



UNIÓN INTERNACIONAL DE TELECOMUNICACIONES

UIT-T

SECTOR DE NORMALIZACIÓN
DE LAS TELECOMUNICACIONES
DE LA UIT

G.774

(02/2001)

SERIE G: SISTEMAS Y MEDIOS DE TRANSMISIÓN,
SISTEMAS Y REDES DIGITALES

Equipos terminales digitales – Características de
operación, administración y mantenimiento de los equipos
de transmisión

**Jerarquía digital síncrona – Modelo de
información de gestión desde el punto de vista
de los elementos de red**

Recomendación UIT-T G.774

(Anteriormente Recomendación del CCITT)

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Recomendación UIT-T G.774

Jerarquía digital síncrona – Modelo de información de gestión desde el punto de vista de los elementos de red

Resumen

La presente Recomendación proporciona un modelo de información para la jerarquía digital síncrona. Este modelo describe las clases de objetos gestionados y sus propiedades que son útiles para describir la información intercambiada a través de las interfaces definidas en UIT-T M.3010 sobre la arquitectura de la red de gestión de las telecomunicaciones. La presente Recomendación especializa las clases de objetos de UIT-T M.3100 para proporcionar información de gestión específicamente para la jerarquía digital síncrona.

Historia del documento	
Versión	Notas
2001	La primera revisión incorpora las modificaciones documentadas en el Corrigendum a la Recomendación UIT-T G.774 (1996).
09/1992	Versión inicial de la Recomendación.

Orígenes

La Recomendación UIT-T G.774, revisada por la Comisión de Estudio 15 (2001-2004) del UIT-T, fue aprobada por el procedimiento de la Resolución 1 de la AMNT el 9 de febrero de 2001.

PREFACIO

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La Asamblea Mundial de Normalización de las Telecomunicaciones (AMNT), 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 1 de la AMNT.

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.

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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Recomendación UIT-T G.774

Jerarquía digital síncrona – Modelo de información de gestión desde el punto de vista de los elementos de red

1 Alcance

La presente Recomendación proporciona un modelo de información para la jerarquía digital síncrona (SDH, *synchronous digital hierarchy*). Se identifican las clases de objetos de la red de gestión de telecomunicaciones (RGT) requeridos para la gestión de elementos de red SDH. Estos objetos son pertinentes para la información intercambiada por interfaces normalizadas definidas en la arquitectura de la RGT de UIT-T M.3010. Las clases de objetos gestionados de esta Recomendación son clases especializadas de las clases genéricas de objetos gestionados definidas en UIT-T M.3100, modelo genérico de información de red.

Esta Recomendación se aplica a los elementos de red SDH y a los sistemas de la RGT que gestionan elementos de red SDH. Las capacidades funcionales de los equipos multiplex SDH se indican en UIT-T G.783, y los aspectos de la gestión de los equipos SDH en UIT-T G.784. En la presente Recomendación se facilita la información de gestión necesaria para los protocolos especificados en UIT-T G.784.

Los nuevos objetos definidos en la presente Recomendación sustituyen a los definidos en la versión anterior de la misma (es decir, la versión de 1992). Para cada clase de objeto, atributo, acción, notificación y parámetro definidos en esta versión de la Recomendación, se indicarán sus repercusiones en la actual UIT-T G.774 (1992).

Estructura de la presente Recomendación

La cláusula 5 contiene una visión general del modelo de información SDH. En las cláusulas 6 a 9 se describe el modelo de información utilizando los mecanismos de notación definidos en UIT-T X.722, Directrices para la definición de objetos gestionados. La cláusula 10 contiene las definiciones de sintaxis de la información transportada en el protocolo que utiliza la notación de sintaxis abstracta uno (ASN.1), definida en UIT-T X.680-X.683. Las relaciones entre las clases de objetos gestionados SDH contenidas en la presente Recomendación se definen en la cláusula 11. En el anexo A figuran los diagramas que ilustran la construcción del modelo SDH.

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.

- UIT-T G.707/Y.1322 (2000), *Interfaz de nodo de red para la jerarquía digital síncrona*.
- UIT-T G.773 (1993), *Series de protocolos de interfaces Q para la gestión de sistemas de transmisión*.
- UIT-T G.774.1 (2001), *Jerarquía digital síncrona – Supervisión de la calidad de funcionamiento bidireccional desde el punto de vista de los elementos de red*.

- UIT-T G.774.3 (2001), *Jerarquía digital síncrona – Gestión de la protección de secciones de multiplexión desde el punto de vista de los elementos de red.*
- UIT-T G.783 (2000), *Características de los bloques funcionales del equipo de la jerarquía digital síncrona.*
- UIT-T G.784 (1999), *Gestión de la jerarquía digital síncrona.*
- UIT-T G.803 (2000), *Arquitectura de redes de transporte basadas en la jerarquía digital síncrona.*
- UIT-T G.831 (2000), *Capacidades de gestión de las redes de transporte basadas en la jerarquía digital síncrona.*
- UIT-T G.958 (1994), *Sistemas de línea digitales basados en la jerarquía digital síncrona para utilización en cables de fibra óptica.*
- UIT-T M.60 (1993), *Terminología y definiciones relativas al mantenimiento.*
- UIT-T M.2120 (2000), *Procedimientos de detección y localización de averías en trayectos, secciones y sistemas de transmisión de la jerarquía digital plesiócrona y en trayectos y secciones de multiplexación de la jerarquía digital síncrona.*
- UIT-T M.3010 (2000), *Principios para una red de gestión de las telecomunicaciones.*
- UIT-T M.3013 (2000), *Consideraciones sobre una red de gestión de las telecomunicaciones.*
- UIT-T M.3100 (1995), *Modelo genérico de información de red.*
- UIT-T Q.811 (1997), *Perfiles de protocolo de capa inferior para las interfaces Q3 y X.*
- UIT-T Q.812 (1997), *Perfiles de protocolo de capa superior para las interfaces Q3 y X.*
- UIT-T Q.822 (1993), *Descripción de la etapa 1, de la etapa 2 y de la etapa 3 para el interfaz Q3 – Gestión de la calidad de funcionamiento.*
- UIT-T X.680 a X.683 (1997), *Tecnología de la información – Notación de sintaxis abstracta uno.*
- UIT-T X.701 (1997), *Tecnología de la información – Interconexión de sistemas abiertos – Visión general de la gestión de sistemas.*
- UIT-T X.710 (1997), *Tecnología de la información – Interconexión de sistemas abiertos – Servicio común de información de gestión.*
- UIT-T X.711 (1997), *Tecnología de la información – Interconexión de sistemas abiertos – Protocolo común de información de gestión: Especificación.*
- UIT-T X.720 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Modelo de información de gestión, plus Enm.1 (1995) y Corr.1 (1994).*
- UIT-T X.721 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Definición de información de gestión, plus Corr.1 (1994), Corr.2 (1996), Corr.3 (1998) y Corr.4 (2000).*
- UIT-T X.722 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Estructura de la información de gestión: Directrices para la definición de objetos gestionados, plus Enm.1 (1995), Enm.2 (1997) y Corr.1 (1996).*
- UIT-T X.730 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función de gestión de objetos, plus Enm.1 (1995) y Enm.1/Corr.1 (1996).*

- UIT-T X.731 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función de gestión de estados, plus* Enm.1 (1995), Corr.1 (1995) y Enm.1/Corr.1 (1996).
- UIT-T X.733 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función señaladora de alarmas, plus* Corr.1 (1994), Enm.1 (1995), Enm.1/Corr.1 (1996) y Corr.1 (1999).
- UIT-T X.734 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Gestión de sistemas: Función de gestión de informes de eventos, plus* Corr.1 (1994), Enm.1 (1995), Enm.1/Corr.1 (1996) y Corr.2 (1999).
- UIT-T X.735 (1992), *Tecnología de la información – Interconexión de sistemas abiertos – Función control de ficheros registro cronológico, plus* Enm.1 (1995) y Enm.1/Corr.1 (1996).

3 Términos y definiciones

En la presente Recomendación se utilizan los términos y definiciones especificados en UIT-T G.783, UIT-T G.784 y UIT-T M.3100.

4 Abreviaturas

En esta Recomendación se utilizan las siguientes siglas:

AIS	Señal de indicación de alarma (<i>alarm indication signal</i>)
ASN.1	Notación de sintaxis abstracta uno (<i>abstract syntax notation one</i>)
AU	Unidad administrativa (<i>administrative unit</i>)
AUG	Grupo de unidades administrativas (<i>AU group</i>)
BER	Tasa de errores en los bits (<i>bit error ratio</i>)
CP	Punto de conexión (<i>connection point</i>)
CTP	Punto de terminación de conexión (<i>connection termination point</i>)
DS	Sección digital (<i>digital section</i>)
FERF	Fallo en recepción en el extremo distante (<i>far end receive failure</i>)
FO	Fibra óptica (<i>optical fibre</i>)
GDMO	Directrices para la definición de objetos gestionados (<i>guidelines for the definition of managed objects</i>)
HPA	Adaptación de trayecto de orden superior (<i>higher order path adaptation</i>)
HPC	Conexión de trayecto de orden superior (<i>higher order path connection</i>)
HPT	Terminación de trayecto de orden superior (<i>higher order path termination</i>)
IA	Adaptador indirecto (<i>indirect adaptor</i>)
LOF	Pérdida de alineación de trama (<i>loss of frame</i>)
LOP	Pérdida de puntero (<i>loss of pointer</i>)
LOS	Pérdida de la señal (<i>loss of signal</i>)
LPA	Adaptación de trayecto de orden inferior (<i>lower order path adaptation</i>)
LPC	Conexión de trayecto de orden inferior (<i>lower order path connection</i>)

LPT	Terminación de trayecto de orden inferior (<i>lower order path termination</i>)
MS	Sección múltiplex (<i>multiplex section</i>)
MSP	Protección de sección múltiplex (<i>multiplex section protection</i>)
MST	Terminación de sección múltiplex (<i>multiplex section termination</i>)
NE	Elemento de red (<i>network element</i>)
NNI	Interfaz de nodo de red (<i>network node interface</i>)
PDH	Jerarquía digital plesiócrona (<i>plesiochronous digital hierarchy</i>)
POH	Tara de trayecto (<i>path overhead</i>)
RDN	Nombre distinguido relativo (<i>relative distinguished name</i>)
RGT	Red de gestión de telecomunicaciones
RS	Sección de regeneración (<i>regenerator section</i>)
RST	Terminación de sección de regeneración (<i>regenerator section termination</i>)
SA	Adaptación de sección (<i>section adaptation</i>)
SDH	Jerarquía digital síncrona (<i>synchronous digital hierarchy</i>)
SOH	Tara de sección (<i>section overhead</i>)
SPI	Interfaz física SDH (<i>SDH physical interface</i>)
STM	Modo de transferencia síncrono (<i>synchronous transfer mode</i>)
TTP	Punto de terminación de camino (<i>trail termination point</i>)
TU	Unidad afluente (<i>tributary unit</i>)
TUG	Grupo de unidad afluente (<i>tributary unit group</i>)
VC	Contenedor virtual (<i>virtual container</i>)

5 Modelo de información SDH

5.1 Visión general

El modelo de información SDH se basa en el modelo genérico de información de red de UIT-T M.3100. El modelo genérico de información de red comprende un fragmento de punto de terminación que sirve de estructura para especializar las clases de objetos específicas de la red SDH. Estas clases de objeto específicas de la SDH, junto con las clases de objeto genéricas de otros fragmentos del modelo genérico de información de red (por ejemplo, el fragmento de transconexión el fragmento de equipo), se usan para gestionar los elementos de red SDH. Los servicios utilizados para gestionar los recursos SDH representados por estas clases de objetos se indican en UIT-T M.3100 y en otras Recomendaciones.

La información intercambiada en una interfaz de gestión se modela utilizando los principios de diseño indicados en UIT-T X.720, Modelo de información de gestión. Los recursos se modelan como objetos, y la visión de gestión de un recurso es un objeto gestionado. Los objetos con atributos similares pueden agruparse en clases de objeto. Un objeto se caracteriza por su clase de objeto y ejemplar de objeto, y puede poseer múltiples tipos de atributos y valores asociados. Las expresiones "clase de objeto gestionado" y "ejemplar de objeto gestionado" se aplican específicamente a objetos que están siendo gestionados. En esta Recomendación se indican las propiedades del recurso visibles para la gestión.

Una clase de objeto puede ser una subclase de otra clase. Una subclase hereda tipos de atributos, lotes y comportamientos de su superclase, además de poseer sus propios atributos y propiedades específicos. Todas las clases de objeto específicas de la SDH se derivan de las superclases del modelo de información de red genérico de UIT-T M.3100.

Las clases de objetos y los tipos de atributos se definen solamente para la comunicación de mensajes de gestión de red entre sistemas, y no tienen que estar relacionados con la estructura de los datos dentro de esos sistemas. Las clases de objetos definidas en esta versión del modelo de información SDH se pueden aplicar a numerosas partes funcionales de gestión (por ejemplo, gestión de fallos y gestión de configuración).

A los efectos de la gestión, cabe definir varios puntos de vista diferentes de la información de gestión. El punto de vista de los elementos de red está relacionado con la información necesaria para gestionar un elemento de red. Se refiere a la información requerida para gestionar la función y los aspectos físicos del elemento de red. En la presente Recomendación sólo se trata la gestión de la SDH desde el punto de vista de los elementos de red.

5.2 Requisitos

Para que los equipos SDH puedan ser representados de manera coherente en la interfaz, algunos de los lotes condicionales de UIT-T M.3100 son obligatorios en la presente Recomendación, y no se utilizarán los lotes condicionales siguientes, heredados de dicha Recomendación, cuando se ejemplifican las clases de objetos SDH definidas en la misma: `ttpInstancePackage`, `ctpInstancePackage`, `networkLevelPackage`, `characteristicInformationPackage`, `channelNumberPackage`.

Las subclases SDH especificadas en esta Recomendación se utilizarán para gestionar los recursos de transporte específicos de los elementos de red SDH. Las implementaciones serán conformes a la información de gestión definida en las cláusulas 6 a 10 y a los requisitos determinados en esta cláusula y en la cláusula 11.

En el contexto de la presente Recomendación, en lo adelante los diversos objetos definidos serán denominados utilizando la denominación distinguida local.

6 Clases de objetos

Esta cláusula sustituye las definiciones de clases de objetos gestionados de la actual UIT-T G.774 (1992). Toda clase de objeto gestionado sustituida por una clase de esta cláusula se considera desaprobada. Los motivos para sustituir una clase de objeto gestionado son los siguientes:

- a) la clase de objeto gestionado sustituida está defectuosa y debe ser corregida;
- b) la clase de objeto gestionado sustituida incluye un atributo, lote, notificación u acción que ha sido registrado de nuevo en la presente Recomendación;
- c) la clase de objeto gestionado sustituida hereda de una clase de objeto gestionado que ha sido registrada nuevo en la presente Recomendación.

Cada vez que se sustituye una clase, la nueva clase será registrada en la presente Recomendación. La etiqueta textual para la clase será modificada para incluir el texto "R1". Por ejemplo, cuando se modifica la clase de objeto gestionado "au4CTPSink" G.774 (1992), la etiqueta modificada será "au4CTPSinkR1".

A continuación figura una tabla de clases desaprobadas de la Recomendación G.774 (1992) y las nuevas clases G.774 que las sustituyen:

au3CTPSink	au3CTPSinkR1
au3CTPBidirectional	au3CTPBidirectionalR1
au4CTPSink	au4CTPSinkR1
au4CTPBidirectional	au4CTPBidirectionalR1
tu11CTPSink	tu11CTPSinkR1
tu11CTPBidirectional	tu11CTPBidirectionalR1
tu12CTPSink	tu12CTPSinkR1
tu12CTPBidirectional	tu12CTPBidirectionalR1
tu2CTPSink	tu2CTPSinkR1
tu2CTPBidirectional	tu2CTPBidirectionalR1
tu3CTPSink	tu3CTPSinkR1
tu3CTPBidirectional	tu3CTPBidirectionalR1
vc11TTPBidirectional	vc11TTPBidirectionalR1
vc11TTPSink	vc11TTPSinkR1
vc12TTPBidirectional	vc12TTPBidirectionalR1
vc12TTPSink	vc12TTPSinkR1
vc2TTPBidirectional	vc2TTPBidirectionalR1
vc2TTPSink	vc2TTPSinkR1
vc3TTPBidirectional	vc3TTPBidirectionalR1
vc3TTPSink	vc3TTPSinkR1
vc3TTPSource	vc3TTPSourceR1
vc4TTPBidirectional	vc4TTPBidirectionalR1
vc4TTPSink	vc4TTPSinkR1
vc4TTPSource	vc4TTPSourceR1

Nuevas clases de objeto para soportar la gestión de rastro de cola a nivel de sección de regeneración:

```
rsTTPTrailTraceTrailTraceBidirectional
rsTTPTrailTraceSink
rsTTPTrailTraceSource
```

6.1 Clases de objeto de unidad administrativa 3

au3CTPBidirectionalR1 MANAGED OBJECT CLASS

DERIVED FROM

"Recommendation M.3100":connectionTerminationPointBidirectional,
au3CTPSinkR1,
au3CTPSource;

REGISTERED AS { g7740bjectClass 83 };

au3CTPSinkR1 MANAGED OBJECT CLASS

DERIVED FROM

"Recommendation M.3100": connectionTerminationPointSink;

CHARACTERIZED BY

"Recommendation M.3100": createDeleteNotificationsPackage,
"Recommendation M.3100": operationalStatePackage,
"Recommendation M.3100": stateChangeNotificationPackage,
"Recommendation M.3100": tmnCommunicationsAlarmInformationPackage,
au3CTPSinkR1Pkg PACKAGE

BEHAVIOUR

au3CTPSinkR1PkgBehaviour **BEHAVIOUR**

DEFINED AS

*This object class represents a termination point where an AU-3 Connection is terminated.

The AU-3 consists of a VC-3 plus an AU pointer which indicates the phase alignment of the VC-3 with respect to the STM-N frame.

A communicationsAlarm notification shall be issued if a loss of AU pointer is detected.

The probableCause parameter of the notification shall indicate LOP (Loss Of Pointer).

A communicationsAlarm notification shall be issued if an AU path alarm indication signal is detected. The probableCause parameter of the notification shall indicate AIS (Alarm Indication Signal). A change in the operational state shall cause a state change notification *

```

;;
ATTRIBUTES
au3CTPId          GET,
pointerSinkType    GET;
;;
REGISTERED AS { g7740objectClass 84 };

au3CTPSource MANAGED OBJECT CLASS
DERIVED FROM "Recommendation M.3100":connectionTerminationPointSource;
CHARACTERIZED BY
"Recommendation M.3100":createDeleteNotificationsPackage,
au3CTPSourcePkg PACKAGE
BEHAVIOUR
    au3CTPSourcePkgBehaviour BEHAVIOUR
    DEFINED AS
        *This object class represents a termination point where an AU-3
        Connection is originated.
        The AU-3 consists of a VC-3 plus an AU pointer which indicates the
        phase alignment of the VC-3 with respect to the STM-N frame.*
;;
ATTRIBUTES
au3CTPId          GET,
pointerSourceType  GET;
;;
REGISTERED AS { g7740objectClass 3 };

```

6.2 Clases de objeto de unidad administrativa 4

```

au4CTPBidirectionalR1 MANAGED OBJECT CLASS
DERIVED FROM
"Recommendation M.3100":connectionTerminationPointBidirectional,
au4CTPSinkR1,
au4CTPSource;
REGISTERED AS { g7740objectClass 85 };

au4CTPSinkR1 MANAGED OBJECT CLASS
DERIVED FROM
"Recommendation M.3100":connectionTerminationPointSink;
CHARACTERIZED BY
"Recommendation M.3100":createDeleteNotificationsPackage,
"Recommendation M.3100":operationalStatePackage,
"Recommendation M.3100":stateChangeNotificationPackage,
"Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
au4CTPSinkR1Pkg PACKAGE
BEHAVIOUR
    au4CTPSinkR1PkgBehaviour BEHAVIOUR
    DEFINED AS
        *This object class represents a termination point where an AU-4
        Connection is terminated.
        The AU-4 consists of a VC-4 plus an AU pointer which indicates the
        phase alignment of the VC-4 with respect to the STM-N frame.
        A communicationsAlarm notification shall be issued if a loss of AU
        pointer is detected.
        The probableCause parameter of the notification shall indicate LOP
        (Loss Of Pointer).
        A communicationsAlarm notification shall be issued if an AU path
        alarm indication signal is detected. The probableCause parameter
        of the notification shall indicate AIS (Alarm Indication Signal).

