

ISO/IEC 10021-7:2003-12 (E)

Information technology - Message Handling Systems (MHS): Interpersonal messaging system

CONTENTS

	<i>Page</i>
SECTION 1 – INTRODUCTION	1
1 Scope	1
2 Normative references	1
2.1 Open Systems Interconnection	1
2.2 Message Handling Systems	2
2.3 Directory Systems	2
2.4 Language Code	2
2.5 Character Sets	2
2.6 Telematic Services	2
2.7 File Transfer	3
2.8 Open Document Architecture	3
2.9 Digital Encoding of Sound	3
2.10 Cryptography	3
3 Definitions	3
4 Abbreviations	3
5 Conventions	3
5.1 ASN.1	4
5.2 Grade	4
5.3 Terms	5
5.4 Conventions for attribute-types used in Table 5	5
5.5 Interpretation of UTC Time values	5
SECTION 2 – ABSTRACT INFORMATION OBJECTS	5
6 Overview	5
7 Interpersonal Messages	6
7.1 Heading Field Component Types	6
7.1.1 IPM Identifier	7
7.1.2 Recipient Specifier	7
7.1.3 OR-Descriptor	8
7.1.4 IPMS Extension	8
7.2 Heading Fields	9
7.2.1 This IPM	9
7.2.2 Originator	9
7.2.3 Authorizing Users	9
7.2.4 Primary Recipients	9
7.2.5 Copy Recipients	9
7.2.6 Blind Copy Recipients	10
7.2.7 Replied-to IPM	10
7.2.8 Obsolete IPMs	10
7.2.9 Related IPMs	10
7.2.10 Subject	11
7.2.11 Expiry Time	11
7.2.12 Reply Time	11
7.2.13 Reply Recipients	11
7.2.14 Importance	11
7.2.15 Sensitivity	11
7.2.16 Auto-forwarded	12
7.2.17 Extensions	12
7.3 Body Parts	12
7.3.1 Extended Body Part	13
7.3.2 Body Part Encoding	14
7.4 Standard Body Part Types	15
7.4.1 IA5 Text	15
7.4.2 G3 Facsimile	15
7.4.3 G4 Class 1	16
7.4.4 Teletex	16

	<i>Page</i>
7.4.5 Videotex	17
7.4.6 Encrypted	17
7.4.7 Message.....	18
7.4.8 Mixed-mode	18
7.4.9 Bilaterally Defined.....	19
7.4.10 Nationally Defined.....	19
7.4.11 General Text.....	19
7.4.12 File Transfer.....	20
7.4.13 Voice	25
7.4.14 Report	27
7.4.15 Notification	27
7.4.16 Forwarded Content.....	27
7.4.17 PKCS7	28
8 Interpersonal Notifications	29
8.1 Common Fields	30
8.1.1 Subject IPM	30
8.1.2 IPN Originator.....	30
8.1.3 IPM Intended Recipient	30
8.1.4 Conversion EITs	31
8.1.5 Notification Extensions.....	31
8.2 Non-receipt Fields.....	31
8.2.1 Non-receipt Reason.....	31
8.2.2 Discard Reason	31
8.2.3 Auto-forward Comment.....	32
8.2.4 Returned IPM.....	32
8.2.5 NRN Extensions.....	32
8.3 Receipt Fields.....	32
8.3.1 Receipt Time	33
8.3.2 Acknowledgment Mode.....	33
8.3.3 Suppl Receipt Info	33
8.3.4 RN Extensions.....	33
8.4 Other Notification Type Fields	33
8.4.1 Absence Advice	33
8.4.2 Change of Address Advice.....	34
SECTION 3 – ABSTRACT SERVICE DEFINITION.....	35
9 Overview	35
10 Primary Object Types	35
10.1 Interpersonal Messaging System User	35
10.2 Interpersonal Messaging System.....	36
11 Primary Port Types.....	36
11.1 Origination	36
11.2 Reception	36
11.3 Management.....	36
12 Abstract Operations	36
12.1 Origination Abstract Operations	37
12.1.1 Originate Probe	37
12.1.2 Originate IPM	37
12.1.3 Originate RN.....	38
12.1.4 Originate ON.....	38
12.2 Reception Abstract Operations.....	39
12.2.1 Receive Report.....	39
12.2.2 Receive IPM.....	39
12.2.3 Receive RN	40
12.2.4 Receive NRN	40
12.2.5 Receive ON	40
12.3 Management Abstract Operations.....	40
12.3.1 Change Auto-discard.....	40
12.3.2 Change Auto-acknowledgment.....	41
12.3.3 Change Auto-forwarding	41

