INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 12059-0

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

Part 0:
Common definitions for management function profiles

Technologies de l'information — Profils normalisés internationaux — Gestion OSI — Information courante pour fonctions de gestion —

Partie 0: Définitions courantes pour profils de fonction de gestion

Reference number
ISO/IEC ISP 12059-0:1995(E)

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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 12059-0 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 to D form an integral part of this part of ISO/IEC ISP 12059.

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Introduction

This part of ISO/IEC ISP 12059 is the first part of one of two multi-part ISPs corresponding to Systems Management functions. ISO/IEC ISP 12059 consists of the following parts:

- ISO/IEC ISP 12059-0 provides the Common definitions for management function profiles.
- ISO/IEC ISP 12059-1 describes the requirements for the Object management function corresponding to ISO/IEC 10164-1
- ISO/IEC ISP 12059-2 describes the requirements for the State management function corresponding to ISO/IEC 10164-2
- ISO/IEC ISP 12059-3 describes the requirements for the Attributes for representing relationship corresponding to ISO/IEC 10164-3
- ISO/IEC ISP 12059-4 describes the requirements for the Alarm reporting function corresponding to ISO/IEC 10164-4
- ISO/IEC ISP 12059-5 describes the requirements for the Event report management function corresponding to ISO/IEC 10164-5
- ISO/IEC ISP 12059-6 describes the requirements for the Log control function corresponding to ISO/IEC 10164-6.

Other ISP parts may be added in the future.

ISO/IEC ISP 12060 is a multi-part ISP defining Systems Management Function profiles identified in ISO/IEC TR10000-2 as:

AOM2nn - OSI Management - Management Functions.

ISO/IEC ISP 12060 consists of the following parts:

- ISO/IEC ISP 12060-1, AOM211, describes the General management capabilities profile
- ISO/IEC ISP 12060-2, AOM212, describes the Alarm reporting and state management capabilities profile
- ISO/IEC ISP 12060-3, AOM213, describes the Alarm reporting capability profile
- ISO/IEC ISP 12060-4, AOM221, describes the General event report management profile
- ISO/IEC ISP 12060-5, AOM231, describes the General log control profile.

Other Systems Management Function profiles and other ISP parts may be added in the future.

The relationships between different parts of ISO/IEC ISP 12059, ISO/IEC ISP 12060 and ISO/IEC ISP 11183 are illustrated in Figure 1.

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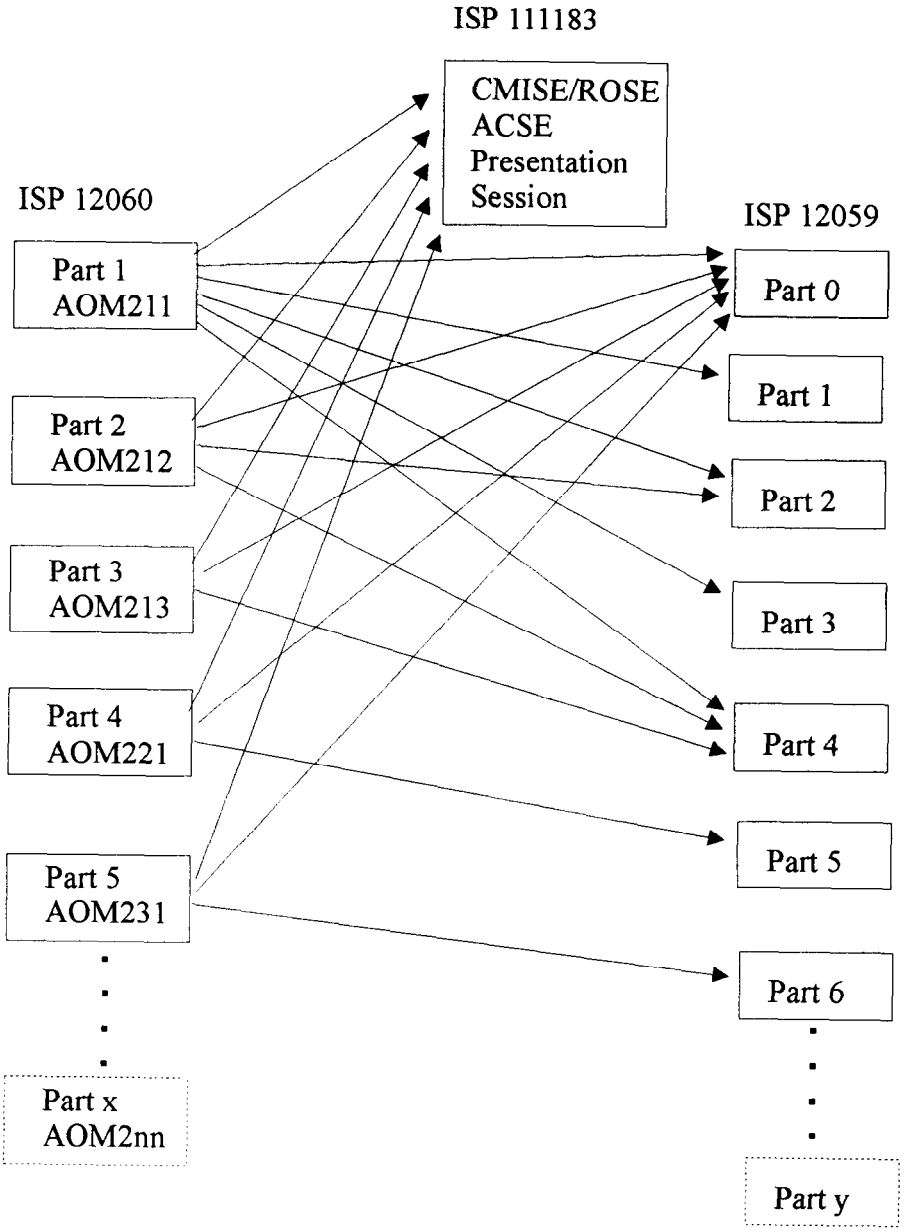

