

CHANGE REQUEST

⌘ **25.401 CR 84** ⌘ rev **1** ⌘ Current version: **6.2.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Introduction of lu and lur support of Network Assisted Cell Change to GERAN		
Source:	⌘ RAN3		
Work item code:	⌘ RANimp-NACC	Date:	⌘ 12/05/2004
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Introduction of lu and lur support for Network Assisted Cell Change to GERAN within 25.401, following the introduction of related CRs with respect to the lu and lur overall descriptions as well as RANAP and RNSAP.		
Summary of change:	⌘ GERAN System Information Retrieval and RIM function are included within the list of UTRAN Functional descriptions in section 7.		
Consequences if not approved:	⌘		

Clauses affected:	⌘ 2, 3.2, 7.1, 7.2.3.x1(new), 7.2.x2(new)										
Other specs affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> </table> Other core specifications	Y	N	X			X		X	⌘	TS 25.410 CR52, TS 25.413 CR668, TS 25.420 CR40, TS 25.423 CR967
Y	N										
X											
	X										
	X										
Other comments:	⌘										

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- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be

downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TR 25.990: "Vocabulary".
- [2] 3GPP TS 23.110: "UMTS Access Stratum Services and Functions".
- [3] 3GPP TS 25.211: "Physical channels and mapping of transport channels onto physical channels (FDD)".
- [4] 3GPP TS 25.442: "UTRAN Implementation Specific O&M Transport".
- [5] 3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".
- [6] 3GPP TS 23.003: "Numbering, Addressing and Identification".
- [7] 3GPP TS 25.331: "RRC Protocol Specification".
- [8] 3GPP TS 23.101: "General UMTS Architecture".
- [9] 3GPP TS 25.414: " UTRAN Iu Interface Data Transport & Transport Signalling".
- [10] 3GPP TS 25.424: "UTRAN Iur Interface Data Transport & Transport Signalling for Common Transport Channel Data Streams".
- [11] 3GPP TS 25.434: "UTRAN Iub Interface Data Transport & Transport Signalling for Common Transport Channel Data Streams".
- [12] IETF RFC 2460: "Internet Protocol, Version 6 (Ipv6) Specification".
- [13] IETF RFC 2474: "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers " December 1998
- [14] IETF RFC 768: "User Datagram Protocol", (8/1980)
- [15] "Information technology – Open Systems Interconnection – Network service definition", X.213, ISO/IEC 8348.
- [16] "Information technology – Open Systems Interconnection – Network service definition Amendment 1: Addition of the Internet protocol address format identifier", X.213/Amd.1, ISO/IEC 8348.
- [17] IETF RFC 791 (1981): "Internet Protocol".
- [18] 3GPP TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Signalling for DCH Data Streams".
- [19] TBD.
- [20] 3GPP TS 23.236: "Intra-domain connection of Radio Access Network (RAN) nodes to multiple Core Network (CN) nodes".

[21] 3GPP TR 43.930: "Iur-g interface; Stage 2".

[\[r1\] 3GPP TR 44.901: "External Network Assisted Cell Change".](#)

[\[r2\] 3GPP TS 48.018: "General Packet Radio Service \(GPRS\); BSS GPRS Protocol \(BSSGP\)".](#)

NEXT CHANGE

3.2 Abbreviations

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

AAL	ATM Adaptation Layer
AAL2	ATM Adaptation Layer 2
ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
BM-IWF	Broadcast Multicast Interworking Function
BMC	Broadcast/Multicast Control
BSS	Base Station Subsystem
CBC	Cell Broadcast Centre
CBS	Cell Broadcast Service
CN	Core Network
CPCH	Common Packet Channel
CRNC	Controlling Radio Network Controller
DCH	Dedicated Channel
DL	Downlink
DRNS	Drift RNS
EDGE	Enhanced Data rates for Global Evolution
FACH	Forward Access Channel
FFS	For Further Study
GERAN	GSM EDGE Radio Access Network
GSM	Global System for Mobile Communications
GTP	GPRS Tunnelling Protocol
IPv4	Internet Protocol, version 4
IPv6	Internet Protocol, version 6
LA	Location Area
MAC	Medium Access Control
NACC	Network Assisted Cell Change
NAS	Non Access Stratum
NBAP	Node B Application Part
NNSF	NAS Node Selection Function
NSAP	Network Service Access Point
PCH	Paging Channel
PLMN	Public Land Mobile Network
QoS	Quality of Service
RAB	Radio Access Bearer
RACH	Random Access Channel
RANAP	Radio Access Network Application Part
RIM	RAN Information Management
RNC	Radio Network Controller
RNL	Radio Network Layer
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identity
SAB	Service Area Broadcast
SAS	Standalone A-GPS SMLC
SMLC	Serving Mobile Location Centre
SNA	Shared Network Area
SRNC	Serving Radio Network Controller
SRNS	Serving RNS
TEID	Tunnel Endpoint Identifier

TNL	Transport Network Layer
TTI	Transmission Time Interval
UDP	User Datagram Protocol
UE	User Equipment
UL	Uplink
UMTS	Universal Mobile Telecommunication System
URA	UTRAN Registration Area
USIM	UMTS Subscriber Identity Module
UTRAN	Universal Terrestrial Radio Access Network

3.3 Notation

Parts of the document apply only to one mode, FDD or TDD. Any such area will be tagged by [FDD — xxxxxxxx] and [TDD — yyyyyyyyyy] respectively. The tag applies to the text until the closing bracket.

NEXT CHANGE

7 UTRAN Functions description

7.1 List of functions

- Transfer of User Data.
- Functions related to overall system access control:
 - Admission Control;
 - Congestion Control;
 - System information broadcasting.
- Radio channel ciphering and deciphering.
- Integrity protection.
- Functions related to mobility:
 - Handover;
 - SRNS Relocation;
 - Paging support;
 - Positioning;
 - [GERAN System Information Retrieval](#).
- Functions related to radio resource management and control:
 - Radio resource configuration and operation;
 - Radio environment survey;
 - Combining/splitting control;
 - Connection set-up and release;

- Allocation and deallocation of Radio Bearers;
- [TDD - Dynamic Channel Allocation (DCA)];
- Radio protocols function;
- RF power control;
- [3.84 Mcps TDD - Timing Advance];
- [1.28 Mcps TDD – Uplink Synchronisation];
- Radio channel coding;
- Radio channel decoding;
- Channel coding control;
- Initial (random) access detection and handling;
- CN Distribution function for Non Access Stratum messages.
- Synchronisation.
- Functions related to broadcast and multicast services (see note) (broadcast/multicast interworking function BM-IWF).

NOTE: Only Broadcast is applicable for Release 99.

- Broadcast/Multicast Information Distribution.
- Broadcast/Multicast Flow Control.
- CBS Status Reporting.
- Tracing.
- Volume reporting.
- NAS Node Selection.
- [RAN Information Management.](#)

NEXT CHANGE

7.2.3 Functions related to Mobility

7.2.3.1 Handover

This function manages the mobility of the radio interface. It is based on radio measurements and it is used to maintain the Quality of Service requested by the Core Network.

Handover may be directed to/from another system (e.g. UMTS to GSM handover).

The handover function may be either controlled by the network, or independently by the UE. Therefore, this function may be located in the SRNC, the UE, or both.

7.2.3.2 SRNS Relocation

The SRNS Relocation function coordinates the activities when the SRNS role is to be taken over by another RNS/BSS. The SRNS relocation function manages the Iu interface connection mobility from an RNS to another RNS/BSS.

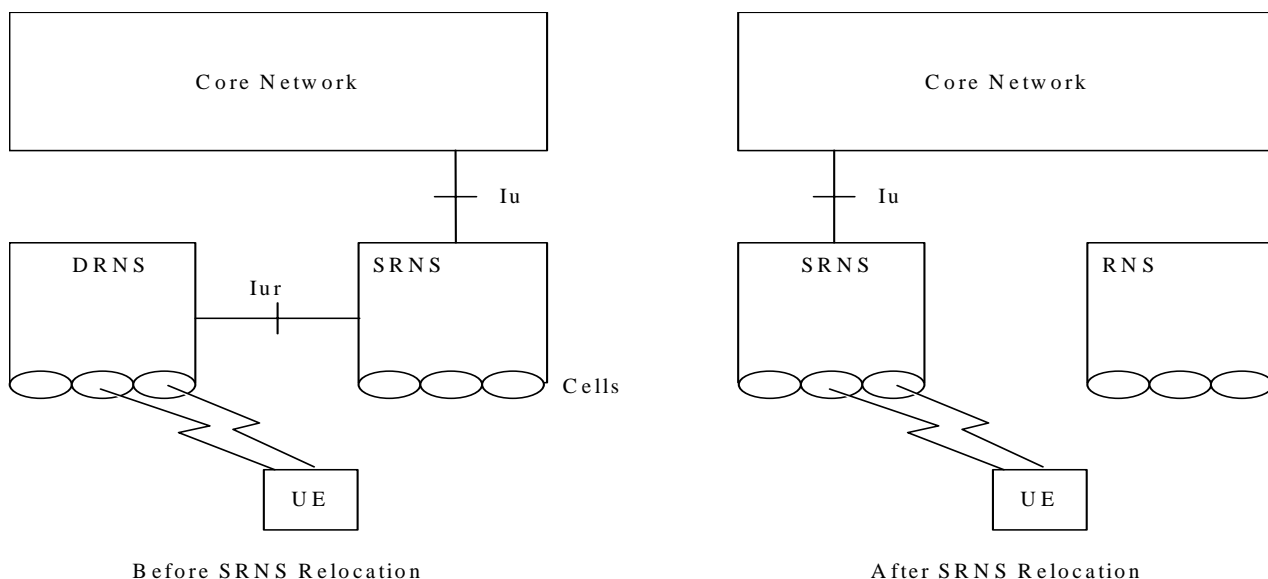


Figure 7: Serving RNS Relocation

The SRNS Relocation is initiated by the SRNC.

This function is located in the RNC and the CN.

7.2.3.3 Paging support

This function provides the capability to request a UE to contact the UTRAN/GERAN Iu mode when the UE is in Idle, CELL_PCH or URA_PCH/GRA_PCH states [6], [21]. This function also encompasses a coordination function between the different Core Network Domains onto a single RRC connection.

7.2.3.4 Positioning

This function provides the capability to determine the geographic position of a UE.

7.2.3.5 NAS Node Selection Function

The optional NAS Node Selection Function (NNSF) enables the RNC to initially assign CN resources to serve a UE and subsequently setup a signalling connection to the assigned CN resource.

The NNSF is described in detail in [20].

7.2.3.6 Shared Networks Access Control

The Shared Networks Access Control function allows the CN to request the UTRAN to apply UE specific access control to LAs of the UTRAN and LAs of neighbouring networks.

The Shared Networks Access Control function is based on either whole PLMNs or Shared Network Areas (SNAs). An SNA is an area corresponding to one or more LAs within a single PLMN to which UE access can be controlled.

In order to apply Shared Networks Access Control for the UTRAN or for a neighbouring system, the UTRAN shall be aware of whether the concerned LA belongs to one (or several) SNA(s) or not.

If access for a specific UE needs to be restricted, the CN shall provide SNA Access Information for that UE. The SNA Access Information indicates which PLMNs and/or which SNAs the UE is allowed to access.

Based on whether the LA belongs to the PLMNs or SNAs the UE is allowed to access, the UTRAN determines if access to a certain LA for a certain UE shall be allowed.

If access is not allowed, the UTRAN shall request the CN to release existing resources either by initiating Iu Release Request procedure with cause value "Access Restricted due to Shared Network" or by requesting a relocation with the same cause value.

7.2.3.x1 GERAN System Information Retrieval

In order to provide the UE with system information related to NACC towards a GERAN system - to be used as an optimisation - the GERAN System Information Retrieval function allows:

- The source RAN to request GERAN (via CN) to provide this system information.
- The SRNC to request the DRNC (via Iur interface) to provide this system information, if available.

The request and subsequent transfer of the GERAN System Information is performed transparently with the RIM function. The RIM function is further described in [1]

Lots of unaffected 7.2 not shown

7.2.6 Tracing

This function allows tracing of various events related to the UE and its activities.

7.2.7 Volume Reporting

The data volume reporting function is used to report the volume of unacknowledged data to the CN for accounting purpose.

7.2.x2 RAN Information Management

The RAN Information Management (RIM) function is a generic mechanism that allows the request and transfer of information between two RAN nodes e.g. GERAN System information. The RIM mechanism allows to start, stop and resume both on demand and on event transfer of information. RIM also provides native error handling function at RIM level and at RIM application level. The RIM function is further described in [r1] and [r2].

CHANGE REQUEST

⌘ **25.410 CR 52** ⌘ rev **1** ⌘ Current version: **6.0.0** ⌘

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Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Introduction of Iu support of Network Assisted Cell Change to GERAN		
Source:	⌘ RAN3		
Work item code:	⌘ RANimp-NACC	Date:	⌘ 12/05/2004
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Introduction of Iu support for Network Assisted Cell Change to GERAN within 25.410, following the introduction of related CRs with respect to the UTRAN and Iur overall descriptions as well as RANAP and RNSAP.		
Summary of change:	⌘ GERAN System Information Retrieval is included within the Iu Interface functional split list and functions description.		
Consequences if not approved:	⌘		

Clauses affected:	⌘ 3.2, 5.1 and 5.6.5(new)										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td>X</td> <td></td> </tr> <tr> <td></td> <td>X</td> </tr> <tr> <td></td> <td>X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	⌘ TS 25.401 CR84, TS 25.413 CR668, TS 25.420 CR40, TS 25.423 CR967
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	⌘										

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3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1] apply.

3.2 Abbreviations

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

3G-MSC	3 rd Generation Mobile Switching Centre
3G-SGSN	3 rd Generation Serving GPRS Support Node
AAL	ATM Adaptation Layer
ATM	Asynchronous Transfer Mode
BC	Broadcast
BSSMAP	Base Station Subsystem Management Application Part
CBS	Cell Broadcast Service
CC	Connection Confirm
CN	Core Network
CR	Connection Release
CREF	Connection Refusal
CS	Circuit Switched
GT	Global Title
GTP-U	GPRS Tunnelling Protocol
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
ISDN	Integrated Services Digital Network
LA	Location Area
M3UA	MTP3 User Adaptation Layer
NAS	Non Access Stratum
NACC	Network Assisted Cell Change
NNSF	NAS Node Selection Function
O&M	Operation and Maintenance
PLMN	Public Land Mobile Network
PS	Packet Switched
PSTN	Public Switched Telephone Network
PVC	Permanent Virtual Circuit
QoS	Quality of Service
RA	Routing Area
RAB	Radio Access Bearer
RANAP	Radio Access Network Application Part
RIM	RAN Information Management
RLP	Radio Link Protocol
RNC	Radio Network Controller
RNL	Radio Network Layer
RRC	Radio Resource Control
RTCP	Real Time Control Protocol
RTP	Real Time Protocol
SA	Service Area
SABP	Service Area Broadcast Protocol
SAP	Service Access Point
SCCP	Signalling Connection Control Part
SCTP	Stream Control Transmission Protocol
SNA	Shared Network Area
SPC	Signalling Point Code
SRNS	Serving Radio Network Subsystem
SSN	Sub-System Number

SVC	Switched Virtual Circuit
TCP	Transmission Control Protocol
UE	User Equipment
UDP	User Datagram Protocol
UP	User Plane
URA	UTRAN Registration Area
UTRAN	UMTS Terrestrial Radio Access Network
VC	Virtual Circuit

5 Functions of the I_u Interface Protocols & Functional Split

5.1 General

This subclause defines the functional split between the core network and the UMTS radio access network. In addition, the possible interaction between the functions is defined. The functional split is shown in table 5.1.

Table 5.1: Iu interface functional split

Function	UTRAN	CN
RAB management functions:		
RAB establishment, modification and release	X	X
RAB characteristics mapping I _u transmission bearers	X	
RAB characteristics mapping U _u bearers	X	
RAB queuing, pre-emption and priority	X	X
Radio Resource Management functions:		
Radio Resource admission control	X	
Broadcast Information	X	X
I_u link Management functions:		
I _u signalling link management	X	X
ATM VC management	X	X
AAL2 establish and release	X	X
AAL5 management	X	X
GTP-U Tunnels management	X	X
TCP Management	X	X
Buffer Management	X	
I_u U-plane (RNL) Management:		
I _u U-plane frame protocol management		X
I _u U-plane frame protocol initialization	X	
Mobility management functions:		
Location information reporting	X	X
Handover and Relocation		
Inter RNC hard HO, I _{ur} not used or not available	X	X
Serving RNS Relocation (intra/inter MSC)	X	X
Inter system hard HO (UMTS-GSM)	X	X
Inter system Change (UMTS-GSM)	X	X
Paging Triggering		X
GERAN System Information Retrieval	X	X
Security Functions:		
Data confidentiality		
Radio interface ciphering	X	
Ciphering key management		X
User identity confidentiality	X	X
Data integrity		
Integrity checking	X	
Integrity key management		X
Service and Network Access functions:		
CN Signalling data	X	X
Data Volume Reporting	X	
UE Tracing	X	X
Location reporting	X	X
I_u Co-ordination functions:		
Paging co-ordination	X	X
NAS Node Selection Function	X	

5.6 Mobility Management Functions

5.6.1 Location information update function

Some functionality within the CN, needs information about the present location of an active UE, i.e. a UE with established signalling connection. The Location information update function is used to transfer this information from the UTRAN to the CN. It is the UTRAN responsibility to send this information initially at the signalling connection establishment for a UE and at any change of the UE location as long as the signalling connection exists. For this function, the location information shall be at Location and Routing Area level.

5.6.2 Handover and Relocation functions

5.6.2.1 Inter RNC hard HO function, Iur not used or not available

This functionality includes procedures for handover from one RNC to another RNC when Iur interface is not used or is not available, i.e. soft handover is not possible. The connection is switched in the CN, so both UTRAN and CN are involved. Both intra and inter CN entity cases are applicable. This functionality includes also the moving of the Serving RNS functionality from one RNC to another RNC.

5.6.2.2 Serving RNS Relocation function

This functionality allows moving the Serving RNS functionality from one RNC to another RNC, e.g. closer to where the UE has moved during the communication. The Serving RNS Relocation procedure may be applied when active cell management functionality has created a suitable situation for it. Both UTRAN and CN are involved.

5.6.2.3 Inter system Handover (e.g. UMTS-GSM) function

Inter system handover is performed when a mobile hands over between cells belonging to different systems such as GSM and UMTS. For intersystem handover between UMTS and GSM, the GSM procedures are used within the GSM network. Both UTRAN and CN are involved.

NOTE: The GSM BSSMAP procedures are outside the scope of the present document.

5.6.2A Inter System Change (e.g. UMTS-GSM) function

Inter system change is performed when a GPRS attached mobile moves from cells belonging to different systems such as GSM and UMTS. For intersystem change between UMTS and GSM, the GPRS procedures are used within the GPRS network. Both UTRAN and CN are involved.

5.6.3 Paging Triggering

The Core Network shall, when considered necessary, trigger the Location/Routing/RNC Area paging in the UTRAN system.

5.6.4 Shared Networks Access Control

The Shared Networks Access Control function allows the CN to request the UTRAN to apply UE specific access control to the UTRAN and the neighbouring networks on a PLMN or an SNA basis. The Shared Networks Access Control function is further described in [1].

[5.6.5 GERAN System Information Retrieval](#)

[In order to provide the UE with system information related to NACC towards a GERAN system - to be used as an optimisation - the GERAN System Information Retrieval function allows the source system to request GERAN \(via CN\) to provide this system information. The request and subsequent transfer of the GERAN System Information is performed transparently with the RIM function. The RIM function is further described in \[1\]](#)

3GPP TSG-RAN3 Meeting #42
 Montreal CANADA, 10th May-14th May 2004

Tdoc #R3-040917

CR-Form-v7	
CHANGE REQUEST	
# 25.413 CR 668 # rev 2 #	Current version: 6.1.0 #

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

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Introduction of RIM mechanisms for NACC over the lu interface		
Source:	# RAN3		
Work item code:	# RANimp-NACC	Date:	# 14/05/2004
Category:	# B	Release:	# REL-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
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			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# Mechanisms for transfer of RIM PDUs over the lu need to be introduced to allow the NACC feature.
Summary of change:	# Generic mechanisms have been introduced in RANAP to enable the transfer of RIM-PDU for the NACC feature and other future use. One new class 2 procedure has been defined for both uplink and downlink transfer. Revision 1: - GERAN lu mode is taken into account - New procedure name defined in tabular format - Removal of cause value - ASN.1 Ids allocated. Revision 2: - potential ARIB concern taken into account: clean separation of usage for GERAN-UMTS RIM within the generic RANAP Direct Transfer Information procedure.
Consequences if not approved:	#

Clauses affected:	# 2, 3, 8.1, 8.32, 8.x1(new), 9.1.x2(new), 9.2.1.1, 9.2.1.x3(new), 9.2.3.x4(new), 9.2.3.x5(new), 9.2.3.x6(new), 9.3.2, 9.3.3, 9.3.4, 9.3.6				
Other specs	#				
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Y	N				
X					

affected:	<input checked="" type="checkbox"/>	Test specifications	
	<input checked="" type="checkbox"/>	O&M Specifications	
Other comments:	⌘		

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- [1] 3GPP TR 23.930 (version.4.0.0, 2001-04): "Iu Principles".
- [2] 3GPP TS 25.410: "UTRAN Iu Interface: General Aspects and Principles".
- [3] 3GPP TS 25.401: "UTRAN Overall Description".
- [4] 3GPP TR 25.931: "UTRAN Functions, Examples on Signalling Procedures".
- [5] 3GPP TS 25.412: "UTRAN Iu interface signalling transport".
- [6] 3GPP TS 25.415: "UTRAN Iu interface user plane protocols".
- [7] 3GPP TS 23.107: "Quality of Service (QoS) concept and architecture".
- [8] 3GPP TS 24.008: "Mobile radio interface layer 3 specification; Core network protocols; Stage 3".
- [9] 3GPP TS 25.414: "UTRAN Iu interface data transport and transport signalling".
- [10] 3GPP TS 25.331: Radio Resource Control (RRC) protocol specification".
- [11] 3GPP TS 48.008: "Mobile Switching Centre – Base Station System (MSC - BSS) interface; Layer 3 specification".
- [12] GSM TS 12.08: "Subscriber and equipment trace".
- [13] ITU-T Recommendation X.691 (1997): "Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER)".
- [14] ITU-T Recommendation X.680 (1997): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".
- [15] ITU-T Recommendation X.681 (1997): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification".
- [16] 3GPP TS 23.110: "UMTS Access Stratum, Services and Functions".
- [17] 3GPP TS 25.323: "Packet Data Convergence Protocol (PDCP) specification".
- [18] 3GPP TR 25.921: "Guidelines and principles for protocol description and error handling".
- [19] 3GPP TS 23.003: "Numbering, addressing and identification".
- [20] 3GPP TS 23.032: "Universal Geographical Area Description (GAD)".
- [21] 3GPP TS 23.060: "General Packet Radio Service (GPRS); Service description; Stage 2".
- [22] 3GPP TS 24.080: "Mobile radio Layer 3 supplementary services specification; Formats and coding".

