American National Standard

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Geographic information -- Services

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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.

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 documents 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information.

The committee responsible for this document is ISO/TC 211, *Geographic information/Geomatics*.

This second edition cancels and replaces the first edition (ISO 19119:2005), which has been technically revised. It also incorporates the Amendment ISO 19119:2005/Amd 1:2008.

Introduction

The widespread application of computers and use of geographic information systems (GIS) have led to the increased analysis of geographic data within multiple disciplines. Based on advances in information technology, society's reliance on such data are growing. Geographic datasets are increasingly being shared, exchanged, and used for purposes other than their producers' intended ones. GIS, remote sensing, automated mapping and facilities management (AM/FM), Spatial Data Infrastructure (SDI), traffic analysis, geopositioning systems, and other technologies for Geographic Information (GI) are entering a period of radical integration.

This International Standard provides a framework for platform neutral and platform specific specification of services that can enable users to access, process and manage geographic data from a variety of sources, potentially for various distributed computing platforms (DCPs).

— "a framework for platform neutral and platform specific specification of services" means that this International Standard provides requirements for how services shall be specified in such a way that one service can be specified independently of one or more underlying distributed computing platforms. The framework provides requirements for a further mapping to specific platforms in order to enable conformant platform specific specifications to ensure conforming and interoperable service implementations.

— "access, process and manage" means that geodata users can query remote databases and control remote processing resources and also take advantage of other distributed computing technologies, such as software delivered to the user's local environment from a remote environment for temporary use;

— "from a variety of sources" means that users will have access to data acquired in a variety of ways and stored in a wide variety of relational and non-relational databases;

— "across a generic computing interface" means that ISO 19119 interfaces provide reliable communication between otherwise disparate software resources that are equipped to use these interfaces;

— "within an open information technology environment" means that this International Standard enables geoprocessing to take place outside of the closed environment of monolithic GIS, remote sensing, and AM/FM systems that control and restrict database, user interface, network and data manipulation functions;

— services shall be categorised according to a service taxonomy based on architectural areas and may also be categorised according to a usage life cycle perspective, as well as according to domain specific and user defined service taxonomies, providing support for publication and discovery of services.

The difference between this version of this International Standard and the previous ISO 19119:2005 version is the following:

This International Standard has defined a set of requirements and related abstract tests for the specification of services according to enterprise, computational, information, engineering and technology viewpoints. This International Standard has defined a set of requirements for categorizing services according to service taxonomies. The service metadata has been moved to ISO 19115-1.

Service policies, service contracts including service level agreements (SLAs) are currently not specified as part of this International Standard, as these are considered most relevant for service deployment and service ownership, which is not currently a focus for this International Standard.