

H. UBL NDR Checklist

The following checklist reproduces all the XML naming and design rules defined in the UBL 2.1 Naming and Design Rules specification. The rule name categories are presented in alphabetical sequence as follows:

- Attribute Declaration Rules (ATD)
- Code List Rules (CDL)
- ComplexType Definition Rules (CTD)
- ComplexType Naming Rules (CTN)
- Documentation Rules (DOC)
- Element Declaration Rules (ELD)
- Element Naming Rules (ELN)
- General Naming Rules (GNR)
- General Type Definition Rules (GTD)
- General XML Schema Rules (GXS)
- Modeling Constraints Rules (MDC)
- Naming Constraints Rules (NMC)
- Namespace Rules (NMS)
- Root Element Declaration Rules (RED)
- Schema Structure Modularity Rules (SSM)
- Standards Adherence Rules (STA)
- Versioning Rules (VER)

Code List Rules	
CDL1	All UBL codes MUST be part of a UBL or externally maintained code list.
CDL2	The UBL Library SHOULD identify and use external standardized code lists rather than develop its own UBL-native code lists.
CDL3	The UBL Library MAY design and use an internal code list where an existing external code list needs to be extended, or where no suitable external code list exists.

ComplexType Definition rules	
CTD1	For every class identified in the UBL model, a named <code>xsd:complexType</code> MUST be defined.
CTD2	Every CCTS ABIE <code>xsd:complexType</code> definition content model MUST contain an <code>xsd:sequence</code> element containing the appropriate global element declarations.
CTD3	Every CCTS BBIE Property <code>xsd:complexType</code> definition content model MUST contain an <code>xsd:simpleContent</code> element.
CTD4	Every CCTS BBIE Property <code>xsd:complexType</code> content model <code>xsd:simpleContent</code> element MUST consist of an <code>xsd:extension</code> element.
CTD25	For every CCTS BBIE Property identified in the UBL model, a named <code>xsd:complexType</code> MUST be defined.
CTD26	Every CCTS BBIE Property <code>xsd:complexType</code> <code>xsd:base</code> attribute value MUST be the UBL Unqualified Datatype.
CTD27	Every BBIE property with the representation term Code MUST be based on the UBL unqualified data type.

Complex Type Naming rules	
CTN1	A UBL <code>xsd:complexType</code> name based on a CCTS ABIE MUST be the CCTS Dictionary Entry Name with the separators removed and with the "Details" suffix replaced with "Type".
CTN2	A UBL <code>xsd:complexType</code> name based on a CCTS BBIE Property MUST be the CCTS Dictionary Entry Name shared Property Term and its qualifiers and the Representation Term of the BBIE with the separators removed and with the "Type" suffix appended after the Representation Term.

Complex Type Naming rules	
CTN6	A UBL xsd:complexType name based on a CCTS BBIE Property and with a CCTS BBIE Representation Term of "Text" MUST have the word "Text" removed from the end of its name.
CTN7	A UBL xsd:complexType name based on a CCTS BBIE Property and with a CCTS BBIE Representation Term of "Identifier" MUST replace "Identifier" with "ID" at the end of its name.
CTN8	A UBL xsd:complexType name based on a CCTS BBIE Property MUST remove all duplication of words that occurs as a result of duplicate Property Terms and Representation Terms.