```

```

        A change in the operational state shall cause a state change
        notification *
    ;;
    ATTRIBUTES
        au4CTPId                GET,
        pointerSinkType          GET;
    ;;
REGISTERED AS { g7740objectClass 86 };

au4CTPSource MANAGED OBJECT CLASS
    DERIVED FROM "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        au4CTPSourcePkg PACKAGE
        BEHAVIOUR
            au4CTPSourcePkgBehaviour BEHAVIOUR
            DEFINED AS
                *This object class represents a termination point where an AU-4
                Connection is originated.
                The AU-4 consists of a VC-4 plus an AU pointer which indicates the
                phase alignment of the VC-4 with respect to the STM-N frame.*
    ;;
    ATTRIBUTES
        au4CTPId                GET,
        pointerSourceType        GET;
    ;;
REGISTERED AS { g7740objectClass 6 };

```

6.3 Clases de objeto de grupo de unidades administrativas

```

augBidirectional MANAGED OBJECT CLASS
    DERIVED FROM indirectAdaptorBidirectional,
                augSink,
                augSource;
REGISTERED AS { g7740objectClass 7 };
augSink MANAGED OBJECT CLASS
    DERIVED FROM indirectAdaptorSink;
    CHARACTERIZED BY
        augSinkPkg PACKAGE
        BEHAVIOUR
            augSinkPkgBehaviour BEHAVIOUR
            DEFINED AS
                *This object class is instantiated if AU-n Connection(s) are being
                terminated.
                An AUG consists of a homogeneous, byte interleaved, assembly of
                either three AU-3s or one AU-4.
                This object class represents the point at which the AU-3/4 pointer
                is derived, based on the phase of the VC-3/4 POH relative to the
                STM-N SOH. Also, the STM-N payload is byte-demultiplexed into its
                component AU Groups (AUGs).*
    ;;
    ATTRIBUTES
        augId                GET,
        "Recommendation M.3100":supportableClientList    GET;
    ;;
REGISTERED AS { g7740objectClass 8 };

```

```

augSource MANAGED OBJECT CLASS
  DERIVED FROM indirectAdaptorSource;
  CHARACTERIZED BY
    augSourcePkg PACKAGE
      BEHAVIOUR
        augSourcePkgBehaviour BEHAVIOUR
          DEFINED AS
            *This object class is instantiated if AU-n Connection(s) are being
            originated.
            An AUG consists of a homogeneous, byte interleaved, assembly of either
            three AU-3s or one AU-4.
            This object class represents the point at which the AU-3/4 pointer is
            generated to indicate the phase of the VC-3/4 POH relative to the STM-N
            SOH. Also, the AU Groups (AUGs) are byte-multiplexed to construct the
            complete STM-N frame.*
            ;;
            ATTRIBUTES
              augId GET,
              "Recommendation M.3100":supportableClientList GET;
            ;;
REGISTERED AS { g7740objectClass 9 };

```

6.4 Clases de objeto de de punto de terminación de camino SPI eléctrico

```

electricalSPITTPBidirectional MANAGED OBJECT CLASS
  DERIVED FROM
    "Recommendation M.3100":trailTerminationPointBidirectional,
    electricalSPITTPSink,
    electricalSPITTPSource;
REGISTERED AS { g7740objectClass 10 };

electricalSPITTPSink MANAGED OBJECT CLASS
  DERIVED FROM "Recommendation M.3100":trailTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
    electricalSPIPackage,
    electricalSPITTPSinkPkg PACKAGE
      BEHAVIOUR
        electricalSPITTPSinkBehaviourPkg BEHAVIOUR
          DEFINED AS
            *This object class represents the point where the incoming electrical
            interface signal is converted into an internal logic level and the
            timing is recovered from the line signal.
            A communicationsAlarm notification shall be issued if a loss of signal
            is detected.
            The probableCause parameter of the notification shall indicate LOS
            (Loss Of signal).
            The upstream connectivity pointer is NULL for an instance of this class
            when the upstream
            termination point is not contained within the same network element.
            *
            ;;;;
REGISTERED AS { g7740objectClass 11 };

```

```

electricalSPITTPSource MANAGED OBJECT CLASS
  DERIVED FROM
    "Recommendation M.3100":trailTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    electricalSPIPackage,
    electricalSPITTPSourcePkg PACKAGE
      BEHAVIOUR
        electricalSPITTPSourceBehaviourPkg BEHAVIOUR
          DEFINED AS
            *This object class represents the point at which an outgoing internal
            logic level STM-N signal is converted into a STM-N in station
            electrical interface signal.
            The downstream connectivity pointer is NULL for an instance of this
            class when the downstream termination point is not contained within the
            same network element.
            *
          ;;;;
REGISTERED AS { g7740objectClass 12 };

```

6.5 Clases de objeto de adaptador indirecto

```

indirectAdaptorBidirectional MANAGED OBJECT CLASS
  DERIVED FROM      indirectAdaptorSink,
                    indirectAdaptorSource;
REGISTERED AS { g7740objectClass 13 };

indirectAdaptorSink MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation X.721":top;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    indirectAdaptorSinkPkg PACKAGE
      BEHAVIOUR
        indirectAdaptorSinkBehaviourPkg BEHAVIOUR
          DEFINED AS
            *This object class provides a naming mechanism which describes the
            multiplexing hierarchy of the SDH signal.*
          ;;;;
REGISTERED AS { g7740objectClass 14 };

indirectAdaptorSource MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation X.721":top;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    indirectAdaptorSourcePkg PACKAGE
      BEHAVIOUR
        indirectAdaptorSourceBehaviourPkg BEHAVIOUR
          DEFINED AS
            *This object class provides a naming mechanism which describes the
            multiplexing hierarchy of the SDH signal.*
          ;;;;
REGISTERED AS { g7740objectClass 15 };

```

6.6 Clases de objeto de punto de terminación de conexión de sección múltiplex

```

msCTPBidirectional MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation
                    M.3100":connectionTerminationPointBidirectional,
                    msCTPSink,
                    msCTPSource;
REGISTERED AS { g7740objectClass 16 };

```

```

msCTPSink MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        msCTPPackage,
        msCTPSinkPkg PACKAGE
        BEHAVIOUR
            msCTPSinkBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class terminates a multiplex section connection.*
        ;;;;
REGISTERED AS { g7740objectClass 17 };

msCTPSource MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        msCTPPackage,
        msCTPSourcePkg PACKAGE
        BEHAVIOUR
            msCTPSourceBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class originates a multiplex section connection.*
        ;;;;
REGISTERED AS { g7740objectClass 18 };

```

6.7 Clases de objeto de canal de comunicaciones de datos de sección múltiplex

```

msDatacomCTPBidirectional MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":
                        connectionTerminationPointBidirectional,
                        msDatacomCTPSink,
                        msDatacomCTPSource;
REGISTERED AS { g7740objectClass 19 };

msDatacomCTPSink MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        msDatacomCTPSinkPkg PACKAGE
        BEHAVIOUR
            msDatacomCTPSinkBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class terminates the D4-D12 bytes in the MSOH.*
        ;;
    ATTRIBUTES
        msDatacomCTPId          GET;
    ;;
REGISTERED AS { g7740objectClass 20 };

msDatacomCTPSource MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        msDatacomCTPSourcePkg PACKAGE
        BEHAVIOUR
            msDatacomCTPSourceBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class originates the D4-D12 bytes in the MSOH.*
        ;;
    ATTRIBUTES
        msDatacomCTPIdGET;
    ;;
REGISTERED AS { g7740objectClass 21 };

```

6.8 Clases de objeto de canal de órdenes de servicio de sección múltiplex

```
msOrderwireCTPBidirectional MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":
                        connectionTerminationPointBidirectional,
                        msOrderwireCTPSink,
                        msOrderwireCTPSource;
REGISTERED AS { g7740objectClass 22 };

msOrderwireCTPSink MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        msOrderwireCTPSinkPkg PACKAGE
        BEHAVIOUR
            msOrderwireCTPSinkBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class represents a termination point where the E2
                byte orderwire channel is terminated.*
                ;;
                ATTRIBUTES
                    msOrderwireCTPId    GET;
            ;;
REGISTERED AS { g7740objectClass 23 };

msOrderwireCTPSource MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        msOrderwireCTPSourcePkg PACKAGE
        BEHAVIOUR
            msOrderwireCTPSourceBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class represents a termination point where the E2
                byte orderwire channel is originated.*
                ;;
                ATTRIBUTES
                    msOrderwireCTPId    GET;
            ;;
REGISTERED AS { g7740objectClass 24 };
```

6.9 Clases de objeto de punto de terminación de camino de sección múltiplex

```
msSTPBidirectional MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":
                        trailTerminationPointBidirectional,
                        msSTPSink,
                        msSTPSource;
CHARACTERIZED BY
    msSTPBidirectionalPkg PACKAGE
    BEHAVIOUR
        msSTPBidirectionalBehaviourPkg BEHAVIOUR
        DEFINED AS
            *When the excessiveBERMtceInhibit attribute is set to TRUE, MS-FERF is
            not inserted upstream upon detection of excessive BER.
            A communicationsAlarm notification shall be issued if a far end receive
            failure is detected. The probableCause parameter of the notification
            shall indicate FERF (Far End Receive Failure).*
            ;;
REGISTERED AS { g7740objectClass 25 };
```

```

msTTPSink MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":trailTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
    msTTPPackage,
    msTTPSinkPkg PACKAGE
      BEHAVIOUR
        msTTPSinkBehaviourPkg BEHAVIOUR
          DEFINED AS
            *This object class terminates a multiplex section trail, i.e. the
            processing and removal of the multiplex section overhead from the
            incoming signal.
            When the excessiveBERMtceInhibit attribute is set to TRUE, AIS is not
            inserted downstream upon detection of excessive BER.
            A communicationsAlarm notification shall be issued if an excessive bit
            error rate is detected. The probableCause parameter of the notification
            shall indicate excessive BER.
            A communicationsAlarm notification shall be issued if a degraded signal
            is detected. The probableCause parameter of the notification shall
            indicate signal degrade.
            A communicationsAlarm notification shall be issued if an MS alarm
            indication signal is detected. The probableCause parameter of the
            notification shall indicate AIS (Alarm Indication Signal).*
            ;;
          ATTRIBUTES
            excessiveBERMtceInhibit      GET-REPLACE,
            signalDegradeThreshold        GET-REPLACE;
            ;;
  REGISTERED AS { g7740objectClass 26 };

msTTPSource MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":trailTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    msTTPPackage,
    msTTPSourcePkg PACKAGE
      BEHAVIOUR
        msTTPSourceBehaviourPkg BEHAVIOUR
          DEFINED AS
            *This object class originates a multiplex section trail, i.e. the
            generation and addition of the multiplex section overhead to the
            outgoing signal.*
            ;;
  REGISTERED AS { g7740objectClass 27 };

```

6.10 Clases de objeto de punto de terminación de camino de interfaz física SDH óptica

```

opticalSPITTPBidirectional MANAGED OBJECT CLASS
  DERIVED FROM
    "Recommendation M.3100":trailTerminationPointBidirectional,
    opticalSPITTPSink,
    opticalSPITTPSource;
  REGISTERED AS { g7740objectClass 28 };

```

```

opticalSPITTPSink MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        opticalSPIPackage,
        opticalSPITTPSinkPkg PACKAGE
        BEHAVIOUR
            opticalSPITTPSinkBehaviourPkg BEHAVIOUR
                DEFINED AS
                    *This object class represents the point where the incoming optical
                    interface signal is converted into an internal logic level and the
                    timing is recovered from the line signal.
                    A communicationsAlarm notification shall be issued if a loss of signal
                    is detected.
                    The probableCause parameter of the notification shall indicate LOS
                    (Loss Of signal).
                    The upstream connectivity pointer is NULL for an instance of this class
                    when the upstream termination point is not contained within the same
                    network element.*
                ;;;
REGISTERED AS { g7740objectClass 29 };

opticalSPITTPSource MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        opticalSPIPackage,
        opticalSPITTPSourcePkg PACKAGE
        BEHAVIOUR
            opticalSPITTPSourceBehaviourPkg BEHAVIOUR
                DEFINED AS
                    *This object class represents the point at which an outgoing internal
                    logic level STM-N signal is converted into a STM-N in-station or inter-
                    station optical interface signal.
                    A communicationsAlarm notification shall be issued if the transmit
                    laser fails.
                    The probableCause parameter of the notification shall indicate
                    TransmitFail.
                    The downstream connectivity pointer is NULL for an instance of this
                    class when the downstream termination point is not contained within the
                    same network element.*
                ;;;
REGISTERED AS { g7740objectClass 30 };

```

6.11 Clases de objeto de punto de terminación de conexión de sección de regeneración

```

rsCTPBidirectional MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":
            connectionTerminationPointBidirectional,
            rsCTPSink,
            rsCTPSource;
REGISTERED AS { g7740objectClass 31 };

```

```

rsCTPSink MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    rsCTPPackage,
    rsCTPSinkPkg PACKAGE
    BEHAVIOUR
    rsCTPSinkBehaviourPkg BEHAVIOUR
    DEFINED AS
    *This object class terminates an regenerator section connection.*
    ;;;;
REGISTERED AS { g7740objectClass 32 };

rsCTPSource MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    rsCTPPackage,
    rsCTPSourcePkg PACKAGE
    BEHAVIOUR
    rsCTPSourceBehaviourPkg BEHAVIOUR
    DEFINED AS
    *This object class originates a regenerator section connection.*
    ;;;;
REGISTERED AS { g7740objectClass 33 };

```

6.12 Clases de objeto de canal de comunicaciones de datos de sección de regeneración

```

rsDatacomCTPBidirectional MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":
                    connectionTerminationPointBidirectional,
                    rsDatacomCTPSink,
                    rsDatacomCTPSource;
REGISTERED AS { g7740objectClass 34 };

rsDatacomCTPSink MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    rsDatacomCTPSinkPkg PACKAGE
    BEHAVIOUR
    rsDatacomCTPSinkBehaviourPkg BEHAVIOUR
    DEFINED AS
    *This object class terminates the D1-D3 bytes in the RSOH.*
    ;;
    ATTRIBUTES
    rsDatacomCTPId          GET;
    ;;
REGISTERED AS { g7740objectClass 35 };

rsDatacomCTPSource MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    rsDatacomCTPSourcePkg PACKAGE
    BEHAVIOUR
    rsDatacomCTPSourceBehaviourPkg BEHAVIOUR
    DEFINED AS
    *This object class originates the D1-D3 bytes in the RSOH.*
    ;;
    ATTRIBUTES
    rsDatacomCTPId          GET;
    ;;
REGISTERED AS { g7740objectClass 36 };

```

6.13 Clases de objeto de canal de órdenes de servicio de sección de regeneración

```
rsOrderwireCTPBidirectional MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":
                    connectionTerminationPointBidirectional,
                    rsOrderwireCTPSink,
                    rsOrderwireCTPSource;
REGISTERED AS { g7740objectClass 37 };

rsOrderwireCTPSink MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    rsOrderwireCTPSinkPkg PACKAGE
    BEHAVIOUR
      rsOrderwireCTPSinkBehaviourPkg BEHAVIOUR
      DEFINED AS
        *This object class represents the point where the E1 byte
        orderwire channel is terminated.*
      ;;
    ATTRIBUTES
      rsOrderwireCTPId          GET;
  ;;
REGISTERED AS { g7740objectClass 38 };

rsOrderwireCTPSource MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    rsOrderwireCTPSourcePkg PACKAGE
    BEHAVIOUR
      rsOrderwireCTPSourceBehaviourPkg BEHAVIOUR
      DEFINED AS
        *This object class represents the point where the E1 byte
        orderwire channel is originated.*
      ;;
    ATTRIBUTES
      rsOrderwireCTPId          GET;
  ;;
REGISTERED AS { g7740objectClass 39 };
```

6.14 Clase de objeto de punto de terminación de camino de sección de regeneración

```
rsTTPBidirectional MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":
                    trailTerminationPointBidirectional,
                    rsTTPSink,
                    rsTTPSource;
REGISTERED AS { g7740objectClass 40 };

rsTTPTrailTraceBidirectional MANAGED OBJECT CLASS
  DERIVED FROM      rsTTPBidirectional, -- This derivation is necessary for
                    name binding purposes
                    rsTTPTrailTraceSink,
                    rsTTPTrailTraceSource;
REGISTERED AS { g7740objectClass 107 };
```

```

rsTTPSink MANAGED OBJECT CLASS
  DERIVED FROM "Recommendation M.3100":trailTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
    rsTTPPackage,
    rsTTPSinkPkg PACKAGE
    BEHAVIOUR
      rsTTPSinkBehaviourPkg BEHAVIOUR
        DEFINED AS
          *This object class represents the termination of the regenerator
          section trail, i.e. the processing and removal of the regenerator
          section overhead from the incoming signal and the descrambling of
          that signal.
          A communicationsAlarm notification shall be issued if a loss of
          frame is detected. The probableCause parameter of the notification
          shall indicate LOF (Loss of Frame).*
        ;;;;
REGISTERED AS { g7740objectClass 41 };

rsTTPTrailTraceSink MANAGED OBJECT CLASS
  DERIVED FROM rsTTPSink;
  CHARACTERIZED BY
    trailTraceSinkPackage,
    rsTTPTrailTraceSinkPkg PACKAGE
    BEHAVIOUR
      rsTTPTrailTraceSinkBehaviourPkg BEHAVIOUR
        DEFINED AS
          *This object class represents the termination of the regenerator
          section trail and supports trail trace management.*
        ;;;;
REGISTERED AS { g7740objectClass 108 };

rsTTPSource MANAGED OBJECT CLASS
  DERIVED FROM "Recommendation M.3100":trailTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    rsTTPPackage,
    rsTTPSourcePkg PACKAGE
    BEHAVIOUR
      rsTTPSourceBehaviourPkg BEHAVIOUR
        DEFINED AS
          *This object class represents the origination of the regenerator
          section trail, i.e. generates the regenerator section overhead for
          the outgoing signal, and scrambles that signal.*
        ;;;;
REGISTERED AS { g7740objectClass 42 };

rsTTPTrailTraceSource MANAGED OBJECT CLASS
  DERIVED FROM rsTTPSource;
  CHARACTERIZED BY
    trailTraceSourcePackage,
    rsTTPTrailTraceSourcePkg PACKAGE
    BEHAVIOUR
      rsTTPTrailTraceSourceBehaviourPkg BEHAVIOUR
        DEFINED AS
          *This object class represents the origination of the regenerator
          section trail and supports trail trace management.*
        ;;;;
REGISTERED AS { g7740objectClass 109 };

```

6.15 Clases de objeto de canal de usuario de sección de regeneración

```
rsUserChannelCTPBidirectional MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":
                        connectionTerminationPointBidirectional,
                        rsUserChannelCTPSink,
                        rsUserChannelCTPSource;
REGISTERED AS { g7740objectClass 43 };

rsUserChannelCTPSink MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        rsUserChannelCTPSinkPkg PACKAGE
        BEHAVIOUR
            rsUserChannelCTPSinkBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class represents a class of objects that terminates
                the F1 byte user channel.*
            ;;
        ATTRIBUTES
            rsUserChannelCTPId      GET;
    ;;
REGISTERED AS { g7740objectClass 44 };

rsUserChannelCTPSource MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        rsUserChannelCTPSourcePkg PACKAGE
        BEHAVIOUR
            rsUserChannelCTPSourceBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class represents a class of objects that originates
                the F1 byte user channel.*
            ;;
        ATTRIBUTES
            rsUserChannelCTPId      GET;
    ;;
REGISTERED AS { g7740objectClass 45 };
```

6.16 Clase de objeto de elemento de red SDH

```
sdhNE MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":managedElement;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        sdhNEPackage PACKAGE
        BEHAVIOUR
            sdhNEBehaviour BEHAVIOUR
            DEFINED AS
                *An SDH network element is a system which has no internal open-
                system interfaces.*
            ;;
    ;;
REGISTERED AS { g7740objectClass 46 };
```

6.17 Clases de objeto de unidad afluente 11

```
tu11CTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":connectionTerminationPointBidirectional,
        tu11CTPSinkR1,
        tu11CTPSource;
REGISTERED AS { g7740objectClass 87 };

tu11CTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":operationalStatePackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        tu-nSinkPackage,
        tu11CTPSinkR1Pkg PACKAGE
    BEHAVIOUR
        tu11CTPSinkR1BehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class terminates a tu-11 connection.
                A change in the operational state shall cause a state change
                notification *
            ;;
    ATTRIBUTES
        tu11CTPId      GET;
    ;;
REGISTERED AS { g7740objectClass 88 };

tu11CTPSource MANAGED OBJECT CLASS
    DERIVED FROM        "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        tu11CTPSourcePkg PACKAGE
    BEHAVIOUR
        tu11CTPSourceBehaviourPkg BEHAVIOUR
            DEFINED AS
                *This object class originates a tu-11 connection.*
            ;;
    ATTRIBUTES
        tu11CTPId      GET,
        pointerSourceType GET;
    ;;
REGISTERED AS { g7740objectClass 49 };
```

6.18 Clases de objeto de unidad afluente 12

```
tu12CTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":connectionTerminationPointBidirectional,
        tu12CTPSinkR1,
        tu12CTPSource;
REGISTERED AS { g7740objectClass 89 };

tu12CTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":operationalStatePackage,
```

```

"Recommendation M.3100":stateChangeNotificationPackage,
"Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
tu-nSinkPackage,
tu12CTPSinkR1Pkg PACKAGE
    BEHAVIOUR
    tu12CTPSinkR1BehaviourPkg BEHAVIOUR
        DEFINED AS
        *This object class terminates a tu-12 connection.
        A change in the operational state shall cause a state change
        notification *
    ;;
    ATTRIBUTES
    tu12CTPId GET;
;;
REGISTERED AS { g7740objectClass 90 };

tu12CTPSource MANAGED OBJECT CLASS
    DERIVED FROM "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    tu12CTPSourcePkg PACKAGE
        BEHAVIOUR
        tu12CTPSourceBehaviourPkg BEHAVIOUR
            DEFINED AS
            *This object class originates a tu-12 connection.*
        ;;
        ATTRIBUTES
        tu12CTPId GET,
        pointerSourceType GET;
;;
REGISTERED AS { g7740objectClass 52 };

```

6.19 Clases de objeto de unidad afluyente 2

```

tu2CTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
    "Recommendation M.3100":connectionTerminationPointBidirectional,
    tu2CTPSinkR1,
    tu2CTPSource;
REGISTERED AS { g7740objectClass 91 };

tu2CTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
    "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":operationalStatePackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
    tu-nSinkPackage,
    tu2CTPSinkR1Pkg PACKAGE
        BEHAVIOUR
        tu2CTPSinkR1BehaviourPkg BEHAVIOUR
            DEFINED AS
            *This object class terminates a tu-2 connection.
            A change in the operational state shall cause a state change
            notification.*
        ;;
        ATTRIBUTES
        tu2CTPId GET;
;;
REGISTERED AS { g7740objectClass 92 };

```

```

tu2CTPSource MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
    tu2CTPSourcePkg PACKAGE
        BEHAVIOUR
            tu2CTPSourceBehaviourPkg BEHAVIOUR
                DEFINED AS
                    *This object class originates a tu-2 connection.*
                ;;
            ATTRIBUTES
                tu2CTPId          GET,
                pointerSourceType GET;
            ;;
    REGISTERED AS { g7740objectClass 55 };

```

6.20 Clases de objeto de unidad afluente 3

```

tu3CTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":connectionTerminationPointBidirectional,
    tu3CTPSinkR1,
    tu3CTPSource;
REGISTERED AS { g7740objectClass 93 };

tu3CTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":connectionTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":operationalStatePackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
    tu-nSinkPackage,
    tu3CTPSinkR1Pkg PACKAGE
        BEHAVIOUR
            tu3CTPSinkR1BehaviourPkg BEHAVIOUR
                DEFINED AS
                    *This object class terminates a tu-3 connection.
                    A change in the operational state shall cause a state change
                    notification.*
                ;;
            ATTRIBUTES
                tu3CTPId          GET;
            ;;
    REGISTERED AS { g7740objectClass 94 };

```

```

tu3CTPSource MANAGED OBJECT CLASS
    DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation M.3100":createDeleteNotificationsPackage,
    tu3CTPSourcePkg PACKAGE
        BEHAVIOUR
            tu3CTPSourceBehaviourPkg BEHAVIOUR
                DEFINED AS
                    *This object class originates a tu-3 connection.*
                ;;
            ATTRIBUTES
                tu3CTPId          GET,
                pointerSourceType GET;
            ;;
    REGISTERED AS { g7740objectClass 58 };

