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SERIES X: DATA NETWORKS AND OPEN SYSTEM
COMMUNICATIONS

Message Handling Systems

Message Handling Systems – P3 protocol PICS proforma

ITU-T Recommendation X.483

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION X.483

MESSAGE HANDLING SYSTEMS – P3 PROTOCOL PICS PROFORMA

Summary

This Recommendation provides the Protocol Implementation Conformance Statement (PICS) proforma for the Message Handling Systems (MHS) P3 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 P3 protocol.

Source

ITU-T Recommendation X.483 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 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)*.

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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.

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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.483

MESSAGE HANDLING SYSTEMS – P3 PROTOCOL PICS PROFORMA¹

1 Scope

This Recommendation provides the Protocol Implementation Conformance Statement (PICS) proforma for the P3 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 P3 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 ITU-T 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 currently valid ITU-T Recommendations is regularly published.

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.*

3 Definitions

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

¹ Annex A of this Recommendation is technically aligned with Annex A of ISO/IEC ISP 10611-4, Information technology – International Standardized Profiles AMH1n – Message Handling Systems – Common Messaging – Part 4: AMH12 and AMH14 – MTS Access (P3) and MTS 94 Access (P3).

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 A²

PICS Proforma for MTS access (P3)

(This annex forms an integral part of this Recommendation)

Contents of the PICS proforma

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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 10611-4, "Information technology – International Standardized Profiles AMH1n – Message Handling Systems – Common Messaging – Part 4: AMH12 and AMH14 – MTS Access (P3) and MTS 94 Access (P3)".

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 P3 protocol with a consistent means of stating which proforma has been implemented.

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.

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 no 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.0.1.2 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 generic term "MTS-user" is used in the tables where the distinction between different types of MTS-user is not significant. Where a column is headed "UA", then an MS is only required to be able to pass through such elements transparently between a UA and the MTA.

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. 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 or feature. If support is claimed, the element shall be treated as if it were specified as mandatory support. If support for origination is not claimed, then the element is not generated and, in the case of non-support of a critical extension by an MTA implementation on delivery, shall cause a non-delivery notification to be returned. If support for reception is not claimed, and the element is an argument, then an implementation may ignore a non-critical extension on delivery but shall otherwise generate an appropriate error indication. If support for reception is not claimed, and the element is a result, then the element may be ignored. If support of an operation as a responder is not claimed, then an appropriate error indication shall be generated (as a minimum, a ROSE reject shall be generated).

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.483

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 Type of implementation

Ref.	Implementation Type	Response
1	MTS-user (UA or MS)	
2	MTA	

NOTE – A separate PICS shall be completed for each implementation type for which conformance is claimed.

A.0.3.6 Global statement of conformance

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

A.1 Basic requirements**A.1.1 Supported application contexts**

Ref.	Application Context	MTS-user		MTA		Support	Notes/References
		Base	Profile	Base	Profile		
1	mts-access-88	o		o ⁴			
2	mts-forced-access-88	o		o ⁴			
3	mts-reliable-access-88	o		o ⁵			
4	mts-forced-reliable-access-88	o		o ⁵			
5	mts-access-94	o		o ⁴			
6	mts-forced-access-94	o		o ⁴			
7	mts-reliable-access-94	o		o ⁵			
8	mts-forced-reliable-access-94	o		o ⁵			
4	If either of mts-access or mts-forced-access application contexts is supported, then both of them for that "year" shall be supported.						
5	If either of mts-reliable-access or mts-forced-reliable-access application contexts is supported, then all four contexts for that "year" shall be supported.						

A.1.2 Supported operations**A.1.2.1 Bind and Unbind**

Ref.	Operation	MTS-user		MTA		Support	Notes/References
		Base	Profile	Base	Profile		
1	MTSBind access	m		m			see A.1.3.1
2	MTSUnbind access	m		m			
3	MTSBind forced access	m		m			see A.1.3.1
4	MTSUnbind forced access	m		m			

A.1.2.2 Message Submission Service Element (MSSE)

Ref.	Operation	MTS-user		MTA		Support	Notes/References
		Base	Profile	Base	Profile		
1	MessageSubmission	m		m			see A.1.3.2
2	ProbeSubmission	o		m			see A.1.3.3
3	CancelDeferredDelivery	o		m			see A.1.3.4
4	SubmissionControl	o		o			see A.1.3.5
NOTE – If the MTS-user is an MS, then the requirement is only to be able to pass through these operations (i.e. between the MTA and a local or remote UA) unaltered.							

A.1.2.3 Message Delivery Service Element (MDSE)

Ref.	Operation	MTS-user		MTA		Support	Notes/References
		Base	Profile	Base	Profile		
1	MessageDelivery	m		m			see A.1.3.6
2	ReportDelivery	m		m			see A.1.3.7
3	DeliveryControl	o		m			see A.1.3.8

A.1.2.4 Message Administration Service Element (MASE)

Ref.	Operation	MTS-user		MTA		Support	Notes/References
		Base	Profile	Base	Profile		
1	Register	o		o			see A.1.3.9
2	ChangeCredentials (MTA to UA)	o		o			see A.1.3.10
3	ChangeCredentials (UA to MTA)	o		o			see A.1.3.10

NOTE – For a UA or MTA, some or all of the services and functionality supported by these operations may be implemented by other means as a local matter.

A.1.3 Operation arguments/results

A.1.3.1 MTSBind

Ref.	Element	MTS-user		MTA		Support	Notes/References
		Base	Profile	Base	Profile		
1	ARGUMENT						
1.1	initiator-name	m		m			
1.1.1	user-agent	c ³		c ³			see A.1.10.2
1.1.2	mTA	c ⁴		c ⁴			
1.1.3	message-store	c ⁵		c ³			see A.1.10.2
1.2	messages-waiting	o		o			
1.3	initiator-credentials	m		m			
1.3.1	simple	m		m			
1.3.1.1	octet-string	o		o			
1.3.1.2	ia5-string	o		o			
1.3.2	strong	o		o			
1.3.2.1	bind-token	m		m			see A.1.8/7
1.3.2.2	certificate	o		o			see A.1.8/8
1.3.2.3	certificate-selector	o		o			see A.1.8/10