

Information technology — International Standardized Profiles — OSI Management — Common information for management functions

Part 1. Object management

ICS 35.100.05

National foreword

This British Standard reproduces verbatim ISO/IEC ISP 12059-1 : 1995 and implements it as the UK national standard.

The UK participation in its preparation was entrusted to Technical Committee IST/21, Open Systems Interconnection, Data Management and Open Distributed Processing, which has the responsibility to:

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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 using the 'Find' facility of the BSI Standards Electronic Catalogue.

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Summary of pages

This document comprises a front cover, an inside front cover, the ISO/IEC ISP title page, pages ii and iii, a blank page, pages 1 to 40, an inside back cover and a back cover.

Amendments issued since publication

Amd. No.	Date	Text affected

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 March 1997

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INTERNATIONAL
STANDARDIZED
PROFILE

**ISO/IEC
ISP
12059-1**

First edition
1995-12-15

**Information technology — International
Standardized Profiles — OSI
Management — Common information for
management functions —**

Part 1:
Object management

*Technologies de l'information — Profils normalisés internationaux —
Gestion OSI — Information courante pour fonctions de gestion —
Partie 1: Gestion d'objet*



Reference number
ISO/IEC ISP 12059-1:1995(E)
AVA Documents
Document Sharing Hub

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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. In addition to developing International Standards, ISO/IEC JTC 1 has created a special group on Functional Standardization for the elaboration of International Standardized Profiles.

An International Standardized Profile is an internationally agreed, harmonized document which identifies a standard or group of standards, together with options and parameters, necessary to accomplish a function or set of functions.

Draft International Standardized Profiles are circulated to national bodies for voting. Publication as an International Standardized Profile requires approval by at least 75 % of the national bodies casting a vote.

International Standardized Profile ISO/IEC ISP 12059-1 was prepared with the collaboration of

- Asia-Oceania Workshop (AOW);
- European Workshop for Open Systems (EWOS);
- Open Systems Environment Implementors' Workshop (OIW).

ISO/IEC ISP 12059 consists of the following parts, under the general title *Information technology - International Standardized Profiles - OSI Management - Common information for management functions*:

- *Part 0: Common definitions for management function profiles*
- *Part 1: Object management*
- *Part 2: State management*
- *Part 3: Attributes for representing relationships*
- *Part 4: Alarm reporting*
- *Part 5: Event report management*
- *Part 6: Log control*

Annexes A and B form an integral part of this part of ISO/IEC ISP 12059.

Information technology - International Standardized Profiles - OSI Management - Common information for management functions -

Part 1:

Object management

1 Scope

1.1 General

This part of ISO/IEC ISP 12059 is based on CCITT Rec. X.730 | ISO/IEC 10164-1, Object management function. Each part of ISO/IEC ISP 12059 is a building block, containing a subset of systems management function capability, and is used by ISO/IEC ISP 12060 parts to build interoperable profile specifications.

1.2 Position within the Taxonomy

This part of ISO/IEC ISP 12059 may be referenced by parts of ISO/IEC ISP 12060 for the specification of management function profiles. The position of this part of ISO/IEC ISP 12059 within the taxonomy is described in ISO/IEC ISP 12059-0.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 12059. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this part of ISO/IEC ISP 12059 are warned against automatically applying any more recent editions of the documents listed below, since the nature of references made by ISPs to such documents is that they may be specific to a particular edition. Members of IEC and ISO maintain registers of currently valid International Standards and ISPs, and ITU-T maintains published editions of its current Recommendations.

2.1 Identical CCITT 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*.
- 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*.
- CCITT Recommendation X.730 (1992) | ISO/IEC 10164-1:1993, *Information technology - Open Systems Interconnection - Systems Management: Object management function*.
- 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.*

2.2 Paired CCITT/ITU-T 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).*
- 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.296¹⁾, *OSI 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 Definition 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.*

2.3 Additional references

- ISO/IEC 9545:1994, *Information technology - Open Systems Interconnection - Application layer Structure.*
- ISO/IEC TR 10000-1:1992²⁾, *Information technology - Framework and taxonomy of International Standardized profiles - Part 1: Framework.*
- ISO/IEC TR 10000-2:1994²⁾, *Information technology - Framework and taxonomy of International Standardized profiles - Part 2: Principles and Taxonomy for OSI Profiles.*
- ISO/IEC ISP 12059-0:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 0: Common definitions for management function profiles.*

3 Definitions

The terms used in this part of ISO/IEC ISP 12059 are defined in the referenced base standards.

