

INTERNATIONAL
STANDARDIZED
PROFILE

ISO/IEC
ISP
12063-1

First edition
1995-07-15

**Information technology — International
Standardized Profiles AMH3n — Message
Handling Systems — EDI Messaging —**

Part 1:
EDIMG MHS Service Support

*Technologies de l'information — Profils normalisés internationaux
AMH3n — Systèmes de messagerie — Messagerie EDI —*

Partie 1: Support de service EDIMG MHS



Reference number
ISO/IEC ISP 12063-1:1995(E)



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Printed in Switzerland

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 JTC1. In addition to developing International Standards, ISO/IEC JTC1 has created a Special Group on Functional Standardization for the elaboration of International Standardized Profiles.

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

International Standardized Profile ISO/IEC ISP 12063-1 was prepared with the collaboration of:

- OSI Asia-Oceania Workshop (AOW)
- European Workshop for Open Systems (EWOS), jointly with the European Telecommunications Standards Institute (ETSI)
- OSE Implementors' Workshop (OIW)

ISO/IEC ISP 12063 consists of the following parts, under the general title *Information technology - International Standardized Profiles AMH3n - Message Handling Systems - EDI Messaging*:

- *Part 1 : EDIMG MHS Service Support*
- *Part 2 : AMH31 - EDIMG Content*
- *Part 3 : AMH32 - EDIMG Requirements for Message Transfer (P1)*
- *Part 4 : AMH33 - EDIMG Requirements for MTS Access (P3)*
- *Part 5 : AMH34 - EDIMG Requirements for Enhanced MS Access (P7)*

Annexes A and B form an integral part of this part of ISO/IEC ISP 12063. Annexes C, D and E are for information only.

Introduction

This part of ISO/IEC ISP 12063 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. 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 12063 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 12063 is harmonized between these three Workshops and it has been ratified by the plenary assemblies of all three Workshops.

Information technology – International Standardized Profiles AMH3n – Message Handling Systems – EDI Messaging –

Part 1 : EDIMG MHS Service Support

1 Scope

1.1 General

This part of ISO/IEC ISP 12063 contains the overall specifications of the support of MHS Elements of Service and associated MHS functionality in an Electronic Data Interchange Messaging (EDIMG) environment which are generally not appropriate for consideration only from the perspective of a single MHS protocol. These specifications form part of the EDI Messaging application functions, as defined in the parts of ISO/IEC ISP 12063, and are based on the Common Messaging content type-independent specifications in ISO/IEC ISP 10611. Such specifications are in many cases applicable to more than one MHS protocol or are otherwise concerned with component functionality which, although it can be verified via protocol, is not just related to protocol support. They are therefore designed to be referenced in the MHS EDI Messaging application profiles ISO/IEC ISP 12063-2 (AMH31), ISO/IEC ISP 12063-3 (AMH32), ISO/IEC ISP 12063-4 (AMH33) and ISO/IEC ISP 12063-5 (AMH34), which specify the support of specific MHS protocols and associated functionality.

The specifications in this part of ISO/IEC ISP 12063 are divided into **basic requirements**, which are required to be supported by all EDIMG implementations, and a number of optional **functional groups**, which cover significant discrete areas of related functionality which are not required to be supported by all implementations.

An overview of the scope and applicability of the AMH3n set of profiles and of the structure of this multipart ISP is provided in annex D.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 12063 is the first part, as text common to all parts of the multipart ISP identified in ISO/IEC TR 10000-2 as "AMH3, Message Handling Systems - EDI Messaging" (see also ISO/IEC TR 10000-1, subclause 8.2 for the definition of multipart ISPs).

This part of ISO/IEC ISP 12063 does not, on its own, specify any profiles.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 12063. 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 12063 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 12063 to specific clauses of ISO/IEC documents refer also to the corresponding clauses of the equivalent ITU-T Recommendations (as noted below) unless otherwise stated.

2 - Informative reference are found in annex E.

