



UNIÓN INTERNACIONAL DE TELECOMUNICACIONES

UIT-T

Q.824.2

SECTOR DE NORMALIZACIÓN
DE LAS TELECOMUNICACIONES
DE LA UIT

(10/95)

**ESPECIFICACIONES DEL SISTEMA
DE SEÑALIZACIÓN N.º 7**

**DESCRIPCIÓN DE LAS ETAPAS 2 Y 3 PARA
LA INTERFAZ Q3 – ADMINISTRACIÓN DEL
CLIENTE – SERVICIOS SUPLEMENTARIOS
DE LA RED DIGITAL DE SERVICIOS
INTEGRADOS**

Recomendación UIT-T Q.824.2

(Anteriormente «Recomendación del CCITT»)

PREFACIO

El UIT-T (Sector de Normalización de las Telecomunicaciones) es un órgano permanente de la Unión Internacional de Telecomunicaciones (UIT). Este órgano estudia los aspectos técnicos, de explotación y tarifarios y publica Recomendaciones sobre los mismos, con miras a la normalización de las telecomunicaciones en el plano mundial.

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 (Helsinki, 1 al 12 de marzo de 1993).

La Recomendación UIT-T Q.824.2, ha sido preparada por la Comisión de Estudio 11 (1993-1996) del UIT-T y fue aprobada por el procedimiento de la Resolución N.º 1 de la CMNT el 17 de octubre de 1995.

NOTA

En esta Recomendación, la expresión «Administración» se utiliza para designar, en forma abreviada, tanto una administración de telecomunicaciones como una empresa de explotación reconocida de telecomunicaciones.

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RESUMEN

La finalidad de esta Recomendación es proporcionar la descripción de las etapas 2 y 3 de la interfaz Q3 entre una central local y la red de gestión de las telecomunicaciones (TMN, *Telecommunications Management Network*) para sustentar las funciones de gestión de configuración en apoyo a la administración del cliente en relación con los servicios suplementarios de la red digital de servicios integrados (RDSI). La administración del cliente es una actividad de gestión que realiza el operador de la red con el fin de intercambiar con el cliente todos los datos y funciones de gestión relacionados con el cliente, requeridos para ofrecer un servicio de telecomunicaciones y para intercambiar con la red todos los datos y las funciones de gestión relacionados con el cliente, necesarios para que la red produzca ese servicio de telecomunicaciones. Esta Recomendación trata de la administración de la configuración del cliente en la central local mediante la TMN, y forma parte de una serie de Recomendaciones. En esta Recomendación se definen los objetos gestionados específicos de los servicios suplementarios de la RDSI.

DESCRIPCIÓN DE LAS ETAPAS 2 Y 3 PARA LA INTERFAZ Q3 – ADMINISTRACIÓN DEL CLIENTE – SERVICIOS SUPLEMENTARIOS DE LA RED DIGITAL DE SERVICIOS INTEGRADOS

(Ginebra, 1995)

1 Introducción

1.1 Finalidad y alcance

La administración del cliente es una actividad de gestión que realiza el operador de la red con el fin de intercambiar con el cliente todos los datos y las funciones de gestión relacionados con el cliente, requeridos para ofrecer un servicio de telecomunicaciones y para intercambiar con la red todos los datos y las funciones de gestión relacionados con el cliente, necesarios para que la red produzca ese servicio de telecomunicaciones.

La finalidad de esta Recomendación consiste en proporcionar la descripción de las etapas 2 y 3 de los servicios suplementarios de la RDSI para la interfaz Q3 entre una central local y la red de gestión de las telecomunicaciones (RGT) para sustentar las funciones de gestión de configuración.

La interfaz Q3 es una interfaz RGT entre elementos de red o adaptadores a interfaz Q que interconectan con los sistemas de operaciones (OS, *operations systems*) sin mediación y entre los OS y los dispositivos de mediación, tal como se describe en la Recomendación M.3100.

1.2 Referencias

Esta Recomendación se basa en la descripción del servicio de gestión de la etapa 1 dada en las Recomendaciones de la serie M.3000, incluida la Recomendación M.3400. Esta Recomendación también proporciona las descripciones de las etapas 2 y 3 para el tratamiento de la administración del cliente en relación con los servicios suplementarios de la RDSI basado en la descripción de servicio suministrada en las Recomendaciones de la serie I.250 y basado en las descripciones de las etapas 2 y 3 comunes que figuran en la Recomendación Q.824.0. El modelo de información proporcionado por esta Recomendación puede ser utilizado para los fines de la administración del cliente, bien por una interfaz Q3 o por la interfaz usuario-red de la RDSI, tal como se describe en la Recomendación Q.942.

1.3 Aplicación

La información de gestión incluida en esta Recomendación puede ser intercambiada por las aplicaciones del elemento de servicio de información de gestión común (CMISE, *common management information service element*). La clase de aplicaciones de operaciones, administración, mantenimiento y suministro (OAM&P) para transacciones, está sustentada en esta Recomendación mediante la definición de clases de objetos, sus atributos y sus relaciones. Las series de protocolos se indican en las Recomendaciones Q.811 y Q.812. No se han identificado requisitos especiales.

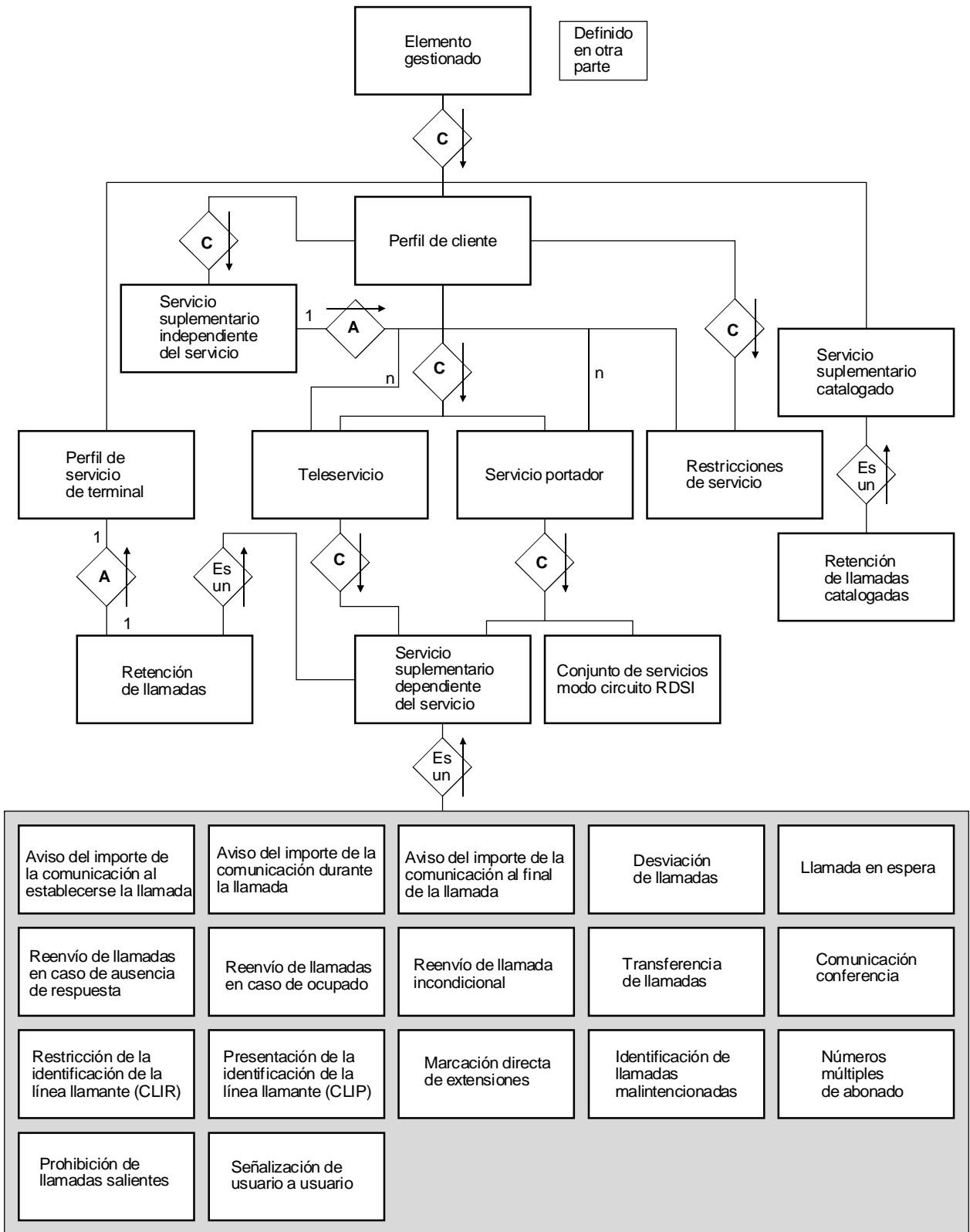
1.4 Visión general

1.4.1 Diagramas de modelos de información

Los diagramas de modelos de información siguientes se han diseñado con el fin de aclarar las relaciones entre las diferentes clases de objetos de la administración del cliente. Hay tres tipos diferentes de diagramas:

- 1) El modelo de relación de entidad (ER, *entity relationship*), que muestra la relación de los distintos objetos gestionados. Los diagramas ER ilustran la forma en que debe aplicarse el modelo. Sin embargo, no muestran todas las posibles relaciones soportadas por el mismo. Dichos diagramas indican la relación en que pueden participar los objetos gestionados. Puede que las instancias de una clase o una subclase no sean elegibles para participar en la relación indicada. En caso de contención ello significa que existirá una vinculación de nombre alternativa; en relaciones implementadas a través de punteros, el valor del puntero será nulo si una instancia no puede participar o no participa en la relación.
- 2) La jerarquía de herencia, que muestra cómo los objetos gestionados proceden los unos de los otros (es decir, los diferentes trayectos de las características heredadas de los diferentes objetos gestionados).
- 3) La jerarquía de denominación, que muestra la procedencia de nombres para objetos gestionados (es decir, los diferentes trayectos de denominación para casos de objetos gestionados).

