TSGS#24(04)0250

Source: SA5 (Telecom Management)

Title: 2 Rel-4/5 CR 32.624 (CM Generic network resources IRP CMIP SS)

Document for: Decision

Agenda Item: 7.5.3

Doc-1st-	Spec	CR	R	Phas	Subject	Cat	Ver	Doc-2nd-	Workitem
SP-040250	32.624	016	-	Rel-4	Add missing capability for instances of a subclassed MOC subNetwork to contain itself – Align with the IS 32.622	F	4.5.0	S5-048425	OAM-CM
SP-040250	32.624	017	-	Rel-5	Add missing capability for instances of a subclassed MOC subNetwork to contain itself – Align with the IS 32.622	A	5.3.0	S5-048449	OAM-CM

CR-Form-v7

CHANGE REQUEST

⌘ 32.624 CR 016 ⌘rev - ⌘ Current version: 4.5.0 ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network X Core Network X

Title:	⌘	Add missing capability for instances of a subclassed MOC subNetwork to contain itself – Align with the IS 32.622
Source:	⌘	SA5 (olaf.pollakowski@siemens.com)
Work item code:	⌘	OAM-CM
Date:	⌘	14/05/2004
Category:	⌘	F
Release:	⌘	Rel-4

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Instances of a subclassed MOC subNetwork cannot contain itself, a capability required by the IS.
Summary of change:	⌘	The capability for subclassed instances of the MOC subNetwork to contain itself is added.
Consequences if not approved:	⌘	The CMIP SS is not aligned with the IS.

Clauses affected:	⌘	5			
Other specs affected:	⌘	Y	N		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 5

