

INTERNATIONAL
STANDARD

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8613-5

Second edition
1994-12-15

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

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

[ISO/IEC 8613-5:1994](https://standards.iteh.ai/catalog/standards/iso/69cb196b-c868-46d1-99e6-4f6009102372/iso-iec-8613-5-1994)

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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 8613-5 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.415.

This second edition cancels and replaces the first edition (ISO 8613-5:1989), 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*

Annex E forms an integral part of this part of ISO/IEC 8613. Annexes A, B, C, D, F and G are for information only.

INTRODUCTION

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

At present, ITU-T Rec. T.410 Series | ISO/IEC 8613 consists of:

- Introduction and general principles;
- Document structures;
- Document profile;
- Open document interchange format;
- 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 set of Recommendations | International Standards.

Development of this set of Recommendations | International Standards was originally in parallel with the ECMA-101 standard: *Open Document Architecture*.

This set of Recommendations | International Standards is a new edition of the CCITT T.410 Series of Recommendations (1988) and ISO 8613:1989.

Significant technical changes are the inclusion of the following amendments as agreed by CCITT 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.

This Recommendation | International Standard contains seven annexes:

- Annex A (non-integral): Coded representation;
- Annex B (non-integral): Application class tag assignments;
- Annex C (non-integral): Summary of object identifiers;
- Annex D (non-integral): Examples;
- Annex E (integral): Open Document Language (ODL) (this annex is applicable to ISO/IEC 8613-5 only);
- Annex F (non-integral): Examples of Open Document Language representations (this annex is applicable to ISO/IEC 8613-5 only);
- Annex G (non-integral): Use of the Distinguished or Canonical Encoding Type.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

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

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 these Recommendations | International Standards, documents are considered 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 – These Recommendations | International Standards are 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 these Recommendations | International Standards, ODA also provides for arbitrary content types to be included in documents.

These Recommendations | International Standards apply to the interchange of documents by means of data communications or the exchange of storage media.

These Recommendations | International Standards provide 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.

These Recommendations | International Standards also provide for the interchange of ODA information structures used for the processing of interchanged documents.

This Recommendation | International Standard defines

- the format of the data stream used to interchange documents structured in accordance with ITU-T Rec. T.412 | ISO/IEC 8613-2;
- the representation of the constituents which may appear in an interchanged document.

NOTES

- 1 This ITU-T Recommendation | International Standard does not specify the coded representation of content elements.
- 2 Data formats for presentation attributes and coding attributes are defined in other Recommendations | International Standards in ITU-T Rec. T.410 Series | ISO/IEC 8613.

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 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 edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T 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.414 (1993) | ISO/IEC 8613-4:1994, *Information technology – Open Document Architecture (ODA) and Interchange Format: Document profile.*
- 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.*
- ITU-T Recommendation X.209-3¹⁾ | ISO/IEC 8825-3:...¹⁾, *Information technology – Open Systems Interconnection – Specification of ASN.1 Encoding Rules: Distinguished and Canonical encoding rules.*
- ITU-T Recommendation X.509 (1993) | ISO/IEC 9594-8:1994, *The Directory – Authentication framework.*

2.2 Paired Recommendations | International Standards equivalent in technical content

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1).*
ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*
- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*

2.3 Additional references

- ISO 2022:1986, *Information processing – ISO 7-bit and 8-bit coded character sets – Code extension techniques.*
- 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 8879:1986, *Information processing – Text and office systems – Standard Generalized Markup Language (SGML).*
- ISO 9069:1988, *Information processing – SGML support facilities – SGML Document Interchange Format (SDIF).*
- ISO/IEC 9541-2:1991, *Information technology – Font information interchange – Part 2: Interchange format.*

3 Definitions

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

In addition, the definitions of CCITT Rec. X.208 | ISO/IEC 8824 and CCITT Rec. X.209 | ISO/IEC 8825 apply to this Recommendation | International Standard.

¹⁾ Presently at the stage of draft.

4 Abbreviations

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

For the purposes of this Specification, the following additional abbreviations apply:

DTD	Document type definition
EOC	End of contents
GI	SGML generic identifier
IA5	International Alphabet no. 5
ID	SGML unique identifier
LIT	Literal start or end
LITA	Literal start or end (alternative)
LPD	Link process definition
OSI	Open Systems Interconnection
ULA	Upper Layer Applications
UTC	Coordinated Universal Time

5 Conventions

For the purpose of this Specification, the conventions given in ITU-T Rec. T.411 | ISO/IEC 8613-1 apply.

