BS EN ISO 19115-3:2023

BSI Standards Publication

Geographic information — Metadata

Part 3: XML schema implementation for fundamental concepts

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This British Standard is the UK implementation of EN ISO 19115-3:2023. It is identical to ISO 19115-3:2023. It supersedes PD ISO/TS 19115-3:2016, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee IST/36, Geographic information.

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European foreword

This document (EN ISO 19115-3:2023) has been prepared by Technical Committee ISO/TC 211 "Geographic information/Geomatics" in collaboration with Technical Committee CEN/TC 287 “Geographic Information” the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2024, and conflicting national standards shall be withdrawn at the latest by February 2024.

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 287, *Geographic Information,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces the first edition (ISO/TS 19115-3:2016), which has been technically revised.

The main changes are as follows:

— cross-references to other documents have been updated; in particular, ISO 19139:2007 has been updated to ISO/TS 19139-1:2019;

— components have been reallocated to the relevant primary International Standards, notably ISO 19115-1:2014, ISO 19115-2:2019 and ISO 19103:2015;

— additional packages and namespaces derived by the aggregation of packages defined in ISO 19115-1:2014 and ISO 19115-2:2009[1)] have been removed;

— tables have been consolidated in order to reduce repetition of information and to collocate information concerning requirements, conformance tests and the clauses to which they refer;

— elements in the XML schemas for ISO 19115-1:2014 and ISO 19115-2:2019 have been reordered in order to align with the order of attributes in the associated data dictionaries. Appropriate XML stylesheets (XSLT) have been generated to assist in the transformation of XML records from records conforming to previous versions of the schemas. The conceptual models in the HMMG have been

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augmented to include the attribute ordering as set out in the data dictionaries in ISO 19115-1:2014 plus ISO 19115-1:2014/Amd 1:2018 and ISO 19115-1:2014/Amd 2:2020 and ISO 19115-2:2019.

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Introduction

0.1 Metadata models for geographic information resources

ISO 19115-1 and ISO 19115-2 collectively provide conceptual models that describe geographic information resources. These models represent metadata of geographic information resources.

ISO 19115-1 explains the importance of metadata, specifies a model for describing geographic information resources by defining metadata entities, elements and terminology, and establishing an extension procedure for additional metadata content. It also incorporates metadata elements describing web services defined in ISO 19119:2005[2)] and ISO 19119:2005/Amd 1:2008[3)], where those elements are no longer included in ISO 19119:2016 as they have been supplanted by more detailed metadata elements for geographic data types and data quality defined in other ISO geographic information standards (e.g. ISO 19110:2016 and ISO 19157:2013).

NOTE ISO 19115-1:2014, Annex G describes the revisions from ISO 19115:2003[4)].

ISO 19115-2 extends ISO 19115-1 by adding models for acquisition information and extending the models for metadata (MD_Metadata), data quality (DQ_DataQuality, now in ISO 19157:2013), spatial representation (MD_SpatialRepresentation), and content information (MD_ContentInformation).

0.2 XML encoding of metadata models

As ISO 19115-1 and ISO 19115-2 define conceptual models for metadata content, these models are independent of any particular encoding scheme. To use these models in XML requires the development of an XML encoding that implements the conceptual models.

In the past, ISO 19115:2003, the predecessor of ISO 19115-1 and ISO 19115-2, has been provided with an XML encoding defined by ISO/TS 19139:2007[5)] and ISO/TS 19139-2:2012[6)], called “gmd”.

With the advent of ISO 19115-1 and ISO 19115-2, a new XML encoding is needed. This document fulfils that role by providing integrated XML schemas for ISO 19115-1 and ISO 19115-2 metadata content, effectively replacing ISO/TS 19139:2007 and ISO/TS 19139-2:2012.

0.3 Integrated schemas

The integrated schemas provided by this document make it possible to use concepts from ISO 19115-1:2014 and ISO 19115-2:2019 together in metadata instance documents, and enable automated validation and interchange of metadata content using standard software tools.

The integrated schemas have been derived from ISO 19115-1 and ISO 19115-2 conceptual models using the rules defined in ISO/TS 19139-1:2019 applied to an adapted implementation-ready UML version of the conceptual models as described in Clause 10. The implementation approach enables modularization and eases reuse of elements of the conceptual models.

Abstract classes were added to the ISO geographic information harmonized model, without altering the semantics, to create an implementation model that was used for this XML implementation (see Clause 10 for details).

0.4 Intent and usage

The primary use case envisioned for this XML implementation is the exchange of geographic metadata in a client-server environment exemplified by the World Wide Web, in which the internal management

2) Cancelled and replaced by ISO 19119:2016.

3) Cancelled and replaced by ISO 19119:2016.

4) Cancelled and replaced by ISO 19115-1:2014.

5) Cancelled and replaced by ISO/TS 19139-1:2019.

6) Withdrawn.

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and structure of metadata content is independent of the encoding used for the exchange of metadata information.

Adoption of this geographic metadata XML schema within an information-sharing community will garner the benefits of standardization for resource discovery, access, use and understanding.

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Geographic information — Metadata —

Part 3: XML schema implementation for fundamental concepts

1 Scope

This document defines an integrated XML implementation of ISO 19115-1 and ISO 19115-2 by defining the following artefacts:

— a set of XML schema required to validate metadata instance documents conforming to conceptual model elements defined in ISO 19115-1 and ISO 19115-2; and

— a set of ISO/IEC 19757-3 (Schematron) rules that implement validation constraints in the ISO 19115-1 and ISO 19115-2 UML models that are not validated by the XML schema.

This document describes the procedure used to generate XML schemas from ISO geographic information conceptual models related to metadata. The XML schemas are generated directly from the conceptual UML model (8.5).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 19103:2015, *Geographic information — Conceptual schema language*

ISO 19110:2016, *Geographic information — Methodology for feature cataloguing*

ISO 19115-1:2014, *Geographic information — Metadata — Part 1: Fundamentals*

ISO 19115-1:2014/Amd 1:2018, *Geographic information — Metadata — Part 1: Fundamentals — Amendment 1*

ISO 19115-1:2014/Amd 2:2020, *Geographic information — Metadata — Part 1: Fundamentals — Amendment 2*

ISO 19115-2:2019, *Geographic information — Metadata — Part 2: Extensions for acquisition and processing*

ISO 19136-1:2020, *Geographic information — Geography Markup Language (GML) — Part 1: Fundamentals*

ISO/TS 19139-1:2019, *Geographic information — XML schema implementation — Part 1: Encoding rules*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

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— IEC Electropedia: available at https://www.electropedia.org/

3.1.1
namespace
<XML> collection of names, identified by a URI reference, which are used in XML documents as element names and attribute names

Note 1 to entry: The combination of a namespace URI and element or attribute name are intended to be a globally unique identifier for that model element.

