波分复用(WDM)系统网络管理接口技术要求
第三部分:基于 GDMO/CMIP 的信息模型部分

Technical specification of WDM network management interface
Part 3:linformation model based on GDMO/CMIP part

目　　次

前　言

《波分复用（WDM）系统网络管理接口技术要求》标准分为4部分，该标准的结构及名称如下：

1. YD/T 1350.1　波分复用（WDM）系统网络管理接口技术要求 第一部分：接口功能部分；

2. YD/T 1350.2　波分复用（WDM）系统网络管理接口技术要求 第二部分：通用信息模型部分；

3. YD/T 1350.3　波分复用（WDM）系统网络管理接口技术要求 第三部分：基于GDMO/CMIP的信息模型部分；

4. YD/T 1350.4　波分复用（WDM）系统网络管理接口技术要求 第四部分：基于IDL/IIOP的信息模型部分。

本部分结合国内需求制定。本部分是《波分复用系统网络管理接口技术要求》标准的第三部分。

本部分非等效采用ITU-T G.774 SDH网元层管理信息模型、ITU-T M.3100 通用网络信息模型等国际标准。

本部分由中国通信标准化协会提出并归口。

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波分复用（WDM）系统网络管理接口技术要求

第三部分：基于 GDMO/CMIP 的信息模型部分

1 范围

本部分根据"波分复用（WDM）系统网络管理接口技术要求 第一部分：接口功能部分"中定义的管理功能需求，规范了波分复用（WDM）系统的网元管理系统（EMS）与网络管理系统（NMS）之间交换管理信息采用CMIP协议的信息模型。

本部分适用于规范、设计和开发WDM网元管理系统的向上接口部分和WDM网络管理系统的向下接口部分。

2 规范性引用文件

下列文件中的条款通过本部分的引用而成为本部分的条款。凡是注日期的引用文件，其随后所有的修改单（不包括勘误的内容）或修订版均不适用于本部分，然而，鼓励根据本部分达成协议的各方研究是否可使用这些文件的最新版本。凡是不注日期的引用文件，其最新版本适用于本部分。

ITU-T M.3100 (1995)　　通用网络信息模型

ITU-T X.721 (1992)　　　管理信息定义

ITU-T Q.821 (1994)　　　告警监视

ITU-T Q.822 (1994)　　　性能管理

ITU-T G.774 (1992)　　　SDH网元层管理信息模型

ITU-T X.738 (1993)　　　系统管理：概要功能

ITU-T X.739 (1993)　　　系统管理：距离对象和属性

ITU-T Q.811 (1993)　　　Q3和X接口的低层协议框架

ITU-T Q.812 (1993)　　　Q3和X接口的高层协议框架

3 管理对象类（Managed Object Classes）

emsAgent MANAGED OBJECT CLASS

　　DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2 : 1992": top;

　　CHARACTERIZED BY

　　　　"ITU-T Rec. M.3100:1995": userLabelPackage,

　　　　"ITU-T Rec. M.3100:1995": locationNamePackage,

　　　　"ITU-T Rec. M.3100:1995": versionPackage,

　　　　"ITU-T Rec. M.3100:1995": vendorNamePackage,

　　　　platformInfoPkg,

　　　　emsAgentPkg PACKAGE

BEHAVIOUR

emsAgentBeh BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

emsAgentId   GET,

emsAgentLabel   GET-REPLACE,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": startTime   GET,

addressInfo   GET-REPLACE,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalState   GET,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": usageState   GET;

ACTIONS

backUpSoftwareAndDatabase,

restoreSoftwareAndDatabase,

downLoadSoftware,

synchronizeTime;

NOTIFICATIONS

"Rec. X.721 | ISO/IEC 10165-2 : 1992": attributeValueChange,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": stateChange,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": processingErrorAlarm,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": communicationsAlarm,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": integrityViolation,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": operationalViolation,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": physicalViolation,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": securityServiceOrMechanismViolation,

"Rec. X.721 | ISO/IEC 10165-2 : 1992": timeDomainViolation;;;

REGISTERED AS { ctsiWDMObjectClass 1 };

emsUser MANAGED OBJECT CLASS

DERIVED FROM "Rec. X.721 | ISO/IEC 10165-2 : 1992": top;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

emsUserPkg   PACKAGE

BEHAVIOUR

emsUserBeh   BEHAVIOUR

DEFINED AS

ATTRIBUTES

    EmsUserId GET,

    emsUserPwd GET,

    userEffectiveTime GET-REPLACE;

ACTIONS

    changePassword;;;

REGISTERED AS { ctsiWDMObjectClass 2 };

historyDataControl MANAGED OBJECT CLASS

    DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": top;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

      historyDataControlPkg PACKAGE

      BEHAVIOUR

        historyDataControlBeh BEHAVIOUR

        DEFINED AS

        "   ";;

      ATTRIBUTES

        historyDataControlId   GET,

        historyDataCapacity   GET-REPLACE;

        --   "Rec. X.721 I ISO/IEC 10165-2 : 1992": capacityAlarmThreshold GET-REPLACE;

      NOTIFICATIONS

        "Rec. X.721 I ISO/IEC 10165-2 : 1992": processingErrorAlarm;;;

REGISTERED AS { ctsiWDMObjectClass 3 };

wdmNE MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": managedElementR1;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": userLabelPackage,

        "ITU-T Rec. M.3100:1995": locationNamePackage,

        "ITU-T Rec. M.3100:1995": versionPackage,

        "ITU-T Rec. M.3100:1995": vendorNamePackage,

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        "ITU-T Rec. M.3100:1995": stateChangeNotificationPackage,

        "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

      circuitPackListPkg,

wdmNEPkg   PACKAGE

   BEHAVIOUR

      wdmNEBeh   BEHAVIOUR

      DEFINED AS

         "   ";;

   ATTRIBUTES

      WdmNEId GET,

      neName GET-REPLACE,

      neType   GET,

      creationTime GET,

      "Rec. X.721 I ISO/IEC 10165-2 : 1992": alarmStatus   GET;

   ACTIONS

      changeNEName;

   NOTIFICATIONS

      "Rec. X.721 I ISO/IEC 10165-2 : 1992": equipmentAlarm,

      "Rec. X.721 I ISO/IEC 10165-2 : 1992": environmentalAlarm,

      "Rec. X.721 I ISO/IEC 10165-2 : 1992": communicationsAlarm;;;

REGISTERED AS { ctsiWDMObjectClass 4 };

trunkSubNetwork   MANAGED OBJECT CLASS

   DERIVED FROM   "Rec. X.721 I ISO/IEC 10165-2 : 1992": top;

   CHARACTERIZED BY

      "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

      "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

      trunkSubNetworkPkg   PACKAGE

      BEHAVIOUR

         trunkSubNetworkBeh   BEHAVIOUR

         DEFINED AS

            " 本对象用于描述一个 WDM 干线子网" ;;

      ATTRIBUTES

         TrunkSubNetworkId   GET,

         trunkName   GET-REPLACE,

         "ITU-T Rec. M.3100:1995": userLabel   GET-REPLACE;;;

REGISTERED AS { ctsiWDMObjectClass 5 };

nodeMANAGED OBJECT CLASS

   DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992":top;

CHARACTERIZED BY

 "ITU-T Rec. M.3100:1995": locationNamePackage,

 "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

 "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

 nodePkg PACKAGE

  BEHAVIOUR

   nodeBeh BEHAVIOUR

   DEFINED AS

   " " ;;

  ATTRIBUTES

   nodeId GET,

   nodeLabel GET-REPLACE,

   neList GET,

   nodeTypeGET;;;

REGISTERED AS { ctsiWDMObjectClass 6 };

link MANAGED OBJECT CLASS

 DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": top;

 CHARACTERIZED BY

  "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

  "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

  "ITU-T Rec. M.3100:1995": tmnCommunicationsAlarmInformationPackage,

  linkPkg PACKAGE

   BEHAVIOUR

    linkBeh BEHAVIOUR

    DEFINED AS

    " " ;;

   ATTRIBUTES

    linkId GET,

    linkLabel GET-REPLACE,

    linkType GET,

    linkRate GET,

    linkDirection GET-REPLACE,

    aEndInfo GET,

    zEndInfo GET;;;

REGISTERED AS { ctsiWDMObjectClass 7 };

ochCTPBid   MANAGED OBJECT CLASS

    DERIVED FROM ochCTPSink,

        ochCTPSource;

REGISTERED AS { ctsiWDMObjectClass 8 };

ochCTPSink   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

        ochCTPPkg,

        ochCTPSinkPkg   PACKAGE

            BEHAVIOUR

                ochCTPSinkBeh   BEHAVIOUR

                DEFINED AS

                "   ";;

            ATTRIBUTES

                ochCTPId   GET;;;

REGISTERED AS { ctsiWDMObjectClass 9 };

ochCTPSource   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

        ochCTPPkg,

        ochCTPSourcePkg PACKAGE

            BEHAVIOUR

                ochCTPSourceBeh BEHAVIOUR

                DEFINED AS

                "   ";;

            ATTRIBUTES

                ochCTPId   GET;;;

REGISTERED AS { ctsiWDMObjectClass 10 };

ochTTPBid   MANAGED OBJECT CLASS

    DERIVED FROM ochTTPSink,

ochTTPSource;