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;
  CONDITIONAL PACKAGES
     "Recommendation M.3100: 1995":attributeValueChangeNotificationPackage  PRESENT IF
       "the attributeValueChange notifications defined in Recommendation X.721
        are supported by an instance of this class.",
    "Recommendation M.3100: 1995":environmentalAlarmPackage  PRESENT IF
       "the environmentalAlarm notifications defined in Recommendation X.721
        are 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;
  CONDITIONAL PACKAGES
   rootOptionalPackage PRESENT IF
       “An instance of managedElement is the accessing root of a MIB.”,
    "Recommendation M.3100: 1995":createDeleteNotificationsPackage  PRESENT IF
       "the objectCreation and the objectDeletion defined in Recommendation
        X.721 are supported by an instance of this class.",
    "Recommendation M.3100: 1995":attributeValueChangeNotificationPackage PRESENT IF
       "the attributeValueChange notifications defined in Recommendation X.721
     are supported by an instance of this class.",
    "Recommendation M.3100: 1995":processingErrorAlarmPackage  PRESENT IF
       "the processingErrorAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
    "Recommendation M.3100: 1995":environmentalAlarmPackage  PRESENT IF
       "the environmentalAlarm notifications defined in Recommendation X.721
        are supported by an instance of this class.",
   communicationsAlarmPackage  PRESENT IF
       "the communicationsAlarm notifications defined in Recommendation X.721
```

are supported by an instance of this class.",
equipmentAlarmPackage PRESENT IF
"the equipmentAlarm notifications defined in Recommendation X.721
are 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;
CONDITIONAL PACKAGES
"Recommendation M.3100: 1995":createDeleteNotificationsPackage PRESENT IF
"the objectCreation and the objectDeletion defined in Recommendation
X.721 are supported by an instance of this class.",
"Recommendation M.3100: 1995":attributeValueChangeNotificationPackage PRESENT IF
"the attributeValueChange notifications defined in Recommendation X.721
are supported by an instance of this class.",
"Recommendation M.3100: 1995":processingErrorAlarmPackage PRESENT IF
"the processingErrorAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.",
"Recommendation M.3100: 1995":environmentalAlarmPackage PRESENT IF
"the environmentalAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.",
communicationsAlarmPackage PRESENT IF
"the communicationsAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.",
equipmentAlarmPackage PRESENT IF
"the equipmentAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 3};

5.1.4 vsDataContainer

vsDataContainer MANAGED OBJECT CLASS
DERIVED FROM "Recommendation X.721: 1992":top;
CHARACTERIZED BY
vsDataContainerBasicPackage;
REGISTERED AS {ts32-624ObjectClass 4};

5.1.5 bulkCmControl

bulkCmControl MANAGED OBJECT CLASS
DERIVED FROM "Recommendation X.721: 1992":top;
CHARACTERIZED BY

bulkCmControlBasicPackage,
bulkCmControlActionPackage,
bulkCmControlNotificationPackage;
REGISTERED AS {ts32-624ObjectClass 5};

5.1.6 irpAgent

irpAgent MANAGED OBJECT CLASS
DERIVED FROM "Recommendation X.721: 1992":top;
CHARACTERIZED BY
irpAgentBasicPackage;
CONDITIONAL PACKAGES
"Recommendation M.3100: 1995":processingErrorAlarmPackage PRESENT IF
"the processingErrorAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.",
communicationsAlarmPackage PRESENT IF
"the communicationsAlarm notifications defined in Recommendation X.721
are 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;
CONDITIONAL PACKAGES
"Recommendation M.3100: 1995":createDeleteNotificationsPackage PRESENT IF
"the objectCreation and the objectDeletion defined in Recommendation
X.721 are supported by an instance of this class.",
"Recommendation M.3100: 1995":attributeValueChangeNotificationPackage PRESENT IF
"the attributeValueChange notifications defined in Recommendation X.721
are supported by an instance of this class.",
"Recommendation M.3100: 1995":processingErrorAlarmPackage PRESENT IF
"the processingErrorAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.",
communicationsAlarmPackage PRESENT IF
"the communicationsAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.",
qualityOfServiceAlarmPackage PRESENT IF
"the qualityOfServiceAlarm notifications defined in Recommendation X.721
are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 7};

5.1.8 meContext

meContext MANAGED OBJECT CLASS
DERIVED FROM "Recommendation X.721: 1992":top;
CHARACTERIZED BY
meContextBasicPackage;
CONDITIONAL PACKAGES
rootOptionalPackage PRESENT IF
"An instance of meContext is the accessing root of a MIB.",
"Recommendation M.3100: 1995":createDeleteNotificationsPackage PRESENT IF
"the objectCreation and the objectDeletion defined in Recommendation
X.721 are supported by an instance of this class.";
REGISTERED AS {ts32-624ObjectClass 8};

5.1.9 bcmControl

bcmControl MANAGED OBJECT CLASS
DERIVED FROM "Recommendation X.721: 1992":top;
CHARACTERIZED BY
bcmControlBasicPackage,
bcmIRPVersionPackage;
REGISTERED AS {ts32-624ObjectClass 9};

5.2 Packages

5.2.1 subNetworkBasicPackage

subNetworkBasicPackage PACKAGE
BEHAVIOUR
subNetworkBasicPackageBehaviour;
ATTRIBUTES
subNetworkId GET,
"Recommendation X.721: 1992": systemTitle 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,
    userDefinedState GET-REPLACE,
