Technical Specification Group Services and System Aspects ***TSGS#11(01)010029***
Meeting #11, Palm Springs, CA, USA, 19-22 March 2001

Source: **SA WG5**

Title: **CRs to Configuration Management; Part 5: Basic Configuration Management IRP: Information Model Version 1 (32.106-5)**

Document for: **Approval**

Agenda Item: **7.5.3**

Doc-	Doc-	Spec	CR	R	Phas	Subject	Cat	Version-	Version-	Workitem
SP-010029	S5-010133	32.106-5	001		R99	**UMTS Network Resource Model alignment with TSG RAN specifications**	F	3.0.0	3.1.0	OAM-CM
SP-010029	S5-010136	32.106-5	002		R99	**Correction of notifyObjectDeletion and notifyObjectCreation behaviour description**	F	3.0.0	3.1.0	OAM-CM

3GPP TSG SA WG5 Meeting #18 **S5-010133**
Versailles, France, 26 Feb.-2 March. 2001 **S5C010076**

CR-Form-v3

CHANGE REQUEST

⌘ **32.106-5** **CR** **001** ⌘ rev **-** ⌘ Current version: **3.0.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title:	⌘	**UMTS Network Resource Model alignment with TSG RAN specifications**
Source:	⌘	SA5
Work item code:	⌘	OAM-CM
Date:	⌘	02/03/2001
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(essential 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)*

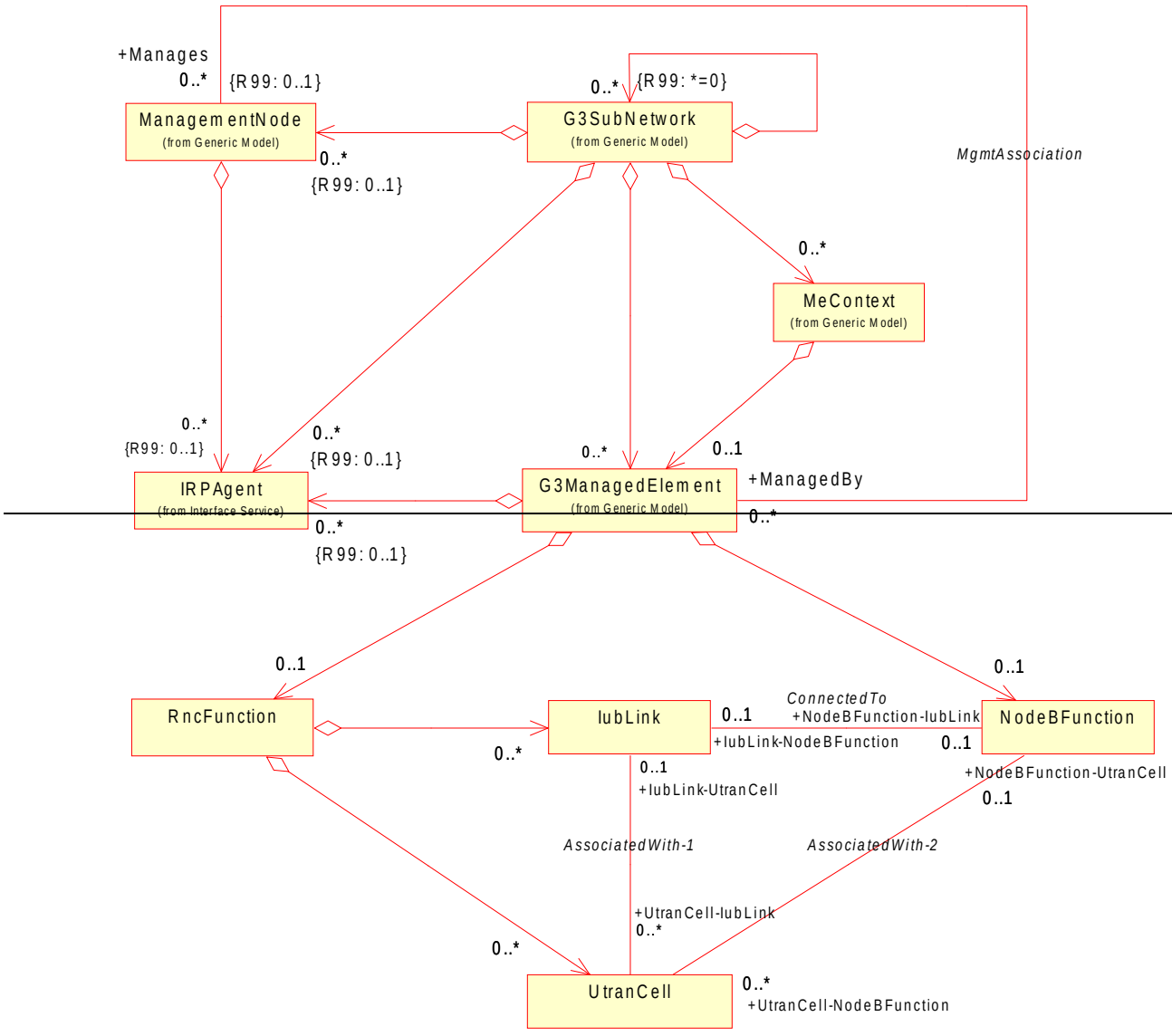
Reason for change:	⌘	The UMTS Network Resource Model is not aligned with the UTRAN architecture specified in RAN3 specifications 25.401, 25.430 and 25.433.
Summary of change:	⌘	The association between NodeBFunction and UtranCell is removed. The association between IUBLink and UtranCell is renamed to AssociatedWith, and made Mandatory.
Consequences if not approved:	⌘	There is a compatibility problem in the future, as the model does not show the real architecture in the RAN3 specifications.

