

OIOUBL Intro

UBL 2.0 Introduction

OIOUBL Introduction

I01

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1. Introduction

This paper provides an introduction to the complete package describing the OIOUBL common standard for e-business documents. It provides a general introduction to the complete OIOUBL package, as well as an overall description of the separate elements found in the complete package.

A complete overview of all business documents contained in the OIOUBL package is included as an attachment to this introduction (Ref. I02).

For specifications of the different sub-elements in the package, please refer to the Introduction to OIOUBL Procurement Scenarios (Ref S01), OIOUBL Guideline Datatypes (Ref G29) and OIOUBL Guideline Profiles (Ref G26).

1.1 Purpose and target audience

This paper is intended to give an overall understanding of the content and relationship between the different OIOUBL business documents.

The target audience is primarily technical and domain specialists responsible for implementing e-procurement, as well as developers and project managers responsible for implementing ERP systems, work flow systems, and other related systems in the Danish market.

The document may also be used as a non-technical overview of the OIOUBL package contents.

1.2 How to use this paper

All business documents in OIOUBL were developed after comprehensive consultation among relevant contributors, both within the public and the private sector. References to these contributors may be obtained from the National IT and Telecom Agency.

This introduction is divided into the following sections:

- General Introduction to OIOUBL
- Contents of OIOUBL including:
 - OIOUBL Class library
 - OIOUBL Guidelines
 - OIOUBL Code lists
 - OIOUBL Profiles
 - OIOUBL Scenario descriptions

1.3 Prerequisites

Prior knowledge of the use of standardized e-business documents based on XML.

1.4 Use of references

When other documents are referenced in this, and other OIOUBL publications, reference is made to the document name, and – if available – its reference number. Both are available in the OIO document list (I02).

2. Introduction to OIOUBL

OIOUBL contains specifications for all required business document types supporting the business process from catalogue to invoice. The package contains both informative and normative descriptions as well as examples of the use of these business documents.

All businesses, including small businesses and small public institutions, are expected to support the basic procurement process (see also the Profiles section). This involves the following business documents:

- Catalogue Request
- Catalogue
- Catalogue Deletion
- Catalogue Item Specification Update
- Catalogue Pricing Update
- Order
- Order Response Simple
- Order Cancellation
- Invoice
- Credit Note
- Reminder
- Application Response

The OIOUBL package also specifies a series of additional business document types that support more advanced ordering processes:

- Order Change
- Order Response
- Statement of Account

These business documents will be formally described in the Extended OIOUBL document package, which is due for release in May 2008, but out of consideration for the organizations who from the beginning wish to support the complex purchase process, the documents are included in this package.

2.1 About OIOUBL in general

OIOUBL is a customization for Danish business requirements of the international UBL 2.0 standard from OASIS (the Organization for the Advancement of Structured Information Standards).

The business documents that are included in OIOUBL constitute a subset of the UBL 2.0 documents and have been selected in collaboration with the Danish Sector Standardization Committee for eBusiness.

The primary advantage of OIOUBL is the standardization of business documents for different uses. And because UBL 2.0 is a flexible, international standard that supports many business requirements, documents can be exchanged across national borders.

Another advantage of OIOUBL is the possibility of developing fully automated procurement processes in which the electronic documents are validated and matched automatically. This creates financial savings though the cost of human resources normally required for clerical processing.

2.1.1 The relationship between OIOUBL and UBL 2.0

As mentioned above, OIOUBL is a subset of UBL 2.0. This means that UBL 2.0 contains a number of business documents in addition to the ones in OIOUBL. For example international transportation documents. These additional business documents are fully compatible with and may be used with the OIOUBL documents. However, no Danish language instructions or guidelines are provided for these documents.

The OIOUBL specifications are based directly upon the UBL 2.0 XML schemas. No additional XML schemas have been developed or are required for OIOUBL.

It should be noted that, for business reasons, a few elements from the UBL 2.0 schemas have been excluded in the OIOUBL customization. These elements have been judged as not applicable in Denmark, either because of specific Danish legislation, or because they are of not relevant in a Danish context. These omitted elements will not be present in the OIOUBL specifications, and if these fields were to be used they will not pass the document validator published by the National IT and Telecom Agency.

