INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

X.660

Amendment 1
(10/96)

SERIES X: DATA NETWORKS AND OPEN SYSTEM COMMUNICATION

OSI networking and system aspects – Naming, Addressing and Registration

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Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: General procedures

Amendment 1: Incorporation of object identifiers components

ITU-T Recommendation X.660 - Amendment 1

(Previously "CCITT Recommendation")

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FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. Some 179 member countries, 84 telecom operating entities, 145 scientific and industrial organizations and 38 international organizations participate in ITU-T which is the body which sets world telecommunications standards (Recommendations).

The approval of Recommendations by the Members of ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, 1993). In addition, the World Telecommunication Standardization Conference (WTSC), which meets every four years, approves Recommendations submitted to it and establishes the study programme for the following period.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC. The text of ITU-T Recommendation X.660, Amendment 1 was approved on 5th of October 1996. The identical text is also published as ISO/IEC International Standard 9834-1.

NOTE

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

CONTENTS

Summary

This amendment specifies the user of object identifiers to access Directory information.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – PROCEDURES FOR THE OPERATION OF OSI REGISTRATION AUTHORITIES: GENERAL PROCEDURES

AMENDMENT 1
Incorporation of object identifiers components

1) Annex A

Make the following changes to Table A.1:

Change "ccitt(0) recommendation(0)" *to* "itu-t(0) recommendation(0)".

Change "ccitt(0) question(1) n" *to* "itu-t(0) question(1) n".

Change "ccitt(0) administration(2) n" *to* "itu-t(0) administration(2) n".

Change "ccitt(0) network operator(3) n" *to* "itu-t(0) network operator(3) n".

Change "joint-iso-ccitt(2) n" *to* "joint-iso-itu-t(2) n".

Change "joint-iso-ccitt(2) country(16) country-name(n)" *to* "joint-iso-itu-t(2) country(16) country-name(n)".

Change "joint-iso-ccitt(2) registration-procedures(17) specific-procedures(n)" *to* "joint-iso-ccitt(2) registration-procedures(17) specific-procedures(n)".

2) Subclause A.3

Change "**{joint-iso-ccitt(2) n}**" *to* "**{joint-iso-itu-t(2) n}**".

3) Subclause A.4

Make the following changes:

In line 1, change "CCITT" *to* "ITU-T".

In line 2, change "**{joint-iso-ccitt(2) registration-procedures(17)}**" *to* "**{joint-iso-itu-t(2) registration-procedures(17)}**".

In line 10, change "**{joint-iso-ccitt(2) registration-procedures(17) document-types(2) binary(3)}**" *to* "**{joint-iso-itu-t(2) registration-procedures(17) document-types(2) binary(3)}**".

4) Subclause A.5

Make the following changes:

In line 2, change "**{joint-iso-ccitt(2) country(16)}**" *to* "**{joint-iso-ccitt(2) country(16)}**".

In line 6, change "CCITT" *to* "ITU-T".

5) Annex B

In B.3, change "CCITT" *to* "ITU-T".

Add the following text, immediately after B.4:

"B.5 There are some circumstances in which it is appropriate for object identifiers to be transformed into Directory names and used for Directory access. This annex defines three attribute types, an object class and a name form for this purpose.

B.6 The attribute types are:

a) An attribute type for the first component of an object identifier:

```
oidC1   ATTRIBUTE ::= {
            WITH SYNTAX INTEGER
            EQUALITY MATCHING RULE integerMatch
            ID {id-oidC1}}
```

Integer match is defined in ITU-T Rec. X.520 | ISO/IEC 9594-6.

b) An attribute type for the second component of an object identifier:

```
oidC2   ATTRIBUTE ::= {
            WITH SYNTAX INTEGER
            EQUALITY MATCHING RULE integerMatch
            ID {id-oidC2}}
```

Integer match is defined in ITU-T Rec. X.520 | ISO/IEC 9594-6.

c) An attribute type for the remaining components of an object identifier:

```
oidC    ATTRIBUTE ::= {
            WITH SYNTAX INTEGER
            EQUALITY MATCHING RULE integerMatch
            ID {id-oidC}}
```

Integer match is defined in ITU-T Rec. X.520 | ISO/IEC 9594-6

B.7 The object class definition provides an alias object class for a "country level" alias entry:

```
oidRoot     OBJECT-CLASS ::= {
            SUBCLASS OF alias
            MUST CONTAIN {oidC1 | oidC2 | oidC }
            ID {id-oidRoot}}
```

B.8 The name form definition provides a Name Form to permit "country level" entry directly subordinate to the root:

```
oidRootNf   NAME-FORM ::= {
            NAMES oidRoot
            WITH ATTRIBUTES {oidC1 | oidC2 | oidC }
            ID {id-oidRootNf}}
```

B.9 The use of the attribute types is illustrated in Annex D.

