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SERIE X: REDES DE DATOS Y COMUNICACIÓN
ENTRE SISTEMAS ABIERTOS

Interconexión de sistemas abiertos – Objetos gestionados
de capa

**Elementos de información de gestión
relacionados con la capa de enlace de datos
de interconexión de sistemas abiertos**

Recomendación UIT-T X.282

(Anteriormente Recomendación del CCITT)

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RECOMENDACIÓN UIT-T X.282

ELEMENTOS DE INFORMACIÓN DE GESTIÓN RELACIONADOS CON LA CAPA DE ENLACE DE DATOS DE INTERCONEXIÓN DE SISTEMAS ABIERTOS

Resumen

Esta Recomendación revisada contiene la especificación de información de gestión relacionada con la capa de enlace de datos, que incluye la definición de clase de objetos gestionados de la capa de enlace de datos, la relación de los objetos gestionados y los atributos con el funcionamiento de la capa y con otros objetos y atributos de la capa, y las acciones que pueden ejecutarse en los atributos de los objetos gestionados de la capa de enlace de datos.

Orígenes

La Recomendación UIT-T X.282, ha sido revisada por la Comisión de Estudio 7 (1997-2000) del UIT-T y fue aprobada por el procedimiento de la Resolución N.º 1 de la CMNT el 18 de junio de 1999.

PREFACIO

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La Conferencia Mundial de Normalización de las Telecomunicaciones (CMNT), que se celebra cada cuatro años, establece los temas que han de estudiar las Comisiones de Estudio del UIT-T, que a su vez producen Recomendaciones sobre dichos temas.

La aprobación de Recomendaciones por los Miembros del UIT-T es el objeto del procedimiento establecido en la Resolución N.º 1 de la CMNT.

En ciertos sectores de la tecnología de la información que corresponden a la esfera de competencia del UIT-T, se preparan las normas necesarias en colaboración con la ISO y la CEI.

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ELEMENTOS DE INFORMACIÓN DE GESTIÓN RELACIONADOS CON LA CAPA DE ENLACE DE DATOS DE INTERCONEXIÓN DE SISTEMAS ABIERTOS

(revisada en 1999)

1 Alcance

La presente Recomendación contiene la especificación de la información de gestión dentro de un sistema abierto en relación con las operaciones de la capa de enlace de datos de OSI indicadas en las especificaciones de esta Recomendación. Los detalles específicos de la realización de la gestión de la capa de enlace de datos quedan fuera del alcance de esta Recomendación. La gestión de la capa de enlace de datos se define especificando:

- la definición de clase de objetos gestionados de la capa de enlace de datos de acuerdo con las directrices expuestas por la *estructura de la información de gestión*;
- la relación de los objetos gestionados y atributos tanto con el funcionamiento de la capa como con otros objetos y atributos de la capa; y
- las operaciones de tipo acción ejecutadas en los atributos de los objetos gestionados de la capa de enlace de datos que están disponibles para la gestión de sistemas de OSI.

Los anexos E, F, G y H, que son partes integrantes de la presente Recomendación, proporcionan los formularios de declaración de conformidad de implementación asociados con la información de gestión de la capa de enlace de datos.

2 Referencias

Las siguientes Recomendaciones del UIT-T y otras referencias contienen disposiciones que, mediante su referencia en este texto, constituyen disposiciones de la presente Recomendación. Al efectuar esta publicación, estaban en vigor las ediciones indicadas. Todas las Recomendaciones y otras referencias son objeto de revisiones por lo que se preconiza que los usuarios de esta Recomendación investiguen la posibilidad de aplicar las ediciones más recientes de las Recomendaciones y otras referencias citadas a continuación. Se publica periódicamente una lista de las Recomendaciones UIT-T actualmente vigentes.

2.1 Recomendaciones | Normas Internacionales idénticas

- Recomendación UIT-T X.200 (1994) | ISO/CEI 7498-1:1994, *Tecnología de la información – Interconexión de sistemas abiertos – Modelo de referencia básico: El modelo básico*.
- Recomendación CCITT X.701 (1992) | ISO/CEI 10040:1992, *Tecnología de la información – Interconexión de sistemas abiertos – Visión general de la gestión de sistemas*.
- Recomendación CCITT X.720 (1992) | ISO/CEI 10165-1:1993, *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Modelo de información de gestión*.
- Recomendación CCITT X.721 (1992) | ISO/CEI 10165-2:1992, *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Definición de la información de gestión*.
- Recomendación CCITT X.722 (1992) | ISO/CEI 10165-4:1992, *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Directrices para la definición de objetos gestionados*.
- Recomendación UIT-T X.723 (1993) | ISO/CEI 10165-5:1994, *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Información de gestión genérica*.
- Recomendación UIT-T X.724 (1993) | ISO/CEI 10165-6:1994, *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Requisitos y directrices para los formularios de declaración de conformidad de realización asociados con la gestión de interconexión de sistemas abiertos*.
- Recomendación CCITT X.730 (1992) | ISO/CEI 10164-1:1993, *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función de gestión de objetos*.
- Recomendación CCITT X.731 (1992) | ISO/CEI 10164-2:1993, *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función de gestión de estados*.
- Recomendación CCITT X.732 (1992) | ISO/CEI 10164-3:1993, *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Atributos para la representación de relaciones*.

- Recomendación CCITT X.733 (1992) | ISO/CEI 10164-4:1992, *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función señaladora de alarmas.*
- Recomendación CCITT X.734 (1992) | ISO/CEI 10164-5:1993, *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función de gestión de informes de evento.*
- Recomendación CCITT X.735 (1992) | ISO/CEI 10164-6:1993, *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función control de ficheros registro cronológico.*

2.2 Pares de Recomendaciones | Normas Internacionales de contenido técnico equivalente

- Recomendación CCITT X.208 (1988), *Especificación de la notación de sintaxis abstracta uno (NSA.1).*
ISO/CEI 8824:1990, *Information technology – Open Systems Interconnection – Specification of Abstract Syntax Notation One (ASN.1).*
- Recomendación CCITT X.209 (1988), *Especificación de reglas básicas de codificación de la notación de sintaxis abstracta uno.*
ISO/IEC 8825:1990, *Information technology – Open Systems Interconnection – Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*
- Recomendación CCITT X.212 (1988), *Definición del servicio de enlace de datos para la interconexión de sistemas abiertos para aplicaciones del CCITT.*
ISO/CEI 8886:1992, *Information technology – Telecommunications and information exchange between systems – Data link service definition for Open Systems Interconnection.*
- Recomendación UIT-T X.222 (1995), *Utilización de los procedimientos de enlace de datos compatibles con el protocolo de acceso al enlace equilibrado X.25 para proporcionar el servicio de enlace de datos en modo con conexión de interconexión de sistemas abiertos.*
ISO/CEI 11575:1995, *Information technology – Telecommunications and information exchange between systems – Protocol mappings for the OSI Data Link Service.*
- Recomendación UIT-T X.290 (1995), *Metodología y marco de las pruebas de conformidad de interconexión de sistemas abiertos de las Recomendaciones sobre los protocolos para aplicaciones del UIT-T – Conceptos generales.*
ISO/IEC 9646-1:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 1: General concepts.*
- Recomendación UIT-T X.291 (1995), *Metodología y marco de las pruebas de conformidad de interconexión de sistemas abiertos de las Recomendaciones sobre los protocolos para aplicaciones del UIT-T – Especificación de sucesiones de pruebas abstractas.*
ISO/IEC 9646-2:1994, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 2: Abstract Test Suite specification.*
- Recomendación UIT-T X.296 (1995), *Metodología y marco de las pruebas de conformidad de interconexión de sistemas abiertos de las Recomendaciones sobre los protocolos para aplicaciones del UIT-T – Declaraciones de conformidad de implementación.*
ISO/IEC 9646-7:1995, *Information technology – Open Systems Interconnection – Conformance testing methodology and framework – Part 7: Implementation Conformance Statements.*
- Recomendación CCITT X.700 (1992), *Marco de gestión para la interconexión de sistemas abiertos para aplicaciones del CCITT.*
ISO/CEI 7498-4:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 4: Management framework.*
- Recomendación CCITT X.710 (1991), *Definición del servicio común de información de gestión para aplicaciones del CCITT.*
ISO/CEI 9595:1991, *Information technology – Open Systems Interconnection – Common management information service definition.*
- Recomendación CCITT X.711 (1991), *Especificación del protocolo común de información de gestión para aplicaciones del CCITT.*
ISO/CEI 9596-1:1991, *Information technology – Open Systems Interconnection – Common management information protocol – Part 1: Specification.*

2.3 Referencias adicionales

- Recomendación UIT-T X.25 (1993), *Interfaz entre el equipo terminal de datos y el equipo de terminación del circuito de datos para equipos terminales que funcionan en el modo paquete y están conectados a redes públicas de datos por circuitos dedicados*.
- ISO/CEI 7776:1986, *Information processing systems – Data communications – High-level data link control procedures – Description of the X.25 LAPB-compatible DTE data link procedures*.
- ISO/CEI 8802-2:1994, *Information technology – Telecommunications and information exchange between systems – Local and metropolitan area networks – Specific requirements – Part 2: Logical link control*.
- ISO/CEI 8802-3:1993, *Information technology – Local and metropolitan area networks – Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications*.

3 Definiciones

A los efectos de la presente Recomendación, se aplican las siguientes definiciones.

3.1 Modelo de referencia básico

Esta Recomendación utiliza los siguientes términos definidos en la Rec. UIT-T X.200 | ISO/CEI 7498-1:

- a) capa de enlace de datos;
- b) sistema abierto;
- c) entidad (N);
- d) protocolo (N);
- e) punto de acceso al servicio (N).

3.2 Marco de gestión

Esta Recomendación utiliza el siguiente término definido en la Rec. CCITT X.700 | ISO/CEI 7498-4:

- objeto gestionado.

3.3 Visión de conjunto de la gestión de sistemas

Esta Recomendación utiliza los siguientes términos definidos en la Rec. CCITT X.701 | ISO/CEI 10040:

- a) clase de objeto gestionado;
- b) notificación.

3.4 Definición del servicio común de información de gestión

Esta Recomendación utiliza el siguiente término definido en la Rec. CCITT X.710 | ISO/CEI 9595:

- atributo.

3.5 Modelo de información

Esta Recomendación utiliza los siguientes términos definidos en la Rec. CCITT X.720 | ISO/CEI 10165-1:

- a) tipo de atributo;
- b) comportamiento;
- c) contenencia;
- d) nombre distinguido;
- e) herencia;
- f) vinculación de nombres;
- g) lote;

- h) parámetro;
- i) nombre distinguido relativo;
- j) subclase;
- k) superclase.

3.6 Directrices para la definición de objetos gestionados (GDMO, *guidelines for the definition of managed objects*)

Esta Recomendación utiliza los siguientes términos definidos en la Rec. CCITT X.722 | ISO/CEI 10165-4:

- a) definición de clase de objeto gestionado;
- b) plantilla.

4 Abreviaturas

En las definiciones de objeto gestionado y las plantillas GDMO, se utilizan las siguientes abreviaturas en el elemento de nombre normalizado de un identificador de documento cuando se hace referencia a otros documentos:

DMI Definición de la información de gestión (*definition of management information*) Rec. CCITT X.721 | ISO/CEI 10165-2

GMI Información de gestión genérica (*generic management information*) Rec. UIT-T X.723 | ISO/CEI 10165-5

En esta Recomendación se utilizan las siguientes siglas.

DL Enlace de datos (*data link*)

DLL Capa de enlace de datos (*data link layer*)

DLE Entidad de enlace de datos (*data link entity*)

DLSAP Punto de acceso al servicio de enlace de datos (*data link service access point*)

DMI Definición de la información de gestión (*definition of management information*)

GDMO Directrices para la definición de objetos gestionados (*guidelines for the definition of managed objects*)

GMI Información de gestión genérica (*generic management information*)

IVMO Objeto gestionado con valor inicial (*initial value managed object*)

MCS Resumen de conformidad de gestión (*management conformance summary*)

MICS Declaración de conformidad de información de gestión (*management information conformance statement*)

MLP Procedimiento multienlace (*multilink procedure*)

MO Objeto gestionado (*managed object*)

MOCS Declaración de conformidad de objetos gestionados (*managed object conformance statement*)

MRCS Declaración de conformidad de relaciones gestionadas (*managed relationship conformance statement*)

NSAP Punto de acceso al servicio de red (*network service access point*)

PLE Entidad de capa de paquete (*packet layer entity*)

SAP Punto de acceso al servicio (*service access point*)

SLP Protocolo monoenlace (*single link protocol*)

5 Elementos de información de gestión de la capa de enlace de datos

5.1 Jerarquía de objetos gestionados

5.1.1 Resumen de los objetos gestionados

En la presente Recomendación se definen los siguientes objetos gestionados comunes para la capa de enlace de datos de OSI:

- a) Objeto gestionado subsistema de enlace de datos (datalinkSubsystem) (véase 5.3).
- b) Objeto gestionado entidad de enlace de datos (datalinkEntity) (véase 5.4). (Este objeto gestionado nunca es ejemplificado.)
- c) Objeto gestionado punto de acceso al servicio de enlace de datos (dLSAP) (véase 5.5).
- d) Objeto gestionado entidad de enlace de datos LAPB (IAPBDLE) (véase 5.6).
- e) Objeto gestionado máquina de protocolo monoenlace LAPB (sLPPM) (véase 5.7).
- f) Objeto gestionado conexión de protocolo monoenlace LAPB (sLPConnection) (véase 5.8).
- g) Objeto gestionado valores iniciales de conexión de protocolo monoenlace LAPB (sLPConnectionIVMO) (véase 5.9).

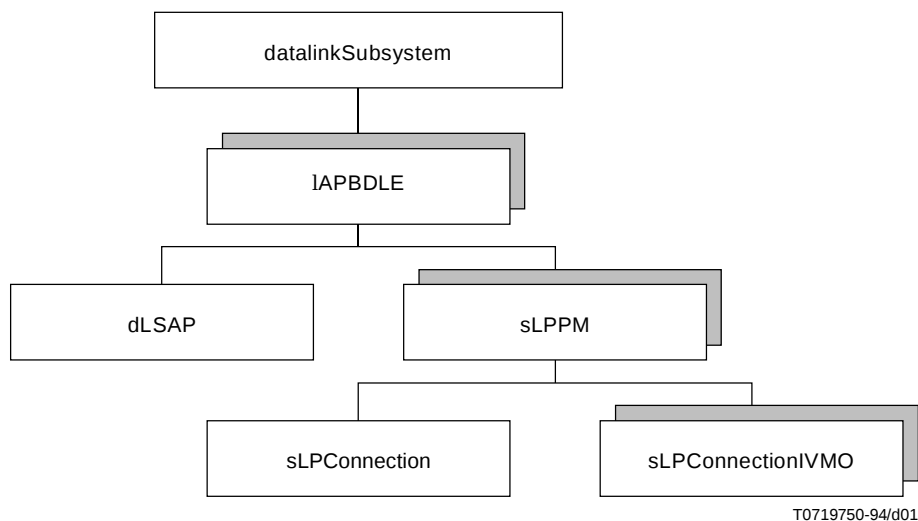
Estos objetos gestionados representan la visión de la gestión de OSI de aquellos elementos de un sistema abierto que soportan el servicio de enlace de datos OSI sujeto a operaciones de gestión de OSI. Se puede definir otros objetos gestionados (MO, *managed object*) por debajo del subsistema del enlace de datos utilizando estas especificaciones genéricas.

5.1.2 Jerarquía de contenedores

La jerarquía de contenedores se ilustra en la figura 1. Los objetos gestionados que pueden tener múltiples ejemplificaciones se indican con (múltiples) casillas sombreadas. Estos objetos se definen en detalle en las subcláusulas siguientes de esta Recomendación.

El MO subsistema de enlace de datos está subordinado al MO sistema. El MO IAPBDLE representa la entidad de comunicación de protocolo.

El MO sLPPM representa la operación de la máquina de protocolo (PM, *protocol machine*) para los procedimientos monoenlace especificados en ISO/CEI 7776. El MO sLPConnection representa la visión de gestión de las conexiones establecidas utilizando el SLP.



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Figura 1/X.282 – Jerarquía de contenedores de la capa de enlace de datos

5.1.3 Relaciones

5.1.3.1 Generalidades

La utilización de los atributos de relación se ilustra mediante los ejemplos del anexo B. A continuación se describen con más detalle las distintas relaciones.

5.1.3.2 DLE

Existe una relación entre un MO 'DLE' (es decir, un MO IAPBDLE) y el MO que representa el proveedor del servicio subyacente. Esto se representa mediante el atributo `providerEntityNames` heredado del MO `datalinkEntity` genérico. Este es un atributo de lectura-escritura que permite a un gestor configurar las entidades que se han de utilizar para proporcionar servicios a esta entidad. Por ejemplo, un MO IAPBDLE podría ser configurado con el nombre distinguido local de un MO Ph-Entity.

