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Information technology — Automatic identification and data capture technique — Identifier resolution protocol for multimedia information access triggered by tag-based identification

Technologies de l'information — Techniques automatiques d'identification et de capture des données — Protocole de résolution d'identification de l'accès à des données multimédia déclenché par une identification basée sur des labels

Reference number
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ISO/IEC 29177 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*, in collaboration with ITU-T. The identical text is published as ITU-T H.642.3 (06/2012).

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International Telecommunication Union

ITU-T H.642.3

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Broadband, triple-play and advanced multimedia services – Ubiquitous sensor network applications and Internet of Things

Information technology – Automatic identification and data capture technique – Identifier resolution protocol for multimedia information access triggered by tag-based identification

Recommendation ITU-T H.642.3

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For further details, please refer to the list of ITU-T Recommendations.

INTERNATIONAL STANDARD ISO/IEC 29177
RECOMMENDATION ITU-T H.642.3

Information technology – Automatic identification and data capture technique – Identifier resolution protocol for multimedia information access triggered by tag-based identification

Summary

Recommendation ITU-T H.642.3 | ISO/IEC 29177 specifies the identifier (ID) resolution protocol for multimedia information access triggered by tag-based identification. This ID resolution protocol is used to retrieve the location and access method of the multimedia information associated with an ID.

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T H.642.3	2012-06-29	16

Keywords

Identifier, IRP, resolution, tag-based identification.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

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.

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Introduction

This Recommendation | International Standard specifies the identifier (ID) resolution protocol (IRP). This ID resolution protocol is used to retrieve the location and access method of the multimedia information associated with an ID.

Clause 6 provides an overview of the ID resolution protocol.

Clause 7 specifies the application-specific OID resolution process which will follow the general OID resolution process defined in Rec. ITU-T X.672 | ISO/IEC 29168-1.

Clause 8 specifies the ID resolution process.

There are alternative techniques to meet the use case addressed by this Recommendation | International Standard. One of those techniques is the use of the Electronic Product Code (EPC) and the Object Name Service (ONS). Those interested in this technique are encouraged to consult the documents in the Bibliography for further information.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

Information technology – Automatic identification and data capture technique – Identifier resolution protocol for multimedia information access triggered by tag-based identification

1 Scope

This Recommendation | International Standard defines the identifier (ID) resolution protocol for multimedia information access triggered by tag-based identification which is described in Recommendations ITU-T F.771 and ITU-T H.621.

The identifier resolution protocol (IRP) in this Recommendation | International Standard consists of two processes: an application-specific object identifier (OID) resolution process which is specified in Rec. ITU-T X.672 | ISO/IEC 29168-1 and an identifier resolution process.

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

- Recommendation ITU-T X.668 (2009) | ISO/IEC 9834-9:2009, *Information technology – Open Systems Interconnection – Procedures for the operation of OSI Registration Authorities: Registration of object identifier arcs for applications and services using tag-based identification*.
- Recommendation ITU-T X.672 | ISO/IEC 29168-1, *Information technology – Open Systems Interconnection – Object Identifier Resolution System (ORS)*.

2.2 Additional references

- Recommendation ITU-T F.771 (2008), *Service description and requirements for multimedia information access triggered by tag-based identification*.
- Recommendation ITU-T H.621 (2009), *Architecture of a system for multimedia information access triggered by tag-based identification*.
- IETF RFC 1035:1987, *Domain names – Implementation and specification*.
- IETF RFC 3403:2002, *Dynamic Delegation Discovery System (DDDS) Part Three: The Domain Name System (DNS) Database*.

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 terms defined in Rec. ITU-T X.672 | ISO/IEC 29168-1:

a) application-specific OID resolution process;

b) general OID resolution process;

3.1.2 This Recommendation | International Standard uses the following terms defined in Rec. ITU-T F.771:

a) ID tag;

b) ID terminal.

3.2 Additional definitions

3.2.1 ID resolution protocol (IRP): A protocol used to find uniform resource locator (URL) of multimedia information associated with ID.

3.2.2 ID resolution server (IRS): A server that contains location and access method information of multimedia information and resolves an ID into URL of associated information.

3.2.3 mobile AIDC service: Use of a mobile AIDC application to provide a value to end users.

4 Abbreviations and acronyms

For the purposes of this Recommendation | International Standard, the following abbreviations and acronyms apply.

AIDC	Automatic Identification and Data Capture
C2U	Code to URL
DNS	Domain Name System
EPC	Electronic Product Code
FQDN	Fully Qualified Domain Name
HLC	High Level Code
ID	Identifier
IRP	ID Resolution Protocol
IRS	ID Resolution Server
MIDS	Multimedia Information Delivery Server
NAPTR	Naming Authority Pointer
NS	(DNS) Name Server
OID	Object Identifier
ONS	Object Name Service
ORS	OID Resolution System
RegExp	Regular Expression
RFID	Radio Frequency ID
TLC	Top Level Code
URL	Uniform Resource Locator

5 Overview of the ID resolution protocol

This clause defines an overall architecture of the ID resolution protocol (IRP) for multimedia information access triggered by tag-based identification based on the architecture described in clause 6 of Rec. ITU-T H.621, requirements described in clause 7.3 of Rec. ITU-T F.771, and the OID resolution system in Rec. ITU-T X.672 | ISO/IEC 29168-1.

Figure 1 shows the overall architecture of the IRP.