SLOVENSKI STANDARD
SIST EN ISP 10611-3:1997

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Information technology - International Standardized Profiles AMH1n - Message Handling Systems - Common Messaging - Part 3: AMH11 - Message Transfer (P1) (ISO/IEC ISP 10611-3:1994)

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Technologies de l'information - Profils normalisés internationaux AMH1n - Systemes de messagerie - Messagerie commune - Partie 3: Transfert de message AMH11 (P1) (ISO/IEC ISP 10611-3:1994)

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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA ZNANOST IN TEHNOLOGIJO
Urad RS za standardizacijo in meroslovje
LJUBLJANA
SIST EN ISP 10611-3
PREVZET PO METODI RAZGLASITVE -12- 1997

This European Standard was approved by CEN on 1995-10-04. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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

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CEN

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

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

Foreword

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

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1996, and conflicting national standards shall be withdrawn at the latest by July 1996.

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

Endorsement notice

The text of the International Standard ISO/IEC ISP 10611-3:1994 has been approved by CEN as a European Standard without any modification.

NOTE: EN ISP 10611 - Part 3 replaces ENV 41214:1992.

For the time being, this document exists in the English version only.

INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 10611-3

First edition
1994-10-15

Information technology — International Standardized Profiles AMH1n — Message Handling Systems — Common Messaging —

Part 3:
AMH11-Message Transfer (P1)

Technologies de l'information — Profils normalisés internationaux AMH1n — Systèmes de messagerie — Messagerie commune —

Partie 3: Transfert de message AMH11 (P1)

Reference number
ISO/IEC ISP 10611-3:1994(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 JTC1. In addition to developing International Standards, ISO/IEC JTC1 has created a Special Group on Functional Standardization for the elaboration of International Standardized Profiles.

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

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

International Standardized Profile ISO/IEC ISP 10611-3 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 10611 consists of the following parts, under the general title *Information technology - International Standardized Profiles AMH1n - Message Handling Systems - Common Messaging*:

— *Part 1 : MHS Service Support*

— *Part 2 : Specification of ROSE, RTSE, ACSE, Presentation and Session Protocols for use by MHS*

— *Part 3 : AMH11 - Message Transfer (P1)*

— *Part 4 : AMH12 - MTS Access (P3)*

— *Part 5 : AMH13 - MS Access (P7)*

Annexes A and B form an integral part of this part of ISO/IEC ISP 10611.

Introduction

This part of International Standardized Profile ISO/IEC ISP 10611 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 and test centres. ISPs are produced not simply to 'legitimize' a particular choice of base standards and options, but to promote real system interoperability. The development and widespread acceptance of tests based on this and other ISPs is crucial to the successful realization of this goal.

The text for this part of ISO/IEC ISP 10611 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 10611 is harmonized between these three Workshops and it has been ratified by the plenary assemblies of all three Workshops.

Information technology - International Standardized Profiles AMH1n - Message Handling Systems - Common Messaging

Part 3 : AMH11 - Message Transfer (P1)

1 Scope

1.1 General

This part of ISO/IEC ISP 10611 (AMH11) covers message transfer between message transfer agents (MTAs) using the P1 Message Transfer Protocol (see also figure 1). These specifications form part of the Common Messaging application functions, as defined in the parts of ISO/IEC ISP 10611, which form a common basis for content type-dependent International Standardized Profiles for MHS that will be developed.

An MTA which conforms to profiles AMH11n as specified in this part of ISO/IEC ISP 10611 shall support a 'normal mode' OSI protocol infrastructure (AMH111) as required by both ISO/IEC 10021-6 and the CCITT X.400 Recommendations, and may additionally support an 'X.410 mode' OSI protocol infrastructure (AMH112) as required by the CCITT X.400 Recommendations.

