TSGS#27(05)0048

Source: SA5 (Telecom Management)

Title: CR 32642-3-4-5 UTRAN network resources IRP 32804 RET antennas Requirements

Document for: Approval

Agenda Item: 7.5.3

Doc-1st-Level	Spec	CR	R	Phase	Subject	Ca	VerCr	Doc-2nd-Level	Workitem
SP-050048	32.642	030	--	Rel-4	Align with SA2's 23.221, for allowing only CS CN in a PLMN	F	4.4.0	S5-058107	OAM-CM
SP-050048	32.642	031	--	Rel-5	Align with SA2's 23.221, for allowing only CS CN in a PLMN	A	5.5.0	S5-058109	OAM-CM
SP-050048	32.642	032	--	Rel-6	Align with SA2's 23.221, for allowing only CS CN in a PLMN	A	6.3.0	S5-058110	OAM-CM
SP-050048	32.643	019	--	Rel-4	Align with SA2's 23.221, for allowing only CS CN in a PLMN	F	4.3.0	S5-058108	OAM-CM
SP-050048	32.643	020	--	Rel-5	Align with SA2's 23.221, for allowing only CS CN in a PLMN	A	5.4.0	S5-058111	OAM-CM
SP-050048	32.643	021	--	Rel-6	Align with SA2's 23.221, for allowing only CS CN in a PLMN	A	6.3.0	S5-058112	OAM-CM
SP-050048	32.642	033	--	Rel-6	Add missing definition of IOC ExternalRncFunction	F	6.3.0	S5-058136	OAM-NIM
SP-050048	32.643	022	--	Rel-6	Add missing definition of IOC ExternalRncFunction	F	6.3.0	S5-058138	OAM-NIM
SP-050048	32.645	020	--	Rel-6	Add missing definition of IOC ExternalRncFunction	F	6.2.0	S5-058137	OAM-NIM
SP-050048	32.642	034	--	Rel-6	Amendments to UTRAN NRM for RET	F	6.3.0	S5-058161	OAM-NIM
SP-050048	32.643	023	--	Rel-6	Corrections to UTRAN NRM CORBA Solutions set mapping errors	F	6.3.0	S5-058160	OAM-NIM
SP-050048	32.644	016	--	Rel-6	Add RET support – Align with 32.642 Configuration Management UTRAN network resources IRP NRM	F	6.0.0	S5-058135	OAM-NIM
SP-050048	32.645	019	--	Rel-6	RET corrections to utranNRM.xsd	F	6.2.0	S5-058115	OAM-NIM
SP-050048	32.804	001	--	Rel-6	Remove irrelevant requirements to RET	F	6.0.0	S5-049000	OAM-NIM

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CHANGE REQUEST

⌘ 32.804 CR 001 ⌘rev - ⌘ Current version: 6.0.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Remove irrelevant requirements to RET
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2004
Category:	⌘	**F**
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:	⌘	Some stated requirements are not related to RET.
Summary of change:	⌘	Information not relevant to RET in SA5 has been removed.
Consequences if not approved:	⌘	The TR would contain information not relevant to it. It would depend on solutions in other WGs that are not relevant to SA5.

Clauses affected:	⌘	1 and Annex B

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

Other comments: ⌘

Change in Clause 1

1 Scope

The present document defines the requirements for the network wide control of RET antennas via the Itf-N.
Two example types of RET antennas are those that are tilted using a mechanical tilting mechanism and those that use a phased array.

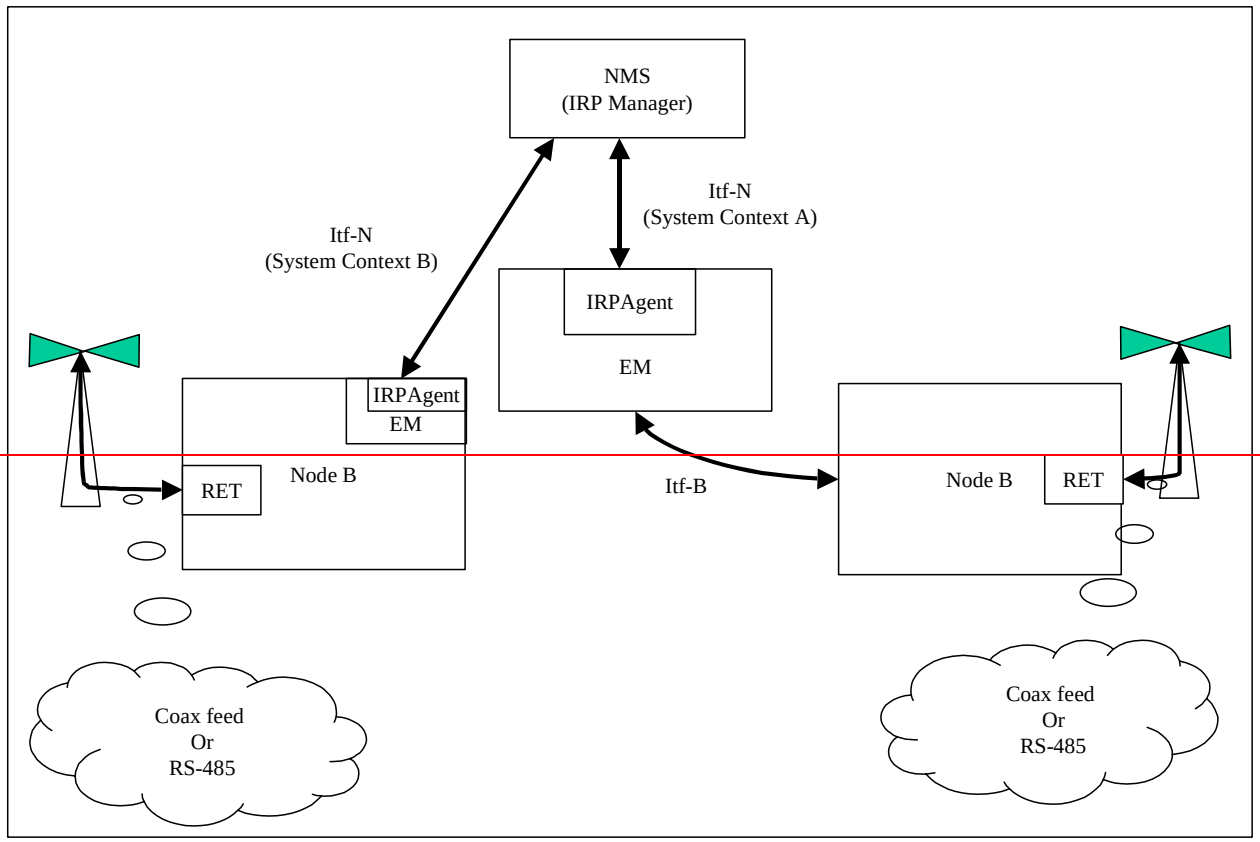
The control of RET antennas has been studied in 3GPP RAN3 with an approved work item for "Remote Control of Electrical Tilting Antennas" provided in RP-030193 at RAN#19 in March 2003, producing TR 25.802 [1].

The ability to control Antenna tilt permits cell size to be adjusted, thereby permitting control of up and downlink throughput.

The ability to control Antenna tilts remotely from a network management system permits a network wide perspective to be obtained and for settings to be adjusted in response to predicted population movements, or in response to performance monitoring data to help make the best use of the available radio access network.

Figure 1 shows the main Network Elements (NEs) and depicts the two system contexts A and B where the IRPagent may be located either in the Element Manager (EM), or within the Network Element (NE).

~~The RET antenna control capability may be achieved either by using one of the two layer 1 options (RS485 cable and coax feeder cable which permits RET controls to be sent to the tower top equipment via the coaxial feeder).~~


NMS
(IRP Manager)
Itf-N
(System Context A)
Itf-N
(System Context B)
IRPAgent
EM
IRPAgent
EM
RET
Node B
Itf-B
Node B
RET
Coax feed
Or
RS-485
Coax feed
Or
RS-485

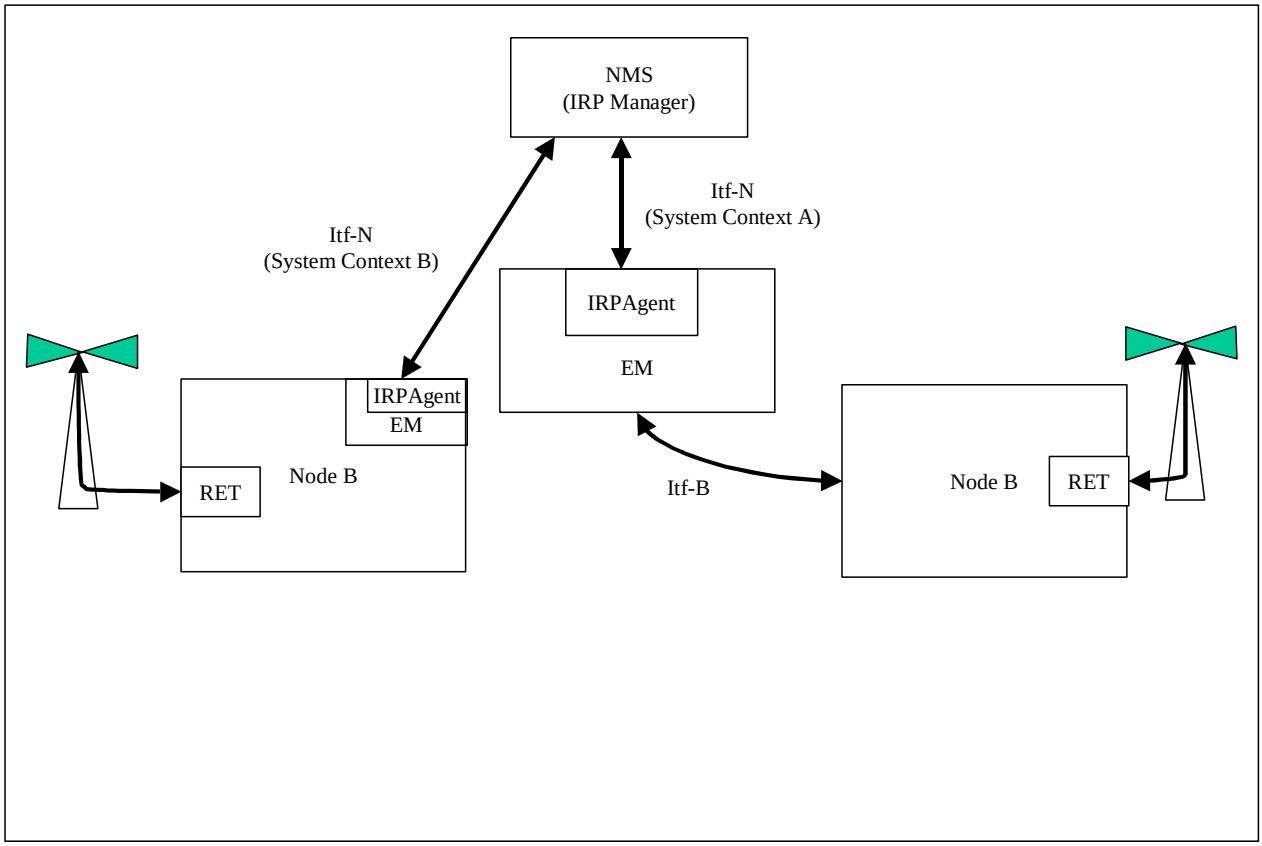


Figure 1

End of Change in Clause 1
End of Document

Change in Annex B

Annex B:
Future requirements

This annex is a place holder for requirements which are not within the scope of RET for 3GPP Release 6.

These are provided since considerations for them may ease the future evolution of RET control.

~~a)It shall be possible to adjust the gain of Low-Noise Tower Top Amplifiers.~~

~~b)~~a) It shall be possible to relate the both Tilt angle and amplifier gain settings in a way which allows them to be applied as collections of values, which are configured at (as near as possible) the same time.

~~c)It shall be possible to determine the current gain and gain settings of Tower Top (TT) Low Noise Amplifiers (LNAs).~~

~~d)~~b) It shall be possible to define a number of pre-defined antenna profiles which may be activated at particular times of day (using UTC).

This requirement is FFS. Whether this applies to manager or agent is FFS.

~~e)~~c) The interface will permit several configuration profiles per day to be supported; e.g. it is considered that 4 profiles would be sufficient but absolute number is likely to vary on a case by case basis.

This requirement is FFS.

1) It shall be possible to log the RET changes made using a local craft terminal.

2) Address the impact of failures. Use back up management systems ?

3) Consideration to delegating control to Node B software:
– aiding network resilience.
– reducing Itf-N signalling.