Figure 1 - ISP structure and relationships

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

Part 0:

Common definitions for management function profiles

1 Scope

1.1 General

This part of ISO/IEC ISP 12059 specifies the common definitions and conventions for management function profiles. This part of ISO/IEC ISP 12059 contains all the common definitions, conventions, references and capability requirements for the management function ISO/IEC ISP 12060 and ISO/IEC ISP 12059 parts.

1.2 Position within the Taxonomy

To accommodate for the grouping of systems management functions into profiles and to permit future additions of such profiles, two multi-part ISP structures have been adopted.

The multi-part ISO/IEC ISP 12059 defines building blocks based on the Systems management function standards. The multi-part ISO/IEC ISP 12060 defines systems management functions profiles. Parts within ISO/IEC ISP 12060 are independent and refer to parts within ISO/IEC ISP 12059. A part within ISO/IEC ISP 12059 may refer to other parts within ISO/IEC ISP 12059.

Each of the management function profiles identifies the set of CMIP PDUs that are exchanged, the detailed specification of the PDUs are contained in ISO/IEC ISP 11183. Annex A specifies the reference mechanism for ISO/IEC ISP 12060 parts to select the subset of CMIP PDUs corresponding to the CMIS services required by each profile.

The profiles specify the requirements in terms of manager and agent roles. In this way inter-operating systems in complementary management roles conform to the same profiles.

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/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.216 (1994) | ISO/IEC 8822:1994, *Information technology - Open Systems Interconnection - Presentation service definition.*

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- ITU-T Recommendation X.226 (1994) | ISO/IEC 8823-1:1994, *Information technology - Open Systems Interconnection - Connection-oriented presentation protocol: Protocol specification.*

  NOTE — ITU-T Rec. X.216 (1994) | ISO/IEC 8822:1994 and ITU-T Rec. X.226 (1994) | ISO/IEC 8823-1:1994 supersede CCITT Rec. X.216 (1988) | ISO 8822:1988 and CCITT Rec. X.226 (1988) | ISO 8823:1988 respectively. However, when this part of ISO/IEC ISP 12059 was under development, the previous editions were valid and this part of ISO/IEC ISP 12059 is therefore based on these editions, which are listed below.

  CCITT Recommendation X.216 (1988), *Presentation Service Definition for Open Systems Interconnection for CCITT Applications.*

  ISO/IEC 8822:1988, *Information processing systems - Open Systems Interconnection - Connection-oriented presentation service definition.*

  CCITT Recommendation X.226 (1988), *Connection oriented presentation protocol specification.*

  ISO 8823:1988, *Information processing systems - Open Systems Interconnection - Connection-oriented presentation protocol specification.*

- CCITT Recommendation X.701 (1992) | ISO/IEC 10040:1992, *Information technology - Open Systems Interconnection - Systems management overview.*
- 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.*
- 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 (1994)[1] | 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.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.*
- CCITT Recommendation X.740 (1992) | ISO/IEC 10164-8:1993, *Information technology - Open Systems Interconnection - Systems Management: Security audit trail function.*
- CCITT Recommendation X.739 (1993) | ISO/IEC 10164-11:1994, *Information technology - Open Systems Interconnection - Systems Management: Metric objects and attributes.*
- 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.738 (1993) | ISO/IEC 10164-13:1994, *Information technology - Open Systems Interconnection - Systems Management: Summarization function.*

1) To be published.

