TSGS#23(04)0128

Source: SA5 (Telecom Management)

Title: 4 Rel-5/6 CR 32.622/623 Addition of missing attributes for the managementScope association

Document for: Decision

Agenda Item: 7.5.3

Doc-1st-Level	Spec	CR	R	Phase	Subject	Cat	Vers.	Doc-2nd-Level	Workitem
SP-040128	32.622	013	-	Rel-5	Addition of missing attributes for the managementScope association	F	5.2.0	S5-048129	OAM-NIM
SP-040128	32.622	014	-	Rel-6	Addition of missing attributes for the managementScope association	A	6.0.0	S5-048130	OAM-NIM
SP-040128	32.623	008	-	Rel-5	Addition/correction of attributes for the managementScope association-Alignment with 32.623	F	5.1.0	S5-048131	OAM-NIM
SP-040128	32.623	009	-	Rel-6	Addition/correction of attributes for the managementScope association -Alignment with 32.623	A	6.0.0	S5-048132	OAM-NIM

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CHANGE REQUEST

⌘ 32.622 CR 013 ⌘rev - ⌘ Current version: 5.2.0 ⌘

*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:	⌘	Addition of missing attributes for the managementScope association
Source:	⌘	**SA5** (thomas.tovinger@ericsson.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	27/2/2004
Category:	⌘	**F**
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:	⌘	The attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement are missing.
Summary of change:	⌘	Add the attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement. Clarify for the roles that the attribute names are not the same as the role names (since this would be misleading).
Consequences if not approved:	⌘	Implementation of this TS would not be able to properly realise this association in a standard way, and thus risk for interoperability problems.

Clauses affected:	⌘	6.1.3.3.2, 6.1.3.5.2, 6.1.4.1.2, 6.1.5.1.

Other specs affected:	⌘	Y	N		⌘	
			X	Other core specifications		
			X	Test specifications		
		X		O&M Specifications		Rel-6 32.622, Rel-5/6 32.623

Other comments:	⌘	Rel-6 Mirror CR in S5-048130. Parent to 32.623 CR in S5-048131.

How to create CRs using this form:

Change in Clause 6.1.3.3.2

6.1.3.3.2 Attributes

Table 6.4: Attributes of ManagedElement

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
managedElementId	M	M	-
dnPrefix	C	M	-
managedElementType	M	M	-
userLabel	M	M	M
vendorName	M	M	-
userDefinedState	M	M	M
locationName	M	M	-
swVersion	M	M	-
managedBy	M	M	-

End of Change in Clause 6.1.3.3.2

Change in Clause 6.1.3.5.2

6.1.3.5.2 Attributes

Table 6.7: Attributes of `ManagementNode`

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
managementNodeId	M	M	-
userLabel	M	M	M
vendorName	M	M	-
userDefinedState	M	M	M
locationName	M	M	-
swVersion	M	M	-
managedElements	M	M	-

End of Change in Clause 6.1.3.5.2

Change in Clause 6.1.4.1.2

6.1.4.1.2 Roles

The roles involved in the relation ManagementScope are listed in this table.

Table 6.15: Roles of the relation ManagementScope

Name	Definition
Manager	This role represents the ManagementNode's capability to identify the set of related ManagedElements. This role is modelled by a reference attribute named managedElements. ManagementNode.managedElements shall carry the set of ManagedElement DN(s). ~~refers to a list of the DN(s) of the related ManagedElement instance(s). This is a reference attribute modelling the role (of the association ManagementScope) that this managementNode is responsible for managing zero or more MEs.~~
Subordinate	This role represents the ManagedElement's capability to identify the set of related managementNode(s). This role is modelled by a reference attribute named managedBy. ManagedElement.managedBy shall carry the set of ManagementNode DN(s). ~~refers to the DN of the related managementNode instance. This is a reference attribute .modelling the role (of the association ManagementScope) that this ME is managed by zero or one managementNode.~~

End of Change in Clause 6.1.4.1.2

Change in Clause 6.1.5.1

6.1.5 Information attribute definitions

6.1.5.1 Definitions and legal values

Table 6.16 defines the attributes that are present in several information object classes of the present document.

