
**Information technology — Universal
Business Language Version 2.1
(UBL v2.1)**

*Technologie de l'information — Langage d'affaire universel version
2.1 (UBL v2.1)*

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/IEC 19845:2015](https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015)

[https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-
f86e2b3ec610/iso-iec-19845-2015](https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015)



iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/IEC 19845:2015](https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015)

<https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2015, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 19845 was prepared by the OASIS OpenDocument Technical Committee [as OASIS Open Document Format for Office Applications (OpenDocument) v1.0 (first edition)] and was adopted, under the PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by the national bodies of ISO and IEC. The content of ISO/IEC 19845 and OASIS OpenDocument UBL v2.1. is identical.

[ISO/IEC 19845:2015](https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015)

<https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[ISO/IEC 19845:2015](#)

<https://standards.iteh.ai/catalog/standards/sist/3cc7b568-ce77-4c87-9e37-f86e2b3ec610/iso-iec-19845-2015>



Universal Business Language Version 2.1

OASIS Standard

04 November 2013

Specification URIs

This version:

<http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.html>
<http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.pdf>
<http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.xml> (Authoritative)

Previous version:

<http://docs.oasis-open.org/ubl/cs1-UBL-2.1/UBL-2.1.html>
<http://docs.oasis-open.org/ubl/cs1-UBL-2.1/UBL-2.1.pdf>
<http://docs.oasis-open.org/ubl/cs1-UBL-2.1/UBL-2.1.xml> (Authoritative)

Latest version:

<http://docs.oasis-open.org/ubl/UBL-2.1.html>
<http://docs.oasis-open.org/ubl/UBL-2.1.pdf>

Technical Committee:

OASIS Universal Business Language TC

Chairs:

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

Editors:

Jon Bosak (bosak@pinax.com), Individual
 Tim McGrath (tim.mcgrath@documentengineeringservices.com), Document Engineering Services
 G. Ken Holman (gkholman@CraneSoftwrights.com), Crane Softwrights Ltd.

Additional artefacts:

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

- <http://docs.oasis-open.org/ubl/os-UBL-2.1/>

Related work:

This specification supersedes [UBL 2.0](#).

This specification has alternative representations in the following directories:

- *UBL 2.1 Abstract Syntax Notation 1 (ASN.1) Alternative Representation Version 1.0*. Latest version. <http://docs.oasis-open.org/ubl/UBL-2.1-ASN.1/v1.0/UBL-2.1-ASN.1-v1.0.html>.
- *UBL 2.1 Unified Modeling Language (UML) Alternative Representation Version 1.0*. Latest version. <http://docs.oasis-open.org/ubl/UBL-2.1-UML/v1.0/UBL-2.1-UML-v1.0.html>.

Declared XML Namespaces:

urn:oasis:names:specification:ubl:schema:xsd:CommonAggregateComponents-2
 urn:oasis:names:specification:ubl:schema:xsd:CommonBasicComponents-2
 urn:oasis:names:specification:ubl:schema:xsd:CommonExtensionComponents-2
 urn:oasis:names:specification:ubl:schema:xsd:CommonSignatureComponents-2
 urn:oasis:names:specification:ubl:schema:xsd:QualifiedDataTypes-2
 urn:oasis:names:specification:ubl:schema:xsd:SignatureAggregateComponents-2
 urn:oasis:names:specification:ubl:schema:xsd:SignatureBasicComponents-2
 urn:oasis:names:specification:ubl:schema:xsd:UnqualifiedDataTypes-2