    "Recommendation M.3100: 1995" : userLabel GET-REPLACE,
    "Recommendation M.3100: 1995" : vendorName GET,
    "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 managmentNode instance which manages this managedElement instance. It implements the attribute *managedBy* of MOC ManagedElement defined in TS32.622.";

5.2.4 vsDataContainerBasicPackage

vsDataContainerBasicPackage PACKAGE
  BEHAVIOUR
    vsDataContainerBasicPackageBehaviour;
  ATTRIBUTES
    vsDataContainerId GET,
    vsDataType GET,

vsData GET-REPLACE,
vsDataFormatVersion GET;
REGISTERED AS {ts32-624Package 4};

vsDataContainerBasicPackageBehaviour BEHAVIOUR
DEFINED AS
"The 'VsDataContainer' managed object is a container for vendor specific data. The number of instances of the 'VsDataContainer' can differ from vendor to vendor. This MOC shall only be used by the Bulk CM IRP for the UTRAN and GERAN object models.";

5.2.5 bulkCmControlBasicPackage

bulkCmControlBasicPackage PACKAGE
BEHAVIOUR
bulkCmControlBasicPackageBehaviour;
ATTRIBUTES
bulkCmControlId GET,
irpVersion GET;
REGISTERED AS {ts32-624Package 5};

bulkCmControlBasicPackageBehaviour BEHAVIOUR
DEFINED AS
"This Managed Object Class represents the Bulk CM IRP capability associated with each IRPAgent. Restriction in Rel-4: Number of instances = 0..1.";

5.2.6 bulkCmControlActionPackage

bulkCmControlActionPackage PACKAGE
BEHAVIOUR
bulkCmControlActionPackageBehaviour;
ACTIONS
“3GPP TS 32.614 Release 4”: startSession,
“3GPP TS 32.614 Release 4”: endSession,
“3GPP TS 32.614 Release 4”: upload,
“3GPP TS 32.614 Release 4”: download,
“3GPP TS 32.614 Release 4”: activate,
“3GPP TS 32.614 Release 4”: fallback,
“3GPP TS 32.614 Release 4”: abortSessionOperation,
“3GPP TS 32.614 Release 4”: getSessionIds,
“3GPP TS 32.614 Release 4”: getSessionStatus,
“3GPP TS 32.614 Release 4”: getSessionLog,
“3GPP TS 32.614 Release 4”: getBulkCmIrpVersion;
REGISTERED AS {ts32-624Package 6};

bulkCmControlActionPackageBehaviour BEHAVIOUR

DEFINED AS
"This package specifies all actions a bulkCmControl shall provide.";

5.2.7 bulkCmControlNotificationPackage

bulkCmControlNotificationPackage PACKAGE
BEHAVIOUR
bulkCmControlNotificationPackageBehaviour;
NOTIFICATIONS
"3GPP TS 32.614 Release 4": sessionStateChanged,
"3GPP TS 32.614 Release 4": getSessionLogEnded;
REGISTERED AS {ts32-624Package 7};

bulkCmControlNotificationPackageBehaviour BEHAVIOUR
DEFINED AS
"This package specifies all notifications a bulkCmControl shall provide.";

5.2.8 managementNodeBasicPackage

managementNodeBasicPackage PACKAGE
ATTRIBUTES
managementNodeId GET,
userDefinedState GET-REPLACE,
"Recommendation M.3100: 1995" : userLabel GET-REPLACE,
"Recommendation M.3100: 1995" : vendorName GET,
"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,
"Recommendation M.3100: 1995" : userLabel GET-REPLACE,
supportedIRPs GET;
REGISTERED AS {ts32-624Package 10};

irpAgentBasicPackageBehaviour BEHAVIOUR
DEFINED AS
"irpAgent may have only one instance in R99 and R4. The instance of this MOC represents the behaviour 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

bcmControlBasicPackage PACKAGE
  BEHAVIOUR
    bcmControlBasicPackageBehaviour;
  ATTRIBUTES
    bcmControlId GET;
REGISTERED AS {ts32-624Package 13};

bcmControlBasicPackageBehaviour BEHAVIOUR
  DEFINED AS
    "The object class bcmControl offers the functions defined in the CM IRP IS enabling to control the behaviour and to retrieve the management information related a Basic CM IRP agent.
    An instance of the 'BCmControl' MOC is identified by the value of the attribute 'bcmControlId'.";

5.2.14 bcmIRPVersionPackage

bcmIRPVersionPackage PACKAGE
  BEHAVIOUR
    bcmIRPVersionPackageBehaviour;
  ATTRIBUTES

supportedBcmIRPVersions GET;
ACTIONS
"3GPP TS 32.604 Release 4":getBCmIRPVersion;
REGISTERED AS {ts32-624Package 14};

bcmIRPVersionPackageBehaviour BEHAVIOUR
DEFINED AS
"This package has been defined to allow the Manager to get information about the Basic CM IRP versions supported by the Agent.
The attribute 'supportedBCmIRPVersions' indicates all versions of the Basic IRP currently supported by the Agent. .
With the action 'getBasicCmIRPVersion' a manager can find out the versions of the Basic CM IRP CMIP solution sets the Agent supports.";

5.2.15 communicationsAlarmPackage

communicationsAlarmPackage PACKAGE
NOTIFICATIONS
"Recommendation X.721:1992": communicationsAlarm;
REGISTERED AS {ts32-624Package 15};

5.2.16 equipmentAlarmPackage

equipmentAlarmPackage PACKAGE
NOTIFICATIONS
"Recommendation X.721:1992": equipmentAlarm;
REGISTERED AS {ts32-624Package 16};

5.2.17 qualityOfServiceAlarmPackage

qualityOfServiceAlarmPackage PACKAGE
NOTIFICATIONS
"Recommendation X.721:1992": qualityofServiceAlarm;
REGISTERED AS {ts32-624Package 17};

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

vsDataContainerId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX TS32-624TypeModule.GeneralObjectId;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    vsDataContainerIdBehaviour;
REGISTERED AS {ts32-624Attribute 100};

vsDataContainerIdBehaviour BEHAVIOUR
  DEFINED AS
    "This attribute identifies a vsDataContainer instance.";

5.3.4 vsDataType

vsDataType ATTRIBUTE
  WITH ATTRIBUTE SYNTAX TS32-624TypeModule.VsDataType;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    vsDataTypeBehaviour;
REGISTERED AS {ts32-624Attribute 3};

vsDataTypeBehaviour BEHAVIOUR
  DEFINED AS
