INTERNATIONAL STANDARD

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Information technology — Telecommunications and information exchange between systems — Elements of management information related to OSI Data Link Layer standards

AMENDMENT 2: Implementation conformance statement proformas

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Éléments d'information de gestion concernant les normes de la couche de liaison de données OSI

AMENDEMENT 2: Proformes de déclaration de conformité de mise en œuvre

Reference number
ISO/IEC 10742:1994/Amd.2:1996(E)

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 2 to International Standard ISO/IEC 10742 : 1994 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This Amendment is also published by ITU-T as Rec. X.282/Amd. 2 but not as identical text.

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Information technology – Telecommunications and information exchange between systems – Elements of management information related to OSI Data Link Layer standards

AMENDMENT 2:

Implementation conformance statement proformas

Page 1

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

"

Annexes E, F, G and H, which are integral parts of this International Standard provide ICS proformas associated with Data link layer management information.

"

Add the following reference to subclause 2.1:

"

- ITU-T 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* .

"

Page 2

Add the following references to subclause 2.2:

"

- 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.290 (1991), *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.*

  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.*

- ITU-T Recommendation X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications - Implementation Conformance Statements.*

ISO/IEC 9646-7: 1995, *Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation conformance statements.*

"

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Add the following abbreviations to clause 4:

"

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

"

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Replace clause 7 with the following:

"

7 Conformance

Implementations claiming to conform to this International Standard shall comply with the conformance requirements as defined in the following subclauses.

7.1 Conformance requirements to this International Standard

7.1.1 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 E.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 E.3 and further tables referenced by Annex E.

If a claim of conformance is made for support in the agent role, the implementation shall support one or more instances of the data link subsystem managed object class and the data link service access point managed object class identified in Table E.4 of this International Standard and further tables referenced by Annex E.

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 E.7 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.

7.1.2 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.

7.1.3 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 E, F, G and H 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 E 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.

7.2 Protocol specific conformance requirements

The supplier of an implementation which is claimed to conform to this International Standard shall support at least one protocol identified in Table E.2 of this International Standard.

7.2.1 Conformance to the ISO 7776

An implementation claming conformance to ISO/IEC 7776 in the agent role as a managed implementation shall:

a) conform to ITU-T Recommendation X.282 | ISO/IEC 10742 as defined in 7.1;

b) support the lAPBDLE MO, the sLPPM MO and sLPConnection MO.

7.2.2 Conformance to the ISO/IEC 8802-2 connectionless-mode LLC

An implementation claming conformance to ISO/IEC 8802-2 connectionless-mode LLC in the agent role as a managed implementation shall:

a) conform to ITU-T Recommendation X.282 | ISO/IEC 10742 as defined in 7.1;

b) support the lLCDLE MO and at least one class derived from the lLCCLPM MO.

7.2.3 Conformance to the ISO/IEC 8802-2 connection-mode LLC

An implementation claming conformance to ISO/IEC 8802-2 connection-mode LLC in the agent role as a managed implementation shall:

a) conform to ITU-T Recommendation X.282 | ISO/IEC 10742 as defined in 7.1;

b) support the lLCDLE MO and at least one class derived from the lLCCOPM MO.

7.2.4 Conformance to the ISO 8802 MAC

An implementation claming conformance to ISO 8802 MAC in the agent role as a managed implementation shall:

a) conform to ITU-T Recommendation X.282 | ISO/IEC 10742 as defined in 7.1;

b) support the mACDLE MO and at least one class derived from the mAC MO.

"

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Add the following annexes after Annex D.

Annex E
(normative)

MCS proforma[1)]

E.1 Introduction

E.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.

E.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.

E.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 .

E.2 Identification of the implementation

E.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

E.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.

E.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.

E.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

E.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.

E.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.

E.4 Management conformance summary

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

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

Table E.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 the protocols that are supported, in Table E.2

Table E.2 – Protocol

Index	Protocol supported	Status	Support	Additional information
1	ISO 7776 support	o.2		
2	ISO 8802-2 (CL mode) support	o.2		
3	ISO 8802-2 (CO mode) support	o.2		
4	ISO/IEC 8802 MAC support	c1		

c1: if E.2/2a or E.2/3a then m else -

The supplier of the implementation shall specify support for management information in the manager role, in Table E.3.

Table E.3 – Manager role minimum conformance requirement

	Item	Status	Support	Additional information
1	Operations on managed objects	c1		
2	Attribute value change notification for EWMA metric monitor managed object	c1		
3	Object creation notification for EWMA metric monitor managed object	c1		
4	Object deletion notification for EWMA metric monitor managed object	c1		
5	Quality of service alarm notification for EWMA metric monitor managed object	c1		
6	State change notification for EWMA metric monitor managed object	c1		
7	Object creation notification for LAPB data link entity managed object	c2		
8	Object deletion notification for LAPB data link entity managed object	c2		
9	State change notification for LAPB data link entity managed object	c2		
10	Object creation notification for LLC data link entity managed object	c3		
11	Object deletion notification for LLC data link entity managed object	c3		
12	State change notification for LLC data link entity managed object	c3		
13	Object creation notification for MAC data link entity managed object	c4		
14	Object deletion notification for MAC data link entity managed object	c4		
15	State change notification for MAC data link entity managed object	c4		
16	Deactivate action for SLP connection managed object	c2		
17	Communications alarm notification for SLP connection managed object	c2		
18	Object creation notification for SLP connection managed object	c2		
19	Object deletion notification for SLP connection managed object	c2		
20	Object creation notification for SLP connection IV managed object	c2		

