

INTERNATIONAL
STANDARDIZED
PROFILE

ISO/IEC
ISP
12062-2

Third edition
2003-06-15

**Information technology — International
Standardized Profiles AMH2n — Message
Handling Systems — Interpersonal
Messaging —**

**Part 2:
AMH21 — IPM Content**

*Technologies de l'information — Profils normalisés internationaux
AMH2n — Systèmes de messagerie — Messagerie entre personnes —
Partie 2: AMH21 — Contenu de IPM*

Reference number
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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.

In addition to developing International Standards, ISO/IEC JTC 1 also develops 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 a set of functions. Draft International Standardized Profiles adopted by the joint technical committee 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC ISP 12062-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This third edition cancels and replaces the second edition (ISO/IEC ISP 12062-2:1997), which has been technically revised.

ISO/IEC ISP 12062 consists of the following parts, under the general title *Information technology — International Standardized Profile AMH2n — Message Handling Systems — Interpersonal Messaging*:

- *Part 1: IPM MHS Service Support*
- *Part 2: AMH21 — IPM Content*
- *Part 3: AMH22 — IPM Requirements for Message Transfer (P1)*
- *Part 4: AMH23 and AMH25 — IPM Requirements for MTS Access (P3) and MTS 94 Access (P3)*
- *Part 5: AMH24 — IPM Requirements for Enhanced MS Access (P7)*
- *Part 6: AMH26 — IPM Requirements for Enhanced MS 94 Access (P7)*

Introduction

This part of ISO/IEC ISP 12062 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 rôles for an ISP is to serve as the basis for the development (by organizations other than ISO and IEC) of internationally recognized tests. 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 12062 was originally developed in close cooperation between the MHS Expert Groups of the three Regional Workshops: the North American OSE Implementors' Workshop (OIW), the European Workshop for Open Systems (EWOS) (jointly with the corresponding expert group of the European Telecommunications Standards Institute - ETSI) and the OSI Asia-Oceania Workshop (AOW). The first and second editions of this part of ISO/IEC ISP 12062 were harmonized between these three Workshops and ratified by the plenary assemblies of all three Workshops.

Responsibility for maintenance and further development of MHS ISPs has been transferred to ISO/IEC JTC1/SC33/WG1, who have produced this edition to encompass additions and corrections to ISO/IEC 10021. Because new core requirements have been added for support of Universal Characters in addresses which will take time to be implemented within MHS systems, it is expected that the second edition of this part of ISO/IEC ISP 12062 will remain available for an overlap period.

Information technology — International Standardized Profiles AMH2n — Message Handling Systems — Interpersonal Messaging —

Part 2: AMH21 — IPM Content

1 Scope

1.1 General

This part of ISO/IEC ISP 12062 covers the interchange of messages between Interpersonal Messaging (IPM) User Agents (UAs) (see also figure 1). These specifications form part of the Interpersonal Messaging application functions, as defined in the parts of ISO/IEC ISP 12062, and are based on the Common Messaging content type-independent specifications in ISO/IEC ISP 10611.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 12062 is the second part of a multipart ISP identified in ISO/IEC TR 10000-2 as “AMH2, Message Handling Systems - Interpersonal Messaging” (see also ISO/IEC TR 10000-1, 8.2 for the definition of multipart ISPs).

This part of ISO/IEC ISP 12062 specifies the following profile:

AMH21 - IPM Content

The AMH21 profile may optionally be combined with profiles AMH23, AMH24, AMH25 or AMH26 (see annex D of ISO/IEC ISP 12062-1) specifying OSI MHS communications protocols and supporting services for an IPM UA.

1.3 Scenario

The model used is one of indirect interchange of interpersonal messages (content types 22 and 2) between IPM UAs via an intermediate Message Transfer System (MTS), as shown in figure 1. The provision of, and access to, the MTS is outside the scope of this profile.

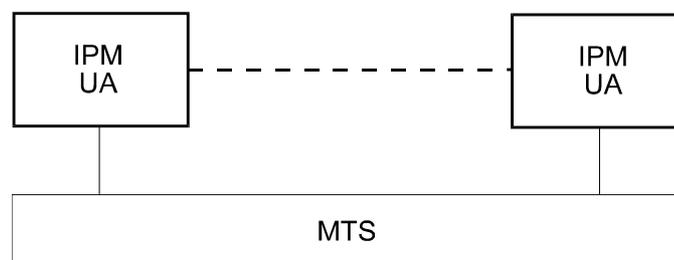


Figure 1 - AMH21 scenario

The MHS services and functions covered by the AMH21 profile are specified in ISO/IEC 10021-7. There are no OSI upper layer services and protocols within the scope of the AMH21 profile.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Amendments and corrigenda to the base standards referenced are listed in annex B.

NOTES

1 - References in the body of this part of ISO/IEC ISP 12062 to specific clauses of ISO/IEC documents shall be considered to refer also to the corresponding clauses of the equivalent ITU-T Recommendations (as noted below) unless otherwise stated.

2 - Informative references are found in annex C.