Note 2 to entry: See Reference [18].

3.1.2
package
<UML> general purpose mechanism for organizing elements into groups

EXAMPLE Identification information package, metadata entity set information package, constraint information package.

Note 1 to entry: Packages may be nested within other packages. Both model elements and diagrams may appear in a package.

Note 2 to entry: A package provides a *namespace* (3.1.1) for the grouped elements.

[SOURCE: ISO 19103:2015, 4.27, modified — Examples and notes to entry have been added.]

3.1.3
polymorphism
capability of expression in alternative forms that also allows extensions to semantics, structure and behaviour

Note 1 to entry: Polymorphism is commonly applied to data in order to support different usages and contexts.

3.2 Abbreviated terms

GML	Geography Markup Language
HTML	HyperText Markup Language
MA	maintenance agency
UML	Unified Modeling Language
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
XML	Extensible Markup Language
XPath	XML Path Language
XSD	XML Schema Definition
XSL	Extensible Style Language
XSLT	Extensible Stylesheet Language Transformation

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4 Conventions

4.1 Availability of ISO/TC 211 resources

4.1.1 Maintenance agency for ISO/TC 211 resources

ISO/TC 211 harmonized resources are resources published by ISO/TC 211 with the intention of assisting developers, implementers and users of ISO/TC 211 standards, including UML models, XML schemas and ontologies.

Such resources, including those provided by this document, are managed by a maintenance agency. The name and contact information of the maintenance agency for this document can be found at www.iso.org/maintenance_agencies.

4.1.2 Resources provided by this document

This document provides the following types of ISO/TC 211 harmonized resources:

— XML schemas;

— normative statement classes and normative statements;

— conformance class and tests.

4.2 Presentation of ISO/TC 211 resources

4.2.1 General

Conformance to ISO/TC 211 documents depends on the satisfaction of all mandatory provision classes and conformance classes provided in the document.

This clause describes how these information resources are presented in this document.

4.2.2 Provision classes and provisions

Provision classes are collections of provisions grouped together according to a common theme or a coherent need, such as for the implementation of a particular feature.

Provision classes can be mandatory or optional if explicitly specified.

A provision class is rendered as shown in Table 1.

NOTE The title of a table denotes the number and title of the provision class, for example: Requirements class 1: Metadata core (ISO 19115-1).

Table 1 — Example 1: Requirement class *X*: Example title

Identifier	*The ISO/TC 211 URI of the provision class.*
Implements	*Any provision class that this provision is an implementation of.*
Target type	*Type of subject of which the provision class applies.*
Prerequisites	*List of provision classes that this provision class depends on.*
Included in	*List of provision classes that this provision class is included in.*
Provisions	*List of provisions contained in this provision class.*
Description	*The description of the provision class.*
Guidance	*Informative information provided as guidance for implementation.*

Provisions are statements that describe conformance conditions for this document.

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The following types of provision are specified in ISO/TC 211 documents:

— Requirement: conformance to the statement is mandatory;

— Recommendation: conformance to the statement is recommended;

— Permission: conformance to the statement is permitted.

A provision is rendered as shown in Table 2.

NOTE The table title denotes the number and title of the provision, for example: Requirement 104: Character set code from IANA charset register.

Table 2 — Example 2: Requirement *X*: Example title

Identifier	*The ISO/TC 211 URI of the provision.*
Target type	*Type of subject for which the provision applies.*
Implements	*Any provision of which this provision is an implementation.*
Prerequisites	*List of provisions on which this provision depends.*
Included in	*List of provision classes in which this provision is included.*
Statement	*The statement to be satisfied.*
Guidance	*Informative information provided as guidance for implementation.*

4.2.3 Conformance classes and conformance tests

Satisfaction of ISO/TC 211 provision classes and provisions is determined by the validation of corresponding conformance classes and conformance tests.

A conformance class contains at least one conformance test that validates a target meeting all provisions described in a provision class.

A conformance class is rendered as shown in Table 3.

NOTE The table title denotes the number and title of the conformance class, for example: Conformance class A.1: Metadata core (ISO 19115-1).

Table 3 — Example 3: Conformance class *X*: Example title

Identifier	*The ISO/TC 211 URI of the conformance class.*
Target type	*Type of subject for which the conformance class applies.*
Satisfies	*List of requirements classes that this conformance class satisfies.*
Prerequisites	*List of conformance classes on which this conformance class depends..*
Included in	*List of conformance classes in which this conformance class is included.*
Includes	*List of conformance tests contained in this conformance class.*
Description	*The description of the conformance class.*
Guidance	*Informative information provided as guidance for testing.*

A conformance test provides test methods that validate a target meeting at least one provision.

A conformance test is rendered as shown in Table 4.

NOTE The table title denotes the number and title of the conformance test for example: Conformance test A.25: Valid root class of the metadata minimal instance.

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Table 4 — Example 4: Conformance test *X*: Example title

Identifier	*The ISO/TC 211 URI of the conformance test.*
Target type	*Type of subject for which the conformance test applies.*
Satisfies	*List of requirements that this conformance test satisfies.*
Prerequisites	*List of conformance tests on which this conformance test depends.*
Included in	*List of conformance classes in which this conformance test is included.*
Test purpose	*The purpose of this conformance test.*
Test method	*The method and steps for executing this conformance test.*
Test type	(Optional) *The type of conformance test.*
Guidance	*Informative information provided as guidance for testing.*

4.3 Structure of URIs in ISO/TC 211 resources for implementation

4.3.1 General

The implementation of ISO/TC 211 documents requires the provision of access to official and unique identification of resources provided by those documents.

ISO/TC 211 defines a set of rules for constructing URIs to be used in all documents published by ISO/TC 211. These rules are approved documented in Reference [28].

4.3.2 Identified resources

The following types of resources provided in this document are assigned unique and persistent identifiers:

— XML schemas (Reference [28], described in 4.3.4)

— normative statement classes and normative statements (Reference [28], described in 4.3.5)

— conformance class and tests (Reference [28], described in 4.3.6)

The relevant URI structures are reproduced in the following subclauses for reference.

4.3.3 Basic elements used in URI templates

Elements used in URI templates include:

`standardNumber` The main document number of the International Standard.

EXAMPLE 1 `19115` for a document in the ISO 19115 series.