Table 6.16: Attributes

Attribute Name	Definition	Legal Values
dnPrefix	It carries the DN Prefix information as defined in Annex C of 32.300 [13]. It shall only be specified if the instance of the information object class supporting this attribute is a local root instance of the MIB. Otherwise the value shall carry the NULL semantics.	
managedElementId	An attribute whose 'name+value' can be used as an RDN when naming an instance of the ManagedElement object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
managedElementType	The type of managed element. It is a multi-valued attribute with one or more elements. Thus, it may represent one ME functionality, e.g. an RNC, or a combination of more than one functionality e.g. an MSC/HLR. The actual syntax and encoding of this attribute is Solution Set specific.	RNC, NodeB, BSS, MSC, HLR, VLR, AuC, EIR, SMS-IWMSC, SMS-GMSC, GMSC, SGSN, GGSN, BG, BS, CBC, CGF, GMLC, GMSC Server, IWF, MGW, MNP-SRF, MSC Server, NPDB, R-SGW, SCF, SMLC, SRF, SSF.
irpAgentId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
iRPId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
locationName	The physical location of this entity (e.g. an address).	
managedElements	Models the role 'Manager' – see subclause 6.1.4.1.2. This attribute contains a list of the DN(s) of the related ManagedElement instance(s).	
managementNodeId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
managedBy	Models the role 'Subordinate' – see subclause 6.1.4.1.2. This attribute contains a list of the DN(s) of the related ManagementNode instance(s).	
meContextId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
objectClass	An attribute which captures the name of the class from which the object instance is an occurrence of.	
objectInstance	An information which captures the Distinguished Name of any object.	
subNetworkId	An attribute whose 'name+value' can be used as an RDN when naming an instance of the SubNetwork object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
swVersion	The software version of the ManagementNode or ManagedElement (this is used for determining which version of the vendor specific information is valid for the ManagementNode or ManagedElement).	
systemDN	The Distinguished Name (DN) of IRPAgent. Defined in 3GPP TS 32.300.	
userDefinedNetworkType	Textual information regarding the type of network, e.g. UTRAN.	
userDefinedState	An operator defined state for operator specific usage. (See also Note below)	
userLabel	A user-friendly name of this object.	
vendorName	The name of the vendor.	
vsData	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.	
vsDataContainerId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
vsDataFormatVersion	Name of the data format file, including version.	

Attribute Name	Definition	Legal Values
vsDataType	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.	

End of Change in Clause 6.1.5.1

End of Change

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CHANGE REQUEST

⌘ 32.622 CR 014 ⌘rev - ⌘ Current version: 6.0.0 ⌘

*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:	⌘	Addition of missing attributes for the managementScope association
Source:	⌘	**SA5** (thomas.tovinger@ericsson.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	27/2/2004
Category:	⌘	**A**
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:	⌘	The attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement are missing.
Summary of change:	⌘	Add the attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement. Clarify for the role that the attribute names are not the same as the role names (since this would be misleading).
Consequences if not approved:	⌘	Implementation of this TS would not be able to properly realise this association in a standard way, and thus risk for interoperability problems.

Clauses affected:	⌘	6.1.3.3.2, 6.1.3.5.2, 6.1.4.1.2, 6.1.5.1.

Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
	X		O&M Specifications	Rel-6 32.623.

Other comments:	⌘	Rel-6 Mirror CR of S5-048129. Parent to 32.623 CR in S5-048132.

How to create CRs using this form:

Change in Clause 6.1.3.3.2

6.1.3.3.2 Attributes

Table 6.4: Attributes of ManagedElement

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
managedElementId	M	M	-
dnPrefix	C	M	-
managedElementType	M	M	-
userLabel	M	M	M
vendorName	M	M	-
userDefinedState	M	M	M
locationName	M	M	-
swVersion	M	M	-
managedBy	M	M	-

End of Change in Clause 6.1.3.3.2

Change in Clause 6.1.3.5.2

6.1.3.5.2 Attributes

Table 6.7: Attributes of `ManagementNode`

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
managementNodeId	M	M	-
userLabel	M	M	M
vendorName	M	M	-
userDefinedState	M	M	M
locationName	M	M	-
swVersion	M	M	-
managedElements	M	M	-

End of Change in Clause 6.1.3.5.2

Change in Clause 6.1.4.1.2

6.1.4.1.2 Roles

The roles involved in the relation ManagementScope are listed in this table.

