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RÉSEAUX DE COMMUNICATIONS DE DONNÉES

**PROTOCOLE P1 – FORMULAIRE
DE DÉCLARATION DE CONFORMITÉ
D'UNE INSTANCE DE PROTOCOLE**



Recommandation X.482

AVANT-PROPOS

Le CCITT (Comité consultatif international télégraphique et téléphonique) est un organe permanent de l'Union internationale des télécommunications (UIT). Il est chargé de l'étude des questions techniques, d'exploitation et de tarification, et émet à ce sujet des Recommandations en vue de la normalisation des télécommunications à l'échelle mondiale.

L'Assemblée plénière du CCITT, qui se réunit tous les quatre ans, détermine les thèmes d'étude et approuve les Recommandations rédigées par ses Commissions d'études. Entre les Assemblées plénières, l'approbation des Recommandations par les membres du CCITT s'effectue selon la procédure définie dans la Résolution n° 2 du CCITT (Melbourne, 1988).

La Recommandation X.482, élaborée par la Commission d'études VII, a été approuvée le 10 septembre 1992 selon la procédure définie dans la Résolution n° 2.

REMARQUES

- 1) Dans cette Recommandation, le terme «Administration» désigne indifféremment une administration de télécommunication ou une exploitation privée reconnue.
- 2) La liste des abréviations utilisées dans cette Recommandation se trouve dans l'annexe B.

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INTRODUCTION

La présente Recommandation fait partie d'un ensemble de Recommandations qui définissent la messagerie dans un environnement de systèmes ouverts répartis.

La messagerie permet l'échange de messages entre usagers sur le mode enregistrement et retransmission. Un message déposé par un usager (l'expéditeur) est transféré par l'intermédiaire du système de transfert de messages (MTS) pour être remis à un ou plusieurs autres usagers (les destinataires).

Le MTS comprend un certain nombre d'agents de transfert de messages (MTA), qui transfèrent les messages et les remettent aux destinataires prévus par eux.

Pour évaluer la conformité d'une instance particulière de protocole, il est nécessaire de disposer d'une déclaration précisant les capacités et les options qui ont été incluses pour un protocole OSI donné. Cette déclaration est appelée une déclaration de conformité d'une instance de protocole (PICS).

La présente Recommandation contient le formulaire de déclaration PICS pour le protocole P1, tel qu'il est défini dans la Recommandation X.419.

**PROTOCOLE P1 – FORMULAIRE DE DÉCLARATION DE CONFORMITÉ
D'UNE INSTANCE DE PROTOCOLE**

(1992)

1 Champ d'application

La présente Recommandation fournit le formulaire de déclaration PICS pour le protocole P1, tel qu'il est spécifié dans la Recommandation X.419. Ce formulaire de déclaration est conforme aux spécifications pertinentes et respecte les directives données dans ISO/CEI 9646-2 à propos du formulaire de déclaration PICS. On trouvera les détails concernant l'utilisation de ce formulaire dans l'annexe A.

2 Références normatives

Recommandation X.411 du CCITT (1988), *Systèmes de messagerie: Système de transfert de messages: Définition des services abstraits et procédures*.

Recommandation X.419 du CCITT (1988), *Systèmes de messagerie: Spécifications de protocoles*.

ISO 9646-1:1991, *Technologie de l'information, Interconnexion de systèmes ouverts – Cadre général et méthodologie des tests de conformité OSI – Partie 1: Concepts généraux* [voir aussi la Recommandation X.290 du CCITT (1991)].

ISO 9646-2:1991, *Technologie de traitement de l'information, Interconnexion de systèmes ouverts – Cadre général et méthodologie des tests de conformité OSI – Partie 2: Spécification des suites de tests abstraites* [voir aussi la Recommandation X.291 du CCITT (1991)].

3 Définitions

La présente Recommandation utilise les termes définis dans les Recommandations de la série X.400.

La présente Recommandation utilise également les termes suivants, définis dans ISO/CEI 9646-1:

- fonctions d'une IUT;
- tests de conformité;
- conditions de conformité dynamique;
- instance sous test (IUT);
- formulaire PICS;
- unité de données de protocole (PDU);
- déclaration de conformité d'une instance de protocole (PICS);
- conditions de conformité statique;
- examen de conformité statique;
- système à tester (SUT).

4 Abréviations

Les abréviations définies dans les Recommandations de la série X.400 sont utilisées dans la présente Recommandation.

5 Conventions

Le formulaire de déclaration PICS fait l'objet d'une annexe à la présente Recommandation (voir l'annexe A).

6 Conformité

Le fournisseur d'une instance de protocole déclarée conforme au § 14 de la Recommandation X.419 doit remplir un exemplaire du formulaire de déclaration PICS reproduit dans l'annexe A et fournir les renseignements nécessaires à l'identification du fournisseur et de l'instance de protocole.

ANNEXE A

(à la Recommandation X.482)

Protocole P1 – Formulaire de déclaration de conformité d'une instance de protocole

(Cette annexe fait partie intégrante de la présente Recommandation)

A.1 *Identification of the implementation*

A.1.1 *Identification of PICS*

Ref. No.	Question	Response
1	Date of Statement (DD/MM/YY)	
2	PICS Serial Number	
3	System Conformance Statement Cross Reference	

A.1.2 *Identification of the Implementation and/or System*

Ref. No.	Question	Response
1	Implementation Name	
2	Version Number	
3	Machine Name	
4	Machine Version Number	
5	Operating System Name	
6	Operating System Version	
7	Special Configuration	
8	Other information	

Droits de reproduction du formulaire PICS

Les utilisateurs de la présente Recommandation sont autorisés à reproduire le formulaire PICS de la présente annexe pour utiliser celui-ci conformément à son objet. Ils sont également autorisés à publier le formulaire une fois celui-ci complété.

A.1.3 Identification of the system supplier and/or test laboratory client

Ref. No.	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.2 Identification of the protocol

Ref. No.	Question	Response
1	Title, Reference Number and date of publication of the protocol standard	
2	Protocol Version Numbers	
3	Addenda implemented	
4	Implemented Defect Reports (Ref. No.)	

A.3 Global statement of conformance

Ref. No.	Question	D	I
1	Are all mandatory capabilities implemented?	m	[]

Answering “No” to this question indicates non-conformance to the protocol specification. Non-supported mandatory capabilities are to be identified in the PICS, with an explanation of why the implementation is non-conformant. Such information shall be provided in A.6.10, “Other information”.

A.4 Instructions for completing the PICS proforma

A.4.1 Definition of support

A capability is said to be supported if the Implementation Under Test is able:

- to generate the corresponding service parameters (either automatically or because the end-user explicitly requires that capability);
- to interpret, handle and when required make available to the end-user the corresponding service parameter(s).

A protocol element marked “O” in the “O/R” column is said to be supported if the IUT is able to generate it under some circumstances (either automatically or because the end-user explicitly requires a related service).

A protocol element marked “R” in the “O/R” column is said to be supported if it is correctly interpreted and handled and also, when required, made available to the end-user.

All protocol elements shall be supported for relay. When downgrading rules apply the implementation shall react as described in Recommendation X.419, Annex B.

A.4.2 *D (Defined) column*

This column indicates the level of support required for conformance to Recommendation X.419. The values are as follows:

- m Mandatory support is required ;
- o Optional support is permitted for conformance to the Recommendation. If implemented it must conform to the specifications and restrictions contained in the Recommendation. These restrictions may affect the optionality of other items ;
- c The item is conditional, the support of the capability is subject to a predicate which is referenced in the Note column;
- The item is not applicable.

If Security or Physical Delivery options are not supported, corresponding items shall be considered as not applicable.

A.4.3 *I (Implemented) column*

This column shall be completed by the supplier or implementor to indicate the level of implementation of each item. The proforma has been designed such that the only entries required in that column are:

- Y Yes, the item has been implemented ;
- N No, the item has not been implemented ;
- The item is not applicable.

In the PICS proforma tables, every leading item marked “m” should be supported by the IUT. Sub-items marked “m” should be supported if the corresponding leading item is supported by the IUT.

All entries within the PICS proforma shall be made in ink. Alterations to such entries shall be made by crossing out, not erasing nor making the original entry illegible, and writing the new entry alongside. All such alterations to records shall be initialled by the staff making them.

A.4.4 *Permitted range of values/values supported columns*

In the column marked “Permit. Range of values”, the upper bounds values (e.g. lengths and occurrences) have been stated according to the standard. For each line for which an entry in this column is made, the constraints or supported values should be indicated in the “Values supported” column.

The minimum and maximum lengths and numbers of occurrences shall be entered for originator.

The maximum length and number of occurrences shall be entered for reception.

