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TERMINAL EQUIPMENTS AND PROTOCOLS FOR TELEMATIC SERVICES

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

ITU-T Recommendation T.414

(Previously "CCITT Recommendation")

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. Some 179 member countries, 84 telecom operating entities, 145 scientific and industrial organizations and 38 international organizations participate in ITU-T which is the body which sets world telecommunications standards (Recommendations).

The approval of Recommendations by the Members of ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, 1993). In addition, the World Telecommunication Standardization Conference (WTSC), which meets every four years, approves Recommendations submitted to it and establishes the study programme for the following period.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC. The text of ITU-T Recommendation T.414 was approved by the WTSC (Helsinki,March 1-12, 1993). The identical text is also published as ISO/IEC International Standard 8613-4.

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NOTES

1   As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

2   In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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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 | ISO/IEC 8613 is to facilitate the interchange of documents.

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

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

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

This ITU-T Recommendation | 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 | 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 | 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 – Open Document Architecture (ODA) and interchange format – Formal specifications. Part 10:*

– 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 | 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 | 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 | 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 | ISO/IEC 8613. These include ITU-T Rec. T.416, T.417, T.418 | 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 | 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 | 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 | 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 | 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 | 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.

7.3.8.2 Comments character sets

This attribute specifies the graphic character set(s), other than the default character set specified ITU-T Rec. T.412 | ISO/IEC 8613-2, used in the document architecture attributes "user-readable comments" and "user-visible name".

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.

7.3.8.3 Alternative representation character sets

This attribute specifies the graphic character set(s), other than the default character set specified in ITU-T Rec. T.412 | ISO/IEC 8613-2, used in the document architecture attribute "alternative representation".

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.

7.3.8.4 Document constituent attributes

7.3.8.4.1 Page dimensions

This attribute specifies the non-basic values of the attribute "dimensions" of layout objects of type page used in the document.

The value of this attribute consists of one or more pairs of page dimensions. A pair of page dimensions shall be included in this attribute when the horizontal component and/or the vertical component of the page dimensions exceed the corresponding components of the basic page dimensions specified by the document application profile.

Each pair of page dimensions is represented by a pair of positive integers specifying the horizontal and vertical components of the page dimensions in scaled measurement units.

7.3.8.4.2 Medium types

This attribute specifies the non-basic values of the attribute "medium type" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of one or more of the parameters "nominal page size", "side of sheet" and "colour of medium", and details one non-basic medium type used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.3 Layout paths

This attribute specifies the non-basic values of the attribute "layout path" used in the document.

The value of this attribute consists of one or more values of the attribute "layout path", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.4 Protections

This attribute specifies the non-basic values of the attribute "protection" used in the document.

The value of this attribute consists of one or more values of the attribute "protection", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.5 Block alignments

This attribute specifies the non-basic values of the attribute "block alignment" used in the document.

The value of this attribute consists of one or more values of the attribute "block alignment", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.6   Fill orders

This attribute specifies the non-basic values of the attribute "fill order" used in the document.

The value of this attribute consists of one or more values of the attribute "fill order", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.7   Transparencies

This attribute specifies the non-basic values of the attribute "transparency" used in the document.

The value of this attribute consists of one or more values of the attribute "transparency", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.8   Colours

This attribute specifies the non-basic values of the attribute "colour" used in the document.

The value of this attribute consists of one or more values of the attribute "colour", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.9   Colours of layout object

This attribute specifies the non-basic values of the attribute "colour of layout object" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of the parameter "colour access mode" and one of the parameters "direct colour" and "indexed colour", and details one non-basic colour of layout object used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.10   Object colour tables

This attribute specifies the non-basic values of the attribute "object colour table" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of the parameters "colour space id" and "colour space entries", and details one non-basic object colour table used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.11   Content background colours

This attribute specifies the non-basic values of the attribute "content background colour" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of one of the parameters "content background transparency" and "colour expression", and details one non-basic content background colour used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.12   Content foreground colours

This attribute specifies the non-basic values of the attribute "content foreground colour" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of one of the parameters "implementation defined", "content foreground transparency" and "colour expression", and details one non-basic content foreground colour used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.13   Content colour tables

This attribute specifies the non-basic values of the attribute "content colour table" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of the parameters "colour space id" and "colour space entries", and details one non-basic content colour table used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.14   Borders

This attribute specifies the non-basic values of the attribute "border" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of one or more of the parameters "left-hand-edge", "right-hand-edge", "trailing edge" and "leading edge", and details one non-basic border used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.15   Page positions

This attribute specifies the non-basic values of the attribute "page position" used in the document.

The value of this attribute consists of one or more entries. Each entry consists of the parameters "horizontal" and "vertical", and details one non-basic page position used in the document. The meaning and format of each parameter is defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.4.16   Types of coding

This attribute specifies the non-basic values of the attribute "type of coding" used in the document.

The value of this attribute consists of one or more values of the attribute "type of coding", as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

7.3.8.5   Coding attributes

This attribute consists of one or more sets of coding attribute values used in the document. Each set pertains to a single content type and consists of coding attribute values that are specified as non-basic by the document application profile.

The names of the sets of coding attribute values are:

– "character coding attributes";

– "raster graphics coding attributes";

– "geometric graphics coding attributes".

7.3.8.6   Presentation features

This attribute consists of one or more sets of presentation features used in the document. Each set pertains to a single content type and consists of presentation features that are specified as non-basic by the document application profile.

Presentation features consist of presentation attribute values, control function parameter values, sets of content elements and their parameter values.

The names of the sets of presentation features are:

– "character presentation features";

– "raster graphics presentation features";

– "geometric graphics presentation features".