`partNumber` For a series with several parts. If there are no additional parts, the string – is used.

EXAMPLE 2 `-3` for part 3.

`editionNumber` Official ISO edition number.

EXAMPLE 3 `1` for edition 1.

4.3.4 XML schema namespace and location

URI template for XML namespace:

— `https://schemas.isotc211.org/standardNumber/-[partNumber]/namespace/editionNumber.majorSchemaReleaseNo`

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URL template for XML schema location:

— `https://schemas.isotc211.org/standardNumber/-[partNumber]/namespace/editionNumber.majorSchemaReleaseNo.minorSchemaRevisionNo/namespace.xsd`

where:

`namespace`	is the XML namespace prefix for the schema; EXAMPLE 1 `mda` for the XML namespace for metadata application.
`majorSchemaReleaseNo`	is the major schema release number of the schema, which changes if a new a namespace is used;
`minorSchemaRevisionNo`	is the minor schema revision number of the schema, which is added to the schema location to enable minor fixes while keeping the namespace stable.

NOTE 1 Refer to 4.3.3 for an explanation of the basic elements in the URI template.

NOTE 2 The edition number is appended to the end of the template to facilitate upgrading in implementations.

EXAMPLE 2 The namespace prefix and schema location for the `mcc` namespace of ISO 19115-1, edition 1, major schema release number 3, minor schema revision number 0 is represented by:

— namespace `https://schemas.isotc211.org/19115/-1/mcc/1.3`

— schema location `https://schemas.isotc211.org/19115/-1/mcc/1.3.0/mcc.xsd`

Dereferencing the namespace URI as a resource locator (as a URL) will retrieve a description of the namespace, links to description of the content of the namespace and links to the base specification the namespace implements and to the normative XML schema location.

As the full URI is cumbersome for reading, writing, and in human discussion, the common prefix of the URI is typically omitted. However, since this document involves URIs spanning multiple documents, the usage of the full URI for clarity is preferred when used in this document.

4.3.5 Normative statements

URI template for normative statement class:

— `https://standards.isotc211.org/standardNumber/-[partNumber]/editionNumber/statementType/nsClassId`

URI template for normative statement:

— `https://standards.isotc211.org/standardNumber/-[partNumber]/editionNumber/statementType/nsClassId/nsId`

where:

`statementType`	is the type of the normative statement, which is one of `req` (requirement), `rec` (recommendation) or `per` (permission);
`nsClassId`	is the internal identifier of the normative statement class;
`nsID`	is the internal identifier for the normative statement within the normative statement class.

NOTE 1 Refer to 4.3.3 for an explanation of the basic elements in the URI template.

NOTE 2 The edition number of the document is placed before the statement type to enable there to be one main URI for all statements in one edition. The statements are expected to require inspection for each edition.

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EXAMPLE The URI for requirement `extent` in the requirement class `content` in ISO 19131 (edition 2) is identified by the URI:

— `https://standards.isotc211.org/19131/-/2/req/content/extent`

4.3.6 Conformance classes and tests

URI template for conformance class:

— `https://standards.isotc211.org/standardNumber/-[partNumber]/editionNumber/conf/classId`

URI template for conformance test:

— `https://standards.isotc211.org/standardNumber/-[partNumber]/editionNumber/conf/classId/TestId`

where:

`classId` is the internal identifier of the conformance class;

`testID` is the internal identifier for the conformance test within the conformance class.

NOTE 1 Refer to 4.3.3 for an explanation of the basic elements in the URI template.

NOTE 2 The edition number of the document is placed before "conf" to enable there to be one main URI for all conformance classes in one edition. The tests are expected to require inspection for each edition.

EXAMPLE The URI for the conformance test `allContent` in the conformance class `content` in ISO 19131 (edition 2) is identified by the URI:

— `https://standards.isotc211.org/19131/-/2/conf/content/allContent`

4.4 Presentation of information resources in this document

4.4.1 General

This document provides descriptions of multiple types of information resources from different sources, including:

— normative statement classes and conformance classes that link to UML models described in ISO 19115-1 and ISO 19115-2;

— XML schemas that implement the UML models described in ISO 19115-1 and ISO 19115-2, as well as ISO 19103:2015 and ISO 19136-1:2020;

— normative statement classes and conformance classes that apply to the XML schemas described in this document;

— machine-executable supporting resources that implement the conformance tests that apply to the XML schemas described in this document.

The following subclauses describe how these information resources relate to each other as provided in this document.

4.4.2 Relations between information resources

The types of information resources provided in this document and their relationships are described in Figure 1.

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In particular, there are two planes of concerns shown in Figure 1:

— UML plane, which contains UML models, and their normative statement classes (with requirements) and conformance classes (with conformance tests); and

— XML plane, which contains XML schemas, and their normative statement classes (with requirements) and conformance classes (with conformance tests).

In this document:

— UML is considered as a platform-independent modelling mechanism, where it defines abstract information models (potentially with constraint information) without regard for platform-specific concerns. The UML plane represents conceptual concerns on information structure and relationships.

— XML is considered as an encoding mechanism, where it defines information models that can be utilized by computing devices and can be used to encode data instances for interoperability. The XML plane represents encoding concerns on how information is to be encoded as bits.

An XML schema is said to implement an UML model when it performs in the same way logically according to the requirements set by the UML model, while enabling the encoding of data into XML documents.

The proper usage of the UML models and XML schemas are governed by the normative statements classes and conformance classes that apply to those UML models or XML schemas.

There is a close relationship between the UML plane and the XML plane. Notably, the XML plane has to at least satisfy all requirements described in the UML plane:

— the XML schema needs to fully satisfy the information requirements stated in the UML model;

— every normative statement class and conformance class that applies to a UML model needs to be satisfied by a corresponding normative statement class and conformance class in the XML plane;

— every normative statement and conformance test that applies to a UML model needs to be satisfied by a corresponding normative statement and conformance test in the XML plane.

Finally, this document also references machine-executable tests (see Annex A) that implement some conformance tests at the XML plane, which can be seen at the bottom right corner of the Figure 1.