REGISTERED AS { ctsiWDMObjectClass 11 };

ochTTPSink   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSink;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        --"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

        ochTTPSinkPkg   PACKAGE

            BEHAVIOUR

                ochTTPSinkBeh   BEHAVIOUR

                DEFINED AS

                " ";;

            ATTRIBUTES

                ochTTPId   GET;;;

REGISTERED AS { ctsiWDMObjectClass 12 };

ochTTPSourceMANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSource;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

  --   "ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

        ochTTPSourcePkg PACKAGE

            BEHAVIOUR

                ochTTPSourceBeh BEHAVIOUR

                DEFINED AS

                "   ";;

            ATTRIBUTES

                ochTTPId   GET;;;

REGISTERED AS { ctsiWDMObjectClass 13 };

omsCTPBid   MANAGED OBJECT CLASS

    DERIVED FROM omsCTPSink,

        omsCTPSource;

REGISTERED AS { ctsiWDMObjectClass 14 };

omsCTPSink   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

CHARACTERIZED BY

    "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

    "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

    omsCTPPkg,

    omsCTPSinkPkg   PACKAGE

        BEHAVIOUR

            omsCTPSinkBeh   BEHAVIOUR

            DEFINED AS

            "   ";;

        ATTRIBUTES

            omsCTPId   GET;;;

REGISTERED AS { ctsiWDMObjectClass 15 };

omsCTPSource   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

        omsCTPPkg,

        omsCTPSourcePkg   PACKAGE

            BEHAVIOUR

                OmsCTPSourceBeh   BEHAVIOUR

                DEFINED AS

                "   ";;

            ATTRIBUTES

                omsCTPId   GET;;;

    REGISTERED AS { ctsiWDMObjectClass 16 };

omsTTPBid   MANAGED OBJECT CLASS

    DERIVED FROM omsTTPSink,

        omsTTPSource;

REGISTERED AS { ctsiWDMObjectClass 17 };

omsTTPSink MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSink;

    CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

--"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

omsTTPSinkPkg   PACKAGE

    BEHAVIOUR

        omsTTPSinkBeh   BEHAVIOUR

        DEFINED AS

        "   ";;

    ATTRIBUTES

        OmsTTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 18 };

omsTTPSource   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSource;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        --"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

        omsTTPSourcePkg PACKAGE

        BEHAVIOUR

            OmsTTPSourceBeh   BEHAVIOUR

            DEFINED AS

            "   ";;

        ATTRIBUTES

            OmsTTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 19 };

otsTTPBid   MANAGED OBJECT CLASS

    DERIVED FROM otsTTPSink,

        otsTTPSource;

REGISTERED AS { ctsiWDMObjectClass 20 };

otsTTPSink   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSink;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        --"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

        otsTTPPkg,

        otsTTPSinkPkg PACKAGE

BEHAVIOUR

OtsTTPSinkBeh BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

otsTTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 21 };

otsTTPSource MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSource;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

--"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

otsTTPPkg,

otsTTPSourcePkg PACKAGE

BEHAVIOUR

otsTTPSourceBeh BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

otsTTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 22 };

oscCTPBid   MANAGED OBJECT CLASS

DERIVED FROM oscCTPSink,

oscCTPSource;

REGISTERED AS { ctsiWDMObjectClass 23 };

oscCTPSink   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

oscInfoPkg,

oscCTPSinkPkg PACKAGE

BEHAVIOUR

OscCTPSinkBeh BEHAVIOUR

DEFINED AS

"   "..
          ,,

ATTRIBUTES

oscCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 24 };

oscCTPSource MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

oscInfoPkg,

oscCTPSourcePkg PACKAGE

BEHAVIOUR

oscCTPSourceBeh BEHAVIOUR

DEFINED AS

"   "..
        ,,

ATTRIBUTES

oscCTPIdGET;;;

REGISTERED AS { ctsiWDMObjectClass 25 };

oscTTPBid   MANAGED OBJECT CLASS

DERIVED FROM oscTTPSink,

oscTTPSource;

REGISTERED AS { ctsiWDMObjectClass 26 };

oscTTPSink   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSink;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

--"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

oscTTPSinkPkg PACKAGE

BEHAVIOUR

OscTTPSinkBeh BEHAVIOUR

DEFINED AS

"   "..
          ,,

ATTRIBUTES

OscTTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 27 };

OscTTPSource MANAGED OBJECT CLASS

 DERIVED FROM "ITU-T Rec. M.3100:1995": trailTerminationPointSource;

 CHARACTERIZED BY

  "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

  --"ITU-T Rec. M.3100:1995": tmnCommunicationAlarmInformationPackage,

  oscTTPSourcePkg PACKAGE

   BEHAVIOUR

    oscTTPSourceBeh BEHAVIOUR

    DEFINED AS

    " ";;

   ATTRIBUTES

    OscTTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 28 };

wdmOPICTPBid MANAGED OBJECT CLASS

 DERIVED FROM wdmOPICTPSink,

  wdmOPICTPSource;

REGISTERED AS { ctsiWDMObjectClass 29 };

wdmOPICTPSink MANAGED OBJECT CLASS

 DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

 CHARACTERIZED BY

  "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

  "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

  wdmOPICTPPkg,

  wdmOPICTPSinkPkg PACKAGE

   BEHAVIOUR

    wdmOPICTPSinkBeh BEHAVIOUR

    DEFINED AS

    " ";;

   ATTRIBUTES

    WdmOPICTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 30 };

wdmOPICTPSource   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        "ITU-T Rec. M.3100:1995": attributeValueChangeNotificationPackage,

        wdmOPICTPPkg,

        wdmOPICTPSourcePkg PACKAGE

            BEHAVIOUR

                WdmOPICTPSourceBeh BEHAVIOUR

                DEFINED AS

                "   ";;

            ATTRIBUTES

                WdmOPICTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 31 };

omsOrderwireCTPBid   MANAGED OBJECT CLASS

    DERIVED FROM omsOrderwireCTPSink,

        omsOrderwireCTPSource;

REGISTERED AS { ctsiWDMObjectClass 32 };

omsOrderwireCTPSink MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

        omsOrderwireCTPSinkPkg   PACKAGE

            BEHAVIOUR

                omsOrderwireCTPSinkBeh   BEHAVIOUR

                DEFINED AS

                "   ";;

            ATTRIBUTES

                OmsOrderwireCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 33 };

omsOrderwireCTPSource   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

    CHARACTERIZED BY

        "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

          omsOrderwireCTPSourcePkg PACKAGE

             BEHAVIOUR

                  omsOrderwireCTPSourceBeh BEHAVIOUR

                  DEFINED AS

                  "   ";;

             ATTRIBUTES

                  OmsOrderwireCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 34 };

OtsOrderwireCTPBid MANAGED OBJECT CLASS

          DERIVED FROM otsOrderwireCTPSink,

             otsOrderwireCTPSource;

REGISTERED AS { ctsiWDMObjectClass 35 };

otsOrderwireCTPSink   MANAGED OBJECT CLASS

          DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

          CHARACTERIZED BY

             "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

             otsOrderwireCTPSinkPkg PACKAGE

                  BEHAVIOUR

                        otsOrderwireCTPSinkBeh   BEHAVIOUR

                        DEFINED AS

                        "   ";;

                  ATTRIBUTES

                        otsOrderwireCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 36 };

otsOrderwireCTPSource MANAGED OBJECT CLASS

          DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

          CHARACTERIZED BY

             "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

             otsOrderwireCTPSourcePkg PACKAGE

                  BEHAVIOUR

                        otsOrderwireCTPSourceBeh BEHAVIOUR

                        DEFINED AS

                        "   ";;

                  ATTRIBUTES

otsOrderwireCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 37 };

omsUserChannelCTPBid   MANAGED OBJECT CLASS

DERIVED FROM omsUserChannelCTPSink,

omsUserChannelCTPSource;

REGISTERED AS { ctsiWDMObjectClass 38 };

omsUserChannelCTPSink   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

omsUserChannelCTPSinkPkg   PACKAGE

BEHAVIOUR

omsUserChannelCTPSinkBeh   BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

omsUserChannelCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 39 };

omsUserChannelCTPSource MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

CHARACTERIZED BY

"ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

omsUserChannelCTPSourcePkg PACKAGE

BEHAVIOUR

omsUserChannelCTPSourceBeh BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

OmsUserChannelCTPId GET;;;

REGISTERED AS { ctsiWDMObjectClass 40 };

OtsUserChannelCTPBid   MANAGED OBJECT CLASS

DERIVED FROM otsUserChannelCTPSink,

otsUserChannelCTPSource;

REGISTERED AS { ctsiWDMObjectClass 41 };

otsUserChannelCTPSink   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSink;

    CHARACTERIZED BY

       "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

       otsUserChannelCTPSinkPkg PACKAGE

          BEHAVIOUR

             OtsUserChannelCTPSinkBeh   BEHAVIOUR

             DEFINED AS

             "   ";;

          ATTRIBUTES

             otsUserChannelCTPId   GET,

             userDataChannelRate   GET;;;

REGISTERED AS { ctsiWDMObjectClass 42 };

otsUserChannelCTPSource   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. M.3100:1995": connectionTerminationPointSource;

    CHARACTERIZED BY

       "ITU-T Rec. M.3100:1995": createDeleteNotificationsPackage,

       otsUserChannelCTPSourcePkg   PACKAGE

          BEHAVIOUR

             otsUserChannelCTPSourceBeh   BEHAVIOUR

             DEFINED AS

             "   ";;

