INTERNATIONAL STANDARD

ISO/IEC

10747

First edition
1994-10-01
AMENDMENT 1
1996-07-15

Information technology — Telecommunications and information exchange between systems — Protocol for exchange of inter-domain routeing information among intermediate systems to support forwarding of ISO 8473 PDUs

AMENDMENT 1:
Implementation conformance statement proformas

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Protocole pour échange d'information inter-domaine de routage parmi les systèmes intermédiaires supportant la transmission de PDUs de l'ISO 8473

AMENDEMENT 1: Proformes de déclaration de conformité de mise en œuvre

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.

Amendment 1 to International Standard ISO/IEC 10747 : 1994 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

Information technology – Telecommunications and information exchange between systems – Protocol for exchange of inter-domain routeing information among intermediate systems to support forwarding of ISO 8473 PDUs

AMENDMENT 1:

Implementation conformance statement proformas

Page 1

Add the following as the last paragraph of Clause 1 "Scope".

"

Annexes L, M, N and O, which are integral parts of this International Standard provide ICS proformas associated with IDRP management information.

"

Add the following references to clause 2 "Normative References":

"

> ISO/IEC 8825: 1990, *Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*
>
> ISO/IEC 9646-1: 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts.*
>
> ISO/IEC 9646-2: 1994, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract Test Suite specification.*
>
> > NOTE – ISO/IEC 9646-1:1994 and ISO/IEC 9646-2:1994 supersede ISO/IEC 9646-1:1991 and ISO/IEC 9646-2:1991 respectively. However, when this International Standard was under development, the previous editions were valid and this International Standard is therefore based on these editions, which are listed below.
> >
> > ISO/IEC 9646-1: 1991, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 1: General concepts.*
> >
> > ISO/IEC 9646-2: 1991, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 2: Abstract test suite specification.*
>
> ISO/IEC 9646-7: 1995, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements.*
>
> 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 .*

"

Page 5

Add the following abbreviations to subclause 4.3 "Other Abbreviations":

"

MCS	management conformance summary
MICS	management information conformance statement
MOCS	managed object conformance statement
MRCS	managed relationship conformance statement

"

Page 74

Add the following after the title "12 Conformance":

"

12.1   Conformance for protocol implementation

This subclause specifies the conformance for protocol implementation of IDRP. The supplier of implementation for protocol implementation shall support the following specification.

> NOTE – The conformance for protocol implementation is independent of the conformance for management information implementation specified in subclause 12.2.

"

Replace title number of "12.1", "12.2", "12.2.1", "12.2.2", "12.2.3" and "12.2.4" with "12.1.1", "12.1.2", "12.1.2.1", "12.1.2.2", "12.1.2.3" and "12.1.2.4", respectively.

Delete "t)" of subclause 12.1.1 "Static conformance for all BISs".

Add the following after subclause 12.1.2.4.4.

"

12.2   Conformance for management information implementation

This subclause specifies the conformance for management information implementation of IDRP. The supplier of implementation for management information implementation shall support the following specification.

> NOTE – The conformance for management information implementation is independent of the conformance for protocol implementation specified in subclause 12.1.

12.2.1   Static conformance

The implementation shall conform to the requirements of this International Standard in the manager role, the agent role, or both roles. A claim of conformance to at least one role shall be made in Table L.1 of this International Standard.

If a claim of conformance is made for support in the manager role, the implementation shall support at least one management operation or notification or action of the managed objects specified by this International Standard. The conformance requirements in the manager role for those management operations, notifications and actions are identified in Table L.2 and further tables referenced by Annex L.

If a claim of conformance is made for support in the agent role, the implementation shall support one or more instances of the IDRP config managed object class and the Adjacent BIS managed object class identified in Table L.3 of this International Standard and further tables referenced by Annex L.

If a claim of conformance is made for support in the agent role, the implementation shall support at least one name binding identified in Table L.6 of this International Standard for each supported managed object.

The implementation shall support the transfer syntax derived from the encoding rules specified in CCITT Rec. X.209 | ISO/IEC 8825 named {joint-iso-ccitt asn1(1) basicEncoding(1)} for the abstract data types referenced by the definitions for which support is claimed.

12.2.2 Dynamic conformance

Implementations claiming to conform to this International Standard shall support the elements of procedure and definitions of semantics corresponding to the definitions for which support is claimed.

12.2.2.1 Management implementation conformance statement requirements

Any MCS proforma, MICS proforma, MOCS proforma, and MRCS proforma which conform to this International Standard shall be technically identical to the proformas specified in Annexes L, M, N, and O preserving table numbering and the index numbers of items, and differing only in pagination and page headers.

The supplier of an implementation which is claimed to conform to this International Standard shall complete a copy of the management conformance summary (MCS) provided in Annex L as part of the conformance requirements together with any other ICS proformas referenced as applicable from that MCS. Any MCS, MICS, MOCS and MRCS which conform to this International Standard shall:

   – describe an implementation which conforms to this International Standard;

   – have been completed in accordance with the instructions for completion given in ITU-T Rec. X.724 | ISO/IEC 10165-6;

   – include the information necessary to uniquely identify both the supplier and the implementation.

An implementation claming conformance to this International Standard in the agent role as a managed implementation shall:

   – support the IDRP config MO and the Adjacent BIS MO.