Además, un MO 'DLE' tiene un atributo `localSapNames` heredado de GMI: `communicationsEntity`. Este es un atributo de sólo lectura que contiene el nombre (o nombres) distinguido o local del (de los) MO SAP, que representa el punto en el que los servicios son proporcionados a la entidad. Por ejemplo, en un MO IAPBDLE `localSapNames` podría contener el nombre de un MO Ph-SAP.

El atributo `sN-ServiceProvider` de los MO Linkage, X25PLE-DTE y X25PLE-DCE de la capa de red contiene el nombre distinguido local del MO 'DLE'.

5.1.3.3 dLSAP

Hay una relación entre un MO dLSAP y los objetos gestionados que representan las entidades de usuario (de capa de red) que están utilizando el SAP. Esto se representa por el atributo `userEntityNames` heredado de GMI: `sap1`. Por ejemplo, en un MO dLSAP contenido en un MO IAPBDLE, `userEntityNames` podría contener el nombre distinguido de un MO X25PLE-DTE.

El atributo `sN-SAP` de los MO Linkage y X25PLE-DTE de capa de red contiene el nombre distinguido de un MO dLSAP.

5.1.3.4 sLPConnection

Hay una relación entre un MO sLPConnection y el MO que representa la Ph-Connection subyacente. Este se representa por el atributo `underlyingConnectionNames` heredado de GMI: `singlePeerConnection`.

5.1.4 Capacidades mínimas de filtrado de eventos

Las definiciones de gestión de la capa de enlaces de datos incluidas en esta Recomendación suponen la frecuente, y posiblemente excesiva, generación de notificaciones durante el funcionamiento de las capas regulares. Estas notificaciones son especialmente útiles para una gestión de averías eficaz, porque facilitan la búsqueda y localización de situaciones de error. Para evitar la excesiva dispersión de estos informes de eventos en condiciones operativas normales, es aconsejable que un sistema gestionado posea, como mínimo, la capacidad de realizar discriminación basada en:

- a) La clase de objeto gestionado fuente.
- b) Los valores del identificador de objeto en el campo causa probable y problemas específicos de las alarmas de comunicación.

5.1.5 Utilización de campos opcionales

Cuando se haga referencia en esta Recomendación a la sintaxis ASN.1 definida en DMI o GMI, sólo se emplearán los siguientes campos:

- 1) Los que no son OPCIONALES en la sintaxis ASN.1.
- 2) Los que son OPCIONALES, pero cuya utilización es explícitamente requerida por esta Recomendación.
- 3) Los que son OPCIONALES, pero cuyo tipo ASN.1 es SET OF ManagementExtension.

Está prohibido el uso de cualesquiera otros campos.

5.2 Definiciones GDMO comunes de la capa de enlace de datos

-- *Behaviours*

commonCreationDeletion-B BEHAVIOUR

DEFINED AS

Managed object class imports the Rec. X.721 | ISO/IEC 10165-2 objectCreation and/or objectDeletion notifications. Used as follows:

objectCreation – Generated whenever an instance of the managed object class is created. Implementations may optionally include the sourceIndicator parameter in the notification. If creation occurred as a result of internal operation of the resource, the value 'resourceOperation' is used. If creation occurred in response to a management operation, the value 'managementOperation' is used. A value of 'unknown' may be returned if it is not possible to determine the source of the operation. None of the other optional parameters are used.

objectDeletion – Generated whenever an instance of the managed object class is deleted. Implementations may optionally include the sourceIndicator parameter in the notification. If deletion occurred as a result of internal operation of the resource, the value 'resourceOperation' is used. If deletion occurred in response to a management operation, the value 'managementOperation' is used. A value of 'unknown' may be returned if it is not possible to determine the source of the operation. None of the other optional parameters are used.;

commonStateChange-B BEHAVIOUR

DEFINED AS

Managed object class imports the Rec. X.721 | ISO/IEC 10165-2 stateChange notification. Used to report the changes to the operationalState attribute, and where present, the administrativeState attribute. A single parameter set is included in the State change definition field. Only the (mandatory) attributeId and (optional) newAttributeValue parameters are used.;

-- *Attribute Groups*

timers ATTRIBUTE GROUP

-- *Empty group definition. Timer attributes are added to the group in package definitions.*

DESCRIPTION The group of all timer attributes;

REGISTERED AS {DLM.agoi timers(1)};

5.3 Objeto gestionado subsistema de enlace de datos

-- *There shall be exactly one of these managed objects within a system.*
-- *It exists to provide a container for all managed objects in a system,*
-- *that relate to the operation of the Datalink layer.*

--

-- *The datalinkSubsystem managed object cannot be created or deleted*
-- *explicitly by management operation. It exists inherently in a system;*
-- *created and deleted as part of system operation.*

datalinkSubsystem MANAGED OBJECT CLASS

DERIVED FROM "GMI":subsystem;

CHARACTERIZED BY datalinkSubsystem-P PACKAGE

ATTRIBUTES

"GMI":subsystemId

INITIAL VALUE DLM.datalinkSubsystemId-Value

GET;;;

REGISTERED AS {DLM.moi datalinkSubsystem(1)};

-- *Name Bindings*

-- *IMPORT "GMI":subsystem-system NAME BINDING*

5.4 Objeto gestionado entidad de enlace de datos

-- *The generic DLE MO from which protocol- and media-specific DLE MOs*
-- *may be derived.*

datalinkEntity MANAGED OBJECT CLASS

DERIVED FROM "GMI":communicationsEntity;

CHARACTERIZED BY datalinkEntity-P PACKAGE

BEHAVIOUR

commonCreationDeletion-B,

commonStateChange-B;

ATTRIBUTES

**providerEntityNames REPLACE-WITH-DEFAULT
GET-REPLACE;**

ATTRIBUTE GROUPS

**"DMI":state
"DMI":operationalState;**

NOTIFICATIONS

**"DMI":objectCreation,
"DMI":objectDeletion,
"DMI":stateChange;;;**

REGISTERED AS {DLM.moi datalinkEntity(2)};

-- Name Bindings

-- IMPORT "GMI":communicationsEntity-subsystem NAME BINDING

datalinkEntity-datalinkSubsystem-Management NAME BINDING

SUBORDINATE OBJECT CLASS datalinkEntity AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS datalinkSubsystem AND SUBCLASSES;

WITH ATTRIBUTE "GMI":communicationsEntityId;

BEHAVIOUR datalinkEntity-datalinkSubsystem-Management-B BEHAVIOUR

DEFINED AS

The name binding which applies when a datalinkEntity managed object (or an instance of a sub-class of the datalinkEntity MO class) can be created by management as a subordinate object of the datalinkSubsystem managed object (or sub-class), and deleted by management.;;

CREATE;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {DLM.nboi datalinkEntity-datalinkSubsystem-Management(1)};

-- Attributes

providerEntityNames ATTRIBUTE

WITH ATTRIBUTE SYNTAX DLM.GroupObjects;

MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;

BEHAVIOUR providerEntityNames-B BEHAVIOUR

DEFINED AS

The distinguished names of provider entity managed objects. The managed objects that represent the entities to be used to provide services to this entity.;;

REGISTERED AS {DLM.aoi providerEntityNames(11)};

5.5 Objeto gestionado punto de acceso al servicio de enlace de datos

*-- The dLSAP managed object class is used to represent a service access
-- point at which services are provided by a DLE to the user entity.
-- Instances of the dLSAP managed object class are contained within
-- instances of sub-classes derived from the datalinkEntity managed object
-- class. Constraints on the number of contained dLSAP MOs and any
-- specific semantics of the attributes are given as part of the definition
-- of the containing DLE managed object class.*

--

*-- A dLSAP managed object may be created and deleted explicitly by
-- management operation or created and deleted automatically as part of
-- system operation, e.g. when a user of the Data Link layer service
-- requests and is granted use of the service. The mechanism by which
-- this happens is a local matter and not subject to OSI standardization.*

dLSAP MANAGED OBJECT CLASS

DERIVED FROM "GMI":sap1;

REGISTERED AS {DLM.moi dLSAP(13)};

-- Name Bindings

-- IMPORT "GMI":sap1-communicationsEntity NAME BINDING

dLSAP-datalinkEntity-Management NAME BINDING

SUBORDINATE OBJECT CLASS dLSAP AND SUBCLASSES;

NAMED BY

**SUPERIOR OBJECT CLASS datalinkEntity AND SUBCLASSES;
WITH ATTRIBUTE "GMI":sapId;
BEHAVIOUR dLSAP-datalinkEntity-Management-B BEHAVIOUR
DEFINED AS**

The name binding which applies when a dLSAP managed object (or an instance of a sub-class of the dLSAP MO class) can be created by management as a subordinate object of a datalinkEntity managed object (or sub-class), and deleted by management.;;

**CREATE;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {DLM.nboi dLSAP-datalinkEntity-Management(2)};**

5.6 Objeto gestionado entidad de enlace de datos LAPB

- There may be multiple instances of the IAPBDLE managed object in a system. Systems not supporting the LAPB Data Link procedures defined in ISO/IEC 7776 are not required to support the IAPBDLE and contained managed objects.
-
- The IAPBDLE managed object has a conditional mlp Package. There may be multiple instances of IAPBDLE MO in a system, both with and without the mlp Package. For those instances in which the package is absent, the mlp procedures do not apply and the IAPBDLE MO may contain at most one sLPPM MO. For those instances in which the package is present, the mlp procedures do apply and the IAPBDLE MO may contain multiple instances of sLPPM MO.
-
- A IAPBDLE MO may contain at most one dLSAP MO. The value of the sap1Address attribute is of no significance. The cardinality of the userEntityNames attribute is limited to one.
-
- A IAPBDLE MO may be created and deleted explicitly by management operation or created and deleted automatically as part of system operation.
-
- When the IAPBDLE MO is operable, the operationalState shall have the value 'enabled'; otherwise it shall have the value 'disabled'.
- Transitions of operationalState shall be reported using the stateChange notification.

IAPBDLE MANAGED OBJECT CLASS

DERIVED FROM datalinkEntity;

CONDITIONAL PACKAGES

- mLP-P PRESENT IF IAPBDLE supports mlp procedures,
- mT2-P PRESENT IF IAPBDLE supports mlp procedures and mT2 timer.,
- mLP-Counters-P PRESENT IF ITU-T DCE mode operation is supported;

REGISTERED AS {DLM.moi IAPBDLE(3)};

-- Packages

mLP-P PACKAGE

BEHAVIOUR mLP-P-B BEHAVIOUR

DEFINED AS

Additional properties of an IAPBDLE MO, present when mlp procedures supported.;;

ATTRIBUTES

- mT1Timer REPLACE-WITH-DEFAULT
GET-REPLACE,
- mT3Timer REPLACE-WITH-DEFAULT
GET-REPLACE,
- mW REPLACE-WITH-DEFAULT
GET-REPLACE,
- mX REPLACE-WITH-DEFAULT
GET-REPLACE;

ATTRIBUTE GROUPS

timers

- mT1Timer
- mT3Timer;

REGISTERED AS {DLM.poi mLP-P(1)};

mT2-P PACKAGE
BEHAVIOUR mT2-P-B BEHAVIOUR
DEFINED AS
 Additional properties present when mT2 timer is supported.;;
ATTRIBUTES
 mT2Timer REPLACE-WITH-DEFAULT
 GET-REPLACE;
ATTRIBUTE GROUPS
 timers
 mT2Timer;
REGISTERED AS {DLM.poi mT2-P(5)};

mLP-Counters-P PACKAGE
BEHAVIOUR mLP-Counters-P-B BEHAVIOUR
DEFINED AS
 Additional properties present when ITU-T DCE mode operation is supported.;;
ATTRIBUTES
 receivedMlpResets REPLACE-WITH-DEFAULT GET-REPLACE,
 timesMT1Expired REPLACE-WITH-DEFAULT GET-REPLACE,
 iFramesReassignments REPLACE-WITH-DEFAULT GET-REPLACE,
 mlpFramesReceived REPLACE-WITH-DEFAULT GET-REPLACE,
 mlpFramesSent REPLACE-WITH-DEFAULT GET-REPLACE,
 mlpFramesOutsideWindowGuard REPLACE-WITH-DEFAULT GET-REPLACE,
 receivedMlpFramesInGuardRegion REPLACE-WITH-DEFAULT
 GET-REPLACE;
REGISTERED AS {DLM.poi mLP-Counters-P(6)};

-- *Attributes*

mT1Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR mT1Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 parameter MT1 (lost frame timer). Unit is seconds.;;
REGISTERED AS {DLM.aoi mT1Timer(12)};

mT2Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR mT2Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 parameter MT2 (group busy timer). Unit is seconds.;;
REGISTERED AS {DLM.aoi mT2Timer(13)};

mT3Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR mT3Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 parameter MT3 (mlp reset confirmation timer). Unit is seconds.;;
REGISTERED AS {DLM.aoi mT3Timer(14)};

iFramesReassignments ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR iFramesReassignments-B BEHAVIOUR
DEFINED AS
 Counter. Number of reassignments of IFrames on another slp.;;
REGISTERED AS {DLM.aoi iFramesReassignments(46)};

mlpFramesReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR mlpFramesReceived-B BEHAVIOUR
DEFINED AS
 Counter. Total number of mlp frames received.;;
REGISTERED AS {DLM.aoi mlpFramesReceived(52)};

mlpFramesSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR mlpFramesSent-B BEHAVIOUR
DEFINED AS
 Counter. Total number of mlp frames Sent.;;
REGISTERED AS {DLM.aoi mlpFramesSent(53)};

mlpFramesOutsideWindowGuard ATTRIBUTE
 DERIVED FROM "GMI":nonWrapping64BitCounter;
 BEHAVIOUR mlpFramesOutsideWindowGuard-B BEHAVIOUR
 DEFINED AS
 Counter. Total number of mlp frames outside the window guard that have been received.;;
 REGISTERED AS {DLM.aoi mlpFramesOutsideWindowGuard(54)};

mW ATTRIBUTE
 WITH ATTRIBUTE SYNTAX DLM.WindowSize;
 MATCHES FOR EQUALITY, ORDERING;
 BEHAVIOUR mW-B BEHAVIOUR
 DEFINED AS
 MLP window size.;;
 REGISTERED AS {DLM.aoi mW(47)};

mX ATTRIBUTE
 WITH ATTRIBUTE SYNTAX DLM.MX;
 MATCHES FOR EQUALITY, ORDERING;
 BEHAVIOUR mX-B BEHAVIOUR
 DEFINED AS
 Receive MLP window in the Guard Region.;;
 REGISTERED AS {DLM.aoi mX(48)};

receivedMlpFramesInGuardRegion ATTRIBUTE
 DERIVED FROM "GMI":nonWrapping64BitCounter;
 BEHAVIOUR receivedMlpFramesInGuardRegion-B BEHAVIOUR
 DEFINED AS
 Counter. Number of MLP Frames received in the Guard Region.;;
 REGISTERED AS {DLM.aoi receivedMlpFramesInGuardRegion(49)};

receivedMlpResets ATTRIBUTE
 DERIVED FROM "GMI":nonWrapping64BitCounter;
 BEHAVIOUR receivedMlpResets-B BEHAVIOUR
 DEFINED AS
 Counter. Number of received MLP Resets.;;
 REGISTERED AS {DLM.aoi receivedMlpResets(50)};

timesMT1Expired ATTRIBUTE
 DERIVED FROM "GMI":nonWrapping64BitCounter;
 BEHAVIOUR timesMT1Expired-B BEHAVIOUR
 DEFINED AS
 Counter. Lost multilink frames.;;
 REGISTERED AS {DLM.aoi timesMT1Expired(51)};

5.7 Objeto gestionado máquina de protocolo monoenlace LAPB

-- The sLPPM managed object represents the operation of the LAPB Data
 -- Link layer protocol machine described in ISO/IEC 7776 over a single physical
 -- link. An sLPPM managed object may contain at most one sLPConnection
 -- MO and one or more sLPConnectionIVMO.
 --
 -- An sLPPM MO may be created and deleted explicitly by
 -- management operation or created and deleted automatically as
 -- part of system operation.
 --
 -- When the sLPPM MO is operable, the operationalState shall
 -- have the value 'enabled'; otherwise it shall have the value 'disabled'.
 -- Transitions of operationalState shall be reported using the
 -- stateChange notification.

sLPPM MANAGED OBJECT CLASS
 DERIVED FROM "GMI":coProtocolMachine;
 CHARACTERIZED BY sLPPM-P PACKAGE
 BEHAVIOUR
 commonCreationDeletion-B,
 commonStateChange-B;

```

ATTRIBUTE GROUPS
  "DMI":state
  "DMI":operationalState;
ACTIONS
  "GMI":activate,
  "GMI":deactivate;
NOTIFICATIONS
  "DMI":objectCreation,
  "DMI":objectDeletion,
  "DMI":stateChange;;;
REGISTERED AS {DLM.moi sLPPM(4)};

-- Name Bindings
-- IMPORT "GMI":coProtocolMachine-entity NAME BINDING

sLPPM-IAPBDLE-Management NAME BINDING
SUBORDINATE OBJECT CLASS sLPPM AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS IAPBDLE AND SUBCLASSES;
WITH ATTRIBUTE "GMI":coProtocolMachineId;
BEHAVIOUR sLPPM-IAPBDLE-Management-B BEHAVIOUR
  DEFINED AS
    The name binding which applies when a sLPPM managed object (or an instance of a sub-class of the sLPPM MO class)
    can be created by management as a subordinate object of a IAPBDLE managed object (or sub-class), and deleted by
    management.;;
CREATE;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {DLM.nboi sLPPM-IAPBDLE-Management(3)};