6 Document representations

A document structured in accordance with ITU-T Rec. T.410 Series | ISO/IEC 8613 is represented for interchange by either the Open Document Interchange Format (ODIF), or the Open Document Language (ODL) in conjunction with the SGML Document Interchange Format (SDIF). The ODIF and ODL/SDIF representations are technically equivalent; a document can be transformed from one to the other without loss of semantic information about the document constituents and attributes.

The use of ODL and SDIF is applicable to ISO/IEC 8613 only.

NOTE – Both data structure (ODIF) and language (ODL) representations have been standardized in order to meet the document representation requirements of distinct application environments. ODIF, being a data structure specified using ASN.1, is particularly intended for use in an OSI environment. ODL is particularly appropriate for systems that share information through marked-up text files, especially where human users can access the markup directly.

6.1 ODIF

ODIF is an abstract data syntax in which the constituents and attributes of the document are represented by a hierarchy of data structures and data items, specified using the abstract syntax notation ASN.1 defined in CCITT Rec. X.208 | ISO/IEC 8824.

The coded representation of each data structure or data item is obtained by applying a set of encoding rules.

ODIF is specified in clause 7.

NOTE – ASN.1 is a formal description method that allows data types relevant to an application to be specified in terms of other data types, including basic data types such as “integer” and “octet string” which are defined in CCITT Rec. X.208 | ISO/IEC 8824 itself. Basic encoding rules for ASN.1 are defined in CCITT Rec. X.209 | ISO/IEC 8825 and are summarized in Annex A.

6.2 ODL and SDIF

The use of ODL and SDIF is applicable to ISO/IEC 8613 only.

ODL is a language in which the constituents and attributes of the document are identified by descriptive tags, and are grouped into one or more storage entities (e.g. files) as the user may require.

For interchange, each ODL entity is represented as a single data structure or data item, specified using ASN.1, in a data stream constructed according to the SGML Document Interchange Format defined in ISO 9069.

ODL is specified in Annex E.

NOTE – ODL is an SGML application conforming to ISO 8879.

7 Open Document Interchange Format (ODIF)

7.1 General description

A document structured in accordance with ITU-T Rec. T.410 Series I ISO/IEC 8613 is represented by a data stream consisting of one or more data structures of the following types:

- document profile descriptor;
- layout object descriptor;
- layout object class descriptor;
- logical object descriptor;
- logical object class descriptor;
- presentation style descriptor;
- layout style descriptor;
- text unit;
- sealed document profile descriptor;
- enciphered document profile descriptor;
- pre-enciphered document body part descriptor;
- post-enciphered document body part descriptor.

These data structures are called *interchange data elements*. Within a data stream, the interchange data elements are ordered in accordance with certain rules which are specified below. This Specification defines two such sets of rules; they are called *interchange format class A* and *interchange format class B*.

Which of these sets of rules applies to a given data stream is indicated in the document profile descriptor. In all cases, a data stream contains one and only one document profile descriptor which is always the first interchange data element in the data stream. The document profile descriptor may be the only data structure in the data stream.

When an ODIF data stream is used as part of an ASN.1 external data type, the abstract syntax shall be formed by an ASN.1 **SEQUENCE OF** type referencing the **Interchange-Data-Element** type; the encoding of the data value shall consist of an integral number of octets, formed by applying the ASN.1 basic encoding rules; and the value of the associated ASN.1 object identifier shall be { 2 8 0 0 }.

NOTE – The manner of incorporating the interchange data elements, or the external data type, in an application protocol or the manner of mapping them on service data units (in an OSI environment) is not defined by this Specification.

7.2 Interchange format class A

According to interchange format class A, a data stream consists of one document profile descriptor and, optionally, one or more interchange data elements of the following types:

- layout object descriptor;
- layout object class descriptor;
- logical object descriptor;
- logical object class descriptor;
- presentation style descriptor;
- layout style descriptor;
- text unit;
- sealed document profile descriptor;
- enciphered document profile descriptor;
- pre-enciphered document body part descriptor;
- post-enciphered document body part descriptor.