Estos tres diagramas diferentes se ofrecen sólo para mayor claridad. La especificación formal en términos de plantillas GDMO y definiciones de tipo ASN.1 constituyen la información pertinente para la aplicación de esta Recomendación. Véanse las Figuras 1 a 3.



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FIGURA 1/Q.824.2
Diagrama de relación de entidad

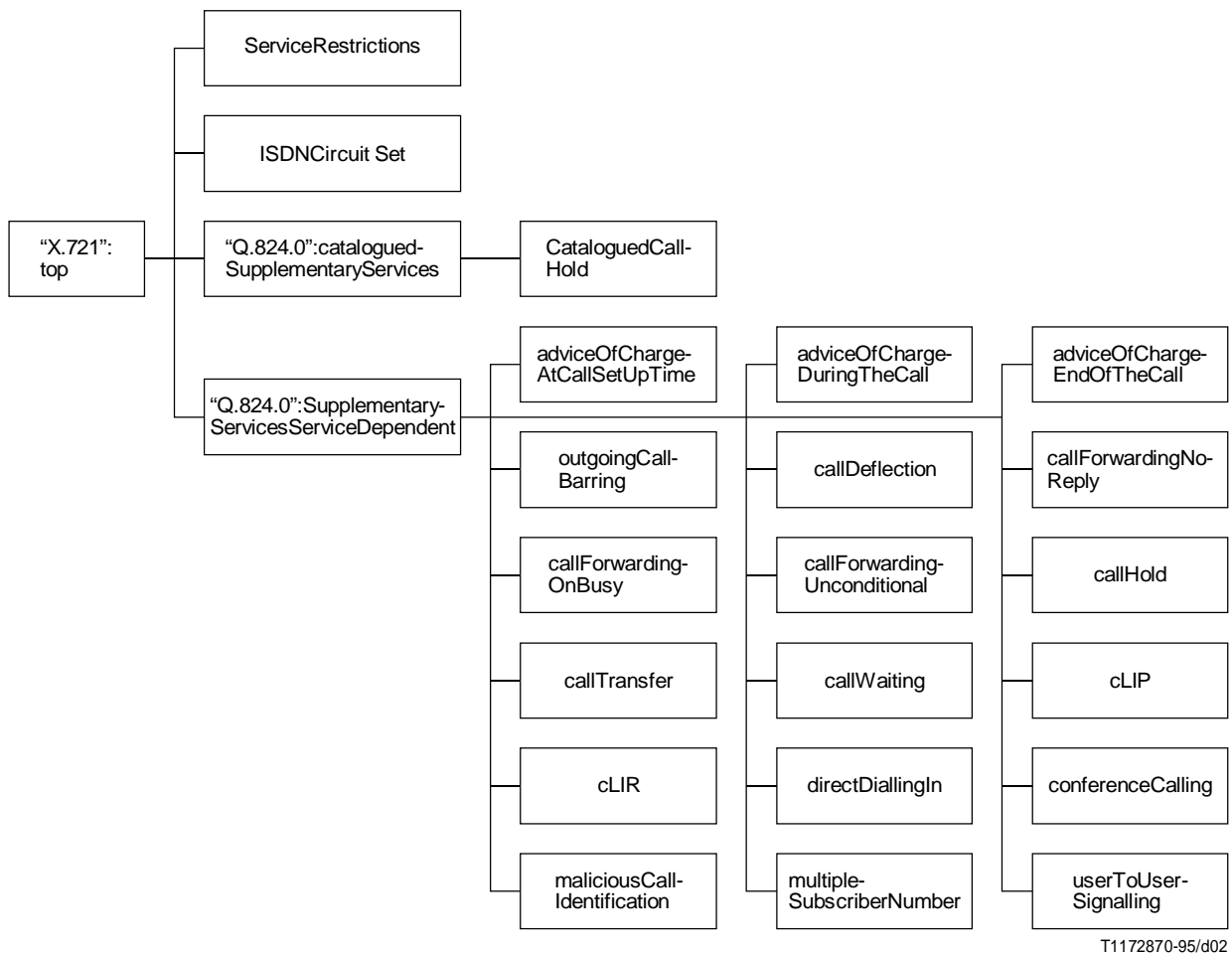
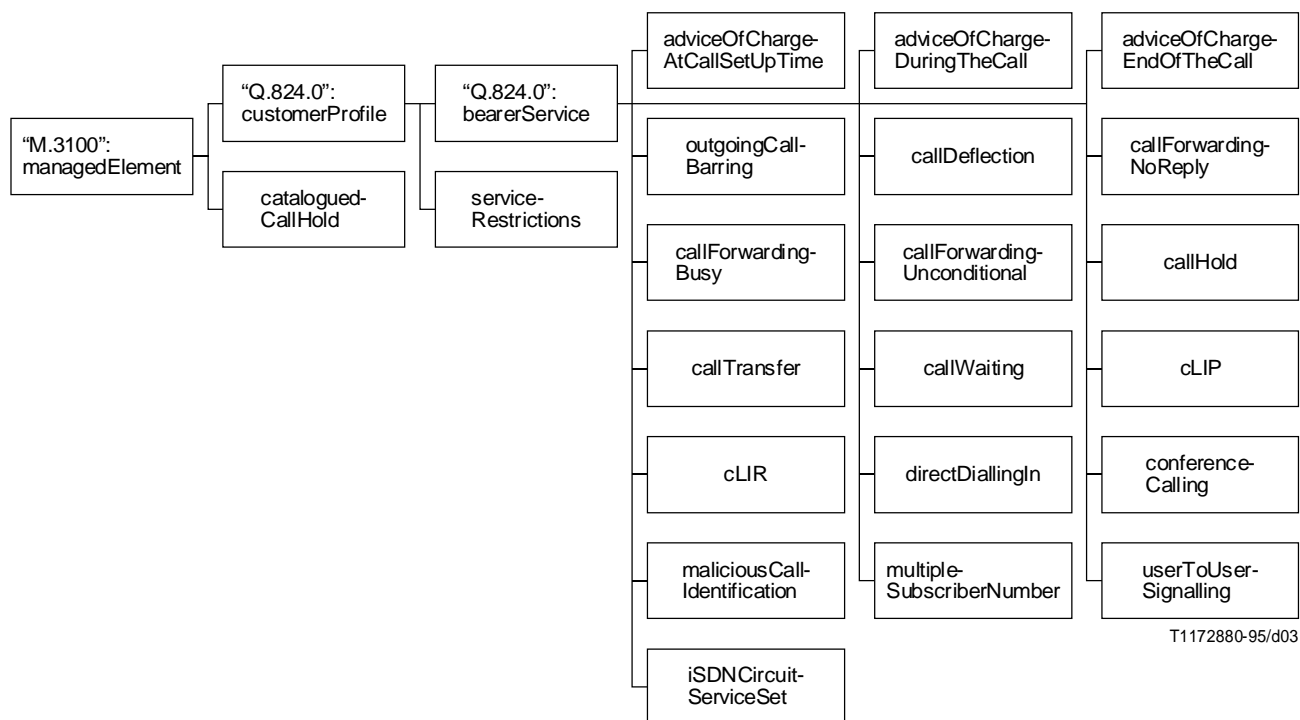


FIGURA 2/Q.824.2
Jerarquía de herencia

1.5 Denominación de objetos gestionados y sintaxis de atributos

En esta Recomendación, todos los atributos se denominan de acuerdo con las siguientes directrices:

- el nombre de un atributo se compone del nombre de una clase de objeto seguido por la cadena «Ptr» sólo si el valor del atributo está destinado a identificar una clase específica de objeto;
- si un valor de un atributo está destinado a identificar diferentes clases de objetos, se da un nombre descriptivo a este atributo y se proporciona una descripción en el comportamiento del atributo;
- el nombre de un atributo se compone del nombre de una clase de objeto seguido de la cadena «Id», sólo si el valor del atributo está destinado a identificar el nombre de la clase del objeto que tiene ese atributo.