End of Change in Annex B
End of Document

Annex C:
Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2004	S_24	SP-040264	--	--	Submitted to TSG SA#24 for Information	1.0.0	
Sep 2004	S_25	SP-040603	--	--	Submitted to TSG SA#25 for Approval	2.0.0	6.0.0

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CHANGE REQUEST

⌘ 32.642 CR 030 ⌘rev - ⌘ Current version: 4.4.0 ⌘

*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:	⌘	Align with SA2's 23.221, for allowing only CS CN in a PLMN
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	20/08/2004
Category:	⌘	**F**
Release:	⌘	Rel-4

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 specification does not support that only a CS CN is implemented in a PLMN.
Summary of change:	⌘	Change tha attribute qualifier from M to O for the attributes rac and uraList.-
Consequences if not approved:	⌘	The specification would not reflect the traffical possibilities.

Clauses affected:	⌘	3.2, 6.3.3 and 6.3.6.			
Other specs affected:	⌘	Y	N	Other core specifications	⌘
			X	Test specifications	
		X		O&M Specifications	32.643
Other comments:	⌘				

Change in Clause 3.2

3.2 Abbreviations

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

…

NR	Network Resource
NRM	Network Resource Model
PM	Performance Management
PS	Packet Switched ~~domain~~
RDN	Relative Distinguished Name (see 3GPP TS 32.300 [13])
RNC	Radio Network Controller
SS	Solution Set
TMN	Telecommunications Management Network
UML	Unified Modelling Language
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network
XML	eXtensible Mark-up Language

End of Change in Clause 3.2

Change in Clause 6.3.3

6.3.3 MOC UtranCell

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

It inherits from ManagedFunction.

Table 6.5: Attributes of UtranCell

Name	Qualifier	Description
utranCellId	READ-ONLY, M	An attribute whose "name+value" can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.
userLabel	READ-WRITE, M	A user-friendly (and user assigned) name of the associated object. Inherited from ManagedFunction.
cId	READ-WRITE,M	Cid is the identifier of a cell in one RNC (Ref. 3GPP TS 25.401 [4]).
localCellId	READ-WRITE,M	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]). 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.
uarfcnUl	READ-WRITE, M	The UL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]).
uarfcnDl	READ-WRITE, M	The DL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]).
primaryScramblingCode	READ-WRITE, M	The primary DL scrambling code used by the cell (Ref. 3GPP TS 25.433 [5]).
primaryCpichPower	READ-WRITE, M	The power of the primary CPICH channel in the cell (Ref. 3GPP TS 25.433 [5]).
maximumTransmissionPower	READ-WRITE, M	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]).
primarySchPower	READ-WRITE, M	The power of the primary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).
secondarySchPower	READ-WRITE, M	The power of the secondary synchronisation channel in the cell, DL Power (Ref. 3GPP TS 25.433 [5]).
bchPower	READ-WRITE, M	The power of the broadcast channel in the cell (Ref. 3GPP TS 25.433 [5]).

lac	READ-WRITE, M	Location Area Code, LAC (Ref. 3GPP TS 23.003 [3])
rac	READ-WRITE, ~~M~~O	Routing Area Code, RAC (Ref. 3GPP TS 23.003 [3]) See Note ~~(1)~~ for the optional condition
sac	READ-WRITE, M	Service Area Code, SAC (Ref. 3GPP TS 23.003 [3]).
uraList	READ-WRITE, ~~M~~O	A list of UTRAN Registration Area, URA (Ref. 3GPP TS 25.331(clause 10.3.10) [9]). See Note ~~(2)~~ for the optional condition
utranCell-IubLink	READ-ONLY, M	The value of this attribute shall be the DN of the related IubLink instance. This is a reference attribute modelling the role (of the association AssociatedWith) that this UtranCell is associated with 0-1 IubLink.
NOTE: The attributes rac and uraList shall be included if the PLMN contains a PS CN. ~~Alternative: NOTE 1: The attribute rac shall be included if the PLMN contains a PS CN.~~ ~~NOTE 2: The attribute uraList shall be included if the UE-state URA-PCH is supported in the CN.~~		

Table 6.6: Notifications of UtranCell

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

End of Change in Clause 6.3.3

Change in Clause 6.3.6

6.3.6 MOC ExternalUtranCell

This Managed Object Class represents a radio cell controlled by another IRPAgent. This MOC has necessary attributes for inter-system handover. It contains a subset of the attributes of related MOCs controlled by another IRPAgent. The way to maintain consistency between the attribute values of these two MOCs is outside the scope of this document.

Table 6.11: Attributes of ExternalUtranCell

Name	Qualifier	Description
externalUtranCellId	READ-ONLY, M	An attribute whose "name+value" can be used as an RDN when naming an instance of this object class. This RDN uniquely identifies the object instance within the scope of its containing (parent) object instance.
userLabel	READ-WRITE, M	A user-friendly (and user assigned) name of the associated object.
cId	READ-WRITE, M	Cid is the identifier of a cell in one RNC (Ref. 3GPP TS 25.401 [4]).
mcc	READ-WRITE, M	Mobile Country Code, MCC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).
mnc	READ-WRITE, M	Mobile Network Code, MNC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).
rncId	READ-WRITE, M	Unique RNC ID for the drift RNC (Ref. 3GPP TS 23.003 [3]).
uarfcnUl	READ-WRITE, M	The UL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]).
uarfcnDl	READ-WRITE, M	The DL UTRA absolute Radio Frequency Channel number, UARFCN (Ref. 3GPP TS 25.433 [5]).
primaryScramblingCode	READ-WRITE, M	The primary DL scrambling code used by the cell (Ref. 3GPP TS 25.433 [5]).
primaryCpichPower	READ-WRITE, M	The power of the primary CPICH channel in the cell (Ref. 3GPP TS 25.433 [5]).
lac	READ-WRITE, M	Location Area Code, LAC (Ref. 3GPP TS 23.003 [3]).
rac	READ-WRITE, ~~M~~O	Routing Area Code, RAC (Ref. 3GPP TS 23.003 [3]). See Note for the optional condition
NOTE: The attribute rac shall be included if the external cell is connected to a PS CN.		

Table 6.12: Notifications of ExternalUtranCell

Name	Qualifier	Notes
notifyAttributeValueChange	O	
notifyObjectCreation	O	
notifyObjectDeletion	O	

End of Change in Clause 6.3.6
End of Document

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2003	S_22	SP-030646	015	--	Correction of the number of possible URAs from 1 to 8	4.3.0	4.4.0

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CHANGE REQUEST

⌘ 32.643 CR 019 ⌘rev - ⌘ Current version: 4.3.0 ⌘

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

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

Title:	⌘	Align with SA2's 23.221, for allowing only CS CN in a PLMN
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	20/08/2004
Category:	⌘	**F**
Release:	⌘	Rel-4

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 specification does not support that only a CS CN is implemented in a PLMN.
Summary of change:	⌘	Change tha attribute qualifier from M to O for the attributes rac and uraList.-
Consequences if not approved:	⌘	The specification would not reflect the traffical possibilities.

Clauses affected:	⌘	5.2.2 and 5.2.6.

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

Other comments: ⌘

Change in Clause 5.2.2

5.2.2 MOC `UtranCell`

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

NRM Associations/Attributes of MOC `UtranCell` in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Qualifier
`utranCellId`	`utranCellId`	string	Read-Only, M
`userLabel`	`userLabel`	string	Read-Write, M
`cId`	`cId`	long	Read-Write, M
`localCellId`	`localCellId`	long	Read-Write, M
`uarfcnUl`	`uarfcnUl`	long	Read-Write, M
`uarfcnDl`	`uarfcnDl`	long	Read-Write, M
`primaryScramblingCode`	`primaryScramblingCode`	long	Read-Write, M
`primaryCpichPower`	`primaryCpichPower`	long	Read-Write, M
`maximumTransmissionPower`	`maximumTransmissionPower`	long	Read-Write, M
`primarySchPower`	`primarySchPower`	long	Read-Write, M
`secondarySchPower`	`secondarySchPower`	long	Read-Write, M
`bchPower`	`bchPower`	long	Read-Write, M
`lac`	`lac`	long	Read-Write, M
`rac`	`rac`	long	Read-Write, ~~M~~O. See note.
`sac`	`sac`	long	Read-Write, M
`uraList`	`uraList`	LIST of long	Read-Write, ~~M~~O. See note
`AssociatedWith/ utranCell-IubLink`	`utranCellIubLink`	GenericNRIRPSystem::AttributeTypes::MOReference	Read-Only, M
Note: Regarding the condition for the optional parameters rac and uraList, see 32.642 [4].			

End of Change in Clause 5.2.2

Change in Clause 5.2.6

5.2.6 MOC ExternalUtranCell

Table 5.6: Mapping from NRM MOC ExternalUtranCell attributes and associations to SS equivalent MOC ExternalUtranCell attributes

NRM Associations/Attributes of MOC ExteralUtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Qualifier
externalUtranCellId	externalUtranCellId	string	Read-Only, M
userLabel	userLabel	string	Read-Write, M
cId	cId	long	Read-Write, M
mcc	mcc	long	Read-Write, M
mnc	mnc	long	Read-Write, M
rncId	rncId	long	Read-Write, M
uarfcnUl	uarfcnUl	long	Read-Write, M
uarfcnDl	uarfcnDl	long	Read-Write, M
primaryScramblingCode	primaryScramblingCode	long	Read-Write, M
primaryCpichPower	primaryCpichPower	long	Read-Write, M
lac	lac	long	Read-Write, M
rac	rac	long	Read-Write, ~~M~~O. See note
Note: Regarding the condition for the optional parameters rac, see 32.642 [4].			

End of Change in Clause 5.2.6
End of Document

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010646	001	--	Change type "integer" to "long" in the UTRAN Network Resources IRP: CORBA SS	4.0.0	4.1.0
Jun 2003	S_20	SP-030283	003	--	Deletion of UTRAN attribute relationType from CORBA SS	4.1.0	4.2.0
Dec 2003	S_22	SP-030646	005	--	Correction of the number of possible URAs from 1 to 8	4.2.0	4.3.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058109***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.642** **CR** **031** ⌘ **rev** **-** ⌘ Current version: **5.5.0** ⌘

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

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

Title:	⌘	Align with SA2's 23.221, for allowing only CS CN in a PLMN
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	28/01/2005
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The specification does not support that only a CS CN is implemented in a PLMN.
Summary of change:	⌘	Change tha attribute qualifier from M to O for the attributes rac and uraList.
Consequences if not approved:	⌘	The specification would not reflect the traffical possibilities.

Clauses affected:	⌘	3.2, 6.3.3 and 6.3.6.			
Other specs affected:	⌘	**Y**	**N**		
			X	Other core specifications	⌘
			X	Test specifications	
		X		O&M Specifications	32.643
Other comments:	⌘				

Change in Clause 3.2

3.2 Abbreviations

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

CIM	Common Information Model
CN	Core Network
DN	Distinguished Name (see 3GPP TS 32.300 [13])
EM	Element Manager
FM	Fault Management
IOC	Information Object Class
IRP	Integration Reference Point
Iub	Interface between RNC and Node B
ME	Managed Element
MIM	Management Information Model
MO	Managed Object
NE	Network Element
NM	Network Manager
NR	Network Resource
NRM	Network Resource Model
PM	Performance Management
PS	Packet Switched ~~domain~~
RDN	Relative Distinguished Name (see 3GPP TS 32.300 [13])
RNC	Radio Network Controller
TMN	Telecommunications Management Network
UML	Unified Modelling Language
UMTS	Universal Mobile Telecommunications System
UTRAN	Universal Terrestrial Radio Access Network

End of Change in Clause 3.2

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].

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	+	M	M	M
uarfcnDl	+	M	M	M
primaryScramblingCode	+	M	M	M
primaryCpichPower	+	M	M	M
maximumTransmissionPower	+	M	M	M
primarySchPower	+	M	M	M
secondarySchPower	+	M	M	M
bchPower	+	M	M	M
lac	+	M	M	M
rac	+	~~M~~O	M	M
sac	+	M	M	M
uraList	+	~~M~~O	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 Notifications

Table 6.7: Notifications of `UtranCell`

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

6.3.3.4 Attribute constraints

The optional attributes rac and uraList shall be included if the PLMN contains a PS CN.

End of Change in Clause 6.3.3

Change in Clause 6.3.6

6.3.6 ExternalUtranCell

6.3.6.1 Definition

This IOC represents a radio cell controlled by another IRPAgent. This IOC has necessary attributes for inter-system handover. It contains a subset of the attributes of related IOCs controlled by another IRPAgent. The way to maintain consistency between the attribute values of these two IOCs is outside the scope of this document.

6.3.6.2 Attributes

Table 6.12: Attributes of ExternalUtranCell

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
externalUtranCellId	+	M	M	-
userLabel	+	M	M	M
cId	+	M	M	M
mcc	+	M	M	M
mnc	+	M	M	M
rncId	+	M	M	M
uarfcnUl	+	M	M	M
uarfcnDl	+	M	M	M
primaryScramblingCode	+	M	M	M
primaryCpichPower	+	M	M	M
lac	+	M	M	M
rac	+	~~M~~O	M	M

6.3.6.3 Notifications

Table 6.13: Notifications of `ExternalUtranCell`

Name	Qualifier	Notes
notifyAttributeValueChange	O	
notifyObjectCreation	O	
notifyObjectDeletion	O	

6.3.6.4 Attribute constraints

The optional attribute rac shall be included if the external cell is connected to a PS CN.