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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.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.215 (1988), *Session service definition for Open Systems Interconnection for CCITT applications.*

  ISO 8326:1987, *Information processing systems - Open Systems Interconnection - Basic connection oriented session service definition.*

- CCITT Recommendation X.217 (1988), *Association Control Service Definition for Open Systems Interconnection for CCITT Applications.*

  ISO 8649:1988, *Information processing systems - Open Systems Interconnection - Service Definition for the Association Control Service Element.*

- 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.225 (1988), *Session protocol specification for Open Systems Interconnection for CCITT applications.*

  ISO 8327:1987, *Information processing systems - Open Systems Interconnection - Basic connection oriented session protocol specification.*

- CCITT Recommendation X.227 (1988), *Association Control Protocol Specification for Open Systems Interconnection for CCITT Applications.*

  ISO 8650:1988, *Information processing systems - Open Systems Interconnection - Protocol specification for the Association Control Service Element.*

- 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.*

- 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.296[2)], *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.*

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2) Currently at the stage of Draft Recommendation.

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– 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.*

2.3 Additional references

– ISO 8326/Add.2[3], *Information processing systems - Open Systems Interconnection - Basic connection oriented session service definition - Addendum 2: Unlimited user data.*

– ISO 8327/Add.2[3], *Information processing systems - Open Systems Interconnection - Basic connection oriented session protocol specification - Addendum 2: Unlimited user data.*

– ISO/IEC 8327-2:[4], *Information technology - Open Systems Interconnection - Basic connection oriented session protocol specification - Part 2: Protocol Implementation Conformance Statement (PICS) proforma.*

– ISO/IEC 8823-2:1995, *Information technology - Open Systems Interconnection - Basic connection oriented presentation protocol specification - Part 2: Protocol Implementation Conformance Statement (PICS) proforma.*

– ISO/IEC 8650-2:1995, *Information technology - Open Systems Interconnection - Protocol specification for the Association Control Service Element - Part 2: Protocol Implementation Conformance Statement (PICS) proforma.*

– ISO/IEC 9545:1994, *Information technology - Open Systems Interconnection - Application layer Structure.*

– ISO/IEC TR 10000-1:1992[5], *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1: Framework.*

– ISO/IEC TR 10000-2:1994[5], *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and Taxonomy for OSI Profiles.*

– ISO/IEC ISP 11183-1:1992, *Information technology - International Standardized Profiles AOM1n OSI Management - Management Communications - Part 1: Specification of ACSE, Presentation, and Session Protocols for the use by ROSE and CMISE.*

– ISO/IEC ISP 11183-2:1992, *Information technology - International Standardized Profiles AOM1n OSI Management - Management Communications - Part 2: CMISE/ROSE for AOM12 - Enhanced Management Communications.*

– ISO/IEC ISP 11183-3:1992, *Information technology - International Standardized Profiles AOM1n OSI Management - Management Communications - Part 3: CMISE/ROSE for AOM11 - Basic Management Communications.*

– ISO/IEC ISP 12059-1:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 1: Object management.*

– ISO/IEC ISP 12059-2:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 2: State management.*

– ISO/IEC ISP 12059-3:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 3: Attributes for representing relationships.*

– ISO/IEC ISP 12059-4:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 4: Alarm reporting.*

– ISO/IEC ISP 12059-5:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 5: Event report management.*

– ISO/IEC ISP 12059-6:1995, *Information technology - International Standardized Profiles - OSI Management - Common information for management functions - Part 6: Log control.*

– ISO/IEC ISP 12060-1:1995, *Information technology - International Standardized Profiles - OSI Management - Management functions - Part 1: AOM211 - General management capabilities.*

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3) To be incorporated in a new edition of the base standard.

4) To be published.

5) Under revision.

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- ISO/IEC ISP 12060-2:1995, *Information technology - International Standardized Profiles - OSI Management - Management functions - Part 2: AOM212 - Alarm reporting and state management capabilities.*
- ISO/IEC ISP 12060-3:1995, *Information technology - International Standardized Profiles - OSI Management - Management functions - Part 3: AOM213 - Alarm reporting capabilities.*
- ISO/IEC ISP 12060-4:1995, *Information technology - International Standardized Profiles - OSI Management - Management functions - Part 4: AOM221 - General event report management.*
- ISO/IEC ISP 12060-5:1995, *Information technology - International Standardized Profiles - OSI Management - Management functions - Part 5: AOM231 - General log control.*

