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OF ITU

**Q.824.0**

(10/95)

**SPECIFICATIONS OF  
SIGNALLING SYSTEM No. 7**

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**STAGES 2 AND 3 DESCRIPTION  
FOR THE Q3 INTERFACE –  
CUSTOMER ADMINISTRATION –  
COMMON INFORMATION**

**ITU-T Recommendation Q.824.0**

(Previously “CCITT Recommendation”)

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## FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (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 (Helsinki, March 1-12, 1993).

ITU-T Recommendation Q.824.0 was prepared by ITU-T Study Group 11 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 17th of October 1995.

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## NOTE

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

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## **SUMMARY**

The purpose of this Recommendation is to provide the common Stages 2 and 3 description of the Q3 interface between a local exchange and the Telecommunications Management Network (TMN) for the support of configuration management functions in support of customer administration. Customer administration is a management activity that the network operator performs in order to exchange with the customer all the customer related management data and functions required to offer a telecommunications service, and to exchange with the network all the customer related management data and functions necessary for the network to produce that telecommunications service. This Recommendation supports the administration of the customer configuration in the local exchange by the TMN. This Recommendation is part of a series of Recommendations. In this Recommendation the common non-technology specific managed objects are defined.

## **STAGES 2 AND 3 DESCRIPTION FOR THE Q3 INTERFACE – CUSTOMER ADMINISTRATION – COMMON INFORMATION**

*(Geneva, 1995)*

### **1 Introduction**

#### **1.1 Purpose and scope**

Customer administration is a management activity that the network operator performs in order to exchange with the customer all the customer related management data and functions required to offer a telecommunications service and to exchange with the network all the customer related management data and functions necessary for the network to produce that telecommunications service.

The purpose of this Recommendation is to provide the common Stages 2 and 3 description of the Q3 interface between a local exchange and the Telecommunications Management Network (TMN) for the support of configuration management functions.

The Q3 interface is the TMN interface between network elements or Q-adapters which interface to Operations Systems (OSs) without mediation and between OSs and mediation devices as described in Recommendation M.3100.

#### **1.2 Cross-reference**

This Recommendation is based on the Stage 1 management service description given in the M.3000-Series Recommendations including Recommendation M.3400. This Recommendation provides the Stages 2 and 3 descriptions for handling Customer Administration services either over a Q3 interface or over the ISDN UNI as described in Recommendation Q.942.

#### **1.3 Application**

The management information included in this Recommendation may be exchanged by implementations of the Common Management Information Service Element (CMISE). The Transaction-Oriented class of OAM&P applications is supported in this Recommendation by defining object classes, their attributes, and their relationships. The protocol suites are given in Recommendations Q.811 and Q.812. No special requirements are identified.

#### **1.4 General overview**

##### **1.4.1 Information model diagrams**

The following information model diagrams have been drawn for the purpose of clarifying the relations between the different object classes of Customer Administration. There are three different types of diagrams:

- 1) Entity-Relationship Models showing the relations of the different managed objects.
- 2) Inheritance Hierarchy showing how managed objects are derived from each other (i.e. the different paths of inherited characteristics of the different managed objects).
- 3) Naming Hierarchy showing the derivation of names for managed objects (i.e. the different naming paths for instances of managed objects).

These three different diagrams are only for clarification. The formal specification in terms of GDMO templates and ASN.1 type definitions are the relevant information for the implementation of this Recommendation.

##### **1.4.1.1 Entity-Relationship models**

The following Entity-Relationship model describes the relationship between the common managed objects.

The E-R diagrams illustrate the intended way of applying the model. However the E-R diagrams do not show all possible relationships supported by the model. The E-R diagrams show relationships in which managed objects may participate. Instances of a class or a subclass may not be eligible to participate in the indicated relationship. In case of containment this means that an alternate name binding will exist; in relationships implemented via pointers the pointer value will be null if an instance cannot or does not participate in the relationship. See Figures 1a, 1b and 1c.

#### **1.4.1.2 Inheritance hierarchy**

See Figure 2.

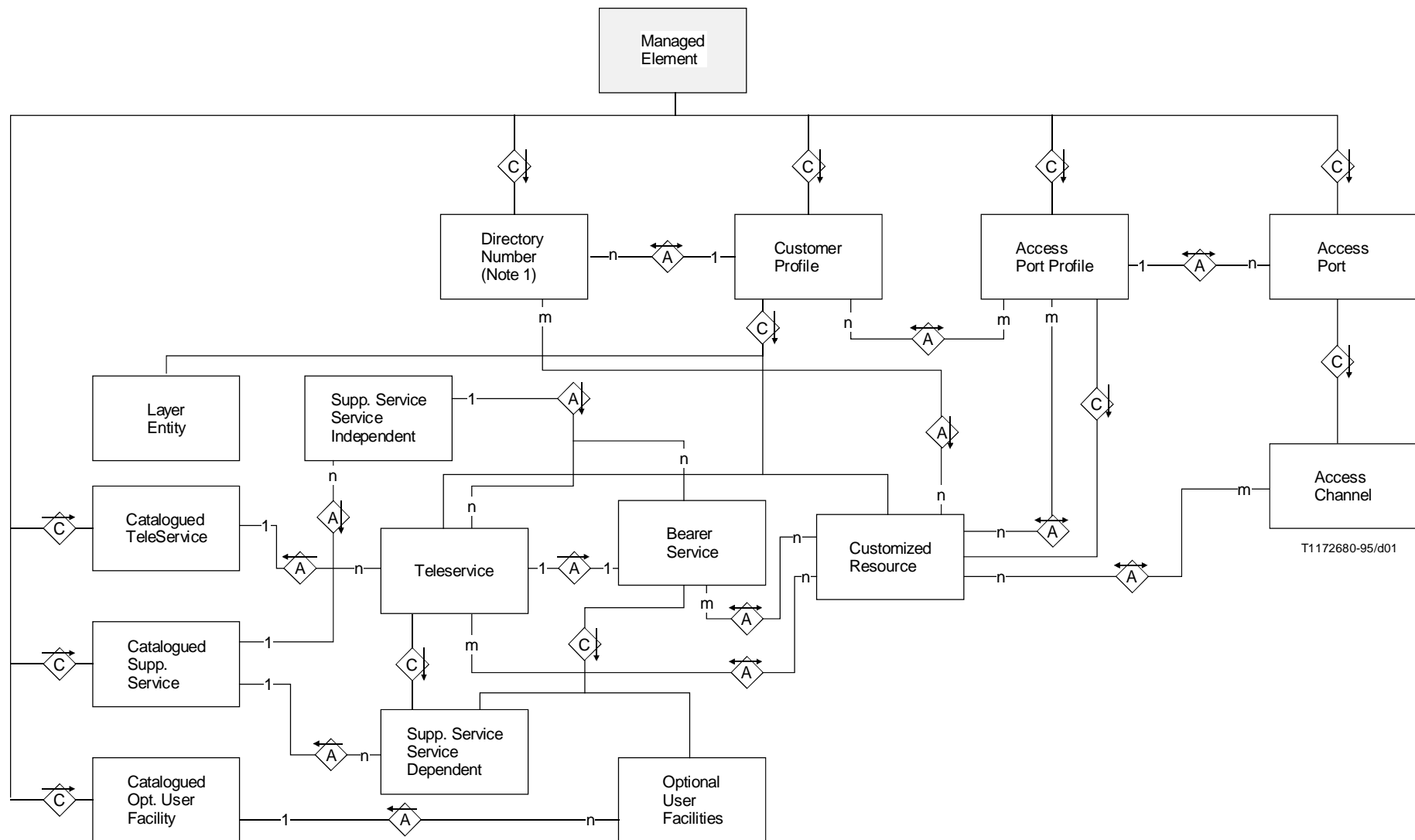
### **1.5 Managed object naming and attribute syntax**

Throughout this Recommendation, all attributes are named according to the following guidelines:

- The name of an attribute is composed of the name of an object class followed by the string “Ptr” if and only if the attribute value is intended to identify a specific object class.
- If an attribute value is intended to identify different object classes, a descriptive name is given to that attribute and a description is provided in the attribute behaviour.
- The name of an attribute is composed of the name of an object class followed by the string “Id” if and only if the attribute value is intended to identify the name of the object class holding that attribute.

See Figure 3.





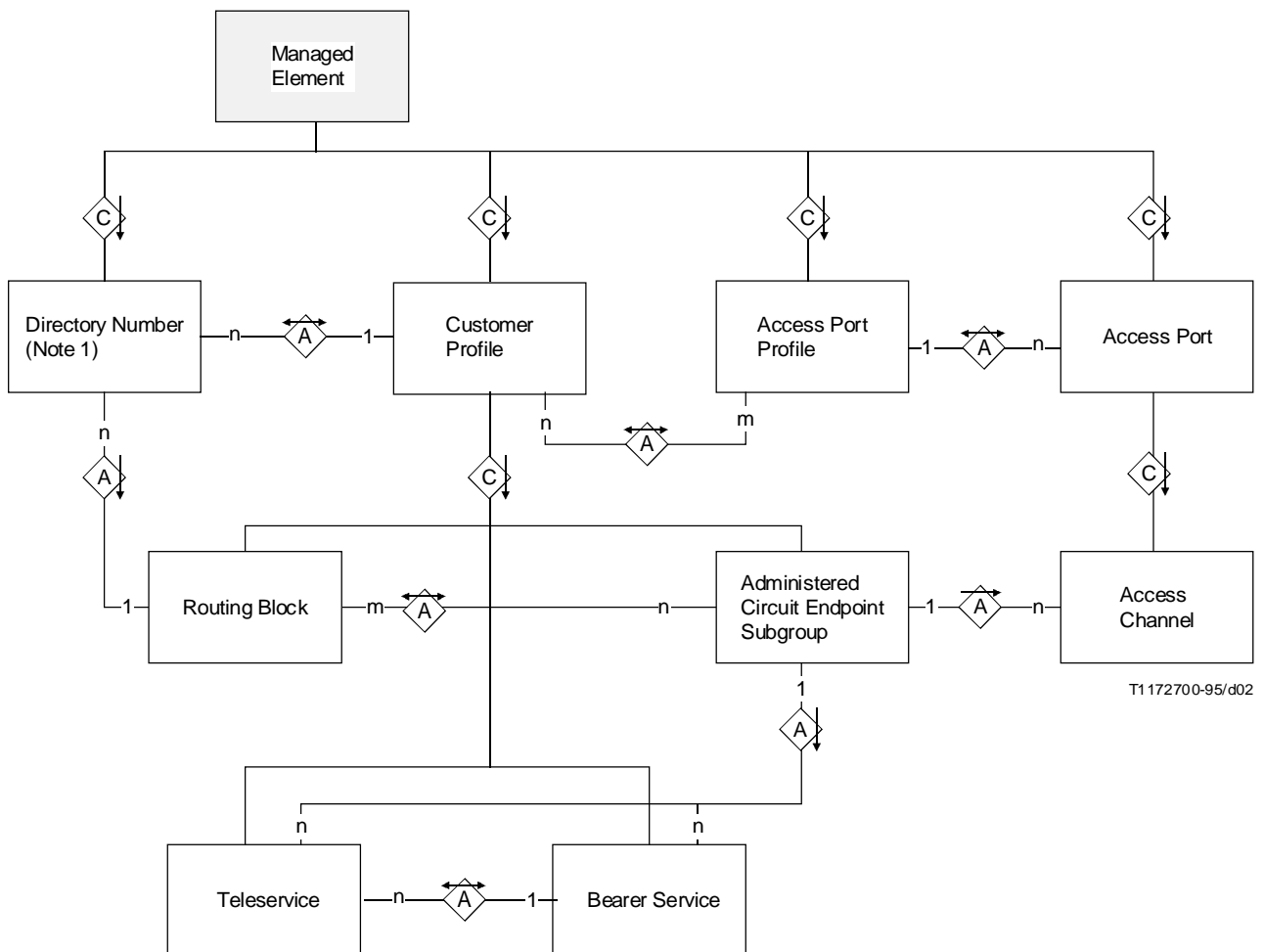
T1172680-95/d01

## NOTES

- 1 Directory Number has 2 subclasses. Directory Number E.164 and Directory Number X.121. These subclasses are used as indicated for Directory Number.
- 2 Except for Managed Element, only managed object classes defined in Recommendation Q.824.0 are shown in this figure. Additional relationships are defined for the same subclasses of these objects. See the remainder of the Q.824-Series Recommendations.