End of Change in Clause 6.3.6
End of Document

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2004	S_24	SP-040254	020	--	Correction of the supported UMTS frequencies	5.3.0	5.4.0
Sep 2004	S_25	SP-040585	025	--	Align with the IRP IS template in 32.102 Telecommunication management; Architecture	5.4.0	5.5.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058110***
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CHANGE REQUEST

⌘ **32.642** **CR** **032** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Align with SA2's 23.221, for allowing only CS CN in a PLMN
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	28/01/2005
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The specification does not support that only a CS CN is implemented in a PLMN.
Summary of change:	⌘	Change tha attribute qualifier from M to O for the attributes rac and uraList.
Consequences if not approved:	⌘	The specification would not reflect the traffical possibilities.

Clauses affected:	⌘	3.2, 6.3.3.2, 6.3.3.3, 6.3.6.2 and 6.3.6.3.				
Other specs affected:	⌘	**Y**	**N**		⌘	
			X	Other core specifications		
			X	Test specifications		
		X		O&M Specifications		32.643
Other comments:	⌘					

3.2 Abbreviations

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

CIM	Common Information Model
CN	Core Network
DN	Distinguished Name (see 3GPP TS 32.300 [13])
EM	Element Manager
FDD	Frequency Division Duplex
FM	Fault Management
IOC	Information Object Class
IRP	Integration Reference Point
Iub	Interface between RNC and Node B
Mcps	Mega-chips per second
ME	Managed Element
MIM	Management Information Model
MO	Managed Object
NE	Network Element
NM	Network Manager
NR	Network Resource
NRM	Network Resource Model
PM	Performance Management
PS	Packet Switched ~~domain~~
RDN	Relative Distinguished Name (see 3GPP TS 32.300 [13])
RNC	Radio Network Controller
TDD	Time Division Duplex
TMN	Telecommunications Management Network
UML	Unified Modelling Language
UMTS	Universal Mobile Telecommunications System
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network

End of Change in Clause 3.2

Change in Clause 6.3.3.2

6.3.3.2 Attributes

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
retAntennaFunctionList	+	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	+	O~~M~~	M	M
sac~~rac~~	+	M	M	M
uraList	+	O~~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.			

End of Change in Clause 6.3.3.2

Change in Clause 6.3.3.3

6.3.3.3 Attribute constraints

The optional attributes `rac` and `uraList` shall be included if the PLMN contains a PS CN.

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.`

End of Change in Clause 6.3.3.3

Change in Clause 6.3.6.2

6.3.6.2 Attributes

Attributes of `ExternalUtranCell`

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
externalUtranCellId	+	M	M	-
userLabel	+	M	M	M
cId	+	M	M	M
mcc	+	M	M	M
mnc	+	M	M	M
rncId	+	M	M	M
cellMode	+	M	M	-
uarfcnUl	+	O	M	M
uarfcnDl	+	O	M	M
primaryScramblingCode	+	O	M	M
primaryCpichPower	+	O	M	M
uarfcn	+	O	M	M
cellParameterId	+	O	M	M
primaryCcpchPower	+	O	M	M
lac	+	M	M	M
rac	+	O~~M~~	M	M

End of Change in Clause 6.3.6.2

Change in Clause 6.3.6.3

6.3.6.3 Attribute constraints

The optional attribute `rac` shall be included if the external cell is connected to a PS CN.

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

for FDD mode only: `uarfcnUl, uarfcnDl, primaryScramblingCode, primaryCpichPower;`

for 1.28 Mcps TDD mode and 3.84 Mcps TDD mode: `uarfcn, cellParameterId, primaryCcpchPower.`

End of Change in Clause 6.3.6.3
End of Document

Annex C (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2004	S_26	SP-040810	028	--	Add AntennaFunction class and attributes to support RET (Remote control of Electrical Tilting)	6.2.0	6.3.0
Dec 2004	S_26	SP-040810	029	--	Add support for the state change notification	6.2.0	6.3.0

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CHANGE REQUEST

⌘ **32.643** **CR** **020** ⌘ **rev** **-** ⌘ Current version: **5.4.0** ⌘

*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:	⌘	Align with SA2's 23.221, for allowing only CS CN in a PLMN
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	28/01/2005
Category:	⌘	**A**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The specification does not support that only a CS CN is implemented in a PLMN.
Summary of change:	⌘	Change tha attribute qualifier from M to O for the attributes rac and uraList.-
Consequences if not approved:	⌘	The specification would not reflect the traffical possibilities.

Clauses affected:	⌘	1, 5.2.2 and 5.2.6.			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 1

1 Scope

The purpose of this UTRAN Network Resources IRP: CORBA Solution Set is to define the mapping of the IRP information model (see 3GPP TS 32.642 [4]) to the protocol specific details necessary for implementation of this IRP in a CORBA/IDL environment.

This Solution Set specification is related to 3GPP TS 32.642 V5.~~5~~6.X.

End of Change in Clause 1

Change in Clause 5.2.2

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
cId	cId	long	M	M	M
localCellId	localCellId	long	M	M	M
uarfcnUl	uarfcnUl	long	M	M	M
uarfcnDl	uarfcnDl	long	M	M	M
primaryScramblingCode	primaryScramblingCode	long	M	M	M
primaryCpichPower	primaryCpichPower	long	M	M	M
maximumTransmissionPower	maximumTransmissionPower	long	M	M	M
primarySchPower	primarySchPower	long	M	M	M
secondarySchPower	secondarySchPower	long	M	M	M
bchPower	bchPower	long	M	M	M
lac	lac	long	M	M	M
rac	rac	long	O. See note.~~M~~	M	M
sac	sac	long	M	M	M
uraList	uraList	LIST of long	O. See note.~~M~~	M	M
AssociatedWith/ utranCell-IubLink	utranCellIubLink	GenericNRIRPSystem::AttributeTypes::MOReference	M	M	-
operationalState	operationalState	StateManagementIRPOptConstDefs::OperationalStateTypeOpt	O	M	-
Note Regarding the condition for the optional parameters rac and uraList, see 32.642 [4].					

End of Change in Clause 5.2.2

Change in Clause 5.2.6

5.2.6 IOC ExternalUtranCell

Table 5.6: Mapping from NRM IOC ExternalUtranCell attributes and associations to SS equivalent MOC ExternalUtranCell attributes

NRM Attributes of IOC ExternalUtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
externalUtranCellId	externalUtranCellId	string	M	M	-
userLabel	userLabel	string	M	M	M
cId	cId	long	M	M	M
mcc	mcc	long	M	M	M
mnc	mnc	long	M	M	M
rncId~~RncId~~	rncId	long	M	M	M
uarfcnUl~~UarfcnUl~~	uarfcnUl	long	M	M	M
uarfcnDl~~UarfcnDl~~	uarfcnDl	long	M	M	M
primaryScramblingCode	primaryScramblingCode	long	M	M	M
primaryCpichPower	primaryCpichPower	long	M	M	M
lac~~Lac~~	lac	long	M	M	M
rac~~Rac~~	rac	long	O. See note~~M~~	M	M
Note: Regarding the condition for the optional parameters rac, see 32.642 [4].					

End of Change in Clause 5.2.6
End of Document

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010646	001	--	Change type "integer" to "long" in the UTRAN Network Resources IRP: CORBA SS	4.0.0	4.1.0
Sep 2002	S_17	SP-020493	002	--	Upgrade to Rel-5	4.1.0	5.0.0
Jun 2003	S_20	SP-030283	004	--	Deletion of UTRAN attribute relationType from CORBA SS.	5.0.0	5.1.0
Dec 2003	S_22	SP-030646	006	--	Correction of the number of possible URAs from 1 to 8	5.1.0	5.2.0
Jun 2004	S_24	SP-040254	008	--	The specification does not support all UMTS frequency bands	5.2.0	5.3.0
Sep 2004	S_25	SP-040589	010	--	Add the operationalState to the UtranCell – Align the CORBA SS with 32.642 CM; UTRAN network resources IRP NRM	5.3.0	5.4.0
Sep 2004	S_25	SP-040586	014	--	Align the CORBA SS with 32.642 Configuration Management (CM); UTRAN network resources IRP NRM	5.3.0	5.4.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058112***
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CHANGE REQUEST

⌘ **32.643** **CR** **021** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Align with SA2's 23.221, for allowing only CS CN in a PLMN
Source:	⌘	**SA5** (robert.petersen@ericsson.com)
Work item code:	⌘	OAM-CM
Date:	⌘	28/01/2005
Category:	⌘	**A**
Release:	⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	The specification does not support that only a CS CN is implemented in a PLMN.
Summary of change:	⌘	Change tha attribute qualifier from M to O for the attributes rac and uraList.
Consequences if not approved:	⌘	The specification would not reflect the traffical possibilities.

Clauses affected:	⌘	1, 5.2.2 and 5.2.6.			
Other specs affected:	⌘	**Y**	**N**		⌘
			X	Other core specifications	
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

Change in Clause 1

1 Scope

The purpose of this UTRAN Network Resources IRP: CORBA Solution Set is to define the mapping of the IRP information model (see 3GPP TS 32.642 [4]) to the protocol specific details necessary for implementation of this IRP in a CORBA/IDL environment.

This Solution Set specification is related to 3GPP TS 32.642 V6.~~3~~4.X.

End of Change in Clause 1

Change in Clause 5.2.2

5.2.2 IOC UtranCell

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
cId	cId	long	M	M	M
localCellId	localCellId	long	M	M	M
uarfcnUl	uarfcnUl	long	O	M	M
uarfcnDl	uarfcnDl	long	O	M	M
primaryScramblingCode	primaryScramblingCode	long	O	M	M
primaryCpichPower	primaryCpichPower	long	O	M	M
retAntennaFunctionList	retAntennaFunctionList	GenericNRIRPSystem::AttributeTypes::MOReference	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	O~~M~~	M	M
sac	sac	long	M	M	M
uraList	uraList	List of long	O~~M~~	M	M
AssociatedWith/ utranCell-IubLink	utranCellIubLink	GenericNRIRPSystem::AttributeTypes::MOReference	M	M	-
cellMode	cellMode	GenericNRMAttributeTypes::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	TDDNRMAttributeTypes::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].

End of Change in Clause 5.2.2

Change in Clause 5.2.6

5.2.6 IOC ExternalUtranCell

Mapping from NRM IOC ExternalUtranCell attributes and associations to SS equivalent MOC ExternalUtranCell attributes

NRM Attributes of IOC ExternalUtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
externalUtranCellId	externalUtranCellId	string	M	M	-
userLabel	userLabel	string	M	M	M
cId	cId	long	M	M	M
mcc	mcc	long	M	M	M
mnc	mnc	long	M	M	M
rncId	rncId	long	M	M	M
uarfcnUl	uarfcnUl	long	O	M	M
uarfcnDl	uarfcnDl	long	O	M	M
primaryScramblingCode	primaryScramblingCode	long	O	M	M
primaryCpichPower	primaryCpichPower	long	O	M	M
uarfcn	uarfcn	long	O	M	M
cellParameterId	cellParameterId	long	O	M	M
primaryCcpchPower	primaryCcpchPower	long	O	M	M
cellMode	cellMode	GenericNRMAttributeTypes::cellModeEnumType	M	M	-
lac	lac	long	M	M	M
rac	rac	long	O~~M~~	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 5.2.6
End of Document

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2004	S_26	SP-040810	017	--	Correct IDL compilation error	6.2.0	6.3.0
Dec 2004	S_26	SP-040810	018	--	Correct IDL compilation error and change name of retAntennaList	6.2.0	6.3.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058115***
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CHANGE REQUEST

⌘ **32.645** **CR** **019** ⌘ **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 ☐

Title:	⌘	RET corrections to utranNRM.xsd
Source:	⌘	SA5 (mohanr@lucent.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2005
Category:	⌘	**F**
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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Errors have been discovered in the schema files relating to RET additions.
Summary of change:	⌘	• Deleted redundant type definition for `antennaId` & its related occurences. • Style correction for definition of all tilt values. • Changed the type for `retUtranCellList` & `retAntennaList` to string. • Type definition for `retGroupName` corrected. • Type definition for `height` changed to integer. • Changed element name from `Antenna` to `AntennaFunction`.
Consequences if not approved:	⌘	The schema file will be error prone and won't reflect the contents in the IS.