Documentation rules	
DOC1	<p>The xsd:documentation element for every data type MUST contain a set of annotations in the following order (as defined in CCTS Section 7):</p> <ul style="list-style-type: none"> • DictionaryEntryName (mandatory) • Version (mandatory) • Definition (mandatory) • RepresentationTerm (mandatory) • QualifierTerm(s) (mandatory, where used) • UniqueIdentifier (mandatory) • Usage Rule(s) (optional) • Content Component Restriction (optional)
DOC2	<p>A datatype definition MAY contain one or more Content Component Restrictions to provide additional information on the relationship between the datatype and its corresponding Core Component Type. If used, the Content Component Restrictions MUST contain a set of annotations in the following order:</p> <ul style="list-style-type: none"> • RestrictionType (mandatory): Defines the type of format restriction that applies to the Content Component. • RestrictionValue (mandatory): The actual value of the format restriction that applies to the Content Component. • ExpressionType (optional): Defines the type of the regular expression of the restriction value.
DOC3	<p>A datatype definition MAY contain one or more Supplementary Component Restrictions to provide additional information on the relationship between the datatype and its corresponding Core Component Type. If used, the Supplementary Component Restrictions MUST contain a set of annotations in the following order:</p> <ul style="list-style-type: none"> • SupplementaryComponentName (mandatory): Identifies the Supplementary Component to which the restriction applies. • RestrictionValue (mandatory, repetitive): The actual value(s) that is (are) valid for the Supplementary Component.
DOC4	<p>The xsd:documentation element for every BBIE MUST contain a set of annotations in the following order:</p> <ul style="list-style-type: none"> • ComponentType (mandatory): The type of component to which the object belongs. For BBIEs this MUST be "BBIE". • DictionaryEntryName (mandatory): The official name of a BBIE. • Version (optional): An indication of the evolution over time of the BBIE Entity. • Definition (mandatory): The meaning of a BBIE. • Cardinality (mandatory): Indicates whether the BBIE represents a not-applicable, optional, mandatory, or repetitive characteristic of the Aggregate Business Information Entity to which it belongs. • ObjectClassQualifier (optional): The qualifier for the Object Class. • ObjectClass (mandatory): The Object Class containing the BBIE. • PropertyTermQualifier (optional): A word or words which help define and differentiate a BBIE.

Documentation rules	
	<ul style="list-style-type: none"> • PropertyTerm (mandatory): Conveys the characteristic or Property of the Object Class. • RepresentationTerm (mandatory): Describes the form in which the BBIE is represented. • DataTypeQualifier (optional): A meaningful name that differentiates the data type of the BBIE from its underlying Core Component Type. • DataType (mandatory): Defines the data type used for the BBIE. • AlternativeBusinessTerms (optional): Any synonymous terms under which the BBIE is commonly known and used in the business. • Examples (optional): Examples of possible values for the BBIE.
DOC5	<p>The xsd:documentation element for every ABIE MUST contain a set of annotations in the following order:</p> <ul style="list-style-type: none"> • ComponentType (mandatory): The type of component to which the object belongs. For ABIEs this MUST be "ABIE". • DictionaryEntryName (mandatory): The official name of the ABIE . • Version (optional): An indication of the evolution over time of the ABIE. • Definition (mandatory): The meaning of the ABIE. • ObjectClassQualifier (optional): The qualifier for the Object Class. • ObjectClass (mandatory): The Object Class represented by the ABIE. • AlternativeBusinessTerms (optional): Any synonymous terms under which the ABIE is commonly known and used in the business.
DOC6	<p>The xsd:documentation element for every ASBIE element declaration MUST contain a set of annotations in the following order:</p> <ul style="list-style-type: none"> • ComponentType (mandatory): The type of component to which the object belongs. For ASBIEs this MUST be "ASBIE". • DictionaryEntryName (mandatory): The official name of the ASBIE. • Version (optional): An indication of the evolution over time of the ASBIE. • Definition (mandatory): The meaning of the ASBIE. • Cardinality (mandatory): Indicates whether the ASBIE represents an optional, mandatory, or repetitive association. • ObjectClass (mandatory): The Object Class containing the ASBIE. • PropertyTermQualifier (optional): A word or words which help define and identify the ASBIE. • PropertyTerm (mandatory): Represents the ASBIE contained by the Association Business Information Entity. • AssociatedObjectClassQualifier (optional): The Associated Object Class Qualifiers describe the "context" of the relationship with another ABIE. That is, it is the role the contained ABIE plays within its association with the containing ABIE. • AssociatedObjectClass (mandatory): The Object Class at the other end of the association. It represents the ABIE contained by the ASBIE.
DOC8	<p>The xsd:documentation element for every Supplementary Component attribute declaration MUST contain a set of annotations in the following order:</p> <ul style="list-style-type: none"> • Name (mandatory): Name in the Registry of a Supplementary Component of a Core Component Type. • Definition (mandatory): An explanation of the meaning of a Supplementary Component and its relevance for the related Core Component Type. • Primitive type (mandatory): The PrimitiveType to be used for the representation of the value of a Supplementary Component. • Possible Value(s) (optional): Possible values of Supplementary Components.

