

**Source:** SA5 (Telecom Management)  
**Title:** 6 Rel-6 CR 32.642/3/4/5 UTRAN network resources IRP NRM / CMIP / XML  
**Document for:** Approval  
**Agenda Item:** 7.5.3

Doc1stLevel	Specific a	CR	R	Phase	Subject	Ca	VersCu	Doc2ndLev	Workitemsl D
SP-040810	32.642	028	--	Rel-6	Add AntennaFunction class and attributes to support RET (Remote control of Electrical Tilting)	B	6.2.0	S5-049002	OAM-NIM
SP-040810	32.642	029	--	Rel-6	Add support for the state change notification	B	6.2.0	S5-048985	OAM-NIM
SP-040810	32.643	017	--	Rel-6	Correct IDL compilation error	F	6.2.0	S5-048939	OAM-NIM
SP-040810	32.643	018	--	Rel-6	Correct IDL compilation error and change name of retAntennaList	F	6.2.0	S5-049044	OAM-NIM
SP-040810	32.644	015	--	Rel-6	Add support for the TDD mode, the state change notification and ATM management – Align with 32.642	B	5.6.0	S5-049025	OAM-NIM
SP-040810	32.645	016	--	Rel-6	Add operationalState to the UtranCell – Align with the IS in 32.642	F	6.1.0	S5-049012	OAM-NIM

## CHANGE REQUEST

⌘ **32.642 CR 028** ⌘ rev - ⌘ Current version: **6.2.0** ⌘

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  Core Network

<b>Title:</b>	<span>⌘</span> Add AntennaFunction class and attributes to support RET (Remote control of Electrical Tilting)		
<b>Source:</b>	<span>⌘</span> SA5 (islip@lucent.com)		
<b>Work item code:</b>	<span>⌘</span> OAM-NIM	<b>Date:</b>	<span>⌘</span> 19/11/2004
<b>Category:</b>	<span>⌘</span> <b>B</b>	<b>Release:</b>	<span>⌘</span> Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> 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)

<b>Reason for change:</b>	<span>⌘</span> Additions to support RET
<b>Summary of change:</b>	<span>⌘</span> Addition of Antenna Function and associateive attributes. Definitions and RET architecture included.
<b>Consequences if not approved:</b>	<span>⌘</span>

<b>Clauses affected:</b>	<span>⌘</span> 3.1 add AntennaFunction definition 6.2.1 update class diagram 6.2.2 update the inheritance diagram 6.3.3.2 add new attribute retAntennaList and delete user label. 6.3.7 new clause to define antenna class 6.4.6 new clause to define the new Associatedwith2 relationship 6.5.1 To add legal value definitnions for the new attributes Annex B add a new annex B to describe RET Re lable annex B to annex C for the change history.														
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications <span>⌘</span> <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications <table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Y	N	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<span>⌘</span>	
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<b>Other comments:</b>	<span>⌘</span> This CR replaces														

Sep 2004	S_25	SP-040587	027	--	Add support for Remote control of Electrical Tilting (RET) antenna <b>CR not implementable : Revised CR to be submitted to SA#26</b>	6.1.0	6.2.0
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## 3.1 Definitions

### Change in Clause 3.1

For the purposes of the present document, the following terms and definitions apply. For terms and definitions not found here, please refer to 3GPP TS 32.101 [1], 3GPP TS 32.102 [2] and 3GPP TS 32.600 [14].

**Antenna:** [Within this specification an Antenna is the set of radiating elements involved in the transmission and reception of Radio Frequency energy to support the Uu interface of a UTRAN cell. Please refer to Annex B for a more detailed explanation.](#)

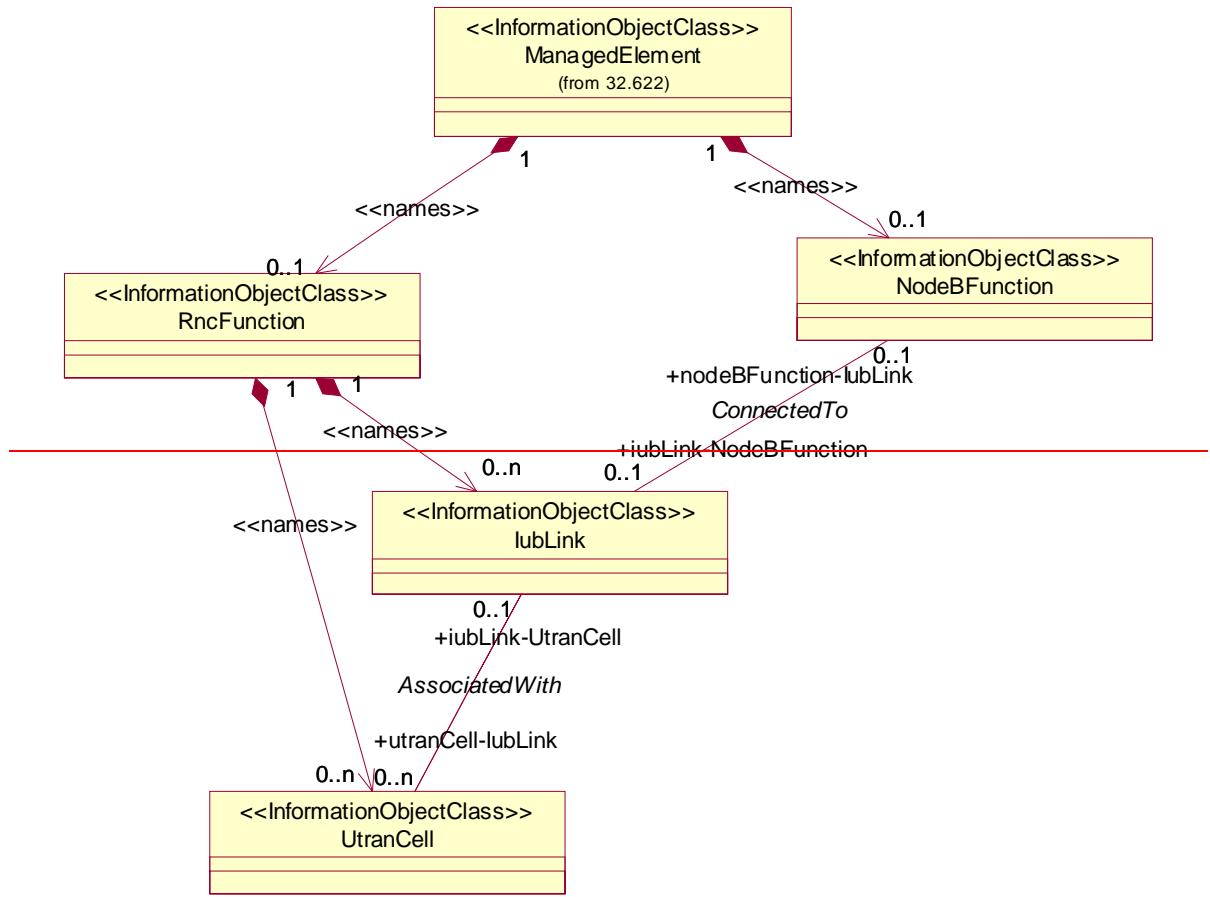
### End of change in Clause 3.1

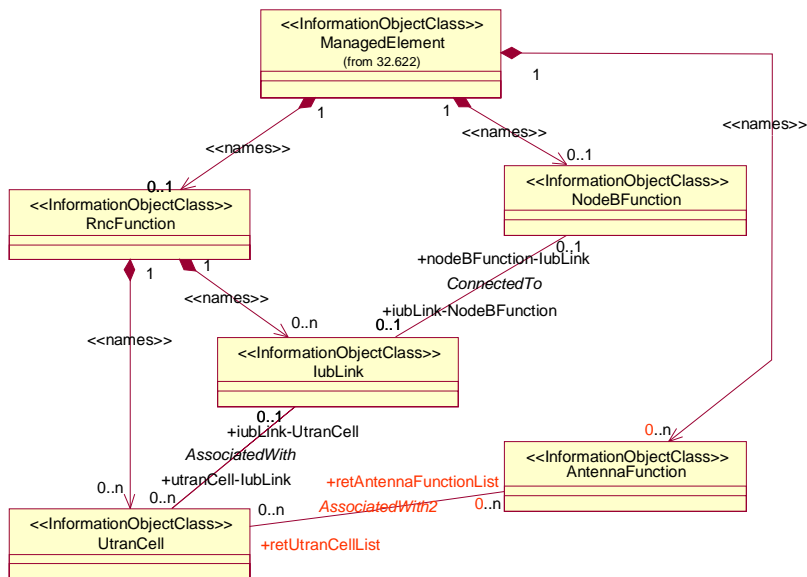
### Change in Clause 6.2.1

## 6.2.1 Attributes and relationships

This clause depicts the set of IOCs that encapsulate information relevant for this service. This clause provides the overview of all information object classes in UML. Subsequent clauses provide more detailed specification of various aspects of these information object classes.

Figures 6.1, 6.2, 6.3 and 6.4 show the containment/naming hierarchy and the associations of the information object classes defined in the present document. They are split in several figures only for a readability purpose.





NOTE 1: The listed cardinality numbers represent transient as well as steady state numbers, and reflect all managed object creation and deletion scenarios.

NOTE 2: [The IOC AntennaFunction is required when supporting RET, For a description and clarification of RET, please refer to Annex B.](#)

NOTE 3: [The instances of the AntennaFunction associated with a particular instance of NodeBFunction shall be contained by the same ManagedFunction instance](#)

Figure 6.1: Transport view UTRAN NRM Containment/Naming and Association diagram

**End of change in Clause 6.2.1**

**Change in Clause 6.2.2**

### 6.2.2 Inheritance

This clause depicts the inheritance relationships that exist between IOCs.

Figure 6.5 shows the inheritance hierarchy for the UTRAN NRM.

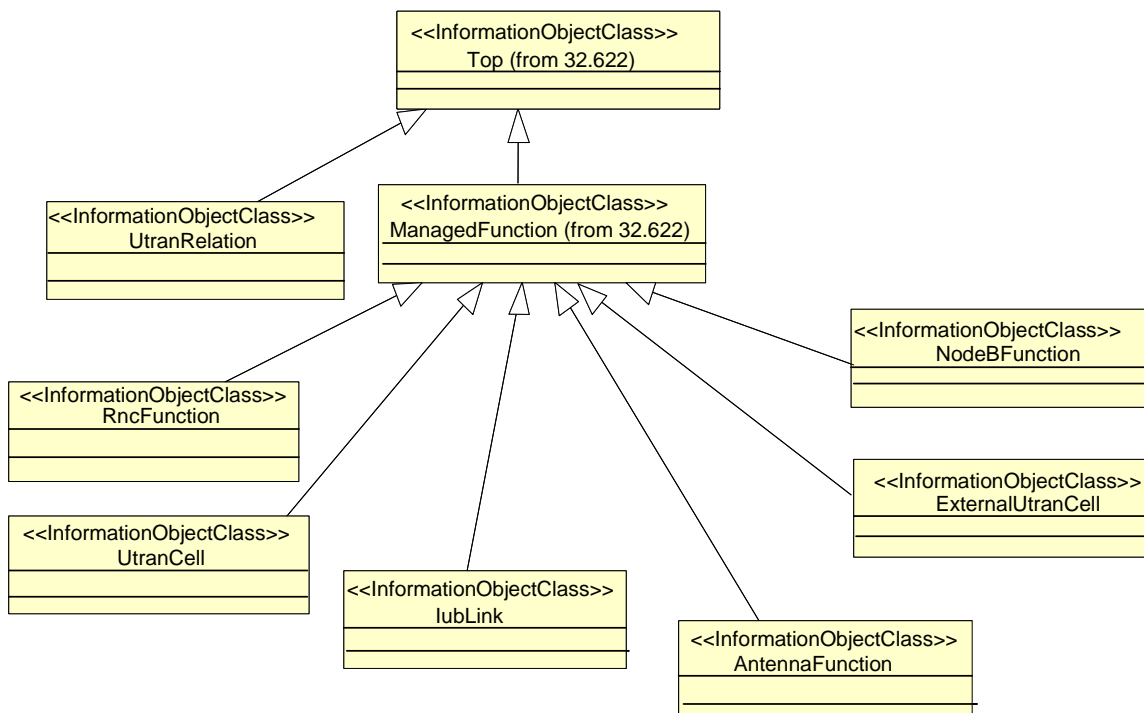
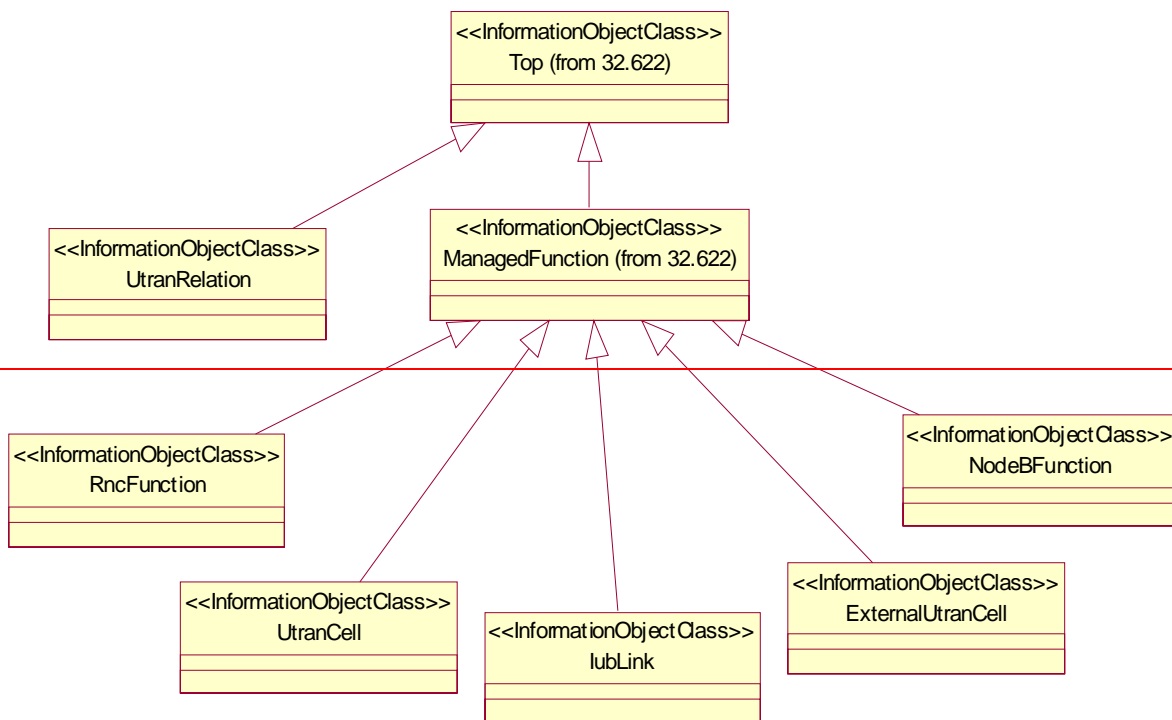


Figure 6.5: UTRAN NRM Inheritance Hierarchy

End of change in Clause 6.2.2

**Change in Clause 6.3.3.2**

**6.3.3 UtranCell**

**6.3.3.1 Definition**

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

The cell may be an FDD mode cell, a 1.28 Mcps TDD mode cell or a 3.84 Mcps TDD mode cell.

**6.3.3.2 Attributes**

**Table 6.5: Attributes of UtranCell**

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
utranCellId	+	M	M	-
userLabel	+	M	M	M
cId	+	M	M	M
localCellId	+	M	M	M
uarfcnUl	+	O	M	M
uarfcnDl	+	O	M	M
primaryScramblingCode	+	O	M	M
primaryCpichPower	+	O	M	M
<a href="#">retAntennaFunctionList</a>	<a href="#">+</a>	<a href="#">O</a>	<a href="#">M</a>	<a href="#">M</a>
maximumTransmissionPower	+	M	M	M
primarySchPower	+	O	M	M
secondarySchPower	+	O	M	M
bchPower	+	O	M	M
cellMode	+	M	M	-
uarfcn	+	O	M	M
cellParameterId	+	O	M	M
primaryCcpchPower	+	O	M	M
dwPchPower	+	O	M	M
timeSlotList	+	O	M	M
schPower	+	O	M	M
lac	+	M	M	M
rac	+	M	M	M
rac	+	M	M	M
uraList	+	M	M	M
utranCell-IubLink	+	M	M	-

**End of change in Clause 6.3.3.2**

**Change new Clause 6.3.7**

**[6.3.7 AntennaFunction](#)**

**[6.3.7.1 Definition](#)**

[This optional IOC represents an array of radiating elements that may be tilted to adjust the RF coverage of a cell\(s\).](#)

### 6.3.7.2 Attributes

**Table 6.12: Attributes of AntennaFunction**

<u>Attribute name</u>	<u>Visibility</u>	<u>Support Qualifier</u>	<u>Read Qualifier</u>	<u>Write Qualifier</u>
<a href="#">antennaFunctionId</a>	+	O	M	-
<a href="#">userLabel</a>	+	O	M	M
<a href="#">retUtranCellList</a>	+	O	M	M
<a href="#">retTiltValue</a>	+	O	M	M
<a href="#">compassDirection</a>	+	O	M	M
<a href="#">maxTiltValue</a>	+	O	M	M
<a href="#">minTiltValue</a>	+	O	M	M
<a href="#">mechanicalOffset</a>	+	O	M	M
<a href="#">retGroupName</a>	+	O	M	M
<a href="#">height</a>	+	O	M	M

### 6.3.7.4 Notifications

**Table 6.13: Notifications of AntennaFunction**

<u>Name</u>	<u>Qualifier</u>	<u>Notes</u>
<a href="#">notifyAckStateChanged</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	
<a href="#">notifyAttributeValueChange</a>	O	
<a href="#">notifyChangedAlarm</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	
<a href="#">notifyClearedAlarm</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	
<a href="#">notifyNewAlarm</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	
<a href="#">notifyObjectCreation</a>	O	
<a href="#">notifyObjectDeletion</a>	O	
<a href="#">notifyComments</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	
<a href="#">notifyAlarmListRebuilt</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	
<a href="#">notifyPotentialFaultyAlarmList</a>	See Alarm IRP (3GPP TS 32.111-2 [11])	

**End of change for new Clause 6.3.7**

**Change new Clause 6.4.6**

## 6.4.6 AssociatedWith2 (O)

### 6.4.6.1 Definition

This represents a bi-directional relation between a [UtranCell](#) and an [AntennaFunction](#). The roles of the relation shall be mapped to a reference attribute of the IOCs. The name of the reference attribute shall be the role name



### 6.4.6.2 Roles

**Table 6.19: Roles of the relation *AssociatedWith2***

Name	Definition
<a href="#">retAntennaFunctionList</a>	This role (when present) allows navigation from a <a href="#">UtranCell</a> to the <a href="#">AntennaFunction(s)</a> which are supporting the <a href="#">UtranCell</a> .
<a href="#">retUtranCellList</a>	This role (when present) allows navigation from an <a href="#">AntennaFunction</a> to the <a href="#">UtranCell(s)</a> it is supporting.