Table E.3 (concluded) – Manager role minimum conformance requirement

	Item	Status	Support	Additional information
21	Object deletion notification for SLP connection IV managed object	c2		
22	Activate action for SLP protocol machine managed object	c2		
23	Deactivate action for SLP protocol machine managed object	c2		
24	Object creation notification for SLP protocol managed object	c2		
25	Object deletion notification for SLP protocol managed object	c2		
26	State change notification for SLP protocol machine managed object	c2		

c1: if E.1/1a then o.3 else -

c2: if E.1/1a and E.2/1a then o.3 else -

c3: if E.1/1a and (E.2/2a or E.2/3a) then o.3 else -

c4: if E.1/1a and E.2/4a then o.3 else -

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

Table E.4 – Agent role minimum conformance requirement

Index	Item	Status	Support	Additional information
1	Data link subsystem managed object	m		
2	Data link service access point managed object	m		
3	LAPB data link entity managed object	c5		
4	LAPB single link protocol machine managed object	c5		
5	LAPB single link protocol connection managed object	c5		
6	LAPB single link protocol connection initial values managed object	c6		
7	MAC data link entity managed object	c7		
8	MAC managed object	c8		
9	LLC data link managed object	c9		
10	LLC connectionless protocol machine managed object	c10		
11	LLC connection-mode protocol machine managed object	c11		

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

c6: if E.1/2a and E.2/1a then o else -

c7: if E.1/2a and E.2/4a then m else -

c8: if E.1/2a and E.2/4a then o else -

c9: if E.1/2a and E2/2a or G.2/3a then m else -

c10: if E.1/2a and E.2/2a then o else -

c11: if E.1/2a and E.2/3a then o else -

Table E.5 – Logging of event records

Index		Status	Support	Additional information
1	Does the implementation support logging of event records in agent role?	c12		

c12: if E.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 E.6, E.7 and E.8, 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 E.6 – 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 10742"	G.1 - G.4	dLSAP	—	m			
2	"ISO/IEC 10742"	G.5 - G.8	datalinkSubsystem	—	m			
3	"ISO/IEC 10742"	G.9 - G.14	eWMAMetricMonitor	—	o			
4	"ISO/IEC 10742"	G.15 - G.20	lAPBDLE	—	c13			
5	"ISO/IEC 10742"	G.21	lLCCLPM	—	c14			
6	"ISO/IEC 10742"	G.22	lLCCOPM	—	c15			
7	"ISO/IEC 10742"	G.23 - G.28	lLCDLE	—	c16			
8	"ISO/IEC 10742"	G.29	mAC	—	c17			
9	"ISO/IEC 10742"	G.30 - G.35	mACDLE	—	c18			
10	"ISO/IEC 10742"	G.36 - G.39	resourceTypeId	—	o			
11	"ISO/IEC 10742"	G.40 - G.47	sLPConnection	—	c19			
12	"ISO/IEC 10742"	G.48 - G.53	sLPConnectionIVMO	—	c20			
13	"ISO/IEC 10742"	G.54 - G.60	sLPPM	—	c21			
14	"ISO/IEC 10164-1"	Table C.1 - C.4	objectCreationRecord	—	c22			
15	"ISO/IEC 10164-1"	Table C.5 - C.8	objectDeletionRecord	—	c22			
16	"ISO/IEC 10164-1"	Table C.9 - C.12	attributeValueChangeRecord	—	c23			
17	"ISO/IEC 10164-2"	Table C.1 - C.4	stateChangeRecord	—	c24			
18	"ISO/IEC 10164-4"	Table C.1 - C.4	alarmRecord	—	c25			

c13: if E.4/3a then m else -

c14: if E.4/10a then m else -

c15: if E.4/11a then m else -

c16: if E.4/9a then m else -

c17: if E.4/8a then m else -

c18: if E.4/7a then m else -

c19: if E.4/5a then m else -

c20: if E.4/6a then m else -

c21: if E.4/4a then m else -

c22: if E.6/4a or E.6/5a or E.6/6a or E.6/7a or E.6/8a or E.6/9a or E.6/11a or E.6/12a or E.6/13a then m else -

c23: if E.6/4a then m else -

c24: if E.6/4a or E.6/5a or E.6/6a or E.6/7a or E.6/8a or E.6/9a or E.6/13a then m else -