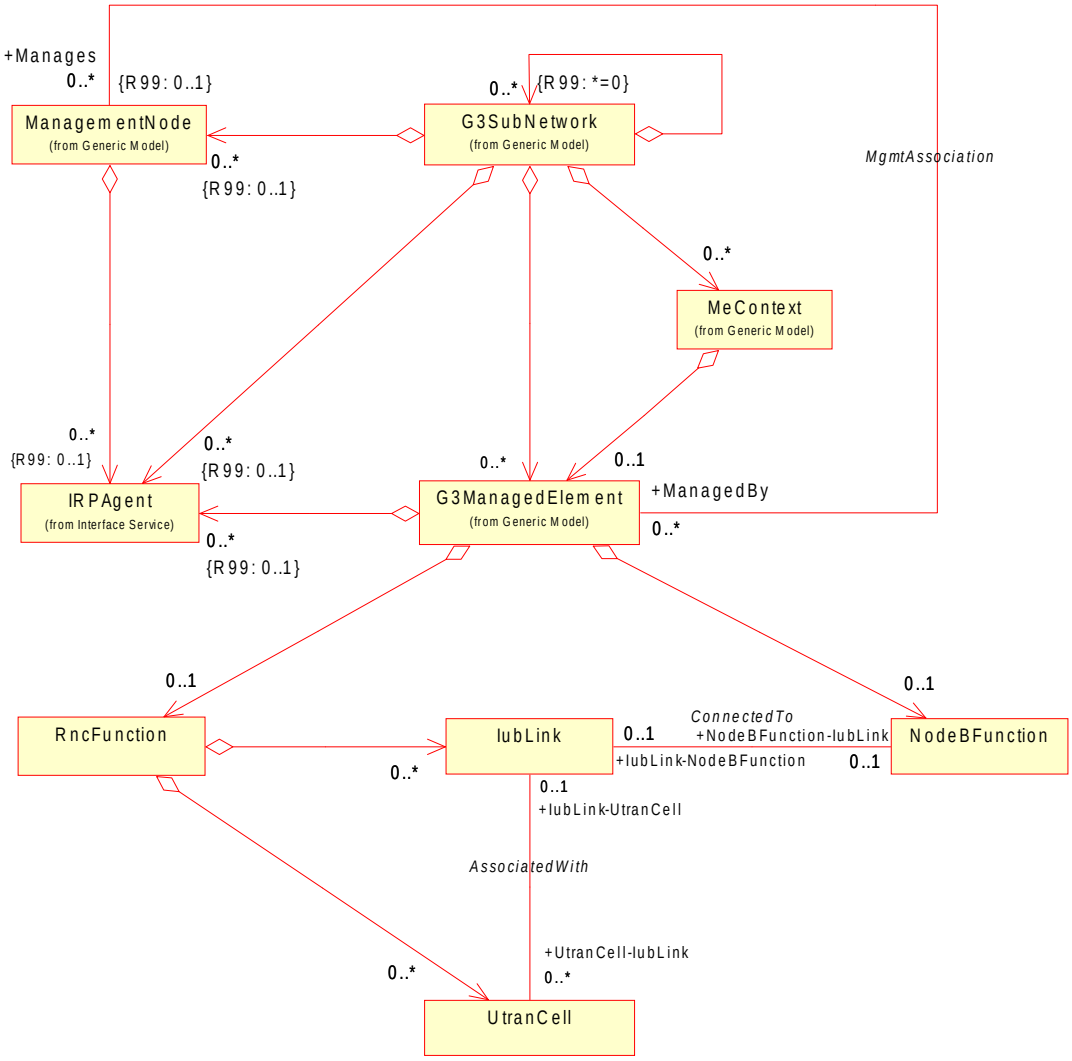
Clauses affected:	⌘	6.4.1.2, 6.4.2.2, 6.4.2.3 and 6.4.3.3.
Other specs affected:	⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications CR 007 for 32.106-6 in S5-010134 and CR 002 for 32.106-7 in S5-010135
Other comments:	⌘	This CR should only be approved and implemented together with the CRs in S5-010134 and S5-010135.

