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THE INTERNATIONAL
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SERIES F: NON-TELEPHONE TELECOMMUNICATION SERVICES

Message handling services

MESSAGE HANDLING SERVICES: NAMING AND ADDRESSING FOR PUBLIC MESSAGE HANDLING SERVICES

Reedition of CCITT Recommendation F.401 published in the Blue Book, Fascicle II.6 (1988)

NOTES

1   CCITT Recommendation F.401 was published in Fascicle II.6 of the *Blue Book*. This file is an extract from the *Blue Book*. While the presentation and layout of the text might be slightly different from the *Blue Book* version, the contents of the file are identical to the *Blue Book* version and copyright conditions remain unchanged (see below).

2   In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Recommendation F.401

MESSAGE HANDLING SERVICES:
NAMING AND ADDRESSING FOR PUBLIC
MESSAGE HANDLING SERVICES

The establishment in various countries of message handling services in association with public networks creates the need to produce Recommendations covering the aspects of public message handling services.

The CCITT,

considering

(a) The need for public message handling services;

(b) the strategic and commercial importance of standardization of message handling services;

(c) the urgent need for intercommunication arrangements for existing telematic services, and other services with public message handling services;

(d) the need for a clear distinction between the responsibilities to be allocated to service providers and those of subscribers and/or users;

(e) the need for establishing international compatibility between different messaging systems;

(f) the growth of the installed base of terminals and personal computers with the ability to access message handling systems;

(g) that several F series Recommendations describe public message handling services;

(h) that certain X and T series Recommendations cover relevant aspects of systems used for the provision of messaging services;

(i) that unambiguous names are required for the exchange of messages;

(j) that naming conventions are necessary for worldwide compatible services;

unanimously declares

the view that the naming and addressing requirements specified in this Recommendation should be applied for the provision of public message handling services.

CONTENTS

1   Purpose and scope

This Recommendation specifies naming and addressing aspects for public message handling services which are described in other Recommendations of the F-series. It also establishes some principles for the allocation of O/R addresses.

2   Naming and addressing in message handling

Naming and addressing in message handling have to ensure that users can define the source and the destination of messages in an unambiguous way. The organizational mapping of message handling systems, and the structure of management domains (see Recommendation F.400/X.400), together with a set of naming conventions, are the means to establish a uniform and compatible environment for the exchange of messages between any users of the message handling environment.

Names and addresses are allocated by the responsible naming authority.

In message handling systems (MHS), the principal entity that requires naming is the user (the originator and the recipient of messages). In addition distribution lists (DLs) have names for their use in the context of MHS. Users of MHs and DLs are identified by O/R names. (The prefix "O/R" recognizes the fact that the user can be acting as either the originator or the recipient of a message). An O/R name comprises a directory name, an O/R address or both. Every user or DL has one or more O/R names.

2.1   *O/R addresses*

An O/R address contains information that enables the MHS to identify a user to deliver a message or return a notification to him. DLs are also identified by an O/R address.

An O/R address is comprised of a set of information called attributes. Recommendation X.402 specifies a set of standard attributes from which O/R addresses can be constructed. Standard attributes, the structure of attribute lists and their syntax and semantics are defined in Recommendation X.402. In addition to standard attributes, and to cater for existing messaging systems, there are domain defined attributes whose syntax and semantics are specified by management domains. They are applicable for an interim period.

Various forms of O/R addresses are defined, each serving its own purpose. These forms and their purpose are as follows:

– *Mnemonic O/R address*: Provides a user-friendly means of identifying users in the absence of a directory. It may also be used for identifying a distribution list.

– *Terminal O/R address*: Provides a means of identifying users with terminals belonging to various networks.

– *Numeric O/R address*: Provides a means of identifying users with numeric keypads.

– *Postal O/R address*: Provides a means of identifying originators and recipients of messages and notifications, for physical delivery.

2.1.1   *Mnemonic O/R address*

This form of O/R address provides addresses that mnemonically identifies a user or a DL relative to the Administration Management Domain (ADMD) through which the user is accessed. At least one of the conditional attributes following the domain name(s) has to be present.

– Country name

– Administration domain name

– [Private domain name]

– [Organization name]

– [Organizational unit name]

– [Personal name]

– [Common name]

– [[Domain defined attributes]]

Note – Attributes in square brackets are conditional. Double square brackets indicate an attribute not belonging to the standard attribute list.

