Technical Specification Group, Radio Access Network
Meeting #2, Fort Lauderdale, 2-4 March 1999

TSGR#2(99)011

Document for:

Agenda Item:

UMTS ZZ.12 V1.0.0 (1999-01)

Technical Report

Source:

TD SMG P-99-079

UMTS Terrestrial Radio Access Network (UTRAN); Description of I_{ur} Interface (UMTS ZZ.12 version 1.0.0)

Title: **UMTS Terrestrial Radio Access Network (UTRAN); Description of I_{ur} Interface (UMTS ZZ.12 version 1.0.0)**

UMTS

Universal Mobile Telecommunications System

ETSI

Reference
DTR/SMG-02ZZ12U (04000i04.PDF)

Keywords
Digital cellular telecommunications system,
Universal Mobile Telecommunication System
(UMTS), UTRAN

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Contents

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Foreword

This Technical Report (TR) has been produced by the Special Mobile Group (SMG) of the European Telecommunications Standards Institute (ETSI).
This TR describes the UTRAN RNS-RNS (Iur) interface. The contents of this TR is subject to continuing work within TC-SMG and may change following formal TC-SMG approval..

1 Scope

This document shall provide a description of the UTRAN RNS-RNS (Iur) interface as agreed within the ETSI SMG2 UMTS ARC expert group.

2 References

[Editor´s note: Text copied from [1]*.]*
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.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] ZZ.01, UTRAN Architecture Description
[2] UMTS 23.10, UMTS Access Stratum Services and Function
[3] Tdoc SMG2 UMTS-L23 110/98, Vocabulary used in the UMTS L2&L3 Expert Group
[4] UMTS ZZ.13, Description of I_{ub} Interface
[5] UMTS ZZ.11, Description of I_u Interface
[6] RRC Procedures for Handover Measurement Reporting and Handover Execution
[7] Manifestations of Handover and Streamlining
[8] ITU-T Draft TRQ.2015.1.01, Signalling Requirements for AAL Type 2 Capability Set 1 (CS1), November 1998
[9] ITU-T Draft new ITU-T Recommendation Q.aal2 AAL Type 2 Signalling protocol (Capability Set 1), November 1998
[10] ZZ.02, UTRAN Functions, Examples on Signalling Procedures

3 Definitions, Abbreviations and Symbols

3.1 Definitions

[Editor´s note: For list of definitions, see [1]. Only definitions specific to this document are listed below, in order to avoid inconsistency between documents. When list is stable, definitions relevant for this document should be extracted.]

3.2 Abbreviations

[Editor´s note: For list of abbreviations, see [1]. Only abbreviations specific to this document are listed below, in order to avoid inconsistency between documents. When list is stable, abbreviations relevant for this document should be extracted.]

3.3 Symbols

For the purposes of this specification the following symbols apply:

3.4 Notation

[Editor´s note: This text has been copied from [1].]
Parts of the document apply only to one mode, FDD or TDD. Any such area will be tagged by [FDD — xxxxxxxxx], or [TDD — yyyyyyyyyy], respectively. The tag applies to the text until the closing bracket.

4 General Aspects

4.1 UTRAN Architecture

[Editor´s note: This chapter should describe the UTRAN architecture from I_{ur} point of view. The RNS roles SRNS and DRNS are described to facilitate the description of functional split in chapter 0.
In order to avoid inconsistency between documents, reference to [1], chapter 6.1, has been made. When finally approved, applicable parts should be included below.]
See [1], chapter 6.1.

4.2 I_{ur} -Interface Capabilities

[Editor´s note: The structure of the chapter has been slightly changed to conform with the structure of the correpsonding chapter in the Iub Interface Description [4]. 'Radio application related signalling' has been added to the list below as an own category of information transferred over the Iur interface. The structural change is an editor's proposal.]
The information transferred over the Iur reference point can be categorised as follows:
1. Radio application related signalling

The I_{ur} interface provides capability to support radio interface mobility between RNSs, of UEs having a connection with UTRAN. This capability includes the support of handover and radio resource handling between RNSs.
2. Iub/Iur DCH data streams

For a description of the Iub/Iur DCH data stream see the Description of Iub Interface [4].
3. Iur RACH data streams

The contents of the RACH data streams is FFS.
4. Iur FACH data streams

The contents of the FACH data streams is FFS.
5. Iur DSCH data streams

The contents of the DSCH data streams is FFS.
The FAUSCH is FFS.

