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SERIES X: DATA NETWORKS AND OPEN SYSTEM COMMUNICATIONS

Message Handling Systems

Message Handling Systems – P1 protocol PICS proforma

ITU-T Recommendation X.482

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION X.482

MESSAGE HANDLING SYSTEMS – P1 PROTOCOL PICS PROFORMA

Summary

This Recommendation provides the Protocol Implementation Conformance Statement (PICS) proforma for the Message Handling Systems (MHS) P1 protocol specified in ITU-T Rec. X.411 | ISO/IEC 10021-4 and ITU-T Rec. X.419 | ISO/IEC 10021-6. This PICS proforma presents in tabular form the mandatory and optional elements of the P1 protocol.

Source

ITU-T Recommendation X. 482 was revised by ITU-T Study Group 7 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 25th of September 1998.

As a result of Study Group 7 decision (18th of June 1999) to publish a consolidated new edition of the set of Message Handling Recommendations, it was decided that, in agreement with the TSB Director, X.481, X.482, X.483, X.484 and X.486 will also be published with 1999 dates.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the 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.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation the term *recognized operating agency (ROA)* includes any individual, company, corporation or governmental organization that operates a public correspondence service. The terms *Administration, ROA* and *public correspondence* are defined in the *Constitution of the ITU (Geneva, 1992).*

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

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).

MESSAGE HANDLING SYSTEMS – P1 PROTOCOL PICS PROFORMA[1]

1   Scope

This Recommendation provides the Protocol Implementation Conformance Statement (PICS) proforma for the P1 protocol specified in ITU-T Rec. X.411 | ISO/IEC 10021-4 and ITU-T Rec. X.419 | ISO/IEC 10021-6. 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 ITU-T Rec. X.296 | ISO/IEC 9646-7.

2   Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1   Identical Recommendations | International Standards

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

–   ITU-T Recommendation X.411 (1999) | ISO/IEC 10021-4:1999, *Information technology – Message Handling Systems (MHS): Message transfer system: Abstract service definition and procedures*.

–   ITU-T Recommendation X.419 (1999) | ISO/IEC 10021-6:1999, *Information technology – Message Handling Systems (MHS): Protocol specifications*.

2.2   Paired Recommendations | International Standards equivalent in technical content

–   ITU-T Recommendation X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – General concepts*.

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

–   ITU-T Recommendation X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – Implementation conformance statements*.

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

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[1]   Annex A of this Recommendation is technically aligned with Annex A of ISO/IEC ISP 10611-3, Information technology – International Standardized Profiles AMH1n – Message Handling Systems – Common Messaging – Part 3: AMH11 – Message Transfer (P1).

3 Definitions

Terms used in this Recommendation are defined in the referenced Recommendations | International Standards.

4 Abbreviations

This Recommendation uses the following abbreviations:

ISP   International Standardized Profile

MHS   Message Handling Systems

MS   Message Store

MTA   Message Transfer Agent

OSI   Open Systems Interconnection

PDU   Protocol Data Unit

PICS   Protocol Implementation Conformance Statement

UA   User Agent

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 items in the PICS proforma in this Recommendation.

A PICS which conforms to this Recommendation shall:

a) describe an implementation which conforms to ITU-T Rec. X.411 | ISO/IEC 10021-4 and ITU-T Rec. X.419 | ISO/IEC 10021-6;

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.

Annex A[2]

PICS Proforma for message transfer protocol (P1)

(This annex forms an integral part of this Recommendation)

Contents of the PICS proforma

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 that in ISO/IEC ISP 10611-3, "Information technology – International Standardized Profiles AMH1n – Message Handling Systems – Common Messaging – Part 3: AMH11 – Message Transfer (P1)".

A.0   Instructions and identification

A.0.1   Instructions

A.0.1.1   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.

_____

[2]   **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.

A.0.1.2 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.0.1.3 Base column

In each table, the "Base" column reflects the level of support required for conformance to the base standard.

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

NOTE – 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 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.

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.0.1.4 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 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.0.1.5 References column

The "References" 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).

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 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.