NOTE - An MTA which only supports the minimum requirements of AMH111 will not interwork with an MTA which only supports the minimum requirements of AMH112.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 10611 is the third part of a multipart ISP identified in ISO/IEC TR 10000-2 as "AMH1, Message Handling Systems - Common Messaging" (see also ISO/IEC TR 10000-1, 8.2 for the definition of multipart ISPs).

This part of ISO/IEC ISP 10611 specifies the following profiles:

AMH111 - Message Transfer (P1) - Normal mode

AMH112 - Message Transfer (P1) - X.410(1984) mode

The AMH11n profiles may be combined with any T-Profiles (see ISO/IEC TR 10000) specifying the OSI connection-mode Transport service.

1.3 Scenario

The model used is one of two or more MTAs intercommunicating within a Message Transfer System (MTS) using the P1 protocol, as shown in figure 1.

Figure 1 - AMH11n scenario

NOTE - In an ITU-T context, a domain may be treated as an MTA for the purposes of conformance to the AMH11n profiles.

The AMH11n profiles cover all aspects of the MTA Abstract Service, as defined in clause 12 of ISO/IEC 10021-4, when realized using the P1 protocol.

The OSI upper layer services and protocols to support the Message Handling Systems functions covered by the AMH11n profiles are specified in the set of standards identified in table 1.

Table 1 - AMH11n profile model

Application Layer	MHS	ISO/IEC 10021-6
	RTSE	see ISO/IEC ISP 10611-2
	ACSE	see ISO/IEC ISP 10611-2
Presentation Layer		see ISO/IEC ISP 10611-2
Session Layer		see ISO/IEC ISP 10611-2

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 10611. 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 10611 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.

NOTE - References in the body of this part of ISO/IEC ISP 10611 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.

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

ISO/IEC TR 10000-2: 1992, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Taxonomy.*

ISO/IEC 10021-1: 1990, *Information technology - Text Communication - Message-Oriented Text Interchange Systems (MOTIS) - Part 1: Service Overview. [see also CCITT Recommendation X.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 10021-6: 1990, *Information technology - Text Communication - Message-Oriented Text Interchange Systems (MOTIS) - Part 6: Protocol Specifications. [see also CCITT Recommendation X.419(1992)]*

ISO/IEC ISP 10611-1: 1994, *Information technology - International Standardized Profiles AMH1n - Message Handling Systems - Common Messaging - Part 1: MHS Service Support.*

ISO/IEC ISP 10611-2: 1994, *Information technology - International Standardized Profiles AMH1n - Message Handling Systems - Common Messaging - Part 2: Specification of ROSE, RTSE, ACSE, Presentation and Session Protocols for use by MHS.*

CCITT Recommendation X.400(1992), *Message handling system and service overview.*

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.419(1992), *Message handling systems: Protocol specifications.*

3 Definitions

For the purposes of this part of ISO/IEC ISP 10611, the following definitions apply.

Terms used in this part of ISO/IEC ISP 10611 are defined in the referenced base standards; in addition, the following terms are defined.

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 10611).

3.2 Support classification

To specify the support level of arguments, results and other protocol features for this part of ISO/IEC ISP 10611, the following terminology is defined.

3.2.1 Static capability

The following classifications are used in this part of ISO/IEC ISP 10611 to specify static conformance requirements - i.e. capability.

In the case of protocol elements, the classification is relative to that of the containing 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 full support (**m**) : the element or feature shall be fully 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. The receiving capability shall be considered to include relaying where appropriate. Where support for origination (generation) and reception are not distinguished, then both capabilities shall be assumed.

mandatory minimal support (**m-**) : the element shall be supported. However, an implementation is only required to be able to copy the syntax of the element to the corresponding element of a message, probe or report for onward transfer or delivery, as appropriate, according to the procedures as specified in the MHS base

standards, unless further qualified for the output envelope in question elsewhere in this multipart ISP (i.e. the classification of the output envelope takes precedence). An implementation is not required to be able to take any explicit action based on the semantics of such an element other than to treat the element as supported for criticality purposes. An implementation is not required to be able to originate such an element.