```

6.21 Clases de objeto de grupo de unidades afluentes 2

```
tug2Bidirectional MANAGED OBJECT CLASS
DERIVED FROM indirectAdaptorBidirectional,
    tug2Sink,
    tug2Source;
REGISTERED AS { g7740objectClass 59 };

tug2Sink MANAGED OBJECT CLASS
DERIVED FROM indirectAdaptorSink;
CHARACTERIZED BY
    tug2SinkPkg PACKAGE
    BEHAVIOUR
        tug2SinkBehaviourPkg BEHAVIOUR
        DEFINED AS
            *This object class is instantiated if TU-11, TU-12, TU-2
            connection(s) are being terminated or originated.
            A TUG-2 consists of a homogeneous or heterogeneous, assembly of
            four TU-11s, three TU-12s or one TU-2.
            This object class represents the point at which the TU pointer is
            derived, based on the phase of the VC 11/12/2 POH relative to the
            VC-3/4 POH and the VC-3/4 signal is disassembled.*
;;
ATTRIBUTES
    tug2Id GET,
    "Recommendation M.3100":supportableClientList GET;
;;
REGISTERED AS { g7740objectClass 60 };

tug2Source MANAGED OBJECT CLASS
DERIVED FROM indirectAdaptorSource;
CHARACTERIZED BY
    tug2SourcePkg PACKAGE
    BEHAVIOUR
        tug2SourceBehaviourPkg BEHAVIOUR
        DEFINED AS
            *This object class is instantiated if TU-11, TU-12, TU-2
            connection(s) are being terminated or originated.
            A TUG-2 consists of a homogeneous or heterogeneous, assembly of
            four TU-11s, three TU-12s or one TU-2.
            This object class represents the point at which the TU pointer is
            processed to indicate the phase of the VC 11/12/2 POH relative to
            the VC-3/4 POH and assembles the complete VC-3/4.*
;;
ATTRIBUTES
    tug2Id GET,
    "Recommendation M.3100":supportableClientList GET;
;;
REGISTERED AS { g7740objectClass 61 };
```

6.22 Clases de objeto de grupo de unidades afluentes 3

```
tug3Bidirectional MANAGED OBJECT CLASS
DERIVED FROM indirectAdaptorBidirectional,
    tug3Sink,
    tug3Source;
REGISTERED AS { g7740objectClass 62 };
```

```

tug3Sink MANAGED OBJECT CLASS
    DERIVED FROM      indirectAdaptorSink;
    CHARACTERIZED BY
        tug3SinkPkg PACKAGE
            BEHAVIOUR
                tug3SinkBehaviourPkg BEHAVIOUR
                    DEFINED AS
                        *This object class is instantiated if TU-3 connection(s) are being
                        terminated. Or if TU-11s, TU-12s, or TU-2s are being terminated
                        from a VC-4.
                        A TUG-3 consists of a homogeneous assembly of seven TUG-2s or one
                        TU-3.*
                    ;;
                ATTRIBUTES
                    tug3Id          GET,
                    "Recommendation M.3100":supportableClientList  GET;
            ;;
REGISTERED AS { g7740objectClass 63 };

tug3Source MANAGED OBJECT CLASS
    DERIVED FROM      indirectAdaptorSource;
    CHARACTERIZED BY
        tug3SourcePkg PACKAGE
            BEHAVIOUR
                tug3SourceBehaviourPkg BEHAVIOUR
                    DEFINED AS
                        *This object class is instantiated if TU-3 connection(s) are being
                        originated. Or TU-11s, TU-12s, or TU-2s are being combined to form
                        a VC-4.
                        A TUG-3 consists of a homogeneous assembly of seven TUG-2s or one
                        TU-3.*
                    ;;
                ATTRIBUTES
                    tug3Id          GET,
                    "Recommendation M.3100":supportableClientList  GET;
            ;;
REGISTERED AS { g7740objectClass 64 };

```

6.23 Clases de objeto de contenedor virtual 11

```

vc11TTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointBidirectional,
        vc11TTPSinkR1,
        vc11TTPSource;
    CHARACTERIZED BY
        vc11-2BidirectionalPackageR1;
REGISTERED AS { g7740objectClass 95 };

vc11TTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        vc11-2SinkPackageR1,
        vc11TTPSinkPkgR1 PACKAGE
            BEHAVIOUR
                vc11TTPSinkPkgR1Behaviour BEHAVIOUR

```

```

        DEFINED AS
        *This object class terminates a vc11 trail, i.e. the point at
        which the VC11-POH is extracted from the STM-N frame.*
    ;;
    ATTRIBUTES
        vc11TTPId                GET;
    ;;
REGISTERED AS { g7740objectClass 96 };

vc11TTPSource MANAGED OBJECT CLASS
    DERIVED FROM        "Recommendation M.3100":trailTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        vc11TTPSourcePkg PACKAGE
        BEHAVIOUR
            vc11TTPSourcePkgBehaviour BEHAVIOUR
                DEFINED AS
                *This object class originates a vc11 trail, i.e. the point at
                which the VC11-POH is added to the STM-N frame.*
                ;;
                ATTRIBUTES
                    vc11TTPId                GET,
                    v5SignalLabelSend        GET;
            ;;
REGISTERED AS { g7740objectClass 67 };

```

6.24 Clases de objeto de contenedor virtual 12

```

vc12TTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointBidirectional,
        vc12TTPSinkR1,
        vc12TTPSource;
    CHARACTERIZED BY
        vc11-2BidirectionalPackageR1;
REGISTERED AS { g7740objectClass 97 };

vc12TTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        vc11-2SinkPackageR1,
        vc12TTPSinkPkgR1 PACKAGE
        BEHAVIOUR
            vc12TTPSinkPkgR1Behaviour BEHAVIOUR
                DEFINED AS
                *This object class terminates a vc12 trail, i.e. the point at
                which the VC12-POH is extracted from the STM-N frame.*
                ;;
                ATTRIBUTES
                    vc12TTPId                GET;
            ;;
REGISTERED AS { g7740objectClass 98 };

```

```

vc12TTPSource MANAGED OBJECT CLASS
  DERIVED FROM "Recommendation M.3100":trailTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
  vc12TTPSourcePkg PACKAGE
    BEHAVIOUR
      vc12TTPSourcePkgBehaviour BEHAVIOUR
        DEFINED AS
          *This object class originates a vc12 trail, i.e. the point at which the
          VC12-POH is added to the STM-N frame.*
        ;;
      ATTRIBUTES
        vc12TTPIId GET,
        v5SignalLabelSend GET;
    ;;
REGISTERED AS { g7740objectClass 70 };

```

6.25 Clases de objeto de contenedor virtual 2

```

vc2TTPBidirectionalR1 MANAGED OBJECT CLASS
  DERIVED FROM
    "Recommendation M.3100":trailTerminationPointBidirectional,
    vc2TTPSinkR1,
    vc2TTPSource;
  CHARACTERIZED BY
    vc11-2BidirectionalPackageR1;
REGISTERED AS { g7740objectClass 99 };

vc2TTPSinkR1 MANAGED OBJECT CLASS
  DERIVED FROM "Recommendation M.3100":trailTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
    "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
    vc11-2SinkPackageR1,
    vc2TTPSinkPkgR1 PACKAGE
      BEHAVIOUR
        vc2TTPSinkPkgR1Behaviour BEHAVIOUR
          DEFINED AS
            *This object class terminates a vc2 trail, i.e. the point at which
            the VC2-POH is extracted from the STM-N frame.*
          ;;
        ATTRIBUTES
          vc2TTPIId GET;
      ;;
    REGISTERED AS { g7740objectClass 100 };

vc2TTPSource MANAGED OBJECT CLASS
  DERIVED FROM "Recommendation M.3100":trailTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation X.721":administrativeStatePackage,
    "Recommendation M.3100":createDeleteNotificationsPackage,
    "Recommendation M.3100":stateChangeNotificationPackage,
  vc2TTPSourcePkg PACKAGE
    BEHAVIOUR
      vc2TTPSourcePkgBehaviour BEHAVIOUR
        DEFINED AS
          *This object class originates a vc2 trail, i.e. the point at which
          the VC2-POH is added to the STM-N frame.*
        ;;

```

```

        ATTRIBUTES
            vc2TTPIId          GET,
            v5SignalLabelSend  GET;
    ;;
REGISTERED AS { g7740objectClass 73 };

```

6.26 Clases de objeto de contenedor virtual 3

```

vc3TTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointBidirectional,
        vc3TTPSinkR1,
        vc3TTPSourceR1;
    CHARACTERIZED BY
        vc3-4BidirectionalPackageR1;
REGISTERED AS { g7740objectClass 101 };

vc3TTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM "Recommendation M.3100":trailTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        vc3-4SinkPackageR1,
        vc3TTPSinkPkgR1 PACKAGE
        BEHAVIOUR
            vc3TTPSinkPkgR1Behaviour BEHAVIOUR
            DEFINED AS
                *This object class terminates a vc3 trail, i.e. the point at which
                the SDH VC-3 is terminated.*
    ;;
    ATTRIBUTES
        vc3TTPIId          GET;
    ;;
REGISTERED AS { g7740objectClass 102 };

vc3TTPSourceR1 MANAGED OBJECT CLASS
    DERIVED FROM "Recommendation M.3100":trailTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        vc3-4SourcePackageR1,
        vc3TTPSourcePkgR1 PACKAGE
        BEHAVIOUR
            vc3TTPSourcePkgR1Behaviour BEHAVIOUR
            DEFINED AS
                *This object class originates a vc3 trail, i.e. the point at which
                the SDH VC-3 is originated.*
    ;;
    ATTRIBUTES
        vc3TTPIId          GET;
    ;;
REGISTERED AS { g7740objectClass 103 };

```

6.27 Clases de objeto de contenedor virtual 4

```
vc4TTPBidirectionalR1 MANAGED OBJECT CLASS
    DERIVED FROM
        "Recommendation M.3100":trailTerminationPointBidirectional,
        vc4TTPSinkR1,
        vc4TTPSourceR1;
    CHARACTERIZED BY
        vc3-4BidirectionalPackageR1;
REGISTERED AS { g7740objectClass 104 };

vc4TTPSinkR1 MANAGED OBJECT CLASS
    DERIVED FROM "Recommendation M.3100":trailTerminationPointSink;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        "Recommendation M.3100":tmnCommunicationsAlarmInformationPackage,
        vc3-4SinkPackageR1,
        vc4TTPSinkPkgR1 PACKAGE
        BEHAVIOUR
            vc4TTPSinkPkgR1Behaviour BEHAVIOUR
                DEFINED AS
                    *This object class terminates a vc4 trail, i.e. the point at which
                    the SDH VC-4 is terminated.*
                ;;
            ATTRIBUTES
                vc4TTPIId          GET;
        ;;
REGISTERED AS { g7740objectClass 105 };

vc4TTPSourceR1 MANAGED OBJECT CLASS
    DERIVED FROM          "Recommendation M.3100":trailTerminationPointSource;
    CHARACTERIZED BY
        "Recommendation X.721":administrativeStatePackage,
        "Recommendation M.3100":createDeleteNotificationsPackage,
        "Recommendation M.3100":stateChangeNotificationPackage,
        vc3-4SourcePackageR1,
        vc4TTPSourcePkgR1 PACKAGE
        BEHAVIOUR
            vc3-4TTPSourcePkgR1Behaviour BEHAVIOUR
                DEFINED AS
                    *This object class originates a vc4 trail, i.e. the point at which
                    the SDH VC-4 is originated.*
                ;;
            ATTRIBUTES
                vc4TTPIId          GET;
        ;;
REGISTERED AS { g7740objectClass 106 };
```

6.28 Clases de objeto de canal de usuario VC-n

```
vcnUserChannelICTPBidirectional MANAGED OBJECT CLASS
    DERIVED FROM          "Recommendation M.3100":
                            connectionTerminationPointBidirectional,
                            vcnUserChannelICTPSink,
                            vcnUserChannelICTPSource;
REGISTERED AS { g7740objectClass 80 };
```

```

vcnUserChannelCTPSink MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSink;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    vcnUserChannelCTPSinkPkg PACKAGE
    BEHAVIOUR
      vcnUserChannelCTPSinkBehaviourPkg BEHAVIOUR
      DEFINED AS
        *This object class terminates the F2 byte user channel.*
      ;;
    ATTRIBUTES
      vcnUserChannelCTPID          GET;
  ;;
REGISTERED AS { g774objectClass 81 };

vcnUserChannelCTPSource MANAGED OBJECT CLASS
  DERIVED FROM      "Recommendation M.3100":connectionTerminationPointSource;
  CHARACTERIZED BY
    "Recommendation M.3100":createDeleteNotificationsPackage,
    vcnUserChannelCTPSourcePkg PACKAGE
    BEHAVIOUR
      vcnUserChannelCTPSourceBehaviourPkg BEHAVIOUR
      DEFINED AS
        *This object class originates the F2 byte user channel.*
      ;;
    ATTRIBUTES
      vcnUserChannelCTPID          GET;
  ;;
REGISTERED AS { g774objectClass 82 };

```

7 Lotes

Esta cláusula sustituye las definiciones de lotes de la actual Recomendación G.774 (1992). Todo lote sustituido por uno de esta cláusula se considera desaprobado. Los motivos para la sustitución de un lote son los siguientes:

- 1) El lote sustituido está defectuoso y debe ser corregido.
- 2) El lote sustituido incluye un atributo, lote, notificación u acción que ha sido registrado de nuevo en la presente Recomendación.

Cada vez que se sustituye un lote, el nuevo lote será registrado en la presente Recomendación. La etiqueta textual del lote será modificada para incluir el texto "R1". Por ejemplo, cuando se modifica el lote "vc3-4SourcePackage" G.774 (1992), la etiqueta modificada será "vc3-4SourcePackageR1".

A continuación figura una tabla de los lotes desaprobados de la Recomendación G.774 (1992) y los lotes G.774 que los sustituyen:

<i>Lotes G.774 (1992) desaprobados</i>	<i>Lotes G.774 sustitutivos</i>
vc11-2BidirectionalPackage	vc11-2BidirectionalPackageR1
vc11-2SinkPackage	vc11-2SinkPackageR1
vc3-4BidirectionalPackage	vc3-4BidirectionalPackageR1
vc3-4SinkPackage	vc3-4SinkPackageR1
vc3-4SourcePackage	vc3-4SourcePackageR1

Nuevos lotes para soportar la gestión de rastro de camino a nivel de sección de regeneración:

```

trailTraceSinkPackage
trailTraceSourcePackage

```

7.1 electricalSPIPackage

```
electricalSPIPackage PACKAGE
  ATTRIBUTES
    electricalSPITTPId GET,
    stmLevel           GET;
;
```

7.2 msCTPPackage

```
msCTPPackage PACKAGE
  ATTRIBUTES
    msCTPId           GET,
    stmLevel          GET;
;
```

7.3 msTTPPackage

```
msTTPPackage PACKAGE
  ATTRIBUTES
    msTTPId           GET,
    stmLevel          GET;
;
```

7.4 opticalSPIPackage

```
opticalSPIPackage PACKAGE
  ATTRIBUTES
    opticalSPITTPId   GET,
    opticalReach       GET,
    opticalWavelength GET,
    stmLevel          GET;
;
```

7.5 rsCTPPackage

```
rsCTPPackage PACKAGE
  ATTRIBUTES
    rsCTPId           GET,
    stmLevel          GET;
;
```

7.6 rsTTPPackage

```
rsTTPPackage PACKAGE
  ATTRIBUTES
    rsTTPId           GET,
    stmLevel          GET;
;
```

7.7 trailTraceSinkPackage

```
trailTraceSinkPackage PACKAGE
  BEHAVIOUR
    trailTraceSinkPackageBehaviour BEHAVIOUR
      DEFINED AS
        *This Package supports trail trace management at the termination sink.*
    ;;
  ATTRIBUTES
    trailTraceExpected
      REPLACE-WITH-DEFAULT
      DEFAULT VALUE SDH.defaultNull
      GET-REPLACE,
    trailTraceReceive      GET;
;
```

7.8 trailTraceSourcePackage

```
trailTraceSourcePackage PACKAGE
    BEHAVIOUR
        trailTraceSourcePackageBehaviour BEHAVIOUR
            DEFINED AS
                *This Package supports trail trace management at the termination
                source.*
            ;;
    ATTRIBUTES
        trailTraceSend          GET-REPLACE;
;
```

7.9 tu-nSinkPackage

```
tu-nSinkPackage PACKAGE
    BEHAVIOUR
        tu-nSinkPackageBehaviour BEHAVIOUR
            DEFINED AS
                *A communicationsAlarm notification shall be issued if a loss of TU
                pointer is detected. The probableCause parameter of the notification
                shall indicate LOP (Loss of Pointer).
                A communicationsAlarm notification shall be issued if an TU path alarm
                indication signal is detected. The probableCause parameter of the
                notification shall indicate AIS (Alarm Indication Signal).*
            ;;
    ATTRIBUTES
        pointerSinkType      GET;
;
```

7.10 vc11-2BidirectionalPackageR1

```
vc11-2BidirectionalPackageR1 PACKAGE
    BEHAVIOUR
        vc11-2BidirectionalPackageR1Behaviour BEHAVIOUR
            DEFINED AS
                *A communicationsAlarm notification shall be issued if a far end
                receive failure (V5 byte) is detected. The probableCause parameter of
                the notification shall indicate FERF (Far End Receive Failure).*
            ;;
    ;;;
```

7.11 vc11-2SinkPackageR1

```
vc11-2SinkPackageR1 PACKAGE
    BEHAVIOUR
        vc11-2SinkPackageR1Behaviour BEHAVIOUR
            DEFINED AS
                *A communicationsAlarm notification shall be issued if the signal label
                received (V5 Byte) does not match the signal label expected. The
                probableCause parameter of the notification shall indicate signal label
                mismatch.*
            ;;
    ATTRIBUTES
        v5SignalLabelExpected      GET,
        v5SignalLabelReceive       GET;
;
```

7.12 vc3-4BidirectionalPackageR1

vc3-4BidirectionalPackageR1 PACKAGE

BEHAVIOUR

vc3-4BidirectionalPackageR1Behaviour BEHAVIOUR

DEFINED AS

A communicationsAlarm notification shall be issued if a far end receive failure (G1 byte) is detected. The probableCause parameter of the notification shall indicate FERF (Far End Receive Failure).

;;;

7.13 vc3-4SinkPackageR1

vc3-4SinkPackageR1 PACKAGE

BEHAVIOUR

vc3-4SinkPackageR1Behaviour BEHAVIOUR

DEFINED AS

*A communicationsAlarm notification shall be issued if the signal label received (C2 Byte) does not match the signal label expected. The probableCause parameter of the notification shall indicate signal label mismatch.

A communicationsAlarm notification shall be issued if the path trace received (J1 Byte) does not match the path trace expected. The probableCause parameter of the notification shall indicate path trace mismatch.

A communicationsAlarm notification shall be issued if a loss of TU multiframe indicator (H4 Byte) is detected. The probableCause parameter of the notification shall indicate loss of TU multiframe.

This communicationsAlarm notification is only required for high order paths with payloads that require use of the multiframe indicator.

When 16 bytes are supported, the 16 bytes of the path trace shall be conveyed at the management interface in both ways. This is a local issue whether the NE recompute the CRC-7 under a replace operation.*

;;

ATTRIBUTES

j1PathTraceExpected

REPLACE-WITH-DEFAULT

DEFAULT VALUE SDH.defaultNull

GET-REPLACE,

"Recommendation G.774.05": j1PathTraceReceive GET,

c2SignalLabelExpected GET,

c2SignalLabelReceive GET;

;

7.14 vc3-4SourcePackageR1

vc3-4SourcePackageR1 PACKAGE

BEHAVIOUR

vc3-4SourcePackageR1Behaviour BEHAVIOUR

DEFINED AS

When 16 bytes are supported, the 16 bytes of the path trace shall be conveyed at the management interface.

;;

ATTRIBUTES

"Recommendation G.774.5": j1PathTraceSend GET-REPLACE,

c2SignalLabelSend GET;

;

8 Atributos

Esta cláusula sustituye las definiciones de atributos de la actual Recomendación G.774 (1992). Todo atributo sustituido por uno de esta cláusula se considera desaprobado. El motivo para la sustitución de un atributo es el siguiente:

- 1) El atributo sustituido está defectuoso y debe ser corregido.

A continuación se enumeran los atributos desaprobados de la Recomendación G.774 (1992):

Atributos G.774 (1992) desaprobados

ferfState

Nuevos atributos para soportar la gestión de rastro de camino a nivel de sección de regeneración:

trailTraceExpected
trailTraceReceive
trailTraceSend

8.1 Identificación de AU-3

```
au3CTPId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.NameType;
    MATCHES FOR EQUALITY, ORDERING;
    BEHAVIOUR
        au3CTPIdBehaviour BEHAVIOUR
        DEFINED AS
        *The au3CTPId attribute is an attribute type whose distinguished value can
        be used as an RDN when naming an instance of the AU3CTPBidirectional,
        AU3CTPSink, and AU3CTPSource managed object classes. This attribute
        specifies the timeslot of the au3CTP within its server TTP or IA. The value
        shall be the integer which represents the position of the timeslot in
        temporal order. The first timeslot shall be numbered one.*
        ;;
REGISTERED AS { g774Attribute 1 };
```

8.2 Identificación de AU-4

```
au4CTPId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.NameType;
    MATCHES FOR EQUALITY, ORDERING;
    BEHAVIOUR
        au4CTPIdBehaviour BEHAVIOUR
        DEFINED AS
        *The au4CTPId attribute is an attribute type whose distinguished value can
        be used as an RDN when naming an instance of the AU4CTPBidirectional,
        AU4CTPSink, and AU4CTPSource managed object classes. This attribute
        specifies the timeslot of the au4CTP within its server TTP or IA. The value
        shall be the integer which represents the position of the timeslot in
        temporal order. The first timeslot shall be numbered one.*
        ;;
REGISTERED AS { g774Attribute 2 };
```

8.3 Identificación de AUG

```
augId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.NameType;
    MATCHES FOR EQUALITY, ORDERING;
    BEHAVIOUR
        augIdBehaviour BEHAVIOUR
```

DEFINED AS

The augId attribute is an attribute type whose distinguished value can be used as an RDN when naming an instance of the AUG managed object class. This attribute specifies the timeslot of the aug within its server TTP or IA. The value shall be the integer which represents the position of the timeslot in temporal order. The first timeslot shall be numbered one.

;;

REGISTERED AS { g774Attribute 3 };

8.4 Etiqueta de señal C2 prevista

c2SignalLabelExpected ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.C2SignalLabel;

MATCHES FOR EQUALITY;

BEHAVIOUR

c2SignalLabelExpectedBehaviour BEHAVIOUR

DEFINED AS

*This attribute specifies the expected C2 VC Signal Label for an incoming VC-n.

See Recommendation G.707/Y.1322 for a list of valid values.*

;;

REGISTERED AS { g774Attribute 4 };

8.5 Etiqueta de señal C2 en recepción

c2SignalLabelReceive ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.C2SignalLabel;

MATCHES FOR EQUALITY;

BEHAVIOUR

c2SignalLabelReceiveBehaviour BEHAVIOUR

DEFINED AS

*This attribute specifies the C2 VC Signal Label for an incoming VC-n.

See Recommendation G.707/Y.1322 for a list of valid values.*

;;

REGISTERED AS { g774Attribute 5 };

8.6 Etiqueta de señal C2 en emisión

c2SignalLabelSend ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.C2SignalLabel;

MATCHES FOR EQUALITY;

BEHAVIOUR

c2SignalLabelSendBehaviour BEHAVIOUR

DEFINED AS

*This attribute specifies the C2 VC Signal Label for an outgoing VC-n.