- [23] 3GPP TS 29.108: "Application of the Radio Access Network Application Part (RANAP) on the E-interface".
- [24] 3GPP TS 29.002: "Mobile Application Part (MAP) specification".
- [25] GSM TS 12.20: "Base Station System (BSS) management information".
- [26] 3GPP TS 23.236: "Intra-domain connection of Radio Access Network (RAN) nodes to multiple Core Network (CN) nodes".
- [27] 3GPP TS 43.051: "3rd Generation Partnership Project; Technical Specification Group GSM/EDGE Radio Access Network; Overall description - Stage 2".
- [28] 3GPP TS 25.305: "Stage 2 Functional Specification of Location Services (LCS) in UTRAN".
- [29] 3GPP TS 43.059: "Functional stage 2 description of Location Services (LCS) in GERAN".
- [30] 3GPP TS 22.071: "Location Services (LCS); Service description - Stage 1".
- [31] 3GPP TR 25.994: "Measures employed by the UMTS Radio Access Network (UTRAN) to overcome early User Equipment (UE) implementation faults".
- [32] 3GPP TR 25.995: "Measures employed by the UMTS Radio Access Network (UTRAN) to cater for legacy User Equipment (UE) which conforms to superseded versions of the RAN interface specification".
- [33] 3GPP TS 23.195: "Provision of UE Specific Behaviour Information to Network Entities".
- [34] 3GPP TS 49.031: "Location Services (LCS) – Base Station System Application Part LCS Extension – (BSSAP-LE)".
- [35] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".
- [\[r1\] 3GPP TS 48.018: "General Packet Radio Service \(GPRS\); BSS GPRS Protocol \(BSSGP\)".](#)

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions below apply. Terms and definitions not defined below can be found in [35].

Cell Load-Based Inter-System Handover: This mechanism, which is contained within a UTRAN RNC, consists of three primary functions:

1. The RNC has the capability to generate and send Cell Load Information towards the target/source system.
2. The RNC has the capability to receive Cell Load Information from the target/source system, and is able to interpret this information.
3. The ability of the RNC to make a handover decision by comparing the Cell Load Information that it has received from the target system with the Cell Load Information it has about its own cells.

Ciphering Alternative: defines both the Ciphering Status (started/not started) together with the Ciphering Algorithm considered altogether.

Default CN node: An RNC with an inactive or not implemented NAS Node Selection Function [26] has one single permanent default CN node per CN domain. It always initiates the Initial UE Message procedure towards its default CN node. If the NAS Node Selection Function is active, then no Default CN node exists.

Directed retry: Directed retry is the process of assigning a User Equipment to a radio resource that does not belong to the serving RNC e.g. in situations of congestion. It is triggered by the RAB Assignment procedure and employs relocation procedures.

Elementary Procedure: RANAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between the RNS and the CN. These Elementary Procedures are defined separately and are intended to be used to build up complete sequences in a flexible manner. If the independence between some EPs is restricted, it is described under the relevant EP description. Unless otherwise stated by the restrictions, the EPs may be invoked independently of each other as stand alone procedures, which can be active in parallel. Examples on using several RANAP EPs together with each other and EPs from other interfaces can be found in reference [4].

An EP consists of an initiating message and possibly a response message. Three kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success and/or failure).
- **Class 2:** Elementary Procedures without response.
- **Class 3:** Elementary Procedures with possibility of multiple responses.

For Class 1 EPs, the types of responses can be as follows:

Successful:

- A signalling message explicitly indicates that the elementary procedure successfully completed with the receipt of the response.

Unsuccessful:

- A signalling message explicitly indicates that the EP failed.
- On time supervision expiry (i.e. absence of expected response).

Successful and Unsuccessful:

- One signalling message reports both successful and unsuccessful outcome for the different included requests. The response message used is the one defined for successful outcome.

Class 2 EPs are considered always successful.

Class 3 EPs have one or several response messages reporting both successful, unsuccessful outcome of the requests and temporary status information about the requests. This type of EP only terminates through response(s) or EP timer expiry.

GERAN BSC in Iu mode: In the context of this specification no distinction between an UTRAN RNC and a GERAN BSC in Iu mode is made. The GERAN BSC in Iu mode will behave as a RNC unless explicitly stated (see [27]).

Integrity Protection Alternative: defines both the Integrity Protection Status (started/not started) together with the Integrity Protection Algorithm considered altogether.

PUESBINE feature: as defined in [33].

Relocation of SRNS: relocation of SRNS is a UMTS functionality used to relocate the serving RNS role from one RNS to another RNS. This UMTS functionality is realised by several elementary procedures executed in several interfaces and by several protocols and it may involve a change in the radio resources used between UTRAN and UE

It is also possible to relocate the serving RNS role from:

- one RNS within UMTS to another relocation target external to UMTS;
- functionality equivalent to the serving RNS role from another relocation source external to UMTS to another RNS.

[RAN Information Management: as defined in \[r1\].](#)

Serving RNC: SRNC is the RNC belonging to SRNS

Serving RNS: role an RNS can take with respect to a specific connection between an UE and UTRAN. There is one serving RNS for each UE that has a connection to UTRAN. The serving RNS is in charge of the radio connection between a UE and the UTRAN. The serving RNS terminates the Iu for this UE

Source RNC: source RNC is the RNC belonging to source RNS

Source RNS: role, with respect to a specific connection between UTRAN and CN, that RNS takes when it decides to initiate a relocation of SRNS

Target RNC: target RNC is the RNC belonging to target RNS

Target RNS: role an RNS gets with respect to a specific connection between UTRAN and CN when it is being a subject of a relocation of SRNS which is being made towards that RNS

UE Specific Behaviour Information – Iu: as defined in [33].

3.2 Symbols

Void.

3.3 Abbreviations

Applicable abbreviations can be found in [35]. For the purposes of the present document, the following abbreviations apply:

AAL2	ATM Adaptation Layer type 2
ALCAP	Access Link Control Application Part
AS	Access Stratum
ASN.1	Abstract Syntax Notation One
ATM	Asynchronous Transfer Mode
BSC	Base Station Controller
CC	Call Control
CN	Core Network
CRNC	Controlling RNC
CS	Circuit Switched
DCH	Dedicated Channel
DL	Downlink
DRNC	Drift RNC
DRNS	Drift RNS
DSCH	Downlink Shared Channel
EP	Elementary Procedure
GERAN	GSM/EDGE Radio Access Network
GPRS	General Packet Radio System
GSM	Global System for Mobile communications
GTP	GPRS Tunnelling Protocol
IE	Information Element
IMEI	International Mobile Equipment Identity
IMSI	International Mobile Subscriber Identity
IPv4	Internet Protocol (version 4)
IPv6	Internet Protocol (version 6)
MM	Mobility Management
MSC	Mobile services Switching Center
NACC	Network Assisted Cell Change
NAS	Non Access Stratum
NNSF	NAS Node Selection Function
NRT	Non-Real Time
N-PDU	Network – Protocol Data Unit
OSP:IHOSS	Octet Stream Protocol: Internet-Hosted Octet Stream Service
P-TMSI	Packet TMSI
PDCP	Packet Data Convergence Protocol

PDP	Packet Data Protocol
PDU	Protocol Data Unit
PLMN	Public Land Mobile Network
PPP	Point-to-Point Protocol
PS	Packet Switched
PUESBINE	Provision of UE Specific Behaviour Information to Network Entities
QoS	Quality of Service
RAB	Radio Access Bearer
RANAP	Radio Access Network Application Part
RIM	RAN Information Management
RNC	Radio Network Controller
RNS	Radio Network Subsystem
RRC	Radio Resource Control
RT	Real Time
SAI	Service Area Identifier
SAP	Service Access Point
SDU	Service Data Unit
SGSN	Serving GPRS Support Node
SNA	Shared Network Area
SNAC	Shared Network Area Code
SRNC	Serving RNC
SRNS	Serving RNS
TEID	Tunnel Endpoint Identifier
TMSI	Temporary Mobile Subscriber Identity
UE	User Equipment
UEA	UMTS Encryption Algorithm
UESBI-Iu	UE Specific Behaviour Information - Iu
UIA	UMTS Integrity Algorithm
UL	Uplink
UMTS	Universal Mobile Telecommunications System
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

8 RANAP Procedures

8.1 Elementary Procedures

In the following tables, all EPs are divided into Class 1, Class 2 and Class 3 EPs (see subclause 3.1 for explanation of the different classes):

Table 1: Class 1

Elementary Procedure	Initiating Message	Successful Outcome	Unsuccessful Outcome
		Response message	Response message
Iu Release	IU RELEASE COMMAND	IU RELEASE COMPLETE	
Relocation Preparation	RELOCATION REQUIRED	RELOCATION COMMAND	RELOCATION PREPARATION FAILURE
Relocation Resource Allocation	RELOCATION REQUEST	RELOCATION REQUEST ACKNOWLEDGE	RELOCATION FAILURE
Relocation Cancel	RELOCATION CANCEL	RELOCATION CANCEL ACKNOWLEDGE	
SRNS Context Transfer	SRNS CONTEXT REQUEST	SRNS CONTEXT RESPONSE	
Security Mode Control	SECURITY MODE COMMAND	SECURITY MODE COMPLETE	SECURITY MODE REJECT
Data Volume Report	DATA VOLUME REPORT REQUEST	DATA VOLUME REPORT	
Reset	RESET	RESET ACKNOWLEDGE	
Reset Resource	RESET RESOURCE	RESET RESOURCE ACKNOWLEDGE	
Location related Data	LOCATION RELATED DATA REQUEST	LOCATION RELATED DATA RESPONSE	LOCATION RELATED DATA FAILURE
Information Transfer	INFORMATION TRANSFER INDICATION	INFORMATION TRANSFER CONFIRMATION	INFORMATION TRANSFER FAILURE

Table 2: Class 2

Elementary Procedure	Message
RAB Modification Request	RAB MODIFY REQUEST
RAB Release Request	RAB RELEASE REQUEST
Iu Release Request	IU RELEASE REQUEST
Relocation Detect	RELOCATION DETECT
Relocation Complete	RELOCATION COMPLETE
SRNS Data Forwarding Initiation	SRNS DATA FORWARD COMMAND
SRNS Context Forwarding from Source RNC to CN	FORWARD SRNS CONTEXT
SRNS Context Forwarding to Target RNC from CN	FORWARD SRNS CONTEXT
Paging	PAGING
Common ID	COMMON ID
CN Invoke Trace	CN INVOKE TRACE
CN Deactivate Trace	CN DEACTIVATE TRACE
Location Reporting Control	LOCATION REPORTING CONTROL
Location Report	LOCATION REPORT
Initial UE Message	INITIAL UE MESSAGE
Direct Transfer	DIRECT TRANSFER
Overload Control	OVERLOAD
Error Indication	ERROR INDICATION
UE Specific Information	UE SPECIFIC INFORMATION INDICATION
Direct Information Transfer	DIRECT INFORMATION TRANSFER

Table 3: Class 3

Elementary Procedure	Initiating Message	Response Message
RAB Assignment	RAB ASSIGNMENT REQUEST	RAB ASSIGNMENT RESPONSE x N (N>=1)

The following applies concerning interference between Elementary Procedures:

- The Reset procedure takes precedence over all other EPs.
- The Reset Resource procedure takes precedence over all other EPs except the Reset procedure.
- The Iu Release procedure takes precedence over all other EPs except the Reset procedure and the Reset Resource procedure.

8.33 UE Specific Information

8.33.1 General

The purpose of the UE Specific Information procedure is to transfer from the CN to the RNC data related to a particular UE and a particular communication.

The procedure uses connection oriented signalling.

8.33.2 Successful Operation



Figure 41: UE Specific Information procedure. Successful operation.

The UE SPECIFIC INFORMATION INDICATION message may include the *UESBI-Iu* IE.

The RNC shall, if supported, use the *UESBI-Iu* IE when received in the UE SPECIFIC INFORMATION INDICATION message.

8.x1 Direct Information Transfer

8.x1.1 General

The purpose of the Direct Information Transfer procedure is to transfer some information from the RNC to the CN or vice versa in unacknowledged mode.

This procedure uses connectionless signalling.

8.x1.2 Successful Operation

8.x1.2.1 Direct Information Transfer initiated from the RNC

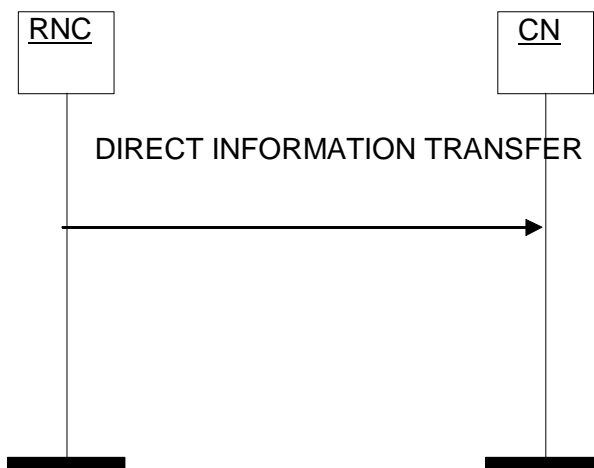


Figure 42: Information Request procedure. Successful operation.

The procedure is initiated with a DIRECT INFORMATION TRANSFER message sent from the RNC to the CN.

The DIRECT INFORMATION TRANSFER message shall include the following IEs:

- Inter-system Information Transfer Type,
- Global RNC-ID,
- CN Domain Indicator.

The Inter-system Information Transfer Type IE indicates the nature of the transferred information.

When the transferred information is of RIM nature, the RIM Information IE within the RIM Transfer IE shall contain a BSSGP RIM PDU. The final RAN destination node where the RIM information needs to be routed by the CN shall be indicated in the RIM Routing Address IE within the RIM Transfer IE and shall include the identity of a GSM cell to identify a target BSS.

8.x1.2.1.1 Successful Operation for GERAN Iu mode

In the case of a Direct Information Transfer procedure initiated from GERAN Iu mode BSC, the final RAN destination node where the RIM information needs to be routed by the CN shall be indicated in the RIM Routing Address IE within the RIM Transfer IE and may include the identity of either a GSM cell to identify a target BSS or the Global-RNC-ID IE to identify a target RNC.

8.x1.2.2 Direct Information Transfer initiated from the CN

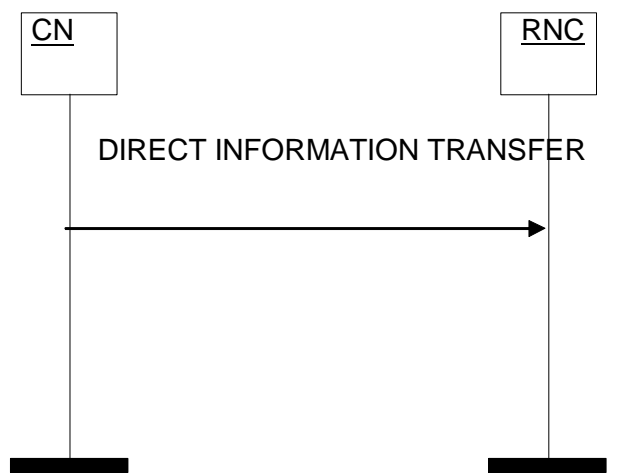


Figure y: Information Request procedure. Successful operation.

The procedure is initiated with a DIRECT INFORMATION TRANSFER message sent from the CN to the RNC.

The DIRECT INFORMATION TRANSFER message shall include the following IEs:

- Inter-system Information Transfer Type,
- CN Domain Indicator.

The DIRECT INFORMATION TRANSFER message may include the following IEs:

- Global CN-ID.

The Global CN-ID IE shall be included only when the CN node sending the message is not the default CN node of the RNC.

The Inter-system Information Transfer Type IE indicates the nature of the transferred information.

When the transferred information is of RIM nature, the RIM Information IE within the RIM Transfer IE shall contain a BSSGP RIM PDU. The RIM Routing Address IE shall not be present since the RNC is the final destination node.

8.x1.3 Abnormal Conditions

Not applicable.

9.1.x2 DIRECT INFORMATION TRANSFER

This message is sent by both the RNC and the CN in order to transfer specific information.

Direction: RNC → CN and CN → RNC.

Signalling bearer mode: Connectionless.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>	<u>Criticality</u>	<u>Assigned Criticality</u>
<u>Message Type</u>	<u>M</u>		<u>9.2.1.1</u>		<u>YES</u>	<u>Ignore</u>
<u>Inter-system Information Transfer Type</u>	<u>O</u>		<u>9.2.1.x3</u>		<u>YES</u>	<u>Ignore</u>
<u>CN Domain Indicator</u>	<u>M</u>		<u>9.2.1.5</u>		<u>YES</u>	<u>Ignore</u>
<u>Global RNC-ID</u>	<u>O</u>		<u>9.2.1.39</u>		<u>YES</u>	<u>Ignore</u>
<u>Global CN-ID</u>	<u>O</u>		<u>9.2.1.46</u>		<u>YES</u>	<u>Ignore</u>

9.2.1.1 Message Type

The *Message Type* IE uniquely identifies the message being sent. It is mandatory for all messages.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Message Type				Assumed max no of messages is 256.
>Procedure Code	M		(RAB Assignment, RAB Release Request, lu Release Request, lu Release, Relocation Preparation, Relocation Resource Allocation, Relocation Detect, Relocation Complete Relocation Cancel, SRNS Context Transfer, SRNS Data Forwarding Initiation, SRNS Context Forwarding from Source RNC to CN, SRNS Context Forwarding to Target RNC from CN, Paging, Common ID, CN Invoke Trace, Security Mode Control, Location Reporting Control Location Report, Data Volume Report, Initial UE Message Direct Transfer, Overload Control, Reset, Error Indication, CN Deactivate Trace, RANAP Relocation Information, Reset Resource, RAB Modify Request, Location Related Data, Information Transfer, UE Specific Information, Direct Information Transfer)	
>Type of Message	M		CHOICE (Initiating Message, Successful Outcome, Unsuccessful Outcome , Outcome, ...)	

9.2.1.61 Source Cell Identifier

The *Source Cell Identifier* IE identifies the involved cell of the source system for the relocation of SRNS. The *Source Cell Identifier* IE may be e.g. source GERAN Source Cell ID (in case of GSM to UMTS relocation) or the UTRAN Source Cell ID (in case of UMTS to GSM relocation).

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Choice Source Cell Identifier				
>GERAN Source Cell ID				
>>PLMN identity	M		OCTET STRING (SIZE (3))	- digits 0 to 9, encoded 0000 to 1001, - 1111 used as filler digit, two digits per octet, - bits 4 to 1 of octet n encoding digit 2n-1 - bits 8 to 5 of octet n encoding digit 2n -The PLMN identity consists of 3 digits from MCC followed by either -a filler digit plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
>>LAC	M		OCTET STRING (2)	0000 and FFFE not allowed.
>>CI	M		OCTET STRING (2)	
>UTRAN Source Cell ID				
>>PLMN-ID	M		OCTET STRING (SIZE (3))	- digits 0 to 9, encoded 0000 to 1001, - 1111 used as filler digit, two digits per octet, - bits 4 to 1 of octet n encoding digit 2n-1- bits 8 to 5 of octet n encoding digit 2n -The PLMN identity consists of 3 digits from MCC followed by either - a filler digit plus 2 digits from MNC (in case of 2 digit MNC) or - 3 digits from MNC (in case of a 3 digit MNC).
>>Source Cell ID	M		INTEGER (0..268435455)	This information element identifies a cell uniquely within UTRAN and consists of RNC-ID (12 bits) and C-ID (16 bits) as defined in TS 25.401 [3].

9.2.1.x3 Inter-system Information Transfer Type

Indicates the type of information that the RNC requests to transfer.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE type and reference</u>	<u>Semantics description</u>
Choice Inter-system Information Transfer Type				
>RIM Transfer			9.2.3.x4	

9.2.3.28 Position Data Specific To GERAN Iu Mode

This IE provides data related to the positioning methods which are supported only within GERAN Iu mode in relation with the Location Report procedure. The coding of this element is described in [34].

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Position Data Specific To GERAN Iu Mode	M		OCTET STRING	Coded as the value part of the <i>Positioning Data</i> IE defined in [34].

9.2.3.x4 RIM Transfer

This IE contains the RIM Information (e.g. NACC information) and additionally in uplink transfer the RIM routing address of the destination of this RIM information.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RIM Transfer				
>RIM Information	M		9.2.3.x5	
>RIM Routing Address	O		9.2.3.x6	

9.2.3.x5 RIM Information

This IE contains the RIM Information (e.g. NACC information) i.e. the BSSGP RIM PDU from the RIM application part contained in the RNC, or the BSSGP RIM PDU to be forwarded to the RIM application part in the RNC.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
RIM Information				
>RIM Information	M		OCTET STRING	Contains the BSSGP RIM PDU as defined in ref [r1].

9.2.3.x6 RIM Routing Address

This IE identifies the destination node where the RIM Information needs to be routed by the CN.

IE/Group Name	Presence	Range	IE type and reference	Semantics description
Choice RIM Routing Address				
>Global RNC-ID			9.2.1.39	Applicable to GERAN Iu mode, not applicable to UTRAN
>GERAN-Cell-ID				
>>LAI	M		9.2.3.6	
>>RAC	M		9.2.3.7	
>>CI	M		OCTET STRING (2)	

9.3.2 Elementary Procedure Definitions

```

-- *****
--
-- Elementary Procedure definitions
--
-- *****

RANAP-PDU-Descriptions {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-PDU-Descriptions (0)}

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
    Criticality,
    ProcedureCode
FROM RANAP-CommonDataTypes

    Iu-ReleaseCommand,
    Iu-ReleaseComplete,
    RelocationCommand,
    RelocationPreparationFailure,
    RelocationRequired,
    RelocationRequest,
    RelocationRequestAcknowledge,
    RelocationFailure,
    RelocationCancel,
    RelocationCancelAcknowledge,
    SRNS-ContextRequest,
    SRNS-ContextResponse,
    SecurityModeCommand,
    SecurityModeComplete,
    SecurityModeReject,
    DataVolumeReportRequest,
    DataVolumeReport,
    Reset,
    ResetAcknowledge,
    RAB-ReleaseRequest,
    Iu-ReleaseRequest,
    RelocationDetect,
    RelocationComplete,
    Paging,
    CommonID,
    CN-InvokeTrace,
    CN-DeactivateTrace,
    LocationReportingControl,
    LocationReport,
    InitialUE-Message,
    DirectTransfer,
    Overload,
    ErrorIndication,
    SRNS-DataForwardCommand,
    ForwardSRNS-Context,
    RAB-AssignmentRequest,
    RAB-AssignmentResponse,
    RAB-ModifyRequest,
    PrivateMessage,
    ResetResource,
    ResetResourceAcknowledge,
    RANAP-RelocationInformation,
    LocationRelatedDataRequest,
    LocationRelatedDataResponse,
    LocationRelatedDataFailure,
    InformationTransferIndication,
    InformationTransferConfirmation,
    InformationTransferFailure,
    UESpecificInformationIndication,
    DirectInformationTransfer
FROM RANAP-PDU-Contents

    id-LocationRelatedData,

```

```

id-CN-DeactivateTrace,
id-CN-InvokeTrace,
id-CommonID,
id-DataVolumeReport,
id-DirectTransfer,
id-ErrorIndication,
id-ForwardSRNS-Context,
id-InformationTransfer,
id-InitialUE-Message,
id-Iu-Release,
id-Iu-ReleaseRequest,
id-LocationReport,
id-LocationReportingControl,
id-OverloadControl,
id-Paging,
id-privateMessage,
id-RAB-Assignment,
id-RAB-ReleaseRequest,
id-RAB-ModifyRequest,
id-RANAP-Relocation,
id-RelocationCancel,
id-RelocationComplete,
id-RelocationDetect,
id-RelocationPreparation,
id-RelocationResourceAllocation,
id-Reset,
id-SRNS-ContextTransfer,
id-SRNS-DataForward,
id-SecurityModeControl,
id-ResetResource,
id-UESpecificInformation,
id-DirectInformationTransfer
FROM RANAP-Constants;

