

SVENSK STANDARD

SS-ISO 19160-1:2016

Fastställt/Approved: 2016-06-29
Publicerad/Published: 2016-07-01
Utgåva/Edition: 1
Språk/Language: engelska/English
ICS: 35.240.70

Adressering –

Del 1: Begreppsmodell (ISO 19160-1:2015,IDT)

Addressing –

Part 1: Conceptual model (ISO 19160-1:2015,IDT)

This preview is downloaded from www.sis.se. Buy the entire standard via <https://www.sis.se/std-8021171>

Standarder får världen att fungera

SIS (Swedish Standards Institute) är en fristående ideell förening med medlemmar från både privat och offentlig sektor. Vi är en del av det europeiska och globala nätverk som utarbetar internationella standarder. Standarder är dokumenterad kunskap utvecklad av framstående aktörer inom industri, näringsliv och samhälle och befrämjar handel över gränser, bidrar till att processer och produkter blir säkrare samt effektiviserar din verksamhet.

Delta och påverka

Som medlem i SIS har du möjlighet att påverka framtida standarder inom ditt område på nationell, europeisk och global nivå. Du får samtidigt tillgång till tidig information om utvecklingen inom din bransch.

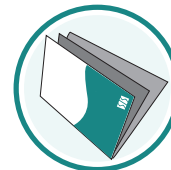
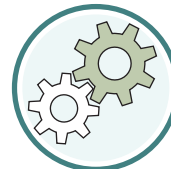
Ta del av det färdiga arbetet

Vi erbjuder våra kunder allt som rör standarder och deras tillämpning. Hos oss kan du köpa alla publikationer du behöver – allt från enskilda standarder, tekniska rapporter och standardpaket till handböcker och onlinetjänster. Genom vår webbtjänst e-nav får du tillgång till ett lättnavigerat bibliotek där alla standarder som är aktuella för ditt företag finns tillgängliga. Standarder och handböcker är källor till kunskap. Vi säljer dem.

Utveckla din kompetens och lyckas bättre i ditt arbete

Hos SIS kan du gå öppna eller företagsinterna utbildningar kring innehåll och tillämpning av standarder. Genom vår närhet till den internationella utvecklingen och ISO får du rätt kunskap i rätt tid, direkt från källan. Med vår kunskap om standarders möjligheter hjälper vi våra kunder att skapa verklig nytta och lönsamhet i sina verksamheter.

Vill du veta mer om SIS eller hur standarder kan effektivisera din verksamhet är du välkommen in på www.sis.se eller ta kontakt med oss på tel 08-555 523 00.



Standards make the world go round

SIS (Swedish Standards Institute) is an independent non-profit organisation with members from both the private and public sectors. We are part of the European and global network that draws up international standards. Standards consist of documented knowledge developed by prominent actors within the industry, business world and society. They promote cross-border trade, they help to make processes and products safer and they streamline your organisation.

Take part and have influence

As a member of SIS you will have the possibility to participate in standardization activities on national, European and global level. The membership in SIS will give you the opportunity to influence future standards and gain access to early stage information about developments within your field.

Get to know the finished work

We offer our customers everything in connection with standards and their application. You can purchase all the publications you need from us - everything from individual standards, technical reports and standard packages through to manuals and online services. Our web service e-nav gives you access to an easy-to-navigate library where all standards that are relevant to your company are available. Standards and manuals are sources of knowledge. We sell them.

Increase understanding and improve perception

With SIS you can undergo either shared or in-house training in the content and application of standards. Thanks to our proximity to international development and ISO you receive the right knowledge at the right time, direct from the source. With our knowledge about the potential of standards, we assist our customers in creating tangible benefit and profitability in their organisations.

If you want to know more about SIS, or how standards can streamline your organisation, please visit www.sis.se or contact us on phone +46 (0)8-555 523 00



Den internationella standarden ISO 19160-1:2015 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av ISO 19160-1:2015.

The International Standard ISO 19160-1:2015 has the status of a Swedish Standard. This document contains the official English version of ISO 19160-1:2015.

© Copyright/Upphovsrätten till denna produkt tillhör SIS, Swedish Standards Institute, Stockholm, Sverige. Användningen av denna produkt regleras av slutanvändarlicensen som återfinns i denna produkt, se standardens sista sidor.

