Source:	**SA5 (Telecom Management)**
Title:	**Rel-6 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-040253	32.624	015	-	Rel-6	Add the attribute SetOfMcc to the MOC SubNetwork -Align with IS 32.622	B	5.3.0	S5-048384	OAM-NIM

CR-Form-v7

CHANGE REQUEST

⌘   **32.624** CR **015**   ⌘**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 the attribute *SetOfMcc* to the MOC *SubNetwork* -Align with IS 32.622	
Source: ⌘	SA5 (olaf.pollakowski@siemens.com)	
Work item code: ⌘	OAM-NIM	***Date:*** ⌘ 14/05/2004

Category: ⌘ **B**	***Release:*** ⌘ Rel-6

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: ⌘	On the IS level the attribute SetOfMcc has been added to the IOC SubNetwork. This CR implements this change on SS level.
Summary of change: ⌘	The attribute SetofMcc is added the MOC SubNetwork.
Consequences if not approved: ⌘	The CMIP SS is not aligned with the IS 32.622.

Clauses affected: ⌘	1, 4, 5, 6

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

Other comments: ⌘	

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 V6~~5~~.1~~2~~.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.

4 Basic aspects

4.1 Explanation

A technology independent generic network resource model is defined in 3GPP TS 32.622 [4] for 3G networks. This document provides an implementation of this generic network resource model by using CMIP technology.

4.2 Allowed Alarms of MOCs

Void.

4.3 Mapping

The semantic of the Generic Network Resource Model 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 Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

Table 1: Mapping of MOCs

IS IOC	CMIP SS MOC
ManagedElement	managedElement
SubNetwork	subNetworkR60
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	--

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	--

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	--
setOfMcc	setOfMcc	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.

5.1.10 subNetworkR60

```
subNetworkR60 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 subNetworkR60 is the accessing root of a MIB.",
     subNetworkSetOfMccPackage
         PRESENT IF
           "the attribute setOfMcc is supported by an instance of this class.",
     "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 10};
```

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 meContext or managedElement when it is
        the accessing point (root) of a MIB.";
```

5.2.19 subNetworkSetOfMccPackage

```
subNetworkSetOfMccPackage PACKAGE
    BEHAVIOUR
        subNetworkSetOfMccPackageBehaviour;
    ATTRIBUTES
        setOfMcc   GET;
REGISTERED AS {ts32-624Package 19};


subNetworkSetOfMccPackageBehaviour BEHAVIOUR
DEFINED AS
        "This package shall be present in an instance of subNetwork if the attribute setOfMcc may
         contain more than one value. Otherwise it is optional.";
```

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.

5.3.20 setOfMcc

```
setOfMcc ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-624TypeModule.SetOfMcc;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      setOfMccBehaviour;
REGISTERED AS {ts32-624Attribute 19};

setOfMccBehaviour BEHAVIOUR
DEFINED AS
      "This multi-valued attribute holds a list containing all the MCC values in subordinate object
       instances to this SubNetwork instance.";
```

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.";
```

5.4.15 managedElement – subNetworkR60

```
managedElement-subNetworkR60 NAME BINDING
    SUBORDINATE OBJECT CLASS
        managedElement;
    NAMED BY SUPERIOR OBJECT CLASS
        subNetworkR60;
    WITH ATTRIBUTE
        managedElementId;
    BEHAVIOUR
        managedElement-subNetworkR60Behaviour;
    CREATE
        WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 15};

managedElement-subNetworkR60Behaviour BEHAVIOUR
DEFINED AS
        "The name binding represents a relationship in which a subNetworkR60 contains and
        controls a managedElement. When automatic instance naming is used, the choice
        of name bindings left as a local matter.";
```

5.4.16 meContext – subNetworkR60

```
meContext-subNetworkR60 NAME BINDING
    SUBORDINATE OBJECT CLASS
        meContext;
    NAMED BY SUPERIOR OBJECT CLASS
        subNetworkR60;
    WITH ATTRIBUTE
        meContextId;
    BEHAVIOUR
        meContext-subNetworkR60Behaviour;
    CREATE
        WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 16};

meContext-subNetworkR60Behaviour BEHAVIOUR
DEFINED AS
        "The name binding represents a relationship in which a subNetworkR60 contains and
        controls a meContext. When automatic instance naming is used, the choice
        of name bindings left as a local matter.";
```

5.4.17 irpAgent – subNetworkR60

```
irpAgent-subNetworkR60 NAME BINDING
    SUBORDINATE OBJECT CLASS
        irpAgent;
    NAMED BY SUPERIOR OBJECT CLASS
        subNetworkR60;
    WITH ATTRIBUTE
        irpAgentId;
    BEHAVIOUR
        irpAgent-subNetworkR60Behaviour;
    CREATE
        WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 17};

irpAgent-subNetworkR60Behaviour BEHAVIOUR
DEFINED AS
        "The name binding represents a relationship in which a subNetworkR60 contains and
        controls a irpAgent. When automatic instance naming is used, the choice of name
        bindings left as a local matter.";
```

5.4.18 managementNode – subNetworkR60

```
managementNode-subNetworkR60 NAME BINDING
    SUBORDINATE OBJECT CLASS
        managementNode;
    NAMED BY SUPERIOR OBJECT CLASS
        subNetworkR60;
    WITH ATTRIBUTE
        managementNodeId;
    BEHAVIOUR
        managementNode-subNetworkR60Behaviour;
    CREATE WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 18};

managementNode-subNetworkR60Behaviour BEHAVIOUR
DEFINED AS
        "The name binding represents a relationship in which a subNetworkR60 contains and
        controls a managementNode. When automatic instance naming is used, the choice
        of name bindings left as a local matter.";
```

5.4.19 subNetworkR60 – subNetworkR60 – R54

```
subNetworkR60-subNetworkR60-R54 NAME BINDING
    SUBORDINATE OBJECT CLASS
        subNetworkR60 AND SUBCLASSES;
    NAMED BY SUPERIOR OBJECT CLASS
```

```
        subNetworkR60 AND SUBCLASSES;
    WITH ATTRIBUTE
        subNetworkId;
    BEHAVIOUR
        subNetworkR60-subNetworkR60-R54Behaviour;
    CREATE
        WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
    DELETE
        ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-624NameBinding 19};

subNetworkR60-subNetworkR60-R54Behaviour BEHAVIOUR
DEFINED AS
    "The name binding represents a relationship in which a subNetworkR60 contains and controls
    another subNetworkR60. 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)};

MobileCountryCode
    FROM GSM1220TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
    gsm-Operation-Maintenance(3) gsm-12-20(20) informationModel(0) asn1Module(2)
    asn1TypeModule(0)};


-- 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

SetOfMcc ::= SET OF MobileCountryCode

UserDefinedNetworkType ::= GraphicString

SwVersion ::= GraphicString

END -- of TS32-624TypeModule
```

Change in Clause 4 & 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