Table 6.15: Roles of the relation ManagementScope

Name	Definition
Manager	This role represents the ManagementNode's capability to identify the set of related ManagedElements. This role is modelled by a reference attribute named managedElements. ManagementNode.managedElements shall carry the set of ManagedElement DN(s).~~refers to a list of the DN(s) of the related ManagedElement instance(s). This is a reference attribute modelling the role (of the association ManagementScope) that this managementNode is responsible for managing zero or more MEs.~~
Subordinate	This role represents the ManagedElement's capability to identify the set of related managementNode(s). This role is modelled by a reference attribute named managedBy. ManagedElement.managedBy shall carry the set of ManagementNode DN(s).~~refers to the DN of the related managementNode instance. This is a reference attribute modelling the role (of the association ManagementScope) that this ME is managed by zero or one managementNode.~~

End of Change in Clause 6.1.4.1.2

Change in Clause 6.1.5.1

6.1.5.1 Definitions and legal values

Table 6.16 defines the attributes that are present in several information object classes of the present document.

Table 6.16: Attributes

Attribute Name	Definition	Legal Values
dnPrefix	It carries the DN Prefix information as defined in Annex C of 32.300 [13]. It shall only be specified if the instance of the information object class supporting this attribute is a local root instance of the MIB. Otherwise the value shall carry the NULL semantics.	
managedElementId	An attribute whose 'name+value' can be used as an RDN when naming an instance of the ManagedElement object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
managedElementType	The type of managed element. It is a multi-valued attribute with one or more elements. Thus, it may represent one ME functionality, e.g. an RNC, or a combination of more than one functionality e.g. an MSC/HLR. The actual syntax and encoding of this attribute is Solution Set specific.	RNC, NodeB, BSS, MSC, HLR, VLR, AuC, EIR, SMS-IWMSC, SMS-GMSC, GMSC, SGSN, GGSN, BG, BS, CBC, CGF, GMLC, GMSC Server, IWF, MGW, MNP-SRF, MSC Server, NPDB, R-SGW, SCF, SMLC, SRF, SSF.
irpAgentId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
iRPId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
locationName	The physical location of this entity (e.g. an address).	
managedElements	Models the role 'Manager' – see subclause 6.1.4.1.2. This attribute contains a list of the DN(s) of the related ManagedElement instance(s).	
managementNodeId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
managedBy	Models the role 'Subordinate' – see subclause 6.1.4.1.2. This attribute contains a list of the DN(s) of the related ManagementNode instance(s).	
meContextId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
objectClass	An attribute which captures the name of the class from which the object instance is an occurrence of.	
objectInstance	An information which captures the Distinguished Name of any object.	
setOfMcc	Set of Mobile Country Code (MCC). The MCC uniquely identifies the country of domicile of the mobile subscriber. MCC is part of the IMSI (Ref. 3GPP TS 23.003). This list contains all the MCC values in subordinate object instances to this SubNetwork instance. Every unique value of MCC shall only appear once in the list.	
subNetworkId	An attribute whose 'name+value' can be used as an RDN when naming an instance of the SubNetwork object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
swVersion	The software version of the ManagementNode or ManagedElement (this is used for determining which version of the vendor specific information is valid for the ManagementNode or ManagedElement).	
systemDN	The Distinguished Name (DN) of IRPAgent. Defined in 3GPP TS 32.300.	
userDefinedNetworkType	Textual information regarding the type of network, e.g. UTRAN.	
userDefinedState	An operator defined state for operator specific usage. (See also Note below)	
userLabel	A user-friendly name of this object.	
vendorName	The name of the vendor.	