Corrigenda to ITU-T Recommendation X.482

Cor.:
Cor.:
Cor:
Cor.:
Implementors' Guide version:

A.0.3 Identification of the implementation

A.0.3.1 Date of statement

Ref.	Question	Response
1	Date of statement (YYYY-MM-DD)	

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
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	Base	Profile	Support	Notes/References
1	mts-transfer	m			
2	mts-transfer-protocol	o			
3	mts-transfer-protocol-1984	c^3			
3	Mandatory for MTAs operating as ADMD else optional				

A.1.3 Supported operations

A.1.3.1 Bind and Unbind

Ref.	Operation	Base	Profile	Support	Notes/References
1	MTABind	m			see 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			see A.1.4.2
2	ReportTransfer	m			see A.1.4.3
3	ProbeTransfer	m			see 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	ia5-string	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			see A.1.5/9
1.2.2.2.3	certificate-selector	o			see A.1.5/11
1.2.3	security-context	o			see 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	ia5-string	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			
2.2.2.2.2	certificate	o			see A.1.5/9
2.2.2.2.3	certificate-selector	o			see A.1.5/11

A.1.4.2 MessageTransfer

Ref.	Element	Base	Profile	Support	Notes/References
1	MessageTransferEnvelope	m			
1.1	(per message transfer fields)				
1.1.1	message-identifier	m			see A.1.5/1
1.1.2	originator-name	m			see A.1.7
1.1.3	original-encoded-information-types	m			see A.1.5/3
1.1.4	content-type	m			see A.1.5/8
1.1.5	content-identifier	m			
1.1.6	priority	m			
1.1.7	per-message-indicators	m			see A.1.5/4
1.1.8	deferred-delivery-time	o			
1.1.9	per-domain-bilateral-information	o			see A.1.5/5
1.1.10	trace-information	m			see A.1.5/6
1.1.11	extensions	m			see 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			see A.1.7
1.1.11.6	originator-certificate	o			see A.1.5/9
1.1.11.7	content-confidentiality-algorithm-identifier	o			
1.1.11.8	message-origin-authentication-check	o			see A.1.6/2
1.1.11.9	message-security-label	o			see 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			see A.1.6/5
1.1.11.13	certificate-selectors	o			see A.1.6/9
1.1.11.14	multiple-originator-certificates	o			see A.1.6/11
1.1.11.15	dl-exempted-recipients	o			see A.1.7
1.1.11.16	PrivateExtensions	o			
1.2	per-recipient-fields	m			
1.2.1	recipient-name	m			see A.1.7
1.2.2	originally-specified-recipient-number	m			
1.2.3	per-recipient-indicators	m			

Ref.	Element	Base	Profile	Support	Notes/References
1.2.4	explicit-conversion	o			
1.2.5	extensions	m			see A.1.6/1
1.2.5.1	originator-requested-alternate-recipient	o			see A.1.7
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			see 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			
1.2.5.14	certificate-selectors-override	o			see A.1.6/10
1.2.5.15	recipient-certificate	o			see A.1.5/9
1.2.5.16	IPMPerRecipientEnvelope Extensions	o			See A.1.4.2 in ISO/IEC ISP 12062-3
1.2.5.17	PrivateExtensions	o			
2	content	m			

A.1.4.3   ReportTransfer

Ref.	Element	Base	Profile	Support	Notes/References
1	ReportTransferEnvelope	m			
1.1	report-identifier	m			see A.1.5/1
1.2	report-destination-name	m			see A.1.7
1.3	trace-information	m			see A.1.5/6
1.4	extensions	m			see A.1.6/1
1.4.1	message-security-label	o			see A.1.6/3
1.4.2	redirection-history	m			
1.4.3	originator-and-DL-expansion-history	m			
1.4.4	reporting-DL-name	o			see A.1.7
1.4.5	reporting-MTA-certificate	o			see A.1.5/9

