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OF ITU

X.482
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SERIES X: DATA NETWORKS AND OPEN SYSTEM COMMUNICATION

Message Handling Systems

Messaging handling systems – P1 protocol PICS proforma

ITU-T Recommendation X.482

(Previously "CCITT Recommendation")

Superseded by a more recent version

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For further details, please refer to ITU-T List of Recommendations.

FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

ITU-T Recommendation X.482 was revised by ITU-T Study Group 7 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 5th of October 1996.

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NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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SUMMARY

This Recommendation provides the Protocol Implementation Conformance Statement (PICS) proforma for the P1 protocol specified in Recommendations X.411 and X.419 and in ISO/IEC 10021 Parts 4 and 6. This PICS proforma presents in tabular form the mandatory and optional elements of the P1 protocol.

INTRODUCTION

This Recommendation is one in a set of Recommendations defining Message Handling in a distributed open system environment.

Message Handling provides for the exchange of messages between users on a store-and-forward basis. A message submitted by one user (the originator) is transferred through the Message Transfer System (MTS) and delivered to one or more users (the recipients). The MTS comprises a number of Message Transfer Agents (MTAs), which transfer messages and deliver them to their recipients.

To evaluate the capabilities of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented for a given OSI protocol. Such statement is called a Protocol Implementation Conformance Statement (PICS).

Recommendation X.482

MESSAGING HANDLING SYSTEMS – P1 PROTOCOL PICS PROFORMA

(Geneva, 1992; revised in 1996)

1 Scope

This Recommendation provides the Protocol Implementation Conformance Statement (PICS) proforma for the P1 protocol specified in Recommendations X.411 (1988) and X.419 (1988) and in ISO/IEC 10021:1990 Parts 4 and 6. The PICS proforma presents in tabular form the mandatory and optional elements of the P1 protocol.

This PICS proforma is based on the relevant guidance for PICS proformas given in Recommendation X.296. Details of the use of this proforma is provided in the Annex A.

2 Normative references

The following Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision: all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

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

> NOTE – References to specific clauses of ITU-T Recommendations shall be considered to refer also to the corresponding clauses of the equivalent ISO/IEC Standards (as noted below) unless otherwise stated.

– ITU-T Recommendation X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – General concepts.* (See also ISO/IEC 9646-1.)

– ITU-T Recommendation X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – Implementation conformance statement.* (See also ISO/IEC 9646-7.)

– CCITT Recommendation X.402 (1992), *Message handling systems: Overall architecture.* (See also ISO/IEC 10021-2.)

– CCITT Recommendation X.411 (1992), *Message handling systems – Message transfer system: Abstract service definition and procedures.* (See also ISO/IEC 10021-4.)

– CCITT Recommendation X.419 (1992), *Message handling systems – Protocol specifications.* (See also ISO/IEC 10021-6.)

– ISO/IEC 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts.*

– ISO/IEC 9646-7:1995, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation conformance statements.*

– ISO/IEC 10021-2:1990, *Information technology – Text Communication – Message-Oriented Text Interchange Systems (MOTIS) – Part 2: Overall Architecture.*

– 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.*

– ISO/IEC 10021-6:1990, *Information technology – Text Communication – Message-Oriented Text Interchange Systems (MOTIS) – Part 6: Protocol Specifications.*

3 Definitions

Terms used in this Recommendation are defined in the referenced base Standards.

4 Abbreviations

For the purposes of this Recommendation, the following abbreviations are used.

IEC   International Electrotechnical Commission

ISO   International Organization for Standardization

ISP   International Standardized Profile

MHS   Message Handling Systems

MS   Message Store

MTA   Message Transfer Agent

OSI   Open Systems Interconnection

OSI   Open Systems Interconnection

PICS   Protocol Implementation Conformance Statement

UA   User Agent

Support level for protocol elements and features:

m   mandatory full support

m-   mandatory minimal support

o   optional support

c   conditional support

i   out of scope

–   not applicable

5 Conformance

A conforming PICS proforma shall be technically equivalent to the text of the PICS proforma in this Recommendation and shall preserve the numbering and ordering of the items in the PICS proforma in this Recommendation.