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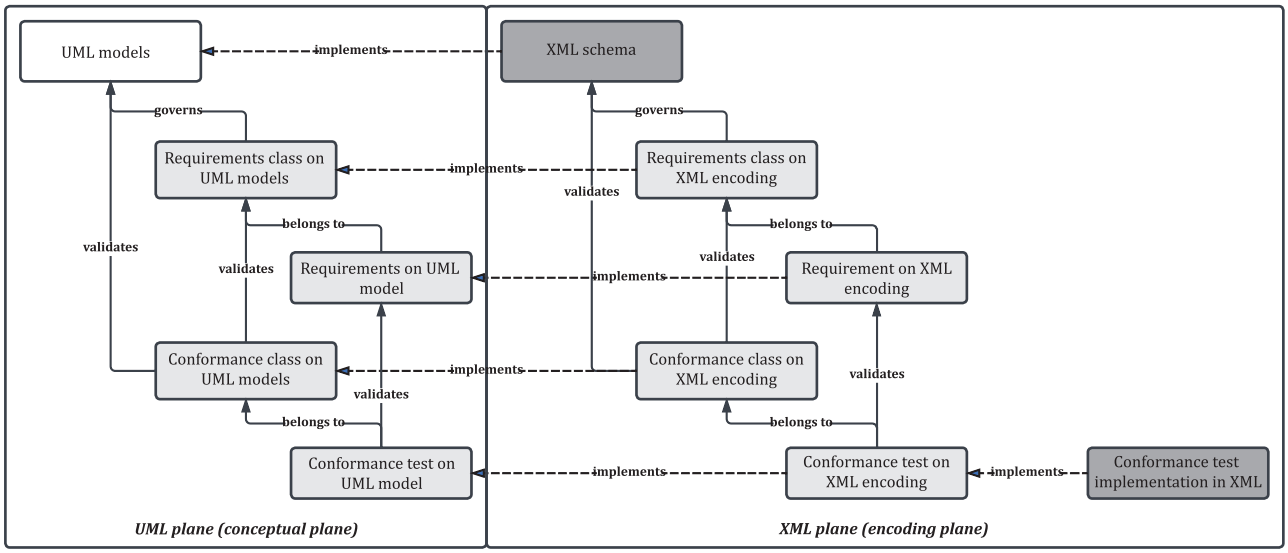

Key

platform-independent models

platform-specific models

requirements scheme instances

Figure 1 — Types of information resources described in this document and their relationships

4.4.3 Location of information resources

Certain information resources referenced by this document are managed by a maintenance agency and exist externally.

Figure 2 indicates the location of information resources, whether they are located in this document or managed by the maintenance agency.

Figure 2 is developed on top of Figure 1, which only indicates abstract concepts (such as “XML schemas”), to provide realized information as relating to content described by the current document (such as “XML schemas provided as ISO/TC 211 resources”).

Resources managed by the maintenance agency can be accessed at the corresponding location described at 4.1.1.

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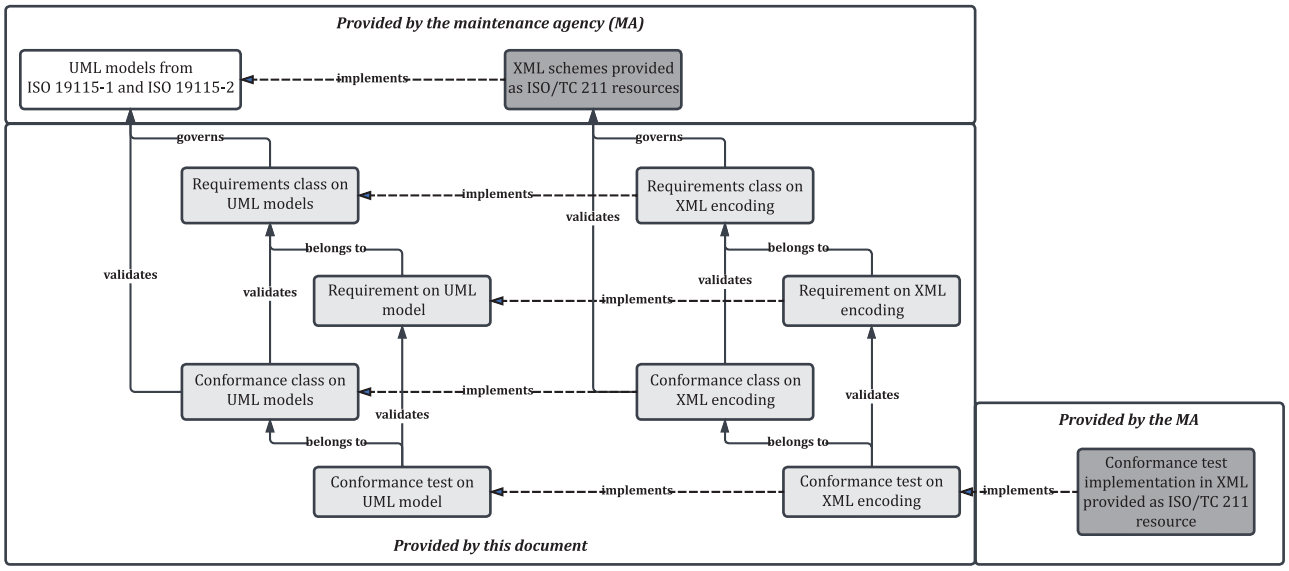

Key

platform-independent models

platform-specific models

requirements scheme instances

Figure 2 — Location of information resources described in this document

5 XML schemas

5.1 General

XML schemas described in this document are identified by their namespace prefixes and URIs that follow the pattern described in 4.3.4.

This document provides XML schema information relevant to its implementation in the following subclauses:

— tables in 5.2 detail internal XML schema namespace URIs and namespace prefix conventions from ISO 19115-1 and ISO 19115-2, and provide links to their requirements classes and conformance classes;

— tables in 5.3 detail external XML schema namespace URIs and namespace prefix conventions from other specifications outside of ISO 19115-1 and ISO 19115-2.

For every listed XML schema (as identified by a single namespace prefix), the following information is provided.

— UML information:

  — the corresponding UML package that the XML schema implements;

  — the document source of the UML package.

— XML schema information:

  — the scope of the XML schema;

  — the namespace of the XML schema;

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— the namespace prefix of the XML schema.

— Normative statement classes relevant to the XML schema.

— Conformance classes relevant to the XML schema.

The relationships between the XML schema and associated information are detailed in Figure 3.