Attribute Name	Definition	Legal Values
vsData	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.	
vsDataContainerId	An attribute whose 'name+value' can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
vsDataFormatVersion	Name of the data format file, including version.	
vsDataType	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.	

End of Change in Clause 6.1.5.1

End of Change

3GPP TSG-SA5 (Telecom Management) **S5-048131**
Meeting #37, Malaga, Spain, 23-27 Feb 2004

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CHANGE REQUEST

⌘ **32.623** **CR** **008** ⌘ **rev** **-** ⌘ Current version: **5.1.0** ⌘

*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 ☒ Core Network ☒

Title: ⌘	Addition/correction of attributes for the managementScope association- Alignment with 32.622	
Source: ⌘	**SA5** (thomas.tovinger@ericsson.com)	
Work item code: ⌘	OAM-NIM	***Date:*** ⌘ 27/2/2004
Category: ⌘	**F**	***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: ⌘

1. The attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement were missing in 32.622 and are added in the parent CR to this CR. However, these relation attributes were already defined in this TS, but one of them (“manages”) now is named “managedElements” in 32.622 (and “manages” should not be used here since it may cause a compilation error). Further, at the same time as analysing how to correct this error, also some other minor errors were detected; see the rest of the items below.
2. Some IDL references in the mapping tables use the wrong IDL module name.
3. The title of clause 5 uses the old (obsolete) wording “New methodology”.
4. The IDL modules have not been given any file name specifications as prescribed in 32.102 Annex F.4.

Summary of change: ⌘

1. Add the attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement. Clarify for the role that the attribute names are not the same as the role names (since this would be misleading).
2. Correct IDL references in the mapping tables.
3. Remove “New methodology” in title of clause 5.
4. Add file name specifications to the IDL modules (align with the way it has been done in 32.303).

Consequences if not approved: ⌘ Implementation of this TS would not be able to properly realise this association in a standard way, and thus risk for interoperability problems.

Clauses affected:	⌘	1, 5, Annex A, Annex B.			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	
			Test specifications		
			O&M Specifications		Rel-6 32.623
Other comments:	⌘	Rel-6 Mirror CR in S5-048132. Parent CR 32.622 in S5-048129.			

How to create CRs using this form:

Change in Clause Scope

1 Scope

The TS 32.620 series (Generic Network Resources IRP) defines an Integration Reference Point (IRP) through which an "IRPAgent" (typically an Element Manager or Network Element) can communicate Network Management related information to one or several "IRPManagers" (typically Network Managers).

This series of documents specifies a generic Network Resource Model, NRM (also referred to as a Management Information Model - MIM) with definitions of Information Object Classes and Managed Object Classes.

The present document specifies the ~~Corba~~ CORBA Solution set.

This Solution Set specification is related to 3GPP TS 32.622 V5.3~~0~~.X.

End of Change in Clause Scope

Change in Clause 5

5 ~~New methodology~~ Mapping

5.1 General mappings

The IS parameter name managedObjectInstance is mapped into DN.

Attributes modelling associations as defined in the NRM (here also called "reference attributes") are in this SS mapped to attributes. The names of the reference attributes in the NRM are mapped to the corresponding attribute names in the MOC. When the cardinality for an association is 0..1 or 1..1 the datatype for the reference attribute is defined as an MOReference. The value of an MO reference contains the distinguished name of the associated MO. When the cardinality for an association allows more than one referred MO, the reference attribute will be of type MOReferenceSet, which contains a sequence of MO references.

If a reference attribute is changed, an AttributeValueChange notification is emitted.

