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Information technology — Open Document Architecture (ODA) and Interchange Format: Document profile

*Technologies de l'information — Architecture des documents ouverts
(ODA) et format d'échange: Profil de documents*



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 8613-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 18, *Document processing and related communication*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. T.414.

This second edition cancels and replaces the first edition (ISO 8613-4:1989), which has been technically revised.

ISO/IEC 8613 consists of the following parts, under the general title *Information technology — Open Document Architecture (ODA) and Interchange Format*:

- *Part 1: Introduction and general principles*
- *Part 2: Document structures*
- *Part 3: Abstract interface for the manipulation of ODA documents*
- *Part 4: Document profile*
- *Part 5: Open Document Interchange Format*
- *Part 6: Character content architectures*
- *Part 7: Raster graphics content architectures*
- *Part 8: Geometric graphics content architectures*
- *Part 9: Audio content architectures*
- *Part 10: Formal specifications*
- *Part 11: Tabular structures and tabular layout*
- *Part 12: Identification of document fragments*
- *Part 13: Spreadsheet*
- *Part 14: Temporal relationships and non-linear structures*

Annexes A and B form an integral part of this part of ISO/IEC 8613. Annex C is for information only.

INTRODUCTION

This ITU-T Recommendation | International Standard was prepared as a joint publication by TSS Study Group 8 and ISO/IEC Joint Technical Committee 1.

At present, the CCITT Recommendations in the T.410 – Series | International Standard ISO 8613 consists of:

- Introduction and general principles;
- Document structures;
- Document profile;
- Open document interchange formats;
- Character content architectures;
- Raster graphics content architectures;
- Geometric graphics content architectures;
- Formal specification of the Open Document Architecture (FODA).

(The formal specification is applicable to ISO/IEC 8613 only).

Further Recommendations | International Standards may be added to this series of ITU-T Recommendations | International Standard.

Development of this series of ITU-T Recommendations | International Standard was originally in parallel with ECMA-101 standard: *Open Document Architecture*.

This series of ITU-T Recommendations | International Standard is a new edition of the CCITT T.410 – Series Recommendations (1988) and ISO 8613 (1989).

Significant technical changes are the inclusion of the following amendments as agreed by ITU-T and ISO/IEC:

- Alternative representation.
- Annex on use of MHS/MOTIS.
- Colour.
- Conformance Testing annex.
- Document Application Profile, Proforma and Notation.
- Security.
- Streams.
- Styles.
- Tiled raster graphics.

In addition, a number of technical corrigenda have been applied to this series of ITU-T Recommendations | International Standard.

This ITU-T Recommendation | International Standard contains three annexes:

- Annex A (integral) specifies the format of personal names used in various document profile attributes;
- Annex B (integral) specifies a minimum set of document profile attributes that is to be supported by document application profiles;
- Annex C (non-integral) contains an example of a document profile.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN DOCUMENT ARCHITECTURE (ODA) AND INTERCHANGE FORMAT: DOCUMENT PROFILE

1 Scope

The purpose of ITU-T Rec. T.410 – Series I ISO/IEC 8613 is to facilitate the interchange of documents.

In the context of this series of Recommendations I International Standard, documents are to be items such as memoranda, letters, invoices, forms and reports, which may include pictures and tabular material. The content elements used within the documents may include graphic characters, raster graphics elements and geometric graphics elements, all potentially within one document.

NOTE – This series of Recommendations I International Standard is designed to allow for extensions, including hypermedia features, spreadsheets and additional types of content such as audio and video.

In addition to the content types defined in this series of Recommendations I International Standard, ODA also provides for arbitrary content types to be included in documents.

This series of Recommendations I International Standard applies to the interchange of documents by means of data communications or the exchange of storage media.

This series of Recommendations I International Standard provides for the interchange of documents for either or both of the following purposes:

- to allow presentation as intended by the originator;
- to allow processing, such as editing and reformatting.

The composition of a document in interchange can take several forms:

- formatted form, allowing presentation of the document;
- processable form, allowing processing of the document;
- formatted processable form, allowing both presentation and processing of the document.

This series of Recommendations I International Standard also provides for the interchange of ODA information structures used for the processing of interchanged documents.