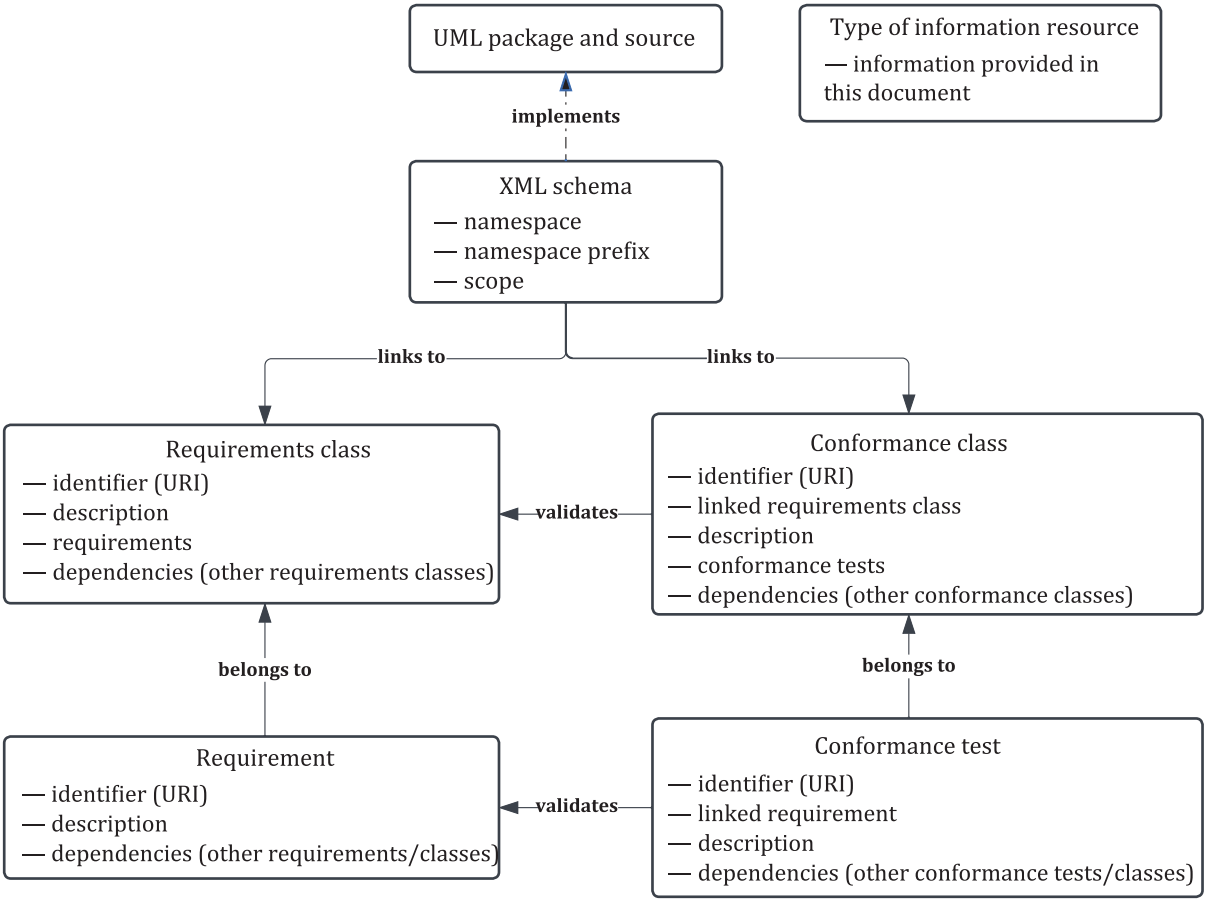

Figure 3 — Overview of XML schemas and their associated information

NOTE 1 XML schemas defined by this document can be found online at the schema location described at 4.3.4.

NOTE 2 See Annex B for additional resources that support usage of the XML schemas defined in this clause.

5.2 XML schemas belonging to the ISO 19115 series

XML schemas belonging to the ISO 19115 series are provided in Table 5 to Table 23.

These schema use a new version of the Geographic Common Objects namespace defined by ISO/TS 19139-1:2019 that is conventionally identified using the prefix `gco` and defined in ISO 19103. Its namespace URI is `https://schemas.isotc211.org/19103/-/gco/1.2`.

Table 5 — XML schema: Metadata application information classes (ISO 19115-1)

Namespace prefix	mda (abbreviation of "MetaData Application")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mda/1.3`
UML package name	Metadata application information
UML package source	ISO 19115-1:2014, 6.2

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Table 5 *(continued)*

Scope	Include classes for describing resource collections with hierarchical metadata.
Relevant provision classes and provisions	— Requirements class 6: XML implementation of metadata application information (ISO 19115-1)
Relevant conformance classes and tests	— Conformance class A.6: Validation of XML instance for metadata application information (ISO 19115-1)

Table 6 — XML schema: Metadata information classes (ISO 19115-1)

Namespace prefix	mdb (abbreviation of "MetaData Base")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mdb/1.3`
UML package name	Metadata information
UML package source	ISO 19115-1:2014, 6.5.2
Scope	Define metadata root element and properties, with abstract implementation. This namespace is intended to support profile development.
Relevant provision classes and provisions	— Requirements class 7: XML implementation of metadata basic information (ISO 19115-1) — Requirements class 4: Metadata information minimum interchange (ISO 19115-1) — Requirement 1: Metadata basic data requirements
Relevant conformance classes and tests	— Conformance class A.7: Validation of XML instance for metadata basic information (ISO 19115-1) — Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1) — Conformance test A.1: Metadata basic data requirements

Table 7 — XML schema: Identification information classes (ISO 19115-1)

Namespace prefix	mri (abbreviation of "Metadata for Resource Identification")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mri/1.3`
UML package name	Identification information
UML package source	ISO 19115-1:2014, 6.5.3
Scope	Descriptive information about the resource.
Relevant provision classes and provisions	— Requirements class 8: XML implementation of identification information (ISO 19115-1) — Requirements class 4: Metadata information minimum interchange (ISO 19115-1) — Requirement 3: Identification information data requirements
Relevant conformance classes and tests	— Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1) — Conformance test A.3: Identification information data requirements

Table 8 — XML schema: Constraint information classes (ISO 19115-1)

Namespace prefix	mco (abbreviation of "Metadata for COnstraints")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mco/1.3`
UML package name	Constraint information
UML package source	ISO 19115-1:2014, 6.5.4
Scope	Specify constraints on access and use.

