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**Information technology — International
Standardized Profiles — OSI
Management — Management
functions —**

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AOM221 — General event report
management

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*Technologies de l'information — Profils normalisés internationaux —
Gestion OSI — Fonctions de gestion —*

Partie 4: AOM221 — Gestion du rapport événementiel général



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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 12060-4 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 12060 consists of the following parts, under the general title *Information technology - International Standardized Profiles - OSI Management - Management functions*:

- Part 1: AOM211 - General management capabilities
- Part 2: AOM212 - Alarm reporting and state management capabilities
- Part 3: AOM213 - Alarm reporting capabilities
- Part 4: AOM221 - General event report management
- Part 5: AOM231 - General log control

Annex A forms an integral part of this part of ISO/IEC ISP 12060.

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Information technology - International Standardized Profiles - OSI Management - Management functions -

Part 4:

AOM221 - General event report management

1 Scope

1.1 General

This part of ISO/IEC ISP 12060 specifies the General event report management profile, AOM221, which is applicable to end systems operating in the Open Systems Interconnection (OSI) environment. AOM221 specifies a combination of OSI standards which collectively provide General event report management. General event report management provides a means for selecting which notifications (generated by managed objects) are sent by an open system and where they are sent; this process of selection is referred to as discrimination and the criteria for selection are specified in an Event Forwarding Discriminator (EFD) support managed object.

AOM221 also provides a means for initiating, terminating, suspending and resuming the sending of event reports as well as modification of the selection criteria. These capabilities are achieved by a set of operations upon, and a set of notifications generated by, the EFD object.

AOM221 also specifies use of a combination of standards that collectively provide the subset of the Common Management Information Service required by this part of ISO/IEC ISP 12060.

The support of the complete set of operation and notification services and of the management attributes does not imply that all these features shall be used in all instances of communication. The selection of the features depends on the requirements of the MIS users.

The definitions and conventions used in this part of ISO/IEC ISP 12060 are specified in ISO/IEC ISP 12059-0, Common definitions for management function profiles.

1.2 Introduction

AOM221 is applicable in an environment in which end systems are able to take a manager role, an agent role or both. A system acting in the role of a manager is capable of requesting the specified set of operations upon an Event Forwarding Discriminator support managed object which is in the system acting in the role of an agent; the notifications that are discriminated upon are also in the system acting in the role of an agent.

Figure 1 illustrates only one of those configurations, one in which one system is acting in a manager role and a further system is acting in the agent role. Note that the system acting in the manager role for the purposes of AOM221 is not necessarily the same system which receives the discriminated notifications.

The roles of manager and agent may be determined in advance, for the duration of an association or the duration of a single management interaction. The application context is defined in Systems Management Overview (ISO/IEC 10040).

NOTE - Negotiation of functional units is optional.

