TSG-RAN meeting #17 **RP-020633**
Biarritz, France, 3-6 September 2002

3GPP TSG GERAN Meeting #11 **GP-022810**
Los Angeles, Califonia, 26-31 August 2002

Title: Response to "Liaison Statement on Iur-g"
Source: TSG-GERAN
To: TSG RAN, TSG-RAN WG3, TSG-RAN WG2
Cc:
Response to: **GP-022585 (R3-022152)**

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Attachments: GP-022809

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1. Overall Description:

TSG-GERAN thanks for the LS (in R3-022152/GP-022585) on Iur-g.

2. Discussion

1. TSG GERAN WG2 has discussed the proposals and has agreed to adopt solution 1 and that is to include the reference table in GERAN specification to point out all the UTRAN specifications related to Iur-g. In addition, TSG GERAN has agreed to convert the 3GPP TR 43.930 to a Stage 2 Technical Specification.

2. Further, TSG GERAN WG2 has agreed the attached CR (GP-022809) that solves in TSG GERAN's opinion all remaining open issues. With respect to (extract from LS R3-022152/GP-022585):

During the discussion on Iur-g, there was also a concern that UE behaviour hasn't been described in UTRAN specification. Since this is not TSG-RAN WG3 area, TSG-RAN WG3 kindly asks TSG-GERAN to discuss the issue and to take a proper action.

TSG GERAN WG2 has discussed the concern and believes that the same attached CR (GP-022809) clarifies the issue. In addition TSG GERAN WG2 has discussed a separate issue on inter-RAT cell reselection between GERAN *Iu mode* and UTRAN, and agreed appropriate CRs that further clarifies this matter. As part of that discussion TSG GERAN WG2 has endorsed a draft CR to 25.331 that is sent to TSG RAN WG2 as a separate LS.

3. As part of the discussion on open issues related to Iur-g interface, TSG GERAN WG2 has discussed the issue of Coding in ASN.1 or CSN.1 of RRC messages between MS and SRNC, and UE and SBSS. Attached CR (GP-022809) describes the solution to this concern as follows:

In cases of a mixed registration area (i.e. a registration area containing UTRAN cells and GERAN cells), the RRC entity in the serving node must implement RRC functionalities and appropriate coding that are potentially used over the Iur-g interface. For example, if a registration area contains UTRAN and GERAN cells and the serving node is SRNC, then RRC entity in SRNC must handle RRC functions for Cell Update, GRA Update and RRC Connection Release that are specified in 3GPP TS 44.118. Similarly, if in such mixed environment there is a SBSC, then the SBSC must handle related RRC functions as specified in 3GPP TS 25.331.

3. Actions:

To TSG RAN group

TSG-GERAN kindly asks TSG RAN to note that TSG GERAN has agreed on the solution 1 (of two solutions described in R3-022152). As consequence TSG RAN is invited to agree on the first set of the CRs coming from TSG RAN WG3 (R3-022038 (CR056) on TS25.401 and R3-022147 (CR028) on TS25.420).

To TSG RAN WG3 group

To note the discussion.

To TSG RAN WG2

To note the discussion and comment the issue of coding of RRC messages in case of Iur-g.

4. Date of Next TSG GERAN WG2 Meetings:

07-OCT-2002 to 11-OCT-2002, Atlanta, US

19-NOV-2002 to 21-NOV-2002, Sophia Antipolis, FR

3GPP TSG-GERAN Meeting #11
Los Angeles, US, 26.08.2002-30.08.2002

Tdoc ✍ GP-022809
revision of GP-022773

CR-Form-v7

CHANGE REQUEST

✍ **43.930** **CR** **001** ✍ **rev** **1** ✍ Current version: **5.0.0** ✍

*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: ✍	Corrections, clarifications and alignment to Stage 3 CR on Iur-g	
Source: ✍	Nokia	
Work item code: ✍	GER3GAL-Iurg	***Date:*** ✍ 20/08/2002
Category: ✍	**F**	***Release:*** ✍ Rel-5

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

Use one of the following releases:

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: ✍	TSG RAN has agreed the CRs to RNSAP that includes Information Exchange procedures as part of Iur-g. In addition TSG RAN has decided to include a new GERAN Uplink Signalling message. And there were earlier comments that requested clarification on the impact on RRC for SRNC and SBSS
Summary of change: ✍	Section 4.3 attempts to clarify the impact of Iur-g on RRC layers. Inclusion of Information Exchange functions GERAN UPLINK SIGNALLING
Consequences if not approved: ✍	Misalignment with Stage 3, and ambiguities left in this TR

Clauses affected: ✍	4.3, 5.2, 7.2.1, 7.2.4, 7.3, 7.4.4			
Other specs affected: ✍	**Y**	**N**		✍
		N	Other core specifications	
		N	Test specifications	
		N	O&M Specifications	
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.

