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Information technology — Open systems interconnection —

Part 2: Procedures for the object identifier resolution system operational agency

Technologies de l'information — Interconnection de systèmes ouverts (OSI) —

Partie 2: Procédures pour l'agence opérationnelle du système de résolution de l'identificateur d'objet

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Abbreviated terms **3**
5 Appointment of the operational agency **3**
5.1 Formal appointment 3
5.2 Nominating bodies 3
5.3 Criteria for nominations and statements from nominees 4
5.4 Selection and approval of an operational agency 4
5.5 Term of appointment 5
5.6 Transfer of .oid-res.org 5
6 OID nodes to be supported by the operational agency **5**
7 Operational agency support **6**
7.1 General 6
7.2 Support for the OID nodes supported by the operational agency 6
7.3 ORS-support for lower-level nodes 7
7.4 Procedures for requesting support for lower-level nodes 7
7.5 Up-to-date OID root zone file access 8
8 Charging issues **8**

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This second edition cancels and replaces the first edition (ISO/IEC 29168-2:2011), which has been technically revised.

The main changes are as follows:

— a secondary operational agency has been introduced as a complement to the primary operational agency, along with rules for its appointment;

— requirements for the nominees for the primary operational agency have been added;

— requirements for accessing an up-to-date OID root zone file have been added.

A list of all parts in the ISO/IEC 29168 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

An introduction to the object identifier (OID) resolution system is provided in ISO/IEC 29168-1.

This document specifies the mechanisms and criteria to be applied for the selection and approval of the object identifier resolution system (ORS) operational agency. It also covers the procedures that the ORS operational agency is required to follow when managing the ORS.

The domain name system (DNS) zone files for .oid-res.org must provide ORS support for the root of the International Object Identifier tree.

These procedures include the appointment (or re-appointment) of the ORS operational agency (the operational agency).

The procedures require the operational agency to provide DNS zone file support for .oid-res.org, as well as for a specified set (see Clause 6) of top-level OID nodes, including domain name system security extension (DNSSEC) (NSEC3) support for those zone files.

The operational agency is also required to support specified procedures (some, but not all, on a commercial basis) that enable the provision of ORS support for OID nodes beneath those that it is fully required to support (see Table 1).

Clause 5 specifies the approval mechanisms for the appointment of the operational agency and any necessary subsequent changes.

Clause 6 specifies the OID nodes to be supported by the operational agency.

Clause 7 specifies the nature of operational agency support.

Clause 8 addresses charging issues for services provided by the operational agency.

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Information technology — Open systems interconnection —

Part 2:
Procedures for the object identifier resolution system operational agency

1 Scope

This document specifies the mechanisms and criteria to be applied for the selection and approval of the object identifier resolution system (ORS) operational agency and includes procedures that the operational agency is required to follow. It also addresses any future modification of the procedures and the procedures for any change of the operational agency.

This document:

— lists the object identifier (OID) nodes for which the operational agency is required to provide ORS support and gives the required level of support for these nodes;

— gives the procedures by which lower-level nodes can apply for ORS support (class A, class B, or class C) and the role of the operational agency in providing these levels of support;

— determines the basis for charges that can be levied for these levels of support.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 9834-1, *Information technology — Procedures for the operation of object identifier registration authorities — Part 1: General procedures and top arcs of the international object identifier tree*

ISO/IEC 9834-3, *Information technology — Open Systems Interconnection — Procedures for the operation of OSI Registration Authorities — Part 3: Registration of Object Identifier arcs beneath the top-level arc jointly administered by ISO and ITU-T*

ISO/IEC 29168-1:2023, *Information technology — Open systems interconnection — Part 1: Object identifier resolution system*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

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3.1
object identifier
OID
ordered list of primary integer values from the root of the *international object identifier tree* (3.2) to a node, which unambiguously identifies that node

3.2
international object identifier tree
tree whose root corresponds to this document and whose nodes correspond to registration authorities responsible for allocating arcs from a parent node

3.3
long arc
unicode label (3.5) from a superior node in the *international object identifier tree* (3.2) that identifies a node that is not immediately beneath the superior node

3.4
object identifier internationalized resource identifier
OID-IRI
ordered list of *unicode labels* (3.5) from the root of the *international object identifier tree* (3.2) that unambiguously identifies a node in that tree

3.5
unicode label
primary value that consists of an unbounded sequence of unicode characters that does not contain the SPACE character used to unambiguously identify an arc of the object identifier tree

3.6
domain name system delegation name
DNAME
domain name system resource record used to create an alias for a domain name and all of its sub-domains

3.7
domain name system name server
DNS NS
domain name system resource record providing the authoritative name server for a domain

3.8
domain name system zone file
text file that describes a portion of the domain name system

3.9
naming authority pointer resource record
domain name system resource record, which specifies a regular-expression-based rewrite rule that, when applied to an existing string, will produce a new domain label or Uniform Resource Identifier

3.10
operational agency procedure
specification of the actions required by the .oid-res.org operational agency

3.11
object identifier resolution system operational agency
organization that manages the domain name system server for the object identifier resolution system root and some subordinate nodes

3.12
object identifier resolution system-supported object identifier node
object identifier (OID) node for which the domain name system (DNS)-mapped names for all of the *object identifier internationalized resource identifier* (3.4) values that identify the OID node existing in the DNS, and have all necessary DNS zone files configured as specified in ISO/IEC 29168-1

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3.13
anycast
practice of making a particular service address available in multiple, discrete, autonomous locations, such that datagrams sent are routed to one of several available locations

3.14
primary operational agency
administrator of the object identifier resolution system (ORS) root zone, operator of the ORS primary root server and registration authority for secondary operational agencies

Note 1 to entry: Unless stated otherwise, the term "operational agency" in Clause 5 should be understood in the same light as "primary operational agency."

3.15
secondary operational agency
operator of an object identifier resolution system secondary root server, which is the secondary domain name system server of .oid-res.org

Note 1 to entry: When there is no distinction, the term "operational agency" refers to both the primary operational agency and all appointed secondary operational agencies.

4 Abbreviated terms

AXFR	domain name system zone transfer protocol
DNAME	domain name system delegation name
DNS	domain name system
NAPTR	domain name system naming authority pointer
NS	domain name system name server
OID	object identifier
OID-IRI	object identifier internationalized resource identifier
ORS	object identifier resolution system

5 Appointment of the operational agency

5.1 Formal appointment

The primary operational agency is formally appointed as an ISO/IEC Registration Authority (RA) under the ISO/IEC JTC 1 procedures for such appointments. The name and contact information of the RA for this document can be found at www.iso.org/maintenance_agencies

Any secondary operational agency can be appointed by the primary operational agency.

5.2 Nominating bodies

When there is a vacancy for the primary operational agency, the request for nominations shall be sent to the ISO/IEC JTC 1/SC 6 Secretariat for posting, and nominations can be submitted by any ISO national standards body or any IEC national committee.

Nominations shall be sent to the ISO/IEC JTC 1/SC 6 Secretariat for the attention of the expert group (see 5.4).

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