```

Lots of unaffected ASN1 in 9.3.2 not shown

```

-- *****
--
-- Interface Elementary Procedure List
--
-- *****

RANAP-ELEMENTARY-PROCEDURES RANAP-ELEMENTARY-PROCEDURE ::= {
  RANAP-ELEMENTARY-PROCEDURES-CLASS-1 |
  RANAP-ELEMENTARY-PROCEDURES-CLASS-2 |
  RANAP-ELEMENTARY-PROCEDURES-CLASS-3 ,
  ...
}

RANAP-ELEMENTARY-PROCEDURES-CLASS-1 RANAP-ELEMENTARY-PROCEDURE ::= {
  iu-Release |
  relocationPreparation |
  relocationResourceAllocation |
  relocationCancel |
  sRNS-ContextTransfer |
  securityModeControl |
  dataVolumeReport |
  reset |
  resetResource ,
  ... ,
  locationRelatedData |
  informationTransfer
}

RANAP-ELEMENTARY-PROCEDURES-CLASS-2 RANAP-ELEMENTARY-PROCEDURE ::= {
  rAB-ReleaseRequest |
  iu-ReleaseRequest |
  relocationDetect |
  relocationComplete |
  paging |
  commonID |
  cN-InvokeTrace |
  cN-DeactivateTrace |
  locationReportingControl |
  locationReport |
  initialUE-Message |
  directTransfer |
  overloadControl |
  errorIndication
}

```

```

sRNS-DataForward      |
forwardSRNS-Context  |
privateMessage        |
rANAP-Relocation      |
...                  |
rAB-ModifyRequest     |
uESpecificInformation |
directInformationTransfer
}

RANAP-ELEMENTARY-PROCEDURES-CLASS-3 RANAP-ELEMENTARY-PROCEDURE ::= {
  rAB-Assignment
  ...
}

-- *****
--
-- Interface Elementary Procedures
--
-- *****

iu-Release RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  Iu-ReleaseCommand
  SUCCESSFUL OUTCOME  Iu-ReleaseComplete
  PROCEDURE CODE      id-Iu-Release
  CRITICALITY         reject
}

relocationPreparation RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RelocationRequired
  SUCCESSFUL OUTCOME  RelocationCommand
  UNSUCCESSFUL OUTCOME RelocationPreparationFailure
  PROCEDURE CODE      id-RelocationPreparation
  CRITICALITY         reject
}

relocationResourceAllocation RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RelocationRequest
  SUCCESSFUL OUTCOME  RelocationRequestAcknowledge
  UNSUCCESSFUL OUTCOME RelocationFailure
  PROCEDURE CODE      id-RelocationResourceAllocation
  CRITICALITY         reject
}

relocationCancel RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RelocationCancel
  SUCCESSFUL OUTCOME  RelocationCancelAcknowledge
  PROCEDURE CODE      id-RelocationCancel
  CRITICALITY         reject
}

sRNS-ContextTransfer RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  SRNS-ContextRequest
  SUCCESSFUL OUTCOME  SRNS-ContextResponse
  PROCEDURE CODE      id-SRNS-ContextTransfer
  CRITICALITY         reject
}

securityModeControl RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  SecurityModeCommand
  SUCCESSFUL OUTCOME  SecurityModeComplete
  UNSUCCESSFUL OUTCOME SecurityModeReject
  PROCEDURE CODE      id-SecurityModeControl
  CRITICALITY         reject
}

dataVolumeReport RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  DataVolumeReportRequest
  SUCCESSFUL OUTCOME  DataVolumeReport
  PROCEDURE CODE      id-DataVolumeReport
  CRITICALITY         reject
}

reset RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  Reset
  SUCCESSFUL OUTCOME  ResetAcknowledge
  PROCEDURE CODE      id-Reset
  CRITICALITY         reject
}

rAB-ReleaseRequest RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RAB-ReleaseRequest

```

```

    PROCEDURE CODE      id-RAB-ReleaseRequest
    CRITICALITY         ignore
}

iu-ReleaseRequest RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  Iu-ReleaseRequest
    PROCEDURE CODE      id-Iu-ReleaseRequest
    CRITICALITY         ignore
}

relocationDetect RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RelocationDetect
    PROCEDURE CODE      id-RelocationDetect
    CRITICALITY         ignore
}

relocationComplete RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  RelocationComplete
    PROCEDURE CODE      id-RelocationComplete
    CRITICALITY         ignore
}

paging RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  Paging
    PROCEDURE CODE      id-Paging
    CRITICALITY         ignore
}

commonID RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CommonID
    PROCEDURE CODE      id-CommonID
    CRITICALITY         ignore
}

cN-InvokeTrace RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CN-InvokeTrace
    PROCEDURE CODE      id-CN-InvokeTrace
    CRITICALITY         ignore
}

cN-DeactivateTrace RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  CN-DeactivateTrace
    PROCEDURE CODE      id-CN-DeactivateTrace
    CRITICALITY         ignore
}

locationReportingControl RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  LocationReportingControl
    PROCEDURE CODE      id-LocationReportingControl
    CRITICALITY         ignore
}

locationReport RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  LocationReport
    PROCEDURE CODE      id-LocationReport
    CRITICALITY         ignore
}

initialUE-Message RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  InitialUE-Message
    PROCEDURE CODE      id-InitialUE-Message
    CRITICALITY         ignore
}

directTransfer RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  DirectTransfer
    PROCEDURE CODE      id-DirectTransfer
    CRITICALITY         ignore
}

overloadControl RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  Overload
    PROCEDURE CODE      id-OverloadControl
    CRITICALITY         ignore
}

errorIndication RANAP-ELEMENTARY-PROCEDURE ::= {
    INITIATING MESSAGE  ErrorIndication
    PROCEDURE CODE      id-ErrorIndication
    CRITICALITY         ignore
}

sRNS-DataForward RANAP-ELEMENTARY-PROCEDURE ::= {

```

```

INITIATING MESSAGE  SRNS-DataForwardCommand
PROCEDURE CODE      id-SRNS-DataForward
CRITICALITY         ignore
}

forwardSRNS-Context RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  ForwardSRNS-Context
  PROCEDURE CODE      id-ForwardSRNS-Context
  CRITICALITY         ignore
}

rAB-Assignment RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RAB-AssignmentRequest
  OUTCOME             RAB-AssignmentResponse
  PROCEDURE CODE      id-RAB-Assignment
  CRITICALITY         reject
}

privateMessage RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  PrivateMessage

  PROCEDURE CODE      id-privateMessage
  CRITICALITY         ignore
}

resetResource RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  ResetResource
  SUCCESSFUL OUTCOME  ResetResourceAcknowledge
  PROCEDURE CODE      id-ResetResource
  CRITICALITY         reject
}

rANAP-Relocation RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RANAP-RelocationInformation
  PROCEDURE CODE      id-RANAP-Relocation
  CRITICALITY         ignore
}

rAB-ModifyRequest RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  RAB-ModifyRequest
  PROCEDURE CODE      id-RAB-ModifyRequest
  CRITICALITY         ignore
}

locationRelatedData RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  LocationRelatedDataRequest
  SUCCESSFUL OUTCOME  LocationRelatedDataResponse
  UNSUCCESSFUL OUTCOME  LocationRelatedDataFailure
  PROCEDURE CODE      id-LocationRelatedData
  CRITICALITY         reject
}

informationTransfer RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  InformationTransferIndication
  SUCCESSFUL OUTCOME  InformationTransferConfirmation
  UNSUCCESSFUL OUTCOME  InformationTransferFailure
  PROCEDURE CODE      id-InformationTransfer
  CRITICALITY         reject
}

uESpecificInformation RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  UESpecificInformationIndication
  PROCEDURE CODE      id-UESpecificInformation
  CRITICALITY         ignore
}

directInformationTransfer RANAP-ELEMENTARY-PROCEDURE ::= {
  INITIATING MESSAGE  DirectInformationTransfer
  PROCEDURE CODE      id-DirectInformationTransfer
  CRITICALITY         ignore
}

```

END

9.3.3 PDU Definitions

```

-- *****
--
-- PDU definitions for RANAP.
--
-- *****

RANAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
BroadcastAssistanceDataDecipheringKeys,
LocationRelatedDataRequestType,
LocationRelatedDataRequestTypeSpecificToGERANIuMode,
DataVolumeReference,
CellLoadInformation,
AreaIdentity,
CN-DomainIndicator,
Cause,
ClientType,
CriticalityDiagnostics,
ChosenEncryptionAlgorithm,
ChosenIntegrityProtectionAlgorithm,
ClassmarkInformation2,
ClassmarkInformation3,
DL-GTP-PDU-SequenceNumber,
DL-N-PDU-SequenceNumber,
DataVolumeReportingIndication,
DRX-CycleLengthCoefficient,
EncryptionInformation,
GERAN-BSC-Container,
GERAN-Classmark,
GlobalCN-ID,
GlobalRNC-ID,
InformationTransferID,
InterSystemInformationTransferType,
IntegrityProtectionInformation,
InterSystemInformation-TransparentContainer,
IuSignallingConnectionIdentifier,
IuTransportAssociation,
KeyStatus,
L3-Information,
LAI,
LastKnownServiceArea,
NAS-PDU,
NAS-SynchronisationIndicator,
NewBSS-To-OldBSS-Information,
NonSearchingIndication,
NumberOfSteps,
OMC-ID,
OldBSS-To-NewBSS-Information,
PagingAreaID,
PagingCause,
PDP-TypeInformation,
PermanentNAS-UE-ID,
PositionData,
PositionDataSpecificToGERANIuMode,
PositioningPriority,
ProvidedData,
RAB-ID,
RAB-Parameters,
RAC,
RelocationType,
RequestType,
Requested-RAB-Parameter-Values,
ResponseTime,
RRC-Container,

```

SAI,
 SAPI,
 Service-Handover,
 SNA-Access-Information,
 SourceID,
 SourceRNC-ToTargetRNC-TransparentContainer,
 TargetID,
 TargetRNC-ToSourceRNC-TransparentContainer,
 TemporaryUE-ID,
 TraceReference,
 TraceType,
 UnsuccessfullyTransmittedDataVolume,
 TransportLayerAddress,
 TriggerID,
 UE-ID,
 UESBI-Iu,
 UL-GTP-PDU-SequenceNumber,
 UL-N-PDU-SequenceNumber,
 UP-ModeVersions,
 UserPlaneMode,
 VerticalAccuracyCode,
 Alt-RAB-Parameters,
 Ass-RAB-Parameters

FROM RANAP-IEs

PrivateIE-Container{},
 ProtocolExtensionContainer{},
 ProtocolIE-ContainerList{},
 ProtocolIE-ContainerPair{},
 ProtocolIE-ContainerPairList{},
 ProtocolIE-Container{},
 RANAP-PRIVATE-IES,
 RANAP-PROTOCOL-EXTENSION,
 RANAP-PROTOCOL-IES,
 RANAP-PROTOCOL-IES-PAIR

FROM RANAP-Containers

maxNrOfDTs,
 maxNrOfErrors,
 maxNrOfIuSigConIds,
 maxNrOfRABs,
 maxNrOfVol,

id-AreaIdentity,
 id-Alt-RAB-Parameters,
 id-Ass-RAB-Parameters,
 id-BroadcastAssistanceDataDecipheringKeys,
 id-LocationRelatedDataRequestType,
 id-CN-DomainIndicator,
 id-Cause,
 id-ChosenEncryptionAlgorithm,
 id-ChosenIntegrityProtectionAlgorithm,
 id-ClassmarkInformation2,
 id-ClassmarkInformation3,
 id-ClientType,
 id-CriticalityDiagnostics,
 id-DRX-CycleLengthCoefficient,
 id-DirectTransferInformationItem-RANAP-RelocInf,
 id-DirectTransferInformationList-RANAP-RelocInf,
 id-DL-GTP-PDU-SequenceNumber,
 id-EncryptionInformation,
 id-GERAN-BSC-Container,
 id-GERAN-Classmark,
 id-GERAN-Iumode-RAB-Failed-RABAssgntResponse-Item,
 id-GERAN-Iumode-RAB-FailedList-RABAssgntResponse,
 id-GlobalCN-ID,
 id-GlobalRNC-ID,
 id-InformationTransferID,
 id-IntegrityProtectionInformation,
 id-InterSystemInformation-TransparentContainer,
 id-IuSigConId,
 id-IuSigConIdItem,
 id-IuSigConIdList,
 id-IuTransportAssociation,
 id-KeyStatus,
 id-L3-Information,
 id-LAI,
 id-LastKnownServiceArea,
 id-LocationRelatedDataRequestTypeSpecificToGERANIuMode,
 id-NAS-PDU,
 id-NewBSS-To-OldBSS-Information,
 id-NonSearchingIndication,


```

id-NumberOfSteps,
id-OMC-ID,
id-OldBSS-ToNewBSS-Information,
id-PagingAreaID,
id-PagingCause,
id-PermanentNAS-UE-ID,
id-PositionData,
id-PositionDataSpecificToGERANIuMode,
id-PositioningPriority,
id-ProvidedData,
id-RAB-ContextItem,
id-RAB-ContextList,
id-RAB-ContextFailedtoTransferItem,
id-RAB-ContextFailedtoTransferList,
id-RAB-ContextItem-RANAP-RelocInf,
id-RAB-ContextList-RANAP-RelocInf,
id-RAB-DataForwardingItem,
id-RAB-DataForwardingItem-SRNS-CtxReq,
id-RAB-DataForwardingList,
id-RAB-DataForwardingList-SRNS-CtxReq,
id-RAB-DataVolumeReportItem,
id-RAB-DataVolumeReportList,
id-RAB-DataVolumeReportRequestItem,
id-RAB-DataVolumeReportRequestList,
id-RAB-FailedItem,
id-RAB-FailedList,
id-RAB-FailedtoReportItem,
id-RAB-FailedtoReportList,
id-RAB-ID,
id-RAB-ModifyList,
id-RAB-ModifyItem,
id-RAB-QueuedItem,
id-RAB-QueuedList,
id-RAB-ReleaseFailedList,
id-RAB-ReleaseItem,
id-RAB-ReleasedItem-IuRelComp,
id-RAB-ReleaseList,
id-RAB-ReleasedItem,
id-RAB-ReleasedList,
id-RAB-ReleasedList-IuRelComp,
id-RAB-RelocationReleaseItem,
id-RAB-RelocationReleaseList,
id-RAB-SetupItem-RelocReq,
id-RAB-SetupItem-RelocReqAck,
id-RAB-SetupList-RelocReq,
id-RAB-SetupList-RelocReqAck,
id-RAB-SetupOrModifiedItem,
id-RAB-SetupOrModifiedList,
id-RAB-SetupOrModifyItem,
id-RAB-SetupOrModifyList,
id-RAC,
id-RelocationType,
id-RequestType,
id-ResponseTime,
id-SAI,
id-SAPI,
id-SNA-Access-Information,
id-SourceID,
id-SourceRNC-ToTargetRNC-TransparentContainer,
id-SourceRNC-PDCP-context-info,
id-TargetID,
id-TargetRNC-ToSourceRNC-TransparentContainer,
id-TemporaryUE-ID,
id-TraceReference,
id-TraceType,
id-TransportLayerAddress,
id-TriggerID,
id-UE-ID,
id-UESBI-Iu,
id-UL-GTP-PDU-SequenceNumber,
id-VerticalAccuracyCode,
id-InterSystemInformationTransferType
FROM RANAP-Constants;

```

Lots of unaffected ASN1 in 9.3.3 not shown
--

```

-- *****
--
-- UE SPECIFIC INFORMATION ELEMENTARY PROCEDURE
--
-- *****
-- *****

```

```

--
-- UE Specific Information Indication
--
-- *****
UESpecificInformationIndication ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          { {UESpecificInformationIndicationIEs} },
    protocolExtensions   ProtocolExtensionContainer { {UESpecificInformationIndicationExtensions} }
}
...
}

UESpecificInformationIndicationIEs RANAP-PROTOCOL-IES ::= {
    { ID id-UESBI-Iu          CRITICALITY ignore TYPE UESBI-Iu          PRESENCE
optional },
    ...
}

UESpecificInformationIndicationExtensions RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

-- *****
--
-- DIRECT INFORMATION TRANSFER ELEMENTARY PROCEDURE
--
-- *****
--
-- Direct Information Transfer
--
-- *****
DirectInformationTransfer ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container          { { DirectInformationTransferIEs} },
    protocolExtensions   ProtocolExtensionContainer { { DirectInformationTransferExtensions} }
    OPTIONAL,
    ...
}

DirectInformationTransferIEs RANAP-PROTOCOL-IES ::= {
    { ID id-InterSystemInformationTransferType CRITICALITY ignore TYPE InformationTransferType
PRESENCE optional } |
    { ID id-CN-DomainIndicator          CRITICALITY ignore TYPE CN-DomainIndicator
PRESENCE mandatory } |
    { ID id-GlobalRNC-ID                CRITICALITY ignore TYPE GlobalRNC-ID          PRESENCE
optional } |
    { ID id-GlobalCN-ID                CRITICALITY ignore TYPE GlobalCN-ID          PRESENCE
optional },
    ...
}

DirectInformationTransferExtensions RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

END

```

9.3.4 Information Element Definitions

```

-- *****
--
-- Information Element Definitions
--
-- *****

RANAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxNrOfErrors,
    maxNrOfPDPDirections,
    maxNrOfPoints,

```

```

maxNrOfRABs,
maxNrOfSRBs,
maxNrOfSeparateTrafficDirections,
maxRAB-Subflows,
maxRAB-SubflowCombination,
maxNrOfLevels,
maxNrOfAltValues,
maxNrOfSNAs,
maxNrOfLAs,
maxNrOfPLMNsSN,
maxSet,

id-CN-DomainIndicator,
id-MessageStructure,
id-SRB-TrCH-Mapping,
id-TypeOfError,

id-hS-DSCH-MAC-d-Flow-ID,
id-SignallingIndication,
id-CellLoadInformationGroup
FROM RANAP-Constants

```

Lots of unaffected ASN1 in 9.3.4 not shown

```

GERAN-BSC-Container ::= OCTET STRING
-- GERAN BSC Container as defined in [11] --

```

```

GERAN-Cell-ID ::= SEQUENCE {
    LAI LAI,
    rAC RAC,
    cI CI,
    iE-Extensions ProtocolExtensionContainer { {GERAN-Cell-ID-ExtIEs} } OPTIONAL
}

```

```

GERAN-Cell-ID-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

GERAN-Classmark ::= OCTET STRING
-- GERAN Classmark as defined in [11] --

```

```

GlobalCN-ID ::= SEQUENCE {
    pLMNidentity PLMNidentity,
    cN-ID CN-ID
}

```

```

GlobalRNC-ID ::= SEQUENCE {
    pLMNidentity PLMNidentity,
    rNC-ID RNC-ID
}

```

```

GTP-TEI ::= OCTET STRING (SIZE (4))

```

```

GuaranteedBitrate ::= INTEGER (0..16000000)
-- Unit is bits per sec

```

```

-- H

```

```

HS-DSCH-MAC-d-Flow-ID ::= INTEGER (0..7)

```

```

-- I

```

```

IMEI ::= OCTET STRING (SIZE (8))
-- Reference: 23.003

```

```

IMSI ::= TBCD-STRING (SIZE (3..8))
-- Reference: 23.003

```

```

InformationTransferID ::= INTEGER (0.. 1048575)

```

```

InterSystemInformationTransferType ::= CHOICE {
    rIM-Transfer RIM-Transfer,
    ...
}

```

```

IntegrityProtectionAlgorithm ::= INTEGER {

```

```

    standard-UMTS-integrity-algorithm-UIA1 (0),
    no-value (15)
} (0..15)

IntegrityProtectionInformation ::= SEQUENCE {
    permittedAlgorithms    PermittedIntegrityProtectionAlgorithms,
    key                    IntegrityProtectionKey,
    iE-Extensions          ProtocolExtensionContainer { { IntegrityProtectionInformation-ExtIEs} }
OPTIONAL
}

IntegrityProtectionInformation-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

IntegrityProtectionKey          ::= BIT STRING (SIZE (128))

InterSystemInformation-TransparentContainer ::= SEQUENCE {
    downlinkCellLoadInformation    CellLoadInformation    OPTIONAL,
    uplinkCellLoadInformation      CellLoadInformation    OPTIONAL,
    iE-Extensions                  ProtocolExtensionContainer { { InterSystemInformation-
TransparentContainer-ExtIEs} } OPTIONAL,
    ...
}

InterSystemInformation-TransparentContainer-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

IuSignallingConnectionIdentifier ::= BIT STRING (SIZE (24))

IuTransportAssociation ::= CHOICE {
    gTP-TEI          GTP-TEI,
    bindingID        BindingID,
    ...
}

-- J

```

Lots of unaffected ASN1 in 9.3.4 not shown
--

```

-- R
RAB-AsymmetryIndicator ::= ENUMERATED {
    symmetric-bidirectional,
    asymmetric-unidirectional-downlink,
    asymmetric-unidirectional-uplink,
    asymmetric-bidirectional,
    ...
}

RAB-ID          ::= BIT STRING (SIZE (8))

RAB-Parameter-GuaranteedBitrateList ::= SEQUENCE (SIZE (1..maxNrOfSeparateTrafficDirections)) OF
GuaranteedBitrate

RAB-Parameter-MaxBitrateList          ::= SEQUENCE (SIZE (1..maxNrOfSeparateTrafficDirections)) OF
MaxBitrate

RAB-Parameters ::= SEQUENCE {
    trafficClass          TrafficClass,
    rAB-AsymmetryIndicator RAB-AsymmetryIndicator,
    maxBitrate            RAB-Parameter-MaxBitrateList,
    guaranteedBitRate     RAB-Parameter-GuaranteedBitrateList OPTIONAL
    -- This IE shall be present the traffic class IE is set to "Conversational" or "Streaming" --,
    deliveryOrder         DeliveryOrder,
    maxSDU-Size           MaxSDU-Size,
    sDU-Parameters        SDU-Parameters,
    transferDelay          TransferDelay OPTIONAL
    -- This IE shall be present the traffic class IE is set to "Conversational" or "Streaming" --,
    trafficHandlingPriority TrafficHandlingPriority OPTIONAL
    -- This IE shall be present the traffic class IE is set to "Interactive" --,
    allocationOrRetentionPriority AllocationOrRetentionPriority OPTIONAL,
    sourceStatisticsDescriptor SourceStatisticsDescriptor OPTIONAL
    -- This IE shall be present the traffic class IE is set to "Conversational" or "Streaming" --,
    relocationRequirement RelocationRequirement OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { { RAB-Parameters-ExtIEs} } OPTIONAL,
    ...
}

RAB-Parameters-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {

```

```

-- Extension for Release 5 to enable indication that Interactive User Plane data is of a signalling
nature --
  { ID id-SignallingIndication    CRITICALITY ignore EXTENSION SignallingIndication PRESENCE
optional },
  ...
}

RAB-SubflowCombinationBitRate ::= INTEGER (0..16000000)

RAB-TrCH-Mapping ::= SEQUENCE ( SIZE (1..maxNrOfRABs)) OF
  RAB-TrCH-MappingItem

RAB-TrCH-MappingItem ::= SEQUENCE {
  rAB-ID          RAB-ID,
  trCH-ID-List   TrCH-ID-List,
  iE-Extensions  ProtocolExtensionContainer { { RAB-TrCH-MappingItem-ExtIEs } } OPTIONAL,
  ...
}

RAB-TrCH-MappingItem-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
-- Extension for Release 99 to enable transfer of RAB Subflow mapping onto Iur transport channel IDs
for a given indicated domain --
  { ID id-CN-DomainIndicator    CRITICALITY ignore      EXTENSION CN-DomainIndicator    PRESENCE
optional },
  ...
}

RAC ::= OCTET STRING (SIZE (1))

RAI ::= SEQUENCE {
  lAI          LAI,
  rAC          RAC,
  iE-Extensions ProtocolExtensionContainer { {RAI-ExtIEs} } OPTIONAL,
  ...
}

RAI-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
  ...
}

RateControlAllowed ::= ENUMERATED {
  not-allowed,
  allowed
}

RelocationRequirement ::= ENUMERATED {
  lossless,
  none,
  ...,
  realtime
}

RelocationType ::= ENUMERATED {
  ue-not-involved,
  ue-involved,
  ...
}

RepetitionNumber0 ::= INTEGER (0..255)

RepetitionNumber1 ::= INTEGER (1..256)

ReportArea ::= ENUMERATED {
  service-area,
  geographical-area,
  ...
}

RequestedGPSAssistanceData ::= OCTET STRING (SIZE (1 .. 38 ))
-- gpsAssistanceData as defined in 24.080 --

RequestedLocationRelatedDataType ::= ENUMERATED {
  decipheringKeysUEBasedOTDOA,
  decipheringKeysAssistedGPS,
  dedicatedAssistanceDataUEBasedOTDOA,
  dedicatedAssistanceDataAssistedGPS,
  ...
}

Requested-RAB-Parameter-Values ::= SEQUENCE {
  requestedMaxBitrates          Requested-RAB-Parameter-MaxBitrateList          OPTIONAL,