See Recommendation G.707/Y.1322 for a list of valid values.*

;;

REGISTERED AS { g774Attribute 6 };

8.7 Identificación de punto de terminación de camino de interfaz física SDH eléctrica

electricalSPITTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX SDH.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

electricalSPITTPIdBehaviour BEHAVIOUR

DEFINED AS

*This attribute is used as an RDN for naming instances of the electricalSPITTP object classes.

If the string choice of the syntax is used then matching on substrings is permitted. If the number choice for the syntax is used then matching on ordering is permitted.*

;;

REGISTERED AS { g774Attribute 7 };

8.8 Inhibición del mantenimiento cuando la tasa de errores en los bits es excesiva

```
excessiveBERMtceInhibit ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.Boolean;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    excessiveBERMtceInhibitBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is set to TRUE to cause the inhibition of consequent
        maintenance signalling upon the detection of excessive bit error ratio.*
      ;;
REGISTERED AS { g774Attribute 8 };
```

8.9 Rastro de trayecto J1 previsto

```
j1PathTraceExpected ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.PathTrace;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    j1PathTraceExpectedBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used to specify the value of the expected J1 Byte VC
        Path Trace byte message for instances of the VC-n. If the value of this
        attribute is set to NULL then any Received Path Trace shall be
        considered to match.*
      ;;
REGISTERED AS { g774Attribute 10 };
```

8.10 Rastro de trayecto J1 en recepción

```
j1PathTraceReceive ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.PathTrace;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    j1PathTraceReceiveBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used to indicate the value of the incoming J1 Byte
        VC Path Trace byte message for instances of the VC-n.*
      ;;
REGISTERED AS { g774Attribute 11 };
```

8.11 Rastro de trayecto J1 en emisión

```
j1PathTraceSend ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.PathTrace;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    j1PathTraceSendBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used to indicate the value of the outgoing J1 VC
        Path Trace byte message for instances of the VC-n. The NULL choice is
        not supported.*
      ;;
REGISTERED AS { g774Attribute 12 };
```

8.12 Identificación de punto de terminación de conexión de sección múltiplex

```
msCTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.NameType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    msCTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the msCTP object
        class. This attribute represents the first and only timeslot of this type.
        The value of this attribute shall be integer one.*
      ;;
REGISTERED AS { g774Attribute 13 };
```

8.13 Identificación de punto de terminación de conexión de canal de comunicaciones de datos MS

```
msDatacomCTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.NameType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    msDatacomCTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *The msDatacomCTPId attribute is an attribute type whose distinguished value
        can be used as an RDN when naming an instance of the
        msDatacomCTPBidirectional, msDatacomCTPSink, and msDatacomCTPSource managed
        object classes. This attribute represents the first and only timeslot of
        this type. The value of this attribute shall be integer one.*
      ;;
REGISTERED AS { g774Attribute 14 };
```

8.14 Identificación de canal de órdenes de servicio de sección múltiplex

```
msOrderwireCTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.NameType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    msOrderwireCTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the Multiplex
        Section Orderwire Channel object class. This attribute represents the first
        and only timeslot of this type. The value of this attribute shall be integer
        one.*
      ;;
REGISTERED AS { g774Attribute 15 };
```

8.15 Identificación de punto de terminación de camino de sección múltiplex

```
mSTTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    mSTTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the mSTTP
        object class.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;;
REGISTERED AS { g774Attribute 16 };
```

8.16 Alcance óptico

```
opticalReach ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.OpticalReach;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    opticalReachBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute indicates the length the optical signal may travel before
        requiring termination or regeneration.*
      ;;
REGISTERED AS { g774Attribute 17 };
```

8.17 Identificación de punto de terminación de camino de interfaz física SDH óptica

```
opticalSPITTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    opticalSPITTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the
        opticalSPITTP object class.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;;
REGISTERED AS { g774Attribute 18 };
```

8.18 Longitud de onda óptica

```
opticalWavelength ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.OpticalWavelength;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    opticalWavelengthBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute specifies the optical wavelength used by an opticalSPITTP
        object instance.*
      ;;
REGISTERED AS { g774Attribute 19 };
```

8.19 Tipo de sumidero de puntero

```
pointerSinkType ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.PointerSinkType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    pointerSinkTypeBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute indicates the status of the incoming Pointer of a sink or
        bidirectional CTP.*
      ;;
REGISTERED AS { g774Attribute 20 };
```

8.20 Tipo de fuente de puntero

```
pointerSourceType ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.PointerSourceType;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
        pointerSourceTypeBehaviour BEHAVIOUR
            DEFINED AS
                *This attribute indicates the status of the outgoing Pointer of a source or
                bidirectional CTP.*
            ;;
REGISTERED AS { g774Attribute 21 };
```

8.21 Identificación de punto de terminación de conexión de sección de regeneración

```
rsCTPId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.NameType;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
        rsCTPIdBehaviour BEHAVIOUR
            DEFINED AS
                *This attribute is used as an RDN for naming instances of the rsCTP object
                classes. This attribute represents the first and only timeslot of this type.
                The value of this attribute shall be integer one.*
            ;;
REGISTERED AS { g774Attribute 22 };
```

8.22 Identificación de punto de terminación de conexión de canal de comunicaciones de datos de sección de regeneración

```
rsDatacomCTPId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.NameType;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
        rsDatacomCTPIdBehaviour BEHAVIOUR
            DEFINED AS
                *The rsDatacomCTPId attribute is an attribute type whose distinguished value
                can be used as an RDN when naming an instance of the
                rsDatacomCTPBidirectional, rsDatacomCTPSink, and rsDatacomCTPSource managed
                object classes. This attribute represents the first and only timeslot of
                this type. The value of this attribute shall be integer one.*
            ;;
REGISTERED AS { g774Attribute 23 };
```

8.23 Identificación de canal de órdenes de servicio de sección de regeneración

```
rsOrderwireCTPId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX          SDH.NameType;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
        rsOrderwireCTPIdBehaviour BEHAVIOUR
            DEFINED AS
                *This attribute is used as an RDN for naming instances of the Regenerator
                Section Orderwire Channel object classes. This attribute represents the
                first and only timeslot of this type. The value of this attribute shall be
                integer one.*
            ;;
REGISTERED AS { g774Attribute 24 };
```

8.24 Identificación de punto de terminación de camino de sección de regeneración

```
rsTTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    rsTTPIdBbehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the rsTTP
        object classes.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;;
REGISTERED AS { g774Attribute 25 };
```

8.25 Identificación de canal de usuario de sección de regeneración

```
rsUserChannelCTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.NameType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    rsUserChannelCTPIdBbehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the rsUserChannel
        object classes. This attribute represents the first and only timeslot of
        this type. The value of this attribute shall be integer one.*
      ;;
REGISTERED AS { g774Attribute 26 };
```

8.26 Umbral de degradación de señal

```
signalDegradeThreshold ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.Integer;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    signalDegradeThresholdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute specifies the specific BER used to define the signal degrade
        threshold. The specific BER used is an equipment issue. This attribute
        represents the negative power of 10. So, for instance, if this attribute had
        a value of 5, then the BER threshold is 10 raised to the power of -5.*
      ;;
REGISTERED AS { g774Attribute 27 };
```

8.27 Nivel STM

```
stmLevel ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.Integer;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    stmLevelBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute specifies the level, n, of the STM-n signal being received,
        transmitted, or received and transmitted for termination point object
        instance.*
      ;;
REGISTERED AS { g774Attribute 28 };
```

8.28 Rastro de camino previsto

```
trailTraceExpected ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.PathTrace;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    trailTraceExpectedBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used to specify the value of the expected Trail
        Trace information.
        If the value of this attribute is set to NULL then any Trail Trace
        shall be considered to match.*
      ;;
REGISTERED AS { g774Attribute 44 };
```

8.29 Rastro de camino en recepción

```
trailTraceReceive ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.TrailTraceReceiveSend;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    trailTraceReceiveBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used to indicate the value of the incoming Trail
        Trace information.*
      ;;
REGISTERED AS { g774Attribute 45 };
```

8.30 Rastro de camino en emisión

```
trailTraceSend ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.TrailTraceReceiveSend;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    trailTraceSendBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used to indicate the value of the outgoing Trail Trace
        information.*
      ;;
REGISTERED AS {g774Attribute 46};
```

8.31 Identificación de punto de terminación de conexión de unidad afluente 11

```
tu11CTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING;
  BEHAVIOUR
    tu11CTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the tu11CTP object
        classes. This attribute specifies the timeslot of the TU-11 CTP within its
        server TTP or IA. The value shall be the integer which represents the
        position of the timeslot in temporal order. The first timeslot shall be
        numbered one.*
      ;;
REGISTERED AS { g774Attribute 29 };
```

8.32 Identificación de punto de terminación de conexión de unidad afluente 12

```
tu12CTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING;
  BEHAVIOUR
    tu12CTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the tu12CTP object
        classes. This attribute specifies the timeslot of the TU-12 CTP within its
        server TTP or IA. The value shall be the integer which represents the
        position of the timeslot in temporal order. The first timeslot shall be
        numbered one.*
      ;;
REGISTERED AS { g774Attribute 30 };
```

8.33 Identificación de punto de terminación de conexión de unidad afluente 2

```
tu2CTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING;
  BEHAVIOUR
    tu2CTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the tu2CTP object
        classes. This attribute specifies the timeslot of the TU-2 CTP within its
        server TTP or IA. The value shall be the integer which represents the
        position of the timeslot in temporal order. The first timeslot shall be
        numbered one.*
      ;;
REGISTERED AS { g774Attribute 31 };
```

8.34 Identificación de punto de terminación de conexión de unidad afluente 3

```
tu3CTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING;
  BEHAVIOUR
    tu3CTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the tu3CTP object
        classes. This attribute specifies the timeslot of the TU-3 CTP within its
        server TTP or IA. The value shall be the integer which represents the
        position of the timeslot in temporal order. The first timeslot shall be
        numbered one.*
      ;;
REGISTERED AS { g774Attribute 32 };
```

8.35 Identificación de TUG-2

```
tug2Id ATTRIBUTE
  WITH ATTRIBUTE SYNTAX      SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING;
  BEHAVIOUR
    tug2IdBehaviour BEHAVIOUR
      DEFINED AS
        *The tug2Id attribute is an attribute type whose distinguished value can be
        used as an RDN when naming an instance of the TUG-2 managed object class.
        This attribute specifies the timeslot of the TUG2 within its server TTP or
        IA. The value shall be the integer which represents the position of the
        timeslot in temporal order. The first timeslot shall be numbered one.*
      ;;
REGISTERED AS { g774Attribute 33 };
```

8.36 Identificación de TUG-3

```
tug3Id ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING;
  BEHAVIOUR
    tug3IdBehaviour BEHAVIOUR
      DEFINED AS
        *The tug3Id attribute is an attribute type whose distinguished value can be
        used as an RDN when naming an instance of the TUG-3 managed object class.
        This attribute specifies the timeslot of the TUG3 within its server TTP or
        IA. The value shall be the integer which represents the position of the
        timeslot in temporal order. The first timeslot shall be numbered one.*
      ;;
REGISTERED AS { g774Attribute 34 };
```

8.37 Etiqueta de señal V5 prevista

```
v5SignalLabelExpected ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.V5SignalLabel;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    v5SignalLabelExpectedBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute specifies the expected V5 VC Signal Label for an incoming
        VC-n.
        See Recommendation G.707/Y.1322 for a list of valid values.*
      ;;
REGISTERED AS { g774Attribute 35 };
```

8.38 Etiqueta de señal V5 en recepción

```
v5SignalLabelReceive ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.V5SignalLabel;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    v5SignalLabelReceiveBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute specifies the V5 VC Signal Label for an incoming VC-n. See
        Recommendation G.707/Y.1322 for a list of valid values.*
      ;;
REGISTERED AS { g774Attribute 36 };
```

8.39 Etiqueta de señal V5 en emisión

```
v5SignalLabelSend ATTRIBUTE
  WITH ATTRIBUTE SYNTAX          SDH.V5SignalLabel;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    v5SignalLabelSendBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute specifies the V5 VC Signal Label for an outgoing VC-n.
        See Recommendation G.707/Y.1322 for a list of valid values.*
      ;;
REGISTERED AS { g774Attribute 37 };
```

8.40 Identificación de punto de terminación de camino de contenedor virtual 11

```
vc11TTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    vc11TTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the vc11TTP
        object classes.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;;
REGISTERED AS { g774Attribute 38 };
```

8.41 Identificación de punto de terminación de camino de contenedor virtual 12

```
vc12TTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    vc12TTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the vc12TTP
        object classes.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;;
REGISTERED AS { g774Attribute 39 };
```

8.42 Identificación de punto de terminación de camino de contenedor virtual 2

```
vc2TTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    vc2TTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the vc2TTP
        object classes.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;;
REGISTERED AS { g774Attribute 40 };
```

8.43 Identificación de punto de terminación de camino de contenedor virtual 3

```
vc3TTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    vc3TTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the vc3TTP
        object classes.
```

If the string choice of the syntax is used then matching on substrings is permitted.
 If the number choice for the syntax is used then matching on ordering is permitted.*

```
;;
REGISTERED AS { g774Attribute 41 };
```

8.44 Identificación de punto de terminación de camino de contenedor virtual 4

```
vc4TTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;
  BEHAVIOUR
    vc4TTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the vc4TTP
        object classes.
        If the string choice of the syntax is used then matching on substrings
        is permitted.
        If the number choice for the syntax is used then matching on ordering
        is permitted.*
      ;
REGISTERED AS { g774Attribute 42 };
```

8.45 Identificación de canal de usuario VC-n

```
vcnUserChannelCTPId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX SDH.NameType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    vcnUserChannelCTPIdBehaviour BEHAVIOUR
      DEFINED AS
        *This attribute is used as an RDN for naming instances of the vcnUserChannel
        object classes. This attribute represents the first and only timeslot of
        this type. The value of this attribute shall be integer one.*
      ;
REGISTERED AS { g774Attribute 43 };
```

9 Vinculaciones de nombres

Esta cláusula sustituye las definiciones de vinculaciones de nombres de la actual Recomendación G.774 (1992). Toda vinculación de nombres sustituida por una de esta cláusula se considera desaprobada. Los motivos para la sustitución de una vinculación de nombres son:

- 1) La vinculación de nombres sustituida está defectuosa y debe ser corregida.
- 2) La vinculación de nombres sustituida hace referencia a una clase de objeto gestionado superior que ha sido registrada de nuevo en la presente Recomendación.
- 3) La vinculación de nombres sustituida hace referencia a una clase de objeto gestionado subordinado que ha sido registrada de nuevo en la presente Recomendación.
- 4) La vinculación de nombres sustituida hace referencia a un atributo de denominación que ha sido registrado de nuevo en la presente Recomendación.

Cada vez que se sustituye una vinculación de nombres, la nueva será registrada en la presente Recomendación. La etiqueta textual de la denominación de nombres será modificada para incluir el texto "R1". Por ejemplo, cuando se modifica la vinculación de nombres "vcnUserChannelCTPSource-vc4TTPSource" G.774 (1992), la etiqueta modificada será "vcnUserChannelCTPSource-vc4TTPSourceR1", o en el caso de la vinculación de nombres "vc4TTPSink-sdhNE", la etiqueta modificada será "vc4TTPSinkR1-sdhNE". Obsérvese que "R1" se coloca inmediatamente después de la clase revisada que repercute en la vinculación de nombres.

A continuación figura una tabla de las vinculaciones de nombres desaprobadas de la Recomendación G.774 (1992) y las vinculaciones de nombres G.774 que las sustituyen:

Vinculaciones de nombres G.774 (1992) desaprobadas

vcnUserChannelCTPBidirectional-vc3TTPBidirectional
vcnUserChannelCTPSink-vc3TTPBidirectional
vcnUserChannelCTPSink-vc3TTPSink
vcnUserChannelCTPSource-vc3TTPBidirectional
vcnUserChannelCTPSource-vc3TTPSource
vcnUserChannelCTPBidirectional-vc4TTPBidirectional
vcnUserChannelCTPSink-vc4TTPBidirectional
vcnUserChannelCTPSink-vc4TTPSink
vcnUserChannelCTPSource-vc4TTPBidirectional
vcnUserChannelCTPSource-vc4TTPSource
au3CTPBidirectional-augBidirectional
au3CTPSink-augBidirectional
au3CTPSink-augSink
au4CTPBidirectional-augBidirectional
au4CTPSink-augBidirectional
au4CTPSink-augSink
tu11CTPBidirectional-tug2Bidirectional
tu11CTPSink-tug2Bidirectional
tu11CTPSink-tug2Sink
tu12CTPBidirectional-tug2Bidirectional
tu12CTPSink-tug2Bidirectional
tu12CTPSink-tug2Sink
tu2CTPBidirectional-tug2Bidirectional
tu2CTPSink-tug2Bidirectional
tu2CTPSink-tug2Sink
tu3CTPBidirectional-tug3Bidirectional
tu3CTPSink-tug3Bidirectional
tu3CTPSink-tug3Sink
tug2Bidirectional-vc3TTPBidirectional
tug2Sink-vc3TTPSink
tug2Source-vc3TTPSource
tug3Bidirectional-vc4TTPBidirectional
tug3Sink-vc4TTPSink
tug3Source-vc4TTPSource
vc11TTPBidirectional-sdhNE
vc11TTPSink-sdhNE
vc12TTPBidirectional-sdhNE
vc12TTPSink-sdhNE
vc2TTPBidirectional-sdhNE
vc2TTPSink-sdhNE
vc3TTPBidirectional-sdhNE
vc3TTPSink-sdhNE
vc3TTPSource-sdhNE
vc4TTPBidirectional-sdhNE
vc4TTPSink-sdhNE
vc4TTPSource-sdhNE

Vinculaciones de nombres G.774 sustitutivas

vcnUserChannelCTPBidirectional-vc3TTPBidirectionalR1
vcnUserChannelCTPSink-vc3TTPBidirectionalR1
vcnUserChannelCTPSink-vc3TTPSinkR1
vcnUserChannelCTPSource-vc3TTPBidirectionalR1
vcnUserChannelCTPSource-vc3TTPSourceR1
vcnUserChannelCTPBidirectional-vc4TTPBidirectionalR1
vcnUserChannelCTPSink-vc4TTPBidirectionalR1
vcnUserChannelCTPSink-vc4TTPSinkR1
vcnUserChannelCTPSource-vc4TTPBidirectionalR1
vcnUserChannelCTPSource-vc4TTPSourceR1

```

au3CTPBidirectionalR1-augBidirectional
au3CTPSinkR1-augBidirectional
au3CTPSinkR1-augSink
au4CTPBidirectionalR1-augBidirectional
au4CTPSink-augBidirectional
au4CTPSinkR1-augSink
tu11CTPBidirectionalR1-tug2Bidirectional
tu11CTPSinkR1-tug2Bidirectional
tu11CTPSinkR1-tug2Sink
tu12CTPBidirectionalR1-tug2Bidirectional
tu12CTPSinkR1-tug2Bidirectional
tu12CTPSinkR1-tug2Sink
tu2CTPBidirectionalR1-tug2Bidirectional
tu2CTPSinkR1-tug2Bidirectional
tu2CTPSinkR1-tug2Sink
tu3CTPBidirectionalR1-tug3Bidirectional
tu3CTPSinkR1-tug3Bidirectional
tu3CTPSinkR1-tug3Sink
tug2Bidirectional-vc3TTPBidirectionalR1
tug2Sink-vc3TTPSinkR1
tug2Source-vc3TTPSourceR1
tug3Bidirectional-vc4TTPBidirectionalR1
tug3Sink-vc4TTPSinkR1
tug3Source-vc4TTPSourceR1
vc11TTPBidirectionalR1-sdhNE
vc11TTPSinkR1-sdhNE
vc12TTPBidirectionalR1-sdhNE
vc12TTPSinkR1-sdhNE
vc2TTPBidirectionalR1-sdhNE
vc2TTPSinkR1-sdhNE
vc3TTPBidirectionalR1-sdhNE
vc3TTPSinkR1-sdhNE
vc3TTPSourceR1-sdhNE
vc4TTPBidirectionalR1-sdhNE
vc4TTPSinkR1-sdhNE
vc4TTPSourceR1-sdhNE

```

9.1 au3CTP

```

au3CTPBidirectionalR1-augBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      au3CTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS  augBidirectional;
  WITH ATTRIBUTE                au3CTPId;
  BEHAVIOUR
    au3CTPBidirectionalR1-augBidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 121 };

au3CTPSinkR1-augBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      au3CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS  augBidirectional;
  WITH ATTRIBUTE                au3CTPId;
  BEHAVIOUR
    au3CTPSinkR1-augBidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 122 };

```

```

au3CTPSinkR1-augSink NAME BINDING
  SUBORDINATE OBJECT CLASS      au3CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS augSink;
  WITH ATTRIBUTE                au3CTPId;
  BEHAVIOUR
    au3CTPSinkR1-augSinkBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 123 };

au3CTPSource-augBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      au3CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS augBidirectional;
  WITH ATTRIBUTE                au3CTPId;
  BEHAVIOUR
    au3CTPSource-augBidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 4 };

au3CTPSource-augSource NAME BINDING
  SUBORDINATE OBJECT CLASS      au3CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS augSource;
  WITH ATTRIBUTE                au3CTPId;
  BEHAVIOUR
    au3CTPSource-augSourceBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 5 };

```

9.2 au4CTP

```

au4CTPBidirectionalR1-augBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      au4CTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS augBidirectional;
  WITH ATTRIBUTE                au4CTPId;
  BEHAVIOUR
    au4CTPBidirectionalR1-augBidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 124 };

au4CTPSinkR1-augBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      au4CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS augBidirectional;
  WITH ATTRIBUTE                au4CTPId;
  BEHAVIOUR
    au4CTPSinkR1-augBidirectionalBehaviour BEHAVIOUR

```

```

        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 125 };

au4CTPSinkR1-augSink NAME BINDING
    SUBORDINATE OBJECT CLASS      au4CTPSinkR1;
    NAMED BY SUPERIOR OBJECT CLASS  augSink;
    WITH ATTRIBUTE                au4CTPId;
    BEHAVIOUR
        au4CTPSinkR1-augSinkBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the
            superior managed object is instantiated, according to the make-up and
            mode of operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 126 };

au4CTPSource-augBidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS      au4CTPSource;
    NAMED BY SUPERIOR OBJECT CLASS  augBidirectional;
    WITH ATTRIBUTE                au4CTPId;
    BEHAVIOUR
        au4CTPSource-augBidirectionalBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode
            of operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 9 };

au4CTPSource-augSource NAME BINDING
    SUBORDINATE OBJECT CLASS      au4CTPSource;
    NAMED BY SUPERIOR OBJECT CLASS  augSource;
    WITH ATTRIBUTE                au4CTPId;
    BEHAVIOUR
        au4CTPSource-augSourceBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed object is automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode
            of operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 10 };