4 Motivation, principles and assumptions

4.1 Motivation

As part of the work to connect GERAN via the Iu interface to the CN, the GRA and RNTI concepts have also been adopted for the GERAN. With these concepts, an inactive mobile in the RRC-GRA_PCH state (see 3GPP TS 44.118 [7]) will perform signalling to the network whenever it changes the GRA. Since GRAs need not be constrained by BSC coverage areas, it is possible that the MS reselects a cell on a different BSC but on the same GRA. In order maintain the ability to page the mobile in the GRA with the correct RNTI, as well as to enable a path for a GRA update procedure with the serving BSC, it is necessary to have an Iur-g interface between the BSSs.

The same principle applies for dual-RAN capable mobiles. The architecture specifications permit network operators to design networks that alleviate the potential problem caused by dual mode mobiles frequently toggling between UTRAN and GERAN coverage areas (e.g. in indoor coverage situations): for instance, common LAIs and RAIs for GERAN and UTRAN cells in the same geographical area. Defining GERAN and UTRAN cells in common LAs and RAs permits an inactive mobile to change from GERAN to UTRAN coverage or, vice versa, without any signalling to the network. Prior to Release 5, this is possible because GSM/GPRS is does not use the connection oriented Iu interface. From Release 5 on, an *inactive* MS would signal to the network when a cell change involving change of RAN takes place. To prevent this, operators may configure GRA IDs and URA IDs to indicate the same registration area. To enable paging across these registration areas, as well as to enable the possibility to perform GRA/URA update procedures with the serving BSC/RNC, it is necessary to have an Iur-g interface between the BSS and the RNC.

The definition of GRAs/URAs has the following benefits:

- It increases the MT call success rate: by reducing the frequency of updates, it reduces the time during which the MS is believed by the RAN to be in the old registration area, when paging requests would fail.
- It reduces the amount of signalling on the radio interface, since the mobile does not need to indicate cell changes when moving within a GRA/URA.
- For the same reason, it reduces the amount of signalling in the network, thus decreasing the number of updates and of SRNC/SBSC relocation procedures.

The Iur-g may bring other benefits:

- Support for the SRNC/SBSC relocation procedure: the current SRNS relocation procedure defined for UTRAN using the Iur interface could be reused, improving the performance of the procedure. The Cell Update and Relocation Commit messages could be transferred over this interface.

4.2 Principles

The Iur-g interface shall be designed based on the following principles:

- The Iur-g interface shall be open.
- From a logical standpoint, this interface is a point to point interface between one BSS and one BSS or RNC within a PLMN. From a physical point of view, the interface could share Iu or other transmission resources.
- The Iur-g interface is optional. The presence of the Iur-g shall be transparent to the MS: the 3GPP specifications shall ensure that all mobiles function correctly irrespective of the presence or absence of the Iur-g interface.
- This interface shall support the exchange of signalling information between a BSS and a BSC/RNC. The Iur-g interface shall not carry user information.
- A GRA contains one or more GERAN cells and zero or more UTRAN cells. A URA contains one or more UTRAN cells and zero or more GERAN cells.

NOTE: The term RAN Registration Area (RRA) is used in this document to refer to a registration area irrespective of whether it contains GERAN cells, UTRAN cells or both types of cells. The terms GRA and URA will be used in GERAN and UTRAN specifications, respectively, where GRAs may contain UTRAN cells and URAs may contain GERAN cells.

- In *Iu mode*, the BSC has been allocated an identifier (BSC-Id) from the same pool of numbers as the RNC-Id.

4.3 Assumptions

NOTE: This section will be removed from this TR when the assumptions listed here are either consolidated and incorporated to the sub-clause on principles and/or procedures, superseded or rejected.

The following working assumptions are considered at the present version of this TR:

1. The Cell Update procedure performed when the MS is controlled

   - by a controlling RNC when the serving RAN node is a BSC, or

   - by a controlling BSC, independently of the serving RAN node (RNC or BSC),

   will always trigger a SRNC/SBSC relocation, regardless of the cell update cause. Exception to this rule is when the SBSS/SRNC would reply with an RRC Connection Release message. In that case the serving node relocation may not be needed.

2. The GR~~R~~A/URA Update procedure may cause SRNC/SBSC relocation. This is left as implementation matter.

3. The interface between two BSSs and between a BSS and an RNC will be the same, namely the Iur-g interface.

4. The Iur-g interface is based on a subset of procedures and messages of the Iur interface of UTRAN, namely the RNSAP (see 3GPP TS 25.423 [5]).

5. ~~5.~~ If the NNSF is supported in the network, one GRA should not contain GERAN cells or GERAN and UTRAN cells from different MSCs or SGSNs pool areas (see 3GPP TS 23.236 [2]). If the NNSF is not supported one GRA cannot contain GERAN cells or GERAN and UTRAN cells from different MSCs or SGSNs.

