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Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities —

Part 2:
Registration procedures for OSI document types

Technologies de l'information — Interconnexion de systèmes ouverts (OSI) — Procédures pour le fonctionnement des autorités d'enregistrement OSI —

Partie 2: Procédures d'enregistrement des types de documents OSI

Reference number
ISO/IEC 9834-2:1993(E)

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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 9834-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology,* Sub-Committee SC 21, *Open systems interconnection, data management and open distributed processing.*

ISO/IEC 9834 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities*:

— *Part 1: General procedures*

— *Part 2: Registration procedures for OSI document types*

— *Part 3: Registration of object identifier component values for joint ISO/CCITT use*

— *Part 4: Register of VTE Profiles*

— *Part 5: Register of VT Control Object Definitions*

— *Part 6: Application processes and application entities*

Annex A forms an integral part of this part of ISO/IEC 9834. Annex B is for information only.

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Introduction

Several Open Systems Interconnection (OSI) Standards provide communications mechanisms for the transfer of arbitrarily structured information.

These communications standards have a requirement for unambiguous names for classes of information structure, called OSI document types, for a specification of the way they are transferred using the Presentation Service, and for the specification of operations on them which are a feature of the OSI Standards.

This part of ISO/IEC 9834 specifies the information which needs to be recorded in registers holding OSI document type specifications, and the form of register entries. Such registers can be maintained by any organisation empowered under the rules of ISO/IEC 8824 (ASN.1) to allocate object identifiers. This part of ISO/IEC 9834 also specifies the procedures for preparing and maintaining an International Register of OSI Document Types. The purpose of the International Register is to inform all concerned of OSI document types already developed and of the names allocated to identify them.

Annex A is normative, and specifies the form of register entries for OSI Document Type Registration.

Annex B is informative, and contains an introduction to some of the concepts used in OSI document type registration.

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Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities –

Part 2:
Registration procedures for OSI document types

1 Scope

1.1 This part of ISO/IEC 9834 specifies the contents of register entries recording information about OSI document types, and assigning an unambiguous name of ASN.1 type OBJECT IDENTIFIER to OSI document type definitions.

1.2 This part of ISO/IEC 9834 specifies the procedures for the operation of an International Registration Authority for OSI document types.

NOTES

1 Additional document types may already be defined in International Standards.

2 Any authority empowered under the rules of ISO/IEC 8824 to allocate object identifiers can maintain a register of document types, identifying each type with an object identifier from the set that they are empowered to allocate. The authority may adopt any procedures it wishes for maintaining its register, provided that each object identifier is allocated to at most one document type definition, is not allocated to any other information object, and is never re-used, as specified in ISO/IEC 8824.

1.3 The OSI document type names to which this document refers are for use in fields of communication protocols which need to identify the corresponding (partially-defined or fully-defined) semantics, syntax, and operations specified in the register entries.

1.4 A name registered in accordance with this part of ISO/IEC 9834 serves as an identification of the OSI document types defined in the corresponding register entry. Identification of a particular OSI document type from the class of OSI document types defined in a particular register entry is provided by parameters associated with the register entry.

1.5 The presence of a register entry in the International Register does not carry any implications of required support for the OSI document types it defines in any carrier-standard implementation.

NOTE — Nonetheless, within a register entry, requirements may be expressed relating to implementations claiming to support the entry.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 9834. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 9834 are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7498-1:1984, *Information processing systems - Open Systems Interconnection - Basic Reference Model.*

ISO 8822:1988, *Information processing systems - Open Systems Interconnection - Connection-oriented presentation service definition.*

ISO/IEC 8824:1990, *Information processing systems - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1).*

3 Definitions

For the purposes of this part of ISO/IEC 9834 the following definitions apply.

3.1 OSI document: Information of a defined structural form with a partially-defined or fully-defined semantics.

NOTES

1 Semantics are typically only partially-defined, as when some or all fields in the defined structure are described as "character strings with unspecified content". Semantics would be fully-defined if all possible values, and meanings, of all fields were fully specified.

2 An OSI document can form the contents of all or part of a file, but represents only the information content divorced from aspects such as file naming, access rights, etc.