Clauses affected:	⌘	Annex A, Annex B
Other specs affected:	⌘	Y / N ☐ / ☒ Other core specifications ☐ / ☒ Test specifications ☐ / ☒ O&M Specifications
Other comments:	⌘	

Change in Clause Annex A

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

```
<?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>

  <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>
<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="maxTiltValuetiltValue">
    <restriction base="decimalinteger">
      <fractionDigits value="1"/>
      <minInclusive value="0"/>
      <maxInclusive value="3600"/>
    </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"/>
      <maxInclusivemaxLength 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:IubLink"/>
            <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="nodeBFunctionIubLink" 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"
                  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" minOccurs="0"/>
                <element name="retAntennaFunctionList" type="un:retAntennaListxn:DNListType"
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="AntennaFunction"
    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:retUtranCellListxn:DNListType"
minOccurs="0"/>
                  <element name="retTiltValue" type="un:retTtiltValue" minOccurs="0"/>
                  <element name="compassDirection" type="un:compassDirection" minOccurs="0"/>
                  <element name="maxTiltValue" type="un:maxTtiltValue" minOccurs="0"/>
                  <element name="minTiltValue" type="un:minTtiltValue" minOccurs="0"/>
                  <element name="mechanicalOffset" type="un:mechanicalOffsettiltValue"
minOccurs="0"/>
                  <element name="retGroupName" type="un:retGroupName" minOccurs="0"/>
                  <element name="height" type="un:heightinteger" 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/32645-6~~2~~30-XMLSchema.zip

End of Change in Annex B
End of Document

Annex C (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2004	S_24	SP-040254	010	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Jun 2004	S_24	SP-040256	011	--	Add XML definitions for support of TDD modes	5.5.0	6.0.0
Sep 2004	S_25	SP-040592	013	--	Correction of the XML code – Reinsertion of the closing tag	6.0.0	6.1.0
Sep 2004	S_25	SP-040595	014	--	Include ATM in CM UTRAN network resources IRP XML Schema definition	6.0.0	6.1.0
Sep 2004	S_25	SP-040587	015	--	Add support for Remote control of Electrical Tilting (RET) antenna to the Bulk CM XSD file	6.0.0	6.1.0
Dec 2004	S_26	SP-040810	016	--	Add operationalState to the UtranCell – Align with the IS in 32.642	6.1.0	6.2.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058135***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.644** **CR** **016** ⌘ **rev** **-** ⌘ Current version: **6.0.0** ⌘

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

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

Title:	⌘	Add RET support – Align with 32.642 Configuration Management UTRAN network resources IRP NRM
Source:	⌘	SA5 Siemens (clemens.suerbaum@siemens.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2005
Category:	⌘	**F**
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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	RET items are missing in the CMIP Solution Set
Summary of change:	⌘	RET additions are introduced
Consequences if not approved:	⌘	CMIP Solution Set is not aligned with the Network Resource Model (NRM); rsulting in an inconsistent set of specifications. No management of RET possible with CMIP SS

Clauses affected:	⌘	4.2, 5, 6, Annex A

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

Other comments: ⌘

Change in Clause 4.2.1

4.2.1 Mapping of Information Object Classes

The following table maps the information object classes defined in the UTRAN Network Resource Model onto the equivalent MOCs of the CMIP Solution Set.

Table : Mapping of IOCs

IS IOC	CMIP SS MOC
RncFunction	rncFunctionR55
NodeBFunction	nodeBFunction
UtranCell	utranCellR06100
IubLink	iubLinkR0600
UtranRelation	utranRelationR0600
ExternalUtranCell	externalUtranCellR0600
AntennaFunction	antennaFunctionR0610

End of Change in Clause 4.2.1

Change in Clause 4.2.2.3

4.2.2.3 Attribute Mapping of the IOC *UtranCell*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
utranCellId	utranCellId	M	M	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	M	M	M
cId	cIdR55	M	M	M
localCellId	localCellIdR55	M	M	M
uarfcnDl	uarfcnDl	O	M	M
uarfcnUl	uarfcnUl	O	M	M
primaryScramblingCode	primaryScramblingCode	O	M	M
primaryCpichPower	primaryCpichPower	O	M	M
retAntennaFunctionList	retAntennaFunctionListR0610	O	M	M
maximumTransmissionPower	maximumTransmissionPower	M	M	M
primarySchPower	primarySchPower	O	M	M
secondarySchPower	secondarySchPower	O	M	M
bchPower	bchPower	O	M	M
cellMode	cellMode	M	M	--
uarfcn	uarfcn	O	M	M
cellParameterId	cellParameterId	O	M	M
primaryCcpchPower	primaryCcpchPower	O	M	M
dwPchPower	dwPchPower	O	M	M
timeSlotList	timeSlotList	O	M	M
schPower	schPower	O	M	M
lac	lac	M	M	M
rac	rac	M	M	M
sac	sac	M	M	M
uraList	uraList	M	M	M
utranCell-IubLink	utranCell2iubLink	M	M	M
operationalState	operationalState	O	M	--

End of Change in Clause 4.2.2.3

New Clause 4.2.2.7

4.2.2.7 Attribute Mapping of the IOC *AntennaFunction*

IS Attribute	CMIP SS Attribute	Support Qualifier	Read Qualifier	Write Qualifier
antennaFunctionId	antennaFunctionIdR0610	O	M	--
userLabel	userLabel (ITU-T Rec. M.3100 [9])	O	M	M
retUtranCellList	retUtranCellListR0610	O	M	M
retTiltValue	retTiltValueR0610	O	M	M
compassDirection	compassDirectionR0610	O	M	M
maxTiltValue	maxTiltValueR0610	O	M	M
minTiltValue	minTiltValueR0610	O	M	M
mechanicalOffset	mechanicalOffsetR0610	O	M	M
retGroupName	retGroupNameR0610	O	M	M
height	heightR0610	O	M	M

End of new Clause 4.2.2.7

Change in Clause 4.2.3

4.2.3 Mapping of Name Containments

IS Name Containment	CMIP SS Name Binding
rncFunction--managedElement	rncFunctionR55-managedElement
nodeBFunction--managedElement	nodeBFunction-managedElement
utranCell--rncFunction	utranCellR0610-rncFunctionR55
utranRelation--utranCell	utranRelationR0600-utranCellR0610
externalUtranCell--subNetwork	externalUtranCellR0600-subNetwork
iubLink--rncFunction	iubLink-rncFunctionR55
gsmRelation--utranCell	gsmRelation-utranCellR0610
antennaFunction-managedElement	antennaFunctionR0610-managedElement

End of Change in Clause 4.2.3

Change in Clause 5

-- 5 GDMO Definitions

```
--Please do not remove the "–" in front of the headline numbering, as it is the CMIP code
--for a comment. This way the whole chapter can be put directly into a compiler.
```

-- 5.1 Managed Object Classes

-- 5.1.1 rncFunction

```
rncFunctionR55 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      rncFunctionBasicPackage,
      rncFunctionHandoverPackageR55,
```

```
      "3GPP TS 32.111-4": 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

```
utranCellR06100 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      utranCellBasicPackage,
      utranCellHandoverPackageR0600,
      utranCellAssociationPackage,
      "3GPP TS 32.111-4": 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": operationalStateAttributePackage
         PRESENT IF
           "instances of this MOC support the operationalState attribute." ,
      utranCellRetPackageR0610
          PRESENT IF
           "instances of this MOC support the retAntennaFunctionList attribute.";
REGISTERED AS {ts32-644ObjectClass 206100};
```

-- 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

```
externalUtranCellR0600 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      externalUtranCellPackageR0600;
   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 40600};
```

-- 5.1.5 iubLink

```
iubLinkR0600 MANAGED OBJECT CLASS
   DERIVED FROM
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      iubLinkBasicPackage,
      iubLinkAssociationPackage,
      "3GPP TS 32.111-4": 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": managedFunction;
   CHARACTERIZED BY
      nodeBFunctionBasicPackage,
      nodeBFunctionAssociationPackage,
      "3GPP TS 32.111-4": 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};
```

-- 5.1.7 antennaFunction

```
antennaFunctionR0610 MANAGED OBJECT CLASS
   DERIVED FROM
```

```
      "3GPP TS 32.624": managedFunction;
   CHARACTERIZED BY
      antennaFunctionBasicPackageR0610,
      "3GPP TS 32.111-4": 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.",
      antennaFunctionOptionalPackageR0610
         PRESENT IF
            "the optional attributes are supported by an instance of this class.";
REGISTERED AS {ts32-644ObjectClass 70610};
```

-- 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

```
utranCellHandoverPackageR0600 PACKAGE
   BEHAVIOUR
      utranCellHandoverPackageR0600Behaviour;
   ATTRIBUTES
      cIdR55                        GET-REPLACE,
      localCellIdR55                GET-REPLACE,
      maximumTransmissionPower      GET-REPLACE,
      cellMode                      GET,
      lac                           GET-REPLACE,
      rac                           GET-REPLACE,
      sac                           GET-REPLACE,
      uraList                       GET-REPLACE;
REGISTERED AS {ts32-644Package 20600};

utranCellHandoverPackageR0600Behaviour 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.";
```

-- 5.2.3 utranRelationBasicPackage

```
utranRelationBasicPackageR0600 PACKAGE
   BEHAVIOUR
      utranRelationBasicPackageR0600Behaviour;
   ATTRIBUTES
      utranRelationId      GET,
      cellMode             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.";
```

-- 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

```
externalUtranCellPackageR0600 PACKAGE
   BEHAVIOUR
      externalUtranCellPackageR0600Behaviour;
   ATTRIBUTES
      externalUtranCellId        GET,
      cIdR55                     GET-REPLACE,
      mcc                        GET-REPLACE,
      mnc                        GET-REPLACE,
      rncIdR55                   GET-REPLACE,
      cellMode                   GET,
      lac                        GET-REPLACE,
      rac                        GET-REPLACE;
REGISTERED AS {ts32-644Package 50600};

externalUtranCellPackageR0600Behaviour BEHAVIOUR
DEFINED AS
   "This Managed Object Class represents a radio cell controlled by another IRPAgent.";
```

-- 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
      uarfcn                GET,
      cellParameterId       GET,
      primaryCcpchPower     GET,
      lac                   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
      uarfcnUl                 GET-REPLACE,
      uarfcnDl                 GET-REPLACE,
      primaryScramblingCode    GET-REPLACE,
      primaryCpichPower        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
      uarfcn               GET-REPLACE,
      cellParameterId      GET-REPLACE,
      primaryCcpchPower    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
      iubLink2aTMChannelTerminationPoint     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.";
```

-- 5.2.21 utranCellRetPackage

```
utranCellRetPackageR0610 PACKAGE
   BEHAVIOUR
      utranCellRetPackageR0610Behaviour;
   ATTRIBUTES
      retAntennaFunctionListR0610        GET-REPLACE ADD-REMOVE
      ;
REGISTERED AS {ts32-644Package 210610};

utranCellRetPackageR0610Behaviour BEHAVIOUR
DEFINED AS
   "This package contains the attributes of utranCell related to RET.";
```

-- 5.2.22 antennaFunctionBasicPackage

```
antennaFunctionBasicPackageR0610 PACKAGE
   BEHAVIOUR
```

```
      antennaFunctionBasicPackageR0610Behaviour;
   ATTRIBUTES
      antennaFunctionIdR0610        GET
      ;
REGISTERED AS {ts32-644Package 220610};

antennaFunctionBasicPackageR0610Behaviour BEHAVIOUR
DEFINED AS
   "This package contains the attribute antennaFunctionId and possibly mandatory attributes of
antennaFunction.";
```

-- 5.2.23 antennaFunctionOptionalPackage

```
antennaFunctionOptionalPackageR0610 PACKAGE
   BEHAVIOUR
      antennaFunctionOptionalPackageR0610Behaviour;
   ATTRIBUTES
      retUtranCellListR0610        GET-REPLACE,
      retTiltValueR0610            GET-REPLACE,
      compassDirectionR0610        GET-REPLACE,
      maxTiltValueR0610            GET-REPLACE,
      minTiltValueR0610            GET-REPLACE,
      mechanicalOffsetR0610        GET-REPLACE,
      retGroupNameR0610            GET-REPLACE,
      heightR0610                  GET-REPLACE
      ;
REGISTERED AS {ts32-644Package 230610};

antennaFunctionOptionalPackageR0610Behaviour BEHAVIOUR
DEFINED AS
   "This package contains the optional attributes of antennaFunction except antennaFunctionId.";
```

-- 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 primaryCcpchPower

```
primaryCcpchPower ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.PrimaryCcpchPower;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      primaryCcpchPowerBehaviour;
REGISTERED AS {ts32-644Attribute 330600};

primaryCcpchPowerBehaviour BEHAVIOUR
DEFINED AS
   "The power of the primary CCPCH 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.";
```

-- 5.3.39 retAntennaFunctionList

```
retAntennaFunctionListR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointerList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retAntennaFunctionListR0610Behaviour;
REGISTERED AS {ts32-644Attribute 390610};

retAntennaFunctionListR0610Behaviour BEHAVIOUR
DEFINED AS
   "The attribute retAntennaFunctionListR0610 points to the antennaFunction
    instance(s) associated to the utranCell holding this attribute.";
```

-- 5.3.40 antennaFunctionId

```
antennaFunctionIdR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectId;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      antennaFunctionIdR0610Behaviour;
REGISTERED AS {ts32-644Attribute 400610};

antennaFunctionIdR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute names an instance of the ‘antennaFunctionIdR0610’ object class.";
```

-- 5.3.41 retUtranCellList

