INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 10607-1

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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

Technologies de l'information — Profil normalisé international AFTnn — Transfert, accès et gestion de fichier —

Partie 1: Spécifications des protocoles ACSE, présentation et session pour emploi par FTAM

Reference number
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Contents

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. In addition to developing International Standards, ISO/IEC JTC 1 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 10607-1 was prepared with the collaboration of

— Asia-Oceania Workshop (AOW);

— European Workshop for Open Systems (EWOS);

— NIST OSI Implementors Workshop (NIST 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*

Annexes A and B form an integral part of this part of ISO/IEC ISP 10607.

Introduction

This International Standardized Profile (ISP) 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 ISP was developed in close co-operation among the FTAM Expert Groups of the three International OSI Workshops NIST Workshop for Implementors of OSI (NIST OIW), the European Workshop for Open Systems (EWOS) and the OSI Asia-Oceania Workshop (AOW). This ISP is harmonized among these three Workshops and it was finally ratified by the Workshops' plenary assemblies.

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

1 Scope

1.1 General

This part of ISO/IEC ISP 10607 specifies how the Association Control Service Element, the Presentation Layer, and the Session Layer standards shall be used to provide the FTAM functions for the International Standardized Profiles ISO/IEC ISP 10607 (see also figure 1). These specifications are therefore the common basis for the application functions as defined in ISO/IEC ISP 10607-3, ISO/IEC ISP 10607-4, ISO/IEC ISP 10607-5 and ISO/IEC ISP 10607-6, and any of the subsequent parts that might be developed.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 10607 is the first 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).

It may be combined with any T-Profiles (see ISO/IEC TR 10000) specifying the OSI connection-mode transport service.

1.3 Scenario

The model used is one of two end systems running an end-to-end association using the ACSE, Presentation and Session services and protocols (see figure 1).

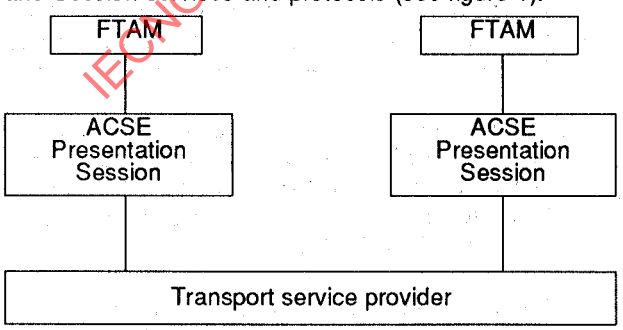

Figure 1 - Model of the supportive layers

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 CCITT maintains published editions of its current Recommendations.

Amendments and corrigenda to the base standards referenced : See annex B for a complete list of these documents which are used in this part of ISO/IEC ISP 10607.

ISO 8327:1987, *Information processing systems - Open Systems Interconnection - Basic Connection Oriented Session Protocol Specification.*

ISO 8327/Add.2:---[1)], *Information processing systems - Open Systems Interconnection - Basic Connection Oriented Session Protocol Specification - ADDENDUM 2: Incorporation of unlimited user data.*

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.*

[1)] To be published.

ISO 8571-5:---[1], *Information processing systems - Open Systems Interconnection - File Transfer, Access and Management - Part 5 : Protocol Implementation Conformance Statement Proforma.*

ISO 8650:1988, *Information processing systems - Open Systems Interconnection - Protocol specification for the Association Control Service Element.*

ISO 8823:1988, *Information processing systems - Open Systems Interconnection - Connection Oriented Presentation Protocol Specification.*

ISO 8824:1987, *Information processing systems - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1).*

ISO 8825:1987, *Information processing systems - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*

ISO/IEC TR 10000-1:1990, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1 : Framework.*

ISO/IEC TR 10000-2:1990, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2 : Taxonomy of Profiles.*

ISO/IEC ISP 10607-2:1990, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 2 : Definition of document types, constraint sets and syntaxes.*

ISO/IEC ISP 10607-3:1990, *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 3 : AFT11 - Simple File Transfer Service (unstructured).*

ISO/IEC ISP 10607-4:---[1], *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 4 : AFT12 - Positional File Transfer Service (flat).*

ISO/IEC ISP 10607-5:---[1], *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 5 : AFT22 - Positional File Access Service (flat).*

ISO/IEC ISP 10607-6:---[1], *Information technology - International Standardized Profiles AFTnn - File Transfer, Access and Management - Part 6 : AFT3 - File Management Service.*

[1] To be published.