c25: if E.6/4a or E.6/11a then m else -

Table E.7 – 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 10742"	Table H.1/1	dLSAP-datalinkEntity-Management	—	o.4			
2	"ISO/IEC 10742"	Table H.1/2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": sap1-communicationsEntity	—	o.4			
3	"ISO/IEC 10742"	Table H.1/3	datalinkEntity-datalinkSubsystem-Management	—	o.5			
4	"ISO/IEC 10742"	Table H.1/4	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": communicationsEntity-subsystem	—	o.5			
5	"ISO/IEC 10742"	Table H.1/5	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": subsystem-system	—	m			
6	"ISO/IEC 10742"	Table H.1/6	eWMAMetricMonitor-ILCDLE-Management	—	c26			
7	"ISO/IEC 10742"	Table H.1/7	eWMAMetricMonitor-mACDLE-Management	—	c26			
8	"ISO/IEC 10742"	Table H.1/8	ILCCLPM-ILCDLE-Management	—	c27			
9	"ISO/IEC 10742"	Table H.1/9	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": clProtocolMachine-entity	—	c27			
10	"ISO/IEC 10742"	Table H.1/10	ILCCOPM-ILCDLE-Management	—	c28			
11	"ISO/IEC 10742"	Table H.1/11	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": coProtocolMachine-entity	—	c29			
12	"ISO/IEC 10742"	Table H.1/12	mAC-mACDLE-Automatic	—	c30			
13	"ISO/IEC 10742"	Table H.1/13	mAC-mACDLE-Management	—	c30			
14	"ISO/IEC 10742"	Table H.1/14	resourceTypeId-ILCDLE-Automatic	—	c31			
15	"ISO/IEC 10742"	Table H.1/15	resourceTypeId-mACDLE-Automatic	—	c31			
16	"ISO/IEC 10742"	Table H.1/16	sLPConnection-sLPPM-Automatic	—	c32			
17	"ISO/IEC 10742"	Table H.1/17	sLPConnection-sLPPM-Management	—	c32			
18	"ISO/IEC 10742"	Table H.1/18	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": singlePeerConnection-coProtocolMachine	—	c32			
19	"ISO/IEC 10742"	Table H.1/19	sLPConnectionIVMO-sLPPM-Management	—	c33			
20	"ISO/IEC 10742"	Table H.1/20	sLPPM-IAPBDLE-Management	—	c34			
21	"ISO/IEC 10164-6"	Table D.1/1	logRecord-log	—	c35			

c26: if E.6/3a then o.6 else -

c27: if E.6/4a then o.7 else -

c28: if E.6/5a then o.9 else -

c29: if E.6/6a then o.9, if E.6/13a then o.10, if E.6/6a and E.6/13a then o.9 and o.10 else -

c30: if E.6/8a then o.11 else -

c31: if E.6/10a then o.12 else -

c32: if E.6/11a then o.13 else -

c33: if E.6/12a then m else -

c34: if E.6/13a then o.10 else -

c35: if E.6/14a or E.6/15a or E.6/16a or E.6/17a or E.6/18a then m else -

Table E.8 – 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 10742"	Table F.1 to F.23	management operations	—	c36			
2	"ISO/IEC 10742"	Table F.24	notifications	—	c37			
3	"ISO/IEC 10742"	Table F.25	actions	—	c38			

c36: if E.3/1a then m else -

c37: if E.3/2a or E.3/3a or E.3/4a or E.3/5a or E.3/6a or E.3/7a or E.3/8a or E.3/9a or E.3/10a or E.3/11a or E.3/12a or E.3/13a or E.3/14a E.3/15 or E.3/17a or E.3/18a or E.3/19a or E.3/20a or E.3/21a or E.3/24a or E.3/25a or E.3/26a then m else -

c38: if E.3/16a or E.3/22a or E.3/23a then m else -

Annex F
(normative)

MICS proforma[1)]

F.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.

F.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.

F.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 F.1.3.

F.4 Statement of conformance to the management information

F.4.1 Attributes

The specifier 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.

F.4.1.1 The Data Link Service Access Point managed object

Table F.1 – dLSAP Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c1		o.14		-		-		-		-		
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c1		o.14		-		-		-		-		
3	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c1		o.14		-		-		-		-		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c1		o.14		-		-		-		-		

[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.

Table F.1 (concluded) – dLSAP Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
5	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": sap1Address	{2 9 3 5 7 8}	INTEGER	-		o.14		-		-		-		-		
6	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": sapId	{2 9 3 5 7 10}	GraphicString	c1		o.14		-		-		-		-		
7	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": userEntityNames	{2 9 3 5 7 15}	SET OF ObjectInstance	-		o.14		-		-		-		-		

c1: if F.17/1a then o.14 else -

F.4.1.2 The Data Link Subsystem managed object

Table F.2 – datalinkSubsystem Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	-		o.14		-		-		-		-		
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	-		o.14		-		-		-		-		
3	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	-		o.14		-		-		-		-		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	-		o.14		-		-		-		-		
5	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": subsystemId	{2 9 3 5 7 11}	GraphicString	-		o.14		-		-		-		-		

F.4.1.3 The EWMA Metric Monitor managed object

Table F.3 – eWMAMetricMonitor Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": administrativeState	{2 9 3 2 7 31}	ENUMERATED	o.14		o.14		o.14		-		-		-		
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	o.14		o.14		-		-		-		-		
3	counterModulus	{1 2 840 10011 7 5}	INTEGER	-		o.14		o.14		-		-		-		
4	counterTMinusGP	{1 2 840 10011 7 4}	INTEGER	-		o.14		o.14		-		-		-		