### 6.4.6.3 Constraints

Name	Definition
<a href="#">Inv AntennaInstance</a>	The referential attributes <a href="#">retAntennaFunctionList</a> , and <a href="#">retUtranCellList</a> are to be populated when instances of the IOC <a href="#">AntennaFunction</a> are instantiated.

**End of change for new Clause 6.4.6**

## 6.5 Information attribute definitions

### 6.5.1 Definition and legal values

Table 6.19 defines the attributes that are present in several Information Object Classes (IOCs) of the present document.

**Change in Clause 6.5.1**

Table 6.19: Attributes

Attribute Name	Definition	Legal Values
adjacentCell	It carries the DN of the <code>UtranCell</code> or the <code>ExternalUtranCell</code> .	
<a href="#">antennaFunctionId</a>	<a href="#">An attribute whose "name+value" can be used as an RDN (according to the rules in TS 32.300 [13]) when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance</a>	
bchPower	The power of the broadcast channel in the FDD mode cell (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (-35..+15 dB) Steps of 0.1dB
cellMode	An attribute that identifies the cell mode.	Type: Enumerated value Range: ( "FDD mode", "1.28McpsTDD mode", "3.84McpsTDD mode" )
cellParameterId	For IOCs <code>UtranCell</code> and <code>ExternalUtranCell</code> , this attribute identifies unambiguously the TDD mode cell (see ref. TS 25.433 [5]): <ul style="list-style-type: none"> <li>3.84 Mcps TDD - Code Groups, Scrambling Codes, Midambles and Toffset</li> <li>1.28 Mcps TDD - SYNC-DL and SYNC-UL sequences, the scrambling codes and the midamble codes</li> </ul> For IOC <code>UtranRelation</code> , this parameter will be broadcast in the system information of associated cell. The associated cell can be: <ul style="list-style-type: none"> <li>another UTRAN TDD cell (1.28 Mcps TDD or 3.84 Mcps TDD)</li> <li>the external UTRAN TDD cell (1.28 Mcps TDD or 3.84 Mcps TDD).</li> </ul>	Type: Integral numeric value Range: (0..127)
cellId	The attribute is the identifier of a cell in one RNC (Ref. 3GPP TS 25.401 [4]), 3GPP TS 25.433 [5]).	Type: Integral numeric value Range: (0..65535)
<a href="#">compassDirection</a>	<a href="#">The compass direction in degrees (magnetic) that the antenna is pointing in. This attribute is used mainly for planning purposes. The value of this attribute, when combined with a few others, helps in plotting a coverage map on planning tools for the particular utranCell(s). When the coverage needs to be changed, the tilt value is adjusted. Also, when a cell site fails, it becomes much easier to determine the area where there is a loss of service.</a>	<a href="#">A single integral value corresponding to an angle in degrees between 0 and 360.</a>
dwPchPower	DwPCH Power is the power that shall be used for transmitting the DwPCH in a 1.28 Mcps TDD cell. (Ref. 3 GPP TS 25.433 [5] ).	Type: Numeric value Range: (-15..+40 dBm) Steps of 0.1dB
externalUtranCellId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
<a href="#">height</a>	<a href="#">The height of an antenna above sea level. Planning permission (for a cell site) is normally granted on the antenna height. This parameter also determines the site coverage and feeds into the planning tool.</a>	<a href="#">An integral value representing a number of whole metres</a>
iubLinkId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
lac	IOCs <code>UtranCell</code> and <code>ExternalUtranCell</code> : Location Area Code, LAC (Ref. 3GPP TS 23.003 [3]). IOC <code>UtranRelation</code> : Location Area Code, LAC (Ref. 3GPP TS 23.003 [3]), for another UTRAN cell or the external UTRAN Cell that is broadcast in the system information in the Cell.	Type: Integral numeric value Range: (1..65533, 65535)
localCellId	Local Cell id is used to uniquely identify the set of resources defined in a Node B to support a cell (as defined by a Cid Ref. 3GPP TS 25.401 [4]), 3GPP TS 25.433 [5]). It must be unique in Node B at a minimum, but may be unique in UTRAN. It can be used to tie the cell in the RNC to a specific set of resources in the Node B.	Type: Integral numeric value Range: (0..268435455)
<a href="#">maxTiltValue</a>	<a href="#">The maximum amount of tilt the RET system can support. This helps in preventing the user from entering any unrealistic value for 'retTiltValue' and hence prevents the motors on the RET unit from getting jammed / burnt out.</a>	<a href="#">A single integral value corresponding to an angle in degrees between 0 and 360 In 0.1 degree increments (see section 7.7.5.11 RET TR.25.802</a>

maximumTransmissionPower	The maximum transmission power of a cell. It is the maximum power for all downlink channels added together, that is allowed to be used simultaneously in a cell. (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (0..50 dBm) Steps of 0.1 dB
mcc	Mobile Country Code, MCC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).	
mechanicalOffset	<a href="#">This is a value representing a non-adjustable tilt value, which is imparted to the antenna due to the physical installation. The actual tilt at any point in time is the summation of "mechanicalOffset" and "retTiltValue"</a>	<a href="#">A single integral value corresponding to an angle in degrees between 0 and 360 with a resolution of 0.1 degrees, see Note 1.</a>
minTiltValue	<a href="#">The minimum amount of tilt the RET system can support. This helps in preventing the user from entering any unrealistic value for 'retTiltValue' and hence prevents the motors on the RET unit from getting jammed / burnt out.</a>	<a href="#">A single integral value corresponding to an angle in degrees between 0 and 360 with a resolution of 0.1 degrees, see note 1. (also see section 7.7.5.11 RET TR.25.802 Note 1</a>
mnc	Mobile Network Code, MNC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).	
primaryCpchPower	IOCs <b>UtranCell</b> and <b>ExternalUtranCell</b> : The power of the primary CCPCH channel in the TDD cell (Ref. 3GPP TS 25.433 [5]).  IOC <b>UtranRelation</b> : The power of the primary CCPCH channel in the TDD cell (Ref. 3GPP TS 25.433 [5]), for another UTRAN TDD cell or the external UTRAN TDD Cell that is broadcast in the system information in the Cell.	Type: Numeric value Range: (-15..+40 dBm) Steps of 0.1dB
nodeBFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
primaryCpichPower	IOCs <b>UtranCell</b> and <b>ExternalUtranCell</b> : The power of the primary CPICH channel in the FDD mode cell (Ref. 3GPP TS 25.433 [5]). IOC <b>UtranRelation</b> : The power of the primary CPICH channel in the FDD mode cell (Ref. 3GPP TS 25.433 [5]), for another UTRAN FDD mode cell or the external UTRAN FDD mode cell that is broadcast in the system information in the cell.	Type: Numeric value Range: (-10..50 dBm) Steps of 0.1 dB
primarySschPower	The power of the primary synchronisation channel in the FDD mode cell, DL Power (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (-35..+15 dB) Steps of 0.1dB
primaryScramblingCode	IOCs <b>UtranCell</b> and <b>ExternalUtranCell</b> : The primary DL scrambling code used by the FDD mode cell (Ref. 3GPP TS 25.433 [5]). IOC <b>UtranRelation</b> : The primary DL scrambling code used by the FDD mode cell (Ref. 3GPP TS 25.433 [5]), for another UTRAN FDD mode cell or the external UTRAN FDD mode cell that is broadcast in the system information in the cell.	Type: Integral numeric value Range: (0..511)
rac	Routing Area Code, RAC (Ref. 3GPP TS 23.003 [3]).	Type: Integral numeric value Range: (0..255)
retAntennaFunctionList	<a href="#">This is a referential attribute to list the DNs of <b>AntennaFunctions</b> that support the <b>UtranCell</b>.</a>	<a href="#">A list of DNs as defined in TS 32.300 [13]</a>
retGroupName	<a href="#">The group name is a textual, alpha-numeric string to define a logical grouping of antennas which may be in different cells. This attribute permits the definition of a logical grouping of the antennas. This may be defined either at installation time, or by management activity to provisioning the group name via the ltf-N.</a>	<a href="#">Type: string bounded to 80 characters.</a>
retTiltValue	<a href="#">Gives you the tilt value of the antenna that has been made using electrical means (i.e. using RET). This attribute gives the operator an indication of the current setting of the antenna and is at the centre of the RET feature.</a>	<a href="#">A single integral value corresponding to an angle in degrees between 0 and 360 In 0.1 degree increments</a>
retUtranCellList	<a href="#">This is a list of <b>UtranCell</b> DNs to record the relationship between the <b>AntennaFunction</b> instance and the <b>UtranCell</b> (s) which are supported by the antenna.</a>	<a href="#">A list of DNs as defined in TS 32.300 [13]</a>

rncFunctionId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
rncId	IOC <b>ExternalUtranCell</b> : Unique RNC ID for the associated RNC (Ref. 3GPP TS 23.003 [3]). IOC <b>RncFunction</b> : Unique RNC ID (Ref. 3GPP TS 23.003 [3]).	
sac	Service Area Code, SAC (Ref. 3GPP TS 23.003 [3]).	Type: Integral numeric value Range: (0.. 65535)
schPower	The power of the synchronisation channel in 3.84 Mcps TDD cell (Ref. 3GPP TS 25.433 [5]).	Type: Numeric Value Range: (-35..+15 dB) Steps of 0.1dB
secondarySchPower	The power of the secondary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).	Type: Numeric value Range: (-35..+15 dB) Steps of 0.1dB
timeSlotList	This attribute defines the time slot configuration information in the TDD cell. It is a list which contains 7 (for 1.28 Mcps TDD cell) or 15 (for 3.84 Mcps TDD cell) items. Within each item there are three parts: timeSlotId, timeSlotDirection, timeSlotStatus (Ref. 3GPP TS 25.433 [5]).	timeSlotId: when applied to 1.28 Mcps TDD cell: Type: Integral numeric value Range: (0..6); when applied to 3.84 Mcps TDD cell: Type: Integral numeric value Range: (0..14);  timeSlotDirection: Type: Enumerated value Range: (UL, DL);  timeSlotStatus: Type: Enumerated value Range: (Active, Not active)
uarfcn	IOCs <b>UtranCell</b> and <b>ExternalUtranCell</b> : The UTRA absolute Radio Frequency Channel number for TDD mode cell, UARFCN (ref. 3 GPP TS 25.433 [5]).  IOC <b>UtranRelation</b> : The UTRA absolute Radio Frequency Channel number for TDD mode cell, UARFCN (ref. 3 GPP TS 25.433 [5]), for another UTRAN TDD mode cell or the external UTRAN TDD mode Cell that is broadcast in the system information in the Cell.	Type : Integral numeric Value (0..16383)
uarfcnDl	IOCs <b>UtranCell</b> and <b>ExternalUtranCell</b> : The DL UTRA absolute Radio Frequency Channel number for FDD mode cell, UARFCN (Ref. 3GPP TS 25.433 [5]).  IOC <b>UtranRelation</b> : The DL UTRA absolute Radio Frequency Channel number for FDD mode cell, UARFCN (Ref. 3GPP TS 25.433 [5]), for another UTRAN FDD mode cell or the external UTRAN FDD mode cell that is broadcast in the system information in the Cell.	Type: Integral numeric value Range: (0..16383)
uarfcnUl	IOCs <b>UtranCell</b> and <b>ExternalUtranCell</b> : The UL UTRA absolute Radio Frequency Channel number for FDD mode cell, UARFCN (Ref. 3GPP TS 25.433 [5]).  IOC <b>UtranRelation</b> : The UL UTRA absolute Radio Frequency Channel number for FDD mode cell, UARFCN (Ref. 3GPP TS 25.433 [5]) for another UTRAN FDD mode cell or the external UTRAN FDD mode cell, that is broadcast in the system information in the Cell.	Type: Integral numeric value Range: (0..16383)
uraList	A list of UTRAN Registration Area, URA (Ref. 3GPP TS 25.331 (subclause 10.3.10)[9]), that an UtranCell can belong to.	Type: A list of Integral numeric values Range: (0..65535) for each integral numeric value.
userLabel	A user-friendly (and user assigned) name of the associated object. Inherited from <b>ManagedFunction</b> .	
utranCellId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	

utranRelationId	An attribute whose "name+value" can be used as an RDN when naming an instance of the object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.	
<a href="#">Note 1.</a>	<a href="#">If an antenna vendor can only support a granularity of tilt value in 5 degree increments, it means that the value of tilt over the Itf-N would be 0, 50, 100, 150 etc, corresponding to an integral number of 0.1 degree values.</a>	

**End of change for new Clause 6.5.1**

**New Clause Annex B**

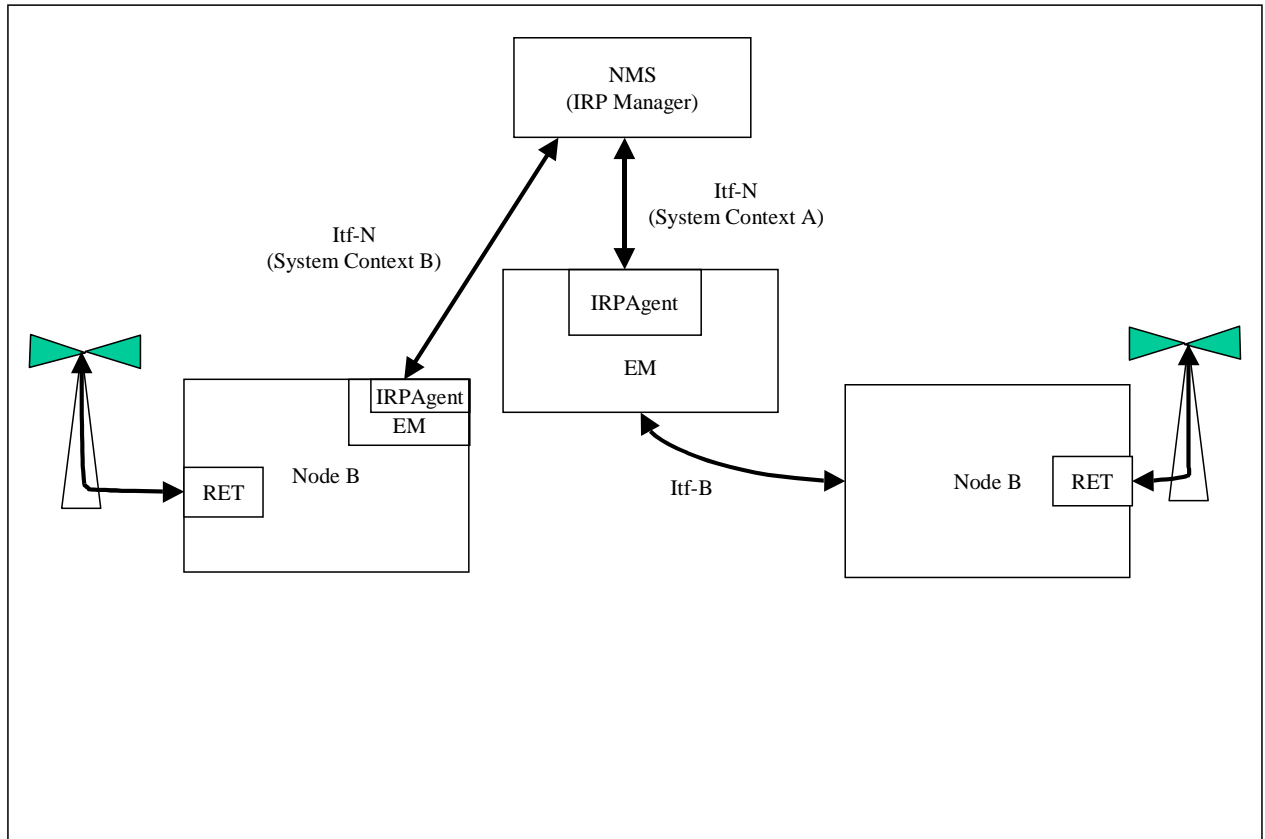
## [Annex B \(Informative\) RET Control Architecture](#)

[The Itf-N provides an abstraction of resources to allow the monitor and control of physical resource from the network level management systems. For RET, the antenna tilt is controlled via a control unit which is located within the NodeB \(from a management perspective\). The control unit sends commands to actuators located at the tower top, in order to read, and to adjust antenna tilt values.](#)