ISO/IEC TR 10000-1: 1992, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1: Framework.*

ISO/IEC TR 10000-2: 1994, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and taxonomy for OSI profiles.*

ISO/IEC 10021-1: 1990, *Information technology - Text Communication - Message-Oriented Text Interchange Systems (MOTIS) - Part 1: System and Service Overview. [see also CCITT Recommendation F.400(1992)]*

ISO/IEC 10021-2: 1990, *Information technology - Text Communication - Message-Oriented Text Interchange Systems (MOTIS) - Part 2: Overall Architecture. [see also CCITT Recommendation X.402(1992)]*

ISO/IEC 10021-4: 1990, *Information technology - Text Communication - Message-Oriented Text Interchange Systems (MOTIS) - Part 4: Message Transfer System: Abstract Service Definition and Procedures. [see also CCITT Recommendation X.411(1992)]*

ISO/IEC 10021-5: 1990, *Information technology - Text Communication - Message-Oriented Text Interchange Systems (MOTIS) - Part 5: Message Store: Abstract Service Definition. [see also CCITT Recommendation X.413(1992)]*

ISO/IEC 10021-8: 1995, *Information technology - Text Communication - Message Handling Systems - Part 8 : Electronic Data Interchange Messaging Service. [see also CCITT Recommendation F.435(1991)]*

ISO/IEC 10021-9: 1995, *Information technology - Text Communication - Message Handling Systems - Part 9 : Electronic Data Interchange Messaging System. [see also CCITT Recommendation X.435(1991)]*

ISO/IEC ISP 10611: 1994, *Information technology - International Standardized Profiles AMH1n - Message Handling Systems - Common Messaging*

CCITT Recommendation F.400(1992), *Message handling services: Message handling system and service overview.*

CCITT Recommendation F.435(1991), *Message handling: EDI messaging service.*

CCITT Recommendation X.402(1992), *Message handling systems: Overall architecture.*

CCITT Recommendation X.411(1992), *Message handling systems - Message transfer system: Abstract service definition and procedures.*

CCITT Recommendation X.413(1992), *Message handling systems - Message store: Abstract service definition.*

CCITT Recommendation X.435(1991), *Message handling systems: EDI messaging system.*

3 Definitions

For the purposes of this part of ISO/IEC ISP 12063, the following definitions apply.

Terms used in this part of ISO/IEC ISP 12063 are defined in the referenced base standards; in addition, the following terms are defined.

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 interfaces, are outside the scope of this version of ISO/IEC ISP 12063).

3.2 Support classification

To specify the support level of Elements of Service for this part of ISO/IEC ISP 12063, the following terminology is defined.

3.2.1 mandatory support (m) :

for origination:

for MT and MS Elements of Service:

A service provider (i.e. an MTA or MS) shall be able to make the Element of Service available to a service user in the role of originator; a service user (i.e. a UA) shall be able to use the Element of Service in the role of originator.

for EDI Elements of Service:

A service provider (i.e. an EDI-UA) shall implement all the procedures specified in the base standards which are associated with the provision of the Element of Service, including use of the corresponding MT or MS Element(s) of Service, as appropriate; where specified in the base standards, a service provider shall make the Element of Service available to the service user in the role of originator; in all cases, it shall be stated in the PICS whether the Element of Service is made available to the service user and, if so, how this is achieved.

for reception:

for MT and MS Elements of Service:

A service provider (i.e. a MTA or MS) shall be able to make the Element of Service available to a service user in the role of recipient; a service user (i.e. a UA) shall be able to use the Element of Service in the role of recipient.

for EDI Elements of Service:

A service provider (i.e. an EDI-UA) shall implement all the procedures specified in the base standards which are associated with the provision of the Element of Service, including use of the corresponding MT or MS Element(s) of Service, as appropriate; where specified in the base standards, a service provider shall make the Element of Service available to the service user in the role of recipient; in all cases, it shall be stated in the PICS whether the Element of Service is made available to the service user and, if so, how this is achieved.

3.2.2 optional support (o) : An implementation is not required to support the Element of Service. If support is claimed, then the Element of Service shall be treated as if it were specified as mandatory support.

3.2.3 conditional support (c) : The Element of Service shall be supported under the conditions specified in this part of ISO/IEC ISP 12063. If these conditions are met, the Element of Service shall be treated as if it were specified as mandatory support. If these conditions are not met, the Element of Service shall be treated as if it were specified as optional support (unless otherwise stated).

3.2.4 out of scope (i) : The Element of Service is outside the scope of this part of ISO/IEC ISP 12063 - i.e. it will not be the subject of an ISP conformance test. However, the handling of associated protocol elements may be specified separately in the subsequent parts of ISO/IEC ISP 12063.

3.2.5 not applicable (–) : The Element of Service is not applicable in the particular context in which this classification is used.

