INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 12062-2

Second edition
1997-12-15

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
ISO/IEC ISP 12062-2:1997(E)

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 a 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 12062-2 was prepared with the collaboration of

— OSI Asia-Oceania Workshop (AOW);

— European Workshop for Open Systems (EWOS);

— Open Systems Environment Implementors' Workshop (OIW).

This second edition cancels and replaces the first edition (ISO/IEC ISP 12062-2:1995), which has been technically revised. It also incorporates Technical Corrigendum 1:1996.

ISO/IEC ISP 12062 consists of the following parts, under the general title *Information technology - International Standardized Profiles 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)*

Annexes A and B form an integral part of this part of ISO/IEC ISP 12062.
Annex C is for information only.

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 most important 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 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). This part of ISO/IEC ISP 12062 is harmonized between these three Workshops and it has been ratified by the plenary assemblies of all three Workshops.

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.

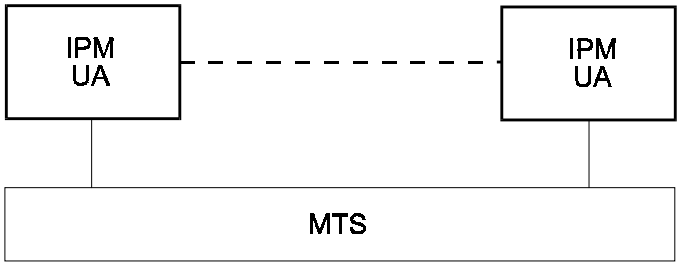

Figure 1 - AMH21 scenario

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 documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 12062. 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 12062 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 the Telecommunications Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

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.

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

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

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

ISO/IEC TR 10000-2:—[1)], *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and Taxonomy for OSI profiles.*

ITU-T Recommendation F.400/X.400 (1996), *Message Handling Systems - System and service overview.*

ISO/IEC 10021-1:—[2)], *Information technology - Message Handling Systems (MHS): System and service overview [see also ITU-T Recommendation F.400/X.400].*

ITU-T Recommendation X.402 (1995) | ISO/IEC 10021-2: 1996, *Information technology - Message Handling Systems (MHS): Overall architecture.*

ITU-T Recommendation X.420 (1996) | ISO/IEC 10021-7: 1997, *Information technology - Message Handling Systems (MHS): Interpersonal messaging system.*

ISO/IEC ISP 12062-1: 1997, *Information technology - International Standardized Profiles AMH2n - Message Handling Systems - Interpersonal Messaging - Part 1: IPM MHS Service Support.*

3 Definitions

For the purposes of this part of ISO/IEC ISP 12062, the following 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 TR 10000:1995)

2) To be published. (Revision of ISO/IEC 10021-1:1990)

3.1 General

3.1.1 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.

3.1.2 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.

3.2.1 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.

3.2.2 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.

3.2.3 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).

3.2.4 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.

3.2.5 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
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.

Annex A[1)]

(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').

1) **Copyright release for ISPICS proformas**

Users of this Part of ISO/IEC ISP 12062 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 Conversion (CV)		
2.2	IPM Physical Delivery (PD)		
2.3	IPM Manual Forwarding (FWD)		
2.4	IPM Redirection (RED)		
2.5	IPM Latest Delivery (LD)		
2.6	IPM Return of Content (RoC)		
2.7	IPM Security (SEC)		class(es):
2.8	IPM Use of Directory (DIR)		
2.9	IPM 84 Interworking (84IW)		

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	o	o	m	m		

17.1	incomplete-copy	o	o	o	m		
17.2	languages	o	o	m	m		
17.3	auto-submitted	o	I	o	i		

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 note
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		
6.1	parameters	m	m	m	m		
6.1.1	syntax	o	o	o	m		
6.2	data	m	m	m	m		
7	encrypted	i	i	i	i		
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	o	m	o	m		see A.1.3.1

NOTE - 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
6	encrypted-body-part	i	i	i	i		

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 note 1
12	file-transfer-body-part	o	o	o	m		see note 3
13	voice-body-part	o	i	o	i		
14	oda-body-part	i	i	i	i		see ISO/IEC 8613-5
15	report-body-part	o	o	o	o		see note 2
16	notification-body-part	o	o	o	o		see note 2
17	ContentBodyParts	o	o	o	o		see note 2

NOTE 1 - This body part type is the preferred means of carrying unstructured character data, except when interworking with 1984 implementations.