A.4.5 *Note column*

The “Note” column has to be read as follows:

- Notexx Refers to Note XX ;
- pxx Refers to predicate xx (see A.4.7) ;
- #yy Refers to A.6.7.6.yy.

E.g. the following references must be interpreted as follows:

- 1/1 means: see A.6.7.6.1: Common Data Types /1: MTSIdentifier
- 2/3 means: see A.6.7.6.2: Extension Data Types /3: RequestedDeliveryMethod
- 3 means: see A.6.7.6.3: Orname;

- d A value defined as defaultable in the Recommendation, when absent in the PDU shall be interpreted as having the default value specified in the Recommendation;
- SEC Indicates Security item (optional);
- PHY Indicates Physical Delivery item (optional);
- Rec. X.500 See X.500-Series Recommendations for a complete definition.

A.4.6 *Item reference numbers*

Each line within the PICS proforma which requires implementation details to be entered is numbered at the left hand edge of the line. This numbering is included as a means of uniquely identifying all possible implementation details within the PICS proforma. This referencing is used both inside the PICS proforma, and for references from other Test Specification documents.

The means of referencing individual responses is done by the following sequence:

- a) a reference to the smallest subclause enclosing the relevant item;
- b) a solidus character, “/”;
- c) the reference number of the row in which the response appears;
- d) if, and only if, more than one response occurs in the row identified by the reference number, then each possible entry is implicitly labelled a), b), c), etc. from left to right, and this letter is appended to the sequence.

An example of the use of this notation would be A.6.7.5/1.1.7b), which refers to the support for the receipt of PerMessageIndicators in a ProbeTransfer PDU.

A.4.7 *Predicate definitions*

In the definition of predicates the letter “O” means “origination” and “R” means “reception”. Definition of predicates:

- p1 = A.6.4.1/3
- p2 = A.6.4.1/29
- p5 = A.6.4.1/28
- p6 = A.6.4.1/15
- p7 = “the MTA can act as a DL expansion point”
- p8 = A.6.4.1/6
- p9 = A.6.4.1/19
- p11 = A.6.4.1/20
- p13 = p9 or p14
- p14 = A.6.4.1/16
- p16 = A.6.4.1/25
- p18 = p1 or p16 or A.6.4.1/29
- p19 = A.6.7.3/1.1.5.O
- p20 = A.6.4.1/32
- p22 = A.6.7.3/1.1.11.10.O
- p23 = “the MTA acts within a PRMD”
- p24 = A.6.4.1/2
- p25 = p1 or p9 or p16
- p26 = p25 or p7
- p29 = A.6.4.3/52
- p30 = A.6.4.3/53
- p31 = A.6.4.3/54
- p32 = A.6.4.3/55
- p33 = A.6.4.3/56
- p34 = A.6.4.3/57
- p35 = A.6.4.3/58
- p36 = A.6.4.3/59
- p37 = A.6.4.3/60
- p38 = A.6.4.3/61

p39 = A.6.4.3/62
p40 = A.6.4.3/63
p41 = A.6.4.3/64
p42 = A.6.4.3/65
p43 = A.6.7.1/1.2.2.2.O
p47 = A.6.7.1/1.2.2.2.2.O
p48 = A.6.7.1/1.2.3.O
p49 = A.6.7.1/2.2.2.2.O
p50 = A.6.7.1/3.4.O
p51 = A.6.7.3/1.1.11.6.O
p52 = A.6.7.3/1.1.11.7.O
p53 = A.6.7.3/1.1.11.8.O
p54 = A.6.7.3/1.1.11.9.O
p55 = A.6.7.3/1.2.5.10.O
p56 = A.6.7.3/1.2.5.11.O
p57 = A.6.7.3/1.2.5.12.O
p58 = A.6.7.4/1.4.1.O
p59 = A.6.7.4/1.4.4.O
p60 = A.6.7.4/1.4.5.O
p61 = A.6.7.4/2.2.7.3.O
p62 = A.6.7.4/2.2.7.4.O
p63 = A.6.7.5/1.1.10.4.O
p64 = A.6.7.5/1.1.10.5.O
p65 = A.6.7.5/1.1.10.7.O
p66 = A.6.7.6.2/1.4.O
p67 = A.6.7.6.2/2.1.O
p68 = A.6.7.6.2/2.2.O
p69 = A.6.7.6.2/2.3.O
p70 = A.6.7.6.2/2.4.O
p71 = A.6.7.6.2/4.1.O
p72 = A.6.7.6.2/4.2.O
p73 = A.6.7.6.2/4.3.O
p74 = A.6.7.6.2/4.4.O
p75 = A.6.7.6.2/4.5.O
p76 = A.6.7.6.2/5.O
p77 = A.6.7.6.2/6.O
p78 = A.6.7.6.2/6.1.O
p79 = A.6.7.6.2/6.2.O
p80 = A.6.7.6.2/6.3.O
p81 = A.6.7.6.2/6.4.O
p82 = A.6.7.6.2/6.5.O
p83 = A.6.7.6.2/11.2.O
p84 = A.6.7.6.2/11.3.O
p85 = A.6.7.6.2/12.4.O
p86 = A.6.7.6.2/12.6.O

p87 = A.6.7.6.2/12.7.O
 p88 = A.6.7.6.2/13.2.O
 p89 = A.6.7.6.2/13.3.O
 p90 = A.6.7.6.2/14.1.2.O
 p91 = A.6.7.6.2/14.1.3.O
 p92 = A.6.7.6.2/14.1.3.1.3.O
 p93 = A.6.7.6.2/14.1.3.1.4.O
 p94 = A.6.7.6.2/14.1.4.O
 p95 = A.6.4.2/43
 p96 = A.6.4.2/39
 p97 = A.6.4.2/40
 p98 = A.6.4.2/44
 p99 = A.6.4.1/30
 p100 = A.6.4.3/55 or A.6.4.3/52 or A.6.4.3/53 or A.6.4.3/59 or A.6.4.3/56
 p101 = A.6.7.6.1/6.1.2.2.2.O

The predicate definitions have to be read as follows:

“p1 = A.6.4.1/3” means that p1 is true if the element of service “Alternate recipient assignment” is supported (see A.6.4.1).

“p19 = A.6.7.3/1.1.5.O” means that p19 is true if the protocol element “ContentIdentifier” is supported in origination (see A.6.7.3).

Example of the conditional classification with predicate:

Alternate Recipient Allowed c p1

This means that support of the capability is mandatory if p1 is true. Otherwise support of the capability is optional.

A.4.8 *Additional comments*

- 1 Parameters which are not supported for Reception should normally not be regarded as a protocol violation.
- 2 In the tables below, every leading parameter marked “m” should be supported by the IUT in order to fulfill the static conformance requirements. Sub-parameters marked “m” should be supported if the corresponding leading parameter is supported by the IUT.
- 3 For ORNames relating to a user of the own system (“local ORName”) the IUT might choose to make certain restrictions e.g. for the length. Users of another system (“remote ORName”), however, shall be addressable without any restrictions.
- 4 Where an upper bound is used to specify the size of a teletex string the value applies to the number of characters and the double of the value applies to the number of octets.

A.5 *Abbreviations*

The following abbreviations are used in this PICS proforma:

D	Defined
I	Implemented
m	mandatory
N	NO
N/A	Not Applicable
o	optional
c	conditional
d	default

O/R	Origination/Reception
PHY	Physical Delivery
SEC	Security
Y	YES

A.6 Capabilities and options

A.6.1 Introduction

In this part of the PICS proforma the supported application contexts, the major capabilities of the supported application contexts and functions are identified. Further the PDUs and Operations are identified. And finally the Operation Arguments and PDU Parameters are identified.