A PICS which conforms to this Recommendation shall:

a) describe an implementation which conforms to Recommendations X.411 and X.419 and to ISO/IEC 10021 Parts 4 and 6;

b) be a conforming PICS proforma, which has been completed in accordance with the instructions for completion given in Annex A;

c) include the information necessary to uniquely identify both the supplier and the implementation.

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

<center>**Annex A**[1]</center>

<center>**PICS Proforma for message transfer protocol (P1)**</center>
<center>(This annex forms an integral part of this Recommendation)</center>

In the event of a discrepancy becoming apparent in the body of this Recommendation and the tables in this annex, this annex is to take precedence.

Subclause A.1 specifies the basic requirements for conformance to this Recommendation. Subclause A.2 is allocated but not used, it is present to keep the numbering alignment with the corresponding ISP. Subclause A.3 allows additional information to be provided for certain aspects of an implementation where no specific requirements are included in the base specifications. All subclauses shall be completed as appropriate.

> NOTE – The numbering of subclauses and items in this annex is identical to the one in ISO/IEC 10611-3 "Information technology – International Standardized Profiles AMH1n– Message Handling Systems – Common Messaging – Part 3: AMH11 – Message Transfer (P1)".

In each table, the "Base" column reflects the level of support required for conformance to the base standard, using the classification and notation defined in A.0.2.5.

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).

Contents of the PICS proforma

A.0   Identification of the implementation

A.0.1   Identification of PICS proforma corrigenda

The supplier of the PICS proforma shall identify any corrigenda that have been applied (i.e. Technical Corrigendum or equivalent) to the published proforma. Suppliers of the proforma should modify the proforma, or attach relevant additional pages in order to apply the corrigenda and then record the application of the corrigenda in the table below.

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[1] **Copyright release for PICS proformas**
Users of this Recommendation may freely reproduce the PICS proforma in this annex so that it can be used for its intended purpose and may further publish the completed PICS.

Corrigenda to ITU-T Recommendation X.482 (1996)

Corr:	
Corr:	
Corr:	
Corr:	
Implementors' Guide version:	

A.0.2 Instructions

A.0.2.1 Purpose of the proforma

The purpose of the PICS proforma is to provide suppliers of implementations of the P1 protocol with a consistent means of stating which proforma has been implemented.

The proforma is in the form of a questionnaire and consists of a set of items. An item is provided for each capability for which an implementation choice is allowed. Items are also provided for mandatory capabilities for which no implementation choice is allowed. Each item includes an item number, an item description, a status value specifying the support requirement, and room for a support answer to be provided by the supplier.

A.0.2.2 Symbols, terms and abbreviations

The following definitions apply.

A.0.2.3 Item numbering

Each line in the PICS proforma which requires implementation detail to be entered is given a number in the first column. The item number column provides a means of uniquely referencing each possible answer within the PICS proforma.

A reference to a specific item is specified by the following sequence:

    a)   if the reference is to an item in another document, then the reference starts with unambiguous identifier for that document;

    b)   the number of the subclause enclosing the table, or the number of the table if they are numbered;

    c)   a solidus character "/";

    d)   the item number, to identify the row in which the answer appears.

A.0.2.4 Base column

The following classifications are used in this PICS to specify static conformance requirements – i.e. capability.

    NOTE 1 – The Profile column is used for functional profiles and uses the same classification.

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 in ISO/IEC ISP 10611 (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 2 – The m- classification is not used in this Recommendation. It is included to meet the requirements for functional standardisation.

> NOTE 3 – 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 ISO/IEC ISP 10611 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 shall ignore the element if it is received.

conditional support (c): The element shall be supported under the conditions specified in this Recommendation. 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 Recommendation – i.e. it will not be the subject of a conformance test.

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

A.0.2.5   Support column

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

Y	The element or feature is fully supported (i.e. satisfying the requirements of the m profile support classification).
Y-	The element or feature is minimally supported (i.e. satisfying the requirements of the m- profile support classification).
N	The element or feature is not supported, further qualified to indicate the action taken on receipt of such an element as follows:
	ND – the element is discarded/ignored;
	NR – the PDU is rejected (with an appropriate error indication where applicable).
– 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 or is minimally supported).

