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ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
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(03/93)

TELEMATIC SERVICES

**TERMINAL EQUIPMENTS AND PROTOCOLS
FOR TELEMATIC SERVICES**

**DOCUMENT APPLICATION PROFILE MM
FOR THE INTERCHANGE OF FORMATTED
MIXED MODE DOCUMENTS**

ITU-T Recommendation T.501

(Previously "CCITT Recommendation")

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation T.501 was revised by the ITU-T Study Group VIII (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

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 Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.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 is the definition of an ODA document application profile (DAP) named MM. This DAP is suitable for interchanging mixed mode documents in formatted form. This DAP is defined in accordance with Recommendation T.411 and the format of this DAP is in accordance with the standardized proforma and notation defined in addendum to Annex F/T.411.

Recommendation T.501**DOCUMENT APPLICATION PROFILE MM FOR THE INTERCHANGE
OF FORMATTED MIXED MODE DOCUMENTS***(Melbourne, 1988; revised at Helsinki, 1993)***1 Scope and field of application**

This DAP specifies the interchange format suitable for the interchange of mixed mode documents such as memoranda, letters and reports.

Mixed mode documents are interchanged only in a formatted form. The purpose of this DAP is to allow the transfer of the complete layout of the interchanged document.

Furthermore, two types of content are allowed within the same page, namely:

- a character content as used by word processing machines (e.g. basic teletex equipment);
- a raster graphics content as used by facsimile group 4 apparatus.

This DAP is independent of the processes carried out in an end system to create or reproduce documents. It is also independent of the means to transfer documents which for example, may be by means of communication links or storage media.

2 References

- CCITT Recommendation T.411 (1988), *Open Document Architecture (ODA) and interchange format – Introduction and general principles.*
- CCITT Recommendation T.412 (1988), *Open Document Architecture (ODA) and interchange format – Document structures.*
- CCITT Recommendation T.414 (1988), *Open Document Architecture (ODA) and interchange format – Document profile.*
- CCITT Recommendation T.415 (1988), *Open Document Architecture (ODA) and interchange format – Open document interchange format.*
- CCITT Recommendation T.416 (1988), *Open Document Architecture (ODA) and interchange format – Character content architecture.*
- CCITT Recommendation T.417 (1988), *Open Document Architecture (ODA) and interchange format – Raster graphics content architecture.*
- CCITT Recommendation T.411.F (1991) (Annex F/T.411).
- ISO 8859-1, *Information Processing – 8-bit single-byte coded graphic character sets – Part 1: Latin Alphabet No. 1.*
- ISO 646: revised 1990, *Information Processing – ISO 7-bits coded character sets for information interchange.*
- ISO 6937-2, *Information Processing – Coded character sets for text communication – Part 2: Latin alphabet and non-alphabetic graphic characters.*
- ISO 2022, *Information Processing – ISO 7-bit and 8-bit coded character sets – Code extension techniques.*
- ISO 7350, *Text communication – Registration of graphic character subrepertoires.*
- CCITT Recommendation X.209 (1988), *Specification of basic encoding rules for Abstract Syntax Notation One (ASN.1).*
- CCITT Recommendation T.511 (to be published), *Implementation requirements for document application profile MM.*

**Documents**

Document Sharing Hub

Recommendation T.501**(03/93)****1**

3 Definitions and abbreviations

3.1 Definitions

The definitions defined in Recommendation T.411 are applicable to this DAP.

3.2 Abbreviations

DAP Document Application Profile

4 Relationships with other profiles

This DAP does not have relationships with other DAPs.

5 Conformance

In order to conform to this DAP, a data stream representing a document must meet the requirements specified in 5.1.

This Recommendation does not define implementation or service requirements. These requirements are defined in other Recommendations that make use of this DAP.

5.1 Data stream conformance

The following requirements apply to the encoding of data streams which conform to this DAP.

- a) The data stream shall be encoded in accordance with the ASN.1 encoding rules defined in Recommendation X.209.
- b) The data stream shall be structured in accordance with the interchange format defined in clause 8.
- c) The document, as represented by the data stream, shall be structured in accordance with the document architecture class as defined in 6.1 and shall contain all mandatory constituents defined for that class; other constituents may be included, provided that they are permitted for that class, as defined in clause 7.
- d) Each constituent shall contain all those attributes defined as required for that constituent in this DAP; other attributes may be specified provided that they are permitted for that constituent.
- e) The attribute values defined shall be within the range or permissible values specified in this DAP.
- f) The encoded document shall be constructed in accordance with the abstract document architecture defined in Recommendation T.412.
- g) The document shall be structured in accordance with the characteristics and constraints defined in clause 6.

5.2 Implementation conformance

The implementation requirements associated with this DAP are defined in Recommendation T.511.

6 Characteristics supported by this document application profile

This clause describes the characteristics of documents which can be represented by data streams conforming to this DAP.

6.1 Overview

This DAP allows documents to be interchanged only in a formatted form which facilitates the reproduction of a document as intended by the originator.

The generic layout structure allowed in this DAP is a “factor” structure. The purpose of a “factor” generic layout structure allowed in this DAP is to provide for factorization. That is, it provides for predefined attributes values of the object of type block and/or a generic content.

