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SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

STAGES 2 AND 3 DESCRIPTION FOR THE Q3 INTERFACE – CUSTOMER ADMINISTRATION – INTEGRATED SERVICES DIGITAL NETWORK (ISDN) SUPPLEMENTARY SERVICES

ITU-T Recommendation Q.824.2

(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.824.2 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.

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 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 of ISDN supplementary services. 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 ISDN supplementary service specific managed objects are defined.

Recommendation Q.824.2

STAGES 2 AND 3 DESCRIPTION FOR THE Q3 INTERFACE – CUSTOMER ADMINISTRATION – INTEGRATED SERVICES DIGITAL NETWORK (ISDN) SUPPLEMENTARY SERVICES

(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 ISDN supplementary service Stage 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 also provides the Stage 2 and 3 descriptions for handling the Customer Administration for the ISDN supplementary service based on the service description provided in the I.250-Series Recommendations and based on the common Stage 2 and 3 descriptions given in Recommendation Q.824.0. The information model provided by this Recommendation may be used for the Customer Administration purposes 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 Model showing the relationship of the different 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.
- 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).



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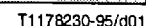


FIGURE 1/Q.824.2

Entity-relationship diagram

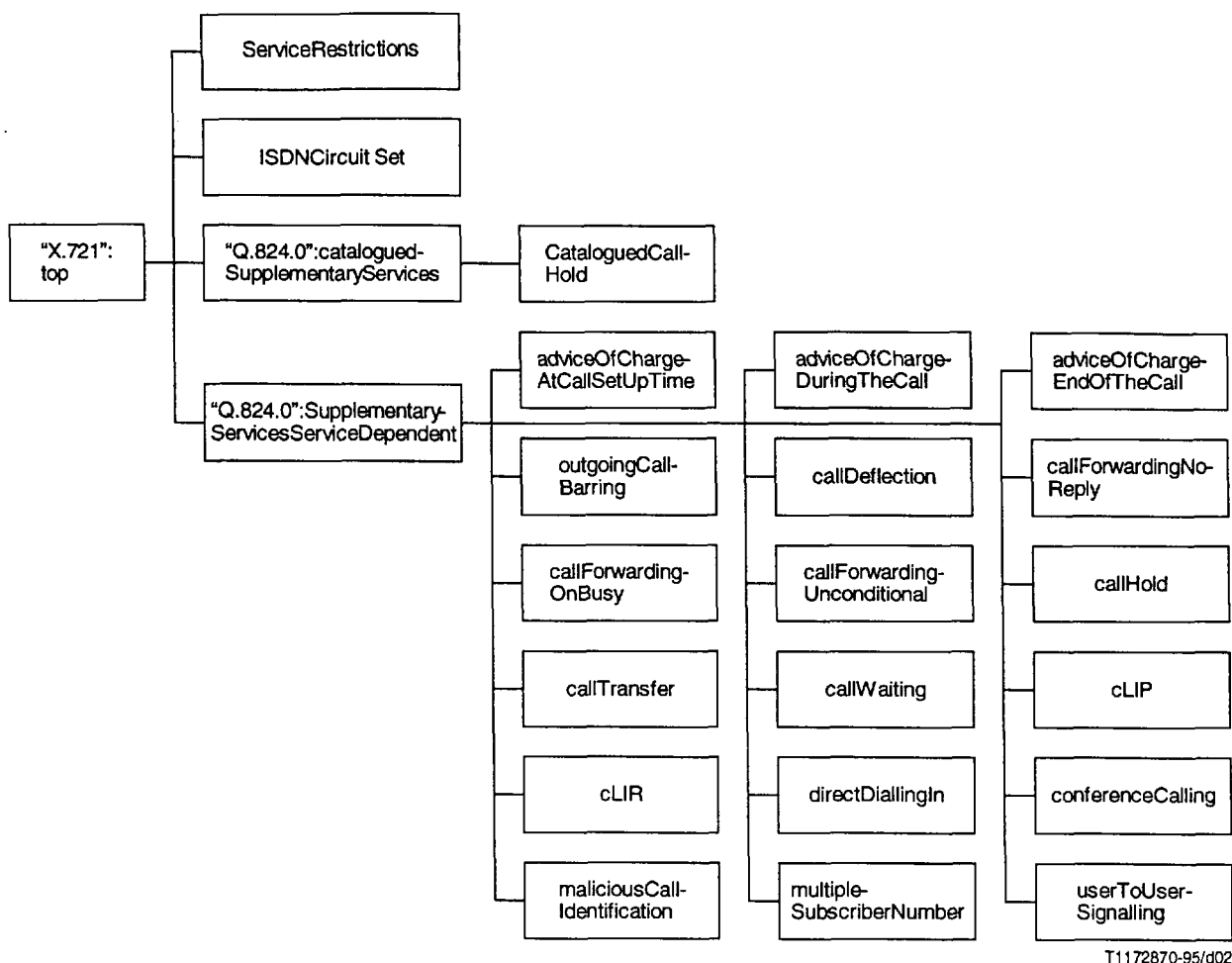
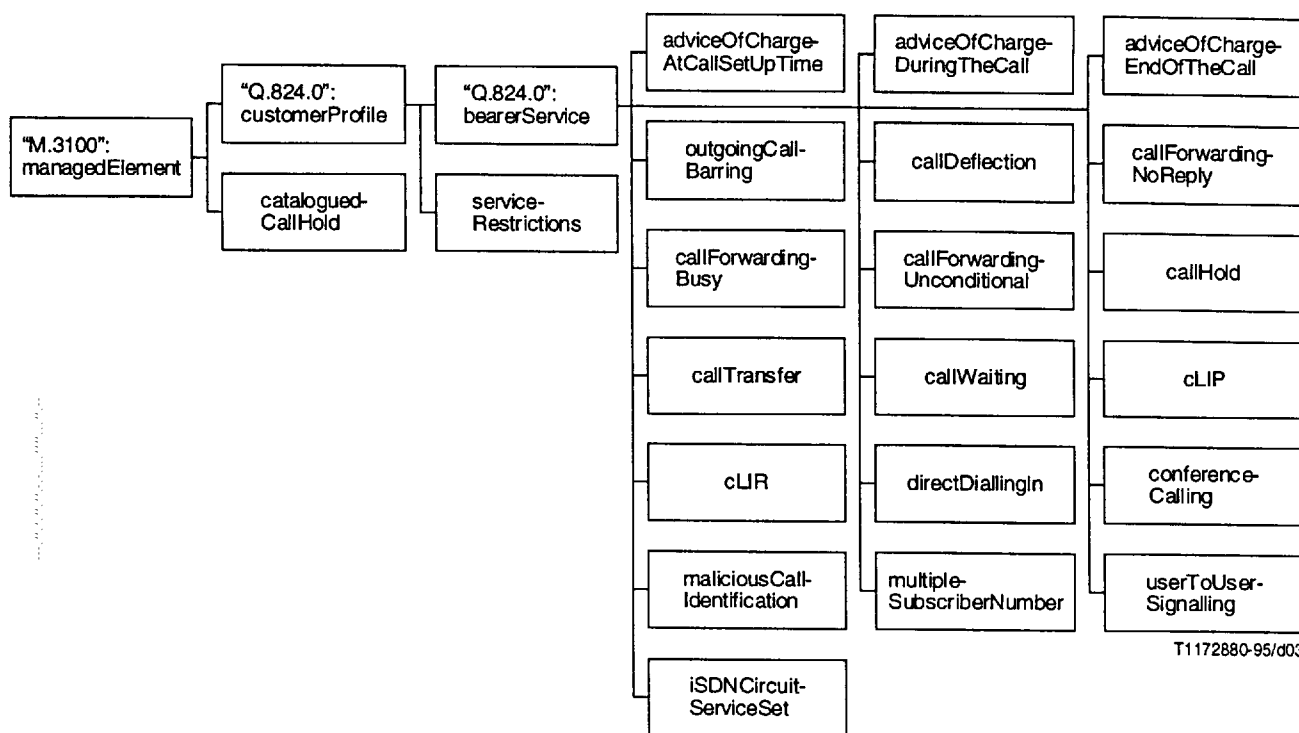


