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ITU-T X.162

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SERIES X: DATA NETWORKS AND OPEN SYSTEM COMMUNICATIONS

Public data networks – Maintenance

Definition of management information for customer network management service for public data networks to be used with the CNMc interface

ITU-T Recommendation X.162

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION X.162

DEFINITION OF MANAGEMENT INFORMATION FOR CUSTOMER NETWORK MANAGEMENT SERVICE FOR PUBLIC DATA NETWORKS TO BE USED WITH THE CNMc INTERFACE

Summary

This Recommendation is one of a set of Recommendations for the customer network management service for data networks, which cover the architecture, services, and management information required to achieve such services between a network and a customer.

This Recommendation is, in particular, concerned with the definition of information for the customer network management service, such as managed objects, attributes, name bindings, in the OSI Systems Management context (CMISE).

This Recommendation corresponds to Recommendation X.163, which defines management information to be used with the CNMe interface.

Source

ITU-T Recommendation X.162 was revised by ITU-T Study Group 7 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 31 March 2000.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

CONTENTS

Recommendation X.162

DEFINITION OF MANAGEMENT INFORMATION FOR CUSTOMER NETWORK MANAGEMENT SERVICE FOR PUBLIC DATA NETWORKS TO BE USED WITH THE CNMc INTERFACE

(revised in 2000)

1 Scope

This Recommendation:

– applies to the CNMc interface defined in Recommendation X.160;

– corresponds to Recommendation X.163, which defines management information to be used with the CNMe interface;

– defines management information, such as the Managed Object (MO) classes, attribute types, action types, notification types, etc., for the customer network management service specified in Recommendation X.161, documented in accordance with Recommendation X.722, the Guidelines for the Definition of Managed Objects;

– specifies compliance requirements placed on other Recommendations definitions;

– specifies conformance requirements.

This Recommendation is applicable to the development of the customer network management service and provides generic definitions which support that service. These definitions may also be used in other Recommendations specifying MO classes, attributes, notifications and action types.

NOTE – Currently, this Recommendation only considers the definition of management information for X.25 packet-mode access to PSPDNs. These definitions use some of the Managed Information definitions under development within ISO/IEC JTC 1 and ITU-T.

It is recognized that other types of access to PSPDNs exist; PADs, X.32 (PSTN access to X.25), and other networks, e.g. ISDN, and CSPDN. The definition of management information specifically related to each of these is for further study. Some definitions within the current version of this Recommendation are, however, generic to all access types and networks.

2 References

The following ITU-T Recommendations, and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

NOTE – The CNM service sets will conform to specific elements of the part of the functional ISPs. These functional ISPs include 11183-1,11183-2 and 11183-3, 1206 and 12059 series.

2.1 Identical Recommendations | International Standards

– ITU-T Recommendation X.281 (1999) | ISO/IEC 13642:1999, *Information Technology – Elements of management information related to OSI Physical Layer.*

– ITU-T Recommendation X.283 (1997) | ISO/IEC 10733:1998, *Information technology – Elements of management information relating to OSI Network layer.*

– ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation*.

– ITU-T Recommendation X.681 (1997) | ISO/IEC 8824-2:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Information object specification.*

– ITU-T Recommendation X.690 (1997) | ISO/IEC 8825-1:1998, *Information technology – ASN.1 encoding rules: Specification of Basic Encoding Rules (BER), Canonical Encoding Rules (CER) and Distinguished Encoding Rules (DER).*

– ITU-T Recommendation X.691 (1997) | ISO/IEC 8825-2:1998, *Information technology – ASN.1 encoding rules: Specification of Packed Encoding Rules (PER).*

– ITU-T Recommendation X.701 (1997) | ISO/IEC 10040:1998, *Information technology – Open Systems Interconnection – Systems management overview*.

– ITU-T Recommendation X.710 (1997) | ISO/IEC 9595:1998, *Information technology – Open Systems Interconnection – Common management information service.*

– ITU-T Recommendation X.711 (1997) | ISO/IEC 9596-1:1998, *Information technology – Open Systems Interconnection – Common management information protocol: Specification.*

– CCITT Recommendation X.720 (1992) | ISO/IEC 10165-1:1993, *Information technology – Open Systems Interconnection – Structure of management information: Management information model*.

– CCITT Recommendation X.721 (1992) | ISO/IEC 10165-2:1992, *Information technology – Open Systems Interconnection – Structure of Management Information: Definition of management information.*

– CCITT Recommendation X.722 (1992) | ISO/IEC 10165-4:1992, *Information technology – Open Systems Interconnection – Structure of management information: Guidelines for the definition of managed objects.*

– ITU-T Recommendation X.723 (1993) | ISO/IEC 10165-5:1994, *Information technology – Open Systems Interconnection – Structure of management information – Generic management information*.

– ITU-T Recommendation X.724 (1996) | ISO/IEC 10165-6:1997, Information technology – Open Systems Interconnection – Structure of management information: Requirements and guidelines for implementation conformance statement proformas associated with OSI management

– CCITT Recommendation X.730 (1992) | ISO/IEC 10164-1:1993, *Information technology – Open Systems Interconnection – Systems Management: Object Management Function.*

– CCITT Recommendation X.731 (1992) | ISO/IEC 10164-2:1993, *Information technology – Open Systems Interconnection – Systems Management: State Management Function.*

– CCITT Recommendation X.732 (1992) | ISO/IEC 10164-3:1993, *Information technology – Open Systems Interconnection – Systems Management: Attributes for representing relationships.*

– CCITT Recommendation X.733 (1992) | ISO/IEC 10164-4:1992, *Information technology – Open Systems Interconnection – Systems Management: Alarm reporting function*.

– CCITT Recommendation X.734 (1992) | ISO/IEC 10164-5:1993, *Information technology – Open Systems Interconnection – Systems Management: Event Report Management Function*.

– CCITT Recommendation X.735 (1992) | ISO/IEC 10164-6:1993, *Information technology – Open Systems Interconnection – Systems Management: Log control function.*

– CCITT Recommendation X.736 (1992) | ISO/IEC 10164-7:1992, *Information technology – Open Systems Interconnection – Systems Management: Security alarm reporting function.*

– ITU-T Recommendation X.737 (1995) | ISO/IEC 10164-14:1996, *Information technology – Open Systems Interconnection – Systems Management: Confidence and diagnostic test categories.*

– ITU-T Recommendation X.738 (1993) | ISO/IEC 10164-13:1995, *Information technology – Open Systems Interconnection – Systems Management: Summarization Function.*

– ITU-T Recommendation X.739 (1993) | ISO/IEC 10164-11:1994, *Information technology – Open Systems Interconnection – Systems Management: Metric objects and attributes.*

– ITU-T Recommendation X.740 (1992) | ISO/IEC 10164-8:1993, *Information technology – Open Systems Interconnection – Systems Management: Security auditrail function.*

– ITU-T Recommendation X.742 (1995) | ISO/IEC 10164-10:1995, *Information technology – Open Systems Interconnection – Systems Management: Usage metering function for accounting purposes.*

– ITU-T Recommendation X.745 (1993) | ISO/IEC 10164-12:1994, *Information technology – Open Systems Interconnection – Systems Management: Test Management Function.*

2.2 Paired Recommendations | International Standards equivalent in technical content

– ITU-T Recommendation X.282 (1995), *Elements of management information related to OSI Data Link layer*.

ISO/IEC 10742:1994, *Information technology – Telecommunications and information exchange between systems – Elements of management information related to OSI Data Link Layer standards.*

– CCITT Recommendation X.700 (1992), *Management framework for Open Systems Interconnection (OSI) for CCITT applications*.

ISO/IEC 7498-4:1989, *Information processing systems – Open Systems Interconnection – Basic Reference Model – Part 4: Management framework.*

2.3 Additional references

– ITU-T Recommendation M.3010 (1996), *Principles for a Telecommunications management network.*

– ITU-T Recommendation M.3020 (1995), *TMN interface specification methodology*.

– ITU-T Recommendation M.3100 (1995), *Generic network information model*.

– ITU-T Recommendation Q.822 (1994), *Stage 1, stage 2 and stage 3 description for the Q3 interface – Performance management.*

– ITU-T Recommendation X.2 (2000), *International data transmission services and optional user facilities in public data networks and ISDNs.*

– ITU-T Recommendation X.160 (1996), *Architecture for customer network management service for public data networks.*

– ITU-T Recommendation X.161 (1997), *Definition of customer network management services for public data networks.*

– ITU-T Recommendation X.163 (1995), *Definition of management information for customer network management service for public data networks to be used with the CNMe Interface.*

– ITU-T Recommendation X.790 (1995), *Trouble management function for ITU-T applications*.

3 Definitions

This Recommendation defines the following terms.

3.1 X.160 definitions

This Recommendation makes use of the following terms defined in Recommendation X.160:

– Customer Network Management;

– CNM;

– CNMc;

– CNMe.

3.2 X.701 management framework definitions

This Recommendation makes use of the following terms defined in ITU-T Rec. X.701 | ISO/IEC 10040:

– managed object;

– agent;

– manager;

– notification;

– managed object class.

3.3 X.710 CMIS definitions

This Recommendation makes use of the following terms defined in ITU-T Rec. X.710 and ISO/IEC 9595:

– attribute;
– M-REPORT operation;
– M-GET operation;
– M-SET operation;
– M-ACTION operation;
– M-CREATE operation;
– M-DELETE operation;
– M-CANCEL-GET operation.

3.4 X.722 GDMO definitions

This Recommendation makes use of the following terms defined in Recommendation X.722:

– behaviour;
– package;
– conditional package;
– name binding;
– action type;
– parameter.

3.5 M.3020 definition

This Recommendation makes use of the following term defined in Recommendation M.3020:

– TMN Management Function (or function).

3.6 Imported definitions

Some of the MO classes, the attributes, and the ASN.1 Module definitions are imported from ITU-T Recommendations or ISO/IEC JTC 1 International Standards. These definitions are expressed as "derived from Rec. XXX | ISO/IEC YYY", or " 'Rec. ZZZ': ---" in the clauses of the Management Information definitions. They are also identified in each clause of specific service related management information.

4 Abbreviations

This Recommendation uses the following abbreviations:

CMIP Common Management Information Protocol

CMISE Common Management Information Service Element

CNM Customer Network Management

CNMc CNM interface using CMIP

CNMe CNM interface using EDI/MHS

CSPDN Circuit Switched Public Data Network

CUG Closed User Group (see also Recommendation X.25)

DLE Data Link Layer Entity

DLMO Data Link Layer Managed Object (see also ITU-T Rec. X.282 | ISO/IEC 10742)

DMI Definition of Management Information (see also CCITT Rec. X.721 | ISO/IEC 10165-2)

DTE Data Terminal Equipment (see also Recommendation X.25)

EFD Event Forwarding Discriminator (see also CCITT Rec. X.721 | ISO/IEC 10165-2)

GDMO Guidelines for the Definition of Managed Objects (see also Recommendation X.722)

GMI Generic Management Information (see also ITU-T Rec. X.723 | ISO/IEC 10165-5)

GNM Generic Network Information Model (see also Recommendation M.3100)

HG Hunt Group (see also Recommendation X.25)

ICS Implementation Conformance Statement (see also ITU-T Rec. X.724 | ISO/IEC 10165-6)

ISDN Integrated Services Digital Network

MLP Multi-Link Procedure (see also Recommendation X.25)

MO Managed Object

MORT MO Referring Test (see also ITU-T Rec. X.745 | ISO/IEC 10164-12)

NLMO Network Layer Managed Object (see also ITU-T Rec. X.283 and ISO/IEC 10733)

PAD Packet Assembly and Disassembly

PDN Public Data Network

PLE Packet Layer Entity

PSPDN Packet Switched Public Data Network

PSTN Public Switched Telephone Network

PVC Permanent Virtual Circuit (see also Recommendation X.25)

RDN Relative Distinguished Name

SLP Single Link Procedure (see also Recommendation X.25)

TARR Test Action Request Receiver (see also ITU-T Rec. X.745 | ISO/IEC 10164-12)

5 Conventions

The convention applied to this Recommendation is the Guidelines for the Definition of Managed Objects (GDMO), defined in Recommendation X.722.

6 Management information overview for CNM

This Recommendation defines generic management information for the CNM services. It includes the definition of MO classes, related attribute, package, action type, etc. This Recommendation is referenced by the other CNM related Recommendations, i.e. Recommendations X.160 and X.161. For providing the services, the generic definition in this Recommendation is to be used, and may be extended or refined by adding specific properties in some cases, e.g. for extended services.

6.1 Basic concept of management information in the CNM service

When the CNMc interface is used, the management information is defined as below.

Management information for the CNM services is defined based on customers' concerns and service providers' security. CNM MOs contain common elements or characteristics of CNM services defined in Recommendation X.161. Information elements provided to customers are limited due to security reasons.

These MOs are defined as generic MO classes and they may be refined by adding specific features to extend CNM services by each service provider, i.e. a network that provides CNM services. Other MOs which exhibit customer network management properties, can also be defined by using the static packages defined in this Recommendation.

There are many generic MO definitions in other Recommendations and International Standards which can also be used in the CNM service. Such MOs are imported to this Recommendation, some being subclassed to define CNM MOs. However, it is recognized that the suitability of certain generic MOs for importing and subclassing is for further study.

Which object may be accessed by its customer or which conditional package should be offered, is based on the agreement between the service provider and the customer.

6.2 Management information structure

This subclause will describe an overview of the Management Information Model for CNM.

The CNM object hierarchy consists of several levels as shown in Figure 1. Each level is categorized as follows:

– **Level 1:** The service provider's network (the starting point of the naming).

– **Level 2:** A subset of the network related to a customer (customer network).

NOTE – This object represents all the resources that a customer possesses. Note that if the customer wants to have a hierarchical customer network structure, it may recursively contain other network objects.

– **Level 3-1:** Customer specific objects (objects owned by the customer) except the DTE address related objects (level 3-2).

– **Level 3-2:** Objects related to a DTE address owned by the customer.

– **Level 4-1:** Objects that are subordinated to objects of level 3-1 and are irrelevant to the DTE address (customer related objects).

– **Level 4-2:** Objects that are subordinated to objects of level 3-2 (DTE address related objects).

– **Level 4-3:** Objects related to an access line or a data link (SLP).

– **Level 5:** Objects that are subordinated to objects of level 4-3.

What object each level includes is explained in the next subclause.

6.3 Management information models for specific CNM services

This subclause will describe the management information model for each CNM service in accordance with the TMN methodology defined in Recommendation M.3020.

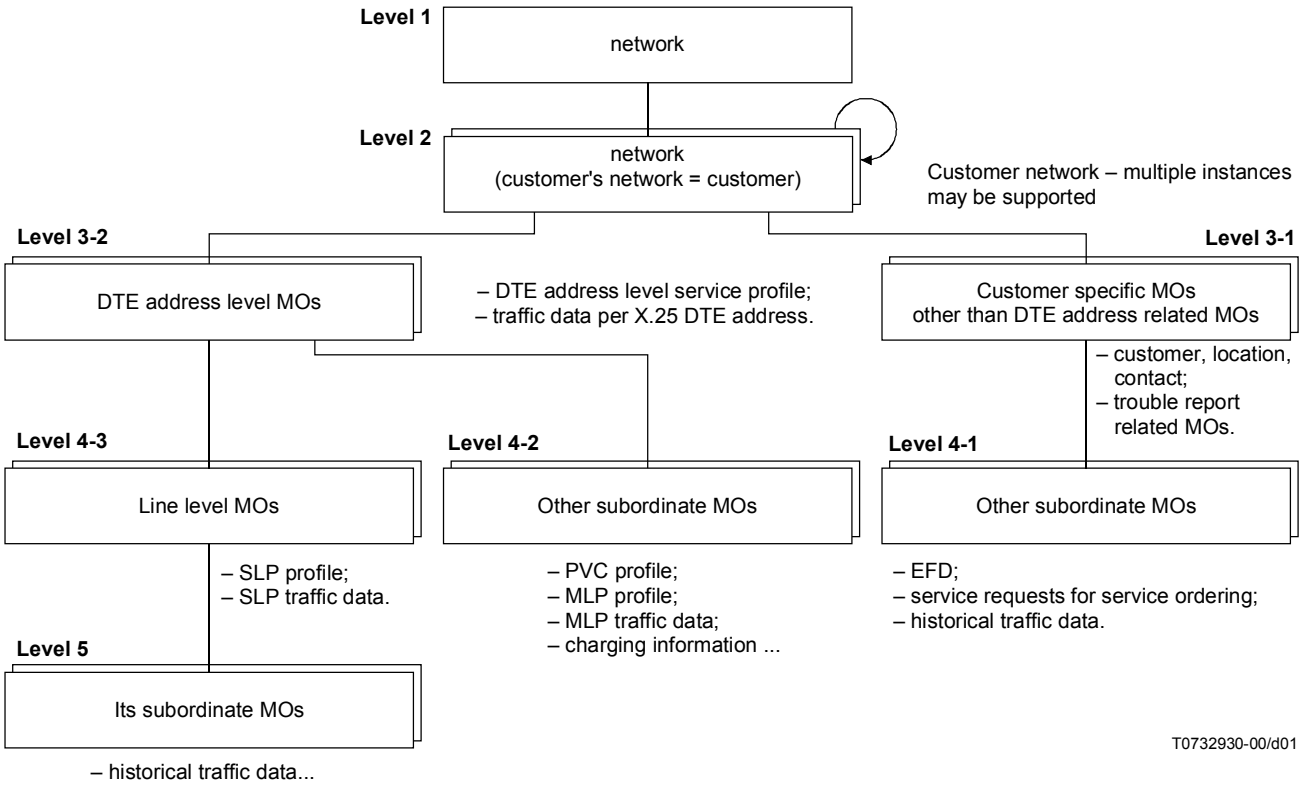
6.3.1 Fault management

6.3.1.1 Alarm notification service model

This subclause is intended to provide a conceptual framework for understanding how the various MO classes are used to provide the alarm notification service.

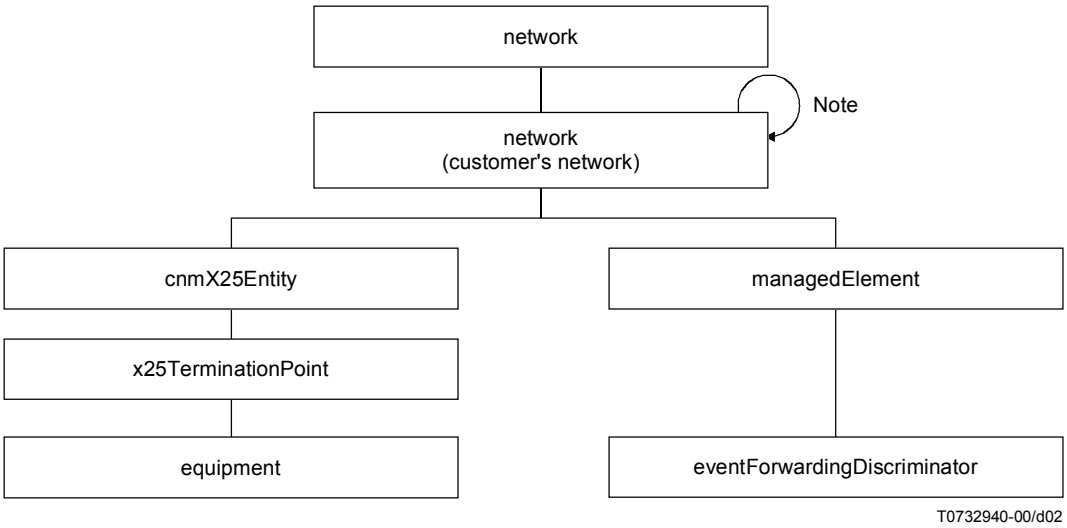
The object model for the alarm notification service is shown in Figure 2. When a problem is detected in a resource involved in a customer's communication, an alarm is issued. Alarms related to the customer's equipment are emitted from the Equipment object, and ones related to the X.25 communication are emitted from the X.25 Termination Point object.

Alarms may be discriminated in accordance with a criterion. This criterion may be controlled by the Event Forwarding Discriminator (EFD) defined in CCITT Rec. X.721 | ISO/IEC 10165-2. This object is contained in the Managed Element object.



NOTE – This figure does not specify a specific instance containment tree.

Figure 1/X.162 – The CNM information general structure



NOTE – The part owned by a customer. It may have hierarchical structure.

Figure 2/X.162 – Alarm notification information structure

The specific MOs in the model are:

– **cnmX25Entity** – The cnmX25Entity MO class represents the entity that is related to a DTE address. This object is used to contain one or more X.25 Termination Points for this service.

– **x25TerminationPoint –** The x25TerminationPoint MO class, derived from terminationPoint defined in Recommendation M.3100, represents the access line, which corresponds to the Data Link. Alarms related to an access line or the Data Link are emitted from this object. This object is contained by the cnmX25Entity object.

– **equipment –** The equipment MO class, imported from Recommendation M.3100, represents a resource dedicated to a customer. From this object, alarms related to the equipment are emitted.

– **managedElement** – The managedElement MO class, of which the class definition is imported from Recommendation M.3100, is used for the name binding. That is, it is the superior object of the eventForwardingDiscriminator object.

– **eventForwardingDiscriminator** – The eventForwardingDiscriminator MO class, imported from CCITT Rec. X.721 | ISO/IEC 10165-2, discriminates notifications in accordance with a criterion of the customer.

6.3.1.2 Fault history service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the fault log service.

The object model for the fault log service is shown in Figure 3.

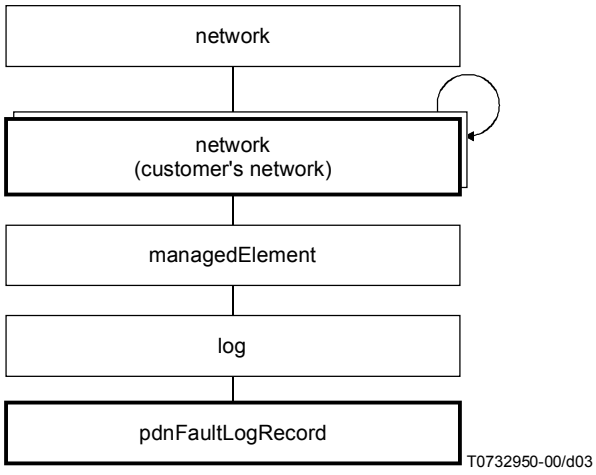


Figure 3/X.162 – Fault history information structure

Alarms are logged in the form of the fault log record in the CNM service provider. A customer may retrieve his own fault log records by using PT-GET service defined in CCITT Rec. X.730 | ISO/IEC 10164-1. The logging is controlled by the log object defined in CCITT Rec. X.735 | ISO/IEC 10164-6. A customer may change criteria for logging by modifying the logDiscriminatorConstruct attribute in the fault log object.

The specific objects in the model are:

– **log** – This managed object class controls the logging of alarms related to failure or event occurrence which affect the normal operation of the customer's dedicated resources. This object shall be contained in the **managedElement** object instance.

– **faultLogRecord –** This managed object class records alarms related to failure or event occurrence which affect the normal operation of the customer's dedicated resources. This object shall be contained in the log object instance.

6.3.1.3 Trouble report service model

This subclause is intended to provide a conceptual framework for understanding how the various MO classes are used to provide the trouble report service.

The object model for the trouble report service is shown in Figure 4. When a customer finds the occurrence of trouble in his communication, he informs the service provider by creating a Telecommunications Trouble Report object containing attributes that represents information about the trouble. The customer can retrieve the format provided by the service provider. Several formats, as defined in Recommendation X.790, may be offered. Repair activities can be retrieved from the Repair Activity object, which has attributes for records of activities performed to resolve the trouble, such as activity information and activity person.

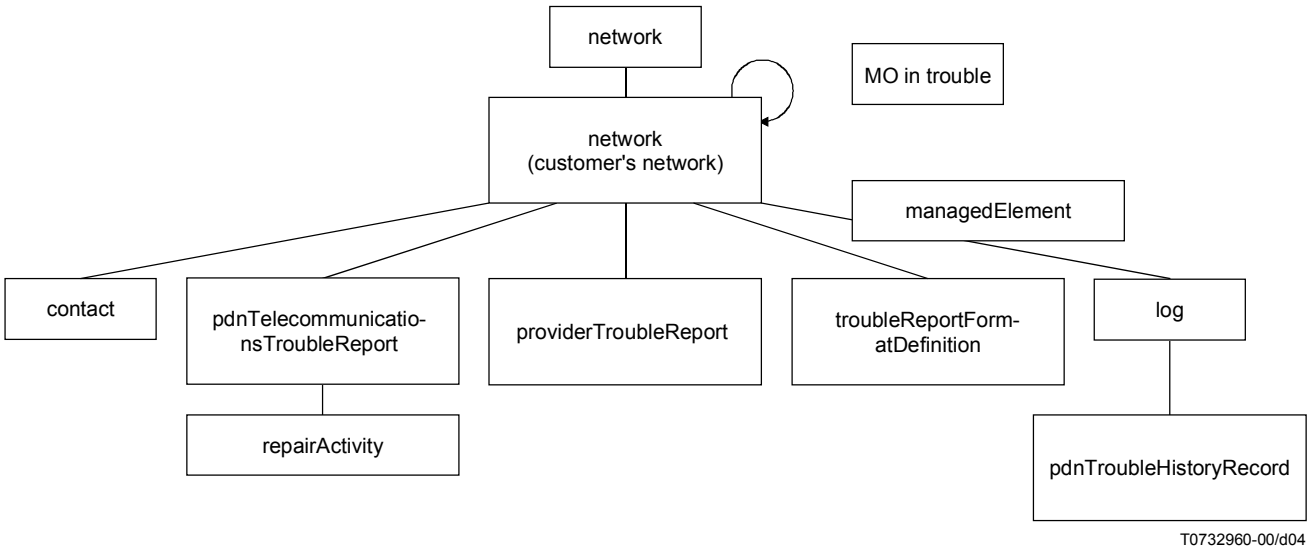


Figure 4/X.162 – Trouble report information structure

When the network (the service provider) finds the occurrence of trouble in a customer's communication, the provider creates a Telecommunications Trouble Report object and notifies the customer of the trouble.

The Telecommunications Trouble Report object has linkage with the object which represents a resource in trouble.

Customers are also notified when planned maintenance or preventive maintenance action is scheduled, to prevent future trouble. The Provider Trouble Report object is used for this purpose.

This Recommendation uses the definition of these MO classes defined in or derived from Recommendation X.790. In the CNM environment, they are modelled as follows:

– **managedObjectInTrouble** – This MO class, for which a trouble report is created, represents any resource in trouble related to the customer's communication.

– **pdnTelecommunicationsTroubleReport –** The pdnTelecommunicationsTroubleReport MO class, derived from telecommunicationsTroubleReport defined in Recommendation X.790, is created by a customer or by the service provider to notify the occurrence of a trouble in a resource related to the customer's communication. This object is contained by the managedElement object.

– **providerTroubleReport** – The providerTroubleReport MO class, imported from Recommendation X.790, is created by the service provider to inform the customer of plans of maintenance that affects the customer's communication. It is contained by the network (customer network) object.

– **troubleReportFormatDefinition –** The troubleReportFormatDefinition MO class, imported from Recommendation X.790, represents a format defined for expressing a trouble report. This object is contained by the network (customer network) object.

– **contact –** The contact MO class, imported from Recommendation X.790, represents information about contact persons of either the service provider. Necessary object instances are created and pointed by the pdnTelecommunicationsTroubleReport object. It is contained by the network (customer network) object.

– **repairActivity –** The repairActivity MO class, imported from Recommendation X.790, represent records of activities performed to resolve the trouble. This object is used unless the Repair Activity List is used. It is contained by the pdnTelecommunicationsTroubleReport object.

– **pdnTroubleHistoryRecord –** The pdnTroubleHistoryRecord MO class, derived from Trouble History Record defined in Recommendation X.790, represents records of trouble occurrence and results of repair activities. This object is contained by the log object.

– **log** – The log MO class, imported from CCITT Rec. X.721 | ISO/IEC 10165-2, is used for logging trouble history records. This object is contained by the managedElement object.

6.3.1.4 Loop setup service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the loop setup service.

The object model for the loop setup service is shown in Figure 5.

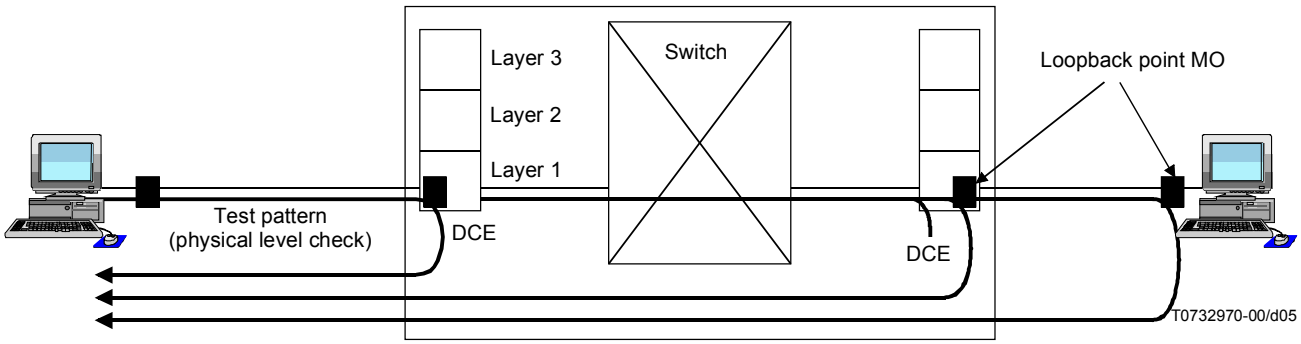


Figure 5/X.162 – Loop setup service model

At a customer's request, a loopback point is set at a designated location. By this operation, normal protocol operation (communication) is suspended. Also, the loop back point can be reset and the communication is resumed.

The specific object in the model is:

– **loopbackpoint** – This managed object class or its subclass has the attributes that indicate the loopback status "loopbackStatus" and a resource at which a loopback point is set (an object pointer). The resource to be looped back is represented as a managed object. The loopback point is set by changing the loopbackStatus attribute, which has values "true" and "false". By this operation, the service provider returns an attribute change report. The loopback object is contained by the network (customer network) object.

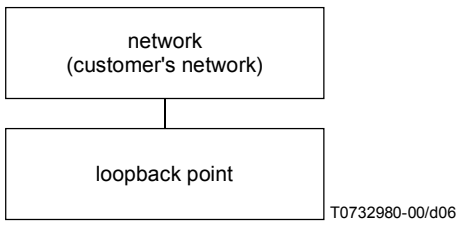


Figure 6/X.162 – Loop setup related objects

6.3.1.5 Test host service model

6.3.1.5.1 Test host service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the test host service.

The object model for the test host service is shown in Figure 7.

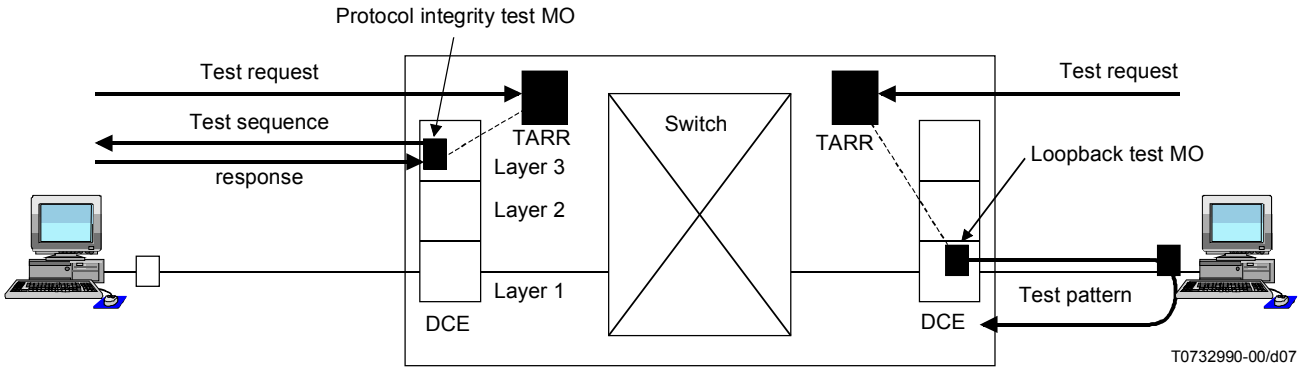


Figure 7/X.162 – Test host service model

6.3.1.5.2 Loopback test

The resource on which the loopback test is executed is the X.25 physical connection. This object also has a functionality to receive the customer's test action request, which designates test conditions. Upon the receipt of the test request, a loopback test object is created for the execution of the test. Test results are emitted from this object.

The specific objects in the model are (see Figure 8):

– **x25PhysicalConnection** – This managed object class or its subclass represents the resource to be tested (MORT). This object has also TARR functionality. This object is contained in the x25TerminationPoint object.

– **loopbacktest** – This managed object is created by the customer's request through TARR in the x25PhysicalConnection object. This object controls the execution of the loopback test and emits test results. This object is contained in the managedElement object.

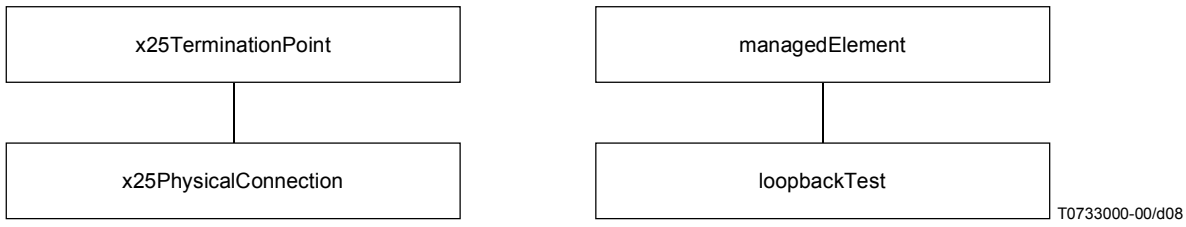


Figure 8/X.162 – Loopback test related objects

6.3.1.5.3 Protocol integrity test

The resource on which the protocol integrity test is executed is the X.25 Entity. This object also has a functionality to receive the customer's test action request, which designates the object to be tested and other test conditions. Upon the receipt of the test request, a protocol integrity test object is created for the execution of the test. The packet-layer protocol is tested. Test results are emitted from this object.

The specific objects in the model are (see Figure 9):

– **cnmX25EntityTested –** This managed object class represents the resource to be tested (MORT). This object has also TARR functionality for the packet-layer protocol testing. This object is a subclass of cnmX25Entity and it is contained in the network (customer network) object.

– **protocolIntegrityTest –** This managed object is created by the customer's request through TARR in the cnmX25EntityTested object. This object controls the execution of the packet-layer protocol test and emits test results. This object is defined and contained in the managedElement object.

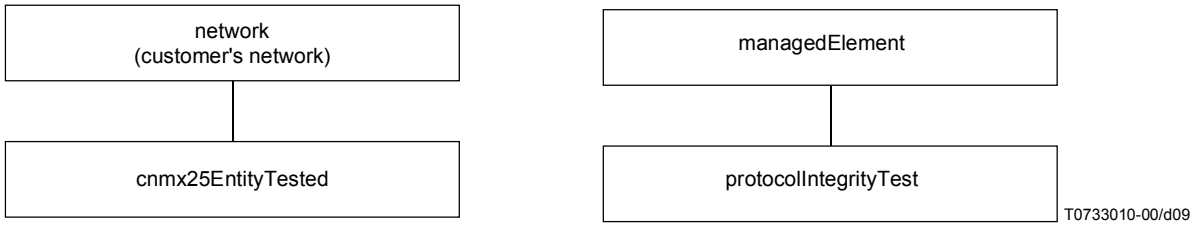


Figure 9/X.162 – Protocol integrity related objects

6.3.1.6 Protocol monitoring service model

This service is for further study.

6.3.2 Configuration management

6.3.2.1 Configuration inquiry service model

This subclause is intended to provide a conceptual framework for understanding how the various MO classes are used to provide the Configuration Inquiry service.

The object model for the Configuration Inquiry service is shown in Figure 10. To retrieve configuration information, the customer may access the contact, location, customer, cnmUser, x25TerminationPoint, equipment, and all of the service profile objects.

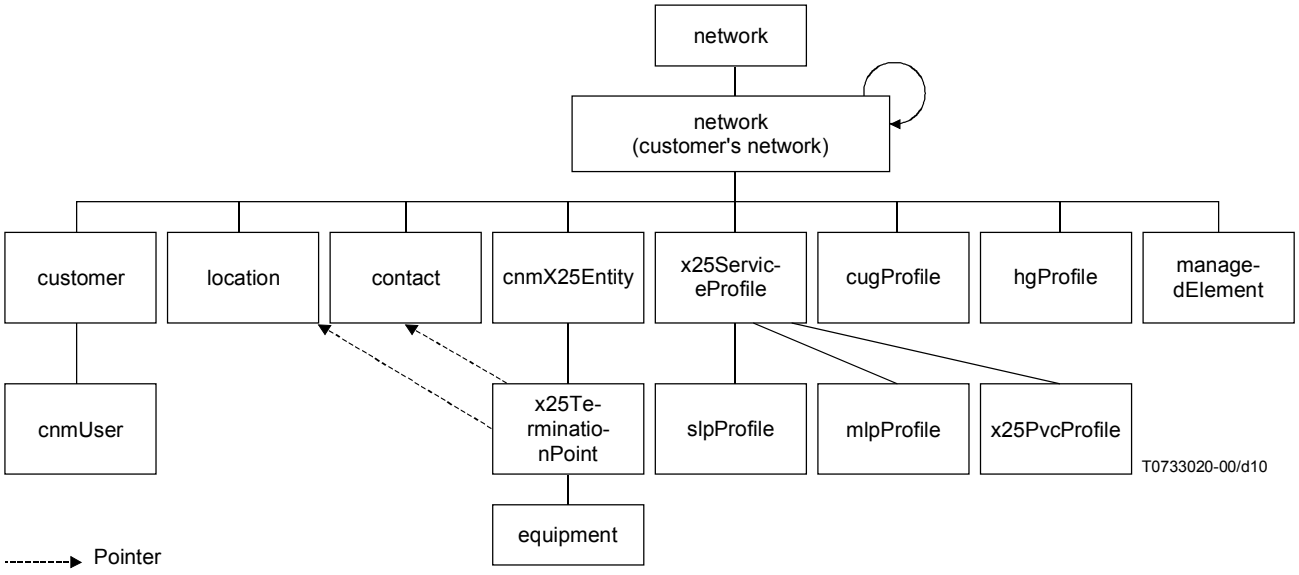


Figure 10/X.162 – Configuration inquiry information structure

The specific objects in the model are:

– **contact** – This MO class is the same as that defined for the trouble report service. It includes the service provider's telephone number, facsimile number, name, or other details so that customers can correspond with the service provider.

– **location** – The location MO class contains the postal address, geographic coordinate, etc. for each access line, to confirm information about the customer's own equipment.

– **customer** – The customer MO class includes attributes for representing the customer title, etc.

– **cnmUser** – The cnmUser MO class has information about a sub-organization or an access-line-group under a customer.

– **x25TerminationPoint** – In addition to the Alarm Notification service, the x25TerminationPoint MO class is used also for the Configuration Inquiry service. This MO class represents an access line or a Data Link. The customer who owns it may retrieve its communication status from this object.

– **equipment** – This MO class is imported from Recommendation M.3100. From this object, the customer may retrieve equipment data such as the operating system, the release version number, the function name, the product label, and the software name.

– **service Profile objects** – These MO classes represent subscription data of X.25 services. They include the service profiles for the X.25 Packet Layer, the Multi-Link Procedure (MLP), the Single-Link Procedure (SLP), the Permanent Virtual Circuit (PVC), the Closed User Group (CUG), and the Hunt Group (HG).

6.3.2.2 CNM reconfiguration service model

This subclause is intended to provide a conceptual framework for understanding how the various MO classes are used to provide the CNM Reconfiguration service.

The object model for the CNM Reconfiguration service is similar to the Configuration Inquiry service as shown in Figure 11. The customer may modify parameters associated with configurable aspects of his network services. MO classes that do not have configurable attributes, e.g. the contact MO, are outside the scope of this service.

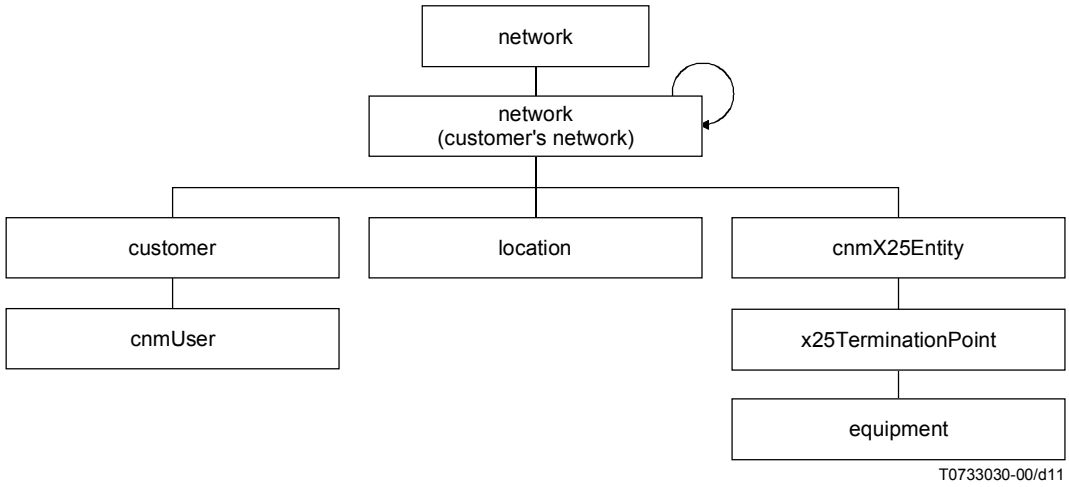


Figure 11/X.162 – CNM reconfiguration information structure

The specific objects in the model are:

– **location** – The location MO class is the same as that for the Service Inquiry service. The attributes representing the postal address, geographic coordinate, etc. may be modified by the customer.

– **customer** – The customer MO class is the same as that for the Service Inquiry service. The attributes representing the customer title, etc. may be modified by the customer.

– **cnmUser** – The cnmUser MO class is the same as that for the Service Inquiry service. The attributes representing information about the customer's sub-organization or an access-line-group under the customer may be modified by the customer.

– **cnmX25Entity** – The cnmX25Entity MO class is the same as that for the Alarm Notification service. The X.25 service may be suspended or resumed by controlling the administrative state of this object.

– **x25TerminationPoint** – The x25TerminationPoint MO class is the same as that for the Alarm Notification service. Each physical line and the Data Link overriding it may be activated or deactivated by controlling the administrative state of this object.

– **equipment –** The equipment MO class is the same as that for the Alarm Notification service. The attributes representing equipment data may be modified by the customer.

6.3.2.3 Ordering service model

This subclause is intended to provide a conceptual framework for understanding how the various MO classes are used to provide the service ordering service.

The object model for the service ordering is shown in Figure 12. There are two cases for X.25 service subscription:

– one without MLP; and

– one with MLP.

For the first case, necessary attributes of the X.25 Service Profile (x25ServiceProfile) and SLP Profile (slpProfile) objects are set through the Service Request object. The x25ServiceProfile has the necessary parameters for the packet layer. The SLP Profile object has the necessary parameters for the data link layer. To indicate the linkage with the X.25 Service Profile object, the SLP Profile object has the localDTEAddress attribute to point to the x25ServiceProfile object.

For the second case, the necessary attributes of the X.25 Service Profile, the MLP Profile and as many SLP Profile as required, are set through a Service Request object.

At the time of subscription, also performance related objects (x25MonitoredPoint, mlpMonitoredPoint and x25TerminationPoint) shall be created. Note that the MLP Monitored Point and additional X.25 Termination Point objects are created when MLP service is subscribed to.

All these profile object and performance related objects with initial attribute values are specified by the Create Argument parameter of the Service Profile object.

The modification of service items and the deletion of the subscription are also done through a Service Request object newly instantiated for that purpose. This object allows negotiation between the customer and the service provider, and the delay or scheduling of the activation of the X.25 service.

The CUG Profile and the HG Profile objects are defined as X.25 additional service profiles. They include necessary service information, i.e. member DTE Addresses. Each object is also controlled by a Service Request object.

The X.25 PVC Profile object includes parameters necessary for setting a PVC. It is created by a Service Request object.

The specific objects in the model are:

– **x25ServiceProfile, mlpProfile, slpProfile** – These MO classes include the X.25 packet layer parameters, multi-link parameters and data link layer parameters, respectively. The x25ServiceProfile object is contained by the network (customer network) object. In turn, the mlpProfile object and slpProfile object(s) is contained by it. Creation, modification and deletion of the subscription are handled through a ServiceRequest object. At the same time, they also create performance related objects, i.e. cnmX25Entity, mlpMonitoredPoint and x25TerminationPoint for that interface.

– **x25PvcProfile** – The x25PvcProfile MO class includes parameters necessary for establishing a PVC. This object is created through the ServiceRequest. Modification of the subscription is done by deletion of the x25PvcProfile object by a serviceRequest object and the re-creation of a new x25PvcProfile object by another serviceRequest.

– **cugProfile** – The cugProfile MO class contains the service items necessary for the CUG facility defined in Recommendation X.25. The DTE addresses within a closed user group are defined in this object in accordance with the type of CUG. Creation, modification and addition of the subscription shall be handled through serviceRequest objects.

– **hgProfile** – The hgProfile MO class contains the service items necessary for the Hunt Group facility defined in Recommendation X.25. The DTE addresses within a Hunt Group are defined in this object. The identifications of the Hunt Group address are also defined in this object. Creation, modification and addition of the subscription shall be handled through ServiceRequest objects.

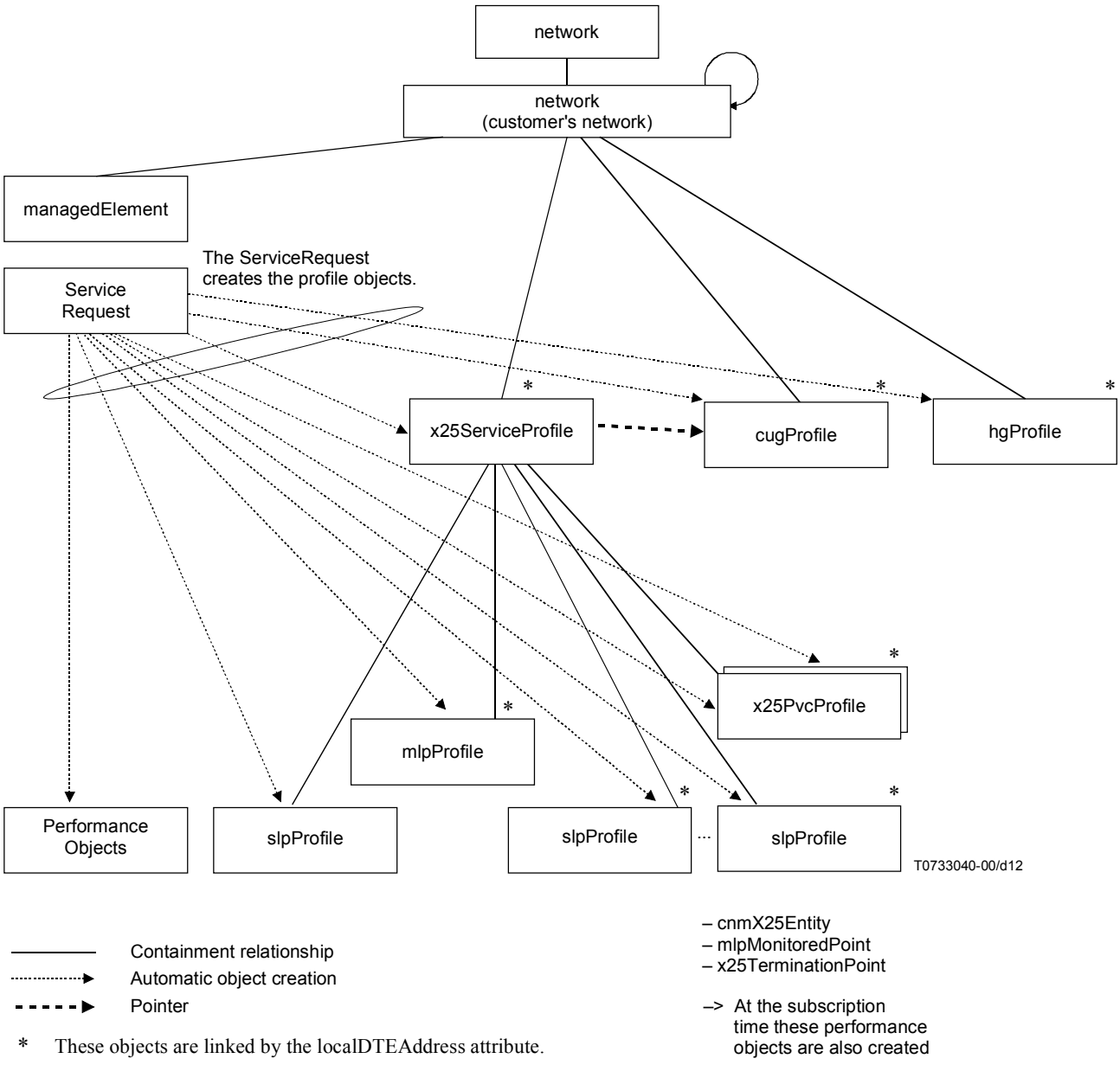


Figure 12/X.162 – Service ordering related objects

6.3.2.4 Cancellation service model

This service is for further study.

6.3.2.5 Systematic call redirection service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the call redirection service.

The object model for the systematic call redirection service is shown in Figure 13.

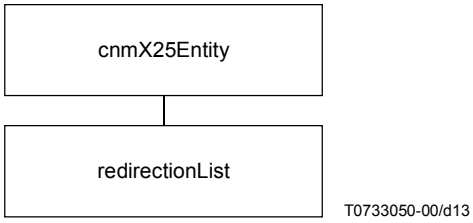


Figure 13/X.162 – Systematic call redirection related object

By a customer's request, a systematic call redirection list is created within the service provider. The request contains a parameter that indicates whether the call redirection is on duty (expressed as "availabilityState") and a call redirection list. For this service, the customer shall specify the DTE address where calls are redirected and also the call redirection list that contains one or more DTE addresses to which calls are redirected. By the customer's request, the call redirection may suspend and resume. The list may be modified while the call redirection is either on-duty or off-duty. The call redirection may be activated selectively for part of destination DTE addresses in the list.

NOTE 1 – The criteria shall be other than DTEs out of order or busy state. For the time being, this Recommendation provides the following two criteria:

– the customer's request to start and stop the use of this facility;

– the schedule, e.g. daily, weekly, monthly, periodic.

NOTE 2 – The handling of the redirection list is permitted, if the network offers multiple alternatives of DTEs.

The execution of the call redirection may be controlled by a schedule. In this case, the customer shall specify the interval start time and the interval end time (the duration). The customer may use the daily scheduling. They are defined in CCITT Rec. X.721| ISO/IEC 10165-2.