A.6.1.1 Mapping between Rec. X.400 keys and PICS entries

Rec. X.400	PICS
BASIC MT SERVICE	m
ESSENTIAL OPTIONAL	m
ADDITIONAL OPTIONAL PER MESSAGE	o
ADDITIONAL OPTIONAL CONTRACTUAL	o

A.6.2 Initiator/Responder capability

Ref. No.	Role	D	I
1	Initiator	m	[]
2	Responder	m	[]

A.6.3 Supported Application Contexts and Options

Ref. No.	Application Context	D (CCITT)	D (ISO)	I
1	mts-transfer-protocol-1984	m	o	[]
2	mts-transfer-protocol	m	o	[]
3	mts-transfer	o	m	[]

Ref. No.	Options	D	I
4	Physical Delivery	o	[]
5	Security	o	[]

A.6.4 Major capabilities

A.6.4.1 Message Transfer services

Ref. No.	MHS Element of Service	D	I	Clause reference (Rec. X.400)
1	Access management	m	[]	B.1
2	Alternate recipient allowed	m	[]	B.3
3	Alternate recipient assignment	o	[]	B.4
4	Content type indication	m	[]	B.12
5	Conversion prohibition	m	[]	B.13
6	Conversion prohibition in case of loss of information	o	[]	B.14
7	Converted indication	m	[]	B.15
8	Deferred delivery	m	[]	B.19
9	Deferred delivery cancellation	m	[]	B.20
10	Delivery notification	m	[]	B.21
11	Delivery time stamp indication	m	[]	B.22
12	Designation of recipient by directory name	o	[]	B.24
13	Disclosure of other recipients	m	[]	B.25
14	DL Expansion history indication	m	[]	B.26
15	DL Expansion prohibited	o	[]	B.27
16	Explicit conversion	o	[]	B.30
17	Grade of delivery selection	m	[]	B.32
18	Hold for delivery	o	[]	B.33
19	Implicit conversion	o	[]	B.34
20	Latest delivery designation	o	[]	B.39
21	Message identification	m	[]	B.41
22	Multi-destination delivery	m	[]	B.45
23	Non-delivery notification	m	[]	B.47
24	Original encoded information types indication	m	[]	B.54
25	Originator requested alternate recipient	o	[]	B.56
26	Prevention of non-delivery notification	o	[]	B.61
27	Probe	m	[]	B.63
28	Redirection disallowed by originator	o	[]	B.68
29	Redirection of incoming messages	o	[]	B.69
30	Requested preferred delivery method	o (Note 2)	[]	B76

Ref. No.	MHS Element of Service	D	I	Clause reference (Rec. X.400)
31	Restricted delivery	o	[]	B.77
32	Return of content	o	[]	B.78
33	Submission time stamp indication	m	[]	B.89
34	Use of distribution list	o	[]	B.92
35	User/UA capabilities registration	m	[]	B.93

Note 1 – These elements of service are defined for the MTS which consists of one or more MTAs. Support of services may be distributed among the MTAs comprising an MD.

Note 2 – If supported this does not imply the provision of all delivery methods.

A.6.4.2 *Physical Delivery services*

The table below shall be filled in only if Physical Security is supported (see A.6.3).

Ref. No.	MHS Element of Service	D	I	Clause reference (Rec. X.400)
36	Additional physical rendition	o	[]	B.2
37	Basic physical rendition	m	[]	B.7
38	Counter collection	m	[]	B.16
39	Counter collection with advice	o	[]	B.17
40	Delivery via Bureau fax service	o	[]	B.23
41	EMS (Express Mail Service)	m (Note)	[]	B.28
42	Ordinary Mail	m	[]	B.53
43	Physical delivery notification by MHS	o	[]	B.57
44	Physical delivery notification by PDS	o	[]	B.58
45	Physical forwarding allowed	m	[]	B.59
46	Physical forwarding prohibited	o	[]	B.60
47	Registered mail	o	[]	B.70
48	Registered mail to addresses in person	o	[]	B.71
49	Request for forwarding address	o	[]	B.75
50	Special delivery	m (Note)		B.81
51	Undeliverable mail with return of physical message	m		B.91

Note – At least one or the other shall be supported by the PDAU and the associated PDS.

A.6.4.3 Security services

The table below shall be filled in only if Security is supported (see A.6.3).

Ref. No.	MHS Element of Service	D	I	Clause reference (Rec. X.400)
52	Content confidentiality	☐	☐	B.10
53	Content integrity	☐	☐	B.11
54	Message flow confidentiality	☐	☐	B.40
55	Message origin authentication	☐	☐	B.42
56	Message security labelling	☐	☐	B.43
57	Message sequence integrity	☐	☐	B.44
58	Non-repudiation of delivery	☐	☐	B.49
59	Non-repudiation of origin	☐	☐	B.50
60	Non-repudiation of submission	☐	☐	B.51
61	Probe origin authentication	☐	☐	B.64
62	Proof of delivery	☐	☐	B.65
63	Proof of submission	☐	☐	B.66
64	Report origin authentication	☐	☐	B.74
65	Secure access management	☐	☐	B.79

Please answer Y or N in the table below according to your implementation.

Ref. No.	Capability	I
1 2	Management domain ADMD	☐
3 4	Private domain PRMD	☐
5 6 7 8 9 10 11 12 13 14 15 16	Explicit conversion no-explicit-conversion ia5-text-to-teletex ia5-text-to-g3-facsimile ia5-text-to-g4-class-1 ia5-text-to-videotex teletex-to-ia5-text teletex-to-g3-facsimile teletex-to-g4-class-1 teletex-to-videotex videotex-to-ia5-text videotex-to-teletex	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

Ref. No.	Capability	I
17	Implicit conversion	
18	no-implicit-conversion	[]
19	ia5-text-to-teletex	[]
20	ia5-text-to-g3-facsimile	[]
21	ia5-text-to-g4-class-1	[]
22	ia5-text-to-videotex	[]
23	teletex-to-ia5-text	[]
24	teletex-to-g3-facsimile	[]
25	teletex-to-g4-class-1	[]
26	teletex-to-videotex	[]
27	videotex-to-ia5-text	[]
28	videotex-to-teletex	[]
29	Original encoded information types	
30	undefined	[]
31	ia5-text	[]
32	g3-facsimile	[]
33	g4-class-1	[]
34	teletex	[]
35	videotex	[]
36	voice	[]
37	sfd	[]
38	mixed-mode	[]
39	External encoded information types (Note)	[]

Note – Indicate in space above which types are supported.

Ref. No.	Capability	I
40	Requested delivery-method	
41	any-delivery-method	[]
42	mhs-delivery	[]
43	physical-delivery	[]
44	telex-delivery	[]
45	teletex-delivery	[]
46	g3-facsimile-delivery	[]
47	g4-facsimile-delivery	[]
48	ia5-terminal-delivery	[]
49	videotex-delivery	[]
50	telephone-delivery	[]

A.6.5 *Timers and Protocol parameters*

“N/A”.

A.6.6 *PDUs and Operations*

Note – “O/R” means “Origination/Reception” in the tables below.

A.6.6.1 PDUs

Ref. No.	PDU	O/R	D	I	Clause reference (Rec. X.400)
1	MessageTransfer	O R	m m	[] []	13
2	ReportTransfer	O R	m m	[] []	13
3	Probe	O R	m m	[] []	13

A.6.6.2 Operations

Ref. No.	PDU	O/R	D	I	Clause reference (Rec. X.400)
1	MTABind	O R	m m	[] []	13
2	MTAUnbind	O R	m m	[] []	13

A.6.7 Operation Arguments and PDU Parameters

Consistency between this section and section A.6.4 is guarded by predicates defined in A.4.7. When an Extension field is supported it is assumed that the corresponding TYPE, CRITICALITY and VALUE sub-fields are also supported. Even if an extension field is not supported the IUT shall comply with the criticality procedures.

Note – “O/R” means “Origination/Reception” in the tables below.

A.6.7.1 MTA-bind Arguments

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1 BindArguments	O R	m m	[] []				12.1.1.1.1
1.1 NULL	O R	m m	[] []				
1.2 SET	O R	m m	[] []				
1.2.1 Initiator-name	O R	m m	[] []		32 32		12.1.1.1.1.1
1.2.2 Initiator Credentials	O R	m m	[] []				12.1.1.1.1.2
1.2.2.1 simple	O R	m m	[] []		62 62		
1.2.2.2 strong	O R	c c	[] []	SEC p42 p43			

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1.2.2.2.1	bind-token	O R	m m	[] []	SEC			
1.2.2.2.1.1	signature-algorithm-identifier	O R	m m	[] []	SEC			
1.2.2.2.1.2	name	O R	m m	[] []	SEC			
1.2.2.2.1.3	time	O R	m m	[] []	SEC			
1.2.2.2.1.4	signed-data	O R	m m	[] []	SEC			
1.2.2.2.2	certificate	O R	o c	[] []	SEC p47			
1.2.3	SecurityContext	O	c	[]	SEC p42 and p33 p48	256		12.1.1.1.1.3
		R	c	[]		256		
2	BindResults	O R	m m	[] []				12.1.1.1.2
2.1	NULL	O R	m m	[] []				
2.2	SET	O R	m m	[] []				
2.2.1	responder-name	O R	m m	[] []				12.1.1.1.2.1
2.2.2	ResponderCredentials	O R	m m	[] []				12.1.1.1.2.2
2.2.2.1	simple	O R	m m	[] []		62 62		
2.2.2.2	strong	O	c	[]	SEC p42 p49			
		R	c	[]				
3	BindError	O R	m m	[] []		256 256		12.1.2
3.1	busy	O R	m m	[] []				12.1.2.2
3.2	authentication-error	O R	m m	[] []				12.1.2.1
3.3	unacceptable-dialogue-mode	O R	m m	[] []				12.1.2.3
3.4	unacceptable-security-context	O	c	[]	SEC p42 p50			12.1.2.4
		R	c	[]				

A.6.7.2 MTA-unbind Arguments

“N/A”.