```

9.3 aug

```

augBidirectional-msTTPBidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS      augBidirectional;
    NAMED BY SUPERIOR OBJECT CLASS  msTTPBidirectional;
    WITH ATTRIBUTE                augId;
    BEHAVIOUR
        augBidirectional-msTTPBidirectionalBehaviour BEHAVIOUR
            DEFINED AS
            *The subordinate managed objects are automatically instantiated when the
            superior managed object is instantiated, according to the make-up and mode
            of operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 11 };

```

```

augSink-msTTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      augSink;
  NAMED BY SUPERIOR OBJECT CLASS msTTPSink;
  WITH ATTRIBUTE                augId;
  BEHAVIOUR
    augSink-msTTPSinkBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 12 };
augSource-msTTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      augSource;
  NAMED BY SUPERIOR OBJECT CLASS msTTPSource;
  WITH ATTRIBUTE                augId;
  BEHAVIOUR
    augSource-msTTPSourceBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 13 };

```

9.4 electricalSPITTP

```

electricalSPITTPBidirectional-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      electricalSPITTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                electricalSPITTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 14 };

electricalSPITTPSink-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      electricalSPITTPSink;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                electricalSPITTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 15 };

electricalSPITTPSource-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      electricalSPITTPSource;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                electricalSPITTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 16 };

```

```

msCTPBidirectional-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msCTPBidirectional AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                msCTPId;
  BEHAVIOUR
    msCTPBidirectional-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 17 };

```

9.5 msCTP

```

msCTPSink-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msCTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                msCTPId;
  BEHAVIOUR
    msCTPSink-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 18 };

```

```

msCTPSink-rsTTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      msCTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPSink AND SUBCLASSES;
  WITH ATTRIBUTE                msCTPId;
  BEHAVIOUR
    msCTPSink-rsTTPSinkBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 19 };

```

```

msCTPSource-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                msCTPId;
  BEHAVIOUR
    msCTPSource-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 20 };

```

```

msCTPSource-rsTTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      msCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPSource AND SUBCLASSES;
  WITH ATTRIBUTE                msCTPId;
  BEHAVIOUR
    msCTPSource-rsTTPSourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 21 };

```

9.6 msDatacomCTP

```
msDatacomCTPBidirectional-msTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msDatacomCTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS msTTPBidirectional;
  WITH ATTRIBUTE                msDatacomCTPId;
  BEHAVIOUR
    msDatacomCTPBidirectional-msTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 22 };

msDatacomCTPSink-msTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msDatacomCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS msTTPBidirectional;
  WITH ATTRIBUTE                msDatacomCTPId;
  BEHAVIOUR
    msDatacomCTPSink-msTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 23 };

msDatacomCTPSink-msTTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      msDatacomCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS msTTPSink;
  WITH ATTRIBUTE                msDatacomCTPId;
  BEHAVIOUR
    msDatacomCTPSink-msTTPSinkBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 24 };

msDatacomCTPSource-msTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msDatacomCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS msTTPBidirectional;
  WITH ATTRIBUTE                msDatacomCTPId;
  BEHAVIOUR
    msDatacomCTPSource-msTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 25 };

msDatacomCTPSource-msTTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      msDatacomCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS msTTPSource;
  WITH ATTRIBUTE                msDatacomCTPId;
  BEHAVIOUR
    msDatacomCTPSource-msTTPSourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 26 };
```

9.7 msOrderwireCTP

```
msOrderwireCTPBidirectional-msTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msOrderwireCTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS msTTPBidirectional;
  WITH ATTRIBUTE                msOrderwireCTPId;
  BEHAVIOUR
    msOrderwireCTPBidirectional-msTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 27 };

msOrderwireCTPSink-msTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msOrderwireCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS msTTPBidirectional;
  WITH ATTRIBUTE                msOrderwireCTPId;
  BEHAVIOUR
    msOrderwireCTPSink-msTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 28 };

msOrderwireCTPSink-msTTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      msOrderwireCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS msTTPSink;
  WITH ATTRIBUTE                msOrderwireCTPId;
  BEHAVIOUR
    msOrderwireCTPSink-msTTPSinkBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 29 };

msOrderwireCTPSource-msTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      msOrderwireCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS msTTPBidirectional;
  WITH ATTRIBUTE                msOrderwireCTPId;
  BEHAVIOUR
    msOrderwireCTPSource-msTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 30 };

msOrderwireCTPSource-msTTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      msOrderwireCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS msTTPSource;
  WITH ATTRIBUTE                msOrderwireCTPId;
  BEHAVIOUR
    msOrderwireCTPSource-msTTPSourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 31 };
```

9.8 msTTP

```
msTTPBidirectional-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      msTTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                msTTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 32 };
```

```
msTTPSink-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      msTTPSink;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                msTTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 33 };
```

```
msTTPSource-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      msTTPSource;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                msTTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 34 };
```

9.9 opticalSPITTP

```
opticalSPITTPBidirectional-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      opticalSPITTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                opticalSPITTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 35 };
```

```
opticalSPITTPSink-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      opticalSPITTPSink;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                opticalSPITTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 36 };
```

```

opticalSPITTPSource-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      opticalSPITTPSource;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                opticalSPITTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 37 };

rsCTPBidirectional-electricalSPITTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS electricalSPITTPBidirectional;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPBidirectional-electricalSPITTPBidirectionalBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 38 };

```

9.10 rsCTP

```

rsCTPSink-electricalSPITTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS electricalSPITTPBidirectional;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSink-electricalSPITTPBidirectionalBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 39 };

rsCTPSink-electricalSPITTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS electricalSPITTPSink;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSink-electricalSPITTPSinkBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 40 };

rsCTPSource-electricalSPITTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS electricalSPITTPBidirectional;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSource-electricalSPITTPBidirectionalBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 41 };

```

```

rsCTPSource-electricalSPITTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS electricalSPITTPSource;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSource-electricalSPITTPSourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 42 };

rsCTPBidirectional-opticalSPITTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS opticalSPITTPBidirectional;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPBidirectional-opticalSPITTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 43 };

rsCTPSink-opticalSPITTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS opticalSPITTPBidirectional;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSink-opticalSPITTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 44 };

rsCTPSink-opticalSPITTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS opticalSPITTPSink;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSink-opticalSPITTPSinkBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 45 };

rsCTPSource-opticalSPITTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS opticalSPITTPBidirectional;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSource-opticalSPITTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 46 };

```

```

rsCTPSource-opticalSPITTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      rsCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS opticalSPITTPSource;
  WITH ATTRIBUTE                rsCTPId;
  BEHAVIOUR
    rsCTPSource-opticalSPITTPSourceBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 47 };

```

9.11 rsDatacomCTP

```

rsDatacomCTPBidirectional-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsDatacomCTPBidirectional AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsDatacomCTPId;
  BEHAVIOUR
    rsDatacomCTPBidirectional-rsTTPBidirectionalBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 48 };

```

```

rsDatacomCTPSink-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsDatacomCTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsDatacomCTPId;
  BEHAVIOUR
    rsDatacomCTPSink-rsTTPBidirectionalBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 49 };

```

```

rsDatacomCTPSink-rsTTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      rsDatacomCTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPSink AND SUBCLASSES;
  WITH ATTRIBUTE                rsDatacomCTPId;
  BEHAVIOUR
    rsDatacomCTPSink-rsTTPSinkBehaviour BEHAVIOUR
  DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 50 };

```

```

rsDatacomCTPSource-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsDatacomCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsDatacomCTPId;
  BEHAVIOUR
    rsDatacomCTPSource-rsTTPBidirectionalBehaviour BEHAVIOUR

```

```

        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
        ;;
REGISTERED AS { g774NameBinding 51 };

rsDatacomCTPSource-rsTTPSource NAME BINDING
SUBORDINATE OBJECT CLASS      rsDatacomCTPSource AND SUBCLASSES;
NAMED BY SUPERIOR OBJECT CLASS rsTTPSource AND SUBCLASSES;
WITH ATTRIBUTE                rsDatacomCTPId;
BEHAVIOUR
    rsDatacomCTPSource-rsTTPSourceBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 52 };

rsOrderwireCTPBidirectional-rsTTPBidirectional NAME BINDING
SUBORDINATE OBJECT CLASS      rsOrderwireCTPBidirectional AND SUBCLASSES;
NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
WITH ATTRIBUTE                rsOrderwireCTPId;
BEHAVIOUR
    rsOrderwireCTPBidirectional-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 53 };

```

9.12 rsOrderwireCTP

```

rsOrderwireCTPSink-rsTTPBidirectional NAME BINDING
SUBORDINATE OBJECT CLASS      rsOrderwireCTPSink AND SUBCLASSES;
NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
WITH ATTRIBUTE                rsOrderwireCTPId;
BEHAVIOUR
    rsOrderwireCTPSink-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 54 };

rsOrderwireCTPSink-rsTTPSink NAME BINDING
SUBORDINATE OBJECT CLASS      rsOrderwireCTPSink AND SUBCLASSES;
NAMED BY SUPERIOR OBJECT CLASS rsTTPSink AND SUBCLASSES;
WITH ATTRIBUTE                rsOrderwireCTPId;
BEHAVIOUR
    rsOrderwireCTPSink-rsTTPSinkBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 55 };

```

```

rsOrderwireCTPSource-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsOrderwireCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsOrderwireCTPId;
  BEHAVIOUR
    rsOrderwireCTPSource-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 56 };

```

```

rsOrderwireCTPSource-rsTTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      rsOrderwireCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPSource AND SUBCLASSES;
  WITH ATTRIBUTE                rsOrderwireCTPId;
  BEHAVIOUR
    rsOrderwireCTPSource-rsTTPSourceBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 57 };

```

9.13 rsTTP

```

rsTTPBidirectional-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      rsTTPBidirectional AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                rsTTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 58 };

```

```

rsTTPSink-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      rsTTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                rsTTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 59 };

```

```

rsTTPSource-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      rsTTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                rsTTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 60 };

```

9.14 rsUserChannelCTP

```
rsUserChannelCTPBidirectional-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsUserChannelCTPBidirectional AND
                                SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsUserChannelCTPId;
  BEHAVIOUR
    rsUserChannelCTPBidirectional-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 61 };
rsUserChannelCTPSink-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsUserChannelCTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsUserChannelCTPId;
  BEHAVIOUR
    rsUserChannelCTPSink-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 62 };
rsUserChannelCTPSink-rsTTPSink NAME BINDING
  SUBORDINATE OBJECT CLASS      rsUserChannelCTPSink AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPSink AND SUBCLASSES;
  WITH ATTRIBUTE                rsUserChannelCTPId;
  BEHAVIOUR
    rsUserChannelCTPSink-rsTTPSinkBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 63 };
rsUserChannelCTPSource-rsTTPBidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      rsUserChannelCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPBidirectional AND SUBCLASSES;
  WITH ATTRIBUTE                rsUserChannelCTPId;
  BEHAVIOUR
    rsUserChannelCTPSource-rsTTPBidirectionalBehaviour BEHAVIOUR
    DEFINED AS
    *The subordinate managed object is automatically instantiated when the
    superior managed object is instantiated, according to the make-up and mode
    of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 64 };
rsUserChannelCTPSource-rsTTPSource NAME BINDING
  SUBORDINATE OBJECT CLASS      rsUserChannelCTPSource AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS rsTTPSource AND SUBCLASSES;
  WITH ATTRIBUTE                rsUserChannelCTPId;
  BEHAVIOUR
    rsUserChannelCTPSource-rsTTPSourceBehaviour BEHAVIOUR
```

```

        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 65 };

```

9.15 tu11CTP

```

tu11CTPBidirectionalR1-tug2Bidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS      tu11CTPBidirectionalR1;
    NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
    WITH ATTRIBUTE                tu11CTPId;
    BEHAVIOUR
    tu11CTPBidirectionalR1-tug2BidirectionalBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 127 };

tu11CTPSinkR1-tug2Bidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS      tu11CTPSinkR1;
    NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
    WITH ATTRIBUTE                tu11CTPId;
    BEHAVIOUR
    tu11CTPSinkR1-tug2BidirectionalBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 128 };

tu11CTPSinkR1-tug2Sink NAME BINDING
    SUBORDINATE OBJECT CLASS      tu11CTPSinkR1;
    NAMED BY SUPERIOR OBJECT CLASS  tug2Sink;
    WITH ATTRIBUTE                tu11CTPId;
    BEHAVIOUR
    tu11CTPSinkR1-tug2SinkBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 129 };

tu11CTPSource-tug2Bidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS      tu11CTPSource;
    NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
    WITH ATTRIBUTE                tu11CTPId;
    BEHAVIOUR
    tu11CTPSource-tug2BidirectionalBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 69 };

```

```

tu11CTPSource-tug2Source NAME BINDING
  SUBORDINATE OBJECT CLASS      tu11CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Source;
  WITH ATTRIBUTE                tu11CTPId;
  BEHAVIOUR
    tu11CTPSource-tug2SourceBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 70 };

```

9.16 tu12CTP

```

tu12CTPBidirectionalR1-tug2Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu12CTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
  WITH ATTRIBUTE                tu12CTPId;
  BEHAVIOUR
    tu12CTPBidirectionalR1-tug2BidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 130 };

tu12CTPSinkR1-tug2Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu12CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
  WITH ATTRIBUTE                tu12CTPId;
  BEHAVIOUR
    tu12CTPSinkR1-tug2BidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 131 };

tu12CTPSinkR1-tug2Sink NAME BINDING
  SUBORDINATE OBJECT CLASS      tu12CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Sink;
  WITH ATTRIBUTE                tu12CTPId;
  BEHAVIOUR
    tu12CTPSinkR1-tug2SinkBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 132 };

tu12CTPSource-tug2Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu12CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
  WITH ATTRIBUTE                tu12CTPId;
  BEHAVIOUR
    tu12CTPSource-tug2BidirectionalBehaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 74 };

```

```

tu12CTPSource-tug2Source NAME BINDING
  SUBORDINATE OBJECT CLASS      tu12CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Source;
  WITH ATTRIBUTE                tu12CTPId;
  BEHAVIOUR
    tu12CTPSource-tug2SourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed objects are automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 75 };

```

9.17 tu2CTP

```

tu2CTPBidirectionalR1-tug2Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu2CTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
  WITH ATTRIBUTE                tu2CTPId;
  BEHAVIOUR
    tu2CTPBidirectionalR1-tug2BidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and
      mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 133 };

```

```

tu2CTPSinkR1-tug2Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu2CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
  WITH ATTRIBUTE                tu2CTPId;
  BEHAVIOUR
    tu2CTPSinkR1-tug2BidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and
      mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 134 };

```

```

tu2CTPSinkR1-tug2Sink NAME BINDING
  SUBORDINATE OBJECT CLASS      tu2CTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Sink;
  WITH ATTRIBUTE                tu2CTPId;
  BEHAVIOUR
    tu2CTPSinkR1-tug2SinkBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and
      mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 135 };

```

```

tu2CTPSource-tug2Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu2CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS  tug2Bidirectional;
  WITH ATTRIBUTE                tu2CTPId;
  BEHAVIOUR
    tu2CTPSource-tug2BidirectionalBehaviour BEHAVIOUR

```

```

        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 79 };

tu2CTPSource-tug2Source NAME BINDING
    SUBORDINATE OBJECT CLASS        tu2CTPSource;
    NAMED BY
    SUPERIOR OBJECT CLASS            tug2Source;
    WITH ATTRIBUTE                    tu2CTPId;
    BEHAVIOUR
        tu2CTPSource-tug2SourceBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and mode
        of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 80 };

```

9.18 tu3CTP

```

tu3CTPBidirectionalR1-tug3Bidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS        tu3CTPBidirectionalR1;
    NAMED BY SUPERIOR OBJECT CLASS    tug3Bidirectional;
    WITH ATTRIBUTE                    tu3CTPId;
    BEHAVIOUR
        tu3CTPBidirectionalR1-tug3BidirectionalBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 136 };

tu3CTPSinkR1-tug3Bidirectional NAME BINDING
    SUBORDINATE OBJECT CLASS        tu3CTPSinkR1;
    NAMED BY SUPERIOR OBJECT CLASS    tug3Bidirectional;
    WITH ATTRIBUTE                    tu3CTPId;
    BEHAVIOUR
        tu3CTPSinkR1-tug3BidirectionalBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 137 };

tu3CTPSinkR1-tug3Sink NAME BINDING
    SUBORDINATE OBJECT CLASS        tu3CTPSinkR1;
    NAMED BY SUPERIOR OBJECT CLASS    tug3Sink;
    WITH ATTRIBUTE                    tu3CTPId;
    BEHAVIOUR
        tu3CTPSinkR1-tug3SinkBehaviour BEHAVIOUR
        DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 138 };

```

```

tu3CTPSource-tug3Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tu3CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS tug3Bidirectional;
  WITH ATTRIBUTE                tu3CTPId;
  BEHAVIOUR
    tu3CTPSource-tug3BidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 84 };

tu3CTPSource-tug3Source NAME BINDING
  SUBORDINATE OBJECT CLASS      tu3CTPSource;
  NAMED BY SUPERIOR OBJECT CLASS tug3Source;
  WITH ATTRIBUTE                tu3CTPId;
  BEHAVIOUR
    tu3CTPSource-tug3SourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed object is automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 85 };

```

9.19 tug2

```

tug2Bidirectional-tug3Bidirectional NAME BINDING
  SUBORDINATE OBJECT CLASS      tug2Bidirectional;
  NAMED BY SUPERIOR OBJECT CLASS tug3Bidirectional;
  WITH ATTRIBUTE                tug2Id;
  BEHAVIOUR
    tug2Bidirectional-tug3BidirectionalBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed objects are automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 86 };

tug2Sink-tug3Sink NAME BINDING
  SUBORDINATE OBJECT CLASS      tug2Sink;
  NAMED BY SUPERIOR OBJECT CLASS tug3Sink;
  WITH ATTRIBUTE                tug2Id;
  BEHAVIOUR
    tug2Sink-tug3SinkBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed objects are automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 87 };

tug2Source-tug3Source NAME BINDING
  SUBORDINATE OBJECT CLASS      tug2Source;
  NAMED BY SUPERIOR OBJECT CLASS tug3Source;
  WITH ATTRIBUTE                tug2Id;
  BEHAVIOUR
    tug2Source-tug3SourceBehaviour BEHAVIOUR
    DEFINED AS
      *The subordinate managed objects are automatically instantiated when the
      superior managed object is instantiated, according to the make-up and mode
      of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 88 };

```

```

tug2Bidirectional-vc3TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      tug2Bidirectional;
  NAMED BY SUPERIOR OBJECT CLASS vc3TTPBidirectionalR1;
  WITH ATTRIBUTE                tug2Id;
  BEHAVIOUR
    tug2Bidirectional-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 139 };

tug2Sink-vc3TTPSinkR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      tug2Sink;
  NAMED BY SUPERIOR OBJECT CLASS vc3TTPSinkR1;
  WITH ATTRIBUTE                tug2Id;
  BEHAVIOUR
    tug2Sink-vc3TTPSinkR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 140 };

tug2Source-vc3TTPSourceR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      tug2Source;
  NAMED BY SUPERIOR OBJECT CLASS vc3TTPSourceR1;
  WITH ATTRIBUTE                tug2Id;
  BEHAVIOUR
    tug2Source-vc3TTPSourceR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 141 };

```

9.20 tug3

```

tug3Bidirectional-vc4TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      tug3Bidirectional;
  NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
  WITH ATTRIBUTE                tug3Id;
  BEHAVIOUR
    tug3Bidirectional-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 142 };

tug3Sink-vc4TTPSinkR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      tug3Sink;
  NAMED BY SUPERIOR OBJECT CLASS vc4TTPSinkR1;
  WITH ATTRIBUTE                tug3Id;
  BEHAVIOUR

```

```

tug3Sink-vc4TTPSinkR1Behaviour BEHAVIOUR
    DEFINED AS
        *The subordinate managed objects are automatically instantiated when
        the superior managed object is instantiated, according to the make-up
        and mode of operation of the equipment.*
    ;;
REGISTERED AS { g774NameBinding 143 };

tug3Source-vc4TTPSourceR1 NAME BINDING
    SUBORDINATE OBJECT CLASS          tug3Source;
    NAMED BY SUPERIOR OBJECT CLASS    vc4TTPSourceR1;
    WITH ATTRIBUTE                     tug3Id;
    BEHAVIOUR
        tug3Source-vc4TTPSourceR1Behaviour BEHAVIOUR
            DEFINED AS
                *The subordinate managed objects are automatically instantiated when
                the superior managed object is instantiated, according to the make-up
                and mode of operation of the equipment.*
            ;;
REGISTERED AS { g774NameBinding 144 };

```

9.21 vc11TTP

```

vc11TTPBidirectionalR1-sdhNE NAME BINDING
    SUBORDINATE OBJECT CLASS          vc11TTPBidirectionalR1;
    NAMED BY SUPERIOR OBJECT CLASS    sdhNE;
    WITH ATTRIBUTE                     vc11TTPId;
    CREATE
        WITH-REFERENCE-OBJECT,
        WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 145 };

vc11TTPSinkR1-sdhNE NAME BINDING
    SUBORDINATE OBJECT CLASS          vc11TTPSinkR1;
    NAMED BY SUPERIOR OBJECT CLASS    sdhNE;
    WITH ATTRIBUTE                     vc11TTPId;
    CREATE
        WITH-REFERENCE-OBJECT,
        WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 146 };

vc11TTPSource-sdhNE NAME BINDING
    SUBORDINATE OBJECT CLASS          vc11TTPSource;
    NAMED BY SUPERIOR OBJECT CLASS    sdhNE;
    WITH ATTRIBUTE                     vc11TTPId;
    CREATE
        WITH-REFERENCE-OBJECT,
        WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 97 };

```

9.22 vc12TTP

```
vc12TTPBidirectionalR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc12TTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc12TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 147 };
```

```
vc12TTPSinkR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc12TTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc12TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 148 };
```

```
vc12TTPSource-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc12TTPSource;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc12TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 100 };
```

9.23 vc2TTP

```
vc2TTPBidirectionalR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc2TTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc2TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 149 };
```

```
vc2TTPSinkR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc2TTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc2TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 150 };
```

```

vc2TTPSource-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc2TTPSource;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc2TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 103 };

vc3TTPBidirectionalR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc3TTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc3TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 151 };

```

9.24 vc3TTP

```

vc3TTPSinkR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc3TTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc3TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 152 };

vc3TTPSourceR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc3TTPSourceR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc3TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 153 };

```

9.25 vc4TTP

```

vc4TTPBidirectionalR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS      vc4TTPBidirectionalR1;
  NAMED BY SUPERIOR OBJECT CLASS sdhNE;
  WITH ATTRIBUTE                vc4TTPId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 154 };

```

```

vc4TTPSinkR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS          vc4TTPSinkR1;
  NAMED BY SUPERIOR OBJECT CLASS    sdhNE;
  WITH ATTRIBUTE                    vc4TTPIId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 155 };