3 Definitions

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

4 Abbreviations

AOM	Application OSI Management
ASN.1	Abstract Syntax Notation One
Base Std.	Base Standard
CMIP	Common Management Information Protocol
CMISE	Common Management Information Service Element
DAM	Draft Amendment
DMI	Definition of Management Information
dmi-act	joint-iso-ccitt ms(9) smi(3) part2(2) action(9)
dmi-atgrp	joint-iso-ccitt ms(9) smi(3) part2(2) attributeGroup(8)
dmi-att	joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7)
dmi-moc	joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3)
dmi-nb	joint-iso-ccitt ms(9) smi(3) part2(2) nameBinding(6)
dmi-not	joint-iso-ccitt ms(9) smi(3) part2(2) notification(10)
dmi-par	joint-iso-ccitt ms(9) smi(3) part2(2) parameter(5)
dmi-pkg	joint-iso-ccitt ms(9) smi(3) part2(2) package(4)
IPRL	ISPICS Requirements List
ISP	International Standardized Profile
ISPICS	ISP Implementation Conformance Statement
MAPDU	Management Application Protocol Data Unit
MIM	Management Information Model
MIS	Management Information Service
MO	Managed Object
MOCS	Managed Object Conformance Statement
MRCS	Managed Relationship Conformance Statement
NA	Not Applicable
OSI	Open Systems Interconnection
PDU	Protocol Data Unit
PICS	Protocol Implementation Conformance Statement

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RDN	Relative Distinguished Name
RL	Requirements List
ROSE	Remote Operation Service Element
SM	Systems Management
SMASE	Systems Management Application Service Element
SMFU	Systems Management Functional Unit
SO	Scheduler Object
TC	Technical Corrigendum

5 Conventions

5.1 Single character notation

For all annexes of this part of ISO/IEC ISP 12059 and other parts of ISO/IEC ISP 12059 and ISO/IEC ISP 12060, the following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 and ITU-T Rec. X.296 | ISO/IEC 9646-7, are used for the Base Std. and Profile columns:

- m mandatory function or feature or parameter.
- o optional function or feature or parameter.
- cn conditional function or feature or parameter where the condition is identified by using the integer "n".
- x prohibited feature or parameter.
- – (dash) for not applicable feature or parameter.
- i stands for out of the scope of this ISP.

  This means that, for the corresponding element,

  implementations may use it outside the scope of this ISP,

  conformance tests shall not be provided for it,

  implementations may conform to other profiles where it is required,

  no requirements are placed on either transmitter or receiver to support it,

  receiver actions are unspecified when present.

NOTES

1 – 'c', 'm', and 'o' are prefixed by a 'c:' when nested under a conditional or optional item of the same table;

2 – 'o' may be suffixed by '.N' (where N is a unique number) for selectable options. Support of at least one of the choices (from the items with the same values of N) is required.

The above notation used in the Base Std. and Profile columns reflects the static requirements.

5.2 Two character notation

The two character notation used in the Profile column for ISO/IEC ISP 12060 and ISO/IEC ISP 12059 is specified as follows:

- the first letter corresponds to the static requirements and states whether the element shall be, or may be, or shall not be implemented.
- the second letter corresponds to the dynamic requirements and states whether the element shall be, or may be, or shall not be present in an instance of the PDU.

mm Sending:

Static Requirement: The implementation shall be able to send the parameter.

Dynamic Requirement: The parameter shall always be sent in each MAPDU instance.

Receiving:

Static Requirement: The implementation shall be able to receive the parameter.

Dynamic Requirement: The parameter shall always be present in each MAPDU instance.

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mo Sending:

Static Requirement: The implementation shall be able to send the parameter.

Dynamic Requirement: The parameter can be optionally sent in each MAPDU instance.

Receiving:

Static Requirement: The implementation shall be able to receive the parameter.

Dynamic Requirement: The parameter may optionally be present in each MAPDU instance.

mc Sending:

Static Requirement: The implementation shall be able to send the parameter.

Dynamic Requirement: The parameter may conditionally be sent in each MAPDU instance.

Receiving:

Static Requirement: The implementation shall be able to receive the parameter.

Dynamic Requirement: The parameter may conditionally be present in each MAPDU instance.

oo Sending:

Static Requirement: The implementation may optionally be able to send the parameter.

Dynamic Requirement: The parameter can be optionally sent in each MAPDU instance.

Receiving:

Static Requirement: The implementation may optionally be able to receive the parameter.

Dynamic Requirement: The parameter may optionally be present in each MAPDU instance.

oc Sending:

Static Requirement: The implementation may optionally be able to send the parameter.

Dynamic Requirement: The parameter may conditionally be sent in each MAPDU instance

Receiving:

Static Requirement: The implementation may optionally be able to receive the parameter.