3 Definitions

For the purpose of this part of ISO/IEC ISP 10607, the following definitions apply.

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

In addition, the following terms are defined.

3.1 General

interwork : to be able to communicate to satisfy the intent of the Initiator.

3.2 Support level

To specify the support level of protocol features for this part of ISO/IEC ISP 10607, the following terminology is defined.

3.2.1 supported; m : Any feature denoted by "m" is mandatory or optional in the base standard. That feature shall be supported, i.e. its syntax and procedures shall be implemented as specified in the base standard or in this part of ISO/IEC ISP 10607 by all implementations claiming conformance to this part of ISO/IEC ISP 10607.

However, it is not a requirement that the feature shall be used in all instances of communication, unless mandated by the base standard or stated otherwise in this part of ISO/IEC ISP 10607.

NOTES

1 For features which are optional in the base standard, conformant implementations shall be able to interwork with other implementations not supporting this feature.

2 The support of a feature can be conditional, depending on the support of a class of features to which it belongs, e.g. parameter in a PDU, a PDU in a functional unit.

3.2.2 optionally supported; o : Any feature denoted by "o" is left to the implementation as to whether that feature is implemented or not.

If a parameter is optionally supported, then the syntax shall be implemented, but it is left to each implementation whether the procedures are implemented or not.

3.2.3 conditionally supported; c : Any feature denoted by "c" shall be supported under the conditions specified in this part of ISO/IEC ISP 10607. If these conditions are not met, the feature is outside the scope of this part of ISO/IEC ISP 10607.

3.2.4 excluded; x : Any feature denoted by "x" is excluded in this part of ISO/IEC ISP 10607, i.e. it shall not be implemented.

3.2.5 outside the scope; i : Any feature denoted by "i" is outside the scope of this part of ISO/IEC ISP

10607, i.e. it may be ignored, and will therefore not be subject of an ISP conformance test. However, the syntax of all parameters of supported PDUs shall be implemented, even if the procedures are not (i.e. the Receiver shall be able to decode the PDU).

3.2.6 not applicable; - : Any feature denoted by "-" is not defined in the context where it is mentioned, e.g. a parameter which is not part of the respective PDU. The occurrence of "not applicable" features is mainly due to the format of the tables in the ISPICS Requirements List.

4 Abbreviations

ACSE	Association Control Service Element
AE	Application Entity
AFT	Profile sub-class : File Transfer, Access and Management
AP	Application Process
APDU	Association Control Protocol Data Unit
ARP	Abnormal Release Provider
ARU	Abnormal Release User
ASN.1	Abstract Syntax Notation One
CP	Connect Presentation
CPR	Connect Presentation Reject
FADU	File Access Data Unit
FPDU	File Protocol Data Unit
FTAM	File Transfer, Access and Management
ISP	International Standardized Profile
ISPICS	ISP Implementation Conformance Statement
OSI	Open Systems Interconnection
PCI	Protocol Control Information
PDU	Protocol Data Unit
PDV	Presentation Data Value
PICS	Protocol Implementation Conformance Statement
PPDU	Presentation Protocol Data Unit
RS	Resynchronize
SPDU	Session Protocol Data Unit

Support level for protocol features:

m	supported
o	optionally supported
c	conditionally supported
x	excluded
i	outside the scope
-	not applicable

5 Conformance

This part of ISO/IEC ISP 10607 states requirements upon implementations to achieve interworking. A claim of conformance to this part of ISO/IEC ISP 10607 is a claim that all requirements in the relevant base standards are satisfied, and that all requirements in the following clauses and in annex A of this part of ISO/IEC ISP 10607 are satisfied. Annex A states the relationship between these requirements and those of the base standards.