Table F.3 (concluded) – eWMAMetricMonitor 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	
5	derivedGauge	{1 2 840 10011 7 6}	CHOICE derivedGaugeNotCurrent	o.14		o.14		o.14		-		-		-		
6	estimateOfMean	{1 2 840 10011 7 7}	CHOICE	o.14		o.14		o.14		-		-		-		
7	granularityPeriod	{1 2 840 10011 7 8}	CHOICE	o.14		o.14		o.14		-		-		-		
8	movingTimePeriod	{1 2 840 10011 7 12}	CHOICE	o.14		o.14		o.14		-		-		-		
9	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	o.14		o.14		-		-		-		-		
10	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	o.14		o.14		-		-		-		-		
11	observedAttributeId	{1 2 840 10011 7 9}	AttributeId	o.14		o.14		o.14		-		-		-		
12	observedManagedObjectInstance	{1 2 840 10011 7 10}	ObjectInstance	o.14		o.14		o.14		-		-		-		
13	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	-		o.14		-		-		-		-		
14	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	o.14		o.14		-		-		-		-		
15	scannerId	{1 2 840 10011 7 3}	GraphicString	o.14		o.14				-		-		-		
16	severityIndicatingThreshold	{1 2 840 10011 7 11}	SET OF SEQUENCE	o.14		o.14		o.14		o.14		o.14		-		

F.4.1.4 The LAPB Data Link Entity managed object

Table F.4 – IAPBDLE 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	c2		o.14		-		-		-		-		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c2		o.14		-		-		-		-		
3	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	-		o.14		-		-		-		-		
4	mT1Timer	{2 15 0 7 12}	SEQUENCE	c2		o.14		o.14		-		-		o.14		
5	mT2Timer	{2 15 0 7 13}	SEQUENCE	c2		o.14		o.14		-		-		o.14		
6	mT3Timer	{2 15 0 7 14}	SEQUENCE	c2		o.14		o.14		-		-		o.14		
7	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c2		o.14		-		-		-		-		
8	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c2		o.14		-		-		-		-		
9	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	-		o.14		-		-		-		-		

Table F.4 (concluded) – IAPBDLE 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	
10	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c2		o.14		-		-		-		-		
11	providerEntityNames	{2 15 0 7 11}	SET OF ObjectInstance	c2		o.14		o.14		-		-		o.14		

c2: if F.19/1a then o.14 else -

F.4.1.5 The LLC Data Link Entity managed object

Table F.5 – ILCDLE 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	c3		o.14		-		-		-		-		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c3		o.14		-		-		-		-		
3	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	-		o.14		-		-		-		-		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c3		o.14		-		-		-		-		
5	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c3		o.14		-		-		-		-		
6	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	-		o.14		-		-		-		-		
7	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c3		o.14		-		-		-		-		
8	providerEntityNames	{2 15 0 7 11}	SET OF ObjectInstance	c3		o.14		o.14		-		-		o.14		

c3: if F.20/1a then o.14 else -

F.4.1.6 The MAC Data Link Entity managed object

Table F.6 – mACDLE Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c4		o.14		-		-		-		-		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c4		o.14		-		-		-		-		
3	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	-		o.14		-		-		-		-		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c4		o.14		-		-		-		-		
5	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c4		o.14		-		-		-		-		
6	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	-		o.14		-		-		-		-		
7	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c4		o.14		-		-		-		-		
8	providerEntityNames	{2 15 0 7 11}	SET OF ObjectInstance	c4		o.14		o.14		-		-		o.14		

c4: if F.21/1a then o.14 else -

F.4.1.7 The Resource TypeId managed object

Table F.7 – resourceTypeId Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	-		o.14		-		-		-		-		
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	-		o.14		-		-		-		-		
3	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	-		o.14		-		-		-		-		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	-		o.14		-		-		-		-		
5	resourceInfo	{1 2 840 10011 7 2}	SEQUENCE	-		o.14		-		-		-		-		
6	resourceTypeIdName	{1 2 840 10011 7 1}	GraphicString	-		o.14		-		-		-		-		