```

5.8 Objeto gestionado conexión de protocolo monoenlace LAPB

```

-- The sLPConnection managed object represents the local view of a
-- connection between LAPB DLEs over a single physical link.

-- An sLPConnection MO is created automatically as part of system
-- operation.
-- An sLPConnection MO may be deleted automatically as part of system
-- operation or may be deleted as a result of the deactivate or delete
-- management operations.
-- An sLPConnectionIVMO may be used as the source of
-- initial values of attributes of an sLPConnection MO.

sLPConnection MANAGED OBJECT CLASS
DERIVED FROM "GMI":singlePeerConnection;
CHARACTERIZED BY
  commonSLPConnection-P,
  sLPConnection-P;
CONDITIONAL PACKAGES
  t3-P PRESENT IF Optional Timer T3 of ISO/IEC 7776 is supported. or ITU-T DCE mode
    operation is supported,
  t4-P PRESENT IF Timer T4 of ISO 7776 or ITU-T DCE mode is supported,
  link-reset-disconnect-n2-P PRESENT IF supported;
REGISTERED AS {DLM.moi sLPConnection(5)};

-- Packages

commonSLPConnection-P PACKAGE
BEHAVIOUR
  commonCreationDeletion-B;
ATTRIBUTES
  interfaceType REPLACE-WITH-DEFAULT
    DEFAULT VALUE DLM.interfaceTypeDefault -- dTE
    GET-REPLACE,
  k REPLACE-WITH-DEFAULT
    GET-REPLACE,
  n1 REPLACE-WITH-DEFAULT
    GET-REPLACE,
  n2 REPLACE-WITH-DEFAULT
    GET-REPLACE,

```

```

sequenceModulus REPLACE-WITH-DEFAULT
    GET-REPLACE,
t1Timer REPLACE-WITH-DEFAULT
    GET-REPLACE,
t2Timer REPLACE-WITH-DEFAULT
    GET-REPLACE;
ATTRIBUTE GROUPS
    timers
        t1Timer
        t2Timer;
NOTIFICATIONS
    "DMI":objectCreation,
    "DMI":objectDeletion;
; -- not registered

sLPCConnection-P PACKAGE
BEHAVIOUR
    commonDeactivateConnection-B,
    commonStateChange-B,
    fRMRReceivedCommunicationsAlarm-B;
ATTRIBUTES
    fCSErrorsReceived GET,
    fRMRsReceived GET,
    fRMRsSent GET,
    iFrameDataOctetsReceived GET,
    iFrameDataOctetsSent GET,
    iFramesReceived GET,
    iFramesSent GET,
    pollsReceived GET,
    rEJsReceived GET,
    rEJsSent GET,
    rNRsReceived GET,
    rNRsSent GET,
    sABMsReceived GET,
    sABMsSent GET,
    sLPPProtocolState GET,
    timesT1Expired GET;
ATTRIBUTE GROUPS
    "GMI":counters
        fCSErrorsReceived
        fRMRsReceived
        fRMRsSent
        iFrameDataOctetsReceived
        iFrameDataOctetsSent
        iFramesReceived
        iFramesSent
        pollsReceived
        rEJsReceived
        rEJsSent
        rNRsReceived
        rNRsSent
        sABMsReceived
        sABMsSent
        timesT1Expired,
    "DMI":state
        sLPPProtocolState;
ACTIONS
    "GMI":deactivate;
NOTIFICATIONS
    "DMI":communicationsAlarm
        fRMR;
    -- NOTE – The fRMR parameter is carried
    -- as additionalInformation in the communicationsAlarm.
; -- not registered

```

t3-P PACKAGE

BEHAVIOUR t3-P-B BEHAVIOUR

DEFINED AS

Present if the optional Timer T3 is supported.;;

ATTRIBUTES

t3Timer REPLACE-WITH-DEFAULT

GET-REPLACE,

timesT3Expired

GET;

ATTRIBUTE GROUPS

"GMI":counters

timesT3Expired,

timers

t3Timer;

REGISTERED AS {DLM.poi t3-P(2)};

link-reset-disconnect-n2-P PACKAGE

BEHAVIOUR link-reset-disconnect-n2-P-B BEHAVIOUR

DEFINED AS

Present if supported.;;

ATTRIBUTES

abnormalLinkDisconnectsReceived GET,

abnormalLinkDisconnectsSent GET,

linkResetsReceived GET,

linkResetsSent GET,

timesN2Reached GET;

ATTRIBUTE GROUPS

"GMI":counters

abnormalLinkDisconnectsReceived

abnormalLinkDisconnectsSent

linkResetsReceived

linkResetsSent

timesN2Reached;

REGISTERED AS {DLM.poi link-reset-disconnect-n2-P(4)};

t4-P PACKAGE

BEHAVIOUR t4-P-B BEHAVIOUR

DEFINED AS

Present if the Timer T4 is supported.;;

ATTRIBUTES

t4Timer REPLACE-WITH-DEFAULT GET-REPLACE,

timesT4Expired GET;

ATTRIBUTE GROUPS

"GMI":counters

timesT4Expired,

timers

t4Timer;

REGISTERED AS {DLM.poi t4-P(7)};

-- *Behaviours*

commonDeactivateConnection-B BEHAVIOUR

DEFINED AS

Managed object class imports the Recommendation X.723 deactivate action. The deactivate action causes the connection to be terminated. The termination should occur as rapidly as practical, but no particular time constraints are implied. Typically, this action simulates a disconnect request received across the service interface. If a more rapid means for terminating the connection exists, then this should be used. The termination shall occur in conformance to the protocol standard. The Managed Object remains in existence after completion of the deactivate action. It is subsequently deleted when the connection is terminated, in the same way as if the connection had been terminated by other means. A deactivate action may fail (with the ProcessingFailure response) if it is temporarily not possible to terminate the connection.;

fMRMRReceivedCommunicationsAlarm-B BEHAVIOUR

DEFINED AS

Managed object imports the Recommendation X.721 communicationsAlarm notification. Used to report the following conditions:

fMRMRReceived – A fMRMR frame is received. The received fMRMR frame is reported as additionalInformation in the notification, using the fMRMR parameter. The significance sub-parameter shall be set as described above.

The probableCause parameter is set to the value communicationsProtocolError.

The value DLM.fRMReceived shall be reported in the specificProblems parameter. In addition, the reason why the frame was sent is also returned in specificProblems. Values are specified in the DLM ASN.1 module for controlFieldUndefinedOrUnimplemented, infoFieldLengthGreaterThanMaximum, invalidNR, formatError, and nonSpecific.

The perceivedSeverity parameter is set to the value Minor. A subsequent communicationsAlarm with a perceivedSeverity value of Cleared is not generated. No other parameters are used.;

sLPConnection-sLPPM-Automatic-B BEHAVIOUR

DEFINED AS

The name binding which applies when an sLPConnection managed object (or an instance of a sub-class of the sLPConnection MO class) is created automatically by the operation of the system as a subordinate object of an sLPPM managed object (or sub-class), and deleted automatically.

The creation of an instance of an sLPConnection MO (or sub-class) using this name binding may reference an instance of the sLPConnectionIVMO (or sub-class). The means by which an instance (if any) of the sLPConnectionIVMO are identified are a local matter. When this occurs, some of the initial values of the attributes of the instance of the sLPConnection MO may be supplied by the values of the attributes in the specified instance of sLPConnectionIVMO. However, any such value may be overridden by a value supplied by local means (for example across an internal interface). Where values are supplied by the IVMO, the initial value of an attribute of the sLPConnection MO shall be the value of the corresponding attribute in the sLPConnectionIVMO (that is, which has the same attribute template label). The naming attribute of the sLPConnection MO is assigned a value according to local mechanisms.;

sLPConnection-sLPPM-Management-B BEHAVIOUR

DEFINED AS

The name binding which applies when an sLPConnection managed object (or an instance of a sub-class of the sLPConnection MO class) which is a subordinate object of an sLPPM managed object (or sub-class), can be deleted by management.;

-- *Name Bindings*

sLPConnection-sLPPM-Automatic NAME BINDING

SUBORDINATE OBJECT CLASS sLPConnection AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS sLPPM AND SUBCLASSES;

WITH ATTRIBUTE "GMI":connectionId;

BEHAVIOUR sLPConnection-sLPPM-Automatic-B;

REGISTERED AS {DLM.nboi sLPConnection-sLPPM-Automatic(4)};

sLPConnection-sLPPM-Management NAME BINDING

SUBORDINATE OBJECT CLASS sLPConnection AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS sLPPM AND SUBCLASSES;

WITH ATTRIBUTE "GMI":connectionId;

BEHAVIOUR

sLPConnection-sLPPM-Automatic-B,

sLPConnection-sLPPM-Management-B;

DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {DLM.nboi sLPConnection-sLPPM-Management(5)};

-- *Attributes*

fCSErrorsReceived ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR fCSErrorsReceived-B BEHAVIOUR

DEFINED AS

Counter. Total number of frames received with a bad frame check.;;

REGISTERED AS {DLM.aoi fCSErrorsReceived(15)};

fRMReceived ATTRIBUTE

DERIVED FROM "GMI":nonWrapping64BitCounter;

BEHAVIOUR fRMReceived-B BEHAVIOUR

DEFINED AS

Counter. Total number of FRMR frames received.;;

REGISTERED AS {DLM.aoi fRMReceived(1)};

fRMRsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR fRMRsSent-B BEHAVIOUR
DEFINED AS
Counter. Total number of FRMR frames sent.;;
REGISTERED AS {DLM.aoi fRMRsSent(2)};

iFrameDataOctetsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR iFrameDataOctetsReceived-B BEHAVIOUR
DEFINED AS
Counter. Total number of data octets received in I frames. Only data octets in new I frames are counted, i.e. retransmitted frames that are received do not cause the counter to be incremented.;;
REGISTERED AS {DLM.aoi iFrameDataOctetsReceived(16)};

iFrameDataOctetsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR iFrameDataOctetsSent-B BEHAVIOUR
DEFINED AS
Counter. Total number of data octets sent in I frames. Only data octets in new I frames are counted, i.e. retransmitted frames that are sent do not cause the counter to be incremented.;;
REGISTERED AS {DLM.aoi iFrameDataOctetsSent(17)};

iFramesReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR iFramesReceived-B BEHAVIOUR
DEFINED AS
Counter. Total number of I frames received. Only new I frames are counted, i.e. retransmitted frames that are received do not cause the counter to be incremented.;;
REGISTERED AS {DLM.aoi iFramesReceived(3)};

iFramesSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR iFramesSent-B BEHAVIOUR
DEFINED AS
Counter. Total number of I frames sent. Only new I frames are counted, i.e. retransmitted frames that are sent do not cause the counter to be incremented.;;
REGISTERED AS {DLM.aoi iFramesSent(4)};

interfaceType ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.InterfaceType;
MATCHES FOR EQUALITY;
BEHAVIOUR interfaceType-B BEHAVIOUR
DEFINED AS
Determines the address mode used by the local DTE.;;
REGISTERED AS {DLM.aoi interfaceType(18)};

k ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.WindowSize;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR k-B BEHAVIOUR
DEFINED AS
Value of the ISO/IEC 7776 parameter k. The maximum number of sequentially numbered I frames that a DTE may have outstanding (i.e. unacknowledged) at any given time.;;
REGISTERED AS {DLM.aoi k(19)};

n1 ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.MaximumIFrameSize;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR n1-B BEHAVIOUR
DEFINED AS
Value of the ISO/IEC 7776 parameter N1. The maximum number of bits in an I frame (excluding flags and "0" bits inserted for transparency).;;
REGISTERED AS {DLM.aoi n1(20)};

n2 ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.Integer;
MATCHES FOR EQUALITY, ORDERING;
BEHAVIOUR n2-B BEHAVIOUR
DEFINED AS
Value of the ISO/IEC 7776 parameter N2. The maximum number of attempts that shall be made to complete the successful transmission of a frame.;;
REGISTERED AS {DLM.aoi n2(21)};

pollsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR pollsReceived-B BEHAVIOUR
DEFINED AS
Counter. Total number of command frames received with P-bit set.;;
REGISTERED AS {DLM.aoi pollsReceived(22)};

rEJsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR rEJsReceived-B BEHAVIOUR
DEFINED AS
Counter. Total number of REJ frames received.;;
REGISTERED AS {DLM.aoi rEJsReceived(5)};

rEJsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR rEJsSent-B BEHAVIOUR
DEFINED AS
Counter. Total number of REJ frames sent.;;
REGISTERED AS {DLM.aoi rEJsSent(6)};

rNRsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR rNRsReceived-B BEHAVIOUR
DEFINED AS
Counter. Total number of RNR frames received.;;
REGISTERED AS {DLM.aoi rNRsReceived(7)};

rNRsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR rNRsSent-B BEHAVIOUR
DEFINED AS
Counter. Total number of RNR frames sent.;;
REGISTERED AS {DLM.aoi rNRsSent(8)};

sABMsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR sABMsReceived-B BEHAVIOUR
DEFINED AS
Counter. Total number of SABM frames received.;;
REGISTERED AS {DLM.aoi sABMsReceived(9)};

sABMsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR sABMsSent-B BEHAVIOUR
DEFINED AS
Counter. Total number of SABM frames sent.;;
REGISTERED AS {DLM.aoi sABMsSent(10)};

sLPPProtocolState ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.SLPPProtocolState;
MATCHES FOR EQUALITY;
BEHAVIOUR sLPPProtocolState-B BEHAVIOUR
DEFINED AS
Local state of a LAPB (SLP) connection.;;
REGISTERED AS {DLM.aoi sLPPProtocolState(23)};

sequenceModulus ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.SequenceModulus;
MATCHES FOR EQUALITY;
BEHAVIOUR sequenceModulus-B BEHAVIOUR
DEFINED AS
 Determines basic (modulo 8) or extended (modulo 128) operation.;;
REGISTERED AS {DLM.aoi sequenceModulus(24)};

t1Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR t1Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 parameter Timer T1. Unit is hundreds of milliseconds.;;
REGISTERED AS {DLM.aoi t1Timer(25)};

t2Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR t2Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 parameter T2. Unit is hundreds of milliseconds.;;
REGISTERED AS {DLM.aoi t2Timer(26)};

t3Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR t3Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 optional parameter or ITU-T X.25 mandatory parameter T3. Unit is seconds.;;
REGISTERED AS {DLM.aoi t3Timer(27)};

t4Timer ATTRIBUTE
DERIVED FROM "GMI":timer;
BEHAVIOUR t4Timer-B BEHAVIOUR
DEFINED AS
 Value of the ISO/IEC 7776 parameter T4. The maximum time a DTE or a DCE will allow without frames being exchanged on the data link. Unit is seconds.;;
REGISTERED AS {DLM.aoi t4Timer(28)};

timesT1Expired ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR timesT1Expired-B BEHAVIOUR
DEFINED AS
 Counter. Total number of times the local Timer T1 expired.;;
REGISTERED AS {DLM.aoi timesT1Expired(29)};

timesT3Expired ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR timesT3Expired-B BEHAVIOUR
DEFINED AS
 Counter. Total number of times local Timer T3 expired.;;
REGISTERED AS {DLM.aoi timesT3Expired(30)};

timesT4Expired ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR timesT4Expired-B BEHAVIOUR
DEFINED AS
 Counter. Total number of times local Timer T4 expired.;;
REGISTERED AS {DLM.aoi timesT4Expired(32)};

abnormalLinkDisconnectsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR abnormalLinkDisconnectsReceived-B BEHAVIOUR
DEFINED AS
 Counter. Total number of received abnormal Link Disconnects.;;
REGISTERED AS {DLM.aoi abnormalLinkDisconnectsReceived(41)};

abnormalLinkDisconnectsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR abnormalLinkDisconnectsSent-B BEHAVIOUR
DEFINED AS
 Counter. Total number of sent abnormal Link Disconnects.;;
REGISTERED AS {DLM.aoi abnormalLinkDisconnectsSent(42)};

linkResetsReceived ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR linkResetsReceived-B BEHAVIOUR
DEFINED AS

Counter. Total number of received Link Resets.;;
REGISTERED AS {DLM.aoi linkResetsReceived(43)};

linkResetsSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR linkResetsSent-B BEHAVIOUR
DEFINED AS

Counter. Total number of sent Link Resets.;;
REGISTERED AS {DLM.aoi linkResetsSent(44)};

timesN2Reached ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR timesN2Reached-B BEHAVIOUR
DEFINED AS

Counter. Total number of times N2 was Reached.;;
REGISTERED AS {DLM.aoi timesN2Reached(45)};

