

INTERNATIONAL
STANDARD

ISO/IEC
10164-9

First edition
1995-12-15

**Information technology — Open Systems
Interconnection — Systems Management:
Objects and attributes for access control**

*Technologies de l'information — Interconnexion de systèmes ouverts
(OSI) — Gestion de systèmes: Objets et attributs pour le contrôle d'accès*



Reference number
ISO/IEC 10164-9:1995(E)

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Printed in Switzerland

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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. 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.

International Standard ISO/IEC 10164-9 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 21, *Open systems interconnection, data management and open distributed processing*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.741.

ISO/IEC 10164 consists of the following parts, under the general title *Information technology — Open Systems Interconnection — Systems Management*:

- *Part 1: Object management function*
- *Part 2: State management function*
- *Part 3: Attributes for representing relationships*
- *Part 4: Alarm reporting function*
- *Part 5: Event report management function*
- *Part 6: Log control function*
- *Part 7: Security alarm reporting function*
- *Part 8: Security audit trail function*
- *Part 9: Objects and attributes for access control*
- *Part 10: Accounting metering function*
- *Part 11: Metric objects and attributes*
- *Part 12: Test management function*
- *Part 13: Summarization function*
- *Part 14: Confidence and diagnostic test categories*
- *Part 15: Scheduling function*
- *Part 16: Management knowledge management function*
- *Part 17: Change over function*
- *Part 18: Software management function*
- *Part 19: Management domain and Management policy management function*

Annexes A to F form an integral part of this part of ISO/IEC 10164. Annexes G and H are for information only.

Introduction

This Recommendation | International Standard specifies an Access Control Security Model and the management information necessary for creating and administering access control associated with OSI Systems Management. Security policy adopted for any instance of use is not specified and is left as an implementation choice. This Specification is of generic application and is applicable to the security management of many types of application. It is expected to be adopted for TMN use.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT: OBJECTS AND ATTRIBUTES FOR ACCESS CONTROL

1 Scope

The specifications contained herein are applicable to the provision of access control for applications that use OSI management services and protocols.

This Recommendation | International Standard

- establishes user requirements for the provision of access control for applications that use OSI management services and protocols;
- interprets and applies the general model of access control defined in ITU-T Rec. X.812 | ISO/IEC 10181-3 for use with management applications that use OSI management services and protocols;
- defines procedures for the imposition of access control rules in conjunction with the use of OSI management services and protocols;
- defines managed object classes and attribute types that
 - a) represent some of the access control information that may be used in the provision of access control; and
 - b) are only for use when the management of the access control information is to be achieved using systems management;
- specifies the protocol that is necessary to exchange the access control information defined in this Recommendation | International Standard, when the exchange is achieved using OSI systems management;
- specifies conformance requirements for open systems that claim to support access control for applications that use OSI management services and protocols;
- specifies conformance requirements for open systems that claim to support the management of the access control information defined in this Recommendation | International Standard.

The access control information identified by this Recommendation | International Standard may be used in support of access control schemes based on access control lists, capabilities, security labels, and contextual constraints.

This Recommendation | International Standard does not

- define an access control policy for applications that use OSI management services and protocols;
- define security (or management) domains in which an access control policy may be imposed;
- define how the components of an access control function be implemented, nor where those components be located;
- specify the form of any access control information that is temporarily or permanently stored in an open system;
- specify any access control mechanisms, nor mandate the use of any particular access control mechanism;
- mandate that access control information be managed, and if it is to be managed, that management be achieved using OSI systems management;
- describe how communicating management application entities act to make access control decisions on behalf of, or for the benefit of any third party;
- specify any conformance requirement for the access control parameter defined in this Recommendation | International Standard.