[The AntennaFunction class will report failures and malfunctions of either the control unit, or the tilt . The full set of notifications is as defined in table 6.1.5.](#)

[There are several configurations of antennae. Some support the transmission of several frequencies from a single radome while others are deployed as an array in order to provide effective coverage.](#)

[Hence in the UTRAN model there is an N:M relationship between UtranCell's and the AntennaFunction class, permitting the model to support all possibilities. The figure B.1 below illustrates the RET architecture .](#)



[Figure B.1 Overall RET architecture](#)

**End of New Clause Annex B**

**Change Annex B**

**Annex CB (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
Jun 2002	S_16	SP-020303	001	--	Corrections of reference in figure 6.2 and of attribute descriptions in UtranRelation in 32.642 (UTRAN network resources IRP: NRM)	4.0.0	4.1.0
Jun 2002	S_16	SP-020304	002	--	Correction of supported IRP in system context	4.0.0	4.1.0
Sep 2002	S_17	SP-020490	003	--	UML corrections	4.1.0	4.2.0
Sep 2002	S_17	SP-020492	004	--	Add the new IRP IS methodology defined in 32.102	4.2.0	5.0.0
Sep 2002	S_17	SP-020492	005	--	Add State Management	4.2.0	5.0.0
Dec 2002	S_18	SP-020748	006	--	Inclusion of valid values and ranges for UTRAN Cell parameters	5.0.0	5.1.0
Jan 2003	--	--	--	--	Accepted all revision marks	5.1.0	5.1.1
Jun 2003	S_20	SP-030282	008	--	Include notification tables	5.1.1	5.2.0
Jun 2003	S_20	SP-030282	010	--	Correction of UML diagram vsDataContainer Containment/Naming and Association in UTRAN NRM	5.1.1	5.2.0
Jun 2003	S_20	SP-030283	012	--	Deletion of UTRAN attribute relationType	5.1.1	5.2.0
Dec 2003	S_22	SP-030715	014	--	Correction in attribute description for "maximumTransmissionPower" to remove dual interpretation - Align with RAN3's 25.433	5.2.0	5.3.0
Dec 2003	S_22	SP-030646	016	--	Correction of the number of possible URAs from 1 to 8	5.2.0	5.3.0
Dec 2003	S_22	SP-030641	017	--	Add missing notification notifyPotentialFaultyAlarmlist	5.2.0	5.3.0
Dec 2003	S_22	SP-030643	018	--	Remove redundant VsDataContainer Containment UML - Now covered by 32.622	5.2.0	5.3.0
Mar 2004	S_23	SP-040129	019	--	Addition of new attributes for support of both FDD and TDD modes	5.3.0	6.0.0
Jun 2004	S_24	SP-040254	021	--	Correction of the supported UMTS frequencies	6.0.0	6.1.0
Sep 2004	S_25	SP-040584	022	--	Add support for the state change notification in UTRAN network resources IRP NRM	6.1.0	6.2.0
Sep 2004	S_25	SP-040595	023	--	Include ATM in CM UTRAN network resources IRP NRM	6.1.0	6.2.0
Sep 2004	S_25	SP-040585	026	--	Align with the IRP IS template (32.151) and IRP IS UML repertoire (32.152)	6.1.0	6.2.0
Sep 2004	S_25	SP-040587	027	--	Add support for Remote control of Electrical Tilting (RET) antenna <b>CR not implementable : Revised CR to be submitted to SA#26</b>	6.1.0	6.2.0

**End change Annex B**

3GPP TSG-SA5 (Telecom Management) Meeting #40, Sanya, CHINA, 15 - 19 November 2004

S5-048985

CR-Form-v7

CHANGE REQUEST

32.642 CR 029 rev - Current version: 6.2.0

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

Title: Add support for the state change notification
Source: SA5 (olaf.pollakowski@siemens.com)
Work item code: OAM-NIM Date: 02/07/2004
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: The Kernel CM IRP supports the state change notification. Support for this notification has to be added to the IOCs supporting a state attribute.

Summary of change: Support for the notifyStateChange notification is added to the IOC UtranCell

Consequences if not approved: State changes cannot be reported via the notifyStateChangeNotification.

Clauses affected: 6.3.3

Table with 2 columns: Y, N. Row 1: Other core specifications (X). Row 2: Test specifications (X). Row 3: O&M Specifications (X).

Other comments:



**Change in Clause 6.3.3**

### 6.3.3 UtranCell

#### 6.3.3.1 Definition

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

The cell may be an FDD mode cell, a 1.28 Mcps TDD mode cell or a 3.84 Mcps TDD mode cell.

#### 6.3.3.2 Attributes

**Table 6.5: Attributes of UtranCell**

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
utranCellId	+	M	M	-
userLabel	+	M	M	M
cId	+	M	M	M
localCellId	+	M	M	M
uarfcnUl	+	O	M	M
uarfcnDl	+	O	M	M
primaryScramblingCode	+	O	M	M
primaryCpichPower	+	O	M	M
maximumTransmissionPower	+	M	M	M
primarySchPower	+	O	M	M
secondarySchPower	+	O	M	M
bchPower	+	O	M	M
cellMode	+	M	M	-
uarfcn	+	O	M	M
cellParameterId	+	O	M	M
primaryCcpchPower	+	O	M	M
dwPchPower	+	O	M	M
timeSlotList	+	O	M	M
schPower	+	O	M	M
lac	+	M	M	M
rac	+	M	M	M
rac	+	M	M	M
uraList	+	M	M	M
utranCell-IubLink	+	M	M	-

**Table 6.6: Additional attributes of UtranCell for the support of the State Management IRP**

Attribute Name	Support Qualifier	READ	WRITE
operationalState	O	M	-

NOTE: No state propagation shall be implied.

#### 6.3.3.3 Attribute constraints

The following optional attributes shall be supported for corresponding modes as described below:

- for FDD mode only: uarfcnUl, uarfcnDl, primaryScramblingCode, primaryCpichPower, primarySchPower, secondSchPower, bchPower;
- for 1.28 Mcps TDD mode only: uarfcn, cellParameterId, primaryCcpchPower, timeSlotList, dwPchPower;
- for 3.84 Mcps TDD mode only: uarfcn, cellParameterId, primaryCcpchPower, timeSlotList, schPower.

### 6.3.3.6 Notifications

**Table 6.7: Notifications of UtranCell1**

<b>Name</b>	<b>Qualifier</b>	<b>Notes</b>
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	
<a href="#">notifyStateChange</a>	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 6.3.3**

## CHANGE REQUEST

⌘ | **32.643 CR 017** | ⌘ | rev - | ⌘ | Current version: **6.2.0** | ⌘ |

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  Core Network

<b>Title:</b>	⌘   Correct IDL compilation error   ⌘		
<b>Source:</b>	⌘   SA5 (islip@lucent.com)   ⌘		
<b>Work item code:</b>	⌘   OAM-NIM   ⌘	<b>Date:</b>	⌘   19/11/2004   ⌘
<b>Category:</b>	⌘   <b>F</b>   ⌘	<b>Release:</b>	⌘   Rel-6   ⌘
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> 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)

<b>Reason for change:</b>	⌘   Inheritance of Top does not include module name.   ⌘		
<b>Summary of change:</b>	⌘   UtranRelation inherits from Top. Amend the IDL such that Top is referenced via its containing module name   ⌘		
<b>Consequences if not approved:</b>	⌘   IDL will not compile without errors   ⌘		

<b>Clauses affected:</b>	⌘   Annex A   ⌘										
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications Test specifications O&M Specifications	⌘     ⌘
Y	N										
	X										
	X										
	X										
<b>Other comments:</b>	⌘     ⌘										

## Change in Annex A

# Annex A (normative): CORBA IDL, NRM definitions

## A.1 IDL specification (file name "UtranNetworkResourcesNRMDefs.idl")

```
#ifndef UtranNetworkResourcesNRMDefs_idl
#define UtranNetworkResourcesNRMDefs_idl
#include "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 UtranNetworkResourcesNRMDefs
{

    /**
     * Definitions for MO class RncFunction
     */
    interface RncFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
        const string CLASS = "RncFunction";

        // Attribute Names
        //
        const string rncFunctionId = "rncFunctionId";
        const string mcc= "mcc";
        const string mnc= "mnc";
        const string rncId= "rncId";
    };

    /**
     * Definitions for MO class UtranCell
     */
    interface UtranCell : GenericNetworkResourcesNRMDefs::ManagedFunction
    {
        const string CLASS = "UtranCell";

        // Attribute Names
        //
        const string utranCellId = "utranCellId";
        const string utranCellIubLink = "utranCellIubLink";
        const string cId= "cId";
        const string localCellId= "localCellId";
        const string uarfcnUl= "uarfcnUl";
        const string uarfcnDl= "uarfcnDl";
        const string primaryScramblingCode= "primaryScramblingCode";
        const string primaryCpichPower= "primaryCpichPower";
        const string maximumTransmissionPower= "maximumTransmissionPower";
        const string retAntennaList= "retAntennaList";
        const string primarySchPower= "primarySchPower";
        const string secondarySchPower= "secondarySchPower";
    };
};
```

```
const string bchPower= "bchPower";
const string cellMode = "cellMode";
const string uarfcn= "uarfcn";
const string cellParameterId= "cellParameterId";
const string primaryCcpchPower= "primaryCcpchPower";
const string dwPchPower= "dwPchPower";
const string timeSlotList= "timeSlotList";
const string schPower= "schPower";
const string lac= "lac";
const string rac= "rac";
const string sac= "sac";
const string uraList= "uraList";
const string operationalState = "operationalState";

};

interface Antenna : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS= "Antenna";

    // Attribute Names
    //
    const string antennaId= "antennaId";
    const string retUtranCellList= "retUtranCellList";
    const string retTiltValue= "retTiltValue";
    const string compassDirection= "compassDirection";
    const string maxTiltValue= "maxTiltValue";
    const string minTiltValue= "minTiltValue";
    const string mechanicalOffset= "mechanicalOffset";
    const string retGroupName= "retGroupName";
    const string height= "height";
};

/**
 * Definitions for MO class NodeBFunction
 */
interface NodeBFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "NodeBFunction";

    // Attribute Names
    //
    const string nodeBFunctionId = "nodeBFunctionId";
    const string nodeBFunctionIubLink = "nodeBFunctionIubLink";
};

/**
 * Definitions for MO class IubLink
 */
interface IubLink : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "IubLink";

    // Attribute Names
    //
    const string iubLinkId = "iubLinkId";
    const string iubLinkNodeBFunction = "iubLinkNodeBFunction";
    const string iubLinkUtranCell = "iubLinkUtranCell";
    const string iubLinkATMChannelTerminationPoint =
    "iubLinkATMChannelTerminationPoint";

};

};
```

```

/**
 * Definitions for MO class UtranRelation
 */
interface UtranRelation : GenericNetworkResourcesNRMDefs::Top
{
    const string CLASS = "UtranRelation";

    // Attribute Names
    //
    const string utranRelationId = "utranRelationId";
    const string adjacentCell = "adjacentCell";
    const string uarfcnUl= "uarfcnUl";
    const string uarfcnDl= "uarfcnDl";
    const string primaryScramblingCode= "primaryScramblingCode";
    const string primaryCpichPower= "primaryCpichPower";
    const string cellMode = "cellMode";
    const string uarfcn= "uarfcn";
    const string cellParameterId= "cellParameterId";
    const string primaryCcpchPower= "primaryCcpchPower";
    const string lac= "lac";
};

/**
 * Definitions for MO class ExternalUtranCell
 */
interface ExternalUtranCell :
GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "ExternalUtranCell";

    // Attribute Names
    //
    const string externalUtranCellId = "externalUtranCellId";
    const string cId= "cId";
    const string mcc= "mcc";
    const string mnc= "mnc";
    const string rncId= "rncId";
    const string uarfcnUl= "uarfcnUl";
    const string uarfcnDl= "uarfcnDl";
    const string primaryScramblingCode= "primaryScramblingCode";
    const string primaryCpichPower= "primaryCpichPower";
    const string cellMode = "cellMode";
    const string uarfcn= "uarfcn";
    const string cellParameterId= "cellParameterId";
    const string primaryCcpchPower= "primaryCcpchPower";
    const string lac= "lac";
    const string rac= "rac";

};

/**
 * This module adds datatype definitions for both FDD and TDD mode
 * attributes used in the NRM which are not the basic datatypes
 * already defined in CORBA.
 */
module GenericNRMAAttributeTypes
{
    enum CellModeEnumType
    {
        FDDMode,
        TDDMode_1_28Mcps,
        TDDMode_3_84Mcps
    }
}

```

```
};  
};  
/**  
 * This module adds datatype definitions for TDD mode attributes  
 * used in the NRM which are not the basic datatypes already defined  
 * in CORBA.  
 */  
module TDDNRMAAttributeTypes  
{  
    enum TimeSlotDirectionType  
    {  
        UL,  
        DL  
    };  
  
    enum TimeSlotStatusType  
    {  
        Active,  
        Not_Active  
    };  
  
    struct TimeSlotConfigStructType  
    {  
        short timeSlotId;  
        TimeSlotDirectionType timeSlotDirection;  
        TimeSlotStatusType timeSlotStatus;  
    };  
  
    typedef sequence<TimeSlotConfigStructType> TimeSlotListConfigStructType;  
  
};  
#endif
```

<b>End of Change in Annex A</b>
---------------------------------

## CHANGE REQUEST

⌘ **32.643 CR 018** ⌘ rev - ⌘ Current version: **6.2.0** ⌘

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

**Proposed change affects:** JICC apps  ME  Radio Access Network  Core Network

<b>Title:</b>	⌘ Correct IDL compilation error and change name of retAntennaList		
<b>Source:</b>	⌘ SA5 (islip@lucent.com)		
<b>Work item code:</b>	⌘ OAM-NIM	<b>Date:</b>	⌘ 19/11/2004
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> 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)

<b>Reason for change:</b>	⌘ Modify the existing Antenna definition to AntennaFunction and Correct an IDL compile error.
<b>Summary of change:</b>	⌘ Convert Antenna class to Antenna function and amend the IDL such that Top is referenced via its containing module name Amend attribute name of retAntennaList to be retAntennaFunctionList.
<b>Consequences if not approved:</b>	⌘ RET will not align with the IS. And the IDL will not compile.

<b>Clauses affected:</b>	⌘ 5.2.2 , 5.2.7, Annex A						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	⌘	
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	⌘						



<b>Change in clause 5.2.2</b>
-------------------------------

## 5.2.2 IOC UtranCell

**Table 5.2: Mapping from NRM IOC UtranCell attributes and associations to SS equivalent MOC UtranCell attributes**

NRM Associations/Attributes of IOC UtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
utranCellId	utranCellId	string	M	M	
userLabel	userLabel	string	M	M	M
cld	cld	long	M	M	M
localCellId	localCellId	long	M	M	M
uarfcnUI	uarfcnUI	long	O	M	M
uarfcnDI	uarfcnDI	long	O	M	M
primaryScramblingCode	primaryScramblingCode	long	O	M	M
primaryCpichPower	primaryCpichPower	long	O	M	M
retAntennaFunctionList	retAntennaFunctionList	GenericNRIRPSystem::AttributeTypes::MORef GenericNetworkResourcesIRPSystem::AttributeTypes StringSet	O	M	-
maximumTransmissionPower	maximumTransmissionPower	long	M	M	M
primarySchPower	primarySchPower	long	O	M	M
secondarySchPower	secondarySchPower	long	O	M	M
bchPower	bchPower	long	O	M	M
lac	lac	long	M	M	M
rac	rac	long	M	M	M
sac	sac	long	M	M	M
uraList	uraList	List of long	M	M	M
AssociatedWith/ utranCell-lubLink	utranCelllubLink	GenericNRIRPSystem::AttributeTypes::MORef erence	M	M	-
cellMode	cellMode	GenericNRMAAttributeTypes:: cellModeEnumType	M	M	-
uarfcn	uarfcn	long	O	M	M
cellParameterId	cellParameterId	long	O	M	M
primaryCcpchPower	primaryCcpchPower	long	O	M	M
dwPchPower	dwPchPower	long	O	M	M
timeSlotList	timeSlotList	TDDNRMAAttributeTypes:: TimeSlotListConfigStructType	O	M	M
schPower	schPower	long	O	M	M
operationalState	operationalState	StateManagementIRPOptConstDefs::OperationalStateTypeOpt	O	M	-

NOTE: For all support qualifiers with the value "O", see attribute constraints in 3GPP TS 32.642 [4].

<b>End of Change in clause 5.2.2</b>
--------------------------------------

## Change in clause 5.2.7

### 5.2.7 IOC Antenna

NRM Attributes of IOC ExternalUtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
antennald	antennald	string	O	M	-
retUtranCellList	retUtranCellList	<a href="#">GenericNRIRPSystem::AttributeTypes::MORef</a> <a href="#">GenericNetworkResourcesIRPSystem::AttributeTypes</a> <a href="#">StringSet</a>	O	M	M
RetTiltValue	retTiltValue	integer	O	M	M
compassDirection	compassDirection	integer	O	M	M
MaxTiltValue	maxTiltValue	integer	O	M	M
MinTiltValue	minTiltValue	integer	O	M	M
mechanicalOffset	mechanicalOffset	integer	O	M	M
retGroupName	retGroupName	string	O	M	M
height	height	integer	O	M	M

NOTE: For all support qualifiers with the value "O", see attribute constraints in 3GPP TS 32.642 [4].

