

ISO/IEC JTC 1 N 9206
ISO/IEC JTC 1
Information Technology

2008-07-28

Document Type: Proposed NP

Document Title: SC 6 Proposal for a New Work Item, Object Identifier resolution protocol and associated architecture, requirements and guidance

Document Source: SC 6 Secretariat

Reference:

Document Status: This document is circulated to JTC 1 National Bodies for concurrent review. If the JTC 1 Secretariat receives no objections to this proposal by the due date indicated, we will so inform the SC 6 Secretariat.

Action ID: ACT

Due Date: 2008-10-28

No. of Pages: 12

Telecommunications and Information Exchange Between Systems

ISO/IEC JTC 1/SC 6

Document Number:	6N13665
Date:	2008-07-28
Replaces:	
Document Type:	Text for NP ballot
Document Title:	Text for NP ballot, Object Identifier resolution protocol and associated architecture, requirements and guidance
Document Source:	National Body of Korea
Project Number:	
Document Status:	SC 6 NBs are requested to ballot through the ISO e-balloting system (www.iso.org/jtc1/sc6) no later than 2008-10-28.
Action ID:	LB
Due Date:	2008-10-28
No. of Pages:	11
ISO/IEC JTC1/SC6 Secretariat Ms. Jooran Lee, KSA (on behalf of KATS) Korea Technology Center #701-7 Yeoksam-dong, Gangnam-gu, Seoul, 135-513, Republic of Korea ; Telephone: +82 2 6009 4808 ; Facsimile: +82 2 6009 4819 ; Email : jooran@kisi.or.kr	

New Work Item Proposal

PROPOSAL FOR A NEW WORK ITEM

Date of presentation of proposal: 2008-07-28	Proposer: National Body of Korea
Secretariat: KATS	ISO/IEC JTC 1 ISO/IEC JTC 1/SC 06 N13665

A proposal for a new work item shall be submitted to the secretariat of the ISO/IEC joint technical committee concerned with a copy to the ISO Central Secretariat.

Presentation of the proposal - to be completed by the proposer.

Title (subject to be covered and type of standard, e.g. terminology, method of test, performance requirements, etc.)

Object Identifier resolution protocol and associated architecture, requirements and guidance

Scope (and field of application)

This work item defines an Object Identifier (OID) resolution protocol for access to information associated with a given OID.

This work item deals with:

- OID resolution architecture;
- OID resolution protocol;
- Operation of OID resolution service; and
- Security and trust aspects of the OID resolution process

The resolution process will accept as input any form of approved OID naming, including the use of Unicode labels, and possibly relative OIDs if directed to an appropriate lower-level resolver.

Purpose and justification - attach a separate page as annex, if necessary

Currently, OIDs are used to identify many entities in the Information and Communication Technology area. For example, OIDs are used to identify attributes for SNMP, ID schemes, network equipments and object types in X.509 certificates.

The OID resolution protocol will define how to access the information associated with the object identified by the OID. This associated information can be any type such as video, audio, image and text data types.

Many applications will need the OID resolution process. For example, an Identity Management application needs OID resolution to get identity information and a tag-based identification application needs OID resolution to get information on the tag-based identification scheme or on the identified object.

Designing an OID resolution protocol for each separate application is an obstacle to global interoperability. This work item will develop a general OID resolution protocol for all application areas, with an architecture that provides for distributed resolution from the root of the OID tree but also for resolution starting at a lower level (relative OIDs).

Programme of work

If the proposed new work item is approved, which of the following document(s) is (are) expected to be developed?

☒ X a single International Standard (It is not yet determined whether this should be a new part of the ISO/IEC 9834 series, a new part of the ISO/IEC 24824 series, or a new numbered Standard that may become a multi-part Standard in due course. Ballot comments should address this issue.)

☐ more than one International Standard (expected number:)

☐ a multi-part International Standard consisting of parts

☐ an amendment or amendments to the following International Standard(s)

☐ a technical report , type

And which standard development track is recommended for the approved new work item?

<input type="checkbox"/> a. Default Timeframe
<input type="checkbox"/> b. Accelerated Timeframe
<input checked="" type="checkbox"/> c. Extended Timeframe

Relevant documents to be considered OID tree (ISO/IEC 9834 series and ITU-T Rec. X.660 series) Directory (ITU-T Rec. X.500 ISO/IEC 9594 series documents) ASN.1 (ITU-T Rec. X.680 ISO/IEC 8824 and ITU-T Rec. X.690 ISO/IEC 8825 series) Documents related to DNS resolution

Co-operation and liaison Joint Text (collaborative team) with ITU-T SG17 (or its replacement in the new Study Period) under the procedures of Annex K of the JTC 1 Directives

Preparatory work offered with target date(s) The Republic of Korea is pleased to be the sponsoring member for this work item and proposes Mr. Jun Seob Lee as the project leader/editor of this deliverable. Contact Details: Jun Seob Lee Address: ETRI, 138 Gajeongno, Yuseong-gu, Daejeon, Korea, 305-700 email: juns@etri.re.kr Tel: +82 42 860 3859 Fax: +82 42 861 5404