F.4.1.8 The LAPB Single Link Protocol Connection managed object

Table F.8 – sLPConnection Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	-		o.14		-		-		-		-		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": connectionId	{2 9 3 5 7 1}	GraphicString	-		o.14		-		-		-		-		
3	fCSErrorsReceived	{2 15 0 7 15}	INTEGER	-		o.14		-		-		-		-		
4	fRMRsReceived	{2 15 0 7 1}	INTEGER	-		o.14		-		-		-		-		
5	fRMRsSent	{2 15 0 7 2}	INTEGER	-		o.14		-		-		-		-		
6	iFrameDataOctetsReceived	{2 15 0 7 16}	INTEGER	-		o.14		-		-		-		-		
7	iFrameDataOctetsSent	{2 15 0 7 17}	INTEGER	-		o.14		-		-		-		-		
8	iFramesReceived	{2 15 0 7 3}	INTEGER	-		o.14		-		-		-		-		
9	iFramesSent	{2 15 0 7 4}	INTEGER	-		o.14		-		-		-		-		
10	interfaceType	{2 15 0 7 18}	ENUMERATED	-		o.14		o.14		-		-		o.14		
11	k	{2 15 0 7 19}	CHOICE	-		o.14		o.14		-		-		o.14		
12	n1	{2 15 0 7 20}	INTEGER	-		o.14		o.14		-		-		o.14		
13	n2	{2 15 0 7 21}	INTEGER	-		o.14		o.14		-		-		o.14		
14	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	-		o.14		-		-		-		-		
15	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	-		o.14		-		-		-		-		
16	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	-		o.14		-		-		-		-		
17	pollsReceived	{2 15 0 7 22}	INTEGER	-		o.14		-		-		-		-		
18	rEJsReceived	{2 15 0 7 5}	INTEGER	-		o.14		-		-		-		-		
19	rEJsSent	{2 15 0 7 6}	INTEGER	-		o.14		-		-		-		-		
20	rNRsReceived	{2 15 0 7 7}	INTEGER	-		o.14		-		-		-		-		
21	rNRsSent	{2 15 0 7 8}	INTEGER	-		o.14		-		-		-		-		
22	sABMsReceived	{2 15 0 7 9}	INTEGER	-		o.14		-		-		-		-		
23	sABMsSent	{2 15 0 7 10}	INTEGER	-		o.14		-		-		-		-		
24	sLPProtocolState	{2 15 0 7 23}	ENUMERATED	-		o.14		-		-		-		-		
25	sequenceModulus	{2 15 0 7 24}	INTEGER	-		o.14		o.14		-		-		o.14		
26	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": supportedConnectionNames	{2 9 3 5 7 12}	SET OF ObjectInstance	-		o.14		-		-		-		-		
27	t1Timer	{2 15 0 7 25}	SEQUENCE	-		o.14		o.14		-		-		o.14		
28	t2Timer	{2 15 0 7 26}	SEQUENCE	-		o.14		o.14		-		-		o.14		
29	t3Timer	{2 15 0 7 27}	SEQUENCE	-		o.14		o.14		-		-		o.14		
30	t4Timer	{2 15 0 7 28}	SEQUENCE	-		o.14		o.14		-		-		o.14		
31	timesT1Expired	{2 15 0 7 29}	INTEGER	-		o.14		-		-		-		-		
32	timesT3Expired	{2 15 0 7 30}	INTEGER	-		o.14		o.14		-		-		o.14		
33	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": underlyingConnectionNames	{2 9 3 5 7 14}	SET OF ObjectInstance	-		o.14		-		-		-		-		

F.4.1.9 The LAPB Single Link Protocol Connection Initial Values managed object

Table F.9 – sLPConnectionIVMO Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	o.14		o.14		-		-		-		-		
2	interfaceType	{2 15 0 7 18}	ENUMERATED	o.14		o.14		o.14		-		-		o.14		
3	k	{2 15 0 7 19}	CHOICE	o.14		o.14		o.14		-		-		o.14		
4	n1	{2 15 0 7 20}	INTEGER	o.14		o.14		o.14		-		-		o.14		
5	n2	{2 15 0 7 21}	INTEGER	o.14		o.14		o.14		-		-		o.14		
6	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	o.14		o.14		-		-		-		-		
7	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	o.14		o.14		-		-		-		-		
8	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	o.14		o.14		-		-		-		-		
9	sLPConnectionIVMOId	{2 15 0 7 31}	GraphicString	o.14		o.14		-		-		-		-		
10	sequenceModulus	{2 15 0 7 24}	INTEGER	o.14		o.14		o.14		-		-		o.14		
11	t1Timer	{2 15 0 7 25}	SEQUENCE	o.14		o.14		o.14		-		-		o.14		
12	t2Timer	{2 15 0 7 26}	SEQUENCE	o.14		o.14		o.14		-		-		o.14		
13	t3Timer	{2 15 0 7 27}	SEQUENCE	o.14		o.14		o.14		-		-		o.14		
14	t4Timer	{2 15 0 7 28}	SEQUENCE	o.14		o.14		o.14		-		-		o.14		

F.4.1.10 The LAPB Single Link Protocol Machine managed object

Table F.10 – sLPPM Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		
Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c5		o.14		-		-		-		-		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": coProtocolMachineId	{2 9 3 5 7 3}	GraphicString	c5		o.14		-		-		-		-		
3	"Rec. X.721 | ISO/IEC 10165-2 : 1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c5		o.14		-		-		-		-		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c5		o.14		-		-		-		-		
5	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	-		o.14		-		-		-		-		
6	"Rec. X.721 | ISO/IEC 10165-2 : 1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c5		o.14		-		-		-		-		

c5: if F.23/1a then o.14 else -

F.4.2 Attribute groups

The specifier 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.