The specific object in the model is:

– **redirectionList** – This managed object class or its subclass shall have the attributes that indicate whether the call redirection is on duty (expressed as "availabilityState") and a call redirection list, which contains one or more DTE addresses to which calls are redirected. This object is contained in the cnmX25Entity object instance.

6.3.2.6 Inventory inquiry service model

This service is for further study.

6.3.3 Accounting management

6.3.3.1 Periodic billing service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the periodic billing service.

The object model for the detailed accounting service is shown in Figure 14.

An invoice is sent to the customer periodically or when some event occurs to notify an invoice. Invoice items are defined in the form of a notification of the cnmBillingController object class. However, this Recommendation does not define any normative invoice items. CNM service providers who want to offer this service shall define these items.

By setting the administrative state, the emission of notifications may be suspended and resumed.

The specific object in the model is:

– **cnmBillingController** – This managed object emits invoices and controls the emission of invoices. This object shall be contained in the managed element object instance.

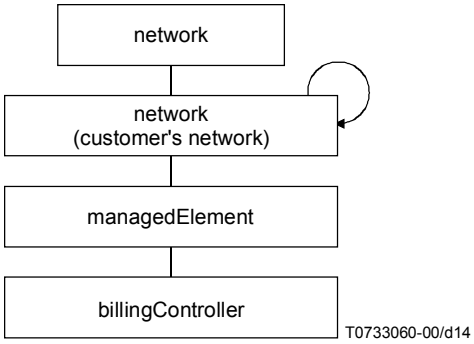


Figure 14/X.162 – Periodic billing information structure

6.3.3.2 Detailed accounting service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the detailed accounting service.

The object model for the detailed accounting service is shown in Figure 15.

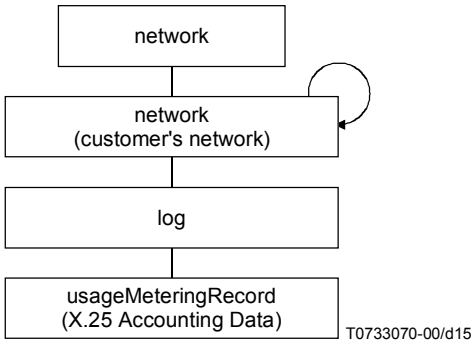


Figure 15/X.162 – Detailed accounting information structure

Accounting records are accumulated in the form of the usage metering record in the CNM service provider. A customer may retrieve his own usage metering records by using PT-GET service defined in CCITT Rec. X.730 | ISO/IEC 10164-1. Although the usageMetering object class defined in ITU-T Rec. X.742 | ISO/IEC 10164-10 is used, the usage metering items are defined in this Recommendation.

usageMeteringRecord objects are automatically created as a consequence of the occurrence of accountable events in a customer's communication. An accounting record contains information elements and counters that identify the customer, the used resources, the usage time, and the usage volume.

The specific object in the model is:

– **usageMeteringRecord –** This managed object class records accountable items. This object shall be contained in the network (customer network) object instance.

6.3.3.3 Quota control service model

This service is for further study.

6.3.3.4 Real time charging information service model

This service is for further study.

6.3.4 Performance management

6.3.4.1 Traffic information service model

This subclause is intended to provide a conceptual framework for understanding how the various managed object classes are used to provide the traffic information service.

The object model for the traffic information service is shown in Figure 16. Current traffic data is collected for a Monitored Object by a subclass of Current Traffic Data object defined in Recommendation Q.822. Instances of it are contained by the monitored object. This object may always be accessed for the retrieval of current traffic measurement data. At the end of each performance interval, the duration of which is determined by the granularityPeriod attribute, an instance of a subclass of the History Traffic Data MO class, defined in Recommendation Q.822, may be created to record the traffic measurements for that interval. The aggregation of traffic measurement is not supported for the time being.

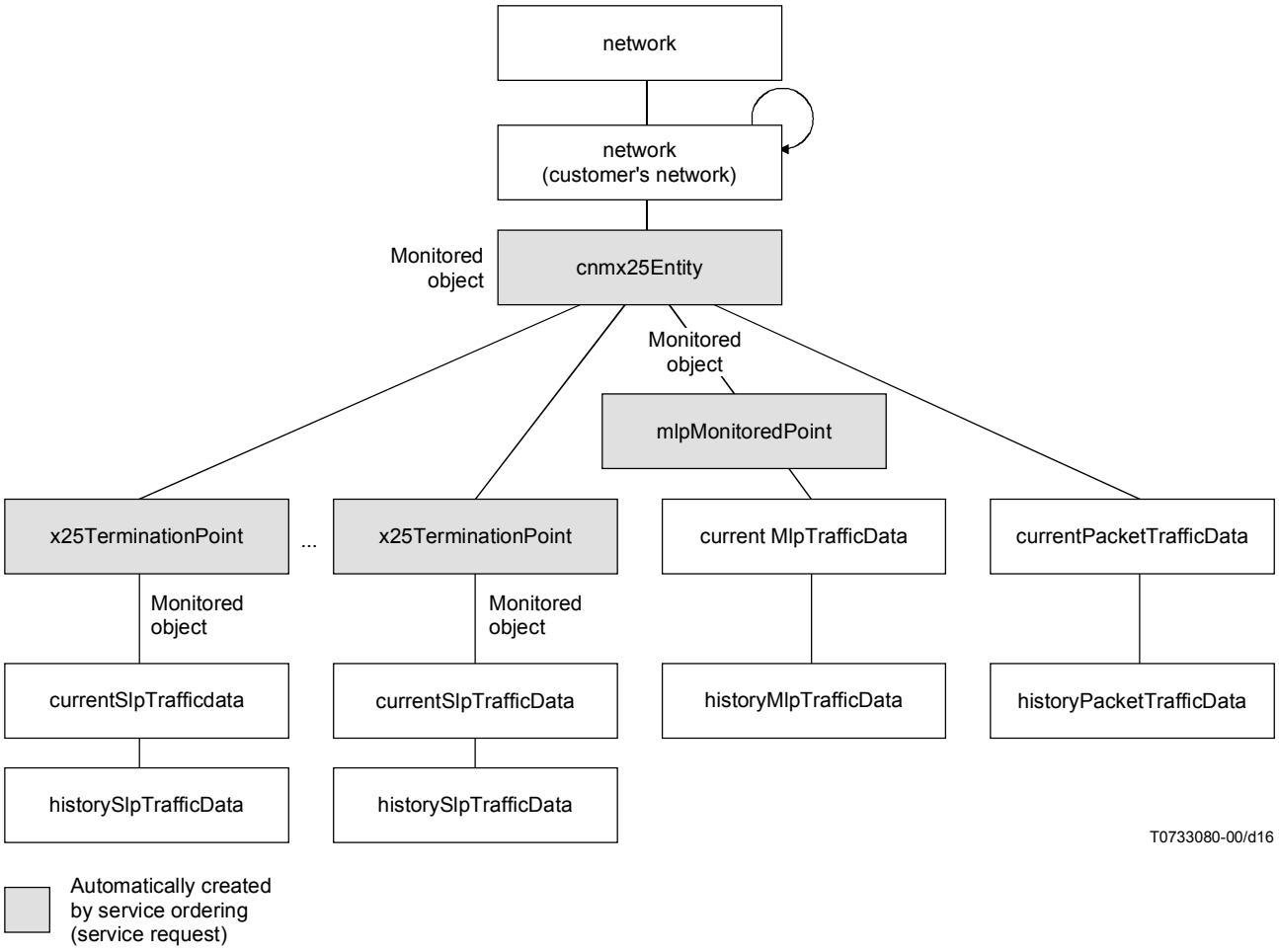


Figure 16/X.162 – Traffic information structure

For an X.25 subscription with MLP, the necessary traffic counters are as follows:

[SLP level]:

– SLP counters.

[X.25 interface level (DTE address level)]:

– packet counters;

– MLP counters.

To count these traffic items, a scanner is necessary for each of them. A subclass of the "Recommendation Q.822": currentData MO class is used.

The specific objects in the model are:

– **Monitored Object** – This object is the managed object for which the traffic measurements are being collected. It represents the resource being measured that is dedicated for a specific customer. There are three types of objects, i.e. cnmX25Entity, mlpMonitoredPoint, and x25TerminationPoint objects. Monitored objects contain no counters as ITU-T Rec. X.283 and ISO/IEC 10733. In the containment tree, this object shall contain currentTrafficData object instance and be used for naming.

– **currentTrafficData related objects** – The currentTrafficData MO class includes the measurements for the resource being monitored for a specified time interval (typically 1 hour). It is a subclass of currentData defined in Recommendation Q.822 and shall have traffic measurement attributes for the X.25 packet layer, the MLP, or one or more SLPs. This object may be accessed at any time after the creation. At the end of each interval, a historyTrafficData object for each type of the current data may be created containing the same attributes as the currentTrafficData object with values of the traffic measurements at the end of the interval.

– **historyTrafficData related object** – The historyTrafficData MO class is imported from Recommendation Q.822. This object has a copy of traffic related attributes that are present in the object for the current Traffic Data at the end of the current interval (typically 1 hour). A new instance of this MO class is created automatically at the end of each interval. There are three types, i.e. the historyPacketTrafficData, historyMlpTrafficData, and historySlpTrafficData.

6.3.4.2 Quality of service information service model

This service is for further study.

6.3.4.3 Network statistic service model

This service is for further study.

6.3.5 Security management

6.3.5.1 Password change service model

This service is for further study.

6.3.5.2 Access rights definition service model

This service is for further study.

6.3.6 CNM supporting services

The service request function is required when the provision of a service is not automated but necessitates a human intervention on a piece of equipment or a specific human procedure. Thus the service is not provided in real time but on a delayed basis. Since CMIP is really oriented towards real time operations, a new mechanism is required.

The mechanism is based on the instantiation of an object class which models the service requested and provides information on the different phases of the request processing. For this purpose, the Service Request object is used. The basic idea is to provide the manager with the capability to request a list of CMIP operations on designated managed objects. These operations are authorized through the parameterization of a serviceRequest managed object. The mechanism is defined in Annex C.

Specific properties of this MO class are as follows.

The dateRequest attribute is used to specify the date at which the service must be provided.

The possible values are: dontCare, now, or a precise date. The default value is dontCare.

The operationList attribute is used to specify the CMIP requested operations. The syntax used is the syntax of the CMIP operations themselves.

The processingMode attribute allows the managing system to specify if the operations must be processed in an orderly manner or if it does not matter. In the case where the order is not relevant, the action to be taken after a failure of an operation is to be specified (either abort or continue).

The operations are processed by the service provider but the results are not sent to the customer. In some cases, creation, deletion and attribute value change notifications are used to give information on the service provision. Nevertheless, the resultList attribute gives information on the result. It is a read only attribute whose value is an empty list until the object status is set to endOfProcessing. When the service has been delivered, this attribute specifies a diagnostic for each operation: success, failure or not attempted (i.e. abort after a previous failure and application of the stopAfterFailure policy).

Conditional Packages allow the specification of contacts at the manager and agent side. The choice between an existing contact instance or an attribute with a PersonReach syntax is possible. A dialogue attribute is also imported from the telecommunicationsTroubleReport managed object class defined in Recommendation X.790. It is used for the exchange of certain information during the negotiation phase.

The new serviceRequest MO class proposed hereafter is instantiable. The Name Binding does not allow the deletion of a serviceRequest object by the manager.

7 Definition of managed object classes

--<GDMO.Document "Recommendation X.162 (1997)">--

7.1 Managed objects for fault management

7.1.1 Managed objects for alarm notification service

7.1.1.1 Referenced managed objects

1) This Recommendation references the following support MO classes for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

   a) top;

   b) event forwarding discriminator.

2) This Recommendation references the following support MO classes for which the abstract syntax is specified in Recommendation M.3100:

   a) network;

      NOTE 1 – This object is the superior object for all the CNM objects.

   b) termination point;

   c) managed element;

      NOTE 2 – This object is used for containing the objects that provides general functions irrespective of the types of network service. The Event Forwarding Discriminator or the Log object is contained by this object.

   d) equipment.

7.1.1.2 Defined managed objects

7.1.1.2.1 CNM X.25 entity

cnmX25Entity MANAGED OBJECT CLASS

DERIVED FROM "DMI": top;

CHARACTERIZED BY cnmX25Entity-P PACKAGE

BEHAVIOUR cnmX25Entity-B BEHAVIOUR

DEFINED AS This object represents the entity that is related to a DTE address and for which traffic data are measured as a monitored object. It is used to contain one or more X.25 Termination Points. It is also used to suspend or resume the X.25 packet level communication This object is created at the time of subscription.;;

ATTRIBUTES

cnmX25EntityId GET,

"DMI": administrativeState GET-REPLACE;;;

REGISTERED AS {cnmObjectClass cnmX25Entity(1)};

7.1.1.2.2 X.25 termination point

x25TerminationPoint MANAGED OBJECT CLASS
DERIVED FROM "GNM": terminationPoint;
CHARACTERIZED BY x25TerminationPoint-P PACKAGE
BEHAVIOUR x25TerminationPoint-B BEHAVIOUR
DEFINED AS This MO represents the termination point of the access line, on which one data link is overridden. It emits alarms related to the access line and the data link. It also represents the monitored resource for which data-link-traffic-data are measured.;;
ATTRIBUTES
x25TerminationPointId GET,
"DMI": administrativeState GET-REPLACE;
NOTIFICATIONS
"DMI": qualityofServiceAlarm,
"DMI": processingErrorAlarm,
"DMI": equipmentAlarm,
"DMI": environmentalAlarm
;;;
REGISTERED AS {cnmObjectClass x25TerminationPoint(2)};

7.1.2 Managed objects for fault history service

7.1.2.1 Referenced managed objects

This Recommendation references the following support MO classes for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

a) top;

b) log;

c) eventLogRecord.

7.1.2.2 Defined managed objects

This Recommendation defines the following MO classes by inheriting the logRecord MO classes:

7.1.2.2.1 PDN fault log record

pdnFaultLogRecord MANAGED OBJECT CLASS
DERIVED FROM "DMI" :eventLogRecord;
CHARACTERIZED BY faultLogRecord-P PACKAGE
BEHAVIOUR faultLogRecord-B BEHAVIOUR
DEFINED AS "This MO class is used to represent logged information that resulted from alarm notification related to CNM. The attributes represent causes of all types of fault alarms.";;
ATTRIBUTES
"DMI" : probableCause GET,
"DMI" : perceivedSeverity GET;;;
CONDITIONAL PACKAGES
specificProblems-P PACKAGE
ATTRIBUTES
"DMI" : specificProblems GET;
REGISTERED AS {cnmPackage specificProblems-P(14)};
PRESENT IF "the 'specific problems' parameter is present in the alarm notification to be logged.",
backedUpStatus-P PACKAGE
ATTRIBUTES
"DMI" : backedUpStatus GET;
REGISTERED AS {cnmPackage backedUpStatus-P(15)};
PRESENT IF "the 'backedupStatus' attribute has a value TRUE and the back-up status parameter is present in the alarm notification to be logged.",
backUpObject-P PACKAGE
ATTRIBUTES
"DMI" : backUpObject GET;
REGISTERED AS {cnmPackage backUpObject-P(16)};
PRESENT IF "the 'backup object' parameter is present in the alarm notification to be logged.",
trendIndication-P PACKAGE
ATTRIBUTES
"DMI" : trendIndication GET;
REGISTERED AS {cnmPackage trendIndication-P(17)};
PRESENT IF "the 'trend indication' parameter is present in the alarm notification to be logged.",
thresholdInfo-P PACKAGE

ATTRIBUTES
"DMI" : thresholdInfo GET;
REGISTERED AS {cnmPackage thresholdInfo-P(18)};
PRESENT IF "the value for the 'probableCause' attribute is 'thresholdCrossed'.",
stateChangeDefinition-P PACKAGE
ATTRIBUTES
"DMI" : stateChangeDefinition GET;
REGISTERED AS {cnmPackage stateChangeDefinition-P(19)};
PRESENT IF "there is a state transition in the alarm notification to be logged.",
monitoredAttributes-P PACKAGE
ATTRIBUTES
"DMI" : monitoredAttributes GET;
REGISTERED AS {cnmPackage monitoredAttributes-P(20)};
PRESENT IF "the 'monitoredAttributes' parameter is present in the alarm notification to be logged.",
proposedRepairActions-P PACKAGE
ATTRIBUTES
"DMI" : proposedRepairActions GET;
REGISTERED AS {cnmPackage proposedRepairActions-P(21)};
PRESENT IF "the 'proposedRepairActions' parameter is present in the alarm notification to be logged.",
attributeList-P PACKAGE
ATTRIBUTES
"DMI" : attributeList GET;
REGISTERED AS {cnmPackage attributeList-P(22)};
PRESENT IF "the 'attributeList' parameter is present in the object creation (or deletion) notification or event report corresponding to the instance of object creation (or deletion) record.",
sourceIndicator-P PACKAGE
ATTRIBUTES
"DMI" : sourceIndicator GET;
REGISTERED AS {cnmPackage sourceIndicator-P(23)};
PRESENT IF "the 'sourceIndicator' parameter is present in the object creation (or deletion) notification or event report corresponding to the instance of object creation (or deletion) record.";

REGISTERED AS { cnmObjectClass pdnFaultLogRecord(22)};

7.1.3 Managed objects for trouble report service

7.1.3.1 Referenced managed objects

1) This Recommendation references the following support MO classes for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

   a) top;

   b) log.

2) This Recommendation references the following support MO class for which the abstract syntax is specified in Recommendation M.3100:

   – network.

   NOTE – This object is the superior object for all the CNM objects.

3) This Recommendation references the following support MO classes for which the abstract syntax is specified in Recommendation X.790:

   a) telecommunicationsTroubleReport;

   b) providerTroubleReport;

   c) contact;

   d) repairActivity;

   e) troubleHistoryRecord;

   f) troubleReportFormatDefinition.

7.1.3.2 Defined managed objects

This Recommendation defines the following MO classes by inheriting the telecommunicationsTroubleReport and troubleHistory MO classes.

7.1.3.2.1 PDN telecommunications trouble report

```
pdnTelecommunicationsTroubleReport MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. X.790": telecommunicationsTroubleReport;
CHARACTERIZED BY pdnTTR-P PACKAGE
    BEHAVIOUR pdnTTR-B BEHAVIOUR
    DEFINED AS "This object has trouble types specific to packet communication.
    The trouble type attribute defined in the super class is not used for the trouble management of PDN.";;
    ATTRIBUTES
    troubleTypePspdn    GET;;;
REGISTERED AS {cnmObjectClass pdnTelecommunicationsTroubleReport(3)};
```

7.1.3.2.2 PDN trouble history record

```
pdnTroubleHistoryRecord MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. X.790": troubleHistoryRecord;
CHARACTERIZED BY
    troubleTypePspdnPkg PACKAGE
    ATTRIBUTES
    troubleTypePspdn GET;;;
REGISTERED AS {cnmObjectClass pdnTroubleHistoryRecord(4)};
```

7.1.4 Managed objects for loop setup service

7.1.4.1 Defined managed objects

This Recommendation defines the following MO class.

7.1.4.1.1 CNM loopback point

```
cnmLoopbackPoint MANAGED OBJECT CLASS
    DERIVED FROM x25TerminationPoint;
    CHARACTERIZED BY cnmLoopbackPointPackage PACKAGE
    BEHAVIOUR cnmLoopbackPoint-B BEHAVIOUR DEFINED AS "This object sets or resets the loopback point by the
    loopbackStatus attribute. The location at which the loopback point is set is represented by the locationPointer
    attribute.";;
    ATTRIBUTES
    locationPointer GET,
    loopbackStatus GET-REPLACE;;;
REGISTERED AS {cnmObjectClass cnmLoopbackPoint(23)};
```

7.1.5 Managed objects for test host service

7.1.5.1 Referenced managed objects

1) This Recommendation references the following support MO class for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

   – top.

2) This Recommendation references the following support MO classes for which the abstract syntax is specified in ITU-T Rec. X.737 | ISO/IEC 10164-14:

   a) loopbackTest;

   b) protocolIntegrityTest.

7.1.5.2 Defined managed objects

7.1.5.2.1 X.25 physical connection

```
x25PhysicalConnection MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY
x25PhysicalConnection-P PACKAGE
    BEHAVIOUR x25PhysicalConnection-B BEHAVIOUR
    DEFINED AS "This object includes the TARR package for performing a loopback test.";;
    ATTRIBUTES
    x25PhysicalConnectionId GET;;,
```

cnmLoopbackTestTARRPackage PACKAGE
BEHAVIOUR cnmLoopbackTestTARR-B BEHAVIOUR
DEFINED AS "A managed object containing this package supports receiving a loopback test request in the form of the testRequestControlledAction action with the appropriate parameters defined for loopback testing. Test results are returned in a testResultNotification with the loopbackControlledResultsParam parameter by the loopback Test Object.";;
ACTIONS
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testRequestControlledAction
"ITU-T Rec. X.737 | ISO/IEC 10164-14":loopbackTestInfoParam
"ITU-T Rec. X.745 | ISO/IEC 10164-12":associatedObjectNotAvailable
"ITU-T Rec. X.745 | ISO/IEC 10164-12":independentTestInvocationError
"ITU-T Rec. X.745 | ISO/IEC 10164-12":mistypedTestCategoryInformation
"ITU-T Rec. X.745 | ISO/IEC 10164-12":mORTNotAvailable
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchAssociatedObject
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchMORT
"ITU-T Rec. X.745 | ISO/IEC 10164-12":relatedTOError,
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testSuspendResumeAction
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestInvocationId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestSessionId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":invalidTestOperation
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testSuspendResumeError,
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testTerminateAction
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestInvocationId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestSessionId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":invalidTestOperation
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testTerminateError;;;
REGISTERED AS {cnmObjectClass x25PhysicalConnection(24)};

NOTE 1 – The difference between this service and the definition of ITU-T Rec. X.737 | ISO/IEC 10164-14 is that no PDU sequence is handed from the customer to the test action request receiver in the CNM provider but several test patterns are prepared and emitted to the tested customer by the CNM provider.

NOTE 2 – In the LoopbackTestInfo data type associated to the testRequestControlledAction action, loopbackData, testStartTime GeneralizedTime, testIntervalTime, reportingIntervalTime, loopbackErrorThreshold may be specified.

NOTE 3 – In the LoopbackTestResults data type associated the loopback test object, loopbackDataReceived and loopbackErrorReceived for a successful test and reasons for failure. The testInvocationId, testSessionId, testOutcome, mORTs, associatedObjects, monitoredAttributes, proposedRepairActions, additionalText, additionalInformation, notificationIdentifier, and correlatedNotifications attributes are returned.

7.1.5.2.2 CNM X.25 entity tested

cnmX25EntityTested MANAGED OBJECT CLASS
DERIVED FROM cnmX25Entity;
CHARACTERIZED BY
cnmX25EntityTested-P PACKAGE
BEHAVIOUR cnmX25EntityTested-B BEHAVIOUR
DEFINED AS "This object includes the TARR package for performing a protocol integrity test.";;;,

cnmProtocolIntegrityTestTARRPackage PACKAGE
BEHAVIOUR cnmProtocolIntegrityTestTARR-B BEHAVIOUR
DEFINED AS "A managed object containing this package supports receiving a protocol integrity test request in the form of the testRequestControlledAction action with the appropriate parameters defined for protocol integrity testing. Test results are returned in a testResultNotification with the protocolIntegrityControlledResultsParam parameter by the protocolIntegrity Test Object.";
;
ACTIONS
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testRequestControlledAction
"ITU-T Rec. X.737 | ISO/IEC 10164-14":protocolIntegrityTestInfoParam
"ITU-T Rec. X.745 | ISO/IEC 10164-12":associatedObjectNotAvailable
"ITU-T Rec. X.745 | ISO/IEC 10164-12":independentTestInvocationError
"ITU-T Rec. X.745 | ISO/IEC 10164-12":invalidTestOperation
"ITU-T Rec. X.745 | ISO/IEC 10164-12":mistypedTestCategoryInformation
"ITU-T Rec. X.745 | ISO/IEC 10164-12":mORTNotAvailable
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchAssociatedObject
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchMORT
"ITU-T Rec. X.745 | ISO/IEC 10164-12":relatedTOError,
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testSuspendResumeAction
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestInvocationId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestSessionId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":invalidTestOperation

"ITU-T Rec. X.745 | ISO/IEC 10164-12":testSuspendResumeError,
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testTerminateAction
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestInvocationId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":noSuchTestSessionId
"ITU-T Rec. X.745 | ISO/IEC 10164-12":invalidTestOperation
"ITU-T Rec. X.745 | ISO/IEC 10164-12":testTerminateError;;;
REGISTERED AS {cnmObjectClass cnmX25EntityTested(25)};

7.1.6 Managed objects for protocol monitoring service

This service is for further study.

7.2 Managed objects for configuration management

7.2.1 Managed objects for configuration inquiry service

7.2.1.1 Referenced managed objects

1) This Recommendation references the following support MO class for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:
   – top.
2) This Recommendation references the following support MO classes for which the abstract syntax is specified in Recommendation M.3100:
   a) network;
   b) termination point;
   c) managed element;
   d) equipment.
3) This Recommendation references the following support MO class for which the abstract syntax is specified in Recommendation X.790:
   – contact.

7.2.1.2 Defined managed objects

7.2.1.2.1 CNM X.25 entity

This object class is defined in 7.1.1.2.1.

7.2.1.2.2 X.25 termination point

This object class is defined in 7.1.1.2.2.

7.2.1.2.3 X.25 service profile

x25ServiceProfile MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY
x25ServiceProfile-P,
pleProfile-P;
CONDITIONAL PACKAGES
slpTimersProfile-P
PRESENT IF "the timers may be specified by customers";
REGISTERED AS {cnmObjectClass x25BasicServiceProfile(5)};

7.2.1.2.4 MLP profile

mlpProfile MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY
mlpProfile-P PACKAGE
BEHAVIOUR mlpProfile-B BEHAVIOUR
DEFINED AS "This object is used to represent the service profile necessary for providing the MLP. Creation, modification and deletion of this object are controlled by the Service Request object.";;

ATTRIBUTES
mlpProfileId GET,
"DLMO": mW GET,
"DLMO": mX GET;;;
CONDITIONAL PACKAGES
mlpTimer-P PACKAGE
ATTRIBUTES
"NLMO": localDTEAddress GET,
"DLMO": mT1Timer GET,
"DLMO": mT3Timer GET,
"DLMO": mT2Timer GET;
REGISTERED AS {cnmPackage mlpTimer-P(26)};
PRESENT IF "The provider allows customers to set and modify these attributes.";
REGISTERED AS {cnmObjectClass mlpProfile(6)};

7.2.1.2.5 SLP profile

slpProfile MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY
slpProfile-P;
CONDITIONAL PACKAGES
slpTimersProfile-P
PRESENT IF "the timers may be specified by customers";
REGISTERED AS {cnmObjectClass slpProfile(7)};

7.2.1.2.6 X.25 PVC profile

x25PvcProfile MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY x25PvcProfile-P PACKAGE
BEHAVIOUR x25PvcProfile-B BEHAVIOUR
DEFINED AS "This MO class represents subscription data, i.e. the service profile of each PVC. Necessary PVC parameters are included in this MO. Creation, modification and deletion of this object are controlled by the Service Request object.";;
ATTRIBUTES
x25PvcProfileId GET,
"NLMO": chargingDirection GET,
"NLMO": localDTEAddress GET,
"NLMO": logicalChannel GET,
"DMI" : operationalState GET,
"NLMO": packetSizes GET,
"NLMO": remoteDTEAddress GET,
"NLMO": remoteLogicalChannel GET,
"NLMO": throughputClasses GET,
"NLMO": virtualCircuitId GET,
"NLMO": windowSizes GET;
NOTIFICATIONS
"DMI" : objectCreation,
"DMI" : objectDeletion;;;
REGISTERED AS {cnmObjectClass x25PvcProfile(8)};

7.2.1.2.7 Closed user group profile

cugProfile MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY cugProfile-P PACKAGE
BEHAVIOUR cugProfile-B BEHAVIOUR
DEFINED AS "This MO class is used for managing the subscription of each CUG. The attributes represent the list of DTE addresses that belong to the same CUG. Creation, modification and deletion of this object are controlled by the Service Request object.";;
ATTRIBUTES
cugProfileId GET,
"NLMO": cUGWithIncomingAccess GET,
"NLMO": cUGWithOutgoingAccess GET,
"NLMO": bilateralCUG GET,
"NLMO": bilateralCUGWithOutgoingAccess GET,
dTEAddressList GET;

```
    NOTIFICATIONS
    "DMI" : objectCreation,
    "DMI" : objectDeletion;;;
CONDITIONAL PACKAGES
    interlockCodePkg PACKAGE
    ATTRIBUTES
    interlockCode GET;
    REGISTERED AS {cnmPackage interlockCodePkg (24)};
    PRESENT IF "The service provider allows customers to use the international CUG service and to handle the interlock
    code value.",
    cugIndexPkg PACKAGE
    ATTRIBUTES
    cugIndex GET;
    REGISTERED AS {cnmPackage cugIndexPkg (25)};
    PRESENT IF "The service provider offers multiple CUGs and a customer subscribes to more than one CUG.";
REGISTERED AS {cnmObjectClass cugProfile(9)};
```

7.2.1.2.8 Hunt group profile

```
hgProfile MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY hgProfile-P PACKAGE
    BEHAVIOUR hgProfile-B BEHAVIOUR
    DEFINED AS "This MO class is used for managing the subscription of each HG. The attributes represent the list of DTE
    addresses that belong to the same HG. Creation, modification and deletion of this object are controlled by the Service
    Request object.";;
    ATTRIBUTES
    hgProfileId GET,
    hgAddress GET,
    dTEAddressList GET;
    NOTIFICATIONS
    "DMI": objectCreation,
    "DMI": objectDeletion;;;
REGISTERED AS {cnmObjectClass hgProfile(10)};
```

7.2.1.2.9 CNM user

```
cnmUser MANAGED OBJECT CLASS
DERIVED FROM customer;
CHARACTERIZED BY cnmUser-P PACKAGE
    BEHAVIOUR cnmUser-B BEHAVIOUR
    DEFINED AS "This MO represents a customer's suborganization and/or access line group. The
    suborganizationObjectList points all the relevant objects that belong to that suborganization.";;
    ATTRIBUTES
    cnmUserId GET,
    suborganizationObjectList GET-REPLACE;;;
REGISTERED AS {cnmObjectClass cnmUser(11)};
```

7.2.1.2.10 Customer

```
customer MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY
    customerPkg,
    "GNM": attributeValueChangeNotificationPackage,
    contactList-P,
    "GNM": createDeleteNotificationsPackage;
CONDITIONAL PACKAGES
    customerTypesPkg
        PRESENT IF "an instance supports it.",
    opNetworkListPkg
        PRESENT IF "an instance supports it.",
    serviceListPkg
        PRESENT IF "an instance supports it.",
    typeTextPkg
        PRESENT IF "an instance supports it.",
    "GNM": userLabelPackage
        PRESENT IF "an instance supports it.",
;
REGISTERED AS {cnmObjectClass customer(12)};
```

7.2.1.2.11 Location

location MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY
locationPkg,
"GNM": attributeValueChangeNotificationPackage,
"GNM": createDeleteNotificationsPackage;
CONDITIONAL PACKAGES
contactList-P
PRESENT IF "an instance supports it.",
typeTextPkg
PRESENT IF "an instance supports it.",
"GNM": userLabelPackage
PRESENT IF "an instance supports it.";
REGISTERED AS {cnmObjectClass location(13)};

7.2.2 Managed objects for CNM reconfiguration service

7.2.2.1 Referenced managed objects

– This Recommendation references the following support MO class for which the abstract syntax is specified by Recommendation M.3100:

- equipment.

7.2.2.2 Defined managed objects

7.2.2.2.1 CNM X.25 entity

This object class is defined in 7.1.1.2.1.

7.2.2.2.2 X.25 termination point

This object class is defined in 7.1.1.2.2.

7.2.2.2.3 CNM user

This object class is defined in 7.2.1.2.9.

7.2.2.2.4 Customer

This object class is defined in 7.2.1.2.10.

7.2.2.2.5 Location

This object class is defined in 7.2.1.2.11.

7.2.3 Managed objects for ordering service

7.2.3.1 Referenced managed objects

– This Recommendation references the following support managed object for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

- top.

7.2.3.2 Defined managed objects

7.2.3.2.1 X.25 service profile

This object class is defined in 7.2.1.2.3.

7.2.3.2.2 MLP profile

This object class is defined in 7.2.1.2.4.

7.2.3.2.3 SLP profile

This object class is defined in 7.2.1.2.5.

7.2.3.2.4 X.25 PVC profile

This object class is defined in 7.2.1.2.6.

7.2.3.2.5 Closed user group profile

This object class is defined in 7.2.1.2.7.

7.2.3.2.6 Hunt group profile

This object class is defined in 7.2.1.2.8.

7.2.4 Managed objects for systematic call redirection service

7.2.4.1 Referenced managed objects

– This Recommendation references the following support MO class for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

- top.

7.2.4.2 Defined managed objects

7.2.4.2.1 Redirection list

```
redirectionList MANAGED OBJECT CLASS
    DERIVED FROM "DMI":top;
    CHARACTERIZED BY redirectionListPackage PACKAGE
    BEHAVIOUR redirectionListPackage-B BEHAVIOUR
DEFINED AS "This object controls call redirection. Calls are redirected to addresses contained in the redirection list
attribute.";;
    ATTRIBUTES
        redirectionListId GET,
        dTEAddressList GET-REPLACE,
        "DMI": administrativeState GET-REPLACE,
        callRedirectionList GET-REPLACE;;;
REGISTERED AS {cnmObjectClass redirectionList(26)};
```

7.3 Managed objects for accounting management

7.3.1 Managed objects for periodic billing service

7.3.1.1 Referenced managed objects

– This Recommendation references the following support MO class for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

- top.

7.3.1.2 Defined managed objects

This Recommendation defines the following MO:

```
cnmBillingController MANAGED OBJECT CLASS
    DERIVED FROM "CCITT Rec. X.721 | ISO/IEC 10165-2": top;
    CHARACTERIZED BY
    cnmBillingController-P PACKAGE
    BEHAVIOUR cnmBillingController-B BEHAVIOUR
    DEFINED AS "This MO controls the emission of invoice notifications. If this MO is in the unlocked state, invoices are
    sent periodically. If it is locked, no invoice is emitted.";;
    ATTRIBUTES
        "ITU-T Rec. X.742 | ISO/IEC 10164-10": controlObjectId    GET,
        "DMI": administrativeState    GET-REPLACE;
    NOTIFICATIONS
    invoiceReport;;;
REGISTERED AS {cnmObjectClass cnmBillingController(27)};
```

7.3.2 Managed objects for detailed accounting service

7.3.2.1 Referenced managed objects

– This Recommendation references the following support MO class for which the abstract syntax is specified in ITU-T Rec. X.742 | ISO/IEC 10164-10:

  - usageMeteringRecord.

7.3.2.2 Defined managed objects

This Recommendation does not define any specific MO classes for this service. However, the following data types are defined to complete the definition of the ITU-T Rec. X.742 | ISO/IEC 10164-10: usageMeteringRecord class for the accounting specific to the accounting service. Related data type is defined in clause 14.

NOTE 1 – ITU-T Rec. X.742 | ISO/IEC 10164-10 defines the UsageInfo data type as follows:

```
UMF-USAGE  ::= DMI-TYPE-IDENTIFIER
UsageInfo  ::= SEQUENCE {
               serviceType   UMF-USAGE&.id ({UsageInfoSet}),
               usageData     UMF-USAGE&.value({UsageInfoSet }{@.serviceType})}
UsageInfoSet  UMF-USAGE ::= { ... }
```

This Recommendation adds the following definitions:

- UsageInfo-PacketService;
- PacketUsageData;
- PacketRegistrationType;
- PacketCompleteType;
- UsageMeasurement;
- UsageCounter;
- PacketInterruptType.

NOTE 2 – If a provider needs other usage metering items, another attribute (e.g. usageInfo2) may be defined in a subclass. In this attribute, supplementary service charging items, interworking charging items or any other ones specific to the provider are represented.

7.4 Managed objects for performance management

7.4.1 Managed objects for traffic information service

7.4.1.1 Referenced managed objects

– This Recommendation references the following support MO classes for which the abstract syntax is specified in Recommendation Q.822:

  a) currentData;

  b) historyData.

7.4.1.2 Defined managed objects

7.4.1.2.1 CNM X.25 entity

The cnmX25Entity object defined in 7.1.1.2.1 is used as the monitored MO for the measurement of packet layer counters of the currentPacketTrafficData object.

7.4.1.2.2 Current packet traffic data

```
currentPacketTrafficData MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. Q.822": currentData;
CHARACTERIZED BY currentPacketTrafficData-P PACKAGE
    BEHAVIOUR currentPacketTrafficData-B BEHAVIOUR
    DEFINED AS "This MO is a subclass of the currentData object that has a scanning function to monitor a specified
    Monitored Object. The traffic measurement parameters shall be explicitly defined as attributes of this MO, not as
    measurementListPkg.";;
```

ATTRIBUTES
"NLMO": callAttempts GET,
"NLMO": callsConnected GET,
"NLMO": callTimeouts GET,
"NLMO": clearTimeouts GET,
"NLMO": dataPacketsReceived GET,
"NLMO": dataPacketsSent GET,
"DMI": octetsReceivedCounter GET,
"DMI": octetsSentCounter GET,
"NLMO": protocolErrorsAccusedOf GET,
"NLMO": protocolErrorsDetectedLocally GET,
"NLMO": providerInitiatedDisconnects GET,
"NLMO": providerInitiatedResets GET,
"NLMO": resetTimeouts GET,
"NLMO": remotelyInitiatedResets GET,
"NLMO": remotelyInitiatedRestarts GET,
"NLMO": segmentsReceived GET,
"NLMO": segmentsSent GET;;;
REGISTERED AS {cnmObjectClass currentPacketTrafficData(14)};

NOTE 1 – This MO intends to be used by many CNM service providers. However, based on the agreement between the provider and its customers, traffic items may be added by subclassing. If a provider does not collect some of the counters above, another object may be defined by directly inheriting the Recommendation Q.822: currentData object.

NOTE 2 – This MO shall be created on demand before the traffic data collection. The maximum number of observation is determined by the service provider in consideration of the processing load and the capacity.

7.4.1.2.3 History packet traffic data

historyPacketTrafficData MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. Q.822": historyData;
CHARACTERIZED BY historyPacketTrafficData-P PACKAGE
BEHAVIOUR historyPacketTrafficData-B BEHAVIOUR
DEFINED AS "This MO is a subclass of the historyData object that has a function for storing monitored measurements of the currentPacketTrafficData object for a specified time interval. The measurement attributes in this object shall be an exact copy of the attributes in the currentPacketTrafficData object at the end of the interval. The traffic parameters shall be explicitly defined as attributes of this object, not as historyDataMeasurementListPkg of the super class.";;
ATTRIBUTES
"NLMO": callAttempts GET,
"NLMO": callsConnected GET,
"NLMO": callTimeouts GET,
"NLMO": clearTimeouts GET,
"NLMO": dataPacketsReceived GET,
"NLMO": dataPacketsSent GET,
"DMI": octetsReceivedCounter GET,
"DMI": octetsSentCounter GET,
"NLMO": protocolErrorsAccusedOf GET,
"NLMO": protocolErrorsDetectedLocally GET,
"NLMO": providerInitiatedDisconnects GET,
"NLMO": providerInitiatedResets GET,
"NLMO": resetTimeouts GET,
"NLMO": remotelyInitiatedResets GET,
"NLMO": remotelyInitiatedRestarts GET,
"NLMO": segmentsReceived GET,
"NLMO": segmentsSent GET;;;
REGISTERED AS {cnmObjectClass historyPacketTrafficData(15)};

7.4.1.2.4 MLP monitored point

mlpMonitoredPoint MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY mlpMonitoredPoint-P PACKAGE
BEHAVIOUR mlpMonitoredPoint-B BEHAVIOUR
DEFINED AS "This object represents the monitored resource for which MLP-traffic-data are measured.";;
ATTRIBUTES
mlpMonitoredPointId GET;;;
REGISTERED AS {cnmObjectClass mlpMonitoredPoint(16)};

7.4.1.2.5 Current MLP traffic data

currentMlpTrafficData MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. Q.822": currentData;
CHARACTERIZED BY currentMlpTrafficData-P PACKAGE
BEHAVIOUR currentMlpTrafficData-B BEHAVIOUR
DEFINED AS "This MO is a subclass of the currentData object that has a scanning function to monitor MLP communication. The traffic measurement parameters shall be explicitly defined as attributes of this MO, not as measurementListPkg.";;
ATTRIBUTES
"DLMO": receivedMlpFramesInGuardRegion GET,
"DLMO": receivedMlpResets GET,
mlpFramesReceived GET,
mlpFramesSent GET,
mlpFramesOutsideWindowGuard GET;;;
REGISTERED AS {cnmObjectClass currentMlpTrafficData(17)};

7.4.1.2.6 History MLP traffic data

historyMlpTrafficData MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. Q.822": historyData;
CHARACTERIZED BY historyMlpTrafficData-P PACKAGE
BEHAVIOUR historyMlpTrafficData-B BEHAVIOUR
DEFINED AS "This MO is a subclass of the historyData object that has a function for storing monitored measurements of the currentMlpTrafficData object for a specified time interval. The measurement attributes in this object shall be an exact copy of the attributes in the currentMlpTrafficData object at the end of the interval. The traffic parameters shall be explicitly defined as attributes of this object, not as historyDataMeasurementListPkg of the super class.";;
ATTRIBUTES
"DLMO": receivedMlpFramesInGuardRegion GET,
"DLMO": receivedMlpResets GET,
mlpFramesReceived GET,
mlpFramesSent GET,
mlpFramesOutsideWindowGuard GET;;;
REGISTERED AS {cnmObjectClass historyMlpTrafficData(18)};

7.4.1.2.7 X.25 termination point

This object is also used for the monitored resource for the measurement of an SLP. This object class is defined in 7.1.1.2.2.

7.4.1.2.8 Current SLP traffic data

currentSlpTrafficData MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. Q.822": currentData;
CHARACTERIZED BY currentSlpTrafficData-P PACKAGE
BEHAVIOUR currentSlpTrafficData-B BEHAVIOUR
DEFINED AS "This MO is a subclass of the currentData object that has a scanning function to monitor a specified Monitored Object. The traffic measurement parameters shall be explicitly defined as attributes of this MO, not as measurementListPkg.";;
ATTRIBUTES
"DLMO": fCSErrorsReceived GET,
"DLMO": fRMRsReceived GET,
"DLMO": fRMRsSent GET,
"DLMO": iFrameDataOctetsReceived GET,
"DLMO": iFrameDataOctetsSent GET,
"DLMO": iFramesReceived GET,
"DLMO": iFramesSent GET,
"DLMO": pollsReceived GET,
"DLMO": rEJsReceived GET,
"DLMO": rEJsSent GET,
"DLMO": rNRsReceived GET,
"DLMO": rNRsSent GET,
"DLMO": sABMsReceived GET,
"DLMO": sABMsSent GET,
"DLMO": timesT1Expired GET;;;
REGISTERED AS {cnmObjectClass currentSlpTrafficData(19)};

7.4.1.2.9 History SLP traffic data

historySlpTrafficData MANAGED OBJECT CLASS
DERIVED FROM "ITU-T Rec. Q.822": historyData;
CHARACTERIZED BY historySlpTrafficData-P PACKAGE
BEHAVIOUR historySlpTrafficData-B BEHAVIOUR
DEFINED AS "This MO is a subclass of the historyData object that has a function for storing monitored measurements of the currentSlpTrafficData object for a specified time interval. The measurement attributes in this object shall be an exact copy of the attributes in the currentSlpTrafficData object at the end of the interval. The traffic parameters shall be explicitly defined as attributes of this object, not as historyDataMeasurementListPkg of the super class.";;
ATTRIBUTES
"DLMO": fCSErrorsReceived GET,
"DLMO": fRMRsReceived GET,
"DLMO": fRMRsSent GET,
"DLMO": iFrameDataOctetsReceived GET,
"DLMO": iFrameDataOctetsSent GET,
"DLMO": iFramesReceived GET,
"DLMO": iFramesSent GET,
"DLMO": pollsReceived GET,
"DLMO": rEJsReceived GET,
"DLMO": rEJsSent GET,
"DLMO": rNRsReceived GET,
"DLMO": rNRsSent GET,
"DLMO": sABMsReceived GET,
"DLMO": sABMsSent GET,
"DLMO": timesT1Expired GET;;;
REGISTERED AS {cnmObjectClass historySlpTrafficData(20)};

7.4.2 Managed objects for quality of service information service

This service is for further study.

7.5 Managed objects for security management

7.5.1 Managed objects for password change service

This service is for further study.

7.5.2 Managed objects for access rights definition service

This service is for further study.

7.6 Managed objects for CNM supporting services

7.6.1 Managed objects for generic CNM service request service

7.6.1.1 Referenced managed objects

– This Recommendation references the following support managed object for which the abstract syntax is specified in CCITT Rec. X.721 | ISO/IEC 10165-2:

- top.

7.6.1.2 Defined managed objects

7.6.1.2.1 Service request

serviceRequest MANAGED OBJECT CLASS
DERIVED FROM "DMI": top;
CHARACTERIZED BY serviceRequestPkg;
CONDITIONAL PACKAGES
"ITU-T Rec. X.790": trAgentContactPersonAttributePkg
PRESENT IF "an instance supports it and the trAgentContactPersonObjectPkg is not present",
"ITU-T Rec. X.790": trAgentContactPersonObjectPkg
PRESENT IF "an instance supports it and the trAgentContactPersonAttributePkg is not present",
"ITU-T Rec. X.790": trAlternateManagerContactPersonAttributePkg
PRESENT IF "an instance supports it and the trAlternateManagerContactPersonObjectPkg is not present",
"ITU-T Rec. X.790": trAlternateManagerContactPersonObjectPkg
PRESENT IF "an instance supports it and the trAlternateManagerContactPersonAttributePkg is not present",

"ITU-T Rec. X.790": trDialogPkg
PRESENT IF "an instance supports it",
"ITU-T Rec. X.790": trManagerContactPersonAttributePkg
PRESENT IF "an instance supports it and the trManagerContactPersonObjectPkg is not present",
"ITU-T Rec. X.790": trManagerContactPersonObjectPkg
PRESENT IF "an instance supports it and the trManagerContactPersonAttributePkg is not present",
negotiationPkg
PRESENT IF "an instance supports it";
REGISTERED AS {cnmObjectClass serviceRequest(21)};

8 Name binding for object classes

8.1 Name binding for fault management

8.1.1 Name binding for alarm reporting service

8.1.1.1 Network

This object may recursively be contained by the Network object. The name binding definition between the network and network objects is imported from Recommendation M.3100.

8.1.1.2 CNM X.25 entity

This object shall be contained by the Network (customer network) object.

cnmX25Entity-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS cnmX25Entity;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE cnmX25EntityId;
REGISTERED AS {cnmNameBinding cnmX25Entity-network-NB(2)};

8.1.1.3 X.25 termination point

This object shall be contained by the Network (customer network) object.

x25TerminationPoint-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS x25TerminationPoint;
NAMED BY
SUPERIOR OBJECT CLASS cnmX25Entity;
WITH ATTRIBUTE x25TerminationPointId;
REGISTERED AS {cnmNameBinding x25TerminationPoint-network-NB(3)};

8.1.1.4 Equipment

This object shall be contained by the X.25 Termination Point object.

equipment-x25TerminationPoint-NB NAME BINDING
SUBORDINATE OBJECT CLASS "Recommendation M.3100":equipment;
NAMED BY
SUPERIOR OBJECT CLASS x25TerminationPoint ;
WITH ATTRIBUTE "Recommendation M.3100":equipmentId;
REGISTERED AS {cnmNameBinding equipment-x25TerminationPoint-NB(4)};

8.1.1.5 Managed element

This object shall be contained by the Network (customer network) object. The name binding definition between the managed element and network objects is imported from Recommendation M.3100.

8.1.1.6 Event forwarding discriminator

The Event Forwarding Discriminator object shall be contained by the Managed Element object.

eventForwardingDiscriminator-managedElement-NB NAME BINDING
SUBORDINATE OBJECT CLASS "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992":
eventForwardingDiscriminator;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":managedElement;
WITH ATTRIBUTE "CCITT Rec. X.721 (1992) | ISO/IEC 10165-2 : 1992": discriminatorId;
REGISTERED AS {cnmNameBinding eventForwardingDiscriminator-managedElement-NB(6)};

8.1.2 Name binding for fault history service

8.1.2.1 PDN fault log record

The PDN Fault Log Record object shall be contained by the Log object.

pdnFaultLogRecord-managedElement-NB NAME BINDING
SUBORDINATE OBJECT CLASS pdnFaultLogRecord;
NAMED BY
SUPERIOR OBJECT CLASS "DMI":log;
WITH ATTRIBUTE "DMI":logRecordId;
REGISTERED AS {cnmNameBinding pdnFaultLogRecord-log-NB(29)};

8.1.3 Name binding for trouble report service

8.1.3.1 PDN telecommunications trouble report

This object shall be contained by the Network (customer network) object.

pdnTelecommunicationsTroubleReport-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS pdnTelecommunicationsTroubleReport;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE "ITU-T Recommendation X.790":troubleReportID;
REGISTERED AS {cnmNameBinding pdnTelecommunicationsTroubleReport-network-NB(7)};

8.1.3.2 Provider trouble report

This object shall be contained by the Network (customer network) object. The name binding definition between the provider Trouble Report and network objects is imported from Recommendation X.790.

8.1.3.3 Trouble report format definition

This object shall be contained by the Network (customer network) object. The name binding definition between the Trouble Report Format Definition and network objects is imported from Recommendation X.790.

8.1.3.4 Repair activity

This object shall be contained by the pdnTelecommunicationsTroubleReport object.

repairActivity-pdnTelecommunicationsTroubleReport-NB NAME BINDING
SUBORDINATE OBJECT CLASS "ITU-T Recommendation X.790":repairActivity;
NAMED BY SUPERIOR OBJECT CLASS pdnTelecommunicationsTroubleReport;
WITH ATTRIBUTE
"ITU-T Recommendation X.790":repairActivityID;
REGISTERED AS {cnmNameBinding repairActivity-pdnTelecommunicationsTroubleReport-NB(8)};

8.1.3.5 PDN trouble history record

This object shall be contained by the log object.

pdnTroubleHistoryRecord-log-NB NAME BINDING
SUBORDINATE OBJECT CLASS pdnTroubleHistoryRecord;
NAMED BY
SUPERIOR OBJECT CLASS "DMI":log;
WITH ATTRIBUTE "DMI":logRecordId;
REGISTERED AS {cnmNameBinding pdnTroubleHistoryRecord-log-NB(9)};

8.1.3.6 Contact

This object shall be contained by the Network (customer network) object. The name binding definition between the contact and network objects is imported from Recommendation X.790.