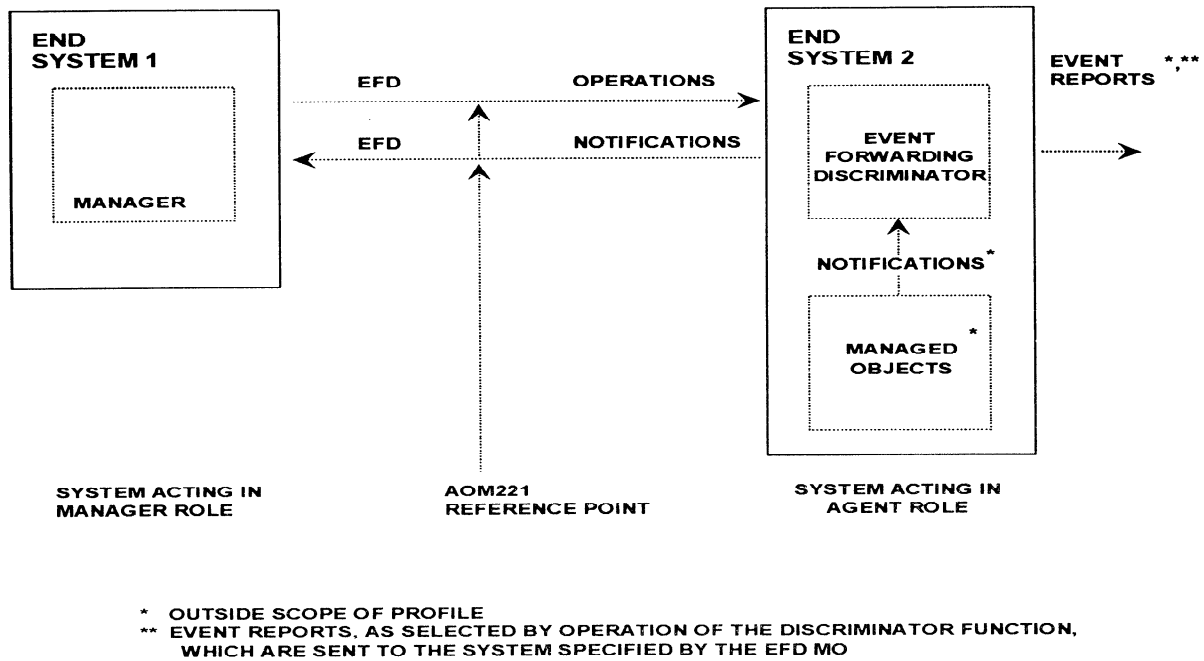


Figure 1 - One scenario of applicability of AOM221 Profile

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AOM221 references the following standards:

Application Layer	ISO/IEC 10164-5 ISO/IEC 10164-1 ISO/IEC 10164-2 ISO/IEC 10165-2 ISO/IEC 9595, 9596-1 ISO/IEC 9072-1, 2 ISO/IEC ISP 11183-2 ISO 8649, 8650 ISO/IEC ISP 11183-1	Event report management function Object management function State management function Definition of management information CMIS and CMP ROSE CMISE/ROSE for AOM12 - Enhanced management communications ACSE Specification of ACSE, Presentation and Session
Presentation Layer	ISO 8822, 8823 ISO/IEC 8824, 8825 ISO/IEC ISP 11183-1	Presentation ASN.1 Specification of ACSE, Presentation and Session
Session Layer	ISO 8822, 8823 ISO/IEC 8326/Add.2 ISO/IEC 8327/Add.2 ISO/IEC ISP 11183-1	Session Specification of ACSE, Presentation and Session

AOM221 includes by reference the subset of the Enhanced Management Communications profile (AOM12) that is required to support the above services.

NOTE - Refer to the description of AOM12 for further information about the communications support including specification of the protocol stack.

A claim to conformance of AOM221 must include a statement of notifications (beyond those of the EFD itself) on which the implementation can discriminate. This statement may be given by: 1) a list of objects supported, 2) a list of standardised notifications, 3) a list of parameters filtered, 4) or other statement of more general capabilities.

Claims of conformance to both objects and AOM221 require that all notifications of all objects can be discriminated.

An end system implementing AOM221 can interwork with an end system implementing the same profile in a complementary role. A system implementing the Enhanced Management Communications profile (AOM12) will be compatible with the communications aspects of AOM221.

1.3 Position within the Taxonomy

AOM221 is identified in ISO/IEC TR 10000-2 as:

- AOMnn - OSI Management
- AOM2 - Management Functions
- AOM22 - Event Report Management
- AOM221 - General Event Report Management

AOM221 may be combined with any T-Profile (identified in ISO/IEC TR 10000-2) specifying the OSI connection-mode transport service.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 12060. 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 12060 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.*
- ITU-T Recommendation X.216 (1994) | ISO/IEC 8822:1994, *Information technology - Open Systems Interconnection - Presentation service definition.*
- 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 12060 was under development, the previous editions were valid and this part of ISO/IEC ISP 12060 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 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.*

- CCITT 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.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.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.*
<https://standards.iteh.ai/catalog/standards/sist/37f97712-178d-4f1b-83e9-bd172cef0560/iso-iec-isp-12060-4-1995>
- 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 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 definition 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 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 (presently at stage of draft), *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 (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.*

2.3 Additional references

- ISO 8326/Add 2:²⁾ *Information processing systems - Open Systems Interconnection - Basic connection oriented session service definition - Addendum 2: Unlimited user data.*
- ISO 8327/Add.2:²⁾ *Information processing systems - Open Systems Interconnection - Basic connection oriented session protocol specification - Addendum 2: Unlimited user data.*
- ISO/IEC 8327-2:³⁾ *Information technology - Open Systems Interconnection - Basic connection oriented session 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: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC 8823-2:1995, *Information technology - Open Systems Interconnection - Connection-oriented presentation protocol: Protocol Implementation Conformance Statement (PICS) proforma.*
- ISO/IEC 9545:1994, *Information technology - Open Systems Interconnection - Application Layer structure.*
- ISO/IEC TR 10000-1:1990⁴⁾, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1: Framework.*
- ISO/IEC TR 10000-2:1994⁴⁾, *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.*

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

3) To be published.

4) Under revision.