End of Change in Clause 5

Change in Clause 5.2

5.2.2 IOC ManagedElement

Table 11: Mapping from NRM IOC ManagedElement attributes and association roles to SS equivalent MOC ManagedElement attributes

NRM Attributes/Association roles	SS Attributes	SS Type	Qualifier
managedElementId	managedElementId	string	Read-Only, M
dnPrefix	dnPrefix	string	Read-Only, M
userLabel	userLabel	string	Read-Write, M
locationName	locationName	string	Read-Only, M
vendorName	vendorName	string	Read-Only, M
userDefinedState	userDefinedState	string	Read-Write, M
managedElementType	managedElementType	GenericNetworkResourcesNRMDefs~~GenericNRIRPSystem~~::AttributeTypes::StringSet	Read-Only, M
managedBy	managedBy	GenericNetworkResourcesNRMDefs~~GenericNRIRPSystem~~::AttributeTypes::MOReferenceSet	Read-Only, M
swVersion	swVersion	string	Read-Only, M

5.2.3 IOC MeContext

Table 12: Mapping from NRM IOC MeContext attributes to SS equivalent MOC MeContext attributes

NRM Attributes of IOC MeContext in 3GPP TS 32.622 [4]	SS Attributes	SS Type	Qualifier
meContextId	meContextId	string	Read-Only, M
dnPrefix	dnPrefix	string	Read-Only, M

5.2.4 IOC ManagementNode

Table 13: Mapping from NRM IOC ManagementNode attributes and association roles to SS equivalent MOC ManagementNode attributes

NRM Attributes/association roles of IOC ManagementNode in 3GPP TS 32.622 [4]	SS Attributes	SS Type	Qualifier
managementNodeId	managementNodeId	string	Read-Only, M
userLabel	userLabel	string	Read-Write, M
locationName	locationName	string	Read-Only, M
vendorName	vendorName	string	Read-Only, M
userDefinedState	userDefinedState	string	Read-Write, M
managedElements	managedElements	GenericNetworkResourcesNRMDefs~~GenericNRIRPSystem~~::AttributeTypes::MOReferenceSet	Read-Only, M
swVersion	swVersion	string	Read-Only, M

End of Change in Clause 5.2

Change in Annex A

Annex A (normative): ~~CORBA~~ IDL specifications~~, Access Protocol~~

A.1 IDL specification (file name "GenericNetworkResourcesIRPSystem.idl")

```
#ifndef GenericNetworkResourcesIRPSystem_idl
#define GenericNetworkResourcesIRPSystem_idl


#pragma prefix "3gppsa5.org"


module GenericNetworkResourcesIRPSystem
{
   /**
    * The format of Distinguished Name (DN) is specified in "Name Conventions
    * for Managed Objects revision B".
    */
   typedef string DN;


   /**
    *  This module adds datatype definitions for types
    *  used in the NRM which are not basic datatypes defined
    *  already in CORBA.
    */
   module AttributeTypes
   {
      /**
       * An MO reference refer~~re~~s to an MO instance.
       * "otherMO" contains the  distinguished name of the referred MO.
       * A conceptual "null" reference (meaning no MO is referenced)
       * is represented as an empty string ("").
       *
       */
      struct MOReference
      {
         DN otherMO;
      };

      /**
       * MOReferenceSet represents a set of MO references.
       * This type is used to hold 0..n MO references.
       * A referred MO is not allowed to be repeated (therefore
       * it is denoted as a "Set")
       */
      typedef sequence<MOReference> MOReferenceSet;


      /**
       *  A set of strings.
       */
      typedef sequence<string> StringSet;
```

```
      /**
       *  A set of long.
       */
      typedef sequence<long> LongSet;
   };

};

#endif
```

