

Information technology — Elements of management information related to the OSI Physical Layer

ICS 35.100.10

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW



Document Sharing Hub

National foreword

This British Standard reproduces verbatim ISO/IEC 13642:1996 and implements it as the UK national standard.

The UK participation in its preparation was entrusted to Technical Committee IST/6, Data communications, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this committee can be obtained on request to its secretary.

Cross-references

The British Standards which implement international or European publications referred to in this document may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ISO/IEC title page, pages ii to iv, pages 1 to 18 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

This British Standard, having been prepared under the direction of the DISC Board, was published under the authority of the Standards Board and comes into effect on 15 August 1998

© BSI 06-1999

ISBN 0 580 30289 X

Amendments issued since publication

Amd. No.	Date	Comments

Contents

	Page
National foreword	Inside front cover
Foreword	iii
Text of ISO/IEC 13642	1

INTERNATIONAL
STANDARD

**ISO/IEC
13642**

First edition
1996-08-01

**Information technology — Elements of
management information related to the
OSI Physical Layer**

*Technologies de l'information — Éléments d'information de gestion liés à
la couche physique OSI*



Contents

	Page
Foreword	iii
1 Scope	1
2 Normative references	1
2.1 Identical Recommendations International Standards	1
2.2 Paired Recommendations International Standards equivalent in technical content	2
3 Definitions	2
3.1 Basic Reference Model definitions	2
3.2 Management framework definitions	2
3.3 Systems management overview definitions	2
3.4 Common management information service definitions	2
3.5 Management information model definitions	3
3.6 GDMO definitions	3
4 Symbols and abbreviations	3
5 Elements of Physical Layer Management Information	3
5.1 Managed Object Hierarchy	3
5.2 Common Physical Layer GDMO definitions	5
5.3 The Physical Layer Subsystem Managed Object	6
5.4 Physical Entity Managed Object	6
5.5 Physical Service Access Point Managed Object	7
5.6 Data-circuit Managed Object	8
5.7 Physical Connection Managed Object	11
6 ASN.1 Module	12
6.1 Object identifier definitions	12
6.2 Other definitions	13
7 Conformance	13
7.1 Conformance requirements to this Recommendation International Standard	13
Annex A Allocation of Object Identifiers	14
Annex B Shorthand description of Managed Objects	15
Annex C Example of the use of relationship attributes	17
Index	18
Figure 1 — Physical Layer Containment Hierarchy	4
Figure B.1 — Physical Layer Inheritance Hierarchy	15
Figure C.1 — Example of relationships	17

Descriptors: Data processing, information interchange, telecommunications, network interconnection, open systems interconnection, physical layer, data transmission, communication procedure, information, management.

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 13642 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.281.

Annex A forms an integral part of this International Standard. Annex B and Annex C are for information only.

1 Scope

This Recommendation | International Standard provides the specification of management information within an Open System related to those operations of the OSI Physical Layer specified by the specifications in this Recommendation | International Standard. Specifics on how Physical Layer management is accomplished is beyond the scope of this Recommendation | International Standard. Physical Layer management is defined by specifying:

- the managed object class definition of Physical Layer Managed Objects following guidelines put forth by the *Structure of Management Information* (see ITU-T Recommendations X.720 to X.723 and ISO/IEC 10165);
- the relationship of the Managed Objects and attributes to both the operation of the layer and to other objects and attributes of the layer; and
- the action type operations on the attributes of Physical Layer Managed Objects that are available to OSI Systems Management.

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.211 (1995) | ISO/IEC 10022:1996, *Information technology — Open Systems Interconnection — Physical service definition*.
- CCITT Recommendation X.701 (1992) | ISO/IEC 10040:1992, *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.723 (1993) | ISO/IEC 10165-5:1994, *Information technology — Open Systems Interconnection — Structure of management information: Generic management information*.
- 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.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*.