SIST

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Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 2: Definition of document types, constraint sets and syntaxes (ISO/IEC ISP 10607-2:1995)

Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 2: Definition of document types, constraint sets and syntaxes (ISO/IEC ISP 10607-2:1995)

Informationstechnik - Internationale Profilnormen AFTnn - Dateiübermittlung, Zugriff und Verwaltung - Teil 2: Definition von Dokumentenklassen, Zugriffseinschränkung und Syntaxen (ISO/IEC ISP 10607-2:1995)

Technologies de l'information - Profils normalisés internationaux AFTnn - Transfert, acces et gestion de fichier - Partie 2: Définition de types de documents, ensembles de contraintes et syntaxes (ISO/IEC ISP 10607-2:1995)

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This European Standard was approved by CEN on 1996-08-09. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

The text of the International Standard from Technical Committee ISO/IEC/JTC 1 "Information Technologies" of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) has been taken over as an European Standard by the Technical Board of CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 1997, and conflicting national standards shall be withdrawn at the latest by month of February 1997.

This European Standard supersedes EN ISP 10607-2:1993.

For the time being this standard exists in the English version only.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

ENDORSEMENT NOTICE

The text of the International Standard ISO/IEC ISP 10607-2:1995 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 10607-2

Second edition
1995-12-15

Information technology — International Standardized Profiles AFTnn — File Transfer, Access and Management — Part 2:

Definition of document types, constraint sets and syntaxes

Technologies de l'information — Profils normalisés internationaux AFTnn — Transfert, accès et gestion de fichier —

Partie 2: Définition de types de documents, ensembles de contraintes et syntaxes

Reference number
ISO/IEC ISP 10607-2:1995(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 or 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 JTC1. In addition to developing International Standards, ISO/IEC JTC1 has created a Special Group on Functional Standardization for the elaboration of International Standardized Profiles.

An International Standardized Profile is an internationally agreed, harmonized document which identifies a standard or group of standards, together with options and parameters, necessary to accomplish a function or set of functions.

Draft International Standardized Profiles are circulated to national bodies for voting. Publication as an International Standardized Profile requires approval by at least 75 % of the national bodies casting a vote.

International Standardized Profile ISO/IEC ISP 10607-2 was prepared with the collaboration of

- Asia-Oceania Workshop (AOW);
- European Workshop for Open Systems (EWOS);
- Open Systems Environment Implementors' Workshop (OIW).

ISO/IEC ISP 10607 consists of the following parts, under the general title *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management :*

- *Part 1: Specification of ACSE, Presentation and Session protocols for the use by FTAM*
- *Part 2 : Definition of document types, constraint sets and syntaxes*
- *Part 3 : AFT11 - Simple File Transfer Service (unstructured)*
- *Part 4 : AFT12 - Positional File Transfer Service (flat)*
- *Part 5 : AFT22 - Positional File Access Service (flat)*
- *Part 6 : AFT3 - File Management Service*

This second edition cancels and replaces the first edition (ISO/IEC ISP 10607-2:1990), which has been revised. It also incorporates amendment 1:1991 and amendment 2:1994.

Annexes A, B and C of this part of ISO/IEC ISP 10607 are for information only.

Introduction

This part of ISO/IEC ISP 10607 is defined within the context of Functional Standardization, in accordance with the principles specified by ISO/IEC TR 10000, "Framework and Taxonomy of International Standardized Profiles". The context of Functional Standardization is one part of the overall field of Information Technology (IT) standardization activities, covering base standards, profiles, and registration mechanisms. A profile defines a combination of base standards that collectively perform a specific well-defined IT function. Profiles standardize the use of options and other variations in the base standards, and provide a basis for the development of uniform, internationally recognized system tests.

One of the most important roles for an ISP is to serve as the basis for the development (by organizations other than ISO and IEC) of internationally recognized tests and test centres. ISPs are produced not simply to legitimize a particular choice of base standards and options, but to promote real system interoperability. The development and widespread acceptance of tests based on this and other ISPs is crucial to the successful realization of this goal.

The text for this part of ISO/IEC ISP 10607 was developed in close co-operation among the FTAM Expert Groups of the three International OSI/OSE Workshops : OSE Implementors' Workshop (OIW), the European Workshop for Open Systems (EWOS) and the Asia-Oceania Workshop (AOW). This part of ISO/IEC ISP 10607 is harmonized among these three Workshops and it was finally ratified by the Workshops' plenary assemblies.

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Information technology — International Standardized Profiles AFTnn — File Transfer, Access and Management —

Part 2:
Definition of document types, constraint sets and syntaxes

1 Scope

1.1 General

This part of ISO/IEC ISP 10607 contains the basic definitions of document types, constraint sets, abstract syntaxes, and transfer syntaxes as used and referenced in the FTAM application ISO/IEC ISP 10607-3 (AFT11), ISO/IEC ISP 10607-4 (AFT12), ISO/IEC ISP 10607-5 (AFT22) and ISO/IEC ISP 10607-6 (AFT3). Additional document types, constraint sets and syntaxes may be defined and added to this part of ISO/IEC ISP 10607 to be referenced by either the existing parts of ISO/IEC ISP 10607 or by further parts yet to be defined.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 10607 is the second part, as common text, of a multi-part ISP identified in ISO/IEC TR 10000-2 as "AFT, File Transfer, Access and Management" (see also ISO/IEC TR 10000-1, 8.2 for the definition of multipart ISPs).