7.3.9   Non-basic structure characteristics

7.3.9.1   Number of objects per page

This attribute specifies the maximum number of specific layout objects per page used in the document. This attribute is only specified if the maximum number of objects per page exceeds the value specified by the document application profile.

7.3.10   Additional document characteristics

7.3.10.1   Unit scaling

This attribute specifies a scaling factor that is to be applied to all attributes and numeric control function parameters that specify absolute or relative positions and dimensions.

The value of this attribute is a pair of positive integers m and n which indicate that these positions and dimensions are to be interpreted as being expressed in units equal to m/n BMU. The name of this unit is Scaled Measurement Unit (SMU).

In the absence of this attribute, the Scaled Measurement Unit is equal to 1 BMU.

7.3.10.2   Fonts list

This attribute specifies the character font(s) used in the document.

The value of this attribute consists of one or more entries. Each entry consists of the parameter "font identifier" whose value is a positive integer, and the parameter "font reference".

A font is referred to from within the document by means of the associated integer font identifier.

The parameter "font reference" is intended for use in identification and selection of a font resource that matches the set of property values specified in the font reference. Font references are not allowed to influence layout and imaging processes in any other way than for selection of a font resource; in particular they are not to be used in place of or to modify font resources.

The parameter "font reference" consists of the sub-parameter "reference properties" and, optionally, of the sub-parameters "user-readable comments" and "user-visible name".

The values of the sub-parameters "user-readable comments" and "user-visible name" are strings of characters from a defined character set. The character set is that specified in the document profile attribute "comments character sets". The default character set is the minimum subrepertoire of ISO 6937-2. In addition to the graphic character set, the control functions CARRIAGE RETURN and LINE FEED may be included in the character string. Code extension control functions for the designation and invocation of graphic character sets may also be included.

The value of the sub-parameter "reference properties" consists of one or more entries. Each entry consists of the sub-sub-parameter "properties", whose value is a set of font properties called Font-Attribute-Set, as defined in ISO/IEC 9541-2, and, optionally, the sub-sub-parameters "precedence number" whose value is an integer that defaults to zero, and "user-readable comments".

By means of the sub-parameter "reference properties", the font properties in the font reference are grouped into sets of properties that are associated with a precedence number; the precedence numbers need not be distinct. The font reference shall not specify conflicting font properties.

The font matching algorithm that makes use of this information is implementation-defined. It is intended that the algorithm tries to satisfy all properties specified in the fonts properties sets. If this is not possible, the properties that are associated with a higher precedence number should be considered with a higher priority than properties associated with a lower precedence number.

NOTE – The font properties defined in ISO/IEC 9541-1 include both a structured font name and a set of additional font properties.

7.3.10.3 Colour characteristics

This attribute outlines the basic characteristics of the colour values used and of the colour spaces defined in the document. It has six parameters. The parameter "colour spaces present" indicates the types of the colour spaces present in the document and whether or not the colour spaces are calibrated. The parameter "colour modes present" indicates which colour modes are present in the document. The parameter "minimum colour tolerance" indicates the minimum colour tolerance used in the document. The parameter "maximum number of colour table entries" indicates the maximum number of entries in the colour table. The parameter "maximum number of look-up table entries" indicates the maximum number of entries in the largest look-up table. The parameter "maximum CMY(K) grid size" indicates the maximum CMY(K) grid size.

This attribute is mandatory if the document specifies any values for any of the attributes "colour of layout object", "object colour table", "content background colour", "content foreground colour", "content colour table", or the parameters "border line colour" of "border", or "colour of medium" of "medium type" as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2, or "colour spaces list" as defined below.

NOTE – Colour spaces to be used within the document are defined by the attribute "colour spaces list".

The parameter "colour spaces present" indicates the types of the colour spaces present in the document and whether or not the colour spaces are calibrated.

The value of this parameter is a sequence of entries where each entry has two sub-parameters: "colour space type" and "colour calibration type"

The sub-parameter "colour space type" indicates the colour space used (RGB, CMYK, CMY, CIELUV, CIELAB).

The sub-parameter "colour calibration type" indicates whether or not it is calibrated. In the case of the colour spaces RGB, CIELUV and CIELAB, the inclusion of the calibration data is optional. In the case of the colour space RGB, in addition to the specification of the reference white, the calibration data may consist of one or more matrices, or a look-up table, or of both a look-up table and one or more matrices. Then, the possible values of this sub-parameter are 'no calibration', 'matrices', 'look-up table' and 'matrices and look-up table'.

The parameter "colour modes present" specifies what modes of colour specification (indexed, direct, or both) are used in the document. It is mandatory if colour is used.

The parameter "minimum colour tolerance" indicates the smallest colour tolerance specified in the document.

The value of this parameter is structured as the component "colour tolerance" of a direct colour expression as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2. This parameter is optional. If this parameter is not present, the colour tolerance is infinite or, in effect, no limit on colour tolerance is specified in the document.

The parameter "maximum number of colour table entries" indicates the maximum number of table entries in the largest defined colour table.

The value of this parameter is a positive integer. This parameter is optional.

The parameter "maximum number of look-up table entries" indicates the maximum number of entries in the colour look-up table.

The value of this parameter is a positive integer. This parameter is optional.

The parameter "maximum CMY(K) grid size" indicates the maximum number of entries in the CMY(K) grid specification.

The value of this parameter is a positive integer. This parameter is optional.

7.3.10.4 Colour spaces list

This attribute defines the characteristics of colour spaces to be used within the document.

The value of this attribute consists of a set of entries. Each entry defines a colour space and consists of the parameters "colour space id", "colour space type", and, optionally, "colour space name", "colour data scaling" and "calibration data".