CCITT Recommendation T.415 (1993), | ISO/IEC 8613-5:1994, *Information technology - Open Document Architecture (ODA) and Interchange Format - Open Document Interchange Format*

ISO/IEC 8859 (all parts), *Information technology - 8-bit single-byte coded graphic character sets*

ISO/IEC TR 10000-1:1998, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1: General principles and documentation framework*

ISO/IEC TR 10000-2:1998, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and Taxonomy for OSI Profiles*

ITU-T Recommendation F.400/X.400 (1999), *Message Handling Systems - System and service overview*

ISO/IEC 10021-1:2003, *Information technology - Message Handling Systems (MHS) - Part 1: System and service overview [see also ITU-T Recommendation F.400/X.400]*

ITU-T Recommendation X.402 (1999) | ISO/IEC 10021-2:—¹⁾, *Information technology - Message Handling Systems (MHS): Overall architecture*

ITU-T Recommendation X.420 (1999) | ISO/IEC 10021-7:—²⁾, *Information technology - Message Handling Systems (MHS): Interpersonal messaging system*

ISO/IEC ISP 12062-1:2003, *Information technology - International Standardized Profiles AMH2n - Message Handling Systems - Interpersonal Messaging - Part 1: IPM MHS Service Support*

ISO 10646-1:2000, *Information technology - Universal Multiple-Octet Coded Character Set (UCS) - Part 1: Architecture and Basic Multilingual Plane*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

Terms used in this part of ISO/IEC ISP 12062 are defined in the referenced base standards; in addition, the following terms are defined.

1) To be published. (Revision of ISO/IEC 10021-2:1996)

2) To be published. (Revision of ISO/IEC 10021-7:1997)

3.1 General

Basic requirement : an Element of Service, protocol element, procedural element or other identifiable feature specified in the base standards which is required to be supported by all MHS implementations.

Functional group : a specification of one or more related Elements of Service, protocol elements, procedural elements or other identifiable features specified in the base standards which together support a significant optional area of MHS functionality.

NOTE - A functional group can cover any combination of MHS features specified in the base standards for which the effect of implementation can be determined at a standardized external interface - i.e. via a standard OSI communications protocol (other forms of exposed interface, such as a standardized programmatic interface, are outside the scope of this version of ISO/IEC ISP 12062).

3.2 Support classification

To specify the support level of information objects and items for this part of ISO/IEC ISP 12062, the following terminology is defined.

The following classifications are used in this part of ISO/IEC ISP 12062 to specify static conformance requirements - i.e. capability.

The classification of information objects and items (elements) is relative to that of the containing information element, if any. Where the constituent elements of a non-primitive element are not individually specified, then each shall be considered to have the classification of that element. Where the range of values to be supported for an element is not specified, then all values defined in the MHS base standards shall be supported.

mandatory support (m) : the element shall be supported. An implementation shall be able to generate the element, and/or receive the element and perform all associated procedures (i.e. implying the ability to handle both the syntax and the semantics of the element) as relevant, as specified in the MHS base standards. Where support for origination (generation) and reception are not distinguished, then both capabilities shall be assumed.

NOTES

1 - In the case of character repertoires, mandatory support implies that the IPM UA implementation is able to generate and/or receive the encodings of all characters within those repertoires. How graphic characters are originated and rendered is outside the scope of this ISP.

2 - Where required by the base standards, mandatory support also implies that the IPM UA implementation is able to pass the element on the origination port/reception port to/from the corresponding element on the submission port/delivery port/retrieval port.

optional support (o) : an implementation is not required to support the element. If support is claimed, then the element shall be treated as if it were specified as mandatory support. If the element is not supported on reception, then it shall be ignored.

conditional support (c) : the element shall be supported under the conditions specified in this part of ISO/IEC ISP 12062. If these conditions are met, the element shall be treated as if it were specified as mandatory support. If these conditions are not met, the element shall be treated as if it were specified as optional support (unless otherwise stated).

out of scope (i) : the element is outside the scope of this part of ISO/IEC ISP 12062 - i.e. it will not be the subject of an ISP conformance test.

not applicable (-) : the element is not applicable in the particular context in which this classification is used.

4 Abbreviations

84IW	84 Interworking
AMH	Application Message Handling
ASN.1	Abstract Syntax Notation One
BC	Business Class
CV	Conversion
DIR	Use of Directory
DL	Distribution List
EoS	Element of Service
FG	Functional group
FWD	Manual Forwarding
IPM	Interpersonal Messaging / Interpersonal Message
IPN	Interpersonal Notification
ISP	International Standardized Profile
LD	Latest Delivery
MHS	Message Handling Systems
MS	Message store
MT	Message transfer
MTA	Message transfer agent
MTS	Message Transfer System
OSI	Open Systems Interconnection
PD	Physical Delivery
RED	Redirection
RoC	Return of Content
SEC	Security
UA	User agent

Support level for information objects (see 3.2):

m	mandatory support
o	optional support
c	conditional support
i	out of scope
–	not applicable

5 Conformance

The scope of conformance to profile AMH21 covers the functionality of, and interoperability between, IPM UAs. Conformance to profile AMH21 does not imply the provision of a standard OSI communications protocol for access to the MTS. Conformance to profile AMH21 does not imply the provision of an exposed IPM service interface (whether a human user interface or a standardized programmatic interface).