          ATTRIBUTES

             otsUserChannelCTPId   GET,

             userDataChannelRate   GET;;;

REGISTERED AS { ctsiWDMObjectClass 43 };

ochCurrentData   MANAGED OBJECT CLASS

    DERIVED FROM "ITU-T Rec. Q.822:1994": currentData;

    CHARACTERIZED BY

       "ITU-T Rec. Q.822:1994": scheduledPMReportPkg,

       "ITU-T Rec. Q.822:1994": thresholdPkg,

       ochCurrentDataPkgPACKAGE

          BEHAVIOUR

ochCurrentDataBehBEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

waveLength   GET,

"ITU-T Rec. G.774.01:1994": laserBias   GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMax GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMin GET,

"ITU-T Rec. G.774.01:1994": laserTemperature   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMax   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMin   GET,

laserBackfaceOpticalPower   GET,

"ITU-T Rec. G.774.01:1994": eS   GET,

"ITU-T Rec. G.774.01:1994": sES   GET,

"ITU-T Rec. G.774.01:1994": uAS   GET,

"ITU-T Rec. G.774.01:1994": oFS GET;;;

CONDITIONAL PACKAGES

receivePowerLevelPkg   PRESENT IF "   ",

transmitPowerLevelPkg   PRESENT IF "   ";

REGISTERED AS { ctsiWDMObjectClass 44 };

OchHistoryData MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.822:1994": historyData;

CHARACTERIZED BY

ochHistoryDataPkg PACKAGE

BEHAVIOUR

ochHistoryDataBeh BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

waveLength   GET,

"ITU-T Rec. G.774.01:1994": laserBias   GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMax GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMin GET,

"ITU-T Rec. G.774.01:1994": laserTemperature   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMax   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMin   GET,

17

laserBackfaceOpticalPower   GET,

"ITU-T Rec. G.774.01:1994": eS   GET,

"ITU-T Rec. G.774.01:1994": sES   GET,

"ITU-T Rec. G.774.01:1994": uAS   GET,

"ITU-T Rec. G.774.01:1994": oFS GET;;;

CONDITIONAL PACKAGES

receivePowerLevelPkg   PRESENT IF "   ",

transmitPowerLevelPkg   PRESENT IF "   ";

REGISTERED AS { ctsiWDMObjectClass 45 };

omsCurrentData   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.822:1994": currentData;

CHARACTERIZED BY

"ITU-T Rec. Q.822:1994": scheduledPMReportPkg,

"ITU-T Rec. Q.822:1994": thresholdPkg,

omsCurrentDataPkg   PACKAGE

BEHAVIOUR

omsCurrentDataBeh   BEHAVIOUR

DEFINED AS

"   ";;;;

CONDITIONAL PACKAGES

receivePowerLevelPkg   PRESENT IF "   ",

transmitPowerLevelPkg   PRESENT IF "   ",

channelReceivePowerLevelPkg   PRESENT IF "",

channelTransmitPowerLevelPkg   PRESENT IF "   ";

REGISTERED AS { ctsiWDMObjectClass 46 };

OmsHistoryData MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.822:1994": historyData;

CHARACTERIZED BY

OmsHistoryDataPkg   PACKAGE

BEHAVIOUR

OmsHistoryDataBeh   BEHAVIOUR

DEFINED AS

"   ";;;;

CONDITIONAL PACKAGES

receivePowerLevelPkg   PRESENT IF "   ",

transmitPowerLevelPkg   PRESENT IF "   ",

channelReceivePowerLevelPkg   PRESENT IF "   ",

channelTransmitPowerLevelPkg   PRESENT IF "   ";
REGISTERED AS { ctsiWDMObjectClass 47 };

OtsCurrentData   MANAGED OBJECT CLASS
    DERIVED FROM "ITU-T Rec. Q.822:1994": currentData;
    CHARACTERIZED BY
        "ITU-T Rec. Q.822:1994": scheduledPMReportPkg,
        "ITU-T Rec. Q.822:1994": thresholdPkg,
        receivePowerLevelPkg,
        transmitPowerLevelPkg,
        otsCurrentDataPkg PACKAGE
            BEHAVIOUR
                otsCurrentDataBeh BEHAVIOUR
                DEFINED AS
                "   ";;
            ATTRIBUTES
                "ITU-T Rec. G.774.01:1994": laserTemperature   GET,
                "ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMax   GET,
                "ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMin   GET,
                "ITU-T Rec. G.774.01:1994": laserBias GET,
                "ITU-T Rec. G.774.01:1994": laserBiasTideMarkMax GET,
                "ITU-T Rec. G.774.01:1994": laserBiasTideMarkMin GET,
                channelOSNR GET;;;
REGISTERED AS { ctsiWDMObjectClass 48 };

otsHistoryData   MANAGED OBJECT CLASS
    DERIVED FROM "ITU-T Rec. Q.822:1994": historyData;
    CHARACTERIZED BY
        receivePowerLevelPkg,
        transmitPowerLevelPkg,
        otsHistoryDataPkg PACKAGE
            BEHAVIOUR
                otsHistoryDataBeh BEHAVIOUR
                DEFINED AS
                "   ";;

ATTRIBUTES

"ITU-T Rec. G.774.01:1994": laserTemperature   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMax   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMin   GET,

"ITU-T Rec. G.774.01:1994": laserBias GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMax GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMin GET,

channelOSNR GET;;;

REGISTERED AS { ctsiWDMObjectClass 49 };

oscCurrentData   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.822:1994": currentData;

CHARACTERIZED BY

"ITU-T Rec. Q.822:1994": scheduledPMReportPkg,

"ITU-T Rec. Q.822:1994": thresholdPkg,

transmitPowerLevelPkg,

oscCurrentDataPkg   PACKAGE

BEHAVIOUR

OscCurrentDataBeh   BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

"ITU-T Rec. G.774.01:1994": laserTemperature   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMax   GET,

"ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMin   GET,

"ITU-T Rec. G.774.01:1994": laserBias GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMax GET,

"ITU-T Rec. G.774.01:1994": laserBiasTideMarkMin GET,

"ITU-T Rec. G.774.01:1994": Es   GET,

"ITU-T Rec. G.774.01:1994": sES   GET,

"ITU-T Rec. G.774.01:1994": uAS GET,

"ITU-T Rec. G.774.01:1994": oFS   GET;;;

REGISTERED AS   { ctsiWDMObjectClass 50 };

oscHistoryData   MANAGED OBJECT CLASS

DERIVED FROM "ITU-T Rec. Q.822:1994": historyData;

CHARACTERIZED BY

transmitPowerLevelPkg,

oscHistoryDataPkg   PACKAGE

      BEHAVIOUR

         OscHistoryDataBeh   BEHAVIOUR

         DEFINED AS

         "   ";;

      ATTRIBUTES

         "ITU-T Rec. G.774.01:1994": laserTemperature   GET,

         "ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMax   GET,

         "ITU-T Rec. G.774.01:1994": laserTemperatureTideMarkMin   GET,

         "ITU-T Rec. G.774.01:1994": laserBias GET,

         "ITU-T Rec. G.774.01:1994": laserBiasTideMarkMax GET,

         "ITU-T Rec. G.774.01:1994": laserBiasTideMarkMin GET,

         "ITU-T Rec. G.774.01:1994": eS   GET,

         "ITU-T Rec. G.774.01:1994": sES   GET,

         "ITU-T Rec. G.774.01:1994": uAS   GET,

         "ITU-T Rec. G.774.01:1994": oFS   GET;;;

REGISTERED AS { ctsiWDMObjectClass 51 };

nmsSystem   MANAGED OBJECT CLASS

    DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": top;

    CHARACTERIZED BY

      nmsSystemPkg   PACKAGE

      BEHAVIOUR

         nmsSystemBeh   BEHAVIOUR

         DEFINED AS

         "   ";;

      ATTRIBUTES

         "Rec. X.721 I ISO/IEC 10165-2 : 1992": systemId   GET,

         "Rec. X.721 I ISO/IEC 10165-2 : 1992": systemTitle   GET-REPLACE;;;

REGISTERED AS { ctsiWDMObjectClass 52 };

4 包（Packages）

platformInfoPkg   PACKAGE

    BEHAVIOUR

      platformInfoBeh   BEHAVIOUR

      DEFINED AS

      "   ";;

ATTRIBUTES

 hardwarePFInfo GET,

 softwarePFInfo GET;

REGISTERED AS { ctsiWDMPackage 1 };

CircuitPackListPkg PACKAGE

 ATTRIBUTES

  circuitPackList GET;

REGISTERED AS { ctsiWDMPackage 2 };

ochCTPPkg PACKAGE

 BEHAVIOUR

  ochCTPPkgBeh BEHAVIOUR

  DEFINED AS

  " ";;

 ATTRIBUTES

  ochWaveChannelInfo GET-REPLACE,

  channelSpacing GET,

  regeneratorType GET,

  assignmentState GET-REPLACE;

 NOTIFICATIONS

  "Rec. X.721 I ISO/IEC 10165-2 : 1992": stateChange;

REGISTERED AS { ctsiWDMPackage 3 };

omsCTPPkg PACKAGE

 BEHAVIOUR

  omsCTPPkgBeh BEHAVIOUR

  DEFINED AS

  " ";;