4.3 I_{ur} -Interface Specification Objectives

[Editor´s note: The text below is the editor's proposal.]
The I_{ur} interface specifications shall facilitate the following:
- Inter-connection of RNSs from different manufacturers;
- Support of continuation between RNSs of the UTRAN services offered via the Iu interface.
- Separation of I_{ur} interface Radio Network functionality and Transport Network functionality to facilitate introduction of future technology.

4.4 I_{ur} -Interface Characteristics

[Editor´s note: This chapter should shortly describe the I_{ur} -Interface Characteristics.]

5 I_{ur} -Interface Protocol Functions

[Editor´s note: This chapter should describe the functions of the Iur interface protocols.]
The list of functions on the Iur interface is the following:
1) Transport Network Management
2) Traffic management of Common Channels
   URA Paging
3) Traffic Management of Dedicated Channels
   Radio Link Addition/-Deletion
   Measurement Reporting
   Dedicated Transport Channel Management
4) Traffic Management of Downlink Shared Channels

For information about the I_{ur} Interface functional division, see [1].

6 I_{ur} -Interface Protocol Structure

[Editor´s note: This chapter should provide an introduction to the structure of the Iur interface protocols.]

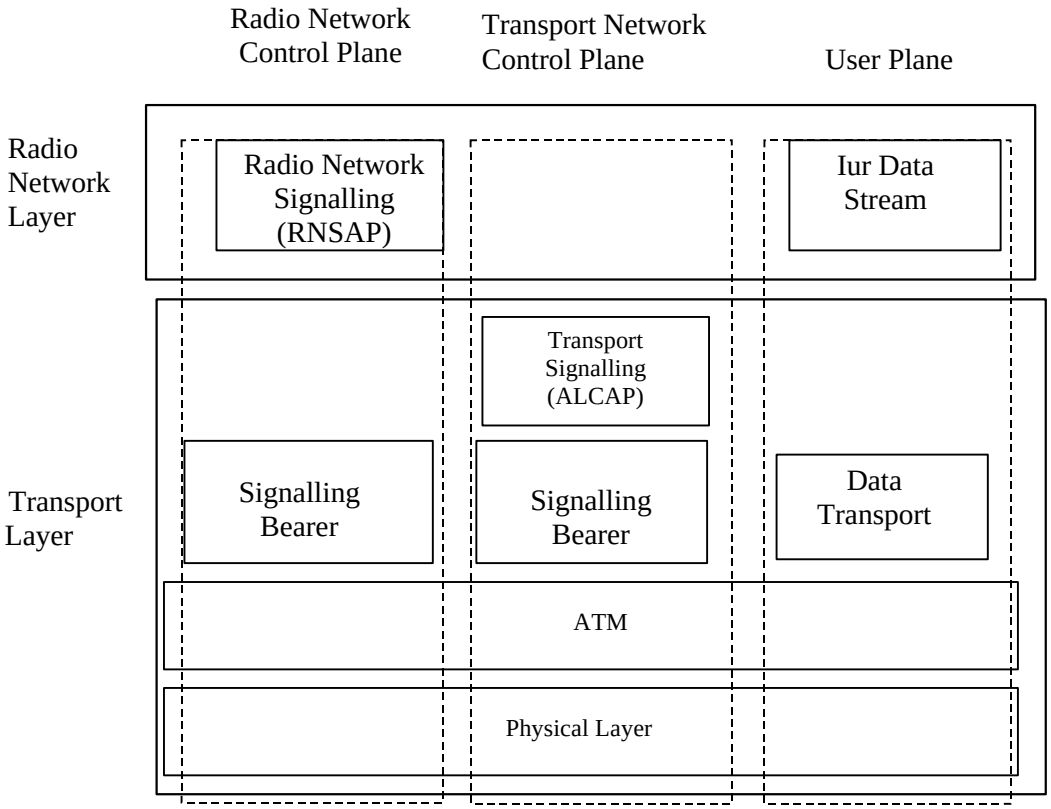

Figure 1. I_{ur} -Interface Protocol Structure

7 I_{ur} -Interface Protocol Layer Specification for Radio Network Control Plane

7.1 Introduction

[Editor´s note: This chapter should give and introduction to the protocol layer specification for Radio Network Control Plane]

7.2 Radio Network Layer

7.2.1 General

[Editor´s note: This chapter should describe requirements on RNSAP forward/backward compatibility, error handling principles, message coding principles etc.]
[Editor's note: The issue of the transport layer address is FFS.]