The order of the interchange data elements is as follows:

- a) document profile descriptor;
- b) layout object class descriptors;

- c) logical object class descriptors;
- d) text units representing generic content portions;
- e) presentation style descriptors;
- f) layout style descriptors;
- g) layout object descriptors;
- h) logical object descriptors;
- i) text units representing specific content portions;
- j) sealed document profile descriptors;
- k) enciphered document profile descriptors;
- l) pre-enciphered document body part descriptors;
- m) post-enciphered document body part descriptors.

Within each of the groups of layout object descriptors and logical object descriptors, the order of the descriptors is equal to the sequential order defined in ITU-T Rec. T.412 | ISO/IEC 8613-2.

If the data stream contains layout object descriptors, the text units representing specific content portions are ordered according to the sequential layout order; otherwise, they are ordered according to the sequential logical order.

Within each of the other groups of interchange data elements, the order is arbitrary.

For basic objects for which alternative descriptions have been specified there is one descriptor representing the primary description and one descriptor for each alternative description. In the data stream, the descriptors for alternative descriptions of basic object descriptions follow immediately after the descriptors for their primary description, in the order of decreasing preference. The text units representing the content portions associated to alternative subtrees follow immediately after the text units representing the content portions associated to the primary subtree, in the order of decreasing preference.

7.3 Interchange format class B

According to interchange format class B, a data stream consists of one document profile descriptor and, optionally, one or more interchange data elements of the following types:

- layout object descriptor;
- layout object class descriptor;
- presentation style descriptor;
- text unit;
- sealed document profile descriptor;
- enciphered document profile descriptor;
- post-enciphered document body part descriptor.

Interchange format class B can be used only to represent documents that do not contain any specific or generic logical structure, i.e. documents that conform to the formatted document architecture class.

NOTE – Interchange format class B is provided only for use with the document application profile for the interchange of Group 4 facsimile documents as specified in CCITT Rec. T.503.

The order of the interchange data elements is as follows:

- a) document profile descriptor;
- b) layout object class descriptors and associated text units;
- c) presentation style descriptors;
- d) layout object descriptors and associated text units;
- e) sealed document profile descriptors;
- f) enciphered document profile descriptors;
- g) post-enciphered document body part descriptors.

Within the group of layout object class descriptors and associated text units, the order is such that a group of descriptors that have identical identifiers, except for the last number in each identifier, follow each other in the data stream without any other descriptor between them. However, each descriptor of an object class for a basic layout object is followed immediately by the associated text units.

Within the group of layout object descriptors and associated text units, the order of the descriptors is equal to the sequential order defined in ITU-T Rec. T.412 | ISO/IEC 8613-2. However, each descriptor of a basic layout object is followed immediately by the associated text units.

Within the group of presentation style descriptors, the order is arbitrary.

7.4 Descriptors and text units

A document profile descriptor, layout object descriptor, layout object class descriptor, logical object descriptor, logical object class descriptor, presentation style descriptor, layout style descriptor, sealed document profile descriptor, enciphered document profile descriptor, pre-enciphered document body part descriptor or post-enciphered document body part descriptor consists of simple and composite data items representing the attributes of the constituent concerned.

The document profile, each object class, each style, each object and each protected part is represented by one descriptor.

A text unit consists of two parts:

- a) an attribute field, i.e. a data structure consisting of simple and composite data items representing the attributes of the content portion concerned;
- b) an information field, i.e. a data structure that is either a data item or a set of data items representing the content elements making up the content portion concerned.

Each content portion is represented by one text unit.

The data formats of the interchange data elements are specified in 7.6 to 7.15, using the abstract syntax notation ASN.1 defined in CCITT Rec. X.208 | ISO/IEC 8824.

NOTE – Subclauses 7.6 to 7.15 by themselves do not completely define the data stream format; additional rules are specified in 7.1 to 7.5 of this Specification and in other Specifications in ITU-T Rec. T.410 Series | ISO/IEC 8613. For example, the keyword **OPTIONAL** merely indicates that a particular data structure or data item is not part of every instance of the containing data structure; the conditions controlling the presence or absence of the data structure or data item are specified in ITU-T Rec. T.412 or T.414 | ISO/IEC 8613-2 or 8613-4.

7.5 ASN.1 encoding and cryptographic techniques

7.5.1 Enciphered information

The parts of the document body or the parts of the document profile which are the output of an encipherment process will form a new constituent of the document. It consists of an identifier and the enciphered information. The latter is of the ASN.1 **OCTET STRING** type, the value of which will remain unchanged in any transfer.