FIGURE 1a/Q.824.0

## Entity-Relationship model – Part A

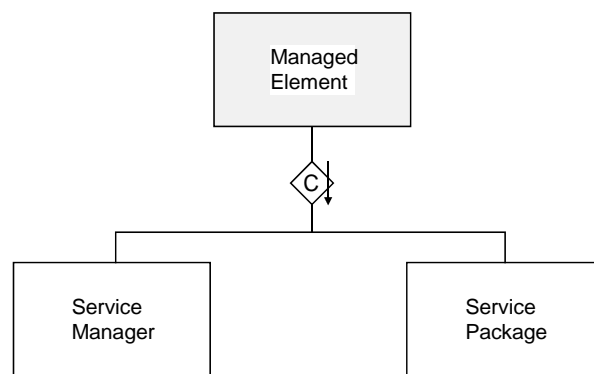


#### NOTES

1 Directory Number has 2 Subclasses. Directory Number E.164 and Directory Number X.121. These subclasses are used as indicated for Directory Number.

2 Except for Managed Element, only managed object classes defined in Recommendation Q.824.0 are shown in this figure. Additional relationships are defined for the same subclasses of these objects. See the remainder of the Q.824-series Recommendations.

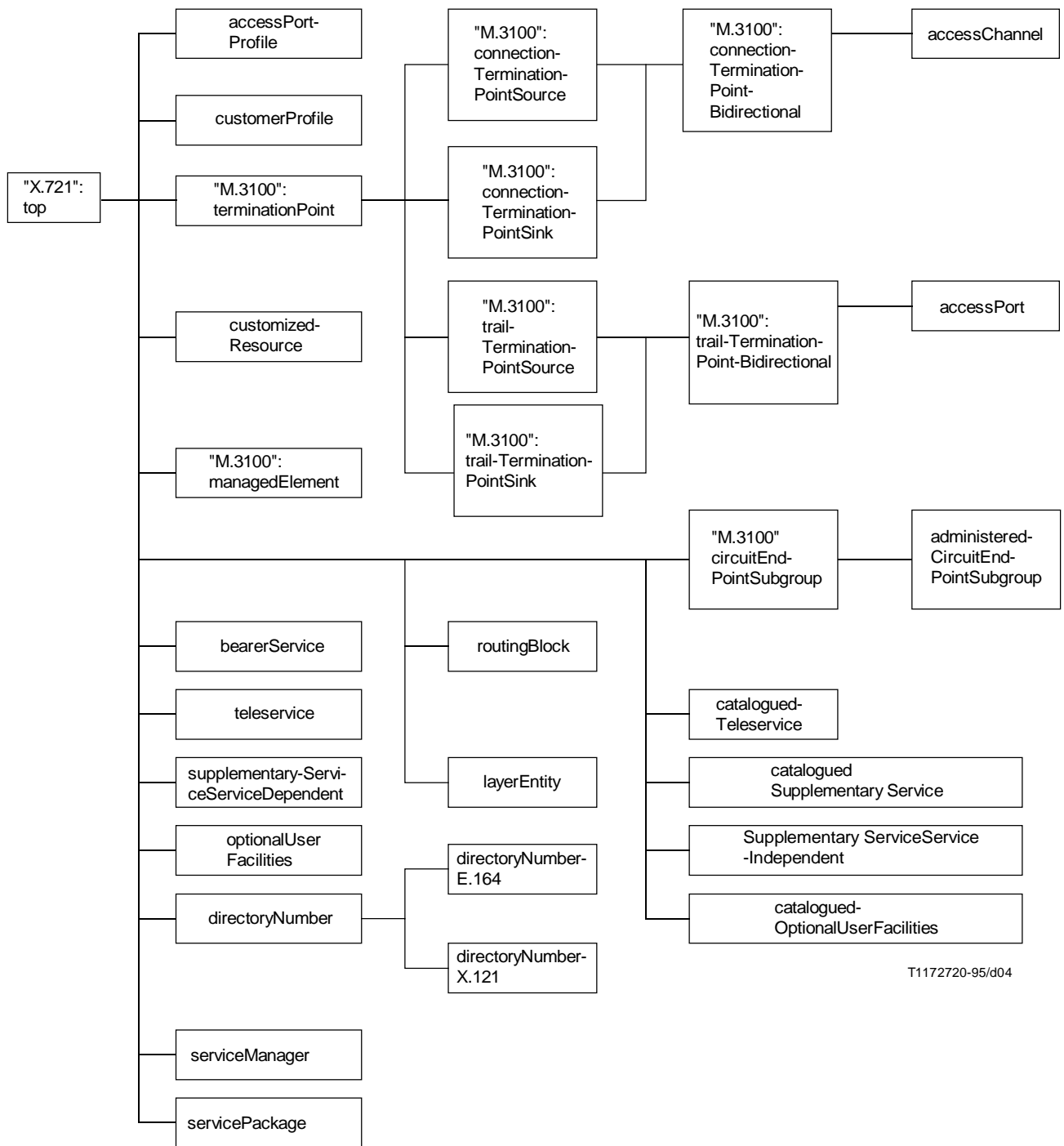
FIGURE 1b/Q.824.0  
**Entity-Relationship model – Part B**



T1172710-95/d03

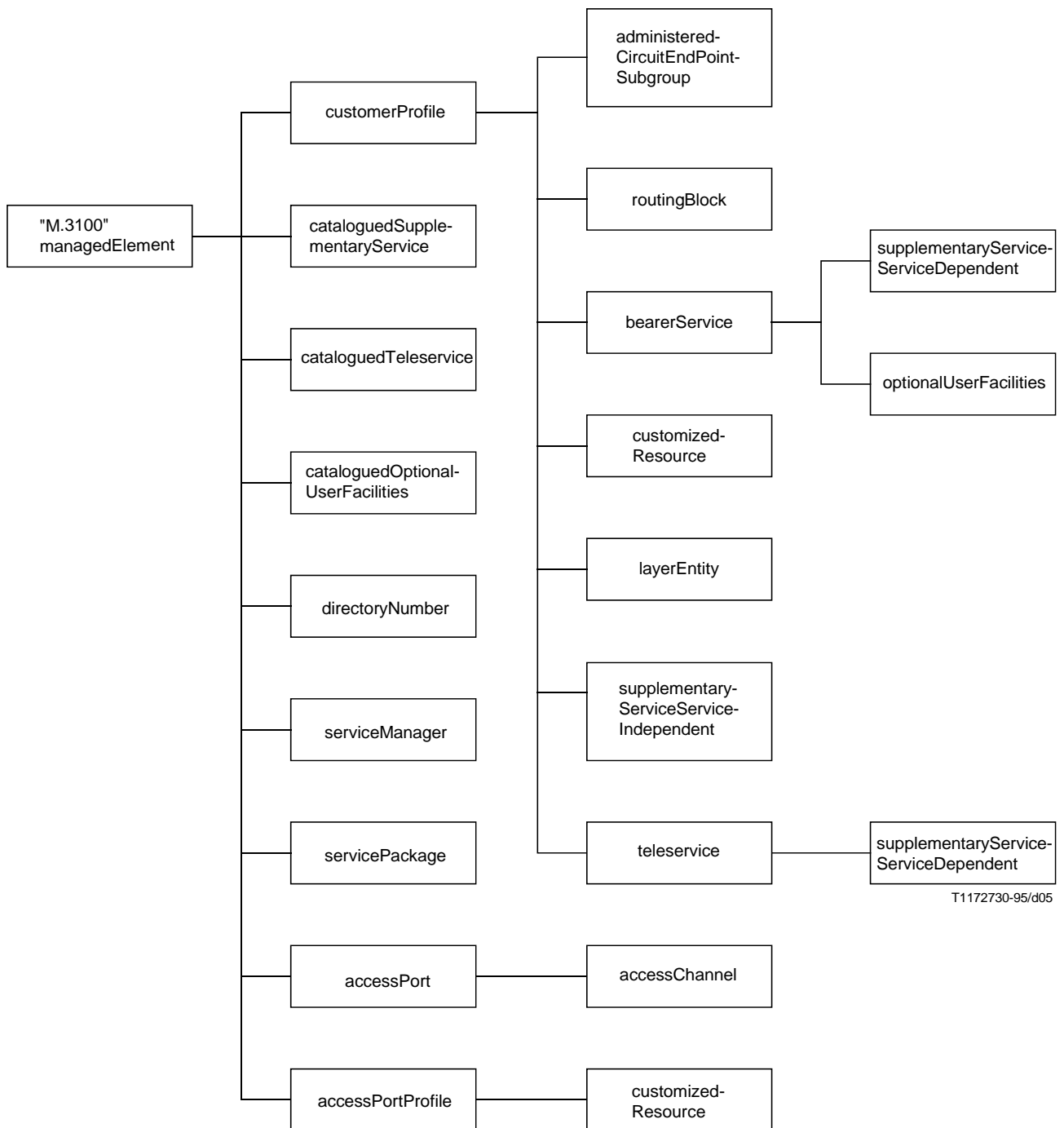
NOTE – Except for Managed Element, only managed object classes defined in Recommendation Q.824.0 are shown in this figure. Additional relationships are defined for the same subclasses of these objects. See the remainder of the Q.824-Series Recommendations.

FIGURE 1c/Q.824.0  
**Entity-Relationship model – Part C**



T1172720-95/d04

FIGURE 2/Q.824.0  
Inheritance hierarchy



T1172730-95/d05

NOTE – The indicated naming hierarchy includes reusable name bindings defined in other Recommendations.

FIGURE 3/Q.824.0  
Naming hierarchy

## 2 References

The following 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.

- CCITT Recommendation E.164 (1991), *Numbering plan for the ISDN era*.
- ITU-T Recommendation I.210 (1993), *Principles of telecommunication services supported by an ISDN and the means to describe them*.
- CCITT Recommendation I.240 (1988), *Definition of teleservices*.
- CCITT Recommendation M.3010 (1992), *Principles for a telecommunications management network*.
- CCITT Recommendation M.3020 (1992), *TMN interface specification methodology*.
- ITU-T Recommendation M.3100 (1995), *Generic network information model*.
- CCITT Recommendation M.3400 (1992), *TMN management functions*.
- ITU-T Recommendation Q.811 (1993), *Lower layer protocol profiles for the Q3 interface*.
- ITU-T Recommendation Q.812 (1993), *Upper layer protocol profiles for the Q3 interface*.
- ITU-T Recommendation Q.931 (1993), *Digital subscriber Signalling System No.1 (DSS 1) – ISDN user-network interface layer 3 specification for basic call control*.
- ITU-T Recommendation X.2 (1993), *International data transmission services and optional user facilities in public data networks and ISDNs*.
- CCITT Recommendation X.121 (1992), *International numbering plan for public data networks*.
- CCITT Recommendation X.700 (1992), *Management framework for Open Systems Interconnection (OSI) for CCITT applications*.
- CCITT Recommendation X.701 (1992), *Information technology – Open Systems Interconnection – Systems management overview*.
- CCITT Recommendation X.710 (1991), *Common management information service definition for CCITT applications*.
- CCITT Recommendation X.711 (1991), *Common management information protocol specification for CCITT applications*.
- CCITT Recommendation X.720 (1992), *Information technology – Open Systems Interconnection – Structure of management information: Management information model*.
- CCITT Recommendation X.721 (1992), *Information technology – Open Systems Interconnection – Structure of management information: Definition of management information*.
- CCITT Recommendation X.722 (1992), *Information technology – Open Systems Interconnection – Structure of management information: Guidelines for the definition of managed objects*.
- ITU-T Recommendation X.723 (1993), *Information technology – Open Systems Interconnection – Structure of management information: Generic management information*.

### 3 Basic customer administration object classes

#### 3.1 Access Channel

The Access Channel object class is a class of managed objects that terminate a Channel of an Access Port within the exchange. It identifies the set of attributes that apply in common to all types of Access Channels. Instances of this object class are contained within the related Access Ports. The numbers of Access Channels belonging to an Access Port are dependent on the ISDN.

Access Port architecture. This object may be related to a set of customized resources when services must be provisioned on a per access channel basis.