Documentation rules	
DOC9	<p>The xsd:documentation element for every Supplementary Component attribute declaration containing restrictions MUST include the following additional information appended to the information required by DOC8:</p> <ul style="list-style-type: none"> • Restriction Value(s) (mandatory): The actual value(s) that is (are) valid for the Supplementary Component.

Element Declaration rules	
ELD2	All element declarations MUST be global.
ELD3	For every class and property identified in the UBL model, a global element bound to the corresponding xsd:complexType MUST be declared.
ELD4	When a CCTS ASBIE is unqualified, it is bound via reference to the global CCTS ABIE element with which it is associated.
ELD7	Empty elements MUST not be declared, except in the case of extension where the UBL Extensions element is used.
ELD11	When a CCTS ASBIE is qualified, a new element MUST be declared and bound to the xsd:complexType of its associated CCTS ABIE.
ELD12	The UBL Extensions element MUST be declared as the first child of the document element with xsd:minOccurs="0".
ELD13	The UBLProfileID element MUST be declared immediately following the UBL Extensions element with xsd:minOccurs="0".
ELD14	The UBLSubsetID element MUST be declared immediately following the UBLProfileID element with xsd:minOccurs="0".

Element Naming rules	
ELN1	A UBL global element name based on a CCTS ABIE MUST be the same as the name of the corresponding xsd:complexType to which it is bound, with the word "Type" removed.
ELN2	A UBL global element name based on a CCTS BBIE Property MUST be the same as the name of the corresponding xsd:complexType to which it is bound, with the word "Type" removed.
ELN3	A UBL global element name based on a CCTS ASBIE MUST be the CCTS ASBIE Dictionary Entry Name Property Term and its qualifiers and the Object Class Term and qualifiers of its associated CCTS ABIE. All CCTS Dictionary Entry Name separators MUST be removed.

General Naming rules	
GNR1	UBL XML element and type names MUST be in the English language, using the primary English spellings provided in the Oxford English Dictionary.
GNR2	UBL XML element and type names MUST be consistently derived from CCTS conformant Dictionary Entry Names.
GNR3	UBL XML element and type names constructed from CCTS Dictionary Entry Names MUST NOT include periods, spaces, other separators, or characters not allowed by XSD.
GNR4	UBL XML element names and simple and complex type names MUST NOT use acronyms, abbreviations, or other word truncations, except those in the list of exceptions maintained and published by the UBL TC.
GNR6	The acronyms and abbreviations listed in the UBL-approved list MUST always be used in place of the word or phrase they represent.
GNR7	UBL XML element and type names MUST be in singular form unless the concept itself is plural.
GNR8	The UpperCamelCase (UCC) convention MUST be used for naming elements and types.

General Naming rules	
GNR9	The lowerCamelCase (LCC) convention MUST be used for naming attributes.
GNR10	Acronyms and abbreviations at the beginning of an attribute name MUST appear in all lower case. Acronyms and abbreviations elsewhere in an attribute name MUST appear in upper case.
GNR11	Acronyms and abbreviations MUST appear in all upper case for all element and type names.

General Type Definition Rules	
GTD1	All types MUST be named.
GTD2	The predefined XML schema type <code>xsd:anyType</code> MUST NOT be used.