-- Parameters

fRMR PARAMETER
CONTEXT EVENT-INFO;
WITH SYNTAX DLM.fRMRSyntax;
BEHAVIOUR fRMR-B BEHAVIOUR
DEFINED AS

fRMR frame. Returned as additionalInformation in a communicationsAlarm notification when specificProblems has the value DLM.fRMRReceived.;;
REGISTERED AS {DLM.proi fRMR(1)};

5.9 Objeto gestionado valores iniciales de conexión de protocolo monoenlace LAPB

-- An sLPConnectionIVMO may be used to supply initial values for the
 -- attributes of sLPConnection MOs. Different instances of sLPConnectionIVMO may
 -- contain different initial values.
 --
 -- An sLPConnectionIVMO may be created and deleted explicitly by management operation.

sLPConnectionIVMO MANAGED OBJECT CLASS

DERIVED FROM "DMI":top;

CHARACTERIZED BY

commonSLPConnection-P,

sLPConnectionIVMO-P;

CONDITIONAL PACKAGES

t3IVMO-P PRESENT IF optional Timer T3 of ISO/IEC 7776 is supported or ITU-T DCE
 mode operation is supported,

t4IVMO-P PRESENT IF Timer T4 of ISO 7776 or ITU-T DCE mode is
 supported.;

REGISTERED AS {DLM.moi sLPConnectionIVMO(6)};

-- Packages

sLPConnectionIVMO-P PACKAGE

ATTRIBUTES

sLPConnectionIVMOId GET;

; -- not registered

t3IVMO-P PACKAGE

BEHAVIOUR t3IVMO-P-B BEHAVIOUR

DEFINED AS

Present if the optional Timer T3 is supported.;;

ATTRIBUTES

t3Timer REPLACE-WITH-DEFAULT

GET-REPLACE;

ATTRIBUTE GROUPS

timers

t3Timer;

REGISTERED AS {DLM.poi t3IVMO-P(3)};

```

t4IVMO-P PACKAGE
BEHAVIOUR t4IVMO-P-B BEHAVIOUR
  DEFINED AS
    Present if the Timer T4 is supported.;;
ATTRIBUTES
  t4Timer REPLACE-WITH-DEFAULT GET-REPLACE,
  timesT4Expired GET;
ATTRIBUTE GROUPS
  "GMI":counters
    timesT4Expired,
  timers
    t4Timer;
REGISTERED AS {DLM.poi t4IVMO-P(8)};
-- Name Bindings

sLPConnectionIVMO-sLPPM-Management NAME BINDING
SUBORDINATE OBJECT CLASS sLPConnectionIVMO AND SUBCLASSES;
NAMED BY
SUPERIOR OBJECT CLASS sLPPM AND SUBCLASSES;
WITH ATTRIBUTE sLPConnectionIVMOId;
BEHAVIOUR sLPConnectionIVMO-sLPPM-B BEHAVIOUR
  DEFINED AS
    The name binding which applies when an sLPConnectionIVMO managed object (or an instance of a sub-class of the
    sLPConnectionIVMO MO class) can be created by management as a subordinate object of a sLPPM managed object
    (or sub-class), and deleted by management.;;
CREATE;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {DLM.nboi sLPConnectionIVMO-sLPPM-Management(6)};

-- Attributes

sLPConnectionIVMOId ATTRIBUTE
WITH ATTRIBUTE SYNTAX DLM.NamingString;
MATCHES FOR EQUALITY;
BEHAVIOUR sLPConnectionIVMOId-B BEHAVIOUR
  DEFINED AS
    Naming attribute for the sLPConnectionIVMO managed object.;;
REGISTERED AS {DLM.aoi sLPConnectionIVMOId(31)};

```

6 Módulo ASN.1

```

DLM {joint-iso-itu-t datalink-layer(15) management(0) asn1Module(2) 0}
DEFINITIONS IMPLICIT TAGS ::= BEGIN

IMPORTS
  GroupObjects, ObservedValue, PerceivedSeverity
    FROM Attribute-ASN1Module {joint-iso-itu-t ms(9) smi(3) part2(2) asn1Module(2) 1}
  SetInfoStatus, AttributeId, ObjectInstance
    FROM CMIP-1 {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)};

-- "infrastructure" object identifier definitions

datalink-layer OBJECT IDENTIFIER ::= {joint-iso-itu-t datalink-layer(15)}

dloi OBJECT IDENTIFIER ::= {datalink-layer management(0)}

sseoi OBJECT IDENTIFIER ::= {dloi standardSpecificExtension(0)}
moi OBJECT IDENTIFIER ::= {dloi objectClass (3)}
poi OBJECT IDENTIFIER ::= {dloi package (4)}
proi OBJECT IDENTIFIER ::= {dloi parameter (5)}
nboi OBJECT IDENTIFIER ::= {dloi nameBinding (6)}
aoi OBJECT IDENTIFIER ::= {dloi attribute (7)}
agoi OBJECT IDENTIFIER ::= {dloi attributeGroup (8)}
acoi OBJECT IDENTIFIER ::= {dloi action (9)}
noi OBJECT IDENTIFIER ::= {dloi notification (10)}
--
-- value assignments for Data Link layer specificProblems
--
fRMRRReceived OBJECT IDENTIFIER ::=
  {sseoi specificProblems(11) fRMRRReceived(5)}

```

```

fMRReasons OBJECT IDENTIFIER ::=
    {ssei specificProblems(11) fMRReasons(6)}

fMRReasonsControlFieldUndefinedOrUnimplemented OBJECT IDENTIFIER ::=
    {ssei specificProblems(11) fMRReasons(6)
    controlFieldUndefinedOrUnimplemented(1)}

fMRReasonsFormatError OBJECT IDENTIFIER ::=
    {ssei specificProblems(11) fMRReasons(6) formatError(2)}

fMRReasonsInfoFieldLengthGreaterThanMaximum OBJECT IDENTIFIER ::=
    {ssei specificProblems(11) fMRReasons(6)
    infoFieldLengthGreaterThanMaximum(3)}

fMRReasonsInvalidNR OBJECT IDENTIFIER ::=
    {ssei specificProblems(11) fMRReasons(6) invalidNR(4)}

fMRReasonsNonSpecific OBJECT IDENTIFIER ::=
    {ssei specificProblems(11) fMRReasons(6) nonSpecific(5)}

--
-- value assignments for Data Link layer specific errorIds for activate action processingFailure
-- errors.
--

activateFailure OBJECT IDENTIFIER ::=
    {ssei action(9) activate(1) errors(1) processingFailure(1)}

activateFailureInsufficientResources OBJECT IDENTIFIER ::=
    {activateFailure insufficientResources(1)}

activateFailureProviderDoesNotExist OBJECT IDENTIFIER ::=
    {activateFailure providerDoesNotExist(2)}

activateFailureProviderNotAvailable OBJECT IDENTIFIER ::=
    {activateFailure providerNotAvailable(3)}

activateFailureRequiredServiceNotAvailable OBJECT IDENTIFIER ::=
    {activateFailure requiredServiceNotAvailable(4)}

activateFailureSystemSpecific OBJECT IDENTIFIER ::=
    {activateFailure systemSpecific(5)}

--
-- other definitions
--

datalinkSubsystemId-Value GraphicString ::= "datalinkSubsystem"

FRMRSyntax ::= OCTET STRING
NamingString ::= GraphicString
Integer ::= INTEGER

InterfaceType ::= ENUMERATED{
    dTE(0),
    dCE(1)}

interfaceTypeDefault InterfaceType ::= dTE

MaximumIFrameSize ::= INTEGER
-- in bits, 1080 (135 octets) minimum

MW ::= SEQUENCE{
    mWSend [0] IMPLICIT INTEGER (0 .. 4095),
    mWReceive [1] IMPLICIT INTEGER (0 .. 4095)}

MX ::= SEQUENCE{
    mXSend [0] IMPLICIT INTEGER (0 .. 4095),
    mXReceive [1] IMPLICIT INTEGER (0 .. 4095)}

Octet ::= OCTET STRING(SIZE(1))
OctetString ::= OCTET STRING

SequenceModulus ::= Integer

SLPPProtocolState ::= ENUMERATED{
    disconnectedPhase(0),
    linkdisconnection-phase(1),

```

link-set-up-phase(2),
information-Transfer-phase(3),
frame-Reject-condition(4),
busy-condition(5),
sent-Reject-condition(6),
system-Parameters-and-error-recovery(7)}

WindowSize ::= CHOICE{
 modulo8ws [0] INTEGER(1..7), -- for modulo 8
 modulo128ws [1] INTEGER(1..127)} -- for modulo 128

END

7 Conformidad

Las implementaciones que alegan conformarse con la presente Recomendación cumplirán los requisitos de conformidad definidos en las siguientes subcláusulas.

7.1 Requisitos de conformidad con la presente Recomendación

7.1.1 Conformidad estática

La implementación cumplirá los requisitos de la presente Recomendación en el cometido de gestor, el cometido de agente o en ambos. En el cuadro E.1 se alegará la conformidad de un cometido, por lo menos.

Si se alega conformidad para soportar el cometido de gestor, la implementación soportará por lo menos una operación o notificación o acción de gestión de los objetos gestionados especificados por la presente Recomendación. Los requisitos de conformidad en el cometido de gestor para estas operaciones, notificaciones y acciones de gestión se identifican en el cuadro E.3 y en otros referenciados por el anexo E.

Si se alega conformidad para soportar el cometido de agente, la implementación soportará uno o más casos de la clase de objeto gestionado subsistema de enlace de datos y la clase de objeto gestionado punto de acceso al servicio de acceso de datos identificados en el cuadro E.4 y en otros cuadros mencionados en el anexo E.

Si se alega conformidad con el cometido de agente, la implementación soportará por lo menos una vinculación de nombre identificada en el cuadro E.7 para cada objeto gestionado soportado.

La implementación soportará la sintaxis de transferencia derivada de las reglas de codificación especificadas en la Rec. CCITT X.209 e ISO/CEI 8825 denominada {joint-iso-ccitt asn1(1) basicEncoding(1)} para los tipos de datos abstractos referenciados por las definiciones que alega soportar.

7.1.2 Conformidad dinámica

Las implementaciones que alegan conformidad con la presente Recomendación soportarán los elementos de procedimientos y definiciones de semántica correspondientes a las definiciones que alegan soportar.

7.1.3 Requisitos de declaraciones de conformidad de implementaciones de gestión

Los formularios de MCS, MICS, MOCS y MRCS conformes a la presente Recomendación serán técnicamente idénticos a los formularios especificados en los anexos E, F, G y H preservando la numeración de los cuadros y los números de índice de las partidas, y difiriendo solamente en la paginación y en el encabezamiento y pie de página.

El suministrador de una implementación que alega conformidad con la presente Recomendación rellenará una copia del resumen de conformidad de gestión (MCS, *management conformance summary*) proporcionado en el anexo E como parte de los requisitos de conformidad junto con cualesquiera otros formularios de declaración de conformidad de implementación mencionados como aplicables según ese MCS. Todos los formularios de MCS, MICS, MOCS y MRCS conformes a la presente Recomendación:

- describirán una implementación que cumple la presente Recomendación;
- habrán sido rellenados de acuerdo con las instrucciones que figuran en la Rec. UIT-T X.724 | ISO/CEI 10165-6;
- incluirán la información necesaria para identificar inequívocamente al suministrador y a la implementación.

7.2 Requisitos de conformidad específicos del protocolo

El suministrador de una implementación que alega conformidad con la presente Recomendación soportará por lo menos un protocolo identificado en el cuadro E.2.

7.2.1 Conformidad con ISO/CEI 7776

Una implementación que alega conformidad con ISO/CEI 7776 en el cometido de agente como una implementación gestionada:

- a) se conformará con la Rec. UIT-T X.282 e ISO/CEI 10742 según se define en 7.1;
- b) soportará el MO IAPBDLE, el MO sLPPM y el MO sLPConnection.

7.2.2 Conformidad con ISO/CEI 8802-2 – Control de enlace lógico en modo sin conexión

Una implementación que alega conformidad con ISO/CEI 8802-2 – Control de enlace lógico (LLC) en modo sin conexión, en el cometido de agente como una implementación gestionada:

- a) se conformará con la Rec. UIT-T X.282 e ISO/CEI 10742 según se define en 7.1;
- b) soportará el MO ILCDLE MO y por lo menos una clase derivada del MO ILCCCLPM.

7.2.3 Conformidad con ISO/CEI 8802-2 – Control de enlace lógico en modo con conexión

Una implementación que alega conformidad con ISO/CEI 8802-2 – Control de enlace lógico (LLC) en modo con conexión en el cometido de agente como una implementación gestionada:

- a) se conformará con la Rec. UIT-T X.282 e ISO/CEI 10742 según se define en 7.1;
- b) soportará el MO ILCDLE y por lo menos una clase derivada del MO ILCCOPM.

7.2.4 Conformidad con ISO/CEI 8802 – Múltiple acceso

Una implementación que alega conformidad con ISO/CEI 8802 – Múltiple acceso (MAC), en el cometido de agente como una implementación gestionada:

- a) se conformará con la Rec. UIT-T X.282 e ISO/CEI 10742 según se define en 7.1;
- b) soportará el MO mACDLE y por lo menos una clase derivada del MO mAC.

ANEXO A

Asignación de identificadores de objeto

(Este anexo es parte integrante de esta Recomendación)

Se han asignado los siguientes identificadores de objeto en el cuerpo principal de esta Recomendación.

joint-iso-itu-t

datalink-layer (15)

management (0)

standardSpecificExtension (0)

action (9)

activate (1)

errors (1)

processingFailure (1)

insufficientResources (1)

providerDoesNotExist (2)

providerNotAvailable (3)

requiredServiceNotAvailable (4)

systemSpecific (5)

specificProblems (11)

alignmentError (1)

frameTooLong (4)

fRMRRceived (5)

fRMRRReasons (6)

controlFieldUndefinedOrUnimplemented (1)

formatError (2)

infoFieldLengthGreaterThanMaximum (3)

invalidNR (4)

nonSpecific (5)

- asn1Module (2)
- (0)
- objectClass (3)
 - datalinkSubsystem (1)
 - datalinkEntity (2)
- x25DLE (3)
- sLPPM (4)
 - sLPConnection (5)
 - sLPConnectionIVMO (6)
 - dLSAP (13)
- package (4)
 - mLP-P (1)
 - t3-P (2)
 - t3IVMO-P (3)
 - link-reset-disconnect-n2-P (4)
 - mT2-P (5)
 - mLP-Counters-P (6)
- parameter (5)
 - fRMR (1)
- nameBinding (6)
 - datalinkEntity-datalinkSubsystem-Management (1)
 - dLSAP-datalinkEntity-Management (2)
 - sLPPM-x25DLE-Management (3)
 - sLPConnection-sLPPM-Automatic (4)
 - sLPConnection-sLPPM-Management (5)
 - sLPConnectionIVMO-sLPPM-Management (6)
- attribute (7)
 - fRMRsReceived (1)
 - fRMRsSent (2)
 - iFramesReceived (3)
 - iFramesSent (4)
 - rEJsReceived (5)
 - rEJsSent (6)
 - rNRsReceived (7)
 - rNRsSent (8)
 - sABMsReceived (9)
 - sABMsSent (10)
 - providerEntityNames (11)
 - mT1Timer (12)
 - mT2Timer (13)
 - mT3Timer (14)
 - fCSErrorsReceived (15)
 - iFrameDataOctetsReceived (16)
 - iFrameDataOctetsSent (17)
 - interfaceType (18)
 - k (19)
 - n1 (20)
 - n2 (21)
 - pollsReceived (22)
 - sLPProtocolState (23)
 - sequenceModulus (24)
 - t1Timer (25)
 - t2Timer (26)
 - t3Timer (27)
 - t4Timer (28)
 - timesT1Expired (29)
 - timesT3Expired (30)
 - sLPConnectionIVMOId (31)
 - abnormalLinkDisconnectsReceived(41)
 - abnormalLinkDisconnectsSent(42)
 - linkResetsReceived(43)
 - linkResetsSent(44)
 - timesN2Reached(45)
 - iFramesReassignments(46)
 - mW(47)
 - mX(48)
 - receivedMlpFramesInGuardRegion(49)
 - receivedMlpResets(50)
 - timesMT1Expired(51)

mlpFramesReceived(52)
 mlpFramesSent(53)
 mlpFramesOutsideWindowGuard(54)
 attributeGroup (8)
 timers (1)
 action (9)
 notification (10)

ANEXO B

Ejemplo de utilización de los atributos de relación

(Este anexo no es parte integrante de esta Recomendación)

Este anexo contiene un ejemplo de la utilización de los atributos de relación, tanto dentro de la capa de enlace de datos como en la capa de datos y sus capas contiguas. Este ejemplo no pretende ser exhaustivo. Es posible construir relaciones para otras combinaciones de protocolos de manera similar, y una determinada implementación puede ser capaz de soportar múltiples protocolos simultáneamente, por ejemplo, la operación de protocolo de red por la Recomendación X.25. Dicha posibilidad sólo se ha omitido por razones de claridad.

Cabe señalar que algunas relaciones son implicadas por contenedora, por lo que no se requieren atributos de relación explícitos.