## End of Change in clause 5.2.7

## Change in Annex A

### Annex A (normative): CORBA IDL, NRM definitions

#### A.1 IDL specification (file name "UtranNetworkResourcesNRMDefs.idl")

```
//File:UtranNetworkResourcesNRMDefs.idl
#ifndef UTRANNETWORKRESOURCESNRMDEFS_IDL UtranNetworkResourcesNRMDefs_idl
#define UTRANNETWORKRESOURCESNRMDEFS_IDL UtranNetworkResourcesNRMDefs_idl
#include "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 UtranNetworkResourcesNRMDefs
{
```

```

/**
 * Definitions for MO class RncFunction
 */
interface RncFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "RncFunction";

    // Attribute Names
    //
    const string rncFunctionId = "rncFunctionId";
    const string mcc= "mcc";
    const string mnc= "mnc";
    const string rncId= "rncId";
};

```

```

/**
 * Definitions for MO class UtranCell
 */
interface UtranCell : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "UtranCell";

    // Attribute Names
    //
    const string utranCellId = "utranCellId";
    const string utranCellIubLink = "utranCellIubLink";
    const string cId= "cId";
    const string localCellId= "localCellId";
    const string uarfcnUl= "uarfcnUl";
    const string uarfcnDl= "uarfcnDl";
    const string primaryScramblingCode= "primaryScramblingCode";
    const string primaryCpichPower= "primaryCpichPower";
    const string maximumTransmissionPower= "maximumTransmissionPower";
    const string retAntennaFunctionList= "retAntennaFunctionList";
    const string primarySchPower= "primarySchPower";
    const string secondarySchPower= "secondarySchPower";
    const string bchPower= "bchPower";
    const string cellMode = "cellMode";
    const string uarfcn= "uarfcn";
    const string cellParameterId= "cellParameterId";
    const string primaryCpchPower= "primaryCpchPower";
    const string dwPchPower= "dwPchPower";
    const string timeSlotList= "timeSlotList";
    const string schPower= "schPower";
    const string lac= "lac";
    const string rac= "rac";
    const string sac= "sac";
    const string uraList= "uraList";
    const string operationalState = "operationalState";

};

```

```

interface AntennaFunction :
GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS= "AntennaFunction";

    // Attribute Names
    //
    const string antennaId= "antennaFunctionId";
    const string retUtranCellList= "retUtranCellList";
    const string retTiltValue= "retTiltValue";
    const string compassDirection= "compassDirection";

```

```
    const string maxTiltValue= "maxTiltValue";
    const string minTiltValue= "minTiltValue";
    const string mechanicalOffset= "mechanicalOffset";
    const string retGroupName= "retGroupName";
    const string height= "height";
};

/**
 * Definitions for MO class NodeBFunction
 */
interface NodeBFunction : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "NodeBFunction";

    // Attribute Names
    //
    const string nodeBFunctionId = "nodeBFunctionId";
    const string nodeBFunctionIubLink = "nodeBFunctionIubLink";
};

/**
 * Definitions for MO class IubLink
 */
interface IubLink : GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "IubLink";

    // Attribute Names
    //
    const string iubLinkId = "iubLinkId";
    const string iubLinkNodeBFunction = "iubLinkNodeBFunction";
    const string iubLinkUtranCell = "iubLinkUtranCell";
    const string iubLinkATMChannelTerminationPoint =
    "iubLinkATMChannelTerminationPoint";

};

};

/**
 * Definitions for MO class UtranRelation
 */
interface UtranRelation : GenericNetworkResourcesNRMDefs::Top
{
    const string CLASS = "UtranRelation";

    // Attribute Names
    //
    const string utranRelationId = "utranRelationId";
    const string adjacentCell = "adjacentCell";
    const string uarfcnUl= "uarfcnUl";
    const string uarfcnDl= "uarfcnDl";
    const string primaryScramblingCode= "primaryScramblingCode";
    const string primaryCpichPower= "primaryCpichPower";
    const string cellMode = "cellMode";
    const string uarfcn= "uarfcn";
    const string cellParameterId= "cellParameterId";
    const string primaryCcpchPower= "primaryCcpchPower";
    const string lac= "lac";

};

/**
```

```

    * Definitions for MO class ExternalUtranCell
    */
interface ExternalUtranCell :
GenericNetworkResourcesNRMDefs::ManagedFunction
{
    const string CLASS = "ExternalUtranCell";

    // Attribute Names
    //
    const string externalUtranCellId = "externalUtranCellId";
    const string cId= "cId";
    const string mcc= "mcc";
    const string mnc= "mnc";
    const string rncId= "rncId";
    const string uarfcnUl= "uarfcnUl";
    const string uarfcnDl= "uarfcnDl";
    const string primaryScramblingCode= "primaryScramblingCode";
    const string primaryCpichPower= "primaryCpichPower";
    const string cellMode = "cellMode";
    const string uarfcn= "uarfcn";
    const string cellParameterId= "cellParameterId";
    const string primaryCcpchPower= "primaryCcpchPower";
    const string lac= "lac";
    const string rac= "rac";

};

/**
 * This module adds datatype definitions for both FDD and TDD mode
 * attributes used in the NRM which are not the basic datatypes
 * already defined in CORBA.
 */
module GenericNRMAAttributeTypes
{
    enum CellModeEnumType
    {
        FDDMode,
        TDDMode_1_28Mcps,
        TDDMode_3_84Mcps
    };
};

/**
 * This module adds datatype definitions for TDD mode attributes
 * used in the NRM which are not the basic datatypes already defined
 * in CORBA.
 */
module TDDNRMAAttributeTypes
{
    enum TimeSlotDirectionType
    {
        UL,
        DL
    };

    enum TimeSlotStatusType
    {
        Active,
        Not_Active
    };

    struct TimeSlotConfigStructType
    {

```

```
    short timeSlotId;  
    TimeSlotDirectionType timeSlotDirection;  
    TimeSlotStatusType timeSlotStatus;  
};  
  
typedef sequence<TimeSlotConfigStructType> TimeSlotListConfigStructType;  
};
```

```
| #endif __UTRANNETWORKRESOURCESNRMDEFS_IDL__
```

<b>End of Change in Annex A</b>
---------------------------------

**3GPP TSG-SA5 (Telecom Management)  
Meeting #40, Sanya, CHINA, 15 - 19 November 2004**

**S5-049025**

CR-Form-v7

**CHANGE REQUEST**

⌘ **32.644 CR 015** ⌘ rev - ⌘ Current version: **5.6.0** ⌘

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

<b>Title:</b>	⌘ Add support for the TDD mode, the state change notification and ATM management – Align with 32.642		
<b>Source:</b>	⌘ SA5 (olaf.pollakowski@siemens.com)		
<b>Work item code:</b>	⌘ OAM-NIM	<b>Date:</b>	⌘ 19/11/2004
<b>Category:</b>	⌘ <b>B</b> Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .	<b>Release:</b>	⌘ Rel-6 Use <u>one</u> of the following releases: <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>Rel-4</b> (Release 4) <b>Rel-5</b> (Release 5) <b>Rel-6</b> (Release 6)

<b>Reason for change:</b>	⌘ The Utran Network Resources IRP: NRM supports the TDD mode and the state change notification. This functionality has to be mapped into the CMIP SS.
<b>Summary of change:</b>	⌘ Support for the TDD mode and the state change notification is added.
<b>Consequences if not approved:</b>	⌘ The CMIP SS of the Utran Network Resources IRP is not aligned with the corresponding NRM.

<b>Clauses affected:</b>	⌘ 1, 4, 5, 6, Annex A										
<b>Other specs affected:</b>	<table border="1"> <tr> <td>Y</td> <td>N</td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> </tr> </table>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other core specifications	⌘
Y	N										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
<input type="checkbox"/>	<input checked="" type="checkbox"/>										
		Test specifications									
		O&M Specifications									
<b>Other comments:</b>	⌘										

## Change in Clause 1

### 1 Scope

The present document specifies the Common Management Information Protocol (CMIP) Solution Set (SS) for the UTRAN Network Resource Integration Reference Point (IRP): Network Resource Model defined in 3GPP TS 32.642 [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.

This Solution Set specification is related to 3GPP TS 32.642 V~~6.2.5~~.x.

## End of Change in Clause 1

## Change in Clause 3.2

### 3.2 Abbreviations

For the purposes of the present document, the following abbreviations apply:

CMIP	Common Management Information Protocol
DN	Distinguished Name
GDMO	Guidelines for the Definition of Managed Objects
IDL	Interface Definition Language
IEC	International Electro-technical Commission
ISO	International Standards Organization
<a href="#">Mcps</a>	<a href="#">Mega-chips per second</a>
MIB	Management Information Base
MIM	Management Information Model
MIT	Management Information Tree (or Naming Tree)
MOC	Managed Object Class
MOI	Managed Object Instance
NE	Network Element
NR	Network Resource
NRM	Network Resource Model
TMN	Telecommunications Management Network
UTRAN	Universal Terrestrial Radio Access Network

## End of Change in Clause 3.2

## Change in clauses 4, 5, 6, Annex A



## 4 Basic aspects

### 4.1 Architectural aspects

A technology independent UTRAN network resource model is defined in 3GPP TS 32.642 [4] for 3G networks. This document provides an implementation of this UTRAN network resource model by using CMIP technology.

### 4.2 Mapping

The semantic of the UTRAN Network Resource Model is defined in 3GPP TS 32.642 [4]. The specification of the information object classes defined there is independent of any implementation technology and protocol. This clause maps these technology and protocol independent definitions onto the equivalencies of the CMIP Solution Set of the UTRAN Network Resource IRP.

#### 4.2.1 Mapping of Information Object Classes

Table 1 maps the information object classes defined in the UTRAN Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

**Table 1: Mapping of IOCs**

IS IOC	CMIP SS MOC
RncFunction	rncFunctionR55
NodeBFunction	nodeBFunction
UtranCell	utranCellR060055
IubLink	iubLinkR0600
UtranRelation	utranRelationR0600
ExternalUtranCell	externalUtranCellR06000506

#### 4.2.2 Mapping of Information Object Class Attributes

This clause depicts the mapping of the attributes defined in 3GPP TS 32.642 [4] on the corresponding attributes of the CMIP Solution Set.

##### 4.2.2.1 Attribute Mapping of the IOC *RncFunction*

**Table 2: Attribute mapping of the IOC *RncFunction***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
rncFunctionId	rncFunctionId	M	<u>M</u>	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	<u>M</u>	<u>M</u>
mcc	mcc	M	<u>M</u>	<u>M</u>
mnc	mnc	M	<u>M</u>	<u>M</u>
rnclId	rnclIdR55	M	<u>M</u>	<u>M</u>

4.2.2.2 Attribute Mapping of the IOC *NodeBFunction*Table 3: Attribute mapping of the IOC *NodeBFunction*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
nodeBFunctionId	nodeBFunctionId	M	<u>M</u>	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	<u>M</u>	<u>M</u>
nodeBFunction-IubLink	NodeBFunction2IubLink	M	<u>M</u>	--

4.2.2.3 Attribute Mapping of the IOC *UtranCell*Table 4: Attribute mapping of the IOC *UtranCell*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
utranCellId	utranCellId	M	<u>M</u>	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	<u>M</u>	<u>M</u>
cId	cIdR55	M	<u>M</u>	<u>M</u>
localCellId	localCellIdR55	M	<u>M</u>	<u>M</u>
uarfcnDI	uarfcnDI	<del>O</del> M	<u>M</u>	<u>M</u>
uarfcnUI	uarfcnUI	<del>O</del> M	<u>M</u>	<u>M</u>
primaryScramblingCode	primaryScramblingCode	<del>O</del> M	<u>M</u>	<u>M</u>
primaryCpichPower	primaryCpichPower	<del>O</del> M	<u>M</u>	<u>M</u>
maximumTransmissionPower	maximumTransmissionPower	M	<u>M</u>	<u>M</u>
primarySchPower	primarySchPower	<del>O</del> M	<u>M</u>	<u>M</u>
secondarySchPower	secondarySchPower	<del>O</del> M	<u>M</u>	<u>M</u>
bchPower	bchPower	<del>O</del> M	<u>M</u>	<u>M</u>
<a href="#">cellMode</a>	<a href="#">cellMode</a>	<u>M</u>	<u>M</u>	--
<a href="#">uarfcn</a>	<a href="#">uarfcn</a>	<u>O</u>	<u>M</u>	<u>M</u>
<a href="#">cellParameterId</a>	<a href="#">cellParameterId</a>	<u>O</u>	<u>M</u>	<u>M</u>
<a href="#">primaryCcpchPower</a>	<a href="#">primaryCcpchPower</a>	<u>O</u>	<u>M</u>	<u>M</u>
<a href="#">dwPchPower</a>	<a href="#">dwPchPower</a>	<u>O</u>	<u>M</u>	<u>M</u>
<a href="#">timeSlotList</a>	<a href="#">timeSlotList</a>	<u>O</u>	<u>M</u>	<u>M</u>
<a href="#">schPower</a>	<a href="#">schPower</a>	<u>O</u>	<u>M</u>	<u>M</u>
lac	lac	M	<u>M</u>	<u>M</u>
rac	rac	M	<u>M</u>	<u>M</u>
sac	sac	M	<u>M</u>	<u>M</u>
uraList	uraList	M	<u>M</u>	<u>M</u>
utranCell-IubLink	utranCell2IubLink	M	<u>M</u>	<u>M</u>
operationalState	operationalState	O	<u>M</u>	--

4.2.2.4 Attribute Mapping of the IOC *IubLink*Table 5: Attribute mapping of the IOC *IubLink*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
iubLinkId	iubLinkId	M	<u>M</u>	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	<u>M</u>	<u>M</u>
iubLink-UtranCell	iubLink2UtranCell	M	<u>M</u>	<u>M</u>
iubLink-NodeBFunction	iubLink2nodeBFunction	M	<u>M</u>	--
<a href="#">iubLink-aTMChannelTerminationPoint</a>	<a href="#">iubLink2aTMChannelTerminationPoint</a>	<u>M</u>	<u>M</u>	--

#### 4.2.2.5 Attribute Mapping of the IOC *UtranRelation*

**Table 6: Attribute mapping of the IOC *UtranRelation***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
utranRelationId	utranRelationId	M	<u>M</u>	--
<u>cellMode</u>	<u>cellMode</u>	<u>M</u>	<u>M</u>	<u>M</u>
adjacentCell	adjacentCell	M	<u>M</u>	--
uarfcnUI	uarfcnUI	O	<u>M</u>	--
uarfcnDI	uarfcnDI	O	<u>M</u>	--
primaryScramblingCode	primaryScramblingCode	O	<u>M</u>	--
primaryCpichPower	primaryCpichPower	O	<u>M</u>	--
lac	lac	O	<u>M</u>	--
<u>uarfcn</u>	<u>uarfcn</u>	<u>O</u>	<u>M</u>	--
<u>cellParameterId</u>	<u>cellParameterId</u>	<u>O</u>	<u>M</u>	--
<u>primaryCcpchPower</u>	<u>primaryCcpchPower</u>	<u>O</u>	<u>M</u>	--

#### 4.2.2.6 Attribute Mapping of the IOC *ExternalUtranCell*

**Table 7: Attribute mapping of the IOC *ExternalUtranCell***

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
externalUtranCellId	externalUtranCellId	M	<u>M</u>	--
userLabel	userLabel	M	<u>M</u>	<u>M</u>
cld	cldR55	M	<u>M</u>	<u>M</u>
mcc	mcc	M	<u>M</u>	<u>M</u>
mnc	mnc	M	<u>M</u>	<u>M</u>
rnclId	rnclIdR55	M	<u>M</u>	<u>M</u>
<u>cellMode</u>	<u>cellMode</u>	<u>M</u>	<u>M</u>	--
uarfcnUI	uarfcnUI	<u>OM</u>	<u>M</u>	<u>M</u>
uarfcnDI	uarfcnDI	<u>OM</u>	<u>M</u>	<u>M</u>
primaryScramblingCode	primaryScramblingCode	<u>OM</u>	<u>M</u>	<u>M</u>
primaryCpichPower	primaryCpichPower	<u>OM</u>	<u>M</u>	<u>M</u>
<u>uarfcn</u>	<u>uarfcn</u>	<u>O</u>	<u>M</u>	<u>M</u>
<u>cellParameterId</u>	<u>cellParameterId</u>	<u>O</u>	<u>M</u>	<u>M</u>
<u>primaryCcpchPower</u>	<u>primaryCcpchPower</u>	<u>O</u>	<u>M</u>	<u>M</u>
lac	lac	M	<u>M</u>	<u>M</u>
rac	rac	M	<u>M</u>	<u>M</u>

#### 4.2.3 Mapping of Name Containments

**Table 8: Mapping of name containments**

IS Name Containment	CMIP SS Name Binding
rncFunction - managedElement	rncFunctionR55-managedElement
nodeBFunction - managedElement	nodeBFunction-managedElement
utranCell - rncFunction	utranCellR060055-rncFunctionR55
utranRelation - utranCell	utranRelationR0600-utranCellR060055
externalUtranCell - subNetwork	externalUtranCellR06000506-subNetwork
iubLink - rncFunction	iubLink-rncFunctionR55
gsmRelation - utranCell	gsmRelation-utranCellR060055

## 5 GDMO Definitions

### 5.1 Managed Object Classes

#### 5.1.1 rncFunction

```

rncFunctionR55 MANAGED OBJECT CLASS
  DERIVED FROM
    "3GPP TS 32.624-Release-5": managedFunction;
  CHARACTERIZED BY
    rncFunctionBasicPackage,
    rncFunctionHandoverPackageR55,
    "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 {ts32-644ObjectClass 8};

