TSGS#24(04)0249

Source:	**SA5 (Telecom Management)**
Title:	**2 Rel-5/6 CR 32.622 (CM Generic network resources IRP NRM)**
Document for:	**Decision**
Agenda Item:	**7.5.3**

Doc-1st-	Spec	CR	R	Phas	Subject	Cat	Ver	Doc-2nd-	Workitem
SP-040249	32.622	015	-	Rel-5	Add missing attribute constraints for dnPrefix	F	5.3.0	S5-048427	OAM-NIM
SP-040249	32.622	016	-	Rel-6	Add missing attribute constraints for dnPrefix	A	6.1.0	S5-048428	OAM-NIM

CR-Form-v7

CHANGE REQUEST

| ⌘ | **32.622** 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 missing attribute constraints for *dnPrefix*
Source:	⌘	SA5 (olaf.pollakowski@siemens.com)

Work item code:⌘	OAM-NIM		***Date:*** ⌘	14/05/2004

Category:	⌘	**F**	***Release:*** ⌘	Rel-5
		Use one of the following categories:	*Use one of the following releases:*	
		F (correction)	*2 (GSM Phase 2)*	
		A (corresponds to a correction in an earlier release)	*R96 (Release 1996)*	
		B (addition of feature),	*R97 (Release 1997)*	
		C (functional modification of feature)	*R98 (Release 1998)*	
		D (editorial modification)	*R99 (Release 1999)*	
		Detailed explanations of the above categories can	*Rel-4 (Release 4)*	
		be found in 3GPP TR 21.900.	*Rel-5 (Release 5)*	
			Rel-6 (Release 6)	

Reason for change:	⌘	The attribute constraints for *dnPrefix* are missing
Summary of change:⌘		The attribute constraints for *dnPrefix* are added and the defintion of the attribute in the attributes definition table is updated accordingly.
Consequences if not approved:	⌘	It is not possible to implement a compliant Generic NRM

Clauses affected:	⌘	6.1.3.3, 6.1.3.6, 6.1.3.7, 6.1.5

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

Other comments:	⌘	Rel-6 Mirror CR 32.622 in S5-048428.

Change in Clause 6.1.3.3

6.1.3.3 ManagedElement

6.1.3.3.1 Definition

This IOC represents telecommunications equipment or TMN entities within the telecommunications network that performs Managed Element (ME) functions, i.e. provides support and/or service to the subscriber.
An ME communicates with a manager (directly or indirectly) over one or more interfaces for the purpose of being monitored and/or controlled. MEs may or may not additionally perform element management functionality.
An ME contains equipment that may or may not be geographically distributed. An ME is often referred to as a "Network Element".

A ManagedElement may be contained in either a SubNetwork or in an MeContext instance. A single ManagedElement seen over the Itf-N may also exist stand-alone with no parent at all.

The ManagedElement IOC may be used to represent combined ME functionality (as indicated by the managedElementType attribute and the contained instances of different functional IOCs).

Single function ManagedElement IOC instances will have a 1..1 containment relationship to a function IOC instance (in this context a function IOC instance is an instance of an IOC derived from the ManagedFunction IOC). Multiple function ManagedElement instances will have a 1..N containment relationship to function IOC instances.

6.1.3.3.2 Attributes

Table 6.4: Attributes of ManagedElement

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
managedElementId	M	M	-
dnPrefix	M~~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	-

6.1.3.3.3 Attribute constraints

Attribute constrains for dnPrefix: The attribute dnPrefix shall be supported if an instance of ManagedElement is the local root instance of the MIB. Otherwise the attribute shall be absent or carry no information.