urn:oasis:names:specification:ubl:schema:xsd:ApplicationResponse-2
 urn:oasis:names:specification:ubl:schema:xsd:AttachedDocument-2
 urn:oasis:names:specification:ubl:schema:xsd:AwardedNotification-2
 urn:oasis:names:specification:ubl:schema:xsd:BillOfLading-2
 urn:oasis:names:specification:ubl:schema:xsd:CallForTenders-2
 urn:oasis:names:specification:ubl:schema:xsd:Catalogue-2
 urn:oasis:names:specification:ubl:schema:xsd:CatalogueDeletion-2
 urn:oasis:names:specification:ubl:schema:xsd:CatalogueItemSpecificationUpdate-2
 urn:oasis:names:specification:ubl:schema:xsd:CataloguePricingUpdate-2
 urn:oasis:names:specification:ubl:schema:xsd:CatalogueRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:CertificateOfOrigin-2
 urn:oasis:names:specification:ubl:schema:xsd:ContractAwardNotice-2
 urn:oasis:names:specification:ubl:schema:xsd:ContractNotice-2
 urn:oasis:names:specification:ubl:schema:xsd:CreditNote-2
 urn:oasis:names:specification:ubl:schema:xsd:DebitNote-2
 urn:oasis:names:specification:ubl:schema:xsd:DespatchAdvice-2
 urn:oasis:names:specification:ubl:schema:xsd:DocumentStatus-2
 urn:oasis:names:specification:ubl:schema:xsd:DocumentStatusRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:ExceptionCriteria-2
 urn:oasis:names:specification:ubl:schema:xsd:ExceptionNotification-2
 urn:oasis:names:specification:ubl:schema:xsd:Forecast-2
 urn:oasis:names:specification:ubl:schema:xsd:ForecastRevision-2
 urn:oasis:names:specification:ubl:schema:xsd:ForwardingInstructions-2
 urn:oasis:names:specification:ubl:schema:xsd:FreightInvoice-2
 urn:oasis:names:specification:ubl:schema:xsd:FulfilmentCancellation-2
 urn:oasis:names:specification:ubl:schema:xsd:GoodsItemItinerary-2
 urn:oasis:names:specification:ubl:schema:xsd:GuaranteeCertificate-2
 urn:oasis:names:specification:ubl:schema:xsd:InstructionForReturns-2
 urn:oasis:names:specification:ubl:schema:xsd:InventoryReport-2
 urn:oasis:names:specification:ubl:schema:xsd:Invoice-2
 urn:oasis:names:specification:ubl:schema:xsd:ItemInformationRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:Order-2
 urn:oasis:names:specification:ubl:schema:xsd:OrderCancellation-2
 urn:oasis:names:specification:ubl:schema:xsd:OrderChange-2
 urn:oasis:names:specification:ubl:schema:xsd:OrderResponse-2
 urn:oasis:names:specification:ubl:schema:xsd:OrderResponseSimple-2
 urn:oasis:names:specification:ubl:schema:xsd:PackingList-2
 urn:oasis:names:specification:ubl:schema:xsd:PriorInformationNotice-2
 urn:oasis:names:specification:ubl:schema:xsd:ProductActivity-2
 urn:oasis:names:specification:ubl:schema:xsd:Quotation-2
 urn:oasis:names:specification:ubl:schema:xsd:ReceiptAdvice-2
 urn:oasis:names:specification:ubl:schema:xsd:Reminder-2
 urn:oasis:names:specification:ubl:schema:xsd:RemittanceAdvice-2
 urn:oasis:names:specification:ubl:schema:xsd:RequestForQuotation-2
 urn:oasis:names:specification:ubl:schema:xsd:RetailEvent-2
 urn:oasis:names:specification:ubl:schema:xsd:SelfBilledCreditNote-2
 urn:oasis:names:specification:ubl:schema:xsd:SelfBilledInvoice-2

urn:oasis:names:specification:ubl:schema:xsd:Statement-2
 urn:oasis:names:specification:ubl:schema:xsd:StockAvailabilityReport-2
 urn:oasis:names:specification:ubl:schema:xsd:Tender-2
 urn:oasis:names:specification:ubl:schema:xsd:TendererQualification-2
 urn:oasis:names:specification:ubl:schema:xsd:TendererQualificationResponse-2
 urn:oasis:names:specification:ubl:schema:xsd:TenderReceipt-2
 urn:oasis:names:specification:ubl:schema:xsd:TradeItemLocationProfile-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportationStatus-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportationStatusRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportExecutionPlan-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportExecutionPlanRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportProgressStatus-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportProgressStatusRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportServiceDescription-2
 urn:oasis:names:specification:ubl:schema:xsd:TransportServiceDescriptionRequest-2
 urn:oasis:names:specification:ubl:schema:xsd:UnawardedNotification-2
 urn:oasis:names:specification:ubl:schema:xsd:UtilityStatement-2
 urn:oasis:names:specification:ubl:schema:xsd:Waybill-2

Abstract:

This specification defines the Universal Business Language, version 2.1.