```

#### 5.1.2 utranCell

```

utranCellR060055 MANAGED OBJECT CLASS
  DERIVED FROM
    "3GPP TS 32.624-Release-5": managedFunction;
  CHARACTERIZED BY
    utranCellBasicPackage,
    utranCellHandoverPackageR060055,
    utranCellAssociationPackage,
    "3GPP TS 32.111-4-Release-5": x721AlarmNotificationsPackage;
  CONDITIONAL PACKAGES
    utranFDDCellHandoverPackage
      PRESENT IF
        "FDD handover attributes are supported by an instance of this class.",
    utran1-28McpsTDDCellHandoverPackage
      PRESENT IF
        "1.28 Mcps TDD handover attributes are supported by an instance of this class.",
    utran3-84McpsTDDCellHandoverPackage
      PRESENT IF
        "3.84 Mcps TDD handover attributes are 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.",
    "Rec. M.3100: 1995":stateChangeNotificationPackage
      PRESENT IF
        "the stateChange notification defined in ITU-T Rec. X.721
        is supported by an instance of this class",
    "3GPP TS 32.674-Release-5": operationalStateAttributePackage
      PRESENT IF
        "instances of this MOC support the operationalState attribute.";
REGISTERED AS {ts32-644ObjectClass 206009};

```

#### 5.1.3 utranRelation

```

utranRelationR0600 MANAGED OBJECT CLASS
  DERIVED FROM
    "Rec. X.721 | ISO/IEC 10165-2 : 1992":top;
  CHARACTERIZED BY
    utranRelationBasicPackageR0600,
    utranRelationAssociationPackage;

```

**CONDITIONAL PACKAGES**utranRelationFDDHandoverPackage**PRESENT IF**"FDD handover attributes are supported by an instance of this class.",utranRelationTDDHandoverPackage**PRESENT IF**" TDD handover attributes are 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** {ts32-644ObjectClass 30600};

## 5.1.4 externalUtranCell

externalUtranCellR06000506 **MANAGED OBJECT CLASS****DERIVED FROM**"3GPP TS 32.624-~~Release-5~~": managedFunction;**CHARACTERIZED BY**externalUtranCellPackageR06000506;**CONDITIONAL PACKAGES**externalUtranFDDCellHandoverPackage**PRESENT IF**"FDD handover attributes are supported by an instance of this class.",externalUtranTDDCellHandoverPackage**PRESENT IF**" TDD handover attributes are 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** {ts32-644ObjectClass 406000506};

## 5.1.5 iubLink

iubLinkR0600 **MANAGED OBJECT CLASS****DERIVED FROM**"3GPP TS 32.624-~~Release-5~~": managedFunction;**CHARACTERIZED BY**

iubLinkBasicPackage,

iubLinkAssociationPackage,

"3GPP TS 32.111-4-~~Release-5~~": x721AlarmNotificationsPackage;**CONDITIONAL PACKAGES**iubLink2aTMChannelTerminationPointAssociationPackage,**PRESENT IF**"the Transport Network NRM IRP (TS 32.714) is supported"

"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** {ts32-644ObjectClass 50600};

## 5.1.6 nodeBFunction

nodeBFunction **MANAGED OBJECT CLASS****DERIVED FROM**"3GPP TS 32.624-~~Release-5~~": managedFunction;**CHARACTERIZED BY**

nodeBFunctionBasicPackage,

nodeBFunctionAssociationPackage,

"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 {ts32-644ObjectClass 6};

```

## 5.2 Packages

### 5.2.1 rncFunctionHandoverPackage

```

rncFunctionHandoverPackageR55 PACKAGE
  BEHAVIOUR
    rncFunctionHandoverPackageR55Behaviour;
  ATTRIBUTES
    mcc          GET-REPLACE,
    mnc          GET-REPLACE,
    rncIdR55     GET-REPLACE;
REGISTERED AS {ts32-644Package 14};

```

```

rncFunctionHandoverPackageR55Behaviour BEHAVIOUR
DEFINED AS
  "This package contains all new attributes defined for UTRAN handover management.
  These attributes are introduced in R4.";

```

### 5.2.2 utranCellHandoverPackage

```

utranCellHandoverPackageR060055 PACKAGE
  BEHAVIOUR
    utranCellHandoverPackageR060055Behaviour;
  ATTRIBUTES
    cIdR55          GET-REPLACE,
    localCellIdR55 GET-REPLACE,
    uarfenUl      GET-REPLACE,
    uarfenDl      GET-REPLACE,
    primaryScramblingCode GET-REPLACE,
    primaryCpichPower   GET-REPLACE,
    maximumTransmissionPower GET-REPLACE,
    cellMode        GET,
    primarySchPower     GET-REPLACE,
    secondarySchPower   GET-REPLACE,
    behPower           GET-REPLACE,
    lac             GET-REPLACE,
    rac             GET-REPLACE,
    sac             GET-REPLACE,
    uraList         GET-REPLACE;
REGISTERED AS {ts32-644Package 2060015};

```

```

utranCellHandoverPackageR060055Behaviour BEHAVIOUR
DEFINED AS
  "This package contains the attributes of utranCell required for handover management
in the FDD mode, the 1.28 Mcps TDD mode and the 3.84 Mcps TDD mode.all new attributes defined
for UTRAN handover management.
These attributes are introduced in R4.";

```

### 5.2.3 utranRelationBasicPackage

```

utranRelationBasicPackageR0600 PACKAGE
  BEHAVIOUR
    utranRelationBasicPackageR0600Behaviour;
  ATTRIBUTES
    utranRelationId GET,
    cellMode        GET;
    uarfenUl      GET,
    uarfenDl      GET,
    primaryScramblingCode GET,
    primaryCpichPower   GET,
    lac           GET,
REGISTERED AS {ts32-644Package 30600};

```

utranRelationBasicPackageR0600Behaviour **BEHAVIOUR**

**DEFINED AS**

"The package contains the attributes of utranRelation required for the relation from utranCell to utranCell or externalUtranCell in the FDD mode, the 1.28 Mcps TDD mode and the 3.84 Mcps TDD mode. Note: In handover relation terms, the cell containing the UTRAN Relation object is the source cell for the handover. The cell referred to in the UTRAN relation object is the target cell for the handover. This defines a one-way handover relation where the direction is from source cell to target cell.";

~~"The 'UtranRelation' managed object contains radio network related parameters for the relation to the 'UtranCell' or 'ExternalUtranCell' managed object. Note: In handover relation terms, the cell containing the UTRAN Relation object is the source cell for the handover. The cell referred to in the UTRAN relation object is the target cell for the handover. This defines a one way handover relation where the direction is from source cell to target cell.";~~

## 5.2.4 utranRelationAssociationPackage

utranRelationAssociationPackage **PACKAGE**

**BEHAVIOUR**

utranRelationAssociationPackageBehaviour;

**ATTRIBUTES**

adjacentCell GET-REPLACE;

**REGISTERED AS** {ts32-644Package 4};

utranRelationAssociationPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"This package contains all attributes implementing associations related to an utranRelation";

## 5.2.5 externalUtranCellPackage

externalUtranCellPackageR06000506 **PACKAGE**

**BEHAVIOUR**

externalUtranCellPackageR0600Behaviour;

**ATTRIBUTES**

externalUtranCellId GET,

cIdR55 GET-REPLACE,

mcc GET-REPLACE,

mnc GET-REPLACE,

rncIdR55 GET-REPLACE,

~~uarfenUl GET-REPLACE,~~

~~uarfenDl GET-REPLACE,~~

~~primaryScramblingCode GET-REPLACE,~~

~~primaryCpichPower GET-REPLACE,~~

cellMode GET,

lac GET-REPLACE,

rac GET-REPLACE;

**REGISTERED AS** {ts32-644Package 506000506};

externalUtranCellPackageR0600Behaviour **BEHAVIOUR**

**DEFINED AS**

~~"This Managed Object Class represents a radio cell controlled by another IRPAgent. It is a necessary attribute for inter system handover. This MOC is a subreplication of a MOC in another NEM.";~~

## 5.2.6 rncFunctionBasicPackage

rncFunctionBasicPackage **PACKAGE**

**BEHAVIOUR**

rncFunctionBasicPackageBehaviour;

**ATTRIBUTES**

rncFunctionId GET;

**REGISTERED AS** {ts32-644Package 6};

rncFunctionBasicPackageBehaviour **BEHAVIOUR**

**DEFINED AS**

"The MOC rncFunction represents UMTS RNC function.";

## 5.2.7 utranCellBasicPackage

utranCellBasicPackage **PACKAGE**

**BEHAVIOUR**

utranCellBasicPackageBehaviour;

```

ATTRIBUTES
    utranCellId    GET;
REGISTERED AS {ts32-644Package 7};

utranCellBasicPackageBehaviour BEHAVIOUR
DEFINED AS
    "This managed object class represents the radio cell controlled by a RNC.";

```

## 5.2.8 utranCellAssociationPackage

```

utranCellAssociationPackage PACKAGE
BEHAVIOUR
    utranCellAssociationPackageBehaviour;
ATTRIBUTES
    utranCell2iubLink    GET;
REGISTERED AS {ts32-644Package 8};

utranCellAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
    "This package contains the pointer attributes that implement associations related to utranCell.";

```

## 5.2.9 iubLinkBasicPackage

```

iubLinkBasicPackage PACKAGE
BEHAVIOUR
    iubLinkBasicPackageBehaviour;
ATTRIBUTES
    iubLinkId    GET;
REGISTERED AS {ts32-644Package 9};

iubLinkBasicPackageBehaviour BEHAVIOUR
DEFINED AS
    "This managed object class models the Iub Link between a Node-B and a RNC.";

```

## 5.2.10 iubLinkAssociation

```

iubLinkAssociationPackage PACKAGE
BEHAVIOUR
    iubLinkAssociationPackageBehaviour;
ATTRIBUTES
    iubLink2nodeBFunction    GET,
    iubLink2utranCell        GET;
REGISTERED AS {ts32-644Package 10};

iubLinkAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
    "The attribute 'iubLink2NodeBFunction' points to the nodeBFunction instance which this
    iubLink instance connects to. The attribute 'iubLink2utranCell' points to a list of
    utranCell instances which attach to the nodeBFunction this iubLink connects to.";

```

## 5.2.11 nodeBFunctionBasicPackage

```

nodeBFunctionBasicPackage PACKAGE
BEHAVIOUR
    nodeBFunctionBasicPackageBehaviour;
ATTRIBUTES
    nodeBFunctionId    GET;
REGISTERED AS {ts32-644Package 11};

nodeBFunctionBasicPackageBehaviour BEHAVIOUR
DEFINED AS
    "This managed object class represents the NodeB functionality.";

```

## 5.2.12 nodeBFunctionAssociationPackage

```

nodeBFunctionAssociationPackage PACKAGE
BEHAVIOUR
    nodeBFunctionAssociationPackageBehaviour;
ATTRIBUTES
    nodeB2iubLink    GET;
REGISTERED AS {ts32-644Package 12};

```



```

nodeBFunctionAssociationPackageBehaviour BEHAVIOUR
DEFINED AS
    "The attribute 'nodeB2iubLink' points to the iubLink instance
    which connects to this nodeBFunction instance directly.";

```

## 5.2.13 utranFDDCellHandoverPackage

```

utranFDDCellHandoverPackage PACKAGE
BEHAVIOUR
    utranFDDCellHandoverPackageBehaviour;
ATTRIBUTES
    uarfcnUL          GET-REPLACE,
    uarfcnDL          GET-REPLACE,
    primaryScramblingCode GET-REPLACE,
    primaryCpichPower  GET-REPLACE,
    primarySchPower    GET-REPLACE,
    secondarySchPower  GET-REPLACE,
    bchPower           GET-REPLACE;
REGISTERED AS {ts32-644Package 130600};

```

```

utranFDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
    "This package contains the attributes of UtranCell required for handover management
    in the FDD mode.";

```

## 5.2.14 utran1-28McpsTDDCellHandoverPackage

```

utran1-28McpsTDDCellHandoverPackage PACKAGE
BEHAVIOUR
    utran1-28McpsTDDCellHandoverPackageBehaviour;
ATTRIBUTES
    uarfcn          GET-REPLACE,
    cellParameterId GET-REPLACE,
    primaryCcpchPower GET-REPLACE,
    dwPchPower      GET-REPLACE,
    timeSlotList    GET-REPLACE;
REGISTERED AS {ts32-644Package 140600};

```

```

utran1-28McpsTDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
    "This package contains the attributes of UtranCell required for handover management
    in the 1.28 Mcps TDD mode.";

```

## 5.2.15 utran3-84McpsTDDCellHandoverPackage

```

utran3-84McpsTDDCellHandoverPackage PACKAGE
BEHAVIOUR
    utran3-84McpsTDDCellHandoverPackageBehaviour;
ATTRIBUTES
    uarfcn          GET-REPLACE,
    cellParameterId GET-REPLACE,
    primaryCcpchPower GET-REPLACE,
    schPower        GET-REPLACE,
    timeSlotList    GET-REPLACE;
REGISTERED AS {ts32-644Package 150600};

```

```

utran3-84McpsTDDCellHandoverPackageBehaviour BEHAVIOUR
DEFINED AS
    "This package contains the attributes of utranCell required for handover management
    in the 3.84 Mcps TDD mode.";

```

## 5.2.16 utranRelationFDDHandoverPackage

```

utranRelationFDDHandoverPackage PACKAGE
BEHAVIOUR
    utranRelationFDDHandoverPackageBehaviour;
ATTRIBUTES
    uarfcnUl          GET,
    uarfcnDl          GET,
    primaryScramblingCode GET,
    primaryCpichPower GET,
    lac              GET;

```

**REGISTERED AS** {ts32-644Package 160600};

**utranRelationFDDHandoverPackageBehaviour** **BEHAVIOUR**

**DEFINED AS**

"This package contains the attributes of an utranRelation required for FDD handover management.";

## 5.2.17 **utranRelationTDDHandoverPackage**

**utranRelationTDDHandoverPackage** **PACKAGE**

**BEHAVIOUR**

**utranRelationTDDHandoverPackageBehaviour**;

**ATTRIBUTES**

<b>uarfcn</b>	GET,
<b>cellParameterId</b>	GET,
<b>primaryCcpchPower</b>	GET,
<b>lac</b>	GET;

**REGISTERED AS** {ts32-644Package 170600};

**utranRelationTDDHandoverPackageBehaviour** **BEHAVIOUR**

**DEFINED AS**

"This package contains the attributes of an utranRelation required for TDD handover management.";

## 5.2.18 **externalUtranFDDCellHandoverPackage**

**externalUtranFDDCellHandoverPackage** **PACKAGE**

**BEHAVIOUR**

**externalUtranFDDCellHandoverPackageBehaviour**;

**ATTRIBUTES**

<b>uarfcnUl</b>	GET-REPLACE,
<b>uarfcnDl</b>	GET-REPLACE,
<b>primaryScramblingCode</b>	GET-REPLACE,
<b>primaryCpichPower</b>	GET-REPLACE;

**REGISTERED AS** {ts32-644Package 180600};

**externalUtranFDDCellHandoverPackageBehaviour** **BEHAVIOUR**

**DEFINED AS**

"This package contains the attributes of externalUtranCell required for FDD handover management.";

## 5.2.19 **externalUtranTDDCellHandoverPackage**

**externalUtranTDDCellHandoverPackage** **PACKAGE**

**BEHAVIOUR**

**externalUtranTDDCellHandoverPackageBehaviour**;

**ATTRIBUTES**

<b>uarfcn</b>	GET-REPLACE,
<b>cellParameterId</b>	GET-REPLACE,
<b>primaryCcpchPower</b>	GET-REPLACE;

**REGISTERED AS** {ts32-644Package 190600};

**externalUtranTDDCellHandoverPackageBehaviour** **BEHAVIOUR**

**DEFINED AS**

"This package contains the attributes of externalUtranCell required for TDD handover management.";

## 5.2.20 **iubLink2aTMChannelTerminationPointAssociationPackage**

**iubLink2aTMChannelTerminationPointAssociationPackage** **PACKAGE**

**BEHAVIOUR**

**iubLink2aTMChannelTerminationPointAssociationPackageBehaviour**;

**ATTRIBUTES**

<b>iubLink2aTMChannelTerminationPoint</b>	GET;
---	------

**REGISTERED AS** {ts32-644Package 200600};

**iubLink2aTMChannelTerminationPointAssociationPackageBehaviour** **BEHAVIOUR**

**DEFINED AS**

"This package contains the attribute iubLink2aTMChannelTerminationPoint pointing to the ATMChannelTerminationPoint instances associated to this IubLink.";

## 5.3 Attributes

### 5.3.1 mcc

```
mcc ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.MobileCountryCode;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    mccBehaviour;
REGISTERED AS {ts32-644Attribute 1};

mccBehaviour BEHAVIOUR
DEFINED AS
  "Mobile Country Code, MCC. It is a part of the PLMN Id (Ref. 3 GPP TS 23.003).";
```

### 5.3.2 mnc

```
mnc ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.MobileNetworkCode;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    mncBehaviour;
REGISTERED AS {ts32-644Attribute 2};

mncBehaviour BEHAVIOUR
DEFINED AS
  "Mobile Network Code, MNC. It is a part of the PLMN Id (Ref. 3 GPP TS 23.003).";
```

### 5.3.3 rncId

```
rncIdR55 ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.RncId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    rncIdR55Behaviour;
REGISTERED AS {ts32-644Attribute 31};

rncIdR55Behaviour BEHAVIOUR
DEFINED AS
  "Unique RNC ID (Ref. 3 GPP TS 23.003).";
```

### 5.3.4 cId

```
cIdR55 ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.CId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    cIdR55Behaviour;
REGISTERED AS {ts32-644Attribute 32};

cIdR55Behaviour BEHAVIOUR
DEFINED AS
  "cId is the identifier of a cell in one RNC (Ref. 3 GPP TS 25.401).";
```

### 5.3.5 localCellId