7.5.2 Sealed information

The ODA security attributes and ODA document parts are defined in ASN.1. To ensure a unique encoding of ASN.1, the ASN.1 Distinguished or Canonical Encoding Rules are used. These rules are defined in ITU-T Rec. X.209-3 | ISO/IEC 8825-3, and information on how they can be used is found in Annex G. The ASN.1 Distinguished and Canonical Encoding Rules specify a set of restrictions on the ASN.1 Basic Encoding Rules, which provide a unique mapping between ASN.1 and its representation. This is required from a cryptographical point of view.

The main difference between the Distinguished and the Canonical Encoding Rules is that the former use definite length encoding, while the latter use indefinite length. The Distinguished Encoding Rules are more suitable if the encoded value is small enough to fit into the available memory and there is a need to skip rapidly over some nested values. The Canonical Encoding Rules are more suitable if there is a need to encode values that are so large that they cannot readily fit into the available memory or it is necessary to encode and transmit part of a value before the entire value is available.

The parts of the document profile and the parts of the document body subject to sealing will remain unchanged after the sealing process. The ASN.1 Distinguished and Canonical Encoding Rules will assure that the same encoding of the information can be established by the recipient as that used by the originator when sealing. This is necessary in order to obtain identical fingerprints of the information, the means by which one associates the content with the seal.

The seal is composed of a set of data. Three basic steps are performed to generate this seal:

- a) The chosen information (encoded using the ASN.1 Distinguished or Canonical Encoding Rules, according to the document profile attribute “sealed information encoding”) is input to a hashing process which generates a fingerprint, the encoded form of the fingerprint being an **OCTET STRING**.
- b) The fingerprint together with additional optional information is called **Sealed-Information**. The optional parameters are the date and time of day, in accordance with ISO 8601, the name and the location of the creator of the seal. This is (again encoded using the ASN.1 Distinguished or Canonical Encoding Rules, according to the document profile attribute “sealed information encoding”) input to a cryptographic process which generates the seal, the encoded form of the seal being an **OCTET STRING**.
- c) Information on the seal method is provided such that the seal can be checked. This is specified in the **Seal-Method** type and consists of information on the generation of the fingerprint as well as information on how to decipher the seal.

The order of the constituents is the same as the one specified by the interchange format class.

When the order of the constituents is not completely specified by the interchange format class, the following rules apply:

- object classes are to be sealed in the same order as they are specified in the parameter “sealed constituents”;
- for interchange format class A, the common content portions are to be sealed in the same order as the corresponding object classes;
- presentation styles are to be sealed in the same order as they are specified in the parameter “sealed constituents”;
- layout styles are to be sealed in the same order as they are specified in the parameter “sealed constituents”.

7.6 Interchange data elements

Interchange-Data-Elements { 2 8 1 5 5 }

DEFINITIONS ::= BEGIN

EXPORTS Interchange-Data-Element;

IMPORTS Document-Profile-Descriptor

FROM Document-Profile-Descriptor -- see 7.7
 Layout-Class-Descriptor, Layout-Object-Descriptor
 FROM Layout-Descriptors -- see 7.9
 Logical-Class-Descriptor, Logical-Object-Descriptor
 FROM Logical-Descriptors -- see 7.10
 Presentation-Style-Descriptor, Layout-Style-Descriptor
 FROM Style-Descriptors -- see 7.11
 Text-Unit
 FROM Text-Units -- see 7.13
 Sealed-Doc-Prof-Descriptor, Enciphered-Doc-Prof-Descriptor,
 Preenciphered-Bodypart-Descriptor, Postenciphered-Bodypart-Descriptor
 FROM Protected-Part-Descriptors; -- see 7.15

```
Interchange-Data-Element ::= CHOICE {
  document-profile [0] IMPLICIT Document-Profile-Descriptor,
  layout-object-class [1] IMPLICIT Layout-Class-Descriptor,
  layout-object [2] IMPLICIT Layout-Object-Descriptor,
  content-portion [3] IMPLICIT Text-Unit,
  logical-object-class [5] IMPLICIT Logical-Class-Descriptor,
  logical-object [6] IMPLICIT Logical-Object-Descriptor,
  presentation-style [7] IMPLICIT Presentation-Style-Descriptor,
  layout-style [8] IMPLICIT Layout-Style-Descriptor,
  sealed-doc-prof-descriptor [9] IMPLICIT Sealed-Doc-Prof-Descriptor,
  enciphered-doc-prof-descriptor [10] IMPLICIT Enciphered-Doc-Prof-Descriptor,
  preenciphered-bodypart-descriptor [11] IMPLICIT Preenciphered-Bodypart-Descriptor,
  postenciphered-bodypart-descriptor [12] IMPLICIT Postenciphered-Bodypart-Descriptor }