7.2.2 RNSAP Procedures

[Editor´s note: This chapter should list RNSAP procedures, including a text describing the procedure (triggering events, successful and unsuccessful outcome. Message sequences should be provided (using Word pictures for simple editing).]

7.2.2.1 Radio Link Addition

When the serving RNS makes an algorithmic decision to add a cell from an other RNS (a drift RNS) to the active set of a specific RRC connection, the RNSAP message RL ADDITION REQUEST is sent to the corresponding drift RNS to request addition of a radio link. This message contains essentially RL identifier, the target cell identifier, transport format sets (TFSs) for each active DCH and desired radio resources for each radio link. The serving RNS also indicates either that

1) the new radio link may be combined with already existing radio links for this RRC connection, or
2) the new radio link must not be combined with already existing radio links for this RRC connection.

Additional information is ffs.

Since the drift RNS is responsible for its own radio resources the load control (Admission control) must be performed due to the request. In successful case (the load is not too high) the drift RNS allocates requested type of spreading codes for each RL and assigns a binding identifier and a transmission address (e.g. AAL2 address) for each DCH. The time at which the DRNS allocates the spreading code is FFS. This information is sent to the Serving RNS in the message RL ADDITION PROCEEDING. The drift RNS also provides the SRNC with the:

- Cell Identity of all neighboring cells to the cell where the radio link is added,
- information related to neighboring cells necessary for the SRNC (the exact parameters are FFS), and
- the Signaling Address of any RNC controlling neighboring cells not controlled by the drift RNC

Mechanisms to reduce the amount of information to be transported is FFS.

The serving RNS is responsible for setting up the I_{ur} transport bearers for each DCH. The transport bearers are setup towards the address indicated in the RL ADDITION PROCEEDING message from the drift RNS. Also the setup messages should include the corresponding binding identifier, which will be used by the drift RNS to map each transport bearer to the corresponding DCH.

In case the serving RNS has indicated that the new radio link may be combined with already existing radio links for this RRC connection, the drift RNS may instead of assigning binding identifiers and transport addresses in the RL ADDITION PROCEEDING message indicate that the already existing I_{ur} transport bearers can be used also for the new radio link. In such a case the response includes the radio link ID whose I_{ur} transport bearers will be used for data transmission. If old transport bearers are used, then the serving RNS does not perform additional transport bearer setups.

[Editor´s note: The need for a RL ADDITION COMPLETE message from the drift RNS to the serving RNS at detection of layer 1 synchronisation between the cell and the UE in order to indicate completion of the RL Addition procedure is FFS.]

An example of a corresponding message flow at I_{ur} interface is presented in Figure 7-1.