```

```

    requestedGuaranteedBitrates          Requested-RAB-Parameter-GuaranteedBitrateList
OPTIONAL,
    iE-Extensions                        ProtocolExtensionContainer { { Requested-RAB-Parameter-Values-ExtIEs } }
OPTIONAL,
    ...
}

Requested-RAB-Parameter-Values-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

Requested-RAB-Parameter-MaxBitrateList ::= SEQUENCE (SIZE (1..maxNrOfSeparateTrafficDirections)) OF
MaxBitrate

Requested-RAB-Parameter-GuaranteedBitrateList ::= SEQUENCE (SIZE
(1..maxNrOfSeparateTrafficDirections)) OF GuaranteedBitrate

RequestType ::= SEQUENCE {
    event                Event,
    reportArea           ReportArea,
    accuracyCode         INTEGER (0..127)    OPTIONAL,
    ...
}

ResidualBitErrorRatio ::= SEQUENCE {
    mantissa             INTEGER (1..9),
    exponent             INTEGER (1..8),
    iE-Extensions        ProtocolExtensionContainer { {ResidualBitErrorRatio-ExtIEs} } OPTIONAL
}
-- ResidualBitErrorRatio = mantissa * 10^-exponent

ResidualBitErrorRatio-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

ResponseTime ::= ENUMERATED {
    lowdelay,
    delaytolerant,
    ...
}

RIMInformation ::= OCTET STRING

RIM-TRANSFER ::= SEQUENCE {
    rIMInformation      RIMInformation,
    rIMRoutingAddress   RIMRoutingAddress OPTIONAL,
    iE-Extensions        ProtocolExtensionContainer { {RIM-TRANSFER-ExtIEs} } OPTIONAL
}

RIM-TRANSFER-ExtIEs RANAP-PROTOCOL-EXTENSION ::= {
    ...
}

RIMRoutingAddress ::= CHOICE {
    globalRNC-ID        GlobalRNC-ID,
    gERAN-Cell-ID       GERAN-Cell-ID,
    ...
}

RNC-ID ::= INTEGER (0..4095)
-- RNC-ID ::= BIT STRING (SIZE (12))
-- Harmonized with RNSAP and NBAP definitions

RRC-Container ::= OCTET STRING

RTLloadValue ::= INTEGER (0..100)

-- S

```

9.3.6 Constant Definitions

```

-- *****
--
-- Constant definitions
--
-- *****

RANAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) ranap (0) version1 (1) ranap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- Elementary Procedures
--
-- *****

id-RAB-Assignment                INTEGER ::= 0
id-Iu-Release                    INTEGER ::= 1
id-RelocationPreparation         INTEGER ::= 2
id-RelocationResourceAllocation  INTEGER ::= 3
id-RelocationCancel             INTEGER ::= 4
id-SRNS-ContextTransfer         INTEGER ::= 5
id-SecurityModeControl         INTEGER ::= 6
id-DataVolumeReport            INTEGER ::= 7
id-Reset                        INTEGER ::= 9
id-RAB-ReleaseRequest          INTEGER ::= 10
id-Iu-ReleaseRequest           INTEGER ::= 11
id-RelocationDetect            INTEGER ::= 12
id-RelocationComplete          INTEGER ::= 13
id-Paging                      INTEGER ::= 14
id-CommonID                    INTEGER ::= 15
id-CN-InvokeTrace              INTEGER ::= 16
id-LocationReportingControl     INTEGER ::= 17
id-LocationReport              INTEGER ::= 18
id-InitialUE-Message           INTEGER ::= 19
id-DirectTransfer              INTEGER ::= 20
id-OverloadControl             INTEGER ::= 21
id-ErrorIndication             INTEGER ::= 22
id-SRNS-DataForward            INTEGER ::= 23
id-ForwardSRNS-Context         INTEGER ::= 24
id-privateMessage              INTEGER ::= 25
id-CN-DeactivateTrace         INTEGER ::= 26
id-ResetResource               INTEGER ::= 27
id-RANAP-Relocation            INTEGER ::= 28
id-RAB-ModifyRequest           INTEGER ::= 29
id-LocationRelatedData         INTEGER ::= 30
id-InformationTransfer          INTEGER ::= 31
id-UESpecificInformation       INTEGER ::= 32
id-DirectInformationTransfer    INTEGER ::= 34

-- *****
--
-- Extension constants
--
-- *****

maxPrivateIEs                   INTEGER ::= 65535
maxProtocolExtensions           INTEGER ::= 65535
maxProtocolIEs                 INTEGER ::= 65535

-- *****
--
-- Lists
--
-- *****

maxNrOfDTs                     INTEGER ::= 15
maxNrOfErrors                   INTEGER ::= 256
maxNrOfIuSigConIds             INTEGER ::= 250
maxNrOfPDPDirections           INTEGER ::= 2
maxNrOfPoints                   INTEGER ::= 15
maxNrOfRABs                     INTEGER ::= 256
maxNrOfSeparateTrafficDirections INTEGER ::= 2
maxNrOfSRBs                     INTEGER ::= 8
maxNrOfVol                      INTEGER ::= 2