```

END

7.7 Document profile descriptor

Document-Profile-Descriptor { 2 8 1 5 6 }

DEFINITIONS ::= BEGIN

EXPORTS Document-Profile-Descriptor, Character-Data;

IMPORTS Resource-Name, Object-or-Class-Identifier, Protected-Part-Identifier, Style-Identifier -- see 7.8
 FROM Identifiers-and-Expressions
 Measure-Pair, Transparency, Colour, Dimension-Pair, One-Of-Four-Angles,
 Border, Medium-Type, Comment-String,
 Content-Background-Colour, Content-Foreground-Colour -- see 7.9
 FROM Layout-Descriptors
 Protection -- see 7.10
 FROM Logical-Descriptors
 Content-Architecture-Class, Content-Type, Block-Alignment, Fill-Order -- see 7.11
 FROM Style-Descriptors
 Type-Of-Coding -- see 7.13
 FROM Text-Units
 Colour-Characteristics, Colour-Spaces-List, Colour-Expression, Colour-Table -- see 7.14
 FROM Colour-Attributes
 Character-Content-Defaults, Char-Presentation-Feature,
 Character-Coding-Attribute
 FROM Character-Profile-Attributes { 2 8 1 6 4 } -- see ITU-T Rec. T.416 | ISO/IEC 8613-6
 Raster-Gr-Content-Defaults, Ra-Gr-Presentation-Feature,
 Ra-Gr-Coding-Attribute
 FROM Raster-Gr-Profile-Attributes { 2 8 1 7 4 } -- see ITU-T Rec. T.417 | ISO/IEC 8613-7
 Geo-Gr-Content-Defaults, Geo-Gr-Presentation-Feature,
 Geo-Gr-Coding-Attribute
 FROM Geo-Gr-Profile-Attributes { 2 8 1 8 4 } -- see ITU-T Rec. T.418 | ISO/IEC 8613-8
 Font-Attribute-Set
 FROM ISO-STANDARD-9541-FONT-ATTRIBUTE-SET { 1 0 9541 2 2 }; -- see ISO/IEC 9541-2

Document-Profile-Descriptor ::= SET {
 generic-layout-structure [0] IMPLICIT NumericString OPTIONAL,
 specific-layout-structure [1] IMPLICIT NumericString OPTIONAL,
 generic-logical-structure [4] IMPLICIT NumericString OPTIONAL,
 specific-logical-structure [5] IMPLICIT NumericString OPTIONAL,
 presentation-styles [6] IMPLICIT NumericString OPTIONAL,
 layout-styles [7] IMPLICIT NumericString OPTIONAL,
 sealed-profiles [12] IMPLICIT NumericString OPTIONAL,
 enciphered-profiles [13] IMPLICIT NumericString OPTIONAL,
 preenciphered-bodyparts [14] IMPLICIT NumericString OPTIONAL,
 postenciphered-bodyparts [15] IMPLICIT NumericString OPTIONAL,

 -- for the generic structures,
 -- 'partial-generator-set' is represented by "0", 'complete-generator-set'
 -- is represented by "1", 'factor-set' is represented by "2";
 -- for the other cases, the numeric string has the value 'present'
 -- represented by "1"

 external-document-class [9] Document-Reference OPTIONAL,
 resource-document [10] Document-Reference OPTIONAL,
 resources [11] IMPLICIT SET OF SET {
 resource-identifier
 object-class-identifier } OPTIONAL,
 document-characteristics [2] IMPLICIT Document-Characteristics,
 document-management-attributes [3] IMPLICIT Document-Management-Attributes OPTIONAL,
 document-security-attributes [16] IMPLICIT Document-Security-Attributes OPTIONAL }

 Document-Characteristics ::= SET {
 document-application-profile CHOICE {
 [0] IMPLICIT INTEGER {
 group-4-facsimile (2) },
 [4] IMPLICIT OBJECT IDENTIFIER } OPTIONAL,
 doc-appl-profile-defaults [10] IMPLICIT Doc-Appl-Profile-Defaults OPTIONAL,