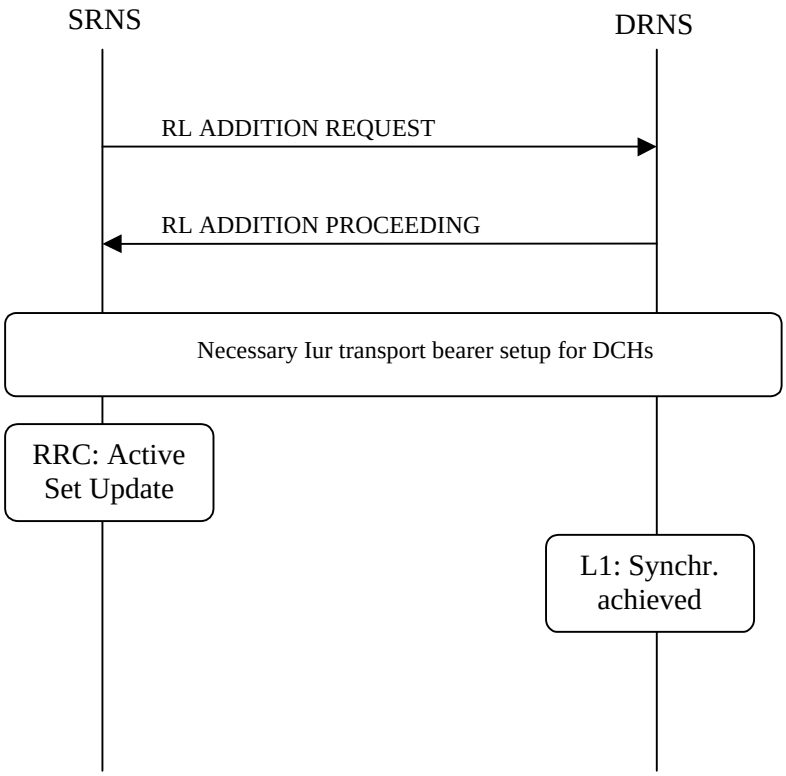

Figure 7-1. An example RNSAP protocol message flow at I_{ur} interface for interRNS RL addition.

7.2.2.2 Radio Link Deletion

When the serving RNS makes an algorithmic decision to delete a cell from another RNS (drift RNS) from the active set of a specific RRC connection, the message RL DELETION REQUEST to request deletion of radio link is sent to the corresponding drift RNS. The message contains essentially the RL identifier to be deleted. Upon reception of the message, the Drift RNS should immediately delete the radio link and all related allocations within the drift RNS and acknowledge the deletion to the Serving RNS by the message RL DELETION CONFIRM.
The serving RNS is responsible to release the corresponding I_{ur} transport bearers, if they are not used by other radio links.
An example of a corresponding message flow at I_{ur} interface is presented in Figure 7-2.

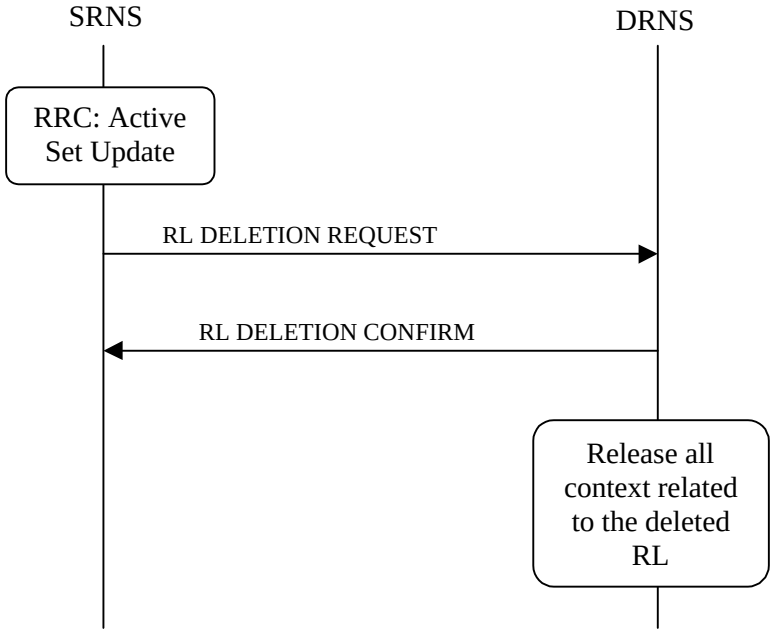

Figure 7-2. An example RNSAP protocol message flow at I_{ur} interface for interRNS RL deletion.

7.2.2.3 Radio Link Reconfiguration

RL Reconfiguration procedure is used to reconfigure radio links related to one UE-UTRAN connection within one DRNS. The procedure can be used to add, delete or modify a DCH.
The RL Reconfiguration procedure is initiated by the serving RNS by sending the RNSAP message RL RECONFIGURATION REQUEST to the DRNS. The message is sent using the relevant signalling connection.
The message includes essentially the desired radio link parameters for the radio links after completion of this procedure.
The following parameters can be specified (the list is to be considered as an incomplete example):
Possible parameters related to all radio links after completion of the procedure:

- DL spreading code type(s)
- New UL spreading type
- New TFCS
- IDs of the DCHs to be added / deleted or modified
- Priority of the added/modified DCH
- TFS of the added/modified DCH

If the proposed modifications are allowed by the DRNS resource management algorithms, and the DRNS has successfully reserved the required resources it responds to the SRNS with RL RECONFIGURATION PROCEEDING message. In unsuccessful case a RNSAP message RL RECONFIGURATION FAILURE is returned, indicating among other things the reason for failure.
The RL RECONFIGURATION PROCEEDING message contains the downlink spreading codes for each radio link (if changed), a Binding Identifier (BID) and transmission address (e.g. AAL2 address) for each new Iur transport bearer (if any).
SRNS informs the UE about the changes in radio links (RL) with the relevant RRC message(s) and sends the RL RECONFIGURATION COMMAND message to DRNSs.
SRNC is responsible for releasing unnecessary Iur transport bearers (if any).