"

Page 109

Add the following Annexes after Annex K.

Annex L
(normative)

MCS proforma[1])

L.1   Introduction

L.1.1   Purpose and structure

The management conformance summary (MCS) is a statement by a supplier that identifies an implementation and provides information on whether the implementation claims conformance to any of the listed set of documents that specify conformance requirements to OSI management.

The MCS proforma is a document, in the form of a questionnaire that when completed by the supplier of an implementation becomes the MCS.

L.1.2   Instructions for completing the MCS proforma to produce an MCS[2])

The supplier of the implementation shall enter an explicit statement in each of the boxes provided. Specific instruction is provided in the text which precedes each table.

L.1.3   Symbols, abbreviations and terms

For all annexes of this International Standard, 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:

    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.

For all annexes of this International Standard, 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:

    Y   implemented;

    N   not implemented;

    —   no answer required;

    Ig   the item is ignored (i.e. processed syntactically but not semantically).

---

[1]) Users of this International Standard may freely reproduce the MCS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MCS.

[2]) Instructions for completing the MCS proforma are specified in ITU-T Rec.X.724 | ISO/IEC 10165-6 .

L.2   Identification of the implementation

L.2.1   Date of statement

The supplier of the implementation shall enter the date of this statement in the box below. Use the format DD-MM-YYYY.

```
Date of statement
```

L.2.2   Identification of the implementation

The supplier of the implementation shall enter information necessary to uniquely identify the implementation and the system(s) in which it may reside, in the box below.

L.2.3   Contact

The supplier of the implementation shall provide information on whom to contact if there are any queries concerning the content of the MCS, in the box below.

L.3   Identification of the International Standard in which the management information is defined

The supplier of the implementation shall enter the title, reference number and date of the publication of the International Standard which specifies the management information to which conformance is claimed, in the box below.

```
International Standard to which conformance is claimed
```

L.3.1   Technical corrigenda implemented

The supplier of the implementation shall enter the reference numbers of implemented technical corrigenda which modify the identified International Standard, in the box below.

L.3.2   Amendments implemented

The supplier of the implementation shall state the titles and reference numbers of implemented amendments to the identified International Standard, in the box below.

L.4   Management conformance summary

The supplier of implementation shall state the capabilities and features supported and provide summary of conformance claims to International Standards using the tables in this annex.

The supplier of the implementation shall specify the roles that are supported, in Table L.1

Table L.1 – Roles

Index	Roles supported	Status	Support	Additional information
1	Manager role support	o.1		
2	Agent role support	o.1		

The supplier of the implementation shall specify support for management information in the manager role, in Table L.2

Table L.2 – Manager role minimum conformance requirement

Index	Item	Status	Support	Additional information
1	Operations on managed objects	c1		
2	Communications alarm notification for IDRP config managed object	c1		
3	Communications information for IDRP config managed object	c1		
4	Activate action for IDRP config managed object	c1		
5	Deactivate action for IDRP config managed object	c1		
6	Activate action for Adjacent BIS managed object	c1		
7	Deactivate action for Adjacent BIS managed object	c1		

c1: if L.1/1a then o.2 else -

The supplier of the implementation shall specify support for management information in the agent role, in Table D.4

Table L.3 – Agent role minimum conformance requirement

Index	Item	Status	Support	Additional information
1	IDRP config managed object	m		
2	Adjacent BIS managed object	m		

Table L.4 – Logging of event records

Index		Status	Support	Additional information
1	Does the implementation support logging of event records in agent role?	c2		

c2: if L.1/2a then o else -

NOTE – Conformance to this International Standard does not require conformance to CCITT Rec. X.735 | ISO/IEC 10164-6.

The supplier of the implementation shall provide information on claims of conformance to any of the International Standards summarized in the following tables. For each International Standard that the supplier of the implementation claims

conformance to, the corresponding conformance statement(s) shall be completed, or referenced by, the MCS. The supplier of the implementation shall complete the Support, Table numbers and Additional information columns.

In tables L.5, L.6, and L.7, the Status column is used to indicate whether the supplier of the implementation is required to complete the referenced tables or referenced items. Conformance requirements are as specified in the referenced tables or referenced items and are not changed by the value of the MCS Status column. Similarly, the Support column is used by the supplier of the implementation to indicate completion of the referenced tables or referenced items.

Table L.5 – MOCS support summary

Index	Identification of the document that includes the MOCS proforma	Table numbers of MOCS proforma	Description	Constraints and values	Status	Support	Table numbers of MOCS	Additional information
1	"ISO/IEC 10747"	Table N.1 - N.7	idrpConfig	—	m			
2	"ISO/IEC 10747"	Table N.8 - N.13	adjacentBIS	—	m			
3	"ISO/IEC 10737 "	Table F.44 - F.47	communicationInformation Record	—	c3			
4	"ISO/IEC 10164-4"	Table C.1 - C.4	alarmRecord	—	c3			

c3: if L.4/1a then m else -

Table L.6 – MRCS support summary

Index	Identification of the document that includes the MRCS proforma	Table numbers of MRCS proforma	Description	Constraints and values	Status	Support	Table numbers of MRCS	Additional information
1	"ISO/IEC 10747"	Table O.1/1	idrpConfig-networkEntity	—	m			
2	"ISO/IEC 10747"	Table O.1/2	adjacentBIS-idrpConfig	—	m			
3	"ISO/IEC 10164-6 "	Table D.1/1	logRecord-log	—	c4			