© Copyright SIS, Swedish Standards Institute, Stockholm, Sweden. All rights reserved. The use of this product is governed by the end-user licence for this product. You will find the licence in the end of this document.

Upplysningar om sakinnehållet i standarden lämnas av SIS, Swedish Standards Institute, telefon 08-555 520 00. Standarder kan beställas hos SIS Förlag AB som även lämnar allmänna upplysningar om svensk och utländsk standard.

Information about the content of the standard is available from the Swedish Standards Institute (SIS), telephone +46 8 555 520 00. Standards may be ordered from SIS Förlag AB, who can also provide general information about Swedish and foreign standards.

Denna standard är framtagen av kommittén för Geodata, SIS/TK 323.

Har du synpunkter på innehållet i den här standarden, vill du delta i ett kommande revideringsarbete eller vara med och ta fram andra standarder inom området? Gå in på www.sis.se - där hittar du mer information.

Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Conformance	1
2.1 General.....	1
2.2 Model — Core.....	1
2.3 Model — Lifecycle.....	1
2.4 Model — Provenance.....	1
2.5 Model — Locale.....	1
2.6 Model — Full conformance.....	1
2.7 Address profile documentation.....	2
3 Normative references	2
4 Terms and definitions	2
5 Symbols and abbreviated terms	5
6 Address model	5
6.1 General.....	5
6.2 Diagrams.....	7
6.3 Classes.....	9
6.3.1 General.....	9
6.3.2 Address.....	9
6.3.3 AddressComponent.....	10
6.3.4 AddressableObject.....	12
6.3.5 ReferenceObject.....	14
6.3.6 AddressSpecification.....	14
6.4 Types.....	15
6.4.1 General.....	15
6.4.2 AddressClassSpecification.....	15
6.4.3 AddressPosition.....	16
6.4.4 AddressComponentValue.....	16
6.4.5 AddressAlias.....	16
6.4.6 AddressedPeriod.....	17
6.4.7 Lifespan.....	17
6.4.8 AddressProvenance.....	18
6.5 Codelists.....	19
6.5.1 General.....	19
6.5.2 AddressAliasType.....	19
6.5.3 AddressComponentType.....	19
6.5.4 AddressComponentValueType.....	20
6.5.5 AddressLifecycleStage.....	20
6.5.6 AddressableObjectLifecycleStage.....	21
6.5.7 AddressStatus.....	21
6.5.8 AddressTypology.....	21
7 Requirements	22
7.1 Requirements class: Core.....	22
7.1.1 Dependencies.....	22
7.1.2 Core requirement 1: Classes.....	22
7.1.3 Core requirement 2: Associations.....	22
7.1.4 Core requirement 3: Attributes.....	24
7.2 Requirements class: Lifecycle.....	24
7.2.1 Dependencies.....	24
7.2.2 Lifecycle requirement 1: Lifecycle attributes.....	24
7.2.3 Lifecycle requirement 2: Unique identifier.....	24

7.2.4	Lifecycle requirement 3: Version increments	24
7.3	Requirements class: Provenance	24
7.3.1	Dependencies	24
7.3.2	Provenance requirement 1: Provenance attribute	24
7.4	Requirements class: Locale	25
7.4.1	Dependencies	25
7.4.2	Locale requirement 1: Locale attribute	25
7.5	Requirements class: Address profile documentation	25
7.5.1	Dependencies	25
7.5.2	Requirements and recommendations	25
Annex A (normative) Abstract test suites		27
Annex B (informative) Guidelines for developing a profile		29
Annex C (informative) Sample profiles		31
Annex D (informative) Examples: Lifecycle and lifespan of an address, address component and addressable object		48
Annex E (informative) Examples: Address component alternatives and address aliases		53
Annex F (informative) Examples: External classes		55
Bibliography		57

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*.