Status:

This document was last revised or approved by the membership of OASIS 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 \(Non-Normative\)](#) for more information regarding this release package.

Citation format:

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

[UBL-2.1] *Universal Business Language Version 2.1*. 04 November 2013. OASIS Standard. <http://docs.oasis-open.org/ubl/os-UBL-2.1/UBL-2.1.html>.

Notices

Copyright © OASIS Open 2001-2013. All Rights Reserved.

All capitalized terms in the following text have the meanings assigned to them in the OASIS Intellectual Property Rights Policy (the “OASIS IPR Policy”). The full [Policy](#) may be found at the OASIS website.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published, and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this section are included on all such copies and derivative works. However, this document itself may not be modified in any way, including by removing the copyright notice or references to OASIS, except as needed for the purpose of developing any document or deliverable produced by an OASIS Technical Committee (in which case the rules applicable to copyrights, as set forth in the OASIS IPR Policy, must be followed) or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an “AS IS” basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY OWNERSHIP RIGHTS AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

OASIS requests that any OASIS Party or any other party that believes it has patent claims that would necessarily be infringed by implementations of this OASIS Committee Specification or OASIS Standard notify OASIS TC Administrator and provide an indication of its willingness to grant patent licenses to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this specification.

[ISO/IEC 19845:2015](#)

OASIS invites any party to contact the OASIS TC Administrator if it is aware of a claim of ownership of any patent claims that would necessarily be infringed by implementations of this specification by a patent holder that is not willing to provide a license to such patent claims in a manner consistent with the IPR Mode of the OASIS Technical Committee that produced this specification. OASIS may include such claims on its website, but disclaims any obligation to do so.

OASIS takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on OASIS' procedures with respect to rights in any document or deliverable produced by an OASIS Technical Committee can be found on the OASIS website. Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this OASIS Committee Specification or OASIS Standard, can be obtained from the OASIS TC Administrator. OASIS makes no representation that any information or list of intellectual property rights will at any time be complete, or that any claims in such list are, in fact, Essential Claims.

The name “OASIS” is a trademark of [OASIS](#), the owner and developer of this specification, and should be used only to refer to the organization and its official outputs. OASIS welcomes reference to, and implementation and use of, specifications, while reserving the right to enforce its marks against misleading uses. Please see <http://www.oasis-open.org/policies-guidelines/trademark.php> for guidance.

CPFR is a registered trademark of the Voluntary Interindustry Commerce Solutions (VICS) association. The term “CPFR” is not to be used in any format without written permission from VICS. For more information on VICS and CPFR, visit www.vics.org.

Table of Contents

1 Introduction	9
1.1 Terminology	10
1.1.1 Terms and Definitions	10
1.1.2 Symbols and Abbreviations	10
1.2 Normative References	12
1.3 Non-Normative References	13
2 UBL 2.1 Business Objects	15
2.1 General Business Rules	16
2.1.1 Items	16
2.1.2 Item Identification	16
2.1.3 Item Instances	17
2.1.4 Item Pricing	17
2.1.5 Hazardous Items	17
2.1.6 Parties	17
2.1.7 Multilingual Text	17
2.1.8 Taxation Rules	17
2.1.9 Item vs. Line Item	17
2.1.10 Shipment vs. Consignment	18
2.1.11 Transport vs. Transportation	21
2.1.12 Financial Information	22
2.1.13 Indirect Taxes	22
2.2 Overview of Business Processes	22
2.3 Tendering	23
2.3.1 Contract Information Preparation	23
2.3.2 Contract Information Notification	25
2.3.3 Invitation to Tender	26
2.3.4 Submission of Qualification Information	27
2.3.5 Submission of Tenders	28
2.3.6 Awarding of Tenders	29
2.4 Catalogue	31
2.4.1 Catalogue Business Rules	31
2.4.2 Catalogue Provision	32
2.5 Quotation	38
2.6 Ordering	39
2.6.1 Ordering Business Rules	39
2.6.2 Order Response Simple	40
2.6.3 Order Response	40
2.6.4 Order Change	40
2.6.5 Order Cancellation	40
2.7 Fulfilment	41
2.7.1 Despatch Advice Business Rules	41
2.7.2 Receipt Advice Business Rules	42
2.7.3 Fulfilment Cancellation Business Rules	43
2.8 Billing	43
2.8.1 Billing Business Rules	43
2.8.2 Traditional Billing	44
2.8.3 Self Billing	46
2.8.4 Reminder for Payment	48
2.9 Freight Billing	48
2.10 Utility Billing	49
2.11 Payment Notification	50
2.12 Report State of Accounts	50
2.13 Collaborative Planning, Forecasting, and Replenishment	51
2.13.1 Collaboration Agreement and Joint Business Planning	51
2.13.2 Sales Forecast Generation and Exception Handling	54