5.1 Conformance statement

For each implementation claiming conformance to this part of ISO/IEC ISP 10607 an appropriate set of PICSs shall be made available stating support or non-support of each option identified in this part of ISO/IEC ISP 10607.

5.2 Relationship with base standards

5.2.1 ACSE conformance

To conform to the Association Control Service Element (ACSE) protocol used in this part of ISO/IEC ISP 10607, implementations shall implement the normal mode and shall implement all the supported (m) features (identified in annex A). They shall state which optionally supported (o) features are implemented.

5.2.2 Presentation layer conformance

To conform to the Presentation protocol used in this part of ISO/IEC ISP 10607, implementations shall implement the normal mode and shall implement all supported (m) features (identified in annex A) unless they are part of an unimplemented optional feature. They shall state which optionally supported (o) features are implemented.

5.2.3 Transfer syntax conformance

An implementation conforming to this part of ISO/IEC ISP 10607 shall support the "Basic Encoding of a single ASN.1 type" as specified in ISO 8825, together with the additional rules defined in clause 8, for the generation of protocol encodings specified in ASN.1.

5.2.4 Session layer conformance

To conform to the Session protocol used in this part of ISO/IEC ISP 10607, implementations shall implement all the supported (m) features (identified in annex A) unless they are part of an unimplemented optional feature. They shall state which optionally supported (o) features are implemented.

6 Association Control Service Element (ACSE)

The support of functions and parameters for the Association Control Service Element is as specified in annex A, clause A.1. An implementation's PICS may contain limitations on length or value aspects of a protocol, but it shall not contain limits more severe than those specified in this clause. An implementation conformant to this part of ISO/IEC ISP 10607 may abort an association, if the requirements as specified in 6.1 to 6.3 are violated.

6.1 Application entity title

Application entity titles shall be implemented as specified in Technical Corrigendum 1 to ISO 8650.

Implementations using AETitle in their service or protocol shall support AE-Title-form2, the Object Identifier form. The support of AE-Title-form1, the Distinguished Name form, is optional.

NOTES

1 "Support" means implementing the capability of sending and receiving the parameter, but not necessarily using it at every instance of communication.

2 An AETitle shall be formed by appending the AEQualifier to the corresponding APTitle.

6.2 Application context name

ISO 8571-4 defines a value for a simple transfer mechanism. Other values are not defined in this part of ISO/IEC ISP 10607.

6.3 Abort APDU

When the Abort APDU is used during the association establishment phase, the Presentation layer negotiation is considered as complete, and the "direct-reference" compcnent of EXTERNAL shall not be present.

7 Presentation layer

The support of functions and parameters for the Presentation protocol is as specified in annex A, clause A.2. An implementation's PICS may contain limitations on length or value aspects of a protocol, but it shall not contain limits more severe than those specified in this clause. An implementation conformant to this part of ISO/IEC ISP 10607 may abort a connection, if the requirements as specified in 7.1 to 7.8 are violated.

7.1 Presentation context identifier

A conformant implementation shall encode presentation context identifiers in the range 0 to 32,767.

7.2 Transfer syntax name in PDV list

The "transfer-syntax-name" component of a PDV-list value shall be present in a CP PPDU, if and only if more than one transfer syntax name was proposed for the presentation context of the presentation data values.

The "transfer-syntax-name" component of a PDV-list value shall always be present in a CPC-type.

If only the kernel functional unit is negotiated, then the "transfer-syntax-name" component of a PDV-list value shall not appear in any other PPDU.

7.3 Encoding of presentation data value

Fully-encoded-data that is a series of PDVs in the same presentation context (e.g., grouped FTAM PDUs) shall be encoded either as a single PDV-list (using the octet-aligned choice) or as a series of PDV-lists, each encoding either a single PDV (using the single-ASN.1-type choice) or multiple PDVs (using the octet-aligned choice).

