

Definitions for e-Invoicing

Background

The Working Group for Task 4 of the European e-Invoice Multi-Stakeholder Forum on e-Invoicing (EUMSFEI) is providing definitions as agreed at the March Plenary.

One of the activities that came into the spotlight during the last meeting of the European e-Invoice Multi-Stakeholder Forum in Brussels was dealing with the terminology and definitions that are being used in the context of electronic invoicing. It was agreed that an un-ambiguous use of terminology and definitions would no doubt foster the adoption and progress of the deliverables.

In order to obtain a useful 'definition of terms' the Working Group recently agreed to consult the members of the European e-Invoice Multi-Stakeholder Forum, and via them their constituencies. Therefore the definitions are only for terms which is used in the context of eInvoicing in the EU.

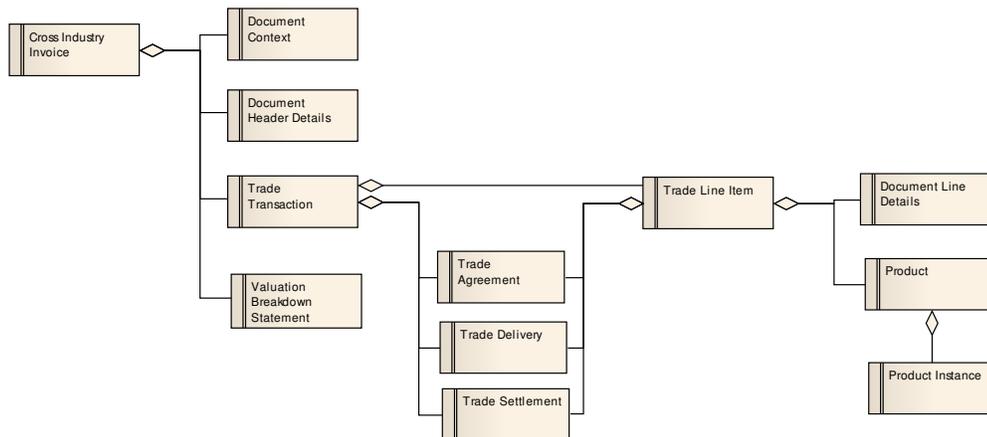
The definitions take into account [Council Directive 2010/45/EU](#) including [explanatory notes on VAT invoicing rules](#), which come into law in all Member States by 1st January 2013. Sources for these definitions include CWAs from [CEN Workshops on eInvoicing](#) and the UNECE recent publication on Trade Facilitation – the [Trade Facilitation Implementation Guide](#) on [eBusiness Solutions](#) - unless specifically stated otherwise.

Contributors include members of the EU Multi-Stakeholder Forum on eInvoicing Activity Group 4, chaired by Peter Potgieser. It was published for review to all members of the Forum and comments were received from the members of the Forum, the European E-Invoicing Service Providers Association (EESPA) and the E-invoicing Platform. The current version was edited by Edmund Gray based on comments by Martin Beno, Andrea Caccia and Tadeusz.Rudnicki.

Definitions

1. **Audit Trail:** An audit trail is: a paper and/or electronic record that gives a step by step documented history of a transaction, which can validate or invalidate accounting entries. Components of an audit trail include: (i) source records, (ii) list of transactions processed and (iii) transaction identifiers so that reference can be made to the source of a transaction.
2. **Business Control:** The COSO3 Model defines “business control” as a process, effected by an entity’s board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in effectiveness and efficiency of operations, reliability of financial reporting, and compliance with applicable laws and regulations.
3. **Business Control requirement:** The Directive recognises the obligation for invoices to accurately reflect actual supplies of goods and services and therefore requires that the authenticity of the origin, the integrity of the content and the legibility of invoices are insured from their issue until the end of the period of storage. This can be achieved through business controls that provide a reliable audit trail between the invoice and the supply, and that assure the identity of the supplier or issuer of the invoice (authenticity of origin), that the VAT details (the invoice content required by the VAT Directive) on the invoice are unchanged (integrity of content) and that the invoice is legible.
4. **Business Process Analysis (BPA)** is a methodology that supports the analysis of a business with a view to understanding the processes and improving the efficiency and effectiveness of its operations. It describes the processes involved, parties participating, information exchanged and the rules that govern these exchanges.