This ITU-T Recommendation I International Standard:

- defines the purpose of the document profile;
- specifies the attributes which constitute the document profile.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation I International Standard. At the time of publication, the editions indicated were valid. All Recommendations and International Standards are subject to revision, and parties to agreements based on this Recommendation I International Standard are encouraged to investigate the possibility of applying the most recent editions of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The ITU-T Secretariat maintains a list of currently valid ITU-T/CCITT Recommendations.

2.1 Identical Recommendations | International Standards

- ITU-T Recommendation T.411 (1993) | ISO/IEC 8613-1:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Introduction and general principles*.
- ITU-T Recommendation T.412 (1993) | ISO/IEC 8613-2:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Document structures*.
- ITU-T Recommendation T.415 (1993) | ISO/IEC 8613-5:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Open Document Interchange Format*.
- ITU-T Recommendation T.416 (1993) | ISO/IEC 8613-6:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Character content architectures*.
- ITU-T Recommendation T.417 (1993) | ISO/IEC 8613-7:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Raster graphics content architectures*.
- ITU-T Recommendation T.418 (1993) | ISO/IEC 8613-8:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Geometric graphics content architectures*.

2.2 Paired Recommendations | International Standards equivalent in technical content

- CCITT X.400 – Series Recommendations (1988), *Message Handling System*.
ISO/IEC 10021:1989, *Information technology – Text Communication – Message – Oriented Text Interchange Systems (MOTIS)*.

2.3 Additional references

- ISO/IEC 646:1991, *Information technology – ISO 7-bit coded character set for information interchange*.
- ISO 2022:1986, *Information processing – ISO 7-bit and 8-bit coded character sets – Code extension techniques*.
- ISO 2375:1985, *Data processing – Procedure for registration of escape sequences*.
- ISO 6937-2:1983, *Information processing – Coded character sets for text communication – Part 2: Latin alphabetic and non-alphabetic graphic characters*.
- ISO 8601:1988, *Data elements and interchange formats – Information interchange – Representation of dates and times*.
- ISO/IEC 8613-10:1991, *Information processing – Text and office systems – Office Document Architecture (ODA) and Interchange Format – Part 10: Formal specifications*.
- ISO/IEC 9541-1:1991, *Information technology – Font information interchange – Part 1: Architecture*.
- ISO/IEC 9541-2:1991, *Information technology – Font information interchange – Part 2: Interchange format*.
- SMPTE Recommended Practice RP37:1969, *Color Temperature for Color Television Studio Monitors*.
- SMPTE Recommended Practice RP145:1969, *Color Monitor Colorimetry*.

3 Definitions

For the purposes of this Recommendation | International Standard the definitions given in ITU-T Rec. T.411 | ISO/IEC 8613-1 apply.

4 Abbreviations

For the purposes of this Recommendation | International Standard the abbreviations given in ITU-T Rec. T.411 | ISO/IEC 8613-1 apply.

5 Conventions

For the purposes of this Recommendation | International Standard the conventions given in ITU-T Rec. T.411 | ISO/IEC 8613-1 apply.

6 Purpose of the document profile

The document profile provides information by means of attributes which pertain to the document as a whole. It includes information for processing the document (e.g. reformatting, editing, filing/retrieval).

A document profile may be interchanged or stored without the body of the document. In such a case, the attribute "local file references" may be used to indicate the location of the document.

The document profile contains information for use by human beings and for machine processing.

7 Content of the document profile

This clause is a list of attributes that may occur within the document profile.

Unless indicated otherwise, all attributes of the document profile are optional.

7.1 Values of document profile attributes

The value of each attribute is either user specified or specified in this Specification.

Where attribute values consist of character strings, the document profile character set is used. This set consists of SPACE, CARRIAGE RETURN, LINE FEED and a set of graphic characters. In the absence of the attribute "profile character sets", this set of graphic characters consists of the 73 graphic characters of the minimum subrepertoire of ISO 6937-2.

7.2 Presence of document constituents

The attributes defined in this subclause indicate the presence of document constituents associated with the document body, whether or not interchanged with the document profile.

7.2.1 Generic layout structure

This attribute shall be specified if and only if the document contains any layout object class description or if the layout object class descriptions are contained in an external document class. In the last case, the attribute "external document class" shall be specified.

The value of this attribute (if specified) is one of 'factor set', 'partial generator set' or 'complete generator set'.