 ATTRIBUTES

  omsWaveChannelInfo GET-REPLACE,

  numberOfWaveChannels GET,

  assignmentState GET-REPLACE;

 NOTIFICATIONS

  "Rec. X.721 I ISO/IEC 10165-2 : 1992": stateChange;

REGISTERED AS { ctsiWDMPackage 4 };

otsTTPPkg   PACKAGE

    BEHAVIOUR

        otsTTPPkgBeh   BEHAVIOUR

        DEFINED AS

        "   ";;

    ATTRIBUTES

        opticalReachLen   GET,

        numberOfWaveChannels   GET;

REGISTERED AS { ctsiWDMPackage 5 };

oscInfoPkg   PACKAGE

    BEHAVIOUR

        oscInfoPkgBeh   BEHAVIOUR

        DEFINED AS

        "   ";;

    ATTRIBUTES

        oscCentralFrequency   GET,

        oscChannelSpacing   GET,

        oscType GET,

        timingSource GET;

REGISTERED AS { ctsiWDMPackage 6 };

wdmOPICTPPkg   PACKAGE

    BEHAVIOUR

        WdmOPICTPPkgBeh BEHAVIOUR

        DEFINED AS

        "   ";;

    ATTRIBUTES

        opticalReachLen   GET,

        waveLength   GET,

        wdmASPControl   GET-REPLACE;

REGISTERED AS { ctsiWDMPackage 7 };

receivePowerLevelPkg PACKAGE

    BEHAVIOUR

        receivePowerLevelPkgBeh   BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

receivePowerLevel GET,

receivePowerLevelTideMarkMax GET,

receivePowerLevelTideMarkMin GET;

REGISTERED AS { ctsiWDMPackage 8 };

transmitPowerLevelPkg PACKAGE

BEHAVIOUR

transmitPowerLevelPkgBeh BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

transmitPowerLevel   GET,

transmitPowerLevelTideMarkMax GET,

transmitPowerLevelTideMarkMin GET;

REGISTERED AS { ctsiWDMPackage 9 };

channelReceivePowerLevelPkg   PACKAGE

BEHAVIOUR

channelReceivePowerLevelPkgBeh   BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

channelReceivePowerLevel GET,

channelReceivePowerLevelTideMarkMax   GET,

channelReceivePowerLevelTideMarkMin   GET;

REGISTERED AS { ctsiWDMPackage 10 };

channelTransmitPowerLevelPkg PACKAGE

BEHAVIOUR

channelTransmitPowerLevelPkgBeh   BEHAVIOUR

DEFINED AS

"   ";;

ATTRIBUTES

channelTransmitPowerLevel GET,

```
              channelTransmitPowerLevelTideMarkMax   GET,
              channelTransmitPowerLevelTideMarkMin   GET;
REGISTERED AS { ctsiWDMPackage 11 };
```

属性（Attributes）

```
emsAgentId   ATTRIBUTE
      WITH ATTRIBUTE SYNTAX     CtsiASN1Module.NameType;
      MATCHES FOR    EQUALITY, ORDERING, SUBSTRINGS;
      BEHAVIOUR
            emsAgentIdBeh    BEHAVIOUR
                  DEFINED AS
                  "       ";;
REGISTERED AS { ctsiWDMAttribute 1 };


emsAgentLabel    ATTRIBUTE
      WITH ATTRIBUTE SYNTAX     CtsiASN1Module.EmsAgentLabel;
      MATCHES FOR    EQUALITY, ORDERING, SUBSTRINGS;
      BEHAVIOUR
            EmsAgentLabelBeh    BEHAVIOUR
                  DEFINED AS
                  "       ";;
REGISTERED AS { ctsiWDMAttribute 2 };


addressInfo    ATTRIBUTE
      WITH ATTRIBUTE SYNTAX     CtsiASN1Module.AddressInfo;
      MATCHES FOR    EQUALITY;
      BEHAVIOUR
            addressInfoBeh    BEHAVIOUR
                  DEFINED AS
                  "       ";;
REGISTERED AS { ctsiWDMAttribute 3 };


emsUserId    ATTRIBUTE
      WITH ATTRIBUTE SYNTAX     CtsiASN1Module.EmsUserId;
      MATCHES FOR    EQUALITY, ORDERING, SUBSTRINGS;
      BEHAVIOUR
```

        emsUserIdBeh   BEHAVIOUR

           DEFINED AS

           "   ";;

REGISTERED AS { ctsiWDMAttribute 4 };

emsUserPwd ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.EmsUserPwd;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        emsUserPwdBeh   BEHAVIOUR

           DEFINED AS

           "   ";;

REGISTERED AS { ctsiWDMAttribute 5 };

userEffectiveTime ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.UserEffectiveTime;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        userEffectiveTimeBeh   BEHAVIOUR

           DEFINED AS

           "   ";;

REGISTERED AS { ctsiWDMAttribute 6 };

historyDataControlId   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        historyDataControlIdBeh   BEHAVIOUR

           DEFINED AS

           "   ";;

REGISTERED AS { ctsiWDMAttribute 7 };

historyDataCapacity   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.HistoryDataCapacity;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        HistoryDataCapacityBeh   BEHAVIOUR

```
            DEFINED AS
                "        ";;
REGISTERED AS { ctsiWDMAttribute 8 };


wdmNEId       ATTRIBUTE
        WITH ATTRIBUTE SYNTAX     CtsiASN1Module.NameType;
        MATCHES FOR    EQUALITY, ORDERING, SUBSTRINGS;
        BEHAVIOUR
            WdmNEIdBeh    BEHAVIOUR
                DEFINED AS
                    "            ";;
REGISTERED AS { ctsiWDMAttribute 9 };


neName  ATTRIBUTE
        WITH ATTRIBUTE SYNTAX     CtsiASN1Module.NeName;
        MATCHES FOR    EQUALITY, ORDERING, SUBSTRINGS;
        BEHAVIOUR
            neNameBeh    BEHAVIOUR
                DEFINED AS
                    "        ";;
REGISTERED AS { ctsiWDMAttribute 10 };


neType    ATTRIBUTE
        WITH ATTRIBUTE SYNTAX     CtsiASN1Module.NeType;
        MATCHES FOR    EQUALITY;
        BEHAVIOUR
            neTypeBeh    BEHAVIOUR
                DEFINED AS
                    "        ";;
REGISTERED AS { ctsiWDMAttribute 11 };


creationTime  ATTRIBUTE
        WITH ATTRIBUTE SYNTAX     CtsiASN1Module.CreationTime;
        MATCHES FOR    EQUALITY;
        BEHAVIOUR
            creationTimeBeh    BEHAVIOUR
                DEFINED AS
```

"   ";;
REGISTERED AS { ctsiWDMAttribute 12 };

trunkSubNetworkIdATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        trunkSubNetworkIdBeh BEHAVIOUR

            DEFINED AS

        "   ";;

REGISTERED AS { ctsiWDMAttribute 13 };

trunkName   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.TrunkName;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        trunkNameBeh   BEHAVIOUR

            DEFINED AS

        "   ";;

REGISTERED AS { ctsiWDMAttribute 14 };

nodeId   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        nodeIdBeh   BEHAVIOUR

            DEFINED AS

        "   ";;

REGISTERED AS { ctsiWDMAttribute 15 };

nodeLabel   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NodeLabel;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        nodeLabelBeh BEHAVIOUR

            DEFINED AS

        "   ";;

REGISTERED AS { ctsiWDMAttribute 16 };

neList   ATTRIBUTE
    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NeList;
    MATCHES FOR   EQUALITY, SET-COMPARISON, SET-INTERSECTION;
    BEHAVIOUR
        neListBeh   BEHAVIOUR
            DEFINED AS
                "   ";;
REGISTERED AS { ctsiWDMAttribute 17 };

nodeType ATTRIBUTE
    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NodeType;
    MATCHES FOR   EQUALITY;
    BEHAVIOUR
        nodeTypeBeh BEHAVIOUR
            DEFINED AS
                "   ";;
REGISTERED AS { ctsiWDMAttribute 18 };

linkId   ATTRIBUTE
    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;
    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;
    BEHAVIOUR
        linkIdBehBEHAVIOUR
            DEFINED AS
                "   ";;
REGISTERED AS { ctsiWDMAttribute 19 };

linkLabel ATTRIBUTE
    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.LinkLabel;
    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;
    BEHAVIOUR
        linkLabelBeh BEHAVIOUR
            DEFINED AS
                "   ";;
REGISTERED AS { ctsiWDMAttribute 20 };

linkType ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.LinkType;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        linkTypeBeh BEHAVIOUR

           DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 21 };

linkRate ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.LinkRate;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        linkRateBeh   BEHAVIOUR

           DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 22 };

linkDirection   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.LinkDirection;

    MATCHES FOR EQUALITY;

    BEHAVIOUR

    linkDirectionBeh BEHAVIOUR

           DEFINED AS

            "   ";;

REGISTERED AS   { ctsiWDMAttribute 23 };

aEndInfo ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.AEndInfo;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        aEndInfoBeh BEHAVIOUR

           DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 24 };

zEndInfo ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ZEndInfo;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        zEndInfoBeh BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 25 };

hardwarePFInfo   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.HardwarePFInfo;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        hardwarePFInfoBeh   BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 26 };

softwarePFInfo   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.SoftwarePFInfo;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        SoftwarePFInfoBeh BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 27 };

circuitPackList   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.CircuitPackList;

