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Electronic invoicing - Part 6: Result of the test of EN 16931-1 with respect to its practical application for an end user

Elektronische Rechnungsstellung - Ergebnis der Prüfung der EN 16931-1 auf ihre praktische Anwendbarkeit durch einen Endnutzer

Facturation électronique - Résultat de l'essai portant sur la Norme européenne concernant sa mise en application pratique pour un utilisateur final

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This Technical Report was approved by CEN on 15 October 2017. It has been drawn up by the Technical Committee CEN/TC 434.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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European foreword

This document (CEN/TR 16931-6:2017) has been prepared by Technical Committee CEN/TC 434 "Electronic invoicing", the secretariat of which is held by NEN.

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

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 Cross 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
- CEN/TR 16931-6:2017 Electronic invoicing - Part 6: Result of the test of the European standard with respect to its practical application for an end user

0 Introduction

0.1 Summary

The Technical Report contains the results of the testing. In summary, it should demonstrate that EN 16931-1 and its related specifications, particularly the syntax bindings, is fit for purpose.

The report has three main sections, one for the semantic testing where an overview of the methodology, the testing and the results are described (Clause 4). The second section (Clauses 5 to 8) is the syntax testing, and this is split in different subchapters to test all the steps needed to create and send an invoice instance. The final section (Clauses 9 to 10) describes the tests performed to ensure the EN is suitable for automatic processing. This section has two sub chapters, one for payments and one for automatic processing in general.

0.2 Requirements for testing derived from European legislation

Article 3 of Directive 2014/55/EU [1] states that:

“The Commission shall request that the relevant European standardisation organisation draft a European standard for the semantic data model of the core elements of an electronic invoice (the ‘European standard on electronic invoicing’).

The Commission shall require that the European standard on electronic invoicing complies at least with the following criteria:

— it is technologically neutral,

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

— it has regard to the need for personal data protection in accordance with Directive 95/46/EC [3], to a ‘data protection by design’ approach and to the principles of proportionality, data minimization and purpose limitation,

— it is consistent with the relevant provisions of Directive 2006/112/EC [2],

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

— it considers 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.”

Further on in article 3 the Directive [1] explicitly describes the task of testing:

— “the standard shall be tested as to its practical application for an end user.

— during the performance of the test, special account be taken of the respect for the criteria of practicality, user-friendliness and possible implementation costs”

Testing is also described in note 28 of Directive 2014/55/EU [1]:

“Prior to the introduction of the European standard on electronic invoicing in the Member States, the practical application of the standard should be sufficiently tested. This assessment should be done during the drawing up of the standard. That assessment should involve end users, and should address aspects of practicality and user-friendliness, and should demonstrate that the standard can be implemented in a cost efficient and proportionate manner.”

1 Scope

1.1 Introduction

Directive 2014/55/EU states the following: “the standard shall be tested as to its practical application for an end user. The Commission shall retain overall responsibility for the testing and shall ensure that, during the performance of the test, special account be taken of the respect for the criteria of practicality, user-friendliness and possible implementation costs in accordance with the second subparagraph of paragraph 1. “

1.2 In scope

This CEN Technical Report describes the methodology used for testing at a semantic level and at the syntax level, as well as describing the semantic testing, the syntax testing and testing of the validation artefacts that represent EN 16931-1 and the test results. The testing of the validation artefacts will ensure they can be used to automatically check conformance with EN 16931-1.

1.3 Out of scope

During meetings with the European Commission they agreed to supplement the testing activities as the need arises. This included the provision of a hosted GITB (Global eBusiness Interoperability Test Beds) environment for syntax testing and to run separate studies such as assessment of implementation costs. The results of these studies will be published separately by CEF.

It was agreed at earlier meetings that piloting was out of scope i.e. perform live transactions, because resources were unavailable to undertake this in the time allowed. Instead we could simulate scenarios by leveraging on the experience of our experts.

Working Group 3 (hereafter WG3) in CEN/TC 434 has produced the syntax bindings and validation artefacts, and the task of quality assurance of these deliverables has been the responsibility of WG3.

VAT issues are complex and require juridical or legal expertise. VAT is also sometimes very sectoral or even country specific. Certain sections, in the VAT Directive, apply to all trades, others deal with special cases. The model should facilitate, but cannot be seen as an enforcement model. Therefore, VAT compliance would have to be checked on a case by case basis, and is deemed out of scope. The Commission had taken this up and given the draft to their VAT experts. The result was that no issues were discovered.