Ref.	Element	Base	Profile	Support	Notes/References
1.4.6	report-origin-authentication-check	o			see A.1.6/8
1.4.7	internal-trace-information	m			see A.1.6/5
1.4.8	reporting-MTA-certificate-selector	o			see A.1.5/11
1.4.9	reporting-MTA-name	o			see A.1.6/12
1.4.10	PrivateExtensions	o			
2	ReportTransferContent	m			
2.1	(per report transfer fields)				
2.1.1	subject-identifier	m			see A.1.5/1
2.1.2	subject-intermediate-trace-information	o			see A.1.5/6
2.1.3	original-encoded-information-types	m			see A.1.5/3
2.1.4	content-type	m			see A.1.5/8
2.1.5	content-identifier	m			
2.1.6	returned-content	o			
2.1.7	additional-information	o			
2.1.8	extensions	m			see A.1.6/1
2.1.8.1	content-correlator	m			
2.1.8.2	PrivateExtensions	o			
2.2	per-recipient-fields	m			
2.2.1	actual-recipient-name	m			see 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			see A.1.5/7
2.2.5	originally-intended-recipient-name	m			see A.1.7
2.2.6	supplementary-information	o			
2.2.7	extensions	m			see A.1.6/1
2.2.7.1	redirection-history	m			
2.2.7.2	physical-forwarding-address	o			see A.1.7
2.2.7.3	recipient-certificate	o			see A.1.5/9
2.2.7.4	proof-of-delivery	o			see A.1.6/7
2.2.7.5	recipient-certificate-selector	o			see A.1.5/11
2.2.7.6	PrivateExtensions	o			

A.1.4.4 ProbeTransfer

Ref.	Element	Base	Profile	Support	Notes/References
1	ProbeTransferEnvelope	m			
1.1	(per probe transfer fields)				
1.1.1	probe-identifier	m			see A.1.5/1
1.1.2	originator-name	m			see A.1.7
1.1.3	original-encoded-information-types	m			see A.1.5/3
1.1.4	content-type	m			see A.1.5/8
1.1.5	content-identifier	m			
1.1.6	content-length	m			
1.1.7	per-message-indicators	m			see A.1.5/4
1.1.8	per-domain-bilateral-information	o			see A.1.5/5
1.1.9	trace-information	m			see A.1.5/6
1.1.10	extensions	m			see 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			
1.1.10.4	originator-certificate	o			see A.1.5/9
1.1.10.5	message-security-label	o			see A.1.6/3
1.1.10.6	content-correlator	m			
1.1.10.7	probe-origin-authentication-check	o			see A.1.6/6
1.1.10.8	internal-trace-information	m			see A.1.6/5
1.1.10.9	certificate-selectors	o			see A.1.6/9
1.1.10.10	PrivateExtensions	o			
1.2	per-recipient-fields	m			
1.2.1	recipient-name	m			see 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			see A.1.6/1
1.2.5.1	originator-requested-alternate-recipient	o			see 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			
1.2.5.5	PrivateExtensions	o			

A.1.5 Common data types

Ref.	Element	Base	Profile	Support	Notes/References
1	MTSIdentifier				
1.1	global-domain-identifier	m			see 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			
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			see 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			see 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			

Ref.	Element	Base	Profile	Support	Notes/References
7	LastTraceInformation				
7.1	arrival-time	m			
7.2	converted-encoded-information-types	m			see 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			
9	Certificates				
9.1	userCertificate	m			see A.1.5/10
9.2	certificationPath	o			see A.1.5/10
10	Certificate				
10.1	version	o			
10.2	serialNumber	m			
10.3	signature	m			
10.4	issuer	m			
10.5	validity	m			
10.6	subject	m			
10.7	subjectPublicKeyInfo	m			
10.8	issuerUniqueIdentifier	o			
10.9	subjectUniqueIdentifier	o			
10.10	extensions	m			
10.10.1	authorityKeyIdentifier	o			
10.10.2	subjectKeyIdentifier	o			
10.10.3	keyUsage	o			
10.10.4	extKeyUsage	o			
10.10.5	privateKeyUsagePeriod	o			
10.10.6	certificatePolicies	o			
10.10.7	policyMappings	o			
10.10.8	subjectAltName	o			
10.10.8.1	otherName	o			
10.10.8.1.1	mta-name	o			
10.10.8.2	rfc822Name	–			
10.10.8.3	dNSName	–			
10.10.8.4	x400Address	o			
10.10.8.5	directoryName	o			
10.10.8.6	ediPartyName	–			