```
retUtranCellListR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.GeneralObjectPointerList;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retUtranCellListR0610Behaviour;
REGISTERED AS {ts32-644Attribute 410610};
```

```
retUtranCellListR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute retUtranCellList points to the utranCell instance(s( associated to the
antennaFunction holding this attribute. i.e. to the utranCells(s) which are supported by the
antenna.";
```

-- 5.3.42 retTiltValue

```
retTiltValueR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retTiltValueR0610Behaviour;
REGISTERED AS {ts32-644Attribute 420610};

retTiltValueR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the tilt value of the antenna that has been made using electrical
means (i.e. using RET).";
```

-- 5.3.43 compassDirection

```
compassDirectionR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      compassDirectionR0610Behaviour;
REGISTERED AS {ts32-644Attribute 430610};

compassDirectionR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the compass direction in degrees (magnetic) that the antenna is
pointing in.";
```

-- 5.3.44 maxTiltValue

```
maxTiltValueR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      maxTiltValueR0610Behaviour;
REGISTERED AS {ts32-644Attribute 440610};

maxTiltValueR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the maximum amount of tilt the RET system can support.";
```

-- 5.3.45 minTiltValue

```
minTiltValueR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      minTiltValueR0610Behaviour;
REGISTERED AS {ts32-644Attribute 450610};

minTiltValueR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the minimum amount of tilt the RET system can support. ";
```

-- 5.3.46 mechanicalOffset

```
mechanicalOffsetR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Angle;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      mechanicalOffsetR0610Behaviour;
REGISTERED AS {ts32-644Attribute 460610};

mechanicalOffsetR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents 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.";
```

-- 5.3.47 retGroupName

```
retGroupNameR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.RetGroupName;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      retGroupNameR0610Behaviour;
REGISTERED AS {ts32-644Attribute 470610};

retGroupNameR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute provides the possibility to define a logical grouping of antennas which may be in
different cells.";
```

-- 5.3.48 height

```
heightR0610 ATTRIBUTE
   WITH ATTRIBUTE SYNTAX
      TS32-644TypeModule.Height;
   MATCHES FOR
      EQUALITY;
   BEHAVIOUR
      heightR0610Behaviour;
REGISTERED AS {ts32-644Attribute 480610};

heightR0610Behaviour BEHAVIOUR
DEFINED AS
   "This attribute represents the height of an antenna above sea level.";
```

-- 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": 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": 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

```
utranCellR06100-rncFunctionR55 NAME BINDING
   SUBORDINATE OBJECT CLASS
      utranCellR06100;
   NAMED BY SUPERIOR OBJECT CLASS
      rncFunctionR55;
   WITH ATTRIBUTE
      utranCellId;
   BEHAVIOUR
      utranCellR06100-rncFunctionR55Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 306100};

utranCellR06100-rncFunctionR55Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a rncFunctionR55 contains
    and controls an utranCellR0600. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.4 utranRelation - utranCell

```
utranRelationR0600-utranCellR06100 NAME BINDING
   SUBORDINATE OBJECT CLASS
      utranRelationR0600;
   NAMED BY SUPERIOR OBJECT CLASS
      utranCellR06100;
   WITH ATTRIBUTE
      utranRelationId;
   BEHAVIOUR
      utranRelationR0600-utranCellR06100Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 406100};

utranRelationR0600-utranCellR06100Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which an utranCellR0600 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

```
externalUtranCellR0600-subNetwork NAME BINDING
   SUBORDINATE OBJECT CLASS
      externalUtranCellR0600;
   NAMED BY SUPERIOR OBJECT CLASS
      "3GPP TS 32.624": subNetwork;
   WITH ATTRIBUTE
      externalUtranCellId;
   BEHAVIOUR
      externalUtranCellR0600-subNetworkBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 50600};

externalUtranCellR0600-subNetworkBehaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a subNetwork contains
   and controls an externalUtranCellR0600. 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 100600};

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-utranCellR06100 NAME BINDING
   SUBORDINATE OBJECT CLASS
      "3GPP TS 32.654": gsmRelation;
   NAMED BY SUPERIOR OBJECT CLASS
```

```
      utranCellR061055;
   WITH ATTRIBUTE
      "3GPP TS 32.654": gsmRelationId;
   BEHAVIOUR
      gsmRelation-utranCellR06100Behaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 1106100};

gsmRelation-utranCellR06100Behaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which an utranCellR0600 contains
    and controls a gsmRelation. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

-- 5.4.12 antennaFunctionR0610 - managedElement

```
antennaFunctionR0610-managedElement NAME BINDING
   SUBORDINATE OBJECT CLASS
      antennaFunctionR0610;
   NAMED BY SUPERIOR OBJECT CLASS
      "3GPP TS 32.624": managedElement;
   WITH ATTRIBUTE
      antennaFunctionIdR0610;
   BEHAVIOUR
      antennaFunctionR0610-managedElementBehaviour;
   CREATE
      WITH-REFERENCE-OBJECT, WITH-AUTOMATIC-INSTANCE-NAMING;
   DELETE
      ONLY-IF-NO-CONTAINED-OBJECTS;
REGISTERED AS {ts32-644NameBinding 200610};

antennaFunctionR0610-managedElementBehaviour BEHAVIOUR
DEFINED AS
   "The name binding represents a relationship in which a managedElement contains
    and controls a antennaFunctionR0610. When automatic instance naming is used, the choice
    of name bindings is left as a local matter.";
```

End of Change in Clause 5

Change in Clause 6

-- 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) version10610(10610)}


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

Angle ::= INTEGER (0..359)

BchPower ::= INTEGER

CellMode ::= ENUMERATED
   {
   FDDfddMode               (0),
   one1-28McpsTDDMode       (1),
   three3-84McpsTDDMode     (2)
   }

CellParameterId ::= INTEGER (0..127)

CId ::= INTEGER

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

Height ::= INTEGER

Lac ::= INTEGER

LocalCellId ::= INTEGER

MaximumTransmissionPower ::= INTEGER

PrimaryCcpchPower ::= INTEGER (-150..400)

