

ISO/IEC 19845:2015-12 (E)

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

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

Appendices

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