```

```

maxNrOfLevels                INTEGER ::= 256
maxNrOfAltValues             INTEGER ::= 16
maxNrOfPLMNsSN              INTEGER ::= 32
maxNrOfLAs                  INTEGER ::= 65536
maxNrOfSNAs                  INTEGER ::= 65536

maxRAB-Subflows              INTEGER ::= 7
maxRAB-SubflowCombination    INTEGER ::= 64
maxSet                        INTEGER ::= 9

-- *****
--
-- IEs
--
-- *****

id-AreaIdentity                INTEGER ::= 0
id-CN-DomainIndicator         INTEGER ::= 3
id-Cause                       INTEGER ::= 4
id-ChosenEncryptionAlgorithm  INTEGER ::= 5
id-ChosenIntegrityProtectionAlgorithm INTEGER ::= 6
id-ClassmarkInformation2      INTEGER ::= 7
id-ClassmarkInformation3      INTEGER ::= 8
id-CriticalityDiagnostics     INTEGER ::= 9
id-DL-GTP-PDU-SequenceNumber INTEGER ::= 10
id-EncryptionInformation      INTEGER ::= 11
id-IntegrityProtectionInformation INTEGER ::= 12
id-IuTransportAssociation     INTEGER ::= 13
id-L3-Information             INTEGER ::= 14
id-LAI                         INTEGER ::= 15
id-NAS-PDU                    INTEGER ::= 16
id-NonSearchingIndication     INTEGER ::= 17
id-NumberOfSteps              INTEGER ::= 18
id-OMC-ID                     INTEGER ::= 19
id-OldBSS-ToNewBSS-Information INTEGER ::= 20
id-PagingAreaID              INTEGER ::= 21
id-PagingCause                INTEGER ::= 22
id-PermanentNAS-UE-ID        INTEGER ::= 23
id-RAB-ContextItem           INTEGER ::= 24
id-RAB-ContextList           INTEGER ::= 25
id-RAB-DataForwardingItem     INTEGER ::= 26
id-RAB-DataForwardingItem-SRNS-CtxReq INTEGER ::= 27
id-RAB-DataForwardingList    INTEGER ::= 28
id-RAB-DataForwardingList-SRNS-CtxReq INTEGER ::= 29
id-RAB-DataVolumeReportItem  INTEGER ::= 30
id-RAB-DataVolumeReportList  INTEGER ::= 31
id-RAB-DataVolumeReportRequestItem INTEGER ::= 32
id-RAB-DataVolumeReportRequestList INTEGER ::= 33
id-RAB-FailedItem            INTEGER ::= 34
id-RAB-FailedList            INTEGER ::= 35
id-RAB-ID                     INTEGER ::= 36
id-RAB-QueuedItem             INTEGER ::= 37
id-RAB-QueuedList            INTEGER ::= 38
id-RAB-ReleaseFailedList     INTEGER ::= 39
id-RAB-ReleaseItem           INTEGER ::= 40
id-RAB-ReleaseList           INTEGER ::= 41
id-RAB-ReleasedItem          INTEGER ::= 42
id-RAB-ReleasedList          INTEGER ::= 43
id-RAB-ReleasedList-IuRelComp INTEGER ::= 44
id-RAB-RelocationReleaseItem  INTEGER ::= 45
id-RAB-RelocationReleaseList  INTEGER ::= 46
id-RAB-SetupItem-RelocReq     INTEGER ::= 47
id-RAB-SetupItem-RelocReqAck  INTEGER ::= 48
id-RAB-SetupList-RelocReq     INTEGER ::= 49
id-RAB-SetupList-RelocReqAck  INTEGER ::= 50
id-RAB-SetupOrModifiedItem    INTEGER ::= 51
id-RAB-SetupOrModifiedList    INTEGER ::= 52
id-RAB-SetupOrModifyItem     INTEGER ::= 53
id-RAB-SetupOrModifyList     INTEGER ::= 54
id-RAC                        INTEGER ::= 55
id-RelocationType            INTEGER ::= 56
id-RequestType               INTEGER ::= 57
id-SAI                        INTEGER ::= 58
id-SAPI                       INTEGER ::= 59
id-SourceID                  INTEGER ::= 60
id-SourceRNC-ToTargetRNC-TransparentContainer INTEGER ::= 61
id-TargetID                   INTEGER ::= 62
id-TargetRNC-ToSourceRNC-TransparentContainer INTEGER ::= 63
id-TemporaryUE-ID            INTEGER ::= 64
id-TraceReference             INTEGER ::= 65
id-TraceType                  INTEGER ::= 66
id-TransportLayerAddress      INTEGER ::= 67

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id-TriggerID	INTEGER ::= 68
id-UE-ID	INTEGER ::= 69
id-UL-GTP-PDU-SequenceNumber	INTEGER ::= 70
id-RAB-FailedtoReportItem	INTEGER ::= 71
id-RAB-FailedtoReportList	INTEGER ::= 72
id-KeyStatus	INTEGER ::= 75
id-DRX-CycleLengthCoefficient	INTEGER ::= 76
id-IuSigConIdList	INTEGER ::= 77
id-IuSigConIdItem	INTEGER ::= 78
id-IuSigConId	INTEGER ::= 79
id-DirectTransferInformationItem-RANAP-RelocInf	INTEGER ::= 80
id-DirectTransferInformationList-RANAP-RelocInf	INTEGER ::= 81
id-RAB-ContextItem-RANAP-RelocInf	INTEGER ::= 82
id-RAB-ContextList-RANAP-RelocInf	INTEGER ::= 83
id-RAB-ContextFailedtoTransferItem	INTEGER ::= 84
id-RAB-ContextFailedtoTransferList	INTEGER ::= 85
id-GlobalRNC-ID	INTEGER ::= 86
id-RAB-ReleasedItem-IuRelComp	INTEGER ::= 87
id-MessageStructure	INTEGER ::= 88
id-Alt-RAB-Parameters	INTEGER ::= 89
id-Ass-RAB-Parameters	INTEGER ::= 90
id-RAB-ModifyList	INTEGER ::= 91
id-RAB-ModifyItem	INTEGER ::= 92
id-TypeOfError	INTEGER ::= 93
id-BroadcastAssistanceDataDecipheringKeys	INTEGER ::= 94
id-LocationRelatedDataRequestType	INTEGER ::= 95
id-GlobalCN-ID	INTEGER ::= 96
id-LastKnownServiceArea	INTEGER ::= 97
id-SRB-TrCH-Mapping	INTEGER ::= 98
id-InterSystemInformation-TransparentContainer	INTEGER ::= 99
id-NewBSS-To-OldBSS-Information	INTEGER ::= 100
id-SourceRNC-PDCP-context-info	INTEGER ::= 103
id-InformationTransferID	INTEGER ::= 104
id-SNA-Access-Information	INTEGER ::= 105
id-ProvidedData	INTEGER ::= 106
id-GERAN-BSC-Container	INTEGER ::= 107
id-GERAN-Classmark	INTEGER ::= 108
id-GERAN-Iumode-RAB-Failed-RABAssgntResponse-Item	INTEGER ::= 109
id-GERAN-Iumode-RAB-FailedList-RABAssgntResponse	INTEGER ::= 110
id-VerticalAccuracyCode	INTEGER ::= 111
id-ResponseTime	INTEGER ::= 112
id-PositioningPriority	INTEGER ::= 113
id-ClientType	INTEGER ::= 114
id-LocationRelatedDataRequestTypeSpecificToGERANIuMode	INTEGER ::= 115
id-SignallingIndication	INTEGER ::= 116
id-hS-DSCH-MAC-d-Flow-ID	INTEGER ::= 117
id-UESBI-Iu	INTEGER ::= 118
id-PositionData	INTEGER ::= 119
id-PositionDataSpecificToGERANIuMode	INTEGER ::= 120
id-CellLoadInformationGroup	INTEGER ::= 121
<u>id-InterSystemInformationTransferType</u>	<u>INTEGER ::= 126</u>

END

CHANGE REQUEST

⌘ **25.420 CR 40** ⌘ 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:	⌘ Inclusion of Information Transfer as an lur function		
Source:	⌘ RAN3		
Work item code:	⌘ RANimp-NACC	Date:	⌘ 04/05/2004
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> 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 <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) Rel-4 (Release 4) Rel-5 (Release 5) Rel-6 (Release 6)

Reason for change:	⌘ Bringing up-to-date the list of functions of the lur.
Summary of change:	⌘ Although the introduction of the NACC feature has no real impact upon this specification, an addition is made to the list of functions of the lur. <u>Impact assessment towards the previous version of the specification (same release):</u> This CR has isolated impact towards the previous version of the specification (same release). This CR has no impact under a functional point of view. The impact can be considered isolated as it is only bring up to date the list of functions already present in previous releases.
Consequences if not approved:	⌘ Information Transfer will not be listed as a function of the lur.

Clauses affected:	⌘ 5.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;"></td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> </table> Other core specifications Test specifications O&M Specifications	Y	N	X			X		X	⌘	TS 25.401 CR84, TS 25.413 CR668, TS 25.410 CR52, TS 25.423 CR967
Y	N										
X											
	X										
	X										
Other comments:	⌘										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://ftp.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

- [1] 3GPP TS 25.427: "UTRAN Iub/Iur Interface User Plane Protocol for DCH Data Streams".
- [2] 3GPP TS 25.425: "UTRAN Iur Interface: User Plane Protocols for Common Transport Channel Data Streams".
- [3] 3GPP TS 25.421: "UTRAN Iur Interface: Layer 1".
- [4] 3GPP TS 25.422: "UTRAN Iur Interface: Signalling Transport".
- [5] 3GPP TS 25.423: "UTRAN Iur Interface: RNSAP Signalling".
- [6] 3GPP TS 25.424: "UTRAN Iur Interface: Data Transport & Transport Signalling".
- [7] 3GPP TS 25.401: "UTRAN Overall Description".
- [8] 3GPP TS 25.426: "UTRAN Iur & Iub Interface: Data Transport & Transport Signalling for DCH Data Streams".
- [9] ITU-T Recommendation Q.711 (7/96): "Functional description of the signalling connection control part".
- [10] ITU-T Recommendation Q.712 (7/96): "Definition and function of signalling connection control part messages".
- [11] ITU-T Recommendation Q.713 (7/96): "Signalling connection control part formats and codes".
- [12] ITU-T Recommendation Q.714 (7/96): "Signalling connection control part procedures".
- [13] 3GPP TS 23.003: "Numbering, Addressing and Identification".
- [14] ITU-T Recommendation Q.2630.1 (12/99): "AAL type 2 Signalling Protocol (Capability Set 1)".
- [15] 3GPP TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Signalling for DCH Data Streams".
- [16] 3GPP TS 25.414: "UTRAN Iu Interface Data Transport and Transport Signalling".
- [17] 3GPP TR 43.930: "Iur-g interface; Stage 2".

3 Definitions and abbreviations

3.1 Definitions

None

3.2 Abbreviations

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

AAL2	ATM Adaptation Layer type 2
AAL5	ATM Adaptation Layer type 5
ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
BSS	Base Station Subsystem
CPCH	Common Packet Channel
CRNC	Controlling RNC
CTP	Common Transport Protocol
DCH	Dedicated Transport Channel
DL	Downlink
DRNC	Drift Radio Network Controller
DRNS	Drift Radio Network Subsystem
DSCH	Downlink Shared Channel
EDGE	Enhanced Data rates for GSM Evolution
FACH	Forward Access Channel
FFS	For Further Study
GERAN	GSM/EDGE Radio Access Network
GSM	Global System for Mobile communications
GT	Global Title
HS-DSCH	High Speed Downlink Shared Channel
IP	Internet Protocol
MAC	Medium Access Control
MTP3-B	Message Transfer Part level 3 (for Q.2140)
PLMN	Public Land Mobile Network
QoS	Quality of Service
RACH	Random Access Channel
RF	Radio Frequency
RNC	Radio Network Controller
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RRC	Radio Resource Control
SCCP	Signalling Connection Control Part
SPC	Signalling Point Code
SRNC	Serving Radio Network Controller
SRNS	Serving Radio Network Subsystem
SS7	Signalling System N ^o 7
SSCF-NNI	Service Specific Co-ordination Function – Network Node Interface
SSCOP	Service Specific Connection Oriented Protocol
SSN	Sub-System Number
STC	Signalling Transport Converter
UDP	User Datagram Protocol
UE	User Equipment
UL	Up-link
UMTS	Universal Mobile Telecommunication System
URA	UTRAN Registration Area
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

5 Functions of the I_{ur} Interface Protocols

5.1 Functional List

The list of functions on the I_{ur} interface is the following:

1. Transport Network Management.
2. Traffic management of Common Transport Channels:
 - Preparation of Common Transport Channel resources;
 - Paging.
3. Traffic Management of Dedicated Transport Channels:
 - Radio Link Setup/ Addition/ Deletion;
 - Measurement Reporting.
4. Traffic Management of Downlink Shared Transport Channels and [TDD - Uplink Shared Transport Channels]:
 - Radio Link Setup/ Addition/ Deletion;
 - Capacity Allocation.

[5. ~~5~~-Measurement reporting for common and dedicated measurement objects.](#)

[6. Information exchange of UTRAN and GERAN information.](#)

END of CHANGES

CHANGE REQUEST

⌘ **25.423 CR 967** ⌘ rev **3** ⌘ Current version: **6.1.0** ⌘

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

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	⌘ Introduction of support of NetworkAssistedCellChange from UTRAN to GERAN		
Source:	⌘ RAN3		
Work item code:	⌘ RANimp-NACC	Date:	⌘ 10/05/2004
Category:	⌘ B	Release:	⌘ Rel-6
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	⌘ Following the agreed concept for NACC that the CRNC requests NACC related data from the remote BSC, there is a need to transfer the related (P)SI information via lur in case the CRNC is not the SRNC.		
Summary of change:	⌘ The Information Exchange Procedure has been modified in a way that the SRNC can request NACC related data for one or several GSM cells.		
Consequences if not approved:	⌘		

Clauses affected:	⌘ 2, 3, 8.5.6, 9.1.49, 9.2.1.31E, 9.2.1.48A, 9.2.1.X (new), 9.2.1.X1(new), 9.2.1.X2(new), 9.3						
Other specs	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="font-size: 24px;">X</td> <td></td> </tr> </table>	Y	N	X		Other core specifications	⌘ 25.401CR084 Rel-6 25.410CR052 Rel-6 25.413CR668 Rel-6 25.420CR040 Rel-6
Y	N						
X							
affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> <tr> <td style="font-size: 24px;">X</td> <td></td> </tr> </table>		X	X		Test specifications O&M Specifications	
	X						
X							
Other comments:	⌘						

How to create CRs using this form:

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

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- For a specific reference, subsequent revisions do not apply.
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- [1] 3GPP TS 23.003: "Numbering, addressing and identification".
- [2] 3GPP TS 25.413: "UTRAN Iu Interface RANAP Signalling".
- [3] 3GPP TS 25.426: "UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams".
- [4] 3GPP TS 25.427: "UTRAN Iur and Iub Interface User Plane Protocols for DCH Data Streams".
- [5] 3GPP TS 25.435: "UTRAN Iub interface User Plane Protocols for Common Transport Channel Data Streams".
- [6] 3GPP TS 25.104: "UTRA (BS) FDD; Radio transmission and Reception".
- [7] 3GPP TS 25.105: "UTRA (BS) TDD; Radio Transmission and Reception".
- [8] 3GPP TS 25.211: "Physical Channels and Mapping of Transport Channels onto Physical Channels (FDD)".
- [9] 3GPP TS 25.212: "Multiplexing and Channel Coding (FDD)".
- [10] 3GPP TS 25.214: "Physical Layer Procedures (FDD)".
- [11] 3GPP TS 25.215: "Physical Layer – Measurements (FDD)".
- [12] 3GPP TS 25.221: "Physical Channels and Mapping of Transport Channels onto Physical Channels (TDD)".
- [13] 3GPP TS 25.223: "Spreading and Modulation (TDD)".
- [14] 3GPP TS 25.225: "Physical Layer – Measurements (TDD)".
- [15] 3GPP TS 25.304: "UE Procedures in Idle Mode"
- [16] 3GPP TS 25.331: "RRC Protocol Specification".
- [17] 3GPP TS 25.402: "Synchronisation in UTRAN, Stage 2".
- [18] ITU-T Recommendation X.680 (12/97): "Information technology - Abstract Syntax Notation One (ASN.1): Specification of basic notation".
- [19] ITU-T Recommendation X.681 (12/97): "Information technology - Abstract Syntax Notation One (ASN.1): Information object specification".
- [20] ITU-T Recommendation X.691 (12/97): "Information technology - ASN.1 encoding rules - Specification of Packed Encoding Rules (PER)".
- [21] 3GPP TS 25.213: "Spreading and modulation (FDD)".
- [22] 3GPP TS 25.224: "Physical Layer Procedures (TDD)".

- [23] 3GPP TS 25.133: "Requirements for support of Radio Resource management (FDD)".
 - [24] 3GPP TS 25.123: "Requirements for support of Radio Resource management (TDD)".
 - [25] 3GPP TS 23.032: "Universal Graphical Area Description (GAD)".
 - [26] 3GPP TS 25.302: "Services Provided by the Physical Layer".
 - [27] 3GPP TS 25.213: "Spreading and modulation (FDD)".
 - [28] 3GPP TR 25.921: "Guidelines and Principles for Protocol Description and Error Handling".
 - [29] GSM TS 05.05: "Digital cellular telecommunications system (Phase 2+); Radio transmission and reception".
 - [30] ICD-GPS-200: "Navstar GPS Space Segment/Navigation User Interface".
 - [31] RTCM-SC104: "RTCM Recommended Standards for Differential GNSS Service (v.2.2)".
 - [32] 3GPP TS 25.425: "UTRAN Iur and Iub Interface User Plane Protocols for Common Transport Channel data streams".
 - [33] IETF RFC 2460 "Internet Protocol, Version 6 (IPv6) Specification".
 - [34] IETF RFC 768 "User Datagram Protocol", (8/1980)
 - [35] 3GPP TS 25.424: " UTRAN Iur Interface Data Transport & Transport Signalling for Common Transport Channel Data Streams".
 - [36] 3GPP TS 44.118: "Mobile radio interface layer 3 specification; Radio Resource Control (RRC) Protocol Iu mode".
 - [37] 3GPP TR 43.930: "Iur-g interface; Stage 2".
 - [38] 3GPP TS 48.008: "Mobile-services Switching Centre - Base Station System (MSC - BSS) interface; Layer 3 specification".
 - [39] 3GPP TS 43.051: "GSM/EGDE Radio Access Network; Overall description - Stage 2".
 - [40] 3GPP TS 25.401: "UTRAN Overall Description".
 - [41] 3GPP TS 25.321: "MAC protocol specification".
 - [42] 3GPP TS 25.306: "UE Radio Access capabilities".
 - [43] 3GPP TS 25.101: " User Equipment (UE) radio transmission and reception (FDD)".
 - [44] IETF RFC 2474 "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".
 - [45] IETF RFC 2475 "An Architecture for Differentiated Services".
 - [46] 3GPP TS 25.222: "Multiplexing and Channel Coding (TDD)".
- [x2] [3GPP TS 44.060: "General Packet Radio Service \(GPRS\); Mobile Station \(MS\) - Base Station System \(BSS\) interface; Radio Link Control/Medium Access Control \(RLC/MAC\) protocol".](#)

3 Definitions, Symbols and Abbreviations

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply:

Elementary Procedure: RNSAP protocol consists of Elementary Procedures (EPs). An Elementary Procedure is a unit of interaction between two RNCs. An EP consists of an initiating message and possibly a response message. Two kinds of EPs are used:

- **Class 1:** Elementary Procedures with response (success or failure);
- **Class 2:** Elementary Procedures without response.

For Class 1 EPs, the types of responses can be as follows:

Successful

- A signalling message explicitly indicates that the elementary procedure has been successfully completed with the receipt of the response.

Unsuccessful

- A signalling message explicitly indicates that the EP failed.

Class 2 EPs are considered always successful.

Prepared Reconfiguration: A Prepared Reconfiguration exists when the Synchronised Radio Link Reconfiguration Preparation procedure has been completed successfully. The Prepared Reconfiguration does not exist any more after either of the procedures Synchronised Radio Link Reconfiguration Commit or Synchronised Radio Link Reconfiguration Cancellation has been completed.

UE Context: The UE Context contains the necessary information for the DRNC/DBSS to communicate with a specific UE. The UE Context is created by the Radio Link Setup procedure or by the Uplink Signalling Transfer procedure when the UE makes its first access in a cell controlled by the DRNS/DBSS. The UE Context is deleted by the Radio Link Deletion procedure, by the Common Transport Channel Resources Release procedure, or by the Downlink Signalling Transfer procedure when neither any Radio Links nor any common transport channels are established towards the concerned UE. The UE Context is identified by the SCCP Connection for messages using connection oriented mode of the signalling bearer and the D-RNTI for messages using connectionless mode of the signalling bearer, unless specified otherwise in the procedure text.

Distant RNC Context: The Distant RNC context is created by the first Common Measurement Initiation Procedure or Information Exchange Initiation Procedure initiated by one RNC/BSS and requested from another RNC/BSS. The Distant RNC Context is deleted after the Common Measurement Termination, the Common Measurement Failure, the Information Exchange Termination or the Information Exchange Failure procedure when there is no more Common Measurement and no more Information to be provided by the requested RNC/BSS to the requesting RNC/BSS. The Distant RNC Context is identified by an SCCP connection as, for common measurements and information exchange, only the connection oriented mode of the signalling bearer is used.

Signalling radio bearer 2: The signalling radio bearer 2 is used by the UE to access a GERAN cell in order to perform RRC procedures [36].

3.2 Symbols

Void.

3.3 Abbreviations

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

A-GPS	Assisted-GPS
ALCAP	Access Link Control Application Part
ASN.1	Abstract Syntax Notation One
BER	Bit Error Rate
BLER	Block Error Rate
BSS	Base Station Subsystem
CBSS	Controlling BSS
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel

CCTrCH	Coded Composite Transport Channel
CFN	Connection Frame Number
C-ID	Cell Identifier
CM	Compressed Mode
CN	Core Network
CPCH	Common Packet Channel
CPICH	Common Pilot Channel
CRNC	Controlling RNC
DBSS	Drift BSS
C-RNTI	Cell Radio Network Temporary Identifier
CS	Circuit Switched
CTFC	Calculated Transport Format Combination DCH Dedicated Channel
DGPS	Differential GPS
DL	Downlink
DPC	Downlink Power Control
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DPDCH	Dedicated Physical Data Channel
DRAC	Dynamic Radio Access Control
DRNC	Drift RNC
DRNS	Drift RNS
D-RNTI	Drift Radio Network Temporary Identifier
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
Ec	Energy in single Code
EDSCHPC	Enhanced Downlink Shared Channel Power Control
EP	Elementary Procedure
FACH	Forward Access Channel
FDD	Frequency Division Duplex
FN	Frame Number
FP	Frame Protocol
GERAN	GSM EDGE Radio Access Network
GA	Geographical Area
GAI	Geographical Area Identifier
GPS	Global Positioning System
GRA	GERAN Registration Area
GSM	Global System Mobile
HSDPA	High Speed Downlink Packet Access
HW	Hardware
IB	Information Block
ID	Identity or Identifier
IE	Information Element
IMSI	International Mobile Subscriber Identity
IP	Internet Protocol
IPDL	Idle Period DownLink
ISCP	Interference Signal Code Power
LAC	Location Area Code
LCR	Low Chip Rate (1.28 Mcps)
LCS	Location Services
MAC	Medium Access Control
MS	Mobile Station
NACC	Network Assisted Cell Change
NAS	Non Access Stratum
No	Reference Noise
NRT	Non Real Time
O&M	Operation and Maintenance
P(-)CCPCH	Primary CCPCH
PCH	Paging Channel
OTD	Observed Time Difference
P(-)CPICH	Primary CPICH
PCPCH	Physical Common Packet Channel
PCS	Personal Communication Services

PDSCH	Physical Downlink Shared Channel
PDU	Protocol Data Unit
PhCH	Physical Channel
PICH	Paging Indication Channel
Pos	Position or Positioning
PRACH	Physical Random Access Channel
PS	Packet Switched
QE	Quality Estimate
RAC	Routing Area Code
RACH	Random Access Channel
RAN	Radio Access Network
RANAP	Radio Access Network Application Part
RB	Radio Bearer
RL	Radio Link
RLC	Radio Link Control
RLS	Radio Link Set
RM	Rate Matching
RNC	Radio Network Controller
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RT	Real Time
RSCP	Received Signal Code Power
SBSS	Serving BSS
Rx	Receive or Reception
Sat	Satellite
SCCP	Signalling Connection Control Part
S(-)CCPCH	Secondary CCPCH
SCH	Synchronisation Channel
SCTD	Space Code Transmit Diversity
SDU	Service Data Unit
SF	System Frame
SFN	System Frame Number
SHCCH	Shared Control Channel
SIR	Signal-to-Interference Ratio
SNA	Shared Network Area
SRB2	Signalling radio bearer 2
SRNC	Serving RNC
SRNS	Serving RNS
S-RNTI	Serving Radio Network Temporary Identifier
SSDT	Site Selection Diversity Transmission
STTD	Space Time Transmit Diversity
TDD	Time Division Duplex
TF	Transport Format
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TGCFN	Transmission Gap Connection Frame Number
ToAWE	Time of Arrival Window Endpoint
ToAWS	Time of Arrival Window Startpoint
TPC	Transmit Power Control
TrCH	Transport Channel
TS	Time Slot
TSG	Technical Specification Group
TSTD	Time Switched Transmit Diversity
TTI	Transmission Time Interval
TX	Transmit or Transmission
UARFCN	UTRA Absolute Radio Frequency Channel Number
UDP	User Datagram Protocol
UC-ID	UTRAN Cell Identifier
UE	User Equipment

UL	Uplink
UMTS	Universal Mobile Telecommunications System
URA	UTRAN Registration Area
U-RNTI	UTRAN Radio Network Temporary Identifier
USCH	Uplink Shared Channel
UTRA	Universal Terrestrial Radio Access
UTRAN	Universal Terrestrial Radio Access Network

8.5.6 Information Exchange Initiation

8.5.6.1 General

This procedure is used by an RNC to request the initiation of an information exchange with another RNC.

This procedure uses the signalling bearer connection for the relevant Distant RNC Context.

8.5.6.2 Successful Operation

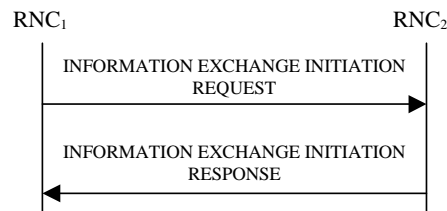


Figure 30F: Information Exchange Initiation procedure, Successful Operation

The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from RNC₁ to RNC₂.

Upon receipt, the RNC₂ shall provide the requested information according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

Information Report Characteristics:

The *Information Report Characteristics* IE indicates how the reporting of the information shall be performed.

If the *Information Report Characteristics* IE is set to "On Demand", the RNC₂ shall report the requested information immediately.

If the *Information Report Characteristics* IE is set to "Periodic", the RNC₂ shall report the requested information immediately and then shall periodically initiate the Information Reporting procedure for all the requested information, with the report frequency indicated by the *Information Report Periodicity* IE.

If the *Information Report Characteristics* IE is set to "On Modification", the RNC₂ shall report the requested information immediately if available. If the requested information is not available at the moment of receiving the INFORMATION EXCHANGE INITIATION REQUEST message, but expected to become available after some acquisition time, the RNC₂ shall initiate the Information Reporting procedure when the requested information becomes available. The RNC₂ shall then initiate the Information Reporting procedure in accordance to the following conditions:

- If the *Information Type Item* IE is set to "IPDL Parameters", the RNC₂ shall initiate the Information Reporting procedure when any change in the parameters occurs.
- If the *Information Type Item* IE is set to "DGPS Corrections", the RNC₂ shall initiate the Information Reporting procedure for this specific Information Type when either the PRC has drifted from the previously reported value more than the threshold indicated in the *PRC Deviation* IE in the *Information Threshold* IE or a change has occurred in the IODE.
- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Navigation Model & Recovery Assistance", the RNC₂ shall initiate the Information Reporting procedure for this specific GPS Information Item when a change has occurred regarding either the IODC or the list of visible satellites, identified by the *Sat ID* IEs.
- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Ionospheric Model", the RNC₂ shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.

- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS UTC Model", the RNC₂ shall initiate the Information Reporting procedure for this specific GPS Information Item when a change has occurred in the t_{ot} or WN_t parameter.
- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Almanac", the RNC₂ shall initiate the Information Reporting procedure for this specific GPS Information Item when a change in the t_{oa} or WN_a parameter has occurred.
- If the *Information Type Item* IE is set to "GPS Information" and the *GPS Information Item* IE includes "GPS Real-Time Integrity", the RNC₂ shall initiate the Information Reporting procedure for this specific GPS Information Item when any change has occurred.
- If the *Information Type* IE is set to "Cell Capacity Class", the RNC₂ shall initiate the Information Reporting procedure for uplink and downlink cell capacity class when any change has occurred. If either uplink or downlink cell capacity class satisfies the requested report characteristics, the RNC₂ shall report the result of both uplink and downlink cell capacity information.
- [If the *Information Type* IE is set to "NACC related data", the RNC₂ shall initiate the Information Reporting procedure for NACC related data if any change has occurred.](#)
- If any of the above *Information Type* IEs becomes temporarily unavailable, the RNC₂ shall initiate the Information Reporting procedure for this specific Information Item by indicating "Information Not Available" in the *Requested Data Value Information* IE. If the Information becomes available again, the RNC₂ shall initiate the Information Reporting procedure for this specific Information.

Response message:

If the RNC₂ is able to determine the information requested by the RNC₁, it shall respond with the INFORMATION EXCHANGE INITIATION RESPONSE message. The message shall include the *Information Exchange ID* IE set to the same value that was included in the INFORMATION EXCHANGE INITIATION REQUEST message. When the *Report Characteristics* IE is set to or "On Modification" or "Periodic", the INFORMATION EXCHANGE INITIATION RESPONSE message shall contain the *Requested Data Value* IE if the data are available. When the *Report Characteristics* IE is set to "On Demand", the INFORMATION EXCHANGE INITIATION RESPONSE message shall contain the *Requested Data Value* IE.

8.5.6.2.1 Successful Operation for Iur-g

The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from BSS₁ to BSS₂/RNC₂ or by RNC₁ to BSS₂.

Upon receipt, the BSS₂/RNC₂ shall provide the requested information according to the parameters given in the request. Unless specified below, the meaning of the parameters are given in other specifications.

Information Report Characteristics on Iur-g:

If the *Information Type Item* IE is set to "Cell Capacity Class", the RNC₂/BSS₂ shall initiate measurements and report results as described in section 8.5.6.2.

The *Information Report Characteristics* IE indicates how the reporting of the information shall be performed. This IE is used as described in section 8.5.6.2.

8.5.6.3 Unsuccessful Operation

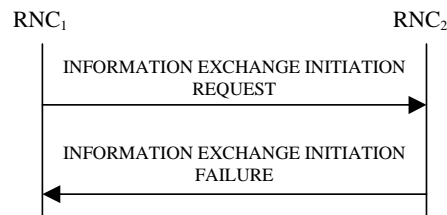


Figure 30G: Information Exchange Initiation procedure, Unsuccessful Operation

If the requested Information Type received in the *Information Type* IE indicates a type of information that RNC₂ cannot provide, the RNC₂ shall reject the Information Exchange Initiation procedure .

If the requested information provision cannot be accessed, the RNC₂ shall reject the procedure and shall send the INFORMATION EXCHANGE INITIATION FAILURE message.

The message shall include the *Information Exchange ID* IE set to the same value that was used in the INFORMATION EXCHANGE INITIATION REQUEST message and the *Cause* IE set to an appropriate value.

Typical cause values are as follows:

Radio Network Layer Cause:

- Information temporarily not available.
- Information Provision not supported for the object.

8.5.6.4 Abnormal Conditions

If the *Information Report Characteristics* IE is set to "On Modification", and the *Information Type Item* IE is set to "DGPS Corrections", but the *Information Threshold* IE is not received in the INFORMATION EXCHANGE INITIATION REQUEST message, the RNC₂ shall reject the Information Exchange Initiation procedure and shall send the INFORMATION EXCHANGE INITIATION FAILURE message.

If the *Information Exchange Object Type* IE is set to "Cell" and the *Information Type Item* IE set to "NACC related data" the RNC₂ shall reject the Information Exchange Initiation procedure and shall send the INFORMATION EXCHANGE INITIATION FAILURE message.

The allowed combinations of the Information type and Information Report Characteristics type are shown in the table below marked with "X". For not allowed combinations, the RNC₂ shall reject the Information Exchange Initiation procedure using the INFORMATION EXCHANGE INITIATION FAILURE message.

Table 6a: Allowed Information Type and Information Report Characteristics type combinations

Type	Information Report Characteristics Type		
	On Demand	Periodic	On Modification
UTRAN Access Point Position with Altitude Information	X		
UTRAN Access Point Position	X		
IPDL Parameters	X	X	X
GPS Information	X	X	X
DGPS Corrections	X	X	X
GPS RX Pos	X		
SFN-SFN Measurement Reference Point Position	X		
Cell Capacity Class	X		X
NACC related data	X		X

8.5.6.4.1 Abnormal Conditions for lur-g

The information types that can be requested on the lur and lur-g interfaces are shown in the table below marked with "X". For information types that are not applicable on the lur-g interface, the BSS shall reject the Information Exchange Initiation procedure.

Table 7: Allowed Information types on lur and lur-g interfaces

Information Type	Interface	
	lur	lur-g
UTRAN Access Point Position with Altitude Information	X	
UTRAN Access Point Position	X	
IPDL Parameters	X	
DGPS Corrections	X	
GPS Information	X	
GPS RX Pos	X	
SFN-SFN Measurement Reference Point Position	X	
Cell Capacity Class	X	X
NACC related data	X	

9.1.49 INFORMATION EXCHANGE INITIATION REQUEST

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
Message Type	M		9.2.1.40		YES	reject
Transaction ID	M		9.2.1.59		–	
Information Exchange ID	M		9.2.1.31A		YES	reject
CHOICE <i>Information Exchange Object Type</i>	M				YES	reject
>Cell					–	
>>C-ID	M		9.2.1.6	May be a GERAN cell identifier	–	
<u>>Additional Information Exchange Object Types</u>						
<u>>>GSM Cell</u>						
<u>>>>CGI</u>	<u>M</u>		<u>9.2.1.X1</u>		<u>–</u>	
Information Type	M		9.2.1.31E		YES	reject
Information Report Characteristics	M		9.2.1.31C		YES	reject

9.2.1.31E Information Type

The Information Type indicates which kind of information the RNS shall provide.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Information Type Item	M		ENUMERATED (UTRAN Access Point Position with Altitude, UTRAN Access Point Position, IPDL Parameters, GPS Information, DGPS Corrections, GPS RX Pos, SFN-SFN Measurement Reference Point Position, ..., Cell Capacity Class, NACC Related Data)	For information exchange on the Iur-g interface, only the Cell Capacity Class is used.
GPS Information	C-GPS	1..<maxnoofGPSTypes>		
>GPS Information Item			ENUMERATED (GPS Navigation Model and Time Recovery, GPS Ionospheric Model, GPS UTC Model, GPS Almanac, GPS Real-Time Integrity, ...)	

Condition	Explanation
GPS	This IE shall be present if the <i>Information Type Item</i> IE indicates "GPS Information".

Range Bound	Explanation
<i>maxnoofGPSTypes</i>	Maximum number of GPS Information Types supported in one Information Exchange.

9.2.1.48A Requested Data Value

The Requested Data Value contains the relevant data concerned the ongoing information exchange. *Requested Data Value* IE shall include at least one of the following IE.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
UTRAN Access Point Position with Altitude	O		9.2.1.75		-	
IPDL Parameters	O		9.2.1.31F		-	
DGPS Corrections	O		9.2.1.19B		-	
GPS Navigation Model and Time Recovery	O		9.2.1.30I		-	
GPS Ionospheric Model	O		9.2.1.30H		-	
GPS UTC Model	O		9.2.1.30L		-	
GPS Almanac	O		9.2.1.30G		-	
GPS Real-Time Integrity	O		9.2.1.30J		-	
GPS RX Pos	O		9.2.1.30K		-	
SFN-SFN Measurement Reference Point Position	O		9.2.1.74		-	
Cell Capacity Class Value	O		9.2.1.5C		YES	ignore
NACC Related Data	O		9.2.1.X		YES	ignore

9.2.1.X NACC Related Data

The *NACC related data* IE provides NACC related information for the indicated GSM cell.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>CHOICE GERAN System Info Type</u>	<u>M</u>			
<u>>SI</u>				
<u>>>SI</u>	<u>M</u>		<u>9.2.1.X2</u>	<u>GERAN system information SI3, SI13, SI1 [x2]</u>
<u>>PSI</u>				
<u>>>PSI</u>	<u>M</u>		<u>9.2.1.X2</u>	<u>GERAN system information PSI1, PSI2, PSI4 [x2]</u>

9.2.1.X1 Cell Global Identifier (CGI)

The *Cell Global Identifier* IE contains the Cell Global Identity as defined in ref. [1].

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>LAI</u>		<u>1</u>		
<u>>PLMN Identity</u>	<u>M</u>		<u>OCTET STRING (3)</u>	<ul style="list-style-type: none"> - digits 0 to 9, two digits per octet, - each digit encoded 0000 to 1001, - 1111 used as filler - bit 4 to 1 of octet n encoding digit 2n-1 - bit 8 to 5 of octet n encoding digit 2n -The PLMN Identity consists of 3 digits from MCC followed by either -a filler plus 2 digits from MNC (in case of 2 digit MNC) or -3 digits from MNC (in case of a 3 digit MNC).
<u>>LAC</u>	<u>M</u>		<u>OCTET STRING (2)</u>	<u>0000 and FFFE not allowed</u>
<u>CI</u>	<u>M</u>		<u>OCTET STRING (2)</u>	

9.2.1.X2 GERAN System Information

The *GERAN System Information* IE provides GERAN specific information.

<u>IE/Group Name</u>	<u>Presence</u>	<u>Range</u>	<u>IE Type and Reference</u>	<u>Semantics Description</u>
<u>GERAN System Info</u>		<u>1..<maxNrOfGERANSI></u>		
<u>>GERAN System Info Block</u>	<u>M</u>		<u>OCTET STRING (1..23)</u>	<u>The first octet contains octet 1 of the GERAN system information block, the second octet contains octet 2 of the GERAN system information block and so on.</u>

<u>Range bound</u>	<u>Explanation</u>
<u>maxNrOfGERANSI</u>	<u>Maximum number of GERAN SI blocks that can be provided as part of NACC information</u>

9.3.3 PDU Definitions

```

-- *****
--
-- PDU definitions for RNSAP.
--
-- *****

RNSAP-PDU-Contents {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-PDU-Contents (1) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- *****
--
-- IE parameter types from other modules.
--
-- *****