PrimaryCpichPower ::= INTEGER

PrimarySchPower ::= INTEGER

PrimaryScramblingCode ::= INTEGER

Rac ::= INTEGER

RetGroupName ::= GraphicString

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
```

End of Change in Clause 6

Change in Annex A

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. 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
Managed Object Classes		
rncFunction	Name: rncFunctionR55 OID : ts32-644ObjectClass 8	Name: rncFunction OID : ts32-644ObjectClass 1 Name: utranCellR55 OID : ts32-644ObjectClass 9
utranCell	Name: utranCellR06100 OID : ts32-644ObjectClass 206100	Name: utranCellR54 OID : ts32-644ObjectClass 7 Name: utranCell OID : ts32-644ObjectClass 2
utranRelation	Name: utranRelationR0600 OID : ts32-644ObjectClass 30600	Name: utranCellR0600 OID : ts32-644ObjectClass 20600 Name: utranRelation OID : ts32-644ObjectClass 3--
externalUtranCell	Name: externalUtranCellR0600 OID : ts32-644ObjectClass 40600	Name: externalUtranCellR0506 OID : ts32-644ObjectClass 40506 Name: externalUtranCell OID : ts32-644ObjectClass 4
iubLink	Name: iubLinkR0600 OID : ts32-644ObjectClass 50600	Name: iubLink OID : ts32-644ObjectClass
nodeBFunction	Name: nodeBFunction OID : ts32-644ObjectClass 6	--
antennaFunction	Name: antennaFunctionR0610 OID : ts32-644ObjectClass 70610	
Packages		
rncFunctionHandoverPackage	Name: rncFunctionHandoverPackageR55 OID : ts32-644Package 14	Name: rncFunctionHandoverPackage OID : ts32-644Package 1 Name: utranCellHandoverPackageR55 OID : ts32-644Package 15
utranCellHandoverPackage	Name: utranCellHandoverPackageR0600 OID : ts32-644Package 20600	Name: utranCellHandoverPackageR54 OID : ts32-644Package 13 Name: utranCellHandoverPackage OID ts32-644Package 2
utranRelationBasicPackage	Name: utranRelationBasicPackageR0600 OID : ts32-644Package 30600	Name: utranRelationBasicPackage OID : ts32-644Package 3
utranRelationAssociationPackage	Name: utranRelationAssociationPackage OID ts32-644Package 4	--
externalUtranCellPackage	Name: externalUtranCellPackageR0600 OID : ts32-644Package 50600	Name: externalUtranCellPackageR0506 OID : ts32-644Package 50506 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	--
utranCellRetPackage	Name: utranCellRetPackageR0610 OID : ts32-644Package 210610	
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	--
utranFDDCellHandoverPackage	Name: utranFDDCellHandoverPackage OID : ts32-644Package 130600	--
utran1-28McpsTDDCellHandoverPackage	Name: utran1-28McpsTDDCellHandoverPackage OID : ts32-644Package 140600	--
utran3-84McpsTDDCellHandoverPackage	Name: utran3-84McpsTDDCellHandoverPackage OID : ts32-644Package 150600	--
utranRelationFDDHandoverPackage	Name: utranRelationFDDHandoverPackage OID : ts32-644Package 160600	--
utranRelationTDDHandoverPackage	Name: utranRelationTDDHandoverPackage OID : ts32-644Package 170600	--
externalUtranFDDCellHandoverPackage	Name: externalUtranFDDCellHandoverPackage OID : ts32-644Package 180600	--

externalUtranTDDCellHandoverPackage	Name: externalUtranTDDCellHandoverPackage OID : ts32-644Package 190600	--
iubLink2aTMChannelTerminationPointAssociationPackage	Name: iubLink2aTMChannelTerminationPointAssociation Package OID : ts32-644Package 200600	--
antennaFunctionBasicPackage	Name: antennaFunctionBasicPackageR0610 OID : ts32-644Package 220610	--
antennaFunctionOptionalPackage	Name: antennaFunctionOptionalPackageR0610 OID : ts32-644Package 230610	--

Actions

Notifications

Attributes

Mcc	Name: mcc OID : ts32-644Attribute 1	--
Mnc	Name: mnc OID : ts32-644Attribute 2	--
rncId	Name: rncIdR55 OID : ts32-644Attribute 31	Name: rncId OID : ts32-644Attribute 3
cId	Name: cIdR55 OID : ts32-644Attribute 32	Name: cId OID : ts32-644Attribute 4
localCellId	Name: localCellIdR55 OID : ts32-644Attribute 33	Name: localCellId OID : ts32-644Attribute 5
uarfcnUl	Name: uarfcnUl OID : ts32-644Attribute 6	--
uarfcnDl	Name: uarfcnDl OID : ts32-644Attribute 7	--
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	--
rncFunctionId	Name: rncFunctionId 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	--

uraList	Name: uraList OID : ts32-644Attribute 30	--
Uarfcn	Name: uarfcn OID : ts32-644Attribute 310600	--
cellParameterId	Name: cellParameterId OID : ts32-644Attribute 320600	--
primaryCcpchPower	Name: primaryCcpchPower OID : ts32-644Attribute 330600	--
dwPchPower	Name: dwPchPower OID : ts32-644Attribute 340600	--
timeSlotList	Name: timeSlotList OID : ts32-644Attribute 350600	--
schPower	Name: schPower OID : ts32-644Attribute 360600	--
cellMode	Name: cellMode OID : ts32-644Attribute 370600	--
iubLink2aTMChannelTerminationPoint	Name: iubLink2aTMChannelTerminationPoint OID : ts32-644Attribute 380600	--
retAntennaFunctionList	Name: retAntennaFunctionListR0610 OID : ts32-644Attribute 390610	--
antennaFunctionId	Name: antennaFunctionIdR0610 OID : ts32-644Attribute 400610	--
retUtranCellList	Name: retUtranCellListR0610 OID : ts32-644Attribute 410610	--
retTiltValue	Name: retTiltValueR0610 OID : ts32-644Attribute 420610	--
compassDirection	Name: compassDirectionR0610 OID : ts32-644Attribute 430610	--
maxTiltValue	Name: maxTiltValueR0610 OID : ts32-644Attribute 440610	--
minTiltValue	Name: minTiltValueR0610 OID : ts32-644Attribute 450610	--
mechanicalOffset	Name: mechanicalOffsetR0610 OID : ts32-644Attribute 460610	--
retGroupName	Name: retGroupNameR0610 OID : ts32-644Attribute 470610	--
height	Name: heightR0610 OID : ts32-644Attribute 480610	--

Parameters

Name Bindings

rncFunction-managedElement	Name: rncFunctionR55-managedElement OID : ts32-644NameBinding 15	Name: rncFunction-managedElement OID : ts32-644NameBinding 1
nodeBFunction-managedElement	Name: nodeBFunction-managedElement OID : ts32-644NameBinding 2	--
utranCell-rncFunction	Name: utranCellR06100-rncFunctionR55 OID : ts32-644NameBinding 306100	Name: utranCellR55-rncFunctionR55 OID : ts32-644NameBinding 17 Name: utranCellR54-rncFunction OID : ts32-644NameBinding 12 Name: utranCell-rncFunction OID : ts32-644NameBinding 3 Name: utranCellR0600-rncFunctionR55 OID : ts32-644NameBinding 30600
utranRelation-utranCell	Name: utranRelationR0600-utranCellR06100 OID : ts32-644NameBinding 406100	Name: utranRelation-utranCellR55 OID : ts32-644NameBinding 18 Name: utranRelation-utranCellR54 OID : ts32-644NameBinding 13 Name: utranRelation-utranCell OID : ts32-644NameBinding 4 Name: utranRelationR0600-utranCellR0600 OID : ts32-644NameBinding 40600

externalUtranCell - subNetwork	Name: externalUtranCellR0600-subNetwork OID : ts32-644NameBinding 50600	Name: externalUtranCellR0506-subNetwork OID : ts32-644NameBinding 50506
vsDataContainer-rncFunction	--	Name: externalUtranCell-subNetwork OID : ts32-644NameBinding 5 Name: vsDataContainer-rncFunction OID : ts32-644NameBinding 6
vsDataContainer-nodeBFunction	--	Name: vsDataContainer-nodeBFunction OID : ts32-644NameBinding 7
vsDataContainer-utranCell	--	Name: vsDataContainer-utranCell OID : : ts32-644NameBinding 8
vsDataContainer-utranRelation	--	Name: vsDataContainer-utranRelation OID : ts32-644NameBinding 9
iubLink-rncFunction	Name: iubLinkR0600-rncFunctionR55 OID : ts32-644NameBinding 100600	Name: iubLink-rncFunctionR55 OID : ts32-644NameBinding 16 Name: iubLink-rncFunction OID : ts32-644NameBinding 10
gsmRelation-utranCell	Name: gsmRelation-utranCellR06100 OID : ts32-644NameBinding 1106010	Name: gsmRelation-utranCellR55 OID : ts32-644NameBinding 19 Name: gsmRelation-utranCellR54 OID : ts32-644NameBinding 14 Name: gsmRelation-utranCell OID : ts32-644NameBinding 11
antennaFunctionR0610-managedElement	Name: antennaFunctionR0610-managedElement OID : ts32-644NameBinding 200610	Name: gsmRelation-utranCellR0600 OID : ts32-644NameBinding 110600 --

End of Change in Annex A
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Sep 2001	S_13	SP-010478	001	--	Correction due to TS renumbering	4.0.0	4.1.0
Sep 2002	--	--	--	--	Cosmetics/Styles	4.1.0	4.1.1
Dec 2002	S_18	SP-020749	007	--	Alignment of the CMIP SS with the Rel-5 version of the IS in 32.642	4.1.1	5.0.0
Jun 2003	S_20	SP-030283	003	--	Removal of relationType	5.0.0	5.1.0
Sep 2003	S_21	SP-030420	004	--	Correction of wrong attribute name	5.1.0	5.2.0
Dec 2003	S_22	SP-030646	009	--	Correction of the number of possible URAs from 1 to 8	5.2.0	5.3.0
Dec 2003	S_22	SP-030642	010	--	Add notifications to functional objects - Align with 32.642 (IS)	5.2.0	5.3.0
Mar 2004	S_23	SP-040132	011	--	Correction of OIDs of the MOCs, packages and attributes affected by the change from ura to uraList	5.3.0	5.4.0
Jun 2004	S_24	SP-040255	012	--	Correction of type of the attributes cId, localCellId and rncId	5.4.0	5.5.0
Jun 2004	S_24	SP-040254	013	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Sep 2004	S_25	SP-040591	014	--	Correction of the types of the attributes cId, localCellId and rncId	5.5.0	5.6.0
Dec 2004	S_26	SP-040810	015	--	Add support for the TDD mode, the state change notification and ATM management – Align with 32.642	5.6.0	6.0.0

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.642** **CR** **033** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Add missing definition of IOC ExternalRncFunction
Source:	⌘	**SA5** (Nortel – Christian Toche – toche@nortelnetworks.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2005
Category:	⌘	**F**
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:
Ph2 *(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)*
Rel-7 *(Release 7)*

Reason for change:	⌘	CN NRM models links both to UTRAN RNC and GERAN BSC managed by other IRPAgents. GERAN NRM defines for this purpose IOC ExternalBssFunction. UTRAN NRM lacks definition of IOC ExternalRncFunction.
Summary of change:	⌘	Add missing definition of IOC ExternalRncFunction
Consequences if not approved:	⌘	CN NRM, UTRAN NRM and GERAN NRM would be inconsistent.

Clauses affected:	⌘	6.2, 6.3.6, 6.3.8, 6.4.7, 6.5