2.1.2   *Terminal O/R address*

This form of O/R address provides a means for addressing a terminal with its network address, conditionally with the country name, the domain name(s), a terminal identifier and domain defined attributes.

– [Country name]

– [Administration domain name]

– [Private domain name]

– Network address

– [Terminal identifier]

– [Terminal type]

– [[Domain defined attributes]]

Note 1 – Attributes in square brackets are conditional. Double square brackets indicate an attribute not belonging to the standard attribute list.

Note 2 – Domain defined attributes shall be present only if the country name and the administration domain name are present.

The network address is composed of digits from the X.121 numbering plan (including escape codes) or the E.163/E.164 numbering plan.

The conditional terminal identifier might be, for example, a telex answerback string or a teletex terminal identifier.

The conditional terminal type might be, for example, a telex, a teletex, a G3 facsimile, a G4 facsimile, an IA5, and a videotex terminal.

2.1.3   *Numeric O/R address*

This form of O/R address provides addresses that can be entered from devices equipped only with numeric keypads. It identifies numerically a user relative to the ADMD through which the user is accessed.

–   Country name

–   Administration domain name

–   [Private domain name]

–   Numeric user identifier

–   [[Domain defined attributes]]

Note 1 – Attributes in square brackets are conditional. Double square brackets indicate an attribute not belonging to the standard attribute list.

Note 2 – Numeric values are assumed for all attributes.

Note 3 – This form could also be used for a videotex user number.

2.1.4   *Postal O/R address*

This form of O/R address provides for the identification of a user by means of his postal addresss, together with the country name(s), and the domain name(s), and the PD service name through which he is accessed.

See also Recommendation F.415.

Version 1 – Unformatted postal O/R address:

–   Physical delivery country name

–   Country name

–   Administration domain name

–   [Private domain name]

–   [Physical delivery service name]

–   Postal code

–   Unformatted postal address

Sufficient address components have to be supplied in the unformatted postal address in order to enable the PD service to route, distribute and deliver the physical message properly.

Version 2 – Formatted postal O/R address:

–   Physical delivery country name

–   Country name

–   Administration domain name

–   [Private domain name]

–   [Physical delivery service name]

–   Postal code

–   Set of formatted postal address attributes

There is no defined order in the set of formatted postal address attributes. These attributes are:

–   *Postal O/R address components*:

a)   [Physical delivery personal name]

b)   [Physical delivery organization name]

–   *Physical delivery address components*:

a)   [Street address]

b)   [P.O. box address]

c)   [Poste restante address]

d)   [Unique postal name]

–   *Physical delivery office address components*:

    a)   Physical delivery office name

    b)   [Physical delivery office number]

    c)   [Local postal attribute]

–   *Other postal address components*:

    a)   [Extension of postal O/R address components]

    b)   [Extension of physical delivery address components]

Note – Attributes in square brackets are conditional.

Sufficient attributes have to be provided in order to enable the PD service to route, distribute and deliver the physical message properly.

For the description of formatted postal O/R address attributes see Annex A/F.400 and for the length see § 3.

2.2   *Distribution list names*

In the context of message handling, names of distribution lists (making use of the common name attribute) are used to identify the point of expansion of a message using a distribution list which contains a set of O/R addresses or further distribution list names (see Recommendation F.400).

Care should be taken in the choice of distribution list names to ensure that users are aware that they are addressing a distribution list.

Note – For naming of distribution lists the attribute "Common Name" may be used. Names of distribution lists should clearly indicate their purpose.

2.3   *Directory names*

In the context of message handling a directory name can be used to retrieve the required O/R address from a directory (see Recommendations F.400 and F.500). The directory may be provided by local functions.

3   Length of attributes

The coding is specified in the Recommendations of the X.400 series.

The O/R address shall allow the following information:

–   *Country name*

The Alpha-2 country code listed in Appendix I or the DCC from Recommendation X.121 is used as the numeric country name. Maximum 3 characters.

–   *Physical delivery country name*

The same conditions apply as for country name.

–   *Administration domain name*

Maximum 16 characters. Numeric O/R address form assumes allocation of numeric administration domain names.

–   *Private domain name*

Maximum 16 characters.