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

    BEHAVIOUR

        circuitPackListBeh BEHAVIOUR

            DEFINED AS

            " ";;

REGISTERED AS { ctsiWDMAttribute 28 };

ochCTPId   ATTRIBUTE

31

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

ochCTPIdBeh BEHAVIOUR

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 29 };

ochTTPId   ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

ochTTPIdBeh BEHAVIOUR

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 30 };

omsCTPId   ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

OmsCTPIdBeh   BEHAVIOUR

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 31 };

OmsTTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

OmsTTPIdBeh   BEHAVIOUR

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 32 };

otsTTPId ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

    otsTTPIdBeh BEHAVIOUR

        DEFINED AS

        "   ";;

REGISTERED AS { ctsiWDMAttribute 33 };

oscCTPIdATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        oscCTPIdBeh BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 34 };

oscTTPIdATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        oscTTPIdBeh BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 35 };

wdmOPICTPId   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

    BEHAVIOUR

        wdmOPICTPIdBehBEHAVIOUR

            DEFINED AS

            " ";;

REGISTERED AS { ctsiWDMAttribute 36 };

omsOrderwireCTPId   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

    MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

     omsOrderwireCTPIdBeh   BEHAVIOUR

          DEFINED AS

          "   ";;

REGISTERED AS { ctsiWDMAttribute 37 };

OtsOrderwireCTPId   ATTRIBUTE

     WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

     MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

     BEHAVIOUR

          otsOrderwireCTPIdBeh BEHAVIOUR

          DEFINED AS

          "   ";;

REGISTERED AS { ctsiWDMAttribute 38 };

omsUserChannelCTPId ATTRIBUTE

     WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

     MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

     BEHAVIOUR

          omsUserChannelCTPIdBeh BEHAVIOUR

          DEFINED AS

          "   ";;

REGISTERED AS { ctsiWDMAttribute 39 };

otsUserChannelCTPId   ATTRIBUTE

     WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NameType;

     MATCHES FOR   EQUALITY, ORDERING, SUBSTRINGS;

     BEHAVIOUR

          otsUserChannelCTPIdBeh   BEHAVIOUR

          DEFINED AS

          "   ";;

REGISTERED AS { ctsiWDMAttribute 40 };

userDataChannelRate   ATTRIBUTE

     WITH ATTRIBUTE SYNTAX   CtsiASN1Module.UserDataChannelRate;

     MATCHES FOR   EQUALITY;

     BEHAVIOUR

```
    userDataChannelRateBeh      BEHAVIOUR
        DEFINED AS
        "   ";;
REGISTERED AS  { ctsiWDMAttribute 41 };


ochWaveChannelInfo    ATTRIBUTE
    WITH ATTRIBUTE SYNTAX      CtsiASN1Module.OchWaveChannelInfo;
    MATCHES FOR    EQUALITY;
    BEHAVIOUR
        ochWaveChannelInfoBeh     BEHAVIOUR
            DEFINED AS
            "     ";;
REGISTERED AS  { ctsiWDMAttribute 42 };


channelSpacing     ATTRIBUTE
    WITH ATTRIBUTE SYNTAX      CtsiASN1Module.ChannelSpacing;
    MATCHES FOR    EQUALITY;
    BEHAVIOUR
        ChannelSpacingBeh    BEHAVIOUR
            DEFINED AS
            "     ";;
REGISTERED AS  { ctsiWDMAttribute 43 };


regeneratorType     ATTRIBUTE
    WITH ATTRIBUTE SYNTAX      CtsiASN1Module.RegeneratorType;
    MATCHES FOR    EQUALITY;
    BEHAVIOUR
        regeneratorTypeBeh      BEHAVIOUR
            DEFINED AS
            "   ";;
REGISTERED AS  { ctsiWDMAttribute 44 };


assignmentState     ATTRIBUTE
    WITH ATTRIBUTE SYNTAX      CtsiASN1Module.AssignmentState;
    MATCHES FOR    EQUALITY;
    BEHAVIOUR
        assignmentStateBeh       BEHAVIOUR
```

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DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 45 };

omsWaveChannelInfo   ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.OmsWaveChannelInfo;

MATCHES FOR   EQUALITY;

BEHAVIOUR

omsWaveChannelInfoBeh   BEHAVIOUR

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 46 };

numberOfWaveChannels   ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.NumberOfWaveChannels;

MATCHES FOR   EQUALITY;

BEHAVIOUR

numberOfWaveChannelsBeh BEHAVIOUR   ,

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 47 };

opticalReachLen   ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.OpticalReachLen;

MATCHES FOR   EQUALITY;

BEHAVIOUR

opticalReachLenBeh   BEHAVIOUR

DEFINED AS

"   ";;

REGISTERED AS { ctsiWDMAttribute 48 };

oscCentralFrequency   ATTRIBUTE

WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelFrequency;

MATCHES FOR   EQUALITY;

BEHAVIOUR

centralFrequencyBeh   BEHAVIOUR

DEFINED AS

" ";;

REGISTERED AS { ctsiWDMAttribute 49 };

OscChannelSpacing   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelSpacing;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
 oscchannelSpacingBeh   BEHAVIOUR
  DEFINED AS
  " ";;

REGISTERED AS { ctsiWDMAttribute 50 };

oscType   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.OscType;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  oscTypeBeh   BEHAVIOUR
  DEFINED AS
  " ";;

REGISTERED AS { ctsiWDMAttribute 51 };

timingSource   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.TimingSource;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  timingSourceBeh   BEHAVIOUR
  DEFINED AS
  " ";;

REGISTERED AS { ctsiWDMAttribute 52 };

waveLength   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.WaveLength;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  waveLengthInfoBeh   BEHAVIOUR
  DEFINED AS
  " ";;

REGISTERED AS { ctsiWDMAttribute 53 };

wdmASPControl   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.WdmASPControl;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

        wdmASPControlBeh   BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 54 };

receivePowerLevel ATTRIBUTE

    DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": gauge;

    BEHAVIOUR

        receivePowerLevelBeh BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 55 };

receivePowerLevelTideMarkMax ATTRIBUTE

    DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": tideMark;

    BEHAVIOUR

        receivePowerLevelTideMarkMaxBeh   BEHAVIOUR

            DEFINED AS

            "   ";;

REGISTERED AS { ctsiWDMAttribute 56 };

receivePowerLevelTideMarkMin ATTRIBUTE

    DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": tideMark;

    BEHAVIOUR

        receivePowerLevelTideMarkMinBeh   BEHAVIOUR

            DEFINED AS

            " ";;

REGISTERED AS { ctsiWDMAttribute 57 };

transmitPowerLevel   ATTRIBUTE

    DERIVED FROM "Rec. X.721 I ISO/IEC 10165-2 : 1992": gauge;

BEHAVIOUR

    transmitPowerLevelBeh BEHAVIOUR

      DEFINED AS

      " ";;

REGISTERED AS { ctsiWDMAttribute 58 };

TransmitPowerLevelTideMarkMax   ATTRIBUTE

    DERIVED FROM "Rec. X.721 ǀ ISO/IEC 10165-2 : 1992": tideMark;

    BEHAVIOUR

      transmitPowerLevelTideMarkMaxBeh BEHAVIOUR

        DEFINED AS

        " ";;

REGISTERED AS { ctsiWDMAttribute 59 };

TransmitPowerLevelTideMarkMin   ATTRIBUTE

    DERIVED FROM "Rec. X.721 ǀ ISO/IEC 10165-2 : 1992": tideMark;

    BEHAVIOUR

      transmitPowerLevelTideMarkMinBeh BEHAVIOUR

        DEFINED AS

        " ";;

REGISTERED AS { ctsiWDMAttribute 60 };

channelReceivePowerLevel   ATTRIBUTE

    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelReceivePowerLevel;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

      channelReceivePowerLevelBeh   BEHAVIOUR

        DEFINED AS

        " ";;

REGISTERED AS { ctsiWDMAttribute 61 };

channelReceivePowerLevelTideMarkMax   ATTRIBUTE

  - WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelReceivePowerLevelTideMarkMax;

    MATCHES FOR   EQUALITY;

    BEHAVIOUR

      channelReceivePowerLevelTideMarkMaxBeh   BEHAVIOUR

        DEFINED AS

" ";;

REGISTERED AS { ctsiWDMAttribute 62 };

channelReceivePowerLevelTideMarkMin   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelReceivePowerLevelTideMarkMin;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  channelReceivePowerLevelTideMarkMinBeh   BEHAVIOUR
   DEFINED AS
   " ";;

REGISTERED AS { ctsiWDMAttribute 63 };

channelTransmitPowerLevel   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelTransmitPowerLevel;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  channelTransmitPowerLevelBeh   BEHAVIOUR
   DEFINED AS
   " ";;

REGISTERED AS { ctsiWDMAttribute 64 };

channelTransmitPowerLevelTideMarkMax   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelTransmitPowerLevelTideMarkMax;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  channelTransmitPowerLevelTideMarkMaxBeh   BEHAVIOUR
   DEFINED AS
   " ";;

REGISTERED AS { ctsiWDMAttribute 65 };

channelTransmitPowerLevelTideMarkMin   ATTRIBUTE
 WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelTransmitPowerLevelTideMarkMin;
 MATCHES FOR   EQUALITY;
 BEHAVIOUR
  channelTransmitPowerLevelTideMarkMinBeh   BEHAVIOUR
   DEFINED AS
   " ";;