```
localCellIdR55 ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.LocalCellId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
```

```

    localCellIdR55Behaviour;
REGISTERED AS {ts32-644Attribute 33};

```

```

localCellIdR55Behaviour BEHAVIOUR
DEFINED AS

```

```

    "Local Cell id is used to uniquely identify the set of resources defined in a Node B
    to support a cell (as defined by a Cid Ref. 3 GPP TS 25.401). It must be unique in
    Node B at a minimum, but may be unique in UTRAN. It can be used to tie the cell in the
    RNC to a specific set of resources in the Node B.";

```

### 5.3.6 uarfcnUl

```

uarfcnUl ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.UarfcnUl;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    uarfcnUlBehaviour;
REGISTERED AS {ts32-644Attribute 6};

```

```

uarfcnUlBehaviour BEHAVIOUR
DEFINED AS

```

```

    "The UL UTRA absolute Radio Frequency Channel number in an FDD mode cell,
    UARFCN (Ref. 3 GPP TS 25.433).";

```

### 5.3.7 uarfcnDl

```

uarfcnDl ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.UarfcnDl;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    uarfcnDlBehaviour;
REGISTERED AS {ts32-644Attribute 7};

```

```

uarfcnDlBehaviour BEHAVIOUR
DEFINED AS

```

```

    "The DL UTRA absolute Radio Frequency Channel number in an FDD mode cell,
    UARFCN (Ref. 3 GPP TS 25.433).";

```

### 5.3.8 primaryScramblingCode

```

primaryScramblingCode ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.PrimaryScramblingCode;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    primaryScramblingCodeBehaviour;
REGISTERED AS {ts32-644Attribute 8};

```

```

primaryScramblingCodeBehaviour BEHAVIOUR
DEFINED AS

```

```

    "The primary DL scrambling code used by the FDD mode cell (Ref. 3 GPP TS 25.433).";

```

### 5.3.9 primaryCpichPower

```

primaryCpichPower ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.PrimaryCpichPower;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    primaryCpichPowerBehaviour;
REGISTERED AS {ts32-644Attribute 9};

```

```

primaryCpichPowerBehaviour BEHAVIOUR
DEFINED AS

```

```

    "The power of the primary CPICH channel in the FDD mode cell (Ref. 3 GPP TS 25.433).";

```

### 5.3.10 maximumTransmissionPower

```

maximumTransmissionPower ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.MaximumTransmissionPower;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    maximumTransmissionPowerBehaviour;
REGISTERED AS {ts32-644Attribute 10};

maximumTransmissionPowerBehaviour BEHAVIOUR
DEFINED AS
  "The maximum transmission power of a cell, DL Power (Ref. 3 GPP TS 25.433).";

```

### 5.3.11 primarySchPower

```

primarySchPower ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.PrimarySchPower;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    primarySchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 11};

primarySchPowerBehaviour BEHAVIOUR
DEFINED AS
  "The power of the primary synchronisation channel in the FDD mode cell,
  DL Power (Ref. 3 GPP TS 25.433).";

```

### 5.3.12 secondarySchPower

```

secondarySchPower ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.SecondarySchPower;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    secondarySchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 12};

secondarySchPowerBehaviour BEHAVIOUR
DEFINED AS
  "The power of the secondary synchronisation channel in the FDD mode cell,
  DL Power (Ref. 3 GPP TS 25.433).";

```

### 5.3.13 bchPower

```

bchPower ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.BchPower;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    bchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 13};

bchPowerBehaviour BEHAVIOUR
DEFINED AS
  "The power of the broadcast channel in the FDD mode cell (Ref. 3 GPP TS 25.433).";

```

### 5.3.14 lac

```

lac ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.LocationAreaCode;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    lacBehaviour;
REGISTERED AS {ts32-644Attribute 14};

```

```
lacBehaviour BEHAVIOUR
DEFINED AS
  "Location Area Code, LAC (Ref. 3 GPP TS 23.003)";
```

### 5.3.15 rac

```
rac ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.Rac;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    racBehaviour;
REGISTERED AS {ts32-644Attribute 15};
```

```
racBehaviour BEHAVIOUR
DEFINED AS
  "Routing Area Code, RAC (Ref. 3 GPP TS 23.003)";
```

### 5.3.16 sac

```
sac ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.Sac;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    sacBehaviour;
REGISTERED AS {ts32-644Attribute 16};
```

```
sacBehaviour BEHAVIOUR
DEFINED AS
  "Service Area Code, RAC (Ref. 3 GPP TS 23.003)";
```

### 5.3.17 ura

Void.

### 5.3.18 utranRelationId

```
utranRelationId ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.GeneralObjectId;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    utranRelationIdBehaviour;
REGISTERED AS {ts32-644Attribute 18};
```

```
utranRelationIdBehaviour BEHAVIOUR
DEFINED AS
  "This attribute identifies an utranRelation object.";
```

### 5.3.19 relationType

Void.

### 5.3.20 adjacentCell

```
adjacentCell ATTRIBUTE
  WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.GeneralObjectPointer;
  MATCHES FOR
    EQUALITY;
  BEHAVIOUR
    adjacentCellBehaviour;
REGISTERED AS {ts32-644Attribute 20};
```

adjacentCellBehaviour **BEHAVIOUR**

**DEFINED AS**

"Pointer to UTRAN cell or external UTRAN cell. Distinguished name of the corresponding object.";

### 5.3.21 externalUtranCellId

externalUtranCellId **ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

TS32-644TypeModule.GeneralObjectId;

**MATCHES FOR**

EQUALITY;

**BEHAVIOUR**

adjacentCellBehaviour;

**REGISTERED AS** {ts32-644Attribute 21};

externalUtranCellIdBehaviour **BEHAVIOUR**

**DEFINED AS**

"This attribute identifies an externalUtranCell object.";

### 5.3.22 rncFunctionId

rncFunctionId **ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

TS32-644TypeModule.GeneralObjectId;

**MATCHES FOR**

EQUALITY;

**BEHAVIOUR**

rncFunctionIdBehaviour;

**REGISTERED AS** {ts32-644Attribute 22};

rncFunctionIdBehaviour **BEHAVIOUR**

**DEFINED AS**

"This attribute names an instance of the 'rncFunction' object class.";

### 5.3.23 utranCellId

utranCellId **ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

TS32-644TypeModule.GeneralObjectId;

**MATCHES FOR**

EQUALITY;

**BEHAVIOUR**

utranCellIdBehaviour;

**REGISTERED AS** {ts32-644Attribute 23};

utranCellIdBehaviour **BEHAVIOUR**

**DEFINED AS**

"This attribute names an instance of the 'utranCell' object class.";

### 5.3.24 utranCell2iubLink

utranCell2iubLink **ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

TS32-644TypeModule.GeneralObjectPointer;

**MATCHES FOR**

EQUALITY;

**BEHAVIOUR**

utranCell2iubLinkBehaviour;

**REGISTERED AS** {ts32-644Attribute 24};

utranCell2iubLinkBehaviour **BEHAVIOUR**

**DEFINED AS**

"This attribute points to the iubLink instance connecting to this utranCell.";

### 5.3.25 iubLinkId

iubLinkId **ATTRIBUTE**

**WITH ATTRIBUTE SYNTAX**

TS32-644TypeModule.GeneralObjectId;

**MATCHES FOR**

EQUALITY;

```

BEHAVIOUR
    iubLinkIdBehaviour;
REGISTERED AS {ts32-644Attribute 25};

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

```

### 5.3.26 iubLink2nodeBFunction

```

iubLink2nodeBFunction ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.GeneralObjectPointer;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    iubLink2nodeBFunctionBehaviour;
REGISTERED AS {ts32-644Attribute 26};

iubLink2nodeBFunctionBehaviour BEHAVIOUR
DEFINED AS
    "This attribute points to the nodeBFunction instance which this iubLink instance
    connects directly to.";

```

### 5.3.27 iubLink2utranCell

```

iubLink2utranCell ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.GeneralObjectPointerList;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    iubLink2utranCellBehaviour;
REGISTERED AS {ts32-644Attribute 27};

iubLink2utranCellBehaviour BEHAVIOUR
DEFINED AS
    "This attribute points from an iubLink instance to a list of utranCell instance";

```

### 5.3.28 nodeBFunctionId

```

nodeBFunctionId ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.GeneralObjectId;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    nodeBFunctionIdBehaviour;
REGISTERED AS {ts32-644Attribute 28};

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

```

### 5.3.29 nodeB2iubLink

```

nodeB2iubLink ATTRIBUTE
WITH ATTRIBUTE SYNTAX
    TS32-644TypeModule.GeneralObjectPointer;
MATCHES FOR
    EQUALITY;
BEHAVIOUR
    nodeB2iubLinkBehaviour;
REGISTERED AS {ts32-644Attribute 29};

nodeB2iubLinkBehaviour BEHAVIOUR
DEFINED AS
    "This attribute points to the IubLink instance which connects to the
    related nodeBFunction instance directly.";

```



### 5.3.30 uraList

**uraList ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**  
 TS32-644TypeModule.UraList;  
**MATCHES FOR**  
 EQUALITY;  
**BEHAVIOUR**  
 uraListBehaviour;  
**REGISTERED AS** {ts32-644Attribute 30};

**uraListBehaviour BEHAVIOUR**  
**DEFINED AS**  
 "List of UTRAN Registration Area, URA (Ref. 3 GPP TS 25.331)";

### 5.3.31 uarfcn

**uarfcn ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**  
 TS32-644TypeModule.Uarfcn;  
**MATCHES FOR**  
 EQUALITY;  
**BEHAVIOUR**  
 uarfcnBehaviour;  
**REGISTERED AS** {ts32-644Attribute 310600};

**uarfcnBehaviour BEHAVIOUR**  
**DEFINED AS**  
 "The UTRA absolute Radio Frequency Channel number in a TDD mode cell,  
 UARFCN (Ref. 3 GPP TS 25.433).";

### 5.3.32 cellParameterId

**cellParameterId ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**  
 TS32-644TypeModule.CellParameterId;  
**MATCHES FOR**  
 EQUALITY;  
**BEHAVIOUR**  
 cellParameterIdBehaviour;  
**REGISTERED AS** {ts32-644Attribute 320600};

**cellParameterIdBehaviour BEHAVIOUR**  
**DEFINED AS**  
 "The [3.84 Mcps TDD - Code Groups, Scrambling Codes, Midambles and Toffset]  
 [1.28 Mcps TDD - SYNC-DL and SYNC-UL sequences, the scrambling codes  
 and the midamble codes] of the cell (Ref. 3GPP TS 25.433).";

### 5.3.33 primaryCpchPower

**primaryCpchPower ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**  
 TS32-644TypeModule.PrimaryCpchPower;  
**MATCHES FOR**  
 EQUALITY;  
**BEHAVIOUR**  
 primaryCpchPowerBehaviour;  
**REGISTERED AS** {ts32-644Attribute 330600};

**primaryCpchPowerBehaviour BEHAVIOUR**  
**DEFINED AS**  
 "The power of the primary CPCH channel in the TDD cell (Ref. 3GPP TS 25.433).";

### 5.3.34 dwPchPower

**dwPchPower ATTRIBUTE**  
**WITH ATTRIBUTE SYNTAX**  
 TS32-644TypeModule.DwPchPower;  
**MATCHES FOR**  
 EQUALITY;  
**BEHAVIOUR**  
 dwPchPowerBehaviour;

REGISTERED AS {ts32-644Attribute 340600};

dwPchPowerBehaviour BEHAVIOUR

DEFINED AS

"The power that shall be used for transmitting the DwPCH in a 1.28 Mcps TDD Mode cell. (Ref. 3GPP TS 25.433).";

### 5.3.35 timeSlotList

timeSlotList ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.TimeSlotList;

MATCHES FOR

EQUALITY;

BEHAVIOUR

timeSlotListBehaviour;

REGISTERED AS {ts32-644Attribute 350600};

timeSlotListBehaviour BEHAVIOUR

DEFINED AS

"This attribute defines the time slot list configuration information in the 1.28 Mcps TDD or 3.84 Mcps TDD cell, and it is a set which contains 7 (for 1.28 Mcps TDD cell) or 15 (for 3.84 Mcps TDD cell) items, within each item there are three parts: timeSlotId, timeSlotDirection, timeSlotStatus (Ref. 3GPP TS 25.433 [5]).";

### 5.3.36 schPower

schPower ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.SchPower;

MATCHES FOR

EQUALITY;

BEHAVIOUR

schPowerBehaviour;

REGISTERED AS {ts32-644Attribute 360600};

schPowerBehaviour BEHAVIOUR

DEFINED AS

"The power of the synchronisation channel in 3.84 Mcps TDD cell. (Ref. 3GPP TS 25.433).";

### 5.3.37 cellMode

cellMode ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.CellMode;

MATCHES FOR

EQUALITY;

BEHAVIOUR

cellModeBehaviour;

REGISTERED AS {ts32-644Attribute 370600};

cellModeBehaviour BEHAVIOUR

DEFINED AS

"This attribute is multivalued and indicates the modes (FDD mode, 1.28McpsTDD mode, 3.84Mcps).";

### 5.3.38 iubLink2aTMChannelTerminationPoint

iubLink2aTMChannelTerminationPoint ATTRIBUTE

WITH ATTRIBUTE SYNTAX

TS32-644TypeModule.GeneralObjectPointerList;

MATCHES FOR

EQUALITY;

BEHAVIOUR

iubLink2aTMChannelTerminationPointBehaviour;

REGISTERED AS {ts32-644Attribute 380600};

iubLink2aTMChannelTerminationPointBehaviour BEHAVIOUR

DEFINED AS

"The attribute iubLink2aTMChannelTerminationPoint points to the ATMChannelTerminationPoint instances associated to the IubLink holding this attribute.";

## 5.4 Name Binding

### 5.4.1 rncFunction - managedElement

```

rncFunctionR55-managedElement NAME BINDING
  SUBORDINATE OBJECT CLASS
    rncFunctionR55;
  NAMED BY SUPERIOR OBJECT CLASS
    "3GPP TS 32.624-Release-5": managedElement;
  WITH ATTRIBUTE
    rncFunctionId;
  BEHAVIOUR
    rncFunctionR55-managedElementBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 15};

```

```

rncFunctionR55-managedElementBehaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a managedElement contains
  and controls a rncFunctionR55. When automatic instance naming is used, the choice
  of name bindings is left as a local matter.";

```

### 5.4.2 nodeBFunction - managedElement

```

nodeBFunction-managedElement NAME BINDING
  SUBORDINATE OBJECT CLASS
    nodeBFunction;
  NAMED BY SUPERIOR OBJECT CLASS
    "3GPP TS 32.624-Release-5": managedElement;
  WITH ATTRIBUTE
    nodeBFunctionId;
  BEHAVIOUR
    nodeBFunction-managedElementBehaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 2};

```

```

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

```

### 5.4.3 utranCell - rncFunction

```

utranCellR060055-rncFunctionR55 NAME BINDING
  SUBORDINATE OBJECT CLASS
    utranCellR060055;
  NAMED BY SUPERIOR OBJECT CLASS
    rncFunctionR55;
  WITH ATTRIBUTE
    utranCellId;
  BEHAVIOUR
    utranCellR060055-rncFunctionR55Behaviour;
  CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
  DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 3060017};

```

```

utranCellR060055-rncFunctionR55Behaviour BEHAVIOUR
DEFINED AS
  "The name binding represents a relationship in which a rncFunctionR55 contains
  and controls an utranCellR060055. When automatic instance naming is used, the choice
  of name bindings is left as a local matter.";

```

#### 5.4.4 utranRelation - utranCell

```

| utranRelationR0600-utranCellR060055 NAME BINDING
|   SUBORDINATE OBJECT CLASS
|     utranRelation;
|   NAMED BY SUPERIOR OBJECT CLASS
|     utranCellR060055;
|   WITH ATTRIBUTE
|     utranRelationId;
|   BEHAVIOUR
|     utranRelationR0600-utranCellR060055Behaviour;
|   CREATE
|     WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
|   DELETE
|     ONLY-IF-NO-CONTAINED-OBJECTS;
| REGISTERED AS {ts32-644NameBinding 4060018};
|
| utranRelationR0600-utranCellR060055Behaviour BEHAVIOUR
| DEFINED AS
|   "The name binding represents a relationship in which an utranCellR060055 contains
|   and controls an utranRelation. When automatic instance naming is used, the choice
|   of name bindings is left as a local matter.";

```

#### 5.4.5 externalUtranCell - subNetwork

```

| externalUtranCellR06000506-subNetwork NAME BINDING
|   SUBORDINATE OBJECT CLASS
|     externalUtranCellR06000506;
|   NAMED BY SUPERIOR OBJECT CLASS
|     "3GPP TS 32.624-Release-5": subNetwork;
|   WITH ATTRIBUTE
|     externalUtranCellId;
|   BEHAVIOUR
|     externalUtranCellR06000506-subNetworkBehaviour;
|   CREATE
|     WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
|   DELETE
|     ONLY-IF-NO-CONTAINED-OBJECTS;
| REGISTERED AS {ts32-644NameBinding 506000506};
|
| externalUtranCellR06000506-subNetworkBehaviour BEHAVIOUR
| DEFINED AS
|   "The name binding represents a relationship in which a subNetwork contains
|   and controls an externalUtranCellR06000506. When automatic instance naming is used, the choice
|   of name bindings is left as a local matter.";

```

#### 5.4.6 vsDataContainer - rncFunction

Void.

#### 5.4.7 vsDataContainer - nodeBFunction

Void.

#### 5.4.8 vsDataContainer - utranCell

Void.

#### 5.4.9 vsDataContainer - utranRelation

Void.

#### 5.4.10 iubLink - rncFunction