The parameter "colour space id" uniquely defines the colour space description. It is an integer that may be referenced from direct colour expressions and colour table entries as defined in ITU-T Rec. T.412 | ISO/IEC 8613-2. The "colour space id" value 0 is reserved for an implicitly defined colour space, the characteristics of which are defined at the end of this subclause. This parameter is mandatory.

The parameter "colour space type" defines which colour space is used in the definition of the colour. It defines the semantics of the coordinates used. The permissible values are 'RGB', 'CMYK', 'CMY', 'CIELUV' and 'CIELAB'. 'RGB', 'CMYK' and 'CMY' are permissible for use across document architecture components and all content architectures. The values 'CIELUV'. and 'CIELAB'. are not permissible if the colour space is referred to from any attribute that applies to an object that is not of raster graphics content architecture classes as defined by ITU-T Rec. T.417 | ISO/IEC 8613-7. This parameter is mandatory.

The parameter "colour space name" is a string of characters, from the document profile character set. This parameter is optional.

The parameter "colour data scaling" defines the scale and offset factors that relate the specified values of the colour space to the n-tuple that occurs in the parameter "colour coordinate" of the attribute "colour tables" or that occurs in the parameter "colour specification" of the colour expression (see Note 1). This parameter is optional.

This parameter consists of three or four pairs of the sub-parameters "colour scale" and "colour offset", where

– "colour scale" is the scale factor for a colour coordinate value; the format is a real number or an integer;

– "colour offset" is the offset factor for a colour coordinate value; the format is a real number or an integer.

NOTE 1 – For example, if the pair of real numbers or integers are called 'm' and 'n' where 'm' is the scaling factor and 'n' is the offset, then a defined colour value labelled 'X' is represented by the colour value '(mX)+n'.

The parameter "calibration data" supplies the information which defines the transform from the colour space values to the reference space. This parameter is optional.

Depending on the value of the parameter "colour space type", the parameter "calibration data" has one of the following sub-parameters and, possibly, sub-sub-parameters and sub-sub-sub-parameters:

if 'CIELUV' or 'CIELAB', then

"reference white":

– "Xn value"

– "Yn value"

– "Zn value"

if 'RGB', then

"reference white":

– "Xn value"

– "Yn value"

– "Zn value"

"matrix 1"

"matrix 2"

"colour look-up table":

– "number of entries"

– "m"

– "n"

– "colour table": one or more entries of the form:

  – "index"

  – "R value"

  – "G value"

  – "B value"

if 'CMYK' or 'CMY', then

"reference white":

– "Xn value"

– "Yn value"

– "Zn value"

"comments"

"grid specification": one or more entries of the form:

– "grid location":

  "C value"

  "M value"

  "Y value"

  "K value"

– "grid value":

  "X value"

  "Y value"

  "Z value"

For all colour spaces, the reference white value shall be included in the sub-parameter "reference white", that consists of the three sub-sub-parameters "Xn value", "Yn value" and "Zn value", which specify the CIE XYZ values of the reference white (X_n, Y_n, Z_n), that are real numbers or integers.

When the value of the parameter "colour space type" is 'RGB', the parameter "calibration data" has four sub-parameters. They are "reference white", "matrix 1", "matrix 2" and "colour look-up table". The value of the sub-parameters "matrix 1" and "matrix 2" consists of a 3×3 matrix of numbers. The numbers may be integers or reals. The sub-parameters "matrix 1", "colour look-up table" and "matrix 2" are optional.

The sub-parameter "colour look-up table" consists of the four sub-sub-parameters "number of entries", "m", "n" and "colour table".

The sub-sub-parameter "number of entries" specifies the number of entries in the look-up table. The value of this sub-sub-parameter is a non-negative integer.

The sub-sub-parameter "m" specifies a slope and the sub-sub-parameter "n" an offset. The value of each of these sub-sub-parameters is an integer. Together they can be used to transform floating point specification of R, G and B into an integer for indexing into the table, according to the equations:

R = nint(m*R + n);   where nint means rounded integer value

G = nint(m*G + n)

B = nint(m*B + n)

The sub-sub-parameter "colour table" contains the corrected R'G'B' specifications for the given uncorrected RGB. This sub-sub-parameter consists of the sub-sub-sub-parameters "index", "R value", "G value" and "B value". The sub-sub-sub-parameter "index" specifies a pointer as a means of indexing into the colour table. The values of the sub-sub-sub-parameters "R value", "G value" and "B value" are real or integer numbers. The particular table entry values used are arbitrary, and there need be no ordering among the entries within the colour table.

NOTE 2 – An example of the "colour look-up table" is:

number of entries = 256	m=	n=	
index	R'	G'	B'
0	0.001	0.005	0.007
255	1.0	1.0	1.0
240	0.89	0.92	0.91
128	0.50	0.53	0.52

The name LUT will be used for this type of look-up table in the following manner.

For the R, G and B floating point values, the R', G' and B' integer values will be determined by:

R'   =   R_LUT(nint(mR + n))

G'   =   G_LUT(nint(mG + n))

B'   =   B_LUT(nint(mB + n)) where nint = rounded integer value

These sub-parameters are used to transform the RGB colour tuples into the reference space. The order of the mathematical application of each sub-parameter is defined as "matrix 1", "colour look-up table", "matrix 2". For example, if "matrix 1" and a "colour look-up table" are defined, then the order of mathematical application is "matrix 1" to the RGB n-tuple and then application of the "colour look-up table". If, for example, "matrix 1", "matrix 2" and a "colour look-up table" are defined, then the order of mathematical application is "matrix 1" to the RGB n-tuple, then apply the "colour look-up table" and finally apply "matrix 2".

NOTE 3 – Inclusion of these two matrices and a colour look-up table will make it possible to transform RGB n-tuples to and from gamma corrected RGB colour spaces such as CCIR 624-3. Refer to ITU-T Rec. T.412 | ISO/IEC 8613-2 for more technical details.