ISO 19160 consists of the following parts, under the general title *Addressing*:

— *Part 1: Conceptual model*

The following parts are under preparation:

— *Part 4: International postal address components and template languages*

The following parts are planned:

— *Part 2: Good practices for address assignment schemes*

— *Part 3: Quality management for address data*

— *Part 5: Address rendering for purposes other than mail*

Introduction

Addresses are one of the most common ways to unambiguously determine an object for the purposes of identification and location. Addresses vary from country to country. In many Euro-centric countries, reference to a road network in the address is common while addresses in countries, such as Japan and South Korea (though South Korea is moving away from this), comprise a hierarchy of administrative areas without reference to a thoroughfare. In the field of intelligent transport systems, an address can be considered as a simplified location system (as opposed to a coordinate reference system) where points of interest and postcodes are addressing information applicable in car navigation. Addresses are used for a wide variety of purposes: postal delivery, emergency response, customer relationship management, land administration, utility planning and maintenance, to name a few.

There are many stakeholders involved in addressing (activities involving addresses): for assigning addresses (local governments, postal operators, etc.), for using addresses in various ways (customer service providers and electronic business, local and national governments, utility service providers, election commissions, etc.), and for finding the address (citizens, delivery and emergency response service providers, etc.). Relevant stakeholders were identified during the preparatory work of the stage zero project on addressing and are now either involved or aware of the development of ISO 19160 addressing standards.

A variety of address standards and/or specifications are in use around the world. A number of these are described in the report of the preparatory work for this International Standard. These standards and specifications are well integrated into various operational processes and, in some cases, legally enforced. At the same time, some countries are rationalizing their addressing system or creating a new one. Addresses are also increasingly used to reference new geographic objects (e.g. road furniture) while they are also increasingly used in new technology such as in-vehicle navigation. The goal of this International Standard is to facilitate interoperability between existing and future address specifications.

ISO 19112 was included in the investigation of existing standards and specifications during the preparatory work for this International Standard. ISO 19112 deals with geographic identifiers, which indirectly describe position in the real world in the form of a label or code (as opposed to directly or explicitly in the form of coordinates). The review summary concluded that the requirements for addressing standards are sufficiently different to the scope of ISO 19112. If necessary, a profile of this part of ISO 19160 could be developed to map relevant parts of ISO 19112 to this International Standard.

The preparatory work for this International Standard recommended five projects with the following titles:

- *Addressing — Conceptual model;*
- *Addressing — Good practices for address assignment schemes;*
- *Addressing — Quality management for address data;*
- *Addressing — International postal address components and templates;*
- *Addressing — Address rendering for purposes other than mail.*

This part of ISO 19160 implements the first of these recommendations, the conceptual model. It aims to facilitate interoperability between address specifications, for example, in the cross-mapping of conceptual models between different address specifications.

Addressing —

Part 1: Conceptual model

1 Scope

This part of ISO 19160 defines a conceptual model for address information (address model), together with the terms and definitions that describe the concepts in the model. Lifecycle, metadata, and address aliases are included in the conceptual model. The model is presented in the Unified Modeling Language (UML).

The model provides a common representation of address information, independent of actual addressing implementations. It is not intended to replace conceptual models proposed in other specifications, but provides a means to cross-map between different conceptual models for address information and enables the conversion of address information between specifications.

The model provides a basis for developing address specifications by individual countries or communities.

2 Conformance

2.1 General

This part of ISO 19160 defines six classes of requirements and conformance. [Annex A](#) specifies how conformance with these classes shall be tested. Refer to [Annex B](#) for guidelines on developing a profile conforming to this International Standard.

2.2 Model — Core

Any address model for which core conformance is claimed shall pass all the requirements described in the abstract test suite in [A.2](#).

2.3 Model — Lifecycle

An Address, AddressComponent or AddressableObject class in the address model for which lifecycle conformance is claimed shall pass the requirements described in the abstract test suite in [A.3](#).

2.4 Model — Provenance

An Address or AddressComponent class in the address model for which provenance conformance is claimed shall pass the requirements described in the abstract test suite in [A.4](#).

2.5 Model — Locale

Any Address, AddressComponent or AddressComponentValue class in the address model for which locale conformance is claimed shall pass the requirements described in the abstract test suite in [A.5](#).

2.6 Model — Full conformance

Any address model for which full conformance is claimed shall pass all the requirements described in the abstract test suites specified for the Core, Lifecycle, Provenance and Locale conformance classes.