B.10 The following ASN.1 module **OidDirectoryNameDef** includes all of the ASN.1 type and value definitions contained in this annex.

```
OidDirectoryNameDef {joint-iso-itu-t registration-procedures(17) module(1) oidDirectoryNameDef(1)  }
DEFINITIONS ::=
BEGIN

-- EXPORTS All --

IMPORTS
        ATTRIBUTE, MATCHING-RULE, OBJECT-CLASS, NAME-FORM, alias
            FROM InformationFramework {joint-iso-itu-t ds(5) module(1)
                informationFramework(1) 2}

        integerMatch
            From SelectedAttributeTypes {joint-iso-itu-t ds(5) module(1)
                    selectedAttributeTypes(5) 2}
```

-- Attribute types --

```
oidC1 ATTRIBUTE ::=   {
        WITH SYNTAX                     INTEGER
        EQUALITY MATCHING RULE  integerMatch
        ID                              id-oidC1}

oidC2 ATTRIBUTE ::=   {
        WITH SYNTAX                     INTEGER
        EQUALITY MATCHING RULE  integerMatch
        ID                              id-oidC2}

oidC ATTRIBUTE  ::=   {
        WITH SYNTAX                     INTEGER
        EQUALITY MATCHING RULE  integerMatch
        ID                              id-oidC}
```

-- Object class definition --

```
oidRoot         OBJECT-CLASS    ::=     {
        SUBCLASS OF     { alias }
        MUST CONTAIN    { oidC1 | oidC2 | oidC }
        ID                      id-oidRoot }
```

-- Name form --

```
oidRootNf  NAME-FORM  ::= {
        NAMES                   oidRoot
        WITH ATTRIBUTES {oidC1 | oidC2 | oidC}
        ID                      id-oidRootNf }
```

-- Object identifier assignments --

```
id                                      OBJECT IDENTIFIER
                ::=   {ioint-iso-itu-t registration-procedures(17)  }directory-defs (2) }
id-oidC1                        OBJECT IDENTIFIER       ::=     {id 0 }
id-oidC2                        OBJECT IDENTIFIER       ::=     {id 1 }
id-oidC                         OBJECT IDENTIFIER       ::=     {id 2 }
id-oidRoot                      OBJECT IDENTIFIER       ::=     {id 3 }
id-oidRootNf                    OBJECT IDENTIFIER       ::=     {id 4 }


END"
```

6) Annex C

In C.1, make the following changes:

In line 4, item b, change "**{joint-iso-ccitt country country-name}**" *to* "**{joint-iso-itu-t country country-name}**".

In line 16, change "**joint-iso-ccitt**" *to* "**joint-iso-itu-t**".

7) New Annex

Add new Annex D and renumber existing Annex D as Annex E.

Annex D

Object identifier based Directory names

(This annex does not form an integral part of this Recommendation | International Standard)

D.1 Transformation of object identifiers into Directory names

D.1.1 The transformation of an object identifier into a Directory name involves the creation of the Directory name as a sequence of OIDComponents. All three attribute types defined in Annex B are used for the formation of an RDN for the first level of the DIT (identifying a country) from the first three components of an object identifier; subsequent RDNs are formed from single components of the object identifier taken in sequence. Thus an object identifier such as:

{iso(1) member-body(2) france(250) type-org(1) abc(6325) marketing-department(316)}

would be transformed into the following Directory name:

{{OIDC1=1, OIDC2=2, OIDC=250}}, {OIDC=1}, {OIDC=6325}, {OIDC=316}}

D.1.2 It should be noted that it is the responsibility of the user of the Directory to carry out the transformation into a Directory name of an object identifier that is to be used for Directory lookup and for the presentation of the Directory name to a DSA via a DUA. Similarly, it is the responsibility of the user of the Directory to derive an object identifier from an OIDComponent based name retrieved from the Directory. The only requirement on DSAs is that they are configured to support the attribute types for OIDComponent.

D.2 The use of object identifier based Directory names

D.2.1 The object identifier based Directory name can be used as the distinguished name for an object. Alternatively, where an object has a conventional distinguished name as well as an object identifier (e.g. an application-process), it can be assigned both forms of Directory name through the use of Directory alias naming. This is illustrated in Figure D.1.