End of Change in Annex A

Change in Annex B

Annex B (normative): ~~CORBA~~ IDL specifications~~, NRM Definitions~~

B.1 IDL specification (file name "GenericNetworkResourcesNRMDefs.idl")

```
#ifndef GenericNetworkResourcesNRMDefs_idl
#define GenericNetworkResourcesNRMDefs_idl

#pragma prefix "3gppsa5.org"

/**
 * This module defines constants for each MO class name and
 * the attribute names for each defined MO class.
 */
module GenericNetworkResourcesNRMDefs
{

      /**
       *  Definitions for MO class SubNetwork
       */
      interface SubNetwork
      {
         const string CLASS = "SubNetwork";

         // Attribute Names
         //
         const string subNetworkId = "subNetworkId";
         const string dnPrefix = "dnPrefix";
         const string userLabel = "userLabel";
         const string userDefinedNetworkType = "userDefinedNetworkType";
      };

      /**
       *  Definitions for MO class ManagedElement
       */
      interface ManagedElement
      {
         const string CLASS = "ManagedElement";

         // Attribute Names
         //
         const string managedElementId = "managedElementId";
         const string dnPrefix = "dnPrefix";
         const string managedElementType = "managedElementType";
         const string userLabel = "userLabel";
         const string vendorName = "vendorName";
         const string userDefinedState ="userDefinedState";
         const string locationName ="locationName";

         const string managedBy = "managedBy";

         const string swVersion = "swVersion";
```

```
};


/**
 *  Definitions for MO class MeContext
 */
interface MeContext
{
   const string CLASS = "MeContext";

   // Attribute Names
   //
   const string meContextId = "meContextId";
   const string dnPrefix = "dnPrefix";
};

/**
 *  Definitions for MO class ManagementNode
 */
interface ManagementNode
{
   const string CLASS = "ManagementNode";

   // Attribute Names
   //
   const string managementNodeId = "managementNodeId";
   const string userLabel = "userLabel";
   const string vendorName = "vendorName";
   const string userDefinedState = "userDefinedState";
   const string locationName = "locationName";
   const string managedElements = "managedElements";

   const string swVersion = "swVersion";
};


/**
 *  Definitions for abstract MO class ManagedFunction
 *
 */
interface ManagedFunction
{
   const string CLASS = "ManagedFunction";

   // Attribute Names
   //
   const string userLabel = "userLabel";
};


/**
 *  Definitions for MO class IRPAgent
 */
interface IRPAgent
{
   const string CLASS = "IRPAgent";

   // Attribute Names
   //
   const string irpAgentId = "irpAgentId";
   const string systemDN = "systemDN";
};
/**
 *  Definitions for MO class VsDataContainer
 */
interface VsDataContainer
```

```
      {
         const string CLASS = "VsDataContainer";

         // Attribute Names
         //
         const string vsDataContainerId = "vsDataContainerId";
         const string vsDataType = "vsDataType";
         const string vsData = "vsData";
         const string vsDataFormatVersion = "vsDataFormatVersion";
      };

};

#endif
```

End of Change in Annex B

3GPP TSG-SA5 (Telecom Management) **S5-048132**
Meeting #37, Malaga, Spain, 23-27 Feb 2004

CR-Form-v7

CHANGE REQUEST

⌘ **32.623** **CR** **009** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

*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 ☒ Core Network ☒

Title:	⌘	Addition/correction of attributes for the managementScope association - Alignment with 32.622
Source:	⌘	**SA5** (thomas.tovinger@ericsson.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	27/2/2004
Category:	⌘	**A**
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: ⌘

1. The attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement were missing in 32.622 and are added in the parent CR to this CR. However, these relation attributes were already defined in this TS, but one of them (“manages”) now is named “managedElements” in 32.622 (and “manages” should not be used here since it may cause a compilation error). Further, at the same time as analysing how to correct this error, also some other minor errors were detected; see the rest of the items below.
2. Some IDL references in the mapping tables use the wrong IDL module name.
3. The title of clause 5 uses the old (obsolete) wording “New methodology”.
4. The IDL modules have not been given any file name specifications as prescribed in 32.102 Annex F.4 (32.150).

Summary of change: ⌘

1. Add the attributes needed to model the managementScope association in IOCs ManagementNode and ManagedElement. Clarify for the role that the attribute names are not the same as the role names (since this would be misleading).
2. Correct IDL references in the mapping tables.
3. Remove “New methodology” in title of clause 5.
4. Add file name specifications to the IDL modules (align with the way it has been done in 32.303).

Consequences if not approved: ⌘ Implementation of this TS would not be able to properly realise this association in a standard way, and thus risk for interoperability problems.

Clauses affected:	⌘	1, 5, Annex A, Annex B.			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	Rel-6 Mirror CR of S5-048131. Child to 32.622 CR in S5-048130.			