F.4.2.1 The LAPB Data Link Entity managed object

Table F.11 – lAPBDLE Attribute group support

				Get		Set to default		
Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": state	{2 9 3 2 8 1}	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	o.14		-		
2	timers	{2 15 0 8 1}	mT1Timer mT2Timer mT3Timer	o.14		o.14		

F.4.2.2 The LLC Data Link Entity managed object

Table F.12 – lLCDLE Attribute group support

				Get		Set to default		
Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": state	{2 9 3 2 8 1}	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	o.14		-		

F.4.2.3 The MAC Data Link Entity managed object

Table F.13 – mACDLE Attribute group support

				Get		Set to default		
Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Status	Support	Status	Support	Additional information
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": state	{2 9 3 2 8 1}	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	o.14		-		

F.4.2.4 The LAPB Single Link Protocol Connection managed object

Table F.14 – sLPConnection Attribute group support

Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Get		Set to default		Additional information
				Status	Support	Status	Support	
1	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": counters	{2 9 3 5 8 0}	fCSErrorsReceived fRMRsReceived fRMRsSent iFrameDataOctetsReceived iFrameDataOctetsSent iFramesReceived iFramesSent pollsReceived rEJsReceived rEJsSent rNRsReceived rNRsSent sABMsReceived sABMsSent timesT1Expired timerT3Expired (condition)	o.14		-		
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": state	{2 9 3 2 8 1}	sLPProtocolState	o.14		-		
3	timers	{2 15 0 8 1}	t1Timer t2Timer t4Timer t3Timer (condition)	o.14		o.14		

F.4.2.5 The LAPB Single Link Protocol Connection Initial Values managed object

Table F.15 – sLPConnectionIVMO Attribute group support

Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Get		Set to default		Additional information
				Status	Support	Status	Support	
1	timers	{2 15 0 8 1}	t1Timer t2Timer t4Timer t3Timer (condition)	o.14		o.14		

F.4.2.6 The LAPB Single Link Protocol Machine managed object

Table F.16 – sLPPM Attribute group support

Index	Attribute group template label	Value of object identifier for attribute group	Constraints and values	Get		Set to default		Additional information
				Status	Support	Status	Support	
1	"Rec. X.721 | ISO/IEC 10165-2 : 1992": state	{2 9 3 2 8 1}	"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState	o.14		-		

F.4.3 Create and delete management operations

The specifier 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.

F.4.3.1 The Data Link Service Access Point managed object

Table F.17 — Create and delete support

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

F.4.3.2 The EWMA Metric Monitor managed object

Table F.18 — Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	eWMAMetricMonitor MO	o.14		
1.1	Create with reference object	—	—		
2	Delete support	eWMAMetricMonitor MO	o.14		

F.4.3.3 The LAPB Data Link Entity managed object

Table F.19 — Create and delete support

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

F.4.3.4 The LLC Data Link Entity managed object

Table F.20 — Create and delete support

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

F.4.3.5 The MAC Data Link Entity managed object

Table F.21 — Create and delete support

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

F.4.3.6 The LAPB Single Link Protocol Connection Initial Values managed object

Table F.22 — Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	sLPConnectionIVMO	o.14		
1.1	Create with reference object	—	—		
2	Delete support	sLPConnectionIVMO	o.14		

F.4.3.7 The LAPB Single Link Protocol Machine managed object

Table F.23 — Create and delete support

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

F.4.4 Notifications

The specifier 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 F.24 – 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": attributeValueChange	{2 9 3 2 10 1}	-	c6				1.1	AttributeValueChangeInfo	-	**Information Syntax** SEQUENCE	c6		
								1.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:m		
								1.1.2	attributeIdentifierList	{2 9 3 2 7 8}	SET OF AttributeId	c:m		
								1.1.3	attributeValueChangeDefinition	{2 9 3 2 7 10}	SET OF SEQUENCE	c:m		
								1.1.3.1	attributeID	-	AttributeId	c:m		
								1.1.3.2	oldAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								1.1.3.3	newAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								1.1.4	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								1.1.5	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								1.1.5.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.5.2	sourceObjectInst	-	ObjectInstance	c:m		
								1.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								1.1.7	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								1.1.7.1	identifier	-	OBJECT IDENTIFIER	c:m		
								1.1.7.2	significance	-	BOOLEAN	c:m		
								1.1.7.3	information	-	ANY DEFINED BY identifier	c:m		

Table F.24 (continued) – Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support		Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
					Confirmed	Nonconfirmed								
2	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectCreation	{2 9 3 2 10 6}	-	c7				2.1	ObjectInfo	-	**Information Syntax** SEQUENCE	c7		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:m		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	c:m		
								2.1.3	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								2.1.4	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								2.1.4.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	-	ObjectInstance	c:m		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								2.1.6	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								2.1.6.1	identifier	-	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	-	BOOLEAN	c:m		
								2.1.6.3	information	-	ANY DEFINED BY identifier	c:m		
3	"Rec. X.721 | ISO/IEC 10165-2 : 1992": objectDeletion	{2 9 3 2 10 7}	-	c8				3.1	ObjectInfo	-	**Information Syntax** SEQUENCE	c8		
								3.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:m		
								3.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	c:m		
								3.1.3	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								3.1.4	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								3.1.4.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.4.2	sourceObjectInst	-	ObjectInstance	c:m		
								3.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								3.1.6	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								3.1.6.1	identifier	-	OBJECT IDENTIFIER	c:m		
								3.1.6.2	significance	-	BOOLEAN	c:m		
								3.1.6.3	information	-	ANY DEFINED BY identifier	c:m		
4	"Rec. X.721 | ISO/IEC 10165-2 : 1992": qualityofServiceAlarm	{2 9 3 2 10 11}	-	c9				4.1	AlarmInfo	-	**Information Syntax** SEQUENCE	c9		
								4.1.1	probableCause	{2 9 3 2 7 18}	CHOICE	c:m		
								4.1.1.1	globalValue	-	OBJECT IDENTIFIER	c:m		
								4.1.1.2	localValue	-	INTEGER	c:m		
								4.1.2	specificProblems	{2 9 3 2 7 27}	SET OF CHOICE	c:m		
								4.1.2.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:m		
								4.1.2.2	INTEGER	-	INTEGER	c:m		
								4.1.3	perceivedSeverity	{2 9 3 2 7 17}	ENUMERATED	c:m		
								4.1.4	backedUpStatus	{2 9 3 2 7 11}	BOOLEAN	c:m		