Ref.	Element	Base	Profile	Support	Notes/References
10.10.8.7	uniformResourceIdentifier	–			
10.10.8.8	iPAddress	–			
10.10.8.9	registeredID	–			
10.10.9	issuerAltName	o			
10.10.10	subjectDirectoryAttributes	o			
10.10.11	basicConstraints	o			
10.10.12	nameConstraints	o			
10.10.13	policyConstraints	o			
10.10.14	cRLDistributionPoints	o			
11	CertificateAssertion				
11.1	serialNumber	o			
11.2	issuer	o			
11.3	subjectKeyIdentifier	o			
11.4	authorityKeyIdentifier	o			
11.5	certificateValid	o			
11.6	privateKeyValid	o			
11.7	subjectPublicKeyAlgID	o			
11.8	keyUsage	o			
11.9	subjectAltName	o			
11.10	policy	o			
11.11	pathToName	–			

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			see A.3.6
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			see 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			

Ref.	Element	Base	Profile	Support	Notes/References
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			see 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			see A.1.6/3
4.2.6.4	content-integrity-key	o			
4.2.6.5	message-sequence-number	o			
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			see 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			see A.1.6/3

Ref.	Element	Base	Profile	Support	Notes/References
7	ProofOfDelivery				
7.1	algorithm-identifier	m			
7.2	delivery-time	m			
7.3	this-recipient-name	m			see A.1.7
7.4	originally-intended-recipient-name	o			see A.1.7
7.5	content	m			
7.6	content-identifier	o			
7.7	message-security-label	o			see A.1.6/3
8	ReportOriginAuthenticationCheck				
8.1	algorithm-identifier	m			
8.2	content-identifier	o			
8.3	message-security-label	o			see A.1.6/3
8.4	per-recipient	m			
8.4.1	actual-recipient-name	m			
8.4.2	originally-intended-recipient-name	o			
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			see A.1.5/9
8.4.3.4	proof-of-delivery	o			
8.4.3.5	recipient-certificate-selector	o			see A.1.5/11
8.4.4	non-delivery	o			
8.4.4.1	non-delivery-reason-code	m			
8.4.4.2	non-delivery-diagnostic-code	o			
9	CertificateSelectors				
9.1	encryption-recipient	o			see A.1.5/11
9.2	encryption-originator	o			see A.1.5/11
9.3	content-integrity-check	o			see A.1.5/11
9.4	token-signature	o			see A.1.5/11
9.5	message-origin-authentication	o			see A.1.5/11
10	CertificateSelectorsOverride				
10.1	encryption-recipient	o			see A.1.5/11
10.2	encryption-originator	o			see A.1.5/11
10.3	content-integrity-check	o			see A.1.5/11
10.4	token-signature	o			see A.1.5/11
11	ExtendedCertificate				
11.1	directory-entry	o			
11.2	certificate	o			see A.1.5/9
12	ReportingMTAName				
12.1	domain	m			see A.1.5/2
12.2	mta-name	m			
12.3	mta-directory-name	o			

A.1.7 OR-names

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

The following tables shall be completed according to the OR-address forms for which support is claimed above.

NOTE – Classification of an attribute as m indicates only that its presence is required for the OR-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 OR-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			
2	built-in-domain-defined-attributes	o			
3	extension-attributes	o			
3.1	common-name	o			
3.2	teletex-common-name	o			
3.3	universal-common-name	o			see A.1.7.6

Ref.	Element	Base	Profile	Support	Notes/References
3.4	teletex-organization-name	o			
3.5	universal-organization-name	o			see A.1.7.6
3.6	teletex-personal-name	o			
3.6.1	surname	m			
3.6.2	given-name	o			
3.6.3	initials	o			
3.6.4	generation-qualifier	o			
3.7	universal-personal-name	o			
3.7.1	surname	m			see A.1.7.6
3.7.2	given-name	o			see A.1.7.6
3.7.3	initials	o			see A.1.7.6
3.7.4	generation-qualifier	o			see A.1.7.6
3.8	teletex-organizational-unit-names	o			
3.9	universal-organizational-unit-names	o			see A.1.7.6
3.10	teletex-domain-defined-attributes	o			
3.11	universal-domain-defined-attributes	o			see A.1.7.6