REGISTERED AS { ctsiWDMAttribute 66 };

ChannelOSNR   ATTRIBUTE
    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.ChannelOSNR;
    MATCHES FOR   EQUALITY;
    BEHAVIOUR
        channelOSNRBeh BEHAVIOUR
            DEFINED AS
            "   ";;
REGISTERED AS { ctsiWDMAttribute 67 };

laserBackfaceOpticalPower   ATTRIBUTE
    WITH ATTRIBUTE SYNTAX   CtsiASN1Module.LaserBackfaceOpticalPower;
    MATCHES FOR   EQUALITY;
    BEHAVIOUR
        laserBackfaceOpticalPowerBeh   BEHAVIOUR
            DEFINED AS
            "   ";;
REGISTERED AS { ctsiWDMAttribute 68 };

5 动作（Actions）

changePassword   ACTION
    BEHAVIOUR
        changePasswordBeh   BEHAVIOUR
            DEFINED AS
            " ";;
    MODE CONFIRMED;
    WITH INFORMATION SYNTAX
        CtsiASN1Module.ChangePasswordInfo;
    WITH REPLY SYNTAX
        CtsiASN1Module.ChangePasswordResult;
REGISTERED AS { ctsiWDMAction 1 };

changeNEName   ACTION
    BEHAVIOUR
        changeNENameBeh   BEHAVIOUR
            DEFINED AS

" ";;

MODE CONFIRMED;

WITH INFORMATION SYNTAX

CtsiASN1Module.ChangeNENameInfo;

WITH REPLY SYNTAX

CtsiASN1Module.ChangeNENameResult;

REGISTERED AS { ctsiWDMAction 2 };

backUpSoftwareAndDatabase   ACTION

BEHAVIOUR

BackUpSoftwareAndDatabaseBeh   BEHAVIOUR

DEFINED AS

" ";;

MODE CONFIRMED;

WITH INFORMATION SYNTAX

CtsiASN1Module.BackUpSoftwareAndDatabaseInfo;

WITH REPLY SYNTAX

CtsiASN1Module.BackUpSoftwareAndDatabaseResult;

REGISTERED AS { ctsiWDMAction 3 };

RestoreSoftwareAndDatabase   ACTION

BEHAVIOUR

restoreSoftwareAndDatabaseBeh BEHAVIOUR

DEFINED AS

"   ";;

MODE CONFIRMED;

WITH INFORMATION SYNTAX

CtsiASN1Module.RestoreSoftwareAndDatabaseInfo;

WITH REPLY SYNTAX

CtsiASN1Module.RestoreSoftwareAndDatabaseResult;

REGISTERED AS { ctsiWDMAction 4 };

DownLoadSoftware   ACTION

BEHAVIOUR

downLoadSoftwareBeh BEHAVIOUR

DEFINED AS

" ";;

MODE CONFIRMED;

WITH INFORMATION SYNTAX

CtsiASN1Module.DownLoadSoftwareInfo;

WITH REPLY SYNTAX

CtsiASN1Module.DownLoadSoftwareResult;

REGISTERED AS { ctsiWDMAction 5 };

synchronizeTime   ACTION

BEHAVIOUR

synchronizeTimeBeh   BEHAVIOUR

DEFINED AS

" ";;

MODE CONFIRMED;

WITH INFORMATION SYNTAX

CtsiASN1Module.SynchronizeTimeInfo;

WITH REPLY SYNTAX

CtsiASN1Module.SynchronizeTimeResult;

REGISTERED AS { ctsiWDMAction 6 };

命名结合（Name Bindings）

emsAgent-nmsSystem   NAME BINDING

SUBORDINATE OBJECT CLASS   emsAgent AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS nmsSystem AND SUBCLASSES;

WITH ATTRIBUTE   emsAgentId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 1 };

trunkSubNetwork-emsAgent NAME BINDING

SUBORDINATE OBJECT CLASS   trunkSubNetwork AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

WITH ATTRIBUTE   trunkSubNetworkId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 2 };

link-emsAgentNAME BINDING

  SUBORDINATE OBJECT CLASS link AND SUBCLASSES;

  NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

  WITH ATTRIBUTE linkId;

  CREATE;

  DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 3 };

emsUser-emsAgent NAME BINDING

  SUBORDINATE OBJECT CLASS emsUser AND SUBCLASSES;

  NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

  WITH ATTRIBUTE emsUserId;

  CREATE;

  DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 4 };

currentAlarmSummaryControl-emsAgent NAME BINDING

  SUBORDINATE OBJECT CLASS

    "ITU-T Rec. Q.821:1992": currentAlarmSummaryControl AND SUBCLASSES;

  NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

  WITH ATTRIBUTE "ITU-T Rec. Q.821:1992": currentAlarmSummaryControlId;

  CREATE;

  DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 5 };

managementOperationsSchedule-emsAgent NAME BINDING

  SUBORDINATE OBJECT CLASS

    "ITU-T Rec. Q.821:1992": managementOperationsSchedule AND SUBCLASSES;

  NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

  WITH ATTRIBUTE "ITU-T Rec. Q.821:1992": scheduleId;

  CREATE ;

  DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 6 };

log-emsAgent NAME BINDING

  SUBORDINATE OBJECT CLASS "Rec. X.721 I ISO/IEC 10165-2 : 1992": log AND SUBCLASSES;

  NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

WITH ATTRIBUTE   "Rec. X.721 I ISO/IEC 10165-2 : 1992": logId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 7 };

eventForwardingDiscriminator-emsAgent   NAME BINDING

    SUBORDINATE OBJECT CLASS

        "Rec. X.721 I ISO/IEC 10165-2 : 1992": eventForwardingDiscriminator AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

    WITH ATTRIBUTE   "Rec. X.721 I ISO/IEC 10165-2 : 1992": discriminatorId;

    CREATE ;

    DELETE   DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 8 };

historyDataControl-emsAgent   NAME BINDING

    SUBORDINATE OBJECT CLASS   historyDataControl AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS emsAgent AND SUBCLASSES;

    WITH ATTRIBUTE   historyDataControlId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 9 };

node-trunkSubNetwork NAME BINDING

    SUBORDINATE OBJECT CLASS   node AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS trunkSubNetwork AND SUBCLASSES;

    WITH ATTRIBUTE   nodeId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 10 };

node-node   NAME BINDING

    SUBORDINATE OBJECT CLASS   node AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS node AND SUBCLASSES;

    WITH ATTRIBUTE   nodeId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 11 };

wdmNE-node NAME BINDING

    SUBORDINATE OBJECT CLASS   wdmNE AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS node AND SUBCLASSES;

    WITH ATTRIBUTE   wdmNEId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 12 };

equipmentHolder-wdmNE   NAME BINDING

    SUBORDINATE OBJECT CLASS

        "ITU-T Rec. M.3100:1995": equipmentHolder AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. M.3100:1995": equipmentId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 13 };

opticalSPITTPSink-wdmNE NAME BINDING

    SUBORDINATE OBJECT CLASS

        "ITU-T Rec. G.774:1992": opticalSPITTPSink AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. G.774:1992": opticalSPITTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 14 };

opticalSPITTPSource-wdmNE   NAME BINDING

    SUBORDINATE OBJECT CLASS

        "ITU-T Rec. G.774:1992": opticalSPITTPSource AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. G.774:1992": opticalSPITTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 15 };

ochTTPSink-wdmNE   NAME BINDING

SUBORDINATE OBJECT CLASS   ochTTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

WITH ATTRIBUTE   ochTTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 16 };

ochTTPSource-wdmNE   NAME BINDING

SUBORDINATE OBJECT CLASS   ochTTPSource AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

WITH ATTRIBUTE   ochTTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 17 };

wdmOPICTPSink-ochTTPSink   NAME BINDING

SUBORDINATE OBJECT CLASS   wdmOPICTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS ochTTPSink AND SUBCLASSES;

WITH ATTRIBUTE   wdmOPICTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 18 };

wdmOPICTPSource-ochTTPSource   NAME BINDING

SUBORDINATE OBJECT CLASS   wdmOPICTPSource AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS ochTTPSource AND SUBCLASSES;

WITH ATTRIBUTE   wdmOPICTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 19 };

omsTTPSink-wdmNE   NAME BINDING

SUBORDINATE OBJECT CLASS   omsTTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