6. In cases of a mixed registration area~~s when~~ (i.e. a ~~GRA/URA~~ registration area containing~~s more than zero~~ UTRAN~~/GERAN~~ cells and GERAN cells), the RRC entity in the serving node must implement RRC functionalities and appropriate coding that are potentially used over the Iur-g interface. For example, if a registration area contains UTRAN and GERAN cells and the serving node is SRNC, then RRC entity in SRNC must handle RRC functions for ~~Paging,~~ Cell Update, GRA Update and RRC Connection Release that are specified in 3GPP TS 44.118. Similarly, if in such mixed environment there is a SBSC, th~~a~~en the SBSC must handle related RRC functions as specified in 3GPP TS 25.331.

5 General aspects

5.1 Network architecture

5.1.1 General

The Iur-g interface is the logical interface between two BSSs or a BSC and an RNC and it is only considered in *Iu mode*. This is depicted in Figure 1.

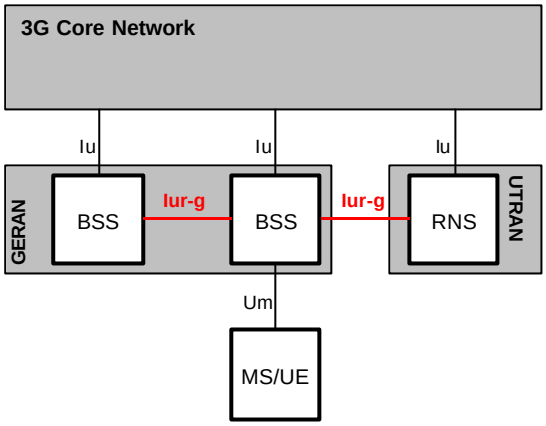

Figure 1: Reference architecture for the Iur-g interface.

5.1.2 MS Identifiers

The Radio Network Temporary Identities (RNTI) are used as MS/UE identifiers within the GERAN/UTRAN and in signalling messages between MS/UE and GERAN. Four types of RNTI exist:

1) Serving BSS/RNC RNTI (S-RNTI);
2) Drift BSS/RNC RNTI (D-RNTI);
3) Cell RNTI (C-RNTI);
4) UTRAN RNTI (U-RNTI) or GERAN RNTI (G-RNTI);

The S-RNTI is used:

- by the MS/UE to identify itself to the Serving BSS/RNC;
- by the SBSS/SRNC to address the MS/UE; and
- by the DBSS/DRNC to identify the MS/UE to serving BSS/RNC.

The S-RNTI is allocated for all MSs/UEs having an RRC connection. It is allocated by the serving BSS/RNC and it is unique within the serving BSS/RNC. The S-RNTI is reallocated always when the serving BSS/RNC for the RRC connection is changed.

The D-RNTI is used by the serving BSS/RNC to identify the MS/UE to the drift BSS/RNC.

NOTE: The D-RNTI is never used on the Um/Uu interface.

The D-RNTI is allocated by the drift BSS/RNC upon drift MS/UE contexts establishment and it shall be unique within the drift BSS/RNC. Serving BSS/RNC shall know the mapping between the S-RNTI and the D-RNTIs allocated in the drift BSS for the same MS/UE. The drift BSS/RNC shall know the S-RNTI and SBSS-ID/RNC-ID related to the existing D-RNTI within the drift BSS/RNC.

The C-RNTI is used this identifier is used only in UTRAN:

- in case of the Iur-g interface between UTRAN and GERAN (specifically the case of a SBSS and DRNC);
- by the UE to identify itself to the controlling RNC; and
- by the controlling RNC to address the UE.

The C-RNTI is allocated by the controlling RNC upon UE accessing a new cell. The C-RNTI shall be unique within the accessed cell. The controlling RNC shall know the D-RNTI associated to the C-RNTI within the same logical RNC (if any).

The G-RNTI/U-RNTI is allocated to an MS/UE having an RRC connection and it identifies the MS/UE within GERAN/UTRAN. The G-RNTI/U-RNTI is composed of:

- SBSS/SRNC identity; and
- S-RNTI.

Each BSS/RNC has a unique identifier within the GERAN/UTRAN part of the PLMN, denoted by BSS/RNC identifier (BSS-ID/RNC-ID). This identifier is used to route GERAN/UTRAN interface messages to the correct BSS/RNC. The BSS-ID/RNC-ID of the serving BSS/RNC together with the S-RNTI is a unique identifier of the MS/UE in the GERAN/UTRAN part of the PLMN.

From this architecture, there are three possible scenarios for a particular MS/UE:

a) Both the serving and the controlling RAN nodes are BSCs.

b) The serving RAN node is a BSC and the controlling RAN node is an RNC.

c) The serving RAN node is an RNC and the controlling RAN node is a BSC.

These scenarios are shown in Figure 2.