When the value of the parameter "colour space type" is 'CMY' or 'CMYK', the parameter "calibration data" has three sub-parameters. They are "reference white", "comments" and "grid specification".

The sub-parameter "comments" is a string of characters from the document profile character set. This sub-parameter is optional.

The sub-parameter "grid specification" is a set of pairs of the following sub-sub-parameters:

–   "grid location", that consists of the sub-sub-sub-parameters "C value", "M value", "Y value" and "K value" (optional), which are real or integer values that specify a grid location;

–   "grid value", a CIE XYZ value corresponding to the value at the CMY(K) grid location, that consists of the sub-sub-sub-parameters "X value", "Y value" and "Z value", specified as real numbers.

The sub-parameter "grid specification" is mandatory.

NOTE 4 – It is recommended that the grid specification consists of at least three pairs.

The CMY(K) calibration data are a table of XYZ values for the colours resulting from specific combinations of C, M, Y and (K) values. The XYZ values are specified for each grid location in the data stream. User comments may be added in the sub-parameter "comments" and are non-interpretable. The sub-parameter "grid specification" is a set of pairs that specify the calibration values and their grid location.

It is assumed that the following colour space is implicitly declared:

"colour space id"	0		
"colour space type"	'RGB'		
"colour space name"	'null'		
"colour data scaling"			
"colour scale"	1.0		
"colour offset"	0.0		
"calibration data"			
"reference white"	0.950	1.0	1.089

NOTE 5 – These are the X_n, Y_n and Z_n derived from CIE standard illuminant D_{65}.

"matrix 1"	0.394	0.365	0.192
	0.212	0.701	0.087
	0.019	0.112	0.958

NOTE 6– These coefficients were computed from the SMPTE RP145 and SMPTE RP37.

7.4 Document management attributes

7.4.1 Document description

7.4.1.1 Title

This attribute gives the name of the document as specified by the author.

The value of this attribute consists of a string of characters from the document profile character set.

7.4.1.2 Subject

This attribute contains information to indicate the subject of document.

The value of this attribute consists of a string of characters from the document profile character set.

7.4.1.3 Document reference

This attribute identifies the document. Its value is used to refer to the document from other documents (see 7.2.11, 7.2.12 and 7.4.5).

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

7.4.1.4 Document type

This attribute specifies the type of document, e.g. memorandum, letter, report, resource. This attribute specifies only an informal name; it does not specify a relation to a particular document class description.

The value of this attribute consists of a string of characters from the document profile character set.

7.4.1.5 Abstract

This attribute contains information to summarize the document.

The value of this attribute consists of a string of characters from the document profile character set.

7.4.1.6 Keywords

This attribute specifies one or more character strings that permit logical associations to be made about the content of the document.

The value of this attribute consists of string(s) of characters from the document profile character set.

7.4.2   Dates and times

7.4.2.1   Document date and time

This attribute specifies the date and, optionally, the time of day that the originators associate with the document.

The value of this attribute consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.2   Creation date and time

This attribute specifies the date and, optionally, the time of day when the document was initially created.

The value of this attribute consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.3   Local filing date and time

This attribute specifies the date and, optionally, the time of day when the document was filed. When more than one entry occurs, the last entry indicates the most recent local filing date and time.

The value of this attribute consists of a sequence of parameters. Each parameter consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.4   Expiry date and time

This attribute specifies the date and, optionally, the time of day after which the document is considered to be invalid.

The value of this attribute consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.5   Start date and time

This attribute specifies the date and, optionally, the time of day after which the document is considered to be valid.

The value of this attribute consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.6   Purge date and time

This attribute specifies the date and, optionally, the time of day after which the document can be purged from wherever it is stored.

The value of this attribute consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.7   Release date and time

This attribute specifies the date and, optionally, the time of day after which the document can be released from any restrictions specified in the attribute "security classification".

The value of this attribute consists of a date character string and, optionally, a time of day character string, in accordance with ISO 8601.

7.4.2.8   Revision history

This attribute specifies the history of the document, indicating when, where and by whom the document was created and revised.

The value of this attribute consists of a sequence of groups of parameters. Each group forms an entry in the history. The first group in the sequence provides information on the creation of the document. The last group in the sequence provides information on the current version of the document. Each group consists of one or more of the following five optional parameters: "revision date and time", "version identifier", "reviser(s)", "version reference" and "user comments"; where

–   "revision date and time" indicates the date and, optionally, the time of day on which a revision occurred; the format is in accordance with ISO 8601;

–   "version identifier" indicates the version identifier of the document resulting from the revision; the format is a string of characters from the document profile character set;

– "reviser(s)" identifies the person(s) who carried out a revision; the identification includes one or more entries, each entry may include the specification of the name of one or more individuals, information to identify their position within an organization, and the name of the organization; the format consists of a set of entries, each entry consists of one or more of the following three optional sub-parameters: "name(s)", "position" and "organization"; where

– "name(s)" has the format of one or more personal names, according to the format specified in Annex A;

– "position" is a string of characters from the document profile character set;

– "organization" is a string of characters from the document profile character set;

– "version reference" is either an ASN.1 object identifier or a string of characters from the document profile character set; the value of this parameters is equal to the value of the document profile attribute "document reference" of the document referred to;

– "user comments" describes the revisions made; the value of this parameter is a string of characters from the document profile character set.

7.4.3 Originators

7.4.3.1 Organizations

This attribute identifies the originating organization(s) associated with the document.

The value of this attribute consists of string(s) of characters from the document profile character set.

7.4.3.2 Preparers

This attribute identifies the name(s) of the person(s) and/or organization(s) responsible for the physical preparation of the document.