El ejemplo es el siguiente (véase la figura B.1).

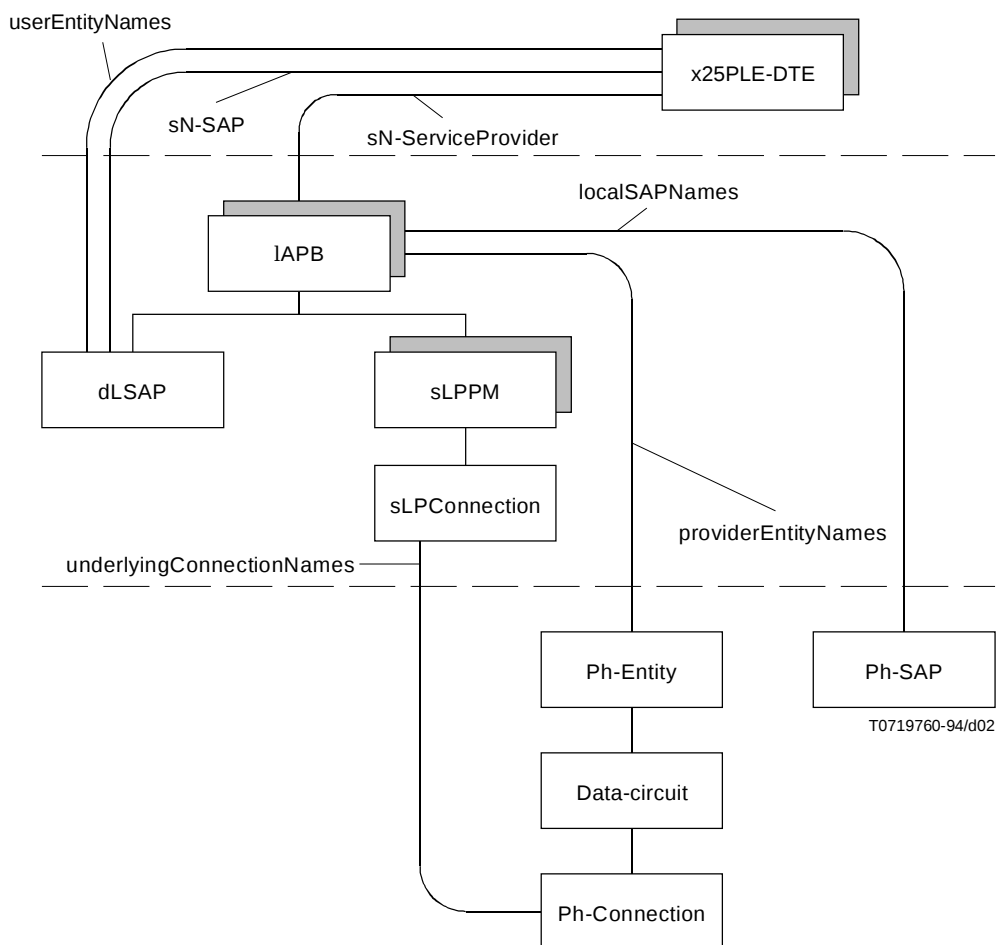


Figura B.1/X.282 – CONS por el LAPB (SLP)

ANEXO C

Atributos adicionales y acciones necesarias en los sistemas

(Este anexo no es parte integrante de esta Recomendación)

C.1 Introducción

En los sistemas intermedios completos, como por ejemplo, un repetidor, son necesarios algunos atributos y acciones para realizar la gestión de un sistema completo. Estos elementos son genéricos en el sentido de que son necesarios en los sistemas gestionados en general. Los siguientes elementos se definen para que esta Recomendación sea más completa, aunque se reconoce que están fuera de los límites del campo de definición de una norma de la capa 2.

C.2 Alcance

Este anexo define atributos adicionales y una acción que son necesarios para la gestión de un sistema intermedio completo, como por ejemplo, un repetidor. No están específicamente relacionados con una norma de gestión de la capa de enlace de datos.

Cuando se disponga de una norma genérica de gestión de sistemas con estas definiciones (o similares), se prevé la supresión de esta parte de la Recomendación.

C.3 Atributos y acción

-- *Attributes*

aTimeSinceSystemReset ATTRIBUTE

WITH ATTRIBUTE SYNTAX AttributeModule.ResettableCounter32;

BEHAVIOUR bTimeSinceSystemReset BEHAVIOUR

DEFINED AS

The time in tens of milliseconds since the last time that the system, including network management was reset. This may have been caused by ResetSystemAction or other means. This counter has a value of 0 when initialized.

Though the count is reported in tens of milliseconds, the required resolution is to the nearest 100 ms. The clocking source for the counter shall be accurate to within 1% throughout the full counting range.;;

-- NOTE – The approximate minimum time for counter rollover is 497 days.

REGISTERED AS {iso(1)member-body(2) us(840) 802dot3(10006) repeaterMgt(19) attribute(7) sysResetTime(47)};

aRepeaterResetTimeStamp ATTRIBUTE

WITH ATTRIBUTE SYNTAX AttributeModule.Integer32;

BEHAVIOUR brepeaterResetTimeStamp BEHAVIOUR

DEFINED AS

Not a counter, this attribute provides the value of aTimeSinceSystemReset when the repeater enters the START state. This value may never be greater than aTimeSinceSystemReset.;;

REGISTERED AS {iso(1)member-body(2) us(840)802dot3(10006) repeaterMgt(19) attribute(7) repeaterResetTimeStamp(48)};

-- *Action*

acRestSystemAction ACTION

BEHAVIOUR acResetSystem BEHAVIOUR

DEFINED AS

This action initializes the resettable management counters of the system and also of all contained objects. The value of non-resettable counters may change as a result of this action.;;

-- NOTE – This action may result in the loss of packets.

```

MODE CONFIRMED;
REGISTERED AS {iso(1)member-body(2) us(840) 802dot3(10006) repeaterMgt(19) action(9) resetSystem(49)};

AttributeModule

DEFINITIONS IMPLICIT TAGS ::= BEGIN

ResettableCounter32 ::= INTEGER (0..4294967295)
Integer32 ::= INTEGER (0..4294967295)

END

```

ANEXO D

El anexo D no existe en la Recomendación X.282 y se introduce para alinear los anexos E, F, G y H con sus correspondientes anexos a la Norma ISO/CEI 10742.

ANEXO E¹

Formulario de MCS

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 MCS²

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

- m Mandatory
- o Optional

¹ Comunicado sobre derechos de autor del formulario de MCS

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de MCS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MCS cumplimentado.

² En la Rec. UIT-T X.724 | ISO/CEI 10165-6 se especifican las instrucciones para rellenar el formulario de MCS.

- c Conditional
- x Prohibited
- Not applicable or out of scope

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

NOTE 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 the annexes of this Recommendation, the following common notations, defined in ITU-T Rec. X.291 and ISO/IEC 9646-2 and ITU-T Rec. X.296 and 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)

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 Recommendation 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 Recommendation which specifies the management information to which conformance is claimed, in the box below.

Recommendation 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 Recommendation, 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 Recommendation, 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 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/X.282 – 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/X.282 – Protocol

Index	Protocol supported	Status	Support	Additional information
1	ISO/IEC 7776 support	o.2		
2	ISO/IEC 8802-2 (CL mode) support	o.2		
3	ISO/IEC 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/X.282 – Manager role minimum conformance requirement

Index	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		
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/X.282 – Agent role minimum conformance requirement

Index	Item	Status	Support	Additional information
1	Data link sub-system 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/X.282 – Logging of event records

Index	Item	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 Recommendation 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 Recommendations | International Standards summarized in the following tables. For each Recommendation | 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 to 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/X.282 – MOCS support summary

Index	Identification of the document that includes the MOCS proforma	Table numbers of MOCS proforma	Description	Con-straints and values	Status	Support	Table numbers of MOCS	Addi-tional infor-mation
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	IAPBDLE	–	c13			
5	"ISO/IEC 10742"	G.21	ILCCLPM	–	c14			
6	"ISO/IEC 10742"	G.22	ILCCOPM	–	c15			
7	"ISO/IEC 10742"	G.23 – G.28	ILCDLE	–	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	attributeValueChange Record	–	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/X.282 – MRCS support summary

Index	Identification of the document that includes the MRCS proforma	Table numbers of MRCS proforma	Description	Con-straints 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntity-subsystem	–	o.5			
5	"ISO/IEC 10742"	Table H.1/5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": clProtocolMachine-entity	–	c27			
10	"ISO/IEC 10742"	Table H.1/10	ILCCOPM-ILCDLE-Management	–	c28			
11	"ISO/IEC 10742"	Table H.1/11	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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			

Table E.7/X.282 – MRCS support summary (concluded)

Index	Identification of the document that includes the MRCS proforma	Table numbers of MRCS proforma	Description	Con-straints and values	Status	Support	Table numbers of MRCS	Addi-tional infor-mation
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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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/X.282 – MICS support summary

Index	Identification of the document that includes the MICS proforma	Table numbers of MICS proforma	Description	Con-straints and values	Status	Support	Table numbers of MICS	Addi-tional infor-mation
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 or 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 –								

ANEXO F³

Formulario de MICS

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 Recommendation, 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 the 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 ITU-T Rec. X.291 and ISO/IEC 9646-2.

The notations used in the Status and Support columns are specified in E.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 Recommendation shall import a copy of the following tables and complete them.

³ Comunicado sobre derechos de autor del formulario de MICS

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de MICS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MICS cumplimentado.

				Set by create		Get		Replace		Add		Remove		Set to default		Additional information
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	
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c1		o.14		–		–		–		–		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c1		o.14		–		–		–		–		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c1		o.14		–		–		–		–		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c1		o.14		–		–		–		–		
5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": sap1Address	{2 9 3 5 7 8}	INTEGER	–		o.14		–		–		–		–		
6	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": sapId	{2 9 3 5 7 10}	GraphicString	c1		o.14		–		–		–		–		
7	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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 Sub-system managed object

Table F.2/X.282 – datalinkSubsystem 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	–		o.14		–		–		–		–		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	–		o.14		–		–		–		–		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	–		o.14		–		–		–		–		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	–		o.14		–		–		–		–		
5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": subsystemId	{2 9 3 5 7 11}	GraphicString	–		o.14		–		–		–		–		

F.4.1.3 The EWMA Metric Monitor managed object

Table F.3/X.282 – 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	
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": administrativeState	{2 9 3 2 7 31}	ENUMERATED	o.14		o.14		o.14		–		–		–		
2	"CCITT Rec. X.721 (1992) 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		–		–		–		
5	derivedGauge	{1 2 840 10011 7 6}	CHOICE derivedGauge NotCurrent	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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	o.14		o.14		–		–		–		–		
10	"CCITT Rec. X.721 (1992) 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	observedManaged ObjectInstance	{1 2 840 10011 7 10}	ObjectInstance	o.14		o.14		o.14		–		–		–		
13	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	–		o.14		–		–		–		–		

Table F.3/X.282 – eWMAMetricMonitor Attribute support (*concluded*)

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	
14	"CCITT Rec. X.721 (1992) 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/X.282 – IAPBDLE Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		Additional information
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	
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c2		o.14		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communications EntityId	{2 9 3 5 7 0}	GraphicString	c2		o.14		–		–		–		–		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c2		o.14		–		–		–		–		
8	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c2		o.14		–		–		–		–		
9	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	–		o.14		–		–		–		–		
10	"CCITT Rec. X.721 (1992) 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/X.282 – 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c3		o.14		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communications EntityId	{2 9 3 5 7 0}	GraphicString	c3		o.14		–		–		–		–		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	–		o.14		–		–		–		–		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c3		o.14		–		–		–		–		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c3		o.14		–		–		–		–		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	–		o.14		–		–		–		–		
7	"CCITT Rec. X.721 (1992) 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 –																

Table F.6/X.282 – 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c4		o.14		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c4		o.14		–		–		–		–		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	–		o.14		–		–		–		–		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c4		o.14		–		–		–		–		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c4		o.14		–		–		–		–		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	–		o.14		–		–		–		–		
7	"CCITT Rec. X.721 (1992) 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/X.282 – resourceTypeId 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	–		o.14		–		–		–		–		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	–		o.14		–		–		–		–		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	–		o.14		–		–		–		–		
4	"CCITT Rec. X.721 (1992) 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/X.282 – sLPConnection 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	–		o.14		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	iFrameDataOctets Received	{2 15 0 7 16}	INTEGER	–		o.14		–		–		–		–		
7	iFrameDataOctets Sent	{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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	–		o.14		–		–		–		–		
15	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	–		o.14		–		–		–		–		
16	"CCITT Rec. X.721 (1992) 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		–		–		–		–		

Table F.8/X.282 – sLPConnection Attribute support (concluded)

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	
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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": underlying ConnectionNames	{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/X.282 – sLPConnectionIVMO 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	"CCITT Rec. X.721 (1992) 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	o.14		o.14		–		–		–		–		
7	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	o.14		o.14		–		–		–		–		
8	"CCITT Rec. X.721 (1992) 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/X.282 – sLPPM 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c5		o.14		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": coProtocolMachineId	{2 9 3 5 7 3}	GraphicString	c5		o.14		–		–		–		–		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c5		o.14		–		–		–		–		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c5		o.14		–		–		–		–		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	–		o.14		–		–		–		–		
6	"CCITT Rec. X.721 (1992) 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 Recommendation 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/X.282 – IAPBDLE 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.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) 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/X.282 – ILCDLE 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.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	o.14		–		

F.4.2.3 The MAC Data Link Entity managed object

Table F.13/X.282 – mACDLE 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.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	o.14		–		

F.4.2.4 The LAPB Single Link Protocol Connection managed object

Table F.14/X.282 – 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994"; 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	"CCITT Rec. X.721 (1992) 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/X.282 – 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/X.282 – sLPPM Attribute group support

Index	Attribute group template label	Attribute group template label	Constraints and values	Get		Set to default		Additional information
				Status	Support	Status	Support	
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) 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 Recommendation 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/X.282 – 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/X.282 – 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/X.282 – 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/X.282 – Create and delete support

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

F.4.3.5 The MAC Data Link Entity managed object

Table F.21/X.282 – 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/X.282 – 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/X.282 – 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 Recommendation shall import a copy of Table F.24 and complete it.

Table F.24/X.282 – Notification support

					Support									
Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Con-firmed	Non-con-firmed	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	"CCITT Rec. X.721 (1992) 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	oldAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								1.1.3.3	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								1.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:m		
								1.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								1.1.5.1	correlated Notifications	{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	additional Information	{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/X.282 – Notification support (continued)

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
					Con-confirmed	Non-confirmed								
2	"CCITT Rec. X.721 (1992) 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	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:m		
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								2.1.4.1	correlated Notifications	{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	additional Information	{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	"CCITT Rec. X.721 (1992) 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	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:m		
								3.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								3.1.4.1	correlated Notifications	{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	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	c:m		

Table F.24/X.282 – Notification support (continued)

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
					Con- firmed	Non-con- firmed								
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": qualityofService Alarm	{2 9 3 2 10 11}	–	c9				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		
								4.1	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		
								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	triggered Threshold	–	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		

Table F.24/X.282 – Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								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	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:m		
								4.1.9	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								4.1.9.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								4.1.9.2	sourceObjectInst	–	ObjectInstance	c:m		
								4.1.10	stateChange Definition	{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	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								4.1.11	monitored Attributes	{2 9 3 2 7 15}	SET OF Attribute	c:m		
								4.1.12	proposedRepair Actions	{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	additional Information	{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/X.282 – Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								4.1.14.3	information	–	ANY DEFINED BY identifier	c:m		
5	"CCITT Rec. X.721 (1992) 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			
								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	triggered Threshold	–	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		

Table F.24/X.282 – Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								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	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:m		
								5.1.9	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								5.1.9.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								5.1.9.2	sourceObjectInst	–	ObjectInstance	c:m		
								5.1.10	stateChange Definition	{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	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								5.1.11	monitored Attributes	{2 9 3 2 7 15}	SET OF Attribute	c:m		
								5.1.12	proposedRepair Actions	{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	additional Information	{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		

Support

					Support									
Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Con- firmed	Non-con- firmed	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
6	"CCITT Rec. X.721 (1992) 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	attributeIdentifier List	{2 9 3 2 7 8}	SET OF AttributeId	c:m		
								6.1.3	stateChange Definition	{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	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								6.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:m		
								6.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:m		
								6.1.5.1	correlated Notifications	{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	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	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 Recommendation shall import a copy of Table F.25 and complete it.

Table F.25/X.282 – 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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 Recommendation shall import a copy of Table F.26 and complete it.

Table F.26/X.282 – Parameter support

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

Formulario de MOCS

G.1 Introduction

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

G.1.1 Instructions for completing the MOCS proforma to produce a MOCS⁵

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 the tables below and if necessary provide additional information.

G.1.2 Symbols, abbreviations and terms

The MOCS proforma contained in this annex is comprised of information in tabular form, in accordance with ITU-T Rec. X.291 and ISO/IEC 9646-2.