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 10607. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this part of ISO/IEC ISP 10607 are warned against automatically applying any more recent editions of the documents listed below, since the nature of references made by ISPs to such documents is that they may be specific to a particular edition. Members of IEC and ISO maintain registers of currently valid International Standards and ISPs, and ITU-T maintains published editions of its current Recommendations.

Corrigenda to the base standards referenced : See annex A for a complete list of these documents which are identified in this part of ISO/IEC ISP 10607.

2.1 Identical Recommendations I International Standards

- ITU-T Recommendation X.680 (1994) I ISO/IEC 8824-1:1995, *Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation.*
- ITU-T Recommendation X.690 (1994) I ISO/IEC 8825-1:1995, *Information technology - ASN.1 encoding rules : Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*

2.2 Additional references

- ISO 1989:1985, *Programming languages - COBOL.*
- ISO 6523:1984, *Data interchange - Structures for the identification of organizations.*
- ISO 8571-1:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 1 : General introduction.*
- ISO 8571-2:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 2 : Virtual Filestore Definition.*
- ISO 8571-3:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 3 : File Service Definition .*
- ISO 8571-4:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 4 : File Protocol Specification.*
- ISO 8571-4:1988/Amd.4:1992, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 4 : File Protocol Specification - Amendment 4 .*
- ISO/IEC 8571-5:1990, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 5 : Protocol Implementation Conformance Statement Proforma.*
- ISO/IEC TR 10000-1:1992[1]), *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1 : Framework.*
- ISO/IEC TR 10000-2:1994[1]), *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2 : Principles and Taxonomy for OSI Profiles.*

1) Currently under revision.

- ISO/IEC ISP 10607-1:1995, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 1 : Specification of ACSE, Presentation and Session protocols for the use by FTAM.*
- ISO/IEC ISP 10607-3:1995, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 3 : AFT11 - Simple File Transfer Service (unstructured).*
- ISO/IEC ISP 10607-4:1995, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 4 : AFT12 - Positional File Transfer Service (flat).*
- ISO/IEC ISP 10607-5:1995, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 5 : AFT22 - Positional File Access Service (flat).*
- ISO/IEC ISP 10607-6:1995, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 6 : AFT3 - File Management Service.*

3 Definitions

The terms used in this part of ISO/IEC ISP 10607 are defined in the referenced base standards.

4 Abbreviations

This clause lists only abbreviations as used in clauses 1 to 5.

AFT	Profile sub-class : File Transfer, Access and Management
ASN.1	Abstract Syntax Notation One
FTAM	File Transfer, Access and Management
ISP	International Standardized Profile
OSI	Open Systems Interconnection

5 Conformance

No conformance requirements are specified in this part of ISO/IEC ISP 10607.

NOTE - This part of ISO/IEC ISP 10607 is a register of document types, constraint sets, abstract syntaxes, and transfer syntaxes. Conformance requirements are specified in the parts of ISO/IEC ISP 10607 which reference these objects.

6 Document type definitions

The definition of "lexical order" which appears in some of the following document type definitions, is a local implementation issue.

6.1 NBS-9 File directory file document type

6.1.1 Entry number : NBS-9

6.3.2 Information objects

Table 1 - Information objects in NBS-9

document type name	{ iso identified-organization oiw(14) ftamsig(5) document-type(5) file-directory(9) } "NBS-9 FTAM file-directory file"
abstract syntax names a) name for asname1	{ iso identified-organization oiw(14) ftamsig(5) abstract-syntax(2) nbs-as2(2) } "NBS file directory entry abstract syntax"
transfer syntax names	{ joint-iso-ccitt asn1(1) basic-encoding(1) } "Basic Encoding of a single ASN.1 type"
parameter syntax PARAMETERS : := [0] IMPLICIT BIT STRING {	
-- Kernel group	
read-filename (0), read-permitted-actions (1),	
read-contents-type (2),	
-- Storage group	
read-storage-account (3), read-date-and-time-of-creation (4),	
read-date-and-time-of-last-modification (5), read-date-and-time-of-last-read-access (6),	
read-date-and-time-of-last-attribute-modification (7), read-identity-of-creator (8),	
read-identity-of-last-modifier (9), read-identity-of-last-reader (10),	
read-identity-of-last-attribute-modifier (11), read-file-availability (12),	
read-filesize (13), read-future-filesize (14),	
-- Security group	
read-access-control (15), read-legal-qualifications (16),	
-- Private group	
read-private-use (17) }	
file model	{ iso standard 8571 file-model(3) hierarchical(1) } "FTAM hierarchical file model"
constraint set	{ iso standard 8571 constraint-set(4) unstructured(1) } "FTAM unstructured constraint set"
file contents	Datatype1 ::= FileDirectoryEntry -- as defined by NBS-AS2 in 8.1

6.1.3 Scope and field of application

The document type defines the contents of a file for transfer (not for storage) using FTAM.