Receivers must accept any of the above encodings.

7.4 User data parameter

The "user data" parameter of CPR PPDU shall contain the A-ASSOCIATE response APDU if the "provider reason" parameter is not present.

7.5 Encoding of CPC-type value

Implementations shall not use any CPC-type values in the SS-user data parameter of the S-CONNECT request unless more than one transfer syntax is proposed for a single presentation context of the presentation data values. Each CPC-type represents a unique transfer syntax, so if more than one transfer syntax is proposed, CPC-type values may appear in that SS-user-data parameter.

For a presentation context for which the Basic Encoding Rules are a proposed transfer syntax, all PDVs in the user data parameter of the CP PPDU must be encoded first using the Basic Encoding Rules and must be examined by the receiving protocol machine. Following CPC-type values may be examined or ignored at the receiver's option (see ISO 8823, 6.2.5.3).

7.6 Presentation context definition result list

The "presentation-context-definition-result-list" parameter is required if the provider-reason is absent in the CPR PPDU. If the provider-reason is present, then the "presentation-context-definition-result-list" parameter is optional.

No semantics are implied by the absence of this optional parameter of the CPR PPDU.

7.7 Resynchronize PPDU

The "presentation-context-identifier-list" parameter of RS PPDU shall not be present when only the kernel functional unit is in effect.

7.8 Invalid encoding

If a received PPDU contains any improperly encoded data values (including data values embedded within the

user data field of PPDU) and an Abort is issued, then either an ARU or an ARP shall be sent.

8 Transfer syntax

Subclauses 8.1 through 8.5 specify rules which limit the encoding of data defined in this part of ISO/IEC ISP 10607 according to the Basic Encoding Rules for Abstract Syntax Notation One. A decoder shall accept encodings that are within these limits. Other behaviours of the decoder when these limits are exceeded, are outside the scope of this part of ISO/IEC ISP 10607.

8.1 ASN.1 length fields

The maximum value of an ASN.1 length octets component that need be handled by an implementation conformant to this part of ISO/IEC ISP 10607 shall be 4,294,967,295. This is the maximum unsigned integer that can be represented in 32 bits. Therefore, the encoding of a length octets component will occupy a maximum of 5 octets.

NOTE - This requirement does not apply to indefinite length encoding.

8.2 Integer type values

For any value of the ASN.1 type INTEGER defined in FTAM, ACSE and Presentation abstract syntaxes, a sender shall not encode values of greater than 2**31 - 1 or less than -2**31 . A receiver shall be able to decode at least values in the range -2**31 to 2**31 - 1.

As an exception the values of the parameters

FTAM Attributes
  filesize
  future-filesize
F-RECOVER request
  bulk-transfer-number
FADU identity
  fadu-number

may be encoded by senders to values up to the range -2**63 to 2**63 - 1. In such a case the receiver may reject the corresponding FTAM PDU.

For any ASN.1 type INTEGER defined in other abstract syntaxes (see ISO/IEC ISP 10607-2) a sender shall not encode values of greater than 2**31 - 1 or less than -2**31. A receiver shall be able to decode at least values in the range -2**31 to 2**31 - 1, or some other range when this is specified in ISO/IEC ISP 10607-2.

NOTE - To guarantee interworking, encoding should be restricted to the range of -2**31 to 2**31 - 1.

8.3 Bitstring type values

Unless otherwise specified in the base standard, each bit named in a BIT STRING type used in the Presentation, ACSE, FTAM PCI and FTAM FADU abstract syntax definitions shall be explicitly encoded in the associated BIT STRING value, even if it is a part of a string of trailing zero bits.

Unused bits, beyond the exact number of bits corresponding to the complete list of named bits specified, shall never be encoded. This rule applies to all BIT STRING types unless otherwise stated in an abstract syntax definition.

8.4 External Data Type

8.4.1 If a data value to be encapsulated in an EXTERNAL type is an instance of a single ASN.1 type encoded according to the Basic Encoding Rules for ASN.1, then the option "single-ASN.1-type" shall be chosen as its encoding.