2.13.3 Order Forecast Generation and Exception Handling	57
2.14 Vendor Managed Inventory	61
2.14.1 Basic Vendor Managed Inventory	61
2.14.2 Cyclic Replenishment Program (CRP)	68
2.14.3 Replenishment On Customer Demand	71
2.15 International Freight Management	75
2.15.1 Forwarding Instructions	76
2.15.2 Packing List	76
2.15.3 Bill of Lading	76
2.15.4 Waybill	77
2.16 Freight Status Reporting	77
2.17 Certification of Origin of Goods	78
2.18 Intermodal Freight Management	79
2.18.1 Announcing Intermodal Transport Services	82
2.18.2 Establishing a Transport Execution Plan	82
2.18.3 Providing an Itinerary for a Transport Service	84
2.18.4 Reporting Transport Means Progress Status	85
2.19 Party Roles	86
3 UBL 2.1 Schemas	91
3.1 UBL 2.1 Document Schemas	91
3.1.1 Application Response	91
3.1.2 Attached Document	91
3.1.3 Awarded Notification	92
3.1.4 Bill of Lading	92
3.1.5 Call for Tenders	92
3.1.6 Catalogue	93
3.1.7 Catalogue Deletion	93
3.1.8 Catalogue Item Specification Update	93
3.1.9 Catalogue Pricing Update	94
3.1.10 Catalogue Request	94
3.1.11 Certificate of Origin	94
3.1.12 Contract Award Notice	95
3.1.13 Contract Notice	95
3.1.14 Credit Note	95
3.1.15 Debit Note	96
3.1.16 Despatch Advice	96
3.1.17 Document Status	97
3.1.18 Document Status Request	97
3.1.19 Exception Criteria	97
3.1.20 Exception Notification	98
3.1.21 Forecast	98
3.1.22 Forecast Revision	98
3.1.23 Forwarding Instructions	99
3.1.24 Freight Invoice	99
3.1.25 Fulfilment Cancellation	99
3.1.26 Goods Item Itinerary	100
3.1.27 Guarantee Certificate	100
3.1.28 Instruction for Returns	100
3.1.29 Inventory Report	101
3.1.30 Invoice	101
3.1.31 Item Information Request	101
3.1.32 Order	102
3.1.33 Order Cancellation	102
3.1.34 Order Change	103
3.1.35 Order Response	103
3.1.36 Order Response Simple	103
3.1.37 Packing List	104
3.1.38 Prior Information Notice	104

3.1.39 Product Activity	104
3.1.40 Quotation	105
3.1.41 Receipt Advice	105
3.1.42 Reminder	105
3.1.43 Remittance Advice	106
3.1.44 Request for Quotation	106
3.1.45 Retail Event	107
3.1.46 Self Billed Credit Note	107
3.1.47 Self Billed Invoice	107
3.1.48 Statement	108
3.1.49 Stock Availability Report	108
3.1.50 Tender	108
3.1.51 Tender Receipt	109
3.1.52 Tenderer Qualification	109
3.1.53 Tenderer Qualification Response	109
3.1.54 Trade Item Location Profile	110
3.1.55 Transport Execution Plan	110
3.1.56 Transport Execution Plan Request	110
3.1.57 Transport Progress Status	111
3.1.58 Transport Progress Status Request	111
3.1.59 Transport Service Description	112
3.1.60 Transport Service Description Request	112
3.1.61 Transportation Status	112
3.1.62 Transportation Status Request	113
3.1.63 Unawarded Notification	113
3.1.64 Utility Statement	113
3.1.65 Waybill	114
3.2 UBL 2.1 Common Schemas	114
3.2.1 Reusable BIE Schemas	114
3.2.2 Reusable Data Type Schemas	115
3.2.3 Documentation Metadata Schema	115
3.2.4 Extension Content Schemas	116
3.2.5 Signature Extension Schemas	116
3.3 Schema Dependencies	118
3.4 Extension Validation Methodology	118
3.5 Notes for Extension Creators	119
4 Additional Document Constraints	120
4.1 Validation	120
4.2 Character Encoding	120
4.3 Empty Elements	121
4.4 Natural language text elements	121
5 UBL Digital Signatures	122
5.1 Introduction (Non-Normative)	122
5.1.1 XML Digital Signatures	122
5.2 Profiles for UBL Digital Signatures	125
5.2.1 Enveloped XML Signatures in UBL Documents	126
5.2.2 Detached XML Signatures for UBL Documents	127
5.3 UBL Extension for Enveloped XML Digital Signatures	128
5.3.1 Namespaces	129
5.3.2 Identification	129
5.3.3 Validation	130
5.3.4 Structure	130
5.3.5 Transformation	132
5.4 Digital Signature Examples	133
6 Conformance	135
6.1 Document and Schema Conformance	135
6.2 Digital Signature Conformance	135
6.2.1 XAdES Conformance	135