NOTA – La jerarquía de denominación indicada incluye las vinculaciones de nombres reutilizables definidas en otras Recomendaciones.

FIGURA 3/Q.824.2
Jerarquía de denominación

2 Referencias

Las Recomendaciones siguientes 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 de otras referencias citadas a continuación. Regularmente se publica una lista de las Recomendaciones UIT-T actualmente vigentes.

- Recomendación E.164 del CCITT (1991), *Plan de numeración para la era de la red digital de servicios integrados*.
- Recomendación I.250 del CCITT (1988), *Definición de servicios suplementarios*.
- Recomendación I.251.1 del CCITT (1992), *Marcación directa de extensiones*.
- Recomendación I.251.2 del CCITT (1992), *Números múltiples de abonado*.
- Recomendación I.251.3 del CCITT (1992), *Presentación de la identificación de la línea llamante*.
- Recomendación I.251.4 del CCITT (1992), *Restricción de la identificación de la línea llamante*.
- Recomendación I.251.7 del CCITT (1992), *Identificación de llamadas malintencionadas (maliciosas)*.
- Recomendación I.252.1 del CCITT (1988), *Transferencia de llamadas (TLL)*.
- Recomendación I.252.2 del CCITT (1992), *Reenvío de llamadas en caso de ocupado*.
- Recomendación I.252.3 del CCITT (1992), *Reenvío de llamadas en caso de ausencia de respuesta*.
- Recomendación I.252.4 del CCITT (1992), *Reenvío de llamadas incondicional*.

- Recomendación I.253.1 del CCITT (1990), *Servicio suplementario de llamada en espera (LLE)*.
- Recomendación I.253.2 del CCITT (1992), *Retención de llamadas*.
- Recomendación I.254.1 del CCITT (1988), *Comunicación de conferencia (CONF)*.
- Recomendación I.254.2 del CCITT (1992), *Servicio suplementario tripartito*.
- Recomendación I.255.1 del CCITT (1992), *Grupo cerrado de usuarios*.
- Recomendación I.255.5 del CCITT (1992), *Prohibición de llamadas salientes*.
- Recomendación UIT-T I.256.2a (1993), *Aviso del importe de la comunicación: información de tarificación al establecerse la llamada*.
- Recomendación UIT-T I.256.2b (1993), *Aviso del importe de la comunicación: información de tarificación durante la llamada*.
- Recomendación UIT-T I.256.2c (1993), *Aviso del importe de comunicación: información de tarificación al final de la llamada*.
- Recomendación I.257.1 del CCITT (1992), *Señalización de usuario a usuario*.
- Recomendación M.3010 del CCITT (1992), *Principios para una red de gestión de las telecomunicaciones*.
- Recomendación M.3020 del CCITT (1992), *Metodología de especificación de la interfaz de la red de gestión de las telecomunicaciones*.
- Recomendación UIT-T M.3100 (1995), *Modelo genérico de información de red*.
- Recomendación M.3400 del CCITT (1992), *Funciones de gestión de la red de gestión de las telecomunicaciones*.
- Recomendación UIT-T Q.811 (1993), *Perfiles de protocolo de capa inferior para la interfaz Q3*.
- Recomendación UIT-T Q.812 (1993), *Perfiles de protocolo de capa superior para la interfaz Q3*.
- Recomendación UIT-T Q.824.0 (1995), *Descripción de las etapas 2 y 3 de la interfaz Q3 – Administración de los clientes – Información común*.
- Recomendación UIT-T X.283 (1993), *Elementos de información de gestión relacionados con la capa de red de interconexión de sistemas abiertos*.
- Recomendación X.700 del CCITT (1992), *Tecnología de la información – Marco de gestión para la interconexión de sistemas abiertos para aplicaciones del CCITT*.
- Recomendación X.701 del CCITT (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Visión general de la gestión de sistemas*.
- Recomendación X.710 del CCITT (1991), *Definición del servicio común de información de gestión para aplicaciones del CCITT*.
- Recomendación X.711 del CCITT (1991), *Especificación del protocolo común de información de gestión para aplicaciones del CCITT*.
- Recomendación X.720 del CCITT (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Modelo de información de gestión*.
- Recomendación X.721 del CCITT (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Definición de la información de gestión*.
- Recomendación X.722 del CCITT (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), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Información de gestión genérica*.
- Recomendación UIT-T Q.735, *Descripción de la etapa 3 de los servicios suplementarios con comunidad de intereses que utilizan el sistema de señalización N.º 7*.
Cláusula 1 (1993), *Grupo cerrado de usuarios*.
- Recomendación UIT-T Q.755 (1993), *Pruebas de protocolo del sistema de señalización N.º 7*.
Cláusula 3 (1993), *Precedencia con apropiación multinivel*.

3 Clases de objetos gestionados de los servicios suplementarios de la RDSI

3.1 Servicios genéricos

3.1.1 Conjunto de servicios de circuitos de la RDSI

iSDNCircuitServiceSet MANAGED OBJECT CLASS

DERIVED FROM "CCITT Rec. X.721": top;

CHARACTERIZED BY

iSDNCircuitServiceSetPkg PACKAGE

BEHAVIOUR

iSDNCircuitServiceSetBhv BEHAVIOUR

DEFINED AS "This object class represents the list of simple supplementary services available for any circuit bearer service. A simple supplementary service is one which requires only one attribute to subscribe to it. For these simple services there will never be any supplementary service subclass. Instances of this class are contained under a bearer service.";

ATTRIBUTES

iSDNCircuitSetId

supplementaryServiceThreePartyService
calledPartySubAddressInfoTransfer

GET SET-BY-CREATE
GET-REPLACE,
GET-REPLACE;

NOTIFICATIONS

"CCITT Rec. X.721": attributeValueChange,
"CCITT Rec. X.721": objectCreation,
"CCITT Rec. X.721": objectDeletion;;;

CONDITIONAL PACKAGES

callReferenceBusyLimitPkg PRESENT IF "if restricting the max numbers of call reference is enforced.",

compatibilityInfoPkg PRESENT IF "if supported per bearer service basis",

contentionPkg PRESENT IF "supported basic rate class 1 Equipment";

REGISTERED AS {cAISDNSSObjectClass 1};

3.1.2 Restricciones de servicio

Los casos de esta clase de objeto pueden estar contenidos en cualquier objeto de servicio portador o en los servicios portadores.

serviceRestrictions MANAGED OBJECT CLASS

DERIVED FROM "CCITT Rec. X.721": top;

CHARACTERIZED BY

serviceRestrictionsPkg PACKAGE

BEHAVIOUR

serviceRestrictionsBhv BEHAVIOUR

DEFINED AS "This object class includes attributes that impose some degree of restriction upon subscriber services.";

ATTRIBUTES

serviceRestrictionsId

outgoingCallsBarred

DEFAULT VALUE CAISDNSSModule.false

incomingCallsBarred

DEFAULT VALUE CAISDNSSModule.false

GET SET-BY-CREATE
REPLACE-WITH-DEFAULT
GET-REPLACE
REPLACE-WITH-DEFAULT
GET-REPLACE;

NOTIFICATIONS

"CCITT Rec. X.721": attributeValueChange,
"CCITT Rec. X.721": objectCreation,
"CCITT Rec. X.721": objectDeletion;;;

CONDITIONAL PACKAGES

interExchangeCarrierPkg PRESENT IF "multiple Inter Exchange Carriers are supported.";

REGISTERED AS {cAISDNSSObjectClass 2};

3.2 Servicios suplementarios

3.2.1 Aviso del importe de la comunicación en el momento del establecimiento de la llamada

adviceOfChargeAtCallSetUpTime MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

adviceOfChargeAtCallSetUpTimePkg PACKAGE

BEHAVIOUR

adviceOfChargeAtCallSetUpTimeBhv BEHAVIOUR

DEFINED AS "This service (described in I.256.2a) provides the served user with information about the charging rates at call establishment. In addition, the served user shall be informed if a change in charging rates takes place during the call. The information can be sent for all calls, or on a per call basis. The charge information given shall relate to the charges incurred on the network to which the served user is attached.";

ATTRIBUTES

adviceOfChargeActivation GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 3};

3.2.2 Aviso del importe de la comunicación durante la llamada

adviceOfChargeDuringTheCall MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

adviceOfChargeDuringTheCallPkg PACKAGE

BEHAVIOUR

adviceOfChargeDuringTheCallBhv BEHAVIOUR

DEFINED AS "This service (described in I.256.2b) provides the served user with cumulative charging information during the call. The information can be sent for all calls, or on a per call basis. The charge information given shall relate to the charges incurred on the network to which the served user is attached.";

