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Information and documentation - Format for information exchange

Information et documentation - Format pour l'échange d'information

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Information and documentation — Format for information exchange

Information et documentation — Format pour l'échange d'information

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 2709 was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 4, *Technical interoperability*.

This fourth edition cancels and replaces the third edition (ISO 2709:1996), which has been technically revised to incorporate specification of the use of ISO/IEC 10646 using 8-bit Unicode Transformation Format (UFT-8) encoding. Consequently, lengths are specified in terms of octets instead of characters.

Information and documentation — Format for information exchange

1 Scope

This International Standard specifies the requirements for a generalized exchange format which will hold records describing all forms of material capable of bibliographic description as well as other types of records. It does not define the length or the content of individual records and does not assign any meaning to tags, indicators or identifiers, these specifications being the functions of an implementation format.

This International Standard describes a generalized structure, a framework designed specially for communications between data processing systems and not for use as a processing format within systems.

2 Normative references

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

ISO/IEC 646:1991, *Information technology — ISO 7-bit coded character set for information interchange*

ISO/IEC 6429:1992, *Information technology — Control functions for coded character sets*

ISO/IEC 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

3 Terms and definitions

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

3.1
character
member of a set of elements used for the organization, control, or representation of data

3.2
data field
characters recording the descriptive content of the record

3.3
directory
index to the location of the fields within a record

3.4
directory map
set of parameters specifying the structure of the entries in the directory

3.5
field
variable length portion of the record containing a particular category of data, following the directory and associated with one entry of the directory

NOTE A field can contain one or more subfields.

3.6
field separator
control character that terminates the directory, record identifier, reference fields and data fields

3.7
tag
three octets associated with a field and used to identify it

3.8
indicator
first data element, if present, associated with a field supplying further information about the contents of the field, about the relationship between the field and other fields in the record, or about the action required in certain data manipulation processes

3.9
octet
group of 8 consecutive bits also referred to as an 8-bit byte; it may represent one character or be part of a representation of a character

3.10
record
collection of fields, including a record label, a directory and data

NOTE If required, the linking of records and their division into subrecords is allowed and should be implemented as specified in the explicit exchange format.

3.11
record identifier field
characters identifying the record

3.12
record label
section occurring at the beginning of each record providing parameters for the processing of the record

3.13
record separator
control character that terminates the record

3.14
reference field
data that may be required for processing a record

3.15
separating character
control character used to separate and qualify units of data logically, and in some cases hierarchically

3.16
structure
arrangement of the parts constituting a record

3.17
subfield
part of a field containing a defined unit of information

3.18
identifier
data element of one or more characters immediately preceding and identifying a subfield

3.19
subrecord
group of fields within a record which may be treated as an entity

4 Structure of communication format for a record

4.1 General

The general structure of a record is shown schematically in Figure 1. A more detailed structure is shown schematically in Figure 2, which includes four alternatives for the data sections.

Record label
Directory
Fields
Record separator

Figure 1 — General structure

A record contains the following fixed and variable-length elements in the sequence shown in Figure 2:

a) record label (fixed length);

b) directory (variable length);

c) record identifier field (variable length);

d) reference fields (variable length);

e) data fields (variable length);

f) field separator(s);

g) record separator.

The directory, record identifier, reference fields and data fields shall each be terminated by a field separator, i.e. separator IS2 in accordance with ISO/IEC 646 or ISO/IEC 6429.

The record shall be terminated by the record separator, i.e. separator IS3 in accordance with ISO/IEC 646 or ISO/IEC 6429.

4.2 Basic character encoding

All data in the record label and directory, and the indicators, subfield identifiers, field separators, and record separators, shall be taken from the character repertoire of ISO/IEC 646, with one octet per character encoding as specified in ISO/IEC 646 or ISO 10646 with UTF-8 encoding.

4.3 Record label

4.3.1 General

The record label shown in Figure 2 shall be fixed in length to 24 octets, each representing one character and the octet positions shall be as defined in 4.3.2 to 4.3.9.