties net zoveel als grote organisaties?
Het uitgangspunt is dat alle partijen die deelnemen aan het normalisatieproces een evenredig deel betalen. De normcommissieleden kunnen onderling andere afspraken maken. Zo worden er wel eens afspraken gemaakt dat de grote partijen een groter deel betalen dan de kleinere bedrijven. De prijzen voor normen zijn voor iedereen gelijk. De kosten voor licenties zijn afhankelijk van de omvang van een organisatie en het aantal gebruikers.

Voordelen van normalisatie en normen
Gegarandeerde kwaliteit | Veiligheid geborgd | Bevordert duurzaamheid | Opschalen en vermarkten van nieuwe innovatieve producten | Meer (internationale) handelsmogelijkheden | Verhoogde effectiviteit en efficiëntie | Onderscheidend in de markt.

Voordelen van deelname
Invloed op de (internationale en Europese) afspraken | Als eerste op de hoogte van veranderingen | Netwerk; ook op Europees en internationaal niveau | Kennisvergroting.