Signature: Jooran Lee

Will the service of a maintenance agency or registration authority be required? ...No... - If yes, have you identified a potential candidate? ...No... - If yes, indicate name Are there any known requirements for coding? ...No... - If yes, please specify on a separate page Does the proposed standard concern known patented items? ...No... - If yes, please provide full information in an annex Are there any known accessibility requirements and/or dependencies (see: http://www.jtc1access.org)? ...No... - If yes, please specify on a separate page Are there any known requirements for cultural and linguistic adaptability? ...No... - If yes, please specify on a separate page

Comments and recommendations of the JTC 1 or SC 6 Secretariat - attach a separate page as an annex, if necessary

Comments with respect to the proposal in general, and recommendations thereon: It is proposed to assign this new item to JTC 1/SC 6/WG 9
--

Voting on the proposal - Each P-member of the ISO/IEC joint technical committee has an obligation to vote within the time limits laid down (normally three months after the date of circulation).

Date of circulation: 2008-07-28	Closing date for voting: 2008-10-28	Signature of Secretary: Jooran Lee
---	---	--

NEW WORK ITEM PROPOSAL - PROJECT ACCEPTANCE CRITERIA		
Criterion	Validity	Explanation

A. Business Requirement		
A.1 Market Requirement	Essential <input checked="" type="checkbox"/> Desirable ____ Supportive ____	Global OID resolution protocol is needed to provide global interoperability and to support work on trusted identification of servers
A.2 Regulatory Context	Essential ____ Desirable ____ Supportive ____ Not Relevant <input checked="" type="checkbox"/>	
B. Related Work		
B.1 Completion/Maintenance of current standards	Yes ____ No <input checked="" type="checkbox"/>	
B.2 Commitment to other organisation	Yes ____ No <input checked="" type="checkbox"/>	
B.3 Other Source of standards	Yes ____ No <input checked="" type="checkbox"/>	
C. Technical Status		
C.1 Mature Technology	Yes ____ No <input checked="" type="checkbox"/>	Products and trial services are already on the market in a few countries but there is no global OID resolution protocol
C.2 Prospective Technology	Yes <input checked="" type="checkbox"/> No ____	
C.3 Models/Tools	Yes ____ No <input checked="" type="checkbox"/>	
D. Conformity Assessment and Interoperability		
D.1 Conformity Assessment	Yes ____ No <input checked="" type="checkbox"/>	
D.2 Interoperability	Yes <input checked="" type="checkbox"/> No ____	
E. Cultural and Linguistic Adaptability	Yes ____ No <input checked="" type="checkbox"/>	
E.1 Cultural and Linguistic Adaptability	Yes ____ No <input checked="" type="checkbox"/>	

E.2 Adaptability to Human Functioning and Context of Use	Yes____ No _X__	
F. Other Justification		

Notes to Proforma

A. Business Relevance. That which identifies market place relevance in terms of what problem is being solved and or need being addressed.

A.1 Market Requirement. When submitting a NP, the proposer shall identify the nature of the Market Requirement, assessing the extent to which it is essential, desirable or merely supportive of some other project.

A.2 Technical Regulation. If a Regulatory requirement is deemed to exist - e.g. for an area of public concern e.g. Information Security, Data protection, potentially leading to regulatory/public interest action based on the use of this voluntary international standard - the proposer shall identify this here.

B. Related Work. Aspects of the relationship of this NP to other areas of standardisation work shall be identified in this section.

B.1 Competition/Maintenance. If this NP is concerned with completing or maintaining existing standards, those concerned shall be identified here.

B.2 External Commitment. Groups, bodies, or fora external to JTC 1 to which a commitment has been made by JTC for Co-operation and or collaboration on this NP shall be identified here.

B.3 External Std/Specification. If other activities creating standards or specifications in this topic area are known to exist or be planned, and which might be available to JTC 1 as PAS, they shall be identified here.

C. Technical Status. The proposer shall indicate here an assessment of the extent to which the proposed standard is supported by current technology.

C.1 Mature Technology. Indicate here the extent to which the technology is reasonably stable and ripe for standardisation.

C.2 Prospective Technology. If the NP is anticipatory in nature based on expected or forecasted need, this shall be indicated here.

C.3 Models/Tools. If the NP relates to the creation of supportive reference models or tools, this shall be indicated here.

D. Conformity Assessment and Interoperability Any other aspects of background information justifying this NP shall be indicated here.

D.1 Indicate here if Conformity Assessment is relevant to your project. If so, indicate how it is addressed in your project plan.

D.2 Indicate here if Interoperability is relevant to your project. If so, indicate how it is addressed in your project plan

E. Cultural and Linguistic Adaptability Indicate here if cultural and linguistic adaptability is applicable to your project. If so, indicate how it is addressed in your project plan.