3.2 OSI document type: A class of OSI documents, each of which has the same defined form and carries the same fully-defined or partially-defined semantics.

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3.3 carrier-standard: Any ISO Standard or CCITT Recommendation satisfying the requirements of clause 8, and referencing OSI Document Type Registration for the definition of fields carrying OSI documents and for their names and parameter values.

NOTE — Examples of carrier-standards which reference OSI Document Type Registration are ISO 8571 (FTAM) and ISO 8832 (JTM).

3.4 relaxation (of a document type): An operation yielding a new document type which is related to the first by the removal or relaxation of the constraints imposed by one or more parameters used in defining the original document type.

NOTE — The class of OSI documents in the original document type is a subset of the class of documents in the new, relaxed, document types.

3.5 tightening (of a document type): An operation yielding a new document type which is related to the first by the addition or tightening of the constraints imposed by one or more parameters used in defining the original document type.

NOTE — The class of OSI documents in the new, tightened document type is a subset of the documents in the original document type.

3.6 The following terms are defined in ISO 7498:

transfer syntax

3.7 The following terms are defined in ISO 8822:

abstract syntax

encoding rules

presentation data value

3.8 The following term is defined in ISO 8824:

object identifier

4 Abbreviations

ASN.1 Abstract Syntax Notation One (ISO 8824)

5 Information required by part one

This clause contains the information required by ISO/IEC 9834-1 and applies only to registration in the International Register (see clause 7 of ISO/IEC 9834-1).

5.1 The Working Group responsible for the definition of this type of information object shall be SC21 WG5.

NOTE — Clause 6 of ISO 9834 Part 1 applies to this Part of this International Standard, and makes provision for a range of organisations to make proposals for the addition of a document type definition to the International Register.

5.2 The Registration Authority performs a technical role in ensuring that register entries conform to this part of ISO/IEC 9834 and represent useful and clear specifications.

5.3 The name of register entries shall be of ASN.1 type object identifier.

5.4 The contents of register entries is specified in clause 7 and in annex A.

5.5 Register entry proposals shall be in the form specified in annex A.

5.6 All clauses of ISO/IEC 9834-1 shall apply.

5.7 The volume of activity for International Registration is not expected to exceed thirty registrations per year.

5.8 Inclusion or modification or deletion of Register Entries shall require the same concensus of ISO/IEC National Bodies, and shall follow similar procedures, to that used for the agreement on an International Standard, except that final approval by ISO Council is not required.

5.9 Register entries shall be publicly available.

5.10 Object identifiers allocated by the International Registration Authority for OSI Document Types shall be of the form

{iso registration-authority document-type (2) x}

where x is the number of the document type in the International Register.

5.11 Object identifiers which are allocated by other registration authorities may be of any form permitted to them under ISO/IEC 8824.

6 General contents of Register Entries

The purpose of a register entry is to specify details of protocol-related operations which are specific to a particular class of OSI documents.

These details include the following specifications:

a) the partially-defined or fully-defined document semantics covered by the register entry; and

b) the abstract syntactic structure of the OSI document types(s) specified; and

c) a full specification of how to transfer OSI document types specified by the register entry, using any carrier-standard; and

d) operations and support requirements which are specific to particular OSI protocols concerned with the transfer of OSI documents (specific carrier-standards).

7 Requirements on carrier standards

Any ISO Standard or CCITT Recommendation which references OSI Document Type Registration for the purpose of OSI document transfer shall provide

a) a field in its protocol capable of carrying any value of the ASN.1 type object identifier (identifying an entry in a register), together with a field capable

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of carrying any value of any ASN.1 type (representing parameters qualifying the register entry), and of indicating the absence of parameters; for those carrier-standards using ASN.1 to define their protocol, an example of suitable fields would be:

```
SEQUENCE
  {osi-document-type-register-entry
        [0] IMPLICIT OBJECT IDENTIFIER,
   entry-parameters
        [1]  ANY  OPTIONAL
        -- to be filled by the
        -- ASN.1 type defined
        -- for "PARAMETERS"
        -- in the register entry --}
```

other carrier-standards referencing OSI Document Type Registration shall define the way they carry these values; and

b) for the transfer, using the OSI Presentation Service defined in ISO 8822, of a series of presentation data values carrying the document semantics, clearly identifying the delimitation of the series, independently of the contents of the presentation data value or its associated abstract syntax name (see ISO 8822); and

c) optionally, the means of invoking certain operations (specific to the carrier-standards) whose detailed definition is contained in the register entry.