FIGURE 2/Q.824.2
Inheritance hierarchy

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.



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

FIGURE 3/Q.824.2
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*.
- CCITT Recommendation I.250 (1988), *Definition of supplementary services*.
- CCITT Recommendation I.251.1 (1992), *Direct-Dialling-In*.
- CCITT Recommendation I.251.2 (1992), *Multiple Subscriber Number*.
- CCITT Recommendation I.251.3 (1992), *Calling Line Identification Presentation*.
- CCITT Recommendation I.251.4 (1992), *Calling Line Identification Restriction*.
- CCITT Recommendation I.251.7 (1992), *Malicious Call Identification*.
- CCITT Recommendation I.252.1 (1988), *Call Transfer (CT)*.
- CCITT Recommendation I.252.2 (1992), *Call Forwarding Busy*.
- CCITT Recommendation I.252.3 (1992), *Call Forwarding No Reply*.
- CCITT Recommendation I.252.4 (1992), *Call Forwarding Unconditional*.

3 ISDN supplementary service managed object classes

3.1 Generic services

3.1.1 ISDN Circuit Service Set

iSDNCircuitServiceSet MANAGED OBJECT CLASS

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

CHARACTERIZED BY

iSDNCircuitServiceSetPkg PACKAGE

BEHAVIOUR

iSDNCircuitServiceSetBhv BEHAVIOUR

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

ATTRIBUTES

iSDNCircuitSetId

supplementaryServiceThreePartyService

calledPartySubAddressInfoTransfer

GET SET-BY-CREATE

GET-REPLACE,

GET-REPLACE;

NOTIFICATIONS

"CCITT Rec. X.721": attributeValueChange,

"CCITT Rec. X.721": objectCreation,

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

CONDITIONAL PACKAGES

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

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

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

REGISTERED AS {cAISDNSSObjectClass 1};

3.1.2 Service Restrictions

Instances of this object class may be contained in any Bearer Service object, Bearer Services

serviceRestrictions MANAGED OBJECT CLASS

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

CHARACTERIZED BY

serviceRestrictionsPkg PACKAGE

BEHAVIOUR

serviceRestrictionsBhv BEHAVIOUR

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

ATTRIBUTES

serviceRestrictionsId

outgoingCallsBarred

DEFAULT VALUE CAISDNSSModule.false

incomingCallsBarred

DEFAULT VALUE CAISDNSSModule.false

GET SET-BY-CREATE

REPLACE-WITH-DEFAULT

GET-REPLACE

REPLACE-WITH-DEFAULT

GET-REPLACE;

NOTIFICATIONS

"CCITT Rec. X.721": attributeValueChange,

"CCITT Rec. X.721": objectCreation,

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

CONDITIONAL PACKAGES

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

REGISTERED AS {cAISDNSSObjectClass 2};



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