ATTRIBUTES

adviceOfChargeActivation GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 4};

3.2.3 Aviso del importe de la comunicación al final de la llamada

adviceOfChargeEndOfTheCall MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

adviceOfChargeEndOfTheCallPkg PACKAGE

BEHAVIOUR

adviceOfChargeEndOfTheCallBhv BEHAVIOUR

DEFINED AS "This service (described in I.256.2c) provides the served user with charging information for a call when the call is terminated. The information can be sent for all calls, or on a per call basis. The charge information given shall relate to the charges incurred on the network to which the served user is attached.";

ATTRIBUTES

adviceOfChargeActivation GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 5};

3.2.4 Desviación de llamada

callDeflection MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callDeflectionPkg PACKAGE

BEHAVIOUR

callDeflectionBhv BEHAVIOUR

DEFINED AS "This service enables the subscriber to respond to an incoming call by requesting redirection of that call to another subscriber according to I.252.5.";;

ATTRIBUTES

deflectingNumberDelivery	GET-REPLACE,
deflectingNumberNotification	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 6};

3.2.5 Reenvío de llamadas en caso de ocupado

callForwardingBusy MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callForwardingBusyPkg PACKAGE

BEHAVIOUR

callForwardingBusyBhv BEHAVIOUR

DEFINED AS "This service (described in I.252.2) permits a served user to have the network send all incoming calls, which meet busy and are addressed to the served user's number to another number. The served user's originating service is unaffected.";;

ATTRIBUTES

callForwardActiveNotification	GET-REPLACE,
callForwardCallingNotification	GET-REPLACE,
callForwardReleaseNotification	GET-REPLACE,
callForwardServedNotification	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 7};

3.2.6 Reenvío de llamadas en caso de ausencia de respuesta

callForwardingNoReply MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callForwardingNoReplyPkg PACKAGE

BEHAVIOUR

callForwardingNoReplyBhv BEHAVIOUR

DEFINED AS "This service (described in I.252.3) permits a served user to have the network send all incoming calls, which meet no reply and are addressed to the served user's number to another number. The served user's originating service is unaffected.";;

ATTRIBUTES

callForwardActiveNotification	GET-REPLACE,
callForwardCallingNotification	GET-REPLACE,
callForwardReleaseNotification	GET-REPLACE,
callForwardServedNotification	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 8};

3.2.7 Reenvío de llamadas incondicional

callForwardingUnconditional MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callForwardingUnconditionalPkg PACKAGE

BEHAVIOUR

callForwardingUnconditionalBhv BEHAVIOUR

DEFINED AS "This service (described in I.252.4) permits a served user to have the network send all incoming calls addressed to the served user's number to another number. The served user's originating service is unaffected. If this service is activated, calls are forwarded no matter what the condition of the termination.";

ATTRIBUTES

callForwardActiveNotification	GET-REPLACE,
callForwardCallingNotification	GET-REPLACE,
callForwardReleaseNotification	GET-REPLACE,
callForwardServedNotification	GET-REPLACE;;;

REGISTERED AS {caISDNSSObjectClass 9};

3.2.8 Retención de llamadas

Este servicio se puede asignar a abonados individuales por contención en un caso de la clase de objeto gestionado perfil de servicios de terminal o en un caso de una de las clases de objetos gestionados servicios (excluidos los servicios portadores con conmutación de paquetes, ya que este servicio sólo se aplica a servicios con conmutación de circuitos). Este servicio también se puede asignar a la combinación de TSP/DN/BS mediante la utilización del lote condicional que contiene un puntero en un caso de la clase de objeto perfil de servicios de terminal.

callHold MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callHoldPkg PACKAGE

BEHAVIOUR

callHoldBhv BEHAVIOUR

DEFINED AS "The callHold object class is a class of managed objects that represents instances of sets of characteristics for the Call Hold supplementary service described in I.253.2.";

CONDITIONAL PACKAGES

callHoldOptionsPkg PRESENT IF "the Administration supports these options which are customizable on a per instance of this supplementary service.",

terminalServiceProfileAssociationPkg PRESENT IF "callHold is assigned to a TSP/DN/BS combination.",

callHoldNotificationPkg PRESENT IF "the Administration supports this option which is customizable on a per instance of this supplementary service.";

REGISTERED AS {caISDNSSObjectClass 10};

3.2.9 Transferencia de llamadas

NOTA – Esta definición se basa en una etapa 1 sin una etapa 3 aprobada.

callTransfer MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callTransferPkg PACKAGE

BEHAVIOUR

callTransferBhv BEHAVIOUR

DEFINED AS "This service allows a subscriber in conversation with another party, to transfer the call to a third party. Restrictions can be placed on the transfer destination and the type of calls that can be transferred according to I.252.1.";;

ATTRIBUTES

transferProcedure

GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 11};

3.2.10 Llamada en espera

callWaiting MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

callWaitingPkg PACKAGE

BEHAVIOUR

callWaitingBhv BEHAVIOUR

DEFINED AS "This service (described in I.253.1) permits a user to be informed of an incoming call with an indication when all access to the user is busy. The user then has the choice of accepting, rejecting or ignoring the waiting call.";;

ATTRIBUTES

callWaitingCallingNotification

GET-REPLACE,

maxNumberOfWaitingCalls

GET-REPLACE;;;

CONDITIONAL PACKAGES

activationPkg PRESENT IF "supported by Administration.",

calledUserInBandNotificationPkg PRESENT IF "supported by Administration.";

REGISTERED AS {cAISDNSSObjectClass 12};

3.2.11 Presentación de la identificación de la línea llamante (CLIP)

cLIP MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

cLIPPkg PACKAGE

BEHAVIOUR

cLIPBhv BEHAVIOUR

DEFINED AS "This supplementary service (described in I.251.3) provides the called party with the possibility of receiving identification of the calling party. In addition to the ISDN number, the calling line identity may include a subaddress generated by the calling user and transparently transported by the network. The network shall deliver the calling line identity to the called party during call establishment, regardless of the terminal capability to handle the information.";;

ATTRIBUTES

noRestrictionsAllowed

GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 13};

3.2.12 Restricción de la identificación de la línea llamante (CLIR)

cLIR MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

cLIRPkg PACKAGE

BEHAVIOUR

cLIRBhv BEHAVIOUR

DEFINED AS "This supplementary service (described in I.251.4) provides the calling party with the possibility to prevent presentation of the calling party's ISDN number, and subaddress information (if any) to the called party. If the called party subscribes to the CLIP supplementary service, then the called party shall receive an indication that the calling party information is not available due to restriction.";;

ATTRIBUTES

callIdRestrictionOption

GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 14};

3.2.13 Comunicación conferencia

conferenceCalling MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

conferenceCallingPkg PACKAGE

BEHAVIOUR

conferenceCallingBhv BEHAVIOUR

DEFINED AS "This service enables the subscriber to set up a conference call according to I.254.1.";;

ATTRIBUTES

maxNumberOfPorts

GET-REPLACE,

defaultNumberOfPorts

GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 15};

3.2.14 Marcación directa de extensiones

directDiallingIn MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

directDiallingInPkg PACKAGE

BEHAVIOUR

directDiallingInBhv BEHAVIOUR

DEFINED AS "This supplementary service enables a user to call directly via a public ISDN to a user on a private ISDN by use of the public ISDN numbering plan as described in I.251.1.";;;

CONDITIONAL PACKAGES

digitsOptionPkg PRESENT IF "if supported by Administration";

REGISTERED AS {cAISDNSSObjectClass 16};

3.2.15 Identificación de llamadas malintencionadas

NOTA – Esta definición se basa en una etapa 1 sin una etapa 3 aprobada.

maliciousCallIdentification MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

maliciousCallIdentificationPkg PACKAGE

BEHAVIOUR

maliciousCallIdentificationBhv BEHAVIOUR

DEFINED AS "This supplementary service allows a subscriber to start up the tracing of the malicious call originator according to I.251.7.";;

ATTRIBUTES

invocationTime	GET-REPLACE,
automaticInvocation	GET-REPLACE,
callingPartySubaddressRegistration	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 17};

3.2.16 Números múltiples de abonado (MSN)

multipleSubscriberNumber MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

multipleSubscriberNumberPkg PACKAGE

BEHAVIOUR

multipleSubscriberNumberBhv BEHAVIOUR

DEFINED AS "The MSN supplementary service provides the possibility for assigning multiple numbers (not necessarily consecutive) to a single public or private interface as described in I.251.2. This enables the selection of one or more multiple distinct terminals attached to the same interface.

The service provider shall fix the length of the numbers to be transmitted to the user's installation.

They may comprise the least significant digit up to the full ISDN number as defined in E.164. The digit(s) significant for terminal differentiation shall be an integral part of the ISDN numbering scheme.