6.1.3.3.4~~3~~   Notifications

Table 6.5: Notifications of `ManagedElement`

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.3

Change in Clause 6.1.3.6

6.1.3.6   MeContext

6.1.3.6.1   Definition

This IOC is introduced for naming purposes. It may support creation of unique DNs in scenarios when some MEs have the same RDNs due to the fact that they have been manufacturer pre-configured.
If some MEs have the same RDNs (for the above mentioned reason) and they are contained in the same SubNetwork instance, some measure shall be taken in order to assure the global uniqueness of DNs for all IOC instances under those MEs. One way could be to set different DnPrefixes for those NEs, but that would require either that:

a)   all LDNs or DNs are locally modified using the new DnPrefix for the upper portion of the DNs, or

b)   a mapping (translation) of the old LDNs or DNs to the new DNs every time they are used externally, e.g. in alarm notifications.

As both the two alternatives above may involve unacceptable drawbacks (as the old RDNs for the MEs then would have to be changed or mapped to new values), using MeContext offers a new alternative to resolve the DN creation. Using MeContext as part of the naming tree (and thus the DN) means that the DnPrefix, including a unique MeContext for each ME, may be directly concatenated with the LDNs, without any need to change or map the existing ME RDNs to new values.

MeContext have 0..N instances. It may exist even if no SubNetwork exists. Every instance of MeContext contains exactly one ManagedElement during steady-state operations.

6.1.3.6.2   Attributes

Table 6.9: Attributes of `MeContext`

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
meContextId	M	M	-
dnPrefix	M~~C~~	M	-

Attribute constrains for dnPrefix: The attribute dnPrefix shall be supported if an instance of MeContext is the local root instance of the MIB. Otherwise the attribute shall be absent or carry no information.

6.1.3.6.43   Notification

Table 6.10: Notifications of `MeContext`

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.6

Change in Clause 6.1.3.7

6.1.3.7   SubNetwork

6.1.3.7.1   Definition

This IOC represents a set of managed entities as seen over the Itf-N.

There may be zero or more instances of a SubNetwork. It shall be present if either a ManagementNode or multiple ManagedElements are present (i.e. ManagementNode and multiple ManagedElement instances shall have SubNetwork as parent).

The SubNetwork instance not contained in any other instance of SubNetwork is referred to as "the root SubNetwork instance".

6.1.3.7.2   Attributes

Table 6.11: Attributes of `SubNetwork`

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
subNetworkId	M	M	-
dnPrefix	MC	M	-
userLabel	M	M	M
userDefinedNetworkType	M	M	-

Attribute constrains for dnPrefix: The attribute dnPrefix shall be supported if an instance of SubNetwork is the local root instance of the MIB. Otherwise the attribute shall be absent or carry no information.

3GPP

6.1.3.7.43   Notification

Table 6.12: Notifications of `SubNetwork`

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.7

End of Change in Clause 6.1.5

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] or no information. 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 End of Change in Clause 6.1.5

Annex B (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-010479	001	--	Add the notification notifyComments in all MOCs that support alarms and correct the list of allowed members of the attribute managedElementType of the MOC managedElement	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	002	--	Correction of Generic NRM Containment/Naming and Association diagram	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	003	--	Correct description of swVersion attribute	4.0.0	4.1.0
Mar 2002	S_15	SP-020020	004	--	Addition of managedElementType value for GSM Radio Access Network support	4.1.0	4.2.0
Jun 2002	S_16	SP-020299	005	--	Remove R99-inherited restriction of self-containment for MOC SubNetwork	4.2.0	4.3.0
Sep 2002	S_17	SP-020488	006	--	Upgrade to Rel-5 (Add new IS method, MOC name convention)	4.3.0	5.0.0
Jun 2003	S_20	SP-030280	008	--	Correction of Notifications for IOCs	5.0.0	5.1.0
Dec 2003	S_22	SP-030643	010	--	Add Missing VsDataContainer for ManagedFunction & ManagedElement and Other IOCs (Version 2)	5.1.0	5.2.0
Dec 2003	S_22	SP-030644	011	--	Correction of UML diagram and other corrections	5.1.0	5.2.0
Mar 2004	S_23	SP-040128	013	--	Addition of missing attributes for the managementScope association	5.2.0	5.3.0