IMPORTS
  Active-Pattern-Sequence-Information,
  AllocationRetentionPriority,
  AllowedQueuingTime,
  Allowed-Rate-Information,
  AlphaValue,
  AntennaColocationIndicator,
  BLER,
  SCTD-Indicator,
  BindingID,
  C-ID,
  C-RNTI,
  CCTrCH-ID,
  CFN,
  ClosedLoopModel-SupportIndicator,
  ClosedLoopMode2-SupportIndicator,
  ClosedloopTimingadjustmentmode,
  CN-CS-DomainIdentifier,
  CN-PS-DomainIdentifier,
  CNDomainType,
  Cause,
  CellCapabilityContainer-FDD,
  CellCapabilityContainer-TDD,
  CellCapabilityContainer-TDD-LCR,
  CellParameterID,
  ChipOffset,
  CommonMeasurementAccuracy,
  CommonMeasurementType,
  CommonMeasurementValue,

```


CommonMeasurementValueInformation,
CommonTransportChannelResourcesInitialisationNotRequired,
CongestionCause,
CoverageIndicator,
CriticalityDiagnostics,
D-RNTI,
D-RNTI-ReleaseIndication,
DCH-FDD-Information,
DCH-ID,
DCH-InformationResponse,
DCH-TDD-Information,
DL-DPCH-SlotFormat,
DL-TimeslotISCP,
DL-Power,
DL-PowerBalancing-Information,
DL-PowerBalancing-ActivationIndicator,
DL-PowerBalancing-UpdatedIndicator,
DL-ReferencePowerInformation,
DL-ScramblingCode,
DL-Timeslot-Information,
DL-TimeslotLCR-Information,
DL-TimeSlot-ISCP-Info,
DL-TimeSlot-ISCP-LCR-Information,
DPC-Mode,
DPC-Mode-Change-SupportIndicator,
DPCH-ID,
DL-DPCH-TimingAdjustment,
DRACControl,
DRXCycleLengthCoefficient,
DedicatedMeasurementType,
DedicatedMeasurementValue,
DedicatedMeasurementValueInformation,
DelayedActivation,
DelayedActivationUpdate,
DiversityControlField,
DiversityMode,
DSCH-FDD-Information,
DSCH-FDD-InformationResponse,
DSCH-FlowControlInformation,
DSCH-FlowControlItem,
DSCH-TDD-Information,
DSCH-ID,
DSCH-RNTI,
SchedulingPriorityIndicator,
EnhancedDSCHPC,
EnhancedDSCHPCCounter,
EnhancedDSCHPCIndicator,
EnhancedDSCHPCWnd,
EnhancedDSCHPowerOffset,
Enhanced-PrimaryCPICH-EcNo,
FACH-FlowControlInformation,
FDD-DCHs-to-Modify,
FDD-DL-ChannelisationCodeNumber,

FDD-DL-CodeInformation,
FDD-S-CCPCH-Offset,
FDD-TPC-DownlinkStepSize,
FirstRLS-Indicator,
FNReportingIndicator,
FrameHandlingPriority,
FrameOffset,
GA-AccessPointPosition,
GA-Cell,
GA-CellAdditionalShapes,
HCS-Prio,
HSDSCH-FDD-Information,
HSDSCH-FDD-Information-Response,
HSDSCH-FDD-Update-Information,
HSDSCH-TDD-Update-Information,
HSDSCH-Information-to-Modify,
HSDSCH-Information-to-Modify-Unsynchronised,
HSDSCH-MACdFlow-ID,
HSDSCH-MACdFlows-Information,
HSDSCH-MACdFlows-to-Delete,
HSDSCH-RNTI,
HSDSCH-TDD-Information,
HSDSCH-TDD-Information-Response,
HS-SICH-ID,
IMSI,
InformationExchangeID,
InformationReportCharacteristics,
InformationType,
InnerLoopDLPCStatus,
L3-Information,
SplitType,
LengthOfTFCI2,
LimitedPowerIncrease,
MaximumAllowedULTxPower,
MaxNrDLPhysicalchannels,
MaxNrDLPhysicalchannelsTS,
MaxNrOfUL-DPCHs,
MaxNrTimeslots,
MaxNrULPhysicalchannels,
MeasurementFilterCoefficient,
MeasurementID,
MidambleAllocationMode,
MidambleShiftAndBurstType,
MidambleShiftLCR,
MinimumSpreadingFactor,
MinUL-ChannelisationCodeLength,
MultiplexingPosition,
NeighbouringFDDCellMeasurementInformation,
NeighbouringTDDCellMeasurementInformation,
Neighbouring-GSM-CellInformation,
Neighbouring-UMTS-CellInformation,
NeighbouringTDDCellMeasurementInformationLCR,

NrOfDLchannelisationcodes,
PagingCause,
PagingRecordType,
PartialReportingIndicator,
PDSCHCodeMapping,
PayloadCRC-PresenceIndicator,
PCCPCH-Power,
PC-Preamble,
Permanent-NAS-UE-Identity,
Phase-Reference-Update-Indicator,
PowerAdjustmentType,
PowerOffset,
PrimaryCCPCH-RSCP,
PrimaryCPICH-EcNo,
PrimaryCPICH-Power,
Primary-CPICH-Usage-For-Channel-Estimation,
PrimaryScramblingCode,
PropagationDelay,
PunctureLimit,
QE-Selector,
Qth-Parameter,
RANAP-RelocationInformation,
RB-Info,
RL-ID,
RL-Set-ID,
RNC-ID,
RepetitionLength,
RepetitionPeriod,
ReportCharacteristics,
Received-total-wide-band-power,
RequestedDataValue,
RequestedDataValueInformation,
RL-Specific-DCH-Info,
RxTimingDeviationForTA,
S-FieldLength,
S-RNTI,
S-RNTI-Group,
SCH-TimeSlot,
SAI,
SFN,
Secondary-CCPCH-Info,
Secondary-CCPCH-Info-TDD,
Secondary-CPICH-Information-Change,
Secondary-LCR-CCPCH-Info-TDD,
SNA-Information,
SpecialBurstScheduling,
SSDT-CellID,
SSDT-CellID-Length,
SSDT-Indication,
SSDT-SupportIndicator,
STTD-Indicator,
STTD-SupportIndicator,
AdjustmentPeriod,

ScaledAdjustmentRatio,
MaxAdjustmentStep,
SecondaryCCPCH-SlotFormat,
SRB-Delay,
Support-8PSK,
SyncCase,
SynchronisationConfiguration,
TDD-ChannelisationCode,
TDD-DCHs-to-Modify,
TDD-DL-Code-Information,
TDD-DPCHOffset,
TDD-PhysicalChannelOffset,
TDD-TPC-DownlinkStepSize,
TDD-ChannelisationCodeLCR,
TDD-DL-Code-LCR-Information,
TDD-UL-Code-Information,
TDD-UL-Code-LCR-Information,
TFCI-Coding,
TFCI-PC-SupportIndicator,
TFCI-Presence,
TFCI-SignallingMode,
TimeSlot,
TimeSlotLCR,
TimingAdvanceApplied,
TnlQos,
ToAWE,
ToAWS,
TrafficClass,
TransmitDiversityIndicator,
TransportBearerID,
TransportBearerRequestIndicator,
TFCS,
Transmission-Gap-Pattern-Sequence-Information,
TransportFormatManagement,
TransportFormatSet,
TransportLayerAddress,
TrCH-SrcStatisticsDescr,
TSTD-Indicator,
TSTD-Support-Indicator,
UARFCN,
UC-ID,
UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation,
UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH,
UL-DPCCH-SlotFormat,
UL-SIR,
UL-FP-Mode,
UL-PhysCH-SF-Variation,
UL-ScramblingCode,
UL-Timeslot-Information,
UL-TimeslotLCR-Information,
UL-TimeSlot-ISCP-Info,
UL-TimeSlot-ISCP-LCR-Info,
URA-ID,

```

URA-Information,
USCH-ID,
USCH-Information,
UL-Synchronisation-Parameters-LCR,
TDD-DL-DPCH-TimeSlotFormat-LCR,
TDD-UL-DPCH-TimeSlotFormat-LCR,
MACHs-ResetIndicator,
UL-TimingAdvanceCtrl-LCR,
TDD-TPC-UplinkStepSize-LCR
FROM RNSAP-IEs

PrivateIE-Container{ },
ProtocolExtensionContainer{ },
ProtocolIE-ContainerList{ },
ProtocolIE-ContainerPair{ },
ProtocolIE-ContainerPairList{ },
ProtocolIE-Container{ },
ProtocolIE-Single-Container{ },
RNSAP-PRIVATE-IES,
RNSAP-PROTOCOL-EXTENSION,
RNSAP-PROTOCOL-IES,
RNSAP-PROTOCOL-IES-PAIR
FROM RNSAP-Containers

maxNoOfDSCHs,
maxNoOfUSCHs,
maxNrOfCCTrCHs,
maxNrOfDCHs,
maxNrOfTS,
maxNrOfDPCHs,
maxNrOfRLs,
maxNrOfRLSets,
maxNrOfRLSets-1,
maxNrOfRLs-1,
maxNrOfRLs-2,
maxNrOfULTs,
maxNrOfDLTs,
maxResetContext,
maxResetContextGroup,
maxNoOfDSCHsLCR,
maxNoOfUSCHsLCR,
maxNrOfCCTrCHsLCR,
maxNrOfTsLCR,
maxNrOfDLTsLCR,
maxNrOfULTsLCR,
maxNrOfDPCHsLCR,
maxNrOfLCRIDDNeighboursPerRNC,
maxNrOfMeasNCell,
maxNrOfMACdFlows,
maxNrOfHSSICHs,

id-Active-Pattern-Sequence-Information,
id-AdjustmentRatio,

```

id-AllowedQueuingTime,
id-AntennaColocationIndicator,
id-BindingID,
id-C-ID,
id-C-RNTI,
id-CFN,
id-CFNReportingIndicator,
id-CN-CS-DomainIdentifier,
id-CN-PS-DomainIdentifier,
id-Cause,
id-CauseLevel-RL-AdditionFailureFDD,
id-CauseLevel-RL-AdditionFailureTDD,
id-CauseLevel-RL-ReconfFailure,
id-CauseLevel-RL-SetupFailureFDD,
id-CauseLevel-RL-SetupFailureTDD,
id-CCTrCH-InformationItem-RL-FailureInd,
id-CCTrCH-InformationItem-RL-RestoreInd,
id-CellCapabilityContainer-FDD,
id-CellCapabilityContainer-TDD,
id-CellCapabilityContainer-TDD-LCR,
id-ClosedLoopModel-SupportIndicator,
id-ClosedLoopMode2-SupportIndicator,
id-CNOriginatedPage-PagingRqst,
id-CommonMeasurementAccuracy,
id-CommonMeasurementObjectType-CM-Rprt,
id-CommonMeasurementObjectType-CM-Rqst,
id-CommonMeasurementObjectType-CM-Rsp,
id-CommonMeasurementType,
id-CommonTransportChannelResourcesInitialisationNotRequired,
id-CongestionCause,
id-CoverageIndicator,
id-CriticalityDiagnostics,
id-D-RNTI,
id-D-RNTI-ReleaseIndication,
id-DCHs-to-Add-FDD,
id-DCHs-to-Add-TDD,
id-DCH-DeleteList-RL-ReconfPrepFDD,
id-DCH-DeleteList-RL-ReconfPrepTDD,
id-DCH-DeleteList-RL-ReconfRqstFDD,
id-DCH-DeleteList-RL-ReconfRqstTDD,
id-DCH-FDD-Information,
id-DCH-TDD-Information,
id-FDD-DCHs-to-Modify,
id-TDD-DCHs-to-Modify,
id-DCH-InformationResponse,
id-DCH-Rate-InformationItem-RL-CongestInd,
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD,

id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD,
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-FDD-DL-CodeInformation,
id-DL-DPCH-Information-RL-ReconfPrepFDD,
id-DL-DPCH-Information-RL-SetupRqstFDD,
id-DL-DPCH-Information-RL-ReconfRqstFDD,
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD,
id-DL-DPCH-InformationItem-RL-AdditionRspTDD,
id-DL-DPCH-InformationItem-RL-SetupRspTDD,
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
id-DL-DPCH-TimingAdjustment,
id-DL-Physical-Channel-Information-RL-SetupRqstTDD,
id-DL-PowerBalancing-Information,
id-DL-PowerBalancing-ActivationIndicator,
id-DL-PowerBalancing-UpdatedIndicator,
id-DL-ReferencePowerInformation,
id-DLReferencePower,
id-DLReferencePowerList-DL-PC-Rqst,
id-DL-ReferencePowerInformation-DL-PC-Rqst,
id-DRXCycleLengthCoefficient,
id-DedicatedMeasurementObjectType-DM-Fail,
id-DedicatedMeasurementObjectType-DM-Fail-Ind,
id-DedicatedMeasurementObjectType-DM-Rprt,
id-DedicatedMeasurementObjectType-DM-Rqst,
id-DedicatedMeasurementObjectType-DM-Rsp,
id-DedicatedMeasurementType,
id-DelayedActivation,
id-DelayedActivationList-RL-ActivationCmdFDD,
id-DelayedActivationList-RL-ActivationCmdTDD,
id-DelayedActivationInformation-RL-ActivationCmdFDD,
id-DelayedActivationInformation-RL-ActivationCmdTDD,
id-DPC-Mode,
id-DPC-Mode-Change-SupportIndicator,
id-DSCHs-to-Add-FDD,
id-DSCHs-to-Add-TDD,
id-DSCH-DeleteList-RL-ReconfPrepTDD,
id-DSCH-Delete-RL-ReconfPrepFDD,
id-DSCH-FDD-Information,
id-DSCH-InformationListIE-RL-AdditionRspTDD,
id-DSCH-InformationListIEs-RL-SetupRspTDD,
id-DSCH-TDD-Information,
id-DSCH-FDD-InformationResponse,
id-DSCH-ModifyList-RL-ReconfPrepTDD,
id-DSCH-Modify-RL-ReconfPrepFDD,

id-DSCH-RNTI,
id-DSCHsToBeAddedOrModified-FDD,
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
id-EnhancedDSCHPC,
id-EnhancedDSCHPCIndicator,
id-Enhanced-PrimaryCPICH-EcNo,
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD,
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD,
id-GA-Cell,
id-GA-CellAdditionalShapes,
[id-GSM-Cell-InfEx-Rqst](#),
id-HCS-Prio,
id-HSDSCH-FDD-Information,
id-HSDSCH-FDD-Information-Response,
id-HSDSCH-FDD-Update-Information,
id-HSDSCH-TDD-Update-Information,
id-HSDSCH-Information-to-Modify,
id-HSDSCH-Information-to-Modify-Unsynchronised,
id-HSDSCH-MACdFlows-to-Add,
id-HSDSCH-MACdFlows-to-Delete,
id-HSDSCHMacdFlowSpecificInformationList-RL-PreemptRequiredInd,
id-HSDSCHMacdFlowSpecificInformationItem-RL-PreemptRequiredInd,
id-HSDSCH-RNTI,
id-HSDSCH-TDD-Information,
id-HSDSCH-TDD-Information-Response,
id-HSDSCH-TDD-Information-Response-LCR,
id-HSPDSCH-RL-ID,
id-HSPDSCH-Timeslot-InformationList-PhyChReconfRqstTDD,
id-HSPDSCH-Timeslot-InformationListLCR-PhyChReconfRqstTDD,
id-HSSICH-Info-DM-Rprt,
id-HSSICH-Info-DM-Rqst,
id-HSSICH-Info-DM,
id-IMSI,
id-InformationExchangeID,
id-InformationExchangeObjectType-InfEx-Rprt,
id-InformationExchangeObjectType-InfEx-Rqst,
id-InformationExchangeObjectType-InfEx-Rsp,
id-InformationReportCharacteristics,
id-InformationType,
id-InnerLoopDLPCStatus,
id-SplitType,
id-LengthOfTFCI2,
id-L3-Information,
id-AdjustmentPeriod,
id-MaxAdjustmentStep,
id-MeasurementFilterCoefficient,
id-MeasurementID,
id-Multiple-RL-InformationResponse-RL-ReconfReadyTDD,
[id-NACC-Related-Data](#),
id-PagingArea-PagingRqst,
id-PartialReportingIndicator,
id-PDSCH-RL-ID,
id-Permanent-NAS-UE-Identity,

id-Phase-Reference-Update-Indicator,
id-FACH-FlowControlInformation,
id-PowerAdjustmentType,
id-PrimCCPCH-RSCP-DL-PC-RqstTDD,
id-Primary-CPICH-Usage-For-Channel-Estimation,
id-PropagationDelay,
id-Qth-Parameter,
id-RANAP-RelocationInformation,
id-ResetIndicator,
id-RL-Information-PhyChReconfRqstFDD,
id-RL-Information-PhyChReconfRqstTDD,
id-RL-Information-RL-AdditionRqstFDD,
id-RL-Information-RL-AdditionRqstTDD,
id-RL-Information-RL-DeletionRqst,
id-RL-Information-RL-FailureInd,
id-RL-Information-RL-ReconfPrepFDD,
id-RL-Information-RL-ReconfPrepTDD,
id-RL-Information-RL-RestoreInd,
id-RL-Information-RL-SetupRqstFDD,
id-RL-Information-RL-SetupRqstTDD,
id-RL-InformationItem-RL-CongestInd,
id-RL-InformationItem-DM-Rprt,
id-RL-InformationItem-DM-Rqst,
id-RL-InformationItem-DM-Rsp,
id-RL-InformationItem-RL-PreemptRequiredInd,
id-RL-InformationItem-RL-SetupRqstFDD,
id-RL-InformationList-RL-CongestInd,
id-RL-InformationList-RL-AdditionRqstFDD,
id-RL-InformationList-RL-DeletionRqst,
id-RL-InformationList-RL-PreemptRequiredInd,
id-RL-InformationList-RL-ReconfPrepFDD,
id-RL-InformationResponse-RL-AdditionRspTDD,
id-RL-InformationResponse-RL-ReconfReadyTDD,
id-RL-InformationResponse-RL-ReconfRspTDD,
id-RL-InformationResponse-RL-SetupRspTDD,
id-RL-InformationResponseItem-RL-AdditionRspFDD,
id-RL-InformationResponseItem-RL-ReconfReadyFDD,
id-RL-InformationResponseItem-RL-ReconfRspFDD,
id-RL-InformationResponseItem-RL-SetupRspFDD,
id-RL-InformationResponseList-RL-AdditionRspFDD,
id-RL-InformationResponseList-RL-ReconfReadyFDD,
id-RL-InformationResponseList-RL-ReconfRspFDD,
id-RL-InformationResponseList-RL-SetupRspFDD,
id-RL-ParameterUpdateIndicationFDD-RL-Information-Item,
id-RL-ParameterUpdateIndicationFDD-RL-InformationList,
id-RL-ReconfigurationFailure-RL-ReconfFail,
id-RL-ReconfigurationRequestFDD-RL-InformationList,
id-RL-ReconfigurationRequestFDD-RL-Information-IEs,
id-RL-ReconfigurationRequestTDD-RL-Information,
id-RL-ReconfigurationResponseTDD-RL-Information,
id-RL-Specific-DCH-Info,
id-RL-Set-InformationItem-DM-Rprt,
id-RL-Set-InformationItem-DM-Rqst,

id-RL-Set-InformationItem-DM-Rsp,
id-RL-Set-Information-RL-FailureInd,
id-RL-Set-Information-RL-RestoreInd,
id-RL-Set-Successful-InformationItem-DM-Fail,
id-RL-Set-Unsuccessful-InformationItem-DM-Fail,
id-RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind,
id-RL-Successful-InformationItem-DM-Fail,
id-RL-Unsuccessful-InformationItem-DM-Fail,
id-RL-Unsuccessful-InformationItem-DM-Fail-Ind,
id-ReportCharacteristics,
id-Reporting-Object-RL-FailureInd,
id-Reporting-Object-RL-RestoreInd,
id-RNC-ID,
id-RxTimingDeviationForTA,
id-S-RNTI,
id-SAI,
id-Secondary-CPICH-Information-Change,
id-SFN,
id-SFNReportingIndicator,
id-SNA-Information,
id-SRNC-ID,
id-SSDT-CellIDforEDSCHPC,
id-STTD-SupportIndicator,
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-TDD-maxNrDLPhysicalchannels,
id-TDD-Support-8PSK,
id-TFCI-PC-SupportIndicator,
id-timeSlot-ISCP,
id-TimeSlot-RL-SetupRspTDD,
id-TnlQos,
id-TransportBearerID,
id-TransportBearerRequestIndicator,
id-TransportLayerAddress,
id-UC-ID,
id-ContextInfoItem-Reset,
id-ContextGroupInfoItem-Reset,
id-Transmission-Gap-Pattern-Sequence-Information,
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation,
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH,
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD,
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD,
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD,

id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD,
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD,
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD,
id-UL-DPCH-Information-RL-ReconfPrepFDD,
id-UL-DPCH-Information-RL-ReconfRqstFDD,
id-UL-DPCH-Information-RL-SetupRqstFDD,
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD,
id-UL-DPCH-InformationItem-RL-AdditionRspTDD,
id-UL-DPCH-InformationItem-RL-SetupRspTDD,
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD,
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD,
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD,
id-UL-Physical-Channel-Information-RL-SetupRqstTDD,
id-UL-SIRTarget,
id-URA-Information,
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD,
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD,
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD,
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD,
id-USCHs-to-Add,
id-USCH-DeleteList-RL-ReconfPrepTDD,
id-USCH-InformationListIE-RL-AdditionRspTDD,
id-USCH-InformationListIEs-RL-SetupRspTDD,
id-USCH-Information,
id-USCH-ModifyList-RL-ReconfPrepTDD,
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD,
id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD,
id-RL-LCR-InformationResponse-RL-SetupRspTDD,
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD,
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD,
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD,
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD,
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD,
id-RL-LCR-InformationResponse-RL-AdditionRspTDD,
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD,
id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD,
id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD,
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD,
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD,
id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD,
id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD,
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD,
id-TSTD-Support-Indicator-RL-SetupRqstTDD,
id-PrimaryCCPCH-RSCP-RL-ReconfPrepTDD,
id-DL-TimeSlot-ISCP-Info-RL-ReconfPrepTDD,
id-DL-Timeslot-ISCP-LCR-Information-RL-ReconfPrepTDD,

```

id-neighbouringTDDCellMeasurementInformationLCR,
id-UL-SIR-Target-CCTrCH-InformationItem-RL-SetupRspTDD,
id-UL-SIR-Target-CCTrCH-LCR-InformationItem-RL-SetupRspTDD,
id-TrafficClass,
id-UL-Synchronisation-Parameters-LCR,
id-TDD-DL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD,
id-TDD-UL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD,
id-MACHs-ResetIndicator,
id-UL-TimingAdvanceCtrl-LCR,
id-CCTrCH-Maximum-DL-Power-RL-SetupRspTDD,
id-CCTrCH-Minimum-DL-Power-RL-SetupRspTDD,
id-CCTrCH-Maximum-DL-Power-RL-AdditionRspTDD,
id-CCTrCH-Minimum-DL-Power-RL-AdditionRspTDD,
id-CCTrCH-Maximum-DL-Power-RL-ReconfReadyTDD,
id-CCTrCH-Minimum-DL-Power-RL-ReconfReadyTDD,
id-Maximum-DL-Power-TimeSlotLCR-InformationModifyItem-RL-ReconfReadyTDD,
id-Minimum-DL-Power-TimeSlotLCR-InformationModifyItem-RL-ReconfReadyTDD,
id-DL-CCTrCH-InformationList-RL-ReconfRspTDD,
id-DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD,
id-TDD-TPC-UplinkStepSize-LCR-RL-SetupRqstTDD,
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-UL-CCTrCH-InformationItem-RL-AdditionRqstTDD,
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD,
id-DL-CCTrCH-InformationItem-RL-AdditionRqstTDD,
id-TDD-TPC-UplinkStepSize-InformationAdd-LCR-RL-ReconfPrepTDD,
id-TDD-TPC-UplinkStepSize-InformationModify-LCR-RL-ReconfPrepTDD,
id-TDD-TPC-DownlinkStepSize-InformationAdd-RL-ReconfPrepTDD,
id-TDD-TPC-DownlinkStepSize-InformationModify-RL-ReconfPrepTDD

```

FROM RNSAP-Constants;

```

--
-- *****

```

<<<<<<< next change >>>>>>>

```

-- *****
--
-- INFORMATION EXCHANGE INITIATION REQUEST
--
-- *****

```

```

InformationExchangeInitiationRequest ::= SEQUENCE {
    protocolIEs          ProtocolIE-Container    {{InformationExchangeInitiationRequest-IEs}},
    protocolExtensions   ProtocolExtensionContainer {{InformationExchangeInitiationRequest-Extensions}}    OPTIONAL,
    ...
}

```

```

InformationExchangeInitiationRequest-IEs RNSAP-PROTOCOL-IES ::= {
    { ID      id-InformationExchangeID          CRITICALITY reject          TYPE      InformationExchangeID          PRESENCE mandatory
    }|
}

```

```

    { ID id-InformationExchangeObjectType-InfEx-Rqst CRITICALITY reject TYPE InformationExchangeObjectType-InfEx-Rqst PRESENCE
      mandatory }|
    { ID id-InformationType CRITICALITY reject TYPE InformationType PRESENCE mandatory
    }|
    { ID id-InformationReportCharacteristics CRITICALITY reject TYPE InformationReportCharacteristics PRESENCE mandatory
    },
    ...
  }

InformationExchangeInitiationRequest-Extensions RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

InformationExchangeObjectType-InfEx-Rqst ::= CHOICE {
  cell _____ Cell-InfEx-Rqst,
  ...-_/
  extension-InformationExchangeObjectType-InfEx-Rqst Extension-InformationExchangeObjectType-InfEx-Rqst
}

Cell-InfEx-Rqst ::= SEQUENCE {
  c-ID C-ID, --May be a GERAN cell identifier
  iE-Extensions ProtocolExtensionContainer { { CellItem-InfEx-Rqst-ExtIEs } } OPTIONAL,
  ...
}

CellItem-InfEx-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

Extension-InformationExchangeObjectType-InfEx-Rqst ::= ProtocolIE-Single-Container { { Extension-InformationExchangeObjectType-InfEx-RqstIE } }

Extension-InformationExchangeObjectType-InfEx-RqstIE RNSAP-PROTOCOL-IES ::= {
{ ID id-GSM-Cell-InfEx-Rqst CRITICALITY reject TYPE GSM-Cell-InfEx-Rqst PRESENCE mandatory }
}

GSM-Cell-InfEx-Rqst ::= SEQUENCE {
cGI _____ CGI,
iE-Extensions ProtocolExtensionContainer { { GSMCellItem-InfEx-Rqst-ExtIEs } } _____ OPTIONAL,
...
}

GSMCellItem-InfEx-Rqst-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
...
}

```

<<<<<<< end of changes >>>>>>>

9.3.4 Information Element Definitions