NOTE 1 – Within a private ISDN, multiple subscriber number digits may be different from the digits of the public ISDN number. This additional possibility, if provided, has no impact on the public ISDN.

NOTE 2 – More than one multiple subscriber number may be assigned to one terminal.

NOTE 3 – The actual method of relating the ISDN number to a particular terminal is a matter of national implementation.";;

ATTRIBUTES

assocDefaultDN	GET-REPLACE;;;
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CONDITIONAL PACKAGES

networkOptionsPkg PRESENT IF "if supported by Administration.";

REGISTERED AS {cAISDNSSObjectClass 18};

3.2.17 Prohibición de llamadas salientes

NOTA – Esta definición se funda en la etapa 1; la etapa 3 aprobada no existe aún.

outgoingCallBarring MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

outgoingCallBarringPkg PACKAGE

BEHAVIOUR

outgoingCallBarringBhv BEHAVIOUR

DEFINED AS "This service restricts the range of calls that can be made from the subscribers CPE according to I.255.5.";;

ATTRIBUTES

outgoingCallBarringCategory	GET-REPLACE,
outgoingCallBarringTreatment	GET-REPLACE,
codeWord	REPLACE,
activationStatus	GET,
activationOption	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 19};

3.2.18 Servicio tripartito

Este servicio suplementario se caracteriza por un solo atributo del objeto iSDNCircuitServiceSet denominado «supplementaryServiceThreePartyService».

3.2.19 Señalización de usuario a usuario

userToUserSignalling MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceDependent;

CHARACTERIZED BY

userToUserSignallingPkg PACKAGE

BEHAVIOUR

userToUserSignallingBhv BEHAVIOUR

DEFINED AS "This service allows an ISDN subscriber to send/receive a limited amount of information to/from another ISDN subscriber over the signalling channel associated with their call according to I.257.1.";;

ATTRIBUTES

userToUserSignallingServiceCategory GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass 20};

4 Servicios suplementarios catalogados

4.1 Retención de llamadas catalogadas

cataloguedCallHold MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0": cataloguedSupplementaryService;

CHARACTERIZED BY

cataloguedCallHoldPkg PACKAGE

BEHAVIOUR

cataloguedCallHoldBhv BEHAVIOUR

DEFINED AS "The catalogued Call Hold object class is a class of managed objects that represents characteristics of the Call Hold service that are applicable to all customers on the switch that have subscribed to Call Hold. This class also provides the ability for an Administration to set characteristics for Call Hold and provide this service to all customers without the need for individual subscription to the service. This universal assignment is accomplished through the use of the perSwitchAssignmentCallHoldPkg. Additional characteristics applicable to the switch-wide assignment may be provided with the CallHoldOptions package, if the Administration supports these options.";;;

CONDITIONAL PACKAGES

optionalGuardTimerPkg PRESENT IF "The Administration supports releasing calls to free up switch resources",

perSwitchAssignmentCallHoldPkg PRESENT IF "Call Hold is assigned to all subscribers on the switch and the Administration supports these options.";

REGISTERED AS {cAISDNSSObjectClass 20};

5 Plantillas de paquete

5.1 Activación

activationPkg PACKAGE

ATTRIBUTES

activationCapability REPLACE-WITH-DEFAULT DEFAULT VALUE

CAISDNSSModule.true GET-REPLACE;

REGISTERED AS {cAISDNSSPackage 1};

5.2 Notificación en banda de usuario llamado

calledUserInBandNotificationPkg PACKAGE
ATTRIBUTES
calledUserInBandNotification GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 2};

5.3 Notificación de retención de llamadas

callHoldNotificationPkg PACKAGE
ATTRIBUTES
callHoldNotificationToHeldParty GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 3};

5.4 Opción de retención de llamadas

callHoldOptionsPkg PACKAGE
ATTRIBUTES
limitOfReservedChannels GET-REPLACE,
callHoldBChannelReservationRelease GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 4};

5.5 Límite de referencia de llamada en caso de ocupado

callReferenceBusyLimitPkg PACKAGE
ATTRIBUTES
callReferenceBusyLimit GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 5};

5.6 Información de compatibilidad

compatibilityInfoPkg PACKAGE
ATTRIBUTES
lowLayerCompatibilityInfoTransfer GET-REPLACE,
highLayerCompatibilityInfoTransfer GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 6};

5.7 Contención

contentionPkg PACKAGE
ATTRIBUTES
contentionForIncomingCalls GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 7};

5.8 Opción cifras

digitsOptionPkg PACKAGE
ATTRIBUTES
numOfDigitsNotToTransmit GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 8};

5.9 Portadora de intercambio

interExchangeCarrierPkg PACKAGE
ATTRIBUTES
prohibitICSelection GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 9};

5.10 Opción de red

networkOptionsPkg PACKAGE
ATTRIBUTES
numOfDigitsForCallId GET-REPLACE,
numOfDigitsForTerminalIdentifier GET-REPLACE;
REGISTERED AS {cAISDNSSPackage 10};

5.11 Tiempo de guarda opcional

optionalGuardTimerPkg PACKAGE

ATTRIBUTES

callHoldOptionalGuardTimer

GET-REPLACE;

REGISTERED AS {cAISDNSSPackage 11};

5.12 Retención de llamadas con asignación por conmutador

perSwitchAssignmentCallHoldPkg PACKAGE

ATTRIBUTES

limitOfReservedChannels

GET-REPLACE;

REGISTERED AS {cAISDNSSPackage 12};

5.13 Asociación de perfil de servicio de terminal

terminalServiceProfileAssociationPkg PACKAGE

ATTRIBUTES

terminalServiceProfilePtr

GET-REPLACE;

REGISTERED AS {cAISDNSSPackage 13};

6 Plantillas de atributos

Esta subcláusula contiene las definiciones ASN.1 de todos los atributos dentro de las clases de objeto descritas. Estas definiciones identifican la función de los atributos y sus características válidas, tales como sus valores, interdependencias, imperativos de lectura/escritura válidos, etc. Los atributos se identifican mediante sus descriptores ASN.1.

6.1 Capacidad de activación

activationCapability ATTRIBUTE

WITH ATTRIBUTE SYNTAX CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

activationCapabilityBhv BEHAVIOUR

DEFINED AS "The value of this attribute indicates whether the subscriber is given the capability to activate and deactivate the ISDN Call Waiting service. When the value of this boolean attribute is TRUE, the subscriber has the capability. When the value is FALSE, the subscriber does not have the capability.";

REGISTERED AS {cAISDNSSAttribute 1};

6.2 Opción de activación

activationOption ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.ActivationOption ;

MATCHES FOR EQUALITY;

BEHAVIOUR

activationOptionBhv BEHAVIOUR

DEFINED AS "This attribute controls the procedures of activating the outgoing call barring supplementary service as described in I.255.5. The services may be activated/deactivated by either the subscriber (Normal Procedure) or the operator (Exceptional Procedure).";

REGISTERED AS {cAISDNSSAttribute 2};

6.3 Estado de activación

activationStatus ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.ActivationStatus;

MATCHES FOR EQUALITY;

BEHAVIOUR

activationStatusBhv BEHAVIOUR

DEFINED AS "This attribute controls the status of the outgoing call barring supplementary service as described in I.255.5. The services may be active or inactive.";;

REGISTERED AS {caISDNSSAttribute 3};

6.4 Activación de la indicación del importe de la comunicación

adviceOfChargeActivation ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.AdviceOfChargeActivation;

MATCHES FOR EQUALITY;

BEHAVIOUR

adviceOfChargeActivationBhv BEHAVIOUR

DEFINED AS "This attribute controls the method of which cumulative charging information during the call are sent to the user: for all calls or on a per call basis. The charge information are related to the charges incurred on the network to which the served user is attached AssocDefaultDN.";;

REGISTERED AS {caISDNSSAttribute 4};

6.5 Número de directorio por defecto asociado

assocDefaultDN ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.AssocDefaultDN;

MATCHES FOR EQUALITY;

BEHAVIOUR

assocDefaultDNBhv BEHAVIOUR

DEFINED AS "This attribute specifies the default directory number for the ISDN supplementary service MSN.";;

REGISTERED AS {caISDNSSAttribute 5};

6.6 Invocación automática

automaticInvocation ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

automaticInvocationBhv BEHAVIOUR

DEFINED AS "This attribute controls the activation of Malicious Call Identification so that calls that are not answered will be traced automatically as described in I.255.7.";;

REGISTERED AS {caISDNSSAttribute 6};

6.7 Notificación de retención de llamada a la parte retenida

callHoldNotificationToHeldParty ATTRIBUTE

WITH ATTRIBUTE SYNTAX CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callHoldNotificationToHeldPartyBhv BEHAVIOUR