8.4.2 If a data value to be encapsulated in an EXTERNAL type is encoded as an integral number of octets and 8.4.1 does not apply, then the option "octet-aligned" shall be chosen as its encoding.

8.4.3 Presentation layer negotiation of encoding rules is always in effect.

8.5 Constructed encoding

When encoding FPDUs, APDUs and PPDUs the following rule applies.

The contents octets for a constructed encoding of a BIT STRING, OCTET STRING, or character string value consists of the complete encoding of zero, one, or more data values, and the encoding of these data values shall be primitive.

9 Session layer

The support of functions and parameters for the Session protocol is as specified in annex A, clause A.3. An implementation's PICS may contain limitations on length or value aspects of a protocol, but it shall not contain limits more severe than those specified in this clause. An implementation conformant to this part of ISO/IEC ISP 10607 may abort a connection, if the requirements as specified in 9.1 to 9.8 are violated.

9.1 Session version

Session version 2 for the use of unlimited user data as specified by Addendum 2 to ISO 8327 shall be used.

9.2 Extended concatenation

Extended concatenation is not required. It can be refused using the negotiation mechanisms of the session protocol. An implementation claiming conformance to this part of ISO/IEC ISP 10607 shall be able to interwork without extended concatenation.

9.3 Session segmenting

Session segmenting is not required. It can be refused using the negotiation mechanisms of the session protocol. An implementation claiming conformance to this part of ISO/IEC ISP 10607 shall be able to interwork without Session segmenting.

9.4 Minor synchronize

The Session minor synchronize functional unit shall be implemented if FTAM recovery or restart data transfer functional units are supported or if session resynchronize functional unit is implemented.

9.5 Resynchronize

The session resynchronize functional unit shall be implemented if FTAM restart data transfer functional unit is implemented.

NOTE - The support of session resynchronize functional unit is required only as specified in 9.5. However this functional unit should always be implemented to support mapping of the FTAM F-CANCEL onto P-RESYNCHRONIZE(abandon).

9.6 Re-use of transport connection

Re-use of transport connection is not required. If it is implemented, the transport disconnect parameter of the REFUSE and FINISH SPDUs shall be supported.

9.7 Use of transport expedited

The session use of transport expedited service is optional.

NOTE - This feature should be requested and used.

9.8 Receipt of invalid SPDUs

Upon receipt of an invalid SPDU, the session protocol machine shall take any action as specified in ISO 8327, except that an invalid SPDU shall not be ignored.

Annex A

(normative)

ISPICS Requirements List

for ACSE, Presentation and Session

In the event of a discrepancy becoming apparent in the body of this part of ISO/IEC ISP 10607 and the tables in this annex, this annex is to take precedence.

Tables A.1, A.2 and A.3 summarize the characteristics of the ACSE, Presentation and Session protocols as required by the FTAM International Standardized Profiles ISO/IEC ISP 10607. The level of support for each feature of these protocols is specified in tables A.1, A.2 and A.3 using the terms defined in 3.2.

The abbreviations as used in the headings of the tables A.1, A.2 and A.3 are

D - conformance requirement as defined in the base standard

P - conformance requirement for this part of ISO/IEC ISP 10607.

When the level of support in tables A.1, A.2 and A.3 specifies two values, separated by a space, the left value applies to the Initiator role of the implementation and the right value applies to the Responder role of the implementation.

