INTERNATIONAL STANDARD

ISO/IEC 10040

Second edition
1998-10-15

Information technology — Open Systems Interconnection — Systems management overview

Technologies de l'information — Interconnexion de systèmes ouverts (OSI) — Aperçu général de la gestion-système

Contents

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 10040 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 33, *Distributed application services*, in collaboration with ITU-T. The identical text is published as ITU-T Recommendation X.701.

This second edition cancels and replaces the first edition (ISO/IEC 10040:1992), which has been technically revised. It also incorporates Amendment 1:1995, Technical Corrigendum 1:1994 and Technical Corrigendum 2:1996.

Annex A forms an integral part of this International Standard. Annex B is for information only.

INTERNATIONAL STANDARD

ITU-T RECOMMENDATION

INFORMATION TECHNOLOGY – OPEN SYSTEMS INTERCONNECTION – SYSTEMS MANAGEMENT OVERVIEW

1   Scope

This Recommendation | International Standard:

– provides an overview to the family of systems management standards;

– establishes the basis for partitioning the systems management standards into separate groups, specifying the scope of each group and identifying the principal components within each group;

– gives guidance on the development of systems management standards and identifies the way they relate to each other;

– defines terms for use by other systems management standards;

– is applicable to the definition of all systems management standards and to all aspects of systems management of whatever scale;

– is applicable to situations in which the responsibility for systems management is centralized and those where it is decentralized;

– establishes a model for systems management, identifies several aspects of systems management (i.e. information, functional, communications, and organizational), and further refines the model to clarify these aspects;

– identifies the principles governing conformance requirements and conformance claims to systems management standards.

There are no conformance requirements on the main body of this Recommendation | International Standard, however it does specify requirements on standards claiming compliance to systems management.

Annex A defines an application context for systems management and specifies the rules for negotiating systems management functional units. There are conformance requirements associated with these rules.

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 agreement 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 ITU-T 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.207 (1993) | ISO/IEC 9545:1994, *Information technology – Open Systems Interconnection – Application layer structure.*

– ITU-T Recommendation X.217 (1995) | ISO/IEC 8649:1996, *Information technology – Open Systems Interconnection – Service definition for the association control service element.*

– ITU-T Recommendation X.227 (1995) | ISO/IEC 8650-1:1996, *Information technology – Open Systems Interconnection – Connection-oriented protocol for the association control service element: Protocol specification.*

– ITU-T Recommendation X.680 (1994) | ISO/IEC 8824-1:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.*

– ITU-T Recommendation X.681 (1994) | ISO/IEC 8824-2:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*

– ITU-T Recommendation X.682 (1994) | ISO/IEC 8824-3:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Constraint specification.*

– ITU-T Recommendation X.683 (1994) | ISO/IEC 8824-4:1995, *Information technology – Abstract Syntax Notation One (ASN.1): Parameterization of ASN.1 specifications.*

– ITU-T Recommendation X.690 (1994) | ISO/IEC 8825-1:1995, *Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*

– ITU-T Recommendation X.691 (1995) | ISO/IEC 8825-2:1995, *Information technology – ASN.1 encoding rules: Specification of Packed Encoding Rules (PER).*

– ITU-T Recommendation X.702 (1995) | ISO/IEC 11587:1996, *Information technology – Open Systems Interconnection – Application context for systems management with transaction processing.*

– CCITT Recommendation X.712 (1992) | ISO/IEC 9596-2:1993, *Information technology – Open Systems Interconnection – Common management information protocol: Protocol Implementation Conformance Statement (PICS) proforma* plus Technical Corrigenda 1 and 2 (1996).