CR-Form-v7

CHANGE REQUEST

⌘	**32.622** CR **016**	⌘**rev**	**-**	⌘	Current version:	**6.1.0**	⌘	

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

Title:	⌘	Add missing attribute constraints for *dnPrefix*
Source:	⌘	SA5 (olaf.pollakowski@siemens.com)
Work item code: ⌘	OAM-NIM	***Date:*** ⌘ 14/05/2004

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 attribute constraints for *dnPrefix* are missing
Summary of change: ⌘		The attribute constraints for *dnPrefix* are added and the defintion of the attribute in the attributes definition table is updated accordingly.
Consequences if not approved:	⌘	It is not possible to implement a compliant Generic NRM

Clauses affected:	⌘	6.1.3.3, 6.1.3.6, 6.1.3.7, 6.1.5

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

Other comments:	⌘	Rel-6 Mirror CR 32.622 of S5-048427.

Change in Clause 6.1.3.3

6.1.3.3 ManagedElement

6.1.3.3.1 Definition

This IOC represents telecommunications equipment or TMN entities within the telecommunications network that performs Managed Element (ME) functions, i.e. provides support and/or service to the subscriber.
An ME communicates with a manager (directly or indirectly) over one or more interfaces for the purpose of being monitored and/or controlled. MEs may or may not additionally perform element management functionality.
An ME contains equipment that may or may not be geographically distributed. An ME is often referred to as a "Network Element".

A ManagedElement may be contained in either a SubNetwork or in an MeContext instance. A single ManagedElement seen over the Itf-N may also exist stand-alone with no parent at all.

The ManagedElement IOC may be used to represent combined ME functionality (as indicated by the managedElementType attribute and the contained instances of different functional IOCs).

Single function ManagedElement IOC instances will have a 1..1 containment relationship to a function IOC instance (in this context a function IOC instance is an instance of an IOC derived from the ManagedFunction IOC). Multiple function ManagedElement instances will have a 1..N containment relationship to function IOC instances.

6.1.3.3.2 Attributes

Table 6.4: Attributes of ManagedElement

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

6.1.3.3.3 Attribute constraints

Attribute constrains for dnPrefix: The attribute dnPrefix shall be supported if an instance of ManagedElement is the local root instance of the MIB. Otherwise the attribute shall be absent or carry no information.

6.1.3.3.4~~3~~ Notifications

Table 6.5: Notifications of `ManagedElement`

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.3

Change in Clause 6.1.3.6

6.1.3.6 MeContext

6.1.3.6.1 Definition

This IOC is introduced for naming purposes. It may support creation of unique DNs in scenarios when some MEs have the same RDNs due to the fact that they have been manufacturer pre-configured.
If some MEs have the same RDNs (for the above mentioned reason) and they are contained in the same SubNetwork instance, some measure shall be taken in order to assure the global uniqueness of DNs for all IOC instances under those MEs. One way could be to set different DnPrefixes for those NEs, but that would require either that:

a) all LDNs or DNs are locally modified using the new DnPrefix for the upper portion of the DNs, or

b) a mapping (translation) of the old LDNs or DNs to the new DNs every time they are used externally, e.g. in alarm notifications.

As both the two alternatives above may involve unacceptable drawbacks (as the old RDNs for the MEs then would have to be changed or mapped to new values), using MeContext offers a new alternative to resolve the DN creation. Using MeContext as part of the naming tree (and thus the DN) means that the DnPrefix, including a unique MeContext for each ME, may be directly concatenated with the LDNs, without any need to change or map the existing ME RDNs to new values.

MeContext have 0..N instances. It may exist even if no SubNetwork exists. Every instance of MeContext contains exactly one ManagedElement during steady-state operations.

