Writing X.400 O/R Names

Status of this Memo

   This memo provides information for the Internet Community. It does
   not specify an Internet Standard of any kind. Distribution of this
   memo is unlimited.

1. Introduction

   There is a need for human beings who use X.400 systems to be able to
   write down O/R names in a uniform way.

   There has been a preexisting recommendation on how to write O/R names
   for human consumption in the RARE community. Now that the ISO/ITU has
   adopted a recommendation on how to do this [1], RARE needs to update
   its recommendation on writing O/R names to take this standard into
   account.

2. Recommendations on writing O/R names

   RARE recommends that the ISO standard be followed when writing O/R
   names. The ISO/ITU standard contains a number of options. RARE makes
   the following recommendations:

   -    The "main" abbreviations, G, I, S, O, OU1, OU2, P, A and C
        are used. They should be written using UPPER CASE.

   -    The separation character should be semicolon (;).

   -    The ADMD value "blank" is expressed by omitting the
        attribute. No other interpretation of a missing ADMD
        attribute is allowed.

   -    The recommended sequence is G=;I=;S=;O=;OU1=;OU2=;P=;A=;C=;

   This means that the O, OU1 and so on will be in opposite order to the
   fields of an Internet domain name; the reason for choosing the
   ISO/ITU order is that this will be more common among users of X.400
   services.

3. Copy of the recommmendation

This is a COPY of a DRAFT of the relevant appendix. For the
authoritative text, consult the ITU standard itself.

Final text for AMENDMENT, 7 February 1993

Annex to CCITT Rec. F.401 and ISO/IEC 10021-2/Am.1

Annex F

Representation of O/R addresses for human usage (This annex does
not form an integral part of this Recommendation|International
Standard)

F.1 Purpose

An O/R address (specified in clause 18) consists of a set of
values of attributes taken from the list shown in Table F.1. In
order to represent visually an address to a human user, and to
enable the user to enter the address into a user interface, each
attribute value needs to be associated with the correct attribute
type. Many of the names of the attribute types shown in Table F.1
are too long for convenient usage on paper or a screen. There is a
need for a format which allows attributes to be represented
concisely, e.g., on a business card.

This annex specifies how addresses can be expressed concisely
using labels to represent the attribute types. There are three
categories of attributes: those standard mnemonic attributes which
are most likely to be found in O/R addresses represented for human
usage (e.g., on business cards), those used in physical delivery
addresses, and other specialised attributes (including domain
defined attributes). In order to provide a format which is as
concise as possible, many of the labels are single characters.
This also makes them less language dependent.

Clause F.3 specifies the format for the representation of
addresses, and clause F.4 specifies the characteristics necessary
for user interfaces which are intended to be used in conjunction
with this format.

F.2 Scope

A labelled format for the communication of O/R addresses to human
users is specified. The format consists of a set of pairs of
labels and attribute-values. The characteristics of a user
interface which are necessary to accept addresses given in this

format are also specified.

In addition a self-explanatory format suitable for use where there is more space, e.g., in printed material and in the user interface, is specified.

F.3 Format

F.3.1 General

The objective of the labelled format is to enable O/R addresses to be represented in a format which is concise and which can be accurately transcribed by human users. This can be facilitated by careful consideration of which attributes and values are used to form an O/R address.

If the attributes of an O/R address include characters from an extended character set, human users who do not normally use the same extended character set may have difficulty representing the O/R address or entering it into their messaging system. In this situation, an alias of the O/R address should be provided which is composed entirely of printable string characters.

NOTES

1. The policy for structuring O/R addresses needs to be carefully considered. Individual O/R addresses should be allocated within an appropriate division of the address space to reduce to an acceptable level the probability that 2 users might expect to have the same O/R address. Use of given name or initials is usually sufficient to distinguish between users. It may be inappropriate to reflect too much granularity in OUs particularly if the organizational structure is subject to frequent change, or users move between OUs.

2. There may be a conflict between the benefits of using long values for attributes which are self explanatory (such as the full name of an organisation) and the benefits of shorter values (e.g., to concisely fit on a business card). One solution to this problem is to provide an alternative short attribute value (such as the initials of the organisation) as an alias for the long value.

3. If a human user might be uncertain about the existence of a space in an attribute value (particularly when it is typeset), aliases could be provided with and without the space (e.g., "SNOMAIL400" as an alias for "SNOMAIL 400" and

"Mac Donald" as an alias for MacDonald).

4.   If an alias is provided for an O/R address, it is desirable
     that this is implemented in such a way that a consistent
     (preferred) form of O/R address is generated for all
     messages originated by the user.

Where national usage permits a single space value for the ADMD in
an address, this is represented in the address either by omitting
the ADMD attribute, or showing the ADMD attribute with no value or
the value of a space.