7.2.2 Specific layout structure

This attribute is used if and only if the document contains any layout object descriptions.

The value of this attribute (if specified) is 'present'.

7.2.3 Generic logical structure

This attribute shall be specified if and only if the document contains any logical object class description or if the logical object class descriptions are contained in an external document class. In the last case, the attribute "external document class" shall be specified.

The value of this attribute (if specified) is one of 'factor set', 'partial generator set' or 'complete generator set'.

7.2.4 Specific logical structure

This attribute is used if and only if the document contains any logical object descriptions.

The value of this attribute (if specified) is 'present'.

7.2.5 Layout styles

This attribute shall be specified if and only if the document contains any layout style or if the layout styles are contained in an external document class. In the last case, the attribute "external document class" shall be specified.

The value of this attribute (if specified) is 'present'.

7.2.6 Presentation styles

This attribute shall be specified if and only if the document contains any presentation style or if the presentation styles are contained in an external document class. In the last case, the attribute “external document class” shall be specified.

The value of this attribute (if specified) is ‘present’.

7.2.7 Sealed profiles

This attribute is used if and only if the document contains any sealed document profile descriptions.

The value of this attribute (if specified) is ‘present’.

7.2.8 Enciphered profiles

This attribute is used if and only if the document contains any enciphered document profile descriptions.

The value of this attribute (if specified) is ‘present’.

7.2.9 Pre-enciphered body parts

This attribute is used if and only if the document contains any pre-enciphered document body part descriptions.

The value of this attribute (if specified) is ‘present’.

7.2.10 Post-enciphered body parts

This attribute is used if and only if the document contains any post-enciphered document body part descriptions.

The value of this attribute (if specified) is ‘present’.

7.2.11 External-document class

This attribute is used if and only if the document refers to one or more of the generic layout structure, generic logical structure, layout styles and presentation styles defined in an external-document class description. This attribute has no effect if any generic layout or generic logical structure is present in the document.

The value of this attribute is either an ASN.1 object identifier or a string of characters from the document profile character set.

This value is equal to the value of the document profile attribute “document reference” of the document referred to.

Constraints on the permitted external-document classes may be specified by the document application profile.

7.2.12 Resource-document

This attribute is used if and only if the document refers to a resource-document.

The value of this attribute is either an ASN.1 object identifier or a string of characters from the document profile character set.

This value is equal to the value of the document profile attribute “document reference” of the document referred to.

7.2.13 Resources

This attribute provides a mapping between names and identifiers of object class descriptions within the body of the document in order that the document may be used as a resource-document.

The value of this attribute consists of one or more pairs, each pair comprising a character string, representing the name, and an object class identifier.

The characters used in the resource names are limited to those of the minimum subrepertoire of ISO 6937-2.

7.3 Document characteristics

7.3.1 Document application profile

This attribute specifies the document application profile that pertains to the document.

The value of this attribute is either an ASN.1 object identifier or an integer.

The integer value is used only to identify the document application profile for Group 4 Facsimile, Class 1, defined in CCITT Recommendation T.503. In this case, the value of the integer is 2.

The absence of this attribute indicates that all constituents, attributes and attribute values defined in ITU-T Rec. T.410 – Series I ISO/IEC 8613 are permitted to be used, that all features are basic, and that the default values are those defined in the ITU-T Rec. T.410 – Series I ISO/IEC 8613.

7.3.2 Document application profile defaults

This attribute specifies the default attribute values, specified in the document application profile, which are different from the values specified in ITU-T Rec. T.410 – Series I ISO/IEC 8613.

The document architecture attributes for which a document application profile may define non-standard values are:

- “content architecture class”;
- “dimensions”, only in the case that this attribute applies to a component of object type page;
- “transparency”;
- “colour”;
- “colour of layout object”;
- “object colour table”;
- “content background colour”;
- “content foreground colour”;
- “content colour table”;
- “border”;
- “layout path”;
- “page position”;
- “medium type”;
- “block alignment”;
- “type of coding”.

Specifications of the presentation attributes and coding attributes for which a document application profile may define non-standard default values are given in other specifications of the ITU-T Rec. T.410 – Series I ISO/IEC 8613. These include ITU-T Rec. T.416, T.417, T.418 I ISO/IEC 8613-6, 8613-7, 8613-8.

