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Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities: Registration of Object Identifier arcs beneath the top-level arc jointly administered by ISO and ITU-T

Technologies de l'information — Interconnexion de systèmes ouverts (OSI) — Procédures opérationnelles pour les organismes d'enregistrement de l'OSI: Enregistrement des arcs d'identificateur d'objet au-dessous de l'arc de niveau supérieur administré conjointement par l'ISO et l'UIT-T

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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ISO/IEC 9834-3:2009 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems,* in collaboration with ITU-T. The identical text is published as ITU-T Rec. X.662 (08/2008).

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Introduction

ITU-T Rec. X.660 | ISO/IEC 9834-1 defines procedures for registration to meet requirements for assignment of unambiguous names to objects. These registration procedures are generally applicable to registration independent of the type of object involved. In particular, ITU-T Rec. X.660 | ISO/IEC 9834-1 defines the International Object Identifier tree, which is a tree whose nodes correspond to objects that are registered and whose non-leaf nodes may be Registration Authorities. ITU-T Rec. X.660 | ISO/IEC 9834-1 also defines procedures for the delegation of authority for the assignment of names in order to ensure that names are unambiguous. The International Object Identifier tree supports the ASN.1 object identifier and OID internationalized resource identifier types.

The root of the International Object Identifier tree is ITU-T Rec. X.660 | ISO/IEC 9834-1. There are three root arcs from this root:

Primary integer value	***Resulting integer-valued Unicode label***	***(Non-integer) Unicode label***	***Secondary identifier***
0	**"0"**	**"ITU-T"**	**itu-t**
1	**"1"**	**"ISO"**	**iso**
2	**"2"**	**"Joint-ISO-ITU-T"**	**joint-iso-itu-t**

The Registration Authority for the nodes identified by the top-level arcs with primary integer values 0 and 1 (Unicode labels "**ITU-T**" and "**ISO**") are provided by ITU-T Rec. X.660 | ISO/IEC 9834-1, Annex A. Further discussion is beyond the scope of this Recommendation | International Standard.

The operation of the Registration Authority for the node identified by the joint arc (see 3.3) is specified in this Recommendation | International Standard. The corresponding register is called the "Register of arcs beneath the top arc with primary integer value 2.

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INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Registration of object identifier arcs beneath the top-level arc jointly administered by ISO and ITU-T

1 Scope

This Recommendation | International Standard specifies the procedures for adding or modifying entries in the "Register of arcs beneath the top level arc with primary integer value 2" and for the publication of such entries.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

- ITU-T Recommendation X.660 (2008) | ISO/IEC 9834-1:2008, *Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: General procedures and top arcs of the International Object Identifier tree.*
- ITU-T Recommendation X.680 (2002) | ISO/IEC 8824-1:2002, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.*

3 Definitions

For the purposes of this Recommendation | International Standard, the following definitions apply.

3.1 ASN.1 terms

This Recommendation | International Standard uses the following terms defined in ITU-T Rec. X.680 | ISO/IEC 8824-1:

a) object identifier type;

b) OID internationalized resource identifier type.

3.2 International Object Identifier tree terms

This Recommendation | International Standard uses the following terms defined in ITU-T Rec. X.660 | ISO/IEC 9834-1:

a) additional secondary identifier;

b) additional Unicode label;

c) integer-valued Unicode label;

d) International Object Identifier tree;

e) Joint ITU-T | ISO/IEC JTC 1 Collaborative Team for object identifiers.

f) long arc;

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g) non-integer Unicode label;

h) primary integer value;

i) Registration Authority;

j) relevant ITU-T Study Group;

k) relevant ISO/IEC JTC 1 Sub-Committee;

l) secondary identifier;

m) Unicode label.

3.3 Additional definitions

joint arc: The root arc of the International Object Identifier tree that has primary integer value 2, Unicode label "**`Joint-ISO-ITU-T`**" and secondary identifier **`joint-iso-itu-t`**.