Dynamic Requirement: The parameter may conditionally be present in each MAPDU instance

xx excluded from any implementation. Should not be present

ii stands for "out of the scope of this ISP part", for static and dynamic requirements

5.3 Common conditions list conventions

The following conventions are used to specify common conditions used in the tables of this ISP.

c1 Support of at least one of the options is required.

c2 Support of the feature in at least one management role is required.

c3 One and only one of the choices at this level shall be present.

The following convention is used to reference conditions specified in the referenced base standard.

xy/cn See CCITT Rec. 7zz | ISO/IEC 10164-x, Annex y, condition cn.

The following condition is specified in the referenced base standard and used in this Part of ISO/IEC ISP 12059:

1E/c1 see CCITT Rec X.730 | ISO/IEC 10164-1, Annex E, condition c1.

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5.4 Nesting rules

In ISPICS requirements list each entry of a table is identified by an index number. This index provides a unique reference to PDUs, Functional Units, and parameters. In the specific PDU tables, the level of numbering (1, 1.1, 1.1.1 etc.) indicates parameters within constructed parameters and follows the embedded structures of abstract syntax definitions.

- Rule 0 : Based on ASN.1 rules, a contained element can only be present if its constructor element is present.
- Rule 1 : For static requirements, a mandatory element contained within an optional constructor element is mandatory only if the option is taken.
- Rule 2 : For dynamic requirements, the status of a parameter is only applicable within the context of its containing structure. If a constructor element is optional, then presence of any elements contained within that constructor element are automatically conditional on the presence of the containing element. If the contained elements are marked mandatory this means they are mandatory if the containing element is present. In a constructed structure the conditions are inherited from the containing element.

NOTE – 'c', 'm', and 'o' are prefixed by a 'c:' when nested under a conditional or optional item of the same table;

6 Conformance requirements

This part of ISO/IEC ISP 12059 is referenced by other parts of ISO/IEC ISP 12059 and Systems Management function profiles specified in ISO/IEC ISP 12060. This part of ISO/IEC ISP 12059 states the common information for Systems Management function profiles. A claim of conformance to the referencing Systems Management function profile is a claim that all the requirements stated in Annex A are satisfied.

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Annex A

(normative)

ISPICS Requirements List (IPRL) for Common definitions for management function profiles

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 of this part of ISO/IEC ISP 12059).

The notation used in this annex is identified in clause 5.

A.1 Initiator/Responder

The supplier of the implementation shall state the capability for initiating and responding to an association request which specifies the use of a SMASE, in the table below.

Table A.1 – Association initialization

Index	Capability	Association Initiator		Association Responder	
		Base Std.	Profile	Base Std.	Profile
1	Does the implementation support association initialization?	o.1	o.2	o.1	o.2

A.1.1 Application context

The ISO/IEC 10040 defines an application context, referred to as "Systems management application context", to be used for systems management. An implementation conforming to any of the management function profiles, ISO/IEC ISP 12060, shall be able to request and/or accept the application context name specified in ISO/IEC 10040.

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

Table A.2 – Systems management application context

Index	Application context identifier	Initiator		Responder	
		Base Std.	Profile	Base Std.	Profile
1	systems management application context {joint-iso-ccitt ms(9) smo(0) application-context(0) systems-management(2)}	o.1	o.2	o.1	o.2

A.1.2 Systems management functional unit negotiation support

The negotiation of functional units is optional. An implementation may either use functional unit negotiation or an apriori arrangement or other mechanisms to indicate the supported management capabilities. A mechanism for negotiating functional units is described in ISO/IEC 10040. Other mechanisms to negotiate management capabilities are the subject of ongoing work within ISO.

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An implementation initiating an association shall negotiate systems management functional units by proposing a valid set of SMFUs defined within the profile using the SMASEUserData parameter as indicated by Table A.4. An initiator shall not send the smfuPackages parameter if SMFU negotiation is not used. An initiator need not send the SMASEUserData parameter if SMFU negotiation is not used.

An implementation responding to an association shall negotiate systems management functional units by responding with a valid set of SMFUs using the SMASEUserData parameter as specified in Table A.5 or a valid value for the reason parameter. A responder shall not send the smfuPackages parameter if SMFU negotiation is not used. A responder need not send the SMASEUserData parameter if SMFU negotiation is not used.

The parameters are carried by an EXTERNAL in the "user information" field of AARQ APDU.

Table A.3 is based on Table E.2 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.3 – SMFU negotiation support

Index	Negotiation capability	Base Std.	Profile	Additional Information
1	Does the implementation support the negotiation of the systems management functional unit?	o	o	

If support for SMFU negotiation is claimed, then the supplier of the implementation shall state whether or not each parameter of SMASEUserData is supported in tables below.