NOTE: A mechanism for synchronising the switch from the old to the new configuration in the UE and the DRNS in needed and FFS.

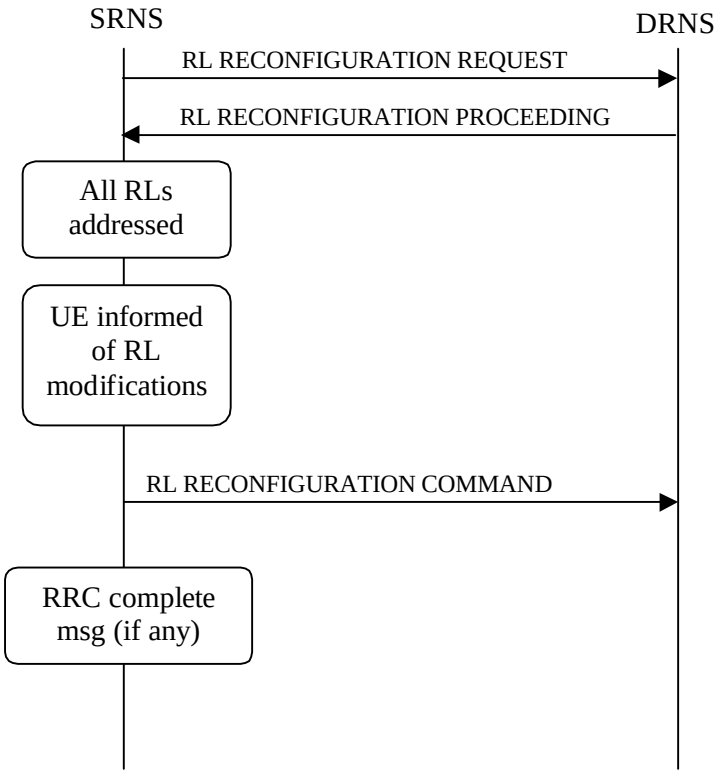

Figure 7-3. RL Reconfiguration procedure

7.2.2.4 Down Link Code Reconfiguration

DL Code Reconfiguration is used to change the DL spreading codes of radio link(s) related to one UE-UTRAN connection. The spreading factor can not be changed and this procedure is used only to defragment the DL spreading code pool.
Code reconfiguration procedure is initiated by the DRNS, when it detects unwanted fragmentation in the DL spreading code pool(s). DRNC sends DL CODE RECONFIGURATION REQUEST to the SRNC via the appropriate dedicated connection. The message includes the radio link ID(s) and proposal for the new DL spreading codes for them.
SRNC decides appropriate execution time for the change. SRNC sends relevant RRC message(s) to the UE and RNSAP DL CODE RECONFIGURATION COMMAND to the DRNS.
DRNS makes the switch to the new codes and releases the old DL spreading codes.