    "Type of vendor specific data contained by this instance, e.g. relation specific algorithm parameters, cell specific parameters for power control or re-selection or a timer. The type itself is also vendor specific.";

5.3.5 vsData

vsData ATTRIBUTE
  WITH ATTRIBUTE SYNTAX TS32-624TypeModule.VsData;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    vsDataBehaviour;
REGISTERED AS {ts32-624Attribute 4};

vsDataBehaviour BEHAVIOUR
  DEFINED AS
    "Vendor specific attributes of the type vsDataType. The attribute definitions including constraints (value ranges, data types, etc.) are specified in a vendor specific data format file.";

5.3.6 vsDataFormatVersion

vsDataFormatVersion ATTRIBUTE
  WITH ATTRIBUTE SYNTAX TS32-624TypeModule.VsDataFormatVersion;
  MATCHES FOR EQUALITY;
  BEHAVIOUR
    vsDataFormatVersionBehaviour;
REGISTERED AS {ts32-624Attribute 5};

vsDataFormatVersionBehaviour BEHAVIOUR
  DEFINED AS
    "Name of the data format file, including version.";

5.3.7 bulkCmControlId

bulkCmControlId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX TS32-624TypeModule.GeneralObjectId;

MATCHES FOR EQUALITY;
BEHAVIOUR
bulkCmControlIdBehaviour;
REGISTERED AS {ts32-624Attribute 6};

bulkCmControlIdBehaviour BEHAVIOUR
DEFINED AS
"This attribute identifies a bulkCmControl instance.";

5.3.8 irpVersion

irpVersion ATTRIBUTE
WITH ATTRIBUTE SYNTAX TS32-624TypeModule.IrpVersion;
MATCHES FOR EQUALITY;
BEHAVIOUR
irpVersionBehaviour;
REGISTERED AS {ts32-624Attribute 7};

irpVersionBehaviour BEHAVIOUR
DEFINED AS
"One or more Bulk CM IRP version entries.”;

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 determining
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 3gManagedElement instances which this
    3gManagmentNode instance manages.";

5.3.16 irpAgentId

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

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

5.3.17 supportedIRPs

supportedIRPs ATTRIBUTE
WITH ATTRIBUTE SYNTAX TS32-624TypeModule.SupportedIRPs;
  MATCHES FOR EQUALITY;
  BEHAVIOUR

supportedIRPsBehaviour;
REGISTERED AS {ts32-624Attribute 16};

supportedIRPsBehaviour BEHAVIOUR
DEFINED AS
"This attribute provides the information about IRPs an IRPAgent supports.";

5.3.18 meContextId

meContextId ATTRIBUTE
WITH ATTRIBUTE SYNTAX TS32-624TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
meContextIdBehaviour;
REGISTERED AS {ts32-624Attribute 17};

meContextIdBehaviour BEHAVIOUR
DEFINED AS
"This attribute names an instance of the 'MEContext' object class.";

5.3.19 bcmControlId

bcmControlId ATTRIBUTE
WITH ATTRIBUTE SYNTAX TS32-624TypeModule.GeneralObjectId;
MATCHES FOR EQUALITY;
BEHAVIOUR
bcmControlIdBehaviour;
REGISTERED AS {ts32-624Attribute 18};

bcmControlIdBehaviour BEHAVIOUR
DEFINED AS
"This attribute names an instance of the 'bcmControl' object class.";

5.3.20 supportedBcmIRPVersions

supportedBcmIRPVersions ATTRIBUTE
WITH ATTRIBUTE SYNTAX TS32-624TypeModule.SupportedBCmIRPVersions;
MATCHES FOR EQUALITY;
BEHAVIOUR
supportedBCmIRPVersionsBehaviour;
REGISTERED AS {ts32-624Attribute 19};

supportedBCmIRPVersionsBehaviour BEHAVIOUR
DEFINED AS
"This attribute provides the information concerning the Basic CM IRP versions

currently supported by the Agent.";

5.4 Actions

Void.

5.4.1 getBcmIRPVersion

Void.

5.5 Name Binding

5.5.1 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.";

5.5.2 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.";

5.5.3 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.";

5.5.4 bulkCmControl - irpAgent

bulkCmControl-irpAgent NAME BINDING
  SUBORDINATE OBJECT CLASS bulkCmControl;
  NAMED BY SUPERIOR OBJECT CLASS irpAgent;
  WITH ATTRIBUTE bulkCmControlId;
  BEHAVIOUR
    bulkCmControl-irpAgentBehaviour;
  CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 4};

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

5.5.5 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.";

5.5.6 irpAgent - managementNode

irpAgent - managementNode NAME BINDING
SUBORDINATE OBJECT CLASS irpAgent;
NAMED BY SUPERIOR OBJECT CLASS managementNode;
WITH ATTRIBUTE “3GPP TS 32.624: 6.2001”: 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.";

5.5.7 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.";

5.5.8 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.";

5.5.9 bcmControl - irpAgent

bcmControl-irpAgent NAME BINDING
SUBORDINATE OBJECT CLASS bcmControl;
NAMED BY SUPERIOR OBJECT CLASS irpAgent;
WITH ATTRIBUTE bcmControlId;
BEHAVIOUR
bcmControl-irpAgentBehavior;
CREATE WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 9};

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

5.5.10 vsDataContainer - vsDataContainer

vsDataContainer-vsDataContainer NAME BINDING
SUBORDINATE OBJECT CLASS vsDataContainer;
NAMED BY SUPERIOR OBJECT CLASS vsDataContainer;
WITH ATTRIBUTE vsDataContainerId;
BEHAVIOUR
vsDataContainer-vsDataContainerBehaviour;
CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE ONLY-IF-NO-CONTAINED-OBJECTS;

REGISTERED AS {ts32-624NameBinding 10};

vsDataContainer-vsDataContainerBehaviour BEHAVIOUR
DEFINED AS
"The name binding represents a relationship in which a vsDataContainer contains and controls another vsDataContainer. When automatic instance naming is used, the choice of name bindings is left as a local matter. This containment relation shall be used only with Bulk CM IRP CMIP SS defined in 3GPP TS 32.614.";

5.5.11 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.";
```