This part of ISO/IEC ISP 12062 states requirements upon implementations to achieve interworking. A claim of conformance to this part of ISO/IEC ISP 12062 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 12062 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 profile AMH21 as specified in this part of ISO/IEC ISP 12062, a PICS shall be made available stating support or non-support of each option identified in this part of ISO/IEC ISP 12062.

5.2 MHS conformance

This part of ISO/IEC ISP 12062 specifies implementation options or selections such that conformant implementations will satisfy the conformance requirements of ISO/IEC 10021 and the ITU-T X.400 Recommendations.

Implementations conforming to profile AMH21 as specified in this part of ISO/IEC ISP 12062 shall implement all the mandatory support (m) features identified as basic requirements in annex A except those features that are components of an unimplemented optional feature. It shall be stated which optional support (o) features are implemented.

For implementations conforming to profile AMH21 as specified in this part of ISO/IEC ISP 12062, it shall be stated whether or not they support any of the optional functional groups as specified in ISO/IEC ISP 12062-1 which are applicable to the scope of this profile. For each functional group for which support is claimed, an implementation shall implement all the mandatory support (m) features identified for that functional group in annex A except those features that are components of an unimplemented optional feature. It shall be stated which optional support (o) features are implemented.

Implementations shall support the procedures associated with supported protocol elements as specified in the base standards and as further specified in ISO/IEC ISP 12062-1. The MHS Elements of Service corresponding to such procedures are indicated in annex A of ISO/IEC ISP 12062-1.

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Annex A²

(normative)

ISPICS Proforma for ISO/IEC ISP 12062-2 (AMH21)

In the event of a discrepancy becoming apparent in the body of this part of ISO/IEC ISP 12062 and the tables in this annex, this annex is to take precedence.

Clause A.1 specifies the basic requirements for conformance to profile AMH21. Clause A.2 specifies additional requirements to those specified in A.1 for each of the optional functional groups if conformance to such a functional group is claimed. Clause A.3 allows additional information to be provided for certain aspects of an implementation where no specific requirements are included in ISO/IEC ISP 12062. All three clauses shall be completed as appropriate.

In each table, the "Base" column reflects the level of support required for conformance to the base standard and the "Profile" column specifies the level of support required by this ISP (using the classification and notation defined in 3.2).

The "Ref" column is provided for cross-referencing purposes. The notation employed for references also indicates composite elements which contain sub-elements (a sub-element reference is prefixed by the reference of the composite element).

The Support column is provided for completion by the supplier of the implementation as follows:

- Y the element or feature is fully supported
- N the element or feature is not supported
- or blank the element or feature is not applicable (i.e. a major feature or composite protocol element which includes this element or feature is not supported)

Where support for origination and support for reception cannot be covered by a single indication, then both support levels shall be indicated, separated by a solidus (e.g. 'N/Y').

²Copyright release for ISPICS proformas

Users of this International Standardized Profile may freely reproduce the ISPICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed ISPICS.

A.0 Identification of the implementation**A.0.1 Identification of PICS**

Ref	Question	Response
1	Date of statement (YYYY-MM-DD)	
2	PICS serial number	
3	System conformance statement cross reference	

A.0.2 Identification of IUT

Ref	Question	Response
1	Implementation name	
2	Implementation version	
3	Hardware name	
4	Hardware version	
5	Operating system name	
6	Operating system version	
7	Special configuration	
8	Other information	

A.0.3 Identification of supplier

Ref	Question	Response
1	Organization name	
2	Contact name(s)	
3	Address	
4	Telephone number	
5	Telex number	
6	Fax number	
7	E-mail address	
8	Other information	

A.0.4 Identification of protocol

Ref	Question	Response
1	Title, reference number and date of publication of the protocol standard	
2	Protocol version(s)	not applicable
3	Addenda/amendments/corrigenda implemented	
4	Defect reports implemented	not applicable

A.0.5 Global statement of conformance

Ref	Question	Response	Comments
1	Are all mandatory base standards requirements implemented?		

A.0.6 Statement of profile conformance

Ref	Question	Response	Comments
1	Are all mandatory requirements of profile AMH21 implemented?		
2	Are all mandatory requirements of any of the following optional functional groups implemented?		
2.1	IPM Manual Forwarding (FWD)		
2.2	IPM Security (SEC)		class(es):
2.3	IPM Use of Directory (DIR)		
2.4	IPM 84 Interworking (84IW)		
2.5	IPM Business Class (BC)		
2.6	IPM Auto-Advise (AADV)		

A.1 Basic requirements

A.1.1 Supported information objects

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	Interpersonal Message (IPM)	m	m	m	m		
1.1	heading	m	m	m	m		see A.1.2
1.2	body	m	m	m	m		see A.1.3
2	Interpersonal Notification (IPN)	m	m	o	m		see A.1.4