6.1.4 References

ISO 8571-1:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 1 : General introduction.*

ISO 8571-2:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 2 : Virtual Filestore Definition.*

6.1.5 Definitions

This definition makes use of the terms data element, data unit and file access data unit as defined in ISO 8571-1.

6.1.6 Abbreviations

FTAM	File Transfer, Access and Management
NBS	National Bureau of Standards, USA

6.1.7 Document semantics

The document consists of one file access data unit, which consists only of zero, one or more data elements of type "FileDirectoryEntry" (defined in NBS-AS2).

The document structure takes any of the forms allowed by the FTAM hierarchical file model as constrained by the unstructured constraint set. These definitions appear in ISO 8571-2.

The parameter of the document type is used on F-OPEN request to specify the desired attributes of each of the files in the filestore, when reading the document.

6.1.8 Abstract syntactic structure

The abstract syntactic structure of the document is a series of file directory entries, each of which is defined by the "FileDirectoryEntry" definition in NBS-AS2.

Additional constraints are defined for this document type: file access actions are restricted to read. File-directory files may not be written or modified (except as a side effect of actions performed on individual files contained within a file directory).

6.1.9 Definition of transfer

6.1.9.1 Datatype definition

The file consists of zero or more values of Datatype1 defined in table 1.

6.1.9.2 Presentation data values

The document is transferred as a series of presentation data values. Each presentation data value shall consist of one value of the ASN.1 data type "Datatype1", carrying one of the file directory entries from the document.

All values are transmitted in the same (but any) presentation context established to support the abstract syntax name "asname1" declared in table 1.

6.1.9.3 Sequence of presentation data values

The sequence of presentation data values is the same as the sequence of file directory entries within the data unit in the file.

6.1.10 Transfer syntax

An implementation supporting this document type shall support the transfer syntax generation rules named in table 1 for all presentation data values transferred. Implementations may optionally support other named transfer syntaxes.

6.1.11 ASE specific specifications for FTAM

Relaxation is allowed to any bitstring combination of the document type parameter.

6.2 INTAP-1 Record file document type

6.2.1 Entry number : INTAP-1

6.2.2 Information objects

Table 2 - Information objects in INTAP-1

document type name		{ iso member-body 392 ftam(10) document-type(2) intap-record-file(1) } "INTAP record file"
abstract syntax names name for asname1		{ iso member-body 392 ftam(10) abstract-syntax(3) intap-as1(1) } "INTAP abstract syntax AS1"
transfer syntax names		{ iso member-body 392 ftam(10) transfer-syntax(4) intap-ts1(1) } "INTAP transfer syntax TS1" { joint-iso-ccitt asn1(1) basic-encoding(1) } "Basic Encoding of a single ASN.1 type"
parameter syntax PARAMETERS : :=	SEQUENCE { maximum-record-length [1] IMPLICIT INTEGER OPTIONAL, record-significance [2] IMPLICIT INTEGER {variable (0), fixed (1) } OPTIONAL }	
file model		{ iso standard 8571 file-model(3) hierarchical(1) } "FTAM hierarchical file model"
constraint set		{ iso standard 8571 constraint-set(4) unstructured(1) } "FTAM unstructured constraint set"
file contents	Datatype1 ::= Record-Element	-- as defined in 8.2

6.2.3 Scope and field of application

The document type defines the contents of a file for storage, for transfer and access by FTAM.

6.2.4 References

ISO 8571-1:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 1 : General introduction.*

ISO 8571-2:1988, *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 2 : Virtual Filestore Definition.*

6.2.5 Definitions

This definition makes use of the terms data element, data unit and file access data unit as defined in ISO 8571-1.

6.2.5.1 record : an ordered series of one or more record-elements. Data units of this document type consist of one or more records (see figure 1).

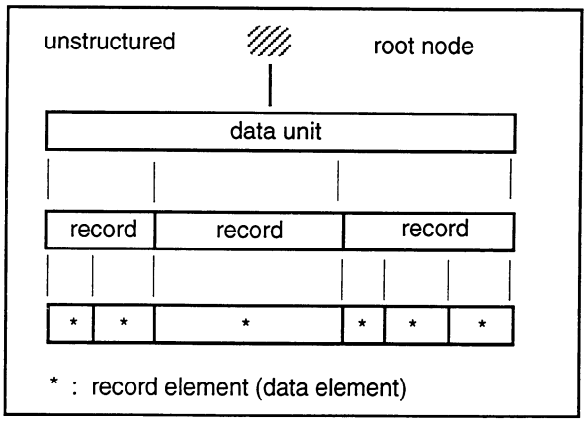

Figure 1 - Structure of INTAP-1 document type

6.2.6 Abbreviations

FADU	File Access Data Unit
FTAM	File Transfer, Access and Management
INTAP	Interoperability Technology Association for Information Processing, Japan