

# ETSI TS 132 624 V5.4.0 (2004-06)

---

*Technical Specification*

**Digital cellular telecommunications system (Phase 2+);  
Universal Mobile Telecommunications System (UMTS);  
Telecommunication management;  
Configuration Management (CM);  
Generic network resources: Integration Reference Point (IRP):  
Common Management Information Protocol (CMIP)  
Solution Set (SS)  
(3GPP TS 32.624 version 5.4.0 Release 5)**

---



---

Reference

RTS/TSGS-0532624v540

---

Keywords

GSM, UMTS

**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Important notice**

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, send your comment to:

[editor@etsi.org](mailto:editor@etsi.org)

---

**Copyright Notification**

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2004.  
All rights reserved.

**DECT™**, **PLUGTESTS™** and **UMTS™** are Trade Marks of ETSI registered for the benefit of its Members.  
**TIPHON™** and the **TIPHON logo** are Trade Marks currently being registered by ETSI for the benefit of its Members.  
**3GPP™** is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

---

## Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: *"Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards"*, which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

---

## Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under <http://webapp.etsi.org/key/queryform.asp>.

# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Foreword.....	5
Introduction .....	5
1 Scope .....	6
2 References .....	6
3 Definitions, symbols and abbreviations .....	7
3.1 Definitions .....	7
3.2 Abbreviations .....	7
4 Basic aspects .....	7
4.1 Explanation.....	7
4.2 Allowed Alarms of MOCs .....	7
4.3 Mapping .....	7
4.3.1 Mapping from IOCs to MOCs .....	7
4.3.2 Mapping of Attributes.....	8
4.3.2.1 Attribute Mapping of the IOC <i>IRPAgent</i> .....	8
4.3.2.2 Attribute Mapping of the IOC <i>ManagedElement</i> .....	8
4.3.2.3 Attribute Mapping of the IOC <i>ManagedFunction</i> .....	8
4.3.2.4 Attribute Mapping of the IOC <i>ManagementNode</i> .....	9
4.3.2.5 Attribute Mapping of the IOC <i>MeContext</i> .....	9
4.3.2.6 Attribute Mapping of the IOC <i>SubNetwork</i> .....	9
5 GDMO Definitions.....	10
5.1 Managed Object Classes .....	10
5.1.1 subNetwork .....	10
5.1.2 managedElement.....	10
5.1.3 managementNode .....	10
5.1.4 vsDataContainer .....	11
5.1.5 bulkCmControl .....	11
5.1.6 irpAgent .....	11
5.1.7 managedFunction.....	11
5.1.8 meContext.....	11
5.1.9 bcmControl .....	11
5.2 Packages .....	12
5.2.1 subNetworkBasicPackage.....	12
5.2.2 managedElementBasicPackage.....	12
5.2.3 managedElementAssociationPackage.....	12
5.2.4 vsDataContainerBasicPackage .....	12
5.2.5 bulkCmControlBasicPackage .....	12
5.2.6 bulkCmControlActionPackage .....	13
5.2.7 bulkCmControlNotificationPackage.....	13
5.2.8 managementNodeBasicPackage .....	13
5.2.9 managementNodeAssociationPackage .....	13
5.2.10 irpAgentBasicPackage .....	13
5.2.11 managedFunctionBasicPackage.....	13
5.2.12 meContextBasicPackage.....	14
5.2.13 bcmControlBasicPackage .....	14
5.2.14 bcmIRPVersionPackage .....	14
5.2.15 communicationsAlarmPackage.....	14
5.2.16 equipmentAlarmPackage .....	14
5.2.17 qualityOfServiceAlarmPackage.....	14
5.2.18 rootOptionalPackage.....	14
5.3 Attributes.....	15