NOTES

1 The register entry specifies the series of presentation data values to be transferred, the name of the associated abstract syntax (or syntaxes), and one or more transfer syntaxes.

2 The carrier-standard determines the placement of presentation data values on P-service primitives, and any use which is made of synchronisation-points for checkpointing the transfer.

Where the ASN.1 field "ANY" is used for "entry-parameters" in a) above, the register entry shall be referenced as the source of conformance requirements for the field "ANY".

8 The form of OSI documents in transfer

All register entries include specifications for the transfer of OSI documents as a series of presentation data values (see ISO 8822). The register entry defines:

a) the possible contents of each presentation data value; and

b) one or more abstract syntax names for the set(s) of presentation data values; and

c) for each abstract syntax name, one or more associated transfer syntax names (one of which is "mandatory" for claims of support for the OSI document type) with a definition of the associated encodings, each capable of transferring the semantics; and

d) the series of such presentation data values needed to transfer the document semantics.

NOTES

1 It is not required that register entries define a series of presentation data values which are sufficient to identify the OSI document type. Such identification is performed by the OSI document type name and any associated parameters, which are carried separately.

2 It is not required that OSI document type definitions provide the means of recognising the last presentation data value in the OSI document. Such termination is provided by the carrier standard.

9 Contents of the register

The register entries shall contain the information specified in annex A. With the exception of the entry number, all information in the International Register shall be specified either explicitly in the register entry or by reference to an International Standard, CCITT Recommendation, or other International Registration. The entry number shall be specified explicitly.

Annex A contains the clause number and headings of a register entry. The body of each clause specifies the contents of the corresponding clause in the register entry.

NOTE — ISO 8571 (FTAM), ISO 8832 (JTM), and ISO 9069 (SDIF) contain examples of register entries.

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Annex A

(normative)

Format of register entries

A.1 Entry number (clause 1 of the register entry)

The form of this clause is determined by the authority maintaining the register. It is intended for human use only, and provides unambiguous identification of the register entry within the scope of the authority maintaining the register, but not outside of it. Examples are

FTAM-3	for entry 3 of the register maintained within the FTAM Standard (ISO 8571)
JTM-2	for entry 2 of the register maintained within the JTM Standard (ISO 8832)
OSI-24	for the International Register of OSI Document Types.

NOTE — When register entries are repeated in more than one register, they will differ only in the content of this clause, and possibly of ASN.1 object descriptor values.

A.2 Information objects (clause 2 of the register entry)

This clause shall reference a table listing any names or formal definitions of information objects which are required to support late clauses of the register entry, as specified below.

A.2.1 Identifier

The table specifies a value of the ASN.1 type object identifier which identifies the set of document types defined by this register entry, and which is used in the "osi-document-register-entry" field of carrier-standards, specified in clause 8, item a) of this part of ISO/IEC 9834.

Values of ASN.1 type object identifier provide globally unambiguous identification of information objects, and are never re-used.

Where a register entry is copied with no technical change from one register to a different one (for example, from the FTAM Standard to the International Register) the object identifier value originally allocated shall be retained.

A.2.2 Descriptor value

The table also specifies a value of the ASN.1 type object descriptor which is to be associated with the identifier in A.2.1. Where entries are copied from one register to another, changes to this clause may be made and shall be regarded as editorial, not technical.

The ObjectDescriptor value provides human-readable text describing the set of document types covered by the register entry. It should be chosen to provide a high probability of globally unambiguous identification of the set of document types, but this cannot be guaranteed.

A.2.3 Abstract syntax names

The table shall list the object identifiers and object descriptors referenced in later clauses (see A.9.2).

A.2.4 Transfer syntax names

The table shall list the object identifiers and object descriptors referenced in later clauses (see clause A.10).