3.3 Profile object identifiers

Profiles that are specified in ISO/IEC ISP 12063 are identified by the object identifiers in table 1.

NOTE - These object identifiers are included for formal purposes and any use of them is not defined. They are not related to any implementation of messaging and do not appear in the protocols specified in ISO/IEC ISP 12063.

Table 1 - Profile object identifiers

Profile	Object Identifier
AMH31	{ iso standard edi-messaging(12063) edimg-content (2) }
AMH32	{ iso standard edi-messaging(12063) edimg-message-transfer(3) }
AMH33	{ iso standard edi-messaging(12063) edimg-mts-access(4) }
AMH34	{ iso standard edi-messaging(12063) edimg-ms-access(5) }

4 Abbreviations

84IW	84 Interworking
AF	Automatic Forwarding
ASN.1	Abstract Syntax Notation One
CV	Conversion
DIR	Use of Directory
DL	Distribution List
EDI	Electronic data interchange
EDI-MS	EDI message store
EDI-UA	EDI user agent
EDIFACT	EDI For Administration, Commerce and Transport
EDIM	EDI Message
EDIMG	EDI Messaging
EDIN	EDI Notification
EH	EDIFACT Heading fields
EIT	Encoded information type
EoS	Element of Service
FG	Functional group
FN	Forwarded notification
IPM	Interpersonal message or Interpersonal messaging
ISP	International Standardized Profile
ISPICS	International Standard Protocol Implementation Conformance Statement
LD	Latest Delivery
MF	Manual Forwarding
MHS	Message Handling Systems
MPB	Multi part body
MS	Message store
MT	Message transfer
MTA	Message transfer agent
MTS	Message Transfer System
NN	Negative notification
OSI	Open Systems Interconnection
PD	Physical Delivery
PDAU	Physical delivery access unit
Pedi	Protocol for electronic data interchange
PN	Positive notification
PS	Private syntax
RED	Redirection
SEC	Security
UA	User agent
X12	ANSI X12

Support level for Elements of Service (see 3.2):

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

5 Conformance

No conformance requirements are specified in this part of ISO/IEC ISP 12063.

NOTE - This part of ISO/IEC ISP 12063 is a reference specification of the basic requirements and functional groups covered by the AMH3n set of profiles and is additional to the protocol-specific requirements specified in the following parts of ISO/IEC ISP 12063. Although this part of ISO/IEC ISP 12063 contains normative requirements, there is no separate conformance to this part (i.e. it is not identified in the MHS taxonomy in ISO/IEC TR 10000-2) since such requirements are only significant when referenced in the context of a particular protocol.

Conformance requirements are specified by protocol for each MHS functional object in the following parts of ISO/IEC ISP 12063 with reference to the specifications in this part. Support of functionality as specified in this part may only be verifiable where the effect of implementation can be determined at a standardized external interface - i.e. via a standard OSI communications protocol. Further, the provision of Elements of Service and other functionality at a service interface will not necessarily be verifiable unless such interface is realized in the form of a standard OSI communications protocol. Other forms of exposed interface (such as a human user interface or a standardized programmable interface) may be provided, but are not required for conformance to this version of ISO/IEC ISP 12063.

6 Basic requirements

Annex A specifies the basic requirements for support of MHS Elements of Service (EoS) for conformance to ISO/IEC ISP 12063. Basic requirements specify the level of support required by all EDIMG implementations, as relevant to each type of MHS functional object - i.e. MTA, MS or UA (as MTS-user or MS-user, as relevant).

An implementation conforming to the basic requirements of ISO/IEC ISP 12063 shall conform to the basic requirements of ISO/IEC ISP 10611, as appropriate to the type of MHS functional object.

6.1 Generation of notifications

An EDI-UA implementation shall be able to accept or refuse EDI responsibility for a received EDIM. It shall be able to generate appropriate positive and negative EDI notifications to respond to EDI notification requests, either locally or by request from the EDIMG user as defined in the MHS base standards. The error codes are generated either by the EDIMG user or by the EDI-UA.

It shall be stated in the PICS which EDIN reason code values an EDI-UA implementation is able to generate.

6.2 Reception of notifications

An EDI-UA shall be able to receive any type of EDI notification.

6.3 Number of recipients

If an EDI-UA implementation comprises any limit on the number of recipients that can be specified in an EDIM heading, then such limit shall be stated in the PICS.

