AS/NZS ISO 19139:2008
ISO/TS 19139:2007

AS/NZS ISO 19139:2008

Australian/New Zealand Standard™

Geographic information—Metadata—XML schema implementation

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-004, Geographical Information/Geomatics. It was approved on behalf of the Council of Standards Australia on 25 July 2008 and on behalf of the Council of Standards New Zealand on 21 July 2008.
This Standard was published on 16 September 2008.

The following are represented on Committee IT-004:

ACT Planning and Land Authority
ANZLIC - the Spatial Information Council
Australian Antarctic Division
Australian Bureau of Statistics
Australian Hydrographic Office
Australian Key Centre In Land Information Studies
Australian Map Circle
Australian Spatial Information Business Association
CSIRO Exploration & Mining
Department for Administrative and Information Services (SA)
Department of Defence (Australia)
Department of Lands NSW
Department of Natural Resources and Water (Qld)
Department of Planning and Infrastructure (NT)
Department of Primary Industries and Water Tasmania
Department of Sustainability and Environment (Victoria)
Geoscience Australia
InterGovernmental Committee on Surveying and Mapping
Land Information New Zealand
Office of Spatial Data Management
Western Australian Land Information System

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 08113.

Australian/New Zealand Standard™

Geographic information—Metadata—XML schema implementation

First published as AS/NZS ISO 19139:2008.

Jointly published by Standards Australia, GPO Box 476, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 8886 6

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-004, Geographical Information/Geomatics.

The objective of this Standard is to define Geographic MetaData XML (gmd) encoding, an XML schema implementation derived from ISO 19115.

This Standard is identical with, and has been reproduced from ISO/TS 19139:2007, *Geographic information—Metadata—XML schema implementation*.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this Technical Specification' should read 'this Australian/New Zealand Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO		AS/NZS ISO	
639	Code for the representation of names of languages	—	
639-2	Part 2: Conceptual schema language		
		AS	
3166 (all parts)	Codes for the representation of names of countries and their subdivisions	3166 (all parts)	Codes for the representation of names of countries and their subdivisions
8601	Data elements and interchange formats—Information interchange—Representation of dates and times	8601	Data elements and interchange formats—Information interchange—Representation of dates and times
		AS/NZS	
10646	Information technology—Universal multiple-octet coded character set (UCS)	4189	Information technology
		4189.1	Part 1: Universal multiple-octet coded character set (UCS)
ISO		AS/NZS ISO	
19103	Geographic information—Conceptual schema language	19103	Geographic information—Conceptual schema language
19105	Geographic information—Conformance and testing	19105	Geographic information—Conformance and testing
19107	Geographic information—Spatial schema	19107	Geographic information—Spatial schema
19108	Geographic information—Temporal schema	19108	Geographic information—Temporal schema

ISO		AS/NZS ISO	
19109	Geographic information—Rules for application schema	19109	Geographic information—Rules for application schema
19110	Geographic information—Methodology for feature cataloguing	19110	Geographic information—Methodology for feature cataloguing
19111	Geographic information—Spatial referencing by coordinates	19111	Geographic information—Spatial referencing by coordinates
19115	Geographic information—Metadata	19115	Geographic information—Metadata (MOD)
19117	Geographic information—Portrayal	19117	Geographic information—Portrayal
19118	Geographic information—Encoding	19118	Geographic information—Encoding
19136	Geographic information—Geography Markup Language (GML)	19136	Geographic information—Geography Markup Language (GML)

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

CONTENTS

Page

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.

AUSTRALIAN/NEW ZEALAND STANDARD

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)