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REPORT

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**Information technology — Open Systems  
Interconnection — Tutorial on Naming and  
Addressing**

*Technologies de l'information — Interconnexion de systèmes ouverts —  
Tutorial sur la dénomination et l'adressage*



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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 JTC1.

The main task of a technical committee is to prepare International Standards, but in exceptional circumstances, a technical committee may propose the publication of a Technical Report of one of the following types :

- type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts ;
- type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard ;
- type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ('state of the art', for example).

Technical reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful .

ISO/IEC TR 10730, which is a Technical Report of type 3, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 21, *Information retrieval transfer and management for open systems interconnection (OSI)*.

## Introduction

This Technical Report has been developed in order to answer JTC1 member comments on ISO 7498-3 requesting to provide tutorial material to give readers easy understanding. It has been decided to publish this tutorial as a Technical Report of Type 3 rather than as an annex to ISO 7498-3.

In this Technical Report, the basic concepts of naming, including the relationship between (N)-entities, (N)-service-access-points and (N)-addresses are developed in clause 5. A discussion of addressing information in services and protocols is then presented in clause 6, followed by layer-specific examples for the Application and Network layers. Registration authorities and directory facilities are then described in clause 7. Clause 8 presents a series of examples covering relationships between layers and the effects of both initiating and recipient mechanisms in Open Systems altogether with examples of specific name forms published in OSI standards.

# Information technology - Open Systems Interconnection - Tutorial on Naming and Addressing

## 1 Scope

This Technical Report introduces the main concepts and mechanisms which are defined in ISO 7498-3 to fulfil the needs for Naming and Addressing (N & A) objects in the Open Systems Interconnection Environment (OSIE). It also includes the rationale for some of the important decisions made in the Naming and Addressing architecture.

Although ISO 7498-3 does not define any specific forms of names and addresses, this Technical Report concludes with examples of specific name forms that have been defined in other published OSI standards thereby showing how the concepts and mechanisms defined in ISO 7498-3 have been applied in the naming of certain objects.

## 2 References

The following standards contain provisions which, through reference in this text, constitute provisions of this Technical Report. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Technical Report are encouraged to investigate the possibility of applying the most recent editions of the standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3166:1988, *Codes for the representation of names of countries.*

ISO 6523:1984, *Data interchange - Structures for the identification of organizations.*

ISO 7498:1984, *Information processing systems - Open Systems Interconnection - Basic Reference Model.*

ISO 7498-3:1989, *Information processing systems - Open Systems Interconnection - Basic Reference Model - Part 3 : Naming and Addressing.*

ISO 8348 / Add.2:1988, *Information processing systems - Data communications - Network service definition - Addendum 2 : Network Layer Addressing.*

ISO/IEC 8824:1990, *Information technology - Open Systems Interconnection - Specification of Abstract Syntax Notation One (ASN.1).*

ISO/IEC TR 9577:1990, *Information technology - Telecommunications and information exchange between systems - Protocol identification in the Network Layer.*

ISO/IEC 9594:1990, *Information technology - Open Systems Interconnection - The Directory.*

ISO/IEC 9834-1:-1993, *Information technology - Open Systems Interconnection - Procedures for the operation of OSI registration authorities - Part 1 : General procedures.*

ISO/IEC 9834-6:-1993, *Information technology - Open Systems Interconnection - Procedures for the operation of OSI registration authorities. Part 6 : Application-processes and application-entities.*

ISO/IEC 10021:1990, *Information processing systems - Text communication - Message Oriented Text Interchange Systems (mOTIS).*