**accessChannel** MANAGED OBJECT CLASS

**DERIVED FROM** "CCITT Rec. M.3100":  
connectionTerminationPointBidirectional;

**CHARACTERIZED BY**

"CCITT Rec. M.3100":administrativeOperationalStatesPackage,  
"CCITT Rec. M.3100":ctp InstancePackage,

**accessChannelPkg** PACKAGE

**BEHAVIOUR**

**accessChannelBhv** BEHAVIOUR

**DEFINED AS** "The Access Channel managed object is a service class object that points to the supporting physical resources for a particular channel. The attribute customizedResourcePtrList is synchronized with customizedChannelPtrList in the customizedResource managed object class. That is, when a reference to an instance of the customizedResource object class is added to or deleted from the attribute customizedResourcePtrList, customizedResource attribute is updated accordingly.";;

**ATTRIBUTES**

"CCITT Rec. X.721":alarmStatus  
customizedResourcePtrList

GET,  
GET-REPLACE  
ADD-REMOVE;;;

**DEFAULT VALUE** CACommonModule.emptySet

GET-REPLACE  
ADD-REMOVE;;;

**CONDITIONAL PACKAGES**

officeEquipmentPck PRESENT IF "supported by Administration.";

**REGISTERED AS** {cACommonObjectClass 1};

#### 3.2 Access Port

The access Port represents the resource concept and is used to identify the resource capabilities supporting a subscriber services. The resource abstraction is defined as the Trail Termination Points that terminates trails between the Switching Network Element and the Customer Premise Equipment. These Trail Termination Points send the signalling and service information to the customer.

**accessPort** MANAGED OBJECT CLASS

**DERIVED FROM** "CCITT Rec. M.3100": trailTerminationPointBidirectional;

**CHARACTERIZED BY**

"CCITT Rec. M.3100": ttpInstancePackage,

**accessPortPkg** PACKAGE

**BEHAVIOUR**

**accessPortBhv** BEHAVIOUR

**DEFINED AS** "The Access Port is a resource managed object, the Access Port Objects of this class terminate customer service access within the exchange. When the supportedByAccessPortPtrList attribute in the corresponding AccessPort Profile object is changed, the accessPortProfilePtr in the Access Port must be updated.";;

## ATTRIBUTES

accessPortProfilePtr	GET,
"CCITT Rec. X.721": administrativeState	GET-REPLACE,
"CCITT Rec. X.721": operationalState	GET,
officeEquipment	GET-REPLACE;

## NOTIFICATIONS

"CCITT Rec. X.721": stateChange,  
"CCITT Rec. X.721": attributeValueChange;;;

REGISTERED AS {cACommonObjectClass 2};

### 3.3 Access port profile

The access port profile object (and those of the subclasses) represents those aspects of an exchange access that cannot be configured until subscription at which time the mode in which the access port is to be used by the subscriber is known.

**accessPortProfile** MANAGED OBJECT CLASS

DERIVED FROM "CCITT Rec. X.721(1992)": top;

CHARACTERIZED BY

**accessPortProfilePkg** PACKAGE

## BEHAVIOUR

**accessPortProfileBhv** BEHAVIOUR

DEFINED AS "The Access Port Profile managed object is a service class object that points to the supporting resources for a particular access. It is related to the other service objects and is the means by which these service objects become associated with the access resources. In addition, Access Port objects point to the Access Port Profile object so that a relationship can be found between the resources and the services they support. If the supportedByAccessPortPtrList attribute is changed, the attribute accessPortProfilePtr in the related AccessPort object shall be changed as well.";;

## ATTRIBUTES

accessPortProfileId	GET SET-BY-CREATE
customerProfilePtrList	GET-REPLACE
customerProfilePtrList	ADD-REMOVE, GET-REPLACE
customizedResourcePtrList	ADD-REMOVE,
DEFAULT VALUE CACommonModule.empty	GET-REPLACE
supportedByAccessPortPtrList	ADD-REMOVE, GET-REPLACE
sensitiveCircuit	ADD-REMOVE, REPLACE-WITH-DEFAULT
DEFAULT VALUE CACommonModule.false	GET-REPLACE;

## NOTIFICATIONS

"CCITT Rec. X.721 | ISO/IEC 10165-2": attributeValueChange,  
"CCITT Rec. X.721 | ISO/IEC 10165-2": objectCreation,  
"CCITT Rec. X.721 | ISO/IEC 10165-2": objectDeletion;  
;;

REGISTERED AS {cACommonObjectClass 3};

### 3.4 Administered Circuit Endpoint Subgroup

**administeredCircuitEndPointSubgroup** MANAGED OBJECT CLASS

DERIVED FROM "CCITT Rec. M.3100": circuitEndPointSubgroup;

CHARACTERIZED BY

**administeredCircuitEndPointSubgroupPkg** PACKAGE

## BEHAVIOUR

**administeredCircuitEndPointSubgroupBhv** BEHAVIOUR



**DEFINED AS** "The circuit endpoint subgroup (CEPSG) managed object class is used to order channels that may belong to different Access Ports. This set may then be associated with services (servicePtrList) and with routing blocks (routingBlockPtrList). If no association is made to services using the servicePtrList this list is empty and the underlying channel capabilities determine the service capabilities of the CEPSG. If no association is made to routing blocks then the routingBlockPtrList is empty. The channels that are ordered by CEPSG must have the following common characteristics:

uniform signalling  
common endpoints  
same directionality

The circuitEndPointSubgroupOrderedPtrList points to an ordered list of channels and may be empty.";;

#### **ATTRIBUTES**

servicePtrList	GET-REPLACE ADD-REMOVE,
routingBlockPtrList	GET,
circuitEndPointSubgroupOrderedPtrList	GET-REPLACE,

**ACTIONS**  
insertCSGChannels,  
removeCSGChannels;;;

**REGISTERED AS** {cACommonObjectClass 4};

### **3.5 Bearer Service**

**bearerService**                      **MANAGED OBJECT CLASS**

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

#### **CHARACTERIZED BY**

**bearerServicePkg**    **PACKAGE**

#### **BEHAVIOUR**

**bearerServiceBhv**    **BEHAVIOUR**

**DEFINED AS** "The Bearer Service object class represents the common aspects of the ISDN bearer services. While the Bearer Service object class is not instantiated, it is a superclass from which specialized subclasses are derived and instantiated.

The communication service provided by a bearer service is defined by the specific settings of the Information Transfer Attributes and the Access Attributes defined in Table B.1/I.210. Bearer Service is subclassed on the basis of these attributes for each of the individual bearer services defined in the I-Series Recommendations. For each of the individual bearer service subclasses, the I.210 Information Transfer Attributes and Access Attributes have unique pre-defined value settings and are non-customizable.

The Information Transfer Attributes include:

- Information Transfer Mode
- Information Transfer Rate
- Information Transfer Capability
- Structure
- Establishment of Communication
- Symmetry
- Communication Configuration

The Access Attributes include:

- Access Channel and Rate
- Signalling Access Protocol Layer 1
- Signalling Access Protocol Layer 2
- Signalling Access Protocol Layer 3
- Information Access Protocol Layer 1
- Information Access Protocol Layer 2
- Information Access Protocol Layer 3

The attribute customizedResourcePtrList is synchronized with bearerServicePtrList in the customizedResource managed object class. That is, when bearerServicePtrList in the associated instance of the customizedResource object class or a subclass is updated, the customizedResourcePtrList is updated accordingly.

The numberOfBChannels attribute limits the B-Channel resources that the bearerService can use at any point in time. The value of the attribute in this object must be equal to or less than the value of the numberOfBChannels attribute in the Customer Profile object instance containing the Bearer Service object instance. The default value of –1 for this attribute indicates that all of the B-channel Access Channel Object instances associated with the Customer Profile are available.";;

#### ATTRIBUTES

bearerServiceId

GET

SET-BY-CREATE,  
GET-REPLACE,

"CCITT Rec. X.721": administrativeState  
customizedResourcePtrList

DEFAULT VALUE CACommonModule.emptySet

GET-REPLACE  
ADD-REMOVE;

#### NOTIFICATIONS

"CCITT Rec. X.721":stateChange,

"CCITT Rec. X.721":attributeValueChange;;;

#### CONDITIONAL PACKAGES

numberOfChannelsPkg

PRESENT IF "the bearer services provided supports use of B-channels", bearerSignalingPkg

PRESENT IF "the bearer services supports *ON DEMAND* establishment and supported by Administration";

REGISTERED AS {cACommonObjectClass 5};

### 3.6 Customer Profile

customerProfile MANAGED OBJECT CLASS

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

#### CHARACTERIZED BY

customerProfilePkg

PACKAGE

#### BEHAVIOUR

customerProfileBhv BEHAVIOUR

DEFINED AS "The Customer Profile represents a single point of reference used to bind together a range of services and resources for customer administration purposes. It is a class of managed objects representing the characteristics of the Directory Number(s) (DN) assigned to an individual subscriber, independent of the access type and bearer service. Each instance of the customer profile object class includes a Directory Number Pointer List attribute that represents the Directory Number(s) assigned to the customer profile object and an Access Port Profile List attribute that represents Access Port Profile(s) also assigned to the customer profile object.";;

#### ATTRIBUTES

customerProfileId

accessPortProfilePtrList

directoryNumberPtrList

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

REGISTERED AS {cACommonObjectClass 6};

### 3.7 Directory Number

directoryNumber MANAGED OBJECT CLASS

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

#### CHARACTERIZED BY

directoryNumberPkg

PACKAGE

#### BEHAVIOUR

directoryNumberBhv BEHAVIOUR

DEFINED AS "The Directory Number managed object class represents a managed resource. It is a constituent part of the user interface and it is directly related to one or more dialling plans which are part of a managed element.

The attributes customerProfilePtr and customizedResourcePtrList are synchronized with directoryNumberPtrList in the customerProfile managed object class and with the directoryNumberPtrList in the customizedResource managed object class, respectively. For example, when directoryNumberPtrList in the associated instance of the customerProfile object class or a subclass is updated, the customerProfilePtr is updated accordingly.";;

#### ATTRIBUTES

directoryNumberId	GET SET-BY-CREATE,
"CCITT Rec. X.721":administrativeState	GET-REPLACE,
customizedResourcePtrList	GET,
customerProfilePtr	GET;

#### NOTIFICATIONS

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

#### CONDITIONAL PACKAGES

routingBlockPtrPkg

PRESENT IF "hierarchical routing to physical channel subgroups on egress is supported";

REGISTERED AS {cACommonObjectClass 7};

### 3.8 Directory Number E.164

directoryNumberE164 MANAGED OBJECT CLASS

DERIVED FROM directoryNumber;

#### CHARACTERIZED BY

directoryNumberE164Pkg PACKAGE

#### BEHAVIOUR

directoryNumberE164Bhv BEHAVIOUR

DEFINED AS "The E.164 Directory Number object class represents directory numbers belonging to the numbering plan of the ISDN era as defined in E.164. The E.164 Directory Number is a single-valued, read-only attribute, set only at creation time. The intercept treatment attributes provide the handling treatment (announcement, tone, or otherwise) that should be applied to a disconnected E.164 Directory Number or a Directory Number to which service is temporarily suspended.";;

#### ATTRIBUTES

e164DirectoryNumber	GET SET-BY-CREATE,
interceptTreatmentTerm	REPLACE-WITH-DEFAULT
DEFAULT VALUE CACommonModule.interceptTreatmentTerm GET-REPLACE;;;	

#### CONDITIONAL PACKAGES

interceptTreatmentOriginPkg

PRESENT IF "an instance supports it.";

REGISTERED AS {cACommonObjectClass 8};

### 3.9 Directory Number X.121

directoryNumberX121 MANAGED OBJECT CLASS

DERIVED FROM directoryNumber;

#### CHARACTERIZED BY

directoryNumberX121Pkg PACKAGE

#### BEHAVIOUR

directoryNumberX121Bhv BEHAVIOUR

DEFINED AS "This object class characterizes the X.121 packet switched Directory Number resource.";;

#### ATTRIBUTES

X121DirectoryNumber	GET SET-BY-CREATE;;;
---------------------	----------------------

REGISTERED AS {cACommonObjectClass 9};

### 3.10 Layer Entity

layerEntity MANAGED OBJECT CLASS

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

CHARACTERIZED BY

layerEntityPkg PACKAGE

BEHAVIOUR

layerEntityBhv BEHAVIOUR

DEFINED AS "This class describes the customizable characteristics common to all layer protocols which are used for signalling purpose or for user information purpose. This object class is not instantiated.";;

ATTRIBUTES

layerEntityId	GET SET-BY-CREATE,
"CCITT Rec. X.721": usageState	GET,
"CCITT Rec. X.721": administrativeState	GET-REPLACE,
"CCITT Rec. X.721": operationalState	GET;

NOTIFICATIONS

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

REGISTERED AS {cACommonObjectClass 10};

### 3.11 Routing Block

routingBlockMANAGED OBJECT CLASS

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

CHARACTERIZED BY

routingBlockPkg PACKAGE

BEHAVIOUR

routingBlockBhv BEHAVIOUR

DEFINED AS "The routing block managed object class associates an ordered list of channel subgroups with a list of directory numbers. This list of circuitSubgroups is ordered so that the preference of circuitSubgroups to use for a particular directory number can be expressed. The routingBlockCircuitSubgroupPtrList is a complex attribute that also contains information on how to present the number on departure.";;

ATTRIBUTES

routingBlockId	GET SET-BY-CREATE,
directoryNumberPtrList	GET-REPLACE
	ADD-REMOVE,
circuitEndPointSubgroupPtrList	GET-REPLACE;

ACTIONS

insertCircuitSubgroups,  
removeCircuitSubgroups,  
modifyCircuitSubgroup;;;

REGISTERED AS {cACommonObjectClass 11};

## 4 Auxiliary Managed Object Classes

### 4.1 Catalogued Optional User Facilities

The catalogued Optional User Facilities managed object class is a superclass for other service subclasses that have attributes that are not customizable by the subscriber. The subclasses will be defined once candidates for the non-customizable attributes have been identified.