A.1.2 IPM heading fields

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	this-IPM	m	m	m	m		see A.1.5/3
2	originator	m	m	m	m		see A.1.5/2
3	authorizing-users	o	o	m	m		see A.1.5/2
4	primary-recipients	m	m	m	m		see A.1.5/1
5	copy-recipients	m	m	m	m		see A.1.5/1
6	blind-copy-recipients	o	o	m	m		see A.1.5/1
7	replied-to-IPM	m	m	m	m		see A.1.5/3
8	obsoleted-IPMs	o	o	m	m		see A.1.5/3
9	related-IPMs	o	o	m	m		see A.1.5/3
10	subject	m	m	m	m		
11	expiry-time	o	o	m	m		
12	reply-time	o	o	m	m		
13	reply-recipients	o	o	m	m		see A.1.5/2
14	importance	o	o	m	m		
15	sensitivity	o	o	m	m		
16	auto-forwarded	o	o	m	m		
17	extensions	m	m	m	m		

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
17.1	incomplete-copy	o	o	o	m		
17.2	languages	o	o	m	m		
17.3	auto-submitted	o	o	o	m		
17.4	body-part-signatures	o	o	o	o		see A.1.2.1/1
17.5	ipm-security-label	o	o	o	o		see A.1.2.1/2
17.6	authorization-time	o	o	o	o		
17.7	circulation-list-recipients	o	o	m	m		see A.1.2.1/3
17.8	distribution-codes	o	o	o	o		see A.1.2.1/4
17.9	extended-subject	m	m	m	m		
17.10	information-category	o	o	o	o		see A.1.2.1/5
17.11	manual-handling-instructions	o	o	o	o		
17.12	originators-reference	o	o	o	o		
17.13	precedence-policy-identifier	o	o	o	o		

A.1.2.1 IPM heading subfields

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	BodyPartSignatures						
1.1	body-part-number	m	m	m	m		
1.2	body-part-signature	m	m	m	m		
1.2.1	signature-algorithm-identifier	m	m	m	m		
1.2.2	body-part	m	m	m	m		see A.1.3
1.2.3	body-part-security-label	m ¹	m ¹	m ¹	m ¹		see footnote 2
1.3	originator-certificate-selector	o	o	o	m		see footnote 3
1.4	originator-certificates	o	o	o	m		see footnote 4

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
2	IPMSecurityLabel						
2.1	content-security-label	m	m	m	m		see footnote 2
2.2	heading-security-label	o	m	o	m		see footnote 2
2.3	body-part-security-labels	m	m	m	m		see footnote 2
3	CirculationMember						
3.1	member-name	m	m	m	m		see A.1.5/1
3.2	checked	m	m	m	m		
3.2.1	simple	o	m	o	m		
3.2.2	timestamped	o	m	o	m		
3.2.3	signed	o	o	o	o		
3.2.3.1	algorithm-identifier	m	m	m	m		
3.2.3.2	this-IPM	m	m	m	m		see A.1.5/3
3.2.3.3	timestamp	m	m	m	m		
4	DistributionCode						
4.1	oid-code	o	o	o	o		
4.2	alphanumeric-code	o	o	o	m		
4.3	or-descriptor	o	o	o	m		see A.1.5/2
5	InformationCategory						
5.1	reference	o	o	o	o		
5.2	description	o	o	o	m		
1	shall be present if the corresponding body-part-security-labels component is present IPMSecurityLabel.						
2	see A.1.6/3 in ISO/IEC ISP 10611-3						
3	see A.1.5/11 in ISO/IEC ISP 10611-3						
4	see A.1.6/11 in ISO/IEC ISP 10611-3						

A.1.3 IPM body

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	ia5-text	o	o	o	m		
1.1	parameters	m	m	m	m		
1.1.1	repertoire	o	o	m	m		
1.2	data	m	m	m	m		
2	voice	i	i	i	i		
3	g3-facsimile	o	o	o	o		
3.1	parameters	m	m	m	m		
3.1.1	number-of-pages	o	o	o	m		
3.1.2	non-basic-parameters	o	o	o	m		
3.1.2.1	two-dimensional	o	o	o	m		
3.1.2.2	fine-resolution	o	o	o	m		
3.1.2.3	unlimited-length	o	o	o	o		
3.1.2.4	b4-length	o	o	o	o		
3.1.2.5	a3-width	o	o	o	o		
3.1.2.6	b4-width	o	o	o	o		
3.1.2.7	uncompressed	o	o	o	o		
3.2	data	m	m	m	m		
4	g4-class-1	o	o	o	o		
5	teletex	o	o	o	o		see footnote 1
5.1	parameters	m	m	m	m		
5.1.1	number-of-pages	o	o	o	m		
5.1.2	telex-compatible	o	o	m	m		
5.1.3	non-basic-parameters	o	o	o	m		
5.2	data	m	m	m	m		
6	videotex	o	o	o	o		

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
6.1	parameters	m	m	m	m		
6.1.1	syntax	o	o	o	m		
6.2	data	m	m	m	m		
7	encrypted	o	o	o	o		
7.1	parameters	m	m	m	m		
7.2	data	m	m	m	m		
8	message	o	o	o	m		
8.1	parameters	m	m	m	m		
8.1.1	delivery-time	o	o	o	m		
8.1.2	delivery-envelope	o	o	o	m		
8.2	data	m	m	m	m		
9	mixed-mode	o	o	o	o		
10	bilaterally-defined	o	o	o	o		
11	nationally-defined	o	o	o	o		
12	extended	m	m	m	m		see A.1.3.1
1	The teletex body part type should be used purely for teletex documents, obeying page rules, etc. It should not be used to transfer unstructured T.61 character data						

A.1.3.1 Extended body part support

It shall be indicated below which standard extended body part types are supported. It shall be stated in A.3.4 whether any other specific extended body part types are supported.