5.3.1	managedElementType .....	15
5.3.2	subNetworkId .....	15
5.3.3	VsDataContainerId .....	15
5.3.4	vsDataType .....	15
5.3.5	vsData .....	15
5.3.6	vsDataFormatVersion .....	15
5.3.7	bulkCmControlId .....	15
5.3.8	irpVersion .....	15
5.3.9	userDefinedNetworkType .....	15
5.3.10	swVersion .....	16
5.3.11	managedElementId .....	16
5.3.12	userDefinedState .....	16
5.3.13	meManagedBy .....	16
5.3.14	managementNodeId .....	17
5.3.15	mnManagesList .....	17
5.3.16	irpAgentId .....	17
5.3.17	supportedIRPs .....	17
5.2.18	rootOptionalPackage .....	17
5.3.19	bcmControlId .....	17
5.4	Name Binding .....	18
5.4.1	managedElement - meContext .....	18
5.4.2	managedElement - subNetwork .....	18
5.4.3	meContext - subNetwork .....	18
5.4.4	bulkCmControl - irpAgent .....	19
5.4.5	irpAgent - subNetwork .....	19
5.4.6	irpAgent - managementNode .....	19
5.4.7	managementNode - subNetwork .....	19
5.4.8	irpAgent - managedElement .....	20
5.4.9	bcmControl - irpAgent .....	20
5.4.10	vsDataContainer - vsDataContainer .....	20
5.4.11	subNetwork - subNetwork .....	20
5.4.12	notificationControl - irpAgent .....	20
5.4.13	alarmControl - irpAgent .....	20
5.4.14	subNetwork - subNetwork - R54 .....	20
6	ASN.1 Definitions .....	22
<b>Annex A (informative): Change history .....</b>		<b>23</b>
History .....		24

---

## Foreword

This Technical Specification has been produced by the 3<sup>rd</sup> Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the document.

---

## Introduction

The present document is part of a TS-family covering the 3<sup>rd</sup> Generation Partnership Project; Technical Specification Group Services and System Aspects; Telecommunication management; Configuration Management (CM), as identified below:

- 32.621: "Generic network resources Integration Reference Point (IRP): Requirements".
- 32.622: "Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
- 32.623: "Generic network resources Integration Reference Point (IRP): Common Object Request Broker Architecture (CORBA) Solution Set (SS)";
- 32.624: "Generic network resources: Integration Reference Point (IRP): Common Management Information Protocol (CMIP) Solution Set (SS)".**
- 32.625: "Generic network resources Integration Reference Point (IRP): Bulk CM eXtensible Markup Language (XML) file format definition".

The interface Itf-N, defined in 3GPP TS 32.102 [2], is built up by a number of Integration Reference Points (IRPs) and a related Name Convention, which realise the functional capabilities over this interface. The basic structure of the IRPs is defined in 3GPP TS 32.101 [1] and 3GPP TS 32.102 [2].

---

# 1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the Generic Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.622 [4].

This Solution Set specification is related to 3GPP TS 32.622 V5.4.X [4].

In detail:

- Clause 4 contains an introduction to some concepts that are the base for some specific aspects of the CMIP interfaces.
- Clause 5 contains the GDMO definitions for the Alarm Management over the CMIP interfaces
- Clause 6 contains the ASN.1 definitions supporting the GDMO definitions provided in clause 5.

---

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 32.101: "Telecommunication management; Principles and high level requirements".
- [2] 3GPP TS 32.102: "Telecommunication management; Architecture".
- [3] Void.
- [4] 3GPP TS 32.622: "Telecommunication management; Configuration Management (CM); Generic network resources Integration Reference Point (IRP): Network Resource Model (NRM)".
- [5] ITU-T Recommendation X.710 (1991): "Common Management Information Service Definition for CCITT Applications".
- [6] ITU-T Recommendation X.721 (02/92): "Information Technology - Open Systems Interconnection – Structure of Management Information: Definition of Management Information".
- [7] ITU-T Recommendation X.730 (01/92): "Information Technology - Open Systems Interconnection – Systems Management: Object Management Function".
- [8] ITU-T Recommendation X.733 (02/92): "Information Technology - Open Systems Interconnection - Alarm Reporting Function".
- [9] ITU-T Recommendation M.3100 (07/95): "Maintenance Telecommunications Management Network – Generic Network Information Model".
- [10] 3GPP TS 32.600: "Telecommunication management; Configuration Management (CM); Concept and high-level requirements".
- [11] Void.

---

## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in 3GPP TS 32.600 [10] and 3GPP TS 32.622 [4] apply.

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CMIP	Common Management Information Protocol
DN	Distinguished Name
GDMO	Guidelines for the Definition of Managed Objects
IDL	Interface Definition Language
IEC	International Electro-technical Commission
ISO	International Standards Organization
ITU-T	International Telecommunication Union, Telecommunication Sector
MIB	Management Information Base
MIM	Management Information Model
MIT	Management Information Tree (or Naming Tree)
MOC	Managed Object Class
MOI	Managed Object Instance
NE	Network Element
NR	Network Resource
NRM	Network Resource Model
TMN	Telecommunications Management Network

---

## 4 Basic aspects

### 4.1 Explanation

A technology independent generic Network Resource Model (NRM) is defined in 3GPP TS 32.622 [4] for 3G networks. The present document provides an implementation of this generic NRM by using CMIP technology.

