

**CEN**

**CWA 16356-1**

**WORKSHOP**

September 2011

**AGREEMENT**

---

ICS 35.240.60

English version

## Guide for a European CORE INVOICE data model with UN/CEFACT CII Implementation Guideline - Part 1: Introduction

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties, the constitution of which is indicated in the foreword of this Workshop Agreement.

The formal process followed by the Workshop in the development of this Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN-CENELEC Management Centre can be held accountable for the technical content of this CEN Workshop Agreement or possible conflicts with standards or legislation.

This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its Members.

This CEN Workshop Agreement is publicly available as a reference document from the CEN Members National Standard Bodies.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

---

© 2011 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No.:CWA 16356-1:2011 E

# Contents

- Foreword ..... 3
- 1 Introduction ..... 4
  - 1.1 Introduction and background ..... 4
  - 1.2 Scope ..... 4
  - 1.3 Clarification of CORE invoice ..... 5
  - 1.4 Content of the document and guide ..... 6
  - 1.5 List of reference documents ..... 7

---

## Foreword

This multi-parts CWA is the result of a project that has been carried out as a joint activity between the relevant CEN Workshops: i.e. eBES, eInvoicing-3 and BII2. The project is known as MUG (Message User guidelines).

The CWA is made up of three parts:

- Part 1: Introduction
- Part 2: European CORE INVOICE data model
- Part 3: European CORE INVOICE syntax mapping

The final CWA has been adopted by the three Workshops on the 30<sup>th</sup> of August 2011.

The current document is Part 1.

This CEN Workshop Agreement has been drafted and approved by a Workshop of representatives of interested parties on the 30<sup>th</sup> of August 2011, the constitution of which was supported by CEN following the public call for participation made on 24<sup>th</sup> of October 2010.

A list of the individuals and organizations which supported the technical consensus represented by the CEN Workshop Agreement is available to purchasers from the CEN-CENELEC Management Centre. These organizations were drawn from the following economic sectors:

- Information Technology;
- Trade Facilitation, and
- Financial Services industry.

The formal process followed by the Workshop in the development of the CEN Workshop Agreement has been endorsed by the National Members of CEN but neither the National Members of CEN nor the CEN-CENELEC Management Centre can be held accountable for the technical content of the CEN Workshop Agreement or possible conflict with standards or legislation. This CEN Workshop Agreement can in no way be held as being an official standard developed by CEN and its members.

The final review/endorsement round for this CWA was started on 1<sup>st</sup> June 2011 and was successfully closed on 31<sup>st</sup> July 2011. The final text of this CWA was submitted to CEN for publication on 1<sup>st</sup> September.

This CEN Workshop Agreement is publicly available as a reference document from the National Members of CEN: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Comments or suggestions from the users of the CEN Workshop Agreement are welcome and should be addressed to the CEN-CENELEC Management Centre.

# 1 Introduction

## 1.1 Introduction and background

The final report of the Expert Group on e-Invoicing<sup>1</sup> proposes a European Electronic Invoicing Framework (EEIF)<sup>2</sup> as called for in the Terms of Reference created by the European Commission when the Group was established in late 2007. The EEIF is expected to establish a common conceptual structure, including business requirements and standard(s), and propose solutions supporting the provision of e-invoicing services in an open and interoperable manner across Europe.

In its end-2009 final report, the Expert Group (EG) recommends that all actors adopt a common invoice content standard and data model based on the UN/CEFACT Cross-Industry Invoice. The EG also recommends development of a reference semantic data model to clarify the European context, in particular to ensure that those implementing this technical solution in Europe will be able to use it in a correct context.

