

Recommendation X.420

MESSAGE HANDLING SYSTEMS: INTERPERSONAL MESSAGING SYSTEM¹

The establishment....

¹ Recommendation X.420 and ISO 10021-7, Information Processing Systems - Text Communication - MOTIS - Interpersonal Messaging System, were developed in close collaboration and are technically aligned, except for the differences noted in Annex M.

The **Primary Recipients** heading field (D no subfields (i.e., elements)) identifies the zero or more users and DLs who are the "primary recipients" of the IPM. It also identifies the responses the authorizing users ask of each of those users and of each member of those DLs. It comprises a Sequence of sub-fields, each a recipient specifier, one for each primary recipient.

The **Copy Recipients** heading field (D no subfields (i.e., elements)) identifies the zero or more users and DLs who are the "copy recipients" of the IPM. It also identifies the responses the authorizing users ask of each of those users and of each member of those DLs. It comprises a Sequence of sub-fields, each a recipient specifier, one for each copy recipient.

The **Obsoleted IPMs** heading field (D no subfields (i.e., elements)) identifies zero or more IPMs that the authorizing users of the present IPM consider it to obsolete. It comprises a Sequence of sub-fields, each an IPM identifier, one for each IPM.

The **Related IPMs** heading field (D no subfields (i.e., elements)) identifies zero or more IPMs that the authorizing users of the present IPM consider related to it. It comprises a Sequence of sub-fields, each an IPM identifier, one for each IPM.

The **Extensions** heading field (D no extensions (i.e., members)) conveys information accommodated by no other heading field. It comprises a Set of zero or more heading extensions (or extensions), each conveying one such information item.

The Parameters and Data components are Externals (see clause 32 of Recommendation X.208). Their Direct-reference components shall be present, their Indirect-reference and Data-value-descriptor components absent.

An instance of the macro's value notation defines the Object Identifier that appears as the Direct-reference component of the Data component of such an (Externally Defined) body part. The Object Identifier identifies the encoding rules for the body part. Those body parts whose types this Recommendation defines shall be encoded using ASN.1's basic encoding rules.

2. If an Externally Defined body part has a Parameters component, the Object Identifier in its Direct-reference component is allocated at the same time and by the same naming authority as that in the Direct-reference component of the Data component.

3.

4.

The IPM to which an IPN refers is called the **subject IMP**. Only a UA to which the subject IPM is actually delivered shall originate an IPN relating to it, and it shall originate at most one such IPN which shall be conveyed to the subject IPM's originator alone.

is present and has as its value either an O/R name of the preferred recipient as a result of which the subject IPM was delivered to the user on whose behalf the examination is performed or, if the IPM reached the user because of his membership in a DL, an O/R name appearing in the message's DL expansion history (see clause 8.3.1.1.1.7 of Recommendation X.411).

The report received may concern any of the following previously originated by the report's recipients:

- a) A probe concerning a message whose content was an IPM that was originated with the Originate Probe abstract operation.
- b) A message whose content was an NRN that was originated as a result of auto-discard or auto-forward.
- c) A message whose content was an RN that was originated with the Originate RN abstract operation or by auto-acknowledgment.
- d) a message whose content was an IPM that was originated with the Originate IPM abstract operation or by auto-forwarding.

- a) Envelope (M):
- b) Undelivered-object

This conditional argument shall be present if, and only if, the Auto- forward-IPMs argument has the value true.

This abstract operation has no results.

Note - This abstract operation is intended to define the essence of auto- forwarding, and not to preclude the provision of more sophisticated auto- forwarding capabilities, e.g., like those of an MS.

3. The MTS supplies import and export ports. However, since those ports are not formally defined (in Recommendation X.411), they are not included in the formal refinement above.

16.1 Interpersonnal Messaging System User Agent

An Interpersonal Messaging System user agent (IPMS UA) is a UA tailored so as to better assist a single user to engage in Interpersonal Messaging. It helps him originate, receive, or both originate and receive messages containing information objects of the types defined in section two.

ipms-ua.....

::= id-ot-tlma

The IPMS comprises any number of TLMA's.

NOTES

1. A TLMA consumes import and export ports. However, since those ports are not formally defined (in Recommendation X.411), they are not included in the formal definition of TLMA above.

2. A TLMA's miscellanea port is defined in Recommendation T.330. It is not part of the IPMS Abstract Service in its most general form, which is the subject of this Recommendation. Rather it embodies capabilities available only to a TLMA user. For this reason, it is not considered further here and is not included in the formal refinement of the IPMS found in clause 16.

management [S]

::= id-ot-tlxau

The IPMS comprises any number of TLXAUs.

Note - A TLXAU consumes import and export ports. However, since those ports are not formally defined (in Recommendation X.411), they are not included in the formal definition of TLXAU above.