### 4.2 Allowed Alarms of MOCs

Void.

### 4.3 Mapping

The semantic of the Generic NRM is defined in 3GPP TS 32.622 [4]. The specification of the information object classes defined there is independent of any implementation technology and protocol.

This subclause maps these technology and protocol independent definitions onto the equivalencies of the CMIP Solution Set of the Generic Network Resource IRP.

#### 4.3.1 Mapping from IOCs to MOCs

Table 1 maps the information object classes defined in the Generic NRM onto the equivalent MOCs of the CMIP Solution Set.



**Table 1: Mapping of MOCs**

IS IOC	CMIP SS MOC
ManagedElement	managedElement
SubNetwork	subNetwork
IRPAgent	irpAgent
ManagedFunction	managedFunction
ManagementNode	managementNode
MeContext	meContext
GenericIRP	no equivalence
VsDataContainer	no equivalence
Top	top (ITU-T Rec. X.721 [6])

## 4.3.2 Mapping of Attributes

This clause depicts the mapping of the attributes defined in 3GPP TS 32.622 [4] on the corresponding attributes of the CMIP Solution Set.

### 4.3.2.1 Attribute Mapping of the IOC *IRPAgent*

**Table 2: Attribute mapping of the IOC *IRPAgent***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Read Qualifier
irPAgentId	irpAgentId	M	M	--
systemDN	This IS parameter is not used in the CMIP SS.	--	--	--

### 4.3.2.2 Attribute Mapping of the IOC *ManagedElement*

**Table 3: Attribute mapping of the IOC *ManagedElement***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
managedElementId	managedElementId	M	M	--
dnPrefix	systemTitle (ITU-T Rec. X.721 [6])	M	M	--
managedElementType	managedElementType	M	M	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	M	M
vendorName	vendorName (ITU-T Rec. M.3100 [9])	M	M	--
userDefinedState	userDefinedState	M	M	M
locationName	locationName (ITU-T Rec. M.3100 [9])	M	M	--
swVersion	swVersion	M	M	--
managedBy	meManagedBy	M	M	--

### 4.3.2.3 Attribute Mapping of the IOC *ManagedFunction*

**Table 4: Attribute mapping of the IOC *ManagedFunction***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	M	M

4.3.2.4 Attribute Mapping of the IOC *ManagementNode***Table 5: Attribute mapping of the IOC *ManagementNode***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
managementNodeId	managementNodeId	M	M	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	M	M
vendorName	vendorName (ITU-T Rec. M.3100 [9])	M	M	--
userDefinedState	userDefinedState	M	M	M
locationName	locationName (ITU-T Rec. M.3100 [9])	M	M	--
swVersion	swVersion	M	M	--
managedElements	mnManagesList	M	M	--

4.3.2.5 Attribute Mapping of the IOC *MeContext***Table 6: Attribute mapping of the IOC *MeContext***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
meContextId	meContextId	M	M	--
dnPrefix	systemTitle (ITU-T Rec. X.721 [6])	M	M	--

4.3.2.6 Attribute Mapping of the IOC *SubNetwork***Table 7: Attribute mapping of the IOC *SubNetwork***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
subNetworkId	subNetworkId	M	M	--
dnPrefix	systemTitle (ITU-T Rec. X.721 [6])	M	M	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	M	M
userDefinedNetworkType	userDefinedNetworkType	M	M	--

## 5 GDMO Definitions

### 5.1 Managed Object Classes

#### 5.1.1 subNetwork

```
subNetwork MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  subNetworkBasicPackage,
  "3GPP TS 32.111-4 Release 5": x721AlarmNotificationsPackage;
CONDITIONAL PACKAGES
  rootOptionalPackage
    PRESENT IF
      "An instance of subNetwork is the accessing root of a MIB.",
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion notifications defined in
      ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notification defined in ITU-T Rec. X.721
      is supported by an instance of this class.;"
REGISTERED AS {ts32-624ObjectClass 1};
```

#### 5.1.2 managedElement

```
managedElement MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  managedElementBasicPackage,
  managedElementAssociationPackage,
  "3GPP TS 32.111-4 Release 5": x721AlarmNotificationsPackage;
CONDITIONAL PACKAGES
  rootOptionalPackage
    PRESENT IF
      "An instance of managedElement is the accessing root of a MIB.",
      "Rec. M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion notifications defined in
      ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notification defined in ITU-T Rec. X.721
      is supported by an instance of this class.;"
REGISTERED AS {ts32-624ObjectClass 2};
```