A.0.3   Identification of the implementation

A.0.3.1   Date of statement

Ref.	Question	Response
1	Date of statement (DD/MM/YY)	

A.0.3.2 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.0.3.3 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.0.3.4 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	MHS Implementors' Guide version implemented	

A.0.3.5 Global statement of conformance

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

A.1 Basic requirements

A.1.1 Initiator/responder capability

Ref.	Capability	Base	Profile	Support
1	Initiator	m		
2	Responder	m		

A.1.2 Supported application contexts

Ref.	Application Context	Status			Support
		ITU-T	ISO/IEC		
1	mts-transfer	m	m		
2	mts-transfer-protocol	m	o		
3	mts-transfer-protocol-1984	m	o		

A.1.3 Supported operations

A.1.3.1 Bind and Unbind

Ref.	Operation	Base	Profile	Support	Notes/References
1	MTABind	m			A.1.4.1
2	MTAUnbind	m			

A.1.3.2 Message Transfer Service Element (MTSE)

Ref.	Operation	Base	Profile	Support	Notes/References
1	MessageTransfer	m			A.1.4.2
2	ReportTransfer	m			A.1.4.3
3	ProbeTransfer	m			A.1.4.4

A.1.4   Operation arguments/results

A.1.4.1   MTABind

Ref.	Element	Base	Profile	Support	Notes/References
1	ARGUMENT				
1.1	NULL	m			
1.2	SET	m			
1.2.1	initiator-name	m			
1.2.2	initiator-credentials	m			
1.2.2.1	simple	m			
1.2.2.1.1	OCTET STRING	o			
1.2.2.1.2	IA5String	o			
1.2.2.2	strong	o			
1.2.2.2.1	bind-token	m			
1.2.2.2.1.1	signature-algorithm-identifier	m			
1.2.2.2.1.2	name	m			
1.2.2.2.1.3	time	m			
1.2.2.2.1.4	signed-data	o			
1.2.2.2.1.5	encryption-algorithm-identifier	o			
1.2.2.2.1.6	encrypted-data	o			
1.2.2.2.2	certificate	o			
1.2.3	security-context	o			A.1.6/3
2	RESULT				
2.1	NULL	m			
2.2	SET	m			
2.2.1	responder-name	m			
2.2.2	responder-credentials	m			
2.2.2.1	simple	m			
2.2.2.1.1	OCTET STRING	o			
2.2.2.1.2	IA5String	o			
2.2.2.2	strong	o			
2.2.2.2.1	bind-token	m			
2.2.2.2.1.1	signature-algorithm-identifier	m			
2.2.2.2.1.2	name	m			
2.2.2.2.1.3	time	m			
2.2.2.2.1.4	signed-data	o			
2.2.2.2.1.5	encryption-algorithm-identifier	o			
2.2.2.2.1.6	encrypted-data	o			

A.1.4.2   MessageTransfer

Ref.	Element	Base	Profile	Support	Notes/References
1	MessageTransferEnvelope	m			
1.1	(per message fields)				
1.1.1	message-identifier	m			A.1.5/1
1.1.2	originator-name	m			A.1.7
1.1.3	original-encoded-information-types	m			A.1.5/3
1.1.4	content-type	m			A.1.5/8
1.1.5	content-identifier	m			
1.1.6	priority	m			
1.1.7	per-message-indicators	m			A.1.5/4
1.1.8	deferred-delivery-time	o			
1.1.9	per-domain-bilateral-information	o			A.1.5/5
1.1.10	trace-information	m			A.1.5/6
1.1.11	extensions	m			A.1.6/1
1.1.11.1	recipient-reassignment-prohibited	o			
1.1.11.2	dl-expansion-prohibited	o			
1.1.11.3	conversion-with-loss-prohibited	o			
1.1.11.4	latest-delivery-time	o			
1.1.11.5	originator-return-address	o			A.1.7
1.1.11.6	originator-certificate	o			
1.1.11.7	content-confidentiality-algorithm-identifier	o			
1.1.11.8	message-origin-authentication-check	o			A.1.6/2
1.1.11.9	message-security-label	o			A.1.6/3
1.1.11.10	content-correlator	m			
1.1.11.11	dl-expansion-history	m			
1.1.11.12	internal-trace-information	m			A.1.6/5
1.2	per-recipient-fields	m			
1.2.1	recipient-name	m			A.1.7
1.2.2	originally-specified-recipient-number	m			
1.2.3	per-recipient-indicators	m			
1.2.4	explicit-conversion	o			
1.2.5	extensions	m			A.1.6/1
1.2.5.1	originator-requested-alternate-recipient	o			A.1.7