Table F.24 (continued) – Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support		Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
					Confirmed	Nonconfirmed								
								4.1.5	backUpObject	{2 9 3 2 7 40}	ObjectInstance	c:m		
								4.1.6	trendIndication	{2 9 3 2 7 30}	ENUMERATED	c:m		
								4.1.7	thresholdInfo	{2 9 3 2 7 29}	SEQUENCE	c:m		
								4.1.7.1	triggeredThreshold	-	AttributeId	c:m		
								4.1.7.2	observedValue	-	CHOICE	c:m		
								4.1.7.2.1	integer	-	INTEGER	c:m		
								4.1.7.2.2	real	-	REAL	c:m		
								4.1.7.3	thresholdLevel	-	CHOICE	c:m		
								4.1.7.3.1	up	-	SEQUENCE	c:m		
								4.1.7.3.1.1	high	-	CHOICE	c:m		
								4.1.7.3.1.1.1	integer	-	INTEGER	c:m		
								4.1.7.3.1.1.2	real	-	REAL	c:m		
								4.1.7.3.1.2	low	-	CHOICE	c:m		
								4.1.7.3.1.2.1	integer	-	INTEGER	c:m		
								4.1.7.3.1.2.2	real	-	REAL	c:m		
								4.1.7.3.2	down	-	SEQUENCE	c:m		
								4.1.7.3.2.1	high	-	CHOICE	c:m		
								4.1.7.3.2.1.1	integer	-	INTEGER	c:m		
								4.1.7.3.2.1.2	real	-	REAL	c:m		
								4.1.7.3.2.2	low	-	CHOICE	c:m		
								4.1.7.3.2.2.1	integer	-	INTEGER	c:m		
								4.1.7.3.2.2.2	real	-	REAL	c:m		
								4.1.7.4	armTime	-	GeneralizedTime	c:m		
								4.1.8	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								4.1.9	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								4.1.9.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								4.1.9.2	sourceObjectInst	-	ObjectInstance	c:m		
								4.1.10	stateChangeDefinition	{2 9 3 2 7 28}	SET OF SEQUENCE	c:m		
								4.1.10.1	attributeID	-	AttributeId	c:m		
								4.1.10.2	oldAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								4.1.10.3	newAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								4.1.11	monitoredAttributes	{2 9 3 2 7 15}	SET OF Attribute	c:m		
								4.1.12	proposedRepairActions	{2 9 3 2 7 19}	SET OF CHOICE	c:m		
								4.1.12.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:m		
								4.1.12.2	INTEGER	-	INTEGER	c:m		
								4.1.13	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								4.1.14	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								4.1.14.1	identifier	-	OBJECT IDENTIFIER	c:m		
								4.1.14.2	significance	-	BOOLEAN	c:m		

Table F.24 (continued) – 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
								4.1.14.3	information	-	ANY DEFINED BY identifier	c:m		
5	"Rec. X.721 | ISO/IEC 10165-2 : 1992": communicationsAlarm	{2 9 3 2 10 2}	-	c10				5.1	AlarmInfo	-	**Information Syntax** SEQUENCE	c10		
								5.1.1	probableCause	{2 9 3 2 7 18}	CHOICE	c:m		
								5.1.1.1	globalValue	-	OBJECT IDENTIFIER	c:m		
								5.1.1.2	localValue	-	INTEGER	c:m		
								5.1.2	specificProblems	{2 9 3 2 7 27}	SET OF CHOICE	c:m		
								5.1.2.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:m		
								5.1.2.2	INTEGER	-	INTEGER	c:m		
								5.1.3	perceivedSeverity	{2 9 3 2 7 17}	ENUMERATED	c:m		
								5.1.4	backedUpStatus	{2 9 3 2 7 11}	BOOLEAN	c:m		
								5.1.5	backUpObject	{2 9 3 2 7 40}	ObjectInstance	c:m		
								5.1.6	trendIndication	{2 9 3 2 7 30}	ENUMERATED	c:m		
								5.1.7	thresholdInfo	{2 9 3 2 7 29}	SEQUENCE	c:m		
								5.1.7.1	triggeredThreshold	-	AttributeId	c:m		
								5.1.7.2	observedValue	-	CHOICE	c:m		
								5.1.7.2.1	integer	-	INTEGER	c:m		
								5.1.7.2.2	real	-	REAL	c:m		
								5.1.7.3	thresholdLevel	-	CHOICE	c:m		
								5.1.7.3.1	up	-	SEQUENCE	c:m		
								5.1.7.3.1.1	high	-	CHOICE	c:m		
								5.1.7.3.1.1.1	integer	-	INTEGER	c:m		
								5.1.7.3.1.1.2	real	-	REAL	c:m		
								5.1.7.3.1.2	low	-	CHOICE	c:m		
								5.1.7.3.1.2.1	integer	-	INTEGER	c:m		
								5.1.7.3.1.2.2	real	-	REAL	c:m		
								5.1.7.3.2	down	-	SEQUENCE	c:m		
								5.1.7.3.2.1	high	-	CHOICE	c:m		
								5.1.7.3.2.1.1	integer	-	INTEGER	c:m		
								5.1.7.3.2.1.2	real	-	REAL	c:m		
								5.1.7.3.2.2	low	-	CHOICE	c:m		
								5.1.7.3.2.2.1	integer	-	INTEGER	c:m		
								5.1.7.3.2.2.2	real	-	REAL	c:m		
								5.1.7.4	armTime	-	GeneralizedTime	c:m		
								5.1.8	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								5.1.9	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								5.1.9.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								5.1.9.2	sourceObjectInst	-	ObjectInstance	c:m		