5.5.12 notificationControl - irpAgent

```
notificationControl-irpAgent NAME BINDING
   SUBORDINATE OBJECT CLASS
      notificationControl;
   NAMED BY SUPERIOR OBJECT CLASS
      irpAgent;
   WITH ATTRIBUTE
      "3GPP TS 32.304 Release 4": notificationControlId;
   BEHAVIOUR
      notificationControl-irpAgentBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 12};


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

5.5.13 alarmControl - irpAgent

```
alarmControl-irpAgent NAME BINDING
   SUBORDINATE OBJECT CLASS
      alarmControl;
   NAMED BY SUPERIOR OBJECT CLASS
      irpAgent;
   WITH ATTRIBUTE
      "3GPP TS 32.111-4 Release 4": alarmControlId;
```

```
   BEHAVIOUR
      alarmControl-irpAgentBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 13};

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

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.";
```

End of Change in Clause 5

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 2003	S_21	SP-030417	010	--	Rel-4/5 alignment of OIDs of some attributes and name bindings	4.4.0	4.5.0

3GPP TSG-SA5 (Telecom Management) **S5-048449**
Meeting #38, Bejing, CHINA, 10 - 14 May 2004

CR-Form-v7

CHANGE REQUEST

⌘ **32.624** **CR** **017** ⌘ **rev** **-** ⌘ Current version: **5.3.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network **X** Core Network **X**

Title:	⌘	Add missing capability for instances of a subclassed MOC subNetwork to contain itself – Align with the IS 32.622
Source:	⌘	SA5 (olaf.pollakowski@siemens.com)
Work item code:	⌘	OAM-CM
Date:	⌘	14/05/2004
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Instances of a subclassed MOC subNetwork cannot contain itself, a capability required by the IS.
Summary of change:	⌘	The capability for subclassed instances of the MOC subNetwork to contain itself is added.
Consequences if not approved:	⌘	The CMIP SS is not aligned with the IS.

Clauses affected:	⌘	5, 6

Other specs affected: ⌘	Y	N	
		X	Other core specifications
		X	Test specifications
		X	O&M Specifications

⌘

Other comments: ⌘

Change in Clause 5 & 6

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 managmentNode 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 bcmIRPVersionPackage

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 subNetwork, meContext or managedElement
      when it is
      the accessing point (root) of thea 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.

5.3.18 meContextId

```
meContextId ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-624TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      meContextIdBehaviour;
REGISTERED AS {ts32-624Attribute 17};

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

5.3.19 bcmControlId

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
```

End of Change in Clause 5 &6

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