6.4.1.2 Containment/Naming and Association diagrams

Figures 9 and 10 show the containment/naming hierarchy and the associations of the UMTS NRM defined by this IRP.

NOTE: The Managed Object containment/naming relationships are in the diagram(s) below indicated by UML "Aggregation by reference" ("hollow diamonds").





NOTE 1: G3ManagedElement may be contained in either a G3SubNetwork or an MeContext instance, or have no parent instance at all.

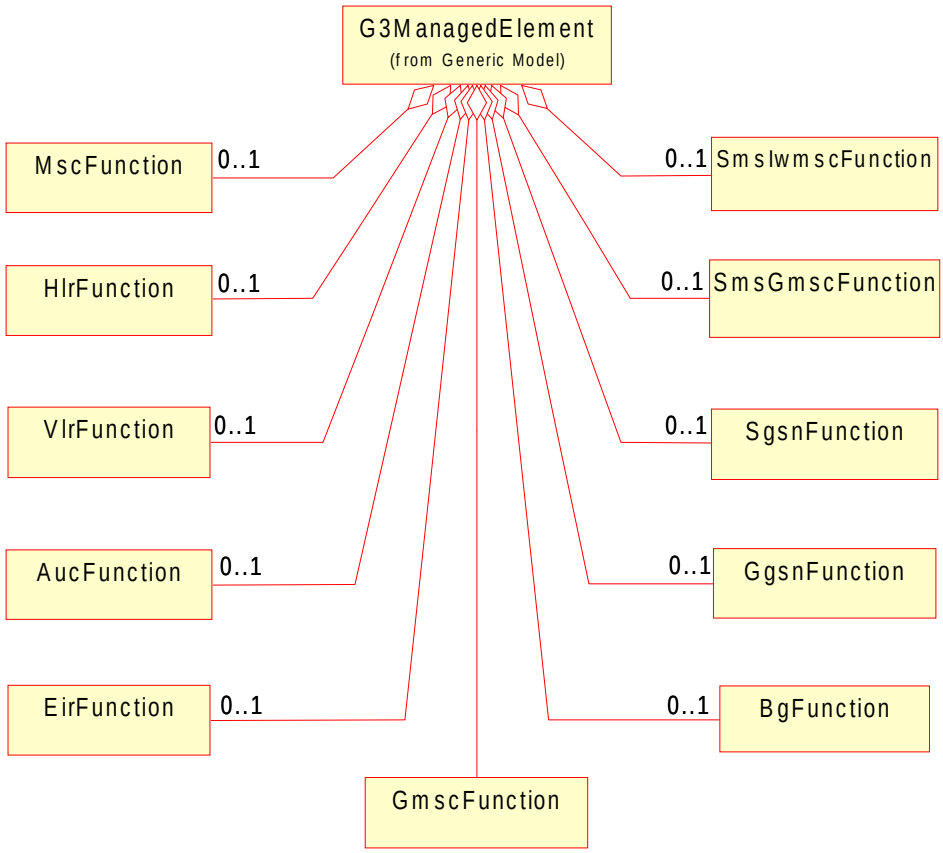
NOTE 2: The listed cardinality numbers represent transient as well as steady-state numbers, and reflect all managed object creation and deletion scenarios.