```

```

vc4TTPSourceR1-sdhNE NAME BINDING
  SUBORDINATE OBJECT CLASS          vc4TTPSourceR1;
  NAMED BY SUPERIOR OBJECT CLASS    sdhNE;
  WITH ATTRIBUTE                    vc4TTPIId;
  CREATE
    WITH-REFERENCE-OBJECT,
    WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS { g774NameBinding 156 };

```

9.26 vcnUserChannelCTP

```

vcnUserChannelCTPBidirectional-vc3TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS          vcnUserChannelCTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS    vc3TTPBidirectionalR1;
  WITH ATTRIBUTE                    vcnUserChannelCTPIId;
  BEHAVIOUR
    vcnUserChannelCTPBidirectional-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 157 };

```

```

vcnUserChannelCTPSink-vc3TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS          vcnUserChannelCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS    vc3TTPBidirectionalR1;
  WITH ATTRIBUTE                    vcnUserChannelCTPIId;
  BEHAVIOUR
    vcnUserChannelCTPSink-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 158 };

```

```

vcnUserChannelCTPSink-vc3TTTPSinkR1 NAME BINDING
  SUBORDINATE OBJECT CLASS          vcnUserChannelCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS    vc3TTTPSinkR1;
  WITH ATTRIBUTE                    vcnUserChannelCTPIId;
  BEHAVIOUR
    vcnUserChannelCTPSink-vc3TTTPSinkR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
  ;;
REGISTERED AS { g774NameBinding 159 };

```

```

vcnUserChannelCTPSource-vc3TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      vcnUserChannelCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS vc3TTPBidirectionalR1;
  WITH ATTRIBUTE                vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPSource-vc3TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 160 };

vcnUserChannelCTPSource-vc3TTPSourceR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      vcnUserChannelCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS vc3TTPSourceR1;
  WITH ATTRIBUTE                vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPSource-vc3TTPSourceR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 161 };

vcnUserChannelCTPBidirectional-vc4TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      vcnUserChannelCTPBidirectional;
  NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
  WITH ATTRIBUTE                vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPBidirectional-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 162 };

vcnUserChannelCTPSink-vc4TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      vcnUserChannelCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS vc4TTPBidirectionalR1;
  WITH ATTRIBUTE                vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPSink-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 163 };

vcnUserChannelCTPSink-vc4TTPSinkR1 NAME BINDING
  SUBORDINATE OBJECT CLASS      vcnUserChannelCTPSink;
  NAMED BY SUPERIOR OBJECT CLASS vc4TTPSinkR1;
  WITH ATTRIBUTE                vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPSink-vc4TTPSinkR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 164 };

```

```

vcnUserChannelCTPSource-vc4TTPBidirectionalR1 NAME BINDING
  SUBORDINATE OBJECT CLASS          vcnUserChannelCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS    vc4TTPBidirectionalR1;
  WITH ATTRIBUTE                    vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPSource-vc4TTPBidirectionalR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 165 };

vcnUserChannelCTPSource-vc4TTPSourceR1 NAME BINDING
  SUBORDINATE OBJECT CLASS          vcnUserChannelCTPSource;
  NAMED BY SUPERIOR OBJECT CLASS    vc4TTPSourceR1;
  WITH ATTRIBUTE                    vcnUserChannelCTPId;
  BEHAVIOUR
    vcnUserChannelCTPSource-vc4TTPSourceR1Behaviour BEHAVIOUR
      DEFINED AS
        *The subordinate managed object is automatically instantiated when the
        superior managed object is instantiated, according to the make-up and
        mode of operation of the equipment.*
      ;;
REGISTERED AS { g774NameBinding 166 };

```

10 ASN.1 de soporte

```
SDH {itu-t(0) recommendation(0) g(7) sdhm(774) informationModel(0) asn1Module(2)
sdh(0)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
BEGIN
```

```
IMPORTS
```

```
NameType -- Recommendation M.3100
```

```
FROM ASN1DefinedTypesModule {itu-t(0) recommendation(0) m(13) gnm(3100)
informationModel(0) asn1Modules(2) asn1DefinedTypeModule(0)}
```

```
;
```

```
g774 OBJECT IDENTIFIER ::= {itu-t(0) recommendation(0) g(7) sdhm(774)
informationModel(0)}
```

```
g774objectClass OBJECT IDENTIFIER ::= {g774 managedObjectClass(3)}
```

```
g774Attribute OBJECT IDENTIFIER ::= {g774 attribute(7)}
```

```
g774NameBinding OBJECT IDENTIFIER ::= {g774 nameBinding(6)}
```

```
Boolean ::= BOOLEAN
```

```
C2SignalLabel ::= INTEGER (0..255)
```

```
defaultNull Null ::= NULL
```

```
Null ::= NULL
```

```
Integer ::= INTEGER
```

```
OpticalReach ::= ENUMERATED {
```

```
  intraOffice(0),
```

```
  shortHaul(1),
```

```
  longHaul(2)
```

```
}
```

```

OpticalWavelength ::= ENUMERATED {
    wl1310(0),
    wl1550(1)
}

PathTrace ::= CHOICE {
    null          NULL,
    pathtrace     [1] GraphicString
}
-- Referring to PointerSinkType. The ENUMERATED value of invalidPointer(2)
-- should be used when a LOP condition exists or if the pointer value is unknown.

PointerSinkType ::= ENUMERATED {
    normalPointer(0),
    concatenationIndication(1),
    invalidPointer(2)
}

PointerSourceType ::= ENUMERATED {
    normalPointer(0),
    concatenationIndication(1)
}

TrailTraceReceiveSend ::= GraphicString

V5SignalLabel ::= INTEGER (0..7)

END

```

11 Relaciones de objetos

NOTA – Las plantillas SUBORDINATION RULE (REGLA DE SUBORDINACIÓN) y CONSTRAINT RULE (REGLA DE CONSTRUCCIÓN) se utilizan en la presente Recomendación como un instrumento de especificación provisional. Actualmente está en estudio una plantilla RELATIONSHIP (RELACIÓN), y cuando ésta haya sido normalizada, se especificarán de nuevo las reglas indicadas en las plantillas SUBORDINATION RULE y CONSTRAINT RULE utilizando la plantilla RELATIONSHIP.

11.1 Sintaxis

```

<subordination-rule-label> SUBORDINATION RULE
    SUPERIOR OBJECT CLASS <class-label> ;
    NAMES SUBORDINATES <class-list> ;
    ACCORDING TO RULE <subordination-rule> ;
;

<constraint-rule-label> CONSTRAINT RULE
    OBJECT CLASS <class-label> [AND SUBCLASSES] ;
    IS RELATED TO <class-list> ;
    USING ATTRIBUTE <attribute-label> ;
    <constraint-rule-set> ;
;

<constraint-rule-set> ::= <single-constraint-rule> | <named-type-constraint-
rules>

<single-constraint-rule> ::= ACCORDING TO RULE <constraint-rule>

<named-type-constraint-rule> ::= CASE { <named-type-constraint-rule-list> }

<named-type-constraint-rule-list> ::= <named-type-constraint-rule-item> |
    <named-type-constraint-rule-item> , <named-type-constraint-rule-list>

```

```

<named-type-constraint-rule-item> ::=
    <named-type> ACCORDING TO RULE <constraint-rule>

<class-label> ::= label string as defined in ISO/IEC IS 10165-4

<attribute-label> ::= label string as defined in ISO/IEC IS 10165-4

<class-list> ::= <class-label> | <class-list> , <class-label>

<subordination-rule> ::= SET { <subordination-members> }
    | CHOICE { <subordination-members> }
    | SET SIZE ( <ordinality> ) OF <subordination-term>

<constraint-rule> ::= SET { <constraint-members> }
    | SEQUENCE { <constraint-members> }
    | CHOICE { <constraint-members> }
    | SET SIZE ( <ordinality> ) OF <constraint-term>
    | SEQUENCE SIZE ( <ordinality> ) OF <constraint-term>

<subordination-members> ::= <subordination-term>
    | <subordination-term> , <subordination-members>

<constraint-members> ::= <constraint-term>
    | <constraint-term> , <constraint-members>

<subordination-term> ::= <class-label> | <subordination-rule>

<constraint-term> ::= <class-label> | <constraint-rule>

<ordinality> ::= <valueRange> | <valueList>

<valueRange> ::= <lowerValue> .. <upperValue>

<valueList> ::= <itemValue> | <itemValue> , <valueList>

<itemValue> ::= INTEGER

<lowerValue> ::= INTEGER

<upperValue> ::= INTEGER | N

```

11.1.1 Plantillas de reglas de subordinación

SUPERIOR OBJECT CLASS <class-label>;

indica la clase que rige esta regla de subordinación. Una clase puede regir a través de más de una regla de subordinación varios conjuntos no superpuestos de clases subordinadas en la cláusula NAMES SUBORDINATES.

NAMES SUBORDINATES <class-list>;

indica el conjunto de clases de subordinados regidas por esta regla de subordinación. Las clases no contenidas en esta lista no son regidas por esta regla de subordinación.

ACCORDING TO RULE <subordination-rule>

proporciona la regla.

SET { <subordination-members> }

indica que deben estar presentes *todos* los miembros de subordinación.

CHOICE { <subordination-members> }

indica que debe estar presente *cualquiera* de los miembros de subordinación.

SET SIZE <ordinality> OF <subordination-term>

indica el número de <subordination-term> que debe estar presente.

11.1.2 Plantillas de reglas de restricción

OBJECT CLASS <class-label>;

indica la clase con este atributo regida por esta regla de restricción. Una clase puede estar regida por más de una regla de restricción con conjuntos no superpuestos de clases conexas en la cláusula RELATES TO OBJECT CLASSES.

IS RELATED TO OBJECT CLASSES <class-list>;

indica el conjunto de clases de ejemplares conexas que están regidos por esta regla de restricción. Las clases no contenidas en esta lista no son regidas por esta regla de restricción.

USING ATTRIBUTE <attribute-label>;

indica el atributo que representa una relación por medio de un puntero (DN) con los ejemplares de objetos conexas.

<constraint-rule-set>;

puede haber una sola regla, o un conjunto de reglas, una para cada una de un conjunto de elecciones denominadas. En este último caso se utiliza la estructura CASE { ... }.

CASE { ... };

proporciona una regla de restricción distinta para cada una de un conjunto de elecciones denominadas en la sintaxis de atributos.

ACCORDING TO RULE <constraint-rule>

proporciona la regla.

SET { <constraint-members> }

indica que deben estar presentes *todos* los miembros de restricción en cualquier orden.

SEQUENCE { <constraint-members> }

indica que deben estar presentes *todos* los miembros de restricción en secuencia.

CHOICE { <constraint-members> }

indica que debe estar presente *cualquiera* de los miembros de restricción.

SET SIZE <ordinality> OF <constraint-term>

indica el número de <constraint-term> que debe estar presente en cualquier orden.

SEQUENCE SIZE <ordinality> OF <constraint-term>

indica el número de <constraint-term> que debe estar presente en secuencia.

11.2 Restricciones de puntero de conectividad

Esta cláusula define los valores admisibles de los atributos downstreamConnectivityPointer y upstreamConnectivityPointer utilizando las clases de objetos definidas en la presente Recomendación.

Esta cláusula sustituye las definiciones de reglas de restricción de la actual Recomendación G.774 (1992). Toda regla de restricción sustituida por una clase de esta cláusula se considera desaprobadada. Los motivos para sustituir una regla de restricción son los siguientes:

- 1) La regla de restricción sustituida está defectuosa y debe ser corregida;
- 2) La regla de restricción sustituida hace referencia a una clase de objeto gestionado que ha sido registrada de nuevo en la presente Recomendación;
- 3) La regla de restricción sustituida hace referencia a un atributo que ha sido registrado nuevo en la presente Recomendación.

Cada vez que se sustituye una restricción, la nueva restricción será registrada en la presente Recomendación. La etiqueta textual para la restricción será modificada para incluir el texto "R1". Por ejemplo, cuando se modifica la restricción "downstreamConnectivityPointer-au3CTPSink" G.774 (1992), la etiqueta modificada será "downstreamConnectivityPointer-au3CTPSinkR1". Obsérvese que "R1" se coloca inmediatamente después de la clase modificada que repercute en la restricción. Cuando la clase dentro de la etiqueta no ha sido modificada pero la restricción es alterada porque hace referencia a una clase que ha cambiado, "R1" se coloca inmediatamente después del texto "downstreamConnectivityPointer" de la etiqueta de restricción modificada. Por ejemplo, cuando se modifica la restricción "downstreamConnectivityPointer-au3CTPSource" G.774 (1992), la etiqueta modificada será "downstreamConnectivityPointerR1-au3CTPSource".

A continuación figura una tabla de las reglas de restricción desaprobadadas de la Recomendación G.774 (1992) y las reglas de restricción G.774 que las sustituyen:

Reglas de restricción G.774 (1992) desaprobadadas

downstreamConnectivityPointer-au3CTPSink
upstreamConnectivityPointer-au3CTPSource
downstreamConnectivityPointer-au4CTPSink
upstreamConnectivityPointer-au4CTPSource
downstreamConnectivityPointer-tu11CTPSink
upstreamConnectivityPointer-tu11CTPSource
downstreamConnectivityPointer-tu12CTPSink
upstreamConnectivityPointer-tu12CTPSource
downstreamConnectivityPointer-tu2CTPSink
upstreamConnectivityPointer-tu2CTPSource
downstreamConnectivityPointer-tu3CTPSink
upstreamConnectivityPointer-tu3CTPSource
upstreamConnectivityPointer-vc11TTPSink
downstreamConnectivityPointer-vc11TTPSource
upstreamConnectivityPointer-vc12TTPSink
downstreamConnectivityPointer-vc12TTPSource
upstreamConnectivityPointer-vc2TTPSink
downstreamConnectivityPointer-vc2TTPSource
upstreamConnectivityPointer-vc3TTPSink
downstreamConnectivityPointer-vc3TTPSource
upstreamConnectivityPointer-vc4TTPSink
downstreamConnectivityPointer-vc4TTPSource

Reglas de restricción G.774 sustitutivas

downstreamConnectivityPointer-au3CTPSinkR1
upstreamConnectivityPointerR1-au3CTPSource
downstreamConnectivityPointer-au4CTPSinkR1
upstreamConnectivityPointerR1-au4CTPSource
downstreamConnectivityPointer-tu11CTPSinkR1
upstreamConnectivityPointerR1-tu11CTPSource
downstreamConnectivityPointer-tu12CTPSinkR1
upstreamConnectivityPointerR1-tu12CTPSource
downstreamConnectivityPointer-tu2CTPSinkR1
upstreamConnectivityPointerR1-tu2CTPSource

```

downstreamConnectivityPointer-tu3CTPSinkR1
upstreamConnectivityPointerR1-tu3CTPSource
upstreamConnectivityPointer-vc11TTPSinkR1
downstreamConnectivityPointerR1-vc11TTPSource
upstreamConnectivityPointer-vc12TTPSinkR1
downstreamConnectivityPointerR1-vc12TTPSource
upstreamConnectivityPointer-vc2TTPSinkR1
downstreamConnectivityPointerR1-vc2TTPSource
upstreamConnectivityPointer-vc3TTPSinkR1
downstreamConnectivityPointer-vc3TTPSourceR1
upstreamConnectivityPointer-vc4TTPSinkR1
downstreamConnectivityPointer-vc4TTPSourceR1

```

```

downstreamConnectivityPointer-au3CTPSinkR1 CONSTRAINT RULE
OBJECT CLASS
    au3CTPSinkR1 AND SUBCLASSES;
IS RELATED TO
    vc3TTPSinkR1, vc3TTPBidirectionalR1,
    au3CTPSource, au3CTPBidirectionalR1,
    tu3CTPSource, tu3CTPBidirectionalR1,
    vc4TTPSinkR1, vc4TTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc3TTPSinkR1,vc3TTPBidirectionalR1,
            au3CTPSource,
            au3CTPBidirectionalR1,
            tu3CTPSource,
            tu3CTPBidirectionalR1,
            vc4TTPSinkR1,vc4TTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            SET SIZE(1..N) OF CHOICE {
                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                tu3CTPSource,
                tu3CTPBidirectionalR1,
                au3CTPSource,
                au3CTPBidirectionalR1 },
            SET SIZE(1..N) OF CHOICE {
                vc4TTPSinkR1, vc4TTPBidirectionalR1 }
        }
};
;

```

```

upstreamConnectivityPointerR1-au3CTPSource CONSTRAINT RULE
OBJECT CLASS
    au3CTPSource AND SUBCLASSES;
IS RELATED TO
    vc3TTPSourceR1, vc3TTPBidirectionalR1,
    au3CTPSinkR1, au3CTPBidirectionalR1,
    tu3CTPSinkR1, tu3CTPBidirectionalR1,
    vc4TTPSourceR1, vc4TTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE { vc3TTPSourceR1,vc3TTPBidirectionalR1,
            au3CTPSinkR1,au3CTPBidirectionalR1,
            tu3CTPSinkR1,tu3CTPBidirectionalR1,
            vc4TTPSourceR1,vc4TTPBidirectionalR1 }
};
;

```

```

downstreamConnectivityPointer-au4CTPSinkR1 CONSTRAINT RULE
  OBJECT CLASS
    au4CTPSinkR1 AND SUBCLASSES;
  IS RELATED TO
    au4CTPSource, au4CTPBidirectionalR1,
    vc4TTPSinkR1, vc4TTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc4TTPSinkR1,vc4TTPBidirectionalR1,
        au4CTPSource,
        au4CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
      SET SIZE(1..N) OF CHOICE {
        vc4TTPSinkR1, vc4TTPBidirectionalR1,
        au4CTPSource,
        au4CTPBidirectionalR1 }
  };
;

```

```

upstreamConnectivityPointerR1-au4CTPSource CONSTRAINT RULE
  OBJECT CLASS
    au4CTPSource AND SUBCLASSES;
  IS RELATED TO
    au4CTPSinkR1, au4CTPBidirectionalR1,
    vc4TTPSourceR1, vc4TTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc4TTPSourceR1, vc4TTPBidirectionalR1,
        au4CTPSinkR1, au4CTPBidirectionalR1 }
  };
;

```

```

downstreamConnectivityPointer-msCTPSink CONSTRAINT RULE
  OBJECT CLASS
    msCTPSink AND SUBCLASSES;
  IS RELATED TO
    msTTPSink, msTTPBidirectional,
    msCTPSource, msCTPBidirectional;
  USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        msTTPSink, msTTPBidirectional,
        msCTPSource, msCTPBidirectional }
  };
;

```

```

upstreamConnectivityPointer-msCTPSource CONSTRAINT RULE
  OBJECT CLASS
    msCTPSource AND SUBCLASSES;
  IS RELATED TO
    msTTPSource, msTTPBidirectional,
    msCTPSink, msCTPBidirectional;
  USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;

```

```

CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            msTTPSource, msTTPBidirectional,
            msCTPSink, msCTPBidirectional }
};
;

upstreamConnectivityPointer-msTTPSink CONSTRAINT RULE
OBJECT CLASS
    msTTPSink AND SUBCLASSES;
IS RELATED TO
    msCTPSink, msCTPBidirectional;
USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            msCTPSink, msCTPBidirectional }
};
;

downstreamConnectivityPointer-msTTPSource CONSTRAINT RULE
OBJECT CLASS
    msTTPSource AND SUBCLASSES;
IS RELATED TO
    msCTPSource, msCTPBidirectional;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            msCTPSource, msCTPBidirectional }
};
;

downstreamConnectivityPointer-rsCTPSink CONSTRAINT RULE
OBJECT CLASS
    rsCTPSink AND SUBCLASSES;
IS RELATED TO
    rsTTPSink, rsTTPBidirectional,
    rsTTPTrailTraceSink, rsTTPTrailTraceBidirectional,
    rsCTPSource, rsCTPBidirectional;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            rsTTPSink, rsTTPBidirectional,
            rsTTPTrailTraceSink, rsTTPTrailTraceBidirectional,
            rsCTPSource, rsCTPBidirectional }
};
;

upstreamConnectivityPointer-rsCTPSource CONSTRAINT RULE
OBJECT CLASS
    rsCTPSource AND SUBCLASSES;
IS RELATED TO
    rsTTPSource, rsTTPBidirectional,
    rsTTPTrailTraceSource, rsTTPTrailTraceBidirectional,
    rsCTPSink, rsCTPBidirectional;
USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;

```

```

CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            rsTTPSource, rsTTPBidirectional,
            rsTTPTrailTraceSource, rsTTPTrailTraceBidirectional,
            rsCTPSink, rsCTPBidirectional }
};
;

upstreamConnectivityPointer-rsTTPSink CONSTRAINT RULE
OBJECT CLASS
    rsTTPSink AND SUBCLASSES;
IS RELATED TO
    rsCTPSink, rsCTPBidirectional;
USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            rsCTPSink, rsCTPBidirectional }
};
;

downstreamConnectivityPointer-rsTTPSource CONSTRAINT RULE
OBJECT CLASS
    rsTTPSource AND SUBCLASSES;
IS RELATED TO
    rsCTPSource, rsCTPBidirectional;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            rsCTPSource, rsCTPBidirectional }
};
;

downstreamConnectivityPointer-tu11CTPSinkR1 CONSTRAINT RULE
OBJECT CLASS
    tu11CTPSinkR1 AND SUBCLASSES;
IS RELATED TO
    vc11TTPSinkR1, vc11TTPBidirectionalR1,
    tu11CTPSource, tu11CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc11TTPSinkR1, vc11TTPBidirectionalR1,
            tu11CTPSource,
            tu11CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
        SET SIZE(1..N) OF CHOICE {
            vc11TTPSinkR1, vc11TTPBidirectionalR1,
            tu11CTPSource,
            tu11CTPBidirectionalR1 }
};
;

```

```

upstreamConnectivityPointerR1-tu11CTPSource CONSTRAINT RULE
  OBJECT CLASS
    tu11CTPSource AND SUBCLASSES;
  IS RELATED TO
    vc11TTPSource, vc11TTPBidirectionalR1,
    tu11CTPSinkR1, tu11CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc11TTPSource,
        vc11TTPBidirectionalR1,
        tu11CTPSinkR1, tu11CTPBidirectionalR1 }
  };
;

downstreamConnectivityPointer-tu12CTPSinkR1 CONSTRAINT RULE
  OBJECT CLASS
    tu12CTPSinkR1 AND SUBCLASSES;
  IS RELATED TO
    vc12TTPSinkR1, vc12TTPBidirectionalR1,
    tu12CTPSource, tu12CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc12TTPSinkR1, vc12TTPBidirectionalR1,
        tu12CTPSource,
        tu12CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
      SET SIZE(1..N) OF CHOICE {
        vc12TTPSinkR1, vc12TTPBidirectionalR1,
        tu12CTPSource,
        tu12CTPBidirectionalR1 }
  };
;

upstreamConnectivityPointerR1-tu12CTPSource CONSTRAINT RULE
  OBJECT CLASS
    tu12CTPSource AND SUBCLASSES;
  IS RELATED TO
    vc12TTPSource, vc12TTPBidirectionalR1,
    tu12CTPSinkR1, tu12CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc12TTPSource,
        vc12TTPBidirectionalR1,
        tu12CTPSinkR1, tu12CTPBidirectionalR1 }
  };
;

downstreamConnectivityPointer-tu2CTPSinkR1 CONSTRAINT RULE
  OBJECT CLASS
    tu2CTPSinkR1 AND SUBCLASSES;
  IS RELATED TO
    vc2TTPSinkR1, vc2TTPBidirectionalR1,
    tu2CTPSource, tu2CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;