Appendixes

A Release Notes (Non-Normative)	136
A.1 Availability	136
A.2 Status of this Release	136
A.3 Package Structure	136
A.4 Support	137
A.5 UBL Customization	137
A.6 Upgrading from UBL 2.0 to UBL 2.1	137
A.7 Dictionary Entry Name Corrections in UBL 2.1	137
B Revision History (Non-Normative)	139
B.1 UBL 1.0	139
B.2 Major Revision: UBL 2.0	139
B.3 Minor Revision: UBL 2.1	140
B.3.1 New Document Types in UBL 2.1	140
B.3.2 Financial Information Enhancements in UBL 2.1	140
B.3.3 Revised Approach to Data Definitions in UBL 2.1	141
B.3.4 Schema changes from UBL 2.0 XML to UBL 2.1 XML	142
B.3.4.1 Changes to Library Elements, UBL 2.0 to UBL 2.1	142
B.3.4.2 Changes to Document Elements, UBL 2.0 to UBL 2.1	159
B.3.4.3 Changes to Attributes, UBL 2.0 to UBL 2.1	166
C The UBL 2.1 Data Model (Non-Normative)	167
C.1 UBL 2.1 Schema Generation	167
C.2 The UBL Common Library	168
C.3 Business Information Entities	168
C.4 Navigating the UBL 2.1 Data Model Spreadsheets	170
C.5 Summary Reports	173
C.6 Business Information Entity Documentation	173
C.7 UML-Based View of the UBL Data Model	173
D Data Type Qualifications in UBL (Non-Normative)	174
E UBL 2.1 Code Lists and Two-phase Validation (Non-Normative)	178
E.1 Introduction	178
E.2 Default Validation Setup	178
E.3 Discussion of the Default Validation Test	179
E.4 Customizing the Default XSLT File	181
E.5 Sources for the Default Validation Framework	181
E.6 Code Lists Included in UBL 2.1	181
E.6.1 cl/gc/default	181
E.6.2 cl/gc/special-purpose	182
E.7 Code List Agency Identifiers	183
F UBL 2.1 Example Document Instances (Non-Normative)	185
G Alternative Representations of the UBL 2.1 Schemas (Non-Normative)	187
G.1 ASN.1 UBL 2.1 Specification	187
G.2 UBL 2.1 UML Diagrams	187
G.3 UBL 2.1 RELAX NG Schemas	187
H The Open-edi reference model perspective of UBL (Non-Normative)	188
I Acknowledgements (Non-Normative)	191

1 Introduction

Since its approval as a W3C recommendation in 1998, XML has been adopted in a number of industries as a framework for the definition of the messages exchanged in electronic commerce. The widespread use of XML has led to the development of multiple industry-specific XML versions of such basic documents as purchase orders, shipping notices, and invoices.

While industry-specific data formats have the advantage of maximal optimization for their business context, the existence of different formats to accomplish the same purpose in different business domains is attended by a number of significant disadvantages as well.