–   *Physical delivery service name*

Maximum 16 characters

–   *Organization name*

Maximum 64 characters

–   *Organizational unit(s)*

Maximum 32 characters each

Note – At least one organizational unit should be supported on the sending side.

- *Personal name*

  Maximum is the sum of the maxima of the parts (64 characters).

  a) Surname – maximum 40 characters.

  b) Given name – maximum 16 characters.

  c) Initials (optional) – maximum 5 characters (for further study).

  d) Generation qualifier (optional) – maximum 3 characters.

- *Distribution list name*

  Maximum of the common name applies.

- *Common name*

  Maximum 64 characters.

- *Domain defined attributes*

  Maximum four separate attributes, maximum length for "type" 8 and for "value" 128 characters.

- *Network address*

  Maximum 14 + 1 digits, including the prefix (see Recommendation X.121).

  Note – The classification and maximum value may change to accommodate other addressing schemes.

- *Terminal identifier*

  Maximum 24 characters.

- *Unformatted postal address*

  Up to 6 lines with a maximum of 30 characters each. In the case of transit mail the last line is reserved for the name of the country of the final physical destinaton (see Note 1).

- *Formatted postal address*

Formatted postal address attributes

These attributes and their constraints are: (for the description of these attributes see Annex A/F.400)

- *Postal O/R address components (see Note 2)*

  Physical delivery personal name (see Note 3)

        30 characters (see Note 1)

    Physical delivery organization name (see Note 3)

        30 characters (see Note 1)

- *Physical delivery address components (see Note 2)*

  Street address

        30 characters (see Note 1)

  P.O. box address

        30 characters (see Note 1)

  Poste restante address

        30 characters (see Note 1)

  Unique name

        30 characters (see Note 1)

- *Physical delivery office address components*

  Physical delivery office name

        x characters (see Notes 1 and 4)

  Physical delivery office number

        y characters (see Notes 1 and 4)

Local postal attributes

     z characters (see Notes 1 and 4)

– *Other postal address components*

Extension of O/R address components (see Note 5)

     30 characters (see Note 1)

Extension of physical delivery address components (see Note 6)

     30 characters (see Note 1)

The overall constraints are 6 lines of attributes with a maximum of 30 characters in each line. In the case of transit mail the last line is reserved for the name of the receiving country of the final physical destination.

Note 1 – The number of characters specified refers to characters to be printed (including spaces).

Note 2 – At least one of the following attributes should be used.

Note 3 – Physical delivery personal name and physical delivery organization name are free form names and have different length from personal name and organization name.

Note 4 – These attributes have to be printed in one line, in some countries together with the postal code. Thus $x + y + z$ is a maximum of 30 characters including the delimiting spaces and the postal code if printed in the same line.

Note 5 – May be used to extend the postal O/R address components.

Note 6 – May be used to extend the physical delivery address components.

4 Principles for the allocation of O/R names and O/R addresses

4.1   The naming authority of the country responsible for administration domain names will ensure the designation of an unambiguous name to each ADMD of message handling services in that country.

4.2   Each ADMD is responsible for the administration of names for private management domains associated with it.

Note – For PRMDs intercommunicating with more than one ADMD, agreement between all the ADMDs concerned is necessary for an unambiguous name of the PRMD.

4.3   Each management domain (MD) is responsible for allocating unambiguous addresses to users below the level of the MD name(s) for the purpose of using message handling services.

4.4   A distribution list only shall be given a name which is clearly indicating to the user its intent. Names or O/R addresses shall only be included in a publicly accessible distribution list when the permission of the owner of the information is given and national rules for security are respected.

5 Use of O/R names

5.1   *General*

With the help of O/R names a user can send messages via the MHS. Users may get support from their user agent in the use of O/R names. The latter is a local matter.

5.2   *Character repertoires*

The character repertoire allowed in O/R names are either printable, numeric or teletex repertoires (for more detail see Recommendation X.402).

The printable character repertoire is shown in Table 1/F.401.

The numeric character repertoire is comprising the digits $0 - 9$ and space, and is a subset of the printable character repertoire.

For the teletex repertoire see Recommendation T.61. In general the teletex repertoire may also be used internationally.

All name attributes that may use the teletex repertoire shall, when sent internationally, be conveyed together with the equivalent attribute(s) using the repertoire specified in Table 1/F.401.

The use of an extended character repertoire within a management domain is a local matter.