#### 5.1.3 managementNode

```
managementNode MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  managementNodeBasicPackage,
  managementNodeAssociationPackage,
  "3GPP TS 32.111-4 Release 5": x721AlarmNotificationsPackage;
CONDITIONAL PACKAGES
  "Rec. M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion notifications defined in
      ITU-T Rec. X.721 are supported by an instance of this class.",
      "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notification defined in ITU-T Rec. X.721
      is supported by an instance of this class.;"
REGISTERED AS {ts32-624ObjectClass 3};
```

## 5.1.4 vsDataContainer

Void

## 5.1.5 bulkCmControl

Void

## 5.1.6 irpAgent

```
irpAgent MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  irpAgentBasicPackage,
  "3GPP TS 32.111-4 Release 5": x721AlarmNotificationsPackage;
CONDITIONAL PACKAGES
  "Rec. M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion notifications defined in
        ITU-T Rec. X.721 are supported by an instance of this class.",
  "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notification defined in ITU-T Rec. X.721
        is supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 6};
```

## 5.1.7 managedFunction

```
managedFunction MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  managedFunctionBasicPackage;
REGISTERED AS {ts32-624ObjectClass 7};
```

## 5.1.8 meContext

```
meContext MANAGED OBJECT CLASS
DERIVED FROM
  "Recommendation X.721: 1992":top;
CHARACTERIZED BY
  meContextBasicPackage,
  "3GPP TS 32.111-4 Release 5": x721AlarmNotificationsPackage;
CONDITIONAL PACKAGES
  rootOptionalPackage
    PRESENT IF
      "An instance of meContext is the accessing root of a MIB.",
  "Rec. M.3100: 1995":createDeleteNotificationsPackage
    PRESENT IF
      "the objectCreation and the objectDeletion notifications defined in
        ITU-T Rec. X.721 are supported by an instance of this class.",
  "Rec. M.3100: 1995":attributeValueChangeNotificationPackage
    PRESENT IF
      "the attributeValueChange notification defined in ITU-T Rec. X.721
        is supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 8};
```

## 5.1.9 bcmControl

Void.

## 5.2 Packages

### 5.2.1 subNetworkBasicPackage

```
subNetworkBasicPackage PACKAGE
  BEHAVIOUR
    subNetworkBasicPackageBehaviour;
  ATTRIBUTES
    subNetworkId                               GET,
    "Recommendation M.3100: 1995" : userLabel  GET-REPLACE,
    userDefinedNetworkType                    GET;
REGISTERED AS {ts32-624Package 1};

subNetworkBasicPackageBehaviour BEHAVIOUR
DEFINED AS
  "This managed object class represents collections of interconnected
  telecommunications and management objects (logical or physical) capable of
  exchanging information. A network may be nested within another (larger) network,
  thereby forming a containment relationship.";
```

### 5.2.2 managedElementBasicPackage

```
managedElementBasicPackage PACKAGE
  BEHAVIOUR
    managedElementBasicPackageBehaviour;
  ATTRIBUTES
    managedElementId                           GET,
    managedElementType                         GET,
    "Recommendation M.3100: 1995" : userLabel  GET-REPLACE,
    "Recommendation M.3100: 1995" : vendorName GET,
    userDefinedState                           GET-REPLACE,
    "Recommendation M.3100: 1995" : locationName GET,
    swVersion                                  GET;
REGISTERED AS {ts32-624Package 2};

managedElementBasicPackageBehaviour BEHAVIOUR
DEFINED AS
  "This managed object class represents telecommunications equipment within the
  telecommunications network that performs managed element functions, i.e.
  provides support and/or service to the subscriber. A managed element
  communicates with a manager (directly or indirectly) over one or more standard
  interfaces for the purpose of being monitored and/or controlled. A managed
  element contains equipment that may or may not be geographically distributed. A
  Managed Element is often referred to as a 'node' or a 'network element'.";
```

### 5.2.3 managedElementAssociationPackage

```
managedElementAssociationPackage PACKAGE
  BEHAVIOUR
    managedElementAssociationPackageBehaviour;
  ATTRIBUTES
    meManagedBy   GET;
REGISTERED AS {ts32-624Package 3};

managedElementAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
  "The attribute 'meManagedBy' points to the managementNode instance which
  manages this managedElement instance. It implements the attribute managedBy
  of MOC ManagedElement defined in TS32.622.";
```

### 5.2.4 vsDataContainerBasicPackage

Void.

### 5.2.5 bulkCmControlBasicPackage

Void.