c4: if L.4/1a then o else -

Table L.7 – MICS support summary

Index	Identification of the document that includes the MICS proforma	Table numbers of MICS proforma	Description	Constraints and values	Status	Support	Table numbers of MICS	Additional information
1	"ISO/IEC 10747"	Table M.1 to M.3	management operations	—	c5			
2	"ISO/IEC 10747"	Table M.4	notifications	—	c6			
3	"ISO/IEC 10747"	Table M.5	actions	—	c7			

c5: if L.2/1a then m else -

c6: if L.2/2a or L.2/3a then m else -

c7: if L.2/4a or L.2/5a or L.2/6a or L.2/7a then m else -

Annex M
(normative)

MICS proforma[1]

M.1   Introduction

The purpose of this MICS proforma is to provide a mechanism for a supplier of an implementation which claims conformance, in the manager role, to management information specified in this International Standard, to provide conformance information in a standard form.

M.2   Instructions for completing the MICS proforma to produce a MICS

The MICS proforma contained in this annex is comprised of information in tabular form, in accordance with ITU-T Rec. X.724 | ISO/IEC 10165-6. In addition to the general guidance given in 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.

M.3   Symbols, abbreviations and terms

The MICS proforma contained in this Annex is comprised of information in tabular form, in accordance with CCITT Rec. X.291 | ISO/IEC 9646-2.

The notations used in the Status and Support columns are specified in L.1.3.

M.4   Statement of conformance to the management information

M.4.1   Attributes

The supplier of a manager role implementation that claims to support management operations on the attributes specified in this International Standard shall import a copy of the following tables and complete them.

---

[1] Users of this International Standard may freely reproduce the PICS proforma in this Annex so that it can be used for its intended purpose, and may further publish the completed PICS.

M.4.1.1 IDRP config managed object

Table M.1 – idrpConfig Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by create Status	Supp ort	Get Status	Supp ort	Replace Status	Supp ort	Add Status	Supp ort	Remove Status	Supp ort	Set to default Status	Supp ort	Additional information
1	"Rec. X.721	ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c1		o.2		-		-		-		-		
2	authenticationTypeCode	{2 13 0 3 7 1}	ENUMERATED	c1		o.2		-		-		-		-		
3	capacity	{2 13 0 3 7 7}	INTEGER	-		o.2		-		-		-		-		
4	externalBISNeighbor	{2 13 0 3 7 9}	SET OF OCTET STRING	c1		o.2		o.2		-		-		-		
5	holdTime	{2 13 0 3 7 10}	INTEGER	-		o.2		-		-		-		-		
6	idrpConfigID	{2 13 0 3 7 50}	OCTET STRING	c1		o.2		-		-		-		-		
7	internalBIS	{2 13 0 3 7 12}	SET OF OCTET STRING	c1		o.2		o.2		-		-		-		
8	internalSystems	{2 13 0 3 7 13}	SEQUENCE	c1		o.2		o.2		-		-		-		
9	intraIS	{2 13 0 3 7 14}	SET OF OCTET STRING	c1		o.2		o.2		-		-		-		
10	locE-pense	{2 13 0 3 7 24}	INTEGER	-		o.2		-		-		-		-		
11	localRDI	{2 13 0 3 7 22}	OCTET STRING	c1		o.2		o.2		-		-		-		
12	localSNPA	{2 13 0 3 7 23}	SET OF SET OF OCTET STRING	c1		o.2		o.2		-		-		-		
13	maxCPUOverloadTimer	{2 13 0 3 7 25}	SEQUENCE	-		o.2		-		-		-		-		
14	maxPDULocal	{2 13 0 3 7 26}	INTEGER	-		o.2		-		-		-		-		
15	maxRIBIntegrityCheck	{2 13 0 3 7 28}	INTEGER	-		o.2		-		-		-		-		
16	maxRIBIntegrityTimer	{2 13 0 3 7 29}	SEQUENCE	-		o.2		-		-		-		-		
17	minRDOriginationTimer	{2 13 0 3 7 30}	SEQUENCE	-		o.2		-		-		-		-		
18	multiExit	{2 13 0 3 7 32}	BOOLEAN	c1		o.2		o.2		-		-		-		
19	"Rec. -.721	ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c1		o.2		-		-		-		-		
20	"Rec. -.721	ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c1		o.2		-		-		-		-		
21	"Rec. -.721	ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c1		o.2		-		-		-		-		
22	priority	{2 13 0 3 7 34}	INTEGER	-		o.2		-		-		-		-		
23	rdLRE	{2 13 0 3 7 36}	INTEGER	-		o.2		-		-		-		-		
24	rdTransitDelay	{2 13 0 3 7 37}	INTEGER	-		o.2		-		-		-		-		
25	rdcConfig	{2 13 0 3 7 35}	SET OF SEQUENCE	c1		o.2		o.2		-		-		-		
26	retransmissionTime	{2 13 0 3 7 38}	INTEGER	-		o.2		-		-		-		-		
27	ribAttsSet	{2 13 0 3 7 39}	SEQUENCE	-		o.2		-		-		-		-		
28	routeServer	{2 13 0 3 7 40}	BOOLEAN	c1		o.2		o.2		-		-		-		
29	version	{2 13 0 3 7 46}	INTEGER	-		o.2		-		-		-		-		