The value of this attribute is a list of default values for any of the defaultable attributes (document architecture attributes as well as content architecture attributes) for which the document application profile defines a default value different from the default value defined in ITU-T Rec. T.410 – Series I ISO/IEC 8613.

If the value of the document profile attribute “document application profile” is an integer and no value is specified for the document application profile default attribute “content architecture class”, the latter is assumed to have the value ‘formatted raster content architecture class’ as defined in ITU-T Rec. T.417 I ISO/IEC 8613-7.

NOTE – This special default value is provided for compatibility with ITU-T Recommendations.

A document application profile may define more than one default value for a defaultable attribute. In this case, and when the default value is to differ from the default value defined in ITU-T Rec. T.410 – Series I ISO/IEC 8613, then the value of this attribute shall specify the default value which applies to the particular document.

7.3.3 Document architecture class

This attribute specifies the document architecture class used in the document. This attribute shall always be specified.

The value of this attribute is ‘formatted’, ‘processable’ or ‘formatted processable’, representing one of the document architecture classes defined in ITU-T Rec. T.412 I ISO/IEC 8613-2.

7.3.4 Content architecture classes

This attribute specifies the content architecture classes used in the document. This attribute shall always be specified.

The value of this attribute consists of zero or more ASN.1 object identifiers referring to content architecture classes defined in ITU-T Rec. T.410 – Series I ISO/IEC 8613 or in other standards.

Constraints on the permitted content architecture classes may be specified by the document application profile. The value of each object identifier shall designate a content architecture class defined in accordance with the rules specified in ITU-T Rec. T.412 | ISO/IEC 8613-2.

If no document application profile is specified, this attribute shall only take values of identifiers of content architecture classes specified in ITU-T Rec. T.410 – Series | ISO/IEC 8613 (see 7.3.1).

7.3.5 Interchange format class

This attribute specifies the interchange format class used to represent the document. This attribute shall always be specified.

The value of this attribute is ‘A’ or ‘B’, representing one of the interchange format classes defined in ITU-T Rec. T.415 | ISO/IEC 8613-5.

NOTE – This attribute does not apply to the SDIF interchange format.

7.3.6 ODA version

This attribute identifies the Document Architecture Standard or Recommendation version, and its publication date, to which the document conforms. This attribute shall always be specified.

The value of this attribute is structured into two parameters: “standard or recommendation” and “publication date”. The value of the parameter “standard or recommendation” is a string of characters from the document profile character set which identifies:

- the organization(s) that issued the standard or Recommendation (e.g. ITU-T, ISO/IEC, ISO/IEC & ITU-T);
- the name of the standard or Recommendation;
- the version of the standard or Recommendation, which indicates that the document conforms to that version.

The value of the parameter “publication date” is a complete representation of a calendar date according to the format defined in ISO 8601, which indicates the date of the version specified in the parameter “standard or recommendation”.

7.3.7 Alternative features sets

This attribute lists combinations of identified features, so that any one combination is sufficient to process a particular selection of primary descriptions and alternative descriptions in the document.

This attribute consists of a set of ASN.1 object identifiers. Each set lists a set of object identifiers for features such as content architecture classes that is sufficient to process a particular set of alternatives in the document.

Various parts of ITU-T Rec. T.410 – Series | ISO/IEC 8613 define ASN.1 object identifiers for features. In particular, content architectures specify an ASN.1 object identifier for each architecture class.

NOTES

- 1 In ITU-T Rec. T.410 – Series | ISO/IEC 8613 no other features are defined.
- 2 No provision is made for alternative sets of non-basic values.

7.3.8 Non-basic document characteristics

7.3.8.1 Profile character sets

This attribute specifies the graphic character set(s), other than the character set specified in 7.1, used in those document profile attributes that consist of character strings.

The value of this attribute consists of the escape sequence(s) used to announce and to designate the set(s) in accordance with ISO 2022 and the register of ISO 2375.

If no value is specified for this attribute, the following announcers and designators are assumed:

1/11 2/0 4/1 1/11 2/8 4/0 9/11 3/1 2/0 4/13 0/0

That is: ESC 2/0 4/1 announcer – “G0 in columns 02 to 07, no locking shift functions shall be used”, designate ISO 6937 as the primary character set in G0 and designate the minimum subrepertoire of ISO 6937-2.