Ref	Extended Body Part Type	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	ia5-text-body-part	o	o	o	m		see A.1.3/1
2	g3-facsimile-body-part	o	o	o	o		see A.1.3/3
3	g4-class1-body-part	o	o	o	o		see A.1.3/4
4	teletex-body-part	o	o	o	o		see A.1.3/5
5	videotex-body-part	o	o	o	o		see A.1.3/6

Ref	Extended Body Part Type	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
6	encrypted-body-part	o	o	o	o		
7	message-body-part	o	o	o	m		see A.1.3/8
8	mixed-mode-body-part	o	o	o	o		
9	bilaterally-defined-body-part	o	o	o	o		
10	nationally-defined-body-part	o	o	o	o		
11	general-text-body-part	o	m	o	m		see footnote 1
12	file-transfer-body-part	o	o	o	m		see footnote 3
13	voice-body-part	o	o	o	o		
14	oda-body-part	o	o	o	o		see ISO/IEC 8613-5
15	report-body-part	o	o	o	m		
16	notification-body-part	o	o	o	m		
17	ContentBodyParts	o	o	o	m ²		
18	pkcs7-body-part	o	o	o	o		
1	This body part type is the preferred means of carrying unstructured character data, except when interworking with 1984 implementations.						
2	Support for IPM content-types is mandatory, support for other content-types is optional..						
3	The octet-aligned EXTERNAL encoding should be used. Only one EXTERNAL component should be used. Where the file to be conveyed contains a compound structure, this may be represented as a SEQUENCE OF EXTERNALS; The primary data should be placed in the first EXTERNAL. Receiving systems may ignore all but the first EXTERNAL in the SEQUENCE.						

A.1.3.2 General text repertoire support

It shall be indicated below which character repertoires are supported for support of the General Text body part type. An implementation shall meet the requirements of one or both of repertoire groups A and B.

Ref	Repertoire set description	Repertoire identifier(s)	Origination		Reception		Support
			A	B	A	B	
1	Basic (ISO 646)	{1,6}	m	m	m	m	
2	Basic-1 (ISO 8859-1)	{1,6,100}	o	m	o	m	
3	Basic + Chinese (1)	{1,6,58}	o	o	o	o	
4	Basic + Chinese (2)	{1,6,165}	o	o	o	o	

Ref	Repertoire set description	Repertoire identifiant(s)	Origination		Reception		Support
			A	B	A	B	
5	Basic + Japanese (1)	{1,6,13,87}	o	o	o	o	
6	Basic + Japanese (2)	{1,6,13,168}	o	o	o	o	
7	Basic + Korean	{1,6,149}	o	o	o	o	
8	Basic-1 + Cyrillic (ISO 8859-5)	{1,6,100,144}	o	o	o	o	
9	Basic-1 + Arabic (ISO 8859-6)	{1,6,100,127}	o	o	o	o	
10	Basic-1 + Greek (ISO 8859-7)	{1,6,100,126}	o	o	o	o	
11	Basic-1 + Hebrew (ISO 8859-8)	{1,6,100,138}	o	o	o	o	
12	Basic + suppl. (ISO 8859-10)	{1,6,157}	o	o	o	o	
13	Full Latin (1)	{1,6,100,154}	o	o	o	o	
14	Full Latin (2) (ISO 6937)	{1,6,156}	o	o	o	o	
15	Teletex Basic Latin	{102,103,106,107}	o	o	o	o	
16	ISO/IEC 10646-1 Basic Multilingual Plane	{1,176}	m	m	m	m	

NOTE - The requirements for repertoire group B are derived from the sets of countries and languages as broadly represented by both the European Workshop for Open Systems (EWOS) and the North American OSE Implementors' Workshop (OIW). Further repertoire groups may be defined in future versions of this ISP.

A.1.3.3 File transfer parameters

Ref	Extended Body Part Type	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	related-stored-file	o	o	o	o		
1.1	file-identifier	m	m	m	m		
1.1.1	pathname-and-version	o	o	o	o		
1.1.1.1	pathname	m	m	m	m		
1.1.1.2	file-version	o	o	o	o		
1.1.2	cross-reference	o	o	o	o		
1.1.2.1	application-cross-reference	m	m	m	m		
1.1.2.2	message-reference	o	o	o	o		

Ref	Extended Body Part Type	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1.1.2.2.1	user	o	o	o	o		
1.1.2.2.2	user-relative-identifier	m	m	m	m		
1.1.2.3	body-part-reference	o	o	o	o		
1.2	relationship	o	o	o	o		
1.2.1	explicit-relationship	o	o	o	o		
1.2.2	descriptive-relationship	o	o	o	o		
2	contents-type	o	m ¹	o	m ¹		
2.1	document-type	o	o	o	o		
2.1.1	document-type-name	m	m	m	m		
2.1.2	parameter	o	o	o	o		
2.2	constraint-set-and-abstract-syntax	o	o	o	o		
2.2.1	constraint-set-name	m	m	m	m		
2.2.2	abstract-syntax-name	m	m	m	m		
3	environment	o	m	o	m		
3.1	application-reference	o	m	o	m		
3.1.1	registered-identifier	o	m	o	m		
3.1.2	descriptive-identifier	o	o	o	o		
3.2	machine	o	o	o	o		
3.2.1	registered-identifier	o	o	o	o		
3.2.2	descriptive-identifier	o	o	o	o		
3.3	operating-system	o	o	o	o		
3.4	user-visible-string	o	m ²	o	m ²		
4	compression	o	o	o	o		
4.1	compression-algorithm-id	m	m	m	m		
4.2	compression-algorithm-param	m	m	m	m		
5	file-attributes	o	m	o	m		