A.2.5 Parameters syntax

The table contains an ASN.1 type definition assigning a type to the ASN.1 typereference "PARAMETERS", or shall contain the statement:

Parameters shall not be used.

The ASN.1 type definition replaces the ANY type in the "entry-parameters" field of carriers, specified in clause 8, item a) of this part of ISO/IEC 9834. If "Parameters shall not be used" is listed, this field shall be absent.

The provision of this field by carriers does not constrain the ASN.1 tag which may be assigned to this type in the register entry.

The ASN.1 type "PARAMETERS" shall be capable of carrying any additional information needed to identify a specific OSI document type from the set of document types covered by the register entry. The way in which parameter values perform this function shall be specified in clause 7 (Document semantics) of the Register Entry.

Clause 7 of the Register Entry shall specify the document type which is identified when parameter information is omitted in a particular instance of communication.

A.2.6 Other information

The table shall contain the ASN.1 definition of any ASN.1 types used in clauses A7 or A8 below, and of any object identifiers referenced. It may contain ASE-specification information.

A.3 Scope and field of application (clause 3 of the register entry)

This clause shall specify the range of uses of the document type definition. This can be done by reference to features of specific carriers such as "transfer by ISO 8832", "storage,

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transfer and access by ISO 8571". All references to ISO Standards and CCITT Recommendations shall be in the form specified in the ISO Directives (see also clause A.4).

A.4 References (clause 4 of the register entry)

This clause shall contain, in the form required by the ISO Directives, a list of all other documents referenced in this register entry. These should generally be ISO Standards or CCITT Recommendations. Reference to other material is covered by the ISO directives. Documents referenced in clause 3 of this part of ISO/IEC 9834 shall not be listed in this clause, but may be referenced in other clauses of the document type register entry.

A.5 Definitions (clause 5 of the register entry)

This clause shall contain, in the form of the definitions clause of an International Standard, the definition of any technical term used in the register entry.

A.6 Abbreviations (clause 6 of the register entry)

This clause specifies the meaning of all abbreviations used in the Register Entry.

Abbreviations which are defined in clause 5 shall not be listed in this clause, but may be used in other clauses of the document type register entry.

A.7 Document semantics (clause 7 of the register entry)

This clause

a) specifies the range of values of the parameter datatype which are permitted;

b) specifies the information content of the OSI document types corresponding to this register entry, for each permitted value of the parameter datatype.

All subsequent operations specified on a document type, such as mapping onto an abstract syntactic structure, concatenation, or simplification (see clause A.11 should be specified in terms of the semantics defined in this clause.

A.8 Abstract syntactic structure (clause 8 of the register entry)

This clause identifies, by use of an ASN.1 definition listed in the Information Objects in table or otherwise, an abstract syntactic structure capable of holding the document semantics. The structure shall be capable of carrying the full semantics for all legal values of the parameters datatype, including the semantics associated with ommission of parameters. This formal structure can be used not only for specifying the detailed sequence of presentation data values used for transfer, but also for identifying parts of the document used in performing certain operations.

A.9 Definition of transfer (clause 9 of the register entry)

This clause provides a complete specification of how the document semantics can be carried as a series of presentation data values. Where ASN.1 is used, this requires a specification (detailed in the following sub-clauses) of

a) the mapping of document semantics into one or more ASN.1 datatypes listed in the table; and

b) the mapping of values of the ASN.1 datatypes into presentation data values; and

c) the abstract syntax name(s) to be used in the transfer of each of these presentation data values; and

d) the sequence in which the presentation data values are transferred.

Where the above specification of mappings, abstract syntax names, and sequences provides options for the sender, it should be clearly stated whether receivers are required to support all options.

It is recommended that, where a document type has size-related aspects, minimum conforming support should be specified for senders and for receivers.

A.9.1 Datatype definition

This subclause identifies all datatypes which are to be used in the transfer of the OSI document semantics. Where ASN.1 is used, these should be by reference to ASN.1 types in the table.

Any semantic significance of datatype boundaries should be specified.

A.9.2 Abstract syntax

This subclause references the Information Objects table in order to assign object identifier values to the ASN.1 value identifiers

asname1, asname2, asname3, ...

for as many abstract syntax names as will be required for the transfer of presentation data values for the document. Object descriptor values shall also be specified in the table.