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Table 8 *(continued)*

Relevant provision classes and provisions	— Requirements class 9: XML implementation of constraint information (ISO 19115-1) — Requirement 4: Constraint information data requirements
Relevant conformance classes and tests	— Conformance test A.4: Constraint information data requirements

Table 9 — XML schema: Lineage information / Extended Lineage information classes (ISO 19115-1)

Namespace prefix	mrl (abbreviation of "Metadata for Resource Lineage")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mrl/1.3`
UML package name	Lineage information / Extended Lineage information
UML package source	ISO 19115-1:2014, 6.5.5; ISO 19115-2:2019, 6.3.3
Scope	Resource provenance
Relevant provision classes and provisions	— Requirements class 10: XML implementation of resource lineage information (ISO 19115-1) — Requirement 5: Lineage information data requirements
Relevant conformance classes and tests	— Conformance test A.5: Lineage information data requirements

Table 10 — XML schema: Maintenance information classes (ISO 19115-1)

Namespace prefix	mmi (abbreviation of "Metadata for Maintenance Information")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mmi/1.3`
UML package name	Maintenance information
UML package source	ISO 19115-1:2014, 6.5.6
Scope	Maintenance of resources and metadata.
Relevant provision classes and provisions	— Requirements class 11: XML implementation of maintenance information (ISO 19115-1) — Requirement 6: Maintenance information data requirements
Relevant conformance classes and tests	— Conformance test A.6: Maintenance information data requirements

Table 11 — XML schema: Spatial representation information classes (ISO 19115-1)

Namespace prefix	msr (abbreviation of "Metadata for Spatial Representation")
Namespace URI	`https://schemas.isotc211.org/19115/-1/msr/1.3`
UML package name	Spatial representation information
UML package source	ISO 19115-1:2014, 6.5.7; ISO 19115-2:2019, 6.3.4
Scope	Encoding of location information in resource content.
Relevant provision classes and provisions	— Requirements class 12: XML implementation of spatial representation information (ISO 19115-1) — Requirement 7: Spatial representation information data requirements
Relevant conformance classes and tests	— Conformance test A.7: Spatial representation information data requirements

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Table 12 — XML schema: Reference system information classes (ISO 19115-1)

Namespace prefix	mrs (abbreviation of "Metadata for Reference System")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mrs/1.3`
UML package name	Reference system information
UML package source	ISO 19115-1:2014, 6.5.8; ISO 19115-1:2014/Amd 2:2020, 6.5.8
Scope	Spatial reference system for resource content.
Relevant provision classes and provisions	— Requirements class 13: XML implementation of reference system information (ISO 19115-1) — Requirement 8: Reference system information data requirements
Relevant conformance classes and tests	— Conformance test A.8: Reference system information data requirements

Table 13 — XML schema: Content information / Extended Content information classes (ISO 19115-1)

Namespace prefix	mrc (abbreviation of "Metadata for Resource Content")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mrc/1.3`
UML package name	Content information / Extended Content information
UML package source	ISO 19115-1:2014, 6.5.9; ISO 19115-2:2019, 6.3.5
Scope	Resource data structure and content.
Relevant provision classes and provisions	— Requirements class 14: XML implementation of content information (ISO 19115-1) — Requirement 9: Content information data requirements
Relevant conformance classes and tests	— Conformance test A.9: Content information data requirements

Table 14 — XML schema: Portrayal catalogue information classes (ISO 19115-1)

Namespace prefix	mpc (abbreviation of "Metadata for Portrayal Catalogue")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mpc/1.3`
UML package name	Portrayal catalogue information
UML package source	ISO 19115-1:2014, 6.5.10
Scope	Portrayal of described resource.
Relevant provision classes and provisions	— Requirements class 15: XML implementation of portrayal catalogue information (ISO 19115-1) — Requirement 10: Portrayal catalogue information data requirements
Relevant conformance classes and tests	— Conformance test A.10: Portrayal catalogue information data requirements

Table 15 — XML schema: Distribution information classes (ISO 19115-1)

Namespace prefix	mrd (abbreviation of "Metadata for Resource Distribution")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mrd/1.3`
UML package name	Distribution information
UML package source	ISO 19115-1:2014, 6.5.11
Scope	How a resource is distributed.
Relevant provision classes and provisions	— Requirements class 16: XML implementation of distribution information (ISO 19115-1) — Requirement 11: Distribution information data requirements

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Table 15 *(continued)*

Relevant conformance classes and tests	— Conformance test A.11: Distribution information data requirements

Table 16 — XML schema: Metadata extension information classes (ISO 19115-1)

Namespace prefix	mex (abbreviation of "Metadata for EXtension")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mex/1.3`
UML package name	Metadata extension information
UML package source	ISO 19115-1:2014, 6.5.12
Scope	Extensions to metadata content.
Relevant provision classes and provisions	— Requirements class 17: XML implementation of metadata extension information (ISO 19115-1) — Requirement 12: Metadata extension information data requirements
Relevant conformance classes and tests	— Conformance test A.12: Metadata extension information data requirements

Table 17 — XML schema: Application schema information classes (ISO 19115-1)

Namespace prefix	mas (abbreviation of "Metadata for Application Schema")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mas/1.3`
UML package name	Application schema information
UML package source	ISO 19115-1:2014, 6.5.13
Scope	Application schema used to build a dataset.
Relevant provision classes and provisions	— Requirements class 18: XML implementation of application schema information (ISO 19115-1) — Requirement 13: Application schema information data requirements
Relevant conformance classes and tests	— Conformance test A.13: Application schema information data requirements

Table 18 — XML schema: Service metadata information classes (ISO 19115-1)

Namespace prefix	srv (abbreviation of "SeRVice metadata")
Namespace URI	`https://schemas.isotc211.org/19115/-1/srv/1.3`
UML package name	Service metadata information
UML package source	ISO 19115-1:2014, 6.5.14
Scope	Information specific to service resources.
Relevant provision classes and provisions	— Requirements class 19: XML implementation of service metadata information (ISO 19115-1) — Requirement 14: Service metadata information data requirements
Relevant conformance classes and tests	— Conformance test A.14: Service metadata information data requirements

Table 19 — XML schema: Extent information classes (ISO 19115-1)

Namespace prefix	gex (abbreviation of "Geospatial EXtent")
Namespace URI	`https://schemas.isotc211.org/19115/-1/gex/1.3`
UML package name	Extent information
UML package source	ISO 19115-1:2014, 6.6.1

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Table 19 *(continued)*

Scope	Elements for specifying geospatial properties of a resource, including extent and spatial reference systems.
Relevant provision classes and provisions	— Requirements class 20: XML implementation of extent information (ISO 19115-1) — Requirements class 4: Metadata information minimum interchange (ISO 19115-1) — Requirement 15: Extent information data requirements
Relevant conformance classes and tests	— Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1) — Conformance test A.15: Extent information data requirements

Table 20 — XML schema: Citation and responsible party information classes (ISO 19115-1)