DEFINED AS "The value of this attribute identifies whether the held/retrieved party should be notified when placed on hold or retrieved from hold. When this attribute is TRUE, a notification will be sent both when the caller is placed on hold and when the caller is retrieved from hold. When the value is FALSE, no notification is given in either instance.";;

REGISTERED AS {caISDNSSAttribute 7};

6.8 Notificación en banda de usuario llamado

calledUserInBandNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

calledUserInBandNotificationBehaviour BEHAVIOUR

DEFINED AS "The value of this attribute indicates whether in-band tones are to be provided to the called subscriber to indicate a waiting call. When the value of this attribute is FALSE, in-band notification is used to alert the called party of a waiting call. When TRUE, both in-band and out-of-band notification are used.";;

REGISTERED AS {caISDNSSAttribute 8};

6.9 Transferencia de información de subdirección de la parte llamada

calledPartySubAddressInfoTransfer ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

calledPartySubaddressInfoTransferBehaviour BEHAVIOUR

DEFINED AS "When the value of this attribute is TRUE, the called party's subaddress information will be accepted and transferred from the CPE on call origination. When the attribute value is FALSE, the called party's subaddress information transfer is not provided.";;

REGISTERED AS {caISDNSSAttribute 9};

6.10 Notificación de activación del reenvío de llamada

callForwardActiveNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callForwardActiveNotificationBhv BEHAVIOUR

DEFINED AS "This attribute is used as a flag to indicate whether the served user is to be notified that callforwarding is active.";;

REGISTERED AS {caISDNSSAttribute 10};

6.11 Notificación al llamante del reenvío de llamada

callForwardCallingNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CallForwardCallingNotification;

MATCHES FOR EQUALITY;

BEHAVIOUR

callForwardCallingNotificationBhv BEHAVIOUR

DEFINED AS "This attribute is used as a flag to indicate whether the calling user is to be notified that his call has been forwarded.";;

REGISTERED AS {caISDNSSAttribute 11};

6.12 Notificación de liberación de reenvío de llamada

callForwardReleaseNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callForwardReleaseNotificationBhv BEHAVIOUR

DEFINED AS "This attribute is used as a flag to indicate whether served user releases number information to forwarded-to user.";;

REGISTERED AS {caISDNSSAttribute 12};

6.13 Notificación al usuario servido del reenvío de llamada

callForwardServedNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callForwardServedNotificationBhv BEHAVIOUR

DEFINED AS "This attribute is used as a flag to indicate whether served user receives notification that a call has been forwarded.";

REGISTERED AS {cAISDNSSAttribute 13};

6.14 Liberación de reserva de canal B con retención de llamada

callHoldBChannelReservationRelease ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callHoldBChannelReservationReleaseBhv BEHAVIOUR

DEFINED AS "The value of this attribute identifies whether the user has the ability to release all reserved B-channels. When the value of this boolean attribute is TRUE, the user has the ability to release all currently reserved B-channels. Additional B-channels will be reserved as subsequent calls are placed on hold. When the value of this attribute is FALSE, the user does not have the ability to release the B-channels, and each reserved channel shall only be released as the associated call that caused it to be reserved is released or retrieved from hold.";

REGISTERED AS {cAISDNSSAttribute 14};

6.15 Temporizador de guarda opcional con retención de llamada

callHoldOptionalGuardTimer ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CallHoldOptionalGuardTimer;

MATCHES FOR EQUALITY;

BEHAVIOUR

callHoldOptionalGuardTimerBhv BEHAVIOUR

DEFINED AS "The value of this attribute identifies the length of time after which the switch shall release a held call to free up switch resources and to keep a call from being held forever. The allowable values for this attribute are in minutes from 30 to 2880 (48 hours). The default value for this attribute shall be 2880 minutes (48 hours).";

REGISTERED AS {cAISDNSSAttribute 15};

6.16 Registro de la subdirección de la parte llamante

callingPartySubaddressRegistration ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callingPartySubaddressRegistrationBhv BEHAVIOUR

DEFINED AS "This Boolean attribute is a service provider option that allows it to register the calling party subaddress if provided by the user as part of the information registered in MCID as described in I.251.7.";

REGISTERED AS {cAISDNSSAttribute 16};

6.17 Límite de referencia de llamada en caso de ocupado

callReferenceBusyLimit ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CallReferenceBusyLimit;

MATCHES FOR EQUALITY;

BEHAVIOUR

callReferenceBusyLimitBhv BEHAVIOUR

DEFINED AS "The value of this attribute identifies the maximum number of simultaneous calls that can be handled (e.g. active, held, alerting, waiting) by a directory number and bearer service.";;

REGISTERED AS {cAISDNSSAttribute 17};

6.18 Opciones de restricción de llamada

callIdRestrictionOptions ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CallIdRestrictionOptions;

MATCHES FOR EQUALITY;

BEHAVIOUR

callIdRestrictionOptionsBhv BEHAVIOUR

DEFINED AS "This attribute of the CLIR supplementary service allows the subscriber to select the mode in which the calling line identification restriction is applied as described in I.251.4. Valid options for the mode are: Permanent to have the service active for all calls, or Temporary to have the service requested by the user per call.";;

REGISTERED AS {cAISDNSSAttribute 18};

6.19 Notificación al llamante de llamada en espera

callWaitingCallingNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

callWaitingCallingNotificationBhv BEHAVIOUR

DEFINED AS "This attribute is used as a flag whether the calling user is to be notified that his call is waiting.";;

REGISTERED AS {cAISDNSSAttribute 19};

6.20 Palabra de código

codeWord ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CodeWord;

BEHAVIOUR

codeWordBhv BEHAVIOUR

DEFINED AS "This attribute stores the password required to activating the outgoing call barring supplementary service as described in I.255.5. A null value denotes that this service is not configurable by subscribers.";;

REGISTERED AS {cAISDNSSAttribute 20};

6.21 Contención por llamadas entrantes

contentionForIncomingCalls ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

contentionForIncomingCallsBhv BEHAVIOUR

DEFINED AS "When the value of this attribute is TRUE, contention between CPE terminals on the same Basic Rate interface is allowed. When the attribute value is FALSE, contention is not allowed. The default value of this attribute within an ISDN Circuit Switched Services object instance is TRUE. The default value within a Bearer Service For Packet Data object instance is FALSE.";;

REGISTERED AS {cAISDNSSAttribute 21};

6.22 Número de puertos por defecto

defaultNumberOfPorts ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.DefaultNumberOfPorts;

MATCHES FOR EQUALITY;

BEHAVIOUR

defaultNumberOfPortsBhv BEHAVIOUR

DEFINED AS "The value of this attribute identifies the number of ports to be used in the supplementary service Conference Calling as defined in I.254.1.";;

REGISTERED AS {caISDNSSAttribute 22};

6.23 Entrega de número desviante

deflectingNumberDelivery ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

deflectingNumberDeliveryBhv BEHAVIOUR

DEFINED AS "This Boolean attribute indicates the subscription option of allowing whether the serviced user is permitted to release his number to the deflected-to terminal or not, as defined in I.252.5.";;

REGISTERED AS {caISDNSSAttribute 23};

6.24 Notificación de número desviante

deflectingNumberNotification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

deflectingNumberNotificationBhv BEHAVIOUR

DEFINED AS "This attribute indicates the subscription option of whether a calling user receives notification that his call has been deflected or not. In the case the use is to be notified, the deflected to number may be sent to the originator of the call as defined in I.252.5.";;

REGISTERED AS {caISDNSSAttribute 24};

6.25 Transferencia de compatibilidad de capa alta

highLayerCompatibilityInfoTransfer ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

highLayerCompatibilityInfoTransferBhv BEHAVIOUR

DEFINED AS "When the value of this attribute is TRUE, the capability to accept and transfer the High Layer Compatibility information element for layers 1 through 3 from the user equipment on circuit mode call originations is provided. When the attribute value is FALSE, the capability is not provided.";;

REGISTERED AS {caISDNSSAttribute 25};

6.26 Prohibición de llamadas entrantes

incomingCallsBarred ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

incomingCallsBarredBhv BEHAVIOUR

DEFINED AS "When the value of this attribute is TRUE, attempts to terminate a call will be denied. The value FALSE indicates that the attempt is allowed.";;

REGISTERED AS {caISDNSSAttribute 26};

6.27 Tiempo de invocación

invocationTime ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.TimePeriod;

MATCHES FOR EQUALITY;

BEHAVIOUR

invocationTimeBhv BEHAVIOUR

DEFINED AS "This attribute allows the service provider to specify the period of time in which the MCID service may be invoked automatically as described in I.251.7.";

REGISTERED AS {cAISDNSSAttribute 27};

6.28 ID de establecimiento de circuito RDSI

iSDNCircuitSetId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

iSDNCircuitSetIdBhv BEHAVIOUR

DEFINED AS "This is a naming attribute. If the string choice for the syntax is used, matching on the substrings is permitted. If the number choice for the syntax is used, then matching on ordering is permitted.";