General XML Schema Rules	
GXS1	Except in the case of extension, where the "UBL Extensions" element is used, UBL schemas SHOULD conform to the following physical layout as applicable: See .
GXS2	UBL MUST provide two schemas for each transaction. One normative schema shall be fully annotated. One non-normative schema shall be a run-time schema devoid of documentation.
GXS3	Built-in <code>xsd:simpleTypes</code> SHOULD be used wherever possible.
GXS4	All XSD constructs in UBL schema and schema modules MUST contain the following namespace declaration on the <code>xsd:schema</code> element: <code>xmlns:xsd="http://www.w3.org/2001/XMLSchema"</code>
GXS5	The <code>xsd:substitutionGroup</code> feature MUST NOT be used.
GXS6	The <code>xsd:final</code> attribute MUST be used to control extensions where there is a desire to prohibit further extensions.
GXS7	<code>xsd:notation</code> MUST NOT be used.
GXS8	<code>xsd:all</code> MUST NOT be used.
GXS9	The <code>xsd:choice</code> element SHOULD NOT be used where customization and extensibility are a concern.
GXS10	<code>xsd:include</code> can only be used when the including schema is in the same namespace as the included schema.
GXS11	The <code>xsd:union</code> technique MUST NOT be used except for code lists.
GXS12	UBL schemas SHOULD NOT use <code>xsd:appinfo</code> . If used, <code>xsd:appinfo</code> MUST be used only to convey non-normative information.
GXS15	Each <code>xsd:schemaLocation</code> attribute declaration MUST contain a system-resolvable URL, which at the time of release from OASIS shall be a relative URL referencing the location of the schema or schema module in the release package.
GXS16	The built in <code>xsd:nillable</code> attribute MUST NOT be used for any UBL declared element.
GXS14	<code>xsd:any</code> MUST NOT be used except within the <code>ExtensionContentType</code> type definition, and with <code>xsd:processContents="skip"</code> for non-UBL namespaces.
GXS13	Complex type extension or restriction MAY be used where appropriate.

Modelling constraint rules	
MDC0	The sequence of the business information entities that is expressed in the UBL model MUST be preserved in the schema.
MDC1	UBL libraries and schemas MUST only use CCTS Core Component Types, except in the case of extension, where the <code>UBLExtensions</code> element is used.
MDC2	XML mixed content MUST NOT be used except where contained in an <code>xsd:documentation</code> element.

Naming constraint rules	
NMC1	Each Dictionary Entry Name MUST define one and only one fully qualified path (FQP) for an element or attribute.

Namespace Rules	
NMS1	Every UBL-defined or -used schema module, except internal schema modules, MUST declare a namespace using the xsd:targetNamespace attribute.
NMS2	Every UBL-defined or -used major version schema set MUST have its own unique namespace.
NMS3	UBL namespaces MUST only contain UBL developed schema modules.
NMS4	The namespace names for UBL schemas holding committee draft status MUST be of the form urn:oasis:names:tc:ubl:schema:<subtype>:<document-id>
NMS5	The namespace names for UBL schemas holding OASIS Standard status MUST be of the form urn:oasis:names:specification:ubl:schema:<subtype>:<document-id>
NMS6	UBL published namespaces MUST never be changed.
NMS7	The UBL Common Aggregate Components schema module MUST reside in its own namespace.
NMS8	The UBL Common Aggregate Components schema module namespace MUST be represented by the namespace prefix "cac" when referenced in other schemas.
NMS9	The UBL Common Basic Components schema module MUST reside in its own namespace.
NMS10	The UBL Common Basic Components schema module namespace MUST be represented by the namespace prefix "cbc" when referenced in other schemas.
NMS15	The UBL Qualified Datatypes schema module MUST reside in its own namespace.
NMS16	The UBL Qualified Datatypes schema module namespace MUST be represented by the namespace prefix "qdt" when referenced in other schemas.
NMS18	The CommonExtensionComponents schema module namespace MUST be represented by the namespace prefix "ext" when referenced in other schemas.
NMS19	The derived CCTS Unqualified Datatypes schema module namespace MUST be represented by the prefix "ccts-udt" when referenced in other schemas.
NMS20	The UBL Unqualified Datatypes schema module namespace MUST be represented by the prefix "udt" when referenced in other schemas.

Root element declaration rules	
RED2	The root element MUST be the only global element declared in the document schema.

Schema structure modularity rules	
SSM1	UBL schema expressions MAY be split into multiple schema modules.
SSM2	A schema in one UBL namespace that is dependent upon type definitions or element declarations in another schema namespace MUST only import that schema.
SSM3	A schema in one UBL namespace that is dependent upon type definitions or element declarations defined in another schema namespace MUST NOT import the internal schema modules of that schema.
SSM6	All UBL internal schema modules MUST be in the same namespace as their corresponding document schema.
SSM7	Each UBL internal schema module MUST be named <ParentSchemaModuleName><InternalSchemaModuleFunction>
SSM8	UBL schema modules MAY be created for reusable components.
SSM9	A schema module defining all UBL Common Aggregate Components MUST be created.