c1: if M.4/1a then o.2 else -

M.4.1.2 Adjacent BIS managed object

Table M.2 – adjacentBIS Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by create		Get		Replace		Add		Remove		Set to default		Additional information
				Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	-		o.2		-		-		-		-		
2	bisNegotiatedVersion	{2 13 0 3 7 2}	INTEGER	-		o.2		-		-		-		-		
3	bisNet	{2 13 0 3 7 3}	OCTET STRING	-		o.2		-		-		-		-		
4	bisPeerSNPAs	{2 13 0 3 7 4}	SET OF SET OF OCTET STRING	-		o.2		-		-		-		-		
5	bisRDC	{2 13 0 3 7 5}	SET OF OCTET STRING	-		o.2		o.2		-		-		o.2		
6	bisRDI	{2 13 0 3 7 6}	OCTET STRING	-		o.2		o.2		-		-		o.2		
7	closeWaitDelayTimer	{2 13 0 3 7 8}	SEQUENCE	-		o.2		-		-		-		-		
8	holdTimer	{2 13 0 3 7 11}	SEQUENCE	-		o.2		-		-		-		-		
9	keepAliveTimer	{2 13 0 3 7 16}	SEQUENCE	-		o.2		-		-		-		-		
10	keepAlivesSinceLastUpdate	{2 13 0 3 7 15}	INTEGER	-		o.2		-		-		-		-		
11	lastAckRecv	{2 13 0 3 7 17}	INTEGER	-		o.2		-		-		-		-		
12	lastAckSent	{2 13 0 3 7 18}	INTEGER	-		o.2		-		-		-		-		
13	lastPriorSeqNo	{2 13 0 3 7 49}	INTEGER	-		o.2		o.2		-		-		-		
14	lastSeqNoRecv	{2 13 0 3 7 19}	INTEGER	-		o.2		-		-		-		-		
15	lastSeqNoSent	{2 13 0 3 7 20}	INTEGER	-		o.2		-		-		-		-		
16	listenForOPEN	{2 13 0 3 7 21}	BOOLEAN	-		o.2		-		-		-		-		
17	maxPDUPeer	{2 13 0 3 7 27}	INTEGER	-		o.2		-		-		-		-		
18	minRouteAdvertisementInterval	{2 13 0 3 7 48}	INTEGER	-		o.2		-		-		-		-		
19	minRouteAdvertisementTimer	{2 13 0 3 7 31}	SEQUENCE	-		o.2		-		-		-		-		
20	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER			o.2		-		-		-		-		
21	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	-		o.2		-		-		-		-		
22	outstandingPDUs	{2 13 0 3 7 33}	INTEGER	-		o.2		-		-		-		-		
23	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	-		o.2		-		-		-		-		
24	state	{2 13 0 3 7 41}	ENUMERATED	-		o.2		-		-		-		-		
25	totalBISPDUsIn	{2 13 0 3 7 42}	INTEGER	-		o.2		-		-		-		-		
26	totalBISPDUsOut	{2 13 0 3 7 43}	INTEGER	-		o.2		-		-		-		-		
27	updatesIn	{2 13 0 3 7 44}	INTEGER	-		o.2		-		-		-		-		
28	updatesOut	{2 13 0 3 7 45}	INTEGER	-		o.2		-		-		-		-		

M.4.2　Attribute groups

The supplier of a manager role implementation that claims to support management operations on the attribute groups specified in this International Standard shall import a copy of the following tables and complete them.

M.4.2.1 Adjacent BIS managed object

Table M.3 – adjacentBIS Attribute group support

Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Get Status	Get Support	Set to default Status	Set to default Support	Additional information
1	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": counters	{2 9 3 5 8 0}	keepAlivesSinceLastUpdate totalBISPDUsIn totalBISPDUsOut updatesIn updatesOut	o.2		-		
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": state	{2 9 3 2 8 1}	state	o.2		-		

M.4.3 Create and delete management operations

The supplier of a manager role implementation that claims to support the create or delete management operations on the managed objects specified in this International Standard shall import a copy of the following tables and complete them.

M.4.3.1 IDRP config managed object

Table M.4 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	idrpConfig MO	o.2		
1.1	Create with reference object	—	—		
2	Delete support	idrpConfig MO	o.2		

M.4.3 Notifications

The supplier of a manager role implementation that claims to support the notifications specified in this International Standard shall import a copy of this table and complete it.