NOTE 2 - It is intended that this body part type will be the subject of a future amendment to this ISP and may become a mandatory support requirement.

NOTE 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	
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	

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		
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		
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-avaliable	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-attrbute-modification	o	o	o	o		
5.8	identity-of-creator	o	o	o	o		
5.8.1	no-value-avaliable	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-avaliable	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-avaliable	o	o	o	o		
5.10.2	actual-values	o	o	o	o		
5.11	identity-of-last-attrbute-modifier	o	o	o	o		
5.11.1	no-value-avaliable	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-avaliable	o	o	o	o		
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-avaliable	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		

m 1 - The DEFAULT value "unstructured-binary" should be used for all byte stream formats (e.g. DOS, UNIX). This is the only required value.

m 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.

m 3 - The SEQUENCE should only consist of a single GRAPHICSTRING element containing the target file/attachment name without any preceding path information.

m 4 - Localtime should be used i.e. with timezone indication.

m 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	acknowledgment-mode	o	o	m	m		
7.3	suppl-receipt-info	o	o	o	o		
7.4	rn-extensions	o	i	o	i		
8	other-notification-type-fields	o	i	o	i		

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		
1.3	reply-requested	o	o	m	m		
1.4	recipient-extensions	o	i	o	i		
1.4.1	recipient-sceurity-request	o	o	o	o		
2	ORDescriptor						
2.1	formal-name	m	m1	m	m1		
2.2	free-form-name	o	o	o	m		
2.3	telephone-number	o	o	o	m		

3	IPMIdentifier						
3.1	user	m	m	m	m		
3.2	user-relative-identifier	m	m	m	m		

m1 - 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	m	

A.2.2 IPM 84 Interworking (84IW)

A.2.2.1 IPM body

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

A.2.3 IPM Security (SEC1 and SEC2)

A.2.3.1 IPN fields

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

A.2.3.2 Common data types

Ref	Element	Profile	
		Orig.	Rec.
A.1.5/1.4.1	recipient-sceurity-request	m	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 offline 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	Authorizing Users Indication				
6	Auto-forwarded Indication				
7	Basic Physical Rendition				
8	Blind Copy Recipient Indication				
9	Body Part Encryption Indication				
10	Content Confidentiality				
11	Content Integrity				
12	Content Type Indication				
13	Conversion Prohibition				
14	Conversion Prohibition in Case of Loss of Information				
15	Converted Indication				
16	Counter Collection				

17	Counter Collection with Advice				
18	Cross-referencing Indication				
19	Deferred Delivery				
20	Deferred Delivery Cancellation				
21	Delivery Notification				
22	Delivery Time Stamp Indication				
23	Delivery via Bureaufax Service				
24	Designation of Recipient by Directory Name				
25	Disclosure of Other Recipients				
26	DL Expansion History Indication				
27	DL Expansion Prohibited				
28	EMS (Express Mail Service)				
29	Expiry Date Indication				
30	Explicit Conversion				
31	Forwarded IP-message Indication				
32	Grade of Delivery Selection				
33	Hold for Delivery				
34	Implicit Conversion				
35	Importance Indication				
36	Incomplete Copy Indication				
37	IP-message Identification				
38	Language Indication				
39	Latest Delivery Designation				
40	Message Flow Confidentiality				
41	Message Identification				
42	Message Origin Authentication				
43	Message Security Labelling				
44	Message Sequence Integrity				