2.7 Address profile documentation

Any documentation for which conformance is claimed shall pass the requirements described in the abstract test suite in [A.6](#).

NOTE Refer to [Annex C](#) for examples of address models documented in conformance to the address profile documentation conformance class.

3 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times*

ISO 19103:2015, *Geographic information — Conceptual schema language*

ISO 19107:2003, *Geographic information — Spatial schema*

ISO 19115-1:2014, *Geographic information — Metadata — Part 1: Fundamentals*

ISO 19135-1: 2015, *Geographic information — Procedures for item registration — Part 1: Fundamentals*

ISO 19152:2012, *Geographic information — Land Administration Domain Model (LADM)*

4 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

4.1 address

structured information that allows the unambiguous determination of an object for purposes of identification and location

EXAMPLE 1 Address where the object is a business: *611 Fifth Avenue, New York NY 10022*.

EXAMPLE 2 Address where the object is a building: *Lombardy House, 809 Lombardy Street, The Hills, 0039, South Africa*.

EXAMPLE 3 Address where the object is a land parcel for a building: *San 4-5, Munjae-ro, Songpa-gu, Seoul, 13144, South Korea*.

EXAMPLE 4 Address where the object is a building group, such as a school or large apartment area: *228-dong 404-ho, 26 Kyunghee-daero, Dongdaemun-gu, Seoul 130-701, South Korea*.

Note 1 to entry: The object is identifiable in the real world, i.e. electronic and virtual addresses are excluded.

Note 2 to entry: "Identification" refers to the fact that the structured information in the address unambiguously determines the object, i.e. it helps the human to identify the object. In other words, "identification" here does not refer to unique identifiers in a database or dataset.

Note 3 to entry: There can be many addresses for an object, but at any moment (or lifecycle stage), an address unambiguously determines a single object (see [Annex D](#) for examples).

Note 4 to entry: Two addresses from two different *address classes* ([4.4](#)) (i.e. they have different sets of components) for the same addressable object are two different addresses (refer to [Annex E](#) for more examples).

Note 5 to entry: Two addresses for the same addressable object and from the same address class, but in two different languages are two different addresses (refer to [Annex E](#) for more examples).

Note 6 to entry: In addition to the addressable object, there may be a multitude of people, organizations, addressees or other objects associated with an address. These are external to the address model (refer to [Annex C](#) and [Annex F](#) for examples).

4.2 addressable object

object that may be assigned an *address* ([4.1](#))

4.3 address alias

one of a set of *addresses* ([4.1](#)) unambiguously determining the same *addressable object* ([4.2](#))

4.4 address class

description of a set of *addresses* ([4.1](#)) that share the same *address components* ([4.5](#)), operations, methods, relationships, and semantics

EXAMPLE 1 “25 Blue Avenue Hatfield 0028” and “384 Green Street Motherville 2093” are from the same address class.

EXAMPLE 2 “PO Box 765 Goodwood 33948” and “PO Box 567 Grayville 98373” are from the same address class.

4.5 address component

constituent part of the *address* ([4.1](#))

Note 1 to entry: An address component may reference another object such as a *spatial object* ([4.17](#)) (e.g. an administrative boundary or a land parcel) or a non-spatial object (e.g. an organization or a person).

Note 2 to entry: An address component may have one or more alternative values, e.g. alternatives in different languages or abbreviated alternatives.

4.6 addressing

activities involving *addresses* ([4.1](#))

4.7 address position

position representing the *address* ([4.1](#))

Note 1 to entry: An address may be represented by more than one position, e.g. different entrances to a building.

4.8 address reference system

defined set of *address components* ([4.5](#)) and the rules for their combination into *addresses* ([4.1](#))

4.9 child address

address ([4.1](#)) defined relative to a *parent address* ([4.13](#))

4.10 child addressable object

addressable object ([4.2](#)) that is addressed relative to another addressable object

EXAMPLE 1 An apartment within an apartment building.

EXAMPLE 2 In Japan, a *jukyo bango* (residence number) within a *gaiku* (block).

EXAMPLE 3 A building within a complex of buildings. In Korea, a *dong* (wing or section of a building) within a group of buildings.