**DEFINED AS** "The catalogued teleservice managed object class defines a communication service that makes available layer 4-layer 7 capabilities and have attributes that are not customizable by the subscriber. This object class is a superclass from which specific catalogued teleservice objects may be derived as subclasses.";;

#### **ATTRIBUTES**

cataloguedTeleserviceId

GET SET-BY-CREATE

#### **NOTIFICATIONS**

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

**REGISTERED AS** {cACommonObjectClass 14};

### **4.4 Customized Resource**

The Customized Resource object class is a class of the managed objects that represents the service provisioning for a subscriber. It allows association of a set of services to one or more Access Port and Channels as illustrated in Appendix I.

customizedResource      **MANAGED OBJECT CLASS**

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

#### **CHARACTERIZED BY**

customizedResourcePkg      **PACKAGE**

#### **BEHAVIOUR**

customizedResourceBhv      **BEHAVIOUR**

**DEFINED AS** "The Customized Resource object class is a class of the managed objects that represents the service provisioning for a subscriber. It allows association of a set of services to one or more Access Port and Channels. The pointer list attributes: bearerServicePtrList, directoryNumberPtrList, teleServicePtrList, accessPortProfilePtrList, and accessChannelPtrList should be maintained synchronized with their corresponding pointing attribute in the objects they point out to. For example, the attribute accessChannelPtrList is synchronized with customizedResourcePtrList in the accessChannel managed object class. That is, when a reference to an instance of the accessChannel object class is added to (or deleted from) the attribute accessChannelPtrList, customizedResourcePtrList attribute in accessChannel is updated accordingly."

The accessChannelPtrList attribute should not be used to point at accessChannels that are associated with the customizedResource via the accessPortProfilePtrList, since such a relationship would be redundant.

#### **ATTRIBUTES**

customizedResourceId	GET SET-BY-CREATE
bearerServicePtrList	GET-REPLACE
	ADD-REMOVE,
directoryNumberPtrList	GET-REPLACE
	ADD-REMOVE,
numberOfBChannels	GET-REPLACE
	ADD-REMOVE,
teleServicePtrList	GET-REPLACE
	ADD-REMOVE,
accessPortProfilePtrList	GET-REPLACE
	ADD-REMOVE,
accessChannelPtrList	GET-REPLACE
	ADD-REMOVE;;;

**REGISTERED AS** {cACommonObjectClass 15};

### **4.5 Optional User Facilities**

Optional User Facilities, as defined in Recommendation X.2, are services that can only be used in conjunction with Packet Mode bearer services. The Optional user facilities object class is defined to allow the creation of specific optional services subclasses.



## 4.7 Supplementary Service Service Independent

This superclass is used to model supplementary services that are defined in the underlying ITU-T supplementary service definition as being service independent (i.e. applicable to multiple services in a uniform manner). Such services are modeled as being contained in the customer profile managed object. These supplementary services HAVE a pointer to bearer/teleservices. These pointers allow association of the bearer/teleservice with particular services when an Administration requires this capability to implement tariff/service offerings. These supplementary services are name-bound to the customer profile managed object and their relationship to a service is established via the service pointer values.

**supplementaryServiceServiceIndependent**      **MANAGED OBJECT CLASS**

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

**CHARACTERIZED BY**

**supplementaryServiceServiceIndependentPkg**      **PACKAGE**

**BEHAVIOUR**

**supplementaryServiceServiceIndependentBhv**      **BEHAVIOUR**

**DEFINED AS** "This object class is defined to allow the creation of specific supplementary service subclasses for those supplementary services that are defined by ITU-T to be independent of any particular bearer/teleservice. Supplementary services, as defined in I.210, are services that can only be used in conjunction with another bearer service or another teleservice.";;

**ATTRIBUTES**

<b>supplementaryServiceId</b>	<b>GET</b>
<b>"CCITT Rec. X.721": administrativeState</b>	<b>SET-BY-CREATE,</b>
<b>ServicePtrList</b>	<b>GET-REPLACE,</b>
	<b>GET-REPLACE</b>
	<b>ADD-REMOVE;</b>

**NOTIFICATIONS**

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

**CONDITIONAL PACKAGES**

**cataloguedSupplementaryServicePtrPkg**

**PRESENT IF** "catalogued supplementary service is supported by Administration.";

**REGISTERED AS** {cACommonObjectClass 18};

## 4.8 Teleservice

**teleservice**      **MANAGED OBJECT CLASS**

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

**CHARACTERIZED BY**

**teleservicePkg**      **PACKAGE**

**BEHAVIOUR**

**teleserviceBhv**      **BEHAVIOUR**

**DEFINED AS** "The teleservices managed object class defines a communication service that makes available layer 1-layer 7 capabilities. The characteristics of teleservice are defined in accordance with I.240. Teleservices may be subclassed on the basis of the user information type attribute (Speech, Video, Fax, etc.) defined in I.240. The various Teleservices are defined in the *Blue Book Recommendations*.";;



## ATTRIBUTES

<b>teleserviceId</b>	<b>GET SET-BY-CREATE,</b>
<b>bearerServicePtr</b>	<b>GET-REPLACE,</b>
<b>"CCITT Rec. X.721": administrativeState</b>	<b>GET-REPLACE,</b>
<b>customizedResourcePtrList</b>	
<b>DEFAULT VALUE CACCommonModule.emptySet</b>	<b>GET-REPLACE</b>
	<b>ADD-REMOVE;</b>

## NOTIFICATIONS

**"CCITT Rec. X.721": stateChange;;;**

## CONDITIONAL PACKAGES

**cataloguedTeleservicePtrPkg PRESENT IF "catalogued teleservice is supported by Administration.",**  
**layerInfoPkg PRESENT IF "teleservice's layers are configurable per subscriber";**

**REGISTERED AS {cACCommonObjectClass 19};**

## 5 Operations support managed object classes

### 5.1 Service Manager

The Service Manager is a support object that is needed to complete the exchange provisioning without a detailed knowledge of the provisioning model. The Service Manager is a superclass object that can be subclassed to support specific actions for specific functions or technologies. The Service Manager is used in conjunction with Service Package object instances to perform these actions. The Service Package contains instances of managed objects with initial values that are used in creating all or part of a customer's service. If resource managed object classes are included in a Service Package, then their attributes (e.g. e164DirectoryNumber attribute of the e164DN object or the officeEquipment attribute of the accessPort object) must have dummy values. The actual values are taken from the ACTION parameters. Knowledge of the Service Manager or Service Packages used to create the customer service is not retained. Different Service Packages may be defined by Service Providers to meet specific business requirements.

Service Packages that can be defined for a particular Service Manager must only use those parameters that are defined in the Action of that Service Manager. If additional input parameters are required, a new subclass of Service Manager has to be created.

These Service Packages are defined using the same object classes as in the model providing service definitions.

**serviceManager MANAGED OBJECT CLASS**

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

**CHARACTERIZED BY**

**serviceManagerPkg PACKAGE**

**BEHAVIOUR**

**serviceManagerBhv BEHAVIOUR**

**DEFINED AS "This is the superclass for all service managers. The subclasses will have service management actions defined. Upon the reception of an action request, the serviceManager will perform the action according to the action specification. In case of an action failure, the services will remain unchanged and an error message will be returned to the managing system instead of the action reply.";;**

## ATTRIBUTES

<b>serviceManagerId</b>	<b>GET SET-BY-CREATE;;;</b>
-------------------------	-----------------------------

**REGISTERED AS {cACCommonObjectClass 20};**

### 5.2 Service Package

This object class is used to group instances of different object classes that are used to provide initial values for attributes of service objects created by the Service Manager object class.

**servicePackage**      **MANAGED OBJECT CLASS**  
**DERIVED FROM**    "CCITT Rec. X.721": top;  
**CHARACTERIZED BY**  
**servicePackagePkg**   **PACKAGE**  
**BEHAVIOUR**  
**servicePackageBhv**      **BEHAVIOUR**

**DEFINED AS** "This object class is a passive object. However, this object affects the behaviour of the object instances that are contained in (named by) instances of this class. The instances contained are also passive and do not represent live services. They are rather only instantiated to provide initial values for the creation of real, connected services.";;

#### **ATTRIBUTES**

**servicePackageId**      **GET SET-BY-CREATE;;;**

**REGISTERED AS** {cACommonObjectClass 21};

## **6      Package templates**

### **6.1      Bearer Signalling Package**

**bearerSignalingPkg**      **PACKAGE**

#### **ATTRIBUTES**

**layer2SignalingEntityPtr**      **GET-REPLACE,**  
**layer3SignalingEntityPtr**      **GET-REPLACE;**

**REGISTERED AS** {cACommonPackage 1};

### **6.2      Catalogued Optional User Facilities Package**

**cataloguedOptionalUserFacilitiesPtrPkg**      **PACKAGE**

#### **ATTRIBUTES**

**cataloguedOptionalUserFacilitiesPtr**      **GET-REPLACE;**

**REGISTERED AS** {cACommonPackage 2};

### **6.3      Catalogued Supplementary Service Pointer Package**

**cataloguedSupplementaryServicePtrPkg**      **PACKAGE**

#### **ATTRIBUTES**

**cataloguedSupplementaryServicePtr**      **GET-REPLACE;**

**REGISTERED AS** {cACommonPackage 3};

### **6.4      Catalogued Teleservice Package**

**cataloguedTeleservicePtrPkg**      **PACKAGE**

#### **ATTRIBUTES**

**cataloguedTeleservicePtr**      **GET-REPLACE;**

**REGISTERED AS** {cACommonPackage 4};

### **6.5      Intercept Treatment Originating Package**

**interceptTreatmentOriginPkg**      **PACKAGE**

#### **ATTRIBUTES**

**interceptTreatmentOrigin**      **REPLACE-WITH-DEFAULT**  
**DEFAULT VALUE** CACommonModule.interceptTreatmentOrigin      **GET-REPLACE;**

**REGISTERED AS** {cACommonPackage 5};

## 6.6 Layer Info Package

**layerInfoPkg**        **PACKAGE**

### **ATTRIBUTES**

<b>layer4InfoEntityType</b>	<b>GET-REPLACE,</b>
<b>layer4InfoEntityPtr</b>	<b>GET-REPLACE,</b>
<b>layer5InfoEntityType</b>	<b>GET-REPLACE,</b>
<b>layer5InfoEntityPtr</b>	<b>GET-REPLACE,</b>
<b>layer6InfoEntityType</b>	<b>GET-REPLACE,</b>
<b>layer6InfoEntityPtr</b>	<b>GET-REPLACE,</b>
<b>layer7InfoEntityType</b>	<b>GET-REPLACE,</b>
<b>layer7InfoEntityPtr</b>	<b>GET-REPLACE;</b>

**REGISTERED AS** {cACommonPackage 6};

## 6.7 Number of B-Channel Package

**numberOfChannelsPkg** **PACKAGE**

### **ATTRIBUTES**

<b>numberOfBChannels</b>	<b>REPLACE-WITH-DEFAULT;</b>
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**REGISTERED AS** {cACommonPackage 7};

## 6.8 Office Equipment Package

**officeEquipmentPkg**        **PACKAGE**

### **ATTRIBUTES**

<b>officeEquipmentList</b>	<b>GET-REPLACE</b>
	<b>ADD-REMOVE;</b>

**REGISTERED AS** {cACommonPackage 8};

## 6.9 Routing Block Pointer Package

**routingBlockPtrPkg**        **PACKAGE**

### **ATTRIBUTES**

<b>routingBlockPtr</b>	<b>GET-REPLACE;</b>
------------------------	---------------------

**REGISTERED AS** {cACommonPackage 9};

# 7 Attribute templates

This clause contains the ASN.1 definitions for all attributes in the described object classes. These definitions identify the function of the attributes and their valid characteristics, such as their valid values, interdependencies, read/write constraints, etc. The attributes are identified by their ASN.1 descriptors.