8.1.3.7 Log

This object shall be contained by the managedElement object.

log-managedElement-NB NAME BINDING
SUBORDINATE OBJECT CLASS "DMI":log;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":managedElement;
WITH ATTRIBUTE "DMI":logId;
REGISTERED AS {cnmNameBinding log-managedElement-NB(11)};

8.1.4 Name binding for loop setup service

8.1.4.1 loopbackPoint

This object shall be contained by the Network object.

cnmLoopbackPoint-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS cnmLoopbackPoint;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE x25TerminationPointId;
REGISTERED AS { cnmNameBinding cnmLoopbackPoint-network-NB(30)};

8.1.5 Name binding for test host service

8.1.5.1 cnmX25EntityTested

This object shall be contained by the Network object.

cnmX25EntityTested-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS cnmX25EntityTested;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE cnmX25EntityId;
REGISTERED AS {cnmNameBinding cnmX25EntityTested-network-NB(31)};

8.1.5.2 loopbackTest

This object shall be contained by the managedElement object.

loopbackTest-managedElement-NB NAME BINDING
SUBORDINATE OBJECT CLASS "ITU-T Rec. X.737 (1995) | ISO/IEC 10164-14 : 1996":loopbackTestObject;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":managedElement;
WITH ATTRIBUTE "ITU-T Rec. X.745 | ISO/IEC 10164-12":testObjectId;
REGISTERED AS {cnmNameBinding loopbackTest-managedElement-NB(32)};

8.1.5.3 protocolIntegrityTest

This object shall be contained by the managedElement object.

protocolIntegrityTest-managedElement-NB NAME BINDING
SUBORDINATE OBJECT CLASS
"ITU-T Rec. X.737 | ISO/IEC 10164-14":protocolIntegrityTestObject;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":managedElement;
WITH ATTRIBUTE "ITU-T Rec. X.745 | ISO/IEC 10164-12":testObjectId;
REGISTERED AS {cnmNameBinding protocolIntegrityTest-managedElement-NB(33)};

8.1.5.4 X.25 physical connection

This object shall be contained by the x25TerminationPoint object.

x25PhysicalConnection-x25TerminationPoint-NB NAME BINDING
SUBORDINATE OBJECT CLASS x25PhysicalConnection;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE x25PhysicalConnectionId;
REGISTERED AS {cnmNameBinding x25PhysicalConnection-x25TerminationPoint-NB(34)};

8.1.6 Name binding for protocol monitoring service

This service is for further study.

8.2 Name binding for configuration management

8.2.1 Name binding for configuration inquiry service

8.2.1.1 Network

The name binding for this service is the same as defined in 8.1.1.1.

8.2.1.2 CNM X.25 entity

The name binding for this service is the same as defined in 8.1.1.2.

8.2.1.3 X.25 termination point

The name binding for this service is the same as defined in 8.1.1.3.

8.2.1.4 Equipment

The name binding for this service is the same as defined in 8.1.1.4.

8.2.1.5 X.25 service profile

This object shall be contained by the Network (customer network) object.

```
x25ServiceProfile-network-NB NAME BINDING
      SUBORDINATE OBJECT CLASS x25ServiceProfile;
      NAMED BY
      SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
      WITH ATTRIBUTE x25ServiceProfileId;
REGISTERED AS {cnmNameBinding x25ServiceProfile-network-NB(12)};
```

8.2.1.6 MLP profile

This object shall be contained by the X.25 Service Profile object.

```
mlpProfile-x25ServiceProfile-NB NAME BINDING
      SUBORDINATE OBJECT CLASS mlpProfile;
      NAMED BY
      SUPERIOR OBJECT CLASS x25ServiceProfile;
      WITH ATTRIBUTE mlpProfileId;
REGISTERED AS {cnmNameBinding mlpProfile-x25ServiceProfile-NB(13)};
```

8.2.1.7 SLP profile

This object shall be contained by the X.25 Service Profile object.

```
slpProfile-x25ServiceProfile-NB NAME BINDING
      SUBORDINATE OBJECT CLASS slpProfile;
      NAMED BY
      SUPERIOR OBJECT CLASS x25ServiceProfile;
      WITH ATTRIBUTE slpProfileId;
REGISTERED AS {cnmNameBinding slpProfile-x25ServiceProfile-NB(14)};
```

8.2.1.8 X.25 PVC profile

This object shall be contained by the X.25 Service Profile object.

```
x25PvcProfile-x25ServiceProfile-NB NAME BINDING
      SUBORDINATE OBJECT CLASS x25PvcProfile;
      NAMED BY
      SUPERIOR OBJECT CLASS x25ServiceProfile;
      WITH ATTRIBUTE x25PvcProfileId;
REGISTERED AS {cnmNameBinding x25PvcProfile-x25ServiceProfile-NB(15)};
```

8.2.1.9 CUG profile

This object shall be contained by the Network (customer network) object.

```
cugProfile-network-NB NAME BINDING
      SUBORDINATE OBJECT CLASS cugProfile;
      NAMED BY
      SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
      WITH ATTRIBUTE cugProfileId;
REGISTERED AS {cnmNameBinding cugProfile-network-NB(16)};
```

8.2.1.10 Hunt group profile

This object shall be contained by the Network (customer network) object.

hgProfile-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS hgProfile;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE hgProfileId;
REGISTERED AS {cnmNameBinding hgProfile-network-NB(17)};

8.2.1.11 Customer

This object shall be contained by the Network (customer network) object.

customer-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS customer;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE customerID;
REGISTERED AS {cnmNameBinding customer-network-NB(18)};

8.2.1.12 CNM user

This object shall be contained by the Customer object.

cnmUser-customer-NB NAME BINDING
SUBORDINATE OBJECT CLASS cnmUser;
NAMED BY
SUPERIOR OBJECT CLASS customer;
WITH ATTRIBUTE cnmUserId;
REGISTERED AS {cnmNameBinding cnmUser-customer-NB(19)};

8.2.1.13 Contact

The name binding is defined in 8.1.3.6.

8.2.1.14 Location

This object shall be contained by the Network (customer network) object.

location-network-NB NAME BINDING
SUBORDINATE OBJECT CLASS location;
NAMED BY
SUPERIOR OBJECT CLASS "Recommendation M.3100":network;
WITH ATTRIBUTE locationID;
REGISTERED AS {cnmNameBinding location-network-NB(20)};

8.2.2 Name binding for CNM reconfiguration service

All the name binding for this service is the same as defined 8.2.1.

8.2.3 Name binding for ordering service

8.2.3.1 X.25 service profile

The name binding for this object is the same as defined in 8.2.1.5.

8.2.3.2 MLP profile

The name binding for this object is the same as defined in 8.2.1.6.

8.2.3.3 SLP profile

The name binding for this object is the same as defined in 8.2.1.7.

8.2.3.4 X.25 PVC profile

The name binding for this object is the same as defined in 8.2.1.8.

8.2.3.5 CUG profile

The name binding for this object is the same as defined in 8.2.1.9.

8.2.3.6 Hunt group profile

The name binding for this object is the same as defined in 8.2.1.10.

8.2.4 Name binding for systematic call redirection service

8.2.4.1 Redirection list

This object shall be contained by the CNM X.25 Entity object.

```
redirectionList-cnmX25Entity-NB NAME BINDING
    SUBORDINATE OBJECT CLASS redirectionList;
    NAMED BY
    SUPERIOR OBJECT CLASS cnmX25Entity;
    WITH ATTRIBUTE redirectionListId;
REGISTERED AS {cnmNameBinding redirectionList-cnmX25Entity-NB(35)};
```

8.3 Name binding for accounting management

8.3.1 Name binding for periodic billing service

8.3.1.1 CNM billing controller

This object shall be contained by the managedElement.

```
cnmBillingController-managedElement-NB NAME BINDING
    SUBORDINATE OBJECT CLASS cnmBillingController;
    NAMED BY
    SUPERIOR OBJECT CLASS "Recommendation M.3100":managedElement;
    WITH ATTRIBUTE "ITU-T Rec. X.742 (1995) | ISO/IEC 10164-10 : 1995":controlObjectId;
    CREATE;
    DELETE;
REGISTERED AS {cnmNameBinding cnmBillingController-managedElement-NB(36)};
```

8.3.2 Name binding for detailed accounting

8.3.2.1 Usage metering record

This object shall be contained by the Network (customer network) object. The name binding definition between the usageMeteringRecord and log objects is imported from ITU-T Rec. X.742 | ISO/IEC 10164-10.

8.4 Name binding for performance management

8.4.1 Name binding for traffic information service

8.4.1.1 CNM X.25 entity

The relationship between the CNM X.25 Entity object and the Network (customer network) object is defined in 8.1.1.2.

8.4.1.2 Current packet traffic data

This object shall be contained by the CNM X.25 Entity object.

```
currentPacketTrafficData-cnmX25Entity-NB NAME BINDING
    SUBORDINATE OBJECT CLASS currentPacketTrafficData;
    NAMED BY
    SUPERIOR OBJECT CLASS cnmX25Entity;
    WITH ATTRIBUTE "X.739": scannerId;
    CREATE;
    DELETE;
REGISTERED AS {cnmNameBinding currentPacketTrafficData-cnmX25Entity-NB(21)};
```

8.4.1.3 History packet traffic data

This object shall be contained by the Current Packet Traffic Data object.

historyPacketTrafficData-currentPacketTrafficData-NB NAME BINDING
SUBORDINATE OBJECT CLASS historyPacketTrafficData;
NAMED BY
SUPERIOR OBJECT CLASS currentPacketTrafficData;
WITH ATTRIBUTE "ITU-T Rec. Q.822": historyDataId;
CREATE;
DELETE;
REGISTERED AS {cnmNameBinding historyPacketTrafficData-currentPacketTrafficData-NB(22)};

8.4.1.4 MLP monitored point

This object shall be contained by the CNM X.25 Entity object.

mlpMonitoredPoint-cnmX25Entity-NB NAME BINDING
SUBORDINATE OBJECT CLASS mlpMonitoredPoint;
NAMED BY
SUPERIOR OBJECT CLASS cnmX25Entity;
WITH ATTRIBUTE mlpMonitoredPointId;
REGISTERED AS {cnmNameBinding mlpMonitoredPoint-cnmX25Entity-NB(23)};

8.4.1.5 Current MLP traffic data

This object shall be contained by the MLP Monitored Point object.

currentMlpTrafficData-mlpMonitoredPoint-NB NAME BINDING
SUBORDINATE OBJECT CLASS currentMlpTrafficData;
NAMED BY
SUPERIOR OBJECT CLASS mlpMonitoredPoint;
WITH ATTRIBUTE "X.739": scannerId;
CREATE;
DELETE;
REGISTERED AS {cnmNameBinding currentMlpTrafficData-mlpMonitoredPoint-NB(24)};

8.4.1.6 History MLP traffic data

This object shall be contained by the Current MLP Traffic Data object.

historyMlpTrafficData-currentMlpTrafficData-NB NAME BINDING
SUBORDINATE OBJECT CLASS historyMlpTrafficData;
NAMED BY
SUPERIOR OBJECT CLASS currentMlpTrafficData;
WITH ATTRIBUTE "ITU-T Rec. Q.822": historyDataId;
CREATE;
DELETE;
REGISTERED AS {cnmNameBinding historyMlpTrafficData-currentMlpTrafficData-NB(25)};

8.4.1.7 X.25 termination point

The name binding for this object is defined in 8.1.1.3.

8.4.1.8 Current SLP traffic data

This object shall be contained by the X.25 Termination Point object.

currentSlpTrafficData-cnmX25Entity-NB NAME BINDING
SUBORDINATE OBJECT CLASS currentSlpTrafficData;
NAMED BY
SUPERIOR OBJECT CLASS x25TerminationPoint;
WITH ATTRIBUTE "X.739": scannerId ;
CREATE;
DELETE;
REGISTERED AS { cnmNameBinding currentSlpTrafficData-cnmX25Entity-NB(26)};

8.4.1.9 History SLP traffic data

This object shall be contained by the Current SLP Traffic Data object.

historySlpTrafficData-currentSlpTrafficData-NB NAME BINDING
SUBORDINATE OBJECT CLASS historySlpTrafficData;
NAMED BY
SUPERIOR OBJECT CLASS currentSlpTrafficData;
WITH ATTRIBUTE "ITU-T Rec. Q.822": historyDataId;
CREATE;
DELETE;
REGISTERED AS {cnmNameBinding historySlpTrafficData-currentSlpTrafficData-NB(27)};

8.4.2 Name binding for quality of service information service

This service is for further study.

8.5 Name binding for security management

8.5.1 Name binding for password change service

This service is for further study.

8.5.2 Name binding for access rights definition service

This service is for further study.

8.6 Name binding for CNM supporting services

8.6.1 Service request

The Service Request object shall be contained by the Managed Element object.

serviceRequest-managedElement NAME BINDING
SUBORDINATE OBJECT CLASS serviceRequest AND SUBCLASSES;
NAMED BY SUPERIOR OBJECT CLASS "Recommendation M.3100": managedElement;
WITH ATTRIBUTE serviceRequestId;
CREATE
WITH-REFERENCE-OBJECT,
WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE sRChangeDenied;
REGISTERED AS {cnmNameBinding serviceRequest-managedElement-NB(28)};

9 Definition of packages

9.1 Packages for fault management

9.1.1 Packages for alarm notification service

There is no package definition specific for this service.

9.1.2 Packages for fault history service

There is no package definition specific for this service.

9.1.3 Packages for trouble report service

There is no package definition specific for this service.

9.1.4 Packages for loop setup service

This service is for further study.

9.1.5 Packages for test host service

This service is for further study.

9.1.6 Packages for protocol monitoring service

This service is for further study.

9.2 Packages for configuration management

9.2.1 Packages for configuration inquiry service

9.2.1.1 X.25 service profile

x25ServiceProfile-P PACKAGE
BEHAVIOUR x25ServiceProfile-B BEHAVIOUR
DEFINED AS "The service profile object represents the X.25 packet layer parameters (i.e. service profile) for each interface (DTE address). This object is created through the Service Request MO, by which subscription data are set to this object. Also replacement, addition and removal of service parameters or deletion are done through the Service Request MO.";;
ATTRIBUTES
x25ServiceProfileId GET;
REGISTERED AS {cnmPackage x25ServiceProfile-P(1)};

9.2.1.2 PLE profile

pleProfile-P PACKAGE
BEHAVIOUR pleProfile-B BEHAVIOUR
DEFINED AS "This package represents the service profile of the X.25 packet layer protocol. Only GET operation is allowed.";,
"NLMO": logicalChannelAssignmentsX25PLE-P-B;
ATTRIBUTES
"NLMO": localDTEAddress GET,
"NLMO": protocolVersionSupported GET,
mlpSubscription GET,
"NLMO": cUG GET,
"NLMO": incomingCallBarredWithinCUG GET,
"NLMO": outgoingCallBarredWithinCUG GET,
"NLMO": bilateralCUG GET,
"NLMO": bilateralCUGWithOutgoingAccess GET,
"NLMO": fastSelectAcceptance GET,
"NLMO": flowControlParameterNegotiation GET,
"NLMO": incomingCallsBarred GET,
"DLMO": interfaceType GET,
"NLMO": logicalChannelAssignments GET,
"NLMO": outgoingCallsBarred GET,
"NLMO": oneWayLogicalChannelIncoming GET,
"NLMO": oneWayLogicalChannelOutgoing GET,
"NLMO": throughputClassNegotiation GET,
"NLMO": callDeflectionSubscription GET,
"NLMO": chargingInformation GET,
"NLMO": nonStandardDefaultPacketSizes GET,
"NLMO": defaultThroughputClassesAssignment GET,
"NLMO": defaultThroughputClasses GET,
"NLMO": defaultWindowSizes GET,
"NLMO": defaultPacketSizes GET,
"NLMO": nonStandardDefaultWindowSizes GET,
"NLMO": nUISubscription GET,
"NLMO": onlineFacilityRegistration GET,
"NLMO": packetRetransmission GET,
"NLMO": extendedPacketSequenceNumbering GET,
"NLMO": rOASubscription GET,
"NLMO": callRedirection GET,
"NLMO": dBitModification GET,
"NLMO": huntGroup GET,
"NLMO": localChargingPrevention GET,
"NLMO": nUIOverride GET,
"NLMO": reverseChargingAcceptance GET;
NOTIFICATIONS
"DMI": objectCreation,
"DMI": objectDeletion,
"DMI": attributeValueChange;
REGISTERED AS {cnmPackage pleProfile-P(2)};

9.2.1.3 SLP profile

```
slpProfile-P PACKAGE
    BEHAVIOUR slpProfile-B BEHAVIOUR
    DEFINED AS "This package represents subscription data, i.e. the service profile of the SLP that supports the packet
    layer entity. The linkage between the slp and x25ServiceProfile objects is done by the dTEAddress attribute. This
    package includes also the profile of physical properties related to the access line.";;
    ATTRIBUTES
    slpProfileId GET,
    "NLMO": localDTEAddress GET,
    "ITU-T Rec. X.281 | ISO/IEC 13642": transmissionRate GET,
    "DLMO": sequenceModulus GET;
REGISTERED AS {cnmPackage slpProfile-P(3)};
```

9.2.1.4 SLP timers

```
slpTimersProfile-P PACKAGE
    BEHAVIOUR slpTimersProfile-B BEHAVIOUR
    DEFINED AS "provides the set of optional timers used for slp communication";;
    ATTRIBUTES
    "DLMO": k GET,
    "DLMO": n1 GET,
    "DLMO": n2 GET,
    "DLMO": t1Timer GET,
    "DLMO": t2Timer GET,
    "DLMO": t4Timer GET;
REGISTERED AS {cnmPackage slpTimersProfile-P(4)};
```

9.2.1.5 Customer

```
customerPkg PACKAGE
    BEHAVIOUR
    customerPkgDefinition BEHAVIOUR
    DEFINED AS "The Customer managed object class refers to a corporation, organization or individual with
    telecommunication needs to be satisfied via a private network, provider services, or a combination of a private network
    and provider services.";,

customerPkg-B BEHAVIOUR
    DEFINED AS " Attributes whose values are names of other managed object instances (e.g. opNetworkList) must have
    names of managed objects which already exist or a value of null, if permitted for that attribute.
    Conditions under which an attributeValueChange notification is emitted are stated in the behaviour of the appropriate
    package or attribute. In absence of such a statement in the behaviour, the attribute does not cause an
    attributeValueChange notification to be emitted. All attributeValueChange notifications shall include the Attribute
    Identifier List parameter.
    A value for the customerID attribute can only be provided when the object is created. Furthermore, once the object is
    created, the value of customerID may not be modified (i.e. the instance cannot be renamed). When customerTitle is used
    for naming, the customerID attribute has a NULL value. ";,

commonCreation-B BEHAVIOUR
    DEFINED AS " Unless otherwise specified, all attributes can be set by an M-CREATE"; ;
    ATTRIBUTES
    customerID
        PERMITTED VALUES CnmAsn1Module.SystemIdRange
        GET,
    customerTitle GET;
REGISTERED AS {cnmPackage customerPkg(5)};
```

9.2.1.6 Contact list

```
contactList-P PACKAGE
    BEHAVIOUR
    contactListPkgDefinition BEHAVIOUR

    DEFINED AS " The Contact List Attribute identifies who (person or organization) should be contacted about the
    resource. ";,
    contactListPkgBehaviour BEHAVIOUR
    DEFINED AS " If the atributeValueChange notification is defined for the managed object class using this package, this
    notification is emitted when the contactList attribute changes value. ";;
```

ATTRIBUTES
contactList
PERMITTED VALUES CnmAsn1Module.AnyNamesRange
GET-REPLACE ADD-REMOVE;
REGISTERED AS {cnmPackage customer-P(6)};

9.2.1.7 Location

locationPkg PACKAGE
BEHAVIOUR
locationPkgDefinition,
locationPkgBehaviour,
commonCreation-B;
ATTRIBUTES
locationID PERMITTED VALUES CnmAsn1Module.SystemIdRange GET,
geographicCoordinates GET-REPLACE,
locationDetails GET-REPLACE,
locationTitle GET,
locationType GET-REPLACE,
postalAddress GET-REPLACE;
REGISTERED AS {cnmPackage locationPkg(7)};

locationPkgDefinition BEHAVIOUR
DEFINED AS " The location managed object class refers to a place occupied by one or more managed objects or persons associated with object management. ";

locationPkgBehaviour BEHAVIOUR
DEFINED AS " When an instance of the location managed object class is created, attributes whose values are names of other managed object instances (such as contactList) shall be names of managed objects which already exist, or a value of null if permitted for that attribute.

The attributeValueChange notification is emitted when any of the following attributes change in value: geographicCoordinates, locationDetails, locationType and postalAddress. All attributeValueChange notifications shall include the Attribute Identifier List parameter. Also, conditions under which an attributeValueChange notification is emitted are stated in the behaviour of the appropriate package or attribute. In the absence of such a statement in the behaviour, the attribute does not cause an attributeValueChange notification to be emitted.

A value for the locationID attribute can only be provided when the object is created. Furthermore, once the object is created, the value of locationID may not be modified (i.e., the instance can not be renamed). When locationTitle is used for naming, the locationID attribute has a NULL value. ";

9.2.1.8 Type text

typeTextPkg PACKAGE
BEHAVIOUR
typeTextPkgDefiniton BEHAVIOUR
DEFINED AS "This package serves to supplement and refine individual managed object class attribute.";,
typeTextPkgBehaviour BEHAVIOUR
DEFINED AS " If the attributeValueChange notification is defined for the managed object class using this package, this notification is emitted when the typeText attribute changes value. "; ;
ATTRIBUTES
typeText
PERMITTED VALUES CnmAsn1Module.GraphicString64
GET-REPLACE;
REGISTERED AS {cnmPackage typeTextPkg(8)};

9.2.1.9 Customer types

customerTypesPkg PACKAGE
BEHAVIOUR
customerTypesPkgDefinition BEHAVIOUR
DEFINED AS "This package contains one attribute that provides information about the types of customer.";,
customerTypesPkg-B BEHAVIOUR
DEFINED AS "If the attributeValueChange notification is defined for the managed object class using this package, this notification is emitted when the customerTypes attribute changes value.";
;
ATTRIBUTES
customerTypes GET-REPLACE ADD-REMOVE;
REGISTERED AS {cnmPackage customerTypesPkg(9)};

9.2.1.10 OP network list

```
opNetworkListPkg PACKAGE
    BEHAVIOUR
    opNetworkListPkgDefinition BEHAVIOUR
    DEFINED AS "The opNetworkList attribute indicates what networks use or are dependent on the resource.";,

    opNetworkListPkg-B BEHAVIOUR
    DEFINED AS "If the attributeValueChange notification is defined for the managed object class using this package, this
    notification is emitted when the opNetworkList attribute changes value.";;
    ATTRIBUTES
    opNetworkList
        PERMITTED VALUES CnmAsn1Module.AnyNamesRange
        GET-REPLACE
        ADD-REMOVE;
REGISTERED AS {cnmPackage opNetworkListPkg(10)};
```

9.2.1.11 Service list

```
serviceListPkg PACKAGE
    BEHAVIOUR
    serviceListPkgDefinition BEHAVIOUR
    DEFINED AS "ServiceList attribute identifies any services that are supported by the resource.";,

    serviceListPkg-B BEHAVIOUR
    DEFINED AS "If the attributeValueChange notification is defined for the managed object class using this package, this
    notification is emitted when the serviceList attribute changes value.";;
    ATTRIBUTES
    serviceList
        PERMITTED VALUES CnmAsn1Module.AnyNamesRange
        GET-REPLACE ADD-REMOVE;
REGISTERED AS {cnmPackage serviceListPkg(11)};
```

9.2.2 Packages for CNM reconfiguration service

The same packages as defined in 9.2.1 for service profiles are also used for the CNM reconfiguration service.

9.2.3 Packages for systematic call redirection service

This service is for further study.

9.3 Packages for accounting management

9.3.1 Packages for periodic billing service

There is no package definition specific for this service.

9.3.2 Packages for detailed accounting

There is no package definition specific for this service.

9.4 Packages for performance management

9.4.1 Packages for traffic information service

There is no package definition specific for this service.

9.4.2 Packages for quality of service information service

This service is for further study.

9.5 Packages for security management

9.5.1 Packages for password change service

This service is for further study.

9.5.2 Packages for access rights definition service

This service is for further study.

9.6 Packages for CNM supporting services management

9.6.1 Packages for negotiation service

9.6.1.1 Negotiation

```
negotiationPkg PACKAGE
    BEHAVIOUR negotiationBehaviour BEHAVIOUR
    DEFINED AS "The negotiationPkg provides the means for the manager and the agent to negotiate the parameters of the
    request. ";;
    ATTRIBUTES
    limitValidityDate    GET-REPLACE;
REGISTERED AS {cnmPackage negotiationPkg(12)};
```

9.6.2 Packages for service request service

9.6.2.1 Service request

```
serviceRequestPkg PACKAGE
    BEHAVIOUR
    serviceRequestBehaviour BEHAVIOUR
    DEFINED AS "When an instance of the serviceRequest MO class is created, all mandatory attributes must be supplied.
    The attributeValueChange notification is emitted when any of the attributes is changed either by the manager or the
    agent. The object creation notification is generated when an instance of the serviceRequest is deleted. ";,
    serviceRequestDefinition BEHAVIOUR
    DEFINED AS "The serviceRequest provides the means for a manager to ask for operations on objects of the
    interoperable interface that are not directly accessible. It contains the basic attributes that allow a manager to ask for an
    operation at a given date. It allows an agent to negotiate with the manager the appropriate conditions or the date using
    the negotiationPkg and the status attribute. When needed, the dialogue attribute is needed in the same way as in the
    Recommendation X.790: telecommunicationsTroubleReport. The dateRequest attribute is used by the manager to
    indicate when he wants the service to be provided (dontCare, now, at a precise date). The operationList attribute allows
    the manager to specify in details the CMISE operations he wants to ... performed. ";,
    serviceRequestDefinition;
    ATTRIBUTES
    serviceRequestId     GET,
    status               INITIAL VALUE CnmAsn1Module.initialStatus
                         GET-REPLACE,
    dateRequest          DEFAULT VALUE CnmAsn1Module.defaultDateRequest
                         GET-REPLACE,
    operationList        DEFAULT VALUE CnmAsn1Module.defaultOperationList
                         GET-REPLACE,
    resultList           INITIAL VALUE CnmAsn1Module.initialResultList
                         GET,
    processingMode       DEFAULT VALUE
                         CnmAsn1Module.defaultProcessingMode
                         GET-REPLACE;
    NOTIFICATIONS
    "DMI": attributeValueChange,
    "DMI": objectCreation,
    "DMI": objectDeletion;
REGISTERED AS {cnmPackage serviceRequestPkg(13)};
```

10 Definition of attributes

10.1 Attributes for name binding

Currently, there are no attributes for this subclause.

10.2 Attributes for objects identifier

10.2.1 CNM user identifier

```
cnmUserId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR cnmUserId-B BEHAVIOUR
    DEFINED AS "The naming instance of cnmUser object or subclass";;
REGISTERED AS {cnmAttribute cnmUserId(24)};
```

10.2.2 CNM X.25 entity identifier

```
cnmX25EntityId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR cnmX25EntityId-B BEHAVIOUR
    DEFINED AS "The naming instance of cnmX25Entity object or subclass";;
REGISTERED AS {cnmAttribute cnmX25EntityId(25)};
```

10.2.3 CUG profile identifier

```
cugProfileId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR cugServiceProfileId-B BEHAVIOUR
    DEFINED AS "The naming instance of cugProfile MO or subclass";;
REGISTERED AS {cnmAttribute cugServiceProfileId(26)};
```

10.2.4 Customer identifier

```
customerID ATTRIBUTE
    DERIVED FROM "CCITT Rec. X.721 | ISO/IEC 10165-2:1992": systemId;
    MATCHES FOR EQUALITY;
    BEHAVIOUR customerID-B BEHAVIOUR
    DEFINED AS "The customer attribute is one of the distinguishing attributes in the customer managed object class.";;
REGISTERED AS {cnmAttribute customerId(27)};
```

10.2.5 Hunt group profile identifier

```
hgProfileId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR hgProfileId-B BEHAVIOUR
    DEFINED AS "The naming instance of hgProfile MO or subclass";;
REGISTERED AS {cnmAttribute hgServiceProfileId(28)};
```

10.2.6 MLP monitored point identifier

```
mlpMonitoredPointId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR mlpMonitoredPointId-B BEHAVIOUR
    DEFINED AS "The naming instance of mlpMonitoredPoint object or subclass";;
REGISTERED AS {cnmAttribute mlpMonitoredPointId(29)};
```

10.2.7 MLP profile identifier

```
mlpProfileId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR mlpProfileId-B BEHAVIOUR
    DEFINED AS "The naming instance of mlpProfile object or subclass";;
REGISTERED AS {cnmAttribute mlpProfileId(30)};
```

10.2.8 Service request Id

```
serviceRequestId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.NameType;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    serviceRequestIdBehaviour BEHAVIOUR
    DEFINED AS " The serviceRequestId is an attribute type whose distinguished value can be used as a RDN when naming
    an instance of the serviceRequest object class"; ;
REGISTERED AS {cnmAttribute serviceRequest(31)};
```

10.2.9 SLP profile identifier

```
slpProfileId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR slpProfileId-B BEHAVIOUR
    DEFINED AS "The naming instance of slpProfile object or subclass";;
REGISTERED AS {cnmAttribute slpProfileId(32)};
```

10.2.10 X.25 PVC profile identifier

```
x25PvcProfileId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR x25PvcProfileId-B BEHAVIOUR
    DEFINED AS "The naming instance of x25PvcProfile object or subclass";;
REGISTERED AS {cnmAttribute x25PvcProfileId(33)};
```

10.2.11 X.25 termination point identifier

```
x25TerminationPointId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR x25TerminationPointId-B BEHAVIOUR
    DEFINED AS "The naming instance of TerminationPoint object or subclass";;
REGISTERED AS {cnmAttribute x25TerminationPointId(34)};
```

10.2.12 X.25 service profile identifier

```
x25ServiceProfileId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR x25ServiceProfileId-B BEHAVIOUR
    DEFINED AS "The naming instance of x25ServiceProfile object or subclass";;
REGISTERED AS {cnmAttribute x25ServiceProfileId(35)};
```

10.2.13 Redirection list identifier

```
redirectionListId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR redirectionListId-B BEHAVIOUR
    DEFINED AS "The naming instance of redirectionList object or subclass";;
REGISTERED AS {cnmAttribute redirectionListId(65)};
```

10.2.14 X.25 physical connection identifier

```
x25PhysicalConnectionId ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR x25PhysicalConnectionId-B BEHAVIOUR
    DEFINED AS "The naming instance of x25PhysicalConnection object or subclass";;
REGISTERED AS {cnmAttribute x25PhysicalConnectionId(53)};
```

10.3 Other attributes

10.3.1 Contact list

```
contactList ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.AnyNamesBase;
    MATCHES FOR SET-COMPARISON, SET-INTERSECTION;
    BEHAVIOUR
    contactList-B BEHAVIOUR
    DEFINED AS ! The contactList attribute provides managed object instance information for one or more contacts. The
    following object classes (or any of their subclasses or allomorphic classes) are valid as contacts: "Rec. X.790": Contact.
    The SET-COMPARISON and/or SET-INTERSECTION matching rules may not be supported by some managed object
    instances which include this attribute. !; ;
REGISTERED AS {cnmAttribute contactList(36)};
```

10.3.2 Interlock code

```
interlockCode ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.InterlockCode;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    interlockCode-B BEHAVIOUR
    DEFINED AS " This attribute represents the interlock code of a CUG. ";;
REGISTERED AS {cnmAttribute interlockCode(54)};
```

10.3.3 CUG index

```
cugIndex ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.Integer;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    cugIndex-B BEHAVIOUR
    DEFINED AS " The cugIndex attribute indentifies each closed user group when a customer subscribes to multiple
    CUGs. "; ;
REGISTERED AS {cnmAttribute cugIndex(66)};
```

10.3.4 Customer title

```
customerTitle ATTRIBUTE
    DERIVED FROM "DMI": systemTitle;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    customerTitle-B BEHAVIOUR
    DEFINED AS " The customerTitle attribute is one of the distinguishing attributes in the Customer Managed object class
    for use as described in 6.3 of CCITT Rec. X.720 | ISO/IEC 10165-1. "; ;
REGISTERED AS {cnmAttribute customerTitle(37)};
```

10.3.5 Customer types

```
customerTypes ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.CustomerTypes;
    MATCHES FOR EQUALITY,
    SET-COMPARISON,
    SET-INTERSECTION;
    BEHAVIOUR customerTypes-B BEHAVIOUR
    DEFINED AS "The customerType attribute identifies the types of customer.";;
REGISTERED AS {cnmAttribute customerTypes(38)};
```

10.3.6 Date request

```
dateRequest ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.DateRequest;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    dateRequestBehaviour BEHAVIOUR
    DEFINED AS " The dateRequest attribute provides the means for the manager to ask for a special date, when he wants
    the service to be provided, and for the agent to inform the manager that this date is not acceptable, giving another date.
    "; ;
REGISTERED AS {cnmAttribute dateRequest(39)};
```

10.3.7 DTE address list

```
dTEAddressList   ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.DTEAddressList;
    MATCHES FOR EQUALITY;
    BEHAVIOUR dTEAddressList-B BEHAVIOUR
    DEFINED AS "A set of DTE addresses that belong to the same HG.";;
REGISTERED AS {cnmAttribute dTEAddressList(40)};
```

10.3.8 Geographic coordinates

```
geographicCoordinates ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GeographicCoordinates;
    MATCHES FOR EQUALITY;
    BEHAVIOUR geographicCoordinates-B BEHAVIOUR
    DEFINED AS "The geographicCoordinates attribute identifies the type of geographic coordinates and the geographic
    coordinates. Four types of geographic coordinates are defined:
    The latitude-longitude coordinates type refers to position on the earth's surface as measured in angular distance from the
    equator and the meridian which runs between the north and south pole through Greenwich, England.
    The npa-nxx coordinates type refers to a telephone number npa identifies the North America numbering plan area (i.e.
    area code), and nxx identifies the exchange or central office site.
    The v-h coordinates type refers to a vertical and horizontal coordinate system used and originated by the bell System in
    North America to identify the location of central offices and equipment.
    The country-city type refers to the international country and city dialing codes.";;
REGISTERED AS {cnmAttribute geographicCoordinates(41)};
```

10.3.9 Hunt group address

```
hgAddress ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.DTEAddress;
    MATCHES FOR EQUALITY;
    BEHAVIOUR hgAddress-B BEHAVIOUR
    DEFINED AS "The DTE address of the main member of a hunt group expressed as CCITT Recommendations X.121,
    E.164, etc. address.";;
REGISTERED AS {cnmAttribute hgAddress(42)};
```

10.3.10 Limit validity date

```
limitValidityDate ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.Date;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    limitValidityDateBehaviour BEHAVIOUR
    DEFINED AS " This date indicates the date when the proposed attributes won't be valid anymore. ";;
REGISTERED AS {cnmAttribute limitValidityDate(43)};
```

10.3.11 Location detail

```
locationDetails ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.LocationDetails;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR locationDetails-B BEHAVIOUR
    DEFINED AS "The locationDetails attribute provides additional information regarding the location.";;
REGISTERED AS {cnmAttribute locationDetails(44)};
```

10.3.12 Location ID

```
locationID ATTRIBUTE
    DERIVED FROM "CCITT Rec. X.721 | ISO/IEC 10165-2": systemId;
    MATCHES FOR EQUALITY;
    BEHAVIOUR locationID-B BEHAVIOUR
    DEFINED AS "The locationID attribute is one of the distinguishing attributes of the Location managed object class.";;
REGISTERED AS {cnmAttribute locationID(45)};
```

10.3.13 Location title

```
locationTitle ATTRIBUTE
    DERIVED FROM "CCITT Rec. X.721 | ISO/IEC 10165-2": systemTitle;
    BEHAVIOUR locationTitle-B BEHAVIOUR
    DEFINED AS "The locationTitle attribute is one of the distinguishing attributes in the Location managed object class for
    use as described in 6.3 of CCITT Rec.X.720 | ISO/IEC 10165-1.";;
REGISTERED AS {cnmAttribute locationTitle(46)};
```

10.3.14 Location type

```
locationType ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.LocationType;
    MATCHES FOR EQUALITY;
    BEHAVIOUR locationType-B BEHAVIOUR
    DEFINED AS "The locationType attribute shall indicate the type of location.";;
REGISTERED AS {cnmAttribute locationType(47)};
```

10.3.15 MLP frames outside window guard

```
mlpFramesOutsideWindowGuard ATTRIBUTE
    DERIVED FROM "GMI":nonWrapping64BitCounter;
    BEHAVIOUR mlpFramesOutsideWindowGuard-B BEHAVIOUR
    DEFINED AS " Counter: Total number of MLP frames outside the window guard that have been received. ";;
REGISTERED AS {cnmAttribute mlpFramesOutsideWindowGuard(48)};
```

10.3.16 MLP frames received

```
mlpFramesReceived ATTRIBUTE
    DERIVED FROM "GMI":nonWrapping64BitCounter;
    BEHAVIOUR mlpFramesReceived-B BEHAVIOUR
    DEFINED AS " Counter: Total number of MLP frames received. ";;
REGISTERED AS {cnmAttribute mlpFramesReceived(49)};
```

10.3.17 MLP frames sent

mlpFramesSent ATTRIBUTE
DERIVED FROM "GMI":nonWrapping64BitCounter;
BEHAVIOUR mlpFramesSent-B BEHAVIOUR
DEFINED AS " Counter: Total number of MLP frames sent. ";;
REGISTERED AS {cnmAttribute mlpFramesSent (50)};

10.3.18 MLP subscription

mlpSubscription ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.Boolean;
MATCHES FOR EQUALITY;
BEHAVIOUR mlpSubscription-B BEHAVIOUR
DEFINED AS "This attribute identifies whether or not the MLP service is subscribed to. Expressed as a boolean where value of 'True' indicates subscription";;
REGISTERED AS {cnmAttribute mlpSubscription(51)};

10.3.19 Operation list

operationList ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.OperationList;
MATCHES FOR EQUALITY;
REGISTERED AS {cnmAttribute operationList(55)};

10.3.20 Postal address

postalAddress ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.PostalAddress;
MATCHES FOR EQUALITY;
BEHAVIOUR postalAddress-B BEHAVIOUR
DEFINED AS "The postalAddress attribute specifies the address information required for the physical delivery of postal messages by the postal authority to the named object. The postal address is limited to six(6) lines of thirty(30) characters each, including a Postal Country Name. Normally the information contained in such an address could include an addressee's name, street address, city, state or province, postal code and possibly a post office box number depending on the specific requirements of the named object. Only the GraphicString string choice defined in the selectedAttributesType module defined in Recommendation X.520 must be supported.";;
REGISTERED AS {cnmAttribute postalAddress(56)};

10.3.21 OP network list

opNetworkList ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.AnyNamesBase;
MATCHES FOR SET-COMPARISON,
SET-INTERSECTION;
BEHAVIOUR opNetworkList-B BEHAVIOUR
DEFINED AS "The opNetworkList attribute shall provide managed object instance information about a set of networks. The following object class (or any of their subclasses or allomorphic classes) are valid as networks.
The SET-COMPARISON and/or SET-INTERSECTION matching rules may not be supported by some managed object instances which include this attribute.";;
REGISTERED AS {cnmAttribute opNetworkList(57)};

10.3.22 Processing mode

processingMode ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.ProcessingMode;
MATCHES FOR EQUALITY;
REGISTERED AS {cnmAttribute processingMode(58)};

10.3.23 Result list

resultList ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.ResultList;
MATCHES FOR EQUALITY;
REGISTERED AS {cnmAttribute resultList(59)};

10.3.24 Service list

```
serviceList ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.AnyNamesBase;
    MATCHES FOR SET-COMPARISON;
    BEHAVIOUR service-B BEHAVIOUR
    DEFINED AS "The serviceList attribute provides managed object instance information about one or more services. The
    following object classes (or any of their subclasses or allomorphic classes ) are valid as services. The SET-COMPARISON
    and/or SET-INTERSECTION matching rules may not be supported by some managed object instances which include
    this attribute.";;
REGISTERED AS {cnmAttribute serviceList(60)};
```

10.3.25 Suborganization object list

```
suborganizationObjectList ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.SuborganizationObjectList;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    suborganizationObjectList-B BEHAVIOUR
    DEFINED AS " This attribute indicates objects that belong to a customer's suborganization. ";;
REGISTERED AS {cnmAttribute suborganizationObjectList(61)};
```

10.3.26 Status

```
status ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.Status;
    MATCHES FOR EQUALITY;
    BEHAVIOUR
    statusBehaviour BEHAVIOUR
    DEFINED AS " This attribute indicates the status or phase of the request. ";;
REGISTERED AS {cnmAttribute status(62)};
```

10.3.27 Trouble type PSPDN

```
troubleTypePspdn ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.TroubleTypePspdn;
    MATCHES FOR EQUALITY;
    BEHAVIOUR troubleTypePspdn-B BEHAVIOUR
    DEFINED AS " This attribute represents types of trouble for PDNs. It may or may not supersede the trouble type
    attribute of ITU-T Recommendation X.790. ";;
REGISTERED AS {cnmAttribute troubleTypePspdn(63)};
```

10.3.28 Type text

```
typeText ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.GraphicStringBase;
    MATCHES FOR EQUALITY, SUBSTRINGS;
    BEHAVIOUR
    typeTextBehaviour BEHAVIOUR
    DEFINED AS "The typeText attribute serves to supplement and refine individual managed object class attributes. If
    none of the named items defined for the 'type' attribute are appropriate, or the 'type' attribute requires refinement, the
    typeText attribute contains supplemental information. ";;
REGISTERED AS {cnmAttribute typeText(64)};
```

10.3.29 Call redirection list

```
callRedirectionList ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.DTEAddressList;
    MATCHES FOR EQUALITY;
    BEHAVIOUR callRedirectionList-B BEHAVIOUR
    DEFINED AS " A set of DTE addresses to be redirected. ";;
REGISTERED AS {cnmAttribute callRedirectionList(67)};
```

10.3.30 Location pointer

```
locationPointer  ATTRIBUTE
    WITH ATTRIBUTE SYNTAX CnmAsn1Module.ObjectInstance;
    MATCHES FOR EQUALITY;
    BEHAVIOUR locationPointer-B BEHAVIOUR
    DEFINED AS " represents the point where a loopback point is set. ";;
REGISTERED AS {cnmAttribute locationPointer(68)};
```

10.3.31 Loopback status

loopbackStatus ATTRIBUTE
WITH ATTRIBUTE SYNTAX CnmAsn1Module.LoopbackStatus;
MATCHES FOR EQUALITY;
BEHAVIOUR loopbackStatus-B BEHAVIOUR
DEFINED AS " represents whether or not the loopback point is set. By setting value 'true', the loopback point is set. By setting value 'false', the loopback point is released. ";;
REGISTERED AS {cnmAttribute loopbackStatus(69)};

10.4 Attributes for further studying services

The following services are for further study. The attributes for them have not yet been defined:

– access rights definition service;

– cancellation service;

– inventory inquiry service;

– network statistic service;

– password change service;

– protocol monitoring service;

– quality of service information service;

– quota control service;

– real time charging information service.

10.5 Services that define no attribute on this Recommendation

No attributes are defined for the following services. Several attributes defined in other clauses are referenced for these services:

– CNM Reconfiguration service;

– service ordering service.

11 Definition of notifications

11.1 Derived notification definitions

Notifications defined in CCITT Rec. X.721 | ISO/IEC 10165-2 are derived and incorporated into managed object classes that emit alarms. They are:

– attribute value change;

– communication alarm;

– equipment alarm;

– environmental alarm;

– object creation;

– object deletion;

– quality of service alarm; and

– processing error alarm.

11.2 Defined notifications

11.2.1 Invoice report

invoiceReport NOTIFICATION
BEHAVIOUR
invoiceReport-B BEHAVIOUR
DEFINED AS "represents invoice items. ";;
WITH INFORMATION SYNTAX CnmAsn1Module.InvoiceInfo;
REGISTERED AS {cnmNotification invoiceReport (1)};

12 Definition of parameters

12.1 Service request change denied

```
sRChangeDenied PARAMETER
        CONTEXT SPECIFIC-ERROR;
        WITH SYNTAX CnmAsn1Module.SRChangeDenied;
        BEHAVIOUR sRChangeDenied-B BEHAVIOUR
        DEFINED AS "This error message is sent to the manager when the manager attempts to change a service request which
        is not in an appropriate state to accept the change.";;
REGISTERED AS {cnmParameter sRChangeDenied(1)};
```

13 Definitions of action types

Currently, no Action Types are imported or defined for the use of this Recommendation.

14 ASN.1 production definitions

```
CnmAsn1Module {itu-t(0) recommendation(0) x(24) 162 cnmAsn1Module(2)
        version2(2)} DEFINITIONS IMPLICIT TAGS ::=
BEGIN

--  EXPORTS everything
IMPORTS
        GroupObjects, ObservedValue, DMI-TYPE-IDENTIFIER, PerceivedSeverity
                FROM Attribute-ASN1Module {joint-iso-ccitt ms(9) smi(3) part2(2)
                        asn1Module(2) 1}
        SetInfoStatus, CMIP-ATTRIBUTE, AttributeSet, AttributeId, ObjectClass,
                ObjectInstance, ActionArgument, CreateArgument, DeleteArgument,
                GetArgument, SetArgument
                FROM CMIP-1 {joint-iso-itu-t ms(9) cmip(1) modules(0) protocol(3)}
        NameType
                FROM ASN1DefinedTypesModule {itu-t(0) recommendation(0) m(13) gnm(3100)
                        informationModel(0) asn1Modules(2) asn1DefinedTypesModule(0)}
        DTEAddress, LogicalChannelId
                FROM NLM {joint-iso-itu-t network-layer(13) management(0) nLM(2)
                        asn1Module(2) 0}
        UsageInfo
                FROM UsageMeteringFunction {joint-iso-ccitt ms(9) function(2) part10(10)
                        asn1Modules(2) 1};

cnmObjectClass OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmObjectClass(3)}

cnmPackage OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmPackage(4)}

cnmParameter OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmParameter(5)}

cnmNameBinding OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmNameBinding(6)}

cnmAttribute OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmAttribute(7)}

cnmAttributeGroup OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmAttributeGroup(8)}

cnmAction OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmAction(9)}

cnmNotification OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmNotification(10)}

cnmFunctionalUnit OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 cnmFunctionalUnit(11) version1(1)}

miscellaneous OBJECT IDENTIFIER ::=
        {itu-t(0) recommendation(0) x(24) 162 miscellaneous(12)}
```

```
-- default value definition
defaultDateRequest DateRequest ::= dontCare:NULL

defaultInitialResultList ResultList ::= {}

defaultOperationList OperationList ::= {}

defaultProcessingMode ProcessingMode ::= independent:NULL

-- initial value definition
initialResultList ResultList ::= {}

-- supporting production
AnyNamesBase ::= SET OF ObjectInstance

AnyNamesRange ::= SET SIZE (0..64) OF ObjectInstance

Boolean ::= BOOLEAN

ConnectionType ::= INTEGER {unknown(-1), other(0)}

CustomerTypes ::= SET OF INTEGER(0..255)

Date ::= GeneralizedTime

DateRequest ::= CHOICE {dontCare  NULL,
                        request   RequestedTime}

DTEAddressList ::= SET OF DTEAddress

GeographicCoordinates ::= INTEGER {
    v-h-Coordinates(0), latitude-longitude(1), npa-nxx(2), country-city(3)
}

GraphicString64 ::= GraphicString(SIZE (0..64))

GraphicStringBase ::= GraphicString

initialStatus Status ::= customerAgreement

Integer ::= INTEGER

InterlockCode ::= GraphicString

CNM-SERVICE-PROVIDER ::= DMI-TYPE-IDENTIFIER

InvoiceInfo ::=
    SET OF
        SEQUENCE {serviceProviderName  CNM-SERVICE-PROVIDER.&id({InvoiceInfoSet}),
            invoiceData
                CNM-SERVICE-PROVIDERNAME.&Value
                    ({InvoiceInfoSet}{@.serviceProviderName})}

InvoiceInfoSet CNM-SERVICE-PROVIDER ::=
    {...}

LocationDetails ::= CHOICE {unknown  NULL,
                            details  GraphicString}

LocationType ::= INTEGER {other(0), customer(1), provider(2)}(0..255)

LoopbackStatus ::= BOOLEAN

OperationArgument     ::= CHOICE {
    actionArgument    [0]   ActionArgument,
    createArgument    [1]   CreateArgument,
    deleteArgument    [2]   DeleteArgument,
    getArgument       [3]   GetArgument,
    setArgument       [4]   SetArgument}

OperationList ::= SEQUENCE OF OperationArgument
```

```
PacketCompleteType ::= SEQUENCE {
      providerName                [0]   IMPLICIT GraphicString,
      originatingAddress          [1]   IMPLICIT DTEAddress,
      destinationAddress          [2]   IMPLICIT DTEAddress,
      logicalChannel              [3]   IMPLICIT LogicalChannelId,  -- X.283
      usageMeasurement            [4]   IMPLICIT SET OF UsageMeasurement,
      connectionType              [5]   IMPLICIT ConnectionType,
      reverseChargingIndication   [6]   IMPLICIT Boolean}
-- Other items such as supplementaryCharge, supplementaryServiceList, interworking charge
-- should be defined by using another attribute (e.g. usageInfo2).
-- We can use this type for the recording of PVC charging data.
-- In case of PVC, basically, the same information as the SVC should be provided periodically
-- (e.g. the interval = 1 hour or 12 hours) or when one of the charging conditions is changed,
-- e.g. at the time when the discount rate is changed.
-- reverseChargingIndication: the 'TRUE' value of this attribute means that the
-- packetUsageData has been created by an incoming SVC that requests reverse charging.

PacketInterruptType      ::=   SEQUENCE {
      interruptionTime    [0]   IMPLICIT GeneralizedTime,
      durationTime        [1]   IMPLICIT INTEGER(0..MAX),
      cause
            [2] IMPLICIT ENUMERATED {unknown(0), hostBusy(1), systemFailure(2),
                                     planedMaintenance(3)}}

CNM-PACKET-INVOICE ::= DMI-TYPE-IDENTIFIER

PacketInvoiceData ::= SEQUENCE {
      packetInvoiceType  CNM-PACKET-INVOICE.&id({PacketInvoiceDataSet}),
      packetInvoiceInfo
            CNM-PACKET-INVOICE.&Value({PacketInvoiceDataSet}{@.packetInvoiceType})}

PacketInvoiceDataSet CNM-PACKET-INVOICE ::=
      {...}

PacketRegistrationType ::=
      SET OF
            CHOICE {--  Identification of a user, several types of identifier
                        userId          [0]   IMPLICIT DTEAddress,
                        -- Directory number
                        userName        [1]   IMPLICIT GraphicString,
                        -- user title
                        accountId       [2]   IMPLICIT NumericString
                        -- invoice number --}

packetService OBJECT IDENTIFIER ::=
      {itu-t(0) recommendation(0) x(24) 162 miscellaneous(12) 1}

PostalAddress ::= SET OF GraphicString

ProcessingMode ::= CHOICE {sequential   Sequential,
                           independent  NULL}

RequestedTime ::= CHOICE {now           [0]   NULL,
                          scheduled     [1]   Date}

Result ::= INTEGER {fullySuccessed(0), failed(1), cancelled(2)}

ResultList ::= SEQUENCE OF Result

Sequential ::= CHOICE {
      stopAfterFailure    [0]   NULL,
      bestEffort          [1]   NULL}

SRChangeDenied ::= INTEGER {negotiationAlreadyEnded(0)}

Status ::= INTEGER {
      customerAgreement(0), providerAgreement(1), serviceBeingProcessed(2),
      endOfProcessing(3)}

SuborganizationObjectList ::=
      SEQUENCE OF
            SEQUENCE {managedObjectClass      ObjectClass,
                      managedObjectInstance   ObjectInstance}
```

```
SystemIdRange ::= CHOICE {
      name       GraphicString64,
      number     Integer,
      nothing    NULL}

TroubleTypePspdn ::= CHOICE {
      integerForm
            INTEGER{unknown(0), physicalLayerGroup(1), disconnect(2),
                        tooManyBitErrors(3), lossOfSyncFpattern(4),
                        datalinkLayerGroup(30), canNotSetUpDataLink(31), noResponse(32),
                        dataLinkProtocolError(33), frameReject(34), undefinedFrame(35),
                        overSizeIFrame(36), unpermittedFrameWithInformation(37),
                        abnormalNumber(38), n2TimerExpiration(39), packetLayerGroup(60),
                        errorSequence(61),
                        -- Items from 70 to 192 correspond to the X.25 diagnostics.
                        -- Trouble type value = X.25 diagonistic code + 70
                        invalidPS(71), invalidPR(72), packetTypeInvalid(86),
                        pTypeInvalidForStateR1(87), pTypeInvalidForStateR2(88),
                        pTypeInvalidForStateR3(89), pTypeInvalidForStateP1(90),
                        pTypeInvalidForStateP2(91), pTypeInvalidForStateP3(92),
                        pTypeInvalidForStateP4(93), pTypeInvalidForStateP5(94),
                        pTypeInvalidForStateP6(95), pTypeInvalidForStateP7(96),
                        pTypeInvalidForStateD1(97), pTypeInvalidForStateD2(98),
                        pTypeInvalidForStateD3(99), packetNotAllowed(102),
                        unidentifiablePacket(103), callOnOnewayLC(104),
                        invalidPTypeOnPVC(105), packetOnUnassignedLC(106),
                        rejectNotSubscribedTo(107), packetTooShort(108),
                        packetTooLong(109), invalidGFI(110),
                        restartRegistrationPacketWithNonzero(111),
                        pTypeNotCompatibleWithFacility(112),
                        unauthorizedInterruptConf(113), unauthorizedInterrupt(114),
                        unauthorizedReject(115), timeExpired(118), tOForIncomingCall(119),
                        tOForClearIndication(120), tOForResetIndication(121),
                        tOForRestartIndication(122), tOForCallDeflection(123),
                        callSetupClearingRegistrationProblem(134),
                        facilityRegistrationCodeNotAllowed(135),
                        invalidCalledDTEAddress(136), invalidCallingDTEAddress(137),
                        invalidSendAddress(138), invalidFacilityRegistrationLength(139),
                        incomingCallsBarred(140), noLogicalChanelAvailable(141),
                        callCollision(142), duplicateFacilityRequested(143),
                        nonZeroAddressLength(144), nonZeroFacilityLength(145),
                        facilityNotProvidedWhenExpected(146), invalidDTEFacility(147),
                        maxNumberRedirectionDeflectionExceed(148), miscellaneous(150),
                        improperCauseCodeFromDTE(151), notAlignedOctet(152),
                        inconsistentQbitSetting(153), nUIProblem(154), iCRDProblem(155),
                        internationalProblem(182), remoteNetworkProblem(183),
                        internationalProtocolProblem(184),
                        internationalLinkOutOfOrder(185), internationalLinkBusy(186),
                        transitNetworkFacilityProblem(187),
                        remoteNetworkFacilityProblem(188),
                        internationalRoutingProblem(189), temporaryRoutingProblem(190),
                        unknownCalledDNIC(191),
                        maintenanceAction(192),
                        -- unexpected call disconnection during ordinary communication
                        clearIndicationCause(200), remoteProcedureError(201),
                        localProcedureError(202), restartIndicationCause(205)},
      oidForm              OBJECT IDENTIFIER}

UsageMeasurement ::= SEQUENCE {
      serviceClass            [0]   ServiceClass OPTIONAL,
      usageCounterSent        [1]   IMPLICIT SET OF UsageCounter,
      usageCounterReceived    [2]   IMPLICIT SET OF UsageCounter,
      usageStartTime          [3]   IMPLICIT GeneralizedTime,
      usageStopTime           [4]   IMPLICIT GeneralizedTime,
      durationTime            [5]   IMPLICIT INTEGER -- time in seconds --}
```

```
UsageCounter ::= INTEGER

CNM-SERVICE-CLASS ::= DMI-TYPE-IDENTIFIER

ServiceClass ::= SEQUENCE {
    serviceClassType     CNM-SERVICE-CLASS.&id({ServiceClassSet}),
    serviceClassData
        CNM-SERVICE-CLASS.&Value({ServiceClassSet}{@serviceClassType})}

ServiceClassSet CNM-SERVICE-CLASS ::=
    {...}

END
```

15 Negotiation of functional unit

15.1 General

This Recommendation assigns the following object identifier values:

{itu-t(0) recommendation(0) x(24) 162 cnmFunctionalUnit(11) version1(2) }; as a value of the ASN.1 type FunctionalUnitPackageId defined in ITU-T Rec. X.701 | ISO/IEC 10040 to use for negotiating the following Functional Units:

– 0 Basic report control:

  - The basic report control Functional Unit contains the suspended alarm reporting service and the resume alarm reporting service.