Ref.	Element	Base	Profile	Support	Notes/References
1.2.5.2	requested-delivery-method	o			
1.2.5.3	physical-forwarding-prohibited	o			
1.2.5.4	physical-forwarding-address-request	o			
1.2.5.5	physical-delivery-modes	o			
1.2.5.6	registered-mail-type	o			
1.2.5.7	recipient-number-for-advice	o			
1.2.5.8	physical-rendition-attributes	o			
1.2.5.9	physical-delivery-report-request	o			
1.2.5.10	message-token	o			A.1.6/4
1.2.5.11	content-integrity-check	o			
1.2.5.12	proof-of-delivery-request	o			
1.2.5.13	redirection-history	m			
2	content	m			

A.1.4.3   ReportTransfer

Ref.	Element	Base	Profile	Support	Notes/References
1	ReportTransferEnvelope	m			
1.1	report-identifier	m			A.1.5/1
1.2	report-destination-name	m			A.1.7
1.3	trace-information	m			A.1.5/6
1.4	extensions	m			A.1.6/1
1.4.1	message-security-label	o			A.1.6/3
1.4.2	originator-and-DL-expansion-history	m			
1.4.3	reporting-DL-name	o			A.1.7
1.4.4	reporting-MTA-certificate	o			
1.4.5	report-origin-authentication-check	o			A.1.6/8
1.4.6	internal-trace-information	m			A.1.6/5
2	ReportTransferContent	m			
2.1	(per report fields)				
2.1.1	subject-identifier	m			A.1.5/1
2.1.2	subject-intermediate-trace-information	o			A.1.5/6
2.1.3	original-encoded-information-types	m			A.1.5/3
2.1.4	content-type	m			A.1.5/8
2.1.5	content-identifier	m			

Ref.	Element	Base	Profile	Support	Notes/References
2.1.6	returned-content	o			
2.1.7	additional-information	o			
2.1.8	extensions	m			A.1.6/1
2.1.8.1	content-correlator	m			
2.2	per-recipient-fields	m			
2.2.1	actual-recipient-name	m			A.1.7
2.2.2	originally-specified-recipient-number	m			
2.2.3	per-recipient-indicators	m			
2.2.4	last-trace-information	m			A.1.5/7
2.2.5	originally-intended-recipient-name	m			A.1.7
2.2.6	supplementary-information	o			
2.2.7	extensions	m			A.1.6/1
2.2.7.1	redirection-history	m			
2.2.7.2	physical-forwarding-address	o			A.1.7
2.2.7.3	recipient-certificate	o			
2.2.7.4	proof-of-delivery	o			A.1.6/7

A.1.4.4   ProbeTransfer

Ref.	Element	Base	Profile	Support	Notes/References
1	ProbeTransferEnvelope	m			
1.1	(per probe fields)				
1.1.1	probe-identifier	m			A.1.5/1
1.1.2	originator-name	m			A.1.7
1.1.3	original-encoded-information-types	m			A.1.5/3
1.1.4	content-type	m			A.1.5/8
1.1.5	content-identifier	m			
1.1.6	content-length	m			
1.1.7	per-message-indicators	m			A.1.5/4
1.1.8	per-domain-bilateral-information	o			A.1.5/5
1.1.9	trace-information	m			A.1.5/6
1.1.10	extensions	m			A.1.6/1
1.1.10.1	recipient-reassignment-prohibited	o			
1.1.10.2	dl-expansion-prohibited	o			
1.1.10.3	conversion-with-loss-prohibited	o			