The European Commission<sup>3</sup>, in the Communication document “Reaping the benefits of electronic invoicing for Europe” adopted on 2 December 2010, endorsed many of the recommendations of the EG, enumerating them in several actions points, including this Guide:

*“...Actions:*

*4.1 In 2011, CEN will design implementation guidelines for the CII v.2 data model.*

*These guidelines should be based on the core invoice data set proposed by the Expert Group on e-invoicing and take into account the ISO 20022 Invoice message, the work of the CEN e-Invoicing, BII and EBES workshops, and other initiatives such as the PEPPOL project.....”*

The present CWA/Guide has therefore been set up as a CEN joint project, named MUG (Message User Guide), to carry out the two above mentioned activities, a common invoice content standard hereafter referred to as a CORE European invoice - a reference semantic data model - and implementation guideline for the UN/CEFACT CII syntax. The project has specifically tried to:

- achieve coordination with participating workshops and respect the on-going work of initiatives implementing the deliverables of these workshops,
- base its development of the reference semantic data model on results and on-going work from the participating workshops,
- develop implementation guidelines and syntax mapping to UN/CEFACT CII syntax only and
- make available the reference semantic data model, that is the Core European Invoice data Model, in conformity with the relevant legislation and regulation within the EU and other European states. The deliverable is not describing the way in which the invoice will be transmitted, handled or stored.

In terms of the organization of the work, this activity has been carried out as a joint activity between the relevant CEN Workshops: i.e. eBES, eInvoicing-3 and BII2.

## 1.2 Scope

This document describes the European reference semantic data model for the CORE invoice (Part 2) and Implementation guidelines and syntax mapping of the reference data model to UN/CEFACT CII syntax (Part 3). This work provides:

---

<sup>1</sup> [http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/benefits/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/benefits/index_en.htm)

<sup>2</sup> [http://ec.europa.eu/enterprise/sectors/ict/files/finalreport\\_en.pdf](http://ec.europa.eu/enterprise/sectors/ict/files/finalreport_en.pdf), page 19

<sup>3</sup> COM(2010) 712 final : [http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/benefits/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/ict/e-invoicing/benefits/index_en.htm)

- European reference semantic data model for the CORE European Invoice. The group has based its work on results already developed by participating workshops. The goal is documenting a common set of eInvoicing requirements for Europe. The project has also reviewed the results from relevant initiatives implementing the deliverables of the workshops. This analysis does not depend on any syntax. The relevant documents for this analysis are attached as an annex;
- Implementation guidelines and syntax mapping of the reference data model are done to UN/CEFACT CII D09B XML Schema. This will enable use of that syntax in the European context and guide implementers in that market. Furthermore an informative mapping is given to the draft implementation of CII using CCTS v3.0 and NDR v3.0.

It is expected that other syntax developers will develop similar mapping of the CORE Invoice data model and implementation guidelines for use in European context. This work therefore respects the fact that in the short term the market will use series of syntaxes, but at the same time this work point towards the future, the way for harmonization of European requirements and the ultimate goal of providing one syntax solution for the European market.

### 1.3 Clarification of CORE invoice

The MUG core invoice provides for data and business rules that can support business requirements of companies and organizations within the European Union and EEA.

The MUG data model and business rules are aligned with similar work done in the CEN BII workshop. Note that the latter addresses also the organisational processing context that allows implementers to streamline further the business context of use between trading partners or within a procurement community.

The MUG core supports the subset of information that is used by most or all industries but does not support data that is specific to a particular industry. The MUG core does not aim to provide support for data that may be required in other regions (i.e. other than European Union and EEA). The core invoice provides data that supports key business processes that are relevant to general commerce within the region in scope. Emphasis is on supporting business processes and legal requirements that are concerned with processing the invoice itself as a business document but support for related processes is limited to the most common forms of those processes. It is thus NOT intended to be usable for ALL circumstances.

It is recommended that the information content and business rules for the MUG core invoice, as defined in Part 2, are used as such for implementation or as the basis for further contextualization of electronic invoicing within the European Union and EEA.

It is furthermore recommended that the syntax binding, as defined in Part 3, is used as the basis for implementation of the UN/CEFACT Cross Industry Invoice (CII).