## 5.2.6 bulkCmControlActionPackage

Void

## 5.2.7 bulkCmControlNotificationPackage

Void.

## 5.2.8 managementNodeBasicPackage

managementNodeBasicPackage **PACKAGE**

**BEHAVIOUR**

managementNodeBasicPackageBehaviour;

**ATTRIBUTES**

managementNodeId GET,  
 "Recommendation M.3100: 1995" : userLabel GET-REPLACE,  
 "Recommendation M.3100: 1995" : vendorName GET,  
 userDefinedState GET-REPLACE,  
 "Recommendation M.3100: 1995" : locationName GET,  
 swVersion GET;

**REGISTERED AS** {ts32-624Package 8};

managementNodeBasicPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"This managed object class represents a telecommunications management system (EM or NM) within the TMN, that manages a number of Managed Elements. The management system communicates with the MEs directly or indirectly over one or more standard interfaces for the purpose of monitoring and/or controlling these MEs.";

## 5.2.9 managementNodeAssociationPackage

managementNodeAssociationPackage **PACKAGE**

**BEHAVIOUR**

managementNodeAssociationPackageBehaviour;

**ATTRIBUTES**

mnManagesList GET;

**REGISTERED AS** {ts32-624Package 9};

managementNodeAssociationPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"The attribute 'mnManagesList' points to all managedElement instances which this managementNode instance manages. It implements the attribute manages of MOC ManagementNode defined in TS32.622.";

## 5.2.10 irpAgentBasicPackage

irpAgentBasicPackage **PACKAGE**

**BEHAVIOUR**

irpAgentBasicPackageBehaviour;

**ATTRIBUTES**

irpAgentId GET;

**REGISTERED AS** {ts32-624Package 10};

irpAgentBasicPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"The instance of this MOC represents the behavior of an IRP Agent which implements one or more IRPs";

## 5.2.11 managedFunctionBasicPackage

managedFunctionBasicPackage **PACKAGE**

**BEHAVIOUR**

managedFunctionBasicPackageBehaviour;

**ATTRIBUTES**

"Recommendation M.3100: 1995" : userLabel GET-REPLACE;

**REGISTERED AS** {ts32-624Package 11};

managedFunctionBasicPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"This Managed Object class corresponds to the class gsmManagedFunction defined

in GSM 12.20 0 and is provided for sub-classing only. It provides the attributes that are common to functional MO classes. Note that a managed element may contain several managed functions. The ManagedFunction may be extended in the future if more common characteristics to functional objects are identified.";

## 5.2.12 meContextBasicPackage

meContextBasicPackage **PACKAGE**

**BEHAVIOUR**

meContextBasicPackageBehaviour;

**ATTRIBUTES**

meContextId GET;

**REGISTERED AS** {ts32-624Package 12};

meContextBasicPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"This managed object class represents the Managed Element from the network perspective. It can be used to hold surveillance status information, and also planning status information for the case when the managed element is part of a planned configuration in a management system, before it has been taken into service. It can also support unambiguous naming in all cases, also for scenarios when the Managed Elements have been pre-configured where some of them may have equal names (to avoid necessary administration to make all of them globally unique at creation/installation time). Thus, by means of globally unique names for the MEContext instances, and by using these in the DN, the DNs for all MEs (and MOIs contained in them) can be assured to be globally unique, even in such a scenario as described above.";

## 5.2.13 bcmControlBasicPackage

Void.

## 5.2.14 bcmlRPVersionPackage

Void.

## 5.2.15 communicationsAlarmPackage

Void.

## 5.2.16 equipmentAlarmPackage

Void.

## 5.2.17 qualityOfServiceAlarmPackage

Void.

## 5.2.18 rootOptionalPackage

rootOptionalPackage **PACKAGE**

**BEHAVIOUR**

rootOptionalPackageBehaviour;

**ATTRIBUTES**

"Recommendation X.721: 1992" : systemTitle GET;

**REGISTERED AS** {ts32-624Package 18};

rootOptionalPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"This package shall be present in an instance of meContext or managedElement when it is the accessing point (root) of a MIB.";

## 5.3 Attributes

### 5.3.1 managedElementType

```
managedElementType ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.ManagedElementType;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    managedElementTypeBehaviour;
REGISTERED AS {ts32-624Attribute 1};

managedElementTypeBehaviour BEHAVIOUR
DEFINED AS
  "This attribute specifies which managed functions a managed element contains.";
```

### 5.3.2 subNetworkId

```
subNetworkId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    subNetworkIdBehaviour;
REGISTERED AS {ts32-624Attribute 2};

subNetworkIdBehaviour BEHAVIOUR
DEFINED AS
  "This attribute identifies a subNetwork instance.";
```

### 5.3.3 VsDataContainerId

Void.