A.6.7.3 MessageTransfer PDU Parameters

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1 MessageTransferEnvelope	O R	m m	[] []				12.2.1.1
1.1 PerMessageTransfer Fields	O R	m m	[] []				
1.1.1 MessageIdentifier	O R	m m	[] []	1/1			12.2.1.1.1.1
1.1.2 OriginatorName	O R	m m	[] []	3			8.2.1.1.1.1
1.1.3 OriginalEncoded InformationTypes	O R	m m	[] []	1/3			8.2.1.1.1.33
1.1.4 ContentType	O R	m m	[] []	1/9			8.2.1.1.1.34
1.1.5 ContentIdentifier	O R	o m	[] []		16 16		8.2.1.1.1.35
1.1.6 Priority	O R	m m	[] []	d			8.2.1.1.1.8
1.1.7 PerMessage Indicators	O R	m m	[] []	d 1/4	16 16		
1.1.8 DeferredDelivery Time	O R	m m	[] []				12.2.1.1.1.7
1.1.9 PerDomain BilateralInformation	O R	o o	[] []	1/5	512 512		12.2.1.1.1.2
1.1.10 TraceInformation	O R	m m	[] []	1/6			12.2.1.1.1.3
1.1.11 Extensions	O R	m m	[] []				
1.1.11.1 RecipientReassignmentProhibited	O R	c c	[] []	p5 p2			8.2.1.1.1.4
1.1.11.2 DLExpansion Prohibited	O R	c c	[] []	p6 p7			8.2.1.1.1.6
1.1.11.3 ConversionWith LossProhibited	O R	c c	[] []	p8 p8			8.2.1.1.1.10
1.1.11.4 LatestDelivery Time	O R	c c	[] []	p11 p11			8.2.1.1.1.13
1.1.11.5 Originator ReturnAddress	O R	m m	[] []	PHY 3			8.2.1.1.1.21
1.1.11.6 Originator Certificate	O R	o c	[] []	SEC Rec. X.500 p51			8.2.1.1.1.25
1.1.11.7 ContentConfidentiality AlgorithmId	O R	c c	[] []	SEC Rec. X.500 p29 p52			8.2.1.1.1.27

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1.1.11.8	MessageOrigin AuthenticationCheck	O R	o c	[] []	SEC 2/1 (Note) p53			8.2.1.1.1.29
1.1.11.9	MessageSecurityLabel	O R	c c	[] []	SEC 2/2 p33 p54			8.2.1.1.1.30
1.1.11.10	Content Correlator	O R	o m	[] []				8.2.1.1.1.36
1.1.11.11	DLExpansion History	O R	c m	[] []	p7 2/9	512 512		8.3.1.1.1.7
1.1.11.12	InternalTrace Information	O R	m m	[] []	d 2/10	512 512		12.2.1.1.1.4
1.2	PerRecipientMessage TransferFields	O R	m m	[] []				
1.2.1	RecipientName	O R	m m	[] []	3			8.2.1.1.1.2
1.2.2	OriginallySpecified RecipientNumber	O R	m m	[] []		32767 32767		12.2.1.1.1.5
1.2.3	PerRecipient Indicators	O R	m m	[] []	1/7	16 16		
1.2.4	Explicit Conversion	O R	c c	[] []	p14 p14	256 256		8.2.1.1.1.11
1.2.5	Extensions	O R	m m	[] []				
1.2.5.1	Originator RequestedAlternateRec.	O R	c c	[] []	p16 p16			8.2.1.1.1.5
1.2.5.2	Requested DeliveryMethod	O R	c c	[] []	2/3 p99 p99	256 256		8.2.1.1.1.14
1.2.5.3	Physical ForwardingProhibited	O R	m m	[] []	PHY d			8.2.1.1.1.15
1.2.5.4	PhysicalForwarding AddressRequest	O R	c c	[] []	PHY p95 p95			8.2.1.1.1.16
1.2.5.5	Physical DeliveryModes	O R	m m	[] []	PHY 2/4	16 16		8.2.1.1.1.17
1.2.5.6	RegisteredMail Type	O R	m m	[] []	PHY d	256 256		8.2.1.1.1.18
1.2.5.7	RecipientNumber ForAdvice	O R	c c	[] []	PHY p96 or p97 p96 or p97	32 32		8.2.1.1.1.19
1.2.5.8	Physical RenditionAttributes	O R	m m	[] []	PHY d			8.2.1.1.1.20

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1.2.5.9	Physical DeliveryReportRequest	O R	m m	[] []	PHY 2/5 d	256 256		8.2.1.1.1.24
1.2.5.10	MessageToken	O R	c c	[] []	SEC 2/6 (Note) p100 p55			8.2.1.1.1.26
1.2.5.11	Content IntegrityCheck	O R	c c	[] []	SEC 2/7 p30 p56			8.2.1.1.1.28
1.2.5.12	ProofOf DeliveryRequest	O R	c c	[] []	SEC p39 or p35 p57			8.2.1.1.1.32
1.2.5.13	Redirection History	O R	c m	[] []	d p18 2/8	512 512		
2	Content	O R	m m	[] []				8.2.1.1.1.37

Note – If A.6.4.3/55 is supported, at least one of those shall be supported.

A.6.7.4 ReportTransfer PDU Parameters

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1	ReportTransfer Envelope	O R	m m	[] []				12.2.1.3
1.1	ReportIdentifier	O R	m m	[] []	1/1			12.2.1.3.1.1
1.2	ReportDestination Name	O R	m m	[] []	3			12.2.1.3.1.2
1.3	TraceInformation	O R	m m	[] []	1/6			12.2.1.1.1.3
1.4	Extensions	O R	m m	[] []				
1.4.1	MessageSecurity Label	O R	c c	[] []	SEC 2/2 p33 p58			8.2.1.1.1.30
1.4.2	OriginatorAndDL ExpansionHistory	O R	m m	[] []	2/9	512 512		8.3.1.2.1.3
1.4.3	ReportingDLName	O R	o m	[] []	3			8.3.1.2.1.4
1.4.4	ReportingMTA Certificate	O R	o c	[] []	SEC Rec. X.500 p59			8.3.1.2.1.12

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1.4.5	ReportOriginAuthenticationCheck	O R	c c	[] []	SEC p41 p60			8.3.1.2.1.13
1.4.6	InternalTraceInformation	O R	m m	[] []	d 2/10	512 512		12.2.1.1.1.4
2	ReportTransferContent	O R	m m	[] []				
2.1	PerReportTransferFields	O R	m m	[] []				
2.1.1	SubjectIdentifier	O R	m m	[] []				12.2.1.3.1.3
2.1.2	SubjectIntermediateTraceInformation	O R	m o	[] []				12.2.1.3.1.4
2.1.3	OriginalEncodedInformationTypes	O R	m m	[] []	1/3			8.2.1.1.1.33
2.1.4	ContentType	O R	m m	[] []	1/9			8.2.1.1.1.34
2.1.5	ContentIdentifier	O R	m c	[] []	p19	16 16		8.2.1.1.1.35
2.1.6	ReturnedContent	O R	c c	[] []	p20 p20			8.3.1.2.1.14
2.1.7	AdditionalInformation	O R	o o	[] []				12.2.1.3.1.6
2.1.8	Extensions	O R	m m	[] []				
2.1.8.1	ContentCorrelator	O R	m c	[] []	d p22			8.2.1.1.1.36
2.2	PerRecipientReportTransferFields	O R	m m	[] []				
2.2.1	ActualRecipientName	O R	m m	[] []	3			8.3.1.2.1.2
2.2.2	OriginallySpecifiedRecipientNumber	O R	m m	[] []		32767 32767		12.2.1.1.1.8
2.2.3	PerRecipientIndicators	O R	m m	[] []	1/7	16 16		
2.2.4	LastTraceInformation	O R	m m	[] []	1/8			
2.2.5	OriginallyIntendedRecipientName	O R	m m	[] []	3			
2.2.6	SupplementaryInformation	O R	o o	[] []		256 256		8.3.1.2.1.6
2.2.7	Extensions	O R	m m	[] []				
2.2.7.1	RedirectionHistory	O R	m m	[] []	2/8	512 512		

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
2.2.7.2	Physical ForwardingAddress	O	c	[]	PHY p95 3/4 3/5 p95			
		R	c	[]				
2.2.7.3	Recipient Certificate	O	o	[]	SEC Rec. X.500 p61			8.3.1.1.2.1
		R	c	[]				
2.2.7.4	ProofOfDelivery	O	c	[]	d SEC p39 p62			
		R	c	[]				