6.1.3.6.2 Attributes

Table 6.9: Attributes of `MeContext`

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
meContextId	M	M	-
dnPrefix	M~~C~~	M	-

Attribute constrains for dnPrefix: The attribute dnPrefix shall be supported if an instance of MeContext is the local root instance of the MIB. Otherwise the attribute shall be absent or carry no information.

6.1.3.6.43   Notification

Table 6.10: Notifications of `MeContext`

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.6

Change in Clause 6.1.3.7

6.1.3.7   SubNetwork

6.1.3.7.1   Definition

This IOC represents a set of managed entities as seen over the Itf-N.

There may be zero or more instances of a SubNetwork. It shall be present if either a ManagementNode or multiple ManagedElements are present (i.e. ManagementNode and multiple ManagedElement instances shall have SubNetwork as parent).

The SubNetwork instance not contained in any other instance of SubNetwork is referred to as "the root SubNetwork instance".

6.1.3.7.2   Attributes

Table 6.11: Attributes of `SubNetwork`

Attribute Name	Support Qualifier	Read Qualifier	Write Qualifier
subNetworkId	M	M	-
dnPrefix	C	M	-
userLabel	M	M	M
userDefinedNetworkType	M	M	-
setOfMcc	M	M	-

6.1.3.7.3   Attribute constraints

Attribute constrains for dnPrefix: The attribute dnPrefix shall be supported if an instance of SubNetwork is the local root instance of the MIB. Otherwise the attribute shall be absent or carry no information.

Attribute constrains for "setOfMcc": If there may be more than one MCC value in the SubNetwork instance, the attribute setOfMcc is mandatory. Otherwise it is optional.

6.1.3.7.4   Notifications

Table 6.12: Notifications of `SubNetwork`

Name	Qualifier	Notes
notifyAckStateChanged	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAttributeValueChange	O	
notifyChangedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyClearedAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyNewAlarm	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyObjectCreation	O	
notifyObjectDeletion	O	
notifyComments	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyAlarmListRebuilt	See Alarm IRP (3GPP TS 32.111-2 [11])	
notifyPotentialFaultyAlarmList	See Alarm IRP (3GPP TS 32.111-2 [11])	

End of Change in Clause 6.1.3.7

End of Change in Clause 6.1.5

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] or no information. 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.	

Attribute Name	Definition	Legal Values
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.	
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 End of Change in Clause 6.1.5

Annex B (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-010479	001	--	Add the notification notifyComments in all MOCs that support alarms and correct the list of allowed members of the attribute managedElementType of the MOC managedElement	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	002	--	Correction of Generic NRM Containment/Naming and Association diagram	4.0.0	4.1.0
Sep 2001	S_13	SP-010479	003	--	Correct description of swVersion attribute	4.0.0	4.1.0
Mar 2002	S_15	SP-020020	004	--	Addition of managedElementType value for GSM Radio Access Network support	4.1.0	4.2.0
Jun 2002	S_16	SP-020299	005	--	Remove R99-inherited restriction of self-containment for MOC SubNetwork	4.2.0	4.3.0
Sep 2002	S_17	SP-020488	006	--	Upgrade to Rel-5 (Add new IS method, MOC name convention)	4.3.0	5.0.0
Jun 2003	S_20	SP-030280	008	--	Correction of Notifications for IOCs	5.0.0	5.1.0
Dec 2003	S_22	SP-030643	010	--	Add Missing VsDataContainer for ManagedFunction & ManagedElement and Other IOCs (Version 2)	5.1.0	5.2.0
Dec 2003	S_22	SP-030644	011	--	Correction of UML diagram and other corrections	5.1.0	5.2.0
Dec 2003	S_22	SP-030648	012	--	Add SetofMcc attribute in Generic NRM IOCs for NRM alignment	5.2.0	6.0.0
Mar 2004	S_23	SP-040128	014	--	Addition of missing attributes for the managementScope association	6.0.0	6.1.0