### 5.3.4 vsDataType

Void.

### 5.3.5 vsData

Void

### 5.3.6 vsDataFormatVersion

Void.

### 5.3.7 bulkCmControlId

Void.

### 5.3.8 irpVersion

Void.

### 5.3.9 userDefinedNetworkType

```
userDefinedNetworkType ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.UserDefinedNetworkType;
  MATCHES FOR
    EQUALITY;
```



**BEHAVIOUR**

```
userDefinedNetworkTypeBehaviour;
REGISTERED AS {ts32-624Attribute 8};
```

```
userDefinedNetworkTypeBehaviour BEHAVIOUR
DEFINED AS
```

```
"Textual information regarding the type of network, e.g. UTRAN.";
```

### 5.3.10 swVersion

```
swVersion ATTRIBUTE
```

```
WITH ATTRIBUTE SYNTAX
```

```
TS32-624TypeModule.SwVersion;
```

```
MATCHES FOR
```

```
EQUALITY;
```

```
BEHAVIOUR
```

```
swVersionBehaviour;
```

```
REGISTERED AS {ts32-624Attribute 9};
```

```
swVersionBehaviour BEHAVIOUR
```

```
DEFINED AS
```

```
"The software version of the managed element (this is used for determin which version of the vendor specific information that is valid for the managed element).";
```

### 5.3.11 managedElementId

```
managedElementId ATTRIBUTE
```

```
WITH ATTRIBUTE SYNTAX
```

```
TS32-624TypeModule.GeneralObjectId;
```

```
MATCHES FOR
```

```
EQUALITY;
```

```
BEHAVIOUR
```

```
managedElementIdBehaviour;
```

```
REGISTERED AS {ts32-624Attribute 10};
```

```
managedElementIdBehaviour BEHAVIOUR
```

```
DEFINED AS
```

```
"This attribute names an instance of the '3gManagedElement' object class.";
```

### 5.3.12 userDefinedState

```
userDefinedState ATTRIBUTE
```

```
WITH ATTRIBUTE SYNTAX
```

```
TS32-624TypeModule.UserDefinedState;
```

```
MATCHES FOR
```

```
EQUALITY;
```

```
BEHAVIOUR
```

```
userDefinedStateBehaviour;
```

```
REGISTERED AS {ts32-624Attribute 11};
```

```
userDefinedStateBehaviour BEHAVIOUR
```

```
DEFINED AS
```

```
"This attribute specifies an operator defined state for operator specific usage.";
```

### 5.3.13 meManagedBy

```
meManagedBy ATTRIBUTE
```

```
WITH ATTRIBUTE SYNTAX
```

```
TS32-624TypeModule.GeneralObjectPointer;
```

```
MATCHES FOR
```

```
EQUALITY;
```

```
BEHAVIOUR
```

```
meManagedByBehaviour;
```

```
REGISTERED AS {ts32-624Attribute 12};
```

```
meManagedByBehaviour BEHAVIOUR
```

```
DEFINED AS
```

```
"This attribute points to the managementNode instance which manages the related 3gManagedElement instance.";
```

### 5.3.14 managementNodeId

```
managementNodeId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    managmentNodeIdBehaviour;
REGISTERED AS {ts32-624Attribute 13};

managmentNodeIdBehaviour BEHAVIOUR
DEFINED AS
  "This attribute names an instance of the 'managmentNode' object class.";
```

### 5.3.15 mnManagesList

```
mnManagesList ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectPointerList;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    mnManagesListBehaviour;
REGISTERED AS {ts32-624Attribute 14};

mnManagesListBehaviour BEHAVIOUR
DEFINED AS
  "This attribute points to all ManagedElement instances which this
  ManagmentNode instance manages.";
```

### 5.3.16 irpAgentId

```
irpAgentId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    irpAgentIdBehaviour;
REGISTERED AS {ts32-624Attribute 15};

irpAgentIdBehaviour BEHAVIOUR
DEFINED AS
  "This attribute identifies an irpAgent instance.";
```

### 5.3.17 supportedIRPs

Void.

