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Standard Recommendation
S.R. CEN ISO/TS 19139:2009

Geographic information - Metadata - XML schema implementation (ISO/TS 19139:2007)

S.R. CEN ISO/TS 19139:2009

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NSAI 1 Swift Square, Northwood, Santry Dublin 9	T +353 1 807 3800 F +353 1 807 3838 E standards@nsai.ie W NSAI.ie	Sales: T +353 1 857 6730 F +353 1 857 6729 W standards.ie
Údarás um Chaighdeáin Náisiúnta na hÉireann		

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English Version

**Geographic information - Metadata - XML schema
implementation (ISO/TS 19139:2007)**

Information géographique - Métadonnées - Implémentation
de schémas XML (ISO/TS 19139:2007)

Geoinformation - Metadaten - XML-Schema-
Implementierung (ISO/TS 19139:2007)

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

The text of ISO/TS 19139:2007 has been prepared by Technical Committee ISO/TC 211 “Geographic information/Geomatics” of the International Organization for Standardization (ISO) and has been taken over as CEN ISO/TS 19139:2009 by Technical Committee CEN/TC 287 “Geographic Information” the secretariat of which is held by NEN.

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The text of ISO/TS 19139:2007 has been approved by CEN as a CEN ISO/TS 19139:2009 without any modification.

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S.R. CEN ISO/TS 19139:2009

TECHNICAL SPECIFICATION

ISO/TS 19139

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Geographic information — Metadata — XML schema implementation

*Information géographique — Métadonnées — Implémentation de
schémas XML*



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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

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

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of normative document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
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An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

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ISO/TS 19139 was prepared by Technical Committee ISO/TC 211, *Geographic information/Geomatics*.

Introduction

The importance of metadata describing digital geographic data is explained in detail in the text of ISO 19115. ISO 19115 provides a structure for describing digital geographic data by defining metadata elements and establishing a common set of metadata terminology, definitions and extension procedures. ISO 19115 is abstract in that it provides a worldwide view of metadata relative to geographic information, but no encoding.

Since ISO 19115 does not provide any encoding, the actual implementation of geographic information metadata could vary based on the interpretation of metadata producers. In an attempt to facilitate the standardization of implementations, this comprehensive metadata implementation specification provides a definitive, rule-based encoding for applying ISO 19115. This Technical Specification provides Extensible Markup Language (XML) schemas that are meant to enhance interoperability by providing a common specification for describing, validating and exchanging metadata about geographic datasets, dataset series, individual geographic features, feature attributes, feature types, feature properties, etc.

ISO 19115 defines general-purpose metadata in the field of geographic information. More detailed metadata for geographic data types and geographic services are defined in other ISO 19100 series standards and user extensions (ISO 19115). This Technical Specification is also intended to define implementation guidelines for general-purpose metadata. Where necessary, interpretations of some other ISO 19100 series standards are incorporated.

ISO 19118 describes the requirements for creating encoding rules based on UML schemas and the XML-based encoding rules as well as providing an introduction to XML. This Technical Specification utilizes the encoding rules defined in ISO 19118 and provides the specific details of their application with regard to deriving XML schema for the UML models in ISO 19115.

Geographic information — Metadata — XML schema implementation

1 Scope

This Technical Specification defines Geographic MetaData XML (gmd) encoding, an XML schema implementation derived from ISO 19115.

2 Conformance

Conformance with this Technical Specification shall be checked using all the relevant tests specified in Annex A. The framework, concepts, and methodology for testing, and the criteria to be achieved to claim conformance are specified in ISO 19105.

3 Normative references

The following referenced documents are indispensable for the application 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 639-2, *Codes for the representation of names of languages — Part 2: Alpha-3 code*

ISO 3166 (all parts), *Codes for the representation of names of countries and their subdivisions*

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO/IEC 10646, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

ISO/TS 19103, *Geographic information — Conceptual schema language*

ISO 19105, *Geographic information — Conformance and testing*

ISO 19107, *Geographic information — Spatial schema*

ISO 19108, *Geographic information — Temporal schema*

ISO 19109, *Geographic information — Rules for application schema*

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

ISO 19111:—¹⁾, *Geographic information — Spatial referencing by coordinates*

ISO 19115:2003, *Geographic information — Metadata*

1) To be published. (Revision of ISO 19111:2003)

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