```

-- *****
--
-- Information Element Definitions
--
-- *****

RNSAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    maxCodeNumComp-1,
    maxNrOfFACHs,
    maxFACHCountPlus1,
    maxIBSEG,
    maxNoOfDSCHs,
    maxNoOfDSCHs-1,
    maxNoOfUSCHs,
    maxNoTFCIGroups,
    maxNoCodeGroups,
    maxNrOfDCHs,
    maxNrOfDL-Codes,
    maxNrOfDLTs,
    maxNrOfDLTsLCR,
    maxNrOfDPCHs,
    maxNrOfDPCHsLCR,
    maxNrOfErrors,
    maxNrOfFDDNeighboursPerRNC,
    maxNrOfMACcshSDU-Length,
    maxNrOfNeighbouringRNCs,
    maxNrOfTDDNeighboursPerRNC,
    maxNrOfLCRTDDNeighboursPerRNC,
    maxNrOfTS,
    maxNrOfTsLCR,
    maxNrOfULTs,
    maxNrOfULTsLCR,
    maxNrOfGSMNeighboursPerRNC,
    maxRateMatching,
    maxNrOfPoints,
    maxNoOfRB,
    maxNrOfRLs,
    maxNrOfTFCs,
    maxNrOfTFs,
    maxCTFC,
    maxRNCinURA-1,
    maxNrOfSCCPCHs,

```

maxTFCI1Combs,
maxTFCI2Combs,
maxTFCI2Combs-1,
maxTGPS,
maxTTL-Count,
maxNoGPSTypes,
maxNoSat,
maxNrOfSNAs,
maxNrOfHARQProc,
maxNrOfHSSCCHCodes,
maxNrOfMACdFlows,
maxNrOfMACdFlows-1,
maxNrOfPDUIndexes,
maxNrOfPDUIndexes-1,
maxNrOfPrioQueues,
maxNrOfPrioQueues-1,
maxNrOfPriorityClasses,
maxNrOfSatAlmanac-maxNoSat,
maxNrOfGERANSI,

id-Allowed-Rate-Information,
id-AntennaColocationIndicator,
id-BindingID,
id-Cell-Capacity-Class-Value,
id-CellCapabilityContainer-FDD,
id-CellCapabilityContainer-TDD,
id-CellCapabilityContainer-TDD-LCR,
id-CoverageIndicator,
id-DPC-Mode-Change-SupportIndicator,
id-DSCH-Specific-FDD-Additional-List,
id-GERAN-Cell-Capability,
id-GERAN-Classmark,
id-Guaranteed-Rate-Information,
id-HCS-Prio,
id-Load-Value,
id-Load-Value-IncrDecrThres,
id-Neighbouring-GSM-CellInformation,
id-Neighbouring-UMTS-CellInformationItem,
id-neighbouring-LCR-TDD-CellInformation,
id-NRT-Load-Information-Value,
id-NRT-Load-Information-Value-IncrDecrThres,
id-OnModification,
id-Received-Total-Wideband-Power-Value,
id-Received-Total-Wideband-Power-Value-IncrDecrThres,
id-RT-Load-Value,
id-RT-Load-Value-IncrDecrThres,
id-SFNMeasurementThresholdInformation,
id-SNA-Information,
id-TrafficClass,
id-Transmitted-Carrier-Power-Value,
id-Transmitted-Carrier-Power-Value-IncrDecrThres,
id-TUTRANGPSMeasurementThresholdInformation,
id-UL-Timeslot-ISCP-Value,

```

id-UL-Timeslot-ISCP-Value-IncrDecrThres,
maxNrOfLevels,
maxNrOfMeasNCell,
maxNrOfMeasNCell-1,
id-MessageStructure,
id-EnhancedDSCHPC,
id-RestrictionStateIndicator,
id-Rx-Timing-Deviation-Value-LCR,
id-TransportLayerAddress,
id-TypeOfError,
id-Angle-Of-Arrival-Value-LCR,
id-IPDL-TDD-ParametersLCR,
id-DSCH-InitialWindowSize,
id-Maximum-DL-Power-TimeslotLCR-InformationItem,
id-Minimum-DL-Power-TimeslotLCR-InformationItem,
id-HS-SICH-Reception-Quality,
id-HS-SICH-Reception-Quality-Measurement-Value,
id-ExtendedGSMCellIndividualOffset,
id-Unidirectional-DCH-Indicator,
id-RTLloadValue,
id-NRTLloadInformationValue,
id-Satellite-Almanac-Information-ExtItem,
id-TnlQos,
id-UpPTSInterferenceValue,
id-NACC-Related-Data

```

```
FROM RNSAP-Constants
```

```

Criticality,
ProcedureID,
ProtocolIE-ID,
TransactionID,
TriggeringMessage

```

```
FROM RNSAP-CommonDataTypes
```

```

ProtocolIE-Single-Container{},
ProtocolExtensionContainer{},
RNSAP-PROTOCOL-IES,
RNSAP-PROTOCOL-EXTENSION

```

```
FROM RNSAP-Containers;
```

```
<<<<<<< next change >>>>>>>
```

```
GERAN-Cell-Capability ::= BIT STRING (SIZE (16))
```

```
-- First bit: A/Gb mode --
```

```
-- Second bit: Iu mode --
```

```
-- Note: undefined bits are considered as a spare bit and spare bits shall be set to 0 by the transmitter and shall be ignored by the receiver. --
```

```
GERAN-Classmark ::= OCTET STRING
```

```
-- GERAN Classmark as defined in (38) --
```

```
GERAN-SI-Type ::= CHOICE {
```



```

sI          GERAN-SystemInfo,
pSI        GERAN-SystemInfo,
...
]

GERAN-SystemInfo ::= SEQUENCE (SIZE (1..maxNrOfGERANSI)) OF
  SEQUENCE {
    gERAN-SI-block  OCTET STRING (SIZE (1..23)),
    iE-Extensions  ProtocolExtensionContainer { { GERAN-SystemInfo-ExtIEs } } OPTIONAL,
    ...
  }

GERAN-SystemInfo-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

GenericTrafficCategory ::= BIT STRING (SIZE (8))

```

<<<<<<< next change >>>>>>>

```

InformationType ::= SEQUENCE {
  informationTypeItem  ENUMERATED {
    gA-AccessPointPositionwithAltitude,
    gA-AccessPointPosition,
    iPDLParameters,
    gPSInformation,
    dGPSCorrections,
    gPS-RX-POS,
    sFNSFN-GA-AccessPointPosition,
    ...,
    cell-Capacity-Class,
    nACC-Related-Data
  },
  gPSInformation          GPSInformation          OPTIONAL,
  iE-Extensions          ProtocolExtensionContainer { { InformationType-ExtIEs } } OPTIONAL,
  ...
}

```

-- The *GPS Information* IE shall be present if the *Information Exchange Type* IE indicates 'GPS Information'
-- For information exchange on the Iur-g interface, only the Cell Capacity Class is used.

```

InformationType-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
  ...
}

```

<<<<<<< next change >>>>>>>

-- N

```

NACC-Related-Data ::= SEQUENCE {
    gERAN-SI-Type          GERAN-SI-Type,
    iE-Extensions          ProtocolExtensionContainer { {NACC-Related-Data-ExtIEs} } OPTIONAL,
    ...
}

```

```

NACC-Related-Data-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

```

```

Nack-Power-Offset ::= INTEGER (0..8,...)
-- According to mapping in ref. [21] subclause 4.2.1

```

<<<<<< next change >>>>>>

```

ReportPeriodicity ::= CHOICE {
    ten-msec          INTEGER (1..6000,...),
    -- The Report Periodicity gives the reporting periodicity in number of 10 ms periods.
    -- E.g. value 6000 means 60000ms (i.e. 1min)
    -- Unit ms, Step 10ms
    min              INTEGER (1..60,...),
    -- Unit min, Step 1min
    ...
}

```

```

RequestedDataValue ::= SEQUENCE {
    gA-AccessPointPositionwithAltitude    GA-AccessPointPositionwithOptionalAltitude  OPTIONAL,
    iPDLParameters                        IPDLParameters                        OPTIONAL,
    dGPSCorrections                        DGPSCorrections                        OPTIONAL,
    gPS-NavigationModel-and-TimeRecovery   GPS-NavigationModel-and-TimeRecovery   OPTIONAL,
    gPS-Ionospheric-Model                  GPS-Ionospheric-Model                  OPTIONAL,
    gPS-UTC-Model                           GPS-UTC-Model                           OPTIONAL,
    gPS-Almanac                             GPS-Almanac                             OPTIONAL,
    gPS-RealTime-Integrity                  GPS-RealTime-Integrity                  OPTIONAL,
    gPS-RX-POS                              GPS-RX-POS                              OPTIONAL,
    sFNSFN-GA-AccessPointPosition          GA-AccessPointPositionwithOptionalAltitude  OPTIONAL,
    iE-Extensions                          ProtocolExtensionContainer { { RequestedDataValue-ExtIEs} }  OPTIONAL,
    ...
}

```

```

RequestedDataValue-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    { ID id-Cell-Capacity-Class-Value  CRITICALITY ignore  EXTENSION Cell-Capacity-Class-Value  PRESENCE mandatory }|
    { ID id-NACC-Related-Data          CRITICALITY ignore  EXTENSION NACC-Related-Data      PRESENCE optional },
    ...
}

```

```

RequestedDataValueInformation ::= CHOICE {
    informationAvailable      InformationAvailable,
    informationNotAvailable   InformationNotAvailable
}

```

```
}  
RestrictionStateIndicator ::= ENUMERATED {  
    cellNotResevedForOperatorUse,  
    cellResevedForOperatorUse,  
    ...  
}
```

<<<<<<< end of changes >>>>>>>

9.3.6 Constant Definitions

```

-- *****
--
-- Constant definitions
--
-- *****

RNSAP-Constants {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-Constants (4) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

IMPORTS
    ProcedureCode,
    ProtocolIE-ID
FROM RNSAP-CommonDataTypes;

-- *****
--
-- Elementary Procedures
--
-- *****

id-commonTransportChannelResourcesInitialisation      ProcedureCode ::= 0
id-commonTransportChannelResourcesRelease            ProcedureCode ::= 1
id-compressedModeCommand                             ProcedureCode ::= 2
id-downlinkPowerControl                              ProcedureCode ::= 3
id-downlinkPowerTimeslotControl                     ProcedureCode ::= 4
id-downlinkSignallingTransfer                       ProcedureCode ::= 5
id-errorIndication                                  ProcedureCode ::= 6
id-dedicatedMeasurementFailure                      ProcedureCode ::= 7
id-dedicatedMeasurementInitiation                   ProcedureCode ::= 8
id-dedicatedMeasurementReporting                    ProcedureCode ::= 9
id-dedicatedMeasurementTermination                  ProcedureCode ::= 10
id-paging                                            ProcedureCode ::= 11
id-physicalChannelReconfiguration                   ProcedureCode ::= 12
id-privateMessage                                   ProcedureCode ::= 13
id-radioLinkAddition                                ProcedureCode ::= 14
id-radioLinkCongestion                              ProcedureCode ::= 34
id-radioLinkDeletion                                ProcedureCode ::= 15
id-radioLinkFailure                                 ProcedureCode ::= 16
id-radioLinkPreemption                              ProcedureCode ::= 17
id-radioLinkRestoration                             ProcedureCode ::= 18
id-radioLinkSetup                                   ProcedureCode ::= 19
id-relocationCommit                                 ProcedureCode ::= 20
id-synchronisedRadioLinkReconfigurationCancellation ProcedureCode ::= 21
id-synchronisedRadioLinkReconfigurationCommit        ProcedureCode ::= 22
id-synchronisedRadioLinkReconfigurationPreparation   ProcedureCode ::= 23

```

id-unSynchronisedRadioLinkReconfiguration	ProcedureCode ::= 24
id-uplinkSignallingTransfer	ProcedureCode ::= 25
id-commonMeasurementFailure	ProcedureCode ::= 26
id-commonMeasurementInitiation	ProcedureCode ::= 27
id-commonMeasurementReporting	ProcedureCode ::= 28
id-commonMeasurementTermination	ProcedureCode ::= 29
id-informationExchangeFailure	ProcedureCode ::= 30
id-informationExchangeInitiation	ProcedureCode ::= 31
id-informationReporting	ProcedureCode ::= 32
id-informationExchangeTermination	ProcedureCode ::= 33
id-reset	ProcedureCode ::= 35
id-radioLinkActivation	ProcedureCode ::= 36
id-gERANuplinkSignallingTransfer	ProcedureCode ::= 37
id-radioLinkParameterUpdate	ProcedureCode ::= 38
id-uEMeasurementFailure	ProcedureCode ::= 39
id-uEMeasurementInitiation	ProcedureCode ::= 40
id-uEMeasurementReporting	ProcedureCode ::= 41
id-uEMeasurementTermination	ProcedureCode ::= 42

```
-- *****
--
-- Lists
--
-- *****
```

maxCodeNumComp-1	INTEGER ::= 255
maxRateMatching	INTEGER ::= 256
maxNoCodeGroups	INTEGER ::= 256
maxNoOfDSCHs	INTEGER ::= 10
maxNoOfDSCHsLCR	INTEGER ::= 10
maxNoOfRB	INTEGER ::= 32
maxNoOfUSCHs	INTEGER ::= 10
maxNoOfUSCHsLCR	INTEGER ::= 10
maxNoTFCGroups	INTEGER ::= 256
maxNrOfTFCs	INTEGER ::= 1024
maxNrOfTFs	INTEGER ::= 32
maxNrOfCCTrCHs	INTEGER ::= 16
maxNrOfCCTrCHsLCR	INTEGER ::= 16
maxNrOfDCHs	INTEGER ::= 128
maxNrOfDL-Codes	INTEGER ::= 8
maxNrOfDPCHs	INTEGER ::= 240
maxNrOfDPCHsLCR	INTEGER ::= 240
maxNrOfErrors	INTEGER ::= 256
maxNrOfMACcshSDU-Length	INTEGER ::= 16
maxNrOfPoints	INTEGER ::= 15
maxNrOfRLs	INTEGER ::= 16
maxNrOfRLSets	INTEGER ::= maxNrOfRLs
maxNrOfRLSets-1	INTEGER ::= 15 -- maxNrOfRLSets - 1
maxNrOfRLs-1	INTEGER ::= 15 -- maxNrOfRLs - 1
maxNrOfRLs-2	INTEGER ::= 14 -- maxNrOfRLs - 2
maxNrOfULTs	INTEGER ::= 15
maxNrOfULTsLCR	INTEGER ::= 6
maxNrOfDLTs	INTEGER ::= 15

```

maxNrOfDLTsLCR                INTEGER ::= 6
maxRNCinURA-1                INTEGER ::= 15
maxTTI-Count                   INTEGER ::= 4
maxCTFC                        INTEGER ::= 16777215
maxNrOfNeighbouringRNCs       INTEGER ::= 10
maxNrOfFDDNeighboursPerRNC    INTEGER ::= 256
maxNrOfGSMNeighboursPerRNC    INTEGER ::= 256
maxNrOfTDDNeighboursPerRNC    INTEGER ::= 256
maxNrOfFACHs                   INTEGER ::= 8
maxNrOfLCRTDDNeighboursPerRNC INTEGER ::= 256
maxFACHCountPlus1             INTEGER ::= 10
maxIBSEG                       INTEGER ::= 16
maxNrOfSCCPCHs                INTEGER ::= 8
maxTFCI1Combs                  INTEGER ::= 512
maxTFCI2Combs                  INTEGER ::= 1024
maxTFCI2Combs-1                INTEGER ::= 1023
maxTGPS                        INTEGER ::= 6
maxNrOfTS                      INTEGER ::= 15
maxNrOfLevels                  INTEGER ::= 256
maxNoOfDSCHs-1                INTEGER ::= 9
maxNrOfTsLCR                  INTEGER ::= 6
maxNoSat                       INTEGER ::= 16
maxNoGPSTypes                  INTEGER ::= 8
maxNrOfMeasNCell               INTEGER ::= 96
maxNrOfMeasNCell-1             INTEGER ::= 95 -- maxNrOfMeasNCell - 1
maxResetContext                INTEGER ::= 250
maxResetContextGroup           INTEGER ::= 32
maxNrOfHARQProc                INTEGER ::= 8
maxNrOfHSSCCHCodes             INTEGER ::= 4
maxNrOfHSSICHs                 INTEGER ::= 4
maxNrOfMACdFlows               INTEGER ::= 8
maxNrOfMACdFlows-1             INTEGER ::= 7 -- maxNrOfMACdFlows - 1
maxNrOfPDUIndexes              INTEGER ::= 8
maxNrOfPDUIndexes-1            INTEGER ::= 7 -- maxNrOfPDUIndexes - 1
maxNrOfPrioQueues              INTEGER ::= 8
maxNrOfPrioQueues-1            INTEGER ::= 7 -- maxNrOfPrioQueues - 1
maxNrOfSNAs                    INTEGER ::= 65536
maxNrOfPriorityClasses          INTEGER ::= 16
maxNrOfSatAlmanac-maxNoSat     INTEGER ::= 16
maxNrOfGERANSI                 INTEGER ::= 8
-- *****
--
-- IEs
--
-- *****