A.6.7.5 ProbeTransfer PDU Parameters

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1	ProbeTransfer Envelope	O R	m m	[] []				12.2.1.2
1.1	PerProbeTransfer Fields	O R	m m	[] []				
1.1.1	ProbeIdentifier	O R	m m	[] []	1/1			12.2.1.2.1.1
1.1.2	OriginatorName	O R	m m	[] []	3			8.2.1.1.1.1
1.1.3	OriginalEncoded InformationTypes	O R	m m	[] []	1/3			8.2.1.1.1.33
1.1.4	ContentType	O R	m m	[] []	1/9			8.2.1.1.1.34
1.1.5	ContentIdentifier	O R	o m	[] []		16 16		8.2.1.1.1.35
1.1.6	ContentLength	O R	o m	[] []		(Note) (Note)		8.2.1.2.1.2
1.1.7	PerMessage Indicators	O R	m m	[] []	d 1/4	16 16		
1.1.8	PerDomain BilateralInformation	O R	o o	[] []	1/5	512 512		12.2.1.1.1.2
1.1.9	TraceInformation	O R	m m	[] []	1/6			12.2.1.1.1.3
1.1.10	Extensions	O R	m m	[] []				
1.1.10.1	Recipient ReassignmentProhibited	O R	c c	[] []	p5 p2			8.2.1.1.1.4
1.1.10.2	DLExpansion Prohibited	O R	c c	[] []	p6 p7			8.2.1.1.1.6

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1.1.10.3 ConversionWith LossProhibited	O R	c c	[] []	p8 p8			8.2.1.1.1.10
1.1.10.4 Originator Certificate	O R	o c	[] []	SEC Rec. X.500 p63			8.2.1.1.1.25
1.1.10.5 Message SecurityLabel	O R	c c	[] []	SEC p33 p64			8.2.1.1.1.30
1.1.10.6 ContentCorrelator	O R	o m	[] []				8.2.1.1.1.36
1.1.10.7 ProbeOrigin AuthenticationCheck	O R	c c	[] []	SEC 2/11 p38 p65			8.2.1.2.1.1

Note – '7FFFFFFF'H

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1.1.10.8 DLExpansion History	O R	c m	[] []	p7 2/9	512 512		8.3.1.1.1.7
1.1.10.9 InternalTrace Information	O R	m m	[] []	d 2/10	512 512		12.2.1.1.1.4
1.2 PerRecipientProbe TransferFields	O R	m m	[] []				
1.2.1 RecipientName	O R	m m	[] []	3			8.2.1.1.1.2
1.2.2 OriginallySpecified RecipientNumber	O R	m m	[] []		32767 32767		12.2.1.1.1.5
1.2.3 PerRecipient Indicators	O R	m m	[] []	1/7	16 16		
1.2.4 Explicit Conversion	O R	c c	[] []	p14 p14	256 256		8.2.1.1.1.11
1.2.5 Extensions	O R	m m	[] []				
1.2.5.1 Originator RequestedAlternateRec.	O R	c c	[] []	3			8.2.1.1.1.5
1.2.5.2 Requested DeliveryMethod	O R	c c	[] []	2/3 p99 p99	256 256		8.2.1.1.1.14
1.2.5.3 Physical RenditionAttributes	O R	m m	[] []	PHY d			8.2.1.1.1.20
1.2.5.4 Redirection History	O R	c m	[] []	d p18 2/8	512 512		

A.6.7.6 Supported Data types and ORNames

A.6.7.6.1 Common Data types

	Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1	MTSIdentifier							
1.1	GlobalDomainIdentifier	O R	m m	[] []	1/2			8.5.2
1.2	LocalIdentifier	O R	m m	[] []		32 32		
2	GlobalDomainIdentifier							
2.1	CountryName	O R	m m	[] []				
2.1.1	x121-dcc-code	O R	m m	[] []		3 3		
2.1.2	iso-3166-alpha2-code	O R	m m	[] []		2 2		
2.2	AdministrationDomainName	O R	m m	[] []				
2.2.1	numeric	O R	m m	[] []		16 16		
2.2.2	printable	O R	m m	[] []		16 16		
2.3	PrivateDomainIdentifier	O R	c m	[] []	p23			
2.3.1	numeric	O R	m m	[] []		16 16		
2.3.2	printable	O R	m m	[] []		16 16		
3	EncodedInformationTypes							
3.1	BuiltEncodedInformationTypes	O R	m m	[] []		32 32		
3.2	NonBasicParameters	O R	o o	[] []				
3.2.1	G3FacsimileNonBasicParameters	O R	o o	[] []				
3.2.1.1	two-dimensional	O R	o o	[] []				
3.2.1.2	fine-resolution	O R	o o	[] []				
3.2.1.3	unlimited-length	O R	o o	[] []				
3.2.1.4	b4-length	O R	o o	[] []				
3.2.1.5	a3-width	O R	o o	[] []				

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
3.2.1.6	b4-width	O R	o o	[] []				
3.2.1.7	uncompressed	O R	o o	[] []				
3.2.2	TeletexNonBasic Parameters	O R	o o	[] []				
3.2.2.1	graphic-character-sets	O R	o o	[] []				
3.2.2.2	control-character-sets	O R	o o	[] []				
3.2.2.3	page-formats	O R	o o	[] []				
3.2.2.4	miscellaneous-terminal-capabilities	O R	o o	[] []				
3.2.2.5	private-use	O R	o o	[] []		128 128		
3.2.3	G4Class1AndMixed ModeNonBasicParameters	O R	o o	[] []				
3.3	ExternalEncoded InformationTypes	O R	m m	[] []		1024 1024		
4	PerMessageIndicators							
4.1	disclosure-of-recipients	O R	m m	[] []				8.2.1.1.1.7
4.2	implicit-conversion-prohibited	O R	m c	[] []	p9			8.2.1.1.1.9
4.3	alternate-recipient-allowed	O R	m c	[] []	p24			8.2.1.1.1.3
4.4	content-return-request	O R	c c	[] []	p20 p20			8.2.1.1.1.23
4.5	reserved	O R	o o	[] []				
4.6	bit-5	O R	o o	[] []				
4.7	bit-6	O R	o o	[] []				
4.8	service-message	O R	o o	[] []				
5	PerDomainBilateralInformation							
5.1	CountryName	O R	m m	[] []				
5.2	Administration DomainName	O R	m m	[] []				
5.3	PrivateDomain Identifier	O R	c m	[] []	p23			

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
5.4 Bilateral Information	O R	m m	[] []		1024 1024		
6 TraceInformation							
6.1 TraceInformation Element	O R	m m	[] []				
6.1.1 GlobalDomain Identifier	O R	m m	[] []	1/2			
6.1.2 DomainSupplied Information	O R	m m	[] []				
6.1.2.1 ArrivalTime	O R	m m	[] []				
6.1.2.2 RoutingAction	O R	m m	[] []				
6.1.2.2.1 relayed	O R	m m	[] []				
6.1.2.2.2 rerouted	O R	o m	[] []				
6.1.2.3 attempted domain	O R	c o	[] []	p101 1/2			
6.1.2.4 Additional Actions	O R	m m	[] []				
6.1.2.4.1 DeferredTime	O R	m m	[] []				
6.1.2.4.2 Converted EncodedInformationTypes	O R	c m	[] []	p13 1/3			
6.1.2.4.3 OtherActions	O R	c m	[] []	p26	16 16		
6.1.2.4.3.1 redirected	O R	c m	[] []	p25			
6.1.2.4.3.2 dl-operation	O R	c m	[] []	p7			
7 PerRecipientIndicators							
7.1 responsibility	O R	m m	[] []				12.2.1.1.1.6
7.2 originating-MTA-report	O R	m m	[] []				
7.3 originating-MTA-non-delivery-report	O R	m m	[] []				
7.4 originator-report	O R	m m	[] []				
7.5 originator-non-delivery-report	O R	m m	[] []				
8 LastTraceInformation							
8.1 ArrivalTime	O R	m m	[] []				12.2.1.3.1.5