Table A.4 is based on Table E.3 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.4 – SMASEUserData parameters carried by AARQ APDU- Sending

Index	Parameter name	Base Std.	Profile	Additional information
1	SMASEUserData	1E/c1	1E/c1	
1.1	smfuPackages	c:o	c:o	
1.1.1	functionalUnitPackageId	c:m	c:m	
1.1.2	managerRoleFunctionalUnit	c:o.1	c:o.1	
1.1.3	agentRoleFunctionalUnit	c:o.1	c:o.1	
1.2	reason	–	–	
1.3	systemsManagementUserInformation[5)]	c:o	c:o	

Table A.5 is based on Table E.4 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.5 – SMASEUserData parameters carried by AARE APDU - Sending

Index	Parameter name	Base Std.	Profile	Additional information
1	SMASEUserData	1E/c1	1E/c1	
1.1	smfuPackages	c:o	c:o	
1.1.1	functionalUnitPackageId	c:m	c:m	
1.1.2	managerRoleFunctionalUnit	c:o.1	c:o.1	
1.1.3	agentRoleFunctionalUnit	c:o.1	c:o.1	
1.2	reason	c:o	c:m	
1.3	systemsManagementUserInformation[5)]	c:o	c:o	

[5)] This parameter is provided solely for the convenience of the implementations needing to distinguish between different implementation environments, it shall not be subject to conformance testing

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Table A.6 is based on Table E.5 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.6 – SMASEUserData parameters carried by AARQ APDU- Receiving

Index	Parameter name	Base Std.	Profile	Additional information
1	SMASEUserData	m	m	
1.1	smfuPackages	m	m	
1.1.1	functionalUnitPackageId	m	m	
1.1.2	managerRoleFunctionalUnit	m	m	
1.1.3	agentRoleFunctionalUnit	m	m	
1.2	reason	–	–	
1.3	systemsManagementUserInformation[5)]	m	m	

Table A.7 is based on Table E.6 of CCITT Rec X.730 | ISO/IEC 10164-1 DAM 1.

Table A.7 – SMASEUserData parameters carried by AARE APDU- Receiving

Index	Parameter name	Base Std.	Profile	Additional information
1	SMASEUserData	m	m	
1.1	smfuPackages	m	m	
1.1.1	functionalUnitPackageId	m	m	
1.1.2	managerRoleFunctionalUnit	m	m	
1.1.3	agentRoleFunctionalUnit	m	m	
1.2	reason	m	m	
1.3	systemsManagementUserInformation[5)]	m	m	

A.2 Common reference for CMIP requirements and underlying standards

A.2.1 CMIP PDU subset requirements

The following tables make explicit the reference mechanism for ISO/IEC ISP 12060 parts to select the subset of CMIP PDUs corresponding to the CMIS services required by each profile. Therefore, the selection of any subset of CMIP PDUs shall be based on the selection of corresponding CMIS services required and associated with the manager/agent role(s) supported. The subsets of CMIP PDUs associated with each CMIS service are specified in Clause A.4, tables A.15 to A.28 of ISO/IEC ISP 11183–2 and –3.

Support required by these profiles for services and protocol at Session Layer, Presentation Layer and ACSE is specified in part 1 of ISO/IEC ISP 11183 by reference from part 2 or 3 of ISO/IEC ISP 11183 as appropriate.

Table A.8 – CMIP PDU Subset Requirements for AOM2xx profiles requiring a subset of AOM11

Index	CMISE Service Primitive	ISO/IEC ISP 11183-3 Table Reference		Changes from profile columns in ISO/IEC ISP 11183-3 tables
		Manager	Agent	
1	M-ACTION	Table A.15	Table A.16	none
2	M-CREATE	Table A.19	Table A.20	none
3	M-DELETE	Table A.21	Table A.22	none
4	M-EVENT-REPORT	Table A.24	Table A.23	none
5	M-GET	Table A.25	Table A.26	none
6	M-SET	Table A.27	Table A.28	none

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Table A.9 – CMIP PDU Subset Requirements for AOM2xx profiles requiring a subset of AOM12

Index	CMISE Service Primitive	ISO/IEC ISP 11183-2 Table Reference		Changes from profile columns in ISO/IEC ISP 11183-2 tables
		Manager	Agent	
1	M-ACTION	Table A.15	Table A.16	none
2	M-CANCEL-GET	Table A.17	Table A.18	none
3	M-CREATE	Table A.19	Table A.20	none
4	M-DELETE	Table A.21	Table A.22	none
5	M-EVENT-REPORT	Table A.24	Table A.23	none
6	M-GET	Table A.25	Table A.26	none
7	M-SET	Table A.27	Table A.28	none

Each part of ISO/IEC ISP 12060 shall reproduce Table A.8 or Table A.9 with only the rows corresponding to the specific requirements of the particular profile. The choice between Table A.8 or Table A.9 depends upon whether the AOM2xx profile is specified as using a subset of CMIP from profile AOM11 or AOM12.