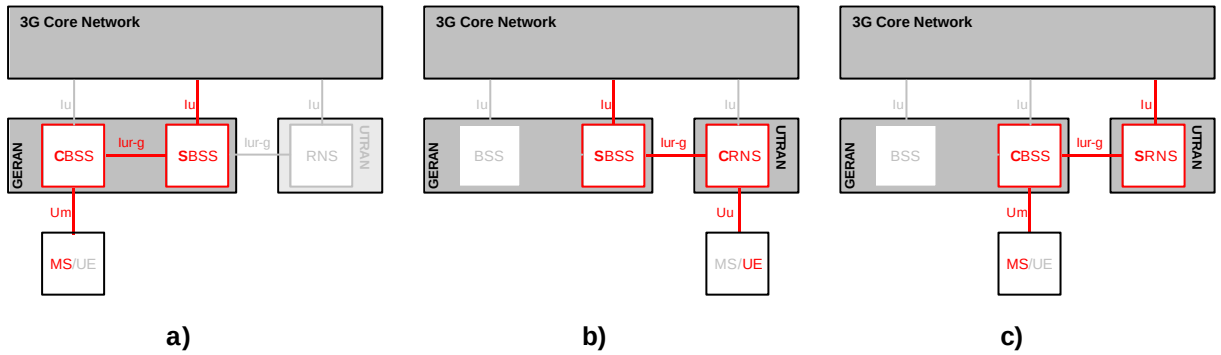

Figure 2: Scenarios using the Iur-g interface.

5.2 Iur-g interface capabilities

The Iur-g interface provides capability to support radio interface mobility between BSSs or between a BSS and an RNS of UEs having a connection with the GERAN or the UTRAN. This capability includes the support of paging, cell update, registration area update and handover between BSSs or between a BSS and an RNS. Further, Iur-g interface provides capability to support information exchange between two BSSs or between a BSS and RNS.

6 I_{ur} Interface Protocols

6.1 General

There shall exist a clear separation between the Radio Network Layer and the Transport Layer. Therefore, the radio network signalling is separated from the data transport resource and traffic handling as shown in Figure 3. This separation is also present in the Iur interface (see 3GPP TS 25.420 [4]).

Since the Iur-g does not carry user data information, neither data transport resources nor Transport Signalling are present on this interface. These elements, present in the Iur interface but not in the Iur-g, are shown in dotted lines in Figure 3.

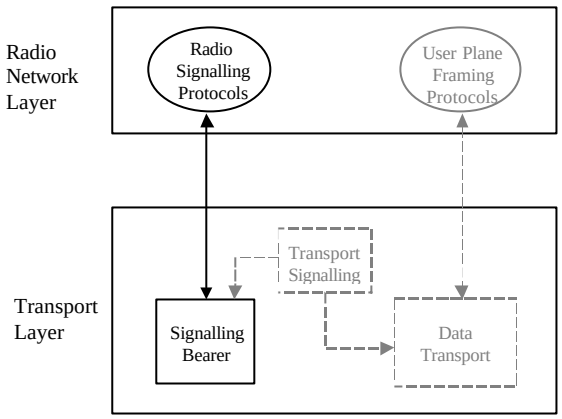

Figure 3: Separation of Radio Network Protocols and transport over Iur-g.

The following Table lists all stage 3 specifications that are used for Iur-g interface:

Spec. No	Spec. Name
TS 25.401	UTRAN Overall Description
TS 25.420	UTRAN Iur Interface: General Aspects and Principles
TS 25.421	UTRAN Iur interface Layer 1
TS 25.422	UTRAN Iur Interface Signalling Transport
TS 25.423	UTRAN Iur Interface RNSAP Signalling

6.2 Functions of the Iur-g interface protocols

The list of functions on the Iur-g interface is the following:

- **Paging**. This function allows the SBSS/SRNC to page a MS/UE in a GRA/URA or a cell in the DBSS/DRNS;
- **Relocation Execution**. This function allows the SBSS/SRNC to finalise a Relocation previously prepared via other interfaces;
- **Reporting of General Error Situations**. This function allows reporting of general error situations, for which function specific error messages have not been defined.
- **Measurements on Common Resources**. This function allows an BSS/RNC to request from another BSS/RNC to initiate measurements on Common Resources. The function also allows the requested BSS/RNC to report the result of the measurements.

6.3 Iur-g Interface protocol structure

The Iur interface protocol architecture consists of two functional layers:

- **Radio Network Layer**: it defines the procedures related to the interaction of two BSSs or between a BSS and an RNC within a PLMN. The radio network layer consists of a Radio Network Control Plane and a Radio Network User Plane. The functionality of the Radio Network User Plane of the Iur-g interface is null.
- **Transport Layer**: it consists of two planes:

a) **Transport Network Control Plane**: it defines procedures for establishing physical connections between two BSSs or between a BSS and an RNC within a PLMN. The functionality of the Transport Network Control Plane of the Iur-g interface is null.

b) **Transport Network User Plane**: it provides means for the transport of the Radio Network Layer information.