Ref	Extended Body Part Type	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
5.1	pathname	o	m	o	m		
5.1.1	incomplete-pathname	o	m ³	o	m ³		
5.1.2	complete-pathname	o	o	o	o		
5.2	permitted-actions	o	o	o	o		
5.3	storage-account	o	o	o	o		
5.3.1	no-value-available	o	o	o	o		
5.3.2	actual-values	o	o	o	o		
5.4	date-and-time-of-creation	o	o	o	o		
5.5	date-and-time-of-last-modification	o	m ⁴	o	m ⁴		
5.6	date-and-time-of-last-read-access	o	o	o	o		
5.7	date-and-time-of-last-attribute-modification	o	o	o	o		
5.8	identity-of-creator	o	o	o	o		
5.8.1	no-value-available	o	o	o	o		
5.8.2	actual-values	o	o	o	o		
5.9	identity-of-last-modifier	o	o	o	o		
5.9.1	no-value-available	o	o	o	o		
5.9.2	actual-values	o	o	o	o		
5.10	identity-of-last-reader	o	o	o	o		
5.10.1	no-value-available	o	o	o	o		
5.10.2	actual-values	o	o	o	o		
5.11	identity-of-last-attribute-modifier	o	o	o	o		
5.11.1	no-value-available	o	o	o	o		
5.11.2	actual-values	o	o	o	o		
5.12	object-availability	o	o	o	o		
5.13	object-size	o	m ⁵	o	m ⁵		
5.13.1	no-value-available	o	o	o	o		

Ref	Extended Body Part Type	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
5.13.2	actual-values	o	m	o	m		
5.14	future-object-size	o	o	o	o		
5.15	access-control	o	o	o	o		
5.15.1	no-value-available	o	o	o	o		
5.15.2	actual-values	o	o	o	o		
5.15.2.1	action-list	m	m	m	m		
5.15.2.2	concurrency-access	o	o	o	o		
5.15.2.3	identity	o	o	o	o		
5.15.2.4	password	o	o	o	o		
5.15.2.5	location	o	o	o	o		
5.16	legal-qualifications	o	o	o	o		
5.17	private-use	o	o	o	o		
5.18	attribute-extensions	o	o	o	o		
6	extensions	o	o	o	o		

1	The DEFAULT value "unstructured-binary" should be used for all byte stream formats (e.g. DOS, UNIX). This is the only required value.
2	This element should be used to convey any additional distinguishing information that might be of use to the receiver e.g. for presentation to a user or in cases where the application-reference OID is not recognized by the receiving system. The SEQUENCE should only consist of a single GRAPHICSTRING element containing a string that might provide an end-user with additional information about the attachment.
3	The SEQUENCE should only consist of a single GRAPHICSTRING element containing the target file/attachment name without any preceding path information.
4	Localtime should be used i.e. with timezone indication.
5	The value used represent the size of the Attachment data in bytes. Absence of the object size attribute is equivalent to no object size value being available. Use of the information on receipt is a local matter.

A.1.4 IPN fields

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	subject-ipm	m	m	m	m		see A.1.5/3
2	ipn-originator	o	m	m	m		see A.1.5/2
3	ipm-intended-recipient	m	m	m	m		see A.1.5/2
4	conversion-eits	o	o	m	m		
5	notification-extensions	o	o	o	o		
5.1	ipn-security-response	o	o	o	o		
5.1.1	content-or-arguments	m	m	m	m		
5.1.1.1	original-content	o	o	o	o		
5.1.1.2	original-security-arguments	o	m	o	m		
5.1.1.2.1	original-content-integrity-check	o	o	o	o		
5.1.1.2.2	original-message-origin-authentication-check	o	o	o	o		
5.1.1.2.3	original-message-token	o	o	o	o		
5.1.2	security-diagnostic-code	o	m	o	m		
6	non-receipt-fields	m	m	o	m		
6.1	non-receipt-reason	m	m	m	m		
6.2	discard-reason	m	m	m	m		
6.3	auto-forward-comment	o	o	m	m		
6.4	returned-ipm	o	o	o	o		
6.5	nrn-extensions	o	i	o	i		
7	receipt-fields	o	o	o	m		
7.1	receipt-time	m	m	m	m		
7.2	acknowledgement-mode	o	o	m	m		
7.3	suppl-receipt-info	o	o	o	o		
7.4	rn-extensions	o	i	o	i		

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
8	other-notification-type-fields	o	o	o	o		
8.1	absence-advice	o	o	o	m		
8.2	change-of-address-advice	o	o	o	m		

