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Geographic information — Registration and register governance

Information géographique — Enregistrement et gouvernance de registre

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This second edition cancels and replaces the first edition (ISO 19135-1:2015), which has been technically revised. It also incorporates the Amendment ISO 19135-1:2015/Amd 1:2021.

The main changes are as follows:

— requirements described in this document now generally apply to all domains of usage, following common practice of setting up registers in user communities;

— application of the document has been generalized and no longer dictates implementation-level concerns, such as data schemes;

NOTE The XML schema in ISO/TS 19135-2:2012 was an implementation of ISO 19135:2005[1)]. ISO/TS 19135-2:2012 was withdrawn in 2019. ISO 19135-1:2015/Amd 1:2021, Annex F, incorporates the provisions of the withdrawn ISO/TS 19135-2:2012, which provides a link to an externally held schema. This document does not provide any XML schema.

— this document does not define an encoding or technical procedures on how to implement a register;

— information on compatibility information with ISO 19135-1:2015 and ISO 19135-1:2015/Amd 1:2021 is given in Annex B.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

1) Cancelled and replaced by ISO 19135-1:2015.

0.1 Purpose

The challenge of managing and organizing information is an inevitable, continual goal in the retainment and passing on of knowledge for humanity.

This task has been traditionally carried out by humans, who have an innate ability to recognize meaning and bridge concepts across information domains. This has allowed for the creation of a rich tapestry of knowledge that is accessible and meaningful.

The prospect of productivity increases brought about by the advent of information systems and automation has led to the minimization or the obsolescence of the intermediary human role, in favour of direct usage of managed information understood by machines. In contrast with humans, information systems have a lower tolerance to semantic ambiguity and a higher need for information persistence.

To facilitate the use of managed information by both humans and information systems, it is necessary to establish a mechanism that allows for the management of information in a way that is both meaningful and persistent.

This document introduces the Framework for Extensible Registration of Information (FERIN), a comprehensive approach to the management of information designed to meet the needs of both humans and information systems.

The framework defines a set of principles, primitives and processes that enable the management and evolution of information. It provides a structured and systematic way to manage information that remains flexible, adaptable and accommodates structural and governance needs.

Structurally, the framework is based on the idea of a “register”, a generalized term for information register, a managed collection of information that is organized and maintained according to a defined set of rules and processes.

The register is designed to provide persistent access to the information it contains and to allow for the evolution of that information over time. Within the register, information is organized into concepts and content, where concepts represent the meaning of the information, and content represents the data that describes the concepts. Internally, they are linked together through statuses and relations forming a nexus that allows for complex expressions and the evolution of information.

The framework defines the register as evolving and extensible through the dynamic definition of concepts, content, statuses and relations, enabling its continuous suitability to serve its audience.

NOTE 1 Various communities in the information management domain contribute to the definitions of concept relations that a register can adopt, including ISO, IEC and the Enosema Foundation.[24]

NOTE 2 The term “register” in this document refers to a “managed collection of recorded information”, instead of just a “collection of recorded information”, as understood in common parlance.

NOTE 3 The meaning of “registration” in this document refers to the assignment of linguistically independent identifiers to information units, in contrast to the meaning of that term in documents on information technology developed by ISO/IEC JTC 1, where it refers to the assignment of names to information units.

0.2 Common use cases

Any entity may choose to establish registers that conform to this document.

While the framework is originally developed to satisfy the needs of the geographic information community, it is intended to be generically applicable to any domain that requires information management.

The register framework supports the following common use cases:

a) manage information that requires persistent identification and access;

c) manage information organized according to one or more concept systems;

d) manage information that is required to satisfy certain commitments, such as integrity, transparency, persistence and accessibility;

e) provide access to disparate information concerning related information specified across different information collections, such as the ability to link information across registers;

f) support of cultural and linguistic adaptability by providing a means to record, for each item, equivalent terms used in different languages, cultures, application areas and professions together with a means to make such information accessible;

g) registration and dissemination of information produced through International Standardization processes, making them available to users in a rapid and persistent manner.

NOTE 1 Items specified in a standard can change over time either due to changes in technology or for other reasons. Published standards do not always clearly document what changes have occurred, and do not include information about earlier versions of specified items. Such information can be maintained in a register.

NOTE 2 This document supports the implementation of registers that satisfy the role of an ISO Registration Authority (RA) and of an ISO Registration Agency, both of which are required to conform to defined rules in the ISO/IEC Directives. Specific ISO/TCs provide guidance for the usage of this document in this regard, such as the ISO/TC 211 Good Practices[21].

The name and contact information of the maintenance agency for this document can be found at www.iso.org/maintenance_agencies.