WITH ATTRIBUTE   omsTTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 20 };

omsTTPSource-wdm   NENAME BINDING
    SUBORDINATE OBJECT CLASS   omsTTPSource AND SUBCLASSES;
    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;
    WITH ATTRIBUTE   omsTTPId;
    CREATE ;
    DELETE DELETES-CONTAINED-OBJECTS;
REGISTERED AS { ctsiWDMNameBinding 21 };

ochCTPSink-omsTTPSink   NAME BINDING
    SUBORDINATE OBJECT CLASS   ochCTPSink AND SUBCLASSES;
    NAMED BY SUPERIOR OBJECT CLASS omsTTPSink AND SUBCLASSES;
    WITH ATTRIBUTE   ochCTPId;
    CREATE ;
    DELETE DELETES-CONTAINED-OBJECTS;
REGISTERED AS { ctsiWDMNameBinding 22 };

ochCTPSource-omsTTPSource   NAME BINDING
    SUBORDINATE OBJECT CLASS   ochCTPSource AND SUBCLASSES;
    NAMED BY SUPERIOR OBJECT CLASS omsTTPSource AND SUBCLASSES;
    WITH ATTRIBUTE   ochCTPId;
    CREATE ;
    DELETE DELETES-CONTAINED-OBJECTS;
REGISTERED AS { ctsiWDMNameBinding 23 };

otsTTPSink-wdmNE   NAME BINDING
    SUBORDINATE OBJECT CLASS   otsTTPSink AND SUBCLASSES;
    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;
    WITH ATTRIBUTE   otsTTPId;
    CREATE ;
    DELETE DELETES-CONTAINED-OBJECTS;
REGISTERED AS { ctsiWDMNameBinding 24 };

otsTTPSource-wdmNE NAME BINDING
    SUBORDINATE OBJECT CLASS   otsTTPSource AND SUBCLASSES;
    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

WITH ATTRIBUTE   otsTTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 25 };

omsCTPSink-otsTTPSink   NAME BINDING

    SUBORDINATE OBJECT CLASS   omsCTPSink AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS otsTTPSink AND SUBCLASSES;

    WITH ATTRIBUTE   omsCTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 26 };

omsCTPSource-otsTTPSource   NAME BINDING

    SUBORDINATE OBJECT CLASS   omsCTPSource AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS otsTTPSource AND SUBCLASSES;

    WITH ATTRIBUTE   omsCTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 27 };

oscCTPSink-omsTTPSink   NAME BINDING

    SUBORDINATE OBJECT CLASS   oscCTPSink AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS omsTTPSink AND SUBCLASSES;

    WITH ATTRIBUTE   oscCTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 28 };

oscCTPSource-omsTTPSource   NAME BINDING

    SUBORDINATE OBJECT CLASS   oscCTPSource AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS omsTTPSource AND SUBCLASSES;

    WITH ATTRIBUTE   oscCTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 29 };

oscTTPSink-wdmNE   NAME BINDING

    SUBORDINATE OBJECT CLASS   oscTTPSink AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

    WITH ATTRIBUTE   oscTTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 30 };

oscTTPSource-wdmNE NAME BINDING

    SUBORDINATE OBJECT CLASS   oscTTPSource AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

    WITH ATTRIBUTE   oscTTPId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 31 };

ochCurrentData-ochTTPSink   NAME BINDING

    SUBORDINATE OBJECT CLASS   ochCurrentData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS ochTTPSink AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 32 };

ochCurrentData-ochTTPSource   NAME BINDING

    SUBORDINATE OBJECT CLASS   ochCurrentData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS ochTTPSource AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 33 };

ochHistoryData-ochCurrentData   NAME BINDING

    SUBORDINATE OBJECT CLASS   ochHistoryData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS ochCurrentData AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. Q.822:1994": historyDataId;

    CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;
REGISTERED AS { ctsiWDMNameBinding 34 };

omsCurrentData-omsTTPSink   NAME BINDING

    SUBORDINATE OBJECT CLASS   omsCurrentData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS omsTTPSink AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 35 };

omsCurrentData-omsTTPSource   NAME BINDING

    SUBORDINATE OBJECT CLASS   omsCurrentData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS omsTTPSource AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 36 };

omsHistoryData-omsCurrentData NAME BINDING

    SUBORDINATE OBJECT CLASS   omsHistoryData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS omsCurrentData AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. Q.822:1994": historyDataId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 37 };

otsCurrentData-otsTTPSink   NAME BINDING

    SUBORDINATE OBJECT CLASS   otsCurrentData AND SUBCLASSES;

    NAMED BY SUPERIOR OBJECT CLASS otsTTPSink AND SUBCLASSES;

    WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

    CREATE ;

    DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 38 };

otsCurrentData-otsTTPSource   NAME BINDING

    SUBORDINATE OBJECT CLASS   otsCurrentData AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS otsTTPSource AND SUBCLASSES;

WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 39 };

otsHistoryData-otsCurrentData   NAME BINDING

SUBORDINATE OBJECT CLASS   otsHistoryData AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS otsCurrentData AND SUBCLASSES;

WITH ATTRIBUTE   "ITU-T Rec. Q.822:1994": historyDataId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 40 };

oscCurrentData-oscTTPSink NAME BINDING

SUBORDINATE OBJECT CLASS   oscCurrentData AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS oscTTPSink AND SUBCLASSES;

WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 41 };

oscCurrentData-oscTTPSource   NAME BINDING

SUBORDINATE OBJECT CLASS   oscCurrentData AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS oscTTPSource AND SUBCLASSES;

WITH ATTRIBUTE   "ITU-T Rec. X.739:1993": scannerId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 42 };

oscHistoryData-oscCurrentData   NAME BINDING

SUBORDINATE OBJECT CLASS   oscHistoryData AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS oscCurrentData AND SUBCLASSES;

WITH ATTRIBUTE   "ITU-T Rec. Q.822:1994": historyDataId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 43 };

--thresholdData-wdmNE NAME BINDING

-- SUBORDINATE OBJECT CLASS

-- "ITU-T Rec. Q.822:1994": thresholdData AND SUBCLASSES;

-- NAMED BY SUPERIOR OBJECT CLASS wdmNE AND SUBCLASSES;

-- WITH ATTRIBUTE "ITU-T Rec. Q.822:1994": thresholdDataId;

-- CREATE;

-- DELETE DELETES-CONTAINED-OBJECTS;

--REGISTERED AS {ctsiDWDMNameBinding 44 };

omsOrderwireCTPSink-omsTTPSink NAME BINDING

SUBORDINATE OBJECT CLASS omsOrderwireCTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS omsTTPSink AND SUBCLASSES;

WITH ATTRIBUTE omsOrderwireCTPId;

CREATE;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 45 };

omsOrderwireCTPSource-omsTTPSource NAME BINDING

SUBORDINATE OBJECT CLASS omsOrderwireCTPSource AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS omsTTPSource AND SUBCLASSES;

WITH ATTRIBUTE omsOrderwireCTPId;

CREATE;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 46 };

omsUserChannelCTPSink-omsTTPSink NAME BINDING

SUBORDINATE OBJECT CLASS omsUserChannelCTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS omsTTPSink AND SUBCLASSES;

WITH ATTRIBUTE omsUserChannelCTPId;

CREATE;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 47 };

omsUserChannelCTPSource-omsTTPSource NAME BINDING

SUBORDINATE OBJECT CLASS omsUserChannelCTPSource AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS omsTTPSource AND SUBCLASSES;

WITH ATTRIBUTE   omsUserChannelCTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 48 };

otsOrderwireCTPSink-otsTTPSink   NAME BINDING

SUBORDINATE OBJECT CLASS   otsOrderwireCTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS otsTTPSink AND SUBCLASSES;

WITH ATTRIBUTE   otsOrderwireCTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 49 };

otsOrderwireCTPSource-otsTTPSourceNAME BINDING

SUBORDINATE OBJECT CLASS   otsOrderwireCTPSource AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS otsTTPSource AND SUBCLASSES;

WITH ATTRIBUTE   otsOrderwireCTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 50 };

otsUserChannelCTPSink-otsTTPSink   NAME BINDING

SUBORDINATE OBJECT CLASS   otsUserChannelCTPSink AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS otsTTPSink AND SUBCLASSES;

WITH ATTRIBUTE   otsUserChannelCTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 51 };

otsUserChannelCTPSource-otsTTPSource   NAME BINDING

SUBORDINATE OBJECT CLASS   otsUserChannelCTPSource AND SUBCLASSES;

NAMED BY SUPERIOR OBJECT CLASS otsTTPSource AND SUBCLASSES;

WITH ATTRIBUTE   otsUserChannelCTPId;

CREATE ;

DELETE DELETES-CONTAINED-OBJECTS;

REGISTERED AS { ctsiWDMNameBinding 52 };

6 ASN.1 模块（ASN.1 Module）

-- # # # This object identifier is not registered yet. # # #

CtsiASN1Module { iso(1) identified-arganization(4) ctsi(86) wdm(2000) informationModel(0) asn1Module(2) version1(1) }

DEFINITIONS ::=

BEGIN

IMPORTS

-- M.3100

NameType, Version

FROM ASN1DefinedTypesModule { ccitt(0) recommendation(0) m(13) gnm(3100) informationModel(0) asn1Modules(2) asn1DefinedTypeModule(0) }

-- X.721

ProbableCause, StartTime, StopTime

FROM Attribute-ASN1Module { joint-iso-ccitt ms(9) smi(3) part2(2) asn1Module(2) 1 }