A.1.5 Common data types

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
1	RecipientSpecifier						
1.1	recipient	m	m	m	m		see A.1.5/2
1.2	notification-requests	o	o	m	m		
1.2.1	rn	o	o	o	o		
1.2.2	nrn	o	o	m	m		
1.2.3	ipm-return	o	o	o	o		
1.2.4	an-supported	o	o	o	o		
1.2.5	suppress-an	o	o	o	o		
1.3	reply-requested	o	o	m	m		
1.4	recipient-extensions	o	m	o	m		
1.4.1	recipient-security-request	o	o	o	o		
1.4.2	circulation-list-indicator	o	o	o	o		
1.4.3	precedence	o	o	o	o		
2	ORDescriptor						
2.1	formal-name	m	m ¹	m	m ¹		see A.1.7 in ISO/IEC ISP 10611-3
2.2	free-form-name	o	o	o	m		
2.3	telephone-number	o	o	o	m		

Ref	Element	Origination		Reception		Support	Notes/References
		Base	Profile	Base	Profile		
3	IPMIdentifier						
3.1	user	m	m	m	m		
3.2	user-relative-identifier	m	m	m	m		
1	the requirements for support of OR-names are specified in clause 8 of ISO/IEC ISP 12062-1 (i.e. a claim of support of the formal-name element means that at least the minimum requirements of ISO/IEC ISP 12062-1 with respect to the component elements of OR-names are met)						

A.2 Optional functional groups

The following requirements are additional to those specified in A.1 if support of the functional group is claimed (references are to the corresponding table entries in A.1). There are no additional requirements for support of P2 information objects for support of any of the IPM optional functional groups except as specified in this clause.

A.2.1 IPM Manual Forwarding (FWD)

A.2.1.1 IPM body

Ref	Element	Profile	
		Orig.	Rec.
A.1.3/8	message	c ^{1,2}	
A.1.3.1/7	message-body-part	c ¹	
A.1.3.1/18	ContentBodyParts	c ^{1,3}	
1	Support for origination of at least one of these is mandatory.		
2	Mandatory if the 84IW FG is supported.		
3	If any of the content security classes (SnC) are supported then support for IPM content-types in ContentBodyParts is mandatory.		

A.2.2 IPM Security

A.2.2.1 IPM Security (SEC0)

A.2.2.1.1 IPM heading fields

Ref	Element	Profile	
		Orig.	Rec.
A.1.2/17.4	body-part-signatures	m	m

A.2.2.1.2 IPM heading subfields

Ref	Element	Profile	
		Orig.	Rec.
A.1.2.1/3.2.3	signed	m	m

A.2.2.2 IPM Security (SEC0C)

A.2.2.2.1 IPM heading fields

Ref	Element	Profile	
		Orig.	Rec.
A.1.2/17.4	body-part-signatures	m	m

A.2.2.2.2 IPM heading subfields

Ref	Element	Profile	
		Orig.	Rec.
A.1.2.1/3.2.3	signed	m	m

A.2.2.2.3 IPM body

Ref	Element	Profile	
		Orig.	Rec.
A.1.3/7	encrypted	c ¹	m
A.1.3.1/6	encrypted-body-part	c ¹	m
1 Support for origination of at least one of these is mandatory.			

A.2.2.3 IPM Security (SEC1)

A.2.2.3.1 IPM heading fields

Ref	Element	Profile	
		Orig.	Rec.
A.1.2/17.4	body-part-signatures	m	m
A.1.2/17.5	ipm-security-label	m	m

A.2.2.3.2 IPM heading subfields

Ref	Element	Profile	
		Orig.	Rec.
A.1.2.1/1.2.3	body-part-security-label	m	m
A.1.2.1/3.2.3	signed	m	m

A.2.2.4 IPM Security (SEC2 and SEC2R)**A.2.2.4.1 IPN fields**

Ref	Element	Profile	
		Orig.	Rec.
A.1.4/5.1	ipn-security-response	m	m

A.2.2.4.2 Common data types

Ref	Element	Profile	
		Orig.	Rec.
A.1.5/1.4.1	recipient-security-request	m	m

A.2.2.5 IPM Security (SECIW)**A.2.2.5.1 Extended body part support**

Ref	Element	Profile	
		Orig.	Rec.
A.1.3.1/18	pkcs7-body-part	m	m

A.2.3 IPM Use of Directory (DIR)

A.2.3.1 Common data types

Ref	Element	Profile	
		Orig.	Rec.
A.1.5/2.1	formal-name	m ¹	m ¹
1	shall support creation, display and copying of the directory-name component		

A.2.4 IPM 84 Interworking (84IW)

A.2.4.1 IPM body

Ref	Element	Profile	
		Orig.	Rec.
A.1.3/1	ia5-text	m	

A.2.5 IPM Business Class (BC)

A.2.5.1 IPM heading fields

Ref	Element	Profile	
		Orig.	Rec.
17.6	authorization-time	m	m
17.7	circulation-list-recipients	m	m
17.8	distribution-codes	m	m
17.10	information-category	m	m
17.11	manual-handling-instructions	m	m
17.12	originators-reference	m	m
17.13	precedence-policy-identifier	m	m