– 1 Enhanced report control:

  - The enhanced report control Functional Unit contains the initiate and terminate alarm and change reporting and set EFD attributes services.

– 2 Monitor Reconfiguration.

– 3 Interval assignment and traffic retrieval.

– 4 Basic traffic data collection control.

– 5 Extended traffic data collection control.

– 6 History duration assignment.

– 7 Traffic history retrieval.

– 8 Suppress all zero.

– 9 Service request.

– 10 Basic invoice report.

– 11 Enhanced invoice report,

where the number identifies the bit positions in BIT STRING assigned to the Functional Units, and the names referencing the Functional Units are as defined in the following subclause.

15.2 Functional unit definition

This subclause describes CNM-related functional units to be used across the CNMc interface. Some of them are imported from other Recommendations, and the others are defined in this Recommendation. One or more functional units support a specific "TMN management function" (or simply "function"), defined in Recommendation X.161, for CNM services. Each functional unit is associated with specific managed object classes. Implementation of a Mandatory Functional Unit is essential for the provision of a CNM service. The Optional Functional Units provide additional capabilities that the service provider may wish to offer.

15.2.1 Functional units for fault management

15.2.1.1 Alarm notification service

The following functional units are used or defined in this Recommendation for the object classes of the Alarm Notification service. Some Functional Units are imported from other Recommendations:

– The Report alarm function uses the following functional unit:

a) CCITT Rec. X.733 | ISO/IEC 10164-4: alarm reporting functional unit.

This functional unit is associated with all monitored classes.

– The Report state change function uses the following functional unit:

b) CCITT Rec. X.731 | ISO/IEC 10164-2: state management functional unit.

This functional unit is associated with all monitored classes.

– The Inhibit/allow alarm and state change reporting function uses the following functional unit:

c) basic report functional unit.

This functional unit requires support of:

- the PT-GET and PT-SET services for instances of the EFD class. This functional unit is used for starting/terminating event reporting.

– The Condition alarm and state change reporting function uses the following functional unit:

d) extended report functional unit.

This functional unit requires support of:

- The PT-CREATE, PT-DELETE, PT-GET, PT-SET and PT-EVENT-REPORT services for instances of the EFD class. This functional unit is used for creating and deleting an EFD instance to initiate and terminate event reporting and modifying discrimination criteria for sieving alarms.
- Object creation reporting, object deletion reporting, attribute value change reporting and state change reporting services for EFD.

– The Retrieve alarm and state change reporting conditions function uses the following functional unit:

e) CCITT Rec. X.734 | ISO/IEC 10164-5: monitor event report function.

This functional unit is associated with the EFD class.

Table 1/X.162 – Alarm notification functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object class	FU
Report alarm	M	Alarm Reporting	Objects representing resources	Alarm Reporting
Report state change	O	State Change Reporting	Objects representing resources	State management
Inhibit/allow alarm and state change reporting	O	Alarm/state-change report suspension/ resumption	EFD	Basic report control
Condition alarm and state change reporting	O	Alarm/state-change reporting control	EFD	Extend report control
Retrieve alarm and state change reporting conditions	O	Alarm/state-change reporting condition retrieval	EFD	Monitor event report function

15.2.1.2 Fault history service

The following functional units are used or defined in this Recommendation for the object classes of the Fault history service. Some Functional Units are imported from other Recommendations.

- The Retrieve fault history log records function uses the following functional unit:

  a) CCITT Rec. X.734 | ISO/IEC 10164-5: monitor log functional unit.

     This functional unit is associated with the fault log record class.

- The Select specific fault log records function uses the following functional unit:

  b) ITU-T Rec. X.710 and ISO/IEC 9595: filter functional unit.

  c) ITU-T Rec. X.710 and ISO/IEC 9595: multiple reply functional unit.

     This functional unit is associated with the fault log record class.

- The Modify the criteria for logging fault log records function uses the following functional unit:

  d) CCITT Rec. X.734 | ISO/IEC 10164-5: control log functional unit.

     This functional unit is associated with the fault log class.

Table 2/X.162 – Fault history functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Retrieve fault history log records	M	fault log retrieval	fault log record	Monitor Log
Select specific fault log records	O	fault log Selective retrieval	fault log record	Filter and Multiple Reply
Modify the criteria for logging fault log records	O	fault log logging criteria change	log	Control Log

15.2.1.3 Trouble report service

The following functional units are used or defined in this Recommendation for the object classes of the Trouble Report service. Some Functional Units are imported from other Recommendations.

- The Control basic trouble report function uses the following functional units:

  a) Recommendation X.790: Kernel;

  b) Recommendation X.790: Request Trouble Report Format;

  c) Recommendation X.790: Add Trouble Information;

  d) Recommendation X.790: Trouble Report Status/Commitment Time Update Notification;

  e) Recommendation X.790: Verify Trouble Repair Completion;

  f) Recommendation X.790: Modify Trouble Administration information;

  g) Recommendation X.790: Trouble Administration Configuration Event Notification;

  h) Recommendation X.790: Trouble Report Progress Notification;

  i) Recommendation X.790: Cancel Trouble Report;

  j) Recommendation X.790: Extended Modify Trouble Administration Information;

  k) Recommendation X.790: Delete Telecommunications Trouble Report;

  l) Recommendation X.790: Refer Telecommunications Trouble Report;

m) Recommendation X.790: Update State and Status;

n) Recommendation X.790: Repair Activity Object.

These functional units are associated with the telecommunications trouble report, trouble report format definition, repair activity, contact and EFD classes.

When the Basic Trouble Report Function is provided, the Kernel functional unit shall be supported. The other ones are optional. The service provider may select the functional units to be supported:

- The Report maintenance plan function uses the following functional unit:

o) Recommendation X.790: Provider Trouble Report Control;

This functional unit is associated with the provider trouble report.

- The Trouble History function uses the following functional units:

p) Recommendation X.790: Review Trouble History Record;

q) Recommendation X.790: Trouble History Event Notification.

These functional units are associated with the trouble history record log class.

The support of these two functional units is optional.

Table 3/X.162 – Trouble report functions, service, MO classes and FUs

Function (X.161)	**a)**	**Purpose (X.161)**	**Object Class**	**FU**
Control basic trouble report	M	BasicTrouble Report Handling	PDN TTR, TR format definition, repair activity, contact, EFD	– Kernel – Request Trouble Report Format – Add Trouble Information – Trouble Report Status/Commitment Time Update Notification – Verify Trouble Repair Completion – Modify Trouble Administration Information – Trouble Administration Configuration Event Notification – Trouble Report Progress Notification – Cancel Trouble Report – Extended Modify Trouble Administration Information – Delete Telecommunications Trouble Report – Refer Telecommunications Trouble Report – Update State and Status – Repair activity Object (all of them are imported from Rec. X.790)
Report maintenance plan	O	Planned maintenance information notification	PTR	– Provider Trouble Report Control
Retrieve trouble history	O	Trouble History Retrieval	PDN Trouble History, log	– Review Trouble History Record – Trouble History Event Notification
a) Support (X.161)				

15.2.1.4 Loop setup service

The following functional unit is defined in this Recommendation for the object classes of this CNM service:

- The Set/reset loopback point function uses the following functional unit:
  - loopControl functional unit – This functional unit requires support of:
    i) the PT-GET and PT-SET services for instances of loopbackPoint and any of its subclasses. This functional unit is used for setting/resetting a loopback point;
    ii) attribute value change reporting service for loopbackPoint.

Table 4/X.162 – Loop setup functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Set/reset loopback point	M	Loopback point activation/deactivation	Loopback point	loopControl

15.2.1.5 Test host service

The following functional units are used in this Recommendation for the object classes of this CNM service:

a) Controlled Test Management Functional Unit of the Test Management Function defined in ITU-T Rec. X.745 | ISO/IEC 10164-12.

NOTE – The ways the test is executed are based on the Confidence and Diagnostic Test Categories defined in ITU-T Rec. X.737 | ISO/IEC 10164-14.

b) Event Report Functional Unit of the Event Report Management Function defined in CCITT Rec. X.734 | ISO/IEC 10164-5, when the service provider offers the message discrimination function.

c) Control Log Functional Unit defined in CCITT Rec. X.735 | ISO/IEC 10164-6, when the service provider offers the logging of test results.

Table 5/X.162 – Test Host functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Execute loopback test	C1	Loopback test control	x25Physical Connection, loopbackTest	Controlled Test Management, Event Report, Control Log
Execute protocol integrity test	C1	Protocol integrity test control		Controlled Test Management, Event Report, Control Log
C1 At least one of these functions shall be provided if the CNM Test host is supported.				

15.2.2 Functional units for configuration management

15.2.2.1 CNM configuration inquiry service

The following functional units are used or defined in this Recommendation for the object classes of the CNM Configuration Inquiry service:

- The Retrieve full configuration information function uses the following functional units:

  a) ITU-T Rec. X.710 and ISO/IEC 9595: Managed Object Selection (MOS) functional unit.

  b) ITU-T Rec. X.710 and ISO/IEC 9595: multiple reply (MR) functional unit.

  c) CCITT Rec. X.730 | ISO/IEC 10164-1: monitor functional unit.

  These functional units are associated with all monitored objects, location, contact, customer, and cnmUser classes.

- The Retrieve partial configuration information function uses the following functional units:

  d) ITU-T Rec. X.710 and ISO/IEC 9595: managed object selection (MOS) functional unit.

  e) ITU-T Rec. X.710 and ISO/IEC 9595: multiple reply (MR) functional unit.

  f) ITU-T Rec. X.710 and ISO/IEC 9595: filter functional unit.

  g) CCITT Rec. X.730 | ISO/IEC 10164-1: monitor functional unit.

  These functional units are associated with all monitored objects, location, contact, customer, and cnmUser classes.

- The Update configuration information function uses the following functional units:

  h) CCITT Rec. X.730 | ISO/IEC 10164-1: object event functional unit.

  i) CCITT Rec. X.731 | ISO/IEC 10164-2: state change reporting functional unit.

  These functional units are associated with all monitored objects, location, contact, customer, and cnmUser classes.

Table 6/X.162 – Configuration inquiry functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Retrieve full configuration information	M	Complete configuration acquisition	All monitored objects, location, contact, customer, cnmUser	– MOS – MR – Monitor
Retrieve partial configuration information	O	Partial configuration acquisition	All monitored objects, location, contact, customer, cnmUser	– MOS – MR – Filter – Monitor
Update configuration information	O	Automatic configuration update	All monitored objects, location, contact, customer, cnmUser	– Object event – State change reporting

15.2.2.2 CNM reconfiguration service

The following functional units are used or defined in this Recommendation for the object classes of the CNM Reconfiguration service:

- The control immediate reconfiguration function uses the following functional unit:

  a) CCITT Rec. X.730 | ISO/IEC 10164-1: monitor functional unit.

  This functional unit is associated with all monitored classes with GET-REPLACE attributes.

- The control delayed configuration function uses the following functional unit:

  b) Service request – This functional unit requires support of functions defined in Annex C.

  This functional unit is associated with all monitored classes with GET-REPLACE attributes.

Table 7/X.162 – Reconfiguration functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Control immediate reconfiguration	C2	Configuration setting	All monitored objects with GET-REPLACE attributes	– minor reconfiguration
Control delayed reconfiguration	C2	Service request	All monitored objects with GET-REPLACE attributes	– service request
C2 The control immediate reconfiguration function is mandatory for the CNMc interface. The control delayed reconfiguration function is mandatory for the CNMe interface.				

15.2.2.3 Systematic call redirection service

The following functional units are defined in this Recommendation for the object classes of this CNM service:

- The Activate/deactivate call redirection, Suspend/resume call redirection, Modify redirected addresses and Schedule call redirection functions use the following functional units:

  – redirectionControl functional unit – This functional unit requires support of:

    i) The PT-GET, PT-SET, PT-CREATE and PT-DELETE services for instances of redirectionList and any of its subclasses. This functional unit is used for starting/terminating and suspending/resuming call redirection, for the modification of the call redirection list, and for setting or changing the schedule. Also this functional unit is used to modify the attributes related to scheduling.

    ii) Object creation reporting, object deletion reporting, attribute value change reporting and state change reporting services for redirectionList.

Table 8/X.162 – Systematic call redirection functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Activate/deactivate call redirection	M	Call redirection activation/deactivation	Redirection controller	Redirection Control
Suspend/resume call redirection	O	Call redirection suspension/resumption	Redirection controller	Redirection Control
Modify redirected addresses	O	Call redirection list modification	Redirection controller	Redirection Control
Schedule call redirection	O	Call redirection scheduling	Redirection controller	Redirection Control

15.2.3 Accounting management

15.2.3.1 CNM periodic billing service

The following functional units are used or defined in this Recommendation for the object classes of the CNM Periodic Billing service:

- The notify invoice function uses the following functional unit:

  a) basic invoice report functional unit.

  This functional unit requires support of:

  – The PT-GET and PT-EVENT-REPORT services for instances of the cnm billing controller class. This functional unit is used for retrieving an invoice from the service provider and receiving an invoice sent from the service provider.

- The control invoice notification function uses the following functional unit:

  b) enhanced invoice report functional unit.

  This functional unit requires support of:

  – The PT-GET, PT-SET and PT-EVENT-REPORT services for instances of the cnm billing controller class. This functional unit is used for retrieving an invoice from the service provider, receiving an invoice sent from the service provider and modifying the condition of invoice report.

Table 9/X.162 – Periodic billing functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Notify invoice	M	Invoice periodic report	cnmBilling Controller	– basic invoice report
Control invoice notification	O	Invoice report control	cnmBilling Controller	– enhanced invoice report

15.2.3.2 CNM detailed accounting service

The following functional units are used or defined in this Recommendation for the object classes of the CNM Periodic Billing service.

The retrieve accounting records function uses the following functional units:

a) ITU-T Rec. X.710 and ISO /IEC 9595: Managed Object Selection (MOS) functional unit.

b) ITU-T Rec. X.710 and ISO /IEC 9595: filter functional unit.

c) ITU-T Rec. X.710 and ISO/IEC 9595: Multiple Reply (MR) functional unit.

d) CCITT Rec. X.730 | ISO/IEC 10164-1: monitor functional unit.

These functional units are associated with the ITU-T Rec. X.742 | ISO/IEC 10164-10: usage metering record class. The data structure of accounting items are defined in accordance with ITU-T Rec. X.742 | ISO/IEC 10164-10.

Table 10/X.162 – Detailed accounting functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Retrieve accounting records	M	Usage metering record retrieval	cnmBilling Controller	– MOS – Filter – MR – Monitor

15.2.4 Performance management

15.2.4.1 CNM traffic information service

The following functional units are used or defined in this Recommendation for the object classes of the CNM Traffic Information service.

- The Assign collection interval, Assign history duration, Suspend/resume traffic data collection, Schedule traffic data collection and Suppress all zero data functions use the following functional unit:

  a) control traffic information collection functional unit.

  This functional unit requires support of:

  – The PT-GET, PT-SET, PT-CREATE and PT-DELETE services for instances of the current data object classes, i.e. currentMLPTrafficData, currentPacketTrafficData, currentSLPTrafficData.

  – Object creation reporting, object deletion, and attribute change reporting for these classes.

- The Retrieve traffic data function uses the following functional units:

  b) ITU-T Rec. X.710 and ISO/IEC 9595: managed object selection (MOS) functional unit.

  c) ITU-T Rec. X.710 and ISO/IEC 9595: filter functional unit.

  d) ITU-T Rec. X.710 and ISO/IEC 9595: multiple reply (MR) functional unit.

  e) CCITT Rec. X.730 | ISO/IEC 10164-1: monitor functional unit.

  These functional units are associated with all current data objects, and all history data objects.

Table 11/X.162 – Traffic information functions, service, MO classes and FUs

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Assign collection interval	M	Traffic data retrieval	– currentXXX TrafficData	– Control traffic information collection
Assign history duration			– currentXXX TrafficData	– Control traffic information collection
Retrieve traffic data			– currentXXX TrafficData – historyXXX TrafficData	– MOS – Filter – MR – Monitor
Suspend/resume traffic data collection	O	Traffic data collection suspension/ resumption	– currentXXX TrafficData	– Control traffic information collection
Schedule traffic data collection	O	Traffic data collection scheduling	– currentXXX TrafficData	– Control traffic information collection
Suppress all zero data	O	Zero suppression	– currentXXX TrafficData	– Control traffic information collection

15.2.5 Security management

This service is for further study.

15.2.6 Service supporting services

15.2.6.1 CNM service request service

The following functional units are defined in this Recommendation for the object classes of this CNM service:

- The Service request function uses the following functional unit:
  - service request functional unit – This functional unit requires support of:
    i) The PT-GET, PT-SET, PT-CREATE and PT-DELETE services for instances of serviceRequest and any of its subclasses. This functional unit is used for initiating a service request, deleting a service request, negotiating service request and retrieving service request.
    ii) Object creation reporting, object deletion reporting, attribute value change reporting and state change reporting services for serviceRequest.

Table 12/X.162 – Service request function, service, MO classes and FU

Function (X.161)	Support (X.161)	Purpose (X.161)	Object Class	FU
Service request	M	– Initiation of a service request – Deletion of a service request – Negotiation of a service request – Retrieval of a service request	– serviceRequest	Service request control

NOTE 1 – The CMIP argument optional parameter accessControl has no utility in the service request service.

NOTE 2 – The serviceRequest object allows the request of operation on instance. The concerned CMIP operations are ACTION, CREATE, DELETE, GET, SET (and not CANCEL-GET). A particular implementation may limit the number of CMIP operations.

16 Conformance for the CNMc interface

If a service defined in Recommendation X.161 or a service set in Annex B/X.161 is implemented, then at least the mandatory parts of that service shall be implemented.

Annex A

Index of defined information elements

A.1 List of defined information elements

A.1.1 Object classes

A.1.2 Name binding for object classes

Items	Subclause No.
cugProfile	8.2.1.9
	8.2.3.5
currentMlpTrafficData	8.4.1.5
currentPacketTrafficData	8.4.1.2
currentSlpTrafficData	8.4.1.8
customer	8.2.1.11
equipment	8.1.1.4
	8.2.1.4
eventForwardingDiscriminator	8.1.1.6
historyMlpTrafficData	8.4.1.6
historyPacketTrafficData	8.4.1.3
historySlpTrafficData	8.4.1.9
hgProfile	8.2.1.10
	8.2.3.6
location	8.2.1.14
log	8.1.3.7
loopbackPoint	8.1.4.1
loopbackTest	8.1.5.2
managedElement	8.1.1.5
mlpMonitoredPoint	8.4.1.4
mlpProfile	8.2.1.6
	8.2.3.2
network	8.1.1.1
	8.2.1.1
pdnFaultLogRecord	8.1.2.1
pdnTelecommunicationsTroubleReport	8.1.3.1
pdnTroubleHistoryRecord	8.1.3.5
protocolIntegrityTest	8.1.5.3
providerTroubleReport	8.1.3.2
redirectionList	8.2.4.1
repairActivity	8.1.3.4
serviceRequest	8.6.1
slpProfile	8.2.1.7
	8.2.3.3
troubleReportFormatDefinition	8.1.3.3
x25PhysicalConnection	8.1.5.4
x25PvcProfile	8.2.1.8
	8.2.3.4
x25ServiceProfile	8.2.1.5
	8.2.3.1
x25TerminationPoint	8.1.1.3
	8.2.1.3
	8.4.1.7
cnmBillingController	8.3.1.1

A.1.3 Definition of packages

Items	Subclause No.
contactList	9.2.1.6
customer	9.2.1.5
customerTypes	9.2.1.9
location	9.2.1.7
negotiation	9.6.1.1
oPNetworkList	9.2.1.10
pleProfile	9.2.1.2
serviceList	9.2.1.11
serviceRequest	9.6.2.1
slpProfile-P	9.2.1.3
slpTimersProfile-P	9.2.1.4
typeText	9.2.1.8
x25ServiceProfile	9.2.1.1

A.1.4 Definition of attributes

Items	Subclause No.
callRedirectionList	10.3.29
cnmUserIdentifier	10.2.1
cnmX25EntityIdentifier	10.2.2
contactList	10.3.1
cugIndex	10.3.3
cugProfileIdentifier	10.2.3
customerIdentifier	10.2.4
customerTitle	10.3.4
customerTypes	10.3.5
dateRequest	10.3.6
dTEAddressList	10.3.7
geographicCoordinates	10.3.8
hgAddress	10.3.9
hgProfileIdentifier	10.2.5
interlockCode	10.3.2
limitValidityDate	10.3.10
locationDetail	10.3.11
locationID	10.3.12
locationPointer	10.3.30
locationTitle	10.3.13
locationType	10.3.14
loopbackStatus	10.3.31
mlpFramesOutsideWindowGuard	10.3.15
mlpFramesReceived	10.3.16
mlpFramesSent	10.3.17
mlpMonitoredPointIdentifier	10.2.6
mlpProfileIdentifier	10.2.7
mlpSubscription	10.3.18
oPNetworkList	10.3.21
operationList	10.3.19
postalAddress	10.3.20
pocessingMode	10.3.22
redirectionListId	10.2.13
resultList	10.3.23
serviceList	10.3.24
serviceRequestId	10.2.8
slpProfileIdentifier	10.2.9
status	10.3.26
suborganizationObjectList	10.3.25
troubleTypePSPDN	10.3.27
typeText	10.3.28
x25PhysicalConnectionId	10.2.14
x25PvcProfileIdentifier	10.2.10
x25ServiceProfileIdentifier	10.2.12
x25TerminationPointIdentifier	10.2.11

A.1.5 Definition of notifications

Items	Subclause No.
invoiceReport	11.2.1

A.1.6 Definition of parameters

Items	Subclause No.
serviceRequestChangeDenied	12.1

A.1.7 Definitions of action types

There is no Action type defined in this Recommendation.

A.2 List of imported information elements

A.2.1 Imported object classes

Items	Subclause No.	Rec. No.
contact	7.1.3	X.790
	7.2.1	X.790
currentData	7.4.1	X.721
equipment	7.1.1	M.3100
	7.2.1	M.3100
	7.2.2	M.3100
event forwarding discriminator	7.1.1	X.721
eventLogRecord	7.1.2	X.721
historyData	7.4.1	X.721
log	7.1.3	X.721
loopbackTest	7.1.5.1	X.737
managed element	7.1.1	M.3100
	7.2.1	M.3100
network	7.1.1	M.3100
	7.1.3	M.3100
	7.2.1	M.3100
protocolIntegrityTest	7.1.5.2	X.737
providerTroubleReport	7.1.3	X.790
repairActivity	7.1.3	X.790
telecommunicationsTroubleReport	7.1.3	X.790
termination point	7.2.1	M.3100
top	7.1.1	X.721
	7.1.2	X.721
	7.1.3	X.721
	7.1.5.1	X.721
	7.2.1	X.721
	7.2.3	X.721
	7.2.4	X.721
	7.6.1	X.721
troubleHistoryRecord	7.1.3	X.790
troubleReportFormatDefinition	7.1.3	X.790

A.2.2 Imported name binding

Items	Subclause No.	Rec. No.
providerTroubleReport-network	8.1.3.2	X.790
repairActivity-telecommunicationsTroubleReport	8.1.3.3	X.790
troubleReportFormatDefinition-network	8.1.3.3	X.790
network-network	8.1.1.1	M.3100
managedElement-network	8.1.1.5	M.3100
contact-network	8.1.3.6	X.790
usageMeteringRecord-log	8.3.1.2	X.742

A.2.3 Imported packages

Items	Subclause No.	MO or Pkg	Rec. No.
attributeValueChangeNotificationPackage	7.2.1.2.11	location	M.3100
createDeleteNotificationsPackage	7.2.1.2.11	location	M.3100
specificProblems	7.1.2.2	pdnFaultLogRecord	X.721
trAgentContactPersonAttributePkg	7.6.1.2.1	serviceRequest	X.790
trAgentContactPersonObjectPkg	7.6.1.2.1	serviceRequest	X.790
trAlternateManagerContactPersonAttributePkg	7.6.1.2.1	serviceRequest	X.790
trAlternateManagerContactPersonObjectPkg	7.6.1.2.1	serviceRequest	X.790
trDialogPkg	7.6.1.2.1	serviceRequest	X.790
trManagerContactPersonAttributePkg	7.6.1.2.1	serviceRequest	X.790
trManagerContactPersonObjectPkg	7.6.1.2.1	serviceRequest	X.790
userLabelPackage	7.2.1.2.11	location	M.3100

A.2.4 Imported notifications

Items	Subclause No.	MO or Pkg	Rec. No.
attributeValueChange	7.1.1.2.2	x25TerminationPoint	X.721
attributeValueChange	9.2.1.2	pleProfile-P	X.721
attributeValueChange	9.6.2	serviceProfilePkg	X.721
communicationsAlarm	7.1.1.2.2	x25TerminationPoint	X.721
environmentalAlarm	7.1.1.2.2	x25TerminationPoint	X.721
equipmentAlarm	7.1.1.2.2	x25TerminationPoint	X.721
objectCreation	7.2.1.2.6	pvcProfile	X.721
	7.2.1.2.7	cugProfile	X.721
	7.2.1.2.8	hgProfile	X.721
	9.2.1.2	pleProfile-P	X.721
	9.6.2	serviceProfilePkg	X.721
	7.1.1.2.2	x25TerminationPoint	X.721
	7.2.1.2.6	pvcProfile	X.721
ObjectDeletion	7.2.1.2.7	cugProfile	X.721
	7.2.1.2.8	hgProfile	X.721
	9.2.1.2	pleProfile-P	X.721
	9.6.2	serviceProfilePkg	X.721
	7.1.1.2.2	x25TerminationPoint	X.721
processingErrorAlarm	7.1.1.2.2	x25TerminationPoint	X.721
qualityofServiceAlarm	7.1.1.2.2	x25TerminationPoint	X.721

A.2.5 Imported attributes

Items	Subclause No.	MO or Pkg	Rec. No.
administrativeState	7.1.1.2.1	cnmX25Entity	X.721
	7.1.1.2.2	x25TerminationPoint	X.721
	7.1.1.2.2	x25TerminationPoint	X.721
attributeList	7.3.1.2	cnmBillingController	X.721
availabilityState	7.2.4.2	redirectionList	X.721
backedUpStatus	7.1.2.2.1	pdnFaultLogRecord	X.721
backUpObject	7.1.2.2.1	pdnFaultLogRecord	X.721
bilateralCUG	9.2.1.2	pleProfile-P	X.283
	7.2.1.2.6	mlpProfile	X.283
bilateralCUGwithOutgoingAccess	9.2.1.2	pleProfile-P	X.283
	7.2.1.2.6	mlpProfile	X.283
callAttempts	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
callDeflectionSubscription	9.2.1.2	pleProfile-P	X.283
callRedirection	9.2.1.2	pleProfile-P	X.283
callsConnected	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
callTimeouts	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
chargingDirection	7.2.1.2.6	mlpProfile	X.283
chargingInformation	9.2.1.2	pleProfile-P	X.283
clearTimeouts	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
controlObjectId	7.3.1.2	cnmBillingController	X.742
cUG	9.2.1.2	pleProfile-P	X.283
cugWithIncomingAccess	7.2.1.2.6	mlpProfile	X.283
cugWithOutgoingAccess	7.2.1.2.6	mlpProfile	X.283
dataPacketsReceived	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
dataPacketsSent	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
dBitModification	9.2.1.2	pleProfile-P	X.283
defaultPacketSize	9.2.1.2	pleProfile-P	X.283
defaultThroughputClass	9.2.1.2	pleProfile-P	X.283
defaultThroughputClassAssignment	9.2.1.2	pleProfile-P	X.283

Items	Subclause No.	MO or Pkg	Rec. No.
defaultWindowSize	9.2.1.2	pleProfile-P	X.283
extendedPacketSequenceNumbering	9.2.1.2	pleProfile-P	X.283
fastSelectAcceptance	9.2.1.2	pleProfile-P	X.283
fCSErrorReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.8	currentSlpTrafficData	X.282
flowControlParameterNegotiation	9.2.1.2	pleProfile-P	X.283
fRMRsReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
fRMRsSent	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
huntGroup	9.2.1.2	pleProfile-P	X.283
iFrameDataOctetsReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
iFrameDataOctetsSent	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
iFramesReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
iFramesSent	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
incomingCallsBarred	9.2.1.2	pleProfile-P	X.283
incomingCallsBarredWithinCug	9.2.1.2	pleProfile-P	X.283
interfaceType	9.2.1.2	pleProfile-P	X.282
k	9.2.1.4	slpTimersProfile-P	X.282
localChargingPrevention	9.2.1.2	pleProfile-P	X.283
localDTEAddress	7.2.1.2.6	mlpProfile	X.283
	9.2.1.2	pleProfile-P	X.283
	9.2.1.3	slpProfile-P	X.283
logicalChannel	7.2.1.2.6	mlpProfile	X.283
logicalChannelAssignments	9.2.1.2	pleProfile-P	X.283
monitoredAttributes	7.1.2.2	monitoredAttributes-P	X.721
mT1Timer	7.2.1.2.4	mlpProfile	X.282
mT2Timer	7.2.1.2.4	mlpProfile	X.282
mT3Timer	7.2.1.2.4	mlpProfile	X.282
mW	7.2.1.2.4	mlpProfile	X.282
mX	7.2.1.2.4	mlpProfile	X.282
n1	9.2.1.4	slpTimersProfile-P	X.282
n2	9.2.1.4	slpTimersProfile-P	X.282
nonStandardDefaultPacketSizes	9.2.1.2	pleProfile-P	X.283
nonStandardDefaultWindowSizes	9.2.1.2	pleProfile-P	X.283
nUIOverride	9.2.1.2	pleProfile-P	X.283
nUISubscription	9.2.1.2	pleProfile-P	X.283
octetsReceivedCounter	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
octetsSentCounter	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
oneWayLogicalChannelIncoming	9.2.1.2	pleProfile-P	X.283
oneWayLogicalChannelOutgoing	9.2.1.2	pleProfile-P	X.283
onlineFacilityRegistration	9.2.1.2	pleProfile-P	X.283
operationalState	7.2.1.2.6	mlpProfile	X.283
outgoingCallsBarred	9.2.1.2	pleProfile-P	X.283
outgoingCallsBarredWithinCug	9.2.1.2	pleProfile-P	X.283
packetRetransmission	9.2.1.2	pleProfile-P	X.283
packetSize	7.2.1.2.6	mlpProfile	X.283
perceivedSeverity	7.1.2.2.1	pdnFaultLogRecord	X.721
pollsReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
probableCause	7.1.2.2.1	pdnFaultLogRecord	X.721
proposedRepairActions	7.1.2.2.1	pdnFaultLogRecord	X.721
protocolErrorsAccusedOf	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283

Items	Subclause No.	MO or Pkg	Rec. No.
protocolErrorsDetectedLocally	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
protocolVersionSupported	9.2.1.2	pleProfile-P	X.283
providerInitiatedDisconnects	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
providerInitiatedResets	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
receivedMlpInGuardRegion	7.4.1.2.5	currentMlpTrafficData	X.282
	7.4.1.2.6	historyMlpTrafficData	X.282
receivedMlpResets	7.4.1.2.5	currentMlpTrafficData	X.282
	7.4.1.2.6	historyMlpTrafficData	X.282
rEJsReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
rEJsSent	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
remoteDTEAddress	7.2.1.2.6	mlpProfile	X.283
remoteLogicalChannel	7.2.1.2.6	mlpProfile	X.283
remotelyInitiatedResets	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
remotelyInitiatedRestarts	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
resetTimeouts	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
reverseChargingAcceptance	9.2.1.2	pleProfile-P	X.283
rNRsReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
rPOASubscription	9.2.1.2	pleProfile-P	X.283
sABMsReceived	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
sABMsSent	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
segmentsReceived	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
segmentsSent	7.4.1.2.2	currentPacketTrafficData	X.283
	7.4.1.2.3	historyPacketTrafficData	X.283
sequenceModulus	9.2.1.3	slpProfile-P	X.282
sourceIndicator	7.1.2.2.1	pdnFaultLogRecord	X.721
stateChangeDefinition	7.1.2.2.1	pdnFaultLogRecord	X.721
t1Timer	9.2.1.4	slpTimersProfile-P	X.282
t2Timer	9.2.1.4	slpTimersProfile-P	X.282
t4Timer	9.2.1.4	slpTimersProfile-P	X.282
thresholdInfo	7.1.2.2.1	pdnFaultLogRecord	X.721
throughputClasses	7.2.1.2.6	mlpProfile	X.283
throughputClassNegotiation	9.2.1.2	pleProfile-P	X.283
timesT1Expired	7.4.1.2.8	currentSlpTrafficData	X.282
	7.4.1.2.9	historySlpTrafficData	X.282
transmissionRate	9.2.1.3	slpProfile-P	X.281
trendIndication	7.1.2.2.1	pdnFaultLogRecord	X.721
virtualCircuitId	7.2.1.2.6	mlpProfile	X.283
windowSize	7.2.1.2.6	mlpProfile	X.283

A.2.6 Imported actions

testRequestControlledAction	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745

A.2.7 Imported parameters

loopbackTestInfoParam	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
protocolIntegrityTestInfoParam	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745

Items	Subclause No.	MO or Pkg	Rec. No.
associatedObjectNotAvailable	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
independentTestInvocationError	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
mistypedTestCategoryId	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
mistypedTestRequestInformation	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
mORTNotAvailable	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchAssociatedObject	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchMORT	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
relatedTOError,	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
testSuspendResumeAction	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchTestInvocationId	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchTestSessionId	7.1.5.2.1	x25PhysicalConnection	X.745
invalidTestOperation	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
testSuspendResumeError	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
testTerminateAction	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchTestInvocationId	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchTestSessionId	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
noSuchTestSessionId	7.1.5.2.1	x25PhysicalConnection	X.745
noSuchTestSessionId	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
invalidTestOperation	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745
testSuspendResumeError	7.1.5.2.1	x25PhysicalConnection	X.745
	7.1.5.2.2	cnmX25EntityTested	X.745

Annex B

Example of invoice definition

This annex presents an example of the definition of the "PacketInvoiceData" data type required for supporting the periodic billing service. The following data types are used for the managed object class definition in 7.3.1.2 and the notification definition in 11.2.1. Each operating company or Administration may define its specific data types.

```
PacketInvoiceData ::= SEQUENCE {
    providerName          [0]IMPLICIT GraphicString,
    customerName          [1]IMPLICIT GraphicString,
    resourcesUsed         [3]IMPLICIT ObjectInstances,
    invoiceNumber         [4]IMPLICIT NumericString,
    invoiceDueDate        [5]IMPLICIT Date,
    invoicePeriod         [6]IMPLICIT INTEGER,
    currency              [7]IMPLICIT GraphicString,
    totalAmountPayable    [8]IMPLICIT INTEGER,
    totalDiscount         [9]IMPLICIT INTEGER,
    subTotalAmount        [10]IMPLICIT SET OF SubTotalAmount}
-- basic charge, communication charge, interworking charge, supplementary charge, etc.

Date ::= SEQUENCE {
    year                  [0]IMPLICIT INTEGER,
    month                 [1]IMPLICIT INTEGER,
    day                   [2]IMPLICIT INTEGER}
SubTotalAmount ::= SEQUENCE {
    serviceType           [0]IMPLICIT GraphicString,
    amountPayable         [1]IMPLICIT INTEGER,
    discountAmount        [2]IMPLICIT INTEGER,
    relatedUsageRecords   [3]IMPLICIT SET OF ObjectInstance OPTIONAL
}
```

Annex C

Definition of the CNM supporting services

This annex describes detailed functions and procedures used for provision of CNM Service Request Service through the CNMc interface.

The Service Request managed object class defined in 7.6 is used as the generic class to be used for all service requests. It models the service requested and provides information on the different phase of the service processing. By the instantiation of this object class, a customer can send, delete and modify a service request through the negotiation between the customer and the service provider.

C.1 Detailed description

The serviceRequest object allows the performance of many services in one request, such as the creation of many objects of the same type. The mandatory operationList attribute allows the Customer's Management System to specify the different operations he would like to perform. This attribute is in fact an ordered list of OperationArgument (CMIP syntax OperationArgument). A default value (empty list) is specified.

The Service Provider's CNM System can specify whether or not the realization of the different services should be done in order. When the order is important, the Customer's Management System is able to decide what to do in case of operation failure (to stop or to continue the request). Either the treatment of the operation sequence is "atomic", meaning that each operation is performed separately (if one of them leads to an error, then no operation is realized), or the objective is to do "the best possible" (bestEffort), which means that each operation is attempted and either succeeds does not. The order in which the operations are attempted is important. Each operation modifies the MIB and so affects the conditions of success of it.

If the Customer's Management System does not specify any "treatment", the default treatment is bestEffort.

The Customer's Management System has the possibility to specify when it wants the requested services to be performed, with a priority order or a precise date. The mandatory dateRequest attribute allows the Customer's Management System to do that. The Service Provider's CNM System can modify this attribute value during the negotiation phase. The attribute syntax can indicate that the date is:

– does not matter;

– immediately;

– a precise date.

The Service Provider's CNM System can negotiate with the Customer's Management System the features of the request with the dialogue attribute of the conditional dialogPackage Package. They can exchange text information. This allows the Customer's Management System to give to the Service Provider more information about the implementation of the service to help the negotiation.

The Customer's Management System can delete a service request if it is still in the negotiation phase with the Service Provider's CNM System. After the service processing has begun, the serviceRequest deletion by the Customer's Management System is impossible. Deletion or modification should fail and cause a processingFailure type CMIP error with a specific parameter error: sRChangeDenied.

The contactAgent and contactManager attribute of the serviceRequestobject can identify the contact people, if any, by the Service Provider's CNM System and by the Customer's Management System. The syntax allows a pointer to a pre-existing contact instance, or to indicate a name in a graphic string or to remain unknown (NULL). A default value is specified (unknown).

The services are only performed in the direction Service Provider's CNM System for Customer's Management System. The complete answer of the request operation is not returned to the Customer's Management System. Nevertheless, he receives a short report for each operation. The resultList attribute gives the ordered operation result list in the same order as the operation list. Initially, the attribute is an empty list. The list is then filled progressively with the result of the completed operations. At the same time, attributeValueChange Notification is transmitted to the Customer's Management System.

For each operation, the possible result values are:

– fully succeeded;

– failed;

– not attempted.

The different operations can be performed in a different order than the order of the operation list, but the result list is filled in the same order.

C.2 Initiation of a service request

The initiation of a service request service is used to allow the Customer's Management System to request the Service Provider's CNM System to create an instance of the Service Request managed object class. It defines the service request parameters.

When a Service Request managed object is created, it generates an Object Creation notification containing a notification identifier, the status (progress state), the contact name (service request initiator).

C.3 Deletion of a service request

The deletion of an instance of the Service Request managed object class is used to allow the Customer's Management System to request the Service Provider's CNM System to delete a Service Request managed object. At any time after the creation and before the normal end of the negotiation, the customer is able to close the request deleting the ServiceRequest instance. Otherwise, the Service Request instance is normally deleted after all the service request results are provided.

When a Service Request managed object is deleted, it generates an Object Deletion notification containing the deletion date and time.

C.4 Negotiation of a service request

This service is used to allow the Customer's Management System and the Service Provider's CNM System to negotiate the conditions of the service provision. It allows the Service Provider's CNM System to notify the Customer's Management System of the condition it proposes. It allows the Customer's Management System to modify a serviceRequest managed object.

The mandatory status attribute gives the current state of the request. Four states are identified by the integer 0, 1, 2, 3. When a request is created by a Customer's Management System, the initial state is 0 (customer agreement). That means that the Customer's Management System has initialized the parameters of his request and is waiting for the Service Provider's CNM System answer. The state has always this 0 value (customer agreement) when the Customer's Management System agrees with the current term of the request. In this way, the Service Provider's CNM System knows that the Customer's Management System is waiting for an answer.

If the Service Provider's CNM System accepts all the terms of the request, the state takes the value 2 (serviceBeingProcessed). That means that the execution of the request has begun (after which the it cannot be cancelled).

The state 3 (endOfProcessing) indicates that the service request has been realized. The resultList attribute can be consulted by the Customer's Management System.

If the Service Provider's CNM System cannot accept the proposal of the Customer's Management System, it modifies the parameters which it cannot accept and makes a new proposal to the Customer's Management System. In this case, the state attribute changes to 1 (providerAgreement). The new value of the state attribute warns the Customer's Management System that the Service Provider's CNM System is waiting for an answer from him. Then, the Customer'sManagement System can accept the request (it changes the state attribute to 0) or modifies some parameters it does not agree with and makes a new proposal (the state attribute changes to 0). This continues until both the Service Provider's CNM System and Customer's Management System agree on a proposal.

The service Provider's CNM System and the Customer's Management System can use a conditional package in the negotiation, the negotiationPackage package which contains the limitValidityDate attribute. This attribute can be used in turn by the Service Provider's CNM System and Customer's Management System during the negotiation phase. Every time one of them makes a new proposal to the other one, the requestor can use this attribute to indicate the limit validity date of its proposal. If there is no response from the interlocutor before this date, the request is no longer valid and the serviceRequest instance is deleted.

NOTE – When an attribute or a set of attributes is modified, the serviceRequest managed object generates an Attribute Value Change notification containing a list of the modified attributes, their old value(s), their new value(s), and the time of modification.

C.5 Retrieval of a service request

This service is used to allow the Customer's Management System to request the Service Provider's CNM System to retrieve attribute values of a Service Request managed object.

The Customer's Management System is informed that the requested service is available by an objectCreation notification emitted by the instance modelling the service provided.

The state diagram of the service request process is given in Figure C.1.

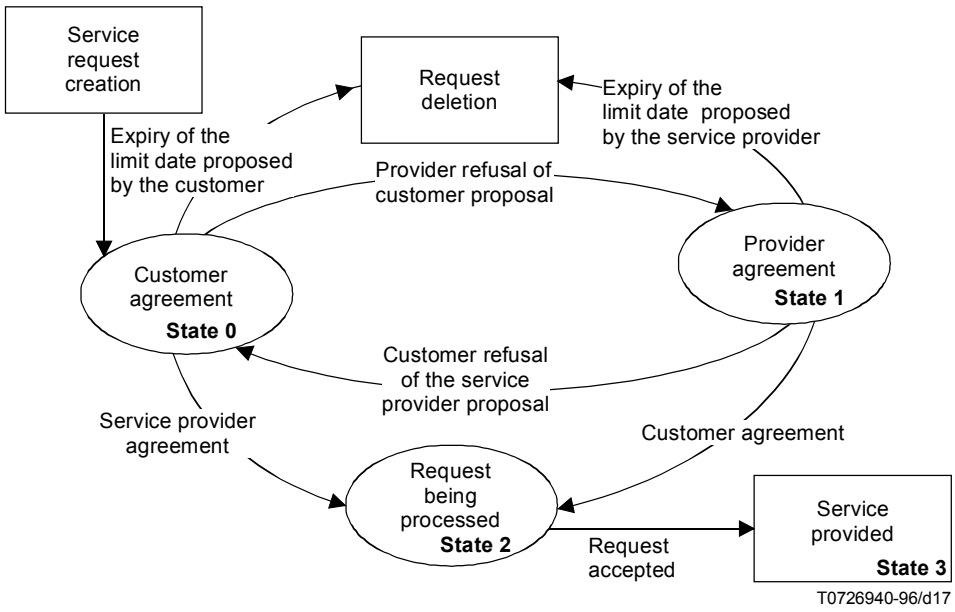


Figure C.1/X.162 – State diagram of the service request process

NOTE 1 – The CMIP argument optional parameter accessControl has no utility in the service request service.

NOTE 2 – The serviceRequest object allows the request of operation on instance. The concerned CMIP operations are ACTION, CREATE, DELETE, GET, SET (and not CANCEL-GET). A particular implementation can limit the number of CMIP operations.

Annex D

Element of procedure for provision of CNM services

This annex describes the element of procedure to be used for provision of CNM services through the CNMc interface.

D.1 Fault management

D.1.1 CNM alarm reporting service

The Alarm Reporting service is invoked by the Service Provider's CNM management system by issuing an MAPDU corresponding to an Alarm Report notification as defined in CCITT Rec. X.733 | ISO/IEC 10164-4. If the Alarm Report is sent in a confirmed mode, upon its receipt, the Customer's Management System will acknowledge it. This service is invoked only if the discrimination criterion of the EFD permits to report the notification to the Customer's Management System.

The State change reporting service is invoked by the Service Provider's CNM management system by issuing an MAPDU corresponding to a State Change reporting notification. If this MAPDU is sent in a confirmed mode, upon its receipt the Customer's Management System will acknowledge it. This service is invoked only if the discrimination criterion of the EFD permits to report the notification to the Customer's Management System.

The Alarm/state-change report suspension/resumption service is invoked by the Customer's Management System by issuing a PT-GET on the administrative state of the EFD.

The Alarm/state-change reporting control service is invoked by the Customer's Management System by issuing a PT-CREATE with the managed object class parameter set to the EFD OBJECT IDENTIFIER or by issuing a PT-GET to some or all of the GET-REPLACE EFD attributes except the Administrative State attribute.

D.1.2 Fault history service

A log and fault log record object instances used for this CNM service are automatically created in the service provider's CNM system after subscription of this service. This log object sieves alarms generated in the system and related to the customer are stored in the form of the log record. When a customer wants to retrieve a fault log record, he shall issue a PT-GET to the specified fault log record instance. By using the multiple object selection function, he may request multiple object instances. By using the filter function, he may select a log record of specific properties. The logging is controlled by the log object as defined in CCITT Rec. X.735 | ISO/IEC 10164-6. A customer may change criteria for logging by modifying the logDiscriminatorConstruct attribute in the fault log object.

D.1.3 CNM trouble report service

The elements of procedure for this CNM service are as specified in Recommendation X.790.