### 5.2.18 rootOptionalPackage

```
rootOptionalPackage PACKAGE
  BEHAVIOUR
    rootOptionalPackageBehaviour;
  ATTRIBUTES
    "Recommendation X.721: 1992" : systemTitle GET;
REGISTERED AS {ts32-624Package 18};

rootOptionalPackageBehaviour BEHAVIOUR
DEFINED AS
  "This package shall be present in an instance of subNetwork, meContext or managedElement
  when it is the accessing point (root) of the MIB.";
```

### 5.3.19 bcmControllId

Void.

## 5.4 Name Binding

### 5.4.1 managedElement - meContext

```

managedElement-meContext NAME BINDING
  SUBORDINATE OBJECT CLASS
    managedElement;
  NAMED BY SUPERIOR OBJECT CLASS
    meContext;
  WITH ATTRIBUTE
    managedElementId;
  BEHAVIOUR
    managedElement-meContextBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 1};

```

```

managedElement-meContextBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a meContext contains and
  controls a managedElement. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

### 5.4.2 managedElement - subNetwork

```

managedElement-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    managedElement;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    managedElementId;
  BEHAVIOUR
    managedElement-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 2};

```

```

managedElement-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a managedElement. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

### 5.4.3 meContext - subNetwork

```

meContext-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    meContext;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    meContextId;
  BEHAVIOUR
    meContext-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 3};

```

```

meContext-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a meContext. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";

```

## 5.4.4 bulkCmControl - irpAgent

Void.

## 5.4.5 irpAgent - subNetwork

```
irpAgent-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    irpAgent;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    irpAgentId;
  BEHAVIOUR
    irpAgent-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 5};
```

```
irpAgent-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a irpAgent. When automatic instance naming is used, the choice of name
  bindings left as a local matter.";
```

## 5.4.6 irpAgent - managementNode

```
irpAgent-managementNode NAME BINDING
  SUBORDINATE OBJECT CLASS
    irpAgent;
  NAMED BY SUPERIOR OBJECT CLASS
    managementNode;
  WITH ATTRIBUTE
    irpAgentId;
  BEHAVIOUR
    irpAgent-managementNodeBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 6};
```

```
irpAgent-managementNodeBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a managedNode contains and
  controls a irpAgent. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";
```

## 5.4.7 managementNode - subNetwork

```
managementNode-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    managementNode;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    managementNodeId;
  BEHAVIOUR
    managementNode-subNetworkBehaviour;
  CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 7};
```

```
managementNode-subNetworkBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a subNetwork contains and
  controls a managementNode. When automatic instance naming is used, the choice
  of name bindings left as a local matter.";
```

## 5.4.8 irpAgent - managedElement

```

irpAgent-managedElement NAME BINDING
  SUBORDINATE OBJECT CLASS irpAgent;
  NAMED BY SUPERIOR OBJECT CLASS managedElement;
  WITH ATTRIBUTE irpAgentId;
  BEHAVIOUR
    irpAgent-managedElementBehaviour;
  CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 8};

irpAgent-managedElementBehaviour BEHAVIOUR
  DEFINED AS
    "The name binding represents a relationship in which a managedElement contains and
    controls an irpAgent. When automatic instance naming is used, the choice of name
    bindings left as a local matter.";

```

## 5.4.9 bcmControl - irpAgent

Void.

## 5.4.10 vsDataContainer - vsDataContainer

Void.

## 5.4.11 subNetwork - subNetwork

```

subNetwork-subNetwork NAME BINDING
  SUBORDINATE OBJECT CLASS
    subNetwork;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork;
  WITH ATTRIBUTE
    subNetworkId;
  BEHAVIOUR
    subNetwork-subNetworkBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 11};

subNetwork-subNetworkBehaviour BEHAVIOUR
  DEFINED AS
    "The name binding represents a relationship in which a subNetwork contains and controls another
    subNetwork. When automatic instance naming is used, the choice of name bindings is left as a
    local matter.";

```

## 5.4.12 notificationControl - irpAgent

Void.

## 5.4.13 alarmControl - irpAgent

Void.

## 5.4.14 subNetwork – subNetwork – R54

```

subNetwork-subNetwork-R54 NAME BINDING
  SUBORDINATE OBJECT CLASS
    subNetwork AND SUBCLASSES;
  NAMED BY SUPERIOR OBJECT CLASS
    subNetwork AND SUBCLASSES;
  WITH ATTRIBUTE
    subNetworkId;
  BEHAVIOUR
    subNetwork-subNetwork-R54Behaviour;

```

**CREATE**

WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;

**DELETE**

ONLY-IF-NO-CONTAINED-OBJECTS;