5. **Data Content** usually refers to syntax or the format of a business message.
- Syntax** In message standards and within the context of this document it refers to how the message is to be physically represented such as using xml as defined by xml schema.
 - XML Schema** provides a means for defining the structure and content of XML documents (<http://www.w3.org/XML/Schema>). However it can also be used to create representations of semantics such as UN/CEFACT CCTS.
 - File Format** The method of organising electronic data in an electronic document e.g. XML, EDIFACT, PDF etc. A file format is a particular way that information is encoded for storage in a computer file (Wikipedia). Many popular formats include jpeg, pdf and message Standard formats such as EDIFACT.
 - Form** In the context of eInvoicing, form refers to whether the invoice is in paper or electronic form. Whereas the format of an eInvoice may change (transformed), once an eInvoice is transformed into paper, it is no longer governed. The new e-Invoice Directive states that once an invoice is in electronic form, it cannot be changed to paper but may change format.
6. **Data model** According to [PEPPOL](#) (a large scale project funded by the EU) "a data model refers to the set of data included in a business document, and to the structure and metadata according to which the data is organised".



UN/CEFACT Cross Industry Invoice CII Data Model

- Semantic Data model;** A process that represents the entities, relationships, and activities of an enterprise in terms of a set of abstract concepts of a chosen data model for specific purposes.
(<http://www2.cis.gsu.edu/dmcdonald/cis8040/Semantic.pdf>).
 - Reference Data Model;** A reference data model would be a model to which all message implementers within a community would reference to. It would have to be a library which contains all the necessary entities and their relationships to each other within a specific domain. So whereas a Data Model would have information for a context, a Reference Data Model would also contain related information to deal with multiple scenarios. Examples of Reference Data Models would be UN/CEFACT Core Component Library (CCL) and World Customs organisation (WCO) Data Model.
7. **Digital certificate** according to ISO/IEC 9594-8: public key of a user, together with some other information rendered unforgeable by digital signature with the private key of the certification authority which issued it. The EU Directive 1999/93/EC states that an electronic attestation which links signature-verification data to a person and confirms the identity of that person.
- Electronic signature** means data in electronic form which is attached to or logically associated with other electronic data and which serves as a method of authentication. Source: Directive 1999/93/EC

- b) **Advanced Electronic Signature (AdES)** means an electronic signature which meets the following requirements: a) it is uniquely linked to the signatory; b) it is capable of identifying the signatory; c) it is created using means that the signatory can maintain under its sole control; and d) it is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable. Source: Directive 1999/93/EC Article 2 (2nd Paragraph)
 - c) **Qualified Electronic Signature** A certificate which meets the requirements laid down in Annex I of DIRECTIVE 1999/93/EC and is provided by a certification-service-provider who fulfils the requirements laid down in Annex II of DIRECTIVE 1999/93/EC.

- 8. **E-Business Document:** Typically these include electronic forms of Invoices and Orders but can also include Order Response, Credit Note, Delivery Note, Remittance Advice etc. Documents contain data but also consider media for visualisation.

- 9. **E-Business Document Exchange Models**
 - a) **2-Corner Model** A model for the exchange of information directly between a Buyer and a Supplier in a one-to-one relation. This model requires interoperability between Buyer and Supplier.
 - b) **3-Corner Model** An exchange model where Suppliers and Buyers are connected to or communicate with a single service provider for the dispatch and receipt of messages. Typically, the Buyer selects the single Service Provider and requires its Suppliers to connect to, or communicate with, that Service Provider in order to exchange messages. This model requires that Buyers use only one Service Provider or Suppliers will be required to engage with more than one Service Provider.
 - c) **4-Corner Model** An exchange model where Suppliers and Buyers are connected to or supported by their own Service Provider. This model requires interoperability between Service Providers e.g. PEPOL.

- 10. **E-Business Message:** In our context, a business message refers to any exchange of data between disparate companies e.g. trading partners. These exchanges can be either document or data centric. Data Centric messages may not consider visualisation of the data whereas document centric messages must do so.

- 11. **Electronic data interchange agreements** comprise a set of agreed formats, directories and guidelines for the electronic interchange of structured data between independent computerized information systems.

- 12. **EDI Electronic data interchange** is the electronic transfer, from computer to computer, of commercial and administrative data using an agreed standard to structure an EDI message. 1994/820/EC (Annex 1, Art 2.1). For purposes of clarity, EDI systems may use any type of structured messaging including UN/EDIFACT and XML.

- 13. **EDI message** An electronic data interchange message (EDI message) consists of a set of information, structured using agreed formats, prepared in a computer readable form and capable of being automatically and unambiguously processed.

- 14. **el invoicing:** The issuing and receipt of VAT compliant invoices in an electronic format. According to Article 217 of VAT Directive No. 2010/45/EU, an electronic invoice is ... "an invoice that contains the information required in the Directive, and which has been issued and received in any electronic format".