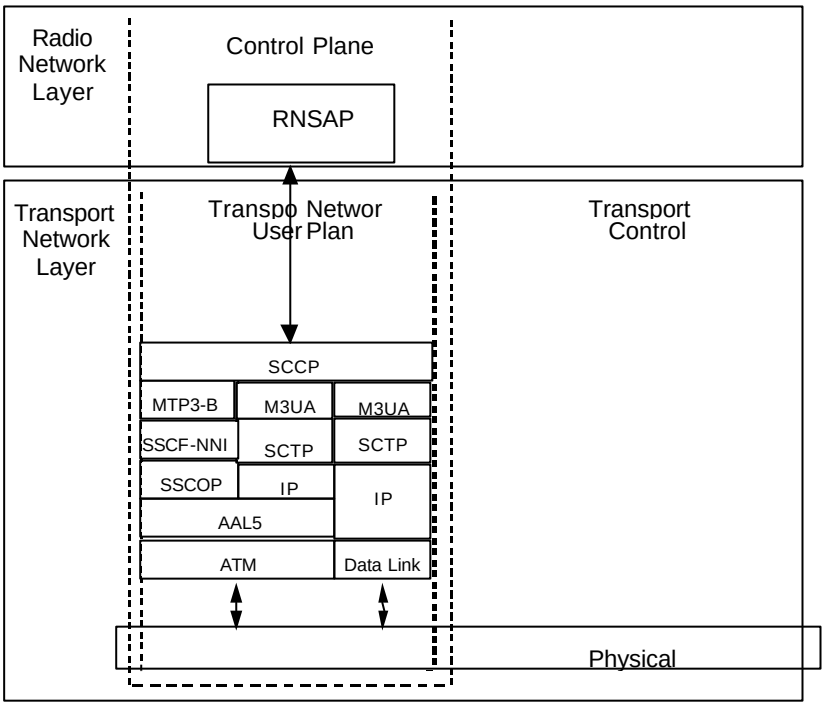

Figure 4: Iur-g interface protocol structure.

6.4 Radio signalling protocols

The protocol responsible for providing signalling information across the Iur-g interface is a sub-set of the Radio Network Subsystem Application Part (RNSAP) (see 3GPP TS 25.423 [5]). This subset of RNSAP is terminated by two BSSs or by the BSS and RNC inter-connected via the Iur-g interface.

The subset of RNSAP procedures applicable to the Iur-g interface are divided into two modules as follows:

1. **RNSAP Basic Mobility Procedures**: these procedures are used to handle the mobility within GERAN or between GERAN and UTRAN.

2. **RNSAP Global Procedures**: these procedures are not related to a specific MS. The procedures in this module are in contrast to the above module involving two peer CBSSs or a CBSS and a CRNC.

7 Radio Network Layer: RNSAP protocol

7.1 General

The following sub-clauses describe the applicability of the procedures that are supported on the Iur-g interface. The actual Iur-g interface procedures are further described in 3GPP TS 25.423 [5]. These sub-clauses show those procedures integrated with procedures on other interfaces and/or events in other network entities than the BSS or the RNC.

7.2 Basic mobility procedures

7.2.1 General

The Iur-g interface has no Radio Network User Plane functionality and SBSS/SRNS relocation is performed during every Cell Update procedure. Therefore, the only state when the MS is simultaneously known by two BSSs or one BSS and one RNC is in GERAN RRC-GRA_PCH state and UTRAN URA_PCH state.

In the GERAN RRC-GRA_PCH and UTRAN URA_PCH states, the following procedures related to the mobility of the MS are supported over the Iur-g interface:

- Paging;
- Cell Update;
- Registration Area Update; and
- RRC Connection Release.

The following sub-clauses describe how these procedures are performed over the Iur-g interface.

Elementary procedures over the Iur-g interface that support above mentioned mobility procedures are specified in 3GPP TS 25.423 [5] and listed in the table below:

Elementary Procedure	Initiating Message
Uplink Signalling Transfer	GERAN UPLINK SIGNALLING TRANSFER INDICATION
Downlink Signalling Transfer	DOWNLINK SIGNALLING TRANSFER REQUEST
SRNS Relocation Commit	SRNS RELOCATION COMMIT
Paging	PAGING REQUEST

7.2.2 Paging

The MS/UE in the RRC-GRA_PCH and URA-PCH states may receive a CN initiated paging message. The Paging Request message received by the serving node (BSS or RNC) shall trigger paging over the registration area. In case registration area consists of cells belonging to different BSS/RNC, then the RNSAP Paging procedure over the Iur-g interface is used.. This procedure is used by the SBSS/SRNC to indicate to a CBSS/CRNC that an MS shall be paged in a cell or GRA/URA that is under the control of the CBSS/CRNC.

To illustrate further the usage of this procedure the following figure describes a scenario when the MS/UE has a context active towards PS domain and paging request is issued by the CS domain.

