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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 33187.1-2016

**Geographic information -- Simple feature access -- Part 1:
Common architecture**

地理信息 简单要素访问 第1部分：通用架构

(English Translation)

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Foreword

GB/T 33187 "Simple access to geographic information elements" is divided into two parts.

- Part 1. General architecture;
- Part 2. SQL options.

This part is part 1 of GB/T 33187.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part uses the translation method equivalent to ISO 19125-1.:2004 "Geographic Information Simple Elements Access Part 1. General Architecture".

In this part of the normative reference to the international documents have a consistent correspondence between the following documents.

--- GB/T 30170-2013 Geographic information Spatial reference based on coordinates (ISO 19111.:2007, IDT) Note. ISO 19111.:2007 is a revision of ISO 19111.:2003.

This part makes the following editorial changes.

- a) Chapter 5 adds WKT acronym;
- b) Supplemental text in the original text 6.1.11.1d) The missing parenthesis in the last equation;
- c) ">=" in the expression formula of the nine pattern values of 6.1.14.2 in the original text is corrected to "=>;
- d) modify the title of Figure 4 and Figure 6 according to the expression of the Chinese title;
- e) Amend the "ISO 19100 series of standards" in A.3.1 to "Geographic Information Series Standards";
- f) Combine the commonly used length and angle units, ellipsoid parameters, measurement datums, projection types and parameters, etc., in Appendix B Capacity to do a larger deletion and modification;
- g) Added information on Appendix NA, class name in both Chinese and English.

This section is proposed by the National Mapping Geographic Information Service.

This section is under the jurisdiction of the National Geographic Information Standardization Technical Committee (SAC/TC230).

This part of the drafting unit. Institute of Geographic Sciences and Resources, Chinese Academy of Sciences, Wuhan University, Beijing Normal University, Chinese Academy of Sciences information workers Research Institute, Beijing Shanhai Ke Shi Information Technology Co., Ltd., Fujian Normal University, Eurasian System Science Research Association.

Introduction

This section describes the general architecture of simple feature geometry. The simple feature geometry object model is independent of the distributed computing platform UML markup description. Geometry base classes include Point, Curve, Surface, and Geometry-Coids and other subclasses. Each geometric object is associated with a spatial reference system, which is used to describe the definition of the geometry the coordinate space of the object.

The extended Geometry model has specialized names called MultiPoint, MultiLineString, and MultiPolygon (Polygon) 0,1 and 2-dimensional collection classes, which correspond to Point, LineString (string) and Polygon (polygon) of the collection.

MultiCurve (Multi Curve) and MultiSurface (multi-surface) as the introduction of the abstract super class, they generalize the treatment of Curve and Surface Interface set.

6.1.1 Figure 1 describes the properties, methods, and declarations for each Geometry

class. In the description method, "this" is used to refer to the method of the recipient (ie the object to be notified).

Simple Feature Access (SFA) COM Functions "Signatures" can use different symbols from SFASQL. COM programmers are more familiar with COM mark method. This section uses UML notation. In view of this situation, the difference between the two is given in this section.

This part is a special standard for GB/T 23707-2009 "Geographic Information Space Model". Appendix A provides this section with the model Detail mapping of GB/T 23707-2009 model.

Simple access to geographic information Part 1. Generic architecture

1 Scope

This part of GB/T 33187 establishes a generic architecture for simple element access to geographic information, defining terms in the architecture.

This section does not attempt to rely on any part of the mechanisms listed below to achieve the addition or maintenance of a type, nor does it attempt to Alignment.

- a) define the syntax and function of the type;
- b) define the syntax and function of the function;
- c) physical storage of type instances in the database;
- d) A specific term that refers to a user-defined type, for example, UDT.

This section specifies the names of geometric types (GeomertyType) and their geometric definitions.

This section does not make any demands on how to define the geometric type in the inbound mode; there is no way to, how, or by which geometry class Type any request.

2 Consistency

In order to maintain consistency with the entire standard, this part shall meet the requirements of one or more test kits of other parts of GB/T 33187.

3 Normative references

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

Geographic information space model (ISO 19107.:2003, IDT) GB/T 23707-2009 ISO

19111.:2003 Geographic information Geographic information based on coordinates
(Geographicinformation-Spatialreferencing bycoordinates)

4 Terms and definitions

The following terms and definitions apply to this document.

Boundary

A collection of physical boundaries.

Note: Borders are usually used in geometries where collections are collections of points or a collection of objects representing those points. In other cases, the term boundary is passed Often describe metaphorically a transition between the entity and the rest of the domain.

[GB/T 23707-2009, definition 4.4]