Ref.	Element	Base	Profile	Support	Notes/References
1.1.10.4	originator-certificate	o			
1.1.10.5	message-security-label	o			A.1.6/3
1.1.10.6	content-correlator	m			
1.1.10.7	probe-origin-authentication-check	o			A.1.6/6
1.1.10.8	internal-trace-information	m			A.1.6/5
1.2	per-recipient-fields	m			
1.2.1	recipient-name	m			A.1.7
1.2.2	originally-specified-recipient-number	m			
1.2.3	per-recipient-indicators	m			
1.2.4	explicit-conversion	o			
1.2.5	extensions	m			A.1.6/1
1.2.5.1	originator-requested-alternate-recipient	o			A.1.7
1.2.5.2	requested-delivery-method	o			
1.2.5.3	physical-rendition-attributes	o			
1.2.5.4	redirection-history	m			

A.1.5   Common data types

Ref.	Element	Base	Profile	Support	Notes/References
1	MTSIdentifier				
1.1	global-domain-identifier	m			A.1.5/2
1.2	local-identifier	m			
2	GlobalDomainIdentifier				
2.1	country-name	m			
2.2	administration-domain-name	m			
2.3	private-domain-identifier	m			
3	EncodedInformationTypes				
3.1	built-in-encoded-information-types	m			
3.2	(non-basic parameters)	o			
3.3	extended-encoded-information-types	m			
4	PerMessageIndicators				
4.1	disclosure-of-other-recipients	m			
4.2	implicit-conversion-prohibited	m			
4.3	alternate-recipient-allowed	m			
4.4	content-return-request	o			
4.5	reserved	o			

Ref.	Element	Base	Profile	Support	Notes/References
4.6	bit-5	o			
4.7	bit-6	o			
4.8	service-message	o			
5	PerDomainBilateralInformation				
5.1	country-name	m			
5.2	administration-domain-name	m			
5.3	private-domain-identifier	o			
5.4	bilateral-information	m			
6	TraceInformation				
6.1	TraceInformationElement	m			
6.1.1	global-domain-identifier	m			A.1.5/2
6.1.2	domain-supplied-information	m			
6.1.2.1	arrival-time	m			
6.1.2.2	routing-action	m			
6.1.2.2.1	relayed	m			
6.1.2.2.2	rerouted	o			
6.1.2.3	attempted-domain	o			
6.1.2.4	(additional actions)				
6.1.2.4.1	deferred-time	m			
6.1.2.4.2	converted-encoded-information-types	o			A.1.5/3
6.1.2.4.3	other-actions	o			
6.1.2.4.3.1	redirected	o			
6.1.2.4.3.2	dl-operation	o			
7	LastTraceInformation				
7.1	arrival-time	m			
7.2	converted-encoded-information-types	m			A.1.5/3
7.3	report-type	m			
7.3.1	delivery	m			
7.3.1.1	message-delivery-time	m			
7.3.1.2	type-of-MTS-user	m			
7.3.2	non-delivery	m			
7.3.2.1	non-delivery-reason-code	m			
7.3.2.2	non-delivery-diagnostic-code	m			
8	ContentType				
8.1	built-in	m			
8.2	extended	o			

A.1.6   Extension data types

Ref.	Element	Base	Profile	Support	Notes/References
1	ExtensionField				
1.1	type	m			
1.1.1	standard-extension	m			
1.1.2	private-extension	o			not in CCITT Rec. X.411
1.2	criticality	m			
1.3	value	m			
2	MessageOriginAuthenticationCheck				
2.1	algorithm-identifier	m			
2.2	content	m			
2.3	content-identifier	o			
2.4	message-security-label	o			A.1.6/3
3	MessageSecurityLabel				
3.1	security-policy-identifier	o			
3.2	security-classification	o			
3.3	privacy-mark	o			
3.4	security-categories	o			
4	MessageToken				
4.1	token-type-identifier	m			
4.2	asymmetric-token	m			
4.2.1	signature-algorithm-identifier	m			
4.2.2	name	m			
4.2.3	time	m			
4.2.4	signed-data	m			
4.2.4.1	content-confidentiality-algorithm-identifier	o			
4.2.4.2	content-integrity-check	o			
4.2.4.3	message-security-label	o			A.1.6/3
4.2.4.4	proof-of-delivery-request	o			
4.2.4.5	message-sequence-number	o			
4.2.5	encryption-algorithm-identifier	o			
4.2.6	encrypted-data	o			
4.2.6.1	content-confidentiality-key	o			
4.2.6.2	content-integrity-check	o			
4.2.6.3	message-security-label	o			A.1.6/3
4.2.6.4	content-integrity-key	o			
4.2.6.5	message-sequence-number	o			