Table F.24 (concluded) – Notification support

Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Support		Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
					Confirmed	Nonconfirmed								
								5.1.10	stateChangeDefinition	{2 9 3 2 7 28}	SET OF SEQUENCE	c:m		
								5.1.10.1	attributeID	-	AttributeId	c:m		
								5.1.10.2	oldAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								5.1.10.3	newAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								5.1.11	monitoredAttributes	{2 9 3 2 7 15}	SET OF Attribute	c:m		
								5.1.12	proposedRepairActions	{2 9 3 2 7 19}	SET OF CHOICE	c:m		
								5.1.12.1	OBJECT IDENTIFIER	-	OBJECT IDENTIFIER	c:m		
								5.1.12.2	INTEGER	-	INTEGER	c:m		
								5.1.13	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								5.1.14	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								5.1.14.1	identifier	-	OBJECT IDENTIFIER	c:m		
								5.1.14.2	significance	-	BOOLEAN	c:m		
								5.1.14.3	information	-	ANY DEFINED BY identifier	c:m		
6	"Rec. X.721 | ISO/IEC 10165-2 : 1992": stateChange	{2 9 3 2 10 14}	-	c11				6.1	StateChangeInfo	-	**Information Syntax** SEQUENCE	c11		
								6.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:m		
								6.1.2	attributeIdentifierList	{2 9 3 2 7 8}	SET OF AttributeId	c:m		
								6.1.3	stateChangeDefinition	{2 9 3 2 7 28}	SET OF SEQUENCE	c:m		
								6.1.3.1	attributeID	-	AttributeId	c:m		
								6.1.3.2	oldAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								6.1.3.3	newAttributeValue	-	ANY DEFINED BY attributeID	c:m		
								6.1.4	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	c:m		
								6.1.5	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								6.1.5.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								6.1.5.2	sourceObjectInst	-	ObjectInstance	c:m		
								6.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	c:m		
								6.1.7	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		
								6.1.7.1	identifier	-	OBJECT IDENTIFIER	c:m		
								6.1.7.2	significance	-	BOOLEAN	c:m		
								6.1.7.3	information	-	ANY DEFINED BY identifier	c:m		

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

c7: if E.3/3a or E.3/7a or E.3/10a or E.3/13a or E.3/18a or E.3/20a or E.3/24a then m else -

c8: if E.3/4a or E.3/8a or E.3/11a or E.3/14a or E.3/19a or E.3/21a or E.3/25a then m else -

c9: if E.3/5a then m else -

c10: if E.3/17a then m else -

c11: if E.3/6a or E.3/9a or E.3/12a or E.3/15a or E.3/26a then m else -

F.4.5 Actions

The specifier 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 F.25 – 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}		c12			1.1	ActionInfo	**Information Syntax** SET OF SEQUENCE	c12		
							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:o		
							1.2.3	information	ANY DEFINED BY identifier	c:m		
2	"CCITT Rec. X.723 (1993) | ISO/IEC 10165-5 : 1993": deactivate	{2 9 3 5 9 1}		c13			2.1	ActionInfo	**Information Syntax** SET OF SEQUENCE	c13		
							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:o		
							2.2.3	information	ANY DEFINED BY identifier	c:m		

c12: if E.3/22a then m else -

c13: if E.3/16a or E.3/23 then m else -

F.4.6 Parameters

The specifier 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 F.26 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and values	Status	Support	Additional information
1	derivedGaugeNotCurrent	{1 2 840 10011 5 0}	SPECIFIC-ERROR DerivedGauge	c14		
2	fRMR	{2 15 0 5 1}	EVENT-INFO communicationsAlarm	c15		

c14: if F.3/5a or F.3/5b or F.3/5c then m else -

c15: if F.17/5a then m else -