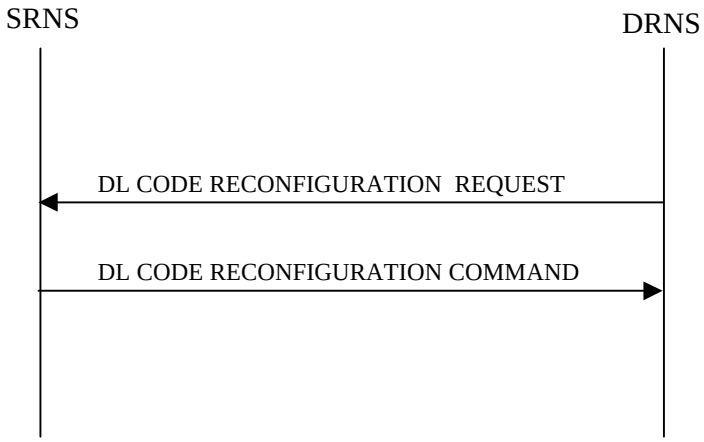

Figure 7-4. DL Code Reconfiguration procedure

7.2.2.5 Cell/URA Update Indication

[Editor's note: The Cell-and URA Update procedures listed in YY.02 [10] have not yet been specified by the SMG2-UMTS ARC EG. The usage of this procedure needs to be further studied together with the Cell- and URA Update procedures, and also with respect to common channel handling over Iur. The name of the procedure is only a working name proposed by the editor.]
UTRAN Cell update is an RRC procedure, which can be executed while in RACH/FACH common channel substate [6]. This functionality is required for the forward type of operation of scenario 2b (Inter RNS/Intra UTRAN) as defined in [7].
UTRAN Registration Area update is an RRC procedure, which can be executed while in RACH/PCH common channel substate [6]. This functionality is required for the forward type of operation of scenario 2b (Inter RNS/Intra UTRAN) as defined in [7].
Upon reception of RRC message UTRAN Cell Update or UTRAN Registration Area Update from a UE the drift RNS inserts necessary information received in the RRC message to the Cell/URA Update Indication message and sends the message to the serving RNS.
At reception of the Cell/URA Update Indication message, there are two options:
1. Perform the update without SRNS Relocation (How this is done is FFS.).
2. Perform the update with an SRNS Relocation (see [10] for a description of the SRNS Relocation procedure)

Which option to use is decided by the SRNS.

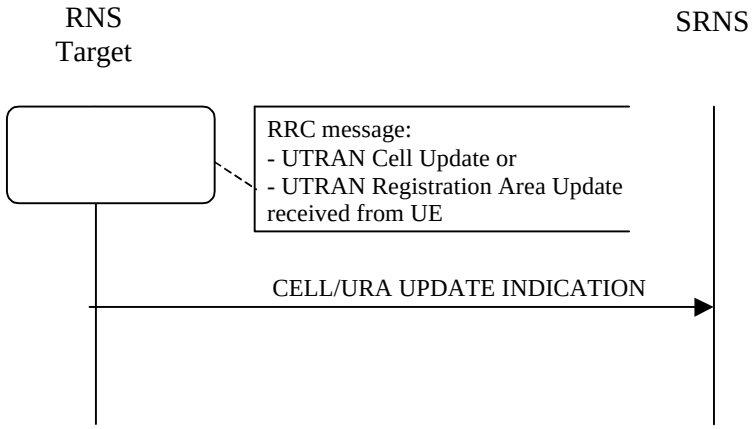

Figure 7-5. Cell/URA Update Indication.

7.2.2.6 Radio Link Dropped Notification

This procedure is started by the drift RNS when a radio link has been dropped without any request from the serving RNS. The reasons for this is a DRNS internal failure or congestion (in the RNC or in the Node B or in the interfaces). Other reasons are FFS.
As consequence the SRNC sends the RNSAP message RL DROPPED NOTIFICATION to the SRNC. The message is sent using the relevant signalling connection.
The message specifies at least:
- RL ID(s): The message may address all the radio links of the drift RNC
- A reason code for the release (ex: cell congestion, hardware failures, etc.)

At reception of the RL DROPPED NOTIFICATION the SRNS could perform the following actions:
- Inform the MS that the radio link has to be removed.
- Perform relevant procedures (Branch Deletion) in order to release all the resources allocated in the DRNS to the removed RL(s), including the transmission resources on the Iur interface.

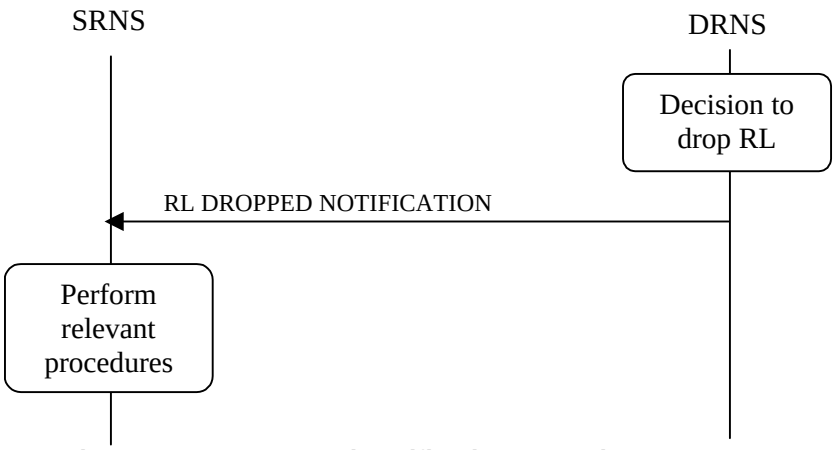

Figure 7-6. RL Dropped Notification procedure

Whether this procedure can also be used to notify dropping of DCH(s) is FFS.