The form of document may be made up of the following constituents. Constituents defined as “required” must occur in any document that conforms to this DAP. Constituents defined as “optional” may or may not be present in the document depending on the requirements of the particular document.

a) *Required constituents:*

- a document profile;
- layout object descriptions representing a specific layout structure:
 - layout object description of type document layout root,
 - layout object description of type page,
 - layout object description of type block.

b) *Optional constituents:*

- layout object class description representing a “factor” generic layout structure:
 - layout object class description of type block;
- content portion description representing a specific layout structure;
- content portion description representing a generic layout structure.

Either content portion description representing a specific layout structure or content portion description representing a generic layout structure is required.

When the content portion description in the generic layout structure is present, layout object class description of the type block is required.

The combinations of constituents allowed in this DAP are illustrated in Figure 1. In this figure document profile is omitted. In the case of b), it provides only for predefined attribute values of the object of type block, for example some presentation attributes.

6.2 Logical characteristics

No logical characteristics are applicable in this DAP.

6.3 Layout characteristics

This subclause defines the layout constituent constraints provided by this DAP to represent the characteristics of documents.

6.3.1 Overview of the layout characteristics

The specific layout structure has 3 hierarchical levels, i.e. a document layout root, pages and blocks. And the generic layout structure has only 1 hierarchical level, i.e. blocks.

Therefore, a mixed mode document is seen as a sequence of pages. The content of a page may be:

- a character content; or
- a raster graphics content; or
- both of them.

When different content types are used within the same page, this page must be composed of several blocks. Each block has a homogeneous content.

6.3.2 Document layout root

Document layout root is a required constituent constraint and represents the top level in the specific layout structure. Its immediate subordinates consist of a sequence of one or more constituents of type page.

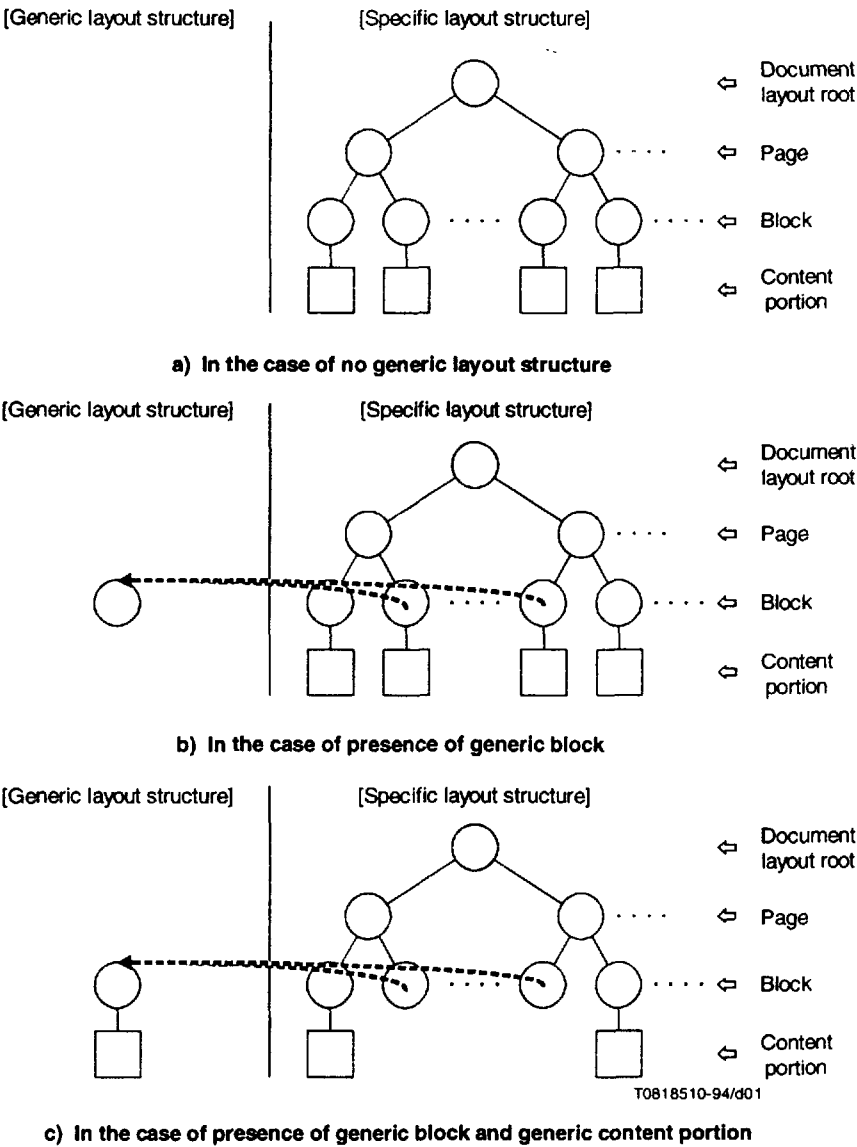


FIGURE 1/T.501
Allowed combinations of constituents

6.3.3 Page

Page is a required constituent constraint in a specific layout structure. Its immediate subordinates consist of a sequence of one or more constituents of type block.

The page dimensions, which constrain the area made available for the positioning and display of the document content, can take any values (in BMUs) provided that the page size is no longer than ISO A3 nominal page size in portrait orientation.

Furthermore, when the page size is no longer than the ISO A4 nominal page size in portrait orientation, the corresponding page dimensions are basic values; otherwise, the page dimensions are non-basic values and must be indicated in the document profile. The allowed page dimensions are listed in Table 1.

The page dimensions are specified using the attribute “dimension” of the layout objects of type page. Any default page dimensions may be specified in the document profile subject to the maximum dimensions defined above.