A.2.2 CMIP User information

The tables for CMIP user information are specified in ISO/IEC ISP 11183-2 and -3.

An implementation that conforms to a management function profile (AOM2xx) that requires a subset of AOM11 (e.g. AOM212, AOM213) shall conform to the requirements specified in clause A.2.3 (Table A.3 and Table A.4) and in clause A.2.4 (Table A.5) of ISO/IEC ISP 11183-3.

An implementation that conforms to a management function profile (AOM2xx) that requires a subset of AOM12 (e.g. AOM211, AOM221, AOM231) shall conform to the requirements specified in clause A.2.3 (Table A.3 and Table A.4) and in clause A.2.4 (Table A.5) of ISO/IEC ISP 11183-2.

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Annex B

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MOCS Requirements List and profile specific ICS proforma for System managed object class

This annex defines the MOCS Requirements List for system managed object class. The system managed object class is defined in CCITT Rec. X.720 | ISO/IEC 10165-1 and CCITT Rec. X.721 | ISO/IEC 10165-2. The MOCS proforma for system managed object class is specified in Annex C. An implementation may support the system managed object class to represent the managed system.

The following clarifies, where necessary, the column headings used in 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:	Profile requirements defined for this item (relevant to any profile referencing this table of this part of ISO/IEC ISP 12059).

The notation used in this annex is identified in clause 5.

B.1 System packages support

Table B.1 is based on Table C.3.

Table B.1 – System 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}	–	c21	m	
3	allomorphicPackage	{dmi-pkg 17}	–	c22	i	
4	systemPackage	–	–	m	m	
5	administrativeStatePackage	{dmi-pkg 14}	–	o	m	
6	supportedFeaturesPackage	{dmi-pkg 15}	–	o	m	

For definition of c21 and c22 see Annex C.

B.2 System attributes support

Table B.2 is based on Table C.4.

Table B.2 – System attributes

				Set by Create		Get		Replace	
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Base Std.	Common Profile	Base Std.	Common Profile	Base Std.	Common Profile
1	object Class	{dmi-att 65}	–	m	m	m	m	–	–
2	nameBinding	{dmi-att 63}	–	m	m	m	m	–	–
3	allomorphs	{dmi-att 50}	–	c22	i	c22	i	–	–
4	packages	{dmi-att 60}	–	c23	m	c23	m	–	–
5	systemId	{dmi-att 4}	–	o	m	m	m	x	x
6	systemTitle	{dmi-att 5}	–	o	m	m	m	x	x
7	operationalState	{dmi-att 35}	–	x	x	m	m	x	x
8	usageState	{dmi-att 39}	–	x	x	m	m	x	x
9	administrativeState	{dmi-att 31}	–	c24	m	c24	m	c24	m
10	supportedFeatures	{dmi-att 70}	–	c25	m	c25	m	c25	m

For definition of c22, c23, c24 and c25 see Annex C.

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Table B.2 (concluded) – System attributes

	Add		Remove		Set To Default		
Index	Base Std	Common Profile	Base Std	Common Profile	Base Std	Common Profile	Additional information
1	–	–	–	–	–	–	
2	–	–	–	–	–	–	
3	–	–	–	–	–	–	
4	–	–	–	–	–	–	
5	–	–	–	–	–	–	
6	–	–	–	–	–	–	
7	–	–	–	–	–	–	
8	–	–	–	–	–	–	
9	–	–	–	–	–	–	
10	c25	m	c25	m	–	–	

B.3 Name Bindings support for system managed object class

If support to system managed object class is claimed, the supplier of the implementation shall state the name binding(s) supported for the system managed object class by filling in Table B.3.

Table B.3 – Name binding support for system managed object class

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Base Std.	Support	Additional information
1						
2						

Table B.3 (concluded) – Name binding support for system managed object class

Index	Subindex	Operation	Constraints and values	Base Std.	Support	Additional information
1	1.1	Create support				
	1.1.1	Create with reference object				
	1.1.2	Create with automatic instance naming				
	1.2	Delete support				
	1.2.1	Delete only if no contained objects				
	1.2.2	Delete contained objects				

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Annex C

(normative)

System Managed Object Class MOCS proforma[6)]

C.1 Introduction

The purpose of this MOCS proforma is to provide a mechanism for a supplier of an implementation which claims to conform to system managed object class, to provide conformance information in a standard form.