The value of this attribute consists of one or more entries. Each entry specifies one or both of the following parameters:

– "personal name of preparer", according to the format specified in Annex A;

– "preparer's organization", a string of characters from the document profile character set, which indicates information about the organization responsible for preparing the document, e.g. name, address, telephone number.

7.4.3.3 Owners

This attribute identifies the name(s) of the person(s) and/or organization(s) responsible for the content of the document.

The value of this attribute consists of one or more entries. Each entry specifies one or both of the following parameters:

– "personal name of owner", according to the format specified in Annex A;

– "owner's organization", a string of characters from the document profile character set, which indicates information about the organization which owns the document, e.g. name, address, telephone number.

7.4.3.4 Authors

This attribute identifies the name(s) of the person(s) and/or organization(s) responsible for the preparation of the intellectual content of the document.

The value of this attribute consists of one or more entries. Each entry specifies one or both of the following parameters:

– "personal name of author", according to the format specified in Annex A;

– "author's organization", a string of characters from the document profile character set, which indicates information about the organization responsible for the authorship of the document, e.g. name, address, telephone number.

7.4.4 Other user information

7.4.4.1 Copyright

The value of this attribute consists of one or more entries. Each entry specifies one or both of the following parameters:

– "copyright information", identifying the name(s) of the legal party (parties) in whom the copyright of the document is vested; the value of this parameter consists of string(s) of characters from the document profile character set;

– "copyright dates", specifying the date(s) associated with the copyright by the holders(s) identified by the parameter "copyright information"; the value of this parameter consists of string(s) of characters representing date(s) in accordance with ISO 8601.

7.4.4.2 Status

This attribute specifies the document status, e.g. working paper, draft proposal.

The value of this attribute consists of a string of characters from the document profile character set.

7.4.4.3 User-specific codes

This attribute specifies additional user-specific code(s), e.g. contract number, project number, budget code.

The value of this attribute consists of string(s) of characters from the document profile character set.

7.4.4.4 Distribution list

This attribute specifies a list of the intended recipients of the document.

The value of this attribute consists of one or more entries. Each entry specifies one or both of the following parameters:

– "personal name of recipient", according to the format specified in Annex A;

– "recipient's organization", a string of characters from the document profile character set, which indicates information about the organization with which the recipient is associated, e.g. name, address, telephone number.

7.4.4.5 Additional information

This attribute may be used for information that cannot be specified by any other attribute of the document profile.

This attribute can have any value.

7.4.5 External references

7.4.5.1 References to other documents

This attribute specifies reference(s) to any other associated document(s). It consists of one or more entries.

The value of each entry 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.

7.4.5.2 Superseded documents

This attribute specifies reference(s) to document(s) superseded by the current document. It consists of one or more entries.

The value of each entry 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.

7.4.6 Local file references

This attribute specifies where a copy (copies) of the document may be found. It consists of one or more entries, one for each location where a copy (copies) of the document may be found.

Each entry consists of one or more of the three parameters:

– "file name";

– "location of the document";

– "user comments".

The value of the parameter "file name" is a string of characters that can be used to identify the document uniquely in a filing system. The parameter "location of the document" specifies the location of the document in a filing system, for example the name of the filing system, the name of the directory and folder in which the document is contained. The parameter "user comments" is used to provide user-readable comments.

The value of each parameter is a string of characters from the document profile character set.

7.4.7 Content attributes

7.4.7.1 Document size

This attribute represents the estimated size of the whole document, expressed as a number of 8-bit bytes, where the estimate must not be less than the actual size. The size includes that of the document profile and the document body (if present).

The value of this attribute is a positive integer, which is not less than the number of 8-bit bytes in the document data stream.

7.4.7.2 Number of pages

This attribute specifies the number of pages in the specific layout structure (if any) of the document.

The value of this attribute is a positive integer.

7.4.7.3 Languages

This attribute specifies the primary language(s) in which the content of the document is written.

The value of this attribute consists of one or more entries, each entry is a string of characters from the document profile character set.

7.4.8 Security information

These attributes provide security information only and are not intended to ensure security measures.

7.4.8.1 Authorization

This attribute identifies the person or organization approving or authorizing the document.

The value of this attribute consists either of a personal name with the format specified in Annex A, or the name of an organization consisting of a string of characters from the document profile character set.

7.4.8.2 Security classification

This attribute specifies the security classification assigned by the document owner(s) relating to such aspects as its visibility, reproduction, storage, audit and destruction requirements.

The value of this attribute consists of a string of characters from the document profile character set.

7.4.8.3 Access rights

This attribute specifies the access right(s) to the document relating to its privacy, as defined by the current owner(s) of the document.

The value of this attribute consists of string(s) of characters from the document profile character set.

7.5 Security attributes

These attributes provide information about those parts of the document that are protected in a secure manner, i.e. provide confidentiality, integrity, authenticity or non-repudiation of origin.

The attribute "sealed information encoding" is concerned with the encoding method that is used to produce and to check the seals.

The attribute "ODA security label" is concerned with an indication to the system of how to treat the document as a whole.

All the other attributes in this subclause are concerned with protected parts of the document.

The attributes described in 7.5.3 to 7.5.5 are concerned with integrity, authenticity and non-repudiation of origin.

The attributes described in 7.5.6 to 7.5.8 are concerned with confidentiality.

When any of these attributes are specified, they must be present in the regular document profile preceding the document body.

7.5.1 Sealed information encoding

This attribute specifies the encoding rules used to encode those parts of the document which are sealed.

The value of this attribute is an ASN.1 object identifier referring to the set of encoding rules that is used in the document for creating the seals. This ASN.1 object identifier shall refer to a set of encoding rules providing a unique mapping of the abstract syntax onto the transfer syntax.