– 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.723 (1993) | ISO/IEC 10165-5:1994, *Information technology – Open Systems Interconnection – Structure of management information: Generic management information.*

– 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.*

– ITU-T Recommendation X.725 (1995) | ISO/IEC 10165-7:1996, *Information technology – Open Systems Interconnection – Structure of management information: General relationship model.*

– 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 10164-2:1992, *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.733 (1992) | ISO/IEC 10164-4:1992, *Information technology – Open Systems Interconnection – Systems Management: Alarm reporting function.*

– CCITT Recommendation X.734 (1992) | ISO/IEC 10164-5:1993, *Information technology – Open Systems Interconnection – Systems Management: Event report management function.*

– CCITT Recommendation X.735 (1992) | ISO/IEC 10164-6:1993, *Information technology – Open Systems Interconnection – Systems Management: Log control function.*

– CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7:1992, *Information technology – Open Systems Interconnection – Systems Management: Security alarm reporting function.*

– ITU-T Recommendation X.737 (1995) | ISO/IEC 10164-14:1996, *Information technology – Open Systems Interconnection – Systems Management: Confidence and diagnostic test categories.*

– ITU-T Recommendation X.738 (1993) | ISO/IEC 10164-13:1995, *Information technology – Open Systems Interconnection – Systems Management: Summarization function.*

– ITU-T Recommendation X.739 (1993) | ISO/IEC 10164-11:1994, *Information technology – Open Systems Interconnection – Systems Management: Metric objects and attributes.*

– CCITT Recommendation X.740 (1992) | ISO/IEC 10164-8:1993, *Information technology – Open Systems Interconnection – Systems Management: Security audit trail functions.*

– ITU-T Recommendation X.741 (1995) | ISO/IEC 10164-9:1995, *Information technology – Open Systems Interconnection – Systems Management: Objects and attributes for access control.*

– ITU-T Recommendation X.742 (1995) | ISO/IEC 10164-10:1995, *Information technology – Open Systems Interconnection – Systems Management: Usage metering function for accounting purposes.*

– ITU-T Recommendation X.745 (1993) | ISO/IEC 10164-12:1994, *Information technology – Open Systems Interconnection – Systems Management: Test management function.*

– ITU-T Recommendation X.746 (1995) | ISO/IEC 10164-15:1995, *Information technology – Open Systems Interconnection – Systems Management: Scheduling function.*

– ITU-T Recommendation X.751 (1995) | ISO/IEC 10164-17:1996, *Information technology – Open Systems Interconnection – Systems Management: Change over function.*

2.2 Paired Recommendations | International Standards equivalent in technical content

– CCITT Recommendation X.208 (1988), *Specification of Abstract Syntax Notation 1 (ASN.1).*

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

– 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.219 (1988), *Remote operations: Model, notation and service definition.*

ISO/IEC 9072-1:1989, *Information processing systems – Text communication – Remote Operations – Part 1: Model, notation and service definition.*

– CCITT Recommendation X.229 (1988), *Remote operations: Protocol specification.*

ISO/IEC 9072-2:1989 *Information processing systems – Text communication – Remote Operations – Part 2: Protocol specification.*

– ITU-T Recommendation X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – General concepts.*

ISO/IEC 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts.*

– ITU-T Recommendation X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications – 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 (OSI) 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.860 (1992), *Open Systems Interconnection – Distributed transaction processing – Model.*

ISO/IEC 10026-1:1992, *Information technology – Open Systems Interconnection – Distributed Transaction Processing – Part 1: OSI TP Model.*

–	CCITT Recommendation X.861 (1992), *Open Systems Interconnection – Distributed transaction processing: Service definition.*

ISO/IEC 10026-2:1992, *Information technology – Open Systems Interconnection – Distributed Transaction Processing – Part 2: OSI TP Service.*

–	CCITT Recommendation X.862 (1993), *Open Systems Interconnection – Distributed transaction processing: Protocol specification.*

ISO/IEC 10026-3:1992, *Information technology – Open Systems Interconnection – Distributed Transaction Processing – Part 3: Protocol specification.*

## 2.3	Additional references

–	ISO 8571:1988, *Information processing systems – Open Systems Interconnection – File Transfer, Access and Management.*

–	ISO/IEC 9545:1994, *Information technology – Open Systems Interconnection – Application Layer structure.*