C.2 Instructions for completing the MOCS proforma to produce a MOCS[7)]

The MOCS proforma contained in this annex is comprised of information in tabular form, in accordance with ITU-T Rec X.724 | ISO/IEC 10165-6. The supplier of the implementation shall state which items are supported in tables below and if necessary provide additional information.

C.3 Symbols, abbreviations and terms

The following abbreviations are used throughout the proforma:

dmi-moc	joint-iso-ccitt ms(9) smi(3) part2(2) managedObjectClass(3)
dmi-att	joint-iso-ccitt ms(9) smi(3) part2(2) attribute(7)
dmi-pkg	joint-iso-ccitt ms(9) smi(3) part2(2) package(4)

The following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 and ITU-T Rec. X.296 | ISO/IEC 9646-7 are used for the Status column in this annex:

- m mandatory;
- o optional;
- c conditional;
- x prohibited;
- – not applicable or out of scope.

NOTES

1 – 'c', 'm', and 'o' are prefixed by a 'c:' when nested under a conditional or optional item of the same table;

2 – 'o' may be suffixed by '.N' (where N is a unique number) for mutually exclusive or selectable options among a set of status values. Support of at least one of the choices (from the items with the same values of N) is required.

The following common notations, defined in CCITT Rec. X.291 | ISO/IEC 9646-2 and ITU-T Rec. X.296 | ISO/IEC 9646-7 are used for the Support column in this annex:

- Y implemented;
- N not implemented;
- – no answer required;
- Ig the item is ignored (i.e. processed syntactically but not semantically).

---

6) Users of this Recommendation | International Standard may freely reproduce the MOCS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MOCS. Instructions for completing the MOCS proforma are specified in ITU-T Rec. X.724 | ISO/IEC 10165-6.

7) Instructions for MOCS proforma are specified in ITU-T Rec. X.724 | ISO/IEC 10165-6

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C.4 System managed object class

C.4.1 Statement of conformance to the managed object class

Table C.1 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features? (Y/N)	Is the actual class the same as the managed object class to which conformance is claimed? (Y/N)
1	system	{dmi-moc 13 }		

If the answer to the actual class question in the managed object class support table is "NO", the supplier of the implementation shall supply the actual class support details, in Table C.2.

Table C.2 – Actual class support

Index	Actual managed object class template label	Value of object identifier for managed object class	Additional information
1			

C.4.2 Packages

Table C.3 – System packages

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–	–	m		
2	packagesPackage	{dmi-pkg 16}	–	c21		
3	allomorphicPackage	{dmi-pkg 17}	–	c22		
4	systemPackage	–	–	m		
5	administrativeStatePackage	{dmi-pkg 14}	–	o		
6	supportedFeaturesPackage	{dmi-pkg 15}	–	o		

c21 if C.3/3 or C.3/5 or C.3/6 then m else –

c22 if C.1/1b then – else m

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C.4.3 Attributes

Table C.4 – System attributes

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	object Class	{dmi-att 65}	–	m		m		-	
2	nameBinding	{dmi-att 63}	–	m		m		-	
3	allomorphs	{dmi-att 50}	–	c22		c22		–	
4	packages	{dmi-att 66}	–	c23		c23		c23	
5	systemId	{dmi-att 4}	–	o		m		x	
6	systemTitle	{dmi-att 5}	–	o		m		x	
7	operationalState	{dmi-att 35}	–	x		m		x	
8	usageState	{dmi-att 39}	–	x		m		x	
9	administrativeState	{dmi-att 31}	–	c24		c24		c24	
10	supportedFeatures	{dmi-att 70}	–	c25		c25		c25	

c23 if C.3/4 then m else –

c24 if C.3/5 then m else –

c25 if C.3/6 then m else –

Table C.4 (concluded) – System attributes

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	c25		c25		–		

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Annex D

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Name binding support for record objects

D.1 Introduction

If support of log-system name bindings is claimed, the implementation shall support the requirements specified in this annex.

D.2 Statement of conformance to the name binding

Table D.1 – Name binding support

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Base Std.	Profile	Additional information
1	log-system	{dmi-nb 2}	–	o	m	

Table D.1 (concluded) – Name binding support

Index	Subindex	Operation	Constraints and values	Base Std.	Profile	Additional information
1	1.1	Create support	–	x	x	
	1.1.1	Create with reference object	–	–	–	
	1.1.2	Create with automatic instance naming	–	–	–	
	1.2	Delete support	–	m	m	
	1.2.1	Delete only if no contained objects	–	m	m	
	1.2.2	Delete contained objects	–	–	–	

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