**OASIS**

# UBL 2.1 Abstract Syntax Notation 1 (ASN.1) Alternative Representation Version 1.0

## Committee Note Draft 01

## 19 June 2013

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**Abstract:**

This committee note supplements the Universal Business Language version 2.1 XSD schema expressions with a suite of equivalent ASN.1 constraint expressions.

**Status:**

This document was last revised or approved by the UBL TC on the above date. The level of approval is also listed above. Check the current location noted above for possible later revisions of this document.

Technical Committee members should send comments on this specification to the Technical Committee's email list. Others should send comments to the Technical Committee by using the "Send A Comment" button on the Technical Committee's web page at http://www.oasis-open.org/committees/ubl/.

For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Technical Committee web page at http://www.oasis-open.org/committees/ubl/ipr.php.

See Appendix A, *Release Notes* for more information regarding this release package.

**Citation format:**

When referencing this note the following citation format should be used:

[**UBL-2.1-ASN.1**] *UBL 2.1 Abstract Syntax Notation 1 (ASN.1) Alternative Representation Version 1.0.* 19 June 2013. OASIS Committee Note Draft 01. http://docs.oasis-open.org/ubl/UBL-2.1-ASN.1/v1.0/cnd01/UBL-2.1-ASN.1-v1.0-cnd01.html.

# Notices

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## Appendixes

# 1 Introduction

The OASIS Universal Business Language (UBL) defines a generic XML interchange format for business documents that can be restricted or extended to meet the requirements of particular industries. Specifically, UBL provides the following:

- A suite of structured business objects and their associated semantics e xpressed as reusable data components and common business documents.

- A library of XML schemas f or reusable data components such as "Address", "Item", and "Payment"—the common data elements of everyday business documents.

- A set of XML schemas for common business documents such as "Order", "Despatch Advice", and "Invoice" that are constructed from the UBL library components and can be used in generic procurement and transportation contexts.

This Committee Note provides an alternative non-normative representation of the UBL XML schemas for use in systems supporting Abstract Syntax Notation 1 (ASN.1), ISO/IEC 8825-1.

## 1.1 Terminology

### 1.1.1 Terms and Definitions

**Document**
A set of information components that are exchanged as part of a business transaction; for example, in placing an order.

**XSD schema**
An XML document definition conforming to the W3C XML Schema language [**XSD1**][**XSD2**].

The keywords MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD, SHOULD NOT, RE-COMMENDED, MAY and OPTIONAL, when they appear in this document, are to be interpreted as described in [**RFC2119**].

### 1.1.2 Symbols and Abbreviations

**ASN**
Abstract Syntax Notation

**IEC**
International Electrotechnical Commission

**ISO**
International Organization for Standardization

**XML**
Extensible Markup Language [**XML**]

**XSD**
W3C XML Schema Language [**XSD1**][**XSD2**]

## 1.2 References

[**ASN.1**] *ITU-T X.680-X.683: Abstract Syntax Notation One (ASN.1)* *[http://www.itu.int/ITU-T/studygroups/ com17/languages/X.680-X.693-0207w.zip]*, *ITU-T X.690-X.693: ASN.1 encoding rules* *[http:// www.oasis-open.org/committees/download.php/6320/X.680-X.693-0207w.zip]*

[**RFC2119**]    *Key words for use in RFCs to Indicate Requirement Levels* [http://www.faqs.org/rfcs/rfc2119.html]

[**XML**] *Extensible Markup Language (XML) 1.0 (Second Edition), W3C Recommendation 6 October 2000* [http://www.w3.org/TR/2000/REC-xml-20001006]

[**XSD1**] *XML Schema Part 1: Structures. Second Edition. W3C Recommendation 28 October 2004* [http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/]

[**XSD2**] *XML Schema Part 2: Datatypes. Second Edition. W3C Recommendation 28 October 2004* [http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/]

# 2 ASN.1 Representation of UBL Schemas

UBL 2.1 continues the practice, adopted at the beginning of the UBL eff ort, of creating its nor mative XML specifications using W3C Schema (XSD) syntax. Alternative representations of the same content are generated directly from the XSD and, with the exception of the UBL 2.1 digital signature extension, are intended to implement the same document instance constraints.

Alternative representations of the same content are technically non-normative.

The UBL ASN.1 specification provides an alternative schema definition for UBL documents in accordance with ITU-T X.680-X.693 [**ASN.1**]. The UBL ASN.1 specification defines the same UBL documents as the UBL XSD schemas that constitute the normative definitions of valid UBL documents. The UBL ASN.1 XML specification enables ASN.1 tools to be used for UBL transfers, and in conjunction with the ASN.1 Packed Encoding Rules, it provides a specification for an efficient binary encoding of UBL messages.

The ASN.1 modules were created using a tool from OSS Nokalva [http://www.oss.com/] that conforms to ITU-T Recommendation X.694 | ISO/IEC 8825-5 for converting XSD Schema to ASN.1.

## Important note

The artefacts included in this pac kage conform to UBL 2.1 Pub lic Review Draft 3. When this Committee Note is completed the included artefacts will conform to the final UBL 2.1.

# Appendix A Release Notes

## A.1 Availability

Online and downloadable versions of this release are available from the locations specified at the top of this document.

## A.2 Status of this Release

Release of this package to the public marks the beginning of its first public review. The UBL Technical Committee actively solicits input from the user community regarding this release. See Status at the beginning of this document for procedures to be used in submitting comments to the Committee Note that in accordance with OASIS policies regarding intellectual property, the UBL TC *cannot* accept input from persons outside the UBL TC (including OASIS members) unless it is submitted via the comment list.

**THIS RELEASE IS SUBJECT TO CHANGE. IT IS PROVIDED FOR TESTING PURPOSES ONLY AND SHOULD NOT BE USED FOR PRODUCTION SYSTEMS.**

## A.3 Package Structure

This OASIS Committee Note is published as a zip archive in the http://docs.oasis-open.org/ubl/UBL-2.1-ASN.1/v1.0/cnd01/ directory. Unzipping this archive creates a directory tree containing a master DocBook XML file (UBL-2.1-ASN.1-v1.0-cnd01.xml), a generated hypertext version of this file (UBL-2.1-ASN.1-v1.0-cnd01.html), a generated PDF version of this file (UBL-2.1-ASN.1-v1.0-cnd01.pdf), and a number of subdirectories. The files in these subdirectories contain the various components of this release. A description of each subdirectory is given below. Note that while the UBL-2.1-ASN.1-v1.0-cnd01.xml file is the "original" of this specification, it may not be viewable in all currently available web browsers.

> **asn**
> ASN.1 UBL 2.1 schemas
>
> **db**
> DocBook documentation support files

## A.4 Support

UBL is a volunteer project of the international business community. Inquiries regarding UBL may be posted to the public ubl-dev list, archives for which are located at

> http://lists.oasis-open.org/archives/ubl-dev/

Subscriptions to ubl-dev can be made through the OASIS list manager at

> http://www.oasis-open.org/mlmanage/index.php

OASIS provides an official community gathering place and information resource for UBL at

> http://ubl.xml.org/

# Appendix B Revision History

This is the first release of these ASN.1 artefacts.

# Appendix C Acknowledgements

The following persons and companies participated as members of the OASIS UBL Technical Committee during the four years of its development (2008–2012).

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