A.1 Association Control Service Element

Table A.1 - Association Control Service Element protocol

Protocol Element / Parameter	D	P	Range of Values or Reference
Defect Solutions and Amendments These defect reports to ISO 8650 have been resolved. They are, therefore, considered as part of ISO 8650 on which this part of ISO/IEC ISP 10607 is based.			see annex B
Association Establishment :			
A-ASSOCIATE-REQUEST	m	**m**	see 6.1
protocol version	o	**m**	"version-1"
application context name	m	**m**	see 6.2
calling AP title	o	**m o**	
calling AP invocation-identifier	o	**i**	
calling AE qualifier	o	**m o**	
calling AE invocation-identifier	o	**i**	
called AP title	o	**m**	
called AP invocation-identifier	o	**i**	
called AE qualifier	o	**m**	
called AE invocation-identifier	o	**i**	
implementation information	o	**i**	
user information	o	**m**	

Table A.1 (concluded)

Protocol Element / Parameter	D	P	Range of Values or Reference
A-ASSOCIATE-RESPONSE	m	**m**	see 6.1
protocol version	o	**m**	"version-1"
application context name	m	**m**	see 6.2
responding AP title	o	**m**	
responding AP invocation-identifier	o	**i**	
responding AE qualifier	o	**m**	
responding AE invocation-identifier	o	**i**	
result	m	**m**	
result source-diagnostic	m	**m**	
implementation information	o	**i**	
user information	o	**m**	
Association Release :			
A-RELEASE-REQUEST	m	**m**	
reason	o	**i**	
user information	o	**m**	
A-RELEASE-RESPONSE	m	**m**	
reason	o	**i**	
user information	o	**m**	
A-ABORT	m	**m**	see 6.3
abort source	m	**m**	
user information	o	**m**	

A.2 Presentation layer

Table A.2 - Presentation protocol

Protocol Element / Parameter	D	P	Range of Values or Reference
Defect Solutions and Amendments These defect reports to ISO 8823 have been resolved. They are, therefore, considered as part of ISO 8823 on which this part of ISO/IEC ISP 10607 is based.			see annex B
FUNCTIONAL UNITS :			
kernel	m	m	
context management	o	i	
context restoration	o	i	
			OBJECT IDENTIFIER values :
ABSTRACT SYNTAXES :			
FTAM PCI	m	m	{ iso standard 8571 abstract-syntax(2) ftam-pci(1) }
FTAM FADU	o	c	{ iso standard 8571 abstract-syntax(2) ftam-fadu(2) }
FTAM unstructured text abstract syntax	o	m	{ iso standard 8571 abstract-syntax(2) unstructured-text(3) }
FTAM unstructured binary abstract syntax	o	m	{ iso standard 8571 abstract-syntax(2) unstructured-binary(4) }
NBS abstract syntax AS1	-	c	{ iso identified-organization oiw(14) ftamsig(5) abstract-syntax(2) nbs-as1(1) }
NBS file-directory entry abstract syntax (NBS - AS2)	-	c	{ iso identified-organization oiw(14) ftamsig(5) abstract-syntax(2) nbs-as2(2) }
NBS random access node name abstract syntax (NBS - AS3)	-	c	{ iso identified-organization oiw(14) ftamsig(5) abstract-syntax(2) nbs-node-name(3) }
NBS random binary access file abstract syntax (NBS - AS4)	-	c	{ iso identified-organization oiw(14) ftamsig(5) abstract-syntax(2) nbs-random-binary(4) }
NBS simple text abstract syntax (NBS - AS5)	-	c	{ iso identified-organization oiw(14) ftamsig(5) abstract-syntax(2) nbs-simple-text(5) }
INTAP abstract syntax AS1	-	c	{ iso member-body 392 ftam(10) abstract-syntax(3) intap-as1(1) }
(abstract syntax for ACSE)	m	m	{ joint-iso-ccitt association-control(2) abstract-syntax(1) apdus(0) version1(1) }

NOTE - The support requirements for the conditional abstract syntaxes depend on the constraint sets and document types which are supported by FTAM (see annex A, clause A.9 of ISO/IEC ISP 10607-3, ISO/IEC ISP 10607-4 and ISO/IEC ISP 10607-5).