D.1.4 Loop setup service

One or more loopback point object instances used for this CNM service are automatically created in the service provider's CNM system after subscription of this service. This instance has the location pointer attribute, which identifies the point where data are looped back. When a customer wants to set up a loopback point, he shall issue a PT-SET to the specific loopback point instance by specifying its object instance identifier in order to activate the loopback point. Activation and deactivation are controlled by modifying the loopbackPointSetting attribute.

D.1.5 Test host service

There are two types of test host services, that is, the loopback test and the protocol integrity services.

D.1.5.1 Loopback test

The X.25 physical connection is the object to be tested. First, a customer who wants to use this CNM service shall set up a loopback point at the local end of the subscriber line. The X.25 physical connection object has a functionality to receive the customer's test action request, i.e. "ITU-T Rec. X.745 | ISO/IEC 10164-12": testRequestControlledAction. When a customer wants to let the service provider execute a loopback test, the customer sends a PT-ACTION to designate test conditions. This PT-ACTION shall contain necessary information with the specified format, i.e. "ITU-T Rec. X.737 | ISO/IEC 10164-14": loopbackTestInfoParam. When this action is not accepted, TARR returns error causes, such as "ITU-T Rec. X.745 | ISO/IEC 10164-12": independentTestInvocationError.

If this action is successfully received, an "ITU-T Rec. X.737 | ISO/IEC 10164-14": loopbackTest instance is created. An object creation notification is sent to the customer. The service provider sends a test pattern and checks the returned pattern. Test data are analysed in the service provider and a PT-EVENT-REPORT containing the result is sent to the customer.

D.1.5.2 Protocol integrity test

The protocol integrity test is executed in the X.25 protocol entity (cnmX25EntityTested). The cnmX25EntityTested object has a functionality to receive the customer's test action request, i.e. "ITU-T Rec. X.745 | ISO/IEC 10164-12": testRequestControlledAction. When a customer wants to let the service provider execute a protocol integrity test, the customer sends a PT-ACTION to designate test conditions. This PT-ACTION shall contain necessary information with the specified format, i.e. "ITU-T Rec. X.737 | ISO/IEC 10164-14": protocolIntegrityTestInfoParam. When this action is not accepted, TARR returns error causes, such as "ITU-T Rec. X.745 | ISO/IEC 10164-12": independentTestInvocationError.

If this action is successfully received, an "ITU-T Rec. X.737 | ISO/IEC 10164-14": protocolIntegrityTest instance is created. An object creation notification is sent to the customer. The customer sends data in the ordinary way and the service provider probes the data sequence. The service provider analyses it and judges whether or not the protocol integrity is kept. Finally, a PT-EVENT-REPORT containing the result is sent to the customer.

D.2 Configuration management

D.2.1 CNM configuration inquiry service

The complete configuration acquisition service is invoked by the Customer's Management System by issuing a scoped PT-GET service on the whole subtree. Upon receipt of the PT-GET, the Service Provider's CNM System will respond with the adequate number of linked replies.

The partial configuration acquisition service is invoked by the Customer's Management System by issuing a scoped and/or filtered PT-GET. Upon receipt of the PT-GET the Service Provider's CNM System will respond with the adequate number of linked replies.

The automatic configuration update service is invoked by the Service Provider's CNM System by spontaneously emitting an objectCreation, objectDeletion, attributeValueChange or stateChangeReporting notifications to the Customer's Management System. Depending on the service provider policy, these notifications may or may not need to be confirmed by the Customer's Management System.

D.2.2 CNM reconfiguration service

The attribute setting service is invoked by the Customer's Management System by issuing a PT-GET which may be scoped to the GET-REPLACE attributes of the objects to be modified.

The attribute setting reporting service in invoked by the Service Provider's CNM System by issuing one (or several) MAPDU corresponding to attribute value change reporting notification(s) of the modified object(s).

D.2.3 Systematic call redirection service

To initiate this CNM service, a customer may create a systematic call redirection list by a PT-CREATE. This PDU shall have information about the DTE address from which incoming calls are redirected and DTE addresses to which calls are redirected. The priority of redirection is the order of the elements in the SEQUENCE OF DTEAddress data type. Also, this object may be instantiated by the service provider after the subscription of this service. The same information is specified *a priori.*

After the instance is created, call redirection may be activated or deactivated by setting the availabilityState attribute by a PT-SET. The contents of the call redirection list may be modified, added or removed by a PT-SET.

The execution of the call redirection may be controlled by a schedule by specifying the interval start time and the duration by a PT-SET base on the daily scheduling definition of CCITT Rec. X.721 | ISO/IEC 10165-2.

D.3 CNM accounting service

D.3.1 Periodic billing service

A PT-EVENT-REPORT containing invoice items is sent from the cnmBillingController object to the customer, periodically, or when some event related to billing occurs. Invoice items shall be defined in the form of a notification based on CCITT Rec. X.721 | ISO/IEC 10165-2.

By setting the administrative state attribute by a PT-SET, the emission of notifications may be suspended and resumed.

D.3.2 Detailed accounting service

Accounting records are accumulated as usage metering record object instances. A customer may retrieve his own usage metering records by a PT-GET.

UsageMeteringRecord objects are automatically created as a consequence of the occurrence of accountable events in a customer's communication. Object creation notification may be sent to the customer.

D.4 Performance management

D.4.1 CNM traffic information service

The traffic data collection interval assignment service is invoked by the Customer's Management System by issuing a PT-SET service with the granularity period attributes set to one of the values allowed by the service provider.

The traffic data retrieval service is invoked by the Customer's Management System by issuing a PT-GET service on the currentPacketTrafficData, currentMLPTrafficData or currentSLPTrafficData managed objects.

The traffic data collection suspension/retention service is invoked by the Customer's Management System by issuing a PT-GET service with the administrativeState attribute set to the value Locked/unLocked.

The traffic data collection scheduling service is invoked by the Customer's Management System by issuing a PT-SET service with the values of the startTime and stopTime attributes or with the value of the intervalOfDay attribute.

The traffic history data duration assignment service is invoked by the Customer's Management System by issuing a PT-SET service with a permissible integer value for the historyRetention attribute.

The traffic history data retrieval service is invoked by the Customer's Management System by issuing a PT-SET service on historyPacketTrafficData, historyMLPTrafficData or historySLPTrafficData managed objects. Scoping and/or filtering criteria may be applied.

The zero suppressing service is used if currentPacketTrafficData, currentMLPTrafficData or currentSLPTrafficData managed objects have the zeroSuppression package and if an interval terminates with "all-zeros" performance measurements.

D.5 CNM security service

This service is for further study.

D.6 CNM supporting services

See Annex C.

Annex E[1]

MCS proforma

E.1 Introduction

E.1.1 Propose and structure

The management conformance summary (MCS) is a statement by a supplier that identifies an implementation and provides information on whether the implementation claims conformance to any of the listed set of documents that specify conformance requirements to OSI management.

The MCS proforma is a document, in the form of a questionnaire that when completed by the supplier of an implementation becomes the MCS.

E.1.2 Instructions for completing the MCS proforma to produce an MCS

The supplier of the implementation shall enter an explicit statement in each of the boxes provided. Specific instruction is provided in the text which precedes each table.

E.2 Identification of the Implementation

E.2.1 Date of Statement

The supplier of the implementation shall enter the date of this statement in the box below. Use the format DD-MM-YYYY.

Date of statement

E.2.2 Identification of the implementation

The supplier of the implementation shall enter information necessary to uniquely identify the implementation and the system(s) in which it may reside, in the box below.

E.2.3 Contact

The supplier of the implementation shall provide information on whom to contact if there are any queries concerning the content of the MCS, in the box below.

---

[1] **Copyright release for MCS proforma**

Users of this Recommendation may freely reproduce the MCS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MCS. Instructions for completing the MCS proforma are specified in ITU-T Rec. X.724 | ISO/IEC 10165-6.

E.3 Identification of the document in which the management information is defined

The supplier of the implementation shall enter the title, reference number and date of the publication of the document which specifies the management information to which conformance is claimed, in the box below.

Document to which conformance is claimed

E.3.1 Technical corrigenda implemented

The supplier of the implementation shall enter the reference numbers of implemented technical corrigenda which modify the specification in the identified document, in the box below.

E.3.2 Amendments implemented

The supplier of the implementation shall state the titles and reference numbers of implemented amendments to the identified document, in the box below.

E.4 Management conformance summary

The supplier of the implementation shall provide information on whether the implementation claims conformance to any of the set of documents globally representing the implementation under claim. For each document the supplier of the implementation claims conformance to, the corresponding conformance statement(s) shall be filled in, or referenced by, the MCS. Columns 7 (Support), 8 (Table numbers of PICS/MICS/MOCS/MRCS) and 9 (Additional information) are to be filled in by the supplier of the implementation.

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

m Mandatory;

o Optional;

c Conditional;

x Prohibited;

– Not applicable or out of scope,

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

NOTE 2 – The notation "o" may be suffixed by ".n" (where "n" is a unique number) for mutually exclusive or selectable options among a set of status values. The requirement for this numbered set shall be explicitly stated, preferably in a footnote to the relevant table.

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

Y implemented;

N not implemented;

– no answer required;

Ig the item is ignored (i.e. processed syntactically but not semantically).

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

Table E.1/X.162 – Roles

Index	Roles supported	Status	Support	Additional information
1	Manager role support	o		
2	Agent role support	o		

The supplier of the implementation shall specify support for the systems management functional units, in Table E.2.

Table E.2/X.162 – Systems management functional units

		Manager		Agent		
Index	**Systems management functional unit name**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	Basic functional unit	c1		c2		
2	Alarm reporting functional unit	c1		c2		
3	State management functional unit	c1		c2		
4	Basic report functional unit	c1		c2		
5	Extended report functional unit	c1		c2		
6	Monitor event report functional unit	c1		c2		
7	Monitor log functional unit	c1		c2		
8	Filter functional unit	c1		c2		
9	Multiple reply functional unit	c1		c2		
10	Control log functional unit	c1		c2		
11	Kernel functional unit	c1		c2		
12	Request trouble report format functional unit	c1		c2		
13	Add trouble information functional unit	c1		c2		
14	Trouble report status/commitment time update notification functional unit	c1		c2		
15	Verify trouble repair completion functional unit	c1		c2		
16	Modify trouble administration information functional unit	c1		c2		
17	Trouble administration configuration event notification functional unit	c1		c2		
18	Trouble report progress notification functional unit	c1		c2		
19	Cancel trouble report functional unit	c1		c2		
20	Extended modify trouble administration information functional unit	c1		c2		
21	Delete telecommunications trouble report functional unit	c1		c2		
22	Refer telecommunications trouble report functional unit	c1		c2		

Table E.2/X.162 – Systems management functional units *(concluded)*

		Manager		Agent		
Index	**Systems management functional unit name**	**Status**	**Support**	**Status**	**Support**	**Additional information**
23	Update state and status functional unit	c1		c2		
24	Repair activity object functional unit	c1		c2		
25	Provider trouble report control functional unit	c1		c2		
26	Review trouble history record functional unit	c1		c2		
27	Trouble history event notification functional unit	c1		c2		
28	Loop control functional unit	c1		c2		
29	Controlled test management functional unit	c1		c2		
30	Event report functional unit	c1		c2		
31	Control log functional unit	c1		c2		
32	Managed object selection functional unit	c1		c2		
33	Monitor functional unit	c1		c2		
34	Object event functional unit	c1		c2		
35	State change reporting functional unit	c1		c2		
36	Service request functional unit	c1		c2		
37	Redirection control functional unit	c1		c2		
38	Basic invoice report functional unit	c1		c2		
39	Enhanced invoice report functional unit	c1		c2		
40	Control traffic information collection functional unit	c1		c2		
c1: if E.1/1a then o else –. c2: if E.1/2a then o else –.						

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

Table E.3/X.162 – Manager role minimum conformance requirement

Index	**Item**	**Status**	**Support**	**Table reference**	**Additional information**
1	Operations on managed objects	c3			
2	Attribute Value Change notification	c4			
3	Object Creation notification	c4			
4	Object Deletion notification	c4			
5	State Change notification	c4			
6	Communication Alarm notification	c5			
7	Equipment Alarm notification	c5			
8	Environmental Alarm notification	c5			
9	Quality of Service Alarm notification	c6			
10	Processing Error Alarm notification	c7			
11	Scan Report notification	c8			
12	Invoice Report notification	c9			
14	Trouble History Event notification	c10			
15	Trouble Report Progress notification	c11			

Table E.3/X.162 – Manager role minimum conformance requirement *(concluded)*

Index	Item	Status	Support	Table reference	Additional information
13	Test Request Controlled action	c12			
14	Test Suspend Resume action	c12			
15	Test Terminate action	c12			

c3: if E.2/1b then m else –.

c4: if any of (E.2/4b through E.2/6b) or any of (E.2/9b through E.2/28b) or any of (E.2/31b through E.2/37b) or E.2/40b then m else –.

c5: if E.2/2b or E.2/4b or E.2/5b or E.2/6b or E.2/28b then m else –.

c6: if E.2/2b or E.2/28b then m else –.

c7: if any of (E.2/8b through E.2/10b) or any of (E.2/26b through E.2/28b) or any of (E.2/31b through E.2/35b) then m else –.

c8: if E.2/8b or E.2/9b or E.2/32b or E.2/33b or E.2/40b then m else –.

c9: if E.2/38b or E.2/39b then m else –.

c10: if E.2/27b then m else –.

c11: if E.2/18b then m else –.

c12: if E.2/29b then m else –.

NOTE – Manager role minimum conformance requires support for at least one of the items identified in Table E.3. Support for either of the functional units identified in Table E.2 mandates support for some of those items.

The supplier of the implementation shall specify support for management information in the agent role, in Table E.4. If additional subclasses of log records are supported, the supplier of the implementation shall list the classes in the Additional information column.

Table E.4/X.162 – Agent role minimum conformance requirement

Index	Item	Status	Support	Table reference	Additional information
1	CNM X.25 Entity managed object	c13			
2	X.25 Termination Point managed object	c13			
3	PDN Fault Log Record managed object	c13			
4	PDN Telecommunications Trouble Report managed object	c13			
5	PDN Trouble History Record managed object	c13			
6	CNM Loopback Point managed object	c13			
7	X.25 Physical Connection managed object	c13			
8	CNM X.25 Entity Tested managed object	c13			
9	X.25 Service Profile managed object	c13			
10	MLP Profile managed object	c13			
11	SLP Profile managed object	c13			
12	X.25 PVC Profile managed object	c13			
13	Closed User Group Profile managed object	c13			
14	Hunt Group Profile managed object	c13			
15	CNM User managed object	c13			
16	Customer managed object	c13			
17	Location managed object	c13			
18	Redirection List managed object	c13			
19	CNM Billing Controller managed object	c13			
20	Current Packet Traffic Data managed object	c13			
21	History Packet Traffic Data managed object	c13			

Table E.4/X.162 – Agent role minimum conformance requirement *(concluded)*

Index	Item	Status	Support	Table reference	Additional information
22	MLP Monitored Point managed object	c13			
23	Current MLP Traffic Data managed object	c13			
24	History MLP Traffic Data managed object	c13			
25	Current SLP Traffic Data managed object	c13			
26	History SLP Traffic Data managed object	c13			
27	Service Request managed object	c13			
28	Subclasses of log records associated with notifications emitted	c14			
29	Attribute Value Change notification	c15			
30	Object Creation notification	c15			
31	Object Deletion notification	c15			
32	State Change notification	c15			
33	Communication Alarm notification	c16			
34	Equipment Alarm notification	c16			
35	Environmental Alarm notification	c16			
36	Quality of Service Alarm notification	c17			
37	Processing Error Alarm notification	c18			
38	Scan Report notification	c19			
39	Invoice Report notification	c20			
40	Trouble History Event notification	c21			
41	Trouble Report Progress notification	c22			
42	Test Request Controlled action	c23			
43	Test Suspend Resume action	c23			
44	Test Terminate action	c23			

c13: if E.1/2b then m else –.

c14: if E.1/2a and E.5/1a then m else –.

c15: if any of (E.2/4d through E.2/6d) or any of (E.2/9d through E.2/28d) or any of (E.2/31d through E.2/37d) or E.2/40d then m else –.

c16: if E.2/2d or E.2/4d or E.2/5d or E.2/6d or E.2/28d then m else –.

c17: if E.2/2d or E.2/28d then m else –.

c18: if any of (E.2/8d through E.2/10d) or any of (E.2/26d through E.2/28d) or any of (E.2/31d through E.2/35d) then m else –.

c19: if E.2/8d or E.2/9d or E.2/32d or E.2/33d or E.2/40d then m else –.

c20: if E.2/38d or E.2/39d then m else –.

c21: if E.2/27d then m else –.

c22: if E.2/18d then m else –.

c23: if E.2/29d then m else –.

NOTE – The Table reference column in the above table is the reference to a MOCS provided with the conformance claim for a managed object, which imports the notification from this specification.

Table E.5/X.162 – Logging of event records

Index	Item	Status	Support	Additional information
1	Does the implementation support logging of event records in the agent role?	c24		

c24: if E.1/2a then o else –.

NOTE – Conformance to this Recommendation does not require conformance to CCITT Rec. X.735 | ISO/IEC 10164-6.

The supplier of the implementation shall provide information on claims of conformance to any of the Recommendations | International Standards summarized in the following tables. For each Recommendation | International Standard that the supplier of the implementation claims conformance to, the corresponding conformance statement(s) shall be completed, or referenced by, the MCS. The supplier of the implementation shall complete the Support, Table numbers and Additional information.

In Tables E.6, E.7, E.8 and E.9 the Status column is used to indicate whether the supplier of the implementation is required to complete the referenced tables or referenced items. Conformance requirements are as specified in the referenced tables or referenced items and are not changed by the MCS Status column. Similarly, the Support column is used by the supplier of the implementation to indicate completion of the referenced tables or referenced items.

Table E.6/X.162 – PICS support summary

Index	Identification of the document that includes the PICS proforma	The numbers of PICS proforma	Description	Constraints and Values	Status	Support	Table numbers of PICS	Additional Information
1	CCITT Rec. X.730 | ISO/IEC 10164-1	Annex E all tables	SM application context	OBJECT IDENTIFIER	m			

Table E.7/X.162 – MOCS support summary

Index	Identification of the document that includes the MOCS proforma	The numbers of MOCS proforma	Description	Constraints and Values	Status	Support	Table numbers of MOCS	Additional Information
1	ITU-T Rec. M.3100	ITU-T Rec. X.162 Tables G.136 to G.139	network		m			
2	ITU-T Rec. M.3100	ITU-T Rec. X.162 Tables G.140 to G.145	equipment		c25			
3	ITU-T Rec. M.3100	ITU-T Rec. X.162 Tables G.146 to G.151	managedElement		c26			
4	CCITT Rec. X.721 | ISO/IEC 10165-2		eventForwardingDiscriminator		c27			
5	ITU-T Rec. X.162	Tables G.1 to G.4	cnmX25Entity		c28			
6	ITU-T Rec. X.162	Tables G.5 to G.10	x25TerminationPoint		c29			
7	CCITT Rec. X.735 | ISO/IEC 10164-6	Tables G.1 to G.4	log		c30			
8	ITU-T Rec. X.162	Tables G.11 to G.14	pdnFaultLogRecord		c31			
9	ITU-T Rec. X.162	Tables G.15 to G.19	pdnTelecommunicationsTroubleReport		c32			
10	ITU-T Rec. X.790	Tables B4.1 to B4.10	providerTroubleReport		c33			
11	ITU-T Rec. X.790	Tables 10.1 to 10.10	troubleReportFormatDefinition		c34			
12	ITU-T Rec. X.790	Tables 3.1 to 3.10	contact		c35			
13	ITU-T Rec. X.790	Tables 5.1 to 5.10	repairActivity		c36			

Table E.7/X.162 – MOCS support summary *(continued)*

Index	Identification of the document that includes the MOCS proforma	The numbers of MOCS proforma	Description	Constraints and Values	Status	Support	Table numbers of MOCS	Additional Information
14	ITU-T Rec. X.162	Tables G.20 to G.23	pdnTroubleHistoryRecord		c37			
15	ITU-T Rec. X.162	Tables G.24 to G.29	cnmLoopbackPoint		c38			
16	ITU-T Rec. X.737	Annex F all tables	loopbackTest		c39			
17	ITU-T Rec. X.162	Tables G.30 to G.35	x25PhysicalConnection		c40			
18	ITU-T Rec. X.162	Tables G.36 to G.41	cnmX25EntityTested		c41			
19	ITU-T Rec. X.737	Annex G all tables	protocolIntegrityTest		c42			
20	ITU-T Rec. X.162	Tables G.42 to G.46	x25ServiceProfile		c43			
21	ITU-T Rec. X.162	Tables G.47 to G.50	mlpProfile		c44			
22	ITU-T Rec. X.162	Tables G.51 to G.54	slpProfile		c45			
23	ITU-T Rec. X.162	Tables G.55 to G.59	x25PvcProfile		c46			
24	ITU-T Rec. X.162	Tables G.60 to G.64	cugProfile		c47			
25	ITU-T Rec. X.162	Tables G.65 to G.69	hgProfile		c48			
26	ITU-T Rec. X.162	Tables G.70 to G.74	cnmUser		c49			
27	ITU-T Rec. X.162	Tables G.75 to G.79	customer		c50			
28	ITU-T Rec. X.162	Tables G.80 to G.84	location		c51			
29	ITU-T Rec. X.162	Tables G.85 to G.88	redirectionList		c52			
30	ITU-T Rec. X.162	Tables G.89 to G.93	cnmBillingController		c53			
31	ITU-T Rec. X.742 | 10164-10		usageMeteringRecord		c54			
32	ITU-T Rec. X.162	Tables G.94 to G.99	currentPacketTrafficData		c55			
33	ITU-T Rec. X.162	Tables G.100 to G.104	historyPacketTrafficData		c56			
34	ITU-T Rec. X.162	Tables G.105 to G.108	mlpMonitoredPoint		c57			
35	ITU-T Rec. X.162	Tables G.109 to G.114	currentMlpTrafficData		c58			
36	ITU-T Rec. X.162	Tables G.115 to G.119	historyMlpTrafficData		c59			
37	ITU-T Rec. X.162	Tables G.120 to G.125	currentSlpTrafficData		c60			
38	ITU-T Rec. X.162	Tables G.126 to G.130	historySlpTrafficData		c61			
39	ITU-T Rec. X.162	Tables G.131 to G.135	serviceRequest		c62			

Table E.7/X.162 – MOCS support summary *(concluded)*

c25: if any of (E.2/2a through E.2/6a) then m else –.
c26: if any of (E.2/2a through E.2/6a) or E.4/3a or E.2/28a or E.2/8a or any of (E.2/32a through E.2/34a) then m else –.
c27: if any of (E.2/2a through E.2/6a) then m else –.
c28: if E.4/1a then m else –.
c29: if E.4/2a then m else –.
c30: if any of (E.2/7a through E.2/10a) then m else –.
c31: if E.4/3a then m else –.
c32: if E.4/4a then m else –.
c33: if E.2/25a then m else –.
c34: if any of (E.2/11a through E.2/24a) then m else –.
c35: if E.2/8a or E.2/9a or any of (E.2/11a through E.2/24a) or any of (E.2/32a through E.2/35a) then m else –.
c36: it is the same as c11 –.
c37: if E.4/5a then m else –.
c38: if E.4/6a then m else –.
c39: if any of (E.2/29a through E.2/31a) then m else –.
c40: if E.4/7a then m else –.
c41: if E.4/8a then m else –.
c42: if E.2/29a or E.2/30a or E.2/31a then m else –.
c43: if E.4/9a then m else –.
c44: if E.4/10a then m else –.
c45: if E.4/11a then m else –.
c46: if E.4/12a then m else –.
c47: if E.4/13a then m else –.
c48: if E.4/14a then m else –.
c49: if E.4/15a then m else –.
c50: if E.4/16a then m else –.
c51: if E.4/17a then m else –.
c52: if E.4/18a then m else –.
c53: if E.4/19a then m else –.
c54: if E.2/8a or E.2/9a or E.2/32a or E.2/33a then m else –.
c55: if E.4/20a then m else –.
c56: if E.4/21a then m else –.
c57: if E.4/22a then m else –.
58: if E.4/23a then m else –.
59: if E.4/24a then m else –.
c60: if E.4/25a then m else –.
c61: if E.4/26a then m else –.
c62: if E.4/27a then m else –.

Table E.8/X.162 – MRCS support summary

Index	Identification of the document that includes the MRCS proforma	The numbers of MRCS proforma	Description	Constraints and Values	Status	Support	Table numbers of MRCS	Additional Information
1	ITU-T Rec. M.3100	ITU-T Rec. X.162 Table H.1	network-network-NB		m			
2	ITU-T Rec. X.162	Table H.1	cnmX25Entity-network-NB		c63			
3	ITU-T Rec. X.162	Table H.1	x25TerminationPoint-network-NB		c64			
4	ITU-T Rec. X.162	Table H.1	equipment-x25TerminationPoint-NB		c65			
5	ITU-T Rec. M.3100	ITU-T Rec. X.162 Table H.1	managedElement-network-NB		c66			
6	ITU-T Rec. X.162	Table H.1	eventForwardingDiscriminator-managed Element-NB		c67			
7	ITU-T Rec. X.162	Table H.1	pdnFaultLogRecord-managedElement-NB		c68			
8	ITU-T Rec. X.162	Table H.1	pdnTelecommunicationsTroubleReport-network-NB		c69			
9	ITU-T Rec. X.790	Table H.1	providerTroubleReport-network-NB		c70			
10	ITU-T Rec. X.790	Table H.1	troubleReportFormatDefinition-network-NB		c71			

Table E.8/X.162 – MRCS support summary *(concluded)*

Index	Identification of the document that includes the MRCS proforma	The numbers of MRCS proforma	Description	Constraints and Values	Status	Support	Table numbers of MRCS	Additional Information
11	ITU-T Rec. X.162	Table H.1	repairActivity-pdnTelecommunicationTroubleReport-NB		c72			
12	ITU-T Rec. X.162	Table H.1	pdnTroubleHistoryRecord-log-NB		c73			
13	ITU-T Rec. X.790	Table 3.10	contact-network		c74			
14	ITU-T Rec. X.162	Table H.1	log-managedElement-NB		c75			
15	ITU-T Rec. X.162	Table H.1	cnmLoopbackPoint-network-NB		c76			
16	ITU-T Rec. X.162	Table H.1	cnmX25EntityTested-network-NB		c77			
17	ITU-T Rec. X.162	Table H.1	loopbackTest-managedElement-NB		c78			
18	ITU-T Rec. X.162	Table H.1	protocolIntegrityTest-managedElement-NB		c79			
19	ITU-T Rec. X.162	Table H.1	x25PhysicalConnection-x25TerminationPoint-NB		c80			
20	ITU-T Rec. X.162	Table H.1	x25ServiceProfile-network-NB		c81			
21	ITU-T Rec. X.162	Table H.1	mlpProfile-x25ServiceProfile-NB		c82			
22	ITU-T Rec. X.162	Table H.1	slpProfile-x25ServiceProfile-NB		c83			
23	ITU-T Rec. X.162	Table H.1	x25PvcProfile-x25ServiceProfile-NB		c84			
24	ITU-T Rec. X.162	Table H.1	cugProfile-network-NB		c85			
25	ITU-T Rec. X.162	Table H.1	hgProfile-network-NB		c86			
26	ITU-T Rec. X.162	Table H.1	customer-network-NB		c87			
27	ITU-T Rec. X.162	Table H.1	cnmUser-customer-NB		c88			
28	ITU-T Rec. X.162	Table H.1	location-network-NB		c89			
29	ITU-T Rec. X.162	Table H.1	redirectionList-cnmX25Entity-NB		c90			
30	ITU-T Rec. X.162	Table H.1	cnmBillingController-managedElement-NB		c91			
31	ITU-T Rec. X.742		usageMeteringRecord-log		c92			
32	ITU-T Rec. X.162	Table H.1	currentPacketTrafficData-cnmX25Entity-NB		c93			
33	ITU-T Rec. X.162	Table H.1	historyPacketTrafficData-currentPacketTrafficData-NB		c94			
34	ITU-T Rec. X.162	Table H.1	mlpMonitoredPoint-cnmX25Entity-NB		c95			
35	ITU-T Rec. X.162	Table H.1	currentMlpTrafficData-mlpMonitoredPoint-NB		c96			

Table E.8/X.162 – MRCS support summary *(continued)*

Index	Identification of the document that includes the MRCS proforma	The numbers of MRCS proforma	Description	Constraints and Values	Status	Support	Table numbers of MRCS	Additional Information
36	ITU-T Rec. X.162	Table H.1	historyMlpTrafficData-currentMlpTrafficData-NB		c97			
37	ITU-T Rec. X.162	Table H.1	currentSlpTrafficData-cnmX25Entity-NB		c98			
38	ITU-T Rec. X.162	Table H.1	historySlpTrafficData-currentSlpTraffi cData-NB		c99			
39	ITU-T Rec. X.162	Table H.1	serviceRequest-managedElement		c100			

c63: if E.7/5c then m else –.
c64: if E.7/6c then m else –.
c65: if E.7/2c and E.7/6c then m else –.
c66: if E.7/3c then m else –.
c67: if E.7/3c and E.7/4c then m else –.
c68: if E.7/3c and E.7/8c then m else –.
c69: if E.7/9c then m else –.
c70: if E.7/10c then m else –.
c71: if E.7/11c then m else –.
c72: if E.7/9c and E.7/13c then m else –.
c73: if E.7/7c and E.7/14c then m else –.
c74: if E.7/12c then m else –.
c75: if E.7/3c and E.7/7c then m else –.
c76: if E.7/15c then m else –.
c77: if E.7/18c then m else –.
c78: if E.7/3c and E.7/16c then m else –.
c79: if E.7/3c and E.7/19c then m else –.
c80: if E.7/6c and E.7/17c then m else –.
c81: if E.7/20c then m else –.
c82: if E.7/20c and E.7/21c then m else –.
c83: if E.7/20c and E.7/22c then m else –.
c84: if E.7/20c and E.7/23c then m else –.
c85: if E.7/24c then m else –.
c86: if E.7/25c then m else –.
c87: if E.7/27c then m else –.
c88: if E.7/26c then m else –.
c89: if E.7/28c then m else –.
c90: if E.7/5c and E.7/29c then m else –.
c91: if E.7/3c and E.7/30c then m else –.
c92: if E.7/31c then m else –.
c93: if E.7/5c and E.7/32 then m else –.
c94: if E.7/32c and E.7/33c then m else –.
c95: if E.7/5c and E.7/34c then m else –.
c96: if E.7/34c and E.7/35c then m else –.
c97: if E.7/35c and E.7/36c then m else –.
c98: if E.7/5c and E.7/37c then m else –.
c99: if E.7/37c and E.7/38c then m else –.
c100: if E.7/3c and E.7/39c then m else –.

Table E.9/X.162 – MICS support summary

Index	Identification of the document that includes the MICS proforma	The numbers of MICS proforma	Description	Constraints and Values	Status	Support	Table numbers of MICS	Additional Information
1	ITU-T Rec. X.162	Tables F.2 to F.9	management operations		c101			
2	CCITT Rec. X.730 | ISO/IEC 10164-1	Table B.1	attributeValueChange, objectCreation, objectDeletion, notifications		c102			
3	CCITT Rec. X.731 | ISO/IEC 10164-2	Table B.1	stateChange notification		c103			
4	CCITT Rec. X.733 | ISO/IEC 10164-4	Table B.1	communicationAlarm, environmentalAlarm, equipmentAlarm, processingErrorAlarm, qualityofServiceAlarm, notifications		c104			
5	ITU-T Rec. X.738 | ISO/IEC 10164-13	Table C.11	scanReport notification		c105			
6	ITU-T Rec. X.790		troubleHistoryEvent, troubleReportProgress notifications		c106			
7	ITU-T Rec. X.162	Table F.1	invoiceReport notification		c107			

c101: if E.3/1a then m else –.

c102: if any of (E.3/2a through E.3/4) or any of (E.4/29a through E.4/31a) then m else –.

c103: if E.3/5a or E.4/32a then m else –.

c104: if any of (E.3/6a through E.3/10a) or any of (E.4/33a through E.4/37a) then m else –.

c105: if E.3/11a or E.4/38a then m else –.

c106: if E.3/13a or E.3/14a or E.4/40a or E.4/41a then m else –.

c107: if E.3/12a or E.4/39a then m else –.

Annex F[2]

MICS proforma

F.1 Introduction

MICS proformas are intended to be filled in by a supplier of an implementation.

F.2 Instructions

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

F.3 Symbols, abbreviations and terms

The following abbreviations are used throughout the MICS proforma:

cnmNotification itu-t(0) recommendation(0) x(24) 162 cnmNotification(10)

F.4 Statement of conformance to the management information

F.4.1 Notification

The specifier of a manager role implementation that claims to support the notifications specified in this Recommendation shall import a copy of this table and complete it.

Table F.1/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification type**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	invoiceReport	{cnmNotification 1}		c1			

Table F.1/X.162 – Notification support *(concluded)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier of attribute type associated with field**	**Constraints and values**	**Status**	**Support**	**Additional information**
1	11	invoiceInfo	–		m		
	1.1.1	serviceProviderName	–		m		
	1.1.2	invoiceData	–		m		
c1: if E.3/12a then m else –.							

F.4.2 Create and delete management operations

The specifier of a manager role implementation that claims to support the create or delete management operations on the managed objects specified in this document shall import a copy of this table and complete it.

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[2] **Copyright release for MICS proforma**

Users of this Recommendation may freely reproduce the MICS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MICS. Instructions for completing the MICS proforma are specified in ITU-T Rec. X.724 | ISO/IEC 10165-6.

F.4.2.1 cnmBillingController

Table F.2/X.162 – Create and delete support

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

F.4.2.2 currentPacketTrafficData

Table F.3/X.162 – Create and delete support

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

F.4.2.3 historyPacketTrafficData

Table F.4/X.162 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	o		
1.1	Create with reference object	–	c:o.3		
2	Delete support	–	o		

F.4.2.4 currentMlpTrafficData

Table F.5/X.162 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	o		
1.1	Create with reference object	–	c:o.4		
2	Delete support	–	o		

F.4.2.5 historyMlpTrafficData

Table F.6/X.162 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	o		
1.1	Create with reference object	–	c:o.5		
2	Delete support	–	o		

F.4.2.6 currentSlpTrafficData

Table F.7/X.162 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	o		
1.1	Create with reference object	–	c:o.6		
2	Delete support	–	o		

F.4.2.7 historySlpTrafficData

Table F.8/X.162 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	o		
1.1	Create with reference object	–	c:o.7		
2	Delete support	–	o		

F.4.2.8 serviceRequest

Table F.9/X.162 – Create and delete support

Index	Operation	Constraints and values	Status	Support	Additional information
1	Create support	–	o		
1.1	Create with reference object	–	c:o.8		
2	Delete support	–	o		

Annex G[3]

MOCS proforma

G.1 Introduction

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

G.1.1 Symbols, abbreviations and terms

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

The following abbreviations are used throughout this proforma.

q821Parameter	itu-t(0) recommendation(0) q(17) q821(821) informationMode(0) parameter(5)
q821Action	itu-t(0) recommendation(0) q(17) q821(821) informationMode(0) action(3)
x790Package	itu-t(0) recommendation(0) x(24) x790(790) informationModel(0) package(4)
x790Attribute	itu-t(0) recommendation(0) x(24) x790(790) informationModel(0) attribute(7)
dmi-att	joint-iso-itu-t ms(9) smi(3) part2(2) attribute(7)
dmi-nb	joint-iso-itu-t ms(9) smi(3) part2(2) nameBinding(6)
dmi-not	joint-iso-itu-t ms(9) smi(3) part2(2) notification(10)
dmi-pkg	joint-iso-itu-t ms(9) smi(3) part2(2) package(4)
NLM.aoi	joint-iso-itu-t network-layer(13) management(0) nLM(2) attribute(7)
DLM.aoi	joint-iso-itu-t datalink-layer(15) management(0) attribute(7)
PHLM.aoi	joint-iso-itu-t physical-layer(18) management(0) attribute(7)
m3100ObjectClass	itu-t recommendation m gnm(3100) informationModel(0) managedObjectClass(3)
m3100Attribute	itu-t recommendation m gnm(3100) informationModel(0) attribute(7)
m3100NameBinding	itu-t recommendation m gnm(3100) informationModel(0) nameBinding(6)
m3100Notification	itu-t recommendation m gnm(3100) informationModel(0) notification(10)
m3100Package	itu-t recommendation m gnm(3100) informationModel(0) package(4)
umf-att	joint-iso-itu-t ms(9) function(2) part10(10) attribute(7)
moa-att	joint-iso-itu-t ms(9) function(2) part11(11) attribute(7)
moa-pkg	joint-iso-itu-t ms(9) function(2) part11(11) package(4)
part12Action	joint-iso-itu-t ms(9) function(2) part12(12) action(3)
part12Attribute	joint-iso-itu-t ms(9) function(2) part12(12) attribute(4)
part12Parameter	joint-iso-itu-t ms(9) function(2) part12(12) parameter(5)
part14Parameter	joint-iso-itu-t ms(9) function(2) part14(14) parameter(5)
summ-pkg	joint-iso-itu-t ms(9) function(2) part13(13) package(10)
summ-att	joint-iso-itu-t ms(9) function(2) part13(13) attribute(7)
summ-not	joint-iso-itu-t ms(9) function(2) part13(13) notification(10)
cnmObjectClass	itu-t(0) recommendation(0) x(24) 162 cnmObjectClass(3)
cnmPackage	itu-t(0) recommendation(0) x(24) 162 cnmPackage(4)

[3] **Copyright release for MOCS proforma**

Users of this Recommendation may freely reproduce the MOCS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MOCS. Instructions for completing the MOCS proforma are specified in ITU-T Rec. X.724 | ISO/IEC 10165-6.

cnmParameter itu-t(0) recommendation(0) x(24) 162 cnmParameter(5)

cnmNameBinding itu-t(0) recommendation(0) x(24) 162 cnmNameBinding(6)

cnmAttribute itu-t(0) recommendation(0) x(24) 162 cnmAttribute(7)

cnmNotification itu-t(0) recommendation(0) x(24) 162 cnmNotification(10)

The following common notations, defined in ITU-T Rec. X.291 | ISO/IEC 9646-2 are used for the status column:

c Conditional

m Mandatory

o Optional

x Prohibited

– Not applicable

The following common notations, defined in ITU-T Rec. X.291 | ISO/IEC 9646-2 are used for the support column:

Ig the item is ignored (i.e. processed syntactically but not semantically)

N not implemented

Y implemented

– not applicable

G.2 Instructions for completing the MOCS proforma to produce a MOCS

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

G.3 cnmX25Entity

G.3.1 Statement of conformance to the managed object class

Table G.1/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	cnmX25Entity	{cnmObjectClass 1}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.2/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.3.2 Packages

Table G.3/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c1		
3	allomorphicPackage	{dmi-pkg 17}		c2		
4	cnmX25Entity-P	–		m		
c1: if G.3/3a then m else –. c2: if G.1/b then – else m.						

G.3.3 Attributes

Table G.4/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c3		–	
4	allomorphs	{dmi-att 50}		–		c4		–	
5	cnmX25EntityId	{cnmAttribute 25}		–		m		–	
6	administrativeState	{dmi-att 31}		m		m		m	

Table G.4/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
c3: if G.3/2a then m else –. c4: if G.3/3a then m else –.							

G.4 x25TerminationPoint

G.4.1 Statement of conformance to the managed object class

Table G.5/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	x25TerminationPoint	{cnmObjectClass 2}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.6/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.4.2 Packages

Table G.7/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c5		
3	allomorphicPackage	{dmi-pkg 17}		c6		
4	terminationPointPackage	–		m		
5	createDeleteNotificationPackage	{m3100Package 10}		o		
6	attributeValueChangeNotificationPackage	{m3100Package 4}		o		
7	stateChangeNotificationPackage	{m3100Package 28}		o		
8	operationalStatePackage	{m3100Package 19}		o		
9	crossConnectionPointerPackage	{m3100Package 11}		o		
10	characteristicInformationPackage	{m3100Package 7}		o		
11	networkLevelPackage	{m3100Package 18}		o		
12	tmnCommunicationAlarmInformationPackage	{m3100Package 30}		o		
13	alarmSeverityAssignmentPointerPackage	{m3100Package 3}		o		
14	x25TerminationPoint-P			m		
c5: if G.7/3a or any of (G.7/5a through G.7/13a) then m else –. c6: if G.5/1b then – else m.						

G.4.3 Attributes

Table G.8/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c7		–	
4	allomorphs	{dmi-att 50}		–		c8		–	
5	supportedByObjectList	{m3100Attribute 40}		–		m		–	
6	operationalState	{dmi-att 35}		–		c9		–	
7	crossConnectionObjectPointer	{m3100Attribute 16}		–		c10		–	
8	characteristicInformation	{m3100Attribute 8}				c11		–	
9	networkLevelPointer	{m3100Attribute 31}		c12		c12		c12	
10	alarmStatus	{m3100Attribute 6}		–		c13		–	
11	currentProblemList	{m3100Attribute 17}		–		c14		–	
12	alarmSeverityAssignmentProfilePointer	{m3100Attribute 3}		c15		c15		c15	
13	x25TerminationPointId	{cnmAttribute 34}		–		m		–	
14	administrativeState	{dmi-att 14}		m		m		m	

Table G.8/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		

c7: if G.7/3a then m else –.
c8: if G.7/3a then m else –.
c9: if G.7/8a then m else –.
c10: if G.7/9a then m else –.
c11: if G.7/10a then m else –.
c12: if G.7/11a then m else –.
c13: if G.7/12a then m else –.
c14: if G.7/12a then m else –.
c15: if G.7/13a then m else –.

G.4.4 Notifications

Table G.9/X.162 – Notification support

Index	Notification type template label	Value of object identifier for notification	Constraints and values	Status	Support		Additional information
					Confirmed	Non-Confirmed	
1	objectCreation	{dmi-not 6}		c16			
2	objectDeletion	{dmi-not 7}		c16			
3	attributeValueChange	{dmi-not 1}		c17			
4	stateChange	{dmi-not 14}		c18			
5	communicationAlarm	{dmi-not 2}		c19			
6	qualityofServiceAlarm	{dmi-not 11}		m			
7	processingErrorAlarm	{dmi-not 10}		m			
8	equipmentAlarm	{dmi-not 4}		m			
9	environmentAlarm	{dmi-not 3}		m			

Table G.9/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c20		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.1		
	1.4.2.2	nonSpecificForm	–		c:o.1		
	1.4.2.3	localDistinguishedName	–		c:o.1		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c21		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.2		
	2.4.2.2	nonSpecificForm	–		c:o.2		
	2.4.2.3	localDistinguishedName	–		c:o.2		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		

Table G.9/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
3	3.1	sourceIndicator	{dmi-att 26}		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeID	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c22		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.3		
	3.5.2.2	nonSpecificForm	–		c:o.3		
	3.5.2.3	localDistinguishedName	–		c:o.3		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
4	4.1	sourceIndicator	{dmi-att 26}		o		
	4.2	attributeIdentifierList	{dmi-att 8}		o		
	4.3	stateChangeDefinition	{dmi-att 28}		m		
	4.3.1	attributeID	–		m		
	4.3.2	oldAttributeValue	–		o		
	4.3.3	newAttributeValue	–		m		
	4.4	notificationIdentifier	{dmi-att 16}		c23		
	4.5	correlatedNotifications	{dmi-att 12}		o		
	4.5.1	correlatedNotification	–		c:m		
	4.5.2	sourceObjectInst	–		c:o		
	4.5.2.1	distinguishedName	–		c:o.4		
	4.5.2.2	nonSpecificForm	–		c:o.4		
	4.5.2.3	localDistinguishedName	–		c:o.4		
	4.6	additionalText	{dmi-att 7}		o		
	4.7	additionalInformation	{dmi-att 6}		o		
5	5.1	probableCause	{dmi-att 18}		m		
	5.2	specificProblems	{dmi-att 27}		o		
	5.3	perceivedSeverity	{dmi-att 17}		o		
	5.4	backedUpStatus	{dmi-att 11}		o		
	5.5	backUpObject	{dmi-att 40}		o		
	5.6	trendIndication	{dmi-att 30}		o		
	5.7	thresholdInfo	{dmi-att 29}		o		
	5.8	notificationIdentifier	{dmi-att 16}		c24		

Table G.9/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
5	5.9	correlatedNotifications	{dmi-att 12}		o		
	5.9.1	correlatedNotification	–		c:m		
	5.9.2	sourceObjectInst	–		c:o.5		
	5.9.2.1	distinguishedName	–		c:o.5		
	5.9.2.2	nonSpecificForm	–		c:o.5		
	5.9.2.3	localDistinguishedName	–		c:o.5		
	5.10	stateChangeDefinition	{dmi-att 28}		o		
	5.11	monitoredAttributes	{dmi-att 15}		o		
	5.12	proposedRepairActions	{dmi-att 19}		o		
	5.13	additionalText	{dmi-att 7}		o		
	5.14	additionalInformation	{dmi-att 6}		o		
6	6.1	probableCause	{dmi-att 18}		m		
	6.2	specificProblems	{dmi-att 27}		o		
	6.3	perceivedSeverity	{dmi-att 17}		o		
	6.4	backedUpStatus	{dmi-att 11}		o		
	6.5	backUpObject	{dmi-att 40}		o		
	6.6	trendIndication	{dmi-att 30}		o		
	6.7	thresholdInfo	{dmi-att 29}		o		
	6.8	notificationIdentifier	{dmi-att 16}		c25		
	6.9	correlatedNotifications	{dmi-att 12}		o		
	6.9.1	correlatedNotification	–		c:m		
	6.9.2	sourceObjectInst	–		c:o		
	6.9.2.1	distinguishedName	–		c:o.6		
	6.9.2.2	nonSpecificForm	–		c:o.6		
	6.9.2.3	localDistinguishedName	–		c:o.6		
	6.10	stateChangeDefinition	{dmi-att 28}		o		
	6.11	monitoredAttributes	{dmi-att 15}		o		
	6.12	proposedRepairActions	{dmi-att 19}		o		
	6.13	additionalText	{dmi-att 7}		o		
	6.14	additionalInformation	{dmi-att 6}		o		
7	7.1	probableCause	{dmi-att 18}		m		
	7.2	specificProblems	{dmi-att 27}		o		
	7.3	perceivedSeverity	{dmi-att 17}		o		
	7.4	backedUpStatus	{dmi-att 11}		o		
	7.5	backUpObject	{dmi-att 40}		o		
	7.6	trendIndication	{dmi-att 30}		o		
	7.7	thresholdInfo	{dmi-att 29}		o		
	7.8	notificationIdentifier	{dmi-att 16}		c26		
	7.9	correlatedNotifications	{dmi-att 12}		o		
	7.9.1	correlatedNotification	–		c:m		

Table G.9/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
7	7.9.2	sourceObjectInst	–		c:o.7		
	7.9.2.1	distinguishedName	–		c:o.7		
	7.9.2.2	nonSpecificForm	–		c:o.7		
	7.9.2.3	localDistinguishedName	–		c:o.7		
	7.10	stateChangeDefinition	{dmi-att 28}		o		
	7.11	monitoredAttributes	{dmi-att 15}		o		
	7.12	proposedRepairActions	{dmi-att 19}		o		
	7.13	additionalText	{dmi-att 7}		o		
	7.14	additionalInformation	{dmi-att 6}		o		
8	8.1	probableCause	{dmi-att 18}		m		
	8.2	specificProblems	{dmi-att 27}		o		
	8.3	perceivedSeverity	{dmi-att 17}		o		
	8.4	backedUpStatus	{dmi-att 11}		o		
	8.5	backUpObject	{dmi-att 40}		o		
	8.6	trendIndication	{dmi-att 30}		o		
	8.7	thresholdInfo	{dmi-att 29}		o		
	8.8	notificationIdentifier	{dmi-att 16}		c27		
	8.9	correlatedNotifications	{dmi-att 12}		o		
	8.9.1	correlatedNotification	–		c:m		
	8.9.2	sourceObjectInst	–		c:o.8		
	8.9.2.1	distinguishedName	–		c:o.8		
	8.9.2.2	nonSpecificForm	–		c:o.8		
	8.9.2.3	localDistinguishedName	–		c:o.8		
	8.10	stateChangeDefinition	{dmi-att 28}		o		
	8.11	monitoredAttributes	{dmi-att 15}		o		
	8.12	proposedRepairActions	{dmi-att 19}		o		
	8.13	additionalText	{dmi-att 7}		o		
	8.14	additionalInformation	{dmi-att 6}		o		
9	9.1	probableCause	{dmi-att 18}		m		
	9.2	specificProblems	{dmi-att 27}		o		
	9.3	perceivedSeverity	{dmi-att 17}		o		
	9.4	backedUpStatus	{dmi-att 11}		o		
	9.5	backUpObject	{dmi-att 40}		o		
	9.6	trendIndication	{dmi-att 30}		o		
	9.7	thresholdInfo	{dmi-att 29}		o		
	9.8	notificationIdentifier	{dmi-att 16}		c28		
	9.9	correlatedNotifications	{dmi-att 12}		o		
	9.9.1	correlatedNotification	–		c:m		

Table G.9/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
9	9.9.2	sourceObjectInst	–		c:o.9		
	9.9.2.1	distinguishedName	–		c:o.9		
	9.9.2.2	nonSpecificForm	–		c:o.9		
	9.9.2.3	localDistinguishedName	–		c:o.9		
	9.10	stateChangeDefinition	{dmi-att 28}		o		
	9.11	monitoredAttributes	{dmi-att 15}		o		
	9.12	proposedRepairActions	{dmi-att 19}		o		
	9.13	additionalText	{dmi-att 7}		o		
	9.14	additionalInformation	{dmi-att 6}		o		

c16: if G.7/5a then m else –.
c17: if G.7/6a then m else –.
c18: if G.7/7a then m else –.
c19: if G.7/12a then m else –.
c20: if G.9/1.4a then m else o.
c21: if G.9/2.5a then m else o.
c22: if G.9/3.5a then m else o.
c23: if G.9/4.5a then m else o.
c24: if G.9/5.9a then m else o.
c25: if G.9/6.9a then m else o.
c26: if G.9/7.9a then m else o.
c27: if G.9/8.9a then m else o.
c28: if G.9/9.9a then m else o.

G.4.5 Parameters

Table G.10/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	logRecordIdParameter	{q821Parameter 1}		c29		
2	correlatedRecordNameParameter	{q821Parameter 2}		c29		
3	suspectObjectListParameter	{q821Parameter 3}		c29		

c29: if G.140/12a then m else –.