F. Other Justification Any other aspects of background information justifying this NP shall be indicated here.

INTERNATIONAL STANDARD ISO/IEC XXXX

ITU-T RECOMMENDATION X.XXX

**Information technology –
Open Systems Interconnection –
Object Identifier Resolution Protocol and associated architecture, requirements
and guidance**

Summary

TBD

Keywords

OID, resolution, Object Identifier

Information technology – Open Systems Interconnection – Object Identifier Resolution Protocol and associated architecture, requirements and guidance

Introduction

This Recommendation | International Standard specifies an Object Identifier resolution protocol to get information associated with any object identified by an Object Identifier.

TBD

1 Scope

This Recommendation | International Standard specifies an object identifier resolution protocol which provides access to all the information associated with a given OID using distributed communicating resolvers.

TBD

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 (2004) series | ISO/IEC 9834:2004, *Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: General procedures.*
- ITU-T Recommendation X.680 (2008) series | ISO/IEC 8824:2008, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.*
- ITU-T Recommendation X.690 (2008) series | ISO/IEC 8825:2008, *Information technology – Abstract Syntax Notation One (ASN.1): Encoding Rules.*

3 Definitions

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

3.1 Imported definitions

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

- a) object identifier.

3.2 Additional definitions

3.2.1 **OID resolution:** TBD

3.2.2 **OID resolution server:** TBD

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

OID	Object Identifier
ORC	OID Resolution Client
ORP	OID Resolution Protocol
ORS	OID Resolution Server

5 OID Resolution Architecture

ORP is a protocol between ORC and ORS. ORC can submit an OID for resolution using a protocol that is defined in this Recommendation | International Standard and this OID is resolved via a series of linked ORS. ORS send information related to an object identified the OID back to ORC.

Figure 1 illustrates overall architecture and operation of ORP.

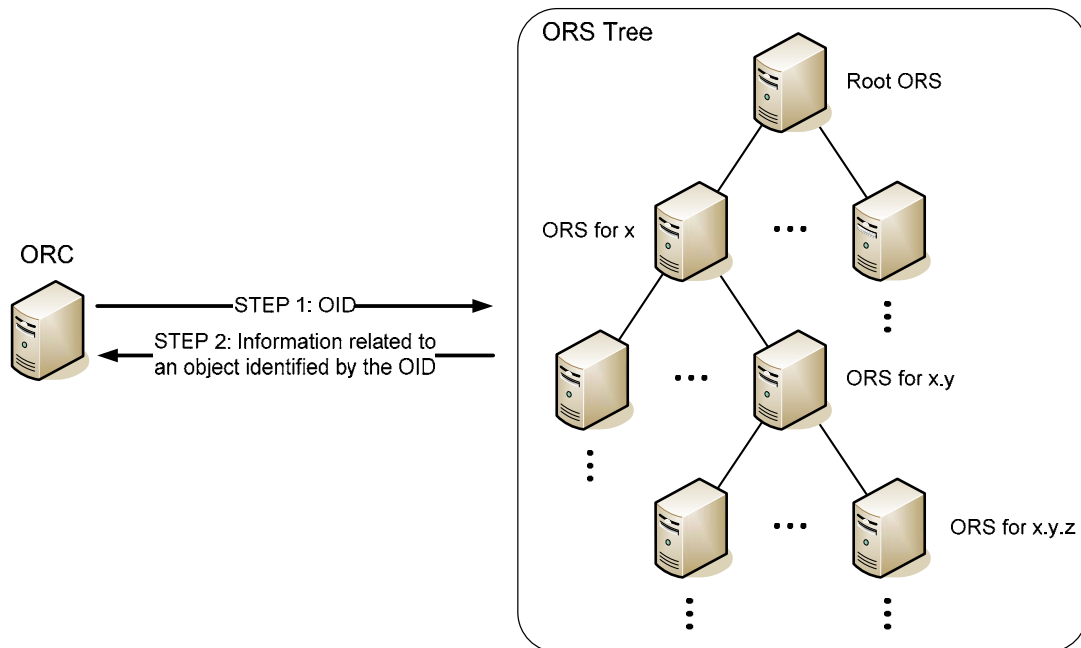


Figure 1. Architecture of OID resolution protocol

The information related to an object identified by the OID in STEP 2 in Figure 1 could be any format such as video, audio, image or text associated with the identified node or a superior node, together with child information for the identified node. The resolution request will determine how much information is returned. It is also to be determined whether the ORC gets back only intermediate information and has to make further requests, or whether internal processing fully resolves the request.

TBD

6 OID Resolution Protocol

TBD

NOTE 1 – This protocol can be based on the IETF DNS protocol or can be a totally new one.

NOTE 2 – Message formats for query and response will be defined here

NOTE 3 – It is for discussion whether an ORC needs to make multiple queries to obtain final resolution, or whether this is done transparently within the OID resolution service.

NOTE 4 – It is possible that the protocol will make significant use of Directory Attribute Certificates to obtain the necessary security.

7 Operation of the OID Resolution Service

TBD

NOTE – The hierarchical structure and its delegation structure will be defined here.

8 Security and Trust Aspects of OID Resolution Process

TBD

9 TBD

TBD

Bibliography

[1] TBD