Ref.	Element	Base	Profile	Support	Notes/References
5	InternalTraceInformation				
5.1	global-domain-identifier	m			
5.2	mta-name	m			
5.3	mta-supplied-information	m			
5.3.1	arrival-time	m			
5.3.2	routing-action	m			
5.3.2.1	relayed	m			
5.3.2.2	rerouted	o			
5.3.3	attempted	o			
5.3.3.1	mta	o			
5.3.3.2	domain	o			
5.3.4	(additional actions)				
5.3.4.1	deferred-time	m			
5.3.4.2	converted-encoded-information-types	o			A.1.5/3
5.3.4.3	other-actions	o			
5.3.4.3.1	redirected	o			
5.3.4.3.2	dl-operation	o			
6	ProbeOriginAuthenticationCheck				
6.1	algorithm-identifier	m			
6.2	content-identifier	o			
6.3	message-security-label	o			A.1.6/3
7	ProofOfDelivery				
7.1	algorithm-identifier	m			
7.2	delivery-time	m			
7.3	this-recipient-name	m			A.1.7
7.4	originally-intended-recipient-name	o			A.1.7
7.5	content	m			
7.6	content-identifier	o			
7.7	message-security-label	o			A.1.6/3
8	ReportOriginAuthenticationCheck				
8.1	algorithm-identifier	m			
8.2	content-identifier	o			
8.3	message-security-label	o			A.1.6/3
8.4	per-recipient	m			
8.4.1	actual-recipient-name	m			
8.4.2	originally-intended-recipient-name	o			

Ref.	Element	Base	Profile	Support	Notes/References
8.4.3	delivery	o			
8.4.3.1	message-delivery-time	m			
8.4.3.2	type-of-MTS-user	m			
8.4.3.3	recipient-certificate	o			
8.4.3.4	proof-of-delivery	o			
8.4.4	non-delivery	o			
8.4.4.1	non-delivery-reason-code	m			
8.4.4.2	non-delivery-diagnostic-code	o			

A.1.7   O/R names

Ref.	O/R Name Form	Base	Profile	Support	Notes/References
1	mnemonic O/R address	m			A.1.7.1
2	numeric O/R address	m			A.1.7.2
3	terminal O/R address	m			A.1.7.3
4	formatted postal O/R address	m			A.1.7.4
5	unformatted postal O/R address	m			A.1.7.5
6	directory-name	o			

The following tables shall be completed according to the O/R address forms for which support is claimed above.

NOTE – Classification of an attribute as m indicates only that its presence is required for the O/R address form, not that the capability to make routing decisions on that attribute is required (see also A.3.1).

A.1.7.1   Mnemonic O/R address

Ref.	Element	Base	Profile	Support	Notes/References
1	built-in-standard-attributes	m			
1.1	country-name	m			
1.2	administration-domain-name	m			
1.3	private-domain-name	o			
1.4	organization-name	o			
1.5	personal-name	o			
1.5.1	surname	m			
1.5.2	given-name	o			
1.5.3	initials	o			
1.5.4	generation-qualifier	o			
1.6	organizational-unit-names	o			

Ref.	Element	Base	Profile	Support	Notes/References
2	built-in-domain-defined-attributes	o			
3	extension-attributes	o			
3.1	common-name	o			
3.2	teletex-common-name	o			
3.3	teletex-organization-name	o			
3.4	teletex-personal-name	o			
3.4.1	surname	m			
3.4.2	given-name	o			
3.4.3	initials	o			
3.4.4	generation-qualifier	o			
3.5	teletex-organizational-unit-names	o			
3.6	teletex-domain-defined-attributes	o			