Table M.5 – Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support Confirmed	Support Nonconfirmed	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": communicationsAlarm	{2 9 3 2 10 2}		c2				1.1	AlarmInfo		Information Syntax SEQUENCE	c2		
								1.1.1	probableCause	{2 9 3 2 7 18}	CHOICE	c:m		
								1.1.1.1	globalValue	-	OBJECT IDENTIFIER	c:m		
								1.1.1.2	localValue	-	INTEGER	c:m		
								1.1.2	specificProblems	{2 9 3 2 7 27}	SET OF CHOICE	c:m		
								1.1.2.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:m		
								1.1.2.2	INTEGER	-	INTEGER	c:m		
								1.1.3	perceivedSeverity	{2 9 3 2 7 17}	ENUMERATED	c:m		
								1.1.4	backedUpStatus	{2 9 3 2 7 11}	BOOLEAN	c:m		
								1.1.5	backUpObject	{2 9 3 2 7 40}	ObjectInstance	c:m		
								1.1.6	trendIndication	{2 9 3 2 7 30}	ENUMERATED	c:m		

Table M.5 (concluded) – Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support Confirmed	Support Nonconfirmed	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
								1.1.7	thresholdInfo	{2 9 3 2 7 29}	SEQUENCE	c:m		
								1.1.7.1	triggeredThreshold	-	AttributeId	c:m		
								1.1.7.2	observedValue	-	CHOICE	c:m		
								1.1.7.2.1	integer	-	INTEGER	c:m		
								1.1.7.2.2	real	-	REAL	c:m		
								1.1.7.3	thresholdLevel	-	CHOICE	c:m		
								1.1.7.3.1	up	-	SEQUENCE	c:m		
								1.1.7.3.1.1	high	-	CHOICE	c:m		
								1.1.7.3.1.1.1	integer	-	INTEGER	c:m		
								1.1.7.3.1.1.2	real	-	REAL	c:m		
								1.1.7.3.1.2	low	-	CHOICE	c:m		
								1.1.7.3.1.2.1	integer	-	INTEGER	c:m		
								1.1.7.3.1.2.2	real	-	REAL	c:m		
								1.1.7.3.2	down	-	SEQUENCE	c:m		
								1.1.7.3.2.1	high	-	CHOICE	c:m		
								1.1.7.3.2.1.1	integer	-	INTEGER	c:m		
								1.1.7.3.2.1.2	real	-	REAL	c:m		
								1.1.7.3.2.2	low	-	CHOICE	c:m		
								1.1.7.3.2.2.1	integer	-	INTEGER	c:m		
								1.1.7.3.2.2.2	real	-	REAL	c:m		
								1.1.7.4	armTime	-	GeneralizedTime	c:m		
								1.1.8	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								1.1.9	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								1.1.9.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.9.2	sourceObjectInst	-	ObjectInstance	c:m		
								1.1.10	stateChangeDefinition	{2 9 3 2 7 28}	SET OF SEQUENCE	c:m		
								1.1.10.1	attributeID	-	AttributeId	c:m		
								1.1.10.2	oldAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								1.1.10.3	newAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								1.1.11	monitoredAttributes	{2 9 3 2 7 15}	SET OF Attribute	c:m		
								1.1.12	proposedRepairActions	{2 9 3 2 7 19}	SET OF CHOICE	c:m		
								1.1.12.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:m		
								1.1.12.2	INTEGER	-	INTEGER	c:m		
								1.1.13	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								1.1.14	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								1.1.14.1	identifier	-	OBJECT IDENTIFIER	c:m		
								1.1.14.2	significance	-	BOOLEAN	c:m		
								1.1.14.3	information	-	ANY DEFINED BY identifier	c:m		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": communicationsInformation	{2 9 3 5 10 0}		c3				2.1	CommunicationsInformation		**Information Syntax** SEQUENCE	c3		
								2.1.1	informationType	{2 9 3 5 7 5}	OBJECT IDENTIFIER	c:m		
								2.1.2	informationData	{2 9 3 5 7 4}	SET OF SEQUENCE	c:m		
								2.1.2.1	identifier	-	OBJECT IDENTIFIER	c:m		
								2.1.2.2	significance	-	BOOLEAN	c:m		
								2.1.2.3	information	-	ANY DEFINED BY identifier	c:m		

c2: if L.2/2a then m else -

c3: if L.2/3a then m else -

M.4.4   Actions

The supplier of a manager role implementation that claims to support the actions specified in this International Standard shall import a copy of this table and complete it.

Table M.6 – Action support

Index	Action type template label	Value of object identifier for action type	Constraints and values	Status	Support	Additional information	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.723 (1993) ‖ ISO/IEC 10165-5 : 1994": activate	{2 9 3 5 9 0}		c4			1.1	ActionInfo	**Information Syntax** SET OF SEQUENCE	c4		
							1.1.1	identifier	OBJECT IDENTIFIER	c:m		
							1.1.2	significance	BOOLEAN	c:o		
							1.1.3	information	ANY DEFINED BY identifier	c:m		
							1.2	ActionReply	**Reply Syntax** SET OF SEQUENCE	c:m		
							1.2.1	identifier	OBJECT IDENTIFIER	c:m		
							1.2.2	significance	BOOLEAN	c:m		
							1.2.3	information	ANY DEFINED BY identifier	c:m		
2	"CCITT Rec. X.723 (1993) ‖ ISO/IEC 10165-5 : 1994": deactivate	{2 9 3 5 9 1}		c5			2.1	ActionInfo	**Information Syntax** SET OF SEQUENCE	c5		
							2.1.1	identifier	OBJECT IDENTIFIER	c:m		
							2.1.2	significance	BOOLEAN	c:o		
							2.1.3	information	ANY DEFINED BY identifier	c:m		
							2.2	ActionReply	**Reply Syntax** SET OF SEQUENCE	c:m		
							2.2.1	identifier	OBJECT IDENTIFIER	c:m		
							2.2.2	significance	BOOLEAN	c:m		
							2.2.3	information	ANY DEFINED BY identifier	c:m		

c4: if L.2/4a or L.2/6a then m else -

c5: if L.2/5a or L.2/7a then m else -

M.4.5　Parameters

The supplier of a manager role implementation that claims to support the parameters specified in this International Standard shall import a copy of this table and complete it.