F.3.2 Labelled format

F.3.2.1 Syntax

O/R addresses in labelled format consist of delimited pairs of
labels and values in the syntax <label>"="<value>. The labels for
each attribute are specified in Tables F.1, F.2 and F.3. (The
physical delivery attributes in Table F.2 are included for
completeness.) The label and its value are either separated by the
character "=", or by the space between two columns in a table.
Labels may be represented in upper or lower case, but the use of
uppercase is recommended as it is likely to be more visually
distinctive.

If label/value pairs appear in sequence on a line, they are
separated by delimiters. Delimiters may optionally be followed by
one or more spaces. The delimiter character may be either ";" or
"/", but only one of these can be used in one O/R address. When
the delimiter is "/" the first label is prefixed by "/". The use
of a delimiter at the end of a line is optional. If the value of
any attribute contains the delimiter character, this is
represented by a pair of delimiter characters.

If an identifier is required to preface a labelled address, it is
recommended that "X.400" is used.

If an address is entirely composed of attributes contained in
Table F.1, it is recommended that the sequence of attributes in
the address is that given in Table F.1. If this sequence is
incompatible with normal cultural conventions, an alternative
sequence may be adopted for representations of addresses which are
primarily intended for use within that culture.

EXAMPLE

X.400: G=john; S=smith; O=a bank ltd; P=abl; A=snomail; C=aq

This address may also be layed out as a table:

```
G       John
S       Smith
O       A Bank Ltd
P       ABL


A       Snomail
C       AQ
```

Table F.1. Standard Attributes of the Mnemonic Address Form

Attribute Type	Abbreviation (where necessary)	Label
Given Name	Given name	G
Initial	Initials	I
Surname	Surname	S
Generation Qualifier	Generation	Q
Common Name	Common Name	CN
Organization	Organization	O
Organizational Unit 1	Org.Unit.1	OU1
Organizational Unit 2	Org.Unit.2	OU2
Organizational Unit 3	Org.Unit.3	OU3
Organizational Unit 4	Org.Unit.4	OU4
Private Management Domain Name	PRMD	P
Administration Management Domain Name	ADMD	A
Country	Country	C

Table F.2. Physical Delivery Attributes

Physical Delivery Personal Name	PD-person	PD-PN
Extension of Postal O/R Address Components	PD-ext.address	PD-EA
Extension of Physical Delivery Address Components	PD-ext.delivery	PD-ED
Physical Delivery Office Number	PD-office number	PD-OFN
Physical Delivery Office Name	PD-office	PD-OF
Physical Delivery Organization Name	PD-organization	PD-O
Street Address	PD-street	PD-S
Unformatted Postal Address	PD-address	PD-A1
		PD-A2
(there are individual labels for		PD-A3
each line of the address)		PD-A4
		PD-A5
		PD-A6
Unique Postal Name	PD-unique	PD-U
Local Postal Attributes	PD-local	PD-L
Postal Restante Address	PD-restante	PD-R
Post Office Box Address	PD-box	PD-B
Postal Code	PD-code	PD-PC
Physical Delivery Service Name	PD-service	PD-SN
Physical Delivery Country Name	PD-country	PD-C

Table F.3. Other Attributes

X.121 Network Address	X.121	X.121
E.163/E.164 Network Address	ISDN	ISDN
PSAP Network Address	PSAP	PSAP
User Agent Numeric ID	N-ID	N-ID
Terminal Identifier	T-ID	T-ID
Terminal Type	T-TY	T-TY
Domain Defined Attribute DDA:<type>	DDA:<type>	

where the notation <type> identifies the type of domain defined attribute.

F.3.2.2 Terminal Type

There are currently six terminal types, and if international consistency is required the following specific abbreviations should be used to represent the values for these types: tlx, ttx, g3fax, g4fax, ia5 and vtx.

F.3.2.3 Domain Defined Attribute

The label for a DDA consists of "DDA:" followed by the DDA type. If an address includes more than one DDA of the same type, it is assumed that the DDAs are intended to be processed in the sequence in which they are represented.

EXAMPLE - DDA:RFC-822=fred(a)widget.co.uk; O=gateway; P=abc; C=gb

If the <type> of a DDA type includes the character "=", it is represented by "==".

F.3.3 Self-explanatory format

The self-explanatory format may be used when space is available. It consists of a list of the attribute types, either in full or abbreviated. The attribute types or abbreviations may be in any language, but each attribute type or abbreviation in Table F.1 is followed by the specified label. If English language abbreviations are used, they should be those given in Tables F.1, F.2 and F.3.

If an address is entirely composed of attributes contained in Table F.1, it is recommended that the sequence of attributes in the address is that given in Table F.1. If this sequence is incompatible with normal cultural conventions, an alternative sequence may be adopted for representations of addresses which are primarily intended for use within that culture.