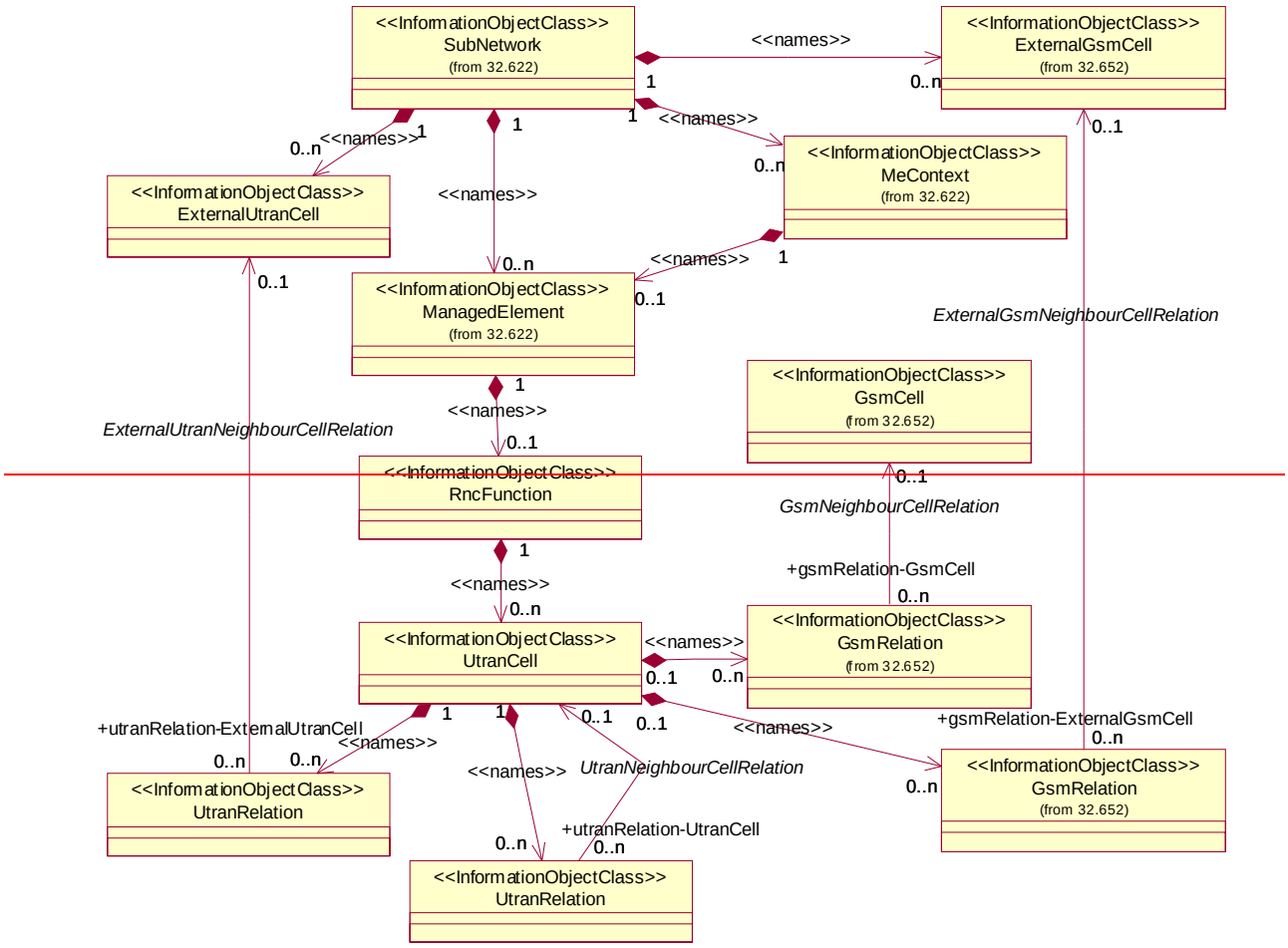
Other specs affected: ⌘	Y	N		⌘
		X	Other core specifications	
		X	Test specifications	
	X		O&M Specifications	32.643, 32.644, 32.645

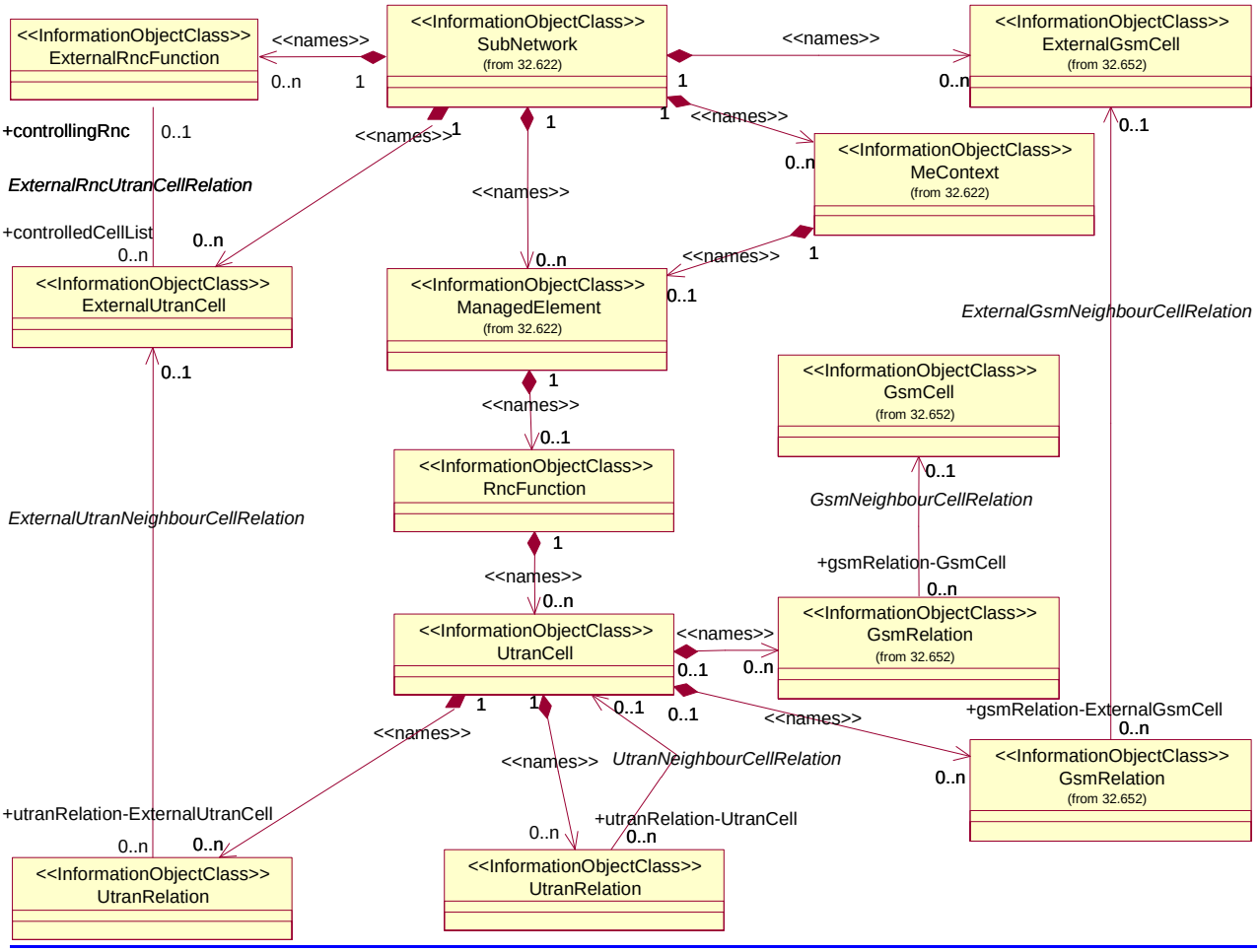
Other comments:	⌘	Changes contained in the present CR have been copied from T-Mobile CR S5-048843 "Inclusion of Iur Link in UTRAN NRM".

Change in Clause 6.2

6.2 Class diagram

[…]





[…]

Figure 6.2: Cell view UTRAN NRM Containment/Naming and Association diagram

[…]

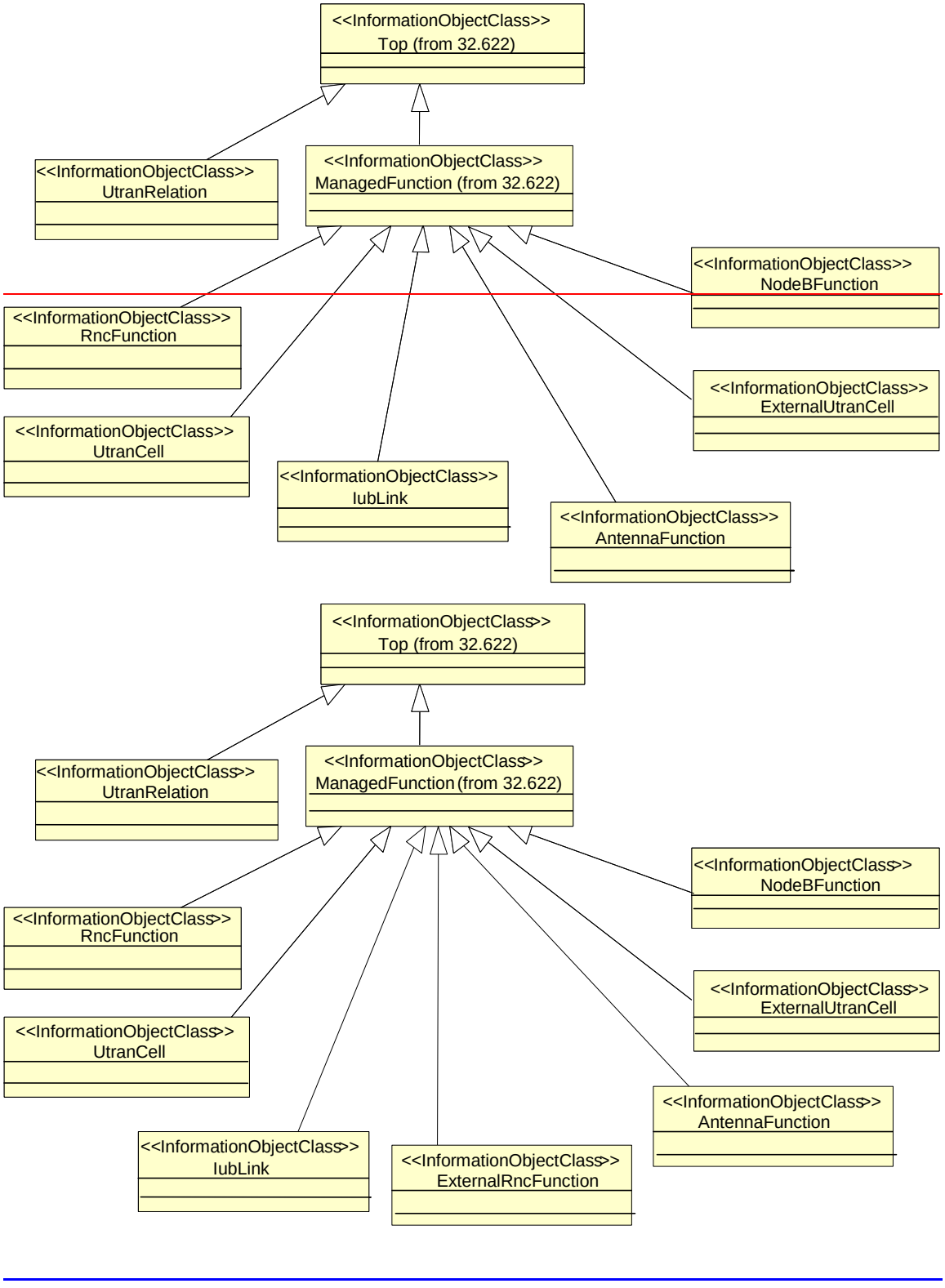


Figure 6.5: UTRAN NRM Inheritance Hierarchy

[…]

End of Change in Clause 6.2

Change in Clause 6.3.6

6.3.6 ExternalUtranCell

[…]

Attributes of ExternalUtranCell

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
[…]				
controllingRnc	+	O	M	-

[…]

End of Change in Clause 6.3.6

New Clause 6.3.8

6.3.8 ExternalRncFunction

6.3.8.1 Definition

This IOC represents an RNC function controlled by another IRPAgent. For more information about the RNC, see 3GPP TS 23.002 [15].

6.3.8.2 Attributes

Attributes of ExternalRncFunction

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
externalRncFunctionId	+	M	M	-
userLabel	+	M	M	M
mcc	+	M	M	M
mnc	+	M	M	M
rncId	+	M	M	M
controlledCellList	+	O	M	-

6.3.8.3 Notifications

Notifications of ExternalRncFunction

Name	Qualifier	Notes
notifyAttributeValueChange	O	
notifyObjectCreation	O	
notifyObjectDeletion	O	

End of New Clause 6.3.8

New Clause 6.4.7

6.4.7 ExternalRncUtranCellRelation (O)

6.4.7.1 Definition

This represents the bi-directional relation between the ExternalUtranCell and ExternalRncFunction. 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.

6.4.7.2 Roles

Roles of the relation ExternalRncUtranCellRelation

Name	Definition
controllingRnc	This role (when present) represents ExternalUtranCell capability to identify one related ExternalRncFunction. When it is present, it shall contain one ExternalRncFunction DN.
controlledCellList	This role (when present) represents ExternalRncFunction capability to identify the set of related ExternalUtranCell. When it is present, it shall contain the set of ExternalUtranCell DNs.

End of New Clause 6.4.7

Change in Clause 6.5

6.5 Information attribute definitions

[…]

Attributes

Attribute Name	Definition	Legal Values
[…]		
externalRncFunctionId	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.	
[…]		

End of Change in Clause 6.5
End of Document

Annex C (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Dec 2004	S_26	SP-040810	029	--	Add support for the state change notification	6.2.0	6.3.0

CR-Form-v7.1

CHANGE REQUEST

⌘ 32.645 CR 020 ⌘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 missing definition of IOC ExternalRncFunction
Source:	⌘	**SA5** (Nortel – Christian Toche – toche@nortelnetworks.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2005
Category:	⌘	**F**
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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	CN NRM models links both to UTRAN RNC and GERAN BSC managed by other IRPAgents. GERAN NRM defines for this purpose IOC ExternalBssFunction. UTRAN NRM lacks definition of IOC ExternalRncFunction.
Summary of change:	⌘	Add missing definition of IOC ExternalRncFunction
Consequences if not approved:	⌘	CN NRM, UTRAN NRM and GERAN NRM would be inconsistent.

Clauses affected:	⌘	Annex A, annex B

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

⌘

Other comments:	⌘	Changes contained in the present CR have been copied from T-Mobile CR S5-048845 "Inclusion of Iur Link in UTRAN XML Schema definition".

Change in Scope

1 Scope

The present document provides the NRM-specific part related to the UTRAN Network Resources IRP NRM [1] of the XML file format definition for the Bulk Configuration Management IRP IS [2].

The main part of this XML file format definition is provided by 3GPP TS 32.615 [3].

Bulk CM XML file formats are based on XML [4], XML Schema [5] [6] [7] and XML Namespace [8] standards.

This File Format Definition specification is related to 3GPP TS 32.642 V6.~~3~~4.X.

End of Change in Scope

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>

<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>
<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:IubLink"/>
            <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="nodeBFunctionIubLink" 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"
                  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" 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"/>
                <element name="controllingRnc" 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"/>
                <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>

  <element
    name="ExternalRncFunction"
    substitutionGroup="xn:SubNetworkOptionallyContainedNrmClass"
  >
    <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"/>
                  <element name="controlledCellList" 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-~~620~~630-XMLSchema.zip

End of Change in Annex B
End of Document

Annex C (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Jun 2002	S_16	SP-020298	--	--	Submitted to TSG SA #16 for Information	1.0.0	
Sep 2002	S_17	SP-020462	--	--	Submitted to TSG SA #17 for Approval	2.0.0	5.0.0
Jun 2003	S_20	SP-030283	001	--	Deletion of UTRAN attribute relationType in XML Schema	5.0.0	5.1.0
Jun 2003	S_20	SP-030287	002	--	Correction of UTRAN NRM XML schema namespace URIs	5.0.0	5.1.0
Jun 2003	S_20	SP-030288	003	--	Generic NRM XML schema dependencies removal	5.0.0	5.1.0
Jun 2003	S_20	SP-030285	004	--	Remove UTRAN NRM XML schema duplicate MOC attribute XML declarations	5.0.0	5.1.0
Sep 2003	S_21	SP-030418	005	--	Inclusion of External BSS Function in GERAN XML Schema – impacts on 32.645 (UTRAN XML Schema) - Alignment with 32.652/655	5.1.0	5.2.0
Oct 2003	--	--	--	--	Attached to this TS the normative XML schema electronic files corresponding to Sept 2003 TS 32.645	5.2.0	5.2.1
Dec 2003	S_22	SP-030646	006	--	Correction of the number of possible URAs from 1 to 8	5.2.1	5.3.0
Mar 2004	S_23	SP-040131	007	--	Add the capability to contain instances of VsDataContainer to some MOs - Align with the IS 32.642	5.3.0	5.4.0
Jun 2004	S_24	SP-040259	008	--	Removal of XML schema URI dependencies	5.4.0	5.5.0
Jun 2004	S_24	SP-040258	009	--	Correction of the annex related to XML schema electronic files publication	5.4.0	5.5.0
Jun 2004	S_24	SP-040254	010	--	The specification does not support all UMTS frequency bands	5.4.0	5.5.0
Jun 2004	S_24	SP-040256	011	--	Add XML definitions for support of TDD modes	5.5.0	6.0.0
Sep 2004	S_25	SP-040592	013	--	Correction of the XML code – Reinsertion of the closing tag	6.0.0	6.1.0
Sep 2004	S_25	SP-040595	014	--	Include ATM in CM UTRAN network resources IRP XML Schema definition	6.0.0	6.1.0
Sep 2004	S_25	SP-040587	015	--	Add support for Remote control of Electrical Tilting (RET) antenna to the Bulk CM XSD file	6.0.0	6.1.0
Dec 2004	S_26	SP-040810	016	--	Add operationalState to the UtranCell – Align with the IS in 32.642	6.1.0	6.2.0

CR-Form-v7.1

CHANGE REQUEST

⌘ 32.643 CR 022 ⌘rev - ⌘ Current version: 6.3.0 ⌘

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

Proposed change affects: UICC apps⌘ [ ] ME [ ] Radio Access Network [X] Core Network [ ]

Title:	⌘	Add missing definition of IOC ExternalRncFunction
Source:	⌘	**SA5** (Nortel – Christian Toche – toche@nortelnetworks.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2005
Category:	⌘	**F**
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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	CN NRM models links both to UTRAN RNC and GERAN BSC managed by other IRPAgents. GERAN NRM defines for this purpose IOC ExternalBssFunction. UTRAN NRM lacks definition of IOC ExternalRncFunction.
Summary of change:	⌘	Add missing definition of IOC ExternalRncFunction
Consequences if not approved:	⌘	CN NRM, UTRAN NRM and GERAN NRM would be inconsistent.

Clauses affected:	⌘	Scope, 5.2.6, 5.2.8, A.1

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

⌘

Other comments:	⌘	Changes contained in the present CR have been copied from T-Mobile CR S5-048844 "Inclusion of Iur Link in UTRAN CORBA Solution Set".

Change in Clause Scope

1 Scope

The purpose of this UTRAN Network Resources IRP: CORBA Solution Set is to define the mapping of the IRP information model (see 3GPP TS 32.642 [4]) to the protocol specific details necessary for implementation of this IRP in a CORBA/IDL environment.

This Solution Set specification is related to 3GPP TS 32.642 V6.~~3~~4.X.

End of Change in Clause Scope

Change in Clause 5.2.6

5.2.6 IOC ExternalUtranCell

Mapping from NRM IOC ExternalUtranCell attributes and associations to SS equivalent MOC ExternalUtranCell attributes

NRM Attributes of IOC ExternalUtranCell in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
[…]					
controllingRnc	controllingRnc	GenericNetworkResourcesIRPSystem::AttributeTypes::MOReference	O	M	-

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

End of Change in Clause 5.2.6

New Clause 5.2.8

5.2.8 IOC ExternalRncFunction

Mapping from NRM IOC ExternalRncFunction attributes and associations to SS equivalent MOC ExternalRncFunction attributes

NRM Attributes of IOC ExternalRncFunction in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
externalRncFunctionId	externalRncFunctionId	string	M	M	-
userLabel	userLabel	string	M	M	M
mcc	mcc	long	M	M	M
mnc	mnc	long	M	M	M
rncId	rncId	long	M	M	M
controlledCellList	controlledCellList	GenericNetworkResourcesIRPSystem::AttributeTypes::MOReferenceSet	O	M	-

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

End of New Clause 5.2.8

Change in Annex Clause A.1

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