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

G.2 The Data Link Service Access Point managed object

G.2.1 Statement of conformance to the managed object class

Table G.1/X.282 – dLSAP 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	dLSAP	{2 15 0 3 13}		

If the answer to the actual class question in Table G.1 is no, the supplier of the implementation shall fill in the actual class support of Table G.2.

Table G.2/X.282 – dLSAP 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

⁴ Comunicado sobre derechos de autor del formulario de MOCS

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de MOCS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MOCS cumplimentado.

⁵ En la Rec. UIT-T X.724 | ISO/IEC 10165-6 se especifican las instrucciones para rellenar el formulario MOCS.

G.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 G.3.

Table G.3/X.282 – dLSAP Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c1		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package, has been instantiated"	c2		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": sap1P1		Mandatory	m		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c1: if G.1/1b then – else m c2: if G.3/1a then m else –						

G.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 G.4. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.4/X.282 – dLSAP 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c3		c4		–		–		–		–		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c5		m		x		–		–		x		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c6		m		x		–		–		x		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c7		c8		c9		c9		c9		c9		
5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": sap1Address	{2 9 3 5 7 8}	INTEGER	c10		m		c10		–		–		c10		
6	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": sapId	{2 9 3 5 7 10}	GraphicString	c5		m		x		–		–		x		
7	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": userEntityNames	{2 9 3 5 7 15}	SET OF ObjectInstance	c10		m		c11		c11		c11		c11		
c3: if G.3/1a then (if H.1/1a then o else x) else – c4: if G.3/1a then m else – c5: if H.1/1a then o else x c6: if H.1/1a then m else – c7: if G.3/2a then (if H.1/1a then o else x) else – c8: if G.3/2a then m else – c9: if G.3/2a then x else – c10: if G.1/1b or H.1/2a then x else – c11: if G.1/1b then x else –																

G.3 The Data Link Subsystem managed object

G.3.1 Statement of conformance to the managed object class

Table G.5/X.282 – datalinkSubsystem 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	datalinkSubsystem	{2 15 0 3 1}		

If the answer to the actual class question in Table G.5 is no, the supplier of the implementation shall fill in the actual class support of Table G.6.

Table G.6/X.282 – datalinkSubsystem 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

G.3.2 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 G.7.

Table G.7/X.282 – datalinkSubsystem Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c12		
2	datalinkSubsystem-P		Mandatory	m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package, has been instantiated"	c13		
4	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": subsystemP1		Mandatory	m		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c12: if G.5/1b then – else m c13: if G.7/1a then m else –						

G.3.3 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 G.8. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.8/X.282 – datalinkSubsystem 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c14		c15		–		–		–		–		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	x		m		x		–		–		x		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	x		m		x		–		–		x		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c16		c17		c16		c16		c16		c16		
5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": subsystemId	{2 9 3 5 7 11}	GraphicString	x		m		x		–		–		x		
c14: if G.7/1a then x else – c15: if G.7/1a then m else – c16: if G.7/3a then x else – c17: if G.7/3a then m else –																

G.4 The EWMA Metric Monitor managed object

G.4.1 Statement of conformance to the managed object class

Table G.9/X.282 – eWMAMetricMonitor 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	eWMAMetricMonitor	{1 2 840 10011 3 2}		

If the answer to the actual class question in Table G.9 is no, the supplier of the implementation shall fill in the actual class support of Table G.10.

Table G.10/X.282 – eWMAMetricMonitor 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

G.4.2 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 G.11.

Table G.11/X.282 – eWMAMetricMonitor Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c18		
2	configurationEventsReporting-P	{1 2 840 10011 4 1}	"configuration event reporting is supported"	o		
3	counterDifference-P	{1 2 840 10011 4 0}	"counter to gauge conversion is requested"	o		
4	counterOverflow-P	{1 2 840 10011 4 2}	"the counterDifference-P package is present and module arithmetic is required to calculate the new value of the derived gauge on counter overflow"	c19		
5	eWMAMetricMonitor-P		Mandatory	m		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package, has been instantiated"	c20		
7	scanner-P		Mandatory	m		
8	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c18: if G.9/1b then – else m c19: if G.11/3a then o else – c20: if G.11/1a or G.11/2a or G.11/3a or G.11/4a then m else –						

G.4.3 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 G.12. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.12/X.282 – 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	
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": administrativeState	{2 9 3 2 7 31}	ENUMERATED	m		m		m		–		–		c21		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c22		c23		–		–		–		–		
3	counterModulus	{1 2 840 10011 7 5}	INTEGER	c24		c24		c24		–		–		c21		
4	counterTMinusGP	{1 2 840 10011 7 4}	INTEGER	c25		c25		c25		–		–		c21		
5	derivedGauge	{1 2 840 10011 7 6}	CHOICE derivedGaugeNotCurrent	m		m		m		–		–		c21		
6	estimateOfMean	{1 2 840 10011 7 7}	CHOICE	m		m		m		–		–		c21		
7	granularityPeriod	{1 2 840 10011 7 8}	CHOICE	m		m		m		–		–		c21		
8	movingTimePeriod	{1 2 840 10011 7 12}	CHOICE	m		m		m		–		–		c21		
9	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	o		m		x		–		–		x		
10	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	m		m		x		–		–		x		
11	observedAttributeId	{1 2 840 10011 7 9}	AttributeId	m		m		m		–		–		c21		
12	observedManagedObjectInstance	{1 2 840 10011 7 10}	ObjectInstance	m		m		m		–		–		c21		
13	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	x		m		x		–		–		x		
14	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c26		c27		c28		c28		c28		c28		
15	scannerId	{1 2 840 10011 7 3}	GraphicString	o		m		x		–		–		x		
16	severityIndicatingThreshold	{1 2 840 10011 7 11}	SET OF SEQUENCE	m		m		m		m		m		c21		
c21: if G.9/1b then x else – c22: if G.11/1a then o else – c23: if G.11/1a then m else – c24: if G.11/4a then m else – c25: if G.11/3a then m else – c26: if G.11/6a then o else – c27: if G.11/6a then m else – c28: if G.11/6a then x else –																

G.4.4 Notifications

Table G.13/X.282 – eWMAMetricMonitor 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
					Con- firmed	Non- con- firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": attributeValueChange	{2 9 3 2 10 1}	–	c29				1.1	AttributeValue ChangeInfo	–	Information Syntax SEQUENCE	c29		
								1.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:o		
								1.1.2	attribute IdentifierList	{2 9 3 2 7 8}	SET OF AttributeId	c:o		
								1.1.3	attributeValue ChangeDefinition	{2 9 3 2 7 10}	SET OF SEQUENCE	c:m		
								1.1.3.1	attributeID	–	AttributeId	c:m		
								1.1.3.2	oldAttribute Value	–	ANY DEFINED BY attributeID	c:o		
								1.1.3.3	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								1.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:o		
								1.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:o		
								1.1.5.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.5.2	sourceObjectInst	–	ObjectInstance	c:o		
								1.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	c:o		
								1.1.7	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	c:o		
								1.1.7.1	identifier	–	OBJECT IDENTIFIER	c:m		
								1.1.7.2	significance	–	BOOLEAN	c:o		
								1.1.7.3	information	–	ANY DEFINED BY identifier	c:m		

Table G.13/X.282 – eWMAMetricMonitor Notification support (continued)

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
					Con- firmed	Non-con- firmed								
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectCreation	{2 9 3 2 10 6}	–	c29				2.1	ObjectInfo	–	Information Syntax SEQUENCE	c29		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	c:o		
								2.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:o		
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	c:o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	c:o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}	–	c29				3.1	ObjectInfo	–	Information Syntax SEQUENCE	c29		
								3.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:o		
								3.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	c:o		
								3.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:o		
								3.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:o		
								3.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		

Table G.13/X.282 – eWMAMetricMonitor Notification support (continued)

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
					Con- firmed	Non- con- firmed								
								3.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	c:o		
								3.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	c:o		
								3.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								3.1.6.2	significance	–	BOOLEAN	c:o		
								3.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": qualityof ServiceAlarm	{2 9 3 2 10 11}	–	m				4.1	AlarmInfo	–	Information Syntax SEQUENCE	m		
								4.1.1	probableCause	{2 9 3 2 7 18}	CHOICE	m		
								4.1.1.1	globalValue	–	OBJECT IDENTIFIER	o.1		
								4.1.1.2	localValue	–	INTEGER	o.1		
								4.1.2	specificProblems	{2 9 3 2 7 27}	SET OF CHOICE	o		
								4.1.2.1	OBJECT IDENTIFIER	–	OBJECT IDENTIFIER	c:o.2		
								4.1.2.2	INTEGER	–	INTEGER	c:o.2		
								4.1.3	perceived Severity	{2 9 3 2 7 17}	ENUMERATED	m		
								4.1.4	backedUpStatus	{2 9 3 2 7 11}	BOOLEAN	o		
								4.1.5	backUpObject	{2 9 3 2 7 40}	ObjectInstance	o		
								4.1.6	trendIndication	{2 9 3 2 7 30}	ENUMERATED	o		
								4.1.7	thresholdInfo	{2 9 3 2 7 29}	SEQUENCE	o		
								4.1.7.1	triggered Threshold	–	AttributeId	c:m		
								4.1.7.2	observedValue	–	CHOICE	c:m		
								4.1.7.2.1	integer	–	INTEGER	c:o.3		
								4.1.7.2.2	real	–	REAL	c:o.3		

Table G.13/X.282 – eWMAMetricMonitor Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								4.1.7.3	thresholdLevel	–	CHOICE	c:o		
								4.1.7.3.1	up	–	SEQUENCE	c:o.4		
								4.1.7.3.1.1.1	integer	–	INTEGER	c:o.5		
								4.1.7.3.1.1.2	real	–	REAL	c:o.5		
								4.1.7.3.1.2	low	–	CHOICE	c:o		
								4.1.7.3.1.2.1	integer	–	INTEGER	c:o.6		
								4.1.7.3.1.2.2	real	–	REAL	c:o.6		
								4.1.7.3.2	down	–	SEQUENCE	c:o.4		
								4.1.7.3.2.1	high	–	CHOICE	c:m		
								4.1.7.3.2.1.1	integer	–	INTEGER	c:o.7		
								4.1.7.3.2.1.2	real	–	REAL	c:o.7		
								4.1.7.3.2.2	low	–	CHOICE	c:m		
								4.1.7.3.2.2.1	integer	–	INTEGER	c:o.8		
								4.1.7.3.2.2.2	real	–	REAL	c:o.8		
								4.1.7.4	armTime	–	GeneralizedTime	c:o		
								4.1.8	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								4.1.9	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								4.1.9.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								4.1.9.2	sourceObjectInst	–	ObjectInstance	c:o		
								4.1.10	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	o		
								4.1.10.1	attributeID	–	AttributeId	c:m		
								4.1.10.2	oldAttribute Value	–	ANY DEFINED BY attributeID	c:o		
								4.1.10.3	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								4.1.11	monitored Attributes	{2 9 3 2 7 15}	SET OF Attribute	o		
								4.1.12	proposedRepairA ctions	{2 9 3 2 7 19}	SET OF CHOICE	o		

Table G.13/X.282 – eWMAMetricMonitor Notification support (continued)

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
					Con-firmed	Non-con-firmed								
								4.1.12.1	OBJECT IDENTIFIER	–	OBJECT IDENTIFIER	c:o.9		
								4.1.12.2	INTEGER	–	INTEGER	c:o.9		
								4.1.13	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								4.1.14	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								4.1.14.1	identifier	–	OBJECT IDENTIFIER	c:m		
								4.1.14.2	significance	–	BOOLEAN	c:o		
								4.1.14.3	information	–	ANY DEFINED BY identifier	c:m		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": stateChange	{2 9 3 2 10 14}	–	c29				5.1	StateChangeInfo	–	Information Syntax SEQUENCE	c29		
								5.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	c:o		
								5.1.2	attribute IdentifierList	{2 9 3 2 7 8}	SET OF AttributeId	c:o		
								5.1.3	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	c:m		
								5.1.3.1	attributeID	–	AttributeId	c:m		
								5.1.3.2	oldAttribute Value	–	ANY DEFINED BY attributeID	c:o		
								5.1.3.3	newAttribute Value	–	ANY DEFINED BY attributeID	c:m		
								5.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	c:o		
								5.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	c:o		
								5.1.5.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								5.1.5.2	sourceObjectInst	–	ObjectInstance	c:o		
								5.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	c:o		

Table G.13/X.282 – eWMAMetricMonitor Notification support (concluded)

					Support									
Index	Notification type template label	Value of object identifier for notification type	Constraints and values	Status	Con- firmed	Non-con- firmed	Additional information	Subindex	Notification field name label	Value of object identifier of attribute type associated with field	Constraints and values	Status	Support	Additional information
								5.1.7	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	c:o		
								5.1.7.1	identifier	–	OBJECT IDENTIFIER	c:m		
								5.1.7.2	significance	–	BOOLEAN	c:o		
								5.1.7.3	information	–	ANY DEFINED BY identifier	c:m		
c29: if G.11/2a then m else –														

G.4.5 Parameter

Table G.14/X.282 – eWMAMetricMonitor 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	m		

G.5 The LAPB Data Link Entity managed object

G.5.1 Statement of conformance to the managed object class

Table G.15/X.282 – IAPBDLE Managed object class support

Index	Parameter template label	Value of object identifier for parameter	Constraints and values	Status	Support	Additional information
1	IAPBDLE	{2 15 0 3 3}				

If the answer to the actual class question in Table G.15 is no, the supplier of the implementation shall fill in the actual class support of Table G.16.

Table G.16/X.282 – IAPBDLE 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

G.5.2 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 G.17.

Table G.17/X.282 – IAPBDLE Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c30		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communications EntityP1		Mandatory	m		
3	datalinkEntity-P		Mandatory	m		
4	mLP-P	{2 15 0 4 1}	"IAPBDLE supports mlp procedures"	o		
5	mT2-P	{2 15 0 4 5}	"IAPBDLE supports mlp procedures and mT2 timer."	o		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package, has been instantiated"	c31		
7	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c30: if G.15/1b then – else m c31: if G.17/1a or G.17/4a or G.17/5a then m else –						

G.5.3 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 G.18. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.18/X.282 – 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c32		c33		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c34		m		x		–		–		x		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	c35		m		c36		c36		c36		c36		
4	mT1Timer	{2 15 0 7 12}	SEQUENCE	c37		c38		c38		–		–		c38		
5	mT2Timer	{2 15 0 7 13}	SEQUENCE	c39		c40		c40		–		–		c40		
6	mT3Timer	{2 15 0 7 14}	SEQUENCE	c37		c38		c38		–		–		c38		
7	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c34		m		x		–		–		x		
8	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c41		m		x		–		–		x		
9	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	x		m		x		–		–		x		
10	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c42		c43		c44		c44		c44		c44		
11	providerEntityNames	{2 15 0 7 11}	SET OF ObjectInstance	c41		m		m		–		–		m		

c32: if G.17/1a then (if H.1/3a then o else x) else –

c33: if G.17/1a then m else –

c34: if H.1/3a then o else x

c35: if G.15/1b or H.1/4a then x else –

c36: if G.15/1b then x else –

c37: if G.17/4a then (if H.1/3a then m else x) else –

c38: if G.17/4a then m else –

c39: if G.17/5a then (if H.1/3a then m else then x) else –

c40: if G.17/5a then m else –

c41: if H.1/3a then m else x

c42: if G.17/6a then (if H.1/3a then o else x) else –

c43: if G.17/6a then m else –

c44: if G.17/6a then x else –

G.5.4 Attribute group

Table G.19/X.282 – IAPBDLE 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.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	m		c36		
2	timers	{2 15 0 8 1}	mT1Timer mT2Timer mT3Timer	c45		c45		
c45: if G.17/4a or G.17/5a then m else –								

G.5.5 Notifications

Table G.20/X.282 – IAPBDLE 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
					Con- firmed	Non-con- firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectCreation	{2 9 3 2 10 6}		m				1.1	ObjectInfo		Information Syntax SEQUENCE	m		
								1.1.1	source Indicator	{2 9 3 2 7 26}	ENUMERATED	o		
								1.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								1.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.4.2	sourceObject Inst	–	ObjectInstance	c:o		
								1.1.5	additional Text	{2 9 3 2 7 7}	GraphicString	o		
								1.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								1.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								1.1.6.2	significance	–	BOOLEAN	c:o		
								1.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}		m				2.1	ObjectInfo		Information Syntax SEQUENCE	m		
								2.1.1	source Indicator	{2 9 3 2 7 26}	ENUMERATED	o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		

Table G.20/X.282 – IAPBDLE Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								2.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObject Inst	–	ObjectInstance	c:o		
								2.1.5	additional Text	{2 9 3 2 7 7}	GraphicString	o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": stateChange	{2 9 3 2 10 14}		m				3.1	StateChange Info		Information Syntax SEQUENCE	m		
								3.1.1	source Indicator	{2 9 3 2 7 26}	ENUMERATED	o		
								3.1.2	attribute IdentifierList	{2 9 3 2 7 8}	SET OF AttributeId	o		
								3.1.3	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	m		
								3.1.3.1	attributeID	–	AttributeId	m		
								3.1.3.2	oldAttribute Value	–	ANY DEFINED BY attributeID	o		
								3.1.3.3	newAttribute Value	–	ANY DEFINED BY attributeID	m		
								3.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		

Table G.20/X.282 – IAPBDLE Notification support (concluded)

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
					Con- firmed	Non-con- firmed								
								3.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								3.1.5.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.5.2	sourceObject Inst	–	ObjectInstance	c:o		
								3.1.6	additional Text	{2 9 3 2 7 7}	GraphicString	o		
								3.1.7	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								3.1.7.1	identifier	–	OBJECT IDENTIFIER	c:m		
								3.1.7.2	significance	–	BOOLEAN	c:o		
								3.1.7.3	information	–	ANY DEFINED BY identifier	c:m		

G.6 The LLC Connectionless Protocol Machine managed object

G.6.1 Statement of conformance to the managed object class

The supplier of the implementation shall support at least one managed object class derived from ILCCCLPM managed object class. The supplier of the implementation shall fill in the support managed object class of Table G.21.