G.5 pdnFaultLogRecord

G.5.1 Statement of conformance to the managed object class

Table G.11/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	pdnFaultLogRecord	{cnmObjectClass 22}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.12/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.5.2 Packages

Table G.13/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c30		
3	allomorphicPackage	{dmi-pkg 17}		c31		
4	logRecordPackage	–		m		
5	eventLogRecordPackage	–		m		
6	eventTimePackage	{dmi-pkg 11}		o		
7	notificationIdentifierPackage	{dmi-pkg 24}		o		
8	correlatedNotificationsPackage	{dmi-pkg 23}		o		
9	additionalTextPackage	{dmi-pkg 19}		o		
10	additionalInformationPackage	{dmi-pkg 18}		o		
11	faultLogRecord-P	–		m		
12	specificProblem-P	{cnmPackage 14}		o		
13	backedUpStatus-P	{cnmPackage 15}		c32		
14	backUpObject-P	{cnmPackage 16}		o		
15	trendIndication-P	{cnmPackage 17}		o		
16	thresholdInfo-P	{cnmPackage 18}		c33		
17	stateChangeDefinition-P	{cnmPackage 19}		o		
18	monitoredAttribute-P	{cnmPackage 20}		o		
19	proposedRepairActions-P	{cnmPackage 21}		o		
20	attributeList-P	{cnmPackage 22}		o		
21	sourceIndicator-P	{cnmPackage 23}		o		

c30: if G.13/3a or any of (G.13/6a through G.13/10a) or any of (G.13/12a through G.13/21a) then m else –.

c31: if G.11/1b then – else m.

c32: if G.13/10a and (G.14/18a is TRUE) then m else –.

c33: if G.14/15a is thresholdCrossed then m else –.

G.5.3 Attributes

Table G.14/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c34		–	
4	allomorphs	{dmi-att 50}		–		c35		–	
5	logRecordId	{dmi-att 3}		–		m		–	
6	loggingTime	{dmi-att 59}		–		m		–	
7	managedObjectClass	{dmi-att 60}		–		m		–	
8	managedObjectInstance	{dmi-att 61}		–		m		–	
9	eventType	{dmi-att 14}		–		m		–	
10	eventTime	{dmi-att 13}		–		c36		–	
11	notificationIdentifier	{dmi-att 16}		–		c37		–	
12	correlatedNotification	{dmi-att 12}		–		c38		–	
13	additionalText	{dmi-att 7}		–		c39		–	
14	additionalInformation	{dmi-att 6}		–		c40		–	
15	probableCause	{dmi-att 18}		–		m		–	
16	perceivedSeverity	{dmi-att 17}		–		m		–	
17	specificProblems	{dmi-att 27}		–		c41		–	
18	backedUpStatus	{dmi-att 11}		–		c42		–	
19	backUpObject	{dmi-att 40}		–		c43		–	
20	trendIndication	{dmi-att 30}		–		c44		–	
21	thresholdInfo	{dmi-att 29}		–		c45		–	
22	stateChangeDefinition	{dmi-att 28}		–		c46		–	
23	monitoredAttributes	{dmi-att 15}		–		c47		–	
24	proposedRepairActions	{dmi-att 19}		–		c48		–	
25	attributeList	{dmi-att 9}		–		c49		–	
26	sourceIndicator	{dmi-att 26}		–		c50		–	

Table G.14/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		

Table G.14/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	–		–		–		
26	–		–		–		

c34: if G.13/2a then m else –.
c35: if G.13/3a then m else –.
c36: if G.13/6a then m else –.
c37: if G.13/7a then m else –.
c38: if G.13/8a then m else –.
c39: if G.13/9a then m else –.
c40: if G.13/10a then m else –.
c41: if G.13/12a then m else –.
c42: if G.13/13a then m else –.
c43: if G.13/14a then m else –.
c44: if G.13/15a then m else –.
c45: if G.13/16a then m else –.
c46: if G.13/17a then m else –.
c47: if G.13/18a then m else –.
c48: if G.13/19a then m else –.
c49: if G.13/20a then m else –.
c50: if G.13/21a then m else –.

G.6 pdnTelecommunicationsTroubleReport

G.6.1 Statement of conformance to the managed object class

Table G.15/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	pdnTelecommunicationsTroubleReport	{cnmObjectClass 3}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.16/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.6.2 Packages

Table G.17/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c51		
3	allomorphicPackage	{dmi-pkg 17}		c52		
4	troubleReportPkg	–		m		
5	trActivityDurationPkg	{x790Package 86}		o		
6	trAgentContactPersonAttributePkg	{x790Package 87}		c53		
7	trAgentContactPersonObjectPkg	{x790Package 88}		c54		
8	trCloseOutNarrPkg	{x790Package 89}		o		
9	trManagedObjectInstanceAliasList	{x790Package 90}		o		
10	x790NumberListPkg	{x790Package 91}		o		
11	trRelatedTroubleReportListPkg	{x790Package 92}		o		
12	trRepairActivityListPkg	{x790Package 93}		o		
13	trRestoredTimePkg	{x790Package 94}		o		
14	trTroubleClearancePersonAttributePkg	{x790Package 95}		o		
15	trTroubleReportFormatObjectPkg	{x790Package 96}		o		
16	x790AttributeValueChangePkg	{x790Package 97}		o		
17	trObjectCreationDeletionPkg	{x790Package 98}		o		
18	trHistoryEventPkg	{x790Package 99 }		o		
19	trAfterHrsRepairAuthPkg	{x790Package 23}		c55		
20	trAlarmRecordPtrListPkg	{x790Package 24}		o		
21	trAlternateManagerContactPersonAttribute	{x790Package 25}		c56		
22	trAlternateManagerContactPersonObjectPkg	{x790Package 26}		c57		
23	trAuthorizationListPkg	{x790Package 27}		c58		
24	trCallBackInfoListPkg	{x790Package 28}		o		
25	trCalledNumberPkg	{x790Package 29}		o		
26	trCancelRequestedByManagerPkg	{x790Package 30}		o		
27	trCloseOutVerificationPkg	{x790Package 31}		o		
28	trCommitmentTimePkg	{x790Package 32}		o		
29	trCommitmentRequestPkg	{x790Package 33}		o		
30	trCustomerWorkCenterPkg	{x790Package 34}		o		

Table G.17/X.162 – Package support *(continued)*

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
31	trCustTroubleTickNumPkg	{x790Package 35}		o		
32	trDialogPkg	{x790Package 36}		o		
33	trEscalationListPkg	{x790Package 37}		o		
34	trHandOffCenterPkg	{x790Package 38}		o		
35	trHandOffLocationPkg	{x790Package 39}		o		
36	trHandOffPersonNamePkg	{x790Package 40}		c59		
37	trHandOffPersonPtrPkg	{x790Package 41}		c60		
38	trHandOffTimePkg	{x790Package 42}		o		
39	trInitiatingModePkg	{x790Package 43}		o		
40	trLastUpdateTimePkg	{x790Package 44}		o		
41	trALocationPkg	{x790Package 45}		o		
42	trZLocationPkg	{x790Package 46}		o		
43	trALocationAccessHoursPkg	{x790Package 47}		o		
44	trZLocationAccessHoursPkg	{x790Package 48}		o		
45	trALocationAccessPersonPkg	{x790Package 49}		o		
46	trZLocationAccessPersonPkg	{x790Package 50}		o		
47	trMaintenanceOrgContactNamePkg	{x790Package 51}		c61		
48	trMaintenanceOrgContactPtrPkg	{x790Package 52}		c62		
49	trMaintenanceOrgContactTimePkg	{x790Package 53}		o		
50	trMaintServicePkg	{x790Package 54}		o		
51	trManagedObjectAccessHoursPkg	{x790Package 55}		o		
52	trManagedObjectAccessFromTimePkg	{x790Package 56}		o		
53	trManagedObjectAccessToTimePkg	{x790Package 57}		o		
54	trManagerContactPersonAttributePkg	{x790Package 58}		c63		
55	trManagerContactPersonObjectPkg	{x790Package 59}		c64		
56	trManagerSearchKeyPkg	{x790Package 60}		c65		
57	trManagerSearchKeyListPkg	{x790Package 61}		c66		
58	trOutageDurationPkg	{x790Package 62}		o		
59	trPerceivedTroubleSeverityPkg	{x790Package 63}		o		
60	trPreferredPriorityPkg	{x790Package 64}		o		
61	trRepeatReportPkg	{x790Package 65}		o		
62	trResponsiblePersonNamePkg	{x790Package 66}		c67		
63	trResponsiblePersonPtrPkg	{x790Package 67}		c68		
64	trSuspectObjectListPkg	{x790Package 68}		o		
65	trTroubleDetectionPkg	{x790Package 69}		o		
66	trTroubleLocationPkg	{x790Package 70}		o		
67	trTroubleReportStatusWindowPkg	{x790Package 71}		o		
68	trTspPriorityPkg	{x790Package 72}		o		
69	pdnTTR-P	–		m		

Table G.17/X.162 – Package support *(concluded)*

c51: if G.17/3a or any of (G.17/5a through G.17/69a) then m else –.	c60: if G.17/36a then – else m.
c52: if G.15/1b then m else –.	c61: if G.17/48a then – else m.
c53: if G.17/7a then – else m.	c62: if G.17/47a then – else m.
c54: if G.17/6a then – else m.	c63: if G.17/55a then – else m.
c55: if G.17/23a then – else m.	c64: if G.17/54a then – else m.
c56: if G.17/22a then – else m.	c65: if G.17/57a then – else m.
c57: if G.17/21a then – else m.	c66: if G.17/56a then – else m.
c58: if G.17/19a then – else m.	c67: if G.17/63a then – else m.
c59: if G.17/37a then – else m.	c68: if G.17/62a then – else m.

G.6.3 Attributes

Table G.18/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c69		–	
4	allomorphs	{dmi-att 50}		–		c70		–	
5	additionalTroubleInfoList	{x790Attribute 8}		–		m		–	
6	managedObjectInstance	{x790Attribute 63}		–		m		–	
7	receivedTime	{x790Attribute 74}		–		m		–	
8	troubleFound	{x790Attribute 92}	INITIAL VALUE	x		m		m	
9	troubleReportID	{x790Attribute 97}		–		m		–	
10	troubleReportState	{x790Attribute 101}		m		m		m	
11	troubleReportStatus	{x790Attribute 102}		m		m		m	
12	troubleReportStatusTime	{x790Attribute 103}		–		m		–	
13	troubleType	{x790Attribute 105}		–		m		–	
14	activityDuration	{x790Attribute 4}		–		c71		–	
15	agentContactPerson	{x790Attribute 11}		–		c72		–	
16	agentContactObjectPtr	{x790Attribute 12}		–		c73		–	
17	closeOutNarr	{x790Attribute 23}	INITIAL VALUE	c74		c75		c75	
18	managedObjectInstanceAliasList	{x790Attribute 64}		–		c76		–	
19	troubleReportNumberList	{x790Attribute 100}		–		c77		–	
20	relatedTroubleReportList	{x790Attribute 75}		–		c78		–	
21	repairActivityList	{x790Attribute 77}	INITIAL VALUE	c79		c80		–	
22	restoredTime	{x790Attribute 81}	INITIAL VALUE	c81		c82		c82	
23	troubleClearancePerson	{x790Attribute 90}	DEFAULT VALUE	c83		c83		c83	
24	troubleReportFormatObjectPtr	{x790Attribute 95}		–		c84		–	
25	afterHrsRepairAuth	{x790Attribute 10}	DEFAULT VALUE	c85		c85		c85	

Table G.18/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
26	alarmRecordPtrList	{x790Attribute 13}		–		c86		–	
27	alternateManagerContactPerson	{x790Attribute 14}		c87		c87		c87	
28	alternateManagerContactObjectPtr	{x790Attribute 15}		c88		c88		c88	
29	authorizationList	{x790Attribute 18}		c89		c89		c89	
30	callBackInfoList	{x790Attribute 20}		c90		c90		c90	
31	calledNumber	{x790Attribute 21}		–		c91		–	
32	cancelRequestedByManager	{x790Attribute 22}		c92		c92		c92	
33	closeOutVerification	{x790Attribute 33}		c93		c93		c93	
34	commitmentTime	{x790Attribute 24}		–		c94		–	
35	commitmentTimeRequest	{x790Attribute 25}		c95		c95		c95	
36	customerWorkCenter	{x790Attribute 35}		c96		c96		–	
37	custTroubleTickNum	{x790Attribute 34}		c97		c97		–	
38	dialog	{x790Attribute 36}		c98		c98		c98	
39	escalationList	{x790Attribute 40}		–		c99		–	
40	handOffCenter	{x790Attribute 42}	INITIAL VALUE	c100		c101		–	
41	handOffLocation	{x790Attribute 43}	INITIAL VALUE	c102		c103		–	
42	handOffPersonName	{x790Attribute 45}	INITIAL VALUE	c104		c105		c105	
43	handOffPersonPtr	{x790Attribute 46}		c106		c106		c106	
44	handOffTime	{x790Attribute 47}	INITIAL VALUE	c107		c108		–	
45	initiatingMode	{x790Attribute 48}		–		c109		–	
46	lastUpdateTime	{x790Attribute 49}		–		c110		–	
47	aLocationAccessAddress	{x790Attribute 50}		c111		c111		c111	
48	zLocationAccessAddress	{x790Attribute 51}		c112		c112		c112	
49	aLocationAccessHours	{x790Attribute 52}		c113		c113		c113	
50	zLocationAccessHours	{x790Attribute 53}		c114		c114		c114	
51	aLocationAccessPerson	{x790Attribute 54}		c115		c115		c115	
52	zLocationAccessPerson	{x790Attribute 55}		c116		c116		c116	
53	maintenanceOrgContactName	{x790Attribute 56}	INITIAL VALUE	c117		c118		c118	
54	maintenanceOrgContactPtr	{x790Attribute 57}		c119		c119		c119	
55	maintenanceOrgContactTime	{x790Attribute 58}	INITIAL VALUE	c120		c121		c121	
56	maintServiceChange	{x790Attribute 59}	INITIAL VALUE	c122		c123		–	
57	managedObjectAccessHours	{x790Attribute 61}		c124		c124		c124	
58	managedObjectAccessFromTime	{x790Attribute 60}		c125		c125		c125	
59	managedObjectAccessToTime	{x790Attribute 62}		c126		c126		c126	

Table G.18/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
60	managerContactPerson	{x790Attribute 65}		c127		c127		c127	
61	managerContactObjectPtr	{x790Attribute 66}		c128		c128		c128	
62	managerSearchKey1	{x790Attribute 67}		c129		c129		c129	
63	managerSearchKey2	{x790Attribute 68}		c129		c129		c129	
64	managerSearchKey3	{x790Attribute 69}		c129		c129		c129	
65	managerSearchKeyList	{x790Attribute 70}		c130		c130		c130	
66	outageDuration	{x790Attribute 71}	INITIAL VALUE	c131		c132		–	
67	perceivedTroubleSeverity	{x790Attribute 72}		c133		c133		c133	
68	preferredPriority	{x790Attribute 73}		c134		c134		c134	
69	repeatReport	{x790Attribute 78}		c135		c135		c135	
70	responsiblePersonName	{x790Attribute 79}		c136		c136		c136	
71	responsiblePersonPtr	{x790Attribute 80}		c137		c137		c137	
72	suspectObjectList	{x790Attribute 88}		c138		c138		–	
73	troubleDetectionTime	{x790Attribute 91}		c139		c139		c139	
74	troubleLocation	{x790Attribute 93}		c140		c140		c140	
75	additionalTroubleStatusInfo	{x790Attribute 9}		–		c141		–	
76	troubleReportStatusWindow	{x790Attribute 9}		c141		c141		c141	
77	tspPriority	{x790Attribute 106}		c142		c142		–	
78	troubleTypePspdn	{cnmAttribute 63}		–		m		–	

Table G.18/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	m		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	c71		–		–		

Table G.18/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		
19	–		–		–		
20	–		–		–		
21	c80		–		–		
22	–		–		–		
23	–		–		c83		
24	–		–		–		
25	–		–		c85		
26	–		–		–		
27	–		–		–		
28	–		–		–		
29	c89		c89		c89		
30	c90		c90		–		
31	–		–		–		
32	–		–		c92		
33	–		–		c93		
34	–		–		–		
35	–		–		–		
36	–		–		–		
37	–		–		–		
38	–		–		–		
39	c99		–		–		
40	–		–		–		
41	–		–		–		
42	–		–		–		
43	–		–		–		
44	–		–		–		
45	–		–		–		
46	–		–		–		
47	–		–		–		
48	–		–		–		
49	c113		c113		–		
50	c114		c114		–		
51	–		–		–		
52	–		–		–		
53	–		–		–		
54	–		–		–		

Table G.18/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
55	–		–		–		
56	–		–		–		
57	c124		c124		–		
58	–		–		–		
59	–		–		–		
60	–		–		–		
61	–		–		–		
62	–		–		–		
63	–		–		–		
64	–		–		–		
65	c130		c130		–		
66	–		–		–		
67	–		–		–		
68	–		–		–		
69	–		–		–		
70	–		–		–		
71	–		–		–		
72	–		–		–		
73	–		–		c139		
74	–		–		–		
75	–		–		–		
76	–		–		–		
77	–		–		–		
78	–		–		–		

c69: if G.17/2a then m else –.
c70: if G.17/3a then m else –.
c71: if G.17/5a then m else –.
c72: if G.17/6a then m else –.
c73: if G.17/7a then m else –.
c74: if G.17/8a then x else –.
c75: if G.17/8a then m else –.
c76: if G.17/9a then m else –.
c77: if G.17/10a then m else –.
c78: if G.17/11a then m else –.
c79: if G.17/12a then x else –.
c80: if G.17/12a then m else –.
c81: if G.17/13a then x else –.
c82: if G.17/13a then m else –.
c83: if G.17/14a then x else –.
c84: if G.17/15a then m else –.
c85: if G.17/19a then m else –.
c86: if G.17/20a then m else –.
c106: if G.17/37a then m else –.
c107: if G.17/38a then x else –.
c108: if G.17/38a then m else –.
c109: if G.17/39a then m else –.
c110: if G.17/40a then m else –.
c111: if G.17/41a then m else –.
c112: if G.17/42a then m else –.
c113: if G.17/43a then m else –.
c114: if G.17/44a then m else –.
c115: if G.17/45a then m else –.
c116: if G.17/46a then m else –.
c117: if G.17/47a then x else –.
c118: if G.17/47a then m else –.
c119: if G.17/48a then m else –.
c120: if G.17/49a then x else –.
c121: if G.17/49a then m else –.
c122: if G.17/50a then x else –.
c123: if G.17/50a then m else –.

Table G.18/X.162 – Attribute support *(concluded)*

c87: if G.17/21a then m else –.	c124: if G.17/51a then m else –.
c88: if G.17/22a then m else –.	c125: if G.17/52a then m else –.
c89: if G.17/23a then m else –.	c126: if G.17/53a then m else –.
c90: if G.17/24a then m else –.	c127: if G.17/54a then m else –.
c91: if G.17/25a then m else –.	c128: if G.17/55a then m else –.
c92: if G.17/26a then m else –.	c129: if G.17/56a then m else –.
c93: if G.17/27a then m else –.	c130: if G.17/57a then m else –.
c94: if G.17/28a then m else –.	c131: if G.17/58a then x else –.
c95: if G.17/29a then m else –.	c132: if G.17/58a then m else –.
c96: if G.17/30a then m else –.	c133: if G.17/59a then m else –.
c97: if G.17/31a then m else –.	c134: if G.17/60a then m else –.
c98: if G.17/32a then m else –.	c135: if G.17/61a then m else –.
c99: if G.17/33a then m else –.	c136: if G.17/62a then m else –.
c100: if G.17/34a then x else –.	c137: if G.17/63a then m else –.
c101: if G.17/34a then m else –.	c138: if G.17/64a then m else –.
c102: if G.17/35a then x else –.	c139: if G.17/65a then m else –.
c103: if G.17/35a then m else –.	c140: if G.17/66a then m else –.
c104: if G.17/36a then x else –.	c141: if G.17/67a then m else –.
c105: if G.17/36a then m else –.	c142: if G.17/68a then m else –.

G.6.4 Notifications

Table G.19/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		c143			
2	objectDeletion	{dmi-not 7}		c143			
3	attributeValueChange	{dmi-not 1}		c144			
4	troubleHistoryEventNotification	{x790Notification 1}		c145			
5	troubleReportProgressNotification	{x790Notification 2}		c146			

Table G.19/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c147		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.10		

Table G.19/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.4.2.2	nonSpecificForm	–		c:o.10		
	1.4.2.3	localDistinguishedName	–		c:o.10		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c148		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.11		
	2.4.2.2	nonSpecificForm	–		c:o.11		
	2.4.2.3	localDistinguishedName	–		c:o.11		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26}		o		
	3.2	attributeIndicator	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeID	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c149		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.12		
	3.5.2.2	nonSpecificForm	–		c:o.12		
	3.5.2.3	localDistinguishedName	–		c:o.12		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		–		
4	4.1	managedObjectInstance	–		m		
	4.2	receivedTime	–		m		
	4.3	troubleFound	–		m		
	4.3.1	number	–		o		
	4.3.2	identifier	–		o		
	4.4	activityDuration	–		o		
	4.4.1	duration	–		c:m		
	4.4.1.1	day	–		c:o.13		
	4.4.1.2	hour	–		c:o.13		
	4.4.1.3	minute	–		c:o.13		

Table G.19/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
4	4.4.1.4	second	–		c:o.13		
	4.4.1.5	msec	–		c:o.13		
	4.4.2	billable	–		c:m		
	4.4.3	type	–		c:m		
	4.5	additionalTroubleInfoList	–		o		
	4.6	authorizationList	–		o		
	4.6.1	state	–		c:m		
	4.6.2	type	–		c:m		
	4.6.3	authTime	–		c:o.14		
	4.6.4	authPerson	–		c:o.14		
	4.6.4.1	number	–		c:m		
	4.6.4.2	name	–		c:m		
	4.6.4.3	phone	–		c:m		
	4.6.4.4	loc	–		c:m		
	4.6.4.4.1	civicAddress	–		c:m		
	4.6.4.4.2	city	–		c:m		
	4.6.4.4.3	state	–		c:m		
	4.6.4.4.4	zip	–		c:m		
	4.6.4.5	email	–		c:m		
	4.6.4.6	fax	–		c:m		
	4.6.4.7	respon	–		c:m		
	4.7	cancelRequestedByManager	–		o		
	4.8	closeOutNarr	–		o		
	4.9	closeOutVerification	–		o		
	4.10	commitmentTime	–		o		
	4.10.1	onsiteTime	–		c:o.15		
	4.10.2	clearedTime	–		c:o.15		
	4.11	custTroubleTickNum	–		o		
	4.12	perceivedTroubleSeverity	–		o		
	4.12.1	number	–		c:o.16		
	4.12.2	identifier	–		c:o.16		
	4.13	restoredTime	–		o		
	4.14	troubleClearancePerson	–		o		
	4.14.1	number	–		c:m		
	4.14.2	name	–		c:m		
	4.14.3	phone	–		c:m		
	4.14.4	loc	–		c:m		
	4.14.4.1	civicAddress	–		c:m		
	4.14.4.2	city	–		c:m		

Table G.19/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
4	4.14.4.3	state	–		c:m		
	4.14.4.4	zip	–		c:m		
	4.14.5	email	–		c:m		
	4.14.6	fax	–		c:m		
	4.14.7	respon	–		c:m		
	4.15	troubleReportNumberList	–		o		
	4.16	troubleType	–		o		
	4.16.1	number	–		c:o.17		
	4.16.2	identifier	–		c:o.17		
5	5.1	troubleReportStatus	–		m		
	5.1.1	number	–		o		
	5.1.2	identifier	–		o		
	5.2	additionalTroubleStatusInfo	–		o		
c143: if G.17/17a then m else –. c144: if G.17/10a then m else –. c145: if G.17/18a then m else –. c146: if G.17/67a then m else –. c147: if G.19/1.4a then m else o. c148: if G.19/2.4a then m else o. c149: if G.19/3.5a then m else o.							

G.7 pdnTroubleHistoryRecord

G.7.1 Statement of conformance to the managed object class

Table G.20/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	pdnTroubleHistoryRecord	{cnmObjectClass 4}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.21/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.7.2 Packages

Table G.22/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c150		
3	allomorphicPackage	{dmi-pkg 17}		c151		
4	logRecordPackage	–		m		
5	eventLogRecordPackage	–		m		
6	eventTimePackage	{dmi-pkg 11}		o		
7	notificationIdentifierPackage	{dmi-pkg 24}		o		
8	correlatedNotificationsPackage	{dmi-pkg 23}		o		
9	additionalTextPackage	{dmi-pkg 19}		o		
10	additionalInformationPackage	{dmi-pkg 18}		o		
11	troubleHistoryRecordPkg	–		m		
12	thrActivityDurationPkg	{x790Package 73}		o		
13	thrAdditionalTroubleInfoListPkg	{x790Package 74}		o		
14	thrAuthorizationPkg	{x790Package 75}		o		
15	thrCancelRequestedByManagerPkg	{x790Package 76}		o		
16	thrCloseOutNarrPkg	{x790Package 77}		o		
17	thrCloseOutVerificationPkg	{x790Package 78}		o		
18	thrCommitmentTimePkg	{x790Package 79}		o		
19	thrCustTroubleTickNumPkg	{x790Package 80}		o		
20	thrPerceivedTimePkg	{x790Package 81}		o		
21	thrRestoredTimePkg	{x790Package 82}		o		
22	thrTroubleClearancePersonPkg	{x790Package 83}		o		
23	thrTroubleReportNumberListPkg	{x790Package 84}		o		
24	thrTroubleTypePkg	{x790Package 85}		o		
25	troubleTypePspdnPkg	{cnmPackage 24}		o		
c150: if G.22/3a or any of (G.22/6a through G.22/10a) or any of (G.22/12a through G.22/25a) then m else –. c151: if G.20/1b then – else m.						

G.7.3 Attributes

Table G.23/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c152		–	
4	allomorphs	{dmi-att 50}		–		c153		–	
5	logRecordId	{dmi-att 3}		–		m		–	
6	loggingTime	{dmi-att 59}		–		m		–	
7	managedObjectClass	{dmi-att 60}		–		m		–	

Table G.23/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
8	managedObjectInstance	{dmi-att 61}		–		m		–	
9	eventType	{dmi-att 14}		–		m		–	
10	eventTime	{dmi-att 13}		–		c154		–	
11	notificationIdentifier	{dmi-att 16}		–		c155		–	
12	correlatedNotification	{dmi-att 12}		–		c156		–	
13	additionalText	{dmi-att 7}		–		c157		–	
14	additionalInformation	{dmi-att 6}		–		c158		–	
15	eventTime	{dmi-att 13}		–		m		–	
16	managedObjectInstance	{x790Attribute 63}		–		m		–	
17	receivedTime	{x790Attribute 74}		–		m		–	
18	troubleFound	{x790Attribute 92}		–		m		–	
19	activityDuration	{x790Attribute 4}		–		c159		–	
20	additionalTroubleInfoList	{x790Attribute 8}		–		c160		–	
21	authorizationList	{x790Attribute 18}		–		c161		–	
22	cancelRequestedByManager	{x790Attribute 22}		–		c162		–	
23	closeOutNarr	{x790Attribute 23}		–		c163		–	
24	closeOutVerification	{x790Attribute 33}		–		c164		–	
25	commitmentTime	{x790Attribute 24}		–		c165		–	
26	custTroubleTickNum	{x790Attribute 34}		–		c166		–	
27	perceivedTroubleSeverity	{x790Attribute 72}		–		c167		–	
28	restoredTime	{x790Attribute 81}		–		c168		–	
29	troubleClearancePerson	{x790Attribute 90}		–		c169		–	
30	troubleReportNumberList	{x790Attribute 100}		–		c170		–	
31	troubleType	{x790Attribute 105}		c171		c171		–	
32	troubleTypePspdn	{cnmAttribute 63}		–		c172		–	

Table G.23/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		

Table G.23/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	–		–		–		
26	–		–		–		
27	–		–		–		
28	–		–		–		
29	–		–		–		
30	–		–		–		
31	–		–		–		
32	–		–		–		

c152: if G.22/2a then m else –.
c153: if G.22/3a then m else –.
c154: if G.22/6a then m else –.
c155: if G.22/7a then m else –.
c156: if G.22/8a then m else –.
c157: if G.22/9a then m else –.
c158: if G.22/10a then m else –.
c159: if G.22/12a then m else –.
c160: if G.22/13a then m else –.
c161: if G.22/14a then m else –.
c162: if G.22/15a then m else –.
c163: if G.22/16a then m else –.
c164: if G.22/17a then m else –.
c165: if G.22/18a then m else –.
c166: if G.22/19a then m else –.
c167: if G.22/20a then m else –.
c168: if G.22/21a then m else –.
c169: if G.22/22a then m else –.
c170: if G.22/23a then m else –.
c171: if G.22/24a then m else –.
c172: if G.22/25a then m else –.

G.8 cnmLoopbackPoint

G.8.1 Statement of conformance to the managed object class

Table G.24/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	cnmLoopbackPoint	{cnmObjectClass 23}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.25/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.8.2 Packages

Table G.26/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c173		
3	allomorphicPackage	{dmi-pkg 17}		c174		
4	terminationPointPackage	–		m		
5	createDeleteNotificationPackage	{m3100Package 10}		o		
6	attributeValueChangeNotificationPackage	{m3100Package 4}		o		
7	stateChangeNotificationPackage	{m3100Package 28}		o		
8	operationalStatePackage	{m3100Package 19}		o		
9	crossConnectionPointerPackage	{m3100Package 11}		o		
10	characteristicInformationPackage	{m3100Package 7}		o		
11	networkLevelPackage	{m3100Package 18}		o		
12	tmnCommunicationAlarmInformationPackage	{m3100Package 30}		o		
13	alarmSeverityAssignmentPointerPackage	{m3100Package 3}		o		
14	x25TerminationPoint-P	–		m		
15	cnmLoopbackPointPackage	–		m		
c173: if G.26/3a or any of (G.26/5a through G.26/13a) then m else –. c174: if G.2341b then – else m.						

G.8.3 Attributes

Table G.27/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c175		–	
4	allomorphs	{dmi-att 50}		–		c176		–	
5	supportedByObjectList	{m3100Attribute 40}		–		m		–	
6	operationalState	{dmi-att 35}		–		c177		–	
7	crossConnectionObjectPointer	{m3100Attribute 16}		–		c178		–	
8	characteristicInformation	{m3100Attribute 8}		–		c179		–	
9	networkLevelPointer	{m3100Attribute 31}		c180		c180		c180	
10	alarmStatus	{m3100Attribute 6}		–		c181		–	
11	currentProblemList	{m3100Attribute 17}		–		c182		–	
12	alarmSeverityAssignmentProfilePointer	{m3100Attribute 3}		c183		c183		c183	
13	x25TerminationPointId	{cnmAttribute 34}		–		m		–	
14	administrativeState	{dmi-att 14}		m		m		m	
15	locationPointer	{cnmAttribute 68}		–		m		–	
16	loopbackStatus	{cnmAttribute 69}		m		m		m	

Table G.27/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		

Table G.27/X.162 – Attribute support *(concluded)*

c175: if G 26/2a then m else –.
c176: if G.26/3a then m else –.
c177: if G.26/8a then m else –.
c178: if G.26/9a then m else –.
c179: if G.26/10a then m else –.
c180: if G.26/11a then m else –.
c181: if G.26/12a then m else –.
c182: if G.26/12a then m else –.
c183: if G.26/13a then m else –.

G.8.4 Notifications

Table G.28/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		c184			
2	objectDeletion	{dmi-not 7}		c184			
3	attributeValueChange	{dmi-not 1}		c185			
4	stateChange	{dmi-not 14}		c186			
5	communicationAlarm	{dmi-not 2}		c187			
6	qualityofServiceAlarm	{dmi-not 11}		m			
7	processingErrorAlarm	{dmi-not 10}		m			
8	equipmentAlarm	{dmi-not 4}		m			
9	environmentAlarm	{dmi-not 3}		m			

Table G.28/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c188		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.18		
	1.4.2.2	nonSpecificForm	–		c:o.18		
	1.4.2.3	localDistinguishedName	–		c:o.18		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		

Table G.28/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c189		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.19		
	2.4.2.2	nonSpecificForm	–		c:o.19		
	2.4.2.3	localDistinguishedName	–		c:o.19		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26}		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeID	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c190		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.20		
	3.5.2.2	nonSpecificForm	–		c:o.20		
	3.5.2.3	localDistinguishedName	–		c:o.20		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
4	4.1	sourceIndicator	{dmi-att 26}		o		
	4.2	attributeIdentifierList	{dmi-att 8}		o		
	4.3	stateChangeDefinition	{dmi-att 23}		m		
	4.3.1	attributeID	–		m		
	4.3.2	oldAttributeValue	–		o		
	4.3.3	newAttributeValue	–		m		
	4.4	notificationIdentifier	{dmi-att 16}		c191		
	4.5	correlatedNotifications	{dmi-att 12}		o		
	4.5.1	correlatedNotification	–		c:m		
	4.5.2	sourceObjectInst	–		c:o		
	4.5.2.1	distinguishedName	–		c:o.21		
	4.5.2.2	nonSpecificForm	–		c:o.21		
	4.5.2.3	localDistinguishedName	–		c:o.21		
	4.6	additionalText	{dmi-att 7}		o		
	4.7	additionalInformation	{dmi-att 6}		o		

Table G.28/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
5	5.1	probableCause	{dmi-att 18}		m		
	5.2	specificProblems	{dmi-att 27}		o		
	5.3	perceivedSeverity	{dmi-att 17}		o		
	5.4	backedUpStatus	{dmi-att 11}		o		
	5.5	backUpObject	{dmi-att 40}		o		
	5.6	trendIndication	{dmi-att 30}		o		
	5.7	thresholdInfo	{dmi-att 29}		o		
	5.8	notificationIdentifier	{dmi-att 16}		c192		
	5.9	correlatedNotifications	{dmi-att 12}		o		
	5.9.1	correlatedNotification	–		c:m		
	5.9.2	sourceObjectInst	–		c:o.22		
	5.9.2.1	distinguishedName	–		c:o.22		
	5.9.2.2	nonSpecificForm	–		c:o.22		
	5.9.2.3	localDistinguishedName	–		c:o.22		
	5.10	stateChangeDefinition	{dmi-att 28}		o		
	5.11	monitoredAttributes	{dmi-att 15}		o		
	5.12	proposedRepairActions	{dmi-att 19}		o		
	5.13	additionalText	{dmi-att 7}		o		
	5.14	additionalInformation	{dmi-att 6}		o		
6	6.1	probableCause	{dmi-att 18}		m		
	6.2	specificProblems	{dmi-att 27}		o		
	6.3	perceivedSeverity	{dmi-att 17}		o		
	6.4	backedUpStatus	{dmi-att 11}		o		
	6.5	backUpObject	{dmi-att 40}		o		
	6.6	trendIndication	{dmi-att 30}		o		
	6.7	thresholdInfo	{dmi-att 29}		o		
	6.8	notificationIdentifier	{dmi-att 16}		c193		
	6.9	correlatedNotifications	{dmi-att 12}		o		
	6.9.1	correlatedNotification	–		c:m		
	6.9.2	sourceObjectInst	–		c:o		
	6.9.2.1	distinguishedName	–		c:o.23		
	6.9.2.2	nonSpecificForm	–		c:o.23		
	6.9.2.3	localDistinguishedName	–		c:o.23		
	6.10	stateChangeDefinition	{dmi-att 28}		o		
	6.11	monitoredAttributes	{dmi-att 15}		o		
	6.12	proposedRepairActions	{dmi-att 19}		o		
	6.13	additionalText	{dmi-att 7}		o		
	6.14	additionalInformation	{dmi-att 6}		o		
7	7.1	probableCause	{dmi-att 18}		m		
	7.2	specificProblems	{dmi-att 27}		o		
	7.3	perceivedSeverity	{dmi-att 17}		o		

Table G.28/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
7	7.4	backedUpStatus	{dmi-att 11}		o		
	7.5	backUpObject	{dmi-att 40}		o		
	7.6	trendIndication	{dmi-att 30}		o		
	7.7	thresholdInfo	{dmi-att 29}		o		
	7.8	notificationIdentifier	{dmi-att 16}		c194		
	7.9	correlatedNotifications	{dmi-att 12}		o		
	7.9.1	correlatedNotification	–		c:m		
	7.9.2	sourceObjectInst	–		c:o.24		
	7.9.2.1	distinguishedName	–		c:o.24		
	7.9.2.2	nonSpecificForm	–		c:o.24		
	7.9.2.3	localDistinguishedName	–		c:o.24		
	7.10	stateChangeDefinition	{dmi-att 28}		o		
	7.11	monitoredAttributes	{dmi-att 15}		o		
	7.12	proposedRepairActions	{dmi-att 19}		o		
	7.13	additionalText	{dmi-att 7}		o		
	7.14	additionalInformation	{dmi-att 6}		o		
8	8.1	probableCause	{dmi-att 18}		m		
	8.2	specificProblems	{dmi-att 27}		o		
	8.3	perceivedSeverity	{dmi-att 17}		o		
	8.4	backedUpStatus	{dmi-att 11}		o		
	8.5	backUpObject	{dmi-att 40}		o		
	8.6	trendIndication	{dmi-att 30}		o		
	8.7	thresholdInfo	{dmi-att 29}		o		
	8.8	notificationIdentifier	{dmi-att 16}		c195		
	8.9	correlatedNotifications	{dmi-att 12}		o		
	8.9.1	correlatedNotification	–		c:m		
	8.9.2	sourceObjectInst	–		c:o.25		
	8.9.2.1	distinguishedName	–		c:o.25		
	8.9.2.2	nonSpecificForm	–		c:o.25		
	8.9.2.3	localDistinguishedName	–		c:o.25		
	8.10	stateChangeDefinition	{dmi-att 28}		o		
	8.11	monitoredAttributes	{dmi-att 15}		o		
	8.12	proposedRepairActions	{dmi-att 19}		o		
	8.13	additionalText	{dmi-att 7}		o		
	8.14	additionalInformation	{dmi-att 6}		o		
9	9.1	probableCause	{dmi-att 18}		m		
	9.2	specificProblems	{dmi-att 27}		o		
	9.3	perceivedSeverity	{dmi-att 17}		o		
	9.4	backedUpStatus	{dmi-att 11}		o		
	9.5	backUpObject	{dmi-att 40}		o		
	9.6	trendIndication	{dmi-att 30}		o		

Table G.28/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
9	9.7	thresholdInfo	{dmi-att 29}		o		
	9.8	notificationIdentifier	{dmi-att 16}		c196		
	9.9	correlatedNotifications	{dmi-att 12}		o		
	9.9.1	correlatedNotification	–		c:m		
	9.9.2	sourceObjectInst	–		c:o.26		
	9.9.2.1	distinguishedName	–		c:o.26		
	9.9.2.2	nonSpecificForm	–		c:o.26		
	9.9.2.3	localDistinguishedName	–		c:o.26		
	9.10	stateChangeDefinition	{dmi-att 28}		o		
	9.11	monitoredAttributes	{dmi-att 15}		o		
	9.12	proposedRepairActions	{dmi-att 19}		o		
	9.13	additionalText	{dmi-att 7}		o		
	9.14	additionalInformation	{dmi-att 6}		o		

c184: if G.26/5a then m else –.
c185: if G.26/6a then m else –.
c186: if G.26/7a then m else –.
c187: if G.26/12a then m else –.
c188: if G.28/1.4a then m else o.
c189: if G.28/2.5a then m else o.
c190: if G.28/3.5a then m else o.
c191: if G.28/4.5a then m else o.
c192: if G.28/5.9a then m else o.
c193: if G.28/6.9a then m else o.
c194: if G.28/7.9a then m else o.
c195: if G.28/8.9a then m else o.
c196: if G.28/9.9a then m else o.

G.8.5 Parameters

Table G.29/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	logRecordIdParameter	{q821Parameter 1}		c197		
2	correlatedRecordNameParameter	{q821Parameter 2}		c197		
3	suspectObjectListParameter	{q821Parameter 3}		c197		

c197: if G.26/12a then m else –.

G.9 x25PhysicalConnection

G.9.1 Statement of conformance to the managed object class

Table G.30/X.162 – Managed object support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	x25PhysicalConnection	{cnmObjectClass 24}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.31/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.9.2 Packages

Table G.32/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c198		
3	allomorphicPackage	{dmi-pkg 17}		c199		
4	x25PhysicalConnection-P	–		m		
5	cnmLoopbackTestTARRPackage	–		m		
c198: if G.32/3a then m else –. c199: if G.30/1b then – else m.						

G.9.3 Attributes

Table G.33/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c200		–	
4	allomorphs	{dmi-att 50}		–		c201		–	
5	x25PhysicalConnectionId	{cnmAttribute 53}		–		m		–	

Table G.33/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
c200: if G.32/2a then m else –. c201: if G.32/3a then m else –.							

G.9.4 Actions

Table G.34/X.162 – Action support

Index	Action type template label	Value of object identifier for action type	Constraints and values	Status	Support	Additional information
1	testRequestControlledAction	{part12Action 1}		m		
2	testSuspendResumeAction	{part12Action 2}		m		
3	testTerminateAction	{part12Action 3}		m		

Table G.34/X.162 – Action support *(continued)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	1.1	TestRequestControlledInfo		m		
	1.1.1	controlledTestRequestType		m		
	1.1.2	testCategoryInformation		o		
	1.1.3	testSessionId		o		
	1.1.3.1	localId		c:m		
	1.1.3.2	globalRef		c:o.27		
	1.1.3.2.1	dnGlobRef		c:o.28		
	1.1.3.2.2	oidGlobRef		c:o.28		
	1.1.4	toBeTestedMORTs		o		
	1.1.4.1	normalForm		c:o.29		
	1.1.4.2	scopedSet		c:o.29		
	1.1.4.2.1	base		c:m		
	1.1.4.2.2	mORTsScope	Scope DEFAULT baseObject	c:m		
	1.1.4.2.3	mORTsFilter	CMISFilter DEFAULT "and : {}"	c:m		
	1.1.5	associatedObjects		o		
	1.1.5.1	associatedObject		c:m		
	1.1.5.2	associatedObjectInfo		c:m		
	1.1.5.2.1	associatedObjectInfoId		c:m		
	1.1.5.2.2	associatedObjectInform		c:o.30		

Table G.34/X.162 – Action support *(continued)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	1.1.6	timeoutPeriod		o		
	1.1.6.1	forever	NULL	c:o.31		
	1.1.6.2	hours		c:o.31		
	1.1.6.3	minutes		c:o.31		
	1.1.6.4	seconds		c:o.31		
	1.1.6.5	millesecs		c:o.31		
	1.1.6.6	microsecs		c:o.31		
	1.1.6.7	nanosecs		c:o.31		
	1.1.7	testObjecList		m		
	1.1.7.1	tOClass		c:m		
	1.1.7.2	tOInstance		c:o.32		
	1.1.7.3	referenceTOInstance		c:o.32		
	1.1.7.4	initialAttributeList		c:o.32		
	1.2	TestRequestControlledResponse	REPLY SYNTAX	m		
	1.2.1	independentTestResponseList		m		
	1.2.1.1	testInvocationId		c:m		
	1.2.1.1.1	tOName		c:o.33		
	1.2.1.1.2	invocationId		c:o.33		
	1.2.1.1.2.1	tARRName		c:m		
	1.2.1.1.2.2	testId		c:m		
	1.2.1.2	tOName		c:o.34		
	1.2.1.2.1	conductorProvidedName	NULL	c:o.35		
	1.2.1.2.2	performerProvidedName		c:o.35		
	1.2.1.3	tOAttributeList		c:o.34		
	1.2.2	relatedTestResponse		o		
	1.2.2.1	testInvocationId		c:m		
	1.2.2.1.1	tOName		c:o.36		
	1.2.2.1.2	invocationId		c:o.36		
	1.2.2.1.2.1	tARRName		c:m		
	1.2.2.1.2.2	testId		c:m		
	1.2.2.2	testObjectResponseList		c:m		
	1.2.2.2.1	tOName		c:m		
	1.2.2.2.1.1	conductorProvidedName	NULL	c:o.37		
	1.2.2.2.1.2	performerProvidedName		c:o.37		
	1.2.2.2.2	tOAttributeList		c:o.38		
2	2.1	TestSuspendResumeInfo	INFORMATION SYNTAX	m		
	2.1.1	indicatedTest		m		
	2.1.1.1	testSessionId		o		
	2.1.1.1.1	localId		c:m		
	2.1.1.1.2	globalRef		c:o.39		
	2.1.1.1.2.1	dnGlobRef		c:o.40		

Table G.34/X.162 – Action support *(concluded)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
2	2.1.1.1.2.2	oidGlobRef		c:o.40		
	2.1.2	suspendResumeChoice	0 to 1	m		
	2.2	TestSuspendResumeResult	REPLY SYNTAX	m		
	2.2.1	testInvocationId		m		
	2.2.1.1.1	tOName		c:o.41		
	2.2.1.1.2	invocationId		c:o.41		
	2.2.1.1.2.1	tARRName		c:m		
	2.2.1.1.2.2	testId		c:m		
	2.2.2	tOsStates		m		
	2.2.2.1	tOInstance		o		
	2.2.2.2	testState		m		
	2.2.2.2.1	operationalState		m		
	2.2.2.2.2	proceduralStatus		m		
	2.2.2.2.3	controlStatus		c:o.42		
	2.2.2.2.4	availabilityStatus		c:o.42		
3	3.1	TestTerminateInfo	INFORMATION SYNTAX	m		
	3.1.1	testSessionId		o		
	3.1.1.1	localId		c:m		
	3.1.1.2	globalRef		c:o.43		
	3.1.1.2.1	dnGlobRef		c:o.44		
	3.1.1.2.2	oidGlobRef		c:o.44		
	3.1.2	testInvocationId		m		
	3.1.2.1	tOName		c:o.45		
	3.1.2.2	invocationId		c:o.45		
	3.1.2.2.1	tARRName		c:m		
	3.1.2.2.2	testId		c:m		
	3.2	TestTerminateResult	REPLY SYNTAX	m		
	3.2.1	tOName		c:o.46		
	3.2.2	invocationId		c:o.46		
	3.2.2.1	tARRName		c:m		
	3.2.2.2	testId		c:m		

G.9.5 Parameters

Table G.35/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	loopbackTestInfoParam	{part14Parameter ??}		m		
2	associatedObjectNoAvailable	{part12Parameter 1}		m		
3	independentTestInvocationError	{part12Parameter 2}		m		

Table G.35/X.162 – Parameter support *(concluded)*

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
4	mistypeTestCategoryInformation	{part12Parameter 4}		m		
5	mORTNotAvailable	{part12Parameter 5}		m		
6	noSuchAssociatedObject	{part12Parameter 6}		m		
7	noSuchMORT	{part12Parameter 7}		m		
8	relatedTOError	{part12Parameter 10}		m		
9	noSuchTestInvocationId	{part12Parameter 8}		m		
10	noSuchTestSessionId	{part12Parameter 9}		m		
11	invalidTestOperation	{part12Parameter 3}		m		
12	testSuspendResumError	{part12Parameter 11}		m		
13	testTerminateError	{part12Parameter 12}		m		

G.10 cnmX25EntityTested

G.10.1 Statement of conformance to the managed object class

Table G.36/X.162 – Managed object support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	cnmX25EntityTested	{cnmObjectClass 25}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.37/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.10.2 Packages

Table G.38/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c202		
3	allomorphicPackage	{dmi-pkg 17}		c203		
4	cnmX25Entity-P	–		m		
5	cnmX25Entity Tested-P	–		m		
c202: if G.38/3a then m else –. c203: if G.36/1b then – else m.						

G.10.3 Attributes

Table G.39/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c204		–	
4	allomorphs	{dmi-att 50}		–		c205		–	
5	cnmX25EntityId	{cnmAttribute 25}		–		m		–	
6	administrativeState	{dmi-att 31}		m		m		m	

Table G.39/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
c204: if G.38/2a then m else –. c205: if G.38/3a then m else –.							

G.10.4 Actions

Table G.40/X.162 – Action support

Index	Action type template label	Value of object identifier for action type	Constraints and values	Status	Support	Additional information
1	testRequestControlledAction	{part12Action 1}		m		
2	testSuspendResumeAction	{part12Action 2}		m		
3	testTerminateAction	{part12Action 3}		m		

Table G.40/X.162 – Action support *(continued)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	1.1	TestRequestControlledInfo		m		
	1.1.1	controlledTestRequestType		m		
	1.1.2	testCategoryInformation		o		
	1.1.3	testSessionId		o		
	1.1.3.1	localId		c:m		
	1.1.3.2	globalRef		c:o.47		
	1.1.3.2.1	dnGlobRef		c:o.48		

Table G.40/X.162 – Action support *(continued)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	1.1.3.2.2	oidGlobRef		c:o.48		
	1.1.4	toBeTestedMORTs		o		
	1.1.4.1	normalForm		c:o.49		
	1.1.4.2	scopedSet		c:o.49		
	1.1.4.2.1	base		c:m		
	1.1.4.2.2	mORTsScope	Scope DEFAULT baseObject	c:m		
	1.1.4.2.3	mORTsFilter	CMISFilter DEFAULT "and : {}"	c:m		
	1.1.5	associatedObjects		o		
	1.1.5.1	associatedObject		c:m		
	1.1.5.2	associatedObjectInfo		c:m		
	1.1.5.2.1	associatedObjectInfoId		c:m		
	1.1.5.2.2	associatedObjectInform		c:o.50		
	1.1.6	timeoutPeriod		o		
	1.1.6.1	forever	NULL	c:o.51		
	1.1.6.2	hours		c:o.51		
	1.1.6.3	minutes		c:o.51		
	1.1.6.4	seconds		c:o.51		
	1.1.6.5	millesecs		c:o.51		
	1.1.6.6	microsecs		c:o.51		
	1.1.6.7	nanosecs		c:o.51		
	1.1.7	testObjecList		m		
	1.1.7.1	tOClass		c:m		
	1.1.7.2	tOInstance		c:o.52		
	1.1.7.3	referenceTOInstance		c:o.52		
	1.1.7.4	initialAttributeList		c:o.52		
	1.2	TestRequestControlledResponse	REPLY SYNTAX	m		
	1.2.1	independentTestResponseList		m		
	1.2.1.1	testInvocationId		c:m		
	1.2.1.1.1	tOName		c:o.53		
	1.2.1.1.2	invocationId		c:o.53		
	1.2.1.1.2.1	tARRName		c:m		
	1.2.1.1.2.2	testId		c:m		
	1.2.1.2	tOName		c:o.54		
	1.2.1.2.1	conductorProvidedName	NULL	c:o.55		
	1.2.1.2.2	performerProvidedName		c:o.55		
	1.2.1.3	tOAttributeList		c:o.54		
	1.2.2	relatedTestResponse		o		
	1.2.2.1	testInvocationId		c:m		
	1.2.2.1.1	tOName		c:o.56		

Table G.40/X.162 – Action support *(continued)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	1.2.2.1.2	invocationId		c:o.56		
	1.2.2.1.2.1	tARRName		c:m		
	1.2.2.1.2.2	testId		c:m		
	1.2.2.2	testObjectResponseList		c:m		
	1.2.2.2.1	tOName		c:m		
	1.2.2.2.1.1	conductorProvidedName	NULL	c:o.57		
	1.2.2.2.1.2	performerProvidedName		c:o.57		
	1.2.2.2.2	tOAttributeList		c:o.58		
2	2.1	TestSuspendResumeInfo	INFORMATION SYNTAX	m		
	2.1.1	indicatedTest		m		
	2.1.1.1	testSessionId		o		
	2.1.1.1.1	localId		c:m		
	2.1.1.1.2	globalRef		c:o.59		
	2.1.1.1.2.1	dnGlobRef		c:o.60		
	2.1.1.1.2.2	oidGlobRef		c:o.60		
	2.1.2	suspendResumeChoice	0 to 1	m		
	2.2	TestSuspendResumeResult	REPLY SYNTAX	m		
	2.2.1	testInvocationId		m		
	2.2.1.1.1	tOName		c:o.61		
	2.2.1.1.2	invocationId		c:o.61		
	2.2.1.1.2.1	tARRName		c:m		
	2.2.1.1.2.2	testId		c:m		
	2.2.2	tOsStates		m		
	2.2.2.1	tOInstance		o		
	2.2.2.2	testState		m		
	2.2.2.2.1	operationalState		m		
	2.2.2.2.2	proceduralStatus		m		
	2.2.2.2.3	controlStatus		c:o.62		
	2.2.2.2.4	availabilityStatus		c:o.62		
3	3.1	TestTerminateInfo	INFORMATION SYNTAX	m		
	3.1.1	testSessionId		o		
	3.1.1.1	localId		c:m		
	3.1.1.2	globalRef		c:o.63		
	3.1.1.2.1	dnGlobRef		c:o.64		
	3.1.1.2.2	oidGlobRef		c:o.64		
	3.1.2	testInvocationId		m		
	3.1.2.1	tOName		c:o.65		
	3.1.2.2	invocationId		c:o.65		
	3.1.2.2.1	tARRName		c:m		
	3.1.2.2.2	testId		c:m		

Table G.40/X.162 – Action support *(concluded)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
3	3.2	TestTerminateResult	REPLY SYNTAX	m		
	3.2.1	tOName		c:o.66		
	3.2.2	invocationId		c:o.66		
	3.2.2.1	tARRName		c:m		
	3.2.2.2	testId		c:m		

G.10.5 Parameters

Table G.41/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	protocolIntegrityTestInfoParam	{part14Parameter ??}		m		
2	associatedObjectNoAvailable	{part12Parameter 1}		m		
3	independentTestInvocationError	{part12Parameter 2}		m		
4	mistypeTestCategoryInformation	{part12Parameter 4}		m		
5	mORTNotAvailable	{part12Parameter 5}		m		
6	noSuchAssociatedObject	{part12Parameter 6}		m		
7	noSuchMORT	{part12Parameter 7}		m		
8	relatedTOError	{part12Parameter 10}		m		
9	noSuchTestInvocationId	{part12Parameter 8}		m		
10	noSuchTestSessionId	{part12Parameter 9}		m		
11	invalidTestOperation	{part12Parameter 3}		m		
12	testSuspendResumError	{part12Parameter 11}		m		
13	testTerminateError	{part12Parameter 12}		m		

G.11 x25ServiceProfile

G.11.1 Statement of conformance to the managed object class

Table G.42/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	x25ServiceProfile	{cnmObjectClass 5}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.43/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.11.2 Packages

Table G.44/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c206		
3	allomorphicPackage	{dmi-pkg 17}		c207		
4	x25ServiceProfile-P	{cnmPackage 1}		m		
5	pleProfile-P	{cnmPackage 2}		m		
6	slpTimersProfile-P	{cnmPackage 4}		o		
c206: if any of (G.44/3a through G.44/6a) then m else –. c207: if G.42/1b then – else m.						