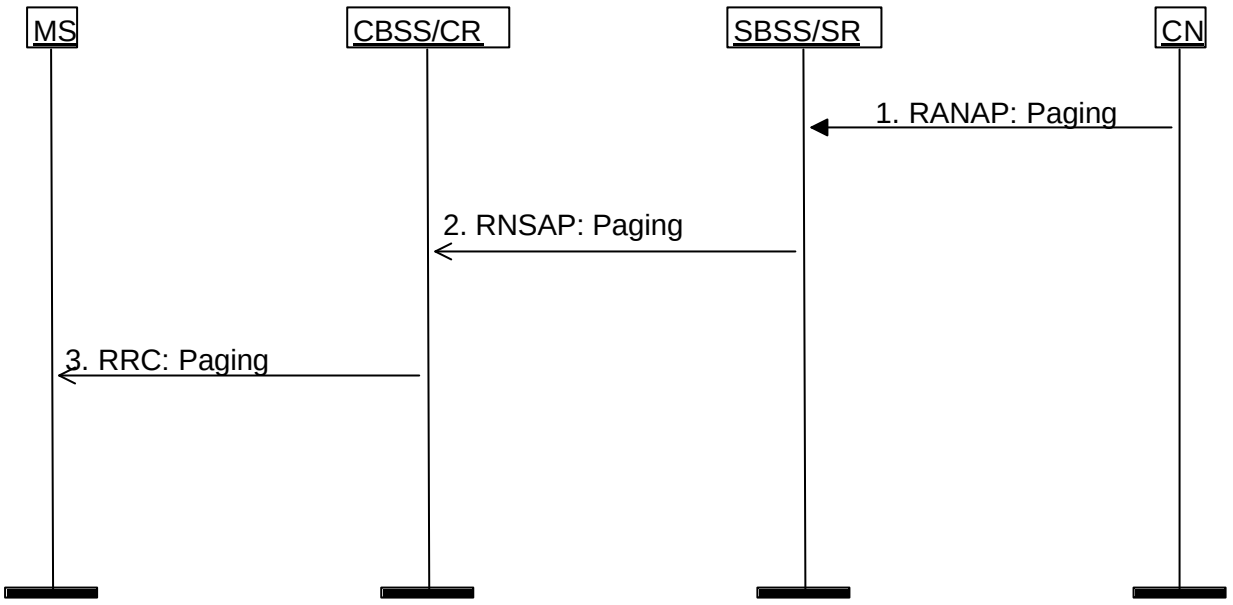

Figure 5. Example of Paging over Iur-g

7.2.3 Cell Update

In the RRC-GRA_PCH or URA_PCH states the MS/UE may initiate the Cell Update procedure for reasons of uplink activity, whether that is an answer to a page, periodic cell update or uplink data transfer. As explained in sub-clause 4.3, a Cell Update procedure shall always trigger the SRNC/SBSS relocation. The following figure describes the signalling flow for Cell Update procedure.

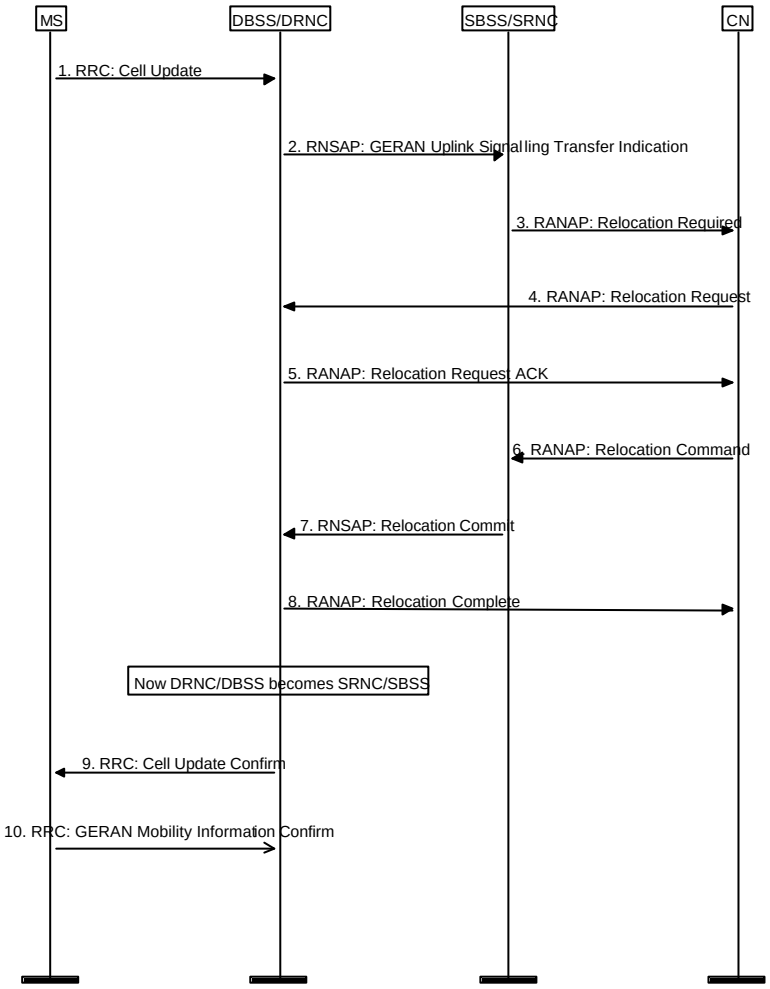

Figure 6. Cell Update with Relocation (Simplified)

1. MS/UE in RRC-GRA_PCH and URA_PCH states triggers the Cell Update procedure by sending RRC CELL UPDATE message to the DBSS/DRNC.