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
8.2	ConvertedEncodedInformationTypes	O R	m m	[] []	1/3			8.3.1.2.1.5
8.3	ReportType	O R	m m	[] []				
8.3.1	DeliveryReport	O R	m m	[] []				
8.3.1.1	MessageDeliveryTime	O R	m m	[] []				8.3.1.2.1.8
8.3.1.2	TypeOfMTSUser	O R	m m	[] []	d			8.3.1.2.1.9
8.3.1.2.1	public	O R	o m	[] []				
8.3.1.2.2	private	O R	o m	[] []				
8.3.1.2.3	ms	O R	o m	[] []				
8.3.1.2.4	dl	O R	o m	[] []				
8.3.1.2.5	pdau	O R	o m	[] []	PHY			
8.3.1.2.6	physical-recipient	O R	c c	[] []	PHY p95 p95			
8.3.1.2.7	other	O R	o m	[] []				
8.3.2	NonDeliveryReport	O R	m m	[] []				
8.3.2.1	NonDeliveryReasonCode	O R	m m	[] []		32767 32767		8.3.1.2.1.10
8.3.2.1.1	transfer-failure	O R	m m	[] []				
8.3.2.1.2	unable-to-transfer	O R	m m	[] []				
8.3.2.1.3	conversion-not-performed	O R	m m	[] []				
8.3.2.1.4	physical-rendition-not-performed	O R	m m	[] []	PHY			
8.3.2.1.5	physical-delivery-not-performed	O R	c c	[] []	PHY p95 p95			
8.3.2.1.6	restricted-delivery	O R	m m	[] []				
8.3.2.1.7	directory-operation-unsuccessful	O R	m m	[] []				
8.3.2.2	NonDeliveryDiagnosticCode	O R	o m	[] []		32767 32767		8.3.1.2.1.11

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
9 ContentType							
9.1 BuiltInContentType	O R	m m	[] []		32767 32767		
9.1.1 unidentified	O R	o o	[] []				
9.1.2 external	O R	o o	[] []				
9.1.3 interpersonal-messaging-1984	O R	o o	[] []				
9.1.4 interpersonal-messaging-1988	O R	o o	[] []				
9.2 ExtendedContent Type	O R	o o	[] []				

A.6.7.6.2 Extension Data types

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
1 MessageOriginAuthenticationCheck							
1.1 algorithm-identifier	O R	m m	[] []	SEC			8.5.10
1.2 Content	O R	m m	[] []	SEC			8.2.1.1.1.37
1.3 ContentIdentifier	O R	o m	[] []	SEC	16 16		8.2.1.1.1.35
1.4 MessageSecurity Label	O R	c c	[] []	SEC 2/2 p33 p66			8.2.1.1.1.30
2 MessageSecurityLabel							
2.1 SecurityPolicy Identifier	O R	o c	[] []	SEC p67			8.5.9
2.2 Security Classification	O R	o c	[] []	SEC p68	256 256		8.5.9
2.3 PrivacyMark	O R	o c	[] []	SEC p69	128 128		8.2.9
2.4 SecurityCategories	O R	o c	[] []	SEC p70	64 64		8.2.9
3 RequestedDeliveryMethod							
3.1 any-delivery-method	O R	o o	[] []				8.2.1.1.1.14
3.2 mhs-delivery	O R	m m	[] []				8.2.1.1.1.14

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
3.3 physical-delivery	O R	m m	[] []	PHY			8.2.1.1.1.14
3.4 telex-delivery	O R	o o	[] []				8.2.1.1.1.14
3.5 teletex-delivery	O R	o o	[] []				8.2.1.1.1.14
3.6 g3-facsimile-delivery	O R	o o	[] []				8.2.1.1.1.14
3.7 g4-facsimile-delivery	O R	o o	[] []				8.2.1.1.1.14
3.8 ia5-terminal-delivery	O R	o o	[] []				8.2.1.1.1.14
3.9 videotex-delivery	O R	o o	[] []				8.2.1.1.1.14
3.10 telephone-delivery	O R	o o	[] []				8.2.1.1.1.14
4 PhysicalDeliveryModes							
4.1 ordinary-mail	O R	m m	[] []	PHY			8.2.1.1.1.17
4.2 special-delivery	O R	m m	[] []	PHY			8.2.1.1.1.17
4.3 express-mail	O R	m m	[] []	PHY			8.2.1.1.1.17
4.4 counter-collection	O R	m m	[] []	PHY			8.2.1.1.1.17
4.5 counter-collection-with-telephone-advice	O R	c c	[] []	PHY p95 p95			8.2.1.1.1.17
4.6 counter-collection-with-telex-advice	O R	c c	[] []	PHY p95 p95			8.2.1.1.1.17
4.7 counter-collection-with-teletex-advice	O R	c c	[] []	PHY p95 p95			8.2.1.1.1.17
4.8 bureau-fax-delivery	O R	c c	[] []	PHY p97 p97			8.2.1.1.1.17
5 PhysicalDeliveryReportRequest							
5.1 return-of-undeliverable-mail-by-PDS	O R	m m	[] []	PHY			8.2.1.1.1.24
5.2 return-of-notification-by-PDS	O R	c c	[] []	PHY p98 p98			8.2.1.1.1.24
5.3 return-of-notification-by-MHS	O R	c c	[] []	PHY p97 p97			8.2.1.1.1.24

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
5.4 return-of-notification-by-MHS-and-PDS	O R	c c	[] []	PHY p97 and p98 p97 and p98			8.2.1.1.1.24
6 MessageToken							
6.1 token-type-identifier	O R	m m	[] []	SEC			8.5.8
6.2 asymmetric-token	O R	m m	[] []	SEC			8.5.8
6.2.1 signature-algorithm-identifier	O R	m m	[] []	SEC			
6.2.2 name	O R	m m	[] []	SEC			
6.2.3 time	O R	m m	[] []	SEC			
6.2.4 signed-data	O R	m m	[] []	SEC			
6.2.4.1 content-confidentiality-algorithm-identifier	O R	c c	[] []	SEC p29 p71			
6.2.4.2 content-integrity-check	O R	c c	[] []	SEC p30 p72			
6.2.4.3 message-security-label	O R	c c	[] []	SEC p33 p73			
6.2.4.4 proof-of-delivery-request	O R	c c	[] []	SEC p39 or p35 p74			
6.2.4.5 message-sequence-number	O R	c c	[] []	SEC p34 p75			
6.2.5 encryption-algorithm-identifier	O R	c c	[] []	SEC p77 p76			
6.2.6 encrypted-data	O R	o c	[] []	SEC p29 and p30 and p33 and p34 p77			
6.2.6.1 content-confidentiality-check	O R	c c	[] []	SEC p29 p78			
6.2.6.2 content-integrity-check	O R	c c	[] []	SEC p30 p79			

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
6.2.6.3 message-security-label	O R	c c	[] []	SEC p33 p80			
6.2.6.4 content-integrity-key	O R	c c	[] []	SEC p30 p81			
6.2.6.5 message-sequence-number	O R	c c	[] []	SEC p34 p82			
7 ContentIntegrityCheck							
7.1 algorithm-identifier	O R	m m	[] []	SEC Rec. X.500			
7.2 Content	O R	m m	[] []	SEC			
8 RedirectionHistory							
8.1 Intended RecipientName	O R	m m	[] []	3			8.3.1.1.1.4
8.1.1 OrAddressAndOptionalDirectoryName	O R	m m	[] []	3			
8.1.2 redirection-time	O R	m m	[] []				
8.2 Redirection Reason	O R	m m	[] []				
8.2.1 recipient-assigned-alternate-rec.	O R	c m	[] []	p2			
8.2.2 originator-req.alternate-recipient	O R	c m	[] []	p16			
8.2.3 recipient-MD-assigned-alternate-rec.	O R	c m	[] []	p1			
9 OriginatorAndDLExpansionHistory							
9.1 OrAddressAnd OptionalDirectoryName	O R	m m	[] []	3			
9.2 origination-or-expansion-time	O R	m m	[] []				
10 InternalTraceInformation							
10.1 GlobalDomain Identifier	O R	m m	[] []	1/2			
10.2 MTAName	O R	m m	[] []		32 32		
10.3 MTASupplied Information	O R	m m	[] []				
10.3.1 ArrivalTime	O R	m m	[] []				
10.3.2 RoutingAction	O R	m m	[] []				

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
10.3.2.1 relayed	O R	m m	[] []				
10.3.2.2 rerouted	O R	o m	[] []				
10.3.3 attempted	O R	o m	[] []				
10.3.3.1 MTAName	O R	o m	[] []		32 32		
10.3.3.2 GlobalDomain Identifier	O R	o m	[] []	1/2			
10.3.3.3 Internal AdditionalActions	O R	m m	[] []				
10.3.3.3.1 Deferred Time	O R	m m	[] []				
10.3.3.3.2 Converted EncodedInformationTypes	O R	c m	[] []	p13 1/3			
10.3.3.3.3 Other Actions	O R	c m	[] []	p26			
10.3.3.3.3.1 redirected	O R	c m	[] []	p25			
10.3.3.3.3.2 dl-operation	O R	c m	[] []	p7			
11 ProbeOriginAuthenticationCheck							
11.1 algorithm-identifier	O R	m m	[] []	SEC Rec. X.500			8.5.10
11.2 Content Identifier	O R	o c	[] []	SEC p83			8.2.1.1.1.35
11.3 MessageSecurity Label	O R	c c	[] []	SEC p33 p84			8.2.1.1.1.30
12 ProofOfDelivery							
12.1 algorithm-identifier	O R	m m	[] []	SEC			
12.2 delivery-time	O R	m m	[] []	SEC			
12.3 this-recipient-name	O R	m m	[] []	SEC			
12.4 originally-intended-recipient-name	O R	c c	[] []	SEC p2 p85			
12.5 content	O R	m m	[] []	SEC			
12.6 content-identifier	O R	o c	[] []	SEC p86			