4 Abbreviations

For the purposes of this Recommendation | International Standard, the following abbreviations apply:

ASN.1	Abstract Syntax Notation One
OID	Object Identifier

5 General information

5.1 When a new arc is allocated beneath the joint arc, it identifies an international organization or an area of joint work between ITU-T and ISO.

5.2 Where an allocation is made to an international organization or to an area of joint work, the responsible officers shall ensure that an appropriate tree of Registration Authorities be established in order to record all subsequent allocations.

5.3 The allocation determines the primary integer value and optionally one or more Unicode labels and secondary identifiers for the new arc.

5.4 The allocation may also add a new long arc from the root to directly identify the new node in accordance with ITU-T Rec. X.660 | ISO 9834-1, A.6. It may also add additional secondary identifiers or additional Unicode labels to the joint arc in accordance with ITU-T Rec. X.660 | ISO 9834-1, A.7.

NOTE – The provision for additional secondary identifiers or additional Unicode labels on the root nodes pre-dated the provision for long arcs. The long arc mechanism would normally be preferred.

6 Elements of information of a register entry

6.1 The elements of information of a register entry shall be:

a) the identification of a new node (Registration Authority) in the International Object Identifier tree by assigning a primary value and names to a new arc beneath the joint arc; the names shall consist of:

1) an integer-valued Unicode label (defined by the primary integer value) and;

2) (optionally) one or more non-integer Unicode labels and;

3) (optionally) one or more secondary identifiers;

b) either:

1) an area of joint ISO/IEC and ITU-T work which will be the Registration Authority responsible for the allocation of a sub-tree beneath the arc specified in a) above, specified by the ISO project number and the number of the International Standard in which the sub-tree arcs will be specified, and the ITU-T Study Group, Study Period, and Question, and the number of the ITU-T (or CCITT) Recommendation in which the sub-tree arcs will be specified, and a brief title; or

2) an international organization which will be the Registration Authority responsible for the allocation of a sub-tree beneath the arc specified in a) above;

EXAMPLE – The Universal Postal Union (UPU) or the Organization for the Advancement of Structured Information Standards (OASIS) are examples of such international organizations.

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c) status of the entry indicating whether the entry is "active" or "deleted"; and

d) either:

1) a "Responsible Officer" nominated by ISO/IEC and a "Responsible Officer" nominated by ITU-T, who will jointly agree on the assignment of sub-tree arcs within the area of work; or

2) a "Responsible Officer" in the international organization that is responsible for the assignment of sub-tree arcs for that organization.

6.2 The registration entry for an arc from the joint arc shall be identified by specifying that it is the entry for an arc from the joint arc and by giving its primary integer value. An alternative form of identification would be by the use of an IRI/URI value (see ITU-T Rec. X.660 | ISO/IEC 9834-1, Annex F), with either two Unicode labels or a single Unicode label for the long arc (if one has been allocated).

7 Procedures

7.1 Maintenance of the register

The "Register of arcs beneath the root arc with primary integer value 2" is to be maintained in accordance with ITU-T Rec. X.660 | ISO/IEC 9834-1, A.8.1.4, recording for each entry the information required by clause 6, using the proforma at Annex A or otherwise.

NOTE – It is recommended that the Register be made publicly available through the OID repository at http://www.oid-info.com/get/2.

7.2 Recording of entries

7.2.1 The register is to have new entries added as the result of simple resolutions by the relevant ISO/IEC JTC 1 Sub-Committee, ratified by decisions of the relevant ITU-T Study Group, or as the result of decisions by the relevant ITU-T Study Group, ratified by simple resolutions by the relevant ISO/IEC JTC 1 Sub-Committee.

7.2.2 The non-integer Unicode labels (if any) and secondary identifiers (if any) of the arc beneath joint arc shall be requested by the Responsible Officers of ISO/IEC and ITU-T (see 6.1.d.1) or of the international organization (see 6.1.d.2) as specified in ITU-T Rec. X.660 | ISO/IEC 9834-1, A.8.2. If a requested Unicode label or secondary identifier is already assigned within the register, or otherwise deemed inappropriate by the International Registration Authority, the request shall be rejected by the Registration Authority. Otherwise the non-integer Unicode label and secondary identifiers shall be assigned.