Namespace prefix	cit (abbreviation of "CITation")
Namespace URI	`https://schemas.isotc211.org/19115/-1/cit/1.3`
UML package name	Citation and responsible party information
UML package source	ISO 19115-1:2014, 6.6.2 and ISO 19115-1:2014, 6.6.3
Scope	Elements for codelist catalogues, and example catalogues.
Relevant provision classes and provisions	— Requirements class 21: XML implementation of citation, responsibility and party information (ISO 19115-1) — Requirements class 4: Metadata information minimum interchange (ISO 19115-1) — Requirement 16: Citation, responsibility and party information data requirements
Relevant conformance classes and tests	— Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1) — Conformance test A.16: Citation, responsibility and party information data requirements

Table 21 — XML schema: Common classes (ISO 19115-1)

Namespace prefix	mcc (abbreviation of "Metadata for Common Classes")
Namespace URI	`https://schemas.isotc211.org/19115/-1/mcc/1.3`
UML package name	Common classes
UML package source	ISO 19115-1:2014, 6.6.4
Scope	Elements used by all other packages.
Relevant provision classes and provisions	— Requirements class 22: XML implementation of common classes (ISO 19115-1) — Requirements class 4: Metadata information minimum interchange (ISO 19115-1) — Requirement 17: Commonly used classes data requirements
Relevant conformance classes and tests	— Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1) — Conformance test A.17: Commonly used classes data requirements

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Table 22 — XML schema: Language-character set localization information classes (ISO 19115-1)

Namespace prefix	lan (abbreviation of "LANguage localization")
Namespace URI	`https://schemas.isotc211.org/19115/-1/lan/1.3`
UML package name	Language-character set localization information
UML package source	ISO 19115-1:2014, 6.7
Scope	Elements for cultural and linguistic adaptability.
Relevant provision classes and provisions	— Requirements class 23: XML implementation of multilingual support (language localization) (ISO 19115-1) — Requirements class 4: Metadata information minimum interchange (ISO 19115-1) — Requirement 18: Multilingual support data requirements
Relevant conformance classes and tests	— Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1) — Conformance test A.18: Multilingual support data requirements

Table 23 — XML schema: Acquisition Information classes (ISO 19115-2)

Namespace prefix	mac (abbreviation of "Metadata Acquisition information")
Namespace URI	`https://schemas.isotc211.org/19115/-2/mac/2.2`
UML package name	Acquisition information
UML package source	ISO 19115-2:2019, 6.3.2
Scope	Elements for acquisition of spatial data.
Relevant provision classes and provisions	— Requirements class 24: XML implementation of acquisition information (ISO 19115-2) — Requirement 21: Acquisition information data requirements
Relevant conformance classes and tests	— Conformance test A.21: Acquisition information data requirements

5.3 XML schemas outside of the ISO 19115 series

In addition to those namespaces listed in 5.2, this document makes use of the following XML namespaces that are defined outside of the ISO 19115 series.

XML schemas outside of the ISO 19115 series are provided in Table 24 to Table 32.

Table 24 — XML schema: Data quality classes (ISO 19157)

Namespace prefix	dqc (abbreviation of "Data Quality Common")
Namespace URI	`https://schemas.isotc211.org/19157/-2/dqc/1.1`
UML package name	Data quality common
UML package source	ISO 19157:2013

Table 25 — XML schema: Feature catalogue classes (ISO 19110)

Namespace prefix	fcc (abbreviation of "Feature Catalogue Common")
Namespace URI	`https://schemas.isotc211.org/19110/-/fcc/2.1`
UML package name	Feature catalogue common
UML package source	ISO 19110:2016

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Table 26 — XML schema: General feature classes (ISO 19110)

Namespace prefix	gfc (abbreviation of "General Feature Catalogue")
Namespace URI	`https://schemas.isotc211.org/19110/-/gfc/2.1`
UML package name	General feature classes
UML package source	ISO 19110:2016

Table 27 — XML schema: Geospatial common type classes (ISO 19103)

Namespace prefix	gco (abbreviation of "Geospatial Common Objects")
Namespace URI	`https://schemas.isotc211.org/19103/-/gco/1.2`
UML package name	Geospatial common objects
UML package source	ISO 19103:2015

Table 28 — XML schema: Geospatial Common Extended Type classes (ISO 19103)

Namespace prefix	gcx (abbreviation of "Geospatial Common objects eXtended")
Namespace URI	`https://schemas.isotc211.org/19103/-/gcx/1.2`
UML package name	Geospatial common objects extended
UML package source	ISO 19103:2015

Table 29 — XML schema: Geography Markup Language wrapper classes (ISO 19136-1)

Namespace prefix	gmw (abbreviation of "Geography Markup language Wrapper")
Namespace URI	`https://schemas.isotc211.org/19136/-1/gmw/1.1`
UML package name	GML wrapper
UML package source	ISO 19136-1:2020
Scope	Namespace that implements properties with values specified by GML classes

Table 30 — XML schema: Geography Markup Language (GML) classes (OGC GML 3.2)[15]

Namespace prefix	gml (abbreviation of "Geography Markup Language")
Namespace URI	`http://www.opengis.net/gml/3.2`
UML package name	Geography markup language
UML package source	Geography Markup Language version 3.2 (OGC 02-009)
Guidance	Authoritative XML schemas located at http://schemas.opengis.net/gml/3.2.1/gml.xsd

Table 31 — XML schema: XML linking (W3C xlink)[16]

Namespace prefix	xlink (abbreviation of "Xml LINKing language")
Namespace URI	`https://www.w3.org/1999/xlink`
UML package name	XML linking language
UML package source	W3C XML Linking Language version 1.0 (W3C xlink11)
Guidance	To locate the authoritative XML schemas associated with this namespace, also refer to ISO 19136-1:2020.

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Table 32 — XML schema: Schema definition classes (W3C XMLSchema)[19]

Namespace prefix	xs (abbreviation of "Xml Schema")
Namespace URI	`https://www.w3.org/2001/XMLSchema`
UML package name	W3C XML schema definition schema
UML package source	W3C

5.4 XML schemas required for a minimum metadata interchange XML document

This document defines requirements for a minimum metadata interchange XML document, described in Clause 7.

Namespace URIs and namespace prefix conventions for a minimum metadata interchange XML document type, which aggregate multiple namespaces and conformance classes, are listed in Conformance class A.4: Validation of minimum valid XML metadata instance (ISO 19115-1).

The minimal set of XML schemas needed to satisfy the requirements are described in this subclause (see Table 33).