```

```

CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc2TTPSinkR1, vc2TTPBidirectionalR1,
            tu2CTPSource,
            tu2CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
        SET SIZE(1..N) OF CHOICE {
            vc2TTPSinkR1, vc2TTPBidirectionalR1,
            tu2CTPSource,
            tu2CTPBidirectionalR1 }
};
;

upstreamConnectivityPointerR1-tu2CTPSource CONSTRAINT RULE
OBJECT CLASS
    tu2CTPSource AND SUBCLASSES;
IS RELATED TO
    vc2TTPSource, vc2TTPBidirectionalR1,
    tu2CTPSinkR1, tu2CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc2TTPSource,
            vc2TTPBidirectionalR1,
            tu2CTPSinkR1, tu2CTPBidirectionalR1 }
};
;

downstreamConnectivityPointer-tu3CTPSinkR1 CONSTRAINT RULE
OBJECT CLASS
    tu3CTPSinkR1 AND SUBCLASSES;
IS RELATED TO
    vc3TTPSinkR1, vc3TTPBidirectionalR1,
    au3CTPSource, au3CTPBidirectionalR1,
    tu3CTPSource, tu3CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc3TTPSinkR1, vc3TTPBidirectionalR1,
            au3CTPSource,
            au3CTPBidirectionalR1,
            tu3CTPSource,
            tu3CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
        SET SIZE(1..N) OF CHOICE {
            vc3TTPSinkR1, vc3TTPBidirectionalR1,
            au3CTPSource,
            au3CTPBidirectionalR1,
            tu3CTPSource,
            tu3CTPBidirectionalR1 }
};
;

```

```

upstreamConnectivityPointerR1-tu3CTPSource CONSTRAINT RULE
  OBJECT CLASS
    tu3CTPSource AND SUBCLASSES;
  IS RELATED TO
    vc3TTPSourceR1, vc3TTPBidirectionalR1,
    au3CTPSinkR1, au3CTPBidirectionalR1,
    tu3CTPSinkR1, tu3CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc3TTPSourceR1, vc3TTPBidirectionalR1,
        au3CTPSinkR1, au3CTPBidirectionalR1,
        tu3CTPSinkR1, tu3CTPBidirectionalR1 }
  };
;

upstreamConnectivityPointer-vc11TTPSinkR1 CONSTRAINT RULE
  OBJECT CLASS
    vc11TTPSinkR1 AND SUBCLASSES;
  IS RELATED TO
    vc11TTPSource, vc11TTPBidirectionalR1,
    tu11CTPSinkR1, tu11CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc11TTPSource,
        vc11TTPBidirectionalR1,
        tu11CTPSinkR1, tu11CTPBidirectionalR1 }
  };
;

downstreamConnectivityPointerR1-vc11TTPSource CONSTRAINT RULE
  OBJECT CLASS
    vc11TTPSource AND SUBCLASSES;
  IS RELATED TO
    vc11TTPSinkR1, vc11TTPBidirectionalR1,
    tu11CTPSource, tu11CTPBidirectionalR1;
  USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
  CASE {
    single ACCORDING TO RULE
      SET SIZE(1) OF CHOICE {
        vc11TTPSinkR1, vc11TTPBidirectionalR1,
        tu11CTPSource,
        tu11CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
      SET SIZE(1..N) OF CHOICE {
        vc11TTPSinkR1, vc11TTPBidirectionalR1,
        tu11CTPSource,
        tu11CTPBidirectionalR1 }
  };
;

upstreamConnectivityPointer-vc12TTPSinkR1 CONSTRAINT RULE
  OBJECT CLASS
    vc12TTPSinkR1 AND SUBCLASSES;
  IS RELATED TO
    vc12TTPSource, vc12TTPBidirectionalR1,
    tu12CTPSinkR1, tu12CTPBidirectionalR1;

```

```

USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc12TTPSource,
            vc12TTPBidirectionalR1,
            tu12CTPSinkR1, tu12CTPBidirectionalR1 }
};
;

downstreamConnectivityPointerR1-vc12TTPSource CONSTRAINT RULE
OBJECT CLASS
    vc12TTPSource AND SUBCLASSES;
IS RELATED TO
    vc12TTPSinkR1, vc12TTPBidirectionalR1,
    tu12CTPSource, tu12CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc12TTPSinkR1, vc12TTPBidirectionalR1,
            tu12CTPSource,
            tu12CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
        SET SIZE(1..N) OF CHOICE {
            vc12TTPSinkR1, vc12TTPBidirectionalR1,
            tu12CTPSource,
            tu12CTPBidirectionalR1 }
};
;

upstreamConnectivityPointer-vc2TTPSinkR1 CONSTRAINT RULE
OBJECT CLASS
    vc2TTPSinkR1 AND SUBCLASSES;
IS RELATED TO
    vc2TTPSource, vc2TTPBidirectionalR1,
    tu2CTPSinkR1, tu2CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":upstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc2TTPSource,
            vc2TTPBidirectionalR1,
            tu2CTPSinkR1, tu2CTPBidirectionalR1 }
};
;

downstreamConnectivityPointerR1-vc2TTPSource CONSTRAINT RULE
OBJECT CLASS
    vc2TTPSource AND SUBCLASSES;
IS RELATED TO
    vc2TTPSinkR1, vc2TTPBidirectionalR1,
    tu2CTPSource, tu2CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc2TTPSinkR1, vc2TTPBidirectionalR1,
            tu2CTPSource,
            tu2CTPBidirectionalR1 },
};
;

```

```

        broadcast ACCORDING TO RULE
            SET SIZE(1..N) OF CHOICE {
                vc2TTPSinkR1, vc2TTPBidirectionalR1,
                tu2CTPSource,
                tu2CTPBidirectionalR1 }
    };
;

upstreamConnectivityPointer-vc3TTPSinkR1 CONSTRAINT RULE
    OBJECT CLASS
        vc3TTPSinkR1 AND SUBCLASSES;
    IS RELATED TO
        vc3TTPSourceR1, vc3TTPBidirectionalR1,
        au3CTPSinkR1, au3CTPBidirectionalR1,
        tu3CTPSinkR1, tu3CTPBidirectionalR1;
    USING ATTRIBUTE
        "Recommendation M.3100":upstreamConnectivityPointer;
    CASE {
        single ACCORDING TO RULE
            SET SIZE(1) OF CHOICE {
                vc3TTPSourceR1, vc3TTPBidirectionalR1,
                au3CTPSinkR1, au3CTPBidirectionalR1,
                tu3CTPSinkR1, tu3CTPBidirectionalR1 }
    };
;

downstreamConnectivityPointer-vc3TTPSourceR1 CONSTRAINT RULE
    OBJECT CLASS
        vc3TTPSourceR1 AND SUBCLASSES;
    IS RELATED TO
        vc3TTPSinkR1, vc3TTPBidirectionalR1,
        au3CTPSource, au3CTPBidirectionalR1,
        tu3CTPSource, tu3CTPBidirectionalR1;
    USING ATTRIBUTE
        "Recommendation M.3100":downstreamConnectivityPointer;
    CASE {
        single ACCORDING TO RULE
            SET SIZE(1) OF CHOICE {
                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                au3CTPSource,
                au3CTPBidirectionalR1,
                tu3CTPSource,
                tu3CTPBidirectionalR1 },
        broadcast ACCORDING TO RULE
            SET SIZE(1..N) OF CHOICE {
                vc3TTPSinkR1, vc3TTPBidirectionalR1,
                au3CTPSource,
                au3CTPBidirectionalR1,
                tu3CTPSource,
                tu3CTPBidirectionalR1 }
    };
;

upstreamConnectivityPointer-vc4TTPSinkR1 CONSTRAINT RULE
    OBJECT CLASS
        vc4TTPSinkR1 AND SUBCLASSES;
    IS RELATED TO
        vc4TTPSourceR1, vc4TTPBidirectionalR1,
        au4CTPSinkR1, au4CTPBidirectionalR1,
        au3CTPSinkR1, au3CTPBidirectionalR1;
    USING ATTRIBUTE
        "Recommendation M.3100":upstreamConnectivityPointer;

```

```

CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc4TTPSourceR1, vc4TTPBidirectionalR1,
            au4CTPSinkR1, au4CTPBidirectionalR1 },
    concatenated ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            SEQUENCE SIZE(3) OF au3CTPSinkR1,
            SEQUENCE SIZE(3) OF au3CTPBidirectionalR1 }
};
;

downstreamConnectivityPointer-vc4TTPSourceR1 CONSTRAINT RULE
OBJECT CLASS
    vc4TTPSourceR1 AND SUBCLASSES;
IS RELATED TO
    vc4TTPSinkR1, vc4TTPBidirectionalR1,
    au4CTPSource, au4CTPBidirectionalR1,
    au3CTPSource, au3CTPBidirectionalR1;
USING ATTRIBUTE
    "Recommendation M.3100":downstreamConnectivityPointer;
CASE {
    single ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            vc4TTPSinkR1, vc4TTPBidirectionalR1,
            au4CTPSource,
            au4CTPBidirectionalR1 },
    broadcast ACCORDING TO RULE
        SET SIZE(1..N) OF CHOICE {
            vc4TTPSinkR1, vc4TTPBidirectionalR1,
            au4CTPSource,
            au4CTPBidirectionalR1 },
    concatenated ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            SEQUENCE SIZE(3) OF
                au3CTPSource,
            SEQUENCE SIZE(3) OF au3CTPBidirectionalR1 },
    broadcastConcatenated ACCORDING TO RULE
        SET SIZE(1..N) OF CHOICE {
            SEQUENCE SIZE(3) OF
                au3CTPSource,
            SEQUENCE SIZE(3) OF au3CTPBidirectionalR1 }
};
;

```

11.3 Constricciones de denominación

Esta cláusula define las combinaciones admisibles de casos de objetos subordinados que pueden ser denominados por una clase de objeto superior, utilizando las clases de objeto contenidas en la presente Recomendación.

Esta cláusula sustituye las definiciones de reglas de subordinación de la actual Recomendación G.774 (1992). Toda regla de subordinación sustituida por una clase de esta cláusula se considera desaprobada. Los motivos para sustituir una regla de subordinación son las siguientes:

- 1) La regla de subordinación sustituida está defectuosa y debe ser corregida;
- 2) La regla de subordinación sustituida hace referencia a una clase de objeto gestionado que ha sido registrada de nuevo en la presente Recomendación;

Cada vez que se sustituye una regla de subordinación, la nueva regla de subordinación será registrada en la presente Recomendación. La etiqueta textual para la regla de subordinación será modificada para incluir el texto "R1". Por ejemplo, cuando se modifica la regla de subordinación "vc3TTPSinkSubordination" G.774 (1992), la etiqueta modificada será

"vc3TTPSinkR1Subordination". Obsérvese que "R1" se coloca inmediatamente después de la clase modificada que repercute en la regla de subordinación. Cuando la clase en la etiqueta no ha sido modificada pero la regla de subordinación es alterada porque hace referencia a una clase que ha cambiado, "R1" se coloca al final de la etiqueta de la regla de subordinación modificada. Por ejemplo, cuando se modifica la regla de subordinación "tug3BidirectionalSubordination" G.774 (1992), la etiqueta modificada será "tug3BidirectionalSubordinationR1".

A continuación figura una tabla de las reglas de subordinación desaprobadas de la Recomendación G.774 (1992) y las reglas de subordinación G.774 que las sustituyen:

Reglas de subordinación G.774 (1992) desaprobadas

```

augSinkSubordination
augBidirectionalSubordination
sdhNESubordination
tug2SinkSubordination
tug2BidirectionalSubordination
tug3SinkSubordination
tug3BidirectionalSubordination
vc3TTPSinkSubordination
vc3TTPSourceSubordination
vc3TTPBidirectionalSubordination
vc4TTPSinkSubordination
vc4TTPSourceSubordination
vc4TTPBidirectionalSubordination

```

Reglas de subordinación G.774 sustitutivas

```

augSinkSubordinationR1
augBidirectionalSubordinationR1
sdhNESubordinationR1
tug2SinkSubordinationR1
tug2BidirectionalSubordinationR1
tug3SinkSubordinationR1
tug3BidirectionalSubordinationR1
vc3TTPSinkR1Subordination
vc3TTPSourceSubordinationR1
vc3TTPBidirectionalR1Subordination
vc4TTPSinkR1Subordination
vc4TTPSourceR1Subordination
vc4TTPBidirectionalR1Subordination

```

```

augSinkSubordinationR1 SUBORDINATION RULE
SUPERIOR OBJECT CLASS
    augSink;
NAMES SUBORDINATES
    au3CTPSinkR1,
    au4CTPSinkR1;
ACCORDING TO RULE
    CHOICE {
        SET SIZE(1) OF au4CTPSinkR1,
        SET SIZE(3) OF au3CTPSinkR1
    };
;

```

```

augSourceSubordination SUBORDINATION RULE
SUPERIOR OBJECT CLASS
    augSource;
NAMES SUBORDINATES
    au3CTPSource,
    au4CTPSource;

```

```

    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF au4CTPSource,
            SET SIZE(3) OF au3CTPSource
        };
;

augBidirectionalSubordinationR1 SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        augBidirectional;
    NAMES SUBORDINATES
        au3CTPSinkR1, au3CTPSource,
        au3CTPBidirectionalR1,
        au4CTPSinkR1, au4CTPSource,
        au4CTPBidirectionalR1;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF CHOICE {
                au4CTPSinkR1, au4CTPSource,
                au4CTPBidirectionalR1 },
            SET SIZE(3) OF CHOICE {
                au3CTPSinkR1, au3CTPSource,
                au3CTPBidirectionalR1 }
        };
;

electricalSPITTPSinkSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        electricalSPITTPSink;
    NAMES SUBORDINATES
        rsCTPSink;
    ACCORDING TO RULE
        SET SIZE(1) OF rsCTPSink;
;

electricalSPITTPSourceSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        electricalSPITTPSource;
    NAMES SUBORDINATES
        rsCTPSource;
    ACCORDING TO RULE
        SET SIZE(1) OF rsCTPSource;
;

electricalSPITTPBidirectionalSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        electricalSPITTPBidirectional;
    NAMES SUBORDINATES
        rsCTPSink, rsCTPSource, rsCTPBidirectional;
    ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            rsCTPSink, rsCTPSource, rsCTPBidirectional };
;

opticalSPITTPSinkSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        opticalSPITTPSink;
    NAMES SUBORDINATES
        rsCTPSink;
    ACCORDING TO RULE
        SET SIZE(1) OF rsCTPSink;
;

```

```

opticalSPITTPSourceSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        opticalSPITTPSource;
    NAMES SUBORDINATES
        rsCTPSource;
    ACCORDING TO RULE
        SET SIZE(1) OF rsCTPSource;
;

opticalSPITTPBidirectionalSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        opticalSPITTPBidirectional;
    NAMES SUBORDINATES
        rsCTPSink, rsCTPSource, rsCTPBidirectional;
    ACCORDING TO RULE
        SET SIZE(1) OF CHOICE {
            rsCTPSink, rsCTPSource, rsCTPBidirectional };
;

msTTPSinkSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        msTTPSink;
    NAMES SUBORDINATES
        augSink,
        msDatacomCTPSink,
        msOrderwireCTPSink;
    ACCORDING TO RULE
        SET {
            SET SIZE(1,4,16) OF augSink,
            SET SIZE(0..1) OF msDatacomCTPSink,
            SET SIZE(0..1) OF msOrderwireCTPSink
        };
;

msTTPSourceSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        msTTPSource;
    NAMES SUBORDINATES
        augSource,
        msDatacomCTPSource,
        msOrderwireCTPSource;
    ACCORDING TO RULE
        SET {
            SET SIZE(1,4,16) OF augSource,
            SET SIZE(0..1) OF msDatacomCTPSource,
            SET SIZE(0..1) OF msOrderwireCTPSource
        };
;

msTTPBidirectionalSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        msTTPBidirectional;
    NAMES SUBORDINATES
        augBidirectional,
        msDatacomCTPSink, msDatacomCTPSource,
msDatacomCTPBidirectional,
        msOrderwireCTPSink, msOrderwireCTPSource,
msOrderwireCTPBidirectional;
    ACCORDING TO RULE
        SET {
            SET SIZE(1,4,16) OF augBidirectional,
            SET SIZE(0..1) OF CHOICE {
                msDatacomCTPSink, msDatacomCTPSource,
msDatacomCTPBidirectional },
            SET SIZE(0..1) OF CHOICE {

```

```

        msOrderwireCTPSink, msOrderwireCTPSource,
msOrderwireCTPBidirectional }
    };
;

rsTTPSinkSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        rsTTPSink AND SUBCLASSES;
    NAMES SUBORDINATES
        msCTPSink,
        rsDatacomCTPSink,
        rsOrderwireCTPSink,
        rsUserChannelCTPSink;
    ACCORDING TO RULE
        SET {
            SET SIZE(1) OF msCTPSink,
            SET SIZE(0..1) OF rsDatacomCTPSink,
            SET SIZE(0..1) OF rsOrderwireCTPSink,
            SET SIZE(0..1) OF rsUserChannelCTPSink
        };
;

rsTTPSourceSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        rsTTPSource AND SUBCLASSES;
    NAMES SUBORDINATES
        msCTPSource,
        rsDatacomCTPSource,
        rsOrderwireCTPSource,
        rsUserChannelCTPSource;
    ACCORDING TO RULE
        SET {
            SET SIZE(1) OF msCTPSource,
            SET SIZE(0..1) OF rsDatacomCTPSource,
            SET SIZE(0..1) OF rsOrderwireCTPSource,
            SET SIZE(0..1) OF rsUserChannelCTPSource
        };
;

rsTTPBidirectionalSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        rsTTPBidirectional AND SUBCLASSES;
    NAMES SUBORDINATES
        msCTPSink, msCTPSource, msCTPBidirectional,
        rsDatacomCTPSink, rsDatacomCTPSource, rsDatacomCTPBidirectional,
        rsOrderwireCTPSink, rsOrderwireCTPSource,
rsOrderwireCTPBidirectional,
        rsUserChannelCTPSink, rsUserChannelCTPSource,
rsUserChannelCTPBidirectional;
    ACCORDING TO RULE
        SET {
            SET SIZE(1) OF CHOICE {
                msCTPSink, msCTPSource, msCTPBidirectional },
            SET SIZE(0..1) OF CHOICE {
                rsDatacomCTPSink, rsDatacomCTPSource,
rsDatacomCTPBidirectional },
            SET SIZE(0..1) OF CHOICE {
                rsOrderwireCTPSink, rsOrderwireCTPSource,
rsOrderwireCTPBidirectional },
            SET SIZE(0..1) OF CHOICE {
                rsUserChannelCTPSink, rsUserChannelCTPSource,
                rsUserChannelCTPBidirectional }
        };
;

```

sdhNESubordinationR1 SUBORDINATION RULE

SUPERIOR OBJECT CLASS

sdhNE;

NAMES SUBORDINATES

electricalSPITTPSink,
electricalSPITTPSource,
electricalSPITTPBidirectional,
mstTTPSink,
mstTTPSource,
mstTTPBidirectional,
opticalSPITTPSink,
opticalSPITTPSource,
opticalSPITTPBidirectional,
rstTTPSink,
rstTTPSource,
rstTTPBidirectional,
rstTTPTrailTraceSink,
rstTTPTrailTraceSource,
rstTTPTrailTraceBidirectional,
vc11TTPSinkR1,
vc11TTPSource,
vc11TTPBidirectionalR1,
vc12TTPSinkR1,
vc12TTPSource,
vc12TTPBidirectionalR1,
vc2TTPSinkR1,
vc2TTPSource,
vc2TTPBidirectionalR1,
vc3TTPSinkR1, vc3TTPSourceR1, vc3TTPBidirectionalR1,
vc4TTPSinkR1, vc4TTPSourceR1, vc4TTPBidirectionalR1;

ACCORDING TO RULE

SET {
SET SIZE(0..N) OF
electricalSPITTPSink,
SET SIZE(0..N) OF
electricalSPITTPSource,
SET SIZE(0..N) OF
electricalSPITTPBidirectional,
SET SIZE(0..N) OF mstTTPSink,
SET SIZE(0..N) OF mstTTPSource,
SET SIZE(0..N) OF
mstTTPBidirectional,
SET SIZE(0..N) OF
opticalSPITTPSink,
SET SIZE(0..N) OF
opticalSPITTPSource,
SET SIZE(0..N) OF
opticalSPITTPBidirectional,
SET SIZE(0..N) OF rstTTPSink,
SET SIZE(0..N) OF rstTTPSource,
SET SIZE(0..N) OF rstTTPBidirectional,
SET SIZE(0..N) OF rstTTPTrailTraceSink,
SET SIZE(0..N) OF rstTTPTrailTraceSource,
SET SIZE(0..N) OF rstTTPTrailTraceBidirectional,
SET SIZE(0..N) OF vc11TTPSinkR1,
SET SIZE(0..N) OF vc11TTPSource,
SET SIZE(0..N) OF vc11TTPBidirectionalR1,
SET SIZE(0..N) OF vc12TTPSinkR1,
SET SIZE(0..N) OF vc12TTPSource,
SET SIZE(0..N) OF vc12TTPBidirectionalR1,
SET SIZE(0..N) OF vc2TTPSinkR1,
SET SIZE(0..N) OF vc2TTPSource,
SET SIZE(0..N) OF vc2TTPBidirectionalR1,
SET SIZE(0..N) OF vc3TTPSinkR1,

```

        SET SIZE(0..N) OF vc3TTPSourceR1,
        SET SIZE(0..N) OF vc3TTPBidirectionalR1,
        SET SIZE(0..N) OF vc4TTPSinkR1,
        SET SIZE(0..N) OF vc4TTPSourceR1,
        SET SIZE(0..N) OF vc4TTPBidirectionalR1
    };
;

tug2SinkSubordinationR1 SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        tug2Sink;
    NAMES SUBORDINATES
        tu11CTPSinkR1,
        tu12CTPSinkR1,
        tu2CTPSinkR1;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF tu2CTPSinkR1,
            SET SIZE(3) OF tu12CTPSinkR1,
            SET SIZE(4) OF tu11CTPSinkR1
        };
;

tug2SourceSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        tug2Source;
    NAMES SUBORDINATES
        tu11CTPSource,
        tu12CTPSource,
        tu2CTPSource;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF tu2CTPSource,
            SET SIZE(3) OF tu12CTPSource,
            SET SIZE(4) OF tu11CTPSource
        };
;

tug2BidirectionalSubordinationR1 SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        tug2Bidirectional;
    NAMES SUBORDINATES
        tu11CTPSinkR1,
        tu11CTPSource,
        tu11CTPBidirectionalR1,
        tu12CTPSinkR1,
        tu12CTPSource,
        tu12CTPBidirectionalR1,
        tu2CTPSinkR1,
        tu2CTPSource,
        tu2CTPBidirectionalR1;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF CHOICE {
                tu2CTPSinkR1,
                tu2CTPSource,
                tu2CTPBidirectionalR1 },
            SET SIZE(3) OF CHOICE {
                tu12CTPSinkR1,
                tu12CTPSource,
                tu12CTPBidirectionalR1 },