Table M.7 – **Parameter support**

Index	Parameter template label	Value of object identifier for parameter	Constraints and values	Status	Support	Additional information
1	notificationBISPDUerrorcode	{2 13 0 3 5 2}	EVENT-INFO communicationsAlarm	c6		
2	notificationBISPDUerrorinfo	{2 13 0 3 5 4}	EVENT-INFO communicationsAlarm	c6		
3	notificationBISerrorsubcode	{2 13 0 3 5 3}	EVENT-INFO communicationsAlarm	c6		
4	notificationLocalRDCConfig	{2 13 0 3 5 6}	EVENT-INFO communicationsAlarm	c6		
5	notificationRIBIntegrityFailure	{2 13 0 3 5 7}	EVENT-INFO communicationsAlarm	c6		
6	notificationRemoteBISNET	{2 13 0 3 5 1}	EVENT-INFO communicationsAlarm	c6		
7	notificationRemoteRDCConfig	{2 13 0 3 5 5}	EVENT-INFO communicationsAlarm	c6		
8	notificationSourceBISNET	{2 13 0 3 5 8}	EVENT-INFO communicationsAlarm	c6		
9	notificationSourceBISrdc	{2 13 0 3 5 10}	EVENT-INFO communicationsAlarm	c6		
10	notificationSourceBISrdi	{2 13 0 3 5 9}	EVENT-INFO communicationsAlarm	c6		
11	notificationRemoteBISNET	{2 13 0 3 5 1}	EVENT-INFO communicationsInformation	c7		

c6: if L.2/2a then m else -

c7: if L.2/3a then m else -

Annex N
(normative)

MOCS proforma[1]

N.1   Introduction

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

N.1.1   Instructions for completing the MOCS proforma to produce a MOCS[2]

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.

N.1.2   Symbols, abbreviations and terms

The MOCS proforma contained in this Annex is comprised of information in tabular form, in accordance with CCITT Rec. X.291 | ISO/IEC 9646-2.

The notations used in the Status and Support columns are specified in L.1.3.

N.2   IDRP config managed object

N.2.1   Statement of conformance to the managed object class

Table N.1 – idrpConfig 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	idrpConfig	{2 13 0 3 3 1}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table N.2 – idrpConfig Actual class support

Index	Managed object class template for actual class	Value of object identifier for managed object class definition of actual class	Additional information

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[1] Users of this International Standard may freely reproduce the PICS proforma in this Annex so that it can be used for its intended purpose, and may further publish the completed PICS.

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

N.2.2   Packages

The supplier of the implementation shall state whether or not the packages specified by this managed object of this class are supported, in Table N.3.

Table N.3   idrpConfig Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"Rec. X.721	ISO/IEC 10165-2 : 1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c1		
2	"Rec. X.721	ISO/IEC 10165-2 : 1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c2		
3	"Rec. X.721	ISO/IEC 10165-2 : 1992": topPackage		Mandatory	m		
4	idrpConfigPkg-P	{2 13 0 3 4 1}	Mandatory	m		

c1: if N.1/1b then - else m

c2: if N.3/1a then m else -

N.2.3   Attributes

The supplier of the implementation shall state whether or not the attributes specified by all of the packages instantiated in a managed object of this class are supported, in the Support and Additional information columns of Table N.4. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table N.4 – idrpConfig Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by create Status	Support	Get Status	Support	Replace Status	Support	Add Status	Support	Remove Status	Support	Set to default Status	Support	Additional information
1	"Rec. X.721	ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c3		c4		-		-		-		-		
2	authenticationTypeCode	{2 13 0 3 7 1}	ENUMERATED	m		m		c5		-		-		c5		
3	capacity	{2 13 0 3 7 7}	INTEGER	c5		m		c5		-		-		c5		
4	externalBISNeighbor	{2 13 0 3 7 9}	SET OF OCTET STRING	c6		m		m		c5		c5		c5		
5	holdTime	{2 13 0 3 7 10}	INTEGER	c5		m		c5		-		-		c5		
6	idrpConfigID	{2 13 0 3 7 50}	OCTET STRING	c7		m		x		-		-		x		
7	internalBIS	{2 13 0 3 7 12}	SET OF OCTET STRING	c6		m		m		c5		c5		c5		
8	internalSystems	{2 13 0 3 7 13}	SEQUENCE	c6		m		m		-		-		c5		
9	intraIS	{2 13 0 3 7 14}	SET OF OCTET STRING	c6		m		m		c5		c5		c5		
10	locExpense	{2 13 0 3 7 24}	INTEGER	c5		m		c5		-		-		c5		
11	localRDI	{2 13 0 3 7 22}	OCTET STRING	c6		m		m		-		-		c5		
12	localSNPA	{2 13 0 3 7 23}	SET OF SET OF OCTET STRING	c6		m		m		c5		c5		c5		
13	maxCPUOverloadTimer	{2 13 0 3 7 25}	SEQUENCE	c5		m		c5		-		-		c5		
14	maxPDULocal	{2 13 0 3 7 26}	INTEGER	c5		m		c5		-		-		c5		
15	maxRIBIntegrityCheck	{2 13 0 3 7 28}	INTEGER	c5		m		c5		-		-		c5		
16	maxRIBIntegrityTimer	{2 13 0 3 7 29}	SEQUENCE	c5		m		c5		-		-		c5		
17	minRDOriginationTimer	{2 13 0 3 7 30}	SEQUENCE	c5		m		c5		-		-		c5		
18	multiExit	{2 13 0 3 7 32}	BOOLEAN	c6		m		m		-		-		c5		
19	"Rec. X.721	ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c7		m		x		-		-		x		