How to create CRs using this form:

Change in Clause Scope

1 Scope

The TS 32.620 series (Generic Network Resources IRP) defines an Integration Reference Point (IRP) through which an "IRPAgent" (typically an Element Manager or Network Element) can communicate Network Management related information to one or several "IRPManagers" (typically Network Managers).

This series of documents specifies a generic Network Resource Model, NRM (also referred to as a Management Information Model - MIM) with definitions of Information Object Classes and Managed Object Classes.

The present document specifies the CORBA Solution Set (SS).

This Solution Set specification is related to 3GPP TS 32.622 V6.1~~0~~.X.

End of Change in Clause Scope

Change in Clause 5

5 ~~New methodology~~ Mapping

5.1 General mappings

The IS parameter name managedObjectInstance is mapped into DN.

Attributes modelling associations as defined in the NRM (here also called "reference attributes") are in this SS mapped to attributes. The names of the reference attributes in the NRM are mapped to the corresponding attribute names in the MOC. When the cardinality for an association is 0..1 or 1..1 the datatype for the reference attribute is defined as an MOReference. The value of an MO reference contains the distinguished name of the associated MO. When the cardinality for an association allows more than one referred MO, the reference attribute will be of type MOReferenceSet, which contains a sequence of MO references.

If a reference attribute is changed, an AttributeValueChange notification is emitted.

End of Change in Clause 5

Change in Clause 5.2

5.2.2 IOC ManagedElement

Table 11: Mapping from NRM IOC ManagedElement attributes and association roles to SS equivalent MOC ManagedElement attributes

NRM Attributes/Association roles	SS Attributes	SS Type	Qualifier
managedElementId	managedElementId	string	Read-Only, M
dnPrefix	dnPrefix	string	Read-Only, M
userLabel	userLabel	string	Read-Write, M
locationName	locationName	string	Read-Only, M
vendorName	vendorName	string	Read-Only, M
userDefinedState	userDefinedState	string	Read-Write, M
managedElementType	managedElementType	GenericNetworkResourcesNRMDefs~~GenericNRIRPSystem~~::AttributeTypes::StringSet	Read-Only, M
managedBy	managedBy	GenericNetworkResourcesNRMDefs~~GenericNRIRPSystem~~::AttributeTypes::MOReferenceSet	Read-Only, M
swVersion	swVersion	string	Read-Only, M

5.2.3 IOC MeContext

Table 12: Mapping from NRM IOC MeContext attributes to SS equivalent MOC MeContext attributes

NRM Attributes of IOC MeContext in 3GPP TS 32.622 [4]	SS Attributes	SS Type	Qualifier
meContextId	meContextId	string	Read-Only, M
dnPrefix	dnPrefix	string	Read-Only, M

5.2.4 IOC ManagementNode

Table 13: Mapping from NRM IOC ManagementNode attributes and association roles to SS equivalent MOC ManagementNode attributes

NRM Attributes/association roles of IOC ManagementNode in 3GPP TS 32.622 [4]	SS Attributes	SS Type	Qualifier
managementNodeId	managementNodeId	string	Read-Only, M
userLabel	userLabel	string	Read-Write, M
locationName	locationName	string	Read-Only, M
vendorName	vendorName	string	Read-Only, M
userDefinedState	userDefinedState	string	Read-Write, M
managedElements	managedElements	GenericNetworkResourcesNRMDefs~~GenericNRIRPSystem~~::AttributeTypes::MOReferenceSet	Read-Only, M
swVersion	swVersion	string	Read-Only, M