A.1.7.2   Numeric O/R address

Ref.	Element	Base	Profile	Support	Notes/References
1	built-in-standard-attributes	m			
1.1	country-name	m			
1.2	administration-domain-name	m			
1.3	private-domain-name	o			
1.4	numeric-user-identifier	m			
2	built-in-domain-defined-attributes	o			
3	extension-attributes	o			
3.1	teletex-domain-defined-attributes	o			

A.1.7.3   Terminal O/R address

Ref.	Element	Base	Profile	Support	Notes/References
1	built-in-standard-attributes	m			
1.1	country-name	o			
1.2	administration-domain-name	o			
1.3	network-address	m			
1.4	terminal-identifier	o			
1.5	private-domain-name	o			
1.6	organization-name	o			
1.7	personal-name	o			
1.8	organizational-unit-names	o			

Ref.	Element	Base	Profile	Support	Notes/References
2	built-in-domain-defined-attributes	o			
3	extension-attributes	o			
3.1	extended-network-address	m			
3.1.1	e163-4-address	o			
3.1.2	psap-address	o			
3.2	terminal-type	o			
3.3	common-name	o			
3.4	teletex-common-name	o			
3.5	teletex-organization-name	o			
3.6	teletex-personal-name	o			
3.7	teletex-organizational-unit-names	o			
3.8	unformatted-postal-address	o			
3.9	teletex-domain-defined-attributes	o			

A.1.7.4   Formatted postal O/R address

Ref.	Element	Base	Profile	Support	Notes/References
1	built-in-standard-attributes	m			
1.1	country-name	m			
1.2	administration-domain-name	m			
1.3	private-domain-name	o			
2	extension-attributes	m			
2.1	physical-delivery-country-name	m			
2.2	physical-delivery-office-name	o			
2.3	physical-delivery-office-number	o			
2.4	physical-delivery-organization-name	o			
2.5	physical-delivery-personal-name	o			
2.6	postal-code	m			
2.7	poste-restante-address	o			
2.8	post-office-box-address	o			
2.9	pds-name	o			
2.10	street-address	o			
2.11	unique-postal-name	o			
2.12	extension-OR-address-components	o			
2.13	extension-physical-delivery-address-components	o			
2.14	local-postal-attributes	o			

A.1.7.5 Unformatted postal O/R address

Ref.	Element	Base	Profile	Support	Notes/References
1	built-in-standard-attributes	m			
1.1	country-name	m			
1.2	administration-domain-name	m			
1.3	private-domain-name	o			
2	extension-attributes	m			
2.1	unformatted-postal-address	m			
2.2	physical-delivery-country-name	m			
2.3	postal-code	m			
2.4	pds-name	o			

A.2 Optional functional groups

Not applicable for the base standard PICS.

> NOTE – The numbering of subclauses and items in this annex is identical to the one in ISO/IEC 10611-3.

A.3 Additional information

A.3.1 Routing capability

The following table shall be completed to indicate (Y or ✓) which O/R address attributes the implementation can use for onward route determination. Any constraints on the use of an attribute for routing purposes (e.g. whether routing can be based on specific values of the attribute or only on the presence of such attribute, any limitation on the range of values, character repertoires, etc.) shall be indicated in the Comments column.

Ref.	O/R Address Attribute	Routable	Comments
1	country-name		
2	administration-domain-name		
3	network-address extended-network-address		
4	terminal-identifier		
5	terminal-type		
6	private-domain-name		
7	organization-name teletex-organization-name		
8	numeric-user-identifier		
9	personal name teletex-personal-name		
10	organizational-unit-names teletex-organizational-unit-names		
11	common-name teletex-common-name		
12	built-in-domain-defined-attributes teletex-domain-defined-attributes		
13	pds-name		
14	physical-delivery-country-name		
15	postal-code		

Any other criteria that can be used to determine routing decisions should be indicated below.