5.3 *Specific rules*

Rules for postal O/R addresses, see §§ 2 and 3 and Recommendation F.415.

Management domains will not allow O/R names, that differ only by the number of "space" characters, either at the beginning or the end of any of their attributes, to identify different users.

Additionally MDs will not consider an O/R address attribute to identify different users when the attribute contains more than one word separated by one or more "space" characters.

MDs will not allow O/R names, that differ only by small letter/capital letter distinctions, to identify different user.

5.4 *Support of forms of O/R addresses*

Each MHS shall support all the name address forms in the incoming direction for transitting purposes. It is the decision of the management of a domain which name forms are allocated to the users of that domain. In the outgoing direction the originating domain needs to use the name forms the destination domain applies. The way in which names are input by or presented to the subscriber is a local matter.

TABLE 1/F.401

Printable character repertoire for O/R names

Designation	Graphic representation
Capital letters	A, B, …, Z
Small letters	a, b, …, z
Digits	0, 1, …, 9
Space	(space)
Apostrophe	'
Left parenthesis	(
Right parenthesis	)
Plus sign	+
Comma	,
Hyphen	–
Full stop	.
Solidus	/
Colon	:
Equals sign	=
Question mark	?

Note – According to Recommendation X.208 this repertoire is called a Printable String type. All these characters are available in ITA2 (as far as letters are concerned, only in upper or lower case).

6 References

Recommendation F.400	Message handling – System and service overview
Recommendation F.410	Message handling services – The public message transfer service
Recommendation F.415	Message handling services – Intercommunication with public physical delivery services
Recommendation F.420	Message handling services – The public interpersonal messaging service
Recommendation F.421	Messsage handling services – Intercommunication between the IPM service and the telex service
Recommendation F.422	Message handling services – Intercommunication between the IPM service and the teletex service
Recommendations of the X.400 series	Message handling – System and service overview
Recommendation T.61	Character repertoire and coded character sets for the international teletex service
Recommendations of the X.500 series	The directory – Overview of concepts, models and services
Recommendation F.500	International public directory services
Recommendation X.121	International numbering plan for public data networks
Recommendation E.163	Numbering Plan for the international telephone service
Recommendation E.164	Numbering Plan for the ISDN Era
ISO 3166	Codes for the representation of names of countries

ANNEX A

(to Recommendation F.401)

Abbreviations

ADMD	Administration Management Domain
DCC	Data Country Code
DL	Distribution List
IA5	International Alphabet 5
IPM	Interpersonal Messaging
ITA2	International Telegraph Alphabet 2
MD	Management Domain
MH	Message Handling
MHE	Message Handling Environment
MHS	Message Handling System
MT	Message Transfer
O/R	Originator/Recipient
P.O.	Post Office
PD	Physical Delivery
PRMD	Private Management Domain
RPOA	Recognized Private Operating Agency
UPU	Universal Postal Union

Note – For a glossary of terms see Annex A of Recommendation F.400.

List of Alpha-2 country codes

Afghanistan	AF	China	CN
Albania	AL	Christmas Islands	CX
Algeria	DZ	Cocos (Keeling) Islands	CC
American Samoa	AS	Colombia	CO
Andorra	AD	Comoros	KM
Angola	AO	Congo	CG
Anguilla	AI	Cook Islands	CK
Antarctica	AQ	Costa Rica	CR
Antigua and Barbuda	AG	Côte d'Ivoire	CI
Argentina	AR	Cuba	CU
Aruba	AW	Cyprus	CY
Australia	AU	Czechoslovakia	CS
Austria	AT		
Bahamas	BS	Denmark	DK
Bahrain	BH	Djibouti	DJ
Bangladesh	BD	Dominica	DM
Barbados	BB	Dominican Republic	DO
Belgium	BE		
Belize	BZ	East Timor	TP
Benin	BJ	Ecuador	EC
Bermuda	BM	Egypt	EG
Bhutan	BT	El Savador	SV
Bolivia	BO	Equatorial Guinea	GQ
Botswana	BW	Ethiopia	ET
Bouvet Island	BV		
Brazil	BR	Faeroe Islands	FO
British Indian Ocean Territory	IO	Falkland Islands (Malvinas)	FK
British Virgin Islands	VG	Fiji	FJ
Brunei Darussalam	BN	Finland	FI
Bulgaria	BG	France	FR
Burkina Faso	BF	French Guiana	GF
Burma	BU	French Polynesia	PF
Burundi	BI	French Southern Territories	TF
Byelorussian SR	BY		
		Gabon	GA
Cameroon	CM	Gambia	GM
Canada	CA	German Democratic Republic	DD
Cape Verde	CV	Germany, Federal Republic of	DE
Cayman Islands	KY	Ghana	GH
Central African Republic	CF	Gibraltar	GI
Chad	TD	Greece	GR
Chile	CL	Greenland	GL
		Grenada	GD