End of Change in Clause 5.2

Change in Annex A

Annex A (normative): ~~CORBA~~ IDL specifications~~, Access Protocol~~

A.1 IDL specification (file name "GenericNetworkResourcesIRPSystem.idl")

```
#ifndef GenericNetworkResourcesIRPSystem_idl
#define GenericNetworkResourcesIRPSystem_idl


#pragma prefix "3gppsa5.org"


module GenericNetworkResourcesIRPSystem
{
   /**
    * The format of Distinguished Name (DN) is specified in "Name Conventions
    * for Managed Objects revision B".
    */
   typedef string DN;


   /**
    *  This module adds datatype definitions for types
    *  used in the NRM which are not basic datatypes defined
    *  already in CORBA.
    */
   module AttributeTypes
   {
      /**
       * An MO reference refer~~re~~s to an MO instance.
       * "otherMO" contains the  distinguished name of the referred MO.
       * A conceptual "null" reference (meaning no MO is referenced)
       * is represented as an empty string ("").
       *
       */
      struct MOReference
      {
         DN otherMO;
      };

      /**
       * MOReferenceSet represents a set of MO references.
       * This type is used to hold 0..n MO references.
       * A referred MO is not allowed to be repeated (therefore
       * it is denoted as a "Set")
       */
      typedef sequence<MOReference> MOReferenceSet;


      /**
       *  A set of strings.
       */
      typedef sequence<string> StringSet;
```

```
      /**
       *  A set of long.
       */
      typedef sequence<long> LongSet;
   };

};

#endif
```

End of Change in Annex A

Change in Annex B

Annex B (normative): ~~CORBA~~ IDL specifications~~, NRM Definitions~~

B.1 IDL specification (file name "GenericNetworkResourcesNRMDefs.idl")

```
#ifndef GenericNetworkResourcesNRMDefs_idl
#define GenericNetworkResourcesNRMDefs_idl

#pragma prefix "3gppsa5.org"

/**
 * This module defines constants for each MO class name and
 * the attribute names for each defined MO class.
 */
module GenericNetworkResourcesNRMDefs
{

      /**
       *  Definitions for MO class SubNetwork
       */
      interface SubNetwork
      {
         const string CLASS = "SubNetwork";

         // Attribute Names
         //
         const string subNetworkId = "subNetworkId";
         const string dnPrefix = "dnPrefix";
         const string userLabel = "userLabel";
         const string userDefinedNetworkType = "userDefinedNetworkType";
         const string setOfMcc = "setOfMcc";
      };

      /**
       *  Definitions for MO class ManagedElement
       */
      interface ManagedElement
      {
         const string CLASS = "ManagedElement";

         // Attribute Names
         //
         const string managedElementId = "managedElementId";
         const string dnPrefix = "dnPrefix";
         const string managedElementType = "managedElementType";
         const string userLabel = "userLabel";
         const string vendorName = "vendorName";
         const string userDefinedState ="userDefinedState";
         const string locationName ="locationName";

         const string managedBy = "managedBy";
```

```
   const string swVersion = "swVersion";

};


/**
 *  Definitions for MO class MeContext
 */
interface MeContext
{
   const string CLASS = "MeContext";

   // Attribute Names
   //
   const string meContextId = "meContextId";
   const string dnPrefix = "dnPrefix";
};

/**
 *  Definitions for MO class ManagementNode
 */
interface ManagementNode
{
   const string CLASS = "ManagementNode";

   // Attribute Names
   //
   const string managementNodeId = "managementNodeId";
   const string userLabel = "userLabel";
   const string vendorName = "vendorName";
   const string userDefinedState = "userDefinedState";
   const string locationName = "locationName";
   const string managedElements = "managedElements";

   const string swVersion = "swVersion";
};


/**
 *  Definitions for abstract MO class ManagedFunction
 *
 */
interface ManagedFunction
{
   const string CLASS = "ManagedFunction";

   // Attribute Names
   //
   const string userLabel = "userLabel";
};


/**
 *  Definitions for MO class IRPAgent
 */
interface IRPAgent
{
   const string CLASS = "IRPAgent";

   // Attribute Names
   //
   const string irpAgentId = "irpAgentId";
   const string systemDN = "systemDN";
};
/**
```

```
        *  Definitions for MO class VsDataContainer
        */
       interface VsDataContainer
       {
          const string CLASS = "VsDataContainer";

          // Attribute Names
          //
          const string vsDataContainerId = "vsDataContainerId";
          const string vsDataType = "vsDataType";
          const string vsData = "vsData";
          const string vsDataFormatVersion = "vsDataFormatVersion";
       };

};

#endif
```

End of Change in Annex B