## 7.1 Access Channel Pointer List

**accessChannelPtrList**    **ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

**CACommonModule.AccessChannelPtrList;**  
**MATCHES FOR SET-INTERSECTION, SET-COMPARISON;**  
**BEHAVIOUR**  
**accessChannelPtrListBhv        BEHAVIOUR**

**DEFINED AS** "This is a set-valued attribute whose value(s) points to one or more instances of the Access Channel object class.";;

**REGISTERED AS** {cACommonAttribute 1};

## 7.2 Access Port Profile Id

**accessPortProfileId** ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

**accessPortProfileIdBhv** BEHAVIOUR

DEFINED AS "The naming attribute of the managed object access port profile.";;

REGISTERED AS {cACCommonAttribute 2};

## 7.3 Access Port Profile Pointer

**accessPortProfilePtr** ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.ObjectInstance;

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

BEHAVIOUR

**accessPortProfilePtrBhv** BEHAVIOUR

DEFINED AS "This attribute is used as a pointer to an instance of the Access Port Profile managed object class.";;

REGISTERED AS {cACCommonAttribute 3};

## 7.4 Access Port Profile Pointer List

**accessPortProfilePtrList** ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.SetOfInstances;

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

BEHAVIOUR

**accessPortProfilePtrListBhv** BEHAVIOUR

DEFINED AS "This is a set-valued attribute whose value(s) points to one or more instances of the Access Port Profile object class or its subclasses.";;

REGISTERED AS {cACCommonAttribute 4};

## 7.5 Bearer Service Id

**bearerServiceId** ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;

MATCHES FOR EQUALITY;

BEHAVIOUR

**bearerServiceIdBhv** BEHAVIOUR

DEFINED AS "The Bearer Service Id attribute is used to compose the RDN when naming an instance of the bearer service subclasses. The bearer service is a term that describes the nature of the call in an Integrated Services Digital Network (ISDN). A bearer capability is a subset of the characteristics associated with the ISDN term bearer service. A bearer service is, in part, defined in terms of the transmission characteristics of the channel provided between ISDN users on successful connection of a call.";;

REGISTERED AS {cACCommonAttribute 5};

## 7.6 Bearer Service Pointer

**bearerServicePtr** ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.ObjectInstance;

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

BEHAVIOUR

**bearerServicePtrBhv** BEHAVIOUR

DEFINED AS "This attribute is used from any managed object to reference a bearer service managed object.";;

REGISTERED AS {cACCommonAttribute 6};

## 7.7 Bearer Service Pointer List

**bearerServicePtrList**      **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**

**CACommonModule.SetOfInstances;**  
**MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
**BEHAVIOUR**  
**bearerServicePtrListBhv**      **BEHAVIOUR**

**DEFINED AS "This attribute references multiple bearer services.";;**

**REGISTERED AS {cACommonAttribute 7};**

## 7.8 Catalogued Optional User Facilities Id

**cataloguedOptionalUserFacilitiesId** **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**

**CACommonModule.NameType;**  
**MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;**  
**BEHAVIOUR**  
**cataloguedOptionalUserFacilitiesIdBhv**      **BEHAVIOUR**

**DEFINED AS "The Catalogued OptionalUserFacilitiesId attribute is used to compose the RDN when naming an instance of the Catalogued Optional User Facilities subclasses.";;**

**REGISTERED AS {cACommonAttribute 8};**

## 7.9 Catalogued Optional User Facilities Pointer

**cataloguedOptionalUserFacilitiesPtr** **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**

**CACommonModule.ObjectInstance;**  
**MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
**BEHAVIOUR**  
**cataloguedOptionalUserFacilitiesPtrBhv** **BEHAVIOUR**

**DEFINED AS "This attribute is used from any managed object to reference a Catalogued User Facilities managed object.";;**

**REGISTERED AS {cACommonAttribute 9};**

## 7.10 Catalogued Supplementary Service Id

**cataloguedSupplementaryServiceId** **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**

**CACommonModule.NameType;**  
**MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;**  
**BEHAVIOUR**  
**cataloguedSupplementaryServiceIdBhv** **BEHAVIOUR**

**DEFINED AS "The Catalogued Supplementary Service Id attribute is used to compose the RDN when naming an instance of the Catalogued Supplementary Service subclasses.";;**

**REGISTERED AS {cACommonAttribute 10};**

## 7.11 Catalogued Supplementary Service Pointer

**cataloguedSupplementaryServicePtr** **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**

**CACommonModule.ObjectInstance;**  
**MATCHES FOR EQUALITY;**  
**BEHAVIOUR**  
**cataloguedSupplementaryServicePtrBhv** **BEHAVIOUR**

**DEFINED AS "This attribute is used from any managed object to reference a Catalogued Supplementary Service managed object.";;**

**REGISTERED AS {cACommonAttribute 11};**

## 7.12 Catalogued Teleservice Id

**cataloguedTeleserviceId** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;  
MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;  
BEHAVIOUR  
cataloguedTeleserviceIdBhv BEHAVIOUR

DEFINED AS "The Catalogued Teleservice Id attribute is used to compose the RDN when naming an instance of the Catalogued Teleservice subclasses.";;

REGISTERED AS {cACommonAttribute 12};

## 7.13 Catalogued Teleservice Pointer

**cataloguedTeleservicePtr** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.ObjectInstance;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
cataloguedTeleservicePtrBhv BEHAVIOUR

DEFINED AS "This attribute is used from any managed object to reference a Catalogued Teleservice managed object.";;

REGISTERED AS {cACommonAttribute 13};

## 7.14 Circuit Endpoint Subgroup Ordered Pointer List

**circuitEndPointSubgroupOrderedPtrList** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.CircuitSubgroupChannelPtrList;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
circuitEndPointSubgroupOrderedPtrListBhv BEHAVIOUR

DEFINED AS "This attribute is an ordered list of B-Channels. Each member of the list points to a CTP managed object class or its subclasses.";;

REGISTERED AS {cACommonAttribute 14};

## 7.15 Circuit Endpoint Subgroup Pointer List

**circuitEndPointSubgroupPtrList** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.CircuitSubgroupPtrList;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
circuitEndPointSubgroupPtrListBhv BEHAVIOUR

DEFINED AS "This complex attribute is an ordered list; each member of the list has three elements in a sequence. The first element is the name of the circuitEndPointSubgroup. The second element indicates how many digits to delete from the incoming number when the call is presented on this CSG. The third element indicates the string to prefix when the call is presented on this CSG. The members to this list may be inserted using the insertCircuitSubgroupChannel action, removed using the removeCircuitSubgroupChannel or the second and third elements may be modified using the modifyCircuitSubgroupChannel action. When a CSG is inserted or removed from this list the corresponding backward pointer (routingBlockPtrList) in the CSG (circuitSubGroup) managed object is automatically updated";;

REGISTERED AS {cACommonAttribute 15};

## 7.16 Customer Profile Id

**customerProfileId** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;  
MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;  
BEHAVIOUR  
customerProfileIdBhv BEHAVIOUR

DEFINED AS "The Customer Profile represents a single point of reference used to bind together a range of services and resources for customer administration purposes. The Customer Profile may therefore represent a single subscriber or a group of subscribers (e.g. Centrex group), thus allowing the maximum flexibility in the administration of all subscribers. The customerProfileId attribute is used to name instances of this class. This is a naming attribute. If the string choice for the syntax is used, matching on the substrings is permitted. If the number choice for the syntax is used, then matching on ordering is permitted.";;

REGISTERED AS {cACCommonAttribute 16};

## 7.17 Customer Profile Pointer

customerProfilePtr ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.PointerOrNull;

MATCHES FOR EQUALITY;

BEHAVIOUR

customerProfilePtrBhv BEHAVIOUR

DEFINED AS "This attribute is used as a pointer to an instance of the customer Profile managed object class. The attribute value is null if no directory number is assigned to the customer profile.";;

REGISTERED AS {cACCommonAttribute 17};

## 7.18 Customer Profile Pointer List

customerProfilePtrList ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.SetOfInstances;

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

BEHAVIOUR

customerProfilePtrListBhv BEHAVIOUR

DEFINED AS "This is a set-valued attribute whose value(s) points to instances of the customer Profile object class or its subclasses.";;

REGISTERED AS {cACCommonAttribute 18};

## 7.19 Customized Resource Id

customizedResourceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

customizedResourceIdBhv BEHAVIOUR

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

REGISTERED AS {cACCommonAttribute 19};

## 7.20 Customized Resource Pointer List

customizedResourcePtrList ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.SetOfInstances;

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

BEHAVIOUR

customizedResourcePtrListBhv BEHAVIOUR

DEFINED AS "This is a set-valued attribute whose value(s) points to instances of the Customized Resources object class.";;

REGISTERED AS {cACCommonAttribute 20};

## 7.21 Directory Number Id

**directoryNumberId** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;  
MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;  
BEHAVIOUR  
directoryNumberIdBhv BEHAVIOUR

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

REGISTERED AS {cACCommonAttribute 21};

## 7.22 Directory Number Pointer List

**directoryNumberPtrList** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.SetOfInstances;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
directoryNumberPtrListBhv BEHAVIOUR

DEFINED AS "This is a set-valued attribute whose value(s) points to instances of the Directory Number object class or its subclasses.";;

REGISTERED AS {cACCommonAttribute 22};

## 7.23 E.164 Directory Number

**e164DirectoryNumber** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.E164DN;  
MATCHES FOR EQUALITY;  
BEHAVIOUR  
e164DirectoryNumberBhv BEHAVIOUR

DEFINED AS "This attribute represents directory numbers belonging to the Numbering Plan for the ISDN Era defined in E.164.";;

REGISTERED AS {cACCommonAttribute 23};

## 7.24 Intercept Treatment Originating

**interceptTreatmentOrigin** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.InterceptTreatmentOrigin;  
MATCHES FOR EQUALITY;  
BEHAVIOUR  
interceptTreatmentOriginBhv BEHAVIOUR

DEFINED AS "This attribute's value identifies the intercept treatment to be applied to line originations for each non-normal condition indicated by the administrativeState attribute. A non-normal condition is one which denies user access to the subscribed services (i.e. service disconnected or suspended).

This attribute is a choice between a numericString (supplier specified) or an integer (generalized types).

The generalized types are as follows:

Site Translations – This intercept treatment indicates that the switchwide defined intercept treatments are to be used. The remainder of the values allow specific intercept treatment for individual subscribers.

No Dial Tone – This intercept treatment indicates that originating call attempts should not receive dial tone.



**Local Announcement** – This intercept treatment indicates that originating call attempts should be routed to announcement (indicating no service) instead of receiving dial tone.

**Basic Business Group (BBG) Special Announcement** – This intercept treatment indicates that originating call attempts from a BBG line should be routed to a BBG customized announcement (indicating no service) instead of dial tone.

**Soft Dial Tone Emergency Service/Business Office** – This intercept treatment indicates that originating calls should be allowed to emergency numbers and service provider business office numbers only. Originating calls to all other destinations are blocked and routed to a soft dial tone announcement.";;

REGISTERED AS {cACommonAttribute 24};

## 7.25 Intercept Treatment Terminating

interceptTreatmentTerm ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.InterceptTreatmentTerm;

MATCHES FOR EQUALITY;

BEHAVIOUR

interceptTreatmentTermBhv BEHAVIOUR

**DEFINED AS** "This attribute's value identifies the intercept treatment to be applied to line terminations for each non-normal condition indicated by the administrativeState attribute. A non-normal condition is one which denies user access to the subscribed services (i.e. service disconnected or suspended).