Schema structure modularity rules	
SSM10	The UBL Common Aggregate Components schema module MUST be identified as CommonAggregateComponents in the document name within the schema header.
SSM11	A schema module defining all UBL Common Basic Components MUST be created.
SSM12	The UBL Common Basic Components schema module MUST be identified as CommonBasicComponents in the document name within the schema header.
SSM18	A schema module defining all UBL Qualified Datatypes MUST be created.
SSM19	The UBL Qualified Datatypes schema module MUST be identified as QualifiedDatatypes in the document name in the schema header.
SSM21	The UBL extension schema module MUST be identified as CommonExtensionComponents in the document name within the schema header.
SSM22	The UBL Qualified Datatypes schema module MUST import the UBL Unqualified Datatypes schema module.

Versioning rules	
VER2	Every UBL schema module major version MUST have an RFC 3121 document-id <modulename>-<major>
VER4	Every minor version release of a UBL schema module MUST have a document-id of the form <modulename>-<major>
VER5	For UBL minor version changes, the namespace name MUST not change.
VER6	Every UBL schema module major version number MUST be a sequentially assigned integer greater than zero.
VER7	Every UBL schema module minor version number MUST be a sequentially assigned, non-negative integer.
VER12	Every major version release of a UBL schema module MUST capture its version number in the xsd:version attribute of the xsd:schema element in the form <major>.0
VER14	Every minor version release of a UBL schema module MUST capture its version information in the xsd:version attribute in the form <major>.<non-zero>
VER15	Every UBL document schema MUST declare an optional element named UBLVersionID immediately following the optional UBL Extensions element.

References

Normative

- [ASN.1] ITU-T X.680-X.683: Abstract Syntax Notation One (ASN.1); ITU-T X.690-X.693: ASN.1 encoding rules <http://www.itu.int/ITU-T/studygroups/com17/languages/X.680-X.693-0207w.zip> , <http://www.oasis-open.org/committees/download.php/6320/X.680-X.693-0207w.zip>
- [CCTS] ISO/TS 15000-5:2005 Electronic Business Extensible Markup Language (ebXML) — Part 5: ebXML Core Components Technical Specification, Version 2.01 (identical to Part 8 of the ebXML Framework) <http://www.oasis-open.org/committees/download.php/6232/CEFACT-CCTS-Version-2pt01.zip>
- [ISO11179] ISO/IEC 11179-1:1999 Information technology — Specification and standardization of data elements — Part 1: Framework for the specification and standardization of data elements http://www.oasis-open.org/committees/download.php/6233/c002349_ISO_IEC_11179-1_1999%28E%29.pdf
- [RFC2119] Key words for use in RFCs to Indicate Requirement Levels <http://www.faqs.org/rfcs/rfc2119.html> , <http://www.oasis-open.org/committees/download.php/6244/rfc2119.txt.pdf>

- [SCH] Document Schema Definition Languages (DSDL) - Part 3: Rule-based validation (Schematron) *http://www.iso.ch/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=40833* , *http://www.schematron.com*
- [UML] Unified Modeling Language Version 1.5 (formal/03-03-01) *http://www.omg.org/docs/formal/03-03-01.pdf* , *http://www.oasis-open.org/committees/download.php/6240/03-03-01.zip*
- [XML] Extensible Markup Language (XML) 1.0 (Second Edition), W3C Recommendation 6 October 2000 *http://www.w3.org/TR/2000/REC-xml-20001006* , *http://www.oasis-open.org/committees/download.php/6241/REC-xml-20001006.pdf*
- [XSD1] XML Schema Part 1: Structures. Second Edition. W3C Recommendation 28 October 2004 *http://www.w3.org/TR/2004/REC-xmlschema-1-20041028/* , *http://www.oasis-open.org/committees/download.php/19816/xsd1.html*
- [XSD2] XML Schema Part 2: Datatypes. Second Edition. W3C Recommendation 28 October 2004 *http://www.w3.org/TR/2004/REC-xmlschema-2-20041028/* , *http://www.oasis-open.org/committees/download.php/19817/xsd2.html*
- [XSLT] XSL Transformations (XSLT) Version 1.0, W3C Recommendation 16 November 1999 *http://www.w3.org/TR/1999/REC-xslt-19991116* , *http://www.oasis-open.org/committees/download.php/18891/REC-xslt-19991116.html*