This subclause also specifies the form of each presentation data value to be transferred, and the abstract syntax name (asname1, asname2, etc.) to be used for it.

Where ASN.1 is used, each presentation data value may contain the values of zero, one or more ASN.1 data types.

NOTE — A presentation data value relates to a single abstract syntax name unless the ASN.1 datatype(s) involved use the ASN.1 type EXTERNAL. In this latter case, the presentation data values and associated abstract syntax name for the contents of the EXTERNAL have to be specified.

Any semantic significance of presentation data value boundaries shall be specified.

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A.9.3 Sequence of presentation data values

The required sequence of presentation data values shall be specified. Reference shall not be made to specific P-service primitives for carrying these presentation data values.

NOTES

1 The choice of presentation service primitive for the carriage of these presentation data values is a matter for the carrier, and should not be constrained by the register entry.

2 Sufficient flexibility should be provided to enable the carrier to make appropriate decisions on when to issue checkpoints, noting that checkpoints can only be issued at the boundaries between presentation data values. This implies that an OSI document type definition should not be written in such a way that it necessarily requires the transfer of extremely large presentation data values, as checkpoints cannot be inserted in presentation data values. Flexibility should be left to the sender.

A.10 Transfer syntax(clause 10 of the register entry)

This clause provides a specification of all necessary encoding and associated transfer syntax names for each presentation data value.

NOTES

1 It is recommended that where the abstract syntax is specified using ASN.1, the transfer syntax be specified by use of the object identifier value

{joint-iso-ccitt asn(1) basic-encoding (1)}

assigned in ISO/IEC 8825.

2 It is recommended that support of one particular transfer syntax be made mandatory.

Where the object identifier specified in ISO/IEC 8825 is not used, this clause shall contain a complete specification of at least one encoding for each presentation data value.

This subclause references the Information Objects table which assigns object identifier values to the ASN.1 value identifiers

tsname1, tsname2, tsname3, ...

Object descriptor values shall also be specified.

This subclause specifies, for each abstract syntax name listed in the clause specified by A.9.2, a transfer syntax for every presentation data value associated with the abstract syntax name, and assigns one of the above names to this transfer syntax.

More than one transfer syntax may be defined for each abstract syntax.

Conformance requirements, if any, shall be stated.

A.11 ASE-specific specification (clause 11 of the register entry)

A.11.1 <Identification of ASE>

The heading is, for example

11.1 ISO 8571 (FTAM)

This subclause specifies operations performable by the ASE, and (optionally) general ASE-specific conformance requirements.

A.11.1.1 <ASE>-operation

The heading is, for example

11.1.1 FTAM-Simplification

Sub-headings are ASE-specific. Each <ASE operator> heading should identify an operation by a name which is used in the carrier Standard. The carrier Standard should specify what details the OSI document type register entry needs to provide.

In general terms, each operation will apply to part or all of an OSI document type defined in the register, possibly using data which is part or all of some other OSI document type. The result will be a third OSI document type which is defined in this or in some other register entry.

While clarity may sometimes be obtained by couching definitions of operations in terms of presentation data values or of particular syntactic forms, it is generally recommended to define operations in terms of the basic document semantics.

Note in particular that an operation called "concatenation" would typically be defined in terms of merging document semantics. Where the series of presentation data values involves the use of headers and trailers, such concatenation would not be the same as concatenating the two series of presentation data values.

The following common operations are expected to be registered for some document types:

a) **simplification:** this operation loses information in the document by merging sub-units of the structure to produce a "simpler" document type; the operation cannot be reversed in the general case;

b) **relaxation:** this operation relates to the case where the set of OSI documents permitted by OSI document type A is a strict subset of those permitted by OSI document type B, the subset being identified by different parameterisation; this operation results in loss of information in the parameters (e.g. line length, character set) which can potentially be recovered, even in the general case, by processing the document; (see also g) below);

c) **selecting parts for reading:** this operation produces a new (generally simpler) OSI document type by selecting certain parts of a (generally more complex) structured document type;

d) **replacement of parts:** this operation takes an OSI document type and replaces part of an (often more complex) OSI document type with it; it is the converse of c);

e) **extension of parts:** this operation takes an (often simpler) OSI document type and uses it to extend part of an existing (often more complex) OSI document type; it is logically equivalent to selecting a part, concatenating material to it (see below) and using the result for replacement of a part;