G.11.3 Attributes

Table G.45/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c208		–	
4	allomorphs	{dmi-att 50}		–		c209		–	
5	x25ServiceProfileId	{cnmAttribute 35}		–		m		–	
6	localDTEAddress	{NLM.aoi 39}		–		m		–	
7	protocolVersionSupported	{NLM.aoi 38}		–		m		–	
8	mlpSubscription	{cnmAttribute 51}		–		m		–	
9	cUG	{NLM.aoi 136}		–		m		–	
10	incomingCallBarredWithinCUG	{NLM.aoi 149}		–		m		–	
11	outgoingCallBarredWithinCUG	{NLM.aoi 160}		–		m		–	
12	bilateralCUG	{NLM.aoi 125}		–		m		–	
13	bilateralCUGwithOutgoingAccess	{NLM.aoi 127}		–		m		–	
14	fastSelectAcceptance	{NLM.aoi 145}		–		m		–	
15	flowControlParameterNegotiation	{NLM.aoi 119}		–		m		–	
16	incomingCallsBarred	{NLM.aoi 148}		–		m		–	
17	interfaceType	{DLM.aoi 18}		–		m		–	
18	logicalChannelAssignments	{NLM.aoi 48}		–		m		–	
19	outgoingCallsBarred	{NLM.aoi 159}		–		m		–	
20	oneWayLogicalCannelIncoming	{NLM.aoi 156}		–		m		–	
21	oneWayLogicalCannelOutgoing	{NLM.aoi 157}		–		m		–	
22	throughputClassNegotiation	{NLM.aoi 168}		–		m		–	

Table G.45/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
23	callDeflectionSubscription	{NLM.aoi 114}		–		m		–	
24	chargingInformation	{NLM.aoi 132}		–		m		–	
25	nonStandardDefaultPacketSizes	{NLM.aoi 151}		–		m		–	
26	defaultThroughputClassesAssignment	{NLM.aoi 144}		–		m		–	
27	defaultThroughputClasses	{NLM.aoi 112}		–		m		–	
28	defaultWindowSizes	{NLM.aoi 104}		–		m		–	
29	defaultPacketSizes	{NLM.aoi 103}		–		m		–	
30	nonStandardDefaultWindowSizes	{NLM.aoi 152}		–		m		–	
31	nUISubscription	{NLM.aoi 153}		–		m		–	
32	onlineFacilityRegistration	{NLM.aoi 158}		–		m		–	
33	packetRetransmission	{NLM.aoi 161}		–		m		–	
34	extendedPacketSequenceNumbering	{NLM.aoi 49}		–		m		–	
35	rPOASubscription	{NLM.aoi 167}		–		m		–	
36	callRedirection	{NLM.aoi 129}		–		m		–	
37	dBitModification	{NLM.aoi 139}		–		m		–	
38	huntGroup	{NLM.aoi 146}		–		m		–	
39	localChargingPrevention	{NLM.aoi 150}		–		m		–	
40	nUIOverrid	{NLM.aoi 154}		–		m		–	
41	reverseChargingAcceptance	{NLM.aoi 165}		–		m		–	
42	k	{DLM.aoi 19}		–		c210		–	
43	n1	{DLM.aoi 20}		–		c210		–	
44	n2	{DLM.aoi 21}		–		c210		–	
45	t1Timer	{DLM.aoi 25}		–		c210		–	
46	t2Timer	{DLM.aoi 26}		–		c210		–	
47	t4Timer	{DLM.aoi 28}		–		c210		–	

Table G.45/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		

Table G.45/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	–		–		–		
26	–		–		–		
27	–		–		–		
28	–		–		–		
29	–		–		–		
30	–		–		–		
31	–		–		–		
32	–		–		–		
33	–		–		–		
34	–		–		–		
35	–		–		–		
36	–		–		–		
37	–		–		–		
38	–		–		–		
39	–		–		–		
40	–		–		–		
41	–		–		–		
42	–		–		–		
43	–		–		–		
44	–		–		–		
45	–		–		–		
46	–		–		–		
47	–		–		–		

c208: if G.44/2a then m else –.
c209: if G.44/3a then m else –.
c210: if G.44/6a then m else –.

G.11.4 Notifications

Table G.46/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			
3	attributeValueChange	{dmi-not 1}		m			

Table G.46/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c211		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.67		
	1.4.2.2	nonSpecificForm	–		c:o.67		
	1.4.2.3	localDistinguishedName	–		c:o.67		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c212		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.68		
	2.4.2.2	nonSpecificForm	–		c:o.68		
	2.4.2.3	localDistinguishedName	–		c:o.68		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c213		

Table G.46/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
3	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName			c:o.69		
	3.5.2.2	nonSpecificForm	–		c:o.69		
	3.5.2.3	localDistinguishedName	–		c:o.69		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
c211: if G.46/1.4a then m else o. c212: if G.46/2.4a then m else o. c213: if G.46/3.5a then m else o.							

G.12 mlpProfile

G.12.1 Statement of conformance to the managed object class

Table G.47/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	mlpProfile	{cnmObjectClass 6}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.48/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.12.2 Packages

Table G.49/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c214		
3	allomorphicPackage	{dmi-pkg 17}		c215		
4	mlpProfile-P	–		m		
5	mlpTimer-P	{cnmPackage 25}		o		
c214: if G.494/3a or G.49/5a then m else –. c215: if G.47/1b then – else m.						

G.12.3 Attributes

Table G.50/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c216		–	
4	allomorphs	{dmi-att 50}		–		c217		–	
5	mlpProfileId	{cnmAttribute 31}		–		m		–	
6	mW	{DLM.aoi 47}		–		m		–	
7	mX	{DLM.aoi 48}		–		m		–	
8	localDTEAddress	{NLM.aoi 39}		–		c218		–	
9	mT1Timer	{DLM.aoi 12}		–		c218		–	
10	mT3Timer	{DLM.aoi 14}		–		c218		–	
11	mT2	{DLM.aoi 13}		–		c218		–	

Table G.50/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
c216: if G.49/2a then m else –. c217: if G.49/3a then m else –. c218: if G.49/5a then m else –.							

G.13 slpProfile

G.13.1 Statement of conformance to the managed object class

Table G.51/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	slpProfile	{cnmObjectClass 7}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.52/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.13.2 Packages

Table G.53/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c219		
3	allomorphicPackage	{dmi-pkg 17}		c220		
4	slpProfile-P	{cnmPackage 3}		m		
5	slpTimersProfile-P	{cnmPackage 4}		o		
c219: if any of (G.53/3a through G.53/5a) then m else –. c220: if G.51/1b then – else m.						

G.13.3 Attributes

Table G.54/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c221		–	
4	allomorphs	{dmi-att 50}		–		c222		–	
5	slpProfileId	{cnmAttribute 32}		–		m		–	
6	localDTEAddress	{NLM.aoi 39}		–		m		–	
7	transmissionRate	{PHLM.aoi 10}		–		m		–	
8	sequenceModulus	{DLM.aoi 24}		–		m		–	
9	k	{DLM.aoi 19}		–		c223		–	
10	n1	{DLM.aoi 20}		–		c223		–	
11	n2	{DLM.aoi 21}		–		c223		–	
12	t1Timer	{DLM.aoi 25}		–		c223		–	
13	t2Timer	{DLM.aoi 26}		–		c223		–	
14	t4Timer	{DLM.aoi 28}		–		c223		–	

Table G.54/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
c221: if G.53/2a then m else –. c222: if G.53/3a then m else –. c223: if G.53/5a then m else –.							

G.14 x25PvcProfile

G.14.1 Statement of conformance to the managed object class

Table G.55/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	x25PvcProfile	{cnmObjectClass 8}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.56/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.14.2 Packages

Table G.57/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c224		
3	allomorphicPackage	{dmi-pkg 17}		c225		
4	x25PvcProfile-P	–		m		
c224: if G.57/3a then m else –. c225: if G.55/1b then – else.						

G.14.3 Attributes

Table G.58/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c226		–	
4	allomorphs	{dmi-att 50}		–		c227		–	
5	x25ServiceProfileId	{cnmAttribute 33}		–		m		–	
6	chargingDirection	{NLM.aoi 131}		–		m		–	
7	localDTEAddress	{NLM.aoi 39}		–		m		–	
8	logicalChannel	{NLM.aoi 89}		–		m		–	
9	operationalState	{dmi-att 35}		–		m		–	
10	packetSizes	{NLM.aoi 121}		–		m		–	
11	remoteDTEAddress	{NLM.aoi 93}		–		m		–	
12	remoteLogicalChannel	{NLM.aoi 162}		–		m		–	
13	throughputClasses	{NLM.aoi 96}		–		m		–	
14	virtualCircuitId	{NLM.aoi 116}		–		m		–	
15	windowSizes	{NLM.aoi 124}		–		m		–	

Table G.58/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		

Table G.58/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
c226: if G.57/2a then m else –. c227: if G.57/3a then m else –.							

G.14.4 Notifications

Table G.59/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			

Table G.59/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c228		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.70		
	1.4.2.2	nonSpecificForm	–		c:o.70		
	1.4.2.3	localDistinguishedName	–		c:o.70		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c229		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		

Table G.59/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
2	2.4.2.1	distinguishedName	–		c:o.71		
	2.4.2.2	nonSpecificForm	–		c:o.71		
	2.4.2.3	localDistinguishedName	–		c:o.71		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
c228: if G.59/1.4a then m else o. c229: if G.59/2.4a then m else o.							

G.15 cugProfile

G.15.1 Statement of conformance to the managed object class

Table G.60/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	cugProfile	{cnmObjectClass 9}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.61/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.15.2 Packages

Table G.62/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c230		
3	allomorphicPackage	{dmi-pkg 17}		c231		
4	cugProfile-P	–		m		
5	interlockCodePkg	{cnmPackage 26}		o		
6	cugIndexPkg	{cnmPackage 27}		o		
c230: if G.62/3a or G.62/5a or G.62/6a then m else –. c231: if G.60/1b then – else m.						

G.15.3 Attributes

Table G.63/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c232		–	
4	allomorphs	{dmi-att 50}		–		c233		–	
5	cugProfileId	{cnmAttribute 26}		–		m		–	
6	cUGWithIncomingAccess	{NLM.aoi 136}		–		m		–	
7	cUGWithOutgoingAccess	{NLM.aoi 137}		–		m		–	
8	bilateralCUG	{NLM.aoi 125}		–		m		–	
9	bilateralCUGWithOutgoingAccess	{NLM.aoi 127}		–		m		–	
10	dTEAddressList	{cnmAttribute 40}		–		m		–	
11	interlockCode	{cnmAttribute 65}		–		c234		–	
12	cugIndex	{cnmAttribute 66}		–		c235		–	

Table G.63/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		

c232: if G.62/2a then m else –.
c233: if G.62/3a then m else –.
c234: if G.62/5a then m else –.
c235: if G.62/6a then m else –.

G.15.4 Notifications

Table G.64/X.162 – Notification support

Index	Notification type template label	Value of object identifier for notification	Constraints and values	Status	Support		Additional information
					Confirmed	Non-Confirmed	
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			

Table G.64/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c236		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.72		
	1.4.2.2	nonSpecificForm	–		c:o.72		
	1.4.2.3	localDistinguishedName	–		c:o.72		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c237		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.73		
	2.4.2.2	nonSpecificForm	–		c:o.73		
	2.4.2.3	localDistinguishedName	–		c:o.73		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		

c236: if G.64/1.4a then m else o.
c237: if G.64/2.4a then m else o.

G.16 hgProfile

G.16.1 Statement of conformance to the managed object class

Table G.65/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	hgProfile	{cnmObjectClass 10}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.66/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.16.2 Packages

Table G.67/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c238		
3	allomorphicPackage	{dmi-pkg 17}		c239		
4	hgProfile-P	–		m		
c238: if G.67/3a then m else –. c239: if G.65/1b then – else m.						

G.16.3 Attributes

Table G.68/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c240		–	
4	allomorphs	{dmi-att 50}		–		c241		–	
5	hgProfileId	{cnmAttribute 28}		–		m		–	
6	hgAddress	{cnmAttribute 42}		–		m		–	
7	dTEAddressList	{cnmAttribute 40}		–		m		–	

Table G.68/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
c240: if G.67/2a then m else –. c241: if G.67/3a then m else –.							

G.16.4 Notifications

Table G.69/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			

Table G.69/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c242		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.74		
	1.4.2.2	nonSpecificForm	–		c:o.74		
	1.4.2.3	localDistinguishedName	–		c:o.74		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c243		

Table G.69/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
2	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.75		
	2.4.2.2	nonSpecificForm	–		c:o.75		
	2.4.2.3	localDistinguishedName	–		c:o.75		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
c242: if G.69/1.4a then m else o. c246: if G.69/2.4a then m else o.							

G.17 cnmUser

G.17.1 Statement of conformance to the managed object class

Table G.70/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	cnmUser	{cnmObjectClass 11}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.71/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.17.2 Packages

Table G.72/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c244		
3	allomorphicPackage	{dmi-pkg 17}		c245		
4	customerPkg	{cnmPackage 5}		m		
5	attributeValueChangeNotificationPackage	{m3100Package 4}		m		
6	contactList-P	{cnmPackage 6}		m		
7	createDeleteNotificationPackage	{m3100Package 10}		m		
8	customerTypesPkg	{cnmPackage 9}		o		
9	opNetworkListPkg	{cnmPackage 10}		o		
10	serviceListPkg	{cnmPackage 11}		o		
11	typeTextPkg	{cnmPackage 8}		o		
12	userLabelPackage	{m3100Package 33}		o		
13	cnmUser-P	–		m		
c244: if any of (G.72/3a through G.72/12a) then m else –. c245: if G.70/1b then – else m.						

G.17.3 Attributes

Table G.73/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c246		–	
4	allomorphs	{dmi-att 50}		–		c247		–	
5	customerID	{cnmAttribute 27}	PERMITTED VALUES	m		m		–	
6	customerTitle	{cnmAttribute 37}		m		m		–	
7	contactList	{cnmAttribute 36}	PERMITTED VALUES	m		m		m	
8	customerTypes	{cnmAttribute 38}		c248		c248		c248	
9	opNetworkList	{cnmAttribute 57}	PERMITTED VALUES	c249		c249		c249	
10	serviceList	{cnmAttribute 60}	PERMITTED VALUES	c250		c250		c250	
11	typeText	{cnmAttribute 64}	PERMITTED VALUES	c251		c251		c251	
12	userLabel	{m3100Attribute 50}		c252		c252		c252	
13	cnmUserId	{cnmAttribute 24}		–		m		–	
14	suborganizationObjectList	{cnmAttribute 61}		m		m		m	

Table G.73/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	m		m		–		
8	c248		c248		–		
9	c249		c249		–		
10	c250		c250		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14							

c246: if G.72/2a then m else –.
c247: if G.72/3a then m else –.
c248: if G.72/8a then m else –.
c249: if G.72/9a then m else –.
c250: if G.72/10a then m else –.
c251: if G.72/11a then m else –.
c252: if G.72/12a then m else –.

G.17.4 Notifications

Table G.74/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			
3	attributeValueChange	{dmi-not 1}		m			

Table G.74/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c253		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		

Table G.74/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.76		
	1.4.2.2	nonSpecificForm	–		c:o.76		
	1.4.2.3	localDistinguishedName	–		c:o.76		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c254		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.77		
	2.4.2.2	nonSpecificForm	–		c:o.77		
	2.4.2.3	localDistinguishedName	–		c:o.77		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c255		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName			c:o.78		
	3.5.2.2	nonSpecificForm	–		c:o.78		
	3.5.2.3	localDistinguishedName	–		c:o.78		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		

c253: if G.74/1.4a then m else o.
c254: if G.74/2.4a then m else o.
c255: if G.74/3.5a then m else o.

G.18 customer

G.18.1 Statement of conformance to the managed object class

Table G.75/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	customer	{cnmObjectClass 12}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.76/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.18.2 Packages

Table G.77/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c256		
3	allomorphicPackage	{dmi-pkg 17}		c257		
4	customerPkg	{cnmPackage 5}		m		
5	attributeValueChangeNotificationPackage	{m3100Package 4}		m		
6	createDeleteNotificationPackage	{m3100Package 10}		m		
7	contactList-P	{cnmPackage 6}		m		
8	customerTypesPkg	{cnmPackage 9}		o		
9	opNetworkListPkg	{cnmPackage 10}		o		
10	serviceListPkg	{cnmPackage 11}		o		
11	typeTextPkg	{cnmPackage 8}		o		
12	userLabelPackage	{m3100Package 33}		o		
c256: if any of (G.77/3a through G.77/12a) then m else –. c257: if G.75/1b then – else m.						

G.18.3 Attributes

Table G.78/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c258		–	
4	allomorphs	{dmi-att 50}		–		c259		–	
5	customerID	{cnmAttribute 27}		–		m		–	
6	customerTitle	{cnmAttribute 37}		–		m		–	
7	contactList	{cnmAttribute 36}	PERMITTED VALUES	m		m		m	
8	customerTypes	{cnmAttribute 38}		c260		c260		c260	
9	opNetworkList	{cnmAttribute 57}	PERMITTED VALUES	c261		c261		c261	
10	serviceList	{cnmAttribute 60}	PERMITTED VALUES	c262		c262		c262	
11	typeText	{cnmAttribute 64}	PERMITTED VALUES	c263		c263		c263	
12	userLabel	{m3100Attribute 50}		c264		c264		c264	

Table G.78/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	m		m		–		
8	c260		c260		–		
9	c261		c261		–		
10	c262		c262		–		
11	–		–		–		
12	–		–		–		

c258: if G.77/2a then m else –.
c259: if G.77/3a then m else –.
c260: if G.77/8a then m else –.
c261: if G.77/9a then m else –.
c262: if G.77/10a then m else –.
c263: if G.77/11a then m else –.
c264: if G.77/12a then m else –.

G.18.4 Notifications

Table G.79/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		M			
2	objectDeletion	{dmi-not 7}		M			
3	attributeValueChange	{dmi-not 1}		M			

Table G.79/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c265		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.79		
	1.4.2.2	nonSpecificForm	–		c:o.79		
	1.4.2.3	localDistinguishedName	–		c:o.79		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c266		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.80		
	2.4.2.2	nonSpecificForm	–		c:o.80		
	2.4.2.3	localDistinguishedName	–		c:o.80		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c267		

Table G.79/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
3	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName			c:o.81		
	3.5.2.2	nonSpecificForm	–		c:o.81		
	3.5.2.3	localDistinguishedName	–		c:o.81		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
c265: if G.79/1.4a then m else o. c266: if G.79/2.4a then m else o. c267: if G.79/3.5a then m else o.							

G.19 location

G.19.1 Statement of conformance to the managed object class

Table G.80/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	location	{cnmObjectClass 13}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.81/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.19.2 Packages

Table G.82/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c268		
3	allomorphicPackage	{dmi-pkg 17}		c269		
4	locationPkg	{cnmPackage 7}		m		
5	attributeValueChangeNotificationPackage	{m3100Package 4}		m		
6	createDeleteNotificationPackage	{m3100Package 10}		m		
7	contactList-P	{cnmPackage 6}		o		
8	typeTextPkg	{cnmPackage 8}		o		
9	userLabelPackage	{m3100Package 32}		o		
c268: if any of (G.82/3a through G.82/9a) then m else –. c269: if G.80/1b then – else m.						

G.19.3 Attributes

Table G.83/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c270		–	
4	allomorphs	{dmi-att 50}		–		c271		–	
5	locationID	{cnmAttribute 45}	PERMITTED VALUES	–		m		–	
6	geographicCoordinates	{cnmAttribute 41}	PERMITTED VALUES	m		m		m	
7	locationDetails	{cnmAttribute 44}	PERMITTED VALUES	m		m		m	
8	locationTitle	{cnmAttribute 46}		–		m		–	
9	locationType	{cnmAttribute 47}		m		m		m	
10	postalAddress	{cnmAttribute 56}	PERMITTED VALUES	m		m		m	
11	contactList	{cnmAttribute 36}	PERMITTED VALUES	c272		c272		c272	
12	typeText	{cnmAttribute 64}	PERMITTED VALUES	c273		c273		c273	
13	userLabel	{m3100Attribute 50}		c274		c274		c274	

Table G.83/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	c272		c272		–		
12	–		–		–		
13	–		–		–		

c270: if G.82/2a then m else –.
c271: if G.82/3a then m else –.
c272: if G.82/7a then m else –.
c273: if G.82/8a then m else –.
c274: if G.82/9a then m else –.

G.19.4 Notifications

Table G.84/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			
3	attributeValueChange	{dmi-not 1}		m			

Table G.84/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c275		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.82		

Table G.84/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.4.2.2	nonSpecificForm	–		c:o.82		
	1.4.2.3	localDistinguishedName	–		c:o.82		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c276		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.83		
	2.4.2.2	nonSpecificForm	–		c:o.83		
	2.4.2.3	localDistinguishedName	–		c:o.83		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c277		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName			c:o.84		
	3.5.2.2	nonSpecificForm	–		c:o.84		
	3.5.2.3	localDistinguishedName	–		c:o.84		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		

c275: if G.84/1.4a then m else o.
c276: if G.84/2.4a then m else o.
c277: if G.84/3.5a then m else o.

G.20 redirectionList

G.20.1 Statement of conformance to the managed object class

Table G.85/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	redirectionList	{cnmObjectClass 26}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.86/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.20.2 Packages

Table G.87/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c278		
3	allomorphicPackage	{dmi-pkg 17}		c279		
4	redirectionListPackage	–		m		
c278: if G.87/3a then m else –. c279: if G.85/b then – else m.						

G.20.3 Attributes

Table G.88/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c280		–	
4	allomorphs	{dmi-att 50}		–		c281		–	
5	redirectionListId	{cnmAttribute 65}		–		m		–	
6	dTEAddressList	{cnmAttribute 40}		m		m		m	
7	administrativeState	{dmi-att 31}		m		m		m	
8	callRedirectionList	{cnmAttribute 67}		m		m		m	

Table G.88/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
c280: if G.87/2a then m else –. c281: if G.87/3a then m else –.							

G.21 cnmBillingController

G.21.1 Statement of conformance to the managed object class

Table G.89/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	cnmBillingController	{cnmObjectClass 27}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.90/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.21.2 Packages

Table G.91/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c282		
3	allomorphicPackage	{dmi-pkg 17}		c283		
4	cnmBillingController-P	–		m		
c282: if G.91/3a then m else –. c283: if G.89/1b then – else m.						

G.21.3 Attributes

Table G.92/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c284		–	
4	allomorphs	{dmi-att 50}		–		c285		–	
5	controlObjectId	{umf-att 5}		–		m		–	
6	administrativeState	{dmi-att 31}		m		m		m	

Table G.92/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
c284: if G.91/2a then m else –. c285: if G.91/3a then m else –.							

G.21.4 Notifications

Table G.93/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	invoiceReport	{cnmNotification 1}		m			

Table G.93/X.162 – Notification support *(concluded)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	invoiceInfo	–		m		
	1.1.1	serviceProviderName	–		m		
	1.1.2	invoiceData	–		m		

G.22 currentPacketTrafficData

G.22.1 Statement of conformance to the managed object class

Table G.94/X.162 – Managed object class support

Index	**Managed object class template label**	**Value of object identifier for class**	**Support of all mandatory features?(Y/N)**	**Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)**
1	currentPacketTrafficData	{cnmObjectClass 14}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.95/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.22.2 Packages

Table G.96/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c286		
3	allomorphicPackage	{dmi-pkg 17}		c287		
4	scannerPackage	–		m		
5	availabilityStatusPackage	{dmi-pkg 22}		c288		
6	duration	{dmi-pkg 26}		o		
7	dailyScheduling	{dmi-pkg 25}		o		
8	weeklyScheduling	{dmi-pkg 29}		o		
9	externalScheduler	{dmi-pkg 27}		o		
10	periodSynchronizationPackage	{moa-pkg 10}		o		
11	createDeleteNotificationsPackage	{m3100Package 10}		o		
12	attributeValueChangeNotificationPackage	{m3100Package 4}		o		
13	stateChangeNotificationPackage	{m3100Package 28}		o		
14	currentDataPkg	–		m		
15	filterSuppressionPkg	{summ-pkg 2}		o		
16	historyRetentionPkg	{summ-pkg 6}		o		
17	maxSuppressedIntervalsPkg	{summ-pkg 7}		o		
18	measurementListPkg	{summ-pkg 8}		o		
19	numSuppressedIntervalsPkg	{summ-pkg 9}		o		
20	observedManagedObjectPkg	{summ-pkg 11}		o		
21	scheduledPMReportPkg	{summ-pkg 12}		o		
22	thresholdPkg	{summ-pkg 13}		o		
23	zeroSuppressionPkg	{summ-pkg 15}		o		
24	currentPacketTrafficData-P	–		m		

c286: if G.96/3a or any of (G.96/5a through G.96/13a) or any of (G.96/15a through G.96/23a) then m else –.
c287: if G.94/1b then – else m.
c288: if G.96/7a or G.96/8a or G.96/9a then m else –.

G.22.3 Attributes

Table G.97/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c289		–	
4	allomorphs	{dmi-att 50}		–		c290		–	
5	scannerId	{moa-att 25}		–		m		–	
6	administrativeState	{dmi-att 31}		m		m		m	
7	granularityPeriod	{moa-att 23}		m		m		m	
8	operationalState	{dmi-att 35}		–		m		–	
9	availabilityStatus	{dmi-att 33}	REQUIRED VALUES	–		c291		–	
10	startTime	{dmi-att 68}		c292		c292		c292	
11	stopTime	{dmi-att 69}	DEFAULT VALUE	c292		c292		c292	
12	intervalsOfDay	{dmi-att 57}	DEFAULT VALUE	c293		c293		c293	
13	weekmask	{dmi-att 71}	DEFAULT VALUE	c294		c294		c294	
14	schedulerName	{dmi-att 67}		–		c295		–	
15	periodSynchronizationTime	{moa-att 24}		c296		c296		c296	
16	suspectIntervalFlag	{summ-att 14}	DEFAULT VALUE	–		m		–	
17	elapsedTime	{summ-att 2}		–		m		–	
18	discriminatorConstruct	{dmi-att 56}	DEFAULT VALUE	c297		c297		c297	
19	historyRetention	{summ-att 5}		c298		c298		c298	
20	maxSuppressedIntervals	{summ-att 6}		c299		c299		c299	
21	measurementList	{summ-att 7}		c300		c300		c300	
22	numSuppressedIntervals	{summ-att 9}		–		c301		–	
23	observedObjectClass	{summ-att 10}		–		c302		–	
24	observedObjectInstance	{moa-att 16}		–		c302		–	
25	scanAttributeIdList	{summ-att 21}		c303		c303		c303	
26	numericAttributeIdArray	{summ-att 10}		c303		c303		c303	
27	onceReportAttributeIdList	{summ-att 16}		c303		c303		c303	
28	reportAllAttributes	{summ-att 11}	DEFAULT VALUE	c304		c304		c304	
29	suppressAdditionalThresholds	{summ-att 13}	DEFAULT VALUE	c304		c304		c304	
30	thresholdDataInstance	{summ-att 16}		c304		c304		c304	
31	callAttempts	{NLM.aoi 52}		–		m		–	
32	callsConnected	{NLM.aoi 53}		–		m		–	
33	callTimeouts	{NLM.aoi 55}		–		m		–	
34	clearTimeouts	{NLM.aoi 56}		–		m		–	
35	dataPacketsReceived	{NLM.aoi 51}		–		m		–	
36	dataPacketsSent	{NLM.aoi 50}		–		m		–	

Table G.97/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
37	octetsReceivedCounter	{dmi-att 78}		–		m		–	
38	octetsSentCounter	{dmi-att 80}		–		m		–	
39	protocolErrorsAccusedOf	{NLM.aoi 64}		–		m		–	
40	protocolErrorsDetectedLocally	{NLM.aoi 63}		–		m		–	
41	providerInitiatedDisconnects	{NLM.aoi 54}		–		m		–	
42	providerInitiatedResets	{NLM.aoi 59}		–		m		–	
43	resetTimeouts	{NLM.aoi 60}		–		m		–	
44	remotelyInitiatedResets	{NLM.aoi 57}		–		m		–	
45	remotelyInitiatedRestarts	{NLM.aoi 61}		–		m		–	
46	segmentsReceived	{NLM.aoi 6}		–		m		–	
47	segmentsSent	{NLM.aoi 118}		–		m		–	

Table G.97/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		c292		
12	c293		c293		c293		
13	c294		c294		c294		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		c297		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		

Table G.97/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
25	c303		c303		–		
26	–		–		–		
27	c303		c303		–		
28	–		–		c305		
29	–		–		c305		
30	c305		c305		–		
31	–		–		–		
32	–		–		–		
33	–		–		–		
34	–		–		–		
35	–		–		–		
36	–		–		–		
37	–		–		–		
38	–		–		–		
39	–		–		–		
40	–		–		–		
41	–		–		–		
42	–		–		–		
43	–		–		–		
44	–		–		–		
45	–		–		–		
46	–		–		–		
47	–		–		–		

c289: if G.96/2a then m else –.
c290: if G.96/3a then m else –.
c291: if G.96/5a then m else –.
c292: if G.96/6a then m else –.
c293: if G.96/7a then m else –.
c294: if G.96/8a then m else –.
c295: if G.96/9a then m else –.
c296: if G.96/10a then m else –.
c297: if G.96/15a then m else –.
c298: if G.96/16a then m else –.
c299: if G.96/17a then m else –.
c300: if G.96/18a then m else –.
c301: if G.96/19a then m else –.
c302: if G.96/20a then m else –.
c303: if G.96/21a then m else –.
c304: if G.96/22a then m else –.

G.22.4 Notifications

Table G.98/X.162 – Notification support

Index	Notification type template label	Value of object identifier for notification	Constraints and values	Status	Support		Additional information
					Confirmed	Non-Confirmed	
1	objectCreation	{dmi-not 6}		c305			
2	objectDeletion	{dmi-not 7}		c305			
3	attributeValueChange	{dmi-not 1}		c306			
4	stateChange	{dmi-not 14}		c307			
5	scanReport	{summ-not 2}		c308			
6	qualityofServiceAlarm	{dmi-not 11}		c309			

Table G.98/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c310		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.85		
	1.4.2.2	nonSpecificForm	–		c:o.85		
	1.4.2.3	localDistinguishedName	–		c:o.85		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c311		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.86		
	2.4.2.2	nonSpecificForm	–		c:o.86		
	2.4.2.3	localDistinguishedName	–		c:o.86		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		

Table G.98/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
3	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c312		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.87		
	3.5.2.2	nonSpecificForm	–		c:o.87		
	3.5.2.3	localDistinguishedName	–		c:o.87		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
4	4.1	sourceIndicator	{dmi-att 26}		o		
	4.2	attributeIdentifierList	{dmi-att 8}		o		
	4.3	stateChangeDefinition	{dmi-att 10}		m		
	4.3.1	attributeID	–		m		
	4.3.2	oldAttributeValue	–		o		
	4.3.3	newAttributeValue	–		m		
	4.4	notificationIdentifier	{dmi-att 16}		o		
	4.5	correlatedNotifications	{dmi-att 12}		o		
	4.5.1	correlatedNotifications	–		c:m		
	4.5.2	sourceObjectInst	–		c:o		
	4.6	additionalText	{dmi-att 7}		o		
	4.7	additionalInformation	{dmi-att 6}		o		
	4.7.1	identifier	–		m		
	4.7.2	significance	–		m		
	4.7.3	information	–		m		
5	5.1	scanInitiationTime	{summ-att 22}		o		
	5.2	onceReportAttributeList	{summ-att 16}		o		
	5.3	observationScanList	{summ-att 15}		m		
	5.3.1	observedObjectInstance	–		o		
	5.3.1.1	distinguishedName	–		c:o.88		
	5.3.1.2	nonSpecificForm	–		c:o.88		
	5.3.1.3	localDistinguishedName	–		c:o.88		
	5.3.2	attributeMeasureList	–		o		
	5.3.2.1	attributeId	–		c:m		
	5.3.2.2	attributeValue	–		c:o		
	5.3.2.3	timeStamp	–		c:o		
	5.3.2.4	suspectFlag	–	DEFAULT FALSE	c:o		
	5.3.3	numericValueArray	–		c:o		
	5.3.3.1	missingData	–		c:o.89		

Table G.98/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
5	5.3.3.2	valueOnly	–		c:o.89		
	5.3.3.3	qualifiedValue	–		c:o.89		
	5.3.3.3.1	value	–		c:m		
	5.3.3.3.2	timeStamp	–		c:o		
	5.3.3.3.3	suspectFlag	–	DEFAULT VALUE	c:o		
	5.4	incompleteScan	{summ-att 30}		o		
	5.5	additionalText	{dmi-att 7}		o		
	5.6	additionalInformation	{dmi-att 6}		o		
6	6.1	probableCause	{dmi-att 18}		m		
	6.2	specificProblems	{dmi-att 27}		o		
	6.3	perceivedSeverity	{dmi-att 17}		m		
	6.4	backedUpStatus	{dmi-att 11}		o		
	6.5	backUpObject	{dmi-att 40}		o		
	6.6	trendIndication	{dmi-att 30}		o		
	6.7	thresholdInfo	{dmi-att 29}		o		
	6.8	notificationIdentifier	{dmi-att 16}		c313		
	6.9	correlatedNotifications	{dmi-att 12}		o		
	6.9.1	correlatedNotification	–		c:m		
	6.9.2	sourceObjectInst	–		c:o		
	6.9.2.1	distinguishedName	–		c:o.90		
	6.9.2.2	nonSpecificForm	–		c:o.90		
	6.9.2.3	localDistinguishedName	–		c:o.90		
	6.10	stateChangeDefinition	{dmi-att 28}		o		
	6.11	monitoredAttributes	{dmi-att 15}		o		
	6.12	proposedRepairActions	{dmi-att 19}		o		
	6.13	additionalText	{dmi-att 7}		o		
	6.14	additionalInformation	{dmi-att 6}		o		

c305: if G.96/11a then m else –.
c306: if G.96/12a then m else –.
c307: if G.96/13a then m else –.
c308: if G.96/21a then m else –.
c309: if G.96/22a then m else –.
c310: if G.98/1.4a then m else o.
c311: if G.98/2.4a then m else o
c312: if G.98/3.5a then m else o.
c313: if G.98/6.9a then m else o.

G.22.5 Parameters

Table G.99/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	logRecordIdParameter	{q821Parameter 1}		c314		
2	correlatedRecordNameParameter	{q821Parameter 2}		c314		
3	suspectObjectListParameter	{q821Parameter 3}		c314		
c314: if G.96/22a then m else –.						

G.23 historyPacketTrafficData

G.23.1 Statement of conformance to the managed object class

Table G.100/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	historyPacketTrafficData	{cnmObjectClass 15}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.101/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.23.2 Packages

Table G.102/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c315		
3	allomorphicPackage	{dmi-pkg 17}		c316		
4	historyDataPkg	–		m		
5	historyDataMeasurementListPkp	{summ-pkg 4}		c317		
6	historyDataSuspectIntervalFlagPkg	{summ-pkg 5}		o		
7	numSuppressedIntervalsPkg	{summ-pkg 9}		c318		
8	objectDeleteNotificationPkg	{summ-pkg 10}		o		
9	observedManagedObjectPkg	{summ-pkg 11}		c319		
10	historyPacketTrafficData-P	–		m		
c315: if G.100/3a or any of (G.100/5a through G.100/9a) then m else –. c316: if G.100/1b then – else m. c317: if G.96/18a then m else –. c318: if G.96/19a then m else –. c319: if G.96/20a then m else –.						

G.23.3 Attributes

Table G.103/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c320		–	
4	allomorphs	{dmi-att 50}		–		c321		–	
5	historyDataId	{summ-att 4}		–		m		–	
6	periodEndTime	{summ-att 12}		–		m		–	
7	granularityPeriod	{moa-att 23}		–		m		–	
8	measurementList	{summ-att 7}		–		c322		–	
9	suspectIntervalFlag	{summ-att 14}		–		c323		–	
10	numSuppressedIntervals	{summ-att 9}		–		c324		–	
11	observedObjectClass	{summ-att 10}		–		c325		–	
12	observedObjectInstance	{moa-att 16}		–		c325		–	
13	callAttempts	{NLM.aoi 52}		–		m		–	
14	callsConnected	{NLM.aoi 53}		–		m		–	
15	callTimeouts	{NLM.aoi 55}		–		m		–	
16	clearTimeouts	{NLM.aoi 56}		–		m		–	
17	dataPacketsReceived	{NLM.aoi 51}		–		m		–	
18	dataPacketsSent	{NLM.aoi 50}		–		m		–	
19	octetsReceivedCounter	{dmi-att 78}		–		m		–	
20	octetsSentCounter	{dmi-att 80}		–		m		–	
21	protocolErrorsAccuse dOf	{NLM.aoi 64}		–		m		–	
22	protocolErrorsDetecte dLocally	{NLM.aoi 63}		–		m		–	
23	providerInitiatedDiscon nects	{NLM.aoi 54}		–		m		–	
24	providerInitiatedResets	{NLM.aoi 59}		–		m		–	
25	resetTimeouts	{NLM.aoi 60}		–		m		–	
26	remotelyInitiatedResets	{NLM.aoi 57}		–		m		–	
27	remotelyInitiatedRestarts	{NLM.aoi 61}		–		m		–	
28	segmentsReceived	{NLM.aoi 6}		–		m		–	
29	segmentsSent	{NLM.aoi 118}		–		m		–	

Table G.103/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		

Table G.103/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	–		–		–		
26	–		–		–		
27	–		–		–		
28	–		–		–		
29	–		–		–		

c320: if G.102/2a then m else –.
c321: if G.102/3a then m else –.
c322: if G.102/5a then m else –.
c323: if G.102/6a then m else –.
c324: if G.102/7a then m else –.
c325: if G.102/9a then m else –.

G.23.4 Notifications

Table G.104/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectDeletion	{dmi-not 7}		c326			

Table G.104/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c327		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.91		
	1.4.2.2	nonSpecificForm	–		c:o.91		
	1.4.2.3	localDistinguishedName	–		c:o.91		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
c326: if G.102/8a then m else –. c327: if G.104/1.4a then m else o.							

G.24 mlpMonitoredPoint

G.24.1 Statement of conformance to the managed object class

Table G.105/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	MlpMonitoredPoint	{cnmObjectClass 16}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.106/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.24.2 Packages

Table G.107/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c328		
3	allomorphicPackage	{dmi-pkg 17}		c329		
4	mlpMonitoredPoint-P	–		m		
c326: if G.16.2/3a then m else –. c327: if G.16.1.1/1b then – else m.						

G.24.3 Attributes

Table G.108/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c330		–	
4	allomorphs	{dmi-att 50}		–		c331		–	
5	mlpMonitoredPointId	{cnmAttribute 29}		–		m		–	

Table G.108/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
c330: if G.107/2a then m else –. c331: if G.107/3a then m else –.							

G.25 currentMlpTrafficData

G.25.1 Statement of conformance to the managed object class

Table G.109/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	currentMlpTrafficData	{cnmObjectClass 17}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.110/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.25.2 Packages

Table G.111/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c332		
3	allomorphicPackage	{dmi-pkg 17}		c333		
4	scannerPackage	–		m		
5	availabilityStatusPackage	{dmi-pkg 22}		c334		
6	duration	{dmi-pkg 26}		o		
7	dailyScheduling	{dmi-pkg 25}		o		
8	weeklyScheduling	{dmi-pkg 29}		o		
9	externalScheduler	{dmi-pkg 27}		o		
10	periodSynchronizationPackage	{moa-pkg 10}		o		
11	createDeleteNotificationsPackage	{m3100Package 10}		o		
12	attributeValueChangeNotificationPackage	{m3100Package 4}		o		
13	stateChangeNotificationPackage	{m3100Package 28}		o		
14	currentDataPkg	–		m		
15	filterSuppressionPkg	{summ-pkg 2}		o		
16	historyRetentionPkg	{summ-pkg 6}		o		
17	maxSuppressedIntervalsPkg	{summ-pkg 7}		o		
18	measurementListPkg	{summ-pkg 8}		o		
19	numSuppressedIntervalsPkg	{summ-pkg 9}		o		
20	observedManagedObjectPkg	{summ-pkg 11}		o		
21	scheduledPMReportPkg	{summ-pkg 12}		o		
22	thresholdPkg	{summ-pkg 13}		o		
23	zeroSuppressionPkg	{summ-pkg 15}		o		
24	currentMlpTrafficData-P	–		m		

c332: if G.111/3a or any of (G.111/5a through G.111/23a) then m else –.
c333: if G.110/1b then – else m.
c334: if G.111/7a or G.111/8a or G.111/9a then m else –.

G.25.3 Attributes

Table G.112/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c335		–	
4	allomorphs	{dmi-att 50}		–		c336		–	
5	scannerId	{moa-att 25}		–		m		–	
6	administrativeState	{dmi-att 31}		m		m		m	

Table G.112/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
7	granularityPeriod	{moa-att 23}		m		m		m	
8	operationalState	{dmi-att 35}		–		m		–	
9	availabilityStatus	{dmi-att 33}	REQUIRED VALUES	–		c337		–	
10	startTime	{dmi-att 68}		c338		c338		c338	
11	stopTime	{dmi-att 69}	DEFAULT VALUE	c338		c338		c338	
12	intervalsOfDay	{dmi-att 57}	DEFAULT VALUE	c339		c339		c339	
13	weekmask	{dmi-att 71}	DEFAULT VALUE	c340		c340		c340	
14	schedulerName	{dmi-att 67}		–		c341		–	
15	periodSynchronizationTime	{moa-att 24}		c342		c342		c342	
16	suspectIntervalFlag	{summ-att 14}	DEFAULT VALUE	–		m		–	
17	elapsedTime	{summ-att 2}		–		m		–	
18	discriminatorConstruct	{dmi-att 56}	DEFAULT VALUE	c343		c343		c343	
19	historyRetention	{summ-att 5}		c344		c344		c344	
20	maxSuppressedIntervals	{summ-att 6}		c345		c345		c345	
21	measurementList	{summ-att 7}		c346		c346		c346	
22	numSuppressedIntervals	{summ-att 9}		–		c347		–	
23	observedObjectClass	{summ-att 10}		–		c348		–	
24	observedObjectInstance	{moa-att 16}		–		c348		–	
25	scanAttributeIdList	{summ-att 21}		c349		c349		c349	
26	numericAttributeIdArray	{summ-att 10}		c349		c349		c349	
27	onceReportAttributeIdList	{summ-att 16}		c349		c349		c349	
28	reportAllAttributes	{summ-att 11}	DEFAULT VALUE	c350		c350		c350	
29	suppressAdditionalThresholds	{summ-att 13}	DEFAULT VALUE	c350		c350		c350	
30	thresholdDataInstance	{summ-att 16}		c350		c350		c350	
31	receivedMlpFramesInGuardRegion	{DLM.aoi 49}		–		m		–	
32	receivedMlpResets	{DLM.aoi 50}		–		m		–	
33	mlpFramesReceived	{cnmAttribute 49}		–		m		–	
34	mlpFramesSent	{cnmAttribute 50}		–		m		–	
35	mlpFramesOutsideWindowGuard	{cnmAttribute 48}		–		m		–	

Table G.112/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		c337		
12	c338		c338		c338		
13	c339		c339		c339		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		c343		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	c349		c349		–		
26	–		–		–		
27	c349		c349		–		
28	–		–		c350		
29	–		–		c350		
30	c350		c350		–		
31	–		–		–		
32	–		–		–		
33	–		–		–		
34	–		–		–		
35	–		–		–		

Table G.112/X.162 – Attribute support *(concluded)*

c335: if G.111/2a then m else –.
c336: if G.111/3a then m else –.
c337: if G.111/5a then m else –.
c338: if G.111/6a then m else –.
c339: if G.111/7a then m else –.
c340: if G.111/8a then m else –.
c341: if G.111/9a then m else –.
c342: if G.111/10a then m else –.
c343: if G.11/15a then m else –.
c344: if G.111/16a then m else –.
c345: if G.111/17a then m else –.
c346: if G.111/18a then m else –.
c347: if G.11/19a then m else –.
c348: if G.111/20a then m else –.
c349: if G.111/21a then m else –.
c350: if G.111/22a then m else –.

G.25.4 Notifications

Table G.113/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		c351			
2	objectDeletion	{dmi-not 7}		c351			
3	attributeValueChange	{dmi-not 1}		c352			
4	stateChange	{dmi-not 14}		c353			
5	scanReport	{summ-not 2}		c354			
6	qualityofServiceAlarm	{dmi-not 11}		c355			

Table G.113/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c356		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.92		
	1.4.2.2	nonSpecificForm	–		c:o.82		
	1.4.2.3	localDistinguishedName	–		c:o.82		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		

Table G.113/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c357		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.93		
	2.4.2.2	nonSpecificForm	–		c:o.93		
	2.4.2.3	localDistinguishedName	–		c:o.93		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c358		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.94		
	3.5.2.2	nonSpecificForm	–		c:o.94		
	3.5.2.3	localDistinguishedName	–		c:o.94		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
4	4.1	sourceIndicator	{dmi-att 26}		o		
	4.2	attributeIdentifierList	{dmi-att 8}		o		
	4.3	stateChangeDefinition	{dmi-att 10}		m		
	4.3.1	attributeID	–		m		
	4.3.2	oldAttributeValue	–		o		
	4.3.3	newAttributeValue	–		m		
	4.4	notificationIdentifier	{dmi-att 16}		o		
	4.5	correlatedNotifications	{dmi-att 12}		o		
	4.5.1	correlatedNotifications	–		c:m		
	4.5.2	sourceObjectInst	–		c:o		
	4.6	additionalText	{dmi-att 7}		o		
	4.7	additionalInformation	{dmi-att 6}		o		
	4.7.1	identifier	–		m		
	4.7.2	significance	–		m		
	4.7.3	information	–		m		

Table G.113/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
5	5.1	scanInitiationTime	{summ-att 22}		o		
	5.2	onceReportAttributeList	{summ-att 16}		o		
	5.3	observationScanList	{summ-att 15}		m		
	5.3.1	observedObjectInstance	–		o		
	5.3.1.1	distinguishedName	–		c:o.95		
	5.3.1.2	nonSpecificForm	–		c:o.95		
	5.3.1.3	localDistinguishedName	–		c:o.95		
	5.3.2	attributeMeasureList	–		o		
	5.3.2.1	attributeId	–		c:m		
	5.3.2.2	attributeValue	–		c:o		
	5.3.2.3	timeStamp	–	DEFAULT FALSE	c:o		
	5.3.2.4	suspectFlag	–		c:o		
	5.3.3	numericValueArray	–		c:o		
	5.3.3.1	missingData	–		c:o.96		
	5.3.3.2	valueOnly	–		c:o.96		
	5.3.3.3	qualifiedValue	–		c:o.96		
	5.3.3.3.1	value	–		c:m		
	5.3.3.3.2	timeStamp	–		c:o		
	5.3.3.3.3	suspectFlag	–	DEFAULT VALUE	c:m		
	5.4	incompleteScan	{summ-att 30}		o		
	5.5	additionalText	{dmi-att 7}		o		
	5.6	additionalInformation	{dmi-att 6}		o		
6	6.1	probableCause	{dmi-att 18}		m		
	6.2	specificProblems	{dmi-att 27}		o		
	6.3	perceivedSeverity	{dmi-att 17}		o		
	6.4	backedUpStatus	{dmi-att 11}		o		
	6.5	backUpObject	{dmi-att 40}		o		
	6.6	trendIndication	{dmi-att 30}		o		
	6.7	thresholdInfo	{dmi-att 29}		o		
	6.8	notificationIdentifier	{dmi-att 16}		c359		
	6.9	correlatedNotifications	{dmi-att 12}		o		
	6.9.1	correlatedNotifications	–		c:m		
	6.9.2	sourceObjectInst	–		c:o		
	6.9.2.1	distinguishedName	–		c:o.97		
	6.9.2.2	nonSpecificForm	–		c:o.97		
	6.9.2.3	localDistinguishedName	–		c:o.97		
	6.10	stateChangeDefinition	{dmi-att 28}		o		
	6.11	monitoredAttributes	{dmi-att 15}		o		
	6.12	proposedRepairActions	{dmi-att 19}		o		
	6.13	additionalText	{dmi-att 7}		o		
	6.14	additionalInformation	{dmi-att 6}		o		

Table G.113/X.162 – Notification support *(concluded)*

c351: if G.111/11a then m else –.
c352: if G.111/12a then m else –.
c353: if G.111/13a then m else –.
c354: if G.111/21a then m else –.
c355: if G.111/22a then m else o.
c356: if G.113/1.4a then m else o.
c357: if G.113/2.4a then m else o.
c358: if G.113/3.5a then m else o.
c359: if G.113/6.9a then m else o.