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A.3.2   Content types supported

The following table shall be completed to confirm (Y or ✓) that all possible content types, whether denoted by integer or by object identifier, are supported on transfer.

Ref.	Content Type	Supported	Comments
1	(all)		

A.3.3   Encoded information type conversions supported

The following table shall be completed if support of the Conversion FG is claimed to indicate (Y or ✓) which encoded information type conversions the implementation can perform. The supplier shall also state in the Comments column for which content types support of the conversion capability is claimed and under what conditions loss of information is determined (if applicable).

Ref.	Encoded Information Type Conversion	Supported	Comments
1	explicit-conversion		
1.1	ia5-text-to-teletex (0)		
1.2	ia5-text-to-g3-facsimile (8)		
1.3	ia5-text-to-g4-class-1 (9)		
1.4	ia5-text-to-videotex (10)		
1.5	teletex-to-ia5-text (11)		
1.6	teletex-to-g3-facsimile (12)		
1.7	teletex-to-g4-class-1 (13)		
1.8	teletex-to-videotex (14)		
1.9	videotex-to-ia5-text (16)		
1.10	videotex-to-teletex (17)		
2	implicit conversion (specify)		

A.3.4 Implementation capabilities

The following table shall be completed to indicate (Y or ✓) other implementation capabilities supported.

Ref.	Capability	Supported	Comments
1	deferred delivery		
2	rerouting		

A.3.5 Implementation constraints

The following table shall be completed to indicate any constraints imposed by the implementation.

Ref.	Constraint	Limit	Comments
1	limit on message size (if any) (Note 1)		
2	limit on the number of recipients that may be specified in a message envelope (if any) (Note 2)		
3	other (specify)		

NOTES

1   Any limit on the maximum size of message content and/or envelope shall be stated.

2   Any limit on the number of recipients that may be specified in a message envelope shall be stated (this does not imply a static capability to register the number of users for delivery at a single MTA).

Amendments and corrigenda

(This annex forms an integral part of this Recommendation)

Corrigenda to the referenced Recommendations are contained in the joint MHS Implementors' Guide, Version 11, March 1994 (ITU Special Rapporteur's Group on Message Handling Systems and ISO/IEC JTC1/SC18/WG4 SWG on Messaging).

B.1 Amendments and corrigenda for the 1990/1992 base specifications

The following amendments and corrigenda to the equivalent International Standards are considered as normative references in this Recommendation.

ISO/IEC 10021-1/Cor.1:1991	ISO/IEC 10021-2/Cor.6:1994	ISO/IEC 10021-6/Cor.2:1991
ISO/IEC 10021-1/Cor.2:1991	ISO/IEC 10021-2/Cor.7:1994	ISO/IEC 10021-6/Cor.3:1992
ISO/IEC 10021-1/Cor.3:1992	ISO/IEC 10021-4/Cor.1:1991	ISO/IEC 10021-6/Cor.4:1992
ISO/IEC 10021-1/Cor.4:1992	ISO/IEC 10021-4/Cor.2:1991	ISO/IEC 10021-6/Cor.5:1992
ISO/IEC 10021-1/Cor.5:1992	ISO/IEC 10021-4/Cor.3:1992	ISO/IEC 10021-6/Cor.6:1993
ISO/IEC 10021-1/Cor.6:1994	ISO/IEC 10021-4/Cor.4:1992	ISO/IEC 10021-6/Cor.7:1994
ISO/IEC 10021-2/Cor.1:1991	ISO/IEC 10021-4/Cor.5:1992	
ISO/IEC 10021-2/Cor.2:1991	ISO/IEC 10021-4/Cor.6:1993	ISO/IEC 10021-1/Am.2:1994
ISO/IEC 10021-2/Cor.3:1992	ISO/IEC 10021-4/Cor.7:1994	ISO/IEC 10021-2/Am.1:1994
ISO/IEC 10021-2/Cor.4:1992	ISO/IEC 10021-4/Cor.8:1994	ISO/IEC 10021-2/Am.2:1994
ISO/IEC 10021-2/Cor.5:1993	ISO/IEC 10021-6/Cor.1:1991	ISO/IEC 10021-4/Am.1:1994

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