4 Abbreviations

The abbreviations used in this part of ISO/IEC ISP 12059 are specified in ISO/IEC ISP 12059-0.

1) Currently at the stage of Draft Recommendation.

2) Under revision.

5 Conventions

5.1 Common conventions

The common conventions and status codes for IPRL used in this part of ISO/IEC ISP 12059, including c3, are defined in ISO/IEC ISP 12059-0.

5.2 Document specific conventions

The following conditions are specified in the referenced base standard and used in this part of ISO/IEC ISP 12059:

1B/cn see CCITT Rec X.730 | ISO/IEC 10164-1, Annex B, condition cn

1C/cn see CCITT Rec X.730 | ISO/IEC 10164-1, Annex C, condition cn

6 Conformance requirements

This part of ISO/IEC ISP 12059 is referenced by parts of ISO/IEC ISP 12060. Those parts of ISO/IEC ISP 12060 that reference this part of ISO/IEC ISP 12059 each define the requirements for a particular AOM2xx profile and state the conformance requirements for that profile.

Annex A

(normative)

ISPICS Requirements List (IPRL) for Object management

The following clarifies, where necessary, the column headings used in the IPRL in this annex:

Index:	The row index of this item in the referenced ICS proforma.
Constraints and values:	Base standard constraints or any additional constraints defined in the common profile for this item.
Base Std.:	The status value of the item as defined in the base standard.
Common Profile:	Common profile requirements defined for this item (relevant to any profile referencing this table)..

The notation used in this annex is identified in clause 5. The parameter names are those which are specified in CCITT Rec. X.730 | ISO/IEC 10164-1 and CCITT Rec. X.721 | ISO/IEC 10165-2.

A.1 Manager/Agent role

Table A.1 is based on Table B.4 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.1 – Management role support

Index	Systems management functional unit	Manager		Agent		Additional information
		Base Std.	Common Profile	Base Std.	Common Profile	
1	all Events	o	o.1	o	o.1	
2	control	o	o.2	o	o.2	
3	monitor	o	o.3	o	o.3	
4	object Events	1B/c2	o.4	1B/c2	o.4	

A.2 MAPDU support

Table A.2 is based on Table B.5 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.2 – Object management MAPDUs

Index	MAPDU (agent sending) (manager receiving)	Base Std.	Common Profile	Additional information
1	Object creation (agent sending)	1B/c3	1B/c3	
2	Object deletion (agent sending)	1B/c3	1B/c3	
3	Attribute value change (agent sending)	1B/c3	1B/c3	
4	Object creation (manager receiving)	1B/c4	1B/c4	
5	Object deletion (manager receiving))	1B/c4	1B/c4	
6	Attribute value change (manager receiving)	1B/c4	1B/c4	

A.2.1 Object creation MAPDU support

Table A.3 is based on Table B.6 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.3 – Object creation MAPDU (Agent sending)

Index	Parameter name	Constraints and values	Base Std.	Common Profile	Additional information
1	sourceIndicator	ENUMERATED 0 to 2	o	mo	
2	attributeList ³⁾	–	o	mo	
3	notificationIdentifier	INTEGER	1B/c5	1B/c5o	
4	correlatedNotifications	–	o	oo	
4.1	correlatedNotifications	–	c:m	c:mm	
4.2	sourceObjectInst	–	c:o	c:mo	
4.2.1	distinguishedName	–	c:o.2	c:mc3	
4.2.2	nonspecificForm	–	c:o.2	c:mc3	
4.2.3	localDistinguishedName	–	c:o.2	c:mc3	
5	additionalText	–	o	oo	
6	additionalInformation	Required for some objects	o	oo	

Table A.4 is based on Table B.7 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.4 – Object creation MAPDU (Manager receiving)

Index	Parameter name	Constraints and values	Base Std.	Common Profile	Additional information
1	sourceIndicator	ENUMERATED 0 to 2	m	mo	
2	attributeList ³⁾	–	m	mo	
3	notificationIdentifier	INTEGER	m	mo	
4	correlatedNotifications	–	m	mo	
4.1	correlatedNotifications	–	m	mm	
4.2	sourceObjectInst	–	m	mo	
4.2.1	distinguishedName	–	m	mc3	
4.2.2	nonspecificForm	–	m	mc3	
4.2.3	localDistinguishedName	–	m	mc3	
5	additionalText	–	m	mo	
6	additionalInformation	Required for some objects	m	mo	

³⁾ This parameter is used to carry any attribute type. However, for a particular notification only the attributes of the corresponding managed object instance being created are allowed to be present.

