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

GB/T 18142-2017

Replacing GB/T 18142-2000

**Information technology -- Representation of data elements
values -- Notation of the format**

信息技术 数据元素值表示 格式记法

(English Translation)

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard replaces GB/T 18142-2000 "Information technology data element value format notation," and GB/T 18142-2000 phase Than, in addition to editorial changes outside the main technical changes are as follows.

- Changed the traditional simple format notation, using the C language to express;
- Increasing the programming language (GB/T 15272) to use the notation standard (see introduction);
- Modify the normative references (see Chapter 2);
- Modify the original traditional simple format notation, using the C language to express (see Chapter 4);
- Removed the "number of additional notation" (see GB/T 18142-2000 Chapter 5).

This standard uses the translation method identical with ISO/IEC 14957:2010 "Information technology data element value representation format notation." Please note that some of this document may be patentable. The issuing agencies of this document do not bear the responsibility of identifying these patents.

This standard by the National Information Technology Standardization Technical Committee (SAC/TC28) and focal point.

This standard was drafted. China Electronics Standardization Institute, Fortis ICT Technology Development Co., Ltd..

Introduction

In business, technology and public domain, data exchange is rapidly expanding. It has led to a growing number of different groups working together; and these Groups have often

independently developed information processing applications and telecommunications networks to meet specific needs. Therefore, the global consistency is poor.

In order to remedy this situation, it is necessary to carry out much-needed standardization specifically for data element representations.

For a representation of a data element, consider first the format (ie, the type of character used in the data element representation and the length of the representation) plus to regulate. In order for these norms to have the same meaning for everyone involved, it is necessary to express these norms in accordance with standardized conventions.

These rules may eliminate ambiguities, inaccuracies and errors; and facilitate the comparison of various data element dictionaries, the design and creation of information systems, and Electronic Data Interchange (EDI).

In some other standards, some of these notations are expressed in a specific context, for example, EDIFACT (ISO 9735), financial standards (eg ISO 7982-1), character sets (GB/T 15273), information processing (GB/T 15273), programming languages (GB/T 15272).

The intent of this standard is to provide the only source of reference on this topic for all those standards that make use of notations that are not environment-related.

Information Technology Data Element Value Represents format notation

1 Scope

This standard specifies the notation used to describe the format (ie, the type of characters used in data element representations and the length of these representations) Set an additional notation for numbers. For example, this formatting technique may be used for the metadata portion of a data element.

The scope of this standard is limited to graphic characters, such as numbers, letters and special characters. And limited to characters, strings, integers, real numbers and pointers to these basic data types.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

Information technology - Universal Multi-octet Encoding Character Set (UCS) (ISO/IEC 10646:2003, IDT)

3 Terms and definitions

The following terms and definitions apply to this document.

Data element in this context, it is considered an indivisible unit of data.

[GB/T 5271.4-2000, Definition 04.07.01] 3.2 Character set A finite set of characters, and it is complete for a given purpose.

[GB/T 5271.4-2000, Definition 04.01.02] 3.3 Character type A collection of characters of the same kind or of the same use.

Examples. Letters, numbers, special characters, etc.

Length

Length of representation the number of characters used to represent a data element.

4 Notation associated with the character type and length represented by the data element

The format should be a string sequence. The format consists of zero or more indicators, including one or more spacers (GB/T 13000-

2010 Article 20), an ordinary character (neither % nor spacers), or a conversion specification. Each conversion note consists of words Beginning of symbol %.

Note This format specification is based on the function "fscanf ()" in the C programming language (ISO/IEC 9899:1999).