Article 226(B) of the VAT Directive [2] describes the simplified invoice. There are significantly fewer requirements for this invoice. It can only be used when the value is below a specific total amount. The requirement is to provide a model for low value purchases such as train tickets, receipts etc. The key difference is that it doesn’t require the Buyer to be identified. Due to limited resources the simplified invoice requirements were not checked and so are being considered as an extension to be developed at a future stage.

The changing between form and format was discussed. It was generally agreed, based on the VAT Directive, that an eInvoice cannot change form i.e. transformed to paper, however it can change format i.e. syntax. This is common in EDI systems and for legal reasons the original needs to be clarified. This means if it is in paper form it shall be archived in paper form and if it is electronic it shall stay in electronic form. An electronic invoice may change format, provided this is documented in an audit trail. However, in Norway and France the legislation states that the format received from the Supplier is the original and no other. Also, general practice in Germany requires that the invoice received from the Supplier be archived and considered as the original. There may be other exceptions in some Member States. This was also considered to be out of scope for this document and would be dealt with by the Member State involved.

It was agreed at an initial Plenary session that we should test all four syntaxes as the decision to select syntaxes had not yet been made. However ultimately the group concluded, based on our research, that

the ISO 20022 Financial Invoice was not in sufficient use to justify being included. It was agreed at a plenary session that the work could be dropped, and testing against ISO 20022 Financial Invoice is deemed out of scope. The expert assigned analysed instead the mapping between the core invoice model and ISO 20022 SEPA payment files (see section 11).

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16931-1:2017 and the following apply.

3.1
end user
user or developer, who ultimately is intended to use EN 16931-1 or instance invoices created thereof

3.2
UX
user experience

3.3
DX
developer experience

4 Testing

4.1 General

The Standardization Request [5] states

— the standard shall be tested as to its practical application for an end user.

This specifically deals with the requirements of an end user as a stakeholder. An end-user is a person who ultimately uses or is intended to ultimately use a product, and the end user typically does not possess the technical understanding or skill of the product designers.

Further on the standardization request [5] states

— during the performance of the test, special account be taken of the respect for the criteria of practicality, user-friendliness and possible implementation costs

This requirement involves several stakeholders, among others service providers and product designers who will design products/software, implement the solution and maintain a product, but also public entities and private businesses that will generate, send/transmit, receive and process the invoice instances.

Based on the above assessments, WG6 decided to test both the semantics of EN 16931-1 and the syntax instances produced in the agreed syntax formats.

4.2 Semantic testing

4.2.1 Introduction

The basic methodology is to check the semantic data model against the specific requirements found in Annex 1 to the Standardization Request [4], and with a special focus on the criteria of practicality, user-friendliness as explicitly stated in Directive 2014/55/EU [1].

At early meetings, it was decided to group people into those who are familiar or expert in different aspects of the Specific Requirements. It was also decided to reduce the number of assumptions made and if any are used then these should be declared. The model was checked against real invoices that are in current use. The instances were initially checked to ensure they did not contain any sectoral specific information.

All specific requirements, from the Standardization Request, are considered against the core invoice data model to ensure the model is fit for purpose semantically. This process was completed during various Working Group 6 meetings. The notes from these meetings were gathered, analysed and used as input for this document.

It was agreed during early meetings that we also need to get feedback as to its use and content from standards organizations or implementers such as GS1, Service Providers, ERP systems, Public Bodies, other end users, and the Commission regarding VAT rules.

Whereas the Working Group had several experts with various expertise, it was felt that we need to extend this particularly regarding experts from Public Bodies. It was agreed with the Commission and approved by CEN to provide an extract to the EU Multistakeholder Forum on eInvoicing (EMSFeI). This resulted in 10 experts volunteering to provide feedback. Any feedback gathered from this forum was incorporated in the testing and discussed at the regular Working Group meeting.

It was furthermore agreed to investigate how the invoice could map to a SEPA-based payment process, and this is documented further in Clause 10 – Payments.

4.2.2 The standardization request and specific requirements

Both Directive 2014/55/EU and the Standardization Request explicitly pose several requirements to the EN and its deliverables. All these requirements have been further elaborated and described by CEN/TC 434, and the result is documented in Annex B of the EN 16931-1: “Assessment of the compliance of the European Standard with the requirements of the Standardization Request of the European Commission”.