```

```

        SET SIZE(4) OF CHOICE {
            tu11CTPSinkR1,
            tu11CTPSource,
            tu11CTPBidirectionalR1 }
    };
;

tug3SinkSubordinationR1 SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        tug3Sink;
    NAMES SUBORDINATES
        tug2Sink,
        tu3CTPSinkR1;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF tu3CTPSinkR1,
            SET SIZE(7) OF tug2Sink
        };
;

tug3SourceSubordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        tug3Source;
    NAMES SUBORDINATES
        tug2Source,
        tu3CTPSource;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF tu3CTPSource,
            SET SIZE(7) OF tug2Source
        };
;

tug3BidirectionalSubordinationR1 SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        tug3Bidirectional;
    NAMES SUBORDINATES
        tug2Sink,
        tug2Source,
        tug2Bidirectional,
        tu3CTPSinkR1,
        tu3CTPSource,
        tu3CTPBidirectionalR1;
    ACCORDING TO RULE
        CHOICE {
            SET SIZE(1) OF CHOICE {
                tu3CTPSinkR1,
                tu3CTPSource,
                tu3CTPBidirectionalR1 }
            SET SIZE(7) OF CHOICE {
                tug2Sink,
                tug2Source,
                tug2Bidirectional }
        };
;

vc3TTPSinkR1Subordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        vc3TTPSink;
    NAMES SUBORDINATES
        tug2Sink,
        vcnUserChannelCTPSink;

```

```

    ACCORDING TO RULE
        SET {
            SET SIZE(7) OF tug2Sink,
            SET SIZE(1) OF vcnUserChannelCTPSink
        };
;

vc3TTPSourceSubordinationR1 SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        vc3TTPSourceR1;
    NAMES SUBORDINATES
        tug2Source,
        vcnUserChannelCTPSource;
    ACCORDING TO RULE
        SET {
            SET SIZE(7) OF tug2Source,
            SET SIZE(1) OF vcnUserChannelCTPSource
        };
;

vc3TTPBidirectionalR1Subordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        vc3TTPBidirectionalR1;
    NAMES SUBORDINATES
        tug2Bidirectional,
        vcnUserChannelCTPSink,
        vcnUserChannelCTPSource,
        vcnUserChannelCTPBidirectional;
    ACCORDING TO RULE
        SET {
            SET SIZE(7) OF tug2Bidirectional,
            SET SIZE(1) OF CHOICE {
                vcnUserChannelCTPSink,
                vcnUserChannelCTPSource,
                vcnUserChannelCTPBidirectional }
        };
;

vc4TTPSinkR1Subordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        vc4TTPSinkR1;
    NAMES SUBORDINATES
        tug3Sink,
        vcnUserChannelCTPSink;
    ACCORDING TO RULE
        SET {
            SET SIZE(3) OF tug3Sink,
            SET SIZE(1) OF vcnUserChannelCTPSink
        };
;

vc4TTPSourceR1Subordination SUBORDINATION RULE
    SUPERIOR OBJECT CLASS
        vc4TTPSourceR1;
    NAMES SUBORDINATES
        tug3Source,
        vcnUserChannelCTPSource;
    ACCORDING TO RULE
        SET {
            SET SIZE(3) OF tug3Source,
            SET SIZE(1) OF vcnUserChannelCTPSource
        };
;

```

```

vc4TTPBidirectionalR1Subordination SUBORDINATION RULE
  SUPERIOR OBJECT CLASS
    vc4TTPBidirectionalR1;
  NAMES SUBORDINATES
    tug3Bidirectional,
    vcnUserChannelCTPSink,
    vcnUserChannelCTPSource,
    vcnUserChannelCTPBidirectional;
  ACCORDING TO RULE
    SET {
      SET SIZE(3) OF tug3Bidirectional,
      SET SIZE(1) OF CHOICE {
        vcnUserChannelCTPSink,
        vcnUserChannelCTPSource,
        vcnUserChannelCTPBidirectional }
    };
;

```

ANEXO A

Diagramas de relación de entidades

La figura A.1 muestra la jerarquía de herencia para los puntos de terminación, adaptador indirecto y clases de objetos de elementos de red del modelo de información SDH.

La figura A.2 representa el árbol de denominación del modelo de información SDH.

La figura A.3 ilustra la denominación, el puntero de conectividad y las relaciones de transconexión del modelo de información SDH.

Las figuras A.4 y A.5 son un ejemplo de cómo se utilizan los objetos gestionados para representar un multiplex y un regenerador SDH.

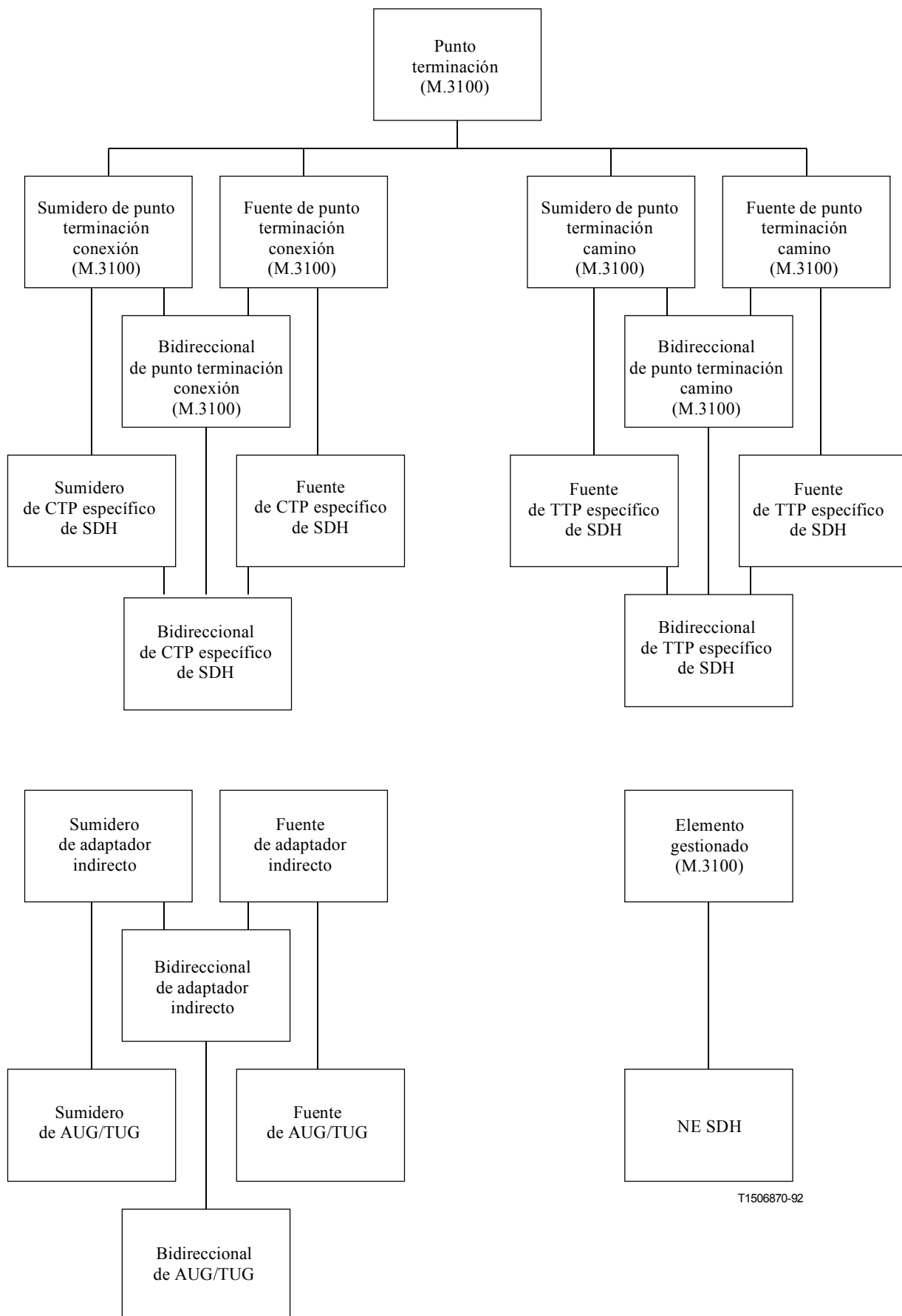
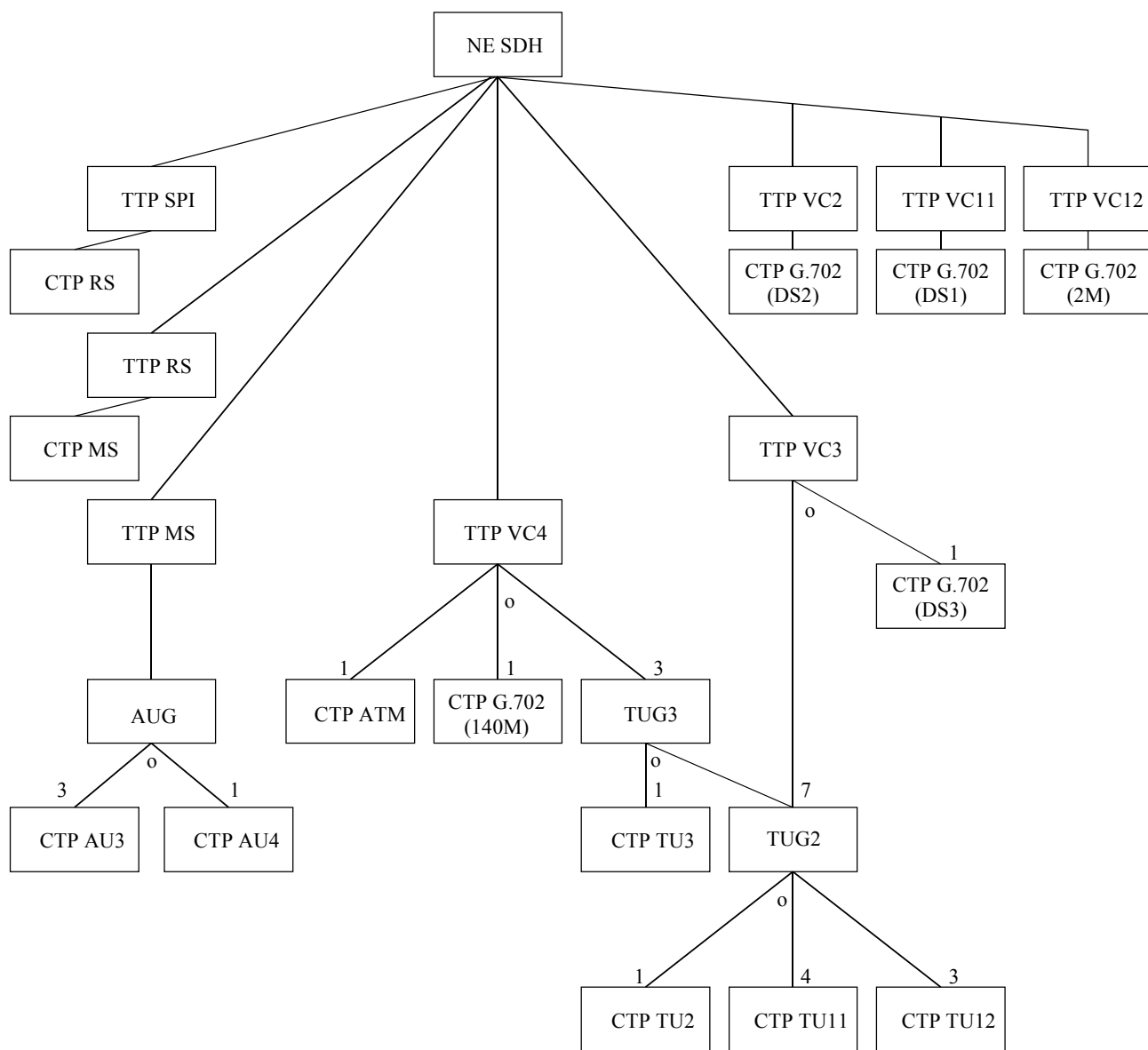


Figura A.1/G.774 – Jerarquía de herencia



T1506880-92

Figura A.2/G.774 – Árbol de denominación

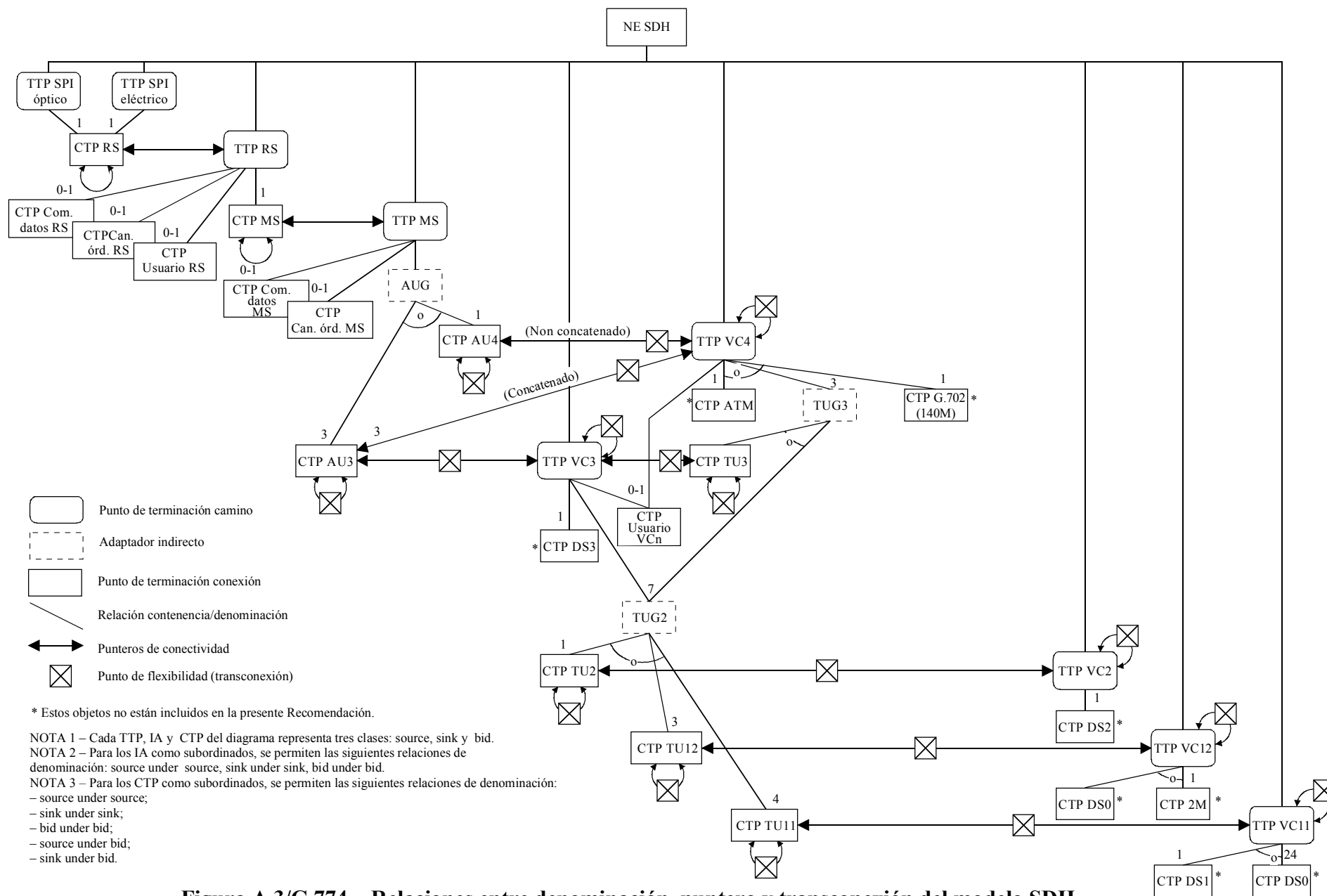


Figura A.3/G.774 – Relaciones entre denominación, puntero y transconexión del modelo SDH T1506890-92

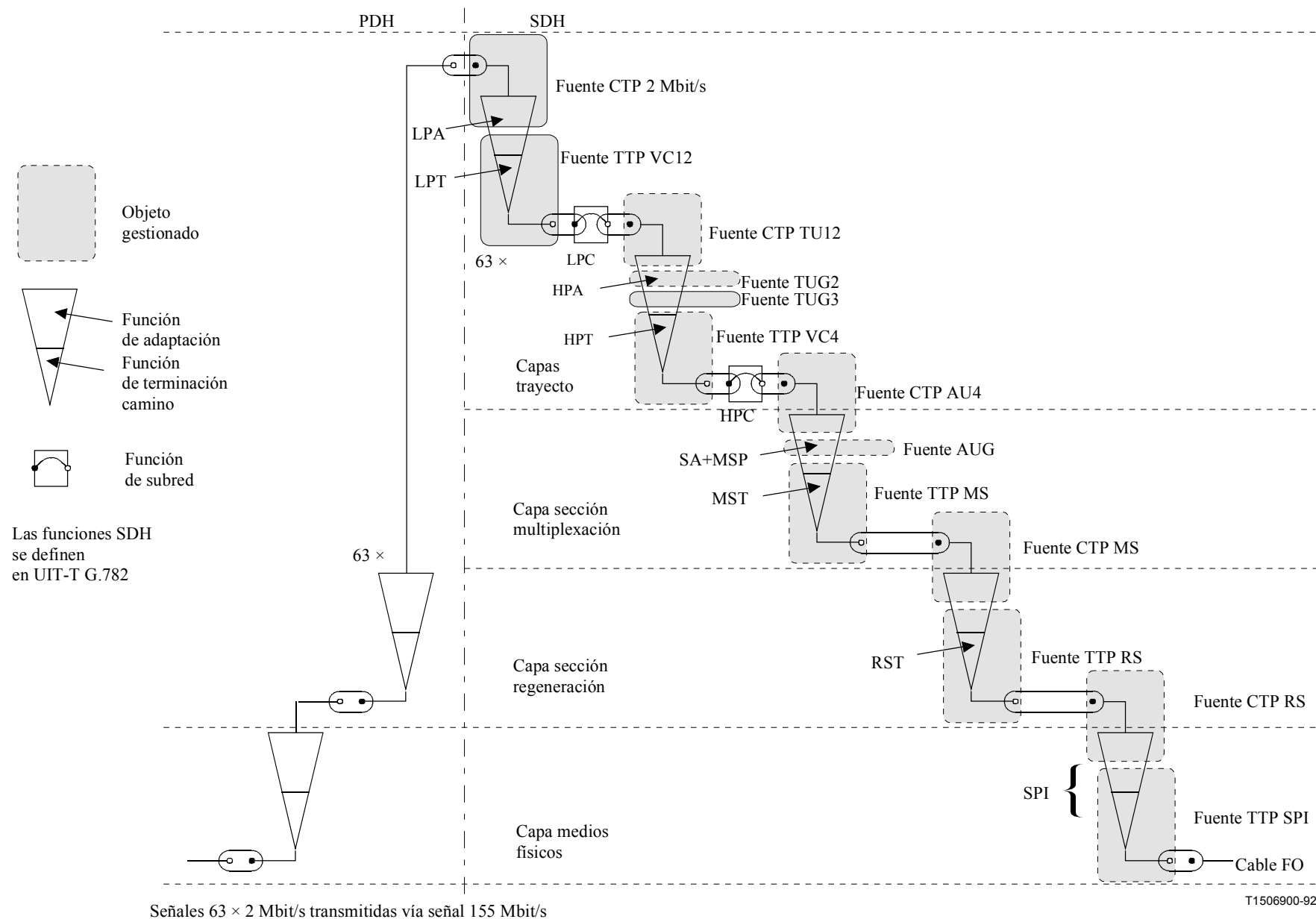
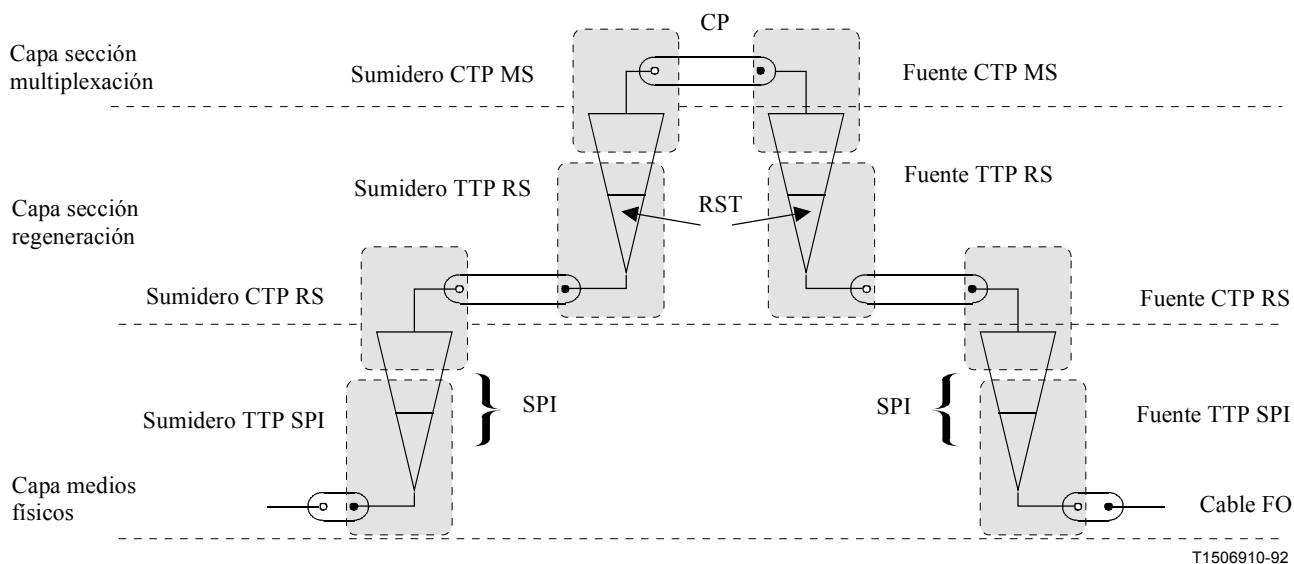


Figura A.4/G.774 – Ejemplo de modelo de información (multiplexor SDH)



Señal de transmisión unidireccional a 155 Mbit/s

CP Punto de conexión (*connection point*)

Figura A.5/G.774 – Ejemplo de modelo de información (regenerador SDH)

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