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f) **concatenation:** this merges, in a defined way, without loss of information except that related to the original partitioning, two documents of the same or different OSI document types;

g) **tightening:** this operation is the exact converse of relaxation; given any "target" OSI document type (e.g., one with lines less than eighty characters long), tightening of a document towards this target may succeed or fail; it will always succeed if the document being tightened was produced by a relaxation of the target or of a still tighter document type.

A.11.1.2 <ASE>-specific conformance

The heading is, for example,

11.1.2 JTM-specific conformance

This clause can specify such things as mandatory support of certain parameter values (or omission of values), mandatory support of certain sizes, and mandatory support of other document types. The word "mandatory" is always to be interpreted within the scope of

"Support for this register entry requires ..."

which is always optional unless made mandatory by a particular carrier.

Conformance requirements are carrier-specific; the definition of "support" should be supplied in the carrier standard if this clause is not empty.

A.12 Name of Sponsoring Authority (clause 12 of the register entry)

This clause shall contain the name of the Sponsoring Authority (as defined in ISO/IEC 9834-1) which was the proposer of the Register Entry.

A.13 Date (clause 13 of the register entry)

This clause shall contain the date a proposal was first submitted to the Responsible Working Group and the date of approval of a Register Entry.

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Annex B

(informative)

OSI documents and OSI document types

An OSI document is a specific piece of information conforming to one of the definitions in the register.

An OSI document type is most simply regarded as the definition of a **container** whose nature provides constraints on the form of an OSI document which can be carried. In general, a specific example of an OSI document will not "fill" the container used to carry it, or may only "fill" it in relation to a subset of the constraints expressed in the corresponding document type definition. (An alternative viewpoint would use "type-instance" concepts.)

For example, a document whose longest line is 72 characters long, and whose character repertoire is only upper case letters and space could be a specific instance of a document type defined as

"80 character lines"

"ISO 646 character set"

and could be carried under the corresponding document type name. In this case, however, the document does not "fill" the container in either of these two dimensions.

Unless a specific carrier-standard states otherwise, the association of a document type name (composed of an ASN.1 object identifier referencing a register entry and a set of parameter values) with a document in transfer determines

a) constraints on the maximum generality of the OSI document (the "container size"); and

b) the precise form of the presentation data values to be used to convey the document.

Some OSI document types are strict subsets of other types (as, for example, where the corresponding types differ only in the value of a line length parameter). We speak of a document type A being a **relaxation** of another document type B if and only if all OSI documents capable of being described as type B can also be described as type A. The converse is to describe OSI document type B as a **tightening** of OSI document type A.

NOTE — In general, document types are not related in this manner, either because some parameter values are a tightening and others a relaxation, or because the general structures are totally different.

Register entries define these relations completely for a particular document type. They can only be used if specified in the register entry.

Any OSI document, carried as OSI document type A (which is a tightening of OSI document type B) is equally capable of being carried as OSI document type B (which is a relaxation of OSI document type A). Similarly, some but not all documents carried (or stored) as OSI document type B will be capable of being recognised (by scanning the document) as capable of being carried (or stored) as OSI document type A.

It is a matter for individual carrier standards to specify the circumstances when relaxation and tightening is permitted. For example, a protocol may carry an "OSI document type A" identification to request a document of a particular type. It could permit documents to be supplied which conform to a tighter document type, with the returned document described either as "OSI document type A" or as the (or a) tighter document type, according to the decision of the carrier standard.

A carrier-standard could even specify that, where a class of document types has a continuous parameter (such as line length), the corresponding parameter should either be omitted or should have the tightest possible value consistent with the actual document being carried. Such a rule would in general require senders to process documents before transmission and is therefore probably undesirable in general. The decision, however, is one for the carrier-standard.

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UDC 681.3:621.39

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