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
12.7	message-security-label	O R	c c	[] []	SEC p42 p87			
13	ReportOriginAuthenticationCheck							
13.1	algorithm-identifier	O R	m m	[] []	SEC			
13.2	content-identifier	O R	o c	[] []	SEC p88			
13.3	message-security-label	O R	c c	[] []	SEC p33 p89			
13.4	per-recipient	O R	m m	[] []	SEC	32767 32767		
14	per-recipient							
14.1	per-recipient-report-fields	O R	m m	[] []	SEC			
14.1.1	actual-recipient-name	O R	m m	[] []	SEC			
14.1.2	originally-intended-recipient	O R	c c	[] []	SEC p2 p90			
14.1.3	delivery	O R	o c	[] []	SEC p91			
14.1.3.1	per-recipient-delivery-report-fields	O R	m m	[] []	SEC			
14.1.3.1.1	message-delivery-time	O R	m m	[] []	SEC			
14.1.3.1.2	type-of-MTS-user	O R	m m	[] []	SEC			
14.1.3.1.3	recipient-certificate	O R	o c	[] []	SEC p92			
14.1.3.1.4	proof-of-delivery	O R	c c	[] []	SEC p39 and p35 p93			
14.1.4	non-delivery	O R	o c	[] []	SEC p94			
14.1.4.1	per-recipient-non-delivery-report-field	O R	m m	[] []	SEC			
14.1.4.1.1	non-delivery-reason-code	O R	m m	[] []	SEC			
14.1.4.1.2	non-delivery-diagnostic-code	O R	o c	[] []	SEC p95			

A.6.7.6.3 ORNames

ORNames consist of a mandatory address part and an optional directory-name part. The address part is a COMPONENT OF ORAddress. Recommendation X.402, 18.5 distinguishes five different forms of ORAddresses. This subsection deals with remote ORNames only. For local ORNames at least one of the forms shall be supported. All protocol elements used in the description of the local ORNames are optional except those which are explicitly defined as mandatory in Table 10/X.402 (*Blue Book*). The five different forms of ORAddress are presented in the table below.

	Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
	ORAddress forms:							
1	MnemonicORAddress	O R	m m	[[]]				8.5.5
2	NumericORAddress	O R	m m	[[]]				8.5.5
3	TerminalORAddress	O R	m m	[[]]				8.5.5
4	FormattedPostal ORAddress	O R	m m	[[]]	PHY			8.5.5
5	UnformattedPostal ORAddress	O R	m m	[[]]	PHY			8.5.5

The tables below specify for each ORName form classification of their constituent components.

The Notes used in the tables below are defined hereafter:

Note 1 – A numeric value can be encoded with a printable string and has the same significance as if encoded as a numeric string.

Note 2 – Shall be present when the issuing management domain is not an ADMD.

Note 3 – This ORName form allows only the following extension attribute types, all other are prohibited.

Note 4 – When an Extension-attribute field is supported, it is assumed that the corresponding "extension-attribute-type" and "extension-attribute-values" are also supported.

Note 5 – See CCITTRec. X.501 | ISO/IEC 9594-2.

	Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
6	ORName with MnemonicORAddress							
6.1	address							
6.1.1	CountryName	O R	m m	[[]]				
6.1.1.1	x121-dcc-code	O R	m m	[[]]		3 3		
6.1.1.2	iso-3166-alpha2-code	O R	m m	[[]]		2 2		
6.1.2	Administration DomainName	O R	m m	[[]]				

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
6.1.2.1 numeric	O R	m m	[] []		16 16		
6.1.2.2 printable	O R	m m	[] []	(Note 1)	16 16		
6.1.3 PrivateDomain Name	O R	m m	[] []	(Note 2)			
6.1.3.1 numeric	O R	m m	[] []		16 16		
6.1.3.2 printable	O R	m m	[] []	(Note 1)	16 16		
6.1.4 OrganizationName	O R	m m	[] []		64 64		
6.1.5 PersonalName	O R	m m	[] []				
6.1.5.1 surname	O R	m m	[] []		40 40		
6.1.5.2 given-name	O R	m m	[] []		16 16		
6.1.5.3 initials	O R	m m	[] []		5 5		
6.1.5.4 generation-qualifier	O R	m m	[] []		3 3		
6.1.6 Organizational UnitNames	O R	m m	[] []		4 4		
6.1.7 DomainDefined Attributes	O R	o o	[] []		4 4		
6.2 Extensions	O R	m m	[] []	(Note 3) (Note 4)	256 256		
6.2.1 CommonName	O R	m m	[] []		64 64		
6.2.2 TeletexCommon Name	O R	m m	[] []		64 64		
6.2.3 Teletex OrganizationalName	O R	m m	[] []		64 64		
6.2.4 TeletexPersonal Name	O R	m m	[] []				
6.2.4.1 surname	O R	m m	[] []		40 40		
6.2.4.2 given-name	O R	m m	[] []		16 16		
6.2.4.3 initials	O R	m m	[] []		5 5		

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
6.2.4.4 generation-qualifier	O R	m m	[] []		3 3		
6.2.5 Teletex OrganizationalUnitNames	O R	m m	[] []		4 4		
6.2.6 TeletexDomain DefinedAttributes	O R	o o	[] []		4 4		
6.3 directory-name	O R	o o	[] []	(Note 5)			
7 ORName with NumericORAddress							
7.1 address							
7.1.1 CountryName	O R	m m	[] []				
7.1.1.1 x121-dcc-code	O R	m m	[] []		3 3		
7.1.1.2 iso-3166-alpha2-code	O R	m m	[] []				
7.1.2 Administration DomainName	O R	m m	[] []				
7.1.2.1 numeric	O R	m m	[] []		16 16		
7.1.2.2 printable	O R	m m	[] []				
7.1.3 Private-Domain Name	O R	m m	[] []	(Note 2)			
7.1.3.1 numeric	O R	m m	[] []		16 16		
7.1.3.2 printable	O R	m m	[] []				
7.1.4 NumericUser Identifier	O R	m m	[] []		32 32		
7.1.5 DomainDefined Attributes	O R	o o	[] []		4 4		
7.2 directory-name	O R	o o	[] []	(Note 5)			
8 ORName with TerminalORAddress							
8.1 address							
8.1.1 CountryName	O R	m m	[] []				
8.1.1.1 x121-dcc-code	O R	m m	[] []		3 3		

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
8.1.1.2	iso-3166-alpha2-code	O R	m m	[] []		2 2		
8.1.2	Administration DomainName	O R	m m	[] []				
8.1.2.1	numeric	O R	m m	[] []		16 16		
8.1.2.2	printable	O R	m m	[] []	(Note 1)	16 16		
8.1.3	NetworkAddress	O R	m m	[] []		16 16		
8.1.4	Terminal Identifier	O R	m m	[] []		24 24		
8.1.5	PrivateDomain Name	O R	m m	[] []	(Note 2)			
8.1.5.1	numeric	O R	m m	[] []		16 16		
8.1.5.2	printable	O R	m m	[] []	(Note 1)	16 16		
8.1.6	DomainDefined Attributes	O R	o o	[] []		4 4		
8.2	Extensions	O R	m m	[] []	(Note 4)	256 256		
8.2.1	ExtendedNetwork Address	O R	m m	[] []				
8.2.1.1	el63-4-address	O R	m m	[] []				
8.2.1.1.1	number	O R	m m	[] []		15 15		
8.2.1.1.2	sub-address	O R	m m	[] []		40 40		
8.2.1.2	psap-address	O R	m m	[] []	Rec. X.500			
8.2.2	TerminalType	O R	m m	[] []		16 16		
8.2.2.1	telex	O R	m m	[] []				
8.2.2.2	teletex	O R	m m	[] []				
8.2.2.3	g3-facsimile	O R	m m	[] []				