> NOTE – At present, two such sets of encoding rules are defined in ASN.1: the Distinguished and Canonical Encoding Rules.

This attribute shall be specified if the document contains any sealed document profiles or any pre-sealed or post-sealed document body parts.

7.5.2 ODA security label

This attribute specifies the ODA security label associated with this document.

It has one or both of the following parameters:

- "ODA label text" – The value consists of a string of characters from the document profile character set;
- "ODA label data" – The value consists of an octet string.

7.5.3 Sealed document profiles

This attribute specifies information associated with each sealed document profile: where to find the sealed document profile, the privileged recipients associated with it and the information needed to check its seal.

It consists of a set of entries, one for each sealed document profile. Each entry consists of two or three parameters:

a) "sealed document profile identifier" – Sequence of two integers representing a sealed document profile identifier (see ITU-T Rec. T.412 | ISO/IEC 8613-2);

b) "privileged recipients" – An optional set of personal names according to the format specified in Annex A identifying privileged recipients associated with this sealed document profile;

c) "document profile seal", that consists of one or more of the sub-parameters:

1) "seal method" – An optional sub-parameter that consists of one or more of the following sub-sub-parameters identifying the seal algorithm used:

i) "fingerprint method" – An ASN.1 object identifier and/or a character string identifying the algorithm used to create the fingerprint;

ii) "fingerprint information", that consists of one or both of the following sub-sub-sub-parameters providing information that may be needed for correctly using the algorithm to create the fingerprint:

- "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

- "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-sub-parameter provides information that may be needed for correctly using the algorithm to create the fingerprint;

iii) "sealing method" – An ASN.1 object identifier and/or a character string identifying the sealing algorithm used,

iv) "sealing information", that consists of one or both of the following sub-sub-sub-parameters providing information that may be needed for correctly using the sealing algorithm:

- "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

- "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-sub-parameter provides information that may be needed for correctly using the sealing algorithm;

2) "sealed information" – An optional sub-parameter that consists of one or more of the following sub-sub-parameters specifying what has been sealed:

    v) "fingerprint" – An octet string representing the fingerprint;

    vi) "time" – A date and time character string in accordance with ISO 8601, representing the date and time the seal was created;

    vii) "seal originator" – A personal name according to the format specified in Annex A identifying the creator of the seal;

    viii) "location" – An ASN.1 object identifier and/or a character string identifying the location of the creator of the seal;

3) "seal" – An octet string representing the seal.

7.5.4 Pre-sealed document body parts

This attribute specifies information associated with each pre-sealed document body part: which body parts have been sealed, the privileged recipients associated with them and the information needed to check their seals.

It consists of a set of entries, one for each pre-sealed document body part. Each entry consists of three or four parameters:

a) "seal identifier" – An integer identifying the seal;

b) "sealed constituents" – A sequence of integer sequences identifying the pre-sealed constituents (see ITU-T Rec. T.412 | ISO/IEC 8613-2);

c) "privileged recipients" – An optional set of personal names according to the format specified in Annex A identifying privileged recipients associated with this pre-sealed document body part;

d) "document body part seal", that consists of one or more of the sub-parameters:

1) "seal method" – An optional sub-parameter that consists of one or more of the following sub-sub-parameters identifying the seal algorithm used:

    i) "fingerprint method" – An ASN.1 object identifier and/or a character string identifying the algorithm used to create the fingerprint;

    ii) "fingerprint information", that consists of one or both of the following sub-sub-sub-parameters providing information that may be needed for correctly using the algorithm to create the fingerprint:

      – "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

      – "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-sub-parameter provides information that may be needed for correctly using the algorithm to create the fingerprint;

    iii) "sealing method" – An ASN.1 object identifier and/or a character string identifying the sealing algorithm used;

    iv) "sealing information", that consists of one or both of the following sub-sub-sub-parameters providing information that may be needed for correctly using the sealing algorithm:

      – "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

      – "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-sub-parameter provides information that may be needed for correctly using the sealing algorithm;

2) "sealed information" – An optional sub-parameters that consists of one or more of the following sub-sub-parameters specifying what has been sealed:

    v) "fingerprint" – An octet string representing the fingerprint;

    vi) "time" – A date and time character string in accordance with ISO 8601, representing the date and time the seal was created;

vii) "seal originator" – A personal name according to the format specified in Annex A identifying the creator of the seal;

viii) "location" – An ASN.1 object identifier and/or a character string identifying the location of the creator of the seal;

3) "seal" – An octet string representing the seal.

7.5.5 Post-sealed document body parts

This attribute specifies information associated with each post-sealed document body part: which body parts have been sealed, the privileged recipients associated with them and the information needed to check their seals.

It consists of a set of entries, one for each post-sealed document body part. Each entry consists of three or four parameters:

a) "seal identifier" – An integer identifying the seal;

b) "sealed constituents" – A sequence of integer sequences identifying the post-sealed constituents (see ITU-T Rec. T.412 | ISO/IEC 8613-2);

c) "privileged recipients" – An optional set of personal names according to the format specified in Annex A identifying privileged recipients associated with this post-sealed document body part;

d) "document body part seal", that consists of one or more of the sub-parameters:

1) "seal method" – An optional sub-parameter that consists of one or more of the following sub-sub-parameters identifying the seal algorithm used:

  i) "fingerprint method" – An ASN.1 object identifier and/or a character string identifying the algorithm used to create the fingerprint;

  ii) "fingerprint information", that consists of one or both of the following sub-sub-sub-parameters providing information that may be needed for correctly using the algorithm to create the fingerprint:

    – "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

    – "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-sub-parameter provides information that may be needed for correctly using the algorithm to create the fingerprint;

  iii) "sealing method" – An ASN.1 object identifier and/or a character string identifying the sealing algorithm used;

  iv) "sealing information", that consists of one or both of the following sub-sub-sub-parameters providing information that may be needed for correctly using the sealing algorithm:

    – "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

    – "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-sub-parameter provides information that may be needed for correctly using the sealing algorithm;

2) "sealed information" – An optional sub-parameters that consists of one or more of the following sub-sub-parameters specifying what has been sealed:

  v) "fingerprint" – An octet string representing the fingerprint;

  vi) "time" – A date and time character string in accordance with ISO 8601, representing the date and time the seal was created;

  vii) "seal originator" – A personal name according to the format specified in Annex A identifying the creator of the seal;

  viii) "location" – An ASN.1 object identifier and/or a character string identifying the location of the creator of the seal;

3) "seal" – An octet string representing the seal.