   - DBSS/DRNC will use RNSAP Uplink Signalling Transfer procedure to forward the Cell Update message to the SBSS/SRNC. The message that is used for this is GERAN Uplink Signalling Transfer Indication. The procedure and the contents of the message are described in 3GPP TS 25.423 [5]. There are two messages already defined one for FDD and one for TDD. In case of the Iur-g interface, ~~a new version of~~ RNSAP GERAN UPLINK SIGNALLING TRANSFER INDICATION message (GERAN message) ~~will~~ is ~~be~~ used.

2. Upon reception of CELL UPDATE message, the SBSS/SRNC shall trigger the SBB/SRNC relocation. Steps 4, 5, and 6 are not relevant for this discussion so they are omitted.

7. The Relocation Commit procedure is used by the source BSS/RNC to execute the relocation. This procedure is described in 3GPP TS 25.423 [5]. The procedure is triggered by the RELOCATION COMMIT message.

9. Assuming a successful relocation the former DBSS/DRNC, the SBSS/SRNC shall send the CELL UPDATE CONFIRM message to the UE/MS.

7.2.4 Registration Area Update

The MS/UE shall trigger the GRA/URA Update Procedure when there is a change in registration area, or based on the timers related to the periodic GRA/URA update. The following figure shows an example of a successful GRA/URA Update. This example assumes no SBSS/SRNC relocation.

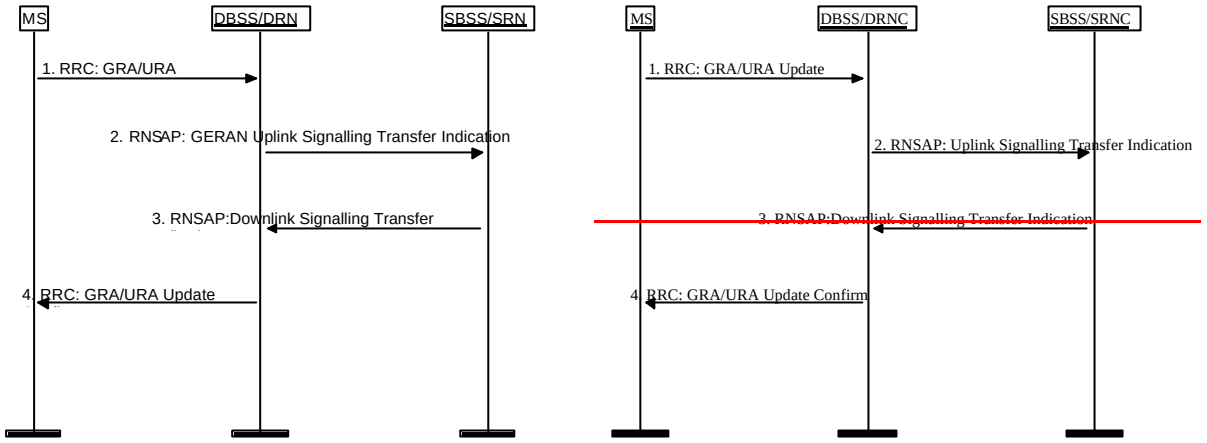

Figure 7. GRA Update, no relocation (Simplified)

1. The MS/UE in RRC-GRA or URA_PCH states triggers the GRA/URA Update procedure by sending RRC GRA/URA UPDATE message to the DBSS/DRNC.

   - The DBSS/DRNC uses RNSAP Uplink Signalling Transfer procedure to forward the GRA/URA UPDATE message to the SBSS/SRNC. The GERAN UPLINK SIGNALLING TRANSFER INDICATION message is used for this. The procedure and the contents of the message are described in 3GPP TS 25.423 [5]. ~~There are two messages already defined one for FDD and one for TDD. In case of the Iur-g interface a new version of the RNSAP UPLINK SIGNALLING TRANSFER message (GERAN message) will be used.~~

2. Upon reception of the GERAN UPLINK SIGNALLING TRANSFER INDICATION message containing the RRC GRA/URA UPDATE message, the SBSS/SRNC shall include the GRA/URA UPDATE CONFIRM message and use the Downlink Signalling Transfer procedure to request the DRNC/DBSS the transfer of the message to the MS/UE. The Downlink Signalling Transfer procedure is specified in 3GPP TS 25.423 [5]and it is triggered by DOWNLINK SIGNALLING TRANSFER REQUEST message. The content of this message is specified in 3GPP TS 25.423 [5]. The content of the message should be the same in case of the Iur-g interface, except for C-Id IE. In case of a DRNC, the C-Id is used, while in case of a DBSS, the CI IE shall be used.