Table A.2 (continued)

Protocol Element / Parameter	D	P	Range of Values or Reference
TRANSFER SYNTAXES :			
Basic Encoding of a single ASN.1 type	m	**m**	{ joint-iso-ccitt asn1(1) basic-encoding(1) }
INTAP transfer syntax TS1	-	**o**	{ iso member-body 392 ftam(10) transfer-syntax(4) intap-ts1(1) }
PPDUs AND PARAMETERS :			see 7.2
Connection Establishment :			
CONNECT PRESENTATION	m	**m**	
mode selector	m	**m**	"normal mode"
protocol version	o	**m**	"version-1"
calling presentation selector	o	**o m**	restricted to 4 octets
called presentation selector	o	**m o**	restricted to 4 octets
presentation context definition list	o	**m**	see 7.1
default context name	o	**i**	
presentation requirements	o	**i**	
user session requirements	o	**i**	
user data	o	**m**	see 7.5
CONNECT PRESENTATION ACCEPT	m	**m**	
mode selector	m	**m**	"normal mode"
protocol version	o	**m**	"version-1"
responding presentation selector	o	**m o**	restricted to 4 octets
presentation context definition result list	o	**m**	see 7.1, 7.6
presentation requirements	o	**i**	
user session requirements	o	**i**	
user data	o	**m**	see 7.5
CONNECT PRESENTATION REJECT	m	**m**	
protocol version	o	**m**	"version-1"
responding presentation selector	o	**m o**	restricted to 4 octets
presentation context definition result list	o	**m**	see 7.1, 7.6
default context result	o	**i**	
provider reason	o	**o**	
user data	o	**m**	see 7.4, 7.5
Abnormal Release :			
ABNORMAL RELEASE USER	m	**m**	see 7.8
presentation context identifier list	o	**m**	
user data	o	**m**	
ABNORMAL RELEASE PROVIDER	m	**m**	see 7.8
provider reason	o	**o**	
event identifier	o	**i**	

Table A.2 (concluded)

Protocol Element / Parameter	D	P	Range of Values or Reference
Context Alteration :			
ALTER CONTEXT	o	i	
ALTER CONTEXT ACKNOWLEDGE	o	i	
Information Transfer :			
PRESENTATION DATA	m	m	
user data	m	m	see 7.3
PRESENTATION TYPED DATA	o	i	
EXPEDITED DATA	o	i	
CAPABILITY DATA	o	i	
CAPABILITY DATA ACKNOWLEDGE	o	i	
Resynchronization :			
RESYNCHRONIZE	o	c	see 9.5
presentation context identifier list	o	i	see 7.7
user data	o	m	
RESYNCHRONIZE ACKNOWLEDGE	o	c	see 9.5
presentation context identifier list	o	i	
user data	o	m	

A.3 Session layer

Table A.3 - Session protocol

Protocol Element / Parameter	D	P	Range of Values or Reference
Defect Solutions and Amendments These defect reports to ISO 8327 have been resolved. They are, therefore, considered as part of ISO 8327 and ISO 8327/Add.2 on which this part of ISO/IEC ISP 10607 is based.			see annex B
FUNCTIONAL UNITS :			
kernel	m	**m**	
half - duplex	o	**i**	
duplex	o	**m**	
expedited data	o	**i**	
minor synchronize	o	**c**	see 9.4
major synchronize	o	**i**	
resynchronize	o	**c**	see 9.5
activity management	o	**i**	
negotiated release	o	**i**	
capability data exchange	o	**i**	
exceptions	o	**i**	
typed data	o	**i**	
TOKENS :			
release	o	**i**	
major/activity	o	**i**	
synchronize-minor	o	**c**	see 9.4
data	o	**i**	
SESSION FEATURES :			
basic concatenation	m	**m**	
extended concatenation	o	**o**	see 9.2
segmenting	o	**o**	see 9.3
re-use of transport connection	o	**o**	see 9.6
use of transport expedited	o	**o**	see 9.7
SPDUs AND PARAMETERS :			see 9.8
Connection Establishment :			
CONNECT	m	**m**	
connection identifier	o	**i**	
connect/accept item	o	**m**	
protocol options	m	**m**	
TSDU maximum size	o	**o**	
version number	m	**m**	see 9.1
initial serial number	o	**o**	
token setting item	o	**o**	