A.2.5.2 Common data types

Ref	Element	Profile	
		Orig.	Rec.
A.1.5/1.4.2	circulation-list-indicator		m
A.1.5/1.4.3	precedence	m	m

A.2.6 IPM Auto-Advise (AADV)**A.2.6.1 IPN fields**

Ref	Element	Profile	
		Orig.	Rec.
A.1.4/8	other-notification-type-fields		m
A.1.4/8.1	absence-advice		m
A.1.4/8.2	change-of-address-advice		m

A.2.6.2 Common data types

Ref	Element	Profile	
		Orig.	Rec.
A.1.5/1.2.4	an-supported	m	
A.1.5/1.2.5	suppress-an	m	

A.3 Additional information

A.3.1 IPM Element of Service support

The following table shall be completed to indicate (Y or ✓), for each IPM Element of Service, whether the Element of Service is made available to the MHS user and, if so, how this is achieved. Where support for origination and reception cannot be covered by a single indication, then both shall be indicated.

The columns have the following meanings:

- Service the EoS can be made dynamically selectable by the MHS user (i.e. for invocation and/or notification, as appropriate) without requiring reconfiguration of the UA or other intervention in each instance (whether the semantics of the EoS are available at a human user interface, programmatic interface or by other means may be specified in the Comments column)
- Auto the EoS is automatically invoked/actioned by the UA without reference to the MHS user (whether selection is dynamically determined based on some other knowledge or criteria may be specified in the Comments column)
- Config the UA may be configured to select the EoS by the execution of some off-line process
- Other any other means of using the EoS

Ref	Element of Service	Service	Auto	Config	Comments/Other
1	Access Management				
2	Additional Physical Rendition				
3	Alternate Recipient Allowed				
4	Alternate Recipient Assignment				
5	Authorization Time Indication				
6	Authorizing Users Indication				
7	Auto-acknowledgement of IP-messages				
8	Auto-action Log				
9	Auto-advise				
10	Auto-assignment of Annotations				
11	Auto-assignment of Group Names				
12	Auto-assignment of Storage Period				
13	Auto-correlation of IP-messages				
14	Auto-correlation of IP-notifications				
15	Auto-correlation of Reports				
16	Auto-deletion after Storage Period				

Ref	Element of Service	Service	Auto	Config	Comments/Other
17	Auto-discarding of IP-messages				
18	Auto-forwarded Indication				
19	Auto-forwarding of IP-messages				
20	Auto-submitted Indication				
21	Basic Physical Rendition				
22	Blind Copy Recipient Indication				
23	Body Part Authentication and Integrity				
24	Body Part Encryption				
25	Circulation List Recipients Indication				
26	Content Confidentiality				
27	Content Integrity				
28	Content Type Indication				
29	Conversion Prohibition				
30	Conversion Prohibition in Case of Loss of Information				
31	Converted Indication				
32	Counter Collection				
33	Counter Collection with Advice				
34	Cover Page Suppression				
35	Cross-referencing Indication				
36	Deferred Delivery				
37	Deferred Delivery Cancellation				
38	Delivery Log				
39	Delivery Notification				
40	Delivery Time Stamp Indication				
41	Delivery via Bureaufax Service				
42	Designation of Recipient by Directory Name				
43	Disclosure of Other Recipients				

Ref	Element of Service	Service	Auto	Config	Comments/Other
44	Distribution Codes Indication				
45	DL Exempted Recipients				
46	DL Expansion History Indication				
47	DL Expansion Prohibited				
48	EMS (Express Mail Service)				
49	Expiry Date Indication				
50	Explicit Conversion				
51	Forwarded IP-message Indication				
52	Grade of Delivery Selection				
53	Hold for Delivery				
54	Implicit Conversion				
55	Importance Indication				
56	Incomplete Copy Indication				
57	Information Category Indication				
58	IP-message Action Status				
59	IP-message Identification				
60	IP-message Security Labelling				
61	Language Indication				
62	Latest Delivery Designation				
63	Manual Handling Instructions Indication				
64	Message Flow Confidentiality				
65	Message Identification				
66	Message Origin Authentication				
67	Message Security Labelling				
68	Message Sequence Integrity				
69	MS Register				
70	Multi-destination Delivery				

Ref	Element of Service	Service	Auto	Config	Comments/Other
71	Multi-part Body				
72	Non-delivery Notification				
73	Non-receipt Notification Request Indication				
74	Non-repudiation of Content Received				
75	Non-repudiation of Delivery				
76	Non-repudiation of IP-notification				
77	Non-repudiation of Origin				
78	Non-repudiation of Submission				
79	Obsoleting Indication				
80	Ordinary Mail				
81	Original Encoded Information Types Indication				
82	Originator Indication				
83	Originator Reference Indication				
84	Originator Requested Alternate Recipient				
85	Physical Delivery Notification by MHS				
86	Physical Delivery Notification by PDS				
87	Physical Forwarding Allowed				
88	Physical Forwarding Prohibited				
89	Precedence Indication				
90	Prevention of Non-delivery Notification				
91	Primary and Copy Recipients Indication				
92	Probe				
93	Probe Origin Authentication				
94	Proof of Content Received				
95	Proof of Delivery				
96	Proof of IP-notification				
97	Proof of Submission				