7.2.3 The primary integer value (defining the integer-valued Unicode label) of the arc shall be assigned by the International Registration Authority. This value shall normally be increased sequentially by the positive integer one, i.e., +1, above the last assigned primary integer value in the register.

NOTE – The top two arcs of the International Object Identifier tree will encode into a single octet in an ASN.1 object identifier encoding if and only if the primary integer value is in the range 0 to 47, and allocations may be made from 48 upwards if a short identification is not considered necessary for this application.

7.3 Deletion of entries

7.3.1 The status entry shall be updated upon activation or deletion of an entry.

7.3.2 Entries shall be marked as deleted (but still retained) as the result of simple resolutions by the relevant ISO/IEC JTC 1 Sub-Committee, ratified by decisions of the relevant ITU-T Study Group, or as the result of decisions by the relevant ITU-T Study Group, ratified by simple resolutions by the relevant ISO/IEC JTC 1 Sub-Committee, when no further assignments of object identifiers are expected in the area of work. The primary integer values (defining the integer-valued Unicode labels) and the non-integer Unicode labels) of arcs marked as deleted shall never be reused for a new arc.

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7.4 Change of entries

7.4.1 Entries shall not be changed except to replace the "Responsible Officers" or project number, or the ITU-T Question identification.

7.4.2 These changes shall be done as an administrative action on receipt of notification of the required change by either the relevant ITU-T Study Group or the relevant ISO/IEC JTC 1 Sub-Committee.

7.5 Resolving disputes

7.5.1 It may come to pass that a dispute in the operation of the registration process may arise. For example, a non-integer Unicode label or a secondary identifier may be requested which has already been assigned in the register. Disputes shall be resolved in the following manner.

7.5.2 The Joint ITU-T | ISO/IEC JTC 1 Collaborative Team for object identifiers shall inform the Responsible Officers that a dispute has occurred and requires resolution.

7.5.3 The Responsible Officers shall attempt to expedite the resolution of the dispute.

7.5.4 If the Responsible Officers are unable to resolve the dispute, the Chairman of the relevant ISO/IEC JTC 1 Sub-Committee and the Chairman of the relevant ITU-T Study Group shall attempt to expedite the resolution of the dispute.

7.5.5 In the event that the Chairmen are unable to resolve the dispute, a new arc shall not be assigned.

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Annex A

Proforma for registration

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

A.1 Key to register entries

i) Primary integer value (defining the integer-valued Unicode label) and any Unicode labels and/or secondary identifiers allocated to the arc from the joint arc.

ii) Brief title and area of work.

iii) ISO project number, if applicable.

iv) ISO Standard number and date, if applicable.

v) ITU-T Question identification, if applicable.

vi) ITU-T Recommendation number and date, if applicable.

vii) ISO "Responsible Officer" or the "Responsible Officer" in the international organization.

viii) ITU-T "Responsible Officer" or the "Responsible Officer" in the international organization.

ix) Status – active/deleted.

A.2 An example of a possible registration entry for joint ISO and ITU-T work

i) Primary integer value: 1 Unicode labels: **"ASN.1"** Secondary identifier: **asn1**	ii) ASN.1 & OID Work	ix) active
iii) 97.06.50-53		v) (2004-2008) Q. 10/17
iv) ISO/IEC 8824:2008		vi) ITU-T Rec. X.680:2008
vii) ISO ASN.1 Convenor		viii) ITU-T ASN.1 Rapporteur

A.3 An example of a possible registration entry for an international organization X

i) Primary integer value: 50 Unicode Labels: "**ORG-X**" Secondary identifier: **org-x**	ii) org-x	ix) active
iii) N/A		v) N/A
iv) N/A		vi) N/A
vii) Standards liaison officer in org-x		viii) Standards liaison officer in org-x

NOTE – It is likely that if this example register entry were approved, then "**Organization_X**" would also be approved as a Unicode label for a long arc to this node.

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