id-AllowedQueuingTime          ProtocolIE-ID ::= 4
id-Allowed-Rate-Information     ProtocolIE-ID ::= 42
id-AntennaColocationIndicator  ProtocolIE-ID ::= 309
id-BindingID                   ProtocolIE-ID ::= 5
id-C-ID                        ProtocolIE-ID ::= 6
id-C-RNTI                      ProtocolIE-ID ::= 7
id-Cell-Capacity-Class-Value   ProtocolIE-ID ::= 303

```

id-CFN	ProtocolIE-ID ::= 8
id-CN-CS-DomainIdentifier	ProtocolIE-ID ::= 9
id-CN-PS-DomainIdentifier	ProtocolIE-ID ::= 10
id-Cause	ProtocolIE-ID ::= 11
id-CoverageIndicator	ProtocolIE-ID ::= 310
id-CriticalityDiagnostics	ProtocolIE-ID ::= 20
id-ContextInfoItem-Reset	ProtocolIE-ID ::= 211
id-ContextGroupInfoItem-Reset	ProtocolIE-ID ::= 515
id-D-RNTI	ProtocolIE-ID ::= 21
id-D-RNTI-ReleaseIndication	ProtocolIE-ID ::= 22
id-DCHs-to-Add-FDD	ProtocolIE-ID ::= 26
id-DCHs-to-Add-TDD	ProtocolIE-ID ::= 27
id-DCH-DeleteList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 30
id-DCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 31
id-DCH-DeleteList-RL-ReconfRqstFDD	ProtocolIE-ID ::= 32
id-DCH-DeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 33
id-DCH-FDD-Information	ProtocolIE-ID ::= 34
id-DCH-TDD-Information	ProtocolIE-ID ::= 35
id-FDD-DCHs-to-Modify	ProtocolIE-ID ::= 39
id-TDD-DCHs-to-Modify	ProtocolIE-ID ::= 40
id-DCH-InformationResponse	ProtocolIE-ID ::= 43
id-DCH-Rate-InformationItem-RL-CongestInd	ProtocolIE-ID ::= 38
id-DL-CCTrCH-InformationAddItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 44
id-DL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 45
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 46
id-DL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 47
id-DL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 48
id-DL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 49
id-DL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 50
id-DL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 51
id-DL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 52
id-DL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 53
id-FDD-DL-CodeInformation	ProtocolIE-ID ::= 54
id-DL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 59
id-DL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 60
id-DL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 61
id-DL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 62
id-DL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 63
id-DL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 64
id-DL-DPCH-TimingAdjustment	ProtocolIE-ID ::= 278
id-DLReferencePower	ProtocolIE-ID ::= 67
id-DLReferencePowerList-DL-PC-Rqst	ProtocolIE-ID ::= 68
id-DL-ReferencePowerInformation-DL-PC-Rqst	ProtocolIE-ID ::= 69
id-DPC-Mode	ProtocolIE-ID ::= 12
id-DRXCycleLengthCoefficient	ProtocolIE-ID ::= 70
id-DedicatedMeasurementObjectType-DM-Fail-Ind	ProtocolIE-ID ::= 470
id-DedicatedMeasurementObjectType-DM-Fail	ProtocolIE-ID ::= 471
id-DedicatedMeasurementObjectType-DM-Rprt	ProtocolIE-ID ::= 71
id-DedicatedMeasurementObjectType-DM-Rqst	ProtocolIE-ID ::= 72
id-DedicatedMeasurementObjectType-DM-Rsp	ProtocolIE-ID ::= 73
id-DedicatedMeasurementType	ProtocolIE-ID ::= 74
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspFDD	ProtocolIE-ID ::= 82
id-FACH-InfoForUESelectedS-CCPCH-CTCH-ResourceRspTDD	ProtocolIE-ID ::= 83

id-Guaranteed-Rate-Information	ProtocolIE-ID ::= 41
id-IMSI	ProtocolIE-ID ::= 84
id-HCS-Prio	ProtocolIE-ID ::= 311
id-L3-Information	ProtocolIE-ID ::= 85
id-AdjustmentPeriod	ProtocolIE-ID ::= 90
id-MaxAdjustmentStep	ProtocolIE-ID ::= 91
id-MeasurementFilterCoefficient	ProtocolIE-ID ::= 92
id-MessageStructure	ProtocolIE-ID ::= 57
id-MeasurementID	ProtocolIE-ID ::= 93
id-Neighbouring-GSM-CellInformation	ProtocolIE-ID ::= 13
id-Neighbouring-UMTS-CellInformationItem	ProtocolIE-ID ::= 95
id-NRT-Load-Information-Value	ProtocolIE-ID ::= 305
id-NRT-Load-Information-Value-IncrDecrThres	ProtocolIE-ID ::= 306
id-PagingArea-PagingRqst	ProtocolIE-ID ::= 102
id-FACH-FlowControlInformation	ProtocolIE-ID ::= 103
id-PartialReportingIndicator	ProtocolIE-ID ::= 472
id-Permanent-NAS-UE-Identity	ProtocolIE-ID ::= 17
id-PowerAdjustmentType	ProtocolIE-ID ::= 107
id-RANAP-RelocationInformation	ProtocolIE-ID ::= 109
id-RL-Information-PhyChReconfRqstFDD	ProtocolIE-ID ::= 110
id-RL-Information-PhyChReconfRqstTDD	ProtocolIE-ID ::= 111
id-RL-Information-RL-AdditionRqstFDD	ProtocolIE-ID ::= 112
id-RL-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 113
id-RL-Information-RL-DeletionRqst	ProtocolIE-ID ::= 114
id-RL-Information-RL-FailureInd	ProtocolIE-ID ::= 115
id-RL-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 116
id-RL-Information-RL-RestoreInd	ProtocolIE-ID ::= 117
id-RL-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 118
id-RL-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 119
id-RL-InformationItem-RL-CongestInd	ProtocolIE-ID ::= 55
id-RL-InformationItem-DM-Rprt	ProtocolIE-ID ::= 120
id-RL-InformationItem-DM-Rqst	ProtocolIE-ID ::= 121
id-RL-InformationItem-DM-Rsp	ProtocolIE-ID ::= 122
id-RL-InformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 2
id-RL-InformationItem-RL-SetupRqstFDD	ProtocolIE-ID ::= 123
id-RL-InformationList-RL-CongestInd	ProtocolIE-ID ::= 56
id-RL-InformationList-RL-AdditionRqstFDD	ProtocolIE-ID ::= 124
id-RL-InformationList-RL-DeletionRqst	ProtocolIE-ID ::= 125
id-RL-InformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 1
id-RL-InformationList-RL-ReconfPrepFDD	ProtocolIE-ID ::= 126
id-RL-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 127
id-RL-InformationResponse-RL-ReconfReadyTDD	ProtocolIE-ID ::= 128
id-RL-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 129
id-RL-InformationResponseItem-RL-AdditionRspFDD	ProtocolIE-ID ::= 130
id-RL-InformationResponseItem-RL-ReconfReadyFDD	ProtocolIE-ID ::= 131
id-RL-InformationResponseItem-RL-ReconfRspFDD	ProtocolIE-ID ::= 132
id-RL-InformationResponseItem-RL-SetupRspFDD	ProtocolIE-ID ::= 133
id-RL-InformationResponseList-RL-AdditionRspFDD	ProtocolIE-ID ::= 134
id-RL-InformationResponseList-RL-ReconfReadyFDD	ProtocolIE-ID ::= 135
id-RL-InformationResponseList-RL-ReconfRspFDD	ProtocolIE-ID ::= 136
id-RL-InformationResponse-RL-ReconfRspTDD	ProtocolIE-ID ::= 28
id-RL-InformationResponseList-RL-SetupRspFDD	ProtocolIE-ID ::= 137
id-RL-ReconfigurationFailure-RL-ReconfFail	ProtocolIE-ID ::= 141

id-RL-Set-InformationItem-DM-Rprt	ProtocolIE-ID ::= 143
id-RL-Set-InformationItem-DM-Rqst	ProtocolIE-ID ::= 144
id-RL-Set-InformationItem-DM-Rsp	ProtocolIE-ID ::= 145
id-RL-Set-Information-RL-FailureInd	ProtocolIE-ID ::= 146
id-RL-Set-Information-RL-RestoreInd	ProtocolIE-ID ::= 147
id-RL-Set-Successful-InformationItem-DM-Fail	ProtocolIE-ID ::= 473
id-RL-Set-Unsuccessful-InformationItem-DM-Fail	ProtocolIE-ID ::= 474
id-RL-Set-Unsuccessful-InformationItem-DM-Fail-Ind	ProtocolIE-ID ::= 475
id-RL-Successful-InformationItem-DM-Fail	ProtocolIE-ID ::= 476
id-RL-Unsuccessful-InformationItem-DM-Fail	ProtocolIE-ID ::= 477
id-RL-Unsuccessful-InformationItem-DM-Fail-Ind	ProtocolIE-ID ::= 478
id-ReportCharacteristics	ProtocolIE-ID ::= 152
id-Reporting-Object-RL-FailureInd	ProtocolIE-ID ::= 153
id-Reporting-Object-RL-RestoreInd	ProtocolIE-ID ::= 154
id-RT-Load-Value	ProtocolIE-ID ::= 307
id-RT-Load-Value-IncrDecrThres	ProtocolIE-ID ::= 308
id-S-RNTI	ProtocolIE-ID ::= 155
id-ResetIndicator	ProtocolIE-ID ::= 244
id-RNC-ID	ProtocolIE-ID ::= 245
id-SAI	ProtocolIE-ID ::= 156
id-SRNC-ID	ProtocolIE-ID ::= 157
id-SuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 159
id-SuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 160
id-TransportBearerID	ProtocolIE-ID ::= 163
id-TransportBearerRequestIndicator	ProtocolIE-ID ::= 164
id-TransportLayerAddress	ProtocolIE-ID ::= 165
id-TypeOfError	ProtocolIE-ID ::= 140
id-UC-ID	ProtocolIE-ID ::= 166
id-UL-CCTrCH-AddInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 167
id-UL-CCTrCH-InformationAddList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 169
id-UL-CCTrCH-InformationItem-RL-SetupRqstTDD	ProtocolIE-ID ::= 171
id-UL-CCTrCH-InformationList-RL-SetupRqstTDD	ProtocolIE-ID ::= 172
id-UL-CCTrCH-InformationListIE-PhyChReconfRqstTDD	ProtocolIE-ID ::= 173
id-UL-CCTrCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 174
id-UL-CCTrCH-InformationListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 175
id-UL-CCTrCH-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 176
id-UL-DPCH-Information-RL-ReconfPrepFDD	ProtocolIE-ID ::= 177
id-UL-DPCH-Information-RL-ReconfRqstFDD	ProtocolIE-ID ::= 178
id-UL-DPCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 179
id-UL-DPCH-InformationItem-PhyChReconfRqstTDD	ProtocolIE-ID ::= 180
id-UL-DPCH-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 181
id-UL-DPCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 182
id-UL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 183
id-UL-SIRTarget	ProtocolIE-ID ::= 184
id-URA-Information	ProtocolIE-ID ::= 185
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureFDD	ProtocolIE-ID ::= 188
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureFDD	ProtocolIE-ID ::= 189
id-UnsuccessfulRL-InformationResponse-RL-SetupFailureTDD	ProtocolIE-ID ::= 190
id-Active-Pattern-Sequence-Information	ProtocolIE-ID ::= 193
id-AdjustmentRatio	ProtocolIE-ID ::= 194
id-CauseLevel-RL-AdditionFailureFDD	ProtocolIE-ID ::= 197
id-CauseLevel-RL-AdditionFailureTDD	ProtocolIE-ID ::= 198
id-CauseLevel-RL-ReconfFailure	ProtocolIE-ID ::= 199

id-CauseLevel-RL-SetupFailureFDD	ProtocolIE-ID ::= 200
id-CauseLevel-RL-SetupFailureTDD	ProtocolIE-ID ::= 201
id-DL-CCTrCH-InformationDeleteItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 205
id-DL-CCTrCH-InformationModifyItem-RL-ReconfPrepTDD	ProtocolIE-ID ::= 206
id-DL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 207
id-DL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 208
id-DL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 209
id-DL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 210
id-DL-DPCH-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 212
id-DL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 213
id-DL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 214
id-DSCHs-to-Add-TDD	ProtocolIE-ID ::= 215
id-DSCHs-to-Add-FDD	ProtocolIE-ID ::= 216
id-DSCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 217
id-DSCH-Delete-RL-ReconfPrepFDD	ProtocolIE-ID ::= 218
id-DSCH-FDD-Information	ProtocolIE-ID ::= 219
id-DSCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 220
id-DSCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 221
id-DSCH-TDD-Information	ProtocolIE-ID ::= 222
id-DSCH-FDD-InformationResponse	ProtocolIE-ID ::= 223
id-DSCH-Information-RL-SetupRqstFDD	ProtocolIE-ID ::= 226
id-DSCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 227
id-DSCH-Modify-RL-ReconfPrepFDD	ProtocolIE-ID ::= 228
id-DSCH-Specific-FDD-Additional-List	ProtocolIE-ID ::= 324
id-DSCHsToBeAddedOrModified-FDD	ProtocolIE-ID ::= 229
id-DSCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 230
id-EnhancedDSCHPC	ProtocolIE-ID ::= 29
id-EnhancedDSCHPCIndicator	ProtocolIE-ID ::= 225
id-GA-Cell	ProtocolIE-ID ::= 232
id-GA-CellAdditionalShapes	ProtocolIE-ID ::= 3
id-SSDT-CellIDforEDSCHPC	ProtocolIE-ID ::= 246
id-Transmission-Gap-Pattern-Sequence-Information	ProtocolIE-ID ::= 255
id-UL-CCTrCH-DeleteInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 256
id-UL-CCTrCH-ModifyInformation-RL-ReconfPrepTDD	ProtocolIE-ID ::= 257
id-UL-CCTrCH-InformationModifyItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 258
id-UL-CCTrCH-InformationDeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 259
id-UL-CCTrCH-InformationModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 260
id-UL-CCTrCH-InformationModifyList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 261
id-UL-CCTrCH-InformationDeleteItem-RL-ReconfRqstTDD	ProtocolIE-ID ::= 262
id-UL-CCTrCH-InformationDeleteList-RL-ReconfRqstTDD	ProtocolIE-ID ::= 263
id-UL-DPCH-InformationDeleteListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 264
id-UL-DPCH-InformationModifyListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 265
id-UnsuccessfulRL-InformationResponse-RL-AdditionFailureTDD	ProtocolIE-ID ::= 266
id-USCHs-to-Add	ProtocolIE-ID ::= 267
id-USCH-DeleteList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 268
id-USCH-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 269
id-USCH-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 270
id-USCH-Information	ProtocolIE-ID ::= 271
id-USCH-ModifyList-RL-ReconfPrepTDD	ProtocolIE-ID ::= 272
id-USCHToBeAddedOrModifiedList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 273
id-DL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 274
id-UL-Physical-Channel-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 275
id-ClosedLoopModel-SupportIndicator	ProtocolIE-ID ::= 276

id-ClosedLoopMode2-SupportIndicator	ProtocolIE-ID ::= 277
id-STTD-SupportIndicator	ProtocolIE-ID ::= 279
id-CFNReportingIndicator	ProtocolIE-ID ::= 14
id-CNOriginatedPage-PagingRqst	ProtocolIE-ID ::= 23
id-InnerLoopDLPCStatus	ProtocolIE-ID ::= 24
id-PropagationDelay	ProtocolIE-ID ::= 25
id-RxTimingDeviationForTA	ProtocolIE-ID ::= 36
id-timeSlot-ISCP	ProtocolIE-ID ::= 37
id-CCTrCH-InformationItem-RL-FailureInd	ProtocolIE-ID ::= 15
id-CCTrCH-InformationItem-RL-RestoreInd	ProtocolIE-ID ::= 16
id-CommonMeasurementAccuracy	ProtocolIE-ID ::= 280
id-CommonMeasurementObjectType-CM-Rprt	ProtocolIE-ID ::= 281
id-CommonMeasurementObjectType-CM-Rqst	ProtocolIE-ID ::= 282
id-CommonMeasurementObjectType-CM-Rsp	ProtocolIE-ID ::= 283
id-CommonMeasurementType	ProtocolIE-ID ::= 284
id-CongestionCause	ProtocolIE-ID ::= 18
id-SFN	ProtocolIE-ID ::= 285
id-SFNReportingIndicator	ProtocolIE-ID ::= 286
id-InformationExchangeID	ProtocolIE-ID ::= 287
id-InformationExchangeObjectType-InfEx-Rprt	ProtocolIE-ID ::= 288
id-InformationExchangeObjectType-InfEx-Rqst	ProtocolIE-ID ::= 289
id-InformationExchangeObjectType-InfEx-Rsp	ProtocolIE-ID ::= 290
id-InformationReportCharacteristics	ProtocolIE-ID ::= 291
id-InformationType	ProtocolIE-ID ::= 292
id-neighbouring-LCR-TDD-CellInformation	ProtocolIE-ID ::= 58
id-DL-Timeslot-ISCP-LCR-Information-RL-SetupRqstTDD	ProtocolIE-ID ::= 65
id-RL-LCR-InformationResponse-RL-SetupRspTDD	ProtocolIE-ID ::= 66
id-UL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 75
id-UL-DPCH-LCR-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 76
id-DL-CCTrCH-LCR-InformationListIE-RL-SetupRspTDD	ProtocolIE-ID ::= 77
id-DL-DPCH-LCR-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 78
id-DSCH-LCR-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 79
id-USCH-LCR-InformationListIEs-RL-SetupRspTDD	ProtocolIE-ID ::= 80
id-DL-Timeslot-ISCP-LCR-Information-RL-AdditionRqstTDD	ProtocolIE-ID ::= 81
id-RL-LCR-InformationResponse-RL-AdditionRspTDD	ProtocolIE-ID ::= 86
id-UL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 87
id-UL-DPCH-LCR-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 88
id-DL-CCTrCH-LCR-InformationListIE-RL-AdditionRspTDD	ProtocolIE-ID ::= 89
id-DL-DPCH-LCR-InformationItem-RL-AdditionRspTDD	ProtocolIE-ID ::= 94
id-DSCH-LCR-InformationListIEs-RL-AdditionRspTDD	ProtocolIE-ID ::= 96
id-USCH-LCR-InformationListIEs-RL-AdditionRspTDD	ProtocolIE-ID ::= 97
id-UL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 98
id-UL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 100
id-DL-DPCH-LCR-InformationAddListIE-RL-ReconfReadyTDD	ProtocolIE-ID ::= 101
id-DL-Timeslot-LCR-InformationModifyList-RL-ReconfReadyTDD	ProtocolIE-ID ::= 104
id-UL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD	ProtocolIE-ID ::= 105
id-DL-Timeslot-LCR-InformationList-PhyChReconfRqstTDD	ProtocolIE-ID ::= 106
id-timeSlot-ISCP-LCR-List-DL-PC-Rqst-TDD	ProtocolIE-ID ::= 138
id-TSTD-Support-Indicator-RL-SetupRqstTDD	ProtocolIE-ID ::= 139
id-RestrictionStateIndicator	ProtocolIE-ID ::= 142
id-Load-Value	ProtocolIE-ID ::= 233
id-Load-Value-IncrDecrThres	ProtocolIE-ID ::= 234
id-OnModification	ProtocolIE-ID ::= 235

id-Received-Total-Wideband-Power-Value	ProtocolIE-ID ::= 236
id-Received-Total-Wideband-Power-Value-IncrDecrThres	ProtocolIE-ID ::= 237
id-SFNMeasurementThresholdInformation	ProtocolIE-ID ::= 238
id-Transmitted-Carrier-Power-Value	ProtocolIE-ID ::= 239
id-Transmitted-Carrier-Power-Value-IncrDecrThres	ProtocolIE-ID ::= 240
id-TUTRANGPSMeasurementThresholdInformation	ProtocolIE-ID ::= 241
id-UL-Timeslot-ISCP-Value	ProtocolIE-ID ::= 242
id-UL-Timeslot-ISCP-Value-IncrDecrThres	ProtocolIE-ID ::= 243
id-Rx-Timing-Deviation-Value-LCR	ProtocolIE-ID ::= 293
id-DPC-Mode-Change-SupportIndicator	ProtocolIE-ID ::= 19
id-SplitType	ProtocolIE-ID ::= 247
id-LengthOfTFCI2	ProtocolIE-ID ::= 295
id-PrimaryCCPCH-RSCP-RL-ReconfPrepTDD	ProtocolIE-ID ::= 202
id-DL-TimeSlot-ISCP-Info-RL-ReconfPrepTDD	ProtocolIE-ID ::= 203
id-DL-Timeslot-ISCP-LCR-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 204
id-DSCH-RNTI	ProtocolIE-ID ::= 249
id-DL-PowerBalancing-Information	ProtocolIE-ID ::= 296
id-DL-PowerBalancing-ActivationIndicator	ProtocolIE-ID ::= 297
id-DL-PowerBalancing-UpdatedIndicator	ProtocolIE-ID ::= 298
id-DL-ReferencePowerInformation	ProtocolIE-ID ::= 299
id-Enhanced-PrimaryCPICH-EcNo	ProtocolIE-ID ::= 224
id-IPDL-TDD-ParametersLCR	ProtocolIE-ID ::= 252
id-CellCapabilityContainer-FDD	ProtocolIE-ID ::= 300
id-CellCapabilityContainer-TDD	ProtocolIE-ID ::= 301
id-CellCapabilityContainer-TDD-LCR	ProtocolIE-ID ::= 302
id-RL-Specific-DCH-Info	ProtocolIE-ID ::= 317
id-RL-ReconfigurationRequestFDD-RL-InformationList	ProtocolIE-ID ::= 318
id-RL-ReconfigurationRequestFDD-RL-Information-IEs	ProtocolIE-ID ::= 319
id-RL-ReconfigurationRequestTDD-RL-Information	ProtocolIE-ID ::= 321
id-CommonTransportChannelResourcesInitialisationNotRequired	ProtocolIE-ID ::= 250
id-DelayedActivation	ProtocolIE-ID ::= 312
id-DelayedActivationList-RL-ActivationCmdFDD	ProtocolIE-ID ::= 313
id-DelayedActivationInformation-RL-ActivationCmdFDD	ProtocolIE-ID ::= 314
id-DelayedActivationList-RL-ActivationCmdTDD	ProtocolIE-ID ::= 315
id-DelayedActivationInformation-RL-ActivationCmdTDD	ProtocolIE-ID ::= 316
id-neighbouringTDDCellMeasurementInformationLCR	ProtocolIE-ID ::= 251
id-UL-SIR-Target-CCTrCH-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 150
id-UL-SIR-Target-CCTrCH-LCR-InformationItem-RL-SetupRspTDD	ProtocolIE-ID ::= 151
id-PrimCCPCH-RSCP-DL-PC-RqstTDD	ProtocolIE-ID ::= 451
id-HSDSCH-FDD-Information	ProtocolIE-ID ::= 452
id-HSDSCH-FDD-Information-Response	ProtocolIE-ID ::= 453
id-HSDSCH-FDD-Update-Information	ProtocolIE-ID ::= 466
id-HSDSCH-Information-to-Modify	ProtocolIE-ID ::= 456
id-HSDSCHMacdFlowSpecificInformationList-RL-PreemptRequiredInd	ProtocolIE-ID ::= 516
id-HSDSCHMacdFlowSpecificInformationItem-RL-PreemptRequiredInd	ProtocolIE-ID ::= 517
id-HSDSCH-RNTI	ProtocolIE-ID ::= 457
id-HSDSCH-TDD-Information	ProtocolIE-ID ::= 458
id-HSDSCH-TDD-Information-Response	ProtocolIE-ID ::= 459
id-HSDSCH-TDD-Update-Information	ProtocolIE-ID ::= 467
id-HSPDSCH-RL-ID	ProtocolIE-ID ::= 463
id-HSDSCH-MACdFlows-to-Add	ProtocolIE-ID ::= 531
id-HSDSCH-MACdFlows-to-Delete	ProtocolIE-ID ::= 532
id-Angle-Of-Arrival-Value-LCR	ProtocolIE-ID ::= 148

id-TrafficClass	ProtocolIE-ID ::= 158
id-TFCI-PC-SupportIndicator	ProtocolIE-ID ::= 248
id-Qth-Parameter	ProtocolIE-ID ::= 253
id-PDSCH-RL-ID	ProtocolIE-ID ::= 323
id-TimeSlot-RL-SetupRspTDD	ProtocolIE-ID ::= 325
id-GERAN-Cell-Capability	ProtocolIE-ID ::= 468
id-GERAN-Classmark	ProtocolIE-ID ::= 469
id-DSCH-InitialWindowSize	ProtocolIE-ID ::= 480
id-UL-Synchronisation-Parameters-LCR	ProtocolIE-ID ::= 464
id-SNA-Information	ProtocolIE-ID ::= 479
id-MACHs-ResetIndicator	ProtocolIE-ID ::= 465
id-TDD-DL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD	ProtocolIE-ID ::= 481
id-TDD-UL-DPCH-TimeSlotFormatModifyItem-LCR-RL-ReconfReadyTDD	ProtocolIE-ID ::= 482
id-TDD-TPC-UplinkStepSize-LCR-RL-SetupRqstTDD	ProtocolIE-ID ::= 483
id-UL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 484
id-UL-CCTrCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 485
id-DL-CCTrCH-InformationList-RL-AdditionRqstTDD	ProtocolIE-ID ::= 486
id-DL-CCTrCH-InformationItem-RL-AdditionRqstTDD	ProtocolIE-ID ::= 487
id-TDD-TPC-UplinkStepSize-InformationAdd-LCR-RL-ReconfPrepTDD	ProtocolIE-ID ::= 488
id-TDD-TPC-UplinkStepSize-InformationModify-LCR-RL-ReconfPrepTDD	ProtocolIE-ID ::= 489
id-TDD-TPC-DownlinkStepSize-InformationAdd-RL-ReconfPrepTDD	ProtocolIE-ID ::= 490
id-TDD-TPC-DownlinkStepSize-InformationModify-RL-ReconfPrepTDD	ProtocolIE-ID ::= 491
id-UL-TimingAdvanceCtrl-LCR	ProtocolIE-ID ::= 492
id-HSPDSCH-Timeslot-InformationList-PhyChReconfRqstTDD	ProtocolIE-ID ::= 493
id-HSPDSCH-Timeslot-InformationListLCR-PhyChReconfRqstTDD	ProtocolIE-ID ::= 494
id-HS-SICH-Reception-Quality	ProtocolIE-ID ::= 495
id-HS-SICH-Reception-Quality-Measurement-Value	ProtocolIE-ID ::= 496
id-HSSICH-Info-DM-Rprt	ProtocolIE-ID ::= 497
id-HSSICH-Info-DM-Rqst	ProtocolIE-ID ::= 498
id-HSSICH-Info-DM	ProtocolIE-ID ::= 499
id-CCTrCH-Maximum-DL-Power-RL-SetupRspTDD	ProtocolIE-ID ::= 500
id-CCTrCH-Minimum-DL-Power-RL-SetupRspTDD	ProtocolIE-ID ::= 501
id-CCTrCH-Maximum-DL-Power-RL-AdditionRspTDD	ProtocolIE-ID ::= 502
id-CCTrCH-Minimum-DL-Power-RL-AdditionRspTDD	ProtocolIE-ID ::= 503
id-CCTrCH-Maximum-DL-Power-RL-ReconfReadyTDD	ProtocolIE-ID ::= 504
id-CCTrCH-Minimum-DL-Power-RL-ReconfReadyTDD	ProtocolIE-ID ::= 505
id-Maximum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD	ProtocolIE-ID ::= 506
id-Minimum-DL-Power-TimeslotLCR-InformationModifyItem-RL-ReconfReadyTDD	ProtocolIE-ID ::= 507
id-DL-CCTrCH-InformationList-RL-ReconfRspTDD	ProtocolIE-ID ::= 508
id-DL-DPCH-InformationModifyItem-LCR-RL-ReconfRspTDD	ProtocolIE-ID ::= 509
id-Maximum-DL-Power-TimeslotLCR-InformationItem	ProtocolIE-ID ::= 510
id-Minimum-DL-Power-TimeslotLCR-InformationItem	ProtocolIE-ID ::= 511
id-TDD-Support-8PSK	ProtocolIE-ID ::= 512
id-TDD-maxNrDLPhysicalchannels	ProtocolIE-ID ::= 513
id-ExtendedGSMCellIndividualOffset	ProtocolIE-ID ::= 514
id-RL-ParameterUpdateIndicationFDD-RL-InformationList	ProtocolIE-ID ::= 518
id-Primary-CPICH-Usage-For-Channel-Estimation	ProtocolIE-ID ::= 519
id-Secondary-CPICH-Information	ProtocolIE-ID ::= 520
id-Secondary-CPICH-Information-Change	ProtocolIE-ID ::= 521
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation	ProtocolIE-ID ::= 522
id-UE-Support-Of-Dedicated-Pilots-For-Channel-Estimation-Of-HS-DSCH	ProtocolIE-ID ::= 523
id-RL-ParameterUpdateIndicationFDD-RL-Information-Item	ProtocolIE-ID ::= 524
id-Phase-Reference-Update-Indicator	ProtocolIE-ID ::= 525

id-Unidirectional-DCH-Indicator	ProtocolIE-ID ::= 526
id-RL-Information-RL-ReconfPrepTDD	ProtocolIE-ID ::= 527
id-Multiple-RL-InformationResponse-RL-ReconfReadyTDD	ProtocolIE-ID ::= 528
id-RL-ReconfigurationResponseTDD-RL-Information	ProtocolIE-ID ::= 529
id-Satellite-Almanac-Information-ExtItem	ProtocolIE-ID ::= 530
id-HSDSCH-Information-to-Modify-Unsynchronised	ProtocolIE-ID ::= 533
id-TnIQos	ProtocolIE-ID ::= 534
id-RTLloadValue	ProtocolIE-ID ::= 535
id-NRTLloadInformationValue	ProtocolIE-ID ::= 536
id-CellPortionID	ProtocolIE-ID ::= 537
id-UpPTSInterferenceValue	ProtocolIE-ID ::= 538
id-PrimaryCCPCH-RSCP-Delta	ProtocolIE-ID ::= 539
id-UEMeasurementType	ProtocolIE-ID ::= 540
id-UEMeasurementTimeslotInfoHCR	ProtocolIE-ID ::= 541
id-UEMeasurementTimeslotInfoLCR	ProtocolIE-ID ::= 542
id-UEMeasurementReportCharacteristics	ProtocolIE-ID ::= 543
id-UEMeasurementParameterModAllow	ProtocolIE-ID ::= 544
id-UEMeasurementValueInformation	ProtocolIE-ID ::= 545
id-NACC-Related-Data	ProtocolIE-ID ::= 552
id-GSM-Cell-InfEx-Rqst	ProtocolIE-ID ::= 553

END