A.1.7.2 Numeric OR-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			
3.2	universal-domain-defined-attributes	o			see A.1.7.6

A.1.7.3   Terminal OR-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			
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	universal-common-name	o			see A.1.7.6
3.6	teletex-organization-name	o			
3.7	universal-organization-name	o			see A.1.7.6
3.8	teletex-personal-name	o			
3.9	universal-personal-name	o			see A.1.7.6
3.10	teletex-organizational-unit-names	o			
3.11	universal-organizational-unit-names	o			see A.1.7.6
3.12	unformatted-postal-address	o			
3.13	universal-unformatted-postal-address	o			see A.1.7.6
3.14	teletex-domain-defined-attributes	o			
3.15	universal-domain-defined-attributes	o			see A.1.7.6

A.1.7.4 Formatted postal OR-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	universal-physical-delivery-office-name	o			see A.1.7.6
2.4	physical-delivery-office-number	o			
2.5	universal-physical-delivery-office-number	o			see A.1.7.6
2.6	physical-delivery-organization-name	o			
2.7	universal-physical-delivery-organization-name	o			see A.1.7.6
2.8	physical-delivery-personal-name	o			
2.9	universal-physical-delivery-personal-name	o			see A.1.7.6
2.10	postal-code	m			
2.11	poste-restante-address	o			
2.12	universal-poste-restante-address	o			see A.1.7.6
2.13	post-office-box-address	o			
2.14	universal-post-office-box-address	o			see A.1.7.6
2.15	pds-name	o			
2.16	street-address	o			
2.17	universal-street-address	o			see A.1.7.6
2.18	unique-postal-name	o			
2.19	universal-unique-postal-name	o			see A.1.7.6
2.20	extension-OR-address-components	o			
2.21	universal-extension-OR-address-components	o			see A.1.7.6
2.22	extension-physical-delivery-address-components	o			
2.23	universal-extension-physical-delivery-address-components	o			see A.1.7.6
2.24	local-postal-attributes	o			
2.25	universal-local-postal-attributes	o			see A.1.7.6

A.1.7.5 Unformatted postal OR-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	universal-unformatted-postal-address	m			see A.1.7.6
2.3	physical-delivery-country-name	m			
2.4	postal-code	m			
2.5	pds-name	o			

A.1.7.6 UniversalOrBMPString

Ref.	Element	Base	Profile	Support	Notes/References
1	UniversalOrBMPString				
1.1	character-encoding				
1.1.1	two-octets	m			
1.1.2	four-octets	m			
1.2	iso-639-language-code	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 that in ISO/IEC ISP 10611-3.

A.3 Additional information

A.3.1 Routing capability

The following table shall be completed to indicate (Y or ✓) which OR-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.	OR-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 universal-organization-name		
8	numeric-user-identifier		
9	personal name teletex-personal-name universal-personal-name		
10	organizational-unit-names teletex-organizational-unit-names universal-organizational-unit-names		
11	common-name teletex-common-name universal-common-name		
12	built-in-domain-defined-attributes teletex-domain-defined-attributes universal-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.

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 conversion is supported 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) (see Note 1)		
2	limit on the number of recipients that may be specified in a message envelope (if any) (see Note 2)		
3	other (specify)		

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

NOTE 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 that number of users for delivery at a single MTA).

A.3.6 Supported extensions

The following table shall be completed to indicate which extensions and where they are supported in addition to the standard extensions for which support must already be stated in the various tables of clauses A.1 and A.2. For each extension it shall be references to where in the protocol they might appear.

Ref.	Extension identifier	Reference	Comments

Annex B

Amendments and corrigenda

(This annex forms an integral part of this Recommendation)

Recommendations and International Standards are subject to constant review and revision by ITU-T and ISO/IEC. The following amendments and corrigenda are approved by ITU-T and ISO/IEC and are considered as normative references in this Recommendation.

None.

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