Guadeloupe	GP	Marshall Islands	MH
Guam	GU	Mauritania	MR
Guatemala	GT	Mauritius	MU
Guinea	GN	Mexico	MX
Guinea-Bissau	GW	Micronesia	FM
Guyana	GY	Monaco	MC
		Mongolia	MN
Haïti	HT	Montserrat	MS
Heard and McDonald Islands	HM	Morocco	MA
Honduras	HN	Mozambique	MZ
Hong Kong	HK		
Hungary	HU	Namibia	NA
		Nauru	NR
Iceland	IS	Nepal	NP
India	IN	Netherlands	NL
Indonesia	ID	Netherlands Antilles	AN
Iran, Islamic Republic of	IR	Neutral Zone (between Saudia Arabia and Iraq)	NT
Iraq	IQ	New Caledonia	NC
Ireland	IE	New Zealand	NZ
Israel	IL	Nicaragua	NI
Italy	IT	Niger	NE
		Nigeria	NG
Jamaica	JM	Niue	NU
Japan	JP	Norfolk Island	NF
Jordan	JO	Northern Mariana Islands	MP
		Norway	NO
Kampuchea, Democratic	KH		
Kenya	KE	Oman	OM
Kiribati	KI		
Korea, Democratic People's Republic of	KP	Pakistan	PK
Korea, Republic of	KR	Palau	PW
Kuwait	KW	Panama	PA
		Papua New Guinea	PG
Lao People's Democratic Republic	LA	Paraguay	PY
Lebanon	LB	Peru	PE
Lesotho	LS	Philippines	PH
Liberia	LR	Pitcairn	PN
Libyan Arab Jamahiriya	LY	Poland	PL
Liechtenstein	LI	Portugal	PT
Luxembourg	LU	Puerto Rico	PR
Macau	MO	Qatar	QA
Madagascar	MG		
Malawi	MW	Réunion	RE
Malaysia	MY	Romania	RO
Maldives	MV	Rwanda	RW
Mali	ML		
Malta	MT	St. Helena	SH
Martinique	MQ	St. Kitts-Nevis	KN

Saint Lucia	LC	Trinidad and Tobago	TT
St. Pierre and Miquelon	PM	Tunisia	TN
Saint Vincent and the Grenadines	VC	Turkey	TR
Samoa	WS	Turks and Caicos Islands	TC
San Marino	SM	Tuvalu	TV
Sao Tomé and Principe	ST		
Saudi Arabia	SA	Uganda	UG
Senegal	SN	Ukrainian SSR	UA
Seychelles	SC	United Arab Emirates	AE
Sierra Leone	SL	United Kingdom	GB
Singapore	SG	United States	US
Solomon Islands	SB	United States Minor Outlying Islands	UM
Somalia	SO	Uruguay	UY
South Africa	ZA	USSR	SU
Spain	ES	Vanuatu	VU
Sri Lanka	LK	Vatican City State (Holy See)	VA
Sudan	SD	Venezuela	VE
Suriname	SR	Viet Nam	VN
Svalbard and Jan Mayen Islands	SJ	Virgin Islands, U.S	VI
Swaziland	SZ		
Sweden	SE	Wake Islands	WK
Switzerland	CH	Wallis and Futuna Islands	WF
Syrian Arab Republic	SY	Western Sahara	EH
		Yemen	YE
Taiwan, Province of China	TW		
Tanzania, United Republic of	TZ	Yemen, Democratic	YD
Thailand	TH	Yugoslavia	YU
Togo	TG	Zaire	ZR
Tokelau	TK	Zambia	ZM
Tonga	TO	Zimbabwe	ZW

Source: ISO 3166

Current edition (1981 plus amendments up to 1987) at time of printing. The latest published edition from ISO should be applied.

For further details, please refer to ITU-T List of Recommendations.

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