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.200 (1994) | ISO/IEC 7498-1:1994, *Information technology – Open Systems Interconnection – Basic Reference Model: The Basic Model.*
- ITU-T Recommendation X.509 (1993) | ISO/IEC 9594-8:1995, *Information technology – Open Systems Interconnection – The Directory: Authentication framework.*
- CCITT Recommendation X.701 (1992)¹⁾ | ISO/IEC 10040:1992¹⁾, *Information technology – Open Systems Interconnection – Systems management overview.*
- CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1:1993, *Information technology – Open Systems Interconnection – Structure of management information: Management information model.*
- CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2:1992, *Information technology – Open Systems Interconnection – Structure of management information: Definition of management information.*
- CCITT Recommendation X.722 (1992) | ISO/IEC 10165-4:1992, *Information technology – Open Systems Interconnection – Structure of management information: Guidelines for the definition of managed objects.*
- ITU-T Recommendation X.724 (1993) | ISO/IEC 10165-6:1994, *Information technology – Open Systems Interconnection – Structure of management information: Requirements and guidelines for implementation conformance statement proformas associated with OSI management.*
- CCITT Recommendation X.730 (1992) | ISO/IEC 10164-1:1993, *Information technology – Open Systems Interconnection – Systems management: Object management function.*
- CCITT Recommendation X.731 (1992) | ISO/IEC 10164-2:1993, *Information technology – Open Systems Interconnection – Systems management: State management function.*
- CCITT Recommendation X.732 (1992) | ISO/IEC 10164-3:1993, *Information technology – Open Systems Interconnection – Systems management: Attributes for representing relationships.*
- CCITT Recommendation X.734 (1992) | ISO/IEC 10164-5:1993, *Information technology – Open Systems Interconnection – Systems management: Event report management function.*
- CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7:1992, *Information technology – Open Systems Interconnection – Systems management: Security alarm reporting function.*
- CCITT Recommendation X.740 (1992) | ISO/IEC 10164-8:1993, *Information technology – Open Systems Interconnection – Systems management: Security audit trail function.*
- ITU-T Recommendation X.810²⁾ | ISO/IEC 10181-1...²⁾, *Information technology – Open Systems Interconnection – Security frameworks for open systems: Security frameworks overview.*
- ITU-T Recommendation X.812²⁾ | ISO/IEC 10181-3...²⁾, *Information technology – Open Systems Interconnection – Security frameworks for open systems: Access control framework.*

2.2 Paired Recommendations | International Standards equivalent in technical content

- CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation One (ASN.1).*
ISO/IEC 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*

1) As amended by ITU-T Rec. X.701/Cor.2 | ISO/IEC 10040/Cor.2.

2) Presently at the stage of draft.

- CCITT Recommendation X.209 (1988), *Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.
ISO/IEC 8825:1990, *Information technology – Open systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1)*.
- CCITT Recommendation X.217 (1992), *Service definition for the Association Control Service Element*.
ISO 8649:1988³⁾, *Information processing systems – Open Systems Interconnection – Service definition for the Association Control Service Element*.
- CCITT Recommendation X.227 (1992), *Connection-oriented protocol specification for the Association Control Service Element*.
ISO 8650:1988⁴⁾, *Information processing systems – Open Systems Interconnection – Protocol specification for the Association Control Service Element*.
- CCITT Recommendation X.290 (1992), *OSI conformance testing methodology and framework for protocol Recommendations for CCITT applications – General concepts*.
ISO/IEC 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts*.
- CCITT Recommendation X.291 (1992), *OSI conformance testing methodology and framework for protocol Recommendations for CCITT applications – Abstract test suite specification*.
- ISO/IEC 9646-2:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 2: Abstract Test Suite specification*.
- ITU-T Recommendation X.296⁵⁾, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Implementation conformance statements*.
ISO/IEC 9646-7:1995, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation conformance statements*.
- CCITT Recommendation X.700 (1992), *Management framework for Open Systems Interconnection for CCITT applications*.
ISO/IEC 7498-4:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 4: Management framework*.
- CCITT Recommendation X.710 (1991), *Common management information service definition for CCITT applications*.
ISO/IEC 9595:1991, *Information technology – Open Systems Interconnection – Common management information service definition*.
- CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.
ISO/IEC 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol – Part 1: Specification*.
- CCITT Recommendation X.800 (1991), *Security architecture for Open Systems Interconnection for CCITT applications*.
ISO 7498-2:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 2: Security architecture*.

³⁾ As amended by ISO/IEC 8649:1988/Amd.1:1990.

⁴⁾ As amended by ISO/IEC 8650:1988/Amd.1:1990.

⁵⁾ Presently at the stage of draft