This attribute is a choice between a numericString (supplier specified) or an integer (generalized type). The generalized types are as follows:

**Site Translations** – This intercept treatment indicates that the switchwide defined intercept treatments are to be used. The remainder of the values allow specific intercept treatment for individual subscribers.

**Trouble/SuspendedServiceAnnouncement** – This intercept treatment indicates that the terminating call should be routed to an announcement indicating that the called party's service has been suspended.

**Operator Intercept** – This intercept treatment indicates that the terminating call should be routed to an operator for handling.

**DN Change/Disconnect Announcement** – This intercept treatment indicates that the terminating call should be routed to a change/disconnected DN announcement.

**Announce And Operator** – This intercept treatment indicates that the terminating call should be routed to an announcement first and then to an operator for handling. The intercept is specified on a switchwide basis and is not customizable for individual subscribers.

**External Automatic Intercept System** – This intercept treatment indicates that the terminating call should be routed to an external Automatic Intercept System (AIS). The AIS then determines what treatment to provide based on the steering digits and DN supplied by the switch. An example of AIS capabilities is DN aging. When a customer's DN is changed, the AIS will give a change DN announcement for a specified time period after the change. Following this time period, calls to the old DN are then routed to the intercept for an unassigned DN.

**Business Group Announcement for Disconnected or Term Restricted Lines** – This intercept treatment indicates that the terminating call should be routed to a non-working Business Group DN announcement.";;

REGISTERED AS {cACommonAttribute 25};

## 7.26 Layer 2 Signalling Entity Pointer

**layer2SignalingEntityPtr**     **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX** **CACommonModule.ObjectInstance;**  
    **MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
    **BEHAVIOUR**  
    **layer2SignalingEntityPtrBhv** **BEHAVIOUR**  
  
    **DEFINED AS** "This attribute is used as a pointer to an instance of the Layer2SignalingEntity managed object class.";;  
  
**REGISTERED AS** {cACommonAttribute 26};

## 7.27 Layer 3 Signalling Entity Pointer

**layer3SignalingEntityPtr**     **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX** **CACommonModule.ObjectInstance;**  
    **MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
    **BEHAVIOUR**  
    **layer3SignalingEntityPtrBhv** **BEHAVIOUR**  
  
    **DEFINED AS** "This attribute is used as a pointer to an instance of the Layer3SignalingEntity managed object class.";;  
  
**REGISTERED AS** {cACommonAttribute 27};

## 7.28 Layer 4 Entity Pointer

**layer4InfoEntityPtr**     **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX** **CACommonModule.ObjectInstance;**  
    **MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
    **BEHAVIOUR**  
    **layer4InfoEntityPtrBhv** **BEHAVIOUR**  
  
    **DEFINED AS** "This attribute is used as a pointer to an instance of the Layer4InfoEntity managed object class.";;  
  
**REGISTERED AS** {cACommonAttribute 28};

## 7.29 Layer 4 Entity Type

**layer4InfoEntityType**     **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX** **CACommonModule.ObjectInstance;**  
    **MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
    **BEHAVIOUR**  
    **layer4InfoEntityTypeBhv** **BEHAVIOUR**  
  
    **DEFINED AS** "This attribute is used as a pointer to an instance of the Layer4InfoEntity managed object class.";;  
  
**REGISTERED AS** {cACommonAttribute 29};

## 7.30 Layer 5 Entity Pointer

**layer5InfoEntityPtr**     **ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX** **CACommonModule.ObjectInstance;**  
    **MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;**  
    **BEHAVIOUR**  
    **layer5InfoEntityPtrBhv** **BEHAVIOUR**  
  
    **DEFINED AS** "This attribute is used as a pointer to an instance of the Layer5InfoEntity managed object class.";;  
  
**REGISTERED AS** {cACommonAttribute 30};

### 7.31 Layer 5 Entity Type

**layer5InfoEntityType** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX  
CACommonModule.Layer5InfoEntityType ;  
MATCHES FOR EQUALITY;

REGISTERED AS {cACommonAttribute 31};

### 7.32 Layer 6 Entity Pointer

**layer6InfoEntityPtr** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX  
CACommonModule.ObjectInstance;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
**layer6InfoEntityPtrBhv** BEHAVIOUR

DEFINED AS "This attribute is used as a pointer to an instance of the Layer6InfoEntity managed object class.";;

REGISTERED AS {cACommonAttribute 32};

### 7.33 Layer 6 Entity Type

**layer6InfoEntityType** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX  
CACommonModule.Layer6InfoEntityType ;  
MATCHES FOR EQUALITY;

REGISTERED AS {cACommonAttribute 33};

### 7.34 Layer 7 Entity Pointer

**layer7InfoEntityPtr** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX  
CACommonModule.ObjectInstance;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
**layer7InfoEntityPtrBhv** BEHAVIOUR

DEFINED AS "This attribute is used as a pointer to an instance of the Layer7InfoEntity managed object class.";;

REGISTERED AS {cACommonAttribute 34};

### 7.35 Layer 7 Entity Type

**layer7InfoEntityType** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX  
CACommonModule.Layer7InfoEntityType ;  
MATCHES FOR EQUALITY;

REGISTERED AS {cACommonAttribute 35};

### 7.36 Layer Entity Id

**layerEntityId** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX  
CACommonModule.NameType;  
MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;  
BEHAVIOUR  
**layerEntityIdBhv** BEHAVIOUR

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

REGISTERED AS {cACommonAttribute 36};

### **7.37 Number Of B-Channels**

**numberOfBChannels** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.NumberOfBChannels ;  
MATCHES FOR EQUALITY;  
BEHAVIOUR  
numberOfBChannelsBhv BEHAVIOUR

DEFINED AS "This attribute represents the number of ISDN B-channels.";;

REGISTERED AS {cACommonAttribute 37};

### **7.38 Office Equipment**

**officeEquipment** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.StringName;  
MATCHES FOR EQUALITY;  
BEHAVIOUR  
officeEquipmentBhv BEHAVIOUR

DEFINED AS "The value of this attribute is a printable string of alphanumeric characters that uniquely identifies the office equipment used to terminate the subscriber's line.";;

REGISTERED AS {cACommonAttribute 38};

### **7.39 Office Equipment List**

**officeEquipmentList** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.SetOfStringNames;  
MATCHES FOR EQUALITY, SET-COMPARISON, SET-INTERSECTION;  
BEHAVIOUR  
officeEquipmentListBhv BEHAVIOUR

DEFINED AS "The value of this attribute is a set of graphic strings that identifies a set of office equipments.";;

REGISTERED AS {cACommonAttribute 39};

### **7.40 Optional User Facilities Id**

**optionalUserFacilitiesId** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;  
MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;  
BEHAVIOUR  
optionalUserFacilitiesIdBhv BEHAVIOUR

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

REGISTERED AS {cACommonAttribute 40};

### **7.41 Routing Block Id**

**routingBlockId** ATTRIBUTE  
WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;  
MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;  
BEHAVIOUR  
routingBlockIdBhv BEHAVIOUR

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

REGISTERED AS {cACommonAttribute 41};

## 7.42 Routing Block Pointer

**routingBlockPtr** ATTRIBUTE

**WITH ATTRIBUTE SYNTAX**

CACommonModule.ObjectInstance;

**MATCHES FOR EQUALITY;**

**BEHAVIOUR**

routingBlockPtrBhv BEHAVIOUR

**DEFINED AS** "This attribute points to an instance of routing block managed object.";;

**REGISTERED AS** {cACommonAttribute 42};

## 7.43 Routing Block Pointer List

**routingBlockPtrList** ATTRIBUTE

**WITH ATTRIBUTE SYNTAX**

CACommonModule.SetOfInstances;

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

**BEHAVIOUR**

routingBlockPtrListBhv BEHAVIOUR

**DEFINED AS** "This attribute points to instances of routing block object class.";;

**REGISTERED AS** {cACommonAttribute 43};

## 7.44 Sensitive Circuit

**sensitiveCircuit** ATTRIBUTE

**WITH ATTRIBUTE SYNTAX**

CACommonModule.Boolean;

**MATCHES FOR EQUALITY;**

**BEHAVIOUR**

sensitiveCircuitBhv BEHAVIOUR

**DEFINED AS** "An attribute value of TRUE indicates that the access (circuit) is sensitive for such critical sources as a police station, first aid, hospital, etc. A sensitive circuit implies that a special clearance is required from the customer before the circuit can be put out of service. The default value FALSE, meaning the circuit is not sensitive to those sources.";;

**REGISTERED AS** {cACommonAttribute 44};

## 7.45 Service Manager Id

**serviceManagerId** ATTRIBUTE

**WITH ATTRIBUTE SYNTAX**

CACommonModule.NameType;

**MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;**

**BEHAVIOUR**

servicePackageIdBhv BEHAVIOUR

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

**REGISTERED AS** {cACommonAttribute 45};

## 7.46 Service Package Id

**servicePackageId** ATTRIBUTE

**WITH ATTRIBUTE SYNTAX**

CACommonModule.NameType;

**MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;**

**BEHAVIOUR**

serviceManagerIdBhv BEHAVIOUR

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

REGISTERED AS {cACommonAttribute 46};

#### 7.47 Service Pointer List

servicePtrList ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.SetOfInstances;

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

BEHAVIOUR

servicePtrListBhv BEHAVIOUR

DEFINED AS "This attribute points to instances of the Bearer Service class and its subclasses, or to the Teleservice class and its subclasses, or to instances of Service Restriction class (defined in Q.824.2) or its subclasses or to other service classes such as those characterizing hunt group algorithms.";;

REGISTERED AS {cACommonAttribute 47};

#### 7.48 Supplementary Service Id

supplementaryServiceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

supplementaryServiceIdBhv BEHAVIOUR

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

REGISTERED AS {cACommonAttribute 48};

#### 7.49 Supported By Access Port Pointer List

supportedByAccessPortPtrList ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.SupportedByAccessPortPtrList;

MATCHES FOR EQUALITY;

BEHAVIOUR

supportedByAccessPortPtrListBhv BEHAVIOUR

DEFINED AS "This attribute is a complex attribute that points the managed object instance of accessPort class and includes a second parameter AccessPortInterfaceIdPtr which is applicable only if the accessPortProfile instance points to non-associated signalling controlling interfaces. The AccessPortInterfaceIdPtr presents an interface identifier to the channel identification information element contained in some appropriate messages such as SETUP message which is defined in Q.931. The accessPortInterfaceIdPtr is only used with non-associated signalling.";;

REGISTERED AS {cACommonAttribute 49};

#### 7.50 Teleservice Id

teleserviceId ATTRIBUTE

WITH ATTRIBUTE SYNTAX

CACommonModule.NameType;

MATCHES FOR EQUALITY, ORDERING, SUBSTRINGS;

BEHAVIOUR

teleserviceIdBhv BEHAVIOUR

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

REGISTERED AS {cACommonAttribute 50};

## **7.51      Teleservice Pointer List**

**teleServicePtrList    ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

**CACommonModule.SetOfInstances;**

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

**BEHAVIOUR**

**teleServicePtrListBhv BEHAVIOUR**

**DEFINED AS "This is a set-valued attribute whose value(s) points to instances of the Access Port Profile object class or its subclasses.";;**

**REGISTERED AS {cACommonAttribute 51};**

## **7.52      X.121 Directory Number**

**x121DirectoryNumber    ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

**CACommonModule.X121DN;**

**MATCHES FOR EQUALITY;**

**BEHAVIOUR**

**x121DirectoryNumberBhv BEHAVIOUR**

**DEFINED AS "This attribute represents directory numbers belonging to the Numbering Plan for Packet Data Networks defined in X.121.";;**