```
//File: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 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 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 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";
         const string controllingRnc = "controllingRnc";

      };


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

         // Attribute Names
         //
         const string externalRncFunctionId = "externalRncFunctionId";
         const string mcc = "mcc";
         const string mnc = "mnc";
         const string rncId = "rncId";
         const string controlledCellList = "controlledCellList";

      };

/**
    *  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 GenericNRMAttributeTypes
{

      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 TDDNRMAttributeTypes
{

   enum TimeSlotDirectionType
   {
      UL,
      DL
   };

   enum TimeSlotStatusType
   {
      Active,
      Not_Active
   };

   struct TimeSlotConfigStructType
   {
      short timeSlotId;
      TimeSlotDirectionType timeSlotDirection;
      TimeSlotStatusType timeSlotStatus;
   };

   typedef sequence<TimeSlotConfigStructType> TimeSlotListConfigStructType;

};

#endif //_UTRANNETWORKRESOURCESNRMDEFS_IDL_
```

End of Change in Clause A.1
End of Document

Annex B (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
Dec 2004	S_26	SP-040810	017	--	Correct IDL compilation error	6.2.0	6.3.0
Dec 2004	S_26	SP-040810	018	--	Correct IDL compilation error and change name of retAntennaList	6.2.0	6.3.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058160***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.643** **CR** **023** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Corrections to UTRAN NRM CORBA Solutions set mapping errors
Source:	⌘	SA5 (islip@lucent.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2004
Category:	⌘	**F**
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:
Ph2 (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)
Rel-7 (Release 7)

Reason for change:	⌘	Alignment with IS, and correct usage of relation IDL type.
Summary of change:	⌘	**Utran Cell** retAntennaFunctionList attribute type amended to be a MOReferenceSet type retAntennaFunctionList Write qualifer aligned with IS. **Anenna Funcion** IOC Antenna, corrected to AntennaFunction, Attribute name capitalization corrected, and attribute retUtranCellList type changed to MOReferenceSet,
Consequences if not approved:	⌘	Confusion and in ability to support the read-write operations and cardinality specified in the IS.

Clauses affected:	⌘	5.2.2 5.2.7

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

Other comments: ⌘

5.2.2 IOC UtranCell

End of Change in Clause 5.2.2

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
cId	cId	long	M	M	M
localCellId	localCellId	long	M	M	M
uarfcnUl	uarfcnUl	long	O	M	M
uarfcnDl	uarfcnDl	long	O	M	M
primaryScramblingCode	primaryScramblingCode	long	O	M	M
primaryCpichPower	primaryCpichPower	long	O	M	M
retAntennaFunctionList	retAntennaFunctionList	GenericNetworkResourceIRPSystem::AttributeTypes::MOReferenceSetMOReference	O	M	-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-IubLink	utranCellIubLink	GenericNetworkResourceIRPSystem::AttributeTypes::MOReference	M	M	-
cellMode	cellMode	GenericNetworkResourceMAttributeTypes::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	TDDNRMAttributeTypes::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].					

Change in Clause 5.2.7

5.2.7 IOC AntennaFunction

NRM Attributes of IOC ~~Exter nalUtranCell~~antennaFunction in 3GPP TS 32.642 [4]	SS Attributes	SS Type	Support Qualifier	Read	Write
antennaFunctionId	antennaId	string	O	M	-
retUtranCellList	retUtranCellList	GenericNetworkResourceIRPSystem::AttributeTypes::MOReferenceSet~~MOReference~~	O	M	M
r~~R~~etTiltValue	retTiltValue	integer	O	M	M
compassDirection	compassDirection	integer	O	M	M
m~~M~~axTiltValue	maxTiltValue	integer	O	M	M
m~~M~~inTiltValue	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

Annex B (informative): Change history

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
Jun 2001	S_12	SP-010283	--	--	Approved at TSG SA #12 and placed under Change Control	2.0.0	4.0.0
Dec 2001	S_14	SP-010646	001	--	Change type "integer" to "long" in the UTRAN Network Resources IRP: CORBA SS	4.0.0	4.1.0
Sep 2002	S_17	SP-020493	002	--	Upgrade to Rel-5	4.1.0	5.0.0
Jun 2003	S_20	SP-030283	004	--	Deletion of UTRAN attribute relationType from CORBA SS.	5.0.0	5.1.0
Dec 2003	S_22	SP-030646	006	--	Correction of the number of possible URAs from 1 to 8	5.1.0	5.2.0
Mar 2004	S_23	SP-040129	007	--	Enhancement of CORBA SS for support of both FDD and TDD modes	5.2.0	6.0.0
Jun 2004	S_24	SP-040254	009	--	The specification does not support all UMTS frequency bands	6.0.0	6.1.0
Sep 2004	S_25	SP-040589	011	--	Add the operationalState to the UtranCell – Align the CORBA SS with 32.642 CM; UTRAN network resources IRP NRM	6.1.0	6.2.0
Sep 2004	S_25	SP-040595	012	--	Include ATM in CM UTRAN network resources IRP CORBA Solution Set	6.1.0	6.2.0
Sep 2004	S_25	SP-040590	013	--	Correct the definintions in the “CellModeEnumType” and “TimeSlotStatusType”	6.1.0	6.2.0
Sep 2004	S_25	SP-040586	015	--	Align the CORBA SS with 32.642 Configuration Management (CM); UTRAN network resources IRP NRM	6.1.0	6.2.0
Sep 2004	S_25	SP-040587	016	--	Add support for Remote control of Electrical Tilting (RET) antenna to CORBA IDL and Add Inheritance	6.1.0	6.2.0
Dec 2004	S_26	SP-040810	017	--	Correct IDL compilation error	6.2.0	6.3.0
Dec 2004	S_26	SP-040810	018	--	Correct IDL compilation error and change name of retAntennaList	6.2.0	6.3.0

3GPP TSG-SA5 (Telecom Management) ***Tdoc ⌘S5-058161***
Meeting #41, Lisbon, PORTUGAL, 24 - 28 January 2005

CR-Form-v7.1

CHANGE REQUEST

⌘ **32.642** **CR** **034** ⌘ **rev** **-** ⌘ Current version: **6.3.0** ⌘

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

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

Title:	⌘	Amendments to UTRAN NRM for RET
Source:	⌘	SA5 (islip@lucent.com)
Work item code:	⌘	OAM-NIM
Date:	⌘	28/01/2005
Category:	⌘	**F**
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:

Ph2	*(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)*
Rel-7	*(Release 7)*

Reason for change:	⌘	Correction of errors and clarification
Summary of change:	⌘	Improve the note 3 in section 6.2.1 Support qualification for antennaFunction attribute amended Amendment of legal values in 6.5.1
Consequences if not approved:	⌘	Possible mis interpretation

Clauses affected:	⌘	6.2.1 – amendment of note 3. 6.3.7 – amendment of support qualifier. 6.5.1 – amendment of formatting.

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

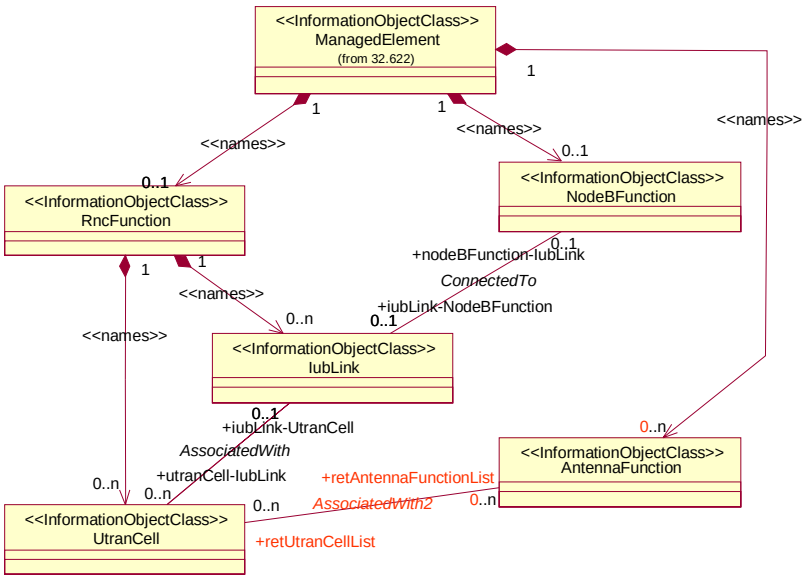
Other comments: ⌘

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 `ManagedElement`~~`Function`~~ instance

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

End Change in Clause 6.2.1

Change in 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

Attributes of AntennaFunction

Attribute name	Visibility	Support Qualifier	Read Qualifier	Write Qualifier
antennaFunctionId	+	~~O~~M	M	-
userLabel	+	O	M	M
retUtranCellList	+	O	M	M
retTiltValue	+	O	M	M
compassDirection	+	O	M	M
maxTiltValue	+	O	M	M
minTiltValue	+	O	M	M
mechanicalOffset	+	O	M	M
retGroupName	+	O	M	M
height	+	O	M	M

6.3.7.4 Notifications

Notifications of AntennaFunction

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

6.5.1 Definition and legal values

The following table defines the attributes that are present in several Information Object Classes (IOCs) of the present document.

Attributes

Attribute Name	Definition	Legal Values
adjacentCell	It carries the DN of the UtranCell or the ExternalUtranCell.	
antennaFunctionId	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	
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 **UtranCell** and **ExternalUtranCell**,this attribute identifies unambiguously the TDD mode cell (see ref. TS 25.433 [5]): • 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 For IOC **UtranRelation**, this parameter will be broadcast in the system information of associated cell. The associated cell can be: • another UTRAN TDD cell (1.28 Mcps TDD or 3.84 Mcps TDD) • the external UTRAN TDD cell (1.28 Mcps TDD or 3.84 Mcps TDD).	Type: Integral numeric value Range: (0..127)
cId	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)
compassDirection	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 is there is a loss of service.	A single integral value corresponding to an angle in degrees between 0 and 360.
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.	
height	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.	An integral value representing a number of whole metres
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 **UtranCell** and **ExternalUtranCell**: Location Area Code, LAC (Ref. 3GPP TS 23.003 [3]). IOC **UtranRelation**: 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)

maxTiltValue	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 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
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	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 single integral value corresponding to an angle in degrees between 0 and 360 with a resolution of 0.1 degrees, see Note 1.
minTiltValue	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 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
mnc	Mobile Network Code, MNC (part of the PLMN Id, Ref. 3GPP TS 23.003 [3]).	
primaryCcpchPower	IOCs **UtranCell** and **ExternalUtranCell**: The power of the primary CCPCH channel in the TDD cell (Ref. 3 GPP TS 25.433 [5]). IOC **UtranRelation**: The power of the primary CCPCH channel in the TDD cell (Ref. 3 GPP 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 **UtranCell** and **ExternalUtranCell**: The power of the primary CPICH channel in the FDD mode cell (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: 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
primarySchPower	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 **UtranCell** and **ExternalUtranCell**: The primary DL scrambling code used by the FDD mode cell (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: 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	This is a referential attribute to list the DNs of ~~**AntennaFunction**~~AntennaFunction~~(~~(s) that support the ~~**UtranCell**~~UtranCell.	A list of DNs as defined in TS 32.300 [13]
retGroupName	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 Itf-N.	Type: string bounded to 80 characters.

retTiltValue	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 single integral value corresponding to an angle in degrees between 0 and 360 In 0.1 degree increments (see Note 1)
retUtranCellList	This is a list of UtranCell DNs to record the relationship between the AntennaFunction instance and the UtranCell(s) which are supported by the antenna.	A list of DNs as defined in TS 32.300 [13]
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 **ExternalUtranCell**: Unique RNC ID for the associated RNC (Ref. 3GPP TS 23.003 [3]). IOC **RncFunction**: 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 to1.28 Mcps TDD cell: Type: Integral numeric value Range: (0..6); when applied to 3.84 Mcps TDD cell: Type: Integral numeric value Rang: (0..14); timeSlotDirection: Type: Enumerated value Range: (Ul, Dl); timeSlotStatus: Type: Enumerated value Range: (Active, Not active)
uarfcn	IOCs **UtranCell** and **ExternalUtranCell**: The UTRA absolute Radio Frequency Channel number for TDD mode cell, UARFCN (ref. 3 GPP TS 25.433 [5]). IOC **UtranRelation**: 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 **UtranCell** and **ExternalUtranCell**: The DL UTRA absolute Radio Frequency Channel number for FDD mode cell, UARFCN (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: 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 **UtranCell** and **ExternalUtranCell**: The UL UTRA absolute Radio Frequency Channel number for FDD mode cell, UARFCN (Ref. 3GPP TS 25.433 [5]). IOC **UtranRelation**: 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 ManagedFunction.	
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.	
Note 1.	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.	

Annex C (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
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 CR not implementable (UML conflict) New CR028 SA#26 approved	6.1.0	6.2.0
Dec 2004	S_26	SP-040810	028	--	Add AntennaFunction class and attributes to support RET (Remote control of Electrical Tilting)	6.2.0	6.3.0
Dec 2004	S_26	SP-040810	029	--	Add support for the state change notification	6.2.0	6.3.0