

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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Technical Committee:

OASIS Universal Business Language TC

Chairs:

Jon Bosak (bosak@pinax.com), Individual
Tim McGrath (tim.mcgrath@documentengineeringservices.com), Document Engineering Services

Editors:

G. Ken Holman (gkholman@CraneSoftwrights.com), Crane Softwrights Ltd.
Tim McGrath (tim.mcgrath@documentengineeringservices.com), Document Engineering Services
Andrew Schoka (AMSchoka@comcast.net), Individual

Additional artefacts:

The ZIP containing the complete files of this release is found in the directory:

- <http://docs.oasis-open.org/ubl/UBL-2.1-ASN.1/v1.0/cnd01/>

Related work:

This note is related to *Universal Business Language Version 2.1*. OASIS Standard.
<http://docs.oasis-open.org/ubl/UBL-2.1.html>.

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.

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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 expressed as reusable data components and common business documents.
- A library of XML schemas for 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, RECOMMENDED, 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 effort, of creating its normative 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/) [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 package conform to UBL 2.1 Public 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).

Inigo Barreira, iZenpe S.A.
Roger Bass, Individual
Oriol Bausa Peris, Individual
Kenneth Bengtsson, Alfa1lab
Georg Birgisson, Document Engineering Services Limited
Peter Borresen, Document Engineering Services Limited
Jon Bosak, Individual
Mikkel Brun, Tradeshift Network Ltd.
Arianna Brutti, ENEA UTT PMI
Andrea Caccia, AITI-Associazione Italiana Tesorieri de Impresa
Manuel Cano, Nexus IT
Sally Chan, The Boeing Company
William Chan, Individual
Roberto Cisternino, Individual
Anthony Coates, Document Engineering Services Limited
Gary Cornelius, CSW Group Ltd.
Mavis Cournane, Cognitran
Robin Cover, OASIS
Eduardo Criado Albuixech, Eurobits Technologies
Juan Cruellas, Departamento de Arquitectura de Computadores, Univ Politecnica de Cataluna
Piero De Sabbata, ENEA UTT PMI
Michael Dill, Individual
Asuman Dogac, Individual
Kees Duvekot, RFS Holland Holding B.V.
Pim van der Eijk, Sonnenglanz Consulting
David Fitzpatrick, Booz Allen Hamilton
Martin Forsberg, Swedish Association of Local Authorities & Regions
Bob Glushko, Document Engineering Services Limited
Arturo Gonzalez Mac Dowell, Eurobits Technologies
Stephen Green, Document Engineering Services Limited
Michael Grimley, US Department of Defense (DoD)
Eduardo Gutentag, Oracle
Betty Harvey, Individual
Anne Hendry, Individual
Hideki Hiura, Justsystems Corporation
G. Ken Holman, Crane Softwrights Ltd.
Naomasa Hosoda, NEC Corporation
Julian Inza, Eurobits Technologies
Akihiro Kawauchi, Individual
Kyung-In Kim, Korea Institute for Electronic Commerce (KIEC)
Sung Hyuk Kim, Individual
Stig Korsgaard, Danish Bankers Association
Ram Kumar, Individual
John Larmouth, Individual
Thomas Lee, University of Hong Kong
Thomas Love, efoil, Inc.
Luis Martin-Santos, Gaia Net Exchange S.L.
Tim McGrath, Document Engineering Services Limited
Brais Mendez Ferreiro, Sociedad de Explotacion de Redes Electronicas y Servicios, SA (SERES)
Garret Minakawa, Oracle
Tuncay Namli, Individual

Yasuyuki Nishioka, PSLX consortium
Dave Nurse, CSW Group Ltd.
Cagdas Ocalan, Middle East Technical University
Mark Palmer, NIST
Klaus Pedersen, Difi-Agency for Public Management and eGovernment
Sue Probert, Individual
Sven Rasmussen, Danish Agency for Digitisation, Ministry of Finance
Zarella Rendon, PTC
Yukinori Saito, ERP Research Corporation
Sacha Schlegel, Individual
Andrew Schoka, Individual
Mark Seaborne, PicoForms
Jose Silva, Individual
Ali Sinaci, Middle East Technical University
Kumar Sivaraman, Oracle
Enric Staromiejski, SOM Team
Paul Thorpe, OSS Nokalva
Karsten Tolle, Document Engineering Services Limited
Juerg Tschumperlin, New Zealand Ministry of Education
Fulya Tuncer, Middle East Technical University
Kenneth Vaughn, Individual
Vito Vavalli, AITI-Associazione Italiana Tesorieri de Impresa
Audun Vennesland, SINTEF
Catherine Williams, PISCES Ltd
Nigel Wooden, ACORD Corporation
Marcelo Yarzabal, Eurobits Technologies
Patrick Yee, University of Hong Kong
Arif Yildirim, Revenue Administration of Turkey
Peter Yim, Individual
Pine Zhang, UOML Alliance