Table G.21/X.282 – Subclass of ILCCCLPM support

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

G.7 The LLC Connection-mode Protocol Machine managed object

G.7.1 Statement of conformance to the managed object class

The supplier of the implementation shall support at least one managed object class derived from ILCCOPM managed object class. The supplier of the implementation shall fill in the support managed object class of Table G.22.

Table G.22/X.282 – Subclass of ILCCOPM support

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

G.8 The LLC Data Link Entity managed object

G.8.1 Statement of conformance to the managed object class

Table G.23/X.282 – ILCDLE 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	ILCDLE	{2 15 0 3 9}		

If the answer to the actual class question in Table G.23 is no, the supplier of the implementation shall fill in the actual class support of Table G.24.

Table G.24/X.282 – ILCDLE 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

G.8.2 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 G.25.

Table G.25/X.282 – ILCDLE Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c46		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntityP1		Mandatory	m		
3	datalinkEntity-P		Mandatory	m		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c47		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c46: if G.23/1b then – else m c47: if G.25/1a then m else –						

G.8.3 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 G.26. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.26/X.282 – 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c48		c49		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c50		m		x		–		–		x		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	c51		m		c52		c52		c52		c52		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c50		m		x		–		–		x		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c53		m		x		–		–		x		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	x		m		x		–		–		x		
7	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c54		c55		c56		c56		c56		c56		
8	providerEntityNames	{2 15 0 7 11}	SET OF ObjectInstance	c53		m		m		c52		c52		m		
c48: if G.25/1a then (if H.1/3a then o else x) else – c49: if G.25/1a then m else – c50: if H.1/3a then o else x c51: if G.23/1b or H.1/4a then x else – c52: if G.23/1b then x else – c53: if H.1/3a then m else x c54: if G.25/4a then (if H.1/3a then o else x) else – c55: if G.25/4a then m else – c56: if G.25/4a then x else –																

G.8.4 Attribute group

Table G.27/X.282 – ILCDLE 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.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	m		c52		

G.8.5 Notifications

Table G.28/X.282 – ILCDLE 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
					Con- firmed	Non-con- firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectCreation	{2 9 3 2 10 6}		m				1.1	ObjectInfo		Information Syntax SEQUENCE	m		
								1.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								1.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								1.1.3	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.4	correlatedNotifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.4.1	correlatedNotifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								1.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								1.1.6	additionalInformation	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								1.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								1.1.6.2	significance	–	BOOLEAN	c:o		
								1.1.6.3	information	–	ANY DEFINED BY identifier	c:m		

Table G.28/X.282 – ILCDLE Notification support (continued)

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
					Con- firmed	Non-con- firmed								
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}		m				2.1	ObjectInfo		Information Syntax SEQUENCE	m		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								2.1.3	notificationIdentifier	{2 9 3 2 7 16}	INTEGER	o		
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		

Table G.28/X.282 – ILCDLE Notification support (concluded)

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
					Con- firmed	Non-con- firmed								
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": stateChange	{2 9 3 2 10 14}		m				3.1	StateChangeInfo		Information Syntax SEQUENCE	m		
								3.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								3.1.2	attributeIdentifier List	{2 9 3 2 7 8}	SET OF AttributeId	o		
								3.1.3	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	m		
								3.1.3.1	attributeID	–	AttributeId	m		
								3.1.3.2	oldAttributeVal ue	–	ANY DEFINED BY attributeID	o		
								3.1.3.3	newAttributeVal ue	–	ANY DEFINED BY attributeID	m		
								3.1.4	notificationIdenti fier	{2 9 3 2 7 16}	INTEGER	o		
								3.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								3.1.5.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.5.2	sourceObjectInst	–	ObjectInstance	c:o		
								3.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								3.1.7	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								3.1.7.1	identifier	–	OBJECT IDENTIFIER	c:m		
								3.1.7.2	significance	–	BOOLEAN	c:o		
								3.1.7.3	information	–	ANY DEFINED BY identifier	c:m		

G.9 The MAC managed object

G.9.1 Statement of conformance to the managed object class

The supplier of the implementation shall support at least one managed object class derived from mAC managed object class. The supplier of the implementation shall fill in the support managed object class of Table G.29.

Table G.29/X.282 – Subclass of mAC support

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

G.10 The MAC Data Link Entity managed object

G.10.1 Statement of conformance to the managed object class

Table G.30/X.282 – mACDLE 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	mACDLE	{2 15 0 3 7}		

If the answer to the actual class question in Table G.30 is no, the supplier of the implementation shall fill in the actual class support of Table G.31.

Table G.31/X.282 – mACDLE 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

G.10.2 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 G.32.

Table G.32/X.282 – mACDLE Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c57		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntityP1		Mandatory	m		
3	datalinkEntity-P		Mandatory	m		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c58		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c57: if G.30/1b then – else m c58: if G.32/1a then m else –						

G.10.3 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 G.33. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.33/X.282 – mACDLE Attribute support

				Set by create		Get		Replace		Add		Remove		Set to default		Additional information
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	
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c59		c60		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntityId	{2 9 3 5 7 0}	GraphicString	c61		m		x		–		–		x		
3	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": localSapNames	{2 9 3 5 7 6}	SET OF ObjectInstance	c62		m		c63		c63		c63		c63		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c61		m		x		–		–		x		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c64		m		x		–		–		x		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	x		m		x		–		–		x		
7	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c65		c66		c67		c67		c67		c67		
8	providerEntityNames	{2 15 0 7 11}	SET OF ObjectInstance	c64		m		m		c63		c63		m		

c59: if G.32/1a then (if H.1/3a then o else x) else –
 c60: if G.31/1a then m else –
 c61: if H.1/3a then o else x
 c62: if G.30/1b or H.1/4a then x else –
 c63: if G.30/1b then x else –
 c64: if H.1/3a then m else x
 c65: if G.32/4a then (if H.1/3a then o else x) else –
 c66: if G.32/4a then m else –
 c67: if G.32/4a then x else –

G.10.4 Attribute group

Table G.34/X.282 – mACDLE 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.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	m		c63		

G.10.5 Notifications

Table G.35/X.282 – mACDLE 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
					Con-firmed	Non-con-firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectCreation	{2 9 3 2 10 6}		m				1.1	ObjectInfo		Information Syntax SEQUENCE	m		
								1.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								1.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								1.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								1.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								1.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								1.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								1.1.6.2	significance	–	BOOLEAN	c:o		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}		m				2.1	ObjectInfo		Information Syntax SEQUENCE	m		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								2.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		

Table G.35/X.282 – mACDLE Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": stateChange	{2 9 3 2 10 14}		m				3.1	StateChangeInfo		Information Syntax SEQUENCE	m		
								3.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								3.1.2	attributeIdentifier List	{2 9 3 2 7 8}	SET OF AttributeId	o		
								3.1.3	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	m		
								3.1.3.1	attributeID	–	AttributeId	m		
								3.1.3.2	oldAttributeValue	–	ANY DEFINED BY attributeID	o		
								3.1.3.3	newAttributeValue	–	ANY DEFINED BY attributeID	m		
								3.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								3.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		

Table G.35/X.282 – mACDLE Notification support (concluded)

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
					Con- firmed	Non-con- firmed								
								3.1.5.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.5.2	sourceObjectInst	–	ObjectInstance	c:o		
								3.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								3.1.7	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								3.1.7.1	identifier	–	OBJECT IDENTIFIER	c:m		
								3.1.7.2	significance	–	BOOLEAN	c:o		
								3.1.7.3	information	–	ANY DEFINED BY identifier	c:m		

G.11 The Resource TypeId managed object

G.11.1 Statement of conformance to the managed object class

Table G.36/X.282 – resourceTypeId 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	resourceTypeId	{1 2 840 10011 3 0}		

If the answer to the actual class question in Table G.36 is no, the supplier of the implementation shall fill in the actual class support of Table G.37.

Table G.37/X.282 – resourceTypeId 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

G.11.2 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 G.38.

Table G.38/X.282 – resourceTypeId Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c68		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c69		
3	resourceTypeId-P		Mandatory	m		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c68: if G.36/1b then – else m c69: if G.38/1a then m else –						

G.11.3 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 G.39. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.39/X.282 – resourceTypeId 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c70		c71		–		–		–		–		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	x		m		x		–		–		x		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	x		m		x		–		–		x		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c72		c73		c72		c72		c72		c72		
5	resourceInfo	{1 2 840 10011 7 2}	SEQUENCE	x		m		c74		–		–		c74		
6	resourceTypeIdName	{1 2 840 10011 7 1}	GraphicString	x		m		x		–		–		x		
c70: if G.38/1a then x else – c71: if G.38/1a then m else – c72: if G.38/2a then x else – c73: if G.38/2a then m else – c74: if G.36/1a then x else –																

G.12 The LAPB Single Link Protocol Connection managed object

G.12.1 Statement of conformance to the managed object class

Table G.40/X.282 – sLPConnection 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	sLPConnection	{2 15 0 3 5}		

If the answer to the actual class question in Table G.40 is no, the supplier of the implementation shall fill in the actual class support of Table G.41.

Table G.41/X.282 – sLPConnection 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

G.12.2 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 G.42.

Table G.42/X.282 – sLPConnection Package support

Index	Package template label	Value of object identifier for Package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c75		
2	commonSLP Connection-P		Mandatory	m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c76		
4	sLPConnection-P		Mandatory	m		
5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": singlePeerConnectionP1		Mandatory	m		
6	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": singlePeerConnectionP2	{2 9 3 5 4 2}	"The names of the connections supported by this connection can be provided"	o		
7	t3-P	{2 15 0 4 2}	"Optional Timer T3 of ISO 7776 is supported"	o		
8	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c75: if G.40/1b then – else m c76: if G.42/1a or G.42/6a or G.42/7a then m else –						

G.12.3 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 G.43. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.43/X.282 – sLPCConnection 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c77		c78		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": connectionId	{2 9 3 5 7 1}	GraphicString	x		m		x		–		–		x		
3	fCSErrorsReceived	{2 15 0 7 15}	INTEGER	x		m		c79		–		–		c79		
4	fRMRsReceived	{2 15 0 7 1}	INTEGER	x		m		c79		–		–		c79		
5	fRMRsSent	{2 15 0 7 2}	INTEGER	x		m		c79		–		–		c79		
6	iFrameDataOctetsReceived	{2 15 0 7 16}	INTEGER	x		m		c79		–		–		c79		
7	iFrameDataOctetsSent	{2 15 0 7 17}	INTEGER	x		m		c79		–		–		c79		
8	iFramesReceived	{2 15 0 7 3}	INTEGER	x		m		c79		–		–		c79		
9	iFramesSent	{2 15 0 7 4}	INTEGER	x		m		c79		–		–		c79		
10	interfaceType	{2 15 0 7 18}	ENUMERATED	x		m		m		–		–		m		
11	k	{2 15 0 7 19}	CHOICE	x		m		m		–		–		m		
12	n1	{2 15 0 7 20}	INTEGER	x		m		m		–		–		m		
13	n2	{2 15 0 7 21}	INTEGER	x		m		m		–		–		m		
14	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	x		m		x		–		–		x		
15	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	x		m		x		–		–		x		
16	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c80		c81		c80		c80		c80		c80		
17	pollsReceived	{2 15 0 7 22}	INTEGER	x		m		c79		–		–		c79		
18	rEJsReceived	{2 15 0 7 5}	INTEGER	x		m		c79		–		–		c79		
19	rEJsSent	{2 15 0 7 6}	INTEGER	x		m		c79		–		–		c79		
20	rNRsReceived	{2 15 0 7 7}	INTEGER	x		m		c79		–		–		c79		
21	rNRsSent	{2 15 0 7 8}	INTEGER	x		m		c79		–		–		c79		
22	sABMsReceived	{2 15 0 7 9}	INTEGER	x		m		c79		–		–		c79		
23	sABMsSent	{2 15 0 7 10}	INTEGER	x		m		c79		–		–		c79		
24	sLPPProtocolState	{2 15 0 7 23}	ENUMERATED	x		m		c79		–		–		c79		

Table G.43/X.282 – sLPConnection Attribute support (concluded)

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	
25	sequenceModulus	{2 15 0 7 24}	INTEGER	x		m		m		–		–		m		
26	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": supportedConnectionNames	{2 9 3 5 7 12}	SET OF ObjectInstance	c82		c83		c84		c84		c84		c84		
27	t1Timer	{2 15 0 7 25}	SEQUENCE	x		m		m		–		–		m		
28	t2Timer	{2 15 0 7 26}	SEQUENCE	x		m		m		–		–		m		
29	t3Timer	{2 15 0 7 27}	SEQUENCE	c85		c86		c86		–		–		c86		
30	t4Timer	{2 15 0 7 28}	SEQUENCE	x		m		m		–		–		m		
31	timesT1Expired	{2 15 0 7 29}	INTEGER	x		m		c79		–		–		c79		
32	timesT3Expired	{2 15 0 7 30}	INTEGER	c85		c86		c87		–		–		c87		
33	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": underlyingConnectionNames	{2 9 3 5 7 14}	SET OF ObjectInstance	x		m		c79		c79		c79		c79		
c77: if G.42/1a then x else – c78: if G.42/1a then m else – c79: if G.40/1b then x else – c80: if G.42/3a then x else – c81: if G.42/3a then m else – c82: if G.42/6a then x else – c83: if G.42/6a then m else – c84: if G.40/1b and G.42/6a then x else – c85: if G.42/7a then x else – c86: if G.42/7a then m else – c87: if G.40/1b and G.42/7a then x else –																

G.12.4 Attribute group

Table G.44/X.282 – sLPCConnection 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": counters	{2 9 3 5 8 0}	fCSErrorsReceived fRMRsReceived fRMRsSent iFrameDataOctetsReceived iFrameDataOctetsSent iFramesReceived iFramesSent pollsReceived rEJsReceived rEJsSent rNRsReceived rNRsSent sABMsReceived sABMsSent timesT1Expired timerT3Expired (condition)	m		c79		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	sLPProtocolState	m		c79		
3	timers	{2 15 0 8 1}	t1Timer t2Timer t4Timer t3Timer (condition)	m		m		

G.12.5 Actions

Table G.45/X.282 – sLPConnection 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": deactivate	{2 9 3 5 9 1}		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		

G.12.6 Notifications

Table G.46/X.282 – sLPConnection 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
					Con-firmed	Non-con-firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": communicationsAlarm	{2 9 3 2 10 2}		m			FrMr	1.1	AlarmInfo		Information Syntax SEQUENCE	m		
								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	triggeredThresho ld	–	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		

Table G.46/X.282 – sLPConnection Notification support (*continued*)

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
					Con- firmed	Non-con- firmed								
								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	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.9	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.9.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.9.2	sourceObjectInst	–	ObjectInstance	c:o		
								1.1.10	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	o		
								1.1.10.1	attributeID	–	AttributeId	c:m		

Table G.46/X.282 – sLPConnection Notification support (continued)

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
					Con-firmed	Non-con-firmed								
								1.1.10.2	oldAttributeVal ue	–	ANY DEFINED BY attributeID	c:o		
								1.1.10.3	newAttributeVal ue	–	ANY DEFINED BY attributeID	c:m		
								1.1.11	monitored Attributes	{2 9 3 2 7 15}	SET OF Attribute	o		
								1.1.12	proposedRepair Actions	{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	additional Information	{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		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectCreation	{2 9 3 2 10 6}		m				2.1	ObjectInfo		Information Syntax SEQUENCE	m		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								2.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		

Table G.46/X.282 – sLPConnection Notification support (continued)

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
					Con- firmed	Non-con- firmed								
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}		m				3.1	ObjectInfo		Information Syntax SEQUENCE	m		
								3.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								3.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								3.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								3.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								3.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		

Table G.46/X.282 – sLPCConnection Notification support (concluded)

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
					Con- firmed	Non-con- firmed								
								3.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								3.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								3.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								3.1.6.2	significance	–	BOOLEAN	c:o		
								3.1.6.3	information	–	ANY DEFINED BY identifier	c:m		

G.12.7 Parameter

Table G.47/X.282 – sLPConnection Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and values	Status	Support	Additional information
1	fRMR	{2 15 0 5 1}	EVENT-INFO communicationsAlarm	m		

G.13 The LAPB Single Link Protocol Connection Initial Values managed object

G.13.1 Statement of conformance to the managed object class

Table G.48/X.282 – sLPConnectionIVMO 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	sLPConnectionIVMO	{2 15 0 3 6}		

If the answer to the actual class question in Table G.48 is no, the supplier of the implementation shall fill in the actual class support of Table G.49.