2.1.2 OIOUBL and OIOXML Electronic Invoice

The Invoice within OIOUBL has the same potential uses as the OIOXML electronic invoice, as well as quite a few more. In fact, the Invoice document format in OIOUBL is an extension of the OIOXML electronic invoice. This is because OIOUBL is based on UBL 2.0, a more recent version than the UBL 0.7 used for the OIOXML electronic invoice.

The National IT and Telecom Agency will develop tools for mapping between the UBL versions 0.7 and 2.0, just as we already have tools for mapping between UBL 0.7 and 1.0.

2.1.3 OIOUBL version 2.01

OIOUBL 2.01 is a revision of the OIOUBL version that were released on November 13th 2006. It contains a number of changes that were necessary to be compatible with the North European Subset of UBL (NES), which were published April 2007 (See section 2.1.4). Additionally the revision has been used to correct some errors and shortcomings that were located after the release of OIOUBL in November, which the National IT and Telecom Agency assessed were desirable to correct while the implementation of OIOUBL was still in the making.

A list of the changes in OIOUBL 2.01 has been produced, see reference I04.

2.1.4 OIOUBL and North European Subset

OIOUBL has been developed in coordination with other Nordic countries and the UK under a collaboration called the "North European Subset" (NES), as an initiative where the involved countries work together on content and use of the electronic business documents based on the UBL 2.0 standard.

The intention is for OIOUBL to interact with the guidelines and profiles that exist within the North European Subset. There are some differences between the two implementations which has been documented (See reference I03). For further information on the NES, please refer to www.oio.dk/e-handel (under "International standardisering").

3. Contents of the OIOUBL package

The OIOUBL package comprises of a series of components, as described in the following sections. The material can be found in both a danish and an english version. A online guide to the whole package can be found on www.oioubl.info.

3.1 The Common Class Library

The backbone of OIOUBL is the Common Class Library (Ref G30). This Library contains general descriptions of all information elements that exist within the different business documents. The philosophy behind the Library is to achieve the highest reusability for the different elements.

Classes that are used the same way in all business documents are described in the Common Class Library (Ref. G30).

The types that the information elements in each class refer to are described in the Datatypes guideline (ref. G29).

3.2 Document guidelines

For each of the 15 business documents, from catalogue to statement of account, a document guideline has been prepared describing the document's overall class. This class will contain elements and classes from the Class Library .

If any elements and classes are used differently from the way described in the Common Class Library, they will be specified in the relevant document guideline.

3.3 Common guidelines

A series of guidelines describe the use of certain classes across different types of business documents. These classes have a particular guideline because they are either complex in their use and require further explanation, or they are used differently in the individual business documents and profiles (that is, they are context dependent).

The following sections identify the common classes and information elements that are particularly important for understanding OIOUBL.

3.3.1 Party

For each OIOUBL business document two mandatory parties have been defined, namely the party sending the document, and the party receiving it. Apart from these a document may contain other parties that are relevant for the processing of the document contents.

The parties have different titles in different documents. The different titles express the different roles they play in the business process. For example, the customer in an order is called the "BuyerCustomerParty" and the debtor in an invoice is called the "AccountingCustomerParty". Both parties are of the "CustomerParty" type, because "Buyer" and "Accounting" express the role of the customer.

A party must also be assigned a unique identifier in addition to any identification as a legal entity.

For example, a party may use an EAN number for its identification, and a CVR number for its specification as a legal entity. Thus different identification schemes may be used for the same legal entity.

3.3.2 EndpointID

EndpointID is a unique identification of the destination where the electronic document is to be delivered. An EndpointID must be specified for the two parties exchanging the document, and for other parties that are relevant within the document's context.

An EndpointID must be recognizable by the established address register for the receiver to be uniquely identifiable. The National IT and Telecom Agency will in the fall of 2007 establish a common address register across public sectors (UDDI), which can contain endpoints from private companies. For more details see:

www.softwareborsen.dk/projekter/softwarecenter/serviceorienteret-infrastruktur.