WG6 has done assessments on each of these requirements, to ensure they are met, as a means to demonstrate that EN 16931-1 and its related specification is fit for purpose. The result of this assessment is found in the table below:

Table 1 — Assessment of requirements

Id	Standardization Request Specific Requirement	WG6 Assessments
1.1a	be … technologically neutral	The EN is a semantic model documented in human readable form. As such, it is technically neutral. The EN states that the model shall be expressible in UBL and CII syntaxes, which are based on open standards. The EN defines mappings to these syntaxes in a technologically neutral way. The business rules are documented in a technologically neutral way. Several tool vendors have participated in WG6. The vendors use a range of different technologies, and have established that they can each work with the EN.
1.1b	be … commercially neutral	No particular accounting system or commercial tool is required to be able to work with the EN.
1.2	be compatible with relevant international standards on e-invoicing	WG4 worked on selection of the List of Syntaxes. This process included a ballot by CEN Members and the result was a 100 % positive vote.
1.3	have regard to the need for personal data protection in accordance with Directive 95/46/EC, to a 'data protection by design' approach and to the principles of proportionality, data minimization and purpose limitation	The Commission provided the draft EN to data protection experts for review. No issues were discovered.
1.4	be compatible with Directive	The Commission provided the draft EN to VAT experts for review. No issues were discovered. In addition, WG6 tested invoice instances based on real invoices which included simple VAT elements. No problems were encountered.

Id	Standardization Request Specific Requirement	WG6 Assessments
	2006/112/EC, and suitable for use with non-VAT invoices	
1.5	allow the establishment of practical, user-friendly, flexible and cost-efficient electronic invoicing systems	The definition of a semantic model is of major value for this requirement. The model shall be expressible in the UBL and CII formats, two very common syntaxes. It is noted that in order to ensure that the EN continues to be practical and user-friendly, it is important to align with new technologies and syntaxes as they gain widespread adoption in the market. WG6 tested invoice instances based on real invoices, and reviewed visualizations of the invoices. The EN was deemed to be effective. Easy availability of information on the EN is important to satisfy this requirement. CEF Telecom has put funding in place to support adoption of the EN. They have published a Readiness Checker website, and published information on Joinup: https://ec.europa.eu/cefdigital/wiki/display/CEFDIGITAL/eInvoicing+Readiness+Checker
1.6	take into account the special needs of small and medium-sized enterprises as well as of sub-central contracting authorities and contracting entities	SMEs need cost effective, easy-to -use e-Invoicing solutions, and so the EN shall be simple and easy to use. This is already assessed under 1.5 above. SMEs, sub-central contracting authorities and contracting entities are likely to adopt automated processing, perhaps using shared services. The EN is deemed to work effectively for these scenarios.
1.7	not require, and not impede, the use of electronic signatures or seals	The electronic signature process is not part of the EN. Nothing in the EN requires or impedes the use of electronic signatures or seals.
1.8	contain an informative annex which provides a clear, transparent and precise indication	EN 16931–1 has included this as Annex B, Assessment of the compliance of the European Standard with the requirements of the Standardization Request of the European Commission.

Id	Standardization Request Specific Requirement	WG6 Assessments
	of the relationship between the elements of the EN and the corresponding EU legal requirements specified in this standardization request	
1.9	preserve investments already made at national level	National priorities have been accommodated by • basing the EN on previous work, primarily by MUG and BII; • involving CEN members. CEN has members in every state, and each member can be involved, and vote; • liaising with the Multistakeholder forum. In addition, CEF Telecom has funded national implementations that align with national practices, for example in Italy.
1.10	include the physical and financial supply chain perspective, i.e. not treat the invoice in isolation but consider related trade and finance documents and processes (e.g. reconciliation, supply chain finance, credit notes, etc.), and reflect	This requirement is met by the EN containing a sufficient range of references to stages and data sets upstream and downstream of the invoice in the physical and financial supply chain. WG6 has also done assessments as to payments and automatic processing in chapter 10 and 11, and the EN is deemed to support this requirement.

Id	Standardization Request Specific Requirement	WG6 Assessments
	both private and public sector requirements, with a view to allowing the full straight-through processing (STP) of an electronic invoice	
1.11	be suitable for voluntary use in commercial transactions between enterprises and have the capacity to reflect specific needs and requirements of the business-to-business (B2B) ecosystem	WG6 has tested using real world examples which largely came from B2B e.g. GS1. B2B liaison groups such as GS1 and Odette (automotive industry) have been involved in the standardization effort. Invoicing processes for B2B and B2G are the same, and are generally supported by the same vendors.
1.12	be re-usable in other standardization initiatives	CEN/TC 434 is working closely with TC440 so that messages are in alignment. In future activities CEN/TC 434 will start to use the architecture being developed by TC440.
1.13	The EN should contain, *inter alia*, the elements mentioned in Article 6 of the Directive	WG6 has reviewed this, and all elements are found in the semantic model in EN 16931–1.