**REGISTERED AS** {ts32-624NameBinding 14};subNetwork-subNetwork-R54Behaviour **BEHAVIOUR****DEFINED AS**

"The name binding represents a relationship in which a subNetwork contains and controls another subNetwork. When automatic instance naming is used, the choice of name bindings is left as a local matter.";

---

## 6 ASN.1 Definitions

```
TS32-624TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-Operation-
Maintenance(3) ts32-624(624) informationModel(0) asn1Module(2) version1(1)}
```

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

```
--EXPORTS everything
```

```
IMPORTS
```

```
ObjectInstance
```

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

```
-- 3GPP TS 32.624 related Object Identifiers
```

```
baseNodeUMTS          OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4)
etsi(0) mobileDomain(0)
umts-Operation-Maintenance(3)}
```

```
ts32-624              OBJECT IDENTIFIER ::= {baseNodeUMTS ts32-624(624)}
ts32-624InfoModel     OBJECT IDENTIFIER ::= {ts32-624 informationModel(0)}
```

```
ts32-624ObjectClass  OBJECT IDENTIFIER ::= {ts32-624InfoModel managedObjectClass(3)}
ts32-624Package       OBJECT IDENTIFIER ::= {ts32-624InfoModel package(4)}
ts32-624Parameter    OBJECT IDENTIFIER ::= {ts32-624InfoModel parameter(5)}
ts32-624NameBinding  OBJECT IDENTIFIER ::= {ts32-624InfoModel nameBinding(6)}
ts32-624Attribute    OBJECT IDENTIFIER ::= {ts32-624InfoModel attribute(7)}
ts32-624Action       OBJECT IDENTIFIER ::= {ts32-624InfoModel action(9)}
ts32-624Notification OBJECT IDENTIFIER ::= {ts32-624InfoModel notification(10)}
```

```
-- Start of 3GPP SA5 own definitions
```

```
ManagedElementType ::= GraphicString
```

```
GeneralObjectId ::= INTEGER
```

```
UserDefinedState ::= GraphicString
```

```
GeneralObjectPointer ::= ObjectInstance
```

```
GeneralObjectPointerList ::= SEQUENCE OF ObjectInstance
```

```
UserDefinedNetworkType ::= GraphicString
```

```
SwVersion ::= GraphicString
```

```
END -- of TS32-624TypeModule
```

## Annex A (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	002	--	Change the attribute "systemTitle" from mandatory to optional	4.0.0	4.1.0
Dec 2001	S_14	SP-010648	003	--	Change to Read/Write the attribute "userDefinedState" in MOC "ManagementNode"	4.1.0	4.2.0
Mar 2002	S_15	SP-020021	004	--	Removal of redundant GDMO/ASN.1 Code	4.2.0	4.3.0
Mar 2002	S_15	SP-020021	005	--	Making 'elementType' consistent	4.2.0	4.3.0
Mar 2002	S_15	SP-020021	006	--	Change the attribute "userLabel" from Read-Only to Read-Write	4.2.0	4.3.0
Jun 2002	S_16	SP-020300	007	--	Making 32.624 (CMIP SS) consistent with 32.622 (IS) and 32.623 (CORBA SS)	4.3.0	4.4.0
Jun 2002	S_16	SP-020300	008	--	Align with 32.622 (IS) by changing "userDefinedState" from read-only to read-write	4.3.0	4.4.0
Sep 2002	S_17	SP-020488	009	--	Upgrade the NRM CMIP Solution Set to Rel-5	4.4.0	5.0.0
Sep 2003	S_21	SP-030417	011	--	Rel-4/5 alignment of OIDs of some attributes and name bindings	5.0.0	5.1.0
Dec 2003	S_22	SP-030642	012	--	Remove notifications from MOC managedFunction - Align with 32.622 (IS)	5.1.0	5.2.0
Mar 2004	S_23	SP-040130	013	--	Correction of OIDs and alignment of notification support with the IS 32.622	5.2.0	5.3.0
Jun 2004	S_24	SP-040252	014	--	Add missing mappings for the attributes of the managementScope association – Align with the IS 32.622	5.3.0	5.4.0
Jun 2004	S_24	SP-040250	017	--	Add missing capability for instances of a subclassed MOC subNetwork to contain itself – Align with the IS 32.622	5.3.0	5.4.0
Jun 2004	S_24	SP-040251	018	--	Correction of legal values for managedElementType attribute	5.3.0	5.4.0



---

## History

<b>Document history</b>		
V5.0.0	September 2002	Publication
V5.1.0	September 2003	Publication
V5.2.0	December 2003	Publication
V5.3.0	March 2004	Publication
V5.4.0	June 2004	Publication