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
8.2.2.4 g4-facsimile	O R	m m	[] []				
8.2.2.5 ia5-terminal	O R	m m	[] []				
8.2.2.6 videotex	O R	m m	[] []				
8.3 directory-name	O R	o o	[] []	(Note 5)			
9 ORName with FormattedPostalORAddress							
9.1 address							
9.1.1 CountryName	O R	m m	[] []				
9.1.1.1 x121-dcc-code	O R	m m	[] []		3 3		
9.1.1.2 iso-3166-alpha2-code	O R	m m	[] []		2 2		
9.1.2 Administration DomainName	O R	m m	[] []				
9.1.2.1 numeric	O R	m m	[] []		16 16		
9.1.2.2 printable	O R	m m	[] []	(Note 1)	16 16		
9.1.3 PrivateDomain Name	O R	m m	[] []	(Note 2)			
9.1.3.1 numeric	O R	m m	[] []		16 16		
9.1.3.2 printable	O R	m m	[] []	(Note 1)	16 16		
9.2 Extensions	O R	m m	[] []	(Note 4)	256 256		
9.2.1 PhysicalDelivery CountryName	O R	m m	[] []				
9.2.1.1 x121-dcc-code	O R	m m	[] []		3 3		
9.2.1.2 iso-3166-alpha2-code	O R	m m	[] []		2 2		
9.2.2 PhysicalDelivery OfficeName	O R	m m	[] []				
9.2.2.1 printable-string	O R	m m	[] []		30 30		

Parameter	O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
9.2.2.2 teletex-string	O R	m m	[] []		30 30		
9.2.3 PhysicalDeliveryOfficeNumber	O R	m m	[] []				
9.2.3.1 printable-string	O R	m m	[] []		30 30		
9.2.3.2 teletex-string	O R	m m	[] []		30 30		
9.2.4 PhysicalDeliveryOrganizationName	O R	m m	[] []				
9.2.4.1 printable-string	O R	m m	[] []		30 30		
9.2.4.2 teletex-string	O R	m m	[] []		30 30		
9.2.5 PhysicalDeliveryPersonalName	O R	m m	[] []				
9.2.5.1 printable-string	O R	m m	[] []		30 30		
9.2.5.2 teletex-string	O R	m m	[] []		30 30		
9.2.6 PostalCode	O R	m m	[] []				
9.2.6.1 numeric-code	O R	m m	[] []		16 16		
9.2.6.2 printable-code	O R	m m	[] []	(Note 1)	16 16		
9.2.7 PosteRestanteAddress	O R	m m	[] []				
9.2.7.1 printable-string	O R	m m	[] []		30 30		
9.2.7.2 teletex-string	O R	m m	[] []		30 30		
9.2.8 PostOfficeBoxAddress	O R	m m	[] []				
9.2.8.1 printable-string	O R	m m	[] []		30 30		
9.2.8.2 teletex-string	O R	m m	[] []		30 30		
9.2.9 PDSName	O R	m m	[] []		16 16		

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
9.2.10	StreetAddress	O R	m m	[] []				
9.2.10.1	printable-string	O R	m m	[] []		30 30		
9.2.10.2	teletex-string	O R	m m	[] []		30 30		
9.2.11	UniquePostal Name	O R	m m	[] []				
9.2.11.1	printable-string	O R	m m	[] []		30 30		
9.2.11.2	teletex-string	O R	m m	[] []		30 30		
9.2.12	ExtensionOR AddressComponents	O R	m m	[] []				
9.2.12.1	printable-string	O R	m m	[] []		30 30		
9.2.12.2	teletex-string	O R	m m	[] []		30 30		
9.2.13	Extension PhysicalDelivery AddressComponents	O R	m m	[] []				
9.2.13.1	printable-string	O R	m m	[] []		30 30		
9.2.13.2	teletex-string	O R	m m	[] []		30 30		
9.2.14	LocalPostal Attributes	O R	m m	[] []				
9.2.14.1	printable-string	O R	m m	[] []		30 30		
9.2.14.2	teletex-string	O R	m m	[] []		30 30		
9.3	directory-name	O R	o o	[] []	(Note 5)			
10	ORName with UnformattedPostalORAddress							
10.1	address	O R	m m	[] []				
10.1.1	CountryName	O R	m m	[] []				
10.1.1.1	x121-dcc-code	O R	m m	[] []		3 3		

Parameter		O/R	D	I	Note	Permitted Range of Values	Values supported	Clause reference (Rec. X.411)
10.1.1.2	iso-3166-alpha2-code	O R	m m	[] []		2 2		
10.1.2	Administration DomainName	O R	m m	[] []				
10.1.2.1	numeric	O R	m m	[] []		16 16		
10.1.2.2	printable	O R	m m	[] []	(Note 1)	16 16		
10.1.3	PrivateDomain Name	O R	m m	[] []	(Note 2)			
10.1.3.1	numeric	O R	m m	[] []		16 16		
10.1.3.2	printable	O R	m m	[] []	(Note 1)	16 16		
10.2	Extensions	O R	m m	[] []	(Note 4)	256 256		
10.2.1	Unformatted PostalAddress	O R	m m	[] []				
10.2.1.1	printable-address	O R	m m	[] []		6 6		
10.2.1.1.1	Printable String	O R	m m	[] []		30 30		
10.2.1.2	teletex-string	O R	m m	[] []		180 180		
10.2.2	PhysicalDelivery CountryName	O R	m m	[] []				
10.2.2.1	x121-dcc-code	O R	m m	[] []		3 3		
10.2.2.2	iso-3166-alpha2-code	O R	m m	[] []		2 2		
10.2.3	PostalCode	O R	m m	[] []				
10.2.3.1	numeric-code	O R	m m	[] []		16 16		
10.2.3.2	printable-code	O R	m m	[] []	(Note 1)	16 16		
10.2.4	PDSName	O R	m m	[] []		16 16		
10.3	directory-name	O R	o o	[] []				

A.6.8 *Negotiation capabilities*

If one of the alternatives described in Table A.6.3 fails, the MTA should try another one.

A.6.9 *Protocol Error Handling*

“N/A”.

A.6.10 *Other information*

The table below can be used to provide any other relevant information.

Ref. No.	Other information

A.7 *Multi-layer dependencies*

A.7.1 *Upper Layers*

No modifications are imposed to the requirements by the upper layers (only IPMS has been considered).

A.7.2 *Lower Layers*

The P1 protocol is defined in the following Applications Contexts:

- mts-transfer-protocol-1984;
- mts-transfer-protocol;
- mts-transfer.

Each of these Application Contexts imply the modifications shown in the following tables to the referenced elements within the appropriate PICS proforma.

A.7.2.1 *RTSE (Recommendation X.248)*

PICS reference	mts-transfer-protocol-1984	mts-transfer-protocol	mts-transfer
A.6.2.1/1 (Nm)	N/A	N/A	m
A.6.2.1/2 (Xm)	m	m	N/A
A.6.1/1 (Init)	m	m	m
A.6.1/2 (Resp)	m	m	m

A.7.2.2 ACSE (ISO/IEC DIS 8650-2)

PICS reference	mts-transfer-protocol-1984	mts-transfer-protocol	mts-transfer
A.7/1	N/A	N/A	m
A.7/2	m	m	N/A
A.8/1	m	m	m
A.8/2	m	m	m

A.7.2.3 Presentation (ISO/IEC DIS 8823-2)

PICS reference	mts-transfer-protocol-1984	mts-transfer-protocol	mts-transfer
A.7.1/1	m	m	m
A.7.1/2	m	m	m
A.7.2/1	m	m	N/A
A.7.2/2	N/A	N/A	m

ANNEXE B

(à la Recommandation X.482)

Liste alphabétique des abréviations utilisées dans la présente Recommandation

ADMD	Domaine de gestion d'Administration (<i>administration management domain</i>)
IPMS	Système de messagerie de personne à personne (<i>interpersonal messaging system</i>)
IUT	Instance sous test (<i>implementation under test</i>)
MD	Domaine de gestion (<i>management domain</i>)
MHS	Système de messagerie (<i>message handling system</i>)
MTA	Agent de transfert de messages (<i>message transfer agent</i>)
MTS	Système de transfert de messages (<i>message transfer system</i>)
O/R	Expéditeur/destinataire (<i>origination/reception</i>)
P1	Protocole 1 (<i>protocol 1</i>)
PDAU	Unité d'accès de remise physique (<i>physical delivery access unit</i>)
PDS	Système de remise physique (<i>physical delivery system</i>)
PDU	Unité de données de protocole (<i>protocol data unit</i>)
PICS	Déclaration de conformité d'une instance de protocole (<i>protocol implementation conformance statement</i>)
PRMD	Domaine de gestion privé (<i>private management domain</i>)
SUT	Système à tester (<i>system under test</i>)