6.4 Message length

If an EDI-UA implementation imposes any constraint on the size of the message content, then such constraint shall be stated in the PICS.

6.5 Identification of the recipient

The originating EDI-UA shall use the same O/R name in the RecipientField as in the Submission envelope.

On reception of an EDIM, the EDI-UA shall identify its own recipient sub-fields in the EDIM heading fields based on O/R name in the RecipientField in the RecipientsSubField of the EDIM. The value shall be the O/R name from the first element in the redirection-history argument (if present) or else the this-recipient-name argument of the Message Delivery operation.

NOTES

1 - Where the EDIM passes through intermediate MTAs implementing X.400 (84) after a redirection, a bilateral agreement will be needed since the redirection-history is lost.

2 - Where the EDIM has been delivered as a result of DL expansion, the EDI-UA can not identify its own recipient sub-fields.

3 - The requirements in this clause are also submitted to ITU-T and ISO/IEC as a perceived defect in the base standard.

6.6 Body part types and encoded information types

It shall be stated in the PICS which body part types and encoded information type values an implementation supports in the roles of originator and receiver. An MTA or an MS implementation shall be able to accept any syntax.

The use of PRIVATE and UNDEFINED EDI body part types is deprecated in favour of privately defining an object identifier for the specific syntax used (see 7.12).

7 Functional groups

Annex A specifies any additional requirements for support of MHS EoS if support of an optional functional group (FG) is claimed, as appropriate to each type of MHS functional object. The following clauses summarize the functionality supported by each of the optional FGs and identify any particular such requirements or implementation considerations which are outside the scope of formal conformance to ISO/IEC ISP 12063. A summary of the functional groups, identifying which may be supported (Y) and which are not applicable (N) for each type of MHS functional object (i.e. MTA, MS or UA - whether as MTS-user or as MS-user is not distinguished), is given in table 2.

The conformance requirements for support of the various functional groups, covering support of additional protocol elements and/or procedures, are specified in parts 2, 3, 4 and 5 of ISO/IEC ISP 12063, according to the protocol(s) to which each functional group relates.

Table 2 - Summary of AMH3n optional functional groups

Functional Group	Inheritance from AMH1n	relevant to a MTA	relevant to a MS	relevant to a UA
EDI Conversion (CV) ¹	inherited	Y	N	N
EDI Distribution List (DL) ¹	inherited	Y	N	N
EDI Physical Delivery (PD) ¹	inherited	Y	N	Y
EDI Forwarding (AF, MF)	new	N	Y	Y
EDI Redirection (RED) ¹	inherited	Y	N	Y
EDI Latest Delivery (LD) ¹	inherited	Y	N	Y
EDI Security (SEC1, SEC2, SEC3)	new	N	Y	Y
(S0, S0C) ²	inherited	N	Y	Y
(S1, S1C, S2, S2C) ²	inherited	Y	Y	Y
EDI Use of Directory (DIR) ¹	inherited	Y	N	Y
EDI 84 Interworking (84IW) ²	inherited	Y	N	Y
EDI Multi-Part Body (MPB)	new	N	Y	Y
EDI ANSI X12 (X12)	new	N	N	Y
EDI Private Syntax (PS)	new	N	N	Y
EDI EDIFACT Heading fields (EH)	new	N	Y	Y
¹ There are no additional requirements to those specified in ISO/IEC ISP 10611. ² Further requirements to those in ISO/IEC ISP 10611 are specified.				

7.1 EDI Conversion (CV)

No explicit conversions have been defined for the primary body part (which contains an EDI body part or EDIM body part) by the MTS. Implicit conversion of the primary body part is permitted, but the specification of particular conversions is beyond the scope of ISO/IEC ISP 12063.

Implicit or explicit conversion of other body parts (which contain additional information, such as graphics or text) shall conform to the Common Messaging Conversion FG specified in ISO/IEC ISP 10611. Any such conversions performed by the receiving EDI-UA are outside the scope of ISO/IEC ISP 12063.

NOTE -The use of some MHS security EoS require that any conversion that is performed by the receiving EDI-UA must be done after the security services are performed.

7.2 EDI Distribution List (DL)

The EDI Distribution List FG covers all issues relating to the performance of distribution list (DL) expansion.

An implementation conforming to the EDI DL FG shall conform to the Common Messaging DL FG as specified in ISO/IEC ISP 10611. There are no additional requirements for an MTA in an EDIMG environment.