7.5.6 Enciphered document profiles

This attribute specifies information associated with each enciphered document profile: where to find the enciphered document profile, the privileged recipients associated with it and the information needed to decipher it.

It consists of a set of entries, one for each enciphered document profile. Each entry consists of the parameters:

a) "protected document part identifier" – Sequence of two integers representing an enciphered document profile identifier (see ITU-T Rec. T.412 | ISO/IEC 8613-2);

b) "privileged recipient information", that consists of a set of entries, each entry consists of one or more of the following sub-parameters:

   1) "privileged recipients" – A set of personal names according to the format specified in Annex A identifying privileged recipients associated with this enciphered document profile;

   2) "method information" – An ASN.1 object identifier and/or a character string identifying the encipherment algorithm used;

   3) "key information", that consists of one or both of the following sub-sub-parameters that provide information for the privileged recipient to deduce the key needed to decipher the enciphered document profile:

      i) "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

      ii) "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-parameter provides the privileged recipient with information on how to deduce the key needed for the deciphering.

7.5.7 Pre-enciphered document body parts

This attribute specifies information associated with each pre-enciphered document body part: where to find the enciphered document body part, the privileged recipients associated with it and the information needed to decipher it.

It consists of a set of entries, one for each pre-enciphered document body part. Each entry consists of the parameters:

a) "protected document part identifier" – Sequence of two integers representing a pre-enciphered document body part identifier (see ITU-T Rec. T.412 | ISO/IEC 8613-2);

b) "privileged recipient information", that consists of a set of entries, each entry consists of one or more of the following sub-parameters:

   1) "privileged recipients" – A set of personal names according to the format specified in Annex A identifying privileged recipients associated with this pre-enciphered document body part;

   2) "method information" – An ASN.1 object identifier and/or a character string identifying the encipherment algorithm used;

   3) "key information", that consists of one or both of the following sub-sub-parameters that provide information for the privileged recipient to deduce the key needed to decipher the pre-enciphered document body part:

      i) "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

      ii) "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-parameter provides the privileged recipient with information on how to deduce the key needed for the deciphering.

7.5.8 Post-enciphered document body parts

This attribute specifies information associated with each post-enciphered document body part; where to find the enciphered document body part, the privileged recipients associated with it and the information needed to decipher it.

It consists of a set of entries, one for each post-enciphered document body part. Each entry consists of the parameters:

a) "protected document part identifier" – Sequence of two integers representing a post-enciphered document body part identifier (see ITU-T Rec. T.412 | ISO/IEC 8613-2);

b) "privileged recipient information", that consists of a set of entries, each entry consists of one or more of the following sub-parameters:

1) "privileged recipients" – A set of personal names according to the format specified in Annex A identifying privileged recipients associated with this post-enciphered document body part;

2) "method information" – An ASN.1 object identifier and/or a character string identifying the encipherment algorithm used;

3) "key information", that consists of one or both of the following sub-sub-parameters that provide information for the privileged recipient to deduce the key needed to decipher the post-enciphered document body part:

   i) "key method" – An ASN.1 object identifier and/or a character string identifying the method to be used to deduce the key;

   ii) "additional information" – A character string and/or an octet string, which in combination with the previous sub-sub-parameter provides the privileged recipient with information on how to deduce the key needed for the deciphering.

Annex A

Format of personal names

(This annex forms an integral part of this Recommendation | International Standard.)

The format of a personal name consists of a group of up to four parameters:

–   "surname";

–   "givenname";

–   "initials";

–   "generation qualifier".

The parameter "surname" is the family name of a person. This parameter is mandatory.

The parameter "givenname" is the name by which a person is commonly know. This parameter is optional.

The parameter "initials" consists of a sequence of the initial characters of any names other than "surname" and "givenname", in the order in which they are normally written. This parameter is optional.

The parameter "generation qualifier" is the qualifier by which the generation of a person is specified. This parameter is optional.

The format of each of the parameters is a string of characters from the document profile character set.

NOTE – The format defined above is the same as that given in X.400-Series Recommendations (1988) | ISO/IEC 10021.

Annex B

Minimum set of document profile attributes to be supported by document application profiles

(This annex forms an integral part of this Recommendation | International Standard.)

The document profile attributes listed in Table B.1 shall be included in any document profile level defined as a part of a document application profile, subject to the conditions specified in the explanatory notes referred to in the second column of the table.

The requirements for the use of these attributes in an actual instance of interchange of a document profile are indicated by the classifications "M" (mandatory) and "NM" (non-mandatory) in the third column of the table.