Table G.49/X.282 – sLPConnectionIVMO 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

G.13.2 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 G.50.

Table G.50/X.282 – sLPConnectionIVMO Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165 -2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c88		
2	commonSLP Connection-P		Mandatory	m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c89		
4	sLPConnection IVMO-P		Mandatory	m		
5	t3IVMO-P	{2 15 0 4 3}	"optional Timer T3 of ISO 7776 is supported"	o		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c88: if G.48/1b then – else m c89: if G.50/1a or G.50/5a then m else –						

G.13.3 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 G.51. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.51/X.282 – sLPConnectionIVMO 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c90		c91		–		–		–		–		
2	interfaceType	{2 15 0 7 18}	ENUMERATED	m		m		m		–		–		m		
3	k	{2 15 0 7 19}	CHOICE	m		m		m		–		–		m		
4	n1	{2 15 0 7 20}	INTEGER	m		m		m		–		–		m		
5	n2	{2 15 0 7 21}	INTEGER	m		m		m		–		–		m		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	o		m		x		–		–		x		
7	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	m		m		x		–		–		x		
8	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c92		c93		c94		c94		c94		c94		
9	sLPConnectionIVMOId	{2 15 0 7 31}	GraphicString	o		m		x		–		–		x		
10	sequenceModulus	{2 15 0 7 24}	INTEGER	m		m		m		–		–		m		
11	t1Timer	{2 15 0 7 25}	SEQUENCE	m		m		m		–		–		m		
12	t2Timer	{2 15 0 7 26}	SEQUENCE	m		m		m		–		–		m		
13	t3Timer	{2 15 0 7 27}	SEQUENCE	c95		c95		c95		–		–		c95		
14	t4Timer	{2 15 0 7 28}	SEQUENCE	m		m		m		–		–		m		
c90: if G.50/1a then o else – c91: if G.50/1a then m else – c92: if G.50/3a then o else – c93: if G.50/3a then m else – c94: if G.48/1b and G.50/3a then x else – c95: if G.50/5a then m else –																

G.13.4 Attribute group

Table G.52/X.282 – 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)	m		m		

G.13.5 Notifications

Table G.53/X.282 – sLPConnectionIVMO 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
					Con-firmed	Non-con-firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992"; objectCreation	{2 9 3 2 10 6}		m				1.1	ObjectInfo		Information Syntax SEQUENCE	m		
								1.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								1.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								1.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								1.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								1.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								1.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								1.1.6.2	significance	–	BOOLEAN	c:o		
								1.1.6.3	information	–	ANY DEFINED BY identifier	c:m		

Table G.53/X.282 – sLPConnectionIVMO Notification support (concluded)

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
					Con- firmed	Non-con- firmed								
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}		m				2.1	ObjectInfo		Information Syntax SEQUENCE	m		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								2.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		

G.14 The LAPB Single Link Protocol Machine managed object

G.14.1 Statement of conformance to the managed object class

Table G.54/X.282 – sLPPM 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	sLPPM	{2 15 0 3 4}		

If the answer to the actual class question in Table G.54 is no, the supplier of the implementation shall fill in the actual class support of Table G.55.

Table G.55/X.282 – sLPPM 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

G.14.2 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 G.56.

Table G.56/X.282 – sLPPM Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphicPackage	{2 9 3 2 4 17}	"if an object supports allomorphism"	c96		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": coProtocolMachineP1		Mandatory	m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packagesPackage	{2 9 3 2 4 16}	"any registered package, other than this package has been instantiated"	c97		
4	sLPPM-P		Mandatory	m		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": topPackage		Mandatory	m		
c96: if G.54/1b then – else m c97: if G.56/1a then m else –						

G.14.3 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 G.57. The supplier of the implementation shall indicate support for each of the operations for each attribute supported.

Table G.57/X.282 – sLPPM 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": allomorphs	{2 9 3 2 7 50}	SET OF ObjectClass	c98		c99		–		–		–		–		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": coProtocolMachineId	{2 9 3 5 7 3}	GraphicString	c100		m		x		–		–		x		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": nameBinding	{2 9 3 2 7 63}	OBJECT IDENTIFIER	c100		m		x		–		–		x		
4	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectClass	{2 9 3 2 7 65}	ObjectClass	c101		m		x		–		–		x		
5	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	{2 9 3 2 7 35}	ENUMERATED	x		m		x		–		–		x		
6	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": packages	{2 9 3 2 7 66}	SET OF OBJECT IDENTIFIER	c102		c103		c104		c104		c104		c104		
c98: if G.56/1a then (if H.1/20a then o else x) else – c99: if G.56/1a then m else – c100: if H.1/20a then o else x c101: if H.1/20a then m else x c102: if G.56/3a then (if H.1/20a then o else x) else – c103: if G.56/3a then m else – c104: if G.54/1b and G.56/3a then x else –																

G.14.4 Attribute group

Table G.58/X.282 – 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	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": state	{2 9 3 2 8 1}	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": operationalState	m		c105		
c105: if G.54/1b then x else –								

G.14.5 Actions

Table G.59/X.282 – sLPPM 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": 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	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": deactivate	{2 9 3 5 9 1}		m			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		

G.14.6 Notifications

Table G.60/X.282 – sLPPM 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
					Con- firmed	Non-con- firmed								
1	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectCreation	{2 9 3 2 10 6}		m				1.1	ObjectInfo		Information Syntax SEQUENCE	m		
								1.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								1.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								1.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		
								1.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								1.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								1.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								1.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								1.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								1.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								1.1.6.2	significance	–	BOOLEAN	c:o		
								1.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
2	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": objectDeletion	{2 9 3 2 10 7}		m				2.1	ObjectInfo		Information Syntax SEQUENCE	m		
								2.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								2.1.2	attributeList	{2 9 3 2 7 9}	SET OF Attribute	o		
								2.1.3	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		

Table G.60/X.282 – sLPPM Notification support (continued)

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
					Con-firmed	Non-con-firmed								
								2.1.4	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								2.1.4.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								2.1.4.2	sourceObjectInst	–	ObjectInstance	c:o		
								2.1.5	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								2.1.6	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								2.1.6.1	identifier	–	OBJECT IDENTIFIER	c:m		
								2.1.6.2	significance	–	BOOLEAN	c:o		
								2.1.6.3	information	–	ANY DEFINED BY identifier	c:m		
3	"CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": stateChange	{2 9 3 2 10 14}		m				3.1	StateChangeInfo		Information Syntax SEQUENCE	m		
								3.1.1	sourceIndicator	{2 9 3 2 7 26}	ENUMERATED	o		
								3.1.2	attribute IdentifierList	{2 9 3 2 7 8}	SET OF AttributeId	o		
								3.1.3	stateChange Definition	{2 9 3 2 7 28}	SET OF SEQUENCE	m		
								3.1.3.1	attributeID	–	AttributeId	m		
								3.1.3.2	oldAttribute Value	–	ANY DEFINED BY attributeID	o		
								3.1.3.3	newAttribute Value	–	ANY DEFINED BY attributeID	m		
								3.1.4	notification Identifier	{2 9 3 2 7 16}	INTEGER	o		

Table G.60/X.282 – sLPPM Notification support (concluded)

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
					Con- firmed	Non-con- firmed								
								3.1.5	correlated Notifications	{2 9 3 2 7 12}	SET OF SEQUENCE	o		
								3.1.5.1	correlated Notifications	{2 9 3 2 7 12}	SET OF INTEGER	c:m		
								3.1.5.2	sourceObjectInst	–	ObjectInstance	c:o		
								3.1.6	additionalText	{2 9 3 2 7 7}	GraphicString	o		
								3.1.7	additional Information	{2 9 3 2 7 6}	SET OF SEQUENCE	o		
								3.1.7.1	identifier	–	OBJECT IDENTIFIER	c:m		
								3.1.7.2	significance	–	BOOLEAN	c:o		
								3.1.7.3	information	–	ANY DEFINED BY identifier	c:m		

ANEXO H⁶

Formulario de MRCS para vinculación de nombres

H.1 Introduction

The purpose of this MRCS proforma for name bindings is to provide a mechanism for a supplier which claims conformance to a name binding to provide conformance information in a standard form.

H.2 Instructions for completing the MRCS proforma for name binding to produce a MRCS⁷

The supplier of the implementation shall state which items are supported in the tables below and if necessary provide additional information.

⁶ **Comunicado sobre derechos de autor del formulario de MRCS**

Los usuarios de esta Recomendación pueden reproducir libremente el formulario de MRCS de este anexo a fin de que pueda ser utilizado para los fines previstos, y pueden además publicar el MRCS cumplimentado.

⁷ En la Rec. UIT-T X.724 | ISO/CEI 10165-6, cláusula 5, se especifican las instrucciones para rellenar el formulario de MRCS.

H.3 Statement of conformance to the name binding

Table H.1/X.282 – Name Binding support

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
1	dLSAP-datalinkEntity-Management	{2 15 0 6 2}	Superior class: datalinkEntity AND SUBCLASSES	o			1.1	Create support		m		
							1.2	Create with reference object		–		
							1.3	Create with automatic instance naming		–		
							1.4	Delete support		m		
							1.5	Delete only if no contained objects		m		
							1.6	Delete contained objects		x		
2	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": sap1-communications Entity	{2 9 3 5 6 3}	Superior class: "ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntity AND SUBCLASSES	o			2.1	Create support		x		
							2.2	Create with reference object		–		
							2.3	Create with automatic instance naming		–		
							2.4	Delete support		x		
							2.5	Delete only if no contained objects		–		
							2.6	Delete contained objects		–		
3	datalinkEntity-datalinkSubsystem-Management	{2 15 0 6 1}	Superior class: datalinkSubsystem AND SUBCLASSES	o			3.1	Create support		m		
							3.2	Create with reference object		–		
							3.3	Create with automatic instance naming		–		
							3.4	Delete support		m		
							3.5	Delete only if no contained objects		m		
							3.6	Delete contained objects		x		

Table H.1/X.282 – Name Binding support (*continued*)

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
4	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntity-subsystem	{2 9 3 5 6 1}	Superior class: "ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": subsystem AND SUBCLASSES	o			4.1	Create support		x		
							4.2	Create with reference object		–		
							4.3	Create with automatic instance naming		–		
							4.4	Delete support		x		
							4.5	Delete only if no contained objects		–		
							4.6	Delete contained objects		–		
5	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": subsystem-system	{2 9 3 5 6 6}	Superior class: "CCITT Rec. X.721 (1992) ISO/IEC 10165-2:1992": system AND SUBCLASSES	o			5.1	Create support		x		
							5.2	Create with reference object		–		
							5.3	Create with automatic instance naming		–		
							5.4	Delete support		x		
							5.5	Delete only if no contained objects		–		
							5.6	Delete contained objects		–		
6	eWMAMetricMonitor-ILCDLE-Management	{2 15 0 6 13}	Superior class: ILCDLE AND SUBCLASSES	o			6.1	Create support		m		
							6.2	Create with reference object		m		
							6.3	Create with automatic instance naming		m		
							6.4	Delete support		m		
							6.5	Delete only if no contained objects		m		
							6.6	Delete contained objects		x		

Table H.1/X.282 – Name Binding support (continued)

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
7	eWMAMetricMonitor-mACDLE-Management	{2 15 0 6 14}	Superior class: mACDLE AND SUBCLASSES	o			7.1	Create support		m		
							7.2	Create with reference object		m		
							7.3	Create with automatic instance naming		m		
							7.4	Delete support		m		
							7.5	Delete only if no contained objects		m		
							7.6	Delete contained objects		x		
8	ILCCLPM-ILCDLE-Management	{2 15 0 6 9}	Superior class: ILCDLE AND SUBCLASSES	o			8.1	Create support		m		
							8.2	Create with reference object		–		
							8.3	Create with automatic instance naming		–		
							8.4	Delete support		m		
							8.5	Delete only if no contained objects		m		
							8.6	Delete contained objects		x		
9	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": clProtocolMachine-entity	{2 9 3 5 6 0}	Superior class: "ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntity AND SUBCLASSES	o			9.1	Create support		x		
							9.2	Create with reference object		–		
							9.3	Create with automatic instance naming		–		
							9.4	Delete support		x		
							9.5	Delete only if no contained objects		–		
							9.6	Delete contained objects		–		

Table H.1/X.282 – Name Binding support (*continued*)

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
10	ILCCOPM-ILCDLE-Management	{2 15 0 6 10}	Superior class: ILCDLE AND SUBCLASSES	o			10.1	Create support		m		
							10.2	Create with reference object		–		
							10.3	Create with automatic instance naming		–		
							10.4	Delete support		m		
							10.5	Delete only if no contained objects		m		
							10.6	Delete contained objects		x		
11	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": coProtocolMachine-entity	{2 9 3 5 6 2}	Superior class: "ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": communicationsEntity AND SUBCLASSES	o			11.1	Create support		x		
							11.2	Create with reference object		–		
							11.3	Create with automatic instance naming		–		
							11.4	Delete support		x		
							11.5	Delete only if no contained objects		–		
							11.6	Delete contained objects		–		
12	mAC-mACDLE-Automatic	{2 15 0 6 7}	Superior class: mACDLE AND SUBCLASSES	o			12.1	Create support		x		
							12.2	Create with reference object		–		
							12.3	Create with automatic instance naming		–		
							12.4	Delete support		x		
							12.5	Delete only if no contained objects		–		
							12.6	Delete contained objects		–		

Table H.1/X.282 – Name Binding support (continued)

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
13	mAC-mACDLE-Management	{2 15 0 6 8}	Superior class: mACDLE AND SUBCLASSES	o			13.1	Create support		m		
							13.2	Create with reference object		–		
							13.3	Create with automatic instance naming		–		
							13.4	Delete support		m		
							13.5	Delete only if no contained objects		m		
							13.6	Delete contained objects		x		
14	resourceTypeId-ILCDLE-Automatic	{2 15 0 6 11}	Superior class: ILCDDLE AND SUBCLASSES	o			14.1	Create support		x		
							14.2	Create with reference object		–		
							14.3	Create with automatic instance naming		–		
							14.4	Delete support		x		
							14.5	Delete only if no contained objects		–		
							14.6	Delete contained objects		–		
15	resourceTypeId-mACDLE-Automatic	{2 15 0 6 12}	Superior class: mACDLE AND SUBCLASSES	o			15.1	Create support		x		
							15.2	Create with reference object		–		
							15.3	Create with automatic instance naming		–		
							15.4	Delete support		x		
							15.5	Delete only if no contained objects		–		
							15.6	Delete contained objects		–		

Table H.1/X.282 – Name Binding support (*continued*)

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
16	sLPConnection-sLPPM-Automatic	{2 15 0 6 4}	Superior class: sLPPM AND SUBCLASSES	o			16.1	Create support		x		
							16.2	Create with reference object		–		
							16.3	Create with automatic instance naming		–		
							16.4	Delete support		x		
							16.5	Delete only if no contained objects		–		
							16.6	Delete contained objects		–		
17	sLPConnection-sLPPM-Management	{2 15 0 6 5}	Superior class: sLPPM AND SUBCLASSES	o			17.1	Create support		x		
							17.2	Create with reference object		–		
							17.3	Create with automatic instance naming		–		
							17.4	Delete support		m		
							17.5	Delete only if no contained objects		m		
							17.6	Delete contained objects		x		
18	"ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": singlePeerConnection-coProtocolMachine	{2 9 3 5 6 5}	Superior class: "ITU-T Rec. X.723 (1993) ISO/IEC 10165-5:1994": coProtocolMachine AND SUBCLASSES	o			18.1	Create support		x		
							18.2	Create with reference object		–		
							18.3	Create with automatic instance naming		–		
							18.4	Delete support		x		
							18.5	Delete only if no contained objects		–		
							18.6	Delete contained objects		–		

Table H.1/X.282 – Name Binding support (*concluded*)

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information	Subindex	Operation	Constraints and values	Status	Support	Additional information
19	sLPConnectionIVMO-sLPPM-Management	{2 15 0 6 6}	Superior class: sLPPM AND SUBCLASSES	o			19.1	Create support		m		
							19.2	Create with reference object		–		
							19.3	Create with automatic instance naming		–		
							19.4	Delete support		m		
							19.5	Delete only if no contained objects		m		
							19.6	Delete contained objects		x		
20	sLPPM-IAPBDLE-Management	{2 15 0 6 3}	Superior class: IAPBDLE AND SUBCLASSES	o			20.1	Create support		m		
							20.2	Create with reference object		–		
							20.3	Create with automatic instance naming		–		
							20.4	Delete support		m		
							20.5	Delete only if no contained objects		m		
							20.6	Delete contained objects		x		

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