NOTE - The m- classification is designed to distinguish those cases where the MHS base standards define more than one level of functionality and the minimum required level of support in this profile is the minimum functionality defined in the base standards. Where the only functionality defined in the base standards is copying the element as described above, then the m classification is used in preference to m-.

optional support (o) : an implementation is not required to support the element. If support is claimed, the element shall be treated as if it were specified as mandatory support. If support is not claimed, and the element is an argument, then an implementation shall generate an appropriate error indication if the element is received. If support is not claimed, and the element is a result, then an implementation may ignore the element if it is received.

conditional support (c) : the element shall be supported under the conditions specified in this part of ISO/IEC ISP 10611. 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 10611 - 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.

3.2.2 Dynamic behaviour

The above classifications are used in this part of ISO/IEC ISP 10611 to specify static conformance requirements (i.e. capability); dynamic conformance requirements (i.e. behaviour) are as specified in the MHS base standards. However, in a few cases it has been necessary to specify additional dynamic conformance requirements in this profile. These are specified using a second classification code for an element, as follows.

NOTE - Subclause 6.7 of ISO/IEC TR 10000-1 states that a profile shall not introduce a constraint on dynamic behaviour on reception. However, in the case of MHS security (at least), the base standards define a suitable error indication to cover the breach of a security policy but do not specify the precise conditions under which such error indication shall be used. Any such specification in a profile is thus a legitimate qualification of the base standards rather than a modification of such provisions.

required (r) : the element shall always be present. An implementation shall ensure that the element is always generated or otherwise used, as appropriate. Absence of the element on reception shall result in termination or rejection of the communication with an appropriate error indication as specified in the MHS base standards.

excluded (x) : the element shall never be present. An implementation shall ensure that the element is never generated or otherwise used, as appropriate. Presence of the element on reception shall result in termination or rejection of the communication with an appropriate error indication as specified in the MHS base standards.

NOTE - It is recognized that some implementations may be required to exclude even a static capability in such cases, but such considerations are outside the scope of this profile. Any elements which are specified as excluded (x) in this profile are thus also specified as out of scope (i) in terms of static capability.

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
ISP	International Standardized Profile
LD	Latest Delivery
MHS	Message Handling Systems
MS	Message store
MTA	Message transfer agent
OSI	Open Systems Interconnection
PD	Physical Delivery
PDAU	Physical delivery access unit
RED	Redirection
RoC	Return of Content
SEC	Security
UA	User agent

Support level for protocol elements and features (see 3.2):

m	mandatory full support
m-	mandatory minimal support
o	optional support
c	conditional support
i	out of scope
–	not applicable
r	required
x	excluded

5 Conformance

This part of ISO/IEC ISP 10611 states requirements upon implementations to achieve interworking. A claim of conformance to this part of ISO/IEC ISP 10611 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 10611 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 profiles AMH11n as specified in this part of ISO/IEC ISP 10611, a PICS shall be made available stating support or non-support of each option identified in this part of ISO/IEC ISP 10611.

The scope of conformance to profiles AMH11n is restricted to MTAs that support message transfer. A claim of conformance to profiles AMH11n shall confirm that the implementation supports profile AMH111 and shall state whether the implementation also supports profile AMH112 (jointly referenced as AMH11 in this part of ISO/IEC ISP 10611 where a distinction is unnecessary).

5.2 MHS conformance

This part of ISO/IEC ISP 10611 specifies implementation options or selections such that conformant implementations will satisfy the conformance requirements of ISO/IEC 10021 and optionally those of the CCITT X.400 Recommendations.

NOTE - The ISO/IEC and CCITT conformance requirements currently differ with respect to support of P1 application contexts, as described in A.1.2.

Implementations conforming to profile AMH11 as specified in this part of ISO/IEC ISP 10611 shall implement all the mandatory support (m or 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.