Table N.4 (concluded) – idrpConfig Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by create Status	Supp ort	Get Status	Supp ort	Replace Status	Supp ort	Add Status	Supp ort	Remove Status	Supp ort	Set to default Status	Supp ort	Additional information
20	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c6		m		x		-		-		x		
21	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c8		c9		c10		c10		c10		c10		
22	priority	{2 13 0 3 7 34}	INTEGER	c5		m		c5		-		-		c5		
23	rdLRE	{2 13 0 3 7 36}	INTEGER	c5		m		c5		-		-		c5		
24	rdTransitDelay	{2 13 0 3 7 37}	INTEGER	c5		m		c5		-		-		c5		
25	rdcConfig	{2 13 0 3 7 35}	SET OF SEQUENCE	c6		m		m		c5		c5		c5		
26	retransmissionTime	{2 13 0 3 7 38}	INTEGER	c5		m		c5		-		-		c5		
27	ribAttsSet	{2 13 0 3 7 39}	SEQUENCE	c5		m		c5		-		-		c5		
28	routeServer	{2 13 0 3 7 40}	BOOLEAN	c6		m		m		-		-		c5		
29	version	{2 13 0 3 7 46}	INTEGER	c5		m		c5		-		-		c5		

c3: if N.3/1a then (if O.1/1a then o else x) else -

c4: if N.3/1a then m else -

c5: if N.1/1b then x else -

c6: if O.1/1a then m else x

c7: if O.1/1a then o else x

c8: if N.3/2a then (if O.1/1a then o else x) else -

c9: if N.3/2a then m else -

c10: if N.3/2a then x else -

N.2.4 Notifications

Table N.5 – idrpConfig Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraint s and values	Status	Support Confi rmed	Nonc onfir med	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Supp ort	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": communicationsAlarm	{2 9 3 2 10 2}		m			notificationBISPDUerrorcode notificationBISPDUerrorinfo notificationBISerrorsubcode notificationLocalRDCConfig notificationRIBIntegrityFailure notificationRemoteBISNET notificationRemoteRDCConfig notificationSourceBISNET notificationSourceBISrdc notificationSourceBISrdi	1.1	AlarmInfo		Information Syntax SEQUENCE	m		

Table N.5 (continued) – idrpConfig Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support Confirmed	Support Nonconfirmed	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
								1.1.1	probableCause	{2 9 3 2 7 18}	CHOICE	m		
								1.1.1.1	globalValue	-	OBJECT IDENTIFIER	o.1		
								1.1.1.2	localValue	-	INTEGER	o.1		
								1.1.2	specificProblems	{2 9 3 2 7 27}	SET OF CHOICE	o		
								1.1.2.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:o.2		
								1.1.2.2	INTEGER	-	INTEGER	c:o.2		
								1.1.3	perceivedSeverity	{2 9 3 2 7 17}	ENUMERATED	m		
								1.1.4	backedUpStatus	{2 9 3 2 7 11}	BOOLEAN	o		
								1.1.5	backUpObject	{2 9 3 2 7 40}	ObjectInstance	o		
								1.1.6	trendIndication	{2 9 3 2 7 30}	ENUMERATED	o		
								1.1.7	thresholdInfo	{2 9 3 2 7 29}	SEQUENCE	o		
								1.1.7.1	triggeredThreshold	-	AttributeId	c:m		
								1.1.7.2	observedValue	-	CHOICE	c:m		
								1.1.7.2.1	integer	-	INTEGER	c:o.3		
								1.1.7.2.2	real	-	REAL	c:o.3		
								1.1.7.3	thresholdLevel	-	CHOICE	c:o		
								1.1.7.3.1	up	-	SEQUENCE	c:o.4		
								1.1.7.3.1.1	high	-	CHOICE	c:m		
								1.1.7.3.1.1.1	integer	-	INTEGER	c:o.5		
								1.1.7.3.1.1.2	real	-	REAL	c:o.5		
								1.1.7.3.1.2	low	-	CHOICE	c:o		
								1.1.7.3.1.2.1	integer	-	INTEGER	c:o.6		
								1.1.7.3.1.2.2	real	-	REAL	c:o.6		
								1.1.7.3.2	down	-	SEQUENCE	c:o.4		
								1.1.7.3.2.1	high	-	CHOICE	c:m		
								1.1.7.3.2.1.1	integer	-	INTEGER	c:o.7		
								1.1.7.3.2.1.2	real	-	REAL	c:o.7		
								1.1.7.3.2.2	low	-	CHOICE	c:m		
								1.1.7.3.2.2.1	integer	-	INTEGER	c:o.8		
								1.1.7.3.2.2.2	real	-	REAL	c:o.8		
								1.1.7.4	armTime	-	GeneralizedTime	c:o		
								1.1.8	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.9	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.9.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.9.2	sourceObjectInst	-	ObjectInstance	c:o		
								1.1.10	stateChangeDefinition	{2 9 3 2 7 28}	SET OF SEQUENCE	o		
								1.1.10.1	attributeID	-	AttributeId	c:m		
								1.1.10.2	oldAttributeValue	-	ANY DEFINED BY attributeID	c:o		
								1.1.10.3	newAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								1.1.11	monitoredAttributes	{2 9 3 2 7 15}	SET OF Attribute	o		
								1.1.12	proposedRepairActions	{2 9 3 2 7 19}	SET OF CHOICE	o		
								1.1.12.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:o.9		
								1.1.12.2	INTEGER	-	INTEGER	c:o.9		
								1.1.13	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								1.1.14	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								1.1.14.1	identifier	-	OBJECT IDENTIFIER	c:m		
								1.1.14.2	significance	-	BOOLEAN	c:o		
								1.1.14.3	information	-	ANY DEFINED BY identifier	c:m		