13	Abstract Errors	42
	13.1 Subscription Error	42
	13.2 Recipient Improperly Specified.....	42
14	Other Capabilities.....	42
SECTION 4 – ABSTRACT SERVICE PROVISION		43
15	Overview	43
16	Secondary Object Types.....	43
	16.1 Interpersonal Messaging System User Agent.....	43
	16.2 Interpersonal Messaging System Message Store	43
	16.3 Telematic Agent.....	43
	16.4 Telex Access Unit.....	44
	16.5 Physical Delivery Access Unit.....	44
	16.6 Message Transfer System.....	45
17	Secondary Port Types.....	45
	17.1 Submission.....	45
	17.2 Delivery	45
	17.3 Retrieval.....	45
	17.4 Administration	45
	17.5 Import	45
	17.6 Export	45
18	User Agent Operation.....	46
	18.1 State Variables	46
	18.2 Performance of Origination Operations	46
	18.2.1 Originate Probe	46
	18.2.2 Originate IPM	47
	18.2.3 Originate RN.....	47
	18.2.4 Originate ON.....	48
	18.3 Performance of Management Operations.....	48
	18.3.1 Change Auto-discard.....	48
	18.3.2 Change Auto-acknowledgment.....	49
	18.3.3 Change Auto-forwarding	49
	18.4 Invocation of Reception Operations.....	49
	18.4.1 Receive Report.....	49
	18.4.2 Receive IPM.....	49
	18.4.3 Receive RN	50
	18.4.4 Receive NRN	50
	18.4.5 Receive ON.....	50
	18.5 Internal Procedures.....	50
	18.5.1 Auto-discard.....	50
	18.5.2 Auto-acknowledgment.....	51
	18.5.3 Auto-forwarding.....	52
19	Message Store Operation.....	53
	19.1 Binding to the IPMS-MS.....	53
	19.1.1 MS-Bind-argument	53
	19.1.2 MS-Bind-result.....	53
	19.2 Creation of Information Objects.....	53
	19.2.1 Mapping an IPMS Message to an MS entry.....	54
	19.2.2 Mapping of forwarding messages in the IPMS-MS	54
	19.2.3 Presence of General-attributes in child-entries	55
	19.3 Maintenance of Attributes.....	56
	19.4 Notification of Non-receipt	57
	19.5 IPMS-MS abstract-operation extensions.....	57
	19.5.1 MS-Bind extensions.....	57
	19.5.2 MS-Bind-Result extensions	58
	19.5.3 IPM -submission options.....	58
	19.5.4 IPM submission errors	60

	<i>Page</i>
19.5.5 Forwarding-request extension	60
19.5.6 Delete extensions	60
19.6 IPMS-MS Attributes	60
19.6.1 Summary Attributes	63
19.6.2 Heading Attributes	66
19.6.3 Body Attributes	71
19.6.4 Notification Attributes	74
19.6.5 Correlation Attributes	76
19.6.6 The IPMS-attribute-table information object class	83
19.6.7 Generation of the IPMS-specific Attributes	84
19.6.8 Attributes Subject to Modification	89
19.7 IPMS-MS matching rules	89
19.7.1 IPM-identifier-match	89
19.7.2 IPM-location-match	89
19.7.3 OR-descriptor-match	90
19.7.4 OR-descriptor-elements-match	90
19.7.5 OR-descriptor-substring-elements-match	90
19.7.6 OR-descriptor-single-element-match	90
19.7.7 Recipient-specifier-match	90
19.7.8 Recipient-specifier-elements-match	91
19.7.9 Recipient-specifier-substring-elements-match	91
19.7.10 Recipient-specifier-single-element-match	91
19.7.11 Circulation-member-match	91
19.7.12 Circulation-member-elements-match	91
19.7.13 Circulation-member-substring-elements-match	91
19.7.14 Circulation-member-single-element-match	92
19.7.15 Circulation-member-checkmark-match	92
19.7.16 Distribution-code-match	92
19.7.17 Information-category-match	92
19.8 IPMS-MS auto-actions	93
19.8.1 Auto-action performance	94
19.8.2 IPM Auto-forward	94
19.8.3 IPM Auto-acknowledgement	96
19.8.4 IPM Auto-correlate	97
19.8.5 IPM Auto-discard	98
19.8.6 IPM auto-advise	98
19.9 Procedures for the IPMS-MS	100
19.9.1 Additional procedures for Message-delivery and Report-delivery	100
19.9.2 Additional Procedures for MS-message-submission	104
19.9.3 Additional Procedures for Fetch	106
19.9.4 Additional Procedures for Delete and Auto-delete	106
19.9.5 Auto-discard of expired IPMs	106
20 Message Contents	107
20.1 Content	107
20.2 Content Type	107
20.3 Content Length	107
20.4 Encoded Information Types	108
21 Port Realization	108
22 Conformance	109
22.1 Origination Versus Reception	109
22.2 Statement Requirements	109
22.3 Static Requirements	109
22.4 Dynamic Requirements	110
Annex A – General IPMS Extensions	111
A.1 Heading Extensions	111
A.1.1 Incomplete Copy	111
A.1.2 Languages	111
A.1.3 Auto-submitted	111
A.1.4 Body Part Signature	111

