

Australian/New Zealand Standard™

Geographic information—Encoding



AS/NZS ISO 19118:2012

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-004, Geographical Information/Geometrics. It was approved on behalf of the Council of Standards Australia on 23 August 2012 and on behalf of the Council of Standards New Zealand on 10 August 2012. This Standard was published on 5 October 2012.

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Australian/New Zealand Standard™

Geographic information—Encoding

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-004, Geographical Information/Geometrics, to supersede AS/NZS ISO 19118:2006, *Geographic information—Encoding*.

The objective of this Standard is to provide information system designers and analysts with the requirements for defining encoding rules to be used for interchange of geographic data within the ISO 19100 series of International Standards, including requirements for creating encoding rules based on UML schemas, requirements for creating encoding services, and an informative XML-based encoding rule for neutral interchange of geographic data.

This Standard is identical with, and has been reproduced from, ISO 19118:2011, *Geographic information—Encoding*.

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 International Standard’ should read ‘this Australian/New Zealand Standard’.
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References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>	<i>Australian/New Zealand Standard</i>
ISO/TS 19103 Geographic information—Conceptual schema language	AS/NZS ISO 19103 Geographic information—Conceptual schema language
ISO 19109 Geographic information—Rules for application schema	19109 Geographic information—Rules for application schema
8601 Data elements and interchange formats—Information interchange— Representation of dates and times	AS ISO 8601 Data elements and interchange formats— Information interchange— Representation of dates and times

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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INTRODUCTION

This International Standard specifies the requirements for defining encoding rules used for interchange of geographic data within the set of International Standards known as the “ISO 19100 series”. An encoding rule allows geographic information defined by application schemas and standardized schemas to be coded into a system-independent data structure suitable for transport and storage. The encoding rule specifies the types of data being coded and the syntax, structure and coding schemes used in the resulting data structure. The resulting data structure can be stored on digital media or transferred using transfer protocols. It is intended that the data be read and interpreted by computers, but data can be in a form that is human readable.

The choice of one encoding rule for application-independent data interchange does not exclude application domains and individual nations from defining and using their own encoding rules that can be platform dependent or more effective with regard to data size or processing complexity. XML is a subset of ISO/IEC 8879 and has been chosen because it is independent of computing platform and interoperable with the World Wide Web.

This International Standard is divided into three logical sections. The requirements for creating encoding rules based on UML schemas are specified in Clauses 6 to 9. The requirements for creating encoding service are specified in Clause 10, and the requirements for XML-based encoding rules are specified in Annex A.

The XML-based encoding rule is intended for use as a neutral data interchange. It relies on the Extensible Markup Language (XML) and the ISO/IEC 10646 character set standards.

The geographic information standards are organized within the set of International Standards known as the “ISO 19100 series”. The background and the overall structure of this series of International Standards and the fundamental description techniques are defined in ISO 19101, ISO/TS 19103 and ISO/TS 19104.

Users of this International Standard can develop application schemas to formally describe geographic information. An application schema is compiled by integrating elements from other standardized conceptual schemas (e.g. ISO 19107). How this integration takes place is described in ISO 19109. The set of International Standards known as the “ISO 19100 series” also defines a set of common services that are available when developing geographic information applications. The common services are generally defined in ISO 19119 and cover access to, and processing of, geographic information according to the common information model. This International Standard covers implementation issues.

AUSTRALIAN/NEW ZEALAND STANDARD

Geographic information—Encoding**1 Scope**

This International Standard specifies the requirements for defining encoding rules for use for the interchange of data that conform to the geographic information in the set of International Standards known as the “ISO 19100 series”.

This International Standard specifies

- requirements for creating encoding rules based on UML schemas,
- requirements for creating encoding services, and
- requirements for XML-based encoding rules for neutral interchange of data.

This International Standard does not specify any digital media, does not define any transfer services or transfer protocols, nor does it specify how to encode inline large images.

2 Conformance**2.1 Introduction**

Two sets of conformance classes are defined for this International Standard.

2.2 Conformance classes related to encoding rules

All encoding rules shall pass all test cases of the abstract test suite in B.1. All encoding rules shall pass all test cases of the abstract test suite in B.2 and/or B.3.

Table 1 — Conformance classes related to encoding rules

Conformance class	Subclause of the abstract test suite
All encoding rules	B.1
Encoding rule with instance conversion	B.2
Encoding rule with schema conversion	B.3

2.3 Conformance classes related to encoding services

All encoding services shall pass all test cases of the abstract test suite in B.4. Depending on the capabilities of the encoding service, it shall pass all test cases of additional conformance classes in accordance with Table 2.