EXAMPLE 1 - Using attribute types in the Norwegian language

```
Fornavn (G)                        Per
Etternavn (S)                      Hansen
Organisasjon (O)                   Teledir
Organisasjonsenhet (OU1)           Forskning
Privat domene (P)                  Tele
Administrasjonsdomene (A)          Telemax
Land (C)                           NO
```

EXAMPLE 2 - Using attribute types and abbreviations in the English
           language

Given name (G)   John
Surname (S)   Smith
Organization (O)   A Bank Ltd
Org. Unit (OU1)   IT Dept
Org. Unit (OU2)   MSG Group
PRMD (P)   ABL
ADMD (A)   Snomail
Country (C)   AQ

F.4 User interface

   This clause specifies the characteristics of a user interface
   which are necessary to enable a user to input O/R addresses
   represented in either of the formats specified in clause F.3.

   It is necessary for the user interface to be able to accept any
   valid combination of attributes from Tables F.1, F.2 and F.3.

   If the user interface lists the attributes given in Table F.1, it
   is recommended that either the sequence used in Table F.1 should
   be used, or if this sequence is incompatible with normal cultural
   conventions, the alternative sequence adopted within a particular
   culture.

   If the user supplies a value for the PRMD attribute but omits the
   ADMD attribute, or omits the value for the ADMD attribute, the
   ADMD value to be used is a single space.

   Where an interface accepts an O/R address as a single string
   (e.g., in a command line interface), it is necessary to accept any
   valid labelled format address allowing the user to enter either
   delimiter. The interface should not require the attributes to be
   specified in any particular order. The interface should accept
   labels in upper or lower case.

   NOTE - For some existing command line interfaces it may be
   necessary to enclose the whole labelled format address in quotes.

   If any other type of interface is provided (e.g., a prompting or
   form-fill interface), it is necessary to provide a means which
   enables the user to easily associate the identity of each
   attribute with the labels specified in Tables F.1, F.2 and F.3.

NOTES

1. One way to associate the identity of each attribute with the
    labels is to follow the attribute type (or abbreviation) for
    each attribute with the label in brackets, for example:

    Given name (G)
    Initials (I)
    Surname (S)
    Generation Qualifier (Q)
    Common Name (CN)
    Organization (O)
    Organizational Unit 1 (OU1)
    Organizational Unit 2 (OU2)
    Organizational Unit 3 (OU3)
    Organizational Unit 4 (OU4)
    Private Management Domain Name (P)
    Administration Management Domain Name (A)
    Country (C)

2. Many users may have difficulty copying an address presented
    as a table (either in labelled or self-explanatory format)
    into a command line interface which uses delimiters.

3. For form-fill style interfaces, user performance will be
    optimised when the interface most closely resembles the
    format of the supplied address with the same sequence of
    attributes using the same attribute types or labels.

Examples of application

1. The Norwegian user of a command line interface receives a
    business card containing the following O/R address:

    G=john; S=smith; O=a bank ltd; P=abl; A=snomail; C=aq

    The command line interface enables the user to type in the
    address exactly as presented on the card.

2. The Norwegian user of a form fill interface receives the
    same business card. The form on the screen includes the
    following field names:

```
                    Fornavn (G)
                    Etternavn (S)
                    Organisasjon (O)
                    Privat domene (P)
                    Administrasjonsdomene (A)
                    Land (C)
```

The user is able to fill in the form by associating the single letter labels on the business card with the same labels in brackets after the Norwegian names of the attributes on the screen. (For form fill input the delimiters are not used.)

3.   The English speaking user of a command line interface receives a document quoting the following O/R address:

```
            Fornavn (G)              Per
            Etternavn (S)            Hansen
            Organisasjon (O)         Teledir
            Organisasjonsenhet (OU1) Forskning
            Privat domene (P)        Tele
            Administrasjonsdomene (A) Telemax
            Land (C)                 NO
```

The user knows how to transform the address from self-explanatory to labelled format. The user can choose to enter the address with either delimiter, e.g.,:

  g=per;s=hansen;o=teledir;ou1=forskning;p=tele;a=telemax;c=no

    or:

  /g=per/s=hansen/o=teledir/ou1=forskning/p=tele/a=telemax/c=no

4. References

[1] F.401 - CCITT Message Handling Services - Operations
     and Definitions of Service - Naming and Addressing
     for Public Message Handling Services, Annex B
     (08/92).

     Available (at the time of writing) as the GOPHER URL:

     gopher://info.itu.ch/9/.1/ITUdoc/.dirtree/.1/.itu-
     t/.rec/.f/.23068/.7724.zip

5. Security Considerations

Security issues are not discussed in this memo.

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RFC822: Harald.Alvestrand@uninett.no
X.400: C=no; ADMD=; PRMD=uninett; O=uninett; S=alvestrand;
G=harald