3. The DBSS/DRNC shall send the GRA/URA UPDATE CONFIRM message to the UE/MS.

7.2.5 RRC Connection Release

The SBSS/SRNC may trigger the RRC Connection Release procedure for an MS/UE in RRC-GRA_PCH or URA_PCH states. In order to release the RRC connection, the SBSS/SRNC shall first trigger the paging procedure. The SBSS/SRNC, in response to the Cell Update procedure, may then use the DOWNLINK SIGNALLING TRANSFER INDICATION message to relay the RRC CONNECTION RELEASE message to the MS/UE.

In addition, the SBSS/SRNC, in response to any Cell Update or GRA/URA Update procedures, may decide to trigger the release of RRC Connection. In that case the SBSS/SRNC shall use the DOWNLINK SIGNALLING TRANSFER INDICATION message to relay the RRC CONNECTION RELEASE message to the MS/UE.

7.3 ~~Common procedures~~Void

~~NOTE: Whether the use of the Iur-g interface is restricted to the *Iu mode* or whether a simplified functionality of this interface can be supported by BSSs not supporting *Iu mode* is for further study.~~

7.4 Global procedures

7.4.1 General

Elementary Procedure	Initiating Message
Error Indication	ERROR INDICATION
Common Measurement Initiation	COMMON MEASUREMENT INITIATION REQUEST
Common Measurement Reporting	COMMON MEASUREMENT REPORT
Common Measurement Termination	COMMON MEASUREMENT TERMINATION REQUEST
Common Measurement Failure	COMMON MEASUREMENT FAILURE INDICATION
Information Exchange Initiation	INFORMATION EXCHANGE INITIATION
Information Reporting	INFORMATION REPORT
Information Exchange Termination	INFORMATION EXCHANGE TERMINATION REQUEST
Information Exchange Failure	INFORMATION EXCHANGE FAILURE INDICATION

7.4.2 Error Indication

The Error Indication procedure is initiated by a node to report detected errors in a received message, provided they cannot be reported by an appropriate response message.

7.4.3 Common Measurement Functions

The Common Measurement function in the Iur-g interface is used to support the Improved RRM across BSS and BSS/RNC. This functionality is supported by adopting the Iur procedures for Common Measurements:

- **Common Measurement Initiation**: This procedure is used by an RNC/BSS to request the initiation of measurements of common resources to another RNC/BSS. For measurements made in GERAN cells, only the following measurement types are applicable:
  - Load
  - RT load
  - NRT load information
- **Common Measurement Reporting**: This procedure is used by an RNC/BSS to report the result of measurements requested by another RNC using the Common Measurement Initiation.
- **Common Measurement Termination**: This procedure is used by an RNC/BSS to terminate a measurement previously requested by the Common Measurement Initiation procedure.
- **Common Measurement Failure**: This procedure is used by an RNC/BSS to notify another RNC/BSS that a measurement previously requested by the Common Measurement Initiation procedure can no longer be reported.

7.4.4 Information Exchange Functions

This Information Exchange functions are used to initiate, maintain and terminate information exchange between two RNC/BSS nodes. This functionality is supported by adopting the Iur procedures for Information Exchange:

- **Information Exchange Initiation:** This procedure is used by a BSS/RNC to request the initiation of an information exchange with another BSS/RNC. The procedure is initiated with an INFORMATION EXCHANGE INITIATION REQUEST message sent from BSS1 to BSS2/RNC2 or by RNC1 to BSS2. Upon reception, the BSS2/RNC2 shall provide the requested information according to the parameters given in the request.
- **Information Reporting:** This procedure is used by a BSS/RNC to report the result of information requested by another BSS/RNC using the Information Exchange Initiation.
- **Information Exchange Termination:** This procedure is used by a BSS/RNC to terminate the information exchange requested using the Information Exchange Initiation.
- **Information Exchange Failure:** This procedure is used by a BSS/RNC to notify another that the information exchange it previously requested using the Information Exchange Initiation can no longer be reported.

The information which can be requested on the Iur and Iur-g interfaces is shown in the table below marked with "X". For information which is not applicable on the Iur-g interface, the BSS shall regard the Information Exchange Initiation procedure as failed.

Table xx: Allowed Information types on Iur and Iur-g interfaces

Information Type	Interface	
	Iur	Iur-g
IPDL Parameters	X	
DGPS Corrections	X	
GPS Information	X	
Cell Capacity Class	X	X

- Annex A:
Change history

Date / TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
GP-10				First version		5.0.0