NOTE 3: The containment of MOCs NotificationIRP, AlarmIRP and BasicCmIRP under IRPAgent, which is shown in the generic model in subclause 6.3, is valid for this model as well.

Figure 1: UMTS NRM Containment/Naming and Association diagram, Network-UTRAN view

Each Managed Object is identified with a Distinguished Name (DN) according to 3GPP TS 32.106-8 [13] that expresses its containment hierarchy. As an example, the DN of a Managed Object representing a cell could have a format like:

```
g3SubNetwork=Sweden,meContext=MEC-Gbg-1,g3ManagedElement=RNC-Gbg-1,
rncFunction=RF-1,utranCell=Gbg-1.
```



NOTE: The listed cardinality numbers represent transient as well as steady-state numbers, and reflect all managed object creation and deletion scenarios.

Figure 2: UMTS NRM Containment/Naming and Association diagram, CN view

6.4.2.2 MOC `NodeBFunction`

This Managed Object Class represents NodeB functionality. For more information about the NodeB, see 3GPP TS 23.002 [15].

It inherits from ManagedFunction.

Table 1: Attributes of `NodeBFunction`

Name	Qualifier	Description
`nodeBFunctionId`	READ-ONLY, M	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.
`userLabel`	READ-ONLY, M	A user-friendly (and user assigned) name of the associated object. Inherited from ManagedFunction.
`nodeBFunction-IubLink`	READ-ONLY, M	The value of this attribute shall be the DN of the related IubLink instance. This is a reference attribute modelling the role (of the association ConnectedTo) that this NodeBFunction is connected to 0-1 IubLink.
~~`nodeBFunction-UtranCell`~~	~~READ-ONLY, O~~	~~The value of this attribute shall be a list of the DN(s) of the related UtranCell instance(s). This is a reference attribute modelling the role (of the association AssociatedWith-2) that this NodeBFunction is associated with 0-N UtranCells.~~

Table 2: Notifications of `NodeBFunction`

Name	Qualifier	Notes
notifyAckStateChanged	M, 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	

6.4.2.3 MOC `UtranCell`

This Managed Object Class represents a radio cell controlled by the RNC. For more information about radio cells, see 3GPP TS 23.002 [15].

It inherits from ManagedFunction.

Table 3: Attributes of UtranCell

Name	Qualifier	Description
`utranCellId`	READ-ONLY, M	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.
`userLabel`	READ-ONLY, M	A user-friendly (and user assigned) name of the associated object. Inherited from ManagedFunction.
`utranCell-IubLink`	READ-ONLY, ~~O~~M	The value of this attribute shall be the DN of the related IubLink instance. This is a reference attribute modelling the role (of the association AssociatedWith~~-1~~) that this UtranCell is associated with 0-1 IubLink.
~~`utranCell-NodeBFunction`~~	~~READ-ONLY, O~~	~~The value of this attribute shall be the DN of the related NodeBFunction instance. This is a reference attribute modelling the role (of the association AssociatedWith-2) that this UtranCell is associated with 0-1 NodeBFunction.~~

Table 4: Notifications of `UtranCell`

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	

6.4.3.3 Void~~Association AssociatedWith-2 (O)~~

~~This bi-directional association models the relationship between the UtranCell and NodeBFunction. It has two roles, named UtranCell-NodeBFunction and NodeBFunction-UtranCell. These two roles model each MOC's association with the other MOC. This association is optional, but under the condition that at least one of the associations AssociatedWith-1 and AssociatedWith-2 shall be present in each instance of Utran Cell. Each role is in the MOC definition mapped to a reference attribute with the same name.~~

3GPP TSG SA WG5 Meeting #18 **S5-010136**
Versailles, France, 26 Feb. – 2 March 2001 **S5C010079**

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CHANGE REQUEST

⌘ **32.106-5** **CR** **002** ⌘ rev **-** ⌘ Current version: **3.0.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network **X**

Title:	⌘	Correction of **notifyObjectDeletion** and **notifyObjectCreation** behaviour description
Source:	⌘	SA5
Work item code:	⌘	OAM-CM
Date:	⌘	02/03/2001
Category:	⌘	**F**
Release:	⌘	R99

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

Reason for change: ⌘ Ambiguous description of the behaviour for the notifyObjectCreation and notifyObjectDeletion notifications.