Table B.1 – Minimum set of document profile attributes

Attributes	Condition	Classification
Presence of document constituents		
– generic layout structure	(Note 1)	NM
– specific layout structure	(Note 1)	NM
– generic logical structure	(Note 1)	NM
– specific logical structure	(Note 1)	NM
– layout styles	(Note 1)	NM
– presentation styles	(Note 1)	NM
– external-document class	(Note 2)	NM
– resource-document	(Note 3)	NM
– resources	(Note 4)	NM
Document characteristics		
– document application profile		M
– document application profile defaults	(Note 5)	NM
– document architecture class		M
– content architecture classes		M
– interchange format class		M
– ODA version		M
Non-basic document characteristics		
– page dimensions	(Note 6)	NM
– medium types	(Note 6)	NM
– layout paths	(Note 6)	NM
– protections	(Note 6)	NM
– block alignments	(Note 6)	NM
– fill orders	(Note 6)	NM
– transparencies	(Note 6)	NM
– colours	(Note 6)	NM
– borders	(Note 6)	NM
– page positions	(Note 6)	NM
– types of coding	(Note 6)	NM
– coding attributes	(Note 6)	NM
– presentation features	(Note 6)	NM
Non-basic structure characteristics		
– number of objects per page	(Note 7)	NM
Additional document characteristics		
– unit scaling	(Note 8)	NM
– fonts list	(Note 9)	NM

Table B.1 *(concluded)*

Colour characteristics	(Note 10)	NM
Colour spaces list	(Note 10)	NM
Document management attributes – document reference		M

NOTES

1   To be included if the document architecture level supports the corresponding constituents.

2   To be included if the document application profile permits references to external document classes.

3   To be included if the document application profile permits references to resource documents.

4   To be included if the document application profile permits documents to act as resource documents.

5   To be included if the document application profile defines any non-standard default values.

6   To be included if the document application profile defines any of the corresponding non-basic features.

7   To be included if the document application profile distinguishes between basic and non-basic numbers of objects per page.

8   To be included if the document application profile supports the corresponding feature.

9   To be included if the document application profile permits character fonts to be designated.

10   To be included if the document application profile permits the specification of colours.

Annex C

Example

(This annex does not form an integral part of this Recommendation | International Standard.)

NOTE – The following example of a document profile is provided in the form of a table for easy reference back to the subclauses that describe the attributes. Not all document profile attributes are used in the example.

Table C.1 – Example of a document profile

References Subclause	Attribute	Value
7.2	Presence of doc. constituents	
7.2.1	Generic layout structure	'complete generator set'
7.2.2	Specific layout structure	'present'
7.2.4	Specific logical structure	'present'
7.2.12	Resource document	Finance Master, Widget Inc., 4511 McKenzie, Atlanta, Georgia, USA.
7.3	Document characteristics	
7.3.1	Document application profile	[TOP 5.5] a)
7.3.2	Document appl. profile defaults	Dimensions 10200, 13200 Transparency 'opaque'
7.3.3	Document architecture class	'formatted processable'
7.3.4	Content architecture classes	[f-p characters] a)
7.3.5	Interchange format class	'A'
7.3.6	ODA version	ITU-T Rec. T.410 – Series (1992)	ISO/IEC 8613:1993; version 2.00, 1992-05-01
7.3.8	Non-basic doc. characteristics	
7.3.8.4	Document constituent attributes	
7.3.8.4.1	Page dimensions	13200, 10200
7.3.8.4.2	Medium types	10200, 13200, 'recto'
7.3.8.4.4	Protections	'protected'
7.3.10	Additional doc. characteristics	
7.3.10.1	Unit scaling	12, 10
7.3.10.2	Fonts list	0, [FONT 0]; 1, [FONT 1] b)
7.4	Document management attributes	
7.4.1	Document description	
7.4.1.1	Title	May finance report
7.4.1.2	Subject	May results
7.4.1.3	Document reference	May financial prelim.
7.4.1.4	Document type	Report
7.4.1.5	Abstract	The current figures show an improvement in return on assets but still show an undercapitalization of production capacity.
7.4.1.6	Keywords	Finance, Financial, May, Return on assets
7.4.2	Dates and times	
7.4.2.1	Document date and time	1988-06-05
7.4.2.2	Creation date and time	1988-05-23T16:29:57
7.4.2.3	Local filing date and time	1988-06-05T11:51:03
7.4.2.4	Expiry date and time	1989
7.4.2.6	Purge date and time	1989-12-31
7.4.2.7	Release date and time	1988-06-05
7.4.3	Originators	
7.4.3.1	Organizations	Widget Inc., Finance and Control
7.4.3.2	Preparers	Maltby, Reginald, P.,
7.4.3.3	Owners	Widget Inc., 4511 McKenzie, Atlanta, Georgia, USA.
7.4.3.4	Authors	Dewey, Cheatam & Howe CPA

Table C.1 *(concluded)*

References Subclause	Attribute	Value
7.4.4	Other user information	
7.4.4.1	Copyright	Widget Inc., 1988
7.4.4.2	Status	May final report
7.4.4.4	Distribution list	D. Marks
		B. Bucks, Finance
		James K. Pencil, Audits
		D. Duck
7.4.4.5	Additional information	Signature receipt req'd
7.4.5	External references	
7.4.5.1	References to other documents	April finance report,
		May balance,
		May accounting prelim.
7.4.5.2	Superseded documents	May financial A
7.4.6	Local file references	mayfin
		financial_previous
		mayfin
		financial_current
7.4.7	Content attributes	
7.4.7.1	Document size	40447
7.4.7.2	Number of pages	16
7.4.7.3	Languages	US English
7.4.8	Security information	
7.4.8.1	Authorization	Widget Inc., Finance
7.4.8.2	Security classification	Company Financial
7.4.8.3	Access rights	Finance Group

a)   The actual value of this attribute would be an ASN.1 object identifier.

b)   The actual value of this attribute would be structured according to ISO/IEC 9541-1

Index

NOTE – The number(s) associated with each index entry indicate(s) the page(s) where the index entry can be found. Bold typeface indicates a definition.