REGISTERED AS {cAISDNSSAttribute 28};

6.29 Límite de canales reservados

limitOfReservedChannels ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.LimitOfReservedChannels;

MATCHES FOR EQUALITY;

BEHAVIOUR

limitOfReservedChannelsBhv BEHAVIOUR

DEFINED AS "The value of this attribute identifies the maximum number of B-channels to be reserved for a particular terminal that has placed calls on hold. The B-channel is reserved to allow the user to originate another call, receive another call, or retrieve the held call. If the value of this attribute is 0, no channels will be reserved. For any value of this attribute other than 0, each call placed on hold will result in an additional channel being reserved, up to the limit of the number of channels specified by this attribute. This attribute may be set to values from 0 up to and including the number of channels on the interface.";

REGISTERED AS {cAISDNSSAttribute 29};

6.30 Transferencia de información sobre compatibilidad de capa baja

lowLayerCompatibilityInfoTransfer ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

lowLayerCompatibilityInfoTransferBhv BEHAVIOUR

DEFINED AS "This attribute is a Boolean attribute of the ISDN Circuit Switched Services object class. When the value of this attribute is TRUE, the ISDN switch provides the capability to accept and transfer the Low Layer Compatibility information element from the user equipment on circuit mode call originations. When the attribute value is FALSE (default), the capability is not provided.";

REGISTERED AS {cAISDNSSAttribute 30};

6.31 Número máximo de puertos

maxNumberOfPorts ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.MaxNumberOfPorts;

MATCHES FOR EQUALITY;

BEHAVIOUR

maxNumberOfPortsBhv BEHAVIOUR

DEFINED AS "This attribute determines the maximum number of ports the subscriber is allowed to use while setting up a conference call according to I.254.1.";

REGISTERED AS {caISDNSSAttribute 31};

6.32 Número máximo de llamadas en espera

maxNumberOfWaitingCalls ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.MaxNumberOfWaitingCalls;

MATCHES FOR EQUALITY;

BEHAVIOUR

maxNumberOfWaitingCallsBhv BEHAVIOUR

DEFINED AS "The value of this attribute determines the maximum number of calls that can be waiting for directory number(s) and bearer service according to I.253.1.";

REGISTERED AS {caISDNSSAttribute 32};

6.33 No se permiten restricciones

noRestrictionsAllowed ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

noRestrictionsAllowedBhv BEHAVIOUR

DEFINED AS "This attribute of CLIP is where the called party continues to have the capability to override the CLIR restriction and have the calling party number presented as described in the CLIP supplementary service as defined in I.251.3. A TRUE value of this attribute permits the called party CLIP supplementary service to override the calling party CLIR supplementary service.";

REGISTERED AS {caISDNSSAttribute 33};

6.34 Número de cifras del identificador de llamada

numOfDigitsForCallId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.NumOfDigitsForCallId;

MATCHES FOR EQUALITY;

BEHAVIOUR

numOfDigitsForCallIdBhv BEHAVIOUR

DEFINED AS "This attribute of numOfDigitsForCallId identifies the number of digits for the MSN supplementary service as described in I.251.2.";

REGISTERED AS {caISDNSSAttribute 34};

6.35 Número de cifras del identificador de terminal

numOfDigitsForTerminalIdentifier ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.NumOfDigitsForTerminalIdentifier;

MATCHES FOR EQUALITY;

BEHAVIOUR

numOfDigitsForTerminalIdentifierBhv BEHAVIOUR

DEFINED AS "This attribute of numOfDigitsForTerminalIdentifier identifies the number of digits allocated to enable all terminals in a point-to-multipoint configuration to react in the same way as they would if the supplementary service MSN were not subscribed to as described in I.251.2.";

REGISTERED AS {caISDNSSAttribute 35};

6.36 Número de cifras que no se transmiten

numOfDigitsNotToTransmit ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.NumOfDigitsNotToTransmit;

MATCHES FOR EQUALITY;

BEHAVIOUR

numOfDigitsNotToTransmitBhv BEHAVIOUR

DEFINED AS "This attribute specifies the number of digits to be stripped out of the original dialed number before it is delivered to the private exchange for the direct dialed in supplementary service as described in I.252.1.";;

REGISTERED AS {caISDNSSAttribute 36};

6.37 Categoría de prohibición de llamada saliente

outgoingCallBarringCategory ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.OutgoingCallBarringCategory;

MATCHES FOR EQUALITY;

BEHAVIOUR

outgoingCallBarringCategoryBhv BEHAVIOUR

DEFINED AS "The values of this attribute identify the category of the outgoing call as described in I.255.5.";;

REGISTERED AS {caISDNSSAttribute 37};

6.38 Tratamiento de prohibición de llamada saliente

outgoingCallBarringTreatment ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.InterceptTreatmentOrigin;

MATCHES FOR EQUALITY;

BEHAVIOUR

outgoingCallBarringTreatmentBhv BEHAVIOUR

DEFINED AS "The values of this attribute identify the Treatment of the outgoing call as described in I.255.5.";;

REGISTERED AS {caISDNSSAttribute 38};

6.39 Prohibición de llamadas salientes

outgoingCallsBarred ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

outgoingCallsBarredBhv BEHAVIOUR

DEFINED AS "When the value of this attribute is TRUE, call origination is denied. The value FALSE indicates that origination is allowed.";;

REGISTERED AS {caISDNSSAttribute 39};

6.40 Prohibición de selección IC

prohibitICSelection ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

prohibitICSelectionBhv BEHAVIOUR

DEFINED AS "This attribute, when TRUE, prohibits the selection of an interLATA Carrier or bars the selection of a ROA in a packet environment.";;

REGISTERED AS {caISDNSSAttribute 40};

6.41 Identificación de restricción de servicio

serviceRestrictionsId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

serviceRestrictionsIdBhv BEHAVIOUR

DEFINED AS "This is a naming attribute. If the string choice for the syntax is used, matching on the substrings is permitted. If the number choice for the syntax is used, then matching on ordering is permitted.";;

REGISTERED AS {caISDNSSAttribute 41};

6.42 Servicio suplementario tripartito

supplementaryServiceThreePartyService ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.Boolean;

MATCHES FOR EQUALITY;

BEHAVIOUR

supplementaryServiceThreePartyServiceBhv BEHAVIOUR

DEFINED AS "This is a boolean attribute to indicate whether a subscriber can initiate a three-way conversation with two other parties or not. The three-party supplementary service procedures are described in I.254.2.";;

REGISTERED AS {caISDNSSAttribute 42};

6.43 Puntero de perfil de servicio de terminal

terminalServiceProfilePtr ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.ObjectInstance;

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

BEHAVIOUR

terminalServiceProfilePtrBhv BEHAVIOUR

DEFINED AS "This attribute is used as a pointer to an instance of Q.824.1 terminalServiceProfile managed object class.";;

REGISTERED AS {caISDNSSAttribute 43};

6.44 Procedimiento de transferencia

transferProcedure ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.TransferProcedure;

MATCHES FOR EQUALITY;

BEHAVIOUR

transferProcedureBhv BEHAVIOUR

DEFINED AS "This attribute defines the procedures used to transfer calls to a third party according to I.252.1.";;

REGISTERED AS {caISDNSSAttribute 44};

6.45 Categoría del servicio de señalización de usuario a usuario

userToUserSignallingServiceCategory ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.UserToUserSignallingServiceCategory;

MATCHES FOR EQUALITY;

BEHAVIOUR

userToUserSignallingServiceCategoryBhv BEHAVIOUR

DEFINED AS "This attribute identifies the category of the User-to-User Signalling Service according to I.257.1.";;

REGISTERED AS {caISDNSSAttribute 45};

7 Vinculaciones de nombres

7.1 Establecimiento del servicio de circuito RDSI

iSDNCircuitServiceSet-bearerService NAME BINDING

```
SUBORDINATE OBJECT CLASS iSDNCircuitServiceSet AND SUBCLASSES;
  NAMED BY
  SUPERIOR OBJECT CLASS "ITU-T Rec. Q.824.0":bearerService AND SUBCLASSES;
  WITH ATTRIBUTE iSDNCircuitSetId;
  CREATE
  WITH-AUTOMATIC-INSTANCE-NAMING,
  WITH-REFERENCE-OBJECT;
  DELETE;
REGISTERED AS {cAISDNSSNameBinding 1};
```

7.2 Restricciones de servicio

serviceRestrictions-customerProfile NAME BINDING

```
SUBORDINATE OBJECT CLASS serviceRestrictions;
  NAMED BY
  SUPERIOR OBJECT CLASS "ITU-T Rec. Q.824.0":customerProfile AND SUBCLASSES;
  WITH ATTRIBUTE serviceRestrictionsId;
  CREATE
  WITH-AUTOMATIC-INSTANCE-NAMING,
  WITH-REFERENCE-OBJECT;
  DELETE;
REGISTERED AS {cAISDNSSNameBinding 2};
```