3.4 Code lists

Another significant part of OIOUBL is code lists. Code lists are specifically used to restrict the values allowed for an information element. Code lists are widely used in UBL 2.0 for managing a range of fixed value sets for a given information element, such as currency or country codes.

One of the aims of OIOUBL is to achieve the fully automated processing of exchanged data. Code lists allow the possibility to set up checks in various IT systems that only accept codes within the allowed value sets, and thus reduce the need for manual validation of data.

If more than one value can be used in a code or Id field a code list is specified. OIOUBL operates with four types of code:

- Static codes, which are embedded in the standard.
- Publicly known codes which can be updated, e. g. ISO 4217.
- OIOUBL defined codes, which can be updated, e. g. TaxSchemeID
- Bilaterally agreed codes

For the Danish OIOUBL customization a series of code lists has been prepared. For example TaxSchemeID (Ref. K18), is used for specifying the required values for tax scheme codes.

In all the situations where the use of publicly known code lists or OIOUBL code lists has been defined, the standard code list name must be specified when using the code. This name is used to differentiate between codes belonging to the OIOUBL standard and any bilaterally agreed codes.

In certain situations, the option is given to use several different qualifiers for one information element. For example, when entering the identification of a partner and endpoints. Here, e.g. a CVR, SE or DUNS number may be specified. In these cases it is specified which qualifier apply to the code list.

3.5 Profiles

Within OIOUBL the use of profiles is encouraged with the intention that both the sender and receiver of the business documents specify which documents they support and expect to receive in a given process.

A profile is an overall description of one or more interconnected business processes, each of which may exchange one or more document types.

A profile expresses an agreement on the exchange of documents, covering:

- which role a Party plays in the business process
- which documents a given Party can send and/or receive in the business process
- which documents a given Party must be able to send and/or receive.

The profiles within OIOUBL have been developed based on the overall business model for UBL 2.0.

The profiles has been worked out on the basis of a logical delimitation of which business documents are naturally connected, and which should be supportet at a given level. The different levels in the profiles are made, so that the electronic business process can support both the simple and the more advanced business process.

There are three so called minimum profiles in OIOUBL, that constitutes the minimum demand for the public customers and their suppliers who wish to use OIOUBL. The three profies include simple invoicing (Procurement BillSim), a simple order to invoice flow (Procurement OrdSimR-BillSim) and basic catalogue exchange (Catalogue CatBas). Additionally there is a minimum profile that the public organization must offer to support, if their suppliers wish to receive catalogue requests electronically (Catalogue CatSim)

In the Common Profile Guideline (Ref. G26) different profiles and their uses are described in further detail.

3.6 Scenario descriptions

Another important element of OIOUBL are the scenario packages. Their purpose is to illustrate the procurement process from a business perspective and to show how these processes can be implemented using OIOUBL documents.

The experiences gained during the development of OIOUBL demonstrated that it is too complicated to describe procurement as one single process. There are simply too many possible combinations available for the various document types.

The solution to this has been to describe some of these possibilities as scenarios. Scenarios can be considered descriptions of the expected reactions of sender and receiver in the specific situations.

The scenario packages complement the other elements in the OIOUBL package but unlike many of these, the scenarios are not normative.

The introduction to the six scenario descriptions (Ref. S01) identifies the six scenario packages prepared for OIOUBL, covering the following areas:

- Basic Procurement Process (Ref. S02)
- Advanced Ordering (Ref. S03)
- Complex Delivery (Ref. S04)
- Procurement in Complex Organizations (Ref. S05)
- Complex Payment Processes (Ref. S06)

3.6 Scenario descriptions

-Catalogue Exchange (Ref. S07)

A range of XML document examples have been also prepared for the different scenario descriptions, as well as the different value sets in each scenario.

4.4. Credentials

The following has contributed to the development of the OIOUBL 2.01 package:

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With professional contribution and input from a long range of private and public participants, including the danish UBL local committee "eHandelsgruppen" under the danish Sector Standardization Committee for eBusiness.