G.25.5 Parameters

Table G.114/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	logRecordIdParameter	{q821Parameter 1}		c360		
2	correlatedRecordNameParameter	{q821Parameter 2}		c360		
3	suspectObjectListParameter	{q821Parameter 3}		c360		
c360: if G.111/22a then m else –.						

G.26 historyMlpTrafficData

G.26.1 Statement of conformance to the managed object class

Table G.115/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	historyMlpTrafficData	{cnmObjectClass 18}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.116/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.26.2 Packages

Table G.117/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c361		
3	allomorphicPackage	{dmi-pkg 17}		c362		
4	historyDataPkg	–		m		
5	historyDataMeasurementListPkp	{summ-pkg 4}		c363		
6	historyDataSuspectIntervalFlagPkg	{summ-pkg 5}		o		
7	numSuppressedIntervalsPkg	{summ-pkg 9}		c364		
8	objectDeleteNotificationPkg	{summ-pkg 10}		o		
9	observedManagedObjectPkg	{summ-pkg 11}		c365		
10	historyMlpTrafficData-P	–		m		

c361: if G.117/3a or any of (G.117/5a through G.117/9a) then m else –.
c362: if G.115/1b then – else m.
c363: if G.111/18a then m else –.
c364: if G.111/19a then m else –.
c365: if G.111/20a then m else –.

G.26.3 Attributes

Table G.118/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c366		–	
4	allomorphs	{dmi-att 50}		–		c367		–	
5	historyDataId	{summ-att 4}		–		m		–	
6	periodEndTime	{summ-att 12}		–		m		–	
7	granularityPeriod	{moa-att 23}		–		m		–	
8	measurementList	{summ-att 7}		–		c368		–	
9	suspectIntervalFlag	{summ-att 14}		–		c369		–	
10	numSuppressedIntervals	{summ-att 9}		–		c370		–	
11	observedObjectClass	{summ-att 10}		–		c371		–	
12	observedObjectInstance	{moa-att 16}		–		c371		–	
13	receivedMlpFramesInGuardRegion	{DLM.aoi 49}		–		m		–	
14	receivedMlpResets	{DLM.aoi 50}		–		m		–	
15	mlpFramesReceived	{cnmAttribute 49}		–		m		–	
16	mlpFramesSent	{cnmAttribute 50}		–		m		–	
17	mlpFramesOutsideWindowGuard	{cnmAttribute 48}		–		m		–	

Table G.118/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		

c366: if G.117/2a then m else –.
c367: if G.117/3a then m else –.
c368: if G.117/5a then m else –.
c369: if G.117/6a then m else –.
c370: if G.117/7a then m else –.
c371: if G.117/9a then m else –.

G.26.4 Notifications

Table G.119/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectDeletion	{dmi-not 7}		c372			

Table G.119/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c373		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		

Table G.119/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.98		
	1.4.2.2	nonSpecificForm	–		c:o.98		
	1.4.2.3	localDistinguishedName	–		c:o.98		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
c372: if G.117/8a then m else –. c373: if G.119/1.4a then m else o.							

G.27 currentSlpTrafficData

G.27.1 Statement of conformance to the managed object class

Table G.120/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	currentSlpTrafficData	{cnmObjectClass 19}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.121/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.27.2 Packages

Table G.122/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c374		
3	allomorphicPackage	{dmi-pkg 17}		c375		
4	scannerPackage	–		m		
5	availabilityStatusPackage	{dmi-pkg 22}		c376		
6	duration	{dmi-pkg 26}		o		
7	dailyScheduling	{dmi-pkg 25}		o		

Table G.122/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
8	weeklyScheduling	{dmi-pkg 29}		o		
9	externalScheduler	{dmi-pkg 27}		o		
10	periodSynchronizationPackage	{moa-pkg 10}		o		
11	createDeleteNotificationsPackage	{m3100Package 10}		o		
12	attributeValueChangeNotificationPackage	{m3100Package 4}		o		
13	stateChangeNotificationPackage	{m3100Package 28}		o		
14	currentDataPkg	–		M		
15	filterSuppressionPkg	{summ-pkg 2}		O		
16	historyRetentionPkg	{summ-pkg 6}		O		
17	maxSuppressedIntervalsPkg	{summ-pkg 7}		O		
18	measurementListPkg	{summ-pkg 8}		O		
19	numSuppressedIntervalsPkg	{summ-pkg 9}		O		
20	observedManagedObjectPkg	{summ-pkg 11}		O		
21	scheduledPMReportPkg	{summ-pkg 12}		O		
22	thresholdPkg	{summ-pkg 13}		O		
23	zeroSuppressionPkg	{summ-pkg 15}		O		
24	historySlpTrafficData-P	–		M		

c374: if G.122/3a or any of (G.122/5a through G.122/13a) or any of (G.122/15a through G.122/23a) then m else –.

c375: if G.120/1b then – else m.

c376: if G.122/7a or G.122/8a or G.122/9a then m else –.

G.27.3 Attributes

Table G.123/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c377		–	
4	allomorphs	{dmi-att 50}		–		c378		–	
5	scannerId	{moa-att 25}		–		m		–	
6	administrativeState	{dmi-att 31}		m		m		m	
7	granularityPeriod	{moa-att 23}		m		m		m	
8	operationalState	{dmi-att 35}		–		m		–	
9	availabilityStatus	{dmi-att 33}	REQUIRED VALUES	–		c379		–	
10	startTime	{dmi-att 68}		c380		c380		c380	
11	stopTime	{dmi-att 69}	DEFAULT VALUE	c380		c380		c380	
12	intervalsOfDay	{dmi-att 57}	DEFAULT VALUE	c381		c381		c381	

Table G.123/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
13	weekmask	{dmi-att 71}	DEFAULT VALUE	c382		c382		c382	
14	schedulerName	{dmi-att 67}		–		c383		–	
15	periodSynchronizationTime	{moa-att 24}		c384		c384		c384	
16	suspectIntervalFlag	{summ-att 14}	DEFAULT VALUE	–		m		–	
17	elapsedTime	{summ-att 2}		–		m		–	
18	discriminatorConstruct	{dmi-att 56}	DEFAULT VALUE	c385		c385		c385	
19	historyRetention	{summ-att 5}		c386		c386		c386	
20	maxSuppressedIntervals	{summ-att 6}		c387		c387		c387	
21	measurementList	{summ-att 7}		c388		c388		c388	
22	numSuppressedIntervals	{summ-att 9}		–		c389		–	
23	observedObjectClass	{summ-att 10}		–		c390		–	
24	observedObjectInstance	{moa-att 16}		–		c390		–	
25	scanAttributeIdList	{summ-att 21}		c391		c391		c391	
26	numericAttributeIdArray	{summ-att 10}		c391		c391		c391	
27	onceReportAttributeIdList	{summ-att 16}		c391		c391		c391	
28	reportAllAttributes	{summ-att 11}	DEFAULT VALUE	c392		c392		c392	
29	suppressAdditionalThresholds	{summ-att 13}	DEFAULT VALUE	c392		c392		c392	
30	thresholdDataInstance	{summ-att 16}		c392		c392		c392	
31	fCSErrorsReceived	{DLM.aoi 15}		–		m		–	
32	fRMRsReceived	{DLM.aoi 1}		–		m		–	
33	fRMRsSent	{DLM.aoi 2}		–		m		–	
34	iFrameDataOctetsReceived	{DLM.aoi 16}		–		m		–	
35	iFrameDataOctetsSent	{DLM.aoi 17}		–		m		–	
36	iFramesReceived	{DLM.aoi 3}		–		m		–	
37	iFramesSent	{DLM.aoi 4}		–		m		–	
38	pollsReceived	{DLM.aoi 22}		–		m		–	
39	rEJsReceived	{DLM.aoi 5}		–		m		–	
40	rEJsSent	{DLM.aoi 6}		–		m		–	
41	rNRsReceived	{DLM.aoi 7}		–		m		–	
42	rNRsSent	{DLM.aoi 8}		–		m		–	
43	sABMsReceived	{DLM.aoi 9}		–		m		–	
44	sABMsSent	{DLM.aoi 10}		–		m		–	
45	timesMT1Expired	{DLM.aoi 29}		–		m		–	

Table G.123/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		c380		
12	c381		c381		c381		
13	c382		c382		c382		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		c385		
19	–		–		–		
20	–		–		–		
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	c391		c391		–		
26	–		–		–		
27	c391		c391		–		
28	–		–		c392		
29	–		–		c392		
30	c392		c392		–		
31	–		–		–		
32	–		–		–		
33	–		–		–		
34	–		–		–		
35	–		–		–		
36	–		–		–		
37	–		–		–		
38	–		–		–		
39	–		–		–		
40	–		–		–		

Table G.123/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
41	–		–		–		
42	–		–		–		
43	–		–		–		
44	–		–		–		
45	–		–		–		

c377: if G.122/2a then m else –.
c378: if G.122/3a then m else –.
c379: if G.122/5a then m else –.
c380: if G.122/6a then m else –.
c381: if G.122/7a then m else –.
c382: if G.122/8a then m else –.
c383: if G.122/9a then m else –.
c384: if G.122/10a then m else –.
c385: if G.122/15a then m else –.
c386: if G.122/16a then m else –.
c387: if G.122/17a then m else –.
c388: if G.122/18a then m else –.
c389: if G.122/19a then m else –.
c390: if G.122/20a then m else –.
c391: if G.122/21a then m else –.
c392: if G.122/22a then m else –.

G.27.4 Notifications

Table G.124/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		c393			
2	objectDeletion	{dmi-not 7}		c393			
3	attributeValueChange	{dmi-not 1}		c394			
4	stateChange	{dmi-not 14}		c395			
5	scanReport	{summ-not 2}		c396			
6	qualityofServiceAlarm	{dmi-not 11}		c397			

Table G.124/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c398		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.99		
	1.4.2.2	nonSpecificForm	–		c:o.99		
	1.4.2.3	localDistinguishedName	–		c:o.99		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c399		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.100		
	2.4.2.2	nonSpecificForm	–		c:o.100		
	2.4.2.3	localDistinguishedName	–		c:o.100		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c400		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.101		
	3.5.2.2	nonSpecificForm	–		c:o.101		
	3.5.2.3	localDistinguishedName	–		c:o.101		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
4	4.1	sourceIndicator	{dmi-att 26}		o		
	4.2	attributeIdentifierList	{dmi-att 8}		o		
	4.3	stateChangeDefinition	{dmi-att 10}		m		
	4.3.1	attributeID	–		m		

Table G.124/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
4	4.3.2	oldAttributeValue	–		o		
	4.3.3	newAttributeValue	–		m		
	4.4	notificationIdentifier	{dmi-att 16}		o		
	4.5	correlatedNotifications	{dmi-att 12}		o		
	4.5.1	correlatedNotifications	–		c:m		
	4.5.2	sourceObjectInst	–		c:o		
	4.6	additionalText	{dmi-att 7}		o		
	4.7	additionalInformation	{dmi-att 6}		o		
	4.7.1	identifier	–		m		
	4.7.2	significance	–		m		
	4.7.3	information	–		m		
5	5.1	scanInitiationTime	{summ-att 22}		o		
	5.2	onceReportAttributeList	{summ-att 16}		o		
	5.3	observationScanList	{summ-att 15}		m		
	5.3.1	observedObjectInstance	–		o		
	5.3.1.1	distinguishedName	–		c:o.102		
	5.3.1.2	nonSpecificForm	–		c:o.102		
	5.3.1.3	localDistinguishedName	–		c:o.102		
	5.3.2	attributeMeasureList	–		o		
	5.3.2.1	attributeId	–		c:m		
	5.3.2.2	attributeValue	–		c:o		
	5.3.2.3	timeStamp	–		c:o		
	5.3.2.4	suspectFlag	–	DEFAULT FALSE	c:o		
	5.3.3	numericValueArray	–		c:o		
	5.3.3.1	missingData	–		c:o.103		
	5.3.3.2	valueOnly	–		c:o.103		
	5.3.3.3	qualifiedValue	–		c:o.103		
	5.3.3.3.1	value	–		c:m		
	5.3.3.3.2	timeStamp	–		c:o		
	5.3.3.3.3	suspectFlag	–	DEFAULT VALUE	c:o		
	5.4	incompleteScan	{summ-att 30}		o		
	5.5	additionalText	{dmi-att 7}		o		
	5.6	additionalInformation	{dmi-att 6}		o		
6	6.1	probableCause	{dmi-att 18}		m		
	6.2	specificProblems	{dmi-att 27}		o		
	6.3	perceivedSeverity	{dmi-att 17}		o		
	6.4	backedUpStatus	{dmi-att 11}		o		
	6.5	backUpObject	{dmi-att 40}		o		
	6.6	trendIndication	{dmi-att 30}		o		

Table G.124/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
6	6.7	thresholdInfo	{dmi-att 29}		o		
	6.8	notificationIdentifier	{dmi-att 16}		c401		
	6.9	correlatedNotifications	{dmi-att 12}		o		
	6.9.1	correlatedNotifications	–		c:m		
	6.9.2	sourceObjectInst	–		c:o		
	6.9.2.1	distinguishedName	–		c:o.104		
	6.9.2.2	nonSpecificForm	–		c:o.104		
	6.9.2.3	localDistinguishedName	–		c:o.104		
	6.10	stateChangeDefinition	{dmi-att 28}		o		
	6.11	monitoredAttributes	{dmi-att 15}		o		
	6.12	proposedRepairActions	{dmi-att 19}		o		
	6.13	additionalText	{dmi-att 7}		o		
	6.14	additionalInformation	{dmi-att 6}		o		

c393: if G.122/11a then m else –.
c394: if G.122/12a then m else –.
c395: if G.122/13a then m else –.
c396: if G.122/21a then m else –.
c397: if G.120/22a then m else –.
c398: if G.124/1.4a then m else o.
c399: if G.124/2.4a then m else o.
c400: if G.124/3.5a then m else o.
c401: if G.124/6.9a then m else o.

G.27.5 Parameters

Table G.125/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	logRecordIdParameter	{q821Parameter 1}		c402		
2	correlatedRecordNameParameter	{q821Parameter 2}		c402		
3	suspectObjectListParameter	{q821Parameter 3}		c402		

c402: if G.122/22a then m else –.

G.28 historySlpTrafficData

G.28.1 Statement of conformance to the managed object class

Table G.126/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	historySlpTrafficData	{cnmObjectClass 20}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.127/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.28.2 Packages

Table G.128/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c403		
3	allomorphicPackage	{dmi-pkg 17}		c404		
4	historyDataPkg	–		m		
5	historyDataMeasurementListPkp	{summ-pkg 4}		c405		
6	historyDataSuspectIntervalFlagPkg	{summ-pkg 5}		o		
7	numSuppressedIntervalsPkg	{summ-pkg 9}		c406		
8	objectDeleteNotificationPkg	{summ-pkg 10}		o		
9	observedManagedObjectPkg	{summ-pkg 11}		c407		
10	historySlpTrafficData-P	–		m		

c403: if G.128/3a or any of (G.128/5a through G.128/9a) then m else –.
c404: if G.126/1b then – else m.
c405: if G.122/18a then m else –.
c406: if G.122/19a then m else –.
c407: if G.122/20a then m else –.

G.28.3 Attributes

Table G.129/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c408		–	
4	allomorphs	{dmi-att 50}		–		c409		–	
5	historyDataId	{summ-att 4}		–		m		–	
6	periodEndTime	{summ-att 12}		–		m		–	
7	granularityPeriod	{moa-att 23}		–		m		–	
8	measurementList	{summ-att 7}		–		c410		–	
9	suspectIntervalFlag	{summ-att 14}		–		c411		–	
10	numSuppressedIntervals	{summ-att 9}		–		c412		–	
11	observedObjectClass	{summ-att 10}		–		c413		–	

Table G.129/X.162 – Attribute support *(continued)*

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
12	observedObjectInstance	{moa-att 16}		–		c413		–	
13	fCSErrorsReceived	{DLM.aoi 15}		–		m		–	
14	fRMRsReceived	{DLM.aoi 1}		–		m		–	
15	fRMRsSent	{DLM.aoi 2}		–		m		–	
16	iFrameDataOctetsReceived	{DLM.aoi 16}		–		m		–	
17	iFrameDataOctetsSent	{DLM.aoi 17}		–		m		–	
18	iFramesReceived	{DLM.aoi 3}		–		m		–	
19	iFramesSent	{DLM.aoi 4}		–		m		–	
20	pollsReceived	{DLM.aoi 22}		–		m		–	
21	rEJsReceived	{DLM.aoi 5}		–		m		–	
22	rEJsSent	{DLM.aoi 6}		–		m		–	
23	rNRsReceived	{DLM.aoi 7}		–		m		–	
24	rNRsSent	{DLM.aoi 8}		–		m		–	
25	sABMsReceived	{DLM.aoi 9}		–		m		–	
26	sABMsSent	{DLM.aoi 10}		–		m		–	
27	timesT1Expired	{DLM.aoi 29}		–		m		–	

Table G.129/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		
19	–		–		–		
20	–		–		–		

Table G.129/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
21	–		–		–		
22	–		–		–		
23	–		–		–		
24	–		–		–		
25	–		–		–		
26	–		–		–		
27	–		–		–		

c408: if G.128/2a then m else –.
c409: if G.128/3a then m else –.
c410: if G.128/5a then m else –.
c411: if G.128/6a then m else –.
c412: if G.128/7a then m else –.
c413: if G.128/9a then m else –.

G.28.4 Notifications

Table G.130/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectDeletion	{dmi-not 7}		c414			

Table G.130/X.162 – Notification support *(concluded)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c415		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.105		
	1.4.2.2	nonSpecificForm	–		c:o.105		
	1.4.2.3	localDistinguishedName	–		c:o.105		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		

c414: if G.128/8a then m else –.
c415: if G.130/1.4a then m else o.

G.29 serviceRequest

G.29.1 Statement of conformance to the managed object class

Table G.131/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	serviceRequest	{cnmObjectClass 21}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.132/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.29.2 Packages

Table G.133/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c416		
3	allomorphicPackage	{dmi-pkg 17}		c417		
4	serviceRequestPkg	{cnmPackage 13}		m		
5	trAgentContactPersonAttributePkg	{x790Package 87}		o		
6	trAgentContactPersonObjectPkg	{x790Package 88}		o		
7	trAlternateManagerContactPersonAttributePkg	{x790Package 25}		o		
8	trAlternateManagerContactPersonObjectPkg	{x790Package 26}		o		
9	trDialogPkg	{x790Package 36}		o		
10	trManagerContactPersonAttributePkg	{x790Package 58}		o		
11	trManagerContactPersonObjectPkg	{x790Package 59}		o		
12	negotiationPkg	{cnmPackage 12}		o		
c416 if any of (G.133/3a through G.133/12a) then m else –. c417: if G.131/1b then – else m.						

G.29.3 Attributes

Table G.134/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c418		–	
4	allomorphs	{dmi-att 50}		–		c419		–	
5	serviceRequestId	{cnmAttribute 31}		–		m		–	
6	status	{cnmAttribute 62}	INITIAL VALUE	x		m		m	
7	dateRequest	{cnmAttribute 39}	DEFAULT VALUE	m		m		m	
8	operationList	{cnmAttribute 55}	DEFAULT VALUE	m		m		m	
9	resultList	{cnmAttribute 59}	INITIAL VALUE	x		m		–	
10	processingMode	{cnmAttribute 58}	DEFAULT VALUE	m		m		m	
11	agentContactPerson	{x790Attribute 11}		–		c420		–	
12	agentContactObjectPtr	{x790Attribute 12		–		c421		–	
13	alternateManagerContactPerson	{x790Attribute 14}		c422		c422		c422	
14	alternateManagerContactObjectPtr	{x790Attribute 15}		c423		c423		c423	
15	dialog	{x790Attribute 29}		c424		c424		c424	
16	managerContactPerson	{x790Attribute 65}		c425		c425		c425	
17	managerContactObjectPtr	{x790Attribute 66}		c426		c426		c426	
18	limitValidityDate	{cnmAttribute 43}		c427		c427		c427	

Table G.134/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		m		
8	–		–		m		
9	–		–		–		
10	–		–		m		
11	–		–		–		
12	–		–		–		
13	–		–		–		

Table G.134/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		
18	–		–		–		

c418: if G.133/2a then m else –.
c419: if G.133/3a then m else –.
c420: if.G.133/5a then m else –.
c421: if G.133/6a then m else –.
c422: if G.133/7a then m else –.
c423: if G.133/8a then m else –.
c424: if G.133/9a then m else –.
c425: if G.133/10a then m else –.
c426: if G.133/11a then m else –.
c427: if G.133/12a then m else –.

G.29.4 Notifications

Table G.135/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		m			
2	objectDeletion	{dmi-not 7}		m			
3	attributeValueChange	{dmi-not 1}		m			

Table G.135/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c428		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.106		
	1.4.2.2	nonSpecificForm	–		c:o.106		
	1.4.2.3	localDistinguishedName	–		c:o.106		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		

Table G.135/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c429		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.107		
	2.4.2.2	nonSpecificForm	–		c:o.107		
	2.4.2.3	localDistinguishedName	–		c:o.107		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIndicator	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c430		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.108		
	3.5.2.2	nonSpecificForm	–		c:o.108		
	3.5.2.3	localDistinguishedName	–		c:o.108		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		

c428: if G.135/1.4a then m else o.
c429: if G.135/2.4a then m else o.
c430: if G.135/3.5a then m else o.

G.30 network

G.30.1 Statement of conformance to the managed object class

Table G.136/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	network	{m3100ObjectClass 1}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.137/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.30.2 Packages

Table G.138/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c431		
3	allomorphicPackage	{dmi-pkg 17}		c432		
4	networkPackage	–		m		
5	userLabelPackage	{m3100Package 33}		o		
C431: if G.138/3a or G.138/5a then m else –. c432: if G.136/1b then – else m.						

G.30.3 Attributes

Table G.139/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c433		–	
4	allomorphs	{dmi-att 50}		–		c434		–	
5	networkId	{m3100Attribute 30}		–		m		–	
6	userLabel	{m3100Attribute 50}		c435		c435		c435	

Table G.139/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
c433: if G.139/2a then m else –. c434: if G.139/3a then m else –. c435: if G.139/5a then m else –.							

G.31 equipment

G.31.1 Statement of conformance to the managed object class

Table G.140/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	equipment	{m3100ObjectClass 2}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.141/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.31.2 Packages

Table G.142/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c436		
3	allomorphicPackage	{dmi-pkg 17}		c437		
4	equipmentPackage	–		m		
5	createDeleteNotificationsPackage	{m3100Package 10}		o		
6	attributeValueChangeNotificationPackage	{m3100Package 4}		o		
7	stateChangeNotificationPackage	{m3100Package 28}		o		
8	administrativeOperationalStatesPackage	{m3100Package 1}		o		
9	affectedObjectListPackage	{m3100Package 2}		o		
10	equipmentsEquipmentAlarmPackage	{m3100Package 15}		o		
11	environmentalAlarmPackage	{m3100Package 14}		o		
12	tmnCommunicationsAlarmInformationPackage	{m3100Package 30}		o		
13	processingErrorAlarmPackage	{m3100Package 21}		o		
14	userLabelPackage	{m3100Package 32}		o		
15	vendorNamePackage	{m3100Package 33}		o		
16	versionPackage	{m3100Package 34}		o		
17	locationNamePackage	{m3100Package 17}		o		
18	currentProblemListPackage	{m3100Package 13}		o		

c436: if G.142/3a or any of (G.142/12a through G.142/16) then m else –.

c437: if G.140/1b then – else m.

G.31.3 Attributes

Table G.143/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c438		–	
4	allomorphs	{dmi-att 50}		–		c439		–	
5	equipment	{m3100Attribute 20}		–		m		–	
6	administrativeState	{dmi-att 31}		c440		c440		c440	
7	operationalState	{dmi-att 35}		–		c440		–	
8	affectedObjectList	{m3100Attribute 2}		–		c441		–	
9	alarmStatus	{m3100Attribute 6}		–		c442		–	
10	equipmentId	{m3100Attribute 10}		–		m		–	
11	replaceable	{m3100Attribute 34}		–		m		–	
12	userLabel	{m3100Attribute 50}		c443		c443		c443	
13	vendorName	{m3100Attribute 51}		c444		c444		c444	
14	version	{m3100Attribute 52}		c445		c445		c445	
15	locationName	{m3100Attribute 27}		c446		c446		c446	
16	currentProblemList	{m3100Attribute 17}		–		c447		–	

Table G.143/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		

c438: if G.142/2a then m else –.
c439: if G.142/3a then m else –.
c440: if G.142/8a then m else –.
c441: if G.142/9a then m else –.
c442: if G.142/10a or G.142/12a then m else –.
c443: if G.142/14a then m else –.
c444: if G.142/15a then m else –.
c445: if G.142/16a then m else –.
c446: if G.142/17a then m else –.
c447: if G.142/18a or G.142/12a then m else –.

G.31.4 Notifications

Table G.144/X.162 – Notification support

Index	Notification type template label	Value of object identifier for notification	Constraints and values	Status	Support		Additional information
					Confirmed	Non-Confirmed	
1	ObjectCreation	{dmi-not 6}		c448			
2	ObjectDeletion	{dmi-not 7}		c448			
3	AttributeValueChange	{dmi-not 1}		c449			
4	StateChange	{dmi-not 14}		c450			
5	CommunicationAlarm	{dmi-not 2}		c451			
6	ProcessingErrorAlarm	{dmi-not 10}		c452			
7	EquipmentAlarm	{dmi-not 4}		c453			
8	EnvironmentAlarm	{dmi-not 3}		c454			

Table G.144/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c455		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		
	1.4.2.1	distinguishedName	–		c:o.109		
	1.4.2.2	nonSpecificForm	–		c:o.109		
	1.4.2.3	localDistinguishedName	–		c:o.109		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c456		
	2.4	correlatedNotifications	{dmi-att 12}		o		
2	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.110		
	2.4.2.2	nonSpecificForm	–		c:o.110		
	2.4.2.3	localDistinguishedName	–		c:o.110		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		

Table G.144/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
3	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c457		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.111		
	3.5.2.2	nonSpecificForm	–		c:o.111		
	3.5.2.3	localDistinguishedName	–		c:o.111		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		
4	4.1	sourceIndicator	{dmi-att 26}		o		
	4.2	attributeIdentifierList	{dmi-att 8}		o		
	4.3	stateChangeDefinition	{dmi-att 28}		m		
	4.3.1	attributeID	–		m		
	4.3.2	oldAttributeValue	–		o		
	4.3.3	newAttributeValue	–		m		
	4.4	notificationIdentifier	{dmi-att 16}		c458		
	4.5	correlatedNotifications	{dmi-att 12}		o		
	4.5.1	correlatedNotification	–		c:m		
	4.5.2	sourceObjectInst	–		c:o		
	4.5.2.1	distinguishedName	–		c:o.112		
	4.5.2.2	nonSpecificForm	–		c:o.112		
	4.5.2.3	localDistinguishedName	–		c:o.112		
	4.6	additionalText	{dmi-att 7}		o		
	4.7	additionalInformation	{dmi-att 6}		o		
5	5.1	probableCause	{dmi-att 18}		m		
	5.2	specificProblems	{dmi-att 27}		o		
	5.3	perceivedSeverity	{dmi-att 17}		o		
	5.4	backedUpStatus	{dmi-att 11}		o		
	5.5	backUpObject	{dmi-att 40}		o		
	5.6	trendIndication	{dmi-att 30}		o		
	5.7	thresholdInfo	{dmi-att 29}		o		
	5.8	notificationIdentifier	{dmi-att 16}		c459		
	5.9	correlatedNotifications	{dmi-att 12}		o		
	5.9.1	correlatedNotification	–		c:m		
	5.9.2	sourceObjectInst	–		c:o.113		
	5.9.2.1	distinguishedName	–		c:o.113		

Table G.144/X.162 – Notification support *(continued)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
5	5.9.2.2	nonSpecificForm	–		c:o.113		
	5.9.2.3	localDistinguishedName	–		c:o.113		
	5.10	stateChangeDefinition	{dmi-att 28}		o		
	5.11	monitoredAttributes	{dmi-att 15}		o		
	5.12	proposedRepairActions	{dmi-att 19}		o		
	5.13	additionalText	{dmi-att 7}		o		
	5.14	additionalInformation	{dmi-att 6}		o		
6	6.1	probableCause	{dmi-att 18}		m		
	6.2	specificProblems	{dmi-att 27}		o		
	6.3	perceivedSeverity	{dmi-att 17}		o		
	6.4	backedUpStatus	{dmi-att 11}		o		
	6.5	backUpObject	{dmi-att 40}		o		
	6.6	trendIndication	{dmi-att 30}		o		
	6.7	thresholdInfo	{dmi-att 29}		o		
	6.8	notificationIdentifier	{dmi-att 16}		c460		
	6.9	correlatedNotifications	{dmi-att 12}		o		
	6.9.1	correlatedNotification	–		c:m		
	6.9.2	sourceObjectInst	–		c:o.114		
	6.9.2.1	distinguishedName	–		c:o.114		
	6.9.2.2	nonSpecificForm	–		c:o.114		
	6.9.2.3	localDistinguishedName	–		c:o.114		
	6.10	stateChangeDefinition	{dmi-att 28}		o		
	6.11	monitoredAttributes	{dmi-att 15}		o		
	6.12	proposedRepairActions	{dmi-att 19}		o		
	6.13	additionalText	{dmi-att 7}		o		
	6.14	additionalInformation	{dmi-att 6}		o		
7	7.1	probableCause	{dmi-att 18}		m		
	7.2	specificProblems	{dmi-att 27}		o		
	7.3	perceivedSeverity	{dmi-att 17}		o		
	7.4	backedUpStatus	{dmi-att 11}		o		
	7.5	backUpObject	{dmi-att 40}		o		
	7.6	trendIndication	{dmi-att 30}		o		
	7.7	thresholdInfo	{dmi-att 29}		o		
	7.8	notificationIdentifier	{dmi-att 16}		c461		
	7.9	correlatedNotifications	{dmi-att 12}		o		
	7.9.1	correlatedNotification	–		c:m		
	7.9.2	sourceObjectInst	–		c:o.115		
	7.9.2.1	distinguishedName	–		c:o.115		
	7.9.2.2	nonSpecificForm	–		c:o.115		
	7.9.2.3	localDistinguishedName	–		c:o.115		
	7.10	stateChangeDefinition	{dmi-att 28}		o		

Table G.144/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
7	7.11	monitoredAttributes	{dmi-att 15}		o		
	7.12	proposedRepairActions	{dmi-att 19}		o		
	7.13	additionalText	{dmi-att 7}		o		
	7.14	additionalInformation	{dmi-att 6}		o		
8	8.1	probableCause	{dmi-att 18}		m		
	8.2	specificProblems	{dmi-att 27}		o		
	8.3	perceivedSeverity	{dmi-att 17}		o		
	8.4	backedUpStatus	{dmi-att 11}		o		
	8.5	backUpObject	{dmi-att 40}		o		
	8.6	trendIndication	{dmi-att 30}		o		
	8.7	thresholdInfo	{dmi-att 29}		o		
	8.8	notificationIdentifier	{dmi-att 16}		c462		
	8.9	correlatedNotifications	{dmi-att 12}		o		
	8.9.1	correlatedNotification	–		c:m		
	8.9.2	sourceObjectInst	–		c:o.116		
	8.9.2.1	distinguishedName	–		c:o.116		
	8.9.2.2	nonSpecificForm	–		c:o.116		
	8.9.2.3	localDistinguishedName	–		c:o.116		
	8.10	stateChangeDefinition	{dmi-att 28}		o		
	8.11	monitoredAttributes	{dmi-att 15}		o		
	8.12	proposedRepairActions	{dmi-att 19}		o		
	8.13	additionalText	{dmi-att 7}		o		
	8.14	additionalInformation	{dmi-att 6}		o		

c448: if G.142/5a then m else –.
c449: if G.142/6a then m else –.
c450: if G.142/7a then m else –.
c451: if G.142/12a then m else –.
c452: if G.142/13a then m else –.
c453: if G.142/10a then m else –.
c454: if G.142/11a then m else –.
c455: if G.144/1.4a then m else o.
c456: if G.144/2.5a then m else o.
c457: if G.144/3.5a then m else o.
c458: if G.144/4.5a then m else o.
c459: if G.144/5.9a then m else o.
c460: if G.144/6.9a then m else o.
c461: if G.144/7.9a then m else o.
c462: if G.144/8.9a then m else o.

G.31.5 Parameters

Table G.145/X.162 – Parameter support

Index	Parameter template label	Value of object identifier for parameter	Constraints and Values	Status	Support	Additional information
1	logRecordIdParameter	{q821Parameter 1}		c463		
2	correlatedRecordNameParameter	{q821Parameter 2}		c463		
3	suspectObjectListParameter	{q821Parameter 3}		c463		
c463: if G.142/12a then m else –.						

G.32 managedElement

G.32.1 Statement of conformance to the managed object class

Table G.146/X.162 – Managed object class support

Index	Managed object class template label	Value of object identifier for class	Support of all mandatory features?(Y/N)	Is the actual class the same as the managed object class to which conformance is claimed?(Y/N)
1	managedElement	{m3100ObjectClass 3}		

If the answer to the actual class question in the managed object class support table is no, the supplier of the implementation shall fill in the actual class support table below.

Table G.147/X.162 – Actual class support

Index	Managed object class template label for actual class	Value of object identifier for actual class	Additional information

G.32.2 Packages

Table G.148/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
1	topPackage	–		m		
2	packagesPackage	{dmi-pkg 16}		c464		
3	allomorphicPackage	{dmi-pkg 17}		c465		
4	managedElementPackage	–		m		
5	createDeleteNotificationsPackage	{m3100Package 10}		o		
6	attributeValueChangeNotificationsPackage	{m3100Package 4}		o		
7	audibleVisualLocalAlarmPackage	{m3100Package 5}		o		
8	resetAudibleAlarmPackage	{m3100Package 23}		o		
9	userLabelPackage	{m3100Package 32}		o		
10	vendorNamePackage	{m3100Package 33}		o		

Table G.148/X.162 – Package support

Index	Package template label	Value of object identifier for package	Constraints and values	Status	Support	Additional information
11	versionPackage	{m3100Package 34}		o		
12	locationNamePackage	{m3100Package 17}		o		
13	currentProblemListPackage	{m3100Package 13}		o		
14	externalTimePackage	{m3100Package 16}		o		
15	systemTimingSourcePackage	{m3100Package 29}		o		
c464: if G.148/3a or any of (G.148/5a through G.148/15a) then m else –. c465: if G.146/1b then – else m.						

G.32.3 Attributes

Table G.149/X.162 – Attribute support

Index	Attribute template label	Value of object identifier for attribute	Constraints and values	Set by Create		Get		Replace	
				Status	Support	Status	Support	Status	Support
1	objectClass	{dmi-att 65}		–		m		–	
2	nameBinding	{dmi-att 63}		–		m		–	
3	packages	{dmi-att 66}		–		c466		–	
4	allomorphs	{dmi-att 50}		–		c467		–	
5	managedElementId	{m3100Attribute}		–		m		–	
6	systemTitle	{dmi-att 5}		m		m		m	
7	alarmStatus	{m3100Attribute 6}		–		m		–	
8	administrativeState	{dmi-att 31}		m		m		m	
9	operationalState	{dmi-att 35}		–		m		–	
10	usageState	{dmi-att 39}		–		m		–	
11	userLabel	{m3100Attribute 50}		c468		c468		c468	
12	vendorName	{m3100Attribute 51}		c469		c469		c469	
13	version	{m3100Attribute 52}		c470		c470		c470	
14	locationName	{m3100Attribute 27}		c471		c471		c471	
15	currentProblemList	{m3100Attribute 17}		–		c472		–	
16	externalTime	{m3100Attribute 21}		c473		c473		c473	
17	systemTimingSource	{m3100Attribute 41}		c474		c474		c474	

Table G.149/X.162 – Attribute support *(continued)*

	Add		Remove		Set To Default		
Index	Status	Support	Status	Support	Status	Support	Additional information
1	–		–		–		
2	–		–		–		
3	–		–		–		
4	–		–		–		
5	–		–		–		
6	–		–		–		

Table G.149/X.162 – Attribute support *(concluded)*

	Add		Remove		Set To Default		
Index	**Status**	**Support**	**Status**	**Support**	**Status**	**Support**	**Additional information**
7	–		–		–		
8	–		–		–		
9	–		–		–		
10	–		–		–		
11	–		–		–		
12	–		–		–		
13	–		–		–		
14	–		–		–		
15	–		–		–		
16	–		–		–		
17	–		–		–		

c466: if G.148/2a then m else –.
c467: if G.148/3a then m else –.
c468: if G.148/9a then m else –.
c469: if G.148/10a then m else –.
c470: if G.148/11a then m else –.
c471: if G.148/12a then m else –.
c472: if G.148/13a then m else –.
c473: if G.148/14a then m else –.
c474: if G.148/15a then m else –.

G.32.4 Notifications

Table G.150/X.162 – Notification support

					Support		
Index	**Notification type template label**	**Value of object identifier for notification**	**Constraints and values**	**Status**	**Confirmed**	**Non-Confirmed**	**Additional information**
1	objectCreation	{dmi-not 6}		c475			
2	objectDeletion	{dmi-not 7}		c475			
3	attributeValueChange	{dmi-not 1}		c476			

Table G.150/X.162 – Notification support *(continued)*

Index	**Subindex**	**Notification field name label**	**Value of object identifier for attribute**	**Constraints and values**	**Status**	**Confirmed**	**Additional information**
1	1.1	sourceIndicator	{dmi-att 26}		o		
	1.2	attributeList	{dmi-att 9}		o		
	1.3	notificationIdentifier	{dmi-att 16}		c477		
	1.4	correlatedNotifications	{dmi-att 12}		o		
	1.4.1	correlatedNotification	–		c:m		
	1.4.2	sourceObjectInst	–		c:o		

Table G.150/X.162 – Notification support *(concluded)*

Index	Subindex	Notification field name label	Value of object identifier for attribute	Constraints and values	Status	Confirmed	Additional information
1	1.4.2.1	distinguishedName	–		c:o.117		
	1.4.2.2	nonSpecificForm	–		c:o.117		
	1.4.2.3	localDistinguishedName	–		c:o.117		
	1.5	additionalText	{dmi-att 7}		o		
	1.6	additionalInformation	{dmi-att 6}		o		
2	2.1	sourceIndicator	{dmi-att 26}		o		
	2.2	attributeList	{dmi-att 9}		o		
	2.3	notificationIdentifier	{dmi-att 16}		c478		
	2.4	correlatedNotifications	{dmi-att 12}		o		
	2.4.1	correlatedNotification	–		c:m		
	2.4.2	sourceObjectInst	–		c:o		
	2.4.2.1	distinguishedName	–		c:o.118		
	2.4.2.2	nonSpecificForm	–		c:o.118		
	2.4.2.3	localDistinguishedName	–		c:o.118		
	2.5	additionalText	{dmi-att 7}		o		
	2.6	additionalInformation	{dmi-att 6}		o		
3	3.1	sourceIndicator	{dmi-att 26		o		
	3.2	attributeIdentifierList	{dmi-att 8}		o		
	3.3	attributeValueChangeDefinition	{dmi-att 10}		m		
	3.3.1	attributeId	–		m		
	3.3.2	oldAttributeValue	–		o		
	3.3.3	newAttributeValue	–		m		
	3.4	notificationIdentifier	{dmi-att 16}		c479		
	3.5	correlatedNotifications	{dmi-att 12}		o		
	3.5.1	correlatedNotification	–		c:m		
	3.5.2	sourceObjectInst	–		c:o		
	3.5.2.1	distinguishedName	–		c:o.119		
	3.5.2.2	nonSpecificForm	–		c:o.119		
	3.5.2.3	localDistinguishedName	–		c:o.119		
	3.6	additionalText	{dmi-att 7}		o		
	3.7	additionalInformation	{dmi-att 6}		o		

c475: if G.148/5a then m else –.
c476: if G.148/6a then m else –.
c477: if G.150/1.4a then m else o.
c478: if G.150/2.5a then m else o.
c479: if G.150/3.5a then m else o.

G.32.5 Actions

Table G.151/X.162 – Action support

Index	Action type template label	Value of object identifier for action type	Constraints and values	Status	Support	Additional information
1	allowAudibleVisualLocalAlarm	{m3100Action 3}		c480		
2	inhibitAudibleVisualLocalAlarm	{m3100Action 6}		c480		
3	resetAudibleAlarm	{q821Action 2}		c481		

Table G.151/X.162 – Action support *(concluded)*

Index	Subindex	Action field name label	Constraints and values	Status	Support	Additional information
1	–	–	–	–		
2	–	–	–	–		
3	–	–	–	–		
c480: if G.148/7a then m else –. c481: if G.148/8a then m else –.						

Annex H[4]

MRCS proforma for name binding

H.1 Introduction

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

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

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

H.3 Symbols, abbreviations and terms

The following abbreviations are used throughout the MRCS proforma:

x790NameBinding	itu-t(0) recommendation(0) x(24) x790(790) informationModel(0) nameBinding(6)
m3100NameBinding	ccitt recommendation m gnm(3100) informationModel(0) nameBinding(6)
umf-nb	joint-iso-ccitt ms(9) function(2) part10(10) nameBinding(6)
cnmParameter	itu-t(0) recommendation(0) x(24) 162 cnmParameter(5)
cnmNameBinding	itu-t(0) recommendation(0) x(24) 162 cnmNameBinding(6)

H.4 Statement of conformance

Table H.1/X.162 – Name binding support

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information
1	network-network	{m3100NameBinding 17}		m		
2	cnmX25Entity-network-NB	{cnmNameBinding 2}		c1		
3	x25TerminationPoint-network-NB	{cnmNameBinding 3}		c2		
4	equipment-x25TerminationPoint-NB	{cnmNameBinding 4}		c3		
5	managedElement-network	{m3100NameBinding 16}		c4		
6	eventForwardingDiscriminator-managedElement-NB	{cnmNameBinding 6}		c5		
7	pdnFaultLogRecord-managedElement-NB	{cnmNameBinding 29}		c6		
8	pdnTelecommunicationsTroubleReport-network-NB	{cnmNameBinding 7}		c7		
9	providerTroubleReport-network	{x790NameBinding 19}		c8		
10	troubleReportFormatDefinition-network	{x790NameBinding 17}		c9		
11	repairActivity-pdnTelecommunicationTrouble Report-NB	{cnmNameBinding 8}		c10		
12	pdnTroubleHistoryRecord-log-NB	{cnmNameBinding 9}		c11		

[4] **Copyright release for MRCS proforma**

Users of this Recommendation may freely reproduce the MRCS proforma in this annex so that it can be used for its intended purpose, and may further publish the completed MRCS. Instructions for completing the MRCS proforma are specified in ITU-T Rec. X.724 | ISO/IEC 10165-6.

Table H.1/X.162 – Name binding support *(continued)*

Index	Name binding template label	Value of object identifier for name binding	Constraints and values	Status	Support	Additional information
13	contact-network	{x790NameBinding 4}		c12		
14	log-managedElement-NB	{cnmNameBinding 11}		c13		
15	cnmLoopbackPoint-network-NB	{cnmNameBinding 30}		c14		
16	cnmX25EntityTested-network-NB	{cnmNameBinding 31}		c15		
17	loopbackTest-managedElement-NB	{cnmNameBinding 32}		c16		
18	protocolIntegrityTest-managedElement-NB	{cnmNameBinding 33}		c17		
19	x25PhysicalConnection-x25TerminationPoint-NB	{cnmNameBinding 34}		c18		
20	x25ServiceProfile-network-NB	{cnmNameBinding 12}		c19		
21	mlpProfile-x25ServiceProfile-NB	{cnmNameBinding 13}		c20		
22	slpProfile-x25ServiceProfile-NB	{cnmNameBinding 14}		c21		
23	x25PvcProfile-x25ServiceProfile-NB	{cnmNameBinding 15}		c22		
24	cugProfile-network-NB	{cnmNameBinding 16}		c23		
25	hgProfile-network-NB	{cnmNameBinding 17}		c24		
26	customer-network-NB	{cnmNameBinding 18}		c25		
27	cnmUser-customer-NB	{cnmNameBinding 19}		c26		
28	location-network-NB	{cnmNameBinding 20}		c27		
29	redirectionList-cnmX25Entity-NB	{cnmNameBinding 35}		c28		
30	cnmBillingController-managedElement-NB	{cnmNameBinding 36}		c29		
31	usageMeteringRecord-log	{umf-nb }		c30		
32	currentPacketTrafficData-cnmX25Entity-NB	{cnmNameBinding 21}		c31		
33	historyPacketTrafficData-currentPacketTrafficData-NB	{cnmNameBinding 22}		c32		
34	mlpMonitoredPoint-cnmX25Entity-NB	{cnmNameBinding 23}		c33		
35	currentMlpTrafficData-mlpMonitoredPoint-NB	{cnmNameBinding 24}		c34		
36	historyMlpTrafficData-currentMlpTrafficData-NB	{cnmNameBinding 25}		c35		
37	currentSlpTrafficData-cnmX25Entity-NB	{cnmNameBinding 26}		c36		
38	historySlpTrafficData-currentSlpTrafficData-NB	{cnmNameBinding 27}		c37		
39	serviceRequest-managedElement	{cnmNameBinding 28}		c38		

Table H.1/X.162 – Name binding support *(continued)*

Index	Subindex	Operation	Constraints and values	Status	Support	
1	–	–		–		
2	–	–		–		
3	–	–		–		
4	–	–		–		
5	–	–		–		
6	–	–		–		
7	–	–		–		
8	–	–		–		
9	–	–		–		
10	–	–		–		
11	–	–		–		
12	–	–		–		
13	–	–		–		
14	–	–		–		
15	–	–		–		
16	–	–		–		
17	–	–		–		
18	–	–		–		
19	–	–		–		
20	–	–		–		
21	–	–		–		
22	–	–		–		
23	–	–		–		
24	–	–		–		
25	–	–		–		
26	–	–		–		
27	–	–		–		
28	–	–		–		
29	–	–		–		
30	30.1	Create support		c:m		
	30.1.1	Create with reference object		–		
	30.1.2	Create with automatic instance naming		–		
	30.2	Delete support		c:m		
	30.2.1	Delete only if no contained objects		–		
	30.2.2	Delete contained objects		–		
31	–	–		–		
32	32.1	Create support		c:m		
	32.1.1	Create with reference object		–		
	32.1.2	Create with automatic instance naming		–		

Table H.1/X.162 – Name binding support *(continued)*

Index	Subindex	Operation	Constraints and values	Status	Support	
32	32.2	Delete support		c:m		
	32.2.1	Delete only if no contained objects		–		
	32.2.2	Delete contained objects		–		
33	33.1	Create support		c:m		
	33.1.1	Create with reference object		–		
	33.1.2	Create with automatic instance naming		–		
	33 .2	Delete support		c:m		
	33.2.1	Delete only if no contained objects		–		
	33.2.2	Delete contained objects		–		
34	–	–		–		
35	35.1	Create support		c:m		
	35.1.1	Create with reference object		–		
	35.1.2	Create with automatic instance naming		–		
	35.2	Delete support		c:m		
	35.2.1	Delete only if no contained objects		–		
	35.2.2	Delete contained objects		–		
36	36.1	Create support		c:m		
	36.1.1	Create with reference object		–		
	36.1.2	Create with automatic instance naming		–		
	36 .2	Delete support		c:m		
	36.2.1	Delete only if no contained objects		–		
	36.2.2	Delete contained objects		–		
37	37.1	Create support		c:m		
	37.1.1	Create with reference object		–		
	37.1.2	Create with automatic instance naming		–		
	37 .2	Delete support		c:m		
	37.2.1	Delete only if no contained objects		–		
	37.2.2	Delete contained objects		–		
38	38.1	Create support		c:m		
	38.1.1	Create with reference object		–		
	38.1.2	Create with automatic instance naming		–		
	38 .2	Delete support		c:m		
	38.2.1	Delete only if no contained objects		–		
	38.2.2	Delete contained objects		–		
39	39.1	Create support		c:m		
	39.1.1	Create with reference object		c:m		
	39.1.2	Create with automatic instance naming		c:m		
	39 .2	Delete support		c:m		
	39.2.1	Delete only if no contained objects		–		
	39.2.2	Delete contained objects		–		

Table H.1/X.162 – Name binding support *(concluded)*

c1:	if E.7/5c then m else –.
c2:	if E.7/6c then m else –.
c3:	if E.7/2c and E.7/6c then m else –.
c4:	if E.7/3c then m else –.
c5:	if E.7/3c and E.7/4c then m else –.
c6:	if E.7/3c and E.7/8c then m else –.
c7:	if E.7/9c then m else –.
c8:	if E.7/10/c then m else –.
c9:	if E.7/11c then m else –.
c10:	if E.7/9c and E.7/13c then m else –.
c11:	if E.7/7c and E.7/14c then m else –.
c12:	if E.7/12c then m else –.
c13:	if E.7/3c and E.7/7c then m else –.
c14:	if E.7/15c then m else –.
c15:	if E.7/18c then m else –.
c16:	if E.7/3c and E.7/16c then m else –.
c17:	if E.7/3c and E.7/19c then m else –.
c18:	if E.7/6c and E.7/17c then m else –.
c19:	if E.7/20c then m else –.
c20:	if E.7/20c and E.7/21c then m else –.
c21:	if E.7/20c and E.7/22c then m else –.
c22:	if E.7/20c and E.7/23c then m else –.
c23:	if E.7/24c then m else –.
c24:	if E.7/25c then m else –.
c25:	if E.7/27c then m else –.
c26:	if E.7/26c then m else –.
c27:	if E.7/28c then m else –.
c28:	if E.7/5c and E.7/29c then m else –.
c29:	if E.7/3c and E.7/30c then m else –.
c30:	if E.7/31c then m else –.
c31:	if E.7/5c and E.7/32 then m else –.
c32:	if E.7/32c and E.7/33c then m else –.
c33:	if E.7/5c and E.7/34c then m else –.
c34:	if E.7/34c and E.7/35c then m else –.
c35:	if E.7/35c and E.7/36c then m else –.
c36:	if E.7/5c and E.7/37c then m else –.
c37:	if E.7/37c and E.7/38c then m else –.
c38:	if E.7/3c and E.7/39c then m else –.

Table H.2/X.162 – Parameter support

Index	Parameter template label	Value of parameter identifier	Constraints and values	Status	Support	Additional information
1	sRChangeDenied	{cnmParameter 1}		c39		
c39:	if H.1/39a then m else –.					

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