ObjectInstance

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

ctsiWDMInfoModel   OBJECT IDENTIFIER ::=

{ iso(1) identified-arganization(4) ctsi(86) wdm(2000) informationModel(0) }

ctsiWDMObjectClass   OBJECT IDENTIFIER ::=

{ ctsiWDMInfoModel objectClass(3) }

ctsiWDMPackage   OBJECT IDENTIFIER ::=

{ ctsiWDMInfoModel package(4) }

ctsiWDMNameBinding OBJECT IDENTIFIER ::=

{ ctsiWDMInfoModel namebinding(6) }

ctsiWDMAttribute   OBJECT IDENTIFIER ::=

{ ctsiWDMInfoModel attribute(7) }

ctsiWDMAction   OBJECT IDENTIFIER ::=

{ ctsiWDMInfoModel action(9) }

AddressInfo ::= SEQUENCE {

    ipAddress   IpAddress,

    portInfo   PortInfo }

IpAddress ::= GraphicString

PortInfo ::= INTEGER

EmsUserId ::= PrintableString

EmsUserPwd ::= PrintableString

EmsAgentLabel ::= GraphicString

UserEffectiveTime ::= SEQUENCE {

                    startTime   StartTime,

                    stopTime   StopTime }

HistoryDataCapacity ::= INTEGER

NeName ::= GraphicString

NeType ::= ENUMERATED {

        terminal(0),

        repeater(1),

        oadm(2) }

CreationTime ::= GeneralizedTime

NodeLabel ::= GraphicString

NeList ::= CHOICE {

neList   SET OF ObjectInstance,

nodeList   NULL }

NodeType ::= ENUMERATED {

        canBeFurtherDivision(0),

        canNotBeFurtherDivision(1) }

TrunkName ::= GraphicString

LinkLabel ::= GraphicString

LinkType ::= ENUMERATED {

        betweenSubNetworks(0),

        betweenNodes(1),

        betweenNEs(2) }

LinkRate ::= CHOICE {

      rate   REAL,

      noRate   NULL }

LinkDirection ::= ENUMERATED { undirectional(0), bidirectional(1), east-to-west(2), west-to-east(3) }

AEndInfo ::= ObjectInstance

ZEndInfo ::= ObjectInstance

HardwarePFInfo ::= SEQUENCE {

                provider   Provider,

                hardwareType   HardwareType }

Provider ::= GraphicString

HardwareType ::= GraphicString

```
SoftwarePFInfo ::= SEQUENCE {
                     operationSystem      OperationSystem,
                     database             Database,
                     basedPlatformList    BasedPlatformList }
OperationSystem ::=    GraphicString
Database ::= GraphicString
BasedPlatformList ::= CHOICE {
noPlatform           NULL,
havePlatforms        SET OF BasedPlatformInfo }
BasedPlatformInfo ::= GraphicString
CircuitPackList ::= SET OF ObjectInstance
ChangePasswordInfo ::= SEQUENCE {
                     oldPassword              PrintableString,
                     newPassword              PrintableString,
                     confirmedNewPassword     PrintableString }
ChangePasswordResult ::= ENUMERATED {
success(0),
oldPasswordError(1),
newPasswordDisaccord(2),
indeterminateError(3) }
ChangeNENameInfo ::= SEQUENCE {
                     oldNEName                GraphicString,
                     newNEName                GraphicString,
                     confirmedNewNEName       GraphicString }
ChangeNENameResult ::= ENUMERATED {
                     success(0),
                     oldNENameError(1),
                     newNENameDisaccord(2),
                     indeterminateError(3) }
UserDataChannelRate ::= REAL
OchWaveChannelInfo ::= SEQUENCE {
                     channelNumber            ChannelNumber,
                     channelFrequency         ChannelFrequency }
ChannelNumber ::= INTEGER
ChannelFrequency ::= REAL
ChannelSpacing ::= REAL
RegeneratorType ::= CHOICE {
```

threeR [0]   ThreeR,

twoR   [1]   TwoR }

ThreeR ::= REAL

TwoR ::= SEQUENCE {

min   REAL,

max   REAL }

AssignmentState ::= ENUMERATED {

free(0),

reserved(1),

partiallyAssigned(2),

assigned(3) }

OmsWaveChannelInfo ::= SET OF OchWaveChannelInfo

NumberOfWaveChannels ::= INTEGER

OpticalReachLen ::= INTEGER

OscType ::= ENUMERATED {

inband(0),

outOfBand(1),

unknown(2) }

TimingSource ::= ENUMERATED {

internal(0),

external(1),

unknown(2) }

WaveLength ::= REAL

WdmASPControl ::= ENUMERATED {

enabled(0),

disabled(1) }

BackUpSoftwareAndDatabaseInfo ::= ENUMERATED {

backUpSoftware(0),

backUpDatabase(1),

backUpSoftwareAndDatabase(2) }

BackUpSoftwareAndDatabaseResult ::= ENUMERATED {

success(0),

fail(1) }

RestoreSoftwareAndDatabaseInfo ::= ENUMERATED {

restoreSoftware(0),

restoreDatabase(1),

restoreSoftwareAndDatabase(2) }

```
RestoreSoftwareAndDatabaseResult ::= ENUMERATED {
                              success(0),
                         fail(1) }
DownLoadSoftwareInfo ::=SEQUENCE {
                         emsName              EmsAgentLabel,
                         providerName         Provider,
                         version              Version,
                         softwareCode         SoftwareCode }
SoftwareCode ::= OCTET STRING
DownLoadSoftwareResult ::= ENUMERATED {
                         success(0),
                         fail(1) }


SynchronizeTimeInfo ::= TimeOfNMS
TimeOfNMS ::= GeneralizedTime
SynchronizeTimeResult ::= ENUMERATED {
                         success(0),
                         fail(1) }


ChannelReceivePowerLevel ::= SET OF PerChannelReceivePowerLevel
PerChannelReceivePowerLevel ::= SEQUENCE {
                         channelNumber              INTEGER,
                         receivePowerLevelOfChannel     REAL }


ChannelReceivePowerLevelTideMarkMax ::= SET OF PerChannelReceivePowerLevelTideMarkMax
PerChannelReceivePowerLevelTideMarkMax ::= SEQUENCE {
                         channelNumber              INTEGER,
                         receivePowerLevelTideMarkMaxOfChannel     REAL }


ChannelReceivePowerLevelTideMarkMin ::= SET OF PerChannelReceivePowerLevelTideMarkMin
PerChannelReceivePowerLevelTideMarkMin ::= SEQUENCE {
                         channelNumber              INTEGER,
                         receivePowerLevelTideMarkMinOfChannel     REAL }


ChannelTransmitPowerLevel ::= SET OF PerChannelTransmitPowerLevel
PerChannelTransmitPowerLevel ::= SEQUENCE {
                         channelNumber              INTEGER,
```

transmitPowerLevelOfChannel   REAL }

ChannelTransmitPowerLevelTideMarkMax ::= SET OF PerChannelTransmitPowerLevelTideMarkMax
PerChannelTransmitPowerLevelTideMarkMax ::= SEQUENCE {
        channelNumber   INTEGER,
        transmitPowerLevelTideMarkMaxOfChannel   REAL }

ChannelTransmitPowerLevelTideMarkMin ::= SET OF PerChannelTransmitPowerLevelTideMarkMin
PerChannelTransmitPowerLevelTideMarkMin ::= SEQUENCE {
        channelNumber   INTEGER,
        transmitPowerLevelTideMarkMinOfChannel   REAL }

ChannelOSNR ::= SET OF PerChannelOSNR
PerChannelOSNR ::= SEQUENCE {
        channelNumber   INTEGER,
        oSNROfChannel   REAL }

LaserBackfaceOpticalPower ::= REAL

-- probable cause for WDM（还有部分的 probable cause 参见 X.721 或 M.3100）

historyDataCapacityOverflowed	ProbableCause ::= localValue: 201
powerSupplyFail	ProbableCause ::= localValue: 202
environmentalTemperatureHigh	ProbableCause ::= localValue: 203
relayAlarm	ProbableCause ::= localValue: 204
unitMissing	ProbableCause ::= localValue: 205
unitFailure	ProbableCause ::= localValue: 206
unitTypeMismatch	ProbableCause ::= localValue: 207
unitNoSoftware	ProbableCause ::= localValue: 208
unitParameterNotSet	ProbableCause ::= localValue: 209
readOrWriteUnitRegisterFailure	ProbableCause ::= localValue: 210
regeneratorB1ExcessiveBER	ProbableCause ::= localValue: 211
j0TraceIdentifierMismatch	ProbableCause ::= localValue: 212
lossOfInputSignal	ProbableCause ::= localValue: 213
excessOfInputOpticalPower	ProbableCause ::= localValue: 214
excessOfOutputOpticalPower	ProbableCause ::= localValue: 215
transmitterDegraded	ProbableCause ::= localValue: 216
laserTransmitFailure	ProbableCause ::= localValue: 217

laserLifeAlarm	ProbableCause ::= localValue: 218
laserBackfacePowerWarning	ProbableCause ::= localValue: 219
excessOfLaserTemperature	ProbableCause ::= localValue: 220
excessOfLaserCurrent	ProbableCause ::= localValue: 221
lossOfInputOpticalChannel	ProbableCause ::= localValue: 222
lossOfInputMultiplexSignals	ProbableCause ::= localValue: 223
degradationOfOSNR	ProbableCause ::= localValue: 224
pumpLaserFailure	ProbableCause ::= localValue: 225
pumpLaserDegrade	ProbableCause ::= localValue: 226
excessOfPumpLaserBias	ProbableCause ::= localValue: 227
excessOfPumpLaserTemperature	ProbableCause ::= localValue: 228
laserCloseReport	ProbableCause ::= localValue: 229
lossOfSupervisionChannel	ProbableCause ::= localValue: 230
lossOfOpticalFrame	ProbableCause ::= localValue: 231
outOfOpticalFrame	ProbableCause ::= localValue: 232
fERF	ProbableCause ::= localValue: 233

END

-- – End Of File