D.2.2 In principle , each entry below the root of the DIT may have an alias name. Such an alias name establishes an OIDComponent based RDN that can be used in Directory access. Thus, Figure D.1 shows an alias name for a country entry (FR) that is an RDN composed of three OIDComponents.

D.2.3 It is thus possible to create entries for objects that have:

a) only a conventional distinguished name, e.g. *Albert Durand* in Figure D.1;

b) only an OIDComponent based name form, e.g. *(application context definition)* in Figure D.1;

c) dual name forms, e.g. in Figure D.1 *organization ABC* has the distinguished name:

{C=FR, O=ABC}

with the corresponding alias name:

{{OIDC1=1, OIDC2=2, OIDC=250}}, {OIDC=1},{OIDC=6325}}.

NOTE – The construction of distinguished names consisting of RDNs of IOD form followed by conventional RDNs may be considered by some organizations as not retaining the user friendly nature of conventional distinguished names.

D.2.4 It should be noted that it is not necessary to generate aliases for all intermediate nodes in a path traversing the tree (e.g. see OU = XY in Figure D.1). Conversely, it is not necessary for all object entries in the alias environment to be actual alias entries (e.g. see node below OIDC = 1 in Figure D.1).

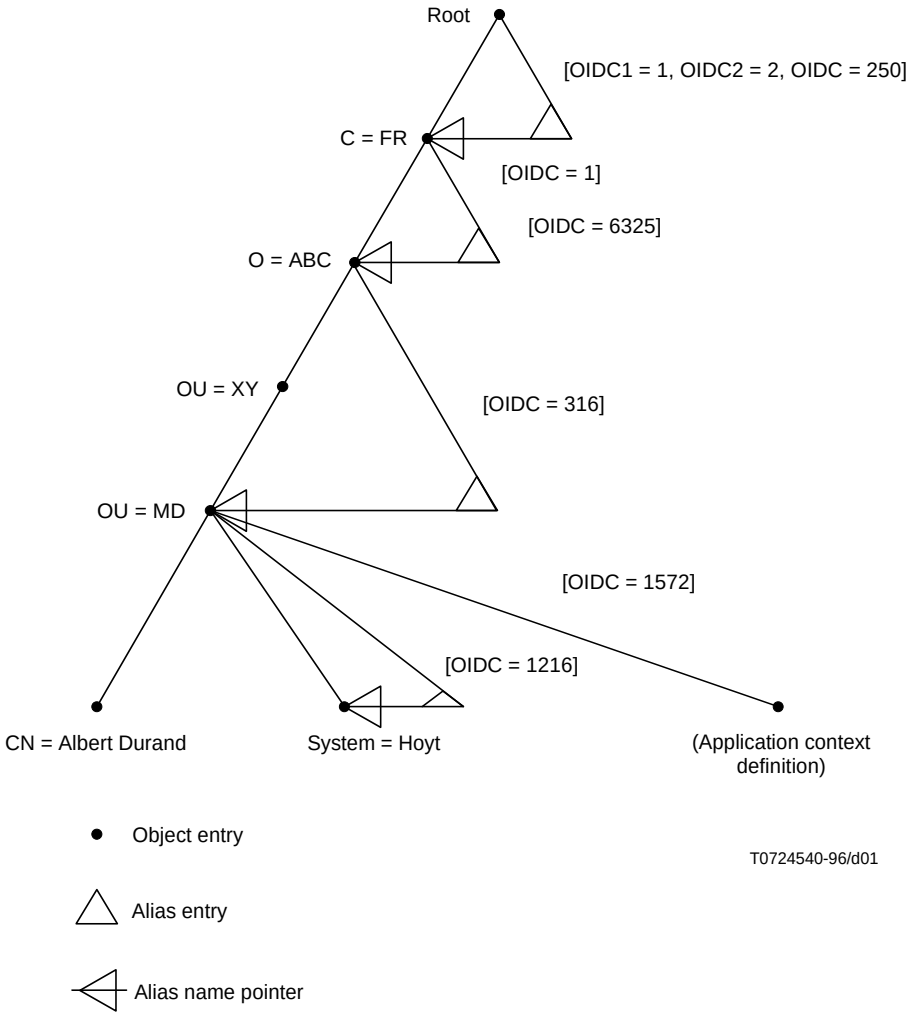

Figure D.1 – The use of Alias Names

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