**REGISTERED AS {cACommonAttribute 52};**

# **8          Name Bindings**

## **8.1          accessChannel-accessPort Name Binding**

**accessChannel-accessPort    NAME BINDING**

**SUBORDINATE OBJECT CLASS accessChannel AND SUBCLASSES;**

**NAMED BY**

**SUPERIOR OBJECT CLASS accessPort AND SUBCLASSES;**

**WITH ATTRIBUTE "CCITT Rec. M.3100(1992)":cTPIId;**

**CREATE;**

**DELETE;**

**REGISTERED AS {cACommonNameBinding 1};**

## **8.2          accessPortProfile-managedElement Name Binding**

**accessPortProfile-managedElement    NAME BINDING**

**SUBORDINATE OBJECT CLASS accessPortProfile AND SUBCLASSES;**

**NAMED BY**

**SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;**

**WITH ATTRIBUTE accessPortProfileId;**

**CREATE;**

**DELETE;**

**REGISTERED AS {cACommonNameBinding 2};**

## **8.3          administeredCircuitEndPointSubgroup-customerProfile Name Binding**

**administeredCircuitEndPointSubgroup-customerProfile    NAME BINDING**

**SUBORDINATE OBJECT CLASS administeredCircuitEndPointSubgroup AND SUBCLASSES;**

**NAMED BY**

**SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;**

**WITH ATTRIBUTE "CCITT Rec. M.3100":circuitEndPointSubgroupId;**

**CREATE**

**WITH-AUTOMATIC-INSTANCE-NAMING,**

**WITH-REFERENCE-OBJECT;**

**DELETE**

**DELETES-CONTAINED-OBJECTS;**

**REGISTERED AS {cACommonNameBinding 3};**

## **8.4 bearerService-customerProfile Name Binding**

**bearerService-customerProfile NAME BINDING**  
SUBORDINATE OBJECT CLASS bearerService AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;  
WITH ATTRIBUTE bearerServiceId;  
BEHAVIOUR  
bearerService-customerProfileBhv BEHAVIOUR  
DEFINED AS  
"This name binding is used to bind service independent supplementary services to the containing customer profile.  
This name binding is applicable only to service independent supplementary services.";;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 4};

## **8.5 cataloguedOptionalUserFacilities-managedElement Name Binding**

**cataloguedOptionalUserFacilities-managedElement NAME BINDING**  
SUBORDINATE OBJECT CLASS cataloguedOptionalUserFacilities AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;  
WITH ATTRIBUTE cataloguedOptionalUserFacilitiesId;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 5};

## **8.6 cataloguedSupplementaryService-managedElement Name Binding**

**cataloguedSupplementaryService-managedElement NAME BINDING**  
SUBORDINATE OBJECT CLASS cataloguedSupplementaryService AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;  
WITH ATTRIBUTE cataloguedSupplementaryServiceId;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 6};

## **8.7 cataloguedTeleservice-managedElement Name Binding**

**cataloguedTeleservice-managedElement NAME BINDING**  
SUBORDINATE OBJECT CLASS cataloguedTeleservice AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;  
WITH ATTRIBUTE cataloguedTeleserviceId;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 7};

## **8.8 customerProfile-managedElement Name Binding**

**customerProfile-managedElement NAME BINDING**  
SUBORDINATE OBJECT CLASS customerProfile AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;  
WITH ATTRIBUTE customerProfileId;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 8};



## **8.9 customizedResource-customerProfile Name Binding**

```
customizedResource-customerProfile    NAME BINDING
    SUBORDINATE OBJECT CLASS customizedResource AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;
    WITH ATTRIBUTE customizedResourceId;
    CREATE;
    DELETE;
REGISTERED AS {cACommonNameBinding 10};
```

## **8.10 directoryNumber-managedElement Name Binding**

```
directoryNumber-managedElement  NAME BINDING
    SUBORDINATE OBJECT CLASS directoryNumber AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;
    WITH ATTRIBUTE directoryNumberId;
    CREATE;
    DELETE;
REGISTERED AS {cACommonNameBinding 11};
```

## **8.11 layerEntity-customerProfile Name Binding**

```
layerEntity-customerProfile    NAME BINDING
    SUBORDINATE OBJECT CLASS layerEntity AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;
    WITH ATTRIBUTE layerEntityId;
    CREATE;
    DELETE;
REGISTERED AS {cACommonNameBinding 12};
```

## **8.12 optionalUserFacilities-bearerService Name Binding**

```
optionalUserFacilities-bearerService  NAME BINDING
    SUBORDINATE OBJECT CLASS optionalUserFacilities AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS bearerService AND SUBCLASSES;
    WITH ATTRIBUTE optionalUserFacilitiesId;
    CREATE;
    DELETE;
REGISTERED AS {cACommonNameBinding 13};
```

## **8.13 routingBlock-customerProfile Name Binding**

```
routingBlock-customerProfile  NAME BINDING
    SUBORDINATE OBJECT CLASS routingBlock AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;
    WITH ATTRIBUTE routingBlockId;
    CREATE
    WITH-AUTOMATIC-INSTANCE-NAMING,
    WITH-REFERENCE-OBJECT;
    DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {cACommonNameBinding 14};
```

## 8.14 serviceManager-managedElement Name Binding

```
serviceManager-managedElement  NAME BINDING
    SUBORDINATE OBJECT CLASS serviceManager AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;
    WITH ATTRIBUTE serviceManagerId;
    CREATE
    WITH-AUTOMATIC-INSTANCE-NAMING,
    WITH-REFERENCE-OBJECT;
    DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {cACommonNameBinding 15};
```

## 8.15 servicePackage-managedElement Name Binding

```
servicePackage-managedElement  NAME BINDING
    SUBORDINATE OBJECT CLASS servicePackage AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS "CCITT Rec. M.3100(1992)":managedElement AND SUBCLASSES;
    WITH ATTRIBUTE servicePackageId;
    CREATE
    WITH-AUTOMATIC-INSTANCE-NAMING,
    WITH-REFERENCE-OBJECT;
    DELETE
    DELETES-CONTAINED-OBJECTS;
REGISTERED AS {cACommonNameBinding 16};
```

## 8.16 supplementaryServiceServiceDependent-bearerService Name Binding

```
supplementaryServiceServiceDependent-bearerService  NAME BINDING
    SUBORDINATE OBJECT CLASS supplementaryServiceServiceDependent AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS bearerService AND SUBCLASSES;
    WITH ATTRIBUTE supplementaryServiceId;
    BEHAVIOUR
    sSSD-BS-NBBhv BEHAVIOUR
    DEFINED AS
    "This name binding is used to bind service dependent supplementary services to the containing bearer service and
    establishes an association between the bearer service and the supplementary service.";;
    CREATE;
    DELETE;
REGISTERED AS {cACommonNameBinding 17};
```

## 8.17 supplementaryServiceServiceDependent-teleservice Name Binding

```
supplementaryServiceServiceDependent-teleservice  NAME BINDING
    SUBORDINATE OBJECT CLASS supplementaryServiceServiceDependent AND SUBCLASSES;
    NAMED BY
    SUPERIOR OBJECT CLASS teleservice AND SUBCLASSES;
    WITH ATTRIBUTE supplementaryServiceId;
    BEHAVIOUR
    sSSD-TS-NBBhv BEHAVIOUR
    DEFINED AS
    "This name binding is used to bind service dependent supplementary services to the containing teleservice and
    establishes an association between the teleservice and the supplementary service.";;
    CREATE;
    DELETE;
REGISTERED AS {cACommonNameBinding 18};
```

## 8.18 supplementaryServiceServiceIndependent-customerProfile Name Binding

**supplementaryServiceServiceIndependent-customerProfile NAME BINDING**  
SUBORDINATE OBJECT CLASS supplementaryServiceServiceIndependent AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;  
WITH ATTRIBUTE supplementaryServiceId;  
BEHAVIOUR  
sSSID-CP-NBBhv BEHAVIOUR  
DEFINED AS  
"This name binding is used to bind service independent supplementary services to the containing customer profile.  
This name binding is applicable only to service independent supplementary services.";;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 19};

## 8.19 teleservice-customerProfile Name Binding

**teleservice-customerProfile NAME BINDING**  
SUBORDINATE OBJECT CLASS teleservice AND SUBCLASSES;  
NAMED BY  
SUPERIOR OBJECT CLASS customerProfile AND SUBCLASSES;  
WITH ATTRIBUTE teleserviceId;  
CREATE;  
DELETE;  
REGISTERED AS {cACommonNameBinding 20};

# 9 Actions

## 9.1 Insert Circuit Subgroups Action

**insertCircuitSubgroups ACTION**  
BEHAVIOUR  
insertCircuitSubgroupsBhv BEHAVIOUR  
  
DEFINED AS "The action request contains the circuit subgroup to insert new data. The new data is a set of elements, each member consisting of three elements in a sequence; first, the name of the administeredCircuitEndPointSubgroup; second, delete element and the third the prefix element (see circuitEndPointSubgroupPtrList Bhv). The new members are inserted after the member whose administeredCircuitEndPointSubgroup name component matches the name of the object in the insert after field. The action specifies the name of an instance of CTP managed object class or its subclasses after which the new member must be inserted. The successful insertion is returned as a response to the action which contains only the invoke identifier. If the insertAfterCircuitSubgroup object instance is NULL the new members are inserted at the beginning of the sequence.";;  
  
MODE CONFIRMED;  
WITH INFORMATION SYNTAX CACommonModule.InsertCircuitSubgroups;  
REGISTERED AS {cACommonAction 1};

## 9.2 Insert CSG Channels Action

**insertCSGChannels ACTION**  
BEHAVIOUR  
insertCSGChannelsBhv BEHAVIOUR  
  
DEFINED AS "The action is used to insert new members after a specific element in the sequence of the administeredCircuitEndPointSubgroupOrderedPtrList attribute. The action specifies the name of an instance of CTP managed object class or its subclasses after which the new members must be inserted. The successful insertion is returned as a response to the action which contains only the invoke identifier. If the insertAfter object instance is NULL the CSGs are inserted at the beginning of the sequence.";;  
  
MODE CONFIRMED;  
WITH INFORMATION SYNTAX CACommonModule.InsertCSGChannels;  
REGISTERED AS {cACommonAction 2};

### 9.3 Modify Circuit Subgroup Action

**modifyCircuitSubgroup ACTION**  
**BEHAVIOUR**  
**modifyCircuitSubgroupBhv BEHAVIOUR**

**DEFINED AS** "The action is used to modify the delete and prefix elements of an existing member of the **circuitEndPointSubgroupPtrList** attribute. The action specifies the name of **administeredCircuitEndPointSubgroup** and the new values for the delete and/or prefix elements. The successful modification is returned as a response to the action which contains only the invoke identifier.";;

**MODE CONFIRMED;**  
**WITH INFORMATION SYNTAX CACCommonModule.ModifyCircuitSubgroup;**  
**REGISTERED AS {cACCommonAction 3};**

### 9.4 Remove Circuit Subgroups Action

**removeCircuitSubgroups ACTION**  
**BEHAVIOUR**  
**removeCircuitSubgroupsBhv BEHAVIOUR**

**DEFINED AS** "The action is used to remove existing members in the sequence of the **circuitEndPointSubgroupPtrList** attribute. The action specifies the name of **administeredCircuitEndPointSubgroup** that must be removed. The successful removal is returned as a response to the action which contains only the invoke identifier";;

**MODE CONFIRMED;**  
**WITH INFORMATION SYNTAX CACCommonModule.RemoveCircuitSubgroups;**  
**REGISTERED AS {cACCommonAction 4};**

### 9.5 Remove CSG Channels Action

**removeCSGChannels ACTION**  
**BEHAVIOUR**  
**removeCSGChannelsBhv BEHAVIOUR**

**DEFINED AS** "The action is used to remove existing members in the sequence of the CTP managed object class or its subclasses that must be removed. The successful removal is returned as a response to the action which contains only the invoke identifier.";;

**MODE CONFIRMED;**  
**WITH INFORMATION SYNTAX CACCommonModule.RemoveCSGChannels;**  
**REGISTERED AS {cACCommonAction 5};**

## 10 Type definitions

**CACCommonModule** {itu-t(0) recommendation(0) q(17) ca(824) dot(127) common(0) informationModel(0) asn1Modules(2) cACCommonModule(0)}