- Developing and maintaining multiple versions of common business documents like purchase orders and invoices is a major duplication of effort.
- Creating and maintaining multiple adapters to enable trading relationships across domain boundaries is an even greater effort.
- The existence of multiple XML formats makes it much harder to integrate XML business messages with back-office systems.
- The need to support an arbitrary number of XML formats makes tools more expensive and trained workers harder to find.

The OASIS Universal Business Language (UBL) is intended to help solve these problems by defining 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.

A standard basis for XML business schemas provides the following advantages:

- Lower cost of integration, both among and within enterprises, through the reuse of common data structures.
- Lower cost of commercial software, because software written to process a given XML tag set is much easier to develop than software that can handle an unlimited number of tag sets.
- An easier learning curve, because users need master just a single library.
- Lower cost of entry and therefore quicker adoption by small and medium-size enterprises (SMEs).
- Standardized training, resulting in many skilled workers.
- A universally available pool of system integrators.
- Standardized, inexpensive data input and output tools.
- A standard target for inexpensive off-the-shelf business software.

UBL is designed to provide a universally understood and recognized syntax for legally binding business documents and to operate within a standard business framework such as ISO 15000 (ebXML) to provide

a complete, standards-based infrastructure that can extend the benefits of existing EDI systems to businesses of all sizes. UBL is freely available to everyone without legal encumbrance or licensing fees.

UBL schemas are modular, reusable, and extensible in XML-aware ways. As the first standard implementation of ebXML Core Components Technical Specification 2.01, the UBL Library is based on a conceptual model of information components known as Business Information Entities (BIEs). These components are assembled into specific document models such as [Order](#) and [Invoice](#). These document models are then transformed in accordance with UBL Naming and Design Rules into W3C XSD schema syntax. This approach facilitates the creation of UBL-based document types beyond those specified in this release.

UBL can also be regarded as a generic Open-edi Configuration in the perspective of the Open-edi Reference Model (ISO/IEC 14662:2010). This is described in more detail in [Appendix H, The Open-edi reference model perspective of UBL \(Non-Normative\)](#).

1.1 Terminology

1.1.1 Terms and Definitions

ASiC-S

Associated Signature Container (simple form). A standard container that associates a single data object with one or more detached signature(s) that apply to it. See [[ASiC](#)].

Digital Signature

A value generated from the application of a private key to a message via a cryptographic algorithm such that it has the properties of integrity and message authentication and/or signer authentication. A signature may be (non-exclusively) described as detached, enveloping, or enveloped ([[xmldsig](#)], with modifications).

Document

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

Transform

The processing of data from its source to its derived form. Typical transforms include XML Canonicalization [[XML C14N](#)] and XSLT [[XSLT 2.0](#)].

XSD schema

An XML document definition conforming to the W3C XML Schema language [[XSD1](#)][[XSD2](#)].

The terms *Core Component (CC)*, *Basic Core Component (BCC)*, *Aggregate Core Component (ACC)*, *Association Core Component (ASCC)*, *Business Information Entity (BIE)*, *Basic Business Information Entity (BBIE)*, and *Aggregate Business Information Entity (ABIE)* are used in this specification with the meanings given in [[CCTS](#)].

The terms *Object Class*, *Property Term*, *Representation Term*, and *Qualifier* are used in this specification with the meanings given in [[ISO11179](#)].

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

ABIE

Aggregate Business Information Entity

AdES

Advanced Electronic Signature

ASBIE

Association Business Information Entity

BBIE

Basic Business Information Entity

BIE

Business Information Entity

C14N

Canonicalization

CC

Core Component

CPFRCollaborative Planning, Forecasting, and Replenishment [**CPFR**]**CV2**

Credit Card Verification Numbering System

DSig

Digital Signature

EDI

Electronic Data Interchange

ISOInternational Organization for Standardization [19845:2015](https://standards.iso.org/iso/19845:2015)**NDR**

UBL Naming and Design Rules

QC

Qualified Certificate

QS

Qualified Signature

UMLUnified Modeling Language [**UML**]**UN/CEFACT**

United Nations Centre for Trade Facilitation and Electronic Business

UNDG

United Nations Dangerous Goods

URI

Uniform Resource Identifier

UUID

Universally Unique Identifier

XAdESXML Advanced Electronic Signatures [**XAdES**]

iTeh STANDARD PREVIEW
(standards.iteh.ai)