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

3 Definitions

The terms used in this part of ISO/IEC ISP 12060 are defined in the referenced base standards.

4 Abbreviations

The abbreviations used in this part of ISO/IEC ISP 12060 are specified in ISO/IEC ISP 12059-0.

5 Conventions

The common conventions used in this part of ISO/IEC ISP 12060 are specified in ISO/IEC ISP 12059-0.

The following conditions are specified in the referenced base standard and used in this part of ISO/IEC ISP 12060:

- | | |
|-------|---|
| 1A/cn | See CCITT Rec. X.730 ISO/IEC 10164-1, Annex A, condition cn |
| 2A/cn | See CCITT Rec. X.731 ISO/IEC 10164-2, Annex A, condition cn |
| 5A/cn | See CCITT Rec. X.734 ISO/IEC 10164-5, Annex A, condition cn |
| 5B/cn | See CCITT Rec. X.734 ISO/IEC 10164-5, Annex B, condition cn |
| 5C/cn | See CCITT Rec. X.734 ISO/IEC 10164-5, Annex C, condition cn |

6 Conformance requirements

This part of ISO/IEC ISP 12060 states the general requirements for interworking between two management systems with general event report control capabilities. A claim to conformance to AOM221 is a claim that all mandatory requirements in the relevant base standards are satisfied, and that all the requirements in the following clauses and in Annex A are satisfied.

AOM221 requires conformance to the following system management standards:

- CCITT Rec. X.730 | ISO/IEC 10164-1, Object management function
- CCITT Rec. X.731 | ISO/IEC 10164-2, State management function
- CCITT Rec. X.734 | ISO/IEC 10164-5, Event report control function

The detailed requirements for the support of the above base standards are specified in ISO/IEC ISP 12059 parts 1, 2 and 5.

The implementation shall support the requirements specified in ISO/IEC ISP 11183-1 for the ACSE, Presentation and Session layers, and part of ISO/IEC ISP 11183-2 for CMIP and ROSE, as specified by this profile.

An implementation acting in the agent role shall accept a value of "actual class" for "object class" parameter as defined in subclause 6.4.5 of CCITT Rec. X.722 ISO/IEC 10165-4 .

The common requirements for this profile are specified in ISO/IEC ISP 12059-0. The specific requirements are specified in Annex A.

Implementations conforming to AOM221 shall implement all the mandatory features. The supplier of an implementation claiming conformance to AOM221 shall make available a statement of support or non-support of each optional function, feature or parameter identified in this part of ISO/IEC ISP 12060.

AOM221 requires support of the Event report management function as specified in CCITT Rec. X.734 | ISO/IEC 10164-5. As a result this requires support for the protocol elements needed to provide the PT-GET, PT-SET, PT-CREATE, PT-DELETE, object creation reporting, object deletion reporting, attribute value change reporting and state change reporting services; this requires support of the protocol for the corresponding services and the EFD MO, from the relevant standards shown in the MCS.

AOM221 requires the support of all CMISE functional units except the extended services functional unit.

AOM221 specifies minimum levels of discriminator complexity considering the aspects noted in Annex C to ISO/IEC 10164-5.

Event preprocessing can supply values of optional parameters defined in the functions (e.g., correlated notifications) in addition to those supplied by the managed object, but cannot modify or remove parameters set by the managed objects.

To assist in migration and compatibility, it is recommended that management systems be capable of tolerating the arrival of unexpected information, such as notifications and attribute values.

If the implementation claims support for the DMI:discriminator-system name binding, then AOM221 requires conformance to the DMI:system object or any of its subclasses.

The requirement to conform to any other system managed object class is outside the scope of AOM221

6.1 MAPDU support

An implementation conforming to AOM221 shall support the following MAPDUs for each of the management roles supported. The detailed requirements for each of the MAPDUs are specified in Annex A.

6.1.1 Manager role requirements

An implementation supporting the manager role shall be able to receive the following set of MAPDUs and generate, when required, a response:

- objectCreation
- objectDeletion
- attributeValueChange
- stateChange

6.1.2 Agent role requirements

An implementation supporting the agent role shall be able to send the following MAPDUs and receive the corresponding responses:

- objectCreation
- objectDeletion
- attributeValueChange
- stateChange

6.2 Systems management functional units

The SMASE functional units for monitor event report management and event report management are defined in CCITT Rec. X.734 | ISO/IEC 10164-5, and the requirements for support are defined in Table A.4. The support of these functional units requires the implementation of all the capabilities included in the functional unit. The negotiation of functional units is optional. An implementation is required to support at least one role.