- 15. **Electronic invoice (elinvoice)** is a document or dataset that can be considered an invoice under Council Directive 2006/112/EC as modified by 2010/45/EU and which has been issued and received in any electronic format.
 - a) **Structured Invoice** Creation of a structured invoice document consists of the compilation of the required data into an agreed e-invoice message in electronic form with a known structure, format and content such as is the case with EDI and XML messages. This means that contrary to the case with a paper document, where the

receiver may well be unfamiliar with the format, with a structured invoice message the format is pre-defined and known to the parties involved.

- b) **Unstructured Invoice** Unstructured refers to any data that has no identifiable structure. For example, images, videos, email, documents and text are all considered to be unstructured data within a dataset. While each individual document may contain its own specific structure or formatting that based on the software program used to create the data, unstructured data may also be considered “loosely structured data” because the data sources do have a structure but all data within a dataset will not contain the same structure. (source Webopedia).
16. **ERP:** Enterprise Resource Planning (ERP) systems integrate internal and external management information across an entire organization, embracing finance/accounting, manufacturing, sales and service, customer relationship management, etc.
17. **Implementation Guideline** this is usually in the form of documents which describe the contents of an electronic message. CEN published the [Guide for a European CORE INVOICE data model](#), which defines the EU Core eInvoice and its requirement for use in all Member States. The [Trade Facilitation Implementation Guide](#) published by UNECE has a wider scope and provides information on Cross Border Trade.
18. **Integrity of content** Means that the content required under applicable law has not been altered. Source: Article 233(1) Directive, 2010/45/EU
19. **Interchange Agreement** The provisions of Interchange Agreements are intended to govern the rules of conduct and methods of operation between business partners in relation to the interchange of electronic messages.
20. **Interoperability** is the ability of two or more disparate systems or components to exchange information and to use the information that has been exchanged. Typically interoperability will be undertaken at two levels; semantic and technical.
 - a) Semantic interoperability allows stakeholders to describe the requirements without consideration of the technical implementation.
 - b) Technical interoperability is used to describe the technical capability to exchange data via interfaces or a common set of exchange formats, to read and write the same file formats, and to use the same protocols.
21. **Invoice portal:** A web portal of an E-Invoice service provider to which trading partners can log on with a username and password (or other means of secure access) in order to manage, receive or input e-invoice data. This should be a secured environment.
22. **Metadata** Metadata is structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use, or manage an information resource. Metadata is often called data about data or information about information (source NISO). In standardised e-business document exchanges, metadata is often used to provide context, so that ambiguity is removed. This ensures that the receiver of the document understands the data sufficiently so that it can be used within their business processes. An example of standardised metadata is UN/CEFACT Core Components and the Business Information Entity (BIE) Library. These BIEs are used in many XML systems;
 - all Core Components and BIE’s, including association types, are collectively referred to as Data Element Metadata or DEM objects (source OASIS ebXML)
 - The UN/CEFACT Context Methodology is based on the unique design of organized metadata from authoritative sources, placing the organizational aspects of information into its metadata -metadata is what is organized. The methodology recognizes that establish and authoritative values already exist in industry which are well understood, such as codes and identifiers, and organizing such values from multiple sources results in contextual metadata (source UN/CEFACT).

23. **Secure transmission** - security includes the protection of the content against access/alteration by unauthorised 3rd parties and ensuring the authenticity of both sender and recipient.
24. **Service Provider:** In our context a Service Provider is an ICT companies who specialises in providing business message solutions and facilitates E-Business Document Exchange and who based on an agreement and legal constraints, may perform certain processes on behalf of a Buyer or Supplier. A company to whom specific tasks or services are outsourced. In electronic invoicing some or all of the tasks associated with the creation, issuance, format conversions, transmissions, storage etc. may be outsourced to a third party.
25. **Transformation** – if the software system cannot generate or process the technical format used for data exchange, a transformation of the proprietary format of the software system into the exchange format is necessary.
26. **Value Added Network (VAN):** Third-party private network service provider that offers data exchange related services to their subscribers. See also Service Providers.
27. **Validation** – is used to check the validity of the technical format and the content of an e-invoice before sending and directly after receiving.
28. **Visualisation:** since structured messages are not usually readable by human beings, provisions have to be made to convert the structured message into a human readable format. This also provides a fall-back solution for the sender in case the automated processing of the received messages does not work.
29. **Web EDI:** Web EDI covers the techniques used to facilitate structured data exchange via the Internet which may include web forms to capture business content and to convert it into structured data. In these cases typically one trading partner is capable of exchanging structured data but the other partner is expected to type their data in manually into a web form, or, in the opposite direction, structured data are converted into human readable documents which then have to be downloaded and processed manually.