```

| iubLinkR0600-rncFunctionR55 NAME BINDING
|   SUBORDINATE OBJECT CLASS
|     iubLinkR0600;
|   NAMED BY SUPERIOR OBJECT CLASS

```

```

    rncFunctionR55;
WITH ATTRIBUTE
    iubLinkId;
BEHAVIOUR
    iubLinkR0600-rncFunctionR55Behaviour;
CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 16100600};

iubLinkR0600-rncFunctionR55Behaviour BEHAVIOUR
DEFINED AS
    "The name binding represents a relationship in which a rncFunctionR55 contains
    and controls a iubLinkR0600. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";

```

## 5.4.11 gsmRelation - utranCell

```

gsmRelation-utranCellR060055 NAME BINDING
SUBORDINATE OBJECT CLASS
    "3GPP TS 32.654-Release-5": gsmRelation;
NAMED BY SUPERIOR OBJECT CLASS
    utranCellR55;
WITH ATTRIBUTE
    "3GPP TS 32.654-Release-5": gsmRelationId;
BEHAVIOUR
    gsmRelation-utranCellR060055Behaviour;
CREATE
    WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
DELETE
    ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 11060019};

gsmRelation-utranCellR060055Behaviour BEHAVIOUR
DEFINED AS
    "The name binding represents a relationship in which an utranCellR060055 contains
    and controls a gsmRelation. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";

```

## 6 ASN.1 Definitions

```
TS32-644TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0) umts-Operation-
Maintenance(3) ts32-644(644) informationModel(0) asn1Module(2) version1(1)}
```

```
DEFINITIONS IMPLICIT TAGS ::=
BEGIN
```

```
--EXPORTS everything
```

```
IMPORTS
```

```
GeneralObjectId, GeneralObjectPointer, GeneralObjectPointerList
FROM TS32-624TypeModule {ccitt(0) identified-organization(4) etsi(0) mobileDomain(0)
umts-Operation-Maintenance(3) ts32-624(624) informationModel(0) asn1Module(2) version1(1)}
```

```
MobileCountryCode, MobileNetworkCode, LocationAreaCode
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 32.644 related Object Identifiers
```

```
baseNodeUMTS          OBJECT IDENTIFIER ::= {itu-t(0) identified-organization(4) etsi(0)
mobileDomain(0) umts-Operation-Maintenance(3)}
```

```
ts32-644              OBJECT IDENTIFIER ::= {baseNodeUMTS ts32-644(644)}
ts32-644InfoModel     OBJECT IDENTIFIER ::= {ts32-644 informationModel(0)}
```

```
ts32-644ObjectClass  OBJECT IDENTIFIER ::= {ts32-644InfoModel managedObjectClass(3)}
ts32-644Package       OBJECT IDENTIFIER ::= {ts32-644InfoModel package(4)}
ts32-644Parameter    OBJECT IDENTIFIER ::= {ts32-644InfoModel parameter(5)}
ts32-644NameBinding  OBJECT IDENTIFIER ::= {ts32-644InfoModel nameBinding(6)}
ts32-644Attribute     OBJECT IDENTIFIER ::= {ts32-644InfoModel attribute(7)}
ts32-644Action        OBJECT IDENTIFIER ::= {ts32-644InfoModel action(9)}
ts32-644Notification OBJECT IDENTIFIER ::= {ts32-644InfoModel notification(10)}
```

```
-- Start of 3GPP SA5 own definitions
```

```
BchPower ::= INTEGER
```

```
CellMode ::= ENUMERATED
```

```
{
  FDDMode (0),
  1-28McpsTDDMode (1),
  3-84McpsTDDMode (2)
}
```

```
CellParameterId ::= INTEGER (0..127)
```

```
CId ::= INTEGER
```

```
DwPchPower ::= INTEGER (-150..400)
```

```
Lac ::= INTEGER
```

```
LocalCellId ::= INTEGER
```

```
MaximumTransmissionPower ::= INTEGER
```

```
PrimaryCpchPower ::= INTEGER (-150..400)
```

```
PrimaryCpichPower ::= INTEGER
```

```
PrimarySchPower ::= INTEGER
```

```
PrimaryScramblingCode ::= INTEGER
```

```
Rac ::= INTEGER
```

```
RncId ::= INTEGER
```

```
Sac ::= INTEGER

SchPower ::= INTEGER (-350..150)

SecondarySchPower ::= INTEGER

TimeSlotDirection ::= ENUMERATED
{
  ul (0),
  dl (1)
}

TimeSlotId ::= INTEGER

TimeSlotList ::= SET OF SEQUENCE
{
  timeSlotId TimeSlotId, -- range of timeSlotId: (0..6 ),
  -- when applied to 1.28Mcps TDD Mode Cell
  -- range of timeSlotId: (0..14),
  -- when applied to 3.84Mcps TDD Mode Cell
  timeSlotDirection TimeSlotDirection,
  timeSlotStatus TimeSlotStatus
}

TimeSlotStatus ::= ENUMERATED
{
  active (0),
  not-active (1)
}

Uarfcn ::= INTEGER

UarfcnDl ::= INTEGER

UarfcnUl ::= INTEGER

UraList ::= SET OF INTEGER

END -- of TS32-644TypeModule
```

---

## Annex A (informative): List of assigned Object Identifiers

This annex provides a list with all object identifiers that have been assigned in TS 32.644 [in Release 5 up to V5.6.0 and in Release 6](#) up to the latest version ~~of Release 5~~. These object identifiers shall not be assigned to new objects.



Basic Object Name	Name and OID of the current TS Version	Name and OIDs of previous TS Versions
<b>Managed Object Classes</b>		
rncFunction	Name: rncFunctionR55 OID : ts32-644ObjectClass 8	Name: rncFunction OID : ts32-644ObjectClass 1
utranCell	Name: utranCellR060055 OID : ts32-644ObjectClass 206009	<a href="#">Name: utranCellR55</a> <a href="#">OID : ts32-644ObjectClass 9</a> Name: utranCellR54 OID : ts32-644ObjectClass 7 Name: utranCell OID : ts32-644ObjectClass 2
utranRelation	Name: utranRelation OID : ts32-644ObjectClass 3	--
externalUtranCell	Name: externalUtranCellR06009506 OID : ts32-644ObjectClass 406009506	<a href="#">Name: externalUtranCellR0506</a> <a href="#">OID : ts32-644ObjectClass 40506</a> Name: externalUtranCell OID : ts32-644ObjectClass 4
iubLink	Name: iubLinkR0600 OID : ts32-644ObjectClass 50600	-- <a href="#">Name: iubLink</a> <a href="#">OID : ts32-644ObjectClass</a>
nodeBFunction	Name: nodeBFunction OID : ts32-644ObjectClass 6	--
<b>Packages</b>		
rncFunctionHandoverPackage	Name: rncFunctionHandoverPackageR55 OID : ts32-644Package 14	Name: rncFunctionHandoverPackage OID : ts32-644Package 1
utranCellHandoverPackage	Name: utranCellHandoverPackageR060055 OID : ts32-644Package 2060015	<a href="#">Name: utranCellHandoverPackageR55</a> <a href="#">OID : ts32-644Package 15</a> Name: utranCellHandoverPackageR54 OID : ts32-644Package 13 Name: utranCellHandoverPackage OID : ts32-644Package 2
utranRelationBasicPackage	Name: utranRelationBasicPackageR0600 OID : ts32-644Package 30600	-- <a href="#">Name: utranRelationBasicPackage</a> <a href="#">OID : ts32-644Package 3</a>
utranRelationAssociationPackage	Name: utranRelationAssociationPackage OID : ts32-644Package 4	--
externalUtranCellPackage	Name: externalUtranCellPackageR06009506 OID : ts32-644Package 506009506	<a href="#">Name: externalUtranCellPackageR0506</a> <a href="#">OID : ts32-644Package 50506</a> Name: externalUtranCellPackage OID : ts32-644Package 5
rncFunctionBasicPackage	Name: rncFunctionBasicPackage OID : ts32-644Package 6	--
utranCellBasicPackage	Name: utranCellBasicPackage OID : ts32-644Package 7	--
utranCellAssociationPackage	Name: utranCellAssociationPackage OID : ts32-644Package 8	--
iubLinkBasicPackage	Name: iubLinkBasicPackage OID : ts32-644Package 9	--
iubLinkAssociationPackage	Name: iubLinkAssociationPackage OID : ts32-644Package 10	--
nodeBFunctionBasicPackage	Name: nodeBFunctionBasicPackage OID : ts32-644Package 11	--
nodeBFunctionAssociationPackage	Name: nodeBFunctionAssociationPackage OID : ts32-644Package 12	--
<a href="#">utranFDDCellHandoverPackage</a>	<a href="#">Name: utranFDDCellHandoverPackage</a> <a href="#">OID : ts32-644Package 130600</a>	--
<a href="#">utran1-28McpsTDDCellHandoverPackage</a>	<a href="#">Name: utran1-28McpsTDDCellHandoverPackage</a> <a href="#">OID : ts32-644Package 140600</a>	--
<a href="#">utran3-84McpsTDDCellHandoverPackage</a>	<a href="#">Name: utran3-84McpsTDDCellHandoverPackage</a> <a href="#">OID : ts32-644Package 150600</a>	--
<a href="#">utranRelationFDDHandoverPackage</a>	<a href="#">Name: utranRelationFDDHandoverPackage</a> <a href="#">OID : ts32-644Package 160600</a>	--
<a href="#">utranRelationTDDHandoverPackage</a>	<a href="#">Name: utranRelationTDDHandoverPackage</a> <a href="#">OID : ts32-644Package 170600</a>	--
<a href="#">externalUtranFDDCellHandoverPackage</a>	<a href="#">Name: externalUtranFDDCellHandoverPackage</a> <a href="#">OID : ts32-644Package 180600</a>	--
<a href="#">externalUtranTDDCellHandoverPackage</a>	<a href="#">Name: externalUtranTDDCellHandoverPackage</a> <a href="#">OID : ts32-644Package 190600</a>	--
<a href="#">iubLink2aTMChannelTerminationPointAssociationPackage</a>	Name: <a href="#">iubLink2aTMChannelTerminationPointAssociationPackage</a> OID : ts32-644Package 200600	--

Actions		
Notifications		
Attributes		
mcc	Name: mcc OID : ts32-644Attribute 1	--
mnc	Name: mnc OID : ts32-644Attribute 2	--
rac	Name: rac OID : ts32-644Attribute 15	--
sac	Name: sac OID : ts32-644Attribute 16	--
ura	--	Name: ura OID : ts32-644Attribute 17
utranRelationId	Name: utranRelationId OID : ts32-644Attribute 18	--
relationType	--	Name: relationType OID : ts32-644Attribute 19
adjacentCell	Name: adjacentCell OID : ts32-644Attribute 20	--
externalUtranCellId	Name: externalUtranCellId OID : ts32-644Attribute 21	--
racFunctionId	Name: racFunctionId OID : ts32-644Attribute 22	--
utranCellId	Name: utranCellId OID : ts32-644Attribute 23	--
utranCell2iubLink	Name: utranCell2iubLink OID : ts32-644Attribute 24	--
iubLinkId	Name: iubLinkId OID : ts32-644Attribute 25	--
iubLink2nodeBFunction	Name: iubLink2nodeBFunction OID : ts32-644Attribute 26	--
iubLink2utranCell	Name: iubLink2utranCell OID : ts32-644Attribute 27	--
nodeBFunctionId	Name: nodeBFunctionId OID : ts32-644Attribute 28	--
nodeB2iubLink	Name: nodeB2iubLink OID : ts32-644Attribute 29	--
<a href="#">uraList</a>	<a href="#">Name: uraList</a> <a href="#">OID : ts32-644Attribute 30</a>	--
<a href="#">uarfcn</a>	<a href="#">Name: uarfcn</a> <a href="#">OID : ts32-644Attribute 310600</a>	--
<a href="#">cellParameterId</a>	<a href="#">Name: cellParameterId</a> <a href="#">OID : ts32-644Attribute 320600</a>	--
<a href="#">primaryCpichPower</a>	<a href="#">Name: primaryCpichPower</a> <a href="#">OID : ts32-644Attribute 330600</a>	--
primaryScramblingCode	Name: primaryScramblingCode OID : ts32-644Attribute 8	--
primaryCpichPower	Name: primaryCpichPower OID : ts32-644Attribute 9	--
maximumTransmissionPower	Name: maximumTransmissionPower OID : ts32-644Attribute 10	--
primarySchPower	Name: primarySchPower OID : ts32-644Attribute 11	--
secondarySchPower	Name: secondarySchPower OID : ts32-644Attribute 12	--
bchPower	Name: bchPower OID : ts32-644Attribute 13	--
lac	Name: lac OID : ts32-644Attribute 14	--
rac	Name: rac OID : ts32-644Attribute 15	--
sac	Name: sac OID : ts32-644Attribute 16	--
ura	--	Name: ura OID : ts32-644Attribute 17
utranRelationId	Name: utranRelationId OID : ts32-644Attribute 18	--
relationType	--	Name: relationType OID : ts32-644Attribute 19
adjacentCell	Name: adjacentCell OID : ts32-644Attribute 20	--
externalUtranCellId	Name: externalUtranCellId OID : ts32-644Attribute 21	--
racFunctionId	Name: racFunctionId OID : ts32-644Attribute 22	--
utranCellId	Name: utranCellId OID : ts32-644Attribute 23	--
utranCell2iubLink	Name: utranCell2iubLink OID : ts32-644Attribute 24	--
iubLinkId	Name: iubLinkId OID : ts32-644Attribute 25	--
iubLink2nodeBFunction	Name: iubLink2nodeBFunction OID : ts32-644Attribute 26	--
iubLink2utranCell	Name: iubLink2utranCell OID : ts32-644Attribute 27	--
nodeBFunctionId	Name: nodeBFunctionId OID : ts32-644Attribute 28	--
nodeB2iubLink	Name: nodeB2iubLink OID : ts32-644Attribute 29	--
<a href="#">uraList</a>	<a href="#">Name: uraList</a> <a href="#">OID : ts32-644Attribute 30</a>	--
<a href="#">uarfcn</a>	<a href="#">Name: uarfcn</a> <a href="#">OID : ts32-644Attribute 310600</a>	--
<a href="#">cellParameterId</a>	<a href="#">Name: cellParameterId</a> <a href="#">OID : ts32-644Attribute 320600</a>	--
<a href="#">primaryCpichPower</a>	<a href="#">Name: primaryCpichPower</a> <a href="#">OID : ts32-644Attribute 330600</a>	--

<a href="#">dwPchPower</a>	Name: <a href="#">dwPchPower</a> OID : <a href="#">ts32-644Attribute 340600</a>	--
<a href="#">timeSlotList</a>	Name: <a href="#">timeSlotList</a> OID : <a href="#">ts32-644Attribute 350600</a>	--
<a href="#">schPower</a>	Name: <a href="#">schPower</a> OID : <a href="#">ts32-644Attribute 360600</a>	--
<a href="#">cellMode</a>	Name: <a href="#">cellMode</a> OID : <a href="#">ts32-644Attribute 370600</a>	--
<a href="#">iubLink2aTMChannelTerminationPoint</a>	Name: <a href="#">iubLink2aTMChannelTerminationPoint</a> OID : <a href="#">ts32-644Attribute 380600</a>	--
<b>Parameters</b>		
<b>Name Bindings</b>		
rncFunction-managedElement	Name: <a href="#">rncFunctionR55-managedElement</a> OID : <a href="#">ts32-644NameBinding 15</a>	Name: <a href="#">rncFunction-managedElement</a> OID : <a href="#">ts32-644NameBinding 1</a>
nodeBFunction-managedElement	Name: <a href="#">nodeBFunction-managedElement</a> OID : <a href="#">ts32-644NameBinding 2</a>	--
utranCell-rncFunction	Name: <a href="#">utranCellR060055-rncFunctionR55</a> OID : <a href="#">ts32-644NameBinding 3060017</a>	<a href="#">Name: <a href="#">utranCellR55-rncFunctionR55</a></a> <a href="#">OID : <a href="#">ts32-644NameBinding 17</a></a> Name: <a href="#">utranCellR54-rncFunction</a> OID : <a href="#">ts32-644NameBinding 12</a> Name: <a href="#">utranCell-rncFunction</a> OID : <a href="#">ts32-644NameBinding 3</a>
utranRelation-utranCell	Name: <a href="#">utranRelationR0600-utranCellR060055</a> OID : <a href="#">ts32-644NameBinding 4060018</a>	<a href="#">Name: <a href="#">utranRelation-utranCellR55</a></a> <a href="#">OID : <a href="#">ts32-644NameBinding 18</a></a> Name: <a href="#">utranRelation-utranCellR54</a> OID : <a href="#">ts32-644NameBinding 13</a> Name: <a href="#">utranRelation-utranCell</a> OID : <a href="#">ts32-644NameBinding 4</a>
externalUtranCell - subNetwork	Name: <a href="#">externalUtranCellR06009506-subNetwork</a> OID : <a href="#">ts32-644NameBinding 506009506</a>	<a href="#">Name: <a href="#">externalUtranCellR0506-subNetwork</a></a> <a href="#">OID : <a href="#">ts32-644NameBinding 50506</a></a> Name: <a href="#">externalUtranCell-subNetwork</a> OID : <a href="#">ts32-644NameBinding 5</a>
vsDataContainer-rncFunction	--	Name: <a href="#">vsDataContainer-rncFunction</a> OID : <a href="#">ts32-644NameBinding 6</a>
vsDataContainer-nodeBFunction	--	Name: <a href="#">vsDataContainer-nodeBFunction</a> OID : <a href="#">ts32-644NameBinding 7</a>
vsDataContainer-utranCell	--	Name: <a href="#">vsDataContainer-utranCell</a> OID : <a href="#">ts32-644NameBinding 8</a>
vsDataContainer-utranRelation	--	Name: <a href="#">vsDataContainer-utranRelation</a> OID : <a href="#">ts32-644NameBinding 9</a>
iubLink-rncFunction	Name: <a href="#">iubLinkR0600-rncFunctionR55</a> OID : <a href="#">ts32-644NameBinding 16100600</a>	<a href="#">Name: <a href="#">iubLink-rncFunctionR55</a></a> <a href="#">OID : <a href="#">ts32-644NameBinding 16</a></a> Name: <a href="#">iubLink-rncFunction</a> OID : <a href="#">ts32-644NameBinding 10</a>
gsmRelation-utranCell	Name: <a href="#">gsmRelation-utranCellR060055</a> OID : <a href="#">ts32-644NameBinding 11060019</a>	<a href="#">Name: <a href="#">gsmRelation-utranCellR55</a></a> <a href="#">OID : <a href="#">ts32-644NameBinding 19</a></a> Name: <a href="#">gsmRelation-utranCellR54</a> OID : <a href="#">ts32-644NameBinding 14</a> Name: <a href="#">gsmRelation-utranCell</a> OID : <a href="#">ts32-644NameBinding 11</a>

**End of Change in Annex 4, 5, 6, Annex A**

## CHANGE REQUEST

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

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

<b>Title:</b>	<span>⌘</span> Add operationalState to the UtranCell – Align with the IS in 32.642		
<b>Source:</b>	<span>⌘</span> SA5 (olaf.pollakowski@siemens.com)		
<b>Work item code:</b>	<span>⌘</span> OAM-NIM	<b>Date:</b>	<span>⌘</span> 19/11/2004
<b>Category:</b>	<span>⌘</span> <b>F</b>	<b>Release:</b>	<span>⌘</span> Rel-6
	Use <u>one</u> of the following categories: <b>F</b> (correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (addition of feature), <b>C</b> (functional modification of feature) <b>D</b> (editorial modification) Detailed explanations of the above categories can be found in 3GPP <a href="#">TR 21.900</a> .		Use <u>one</u> 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)

<b>Reason for change:</b>	<span>⌘</span> The attributes of UtranCell in the IS includes the operationalState. This attribute is not mapped in the XML File Format Definition.
<b>Summary of change:</b>	<span>⌘</span> The IS attribute operationalState is mapped into the XML File Format Definition.
<b>Consequences if not approved:</b>	<span>⌘</span> The XML File Format Definition of the Utran NRM IRP would not be consistent with the IS.

<b>Clauses affected:</b>	<span>⌘</span> Annex A, Annex B						
<b>Other specs affected:</b>	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Other core specifications <span>⌘</span>	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> Test specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> </tr> </table> O&M Specifications	Y	N	<input type="checkbox"/>	<input checked="" type="checkbox"/>		
Y	N						
<input type="checkbox"/>	<input checked="" type="checkbox"/>						
<b>Other comments:</b>	<span>⌘</span>						

## Change in Annex A

# Annex A (normative): Configuration data file NRM-specific XML schema (file name "utranNrm.xsd")

The following XML schema `utranNrm.xsd` is the NRM-specific schema for the UTRAN Network Resources IRP NRM defined in 3GPP TS 32.642 [1]:

```
<?xml version="1.0" encoding="UTF-8"?>

<!--
 3GPP TS 32.645 UTRAN Network Resources IRP
 Bulk CM Configuration data file NRM-specific XML schema
 utranNrm.xsd
-->

<schema
  targetNamespace=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  elementFormDefault="qualified"
  xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:xn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.625#genericNrm"
  xmlns:un=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.645#utranNrm"
  xmlns:gn=
"http://www.3gpp.org/ftp/specs/archive/32_series/32.655#geranNrm"
  xmlns:sm=
http://www.3gpp.org/ftp/specs/archive/32\_series/32.675#stateManagementIRP
>

  <import
    namespace=
http://www.3gpp.org/ftp/specs/archive/32\_series/32.625#genericNrm
  />
  <import
    namespace=
http://www.3gpp.org/ftp/specs/archive/32\_series/32.655#geranNrm
  />
  <import
    namespace=
http://www.3gpp.org/ftp/specs/archive/32\_series/32.675#stateManagementIRP
  />

  <!-- UTRAN Network Resources IRP NRM attribute related XML types -->

  <simpleType name="localCellId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="268435455"/>
    </restriction>
  </simpleType>

  <simpleType name="cId">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="65535"/>
    </restriction>
  </simpleType>

  <simpleType name="uarfcnAnyMode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="16383"/>
    </restriction>
  </simpleType>

  <simpleType name="primaryScramblingCode">
    <restriction base="integer">
      <minInclusive value="0"/>
      <maxInclusive value="511"/>
    </restriction>
  </simpleType>
```

```
</restriction>
</simpleType>

<simpleType name="primaryCpichTxPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-10"/>
    <maxInclusive value="+50"/>
  </restriction>
</simpleType>

<simpleType name="maximumTransmissionPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="0"/>
    <maxInclusive value="50"/>
  </restriction>
</simpleType>

<simpleType name="primarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="secondarySchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="bchPower">
  <restriction base="decimal">
    <fractionDigits value="1"/>
    <minInclusive value="-35"/>
    <maxInclusive value="+15"/>
  </restriction>
</simpleType>

<simpleType name="lac">
  <union>
    <simpleType>
      <restriction base="integer">
        <minInclusive value="1"/>
        <maxInclusive value="65533"/>
      </restriction>
    </simpleType>
    <simpleType>
      <restriction base="integer">
        <minInclusive value="65535"/>
        <maxInclusive value="65535"/>
      </restriction>
    </simpleType>
  </union>
</simpleType>

<simpleType name="rac">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="255"/>
  </restriction>
</simpleType>

<simpleType name="sac">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="65535"/>
  </restriction>
</simpleType>

<complexType name="uraList">
  <sequence>
    <element name="ura" minOccurs="1" maxOccurs="8">
      <simpleType>
```

```

        <restriction base="integer">
            <minInclusive value="0"/>
            <maxInclusive value="65535"/>
        </restriction>
    </simpleType>
</element>
</sequence>
</complexType>

<simpleType name="cellMode">
    <restriction base="string">
        <enumeration value="FDDMode"/>
        <enumeration value="3-84McpsTDDMode"/>
        <enumeration value="1-28McpsTDDMode"/>
    </restriction>
</simpleType>

<simpleType name="cellParameterId">
    <restriction base="integer">
        <minInclusive value="0"/>
        <maxInclusive value="127"/>
    </restriction>
</simpleType>

<simpleType name="primaryCcpchPower">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="-15"/>
        <maxInclusive value="+40"/>
    </restriction>
</simpleType>

<simpleType name="dwPchPower">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="-15"/>
        <maxInclusive value="+40"/>
    </restriction>
</simpleType>

<simpleType name="schPower">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="-35"/>
        <maxInclusive value="+15"/>
    </restriction>
</simpleType>

<complexType name="timeSlotList">
    <sequence>
        <element name="timeSlot" maxOccurs="15">
            <complexType>
                <all>
                    <element name="timeSlotId" minOccurs="1">
                        <simpleType>
                            <restriction base="integer">
                                <minInclusive value="0"/>
                                <maxInclusive value="14"/>
                            </restriction>
                        </simpleType>
                    </element>
                    <element name="timeSlotDirection" minOccurs="1">
                        <simpleType>
                            <restriction base="string">
                                <enumeration value="UL"/>
                                <enumeration value="DL"/>
                            </restriction>
                        </simpleType>
                    </element>
                    <element name="timeSlotStatus" minOccurs="1">
                        <simpleType>
                            <restriction base="string">
                                <enumeration value="Active"/>
                                <enumeration value="Not-Active"/>
                            </restriction>
                        </simpleType>
                    </element>
                </all>
            </complexType>
        </element>
    </sequence>
</complexType>

```

```

        </complexType>
    </element>
</sequence>
</complexType>
<simpleType name="antennaId">
    <restriction base="integer">
        <minInclusive value="0"/>
        <maxInclusive value="268435455"/>
    </restriction>
</simpleType>

<simpleType name="retTiltValue">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="0"/>
        <maxInclusive value="360"/>
    </restriction>
</simpleType>

<complexType name="retUtranCellList">
    <sequence>
        <element name="utranCell">
            <simpleType>
                <restriction base="string">
                    <minInclusive value="0"/>
                    <maxInclusive value="268435455"/>
                </restriction>
            </simpleType>
        </element>
    </sequence>
</complexType>

<simpleType name="compassDirection">
    <restriction base="integer">
        <minInclusive value="0"/>
        <maxInclusive value="360"/>
    </restriction>
</simpleType>

<simpleType name="maxTiltValue">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="0"/>
        <maxInclusive value="360"/>
    </restriction>
</simpleType>

<simpleType name="minTiltValue">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="0"/>
        <maxInclusive value="360"/>
    </restriction>
</simpleType>

<simpleType name="mechanicalOffset">
    <restriction base="decimal">
        <fractionDigits value="1"/>
        <minInclusive value="0"/>
        <maxInclusive value="360"/>
    </restriction>
</simpleType>

<simpleType name="retGroupName">
    <restriction base="string">
        <minInclusive value="0"/>
        <maxInclusive value="80"/>
    </restriction>
</simpleType>

<simpleType name="height">
    <restriction base="integer">
        <minInclusive value="0"/>
        <maxInclusive value="36000000"/>
    </restriction>
</simpleType>

<!-- UTRAN Network Resources IRP NRM class associated XML elements -->

```



```

<element
  name="RncFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="mcc" minOccurs="0"/>
                <element name="mnc" minOccurs="0"/>
                <element name="rncId" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="un:UtranCell"/>
            <element ref="un:TubLink"/>
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="NodeBFunction"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="nodeBFunctionTubLink" minOccurs="0"/>
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element name="UtranCell">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="userLabel" minOccurs="0"/>
                <element name="cId" type="un:cId" minOccurs="0"/>
                <element
                  name="localCellId"
                  type="un:localCellId"
                  minOccurs="0"
                />
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                />
              </all>
            </complexType>
          </element>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

```

```

        minOccurs="0"
      />
    <element
      name="primaryScramblingCode"
      type="un:primaryScramblingCode"
      minOccurs="0"
    />
    <element
      name="primaryCpichTxPower"
      type="un:primaryCpichTxPower"
      minOccurs="0"
    />
    <element
      name="maximumTransmissionPower"
      type="un:maximumTransmissionPower"
      minOccurs="0"
    />
    <element
      name="primarySchPower"
      type="un:primarySchPower"
      minOccurs="0"
    />
    <element
      name="secondarySchPower"
      type="un:secondarySchPower"
      minOccurs="0"
    />
    <element name="bchPower" type="un:bchPower" minOccurs="0"/>
    <element name="cellMode" type="un:cellMode" minOccurs="0"/>
    <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
    <element
      name="cellParameterId"
      type="un:cellParameterId"
      minOccurs="0"
    />
    <element
      name="primaryCcpchPower"
      type="un:primaryCcpchPower"
      minOccurs="0"
    />
    <element
      name="dwPchPower"
      type="un:dwPchPower"
      minOccurs="0"
    />
    <element
      name="timeSlotList"
      type="un:timeSlotList"
      minOccurs="0"
    />
    <element name="schPower" type="un:schPower" minOccurs="0"/>
    <element name="lac" type="un:lac" minOccurs="0"/>
    <element name="rac" type="un:rac" minOccurs="0"/>
    <element name="sac" type="un:sac" minOccurs="0"/>
    <element name="uraList" type="un:uraList" minOccurs="0"/>
    <element name="utranCellIubLink" type="un:utranCellIubLink" minOccurs="0"/>
    <element name="retAntennaList" type="un:retAntennaList" minOccurs="0"/>
    <element
      name="operationalState"
      type="sm:operationalStateType"
      minOccurs="0"
    />
  />
</all>
</complexType>
</element>
<choice minOccurs="0" maxOccurs="unbounded">
  <element ref="un:UtranRelation"/>
  <element ref="gn:GsmRelation"/>
  <element ref="xn:VsDataContainer"/>
</choice>
</sequence>
</extension>
</complexContent>
</complexType>
</element>
<element name="IubLink">
  <complexType>

```

```

<complexContent>
  <extension base="xn:NrmClass">
    <sequence>
      <element name="attributes" minOccurs="0">
        <complexType>
          <all>
            <element name="userLabel" minOccurs="0"/>
            <element name="iubLinkUtranCell" minOccurs="0"/>
            <element name="iubLinkATMChannelTerminationPoint" minOccurs="0"/>
            <element name="iubLinkNodeBFunction" minOccurs="0"/>
          </all>
        </complexType>
      </element>
      <choice minOccurs="0" maxOccurs="unbounded">
        <element ref="xn:VsDataContainer"/>
      </choice>
    </sequence>
  </extension>
</complexContent>
</complexType>
</element>

<element name="UtranRelation">
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="adjacentCell" minOccurs="0"/>
                <element name="cellMode" type="un:cellMode" minOccurs="0"/>
                <element
                  name="uarfcnUl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="uarfcnDl"
                  type="un:uarfcnAnyMode"
                  minOccurs="0"
                />
                <element
                  name="primaryScramblingCode"
                  type="un:primaryScramblingCode"
                  minOccurs="0"
                />
                <element
                  name="primaryCpichTxPower"
                  type="un:primaryCpichTxPower"
                  minOccurs="0"
                />
                <element name="lac" type="un:lac" minOccurs="0"/>
                <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
                <element
                  name="cellParameterId"
                  type="un:cellParameterId"
                  minOccurs="0"
                />
                <element
                  name="primaryCcpchPower"
                  type="un:primaryCcpchPower"
                  minOccurs="0"
                />
              </all>
            </complexType>
          </element>
          <choice minOccurs="0" maxOccurs="unbounded">
            <element ref="xn:VsDataContainer"/>
          </choice>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

<element
  name="ExternalUtranCell"

```

```

substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
>
<complexType>
  <complexContent>
    <extension base="xn:NrmClass">
      <sequence>
        <element name="attributes" minOccurs="0">
          <complexType>
            <all>
              <element name="userLabel" minOccurs="0"/>
              <element name="cId" type="un:cId" minOccurs="0"/>
              <element name="mcc" minOccurs="0"/>
              <element name="mnc" minOccurs="0"/>
              <element name="rncId" minOccurs="0"/>
              <element name="cellMode" type="un:cellMode" minOccurs="0"/>
              <element
                name="uarfcnUl"
                type="un:uarfcnAnyMode"
                minOccurs="0"
              />
              <element
                name="uarfcnDl"
                type="un:uarfcnAnyMode"
                minOccurs="0"
              />
              <element
                name="primaryScramblingCode"
                type="un:primaryScramblingCode"
                minOccurs="0"
              />
              <element
                name="primaryCpichTxPower"
                type="un:primaryCpichTxPower"
                minOccurs="0"
              />
              <element name="uarfcn" type="un:uarfcnAnyMode" minOccurs="0"/>
              <element
                name="cellParameterId"
                type="un:cellParameterId"
                minOccurs="0"
              />
              <element
                name="primaryCcpchPower"
                type="un:primaryCcpchPower"
                minOccurs="0"
              />
              <element name="lac" type="un:lac" minOccurs="0"/>
              <element name="rac" type="un:rac" minOccurs="0"/>
            </all>
          </complexType>
        </element>
        <choice minOccurs="0" maxOccurs="unbounded">
          <element ref="xn:VsDataContainer"/>
        </choice>
      </sequence>
    </extension>
  </complexContent>
</complexType>
</element>

<element
  name="Antenna"
  substitutionGroup="xn:ManagedElementOptionallyContainedNrmClass"
>
  <complexType>
    <complexContent>
      <extension base="xn:NrmClass">
        <sequence>
          <element name="attributes" minOccurs="0">
            <complexType>
              <all>
                <element name="antennaId" type="un:antennaId" minOccurs="0"/>
                <element name="retUtranCellList" type="un:retUtranCellList" minOccurs="0"/>
                <element name="retTiltValue" type="un:retTiltValue" minOccurs="0"/>
                <element name="compassDirection" type="un:compassDirection" minOccurs="0"/>
                <element name="maxTiltValue" type="un:maxTiltValue" minOccurs="0"/>
                <element name="minTiltValue" type="un:minTiltValue" minOccurs="0"/>
                <element name="mechanicalOffset" type="un:mechanicalOffset" minOccurs="0"/>
              </all>
            </complexType>
          </element>
        </sequence>
      </extension>
    </complexContent>
  </complexType>
</element>

```

```
<element name="retGroupName" type="un:retGroupName" minOccurs="0"/>
<element name="height" type="un:height" minOccurs="0"/>
</all>
</complexType>
</element>
<choice minOccurs="0" maxOccurs="unbounded">
  <element ref="xn:VsDataContainer"/>
</choice>
</sequence>
</extension>
</complexContent>
</complexType>
</element>
</schema>
```

**End of Change in Annex A**

**Change in Annex B**

---

## Annex B (informative): XML schema electronic files

The electronic files corresponding to the normative XML schemas defined in the present document are available in native form in the following archive:

[http://www.3gpp.org/ftp/specs/archive/32\\_series/32.645/schema/32645-62+0-XMLSchema.zip](http://www.3gpp.org/ftp/specs/archive/32_series/32.645/schema/32645-62+0-XMLSchema.zip)

**End of Change in Annex B**