**DEFINITIONS IMPLICIT TAGS ::=**  
**BEGIN**

-- *EXPORTS Everything;*

**IMPORTS**

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

**ObjectInstance,**

**ObjectClass**

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

**AlarmStatus,**

**Boolean,**

**NameType,**

**ObjectList,**

**Pointer,**

**PointerOrNull**

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

```

q824-0InformationModel OBJECT IDENTIFIER ::= {itu-t(0) recommendation(0) q(17) ca(824) dot(127) common(0)
informationModel(0)}
cACommonObjectClass OBJECT IDENTIFIER ::= {q824-0InformationModel managedObjectClass(3)}
cACommonPackage OBJECT IDENTIFIER ::= {q824-0InformationModel package(4)}
cACommonAttribute OBJECT IDENTIFIER ::= {q824-0InformationModel attribute(7)}
cACommonNameBinding OBJECT IDENTIFIER ::= {q824-0InformationModel nameBinding(6)}
cACommonAction OBJECT IDENTIFIER ::= {q824-0InformationModel action(9)}

-- default value definitions --
false Boolean ::= FALSE
emptySet SetOfInstances ::= { }
interceptTreatmentOrigin InterceptTreatmentOrigin ::= generic:siteTranslations
interceptTreatmentTerm InterceptTreatmentTerm ::= generic:siteTranslations

-- supporting productions --

AccessChannelPtrList ::= SET OF NameType
AccessPortPtr ::= ObjectInstance
AccessPortInterfaceIdPtr ::= SEQUENCE {
    accessPortPtr AccessPortPtr,
    interfaceIdentifier INTEGER(1..MAX)}

CircuitSubgroupChannelPtrList ::= SEQUENCE OF ObjectInstance

DirectoryNumber ::= CHOICE {
    e164DN [0] E164DN,
    x121DN [1] X121DN}

DirectoryNumberList ::= SET OF DirectoryNumber

E164DN ::= SEQUENCE {
    countryCode [0] NumericString(SIZE(1..4)) OPTIONAL,
    nationalSignificantNumber [1] SEQUENCE {
    nationalDestinationNumber [0] NumericString(SIZE(1..6)) OPTIONAL,
    subscriberNumber [1] NumericString(SIZE(1..8))}

InterceptTreatmentOrigin ::= CHOICE {
    customized NumericString(SIZE(1..5)),
    generic InterceptTreatmentOriginTypes}

InterceptTreatmentOriginTypes ::= ENUMERATED {
    siteTranslations (0), -- default value
    noDialTone (1),
    localAnnouncement (2),
    businessGroupSpecialAnnouncement (3),
    softDTEmergencyService/BusinessOffice (4)}

InterceptTreatmentTerm ::= CHOICE {
    customized NumericString(SIZE(1..5)),
    generic InterceptTreatmentTermTypes}

InterceptTreatmentTermTypes ::= ENUMERATED {
    siteTranslations (0),
    troubleOrSuspendServiceAnnouncement (1),
    operatorIntercept (2),
    dNChangeOrDisconnectAnnouncement (3),
    announceAndOperator (4),
    externalAutomaticInterceptSystem (5),
    businessGroupAnnouncementForDisconnectedOrTermRestrictedLines (6)}

Insert ::= CHOICE {
    firstElement NULL,
    after ObjectInstance}

InsertCSGChannels ::= SEQUENCE {
    insertAfter Insert,
    newMembers SET OF ObjectInstance}

InsertCircuitSubgroups ::= SEQUENCE {
    insertAfterCircuitSubgroup Insert,
    newCircuitSubgroups SET OF CircuitSubgroup}

```

```

Layer4InfoEntityType ::= INTEGER
Layer5InfoEntityType ::= INTEGER
Layer6InfoEntityType ::= INTEGER
Layer7InfoEntityType ::= INTEGER
ModifyCircuitSubgroup ::= SEQUENCE {

    circuitEndPointSubgroupName  ObjectInstance,
    newDelete                     INTEGER OPTIONAL,
    newPrefix                     IA5String OPTIONAL}

NumberOfBChannels ::= INTEGER
RemoveCSGChannels ::= SET OF ObjectInstance
RemoveCircuitSubgroups ::= SET OF ObjectInstance
CircuitSubgroup ::= SEQUENCE {
    circuitEndPointSubgroupName  ObjectInstance,
    delete                      INTEGER,
    prefix                       IA5String}

CircuitSubgroupPtrList ::= SEQUENCE OF CircuitSubgroup
SetOfInstances ::= SET OF ObjectInstance
StringName ::= GraphicString
SetOfStringNames ::= SET OF StringName
SupportedByAccessPortPtr ::= CHOICE {AccessPortPtr, AccessPortInterfaceIdPtr}
SupportedByAccessPortPtrList ::= SET OF SupportedByAccessPortPtr

X121DN ::= CHOICE {
    internationalDataNumber [0] SEQUENCE {
        dNIC [0] NumericString(SIZE(4)) OPTIONAL,
        networkTerminalNumber [1] NumericString(SIZE(1..10))},

    internationalDataNumberIntegrated [1] SEQUENCE {
        dCC [0] NumericString(SIZE(3)) OPTIONAL,
        nationalNumber [1] NumericString(SIZE(1..11))},

    internationalTelexNumber [2] SEQUENCE {
        tDC [0] NumericString(SIZE(3)) OPTIONAL,
        nationalTelexNumber [1] NumericString(SIZE(1..11))}
}

```

END -- Type definitions --

## 11 Service definitions

This clause contains the parameter templates for the services defined in the previous clauses.

### 11.1 Conventions

The definition of each service in this Recommendation includes a table that lists the parameters of its primitives. For a given primitive, the presence of each parameter is described by one of the following values:

- M The parameter is mandatory.
- (=) The value of the parameter is equal to the body of the parameter in the column to the left.
- U Use of the parameter is a service-user option – the parameter is not present in the interaction.
- C The parameter is conditionally present – the conditions are defined by the text that describes the parameter.

### 11.2 Insert CSG Channels

The Insert CSG Channels service is used to allow a managing system (OS) to add channels in the Circuit Endpoint Subgroup Channel Ordered Pointer list after a specific channel in the list. A channel may also be added to the beginning of the list. The action changes the Circuit Endpoint Subgroup Channel Ordered Pointer List in the Administered Circuit Endpoint Subgroup object. This action uses the CMIS M-ACTION service. Table 1 gives the parameters for this action.

TABLE 1/Q.824.0

**Insert CSG channels parameters**

Parameter name	Req./Ind.	Rsp./Cnf.
Invoke Identifier	M	M=
Linked Identifier	–	C
Mode	M	–
Base Object Class	M	–
Base Object Instance	M	–
Scope	U	–
Filter	U	–
Managed Object Class	–	C
Managed Object Instance	–	C
Access Control	U	–
Synchronization	U	–
Action Type	M	C(=)
Action Information	M	–
Insert After	M	–
New Members	M	–
Current Time	–	U
Errors	–	C

### 11.3 Remove CSG Channels

The Remove CSG Channels service is used to allow a managing system (OS) to remove channels in the Circuit Endpoint Subgroup Channel Ordered Pointer List. The action changes the Circuit Endpoint Subgroup Ordered Pointer List in the Administered Circuit Endpoint Subgroup object. This action uses the CMIS M-ACTION service. Table 2 gives the parameters for this action.

TABLE 2/Q.824.0

**Remove CSG channels parameters**

Parameter name	Req./Ind.	Rsp./Cnf.
Invoke Identifier	M	M=
Linked Identifier	–	C
Mode	M	–
Base Object Class	M	–
Base Object Instance	M	–
Scope	U	–
Filter	U	–
Managed Object Class	–	C
Managed Object Instance	–	C
Access Control	U	–
Synchronization	U	–
Action Type	M	C(=)
Action Information	M	–
Remove Circuit Subgroup Channels	M	–
Errors	–	C



## 11.4 Insert Circuit Subgroups

The Insert Circuit Subgroups service is used to allow a managing system (OS) to add CSGs in the Circuit Endpoint Subgroup Pointer List in the Routing Block object. CSGs may also be added to the beginning of the list. The action changes the Circuit Endpoint Subgroup Pointer List in the Routing Group object. This action uses the CMIS M-ACTION service. Table 3 gives the parameters for this action.

TABLE 3/Q.824.0

**Insert circuit subgroups parameters**

Parameter name	Req./Ind.	Rsp./Cnf.
Invoke Identifier	M	M=
Linked Identifier	–	C
Mode	M	–
Base Object Class	M	–
Base Object Instance	M	–
Scope	U	–
Filter	U	–
Managed Object Class	–	C
Managed Object Instance	–	C
Access Control	U	–
Synchronization	U	–
Action Type	M	C(=)
Action Information	M	–
Insert After Circuit Subgroup	M	–
New Circuit Subgroups	M	–
Current Time	–	U
Errors	–	C

## 11.5 Remove Circuit Subgroups

The remove Circuit Subgroups service is used to allow a managing system (OS) to remove CSGs in the Circuit Endpoint Subgroup Pointer List. The action changes the Circuit Endpoint Subgroup Pointer List in the Routing Group object. This action uses the CMIS M-ACTION service. Table 4 gives the parameters for this action.

TABLE 4/Q.824.0

**Remove circuit subgroups parameters**

Parameter name	Req./Ind.	Rsp./Cnf.
Invoke Identifier	M	M=
Linked Identifier	–	C
Mode	M	–
Base Object Class	M	–
Base Object Instance	M	–
Scope	U	–
Filter	U	–
Managed Object Class	–	C
Managed Object Instance	–	C
Access Control	U	–
Synchronization	U	–
Action Type	M	C(=)
Action Information	M	–
Remove Circuit Subgroups	M	–
Errors	–	C

## 11.6 Modify Circuit Subgroup

The Modify Circuit Subgroup service is used to allow a managing system (OS) to modify the delete and/or prefix data in the Circuit Endpoint Subgroup Pointer List in the Routing Block object. At least one of the two parameters (new delete, new prefix) must be present. The data for a particular CSG is changed. This action uses the CMIS M-ACTION service. Table 5 gives the parameters for this action.

TABLE 5/Q.824.0

**Modify circuit subgroup parameters**

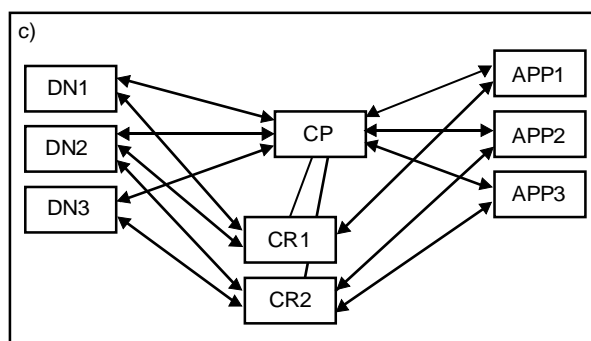
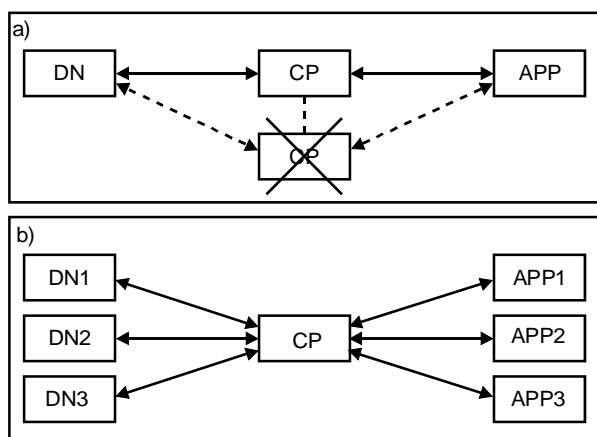
Parameter name	Req./Ind.	Rsp./Cnf.
Invoke Identifier	M	M=
Linked Identifier	–	C
Mode	M	–
Base Object Class	M	–
Base Object Instance	M	–
Scope	U	–
Filter	U	–
Managed Object Class	–	C
Managed Object Instance	–	C
Access Control	U	–
Synchronization	U	–
Action Type	M	C(=)
Action Information	M	–
Circuit Subgroup	M	–
New Delete	C	–
New Prefix	C	–
Current Time	–	U
Errors	–	C

## Appendix I

### Combinations of services with resources

(This appendix is an integral part of this Recommendation)

When no customized resource objects are used, all the services associated with the customer profile are applicable to all the directory numbers and appears on all access port profiles. However, if a service is to be limited to certain DN/APP combination, two customized resources are used: one for the service(s) set that is limited to the DN/APP and the second customized resource object is required to bind the rest of the service(s) set to the rest of the DN/APP combinations.



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