Table 33 — XML schema: Namespaces for minimum metadata instance (ISO 19115-1)

Namespace prefix	mdb, mri, cit, mcc, lan, gco (if dataset, gex; if service, srv)
Namespace URI	— `https://schemas.isotc211.org/19115/-1/mdb/1.3` — `https://schemas.isotc211.org/19115/-1/mri/1.3` — `https://schemas.isotc211.org/19115/-1/cit/1.3` — `https://schemas.isotc211.org/19115/-1/mcc/1.3` — `https://schemas.isotc211.org/19115/-1/lan/1.3` — `https://schemas.isotc211.org/19103/-/gco/1.2` — `https://schemas.isotc211.org/19115/-1/gex/1.3` — `https://schemas.isotc211.org/19115/-1/srv/1.3`
UML package name	Valid minimum metadata instance
UML package source	ISO 19115-1:2014, 6.2
Scope	Implement elements and properties for minimal metadata properties required by ISO 19115-1:2014.
Relevant conformance classes and tests	— Conformance class A.7: Validation of XML instance for metadata basic information (ISO 19115-1) — Conformance class A.8: Validation of XML instance for identification information (ISO 19115-1) — Conformance class A.21: Validation of XML instance for citation, responsibility and party information (ISO 19115-1) — Conformance class A.22: Validation of XML instance for common classes (ISO 19115-1) — Conformance class A.23: Validation of XML instance for multilingual support (language localization) (ISO 19115-1) — Conformance class A.20: Validation of XML instance for extent information (ISO 19115-1) — Conformance class A.19: Validation of XML instance for service metadata information (ISO 19115-1)

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Table 33 *(continued)*

Guidance	— Importing of namespace `https://schemas.isotc211.org/19115/-1/gex/1.3` and conformance to Conformance class A.20: Validation of XML instance for extent information (ISO 19115-1) only needed for datasets. — Importing of namespace `https://schemas.isotc211.org/19115/-1/srv/1.3` and conformance to Conformance class A.19: Validation of XML instance for service metadata information (ISO 19115-1) only needed for services.

6 Requirements of ISO 19115-1:2014 and ISO 19115-2:2019

6.1 General

ISO 19115-1:2014 and ISO 19115-2:2019 provide conceptual models for representing metadata of geographic information resources.

While ISO 19115-1:2014 and ISO 19115-2:2019 describe conformance requirements and allow for "user-defined metadata" and "profiles", they do not explicitly define normative statement classes, specification targets, or assign identifiers for these elements.

This document formally defines the normative statement classes, normative statements, conformance classes, conformance tests of ISO 19115-1:2014 and ISO 19115-2:2019, and assigns identifiers to them.

6.2 Metadata modules

Prefixes and other information for namespaces specified in UML packages defined in ISO 19115-1:2014 and ISO 19115-2:2019 are described in Table 34 to Table 58.

Table 34 — Requirements class 1: Metadata core (ISO 19115-1)

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core`
Target type	Metadata instance
Conformance class	Conformance class A.1: Metadata core (ISO 19115-1)
Source	ISO 19115-1:2014, Clause 6
Description	Metadata core

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Table 34 *(continued)*

Provisions	Requirement 1: Metadata basic data requirements Requirement 2: Metadata application information data requirements Requirement 3: Identification information data requirements Requirement 4: Constraint information data requirements Requirement 5: Lineage information data requirements Requirement 6: Maintenance information data requirements Requirement 7: Spatial representation information data requirements Requirement 8: Reference system information data requirements Requirement 9: Content information data requirements Requirement 10: Portrayal catalogue information data requirements Requirement 11: Distribution information data requirements Requirement 12: Metadata extension information data requirements Requirement 13: Application schema information data requirements Requirement 14: Service metadata information data requirements Requirement 15: Extent information data requirements Requirement 16: Citation, responsibility and party information data requirements Requirement 17: Commonly used classes data requirements Requirement 18: Multilingual support data requirements

Table 35 — Requirement 1: Metadata basic data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/basic`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.2
UML package	MD_Metadata
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.2.

Table 36 — Requirement 2: Metadata application information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/application`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.2
UML package	See ISO 19115-1:2014, 6.2
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.2.

Table 37 — Requirement 3: Identification information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/identification`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.3

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Table 37 *(continued)*

UML package	MD_Identification
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.3.

Table 38 — Requirement 4: Constraint information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/constraints`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.4
UML package	MD_Constraints
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.4.

Table 39 — Requirement 5: Lineage information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/lineage`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.5; ISO 19115-2:2019, 6.3.3
UML package	LI_Lineage
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.5.

Table 40 — Requirement 6: Maintenance information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/maintenance`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.6
UML package	MD_MaintenanceInformation
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.6.

Table 41 — Requirement 7: Spatial representation information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/spatial-representation`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.7; ISO 19115-2:2019, 6.3.4
UML package	MD_SpatialRepresentation
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.7.

Table 42 — Requirement 8: Reference system information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/reference-system`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.8; ISO 19115-1:2014/Amd 2:2020, 6.5.8

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Table 42 *(continued)*

UML package	MD_ReferenceSystem
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.8.

Table 43 — Requirement 9: Content information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/content`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.9; ISO 19115-2:2019, 6.3.5
UML package	MD_ContentInformation
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.9.

Table 44 — Requirement 10: Portrayal catalogue information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/portrayal-catalogue`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.10
UML package	MD_PortrayalCatalogueReference
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.10.

Table 45 — Requirement 11: Distribution information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/distribution`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.11
UML package	MD_Distribution
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.11.

Table 46 — Requirement 12: Metadata extension information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/metadata-extension`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.12
UML package	MD_MetadataExtensionInformation
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.12.

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Table 47 — Requirement 13: Application schema information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/application-schema`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.13
UML package	MD_ApplicationSchemaInformation
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.13.

Table 48 — Requirement 14: Service metadata information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/service-metadata`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.5.14
UML package	Service metadata information (including SV_ServiceIdentification, SV_OperationMetadata, MD_DataIdentification)
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.5.14.

Table 49 — Requirement 15: Extent information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/extent`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.6.1
UML package	EX_Extent
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.6.1.

Table 50 — Requirement 16: Citation, responsibility and party information data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/citation`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.6.2 and ISO 19115-1:2014, 6.6.3
UML package	CI_Citation, CI_Responsibility, CI_Party
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.6.2,6.6.3.

Table 51 — Requirement 17: Commonly used classes data requirements

Identifier	`https://standards.isotc211.org/19115/-1/1/req/metadata-core/common`
Subject	Metadata instance
Included in	Requirements class 1: Metadata core (ISO 19115-1)
UML source	ISO 19115-1:2014, 6.6.4
UML package	Common classes
Statement	A metadata instance shall adhere to rules defined in ISO 19115-1:2014, 6.6.4.

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