The actual content of the CORE Invoice is derived from the business processes that it should support, partially or fully.

The MUG core Invoice scope is:

- B2B and B2G (in the message based information exchange mechanisms);
- „common“ business processes for CROSS INDUSTRY invoicing;
- to enable both VAT and non-VAT invoicing;
- regional, i.e. intended for EU and EEA.

## 1.4 Content of the document and guide

The following list of elements is included in the document, hereafter:

Part two:

1. Define the concept of a “core invoice” and provide a rationale for European business requirements governing the CORE Invoice reference data model;
2. List of business requirements and rationales for information elements that are necessary in the CORE invoice. Among these are:
  - a. List of elements of the CORE invoice reference data model;
  - b. Business rules that govern the content of the invoice;
3. The Core invoice is based on the current VAT commission directive (Directive 2006/112/EC)<sup>4</sup> and identifies consequences of proposed changes in the upcoming directive changes (as it has been amended up to August 31st 2011, including Council Directive 2010/45/EU of 13 July 2010 “amending Directive 2006/112/EC on the common system of value added tax as regards the rules on invoicing”)<sup>5</sup>.

Part three:

4. The abstract rules with syntax bindings to the CEFACT core components, belonging to the CORE invoice;
5. Provide examples of use, and example invoice instances;
6. Code lists and identifier schemes relevant for implementation of the invoice model.

As a CEN CWA, this guideline represents an agreement on the content and rules for a core invoice for conducting trade within the European Union and EEA. As such it does not mandate that trading partners structure their invoices accordingly but provides an option that may facilitate wider interoperability than bespoke implementations.

I want to give special thanks to all the experts from the three workshops who have accepted to spend time and contribute to this work.

I want to thank explicitly:

- the editors: Georg Birgisson, Kevin Smith, Michel Entat
- and the Project Steering Committee members: Nicolas Botton, Jostein Frømyr, Anders Grangard, Ulrike Linde, Bergthor Skulason.

Bernard Longhi  
Project leader  
August 2011

---

<sup>4</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:347:0001:0118:en:PDF>

<sup>5</sup> <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:189:0001:0008:EN:PDF>

## 1.5 List of reference documents

MUG work has been based on the following list of approved reference documents:

### EBES:

**CII:** The latest approved CII Reference model (version D09B.1). Artefacts are published at <http://unece.org/cefact/> of which the details are as follows:

- BRS (Business Requirements) This document includes UML Use case diagrams to show the scope of the business processes analysed;  
[http://unece.org/cefact/brs/BRS\\_CrossIndustryInvoice\\_v2.0.pdf](http://unece.org/cefact/brs/BRS_CrossIndustryInvoice_v2.0.pdf).
- RSM (Requirements Specification) This includes UML Class diagrams showing the Conceptual Data Model plus the Canonical Data Model in various detail;  
[http://www.unece.org/cefact/rsm/RSM-CrossIndustryInvoice\\_v2.0.pdf](http://www.unece.org/cefact/rsm/RSM-CrossIndustryInvoice_v2.0.pdf).
- Core Component Library. These are spreadsheets showing all the data elements (BIEs) used for all messages including the CII. You would need to use the RSM to see what actual BIEs are used. [http://unece.org/cefact/codesfortrade/uncccl/CCL\\_index.htm](http://unece.org/cefact/codesfortrade/uncccl/CCL_index.htm) ;
- CII schemas: [http://www.unece.org/uncefact/data/standard/CrossIndustryInvoice\\_2p0.xsd](http://www.unece.org/uncefact/data/standard/CrossIndustryInvoice_2p0.xsd)

### BII2:

The CEN BII workshop results are published at:

<http://www.cen.eu/cwa/bii/specs/Profiles/IndexWG1.html>

The relevant details are as follows:

- The BII Architecture document:  
[http://www.cen.eu/cwa/bii/specs/Profiles/DesignDoc/BII\\_profile\\_architecture\\_v1p4.pdf](http://www.cen.eu/cwa/bii/specs/Profiles/DesignDoc/BII_profile_architecture_v1p4.pdf)
- BII Core Invoice specification document, BII04 - Basic Invoice only:  
[http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII\\_profile\\_04\\_-\\_Invoice\\_only\\_v1.pdf](http://www.cen.eu/cwa/bii/specs/Profiles/ProfileDoc/BII_profile_04_-_Invoice_only_v1.pdf)
- The Core Transaction Data Models for Invoice:  
As xls: [http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm010Invoice;\\_1.0;\\_CENBII.xls](http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm010Invoice;_1.0;_CENBII.xls)  
As html: [http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm010Invoice;\\_1.0;\\_CENBII/D1.htm](http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm010Invoice;_1.0;_CENBII/D1.htm)
- The Core Transaction Data Models for Credit Note:  
As xls: [http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm014CreditNote;\\_1.0;\\_CENBII.xls](http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm014CreditNote;_1.0;_CENBII.xls)  
As html: [http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm014CreditNote;\\_1.0;\\_CENBII/D1.htm](http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm014CreditNote;_1.0;_CENBII/D1.htm)
- The Core Transaction Data Models for Debit Note:  
As xls: [http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm015CorrectiveInvoice;\\_1.0;\\_CENBII.xls](http://www.cen.eu/cwa/bii/specs/Profiles/Data/TrnsDm/CoreTrnsDm/BiiCoreTrdm015CorrectiveInvoice;_1.0;_CENBII.xls)  
As html: [http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm015CorrectWithDebit;\\_1.0;\\_CENBII/D1.htm](http://www.cen.eu/cwa/bii/specs/Profiles/Data/html/CoreTrnsDm/BiiCoreTrdm015CorrectWithDebit;_1.0;_CENBII/D1.htm)
- Method for capturing business requirements:  
A CEN BII2 working document not yet published. It can be obtained by contacting workshop representatives or as CWA at end of the workshop.
- BII attachments handling:  
A CEN BII2 working document not yet published. It can be obtained by contacting workshop representatives or as CWA at end of the workshop.

### PEPPOL:

- PEPPOL related documents can be found at: <http://www.peppol.eu/>
- Overview of PEPPOL technical papers can be found at:  
[http://www.peppol.eu/peppol\\_components/peppol-eia](http://www.peppol.eu/peppol_components/peppol-eia)
- PEPPOL Business interoperability specification for Invoice:  
[http://www.peppol.eu/peppol\\_components/peppol-eia/ict-architecture/post-award-e-procurement/models/](http://www.peppol.eu/peppol_components/peppol-eia/ict-architecture/post-award-e-procurement/models/)

## CWA 16356-1:2011 (E)

- PEPPOL invoicing validation artefacts:  
[http://www.peppol.eu/peppol\\_components/peppol-eia/ict-architecture/post-award-eprocurement/services-components](http://www.peppol.eu/peppol_components/peppol-eia/ict-architecture/post-award-eprocurement/services-components)

### **Expert group:**

- Expert group report, Annex 7. The report can be found at:  
[http://ec.europa.eu/enterprise/sectors/ict/files/finalreport\\_en.pdf](http://ec.europa.eu/enterprise/sectors/ict/files/finalreport_en.pdf)

### **eINV3:**

- The relevant information for the MUG are CWAs from eInv1 and eInv2 workshops. Information about the eInvoicing workshops deliverables can be found at:  
<http://www.e-invoice-gateway.net/knowledgebase/documents>

The MUG group has also taken into consideration:

### **ISO:**

Data model for the ISO 20022 financial invoice message, can be found at:  
[http://www.iso20022.org/UNIFI\\_trade\\_services\\_messages.page#FinancialInvoice](http://www.iso20022.org/UNIFI_trade_services_messages.page#FinancialInvoice)