A.2.2 Object deletion MAPDU support

Table A.5 is based on Table B.8 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.5 – Object deletion MAPDU (Agent sending)

Index	Parameter name	Constraints and values	Base Std.	Common Profile	Additional information
1	sourceIndicator	ENUMERATED 0 to 2	o	mo	
2	attributeList ⁴⁾	–	o	mo	
3	notificationIdentifier	INTEGER	1B/c6	1B/c6o	
4	correlatedNotifications	–	o	oo	
4.1	correlatedNotifications	–	c:m	c:mm	
4.2	sourceObjectInst	–	c:o	c:mo	
4.2.1	distinguishedName	–	c:o.3	c:mc3	
4.2.2	nonspecificForm	–	c:o.3	c:mc3	
4.2.3	localDistinguishedName	–	c:o.3	c:mc3	
5	additionalText	–	o	oo	
6	additionalInformation	Required for some objects	o	oo	

Table A.6 is based on Table B.9 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.6 – Object deletion MAPDU (Manager receiving)

Index	Parameter name	Constraints and values	Base Std.	Common Profile	Additional information
1	sourceIndicator	ENUMERATED 0 to 2	m	mo	
2	attributeList ⁴⁾	–	m	mo	
3	notificationIdentifier	INTEGER	m	mo	
4	correlatedNotifications	–	m	mo	
4.1	correlatedNotifications	–	m	mm	
4.2	sourceObjectInst	–	m	mo	
4.2.1	distinguishedName	–	m	mc3	
4.2.2	nonspecificForm	–	m	mc3	
4.2.3	localDistinguishedName	–	m	mc3	
5	additionalText	–	m	mo	
6	additionalInformation	Required for some objects	m	mo	

⁴⁾ This parameter is used to carry any attribute type. However, for a particular notification only the attributes of the corresponding managed object instance being deleted are allowed to be present.

A.2.3 Attribute value change MAPDU support

Table A.7 is based on Table B.10 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.7 – Attribute value change MAPDU (Agent sending)

Index	Parameter name	Constraints and values	Base Std.	Common Profile	Additional information
1	sourceIndicator	ENUMERATED 0 to 2	o	mo	
2	attributeIdentifierList	–	o	mo	
3	attributeValueChangeDefinition ⁵⁾	–	m	mm	
3.1	attributeId	–	m	mm	
3.2	oldAttributeValue	–	o	mo	
3.3	newAttributeValue	–	m	mm	
4	notificationIdentifier	INTEGER	1B/c7	1B/c7o	
5	correlatedNotifications	–	o	oo	
5.1	correlatedNotifications	–	c:m	c:mm	
5.2	sourceObjectInst	–	c:o	c:mo	
5.2.1	distinguishedName	–	c:o.4	c:mc3	
5.2.2	nonspecificForm	–	c:o.4	c:mc3	
5.2.3	localDistinguishedName	–	c:o.4	c:mc3	
6	additionalText	–	o	oo	
7	additionalInformation	Required for some objects	o	oo	

Table A.8 is based on Table B.11 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.8 – Attribute value change MAPDU (Manager receiving)

Index	Parameter name	Constraints and values	Base Std.	Common Profile	Additional information
1	sourceIndicator	ENUMERATED 0 to 2	m	mo	
2	attributeIdentifierList	–	m	mo	
3	attributeValueChangeDefinition ⁵⁾	–	m	mm	
3.1	attributeId	–	m	mo	
3.2	oldAttributeValue	–	m	mo	
3.3	newAttributeValue	–	m	mm	
4	notificationIdentifier	INTEGER	m	mo	
5	correlatedNotifications	–	m	mo	
5.1	correlatedNotifications	–	m	mm	
5.2	sourceObjectInst	–	m	mo	
5.2.1	distinguishedName	–	m	mc3	
5.2.2	nonspecificForm	–	m	mc3	
5.2.3	localDistinguishedName	–	m	mc3	
6	additionalText	–	m	mo	
7	additionalInformation	Required for some objects	m	mo	

⁵⁾ This parameter is used to carry any attribute type. However, for a particular notification only the attributes of the corresponding managed object instance undergoing value change are allowed to be present.