::= id-ot-pdau

The IPMS comprises any number of PDAUs.

Note - A PDAU consumes import and export ports. However, since those ports are not formally defined (in Recommendation X.411), they are not included in the formal definition of PDAU above.

If the Blind Copy Recipients heading field of the IPM identifies one or more users and DLs, the UA shall invoke Message Submission multiple times, upon each occasion varying the heading field so as to comply with the information hiding requirements of clause 7.2.6.

The results of Originate IPM shall be as follows:

The UA shall suppress auto-forwarding if, and only if, the IPM to be forwarded itself contains a forwarding IPM that the UA previously created. Auto-forwarding shall be suppressed whether the forwarding IPM appears (directly) in a Message body part of the IPM to be forwarded, or (nested) in a Message body part of the IPM that appears in such a body part.

19.4 Auto-forwarding

An IPMS MS shall perform the Auto-forward action of Recommendation X.413 as specified in clause 18.5.3. It makes use of the other- parameters component of the Auto-forward-registration argument of the

Register MS abstract operation of the MS Abstract Service. The data type of the other- parameters component is defined as follows:

```
Forwarded Info ::= SET {  
    auto-forwarding-comment [0] Auto Forward Comment OPTIONAL,  
    cover-note [1] IA5TextBodyPart OPTIONAL,  
    this-imp-prefex [2] PrintableString (SIZE  
    (1.. ub-ipm-identifier-suffix)) OPTIONAL }
```

In addition, the MS shall satisfy the following requirements:

- a) Submit an NRN even if it retains a copy of the forwarded IPM.
- b) Draw the NRN's Auto-forward Comment field, if any, from the other- parameters component.
- c) Draw the cover-note, if any, to be included with the forwarded IPM, from the other-parameters component.
- d) Prefix the User-relative-identifier component of the This IPM field of the forwarding IPM's heading with, if present, the This-ipm-prefix.

NOTE - An (IPMS) MS performs neither auto-discard nor auto-acknowledgment, except possibly as a local matter.

iii) The Parameters element of any Videotex body part (of an IPM) lacks the Syntax member.

iv) Every.....

v) The Data element of any Message body part (of an IPM) satisfies these same constraints (recursively).

A secondary object that submits a probe concerning a message containing an IPM or IPN shall specify as the length of the message's content the size in octets of the encoding of the instance in question of the InformationObject of section two (a choice of an IPM or an IPN) when the Basic Encoding Rules of Recommendation X.209 are followed. If those rules permit several (e.g., both primitive and constructed) encodings of that InformationObject, the content length may reflect any one of them.

b) (Forwarded) Message body part: The basic EITs (if any) and NBPs (if any) of a Message body part shall be those of the forwarded message.

d) Basic.....

e) Encrypted body part: The effect of an Encrypted body part upon the basic EITs and NBPs to be specified is **for further study**.

The **Incomplete Copy** heading extension, by its presence, indicates that one or more body parts or heading fields are absent from the Body of (the present instance of) the IPM. The extension comprises a Null (by default).

All of the attributes defined in this annex, except those corresponding to extended body part types (which cannot be enumerated; see clause C.3.6), are listed alphabetically, for reference, in the first column of Table 3/X.420. This table records their presence in a delivered message entry. None of them appears in either a delivered report entry or a returned content entry. See Recommendation X.413 for an elaboration of the table's legend.

To each extended body part type there correspond two attributes. The first attribute is denoted by the Object Identifier that is the Direct-reference component (again, see clause 7.3.12) of the External that constitutes the Data component of a body part of that type. The content of this first attribute is that Data component. The second attribute is denoted by the Object Identifier that is the Direct-reference component of the External that constitutes the Parameters component of a body part of that type. The content of this second attribute is that Parameters component.

An MS that supports one of these body parts shall maintain both attributes for an information object that it holds if, and only if, that object is a message whose content is an IPM whose Body contains one or more body parts of the type that corresponds to that attribute. It shall maintain one value of each attribute for each such body part.

-- Message Store Realization

```
ForwardedInfo ::= SET {  
    auto-forwarding-comment [0]  
        AutoForwardComment OPTIONAL,  
    cover-note [1]  
        IA5TextBody Part OPTIONAL,  
    this-ipm-prefix [2]  
        PrintableString (SIZE (1..  
            ub-ipm-identifier-suffix))  
        OPTIONAL }  
}
```

END -- of IPMSInformationObjects

- a) The ISO International Standard corresponding to this Recommendation defines General Text and Line Text body parts, while this Recommendation does not.
- b) The upper bounds of Annex K are an integral part of this Recommendation but are not a part of the corresponding ISO International Standard.