	<i>Page</i>	
A.1.5	IPM Security Label.....	112
A.1.6	Authorization Time.....	113
A.1.7	Circulation List Recipients.....	113
A.1.8	Distribution Codes.....	114
A.1.9	Extended Subject.....	115
A.1.10	Information Category.....	115
A.1.11	Manual Handling Instructions.....	116
A.1.12	Originator's Reference.....	116
A.1.13	Precedence Policy Identifier.....	116
A.2	Recipient Extensions.....	116
A.2.1	Circulation List Indicator.....	116
A.2.2	Precedence.....	117
A.3	Notification Extensions.....	117
Annex B	– IPMS Security Extensions.....	118
B.1	Recipient Security Request.....	118
B.2	IPN Security Response.....	119
B.3	Security Diagnostic Code.....	119
B.4	Additional UA Procedures.....	121
B.4.1	Originate IPM.....	121
B.4.2	Originate IPN.....	122
B.5	Additional MS Procedures.....	124
B.6	MTS Extensions.....	124
B.6.1	Body Part Encryption Token.....	124
B.6.2	Forwarded Content Token.....	126
Annex C	– Reference Definition of Object Identifiers.....	127
Annex D	– Reference Definition of Abstract Information Objects.....	133
Annex E	– Reference Definition of Extended Body Part Types.....	143
E.1	Equivalents of Basic Body Part Types.....	143
E.2	General Text.....	144
E.3	File Transfer.....	145
E.4	Voice.....	148
E.5	Report and Notification.....	148
E.6	Forwarded Content.....	149
E.7	PKCS7.....	150
Annex F	– Reference Definition of Functional Objects.....	151
Annex G	– Reference Definition of Abstract Service.....	152
Annex H	– Reference Definition of IPM Extensions.....	155
Annex I	– Reference Definition of Message Store Attributes.....	159
Annex J	– Reference Definition of IPMS-MS auto-actions.....	174
Annex K	– Reference Definition of IPMS Security Extensions.....	178
Annex L	– Reference Definition of Upper Bounds.....	181
Annex M	– Support of the Interpersonal Messaging Service.....	182
M.1	Support of Recipient Specifier Components.....	182
M.2	Support of Heading Fields.....	182
M.3	Support of Body Aspects.....	183
M.4	Support of Notification Fields.....	184
M.5	Support of Envelope Fields.....	184
M.6	Support of IPMS Message Store.....	184
Annex N	– Security Model Supplement for IPMS.....	185
N.1	Introduction.....	185
N.2	Security Services.....	185
N.3	Supplements to Clause 10.2: Security Services.....	185
N.4	Body Part Encryption.....	185
N.5	Body Part Authentication and Integrity.....	185

	<i>Page</i>
N.6 IPM Security Labelling.....	185
N.7 IPN Authentication.....	186
N.7.1 Proof of Notification.....	186
N.7.2 Proof of Content.....	186
N.8 Non-repudiation of IPM Responsibility.....	186
N.8.1 Non-repudiation of Notification.....	186
N.8.2 Non-repudiation of Content.....	186
Annex O – ASN.1 Module for PKCS#7.....	187
Annex P – Differences Between ISO/IEC 10021-7 and ITU-T Recommendation X.420.....	192
Annex Q – Summary of Changes to Previous Editions.....	193
Q.1 Differences between CCITT Rec. X.420 (1984) and CCITT Rec. X.420 (1988).....	193
Q.2 Differences between CCITT Rec. X.420 (1988) and ISO/IEC 10021-7:1990.....	193
Q.3 Differences between ISO/IEC 10021-7:1990 and CCITT Rec. X.420 (1992).....	193
Q.4 Differences between CCITT Rec. X.420 (1992) and ITU-T Rec. X.420 (1996) ISO/IEC 10021-7:1997.....	194
Q.5 Differences between ITU-T Rec. X.420 (1996) ISO/IEC 10021-7:1997 and ITU-T Rec. X.420 (1998) ISO/IEC 10021-7:1999.....	194
Annex R – Index.....	196