Table N.5 (concluded) – idrpConfig Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support Confirmed	Support Nonconfirmed	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
2	"CCITT Rec. X.723 (1993)	ISO/IEC 10165-5 : 1993": communicationsInformation	{2 9 3 5 10 0}		m			notificationRemoteBISNET	2.1	CommunicationsInformation		**Information Syntax** SEQUENCE	m		
								2.1.1	informationType	{2 9 3 5 7 5}	OBJECT IDENTIFIER	m		
								2.1.2	informationData	{2 9 3 5 7 4}	SET OF SEQUENCE	o		
								2.1.2.1	identifier	-	OBJECT IDENTIFIER	c:m		
								2.1.2.2	significance	-	BOOLEAN	c:o		
								2.1.2.3	information	-	ANY DEFINED BY identifier	c:m		

N.2.5　Actions

Table N.6 – idrpConfig Action support

Index	Action type template label	Value of object identifier for action type	Constraints and values	Status	Support	Additional information	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.723 (1993)	ISO/IEC 10165-5 : 1993": activate	{2 9 3 5 9 0}		m			1.1	ActionInfo	**Information Syntax** SET OF SEQUENCE	m		
							1.1.1	identifier	OBJECT IDENTIFIER	m		
							1.1.2	significance	BOOLEAN	o		
							1.1.3	information	ANY DEFINED BY identifier	m		
							1.2	ActionReply	**Reply Syntax** SET OF SEQUENCE	m		
							1.2.1	identifier	OBJECT IDENTIFIER	m		
							1.2.2	significance	BOOLEAN	o		
							1.2.3	information	ANY DEFINED BY identifier	m		
2	"CCITT Rec. X.723 (1993)	ISO/IEC 10165-5 : 1993": deactivate	{2 9 3 5 9 1}					2.1	ActionInfo	**Information Syntax** SET OF SEQUENCE	m		
							2.1.1	identifier	OBJECT IDENTIFIER	m		
							2.1.2	significance	BOOLEAN	o		
							2.1.3	information	ANY DEFINED BY identifier	m		
							2.2	ActionReply	**Reply Syntax** SET OF SEQUENCE	m		
							2.2.1	identifier	OBJECT IDENTIFIER	m		
							2.2.2	significance	BOOLEAN	o		
							2.2.3	information	ANY DEFINED BY identifier	m		

N.2.6   Parameters

Table N.7 – idrpConfig Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and values	Status	Support	Additional information
1	notificationBISPDUerrorcode	{2 13 0 3 5 2}	EVENT-INFO communicationsAlarm	m		
2	notificationBISPDUerrorinfo	{2 13 0 3 5 4}	EVENT-INFO communicationsAlarm	m		
3	notificationBISerrorsubcode	{2 13 0 3 5 3}	EVENT-INFO communicationsAlarm	m		
4	notificationLocalRDCConfig	{2 13 0 3 5 6}	EVENT-INFO communicationsAlarm	m		
5	notificationRIBIntegrityFailure	{2 13 0 3 5 7}	EVENT-INFO communicationsAlarm	m		
6	notificationRemoteBISNET	{2 13 0 3 5 1}	EVENT-INFO communicationsAlarm	m		
7	notificationRemoteRDCConfig	{2 13 0 3 5 5}	EVENT-INFO communicationsAlarm	m		
8	notificationSourceBISNET	{2 13 0 3 5 8}	EVENT-INFO communicationsAlarm	m		
9	notificationSourceBISrdc	{2 13 0 3 5 10}	EVENT-INFO communicationsAlarm	m		
10	notificationSourceBISrdi	{2 13 0 3 5 9}	EVENT-INFO communicationsAlarm	m		
11	notificationRemoteBISNET	{2 13 0 3 5 1}	EVENT-INFO communicationsInformation	m		