A.3 Managed object support

A.3.1 Introduction

The following MOCS tables define the requirements for the object creation record managed object class, object deletion record managed object class and attribute value change record managed object class.

A.3.2 Object creation record support

A.3.2.1 Object creation record packages support

Table A.9 is based on Table C.3 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.9 – Object creation record packages

Index	Package template label	Value of object identifier for package	Constraints and values	Base Std.	Common Profile	Additional information
1	topPackage	–	–	m	m	
2	packagesPackage	{dmi-pkg 16}	–	1C/c1	m	
3	allomorphicPackage	{dmi-pkg 17}	–	1C/c2	i	
4	logRecordPackage	–	–	m	m	
5	eventLogRecordPackage	–	–	m	m	
6	eventTimePackage	{dmi-pkg 11}	–	o	m	
7	notificationIdentifierPackage	{dmi-pkg 24}	–	o	m	
8	correlatedNotificationsPackage	{dmi-pkg 23}	–	o	m	
9	additionalTextPackage	{dmi-pkg 19}	–	o	m	
10	additionalInformationPackage	{dmi-pkg 18}	–	o	m	
11	objectCreationRecordPackage ⁶⁾	–	–	m	m	
12	sourceIndicatorPackage	{dmi-pkg 28}	–	o	m	
13	attributeListPackage	{dmi-pkg 21}	–	o	m	

⁶⁾ This package has no attributes.

A.3.2.2 Object creation record attributes support

Table A.10 is based on Table C.4 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.10 – Object creation record attributes

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Base Std.	Common Profile	Base Std.	Common Profile	Base Std.	Common Profile
1	objectClass	{dmi-att 65}	–	x	x	m	m	x	x
2	nameBinding	{dmi-att 63}	–	x	x	m	m	x	x
3	packages	{dmi-att 66}	–	x	x	1C/c1	m	x	x
4	allomorphs	{dmi-att 50}	–	x	x	1C/c2	i	x	x
5	logRecordId	{dmi-att 3}	–	x	x	m	m	x	x
6	loggingTime	{dmi-att 59}	–	x	x	m	m	x	x
7	managedObjectClass	{dmi-att 60}	–	x	x	m	m	x	x
8	managedObjectInstance	{dmi-att 61}	–	x	x	m	m	x	x
9	eventType	{dmi-att 14}	–	x	x	m	m	x	x
10	eventTime	{dmi-att 13}	–	x	x	1C/c3	m	x	x
11	notificationIdentifier	{dmi-att 16}	–	x	x	1C/c4	m	x	x
12	correlatedNotifications	{dmi-att 12}	–	x	x	1C/c5	m	x	x
13	additionalText	{dmi-att 7}	–	x	x	1C/c6	m	x	x
14	additionalInformation	{dmi-att 6}	–	x	x	1C/c7	m	x	x
15	sourceIndicator	{dmi-att 26}	–	x	x	1C/c8	m	x	x
16	attributeList	{dmi-att 9}	–	x	x	1C/c9	m	x	x

Table A.10 (concluded) – Object creation record attributes

Index	Add		Remove		Set To Default		Additional information
	Base Std.	Common Profile	Base Std.	Common Profile	Base Std.	Common Profile	
1	–	–	–	–	–	–	
2	–	–	–	–	–	–	
3	x	x	x	x	–	–	
4	x	x	x	x	–	–	
5	–	–	–	–	–	–	
6	–	–	–	–	–	–	
7	–	–	–	–	–	–	
8	–	–	–	–	–	–	
9	–	–	–	–	–	–	
10	–	–	–	–	–	–	
11	–	–	–	–	–	–	
12	x	x	x	x	–	–	
13	–	–	–	–	–	–	
14	x	x	x	x	–	–	
15	–	–	–	–	–	–	
16	x	x	x	x	–	–	