Summary of change: ⌘ The second paragraph of subclauses 6.2.3.2 and 6.2.3.3 is added/rephrased.

Consequences if not approved: ⌘

1. The reader gets the impression that it is possible to delete managed objects from the IRPManager over the Itf-N, which is not true.
2. It is not clear to the reader what happens to subordinate objects to a deleted objects, and what happens with associations to deleted objects. This causes risk of different implementations of the standard by different manufacturers, which hinders multi-vendor solutions.
3. It is not clear to the reader what happens if an object creation notification is sent, that in the MOI includes superior (parent) object(s) that the manager is not aware of (in case the object creation notifications for that or those objects have not been received yet, or are lost). This causes risk of different implementations of the standard by different manufacturers, which hinders a multi-vendor solution for the operator.

Clauses affected: ⌘ 6.2.3.2, 6.2.3.3

Other specs affected: ⌘
☐ Other core specifications ⌘
☐ Test specifications
☐ O&M Specifications

Other comments: ⌘

6.2.3.2 Notification notifyObjectCreation (O)

IRPAgent notifies the subscribed IRPManager that a new Managed Object has been created and that the new object satisfies the filter constraint expressed in IRPManager's subscribe operation (see 3GPP TS 32.106-2 [3]). This notification is based on the objectCreation notification type specified in ITU-T X.721 [8] and ITU-T X.730 [9] (difference compared to these specifications are indicated in the description below).

When a notifyObjectCreation notification is received, that in the MOI Parameter-Attribute includes superior (parent) MO(s) that the IRPmanager is not aware of (in case the object creation notifications for that or those objects have not been received yet, or are lost), these superior MO(s) shall also be assumed to be created.

Table 5: Parameters for notifyObjectCreation

Name	Qualifier	Description
notificationHeader	Input, M	See Table 4: Notification Header.
correlatedNotifications	Input, O	A set of notifications that are correlated to the subject notification. Defined in ITU-T X.733 [10].
additionalText	Input, O	It can contain further information on the creation of the MO.
sourceIndicator	Input, O	This parameter, when present, indicates the source of the operation that led to the generation of this notification. It can have one of the following values: • resource operation: The notification was generated in response to an internal operation of the resource; • management operation: The notification was generated in response to a management operation applied across the managed object boundary external to the managed object; • unknown: It is not possible to determine the source of the operation.
attributeList	Input, O	The attributes (name/value pairs) of the created MO.

6.2.3.3 Notification notifyObjectDeletion (O)

IRPAgent notifies the subscribed IRPManager of a deleted Managed Object. The IRPAgent invokes this notification because the subject notification satisfies the filter constraint expressed in the IRPManager subscribe operation (see 3GPP TS 32.106-2 [3]). This notification is based on the objectCreation notification type specified in ITU-T X.721 [8] and ITU-T X.730 [9] (difference compared to these specifications are indicated in the description below).

When a Managed Object is notified as deleted, all subordinate Managed Objects (i.e. the complete sub-tree of the MIB contained MOs under the deleted MO), if any exist, are shall also be assumed to be deleted. When an IRPAgent is able to detect an atomic operation leading to the removal of a whole sub-tree of the MIB, it shall send a delete notification for only the top MO of the deleted sub-tree. Furthermore, all associations where to the a deleted Managed Object participates are shall be deleted by the IRPAgent.

Table 6: Parameters for `notifyObjectDeletion`

Name	Qualifier	Description
`notificationHeader`	Input, M	See Table 4: Notification Header.
`correlatedNotifications`	Input, O	A set of notifications that are correlated to the subject notification. Defined in ITU-T X.733 [10].
`additionalText`	Input, O	It can contain further information on the deleted MO.
`sourceIndicator`	Input, O	This parameter, when present, indicates the source of the operation that led to the generation of this notification type. It can have one of the following values: • resource operation: The notification was generated in response to an internal operation of the resource; • management operation: The notification was generated in response to a management operation applied across the managed object boundary external to the managed object; • unknown: It is not possible to determine the source of the operation.
`attributeList`	Input, O	The attributes (name/value pairs) of the deleted MO.