8 Definiciones de tipos

CAISDNSSModule {itu-t(0) recommendation(0) q(17) ca(824) dot(127) isdnss(2) informationModel(0) asn1Modules(2) cAISDNSSModule(0)}

DEFINITIONS IMPLICIT TAGS ::= BEGIN

-- EXPORTS Everything;

IMPORTS

DirectoryNumber,
NumberOfChannels,
InterceptTreatmentOrigin

FROM CAISDNModule {itu-t(0) recommendation(0) q(17) ca(824) dot(127) isdn(1) informationModel(0) asn1Modules(2) cAISDNModule(0)}

incomingCallsBarred,
outgoingCallsBarred

FROM NLM {joint-iso-ccitt network-layer (13) management (0) nLM(2) asn1Module (2) 0}

ObjectInstance,
ObjectClass

FROM CMIP-1 {joint-iso-ccitt ms(9) cmip(1) modules(0) protocol(3)}

Boolean,
NameType,
ObjectList,
Pointer,
PointerOrNull

FROM ASN1DefinedTypesModule {ccitt recommendation m(13) gnm(3100) informationModel(0) asn1Modules(2) asn1DefinedTypesModule(0)};

q824-2InformationModel OBJECT IDENTIFIER ::= {itu-t(0) recommendation(0) q(17) ca(824) dot(127) isdnss(2) informationModel(0)}

cAISDNSSObjectClass OBJECT IDENTIFIER ::= {q824-2InformationModel managedObjectClass(3)}

cAISDNSSPackage OBJECT IDENTIFIER ::= {q824-2InformationModel package(4)}

cAISDNSSAttribute OBJECT IDENTIFIER ::= {q824-2InformationModel attribute(7)}

cAISDNSSNameBinding OBJECT IDENTIFIER ::= {q824-2InformationModel nameBinding(6)}

cAISDNSSAction OBJECT IDENTIFIER ::= {q824-2InformationModel action(9)}

Apéndice I

Presentación inicial de la ampliación del modelo con miras al modelado de grupos cerrados de usuarios

(Este apéndice no es parte integrante de la presente Recomendación)

NOTA – En este apéndice se muestra una presentación inicial de la forma en que se ampliará este modelo para modelar grupos cerrados de usuarios. Los objetos gestionados y las vinculaciones de nombres que aparecen en el presente apéndice no se reflejan en los diagramas de ER, de herencia y de denominación que aparecen en el cuerpo principal.

I.1 CUG (Grupo cerrado de usuarios)

Los atributos de estos objetos sólo son aplicables en caso de que el grupo cerrado de usuarios (CUG, *closed user group*) sea administrado en régimen nodal. No obstante, la característica del grupo cerrado de usuarios también se define para la aplicación a configuraciones que comprenden múltiples nodos en la red. En tal caso, la definición de objeto siguiente no se aplica, ya que los datos de servicio del CUG se almacenan fuera de la central.

cUG MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceServiceDependent;

CHARACTERIZED BY

cUGPkg PACKAGE

BEHAVIOUR

cUGBhv BEHAVIOUR

DEFINED AS "This managed object class is used to store the closed user group general subscription options specified by I.255.1. This package is instantiated by for each Closed User Group. The attributes cUGInterlockCode and cUGDataNetworkIdentification can be got or replaced only by Administration not by customer. When the value of cUGBarring is outgoingCallsBarred, this CUG must not be a preferential Closed User Group (denoted by preferredCUGId in CUGSubscriptionOption managed object).";

ATTRIBUTES

cUGIndex	GET-REPLACE,
cUGInterlockCode	GET-REPLACE,
cUGDataNetworkIdentification	GET-REPLACE,
cUGBarring	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass ?};

I.2 Opción de abono al CUG

cUGSubscriptionOption MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.824.0":supplementaryServiceServiceDependent;

CHARACTERIZED BY

cUGSubscriptionOptionPkg PACKAGE

BEHAVIOUR

cUGSubscriptionOptionBhv BEHAVIOUR

DEFINED AS "The CUG subscription options object may only be instantiated if either attribute preferredCUGId is assigned a non-NULL value or attribute interCUGaccess is not empty. M_SET operations which would result in preferredCUGId value NULL and interCUGaccess value empty set are not allowed. The value of attribute preferredCUGId should not be NULL when interCUGvalue is 'none' or 'incomingaccess'.";

ATTRIBUTES

preferredCUGIndex	GET-REPLACE,
interCUGaccess	GET-REPLACE;;;

REGISTERED AS {cAISDNSSObjectClass ?};

I.3 Definición de atributo

cUGBarring ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CUGBarring;

MATCHES FOR EQUALITY;

BEHAVIOUR

cUGBarringBhv BEHAVIOUR

DEFINED AS "This attribute maintains the Intra-CUG restriction of the General subscription option in I.255.1. It may have one of the following values: none, incomingCallsBarred or outgoingCallsBarred." ;;

REGISTERED AS {cAISDNSSAttribute ?};

cUGDataNetworkIdentification ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CUGDataNetworkIdentification;

MATCHES FOR EQUALITY;

BEHAVIOUR

cUGDataNetworkIdentificationBhv BEHAVIOUR

DEFINED AS "This information is signalled during set-up of a CUG call and serves (in conjunction with the closed user groupInterlockCode) to uniquely identify the CUG in the international network. It can be thought of as the area code of the CUG." ;;

REGISTERED AS {cAISDNSSAttribute ?};

cUGIndex ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CUGIndex;

MATCHES FOR EQUALITY;

BEHAVIOUR

cUGIndexBhv BEHAVIOUR

DEFINED AS "cUGIndex of General subscription option in I.255.1 must be explicitly assigned upon object creation. No two instances of the closed user group object class contained within a single object may have identical values for attribute cUGIndex." ;;

REGISTERED AS {cAISDNSSAttribute ?};

cUGInterlockCode ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.CUGInterlockCode;

MATCHES FOR EQUALITY;

BEHAVIOUR

cUGInterlockCodeBhv BEHAVIOUR

DEFINED AS "The attribute cugInterlockCode must be assigned explicitly upon object creation. No multiple instances of the closed user group object class contained within a single object are allowed to have identical combinations of attribute cugInterlockCode and cugDataNetworkIdentification." ;;

REGISTERED AS {cAISDNSSAttribute ?};

interCUGaccess ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.InterCUGaccess;

MATCHES FOR EQUALITY;

BEHAVIOUR

interCUGaccessBhv BEHAVIOUR

DEFINED AS "Inter-CUG access of per service subscription option in I.255.1. The values are none, outgoingAccess, incomingAccess and outgoingAndIncomingAccess" ;;

REGISTERED AS {cAISDNSSAttribute ?};

preferredCUGIndex ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CAISDNSSModule.PreferredCUGIndex;

MATCHES FOR EQUALITY;

BEHAVIOUR

preferredCUGIndexBhv BEHAVIOUR

DEFINED AS "CUG index of General subscription option in I.255.1.";

REGISTERED AS {cAISDNSSAttribute ?};

I.4 Vinculaciones de nombres

cUG-bearerService NAME BINDING

SUBORDINATE OBJECT CLASS cUG AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS "ITU-T Rec. M.3100":network AND SUBCLASSES;

WITH ATTRIBUTE "ITU-T Rec. Q.824.0":supplementaryServiceId;

CREATE

WITH-AUTOMATIC-INSTANCE-NAMING,

WITH-REFERENCE-OBJECT;

DELETE;

REGISTERED AS {cAISDNSSNameBinding ?};

cUGSubscriptionOption-bearerService NAME BINDING

SUBORDINATE OBJECT CLASS cUGSubscriptionOption AND SUBCLASSES;

NAMED BY

SUPERIOR OBJECT CLASS "ITU-T Rec. Q.824.0":bearerService AND SUBCLASSES;

WITH ATTRIBUTE "ITU-T Rec. Q.824.0":supplementaryServiceId;

CREATE

WITH-AUTOMATIC-INSTANCE-NAMING,

WITH-REFERENCE-OBJECT;

DELETE;

REGISTERED AS {cAISDNSSNameBinding ?};

I.5 Sintaxis de atributos

CUGBarring ::=

**ENUMERATED { none (1),
incomingCallsBarred (2),
outgoingCallsBarred (3)}**

CUGDataNetworkIdentification ::= OCTET STRING(SIZE(4))

CUGIndex ::= INTEGER(0..32767) -- Recommendation Q.755

CUGInterlockCode ::= OCTET STRING(SIZE(1..2)) -- Recommendation Q.735

InterCUGaccess ::= ENUMERATED

**{none(1),
outgoingAccess (2),
incomingAccess (3),
ougoingAndIncomingAccess (4)}**

PreferredCUGIndex ::= CHOICE {notDefined [0] NULL, defined [1] CUGIndex}