AS/NZS ISO 19149:2012
ISO 19149:2011

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Australian/New Zealand Standard™

Geographic information—Rights expression language for geographic information—GeoREL

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 6 November 2012 and on behalf of the Council of Standards New Zealand on 1 November 2012.
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The following are represented on Committee IT-004:

ANZLIC—The Spatial Information Council
Australasian Fire and Emergency Service Authorities Council
Australian Antarctic Division
Australian Hydrographic Office
Australian Map Circle
CSIRO Exploration and Mining
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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.

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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 extend the ISO REL, consistent with the requirements for such extensions given in ISO/IEC 21000-5, *Information technology—Multimedia framework (MPEG-21)*, Part 5: *Rights Expression Language*, to cover the special cases enumerated in ISO 19153*, *Geospatial Digital Rights Management Reference Model (GeoDRM RM)*.

This Standard is identical with, and has been reproduced from, ISO 19149:2011, *Geographic information—Rights expression language for geographic information—GeoREL*.

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'.

(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/IEC 21000	Information technology—Multimedia framework (MPEG-21)	AS ISO/IEC 21000	Information technology—Multimedia framework (MPEG-21)

The terms 'normative' and 'informative' have been used in this Standard 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.

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INTRODUCTION

The use of ubiquitous computing in geographic information is often obstructed by legal concerns about the rights of the holders and owners of data and other intellectual property resources. It can be the case that once data or other resource is released into any unconstrained and unprotected environment, the value of the holding is decreased because the underlying data theoretically becomes available from other sources. The multimedia industry has taken the lead in solving this problem by creating a general model for digital rights protection, in which a language was developed in order that instances of those rights might be documented, a rights expression language, specifically in ISO/IEC 21000-5, the ISO REL. This language, used in conjunction with Digital Rights Management (DRM) systems, can protect the value of data and still allow it to be distributed subject to a system of licensing, trust and enforcement.

This International Standard extends the ISO REL to encompass the concerns of holders of geographic data and service resources to equally ensure their protection. This allows the geographic information market to operate with minimal constraints derived from the need for the protection of intellectual property.

There are two major sources for foundational material for this work.

— The first source is ISO/IEC 21000, a multiple part standard that defines digital rights management in general. There is no need to extend this basic foundation for expressing and enforcing rights for resources except in those cases where the special requirements of geographic information and services make it necessary.

— The second source is ISO 19153 (originally an Open Geospatial Abstract Specification volume), which enumerates these special cases for geographic information as well as providing an overall reference model using common geographic information terms that ties the work of the ISO/IEC 21000 work into this spatial standard.

Given these two foundations, the purpose of this International Standard is to extend the ISO REL, consistent with the requirements for such extensions given in ISO/IEC 21000-5, to cover the special cases enumerated in ISO 19153.

AUSTRALIAN/NEW ZEALAND STANDARD

Geographic information—Rights expression language for geographic information—GeoREL

1 Scope

This International Standard defines an XML-based vocabulary or language to express rights for geographic information in order that digital licenses can be created for such information and related services. This language, GeoREL, is an extension of the rights expression language in ISO/IEC 21000-5 and is to be used to compose digital licenses. Each digital license will unambiguously express those particular rights that the owners (or their agent) of a digital geographic resource extend to the holders of that license. The digital rights management system in which these licenses are used can then offer *ex ante* (before the fact) protection for all such resources.

NOTE The proper use of a GeoREL includes the preservation of rights access by formula expressed in usage licenses. Thus, data in the public or private domain, when protected, remain in their respective domains if the usage rights granted so state.

These “rights” are not always covered by copyright law, and are often the result of contracts between individuals that specify the proper and allowed uses of resources, as opposed to the threat of copyright litigations which is an *ex post facto* (after the fact) remediation measure, not an *ex ante* protection measure. This International Standard is not a reflection of, or extension of, copyright law.

Mechanisms for the enforcement and preservation of those contract rights are specified in ISO/IEC 21000, and it is not the intention of this International Standard to replace nor redefine those mechanisms, but to use them as previously standardized.

2 Conformance

The license language vocabulary is expressed as an XML schema extending the ISO/IEC 21000-5 REL. A conformant license expression is a well-formed and complete XML document (or its equivalent) that expresses the semantics described in the standard and that is properly protected from modification by the mechanisms described and specified in ISO/IEC 21000.

A license compliant to this International Standard will be consistent with the XML schema for ISO/IEC 21000-5 and the XML schema associated with this International Standard (see requirements in Clause 6).

A software system compliant to this International Standard shall interpret any compliant license in a manner consistent with the semantics expressed in ISO/IEC 21000 and the abstract test suite given in Annex A.