7.2.2.7 Load Indication

[Editor´s note: First paragraph of this chapter is added by the editor, based on Tdoc SMG2 UMTS-ARC 145/98. Minor editorial changes has been mabde to the bulleted list]
Load Indication procedure is triggered by the Drift RNS. It is used to indicate to the Serving RNS about the necessity to modify some DCH parameters within the Drift RNS.
Although the subsequent actions of the SRNS after the Load Indication procedure are out of the scope of this contribution, following examples can be assumed to be carried out by the SRNS.

- DCH modification procedure
- Ignoring the command,
- Performing an handover,
- Branch deletion procedure
- Triggering the renegotiation of the bearer quality of service
- Release the bearer

7.2.2.8 Radio Measurements Reporting

This procedure is used by the DRNS to report its radio measurements to the SRNS.

Figure 7-7. Radio Measurements Reporting

Note. It is FFS whether the reporting is done in the u-plane (inband) or in the c-plane (RNSAP).

7.2.2.9 URA Paging Request

This procedure is used by the SRNC to indicate to the Controlling RNC that a UE should be paged in a URA. The UE is identified by its RNTI, and the SRNC indicates in the message the URA identity as well as potential information that may be needed (e.g. DRX parameters).

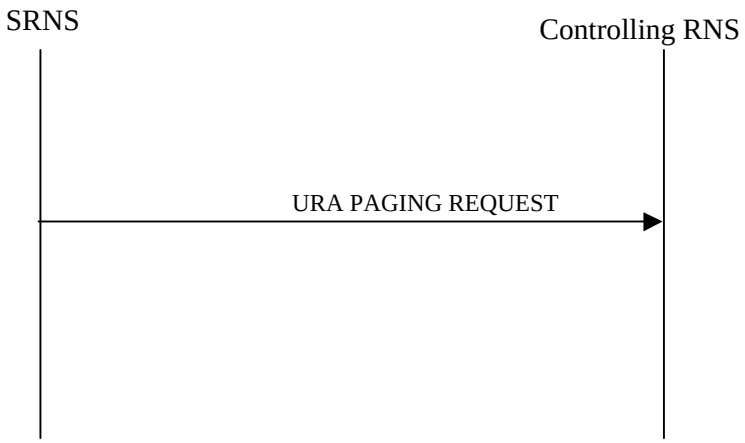

Figure 7-8. URA Paging Request

7.2.2.10 SRNC Relocation Commit

The SRNC RELOCATION COMMIT procedure is part of the SRNC Relocation procedure described in YY.02 UTRAN Functions, Examples on Signalling Procedures [10].
The source RNC sends the SRNC RELOCATION COMMIT message to the target RNC when it has received an indication that it can proceed with the SRNC Relocation procedure from all the involved CN nodes [10].
At reception of the SRNC RELOCATION COMMIT message from the source RNC the target RNC executes the DL and UL switch for all RABs belonging to the UE at the earliest suitable time instance.
Prior to reception of the SRNC RELOCATION COMMIT message the target RNC has received a request to perform SRNC Relocation from all the involved CN nodes and responded to the CN nodes with a proceeding indication. The Iu transport bearers for each radio access bearer have also been established between the target RNC and all CN nodes.

Fig. 9-9. SRNC Relocation Commit

7.2.3 RNSAP Messages

[Editor's note: This chapter should describe RNSAP messages and information elements]

7.3 Transport Layer

7.3.1 General

[Editor´s note: This chapter should e.g. describe Radio Network Layer requirements on Transport Layer protocols. This text is copied from chapter 8.2.2 of [1].]
The following requirements on the RNSAP signalling bearer can be stated:

- Provide reliable transfer of control plane signalling messages in both connectionless mode and connection-oriented mode;
- Provide separate independent connections for distinguishing transactions with individual UEs;

- Supervise the 'UE connections' and provide connection status information to the Upper Layers for individual UEs;
- Provide networking and routing functions;
- Provide redundancy in the signalling network;
- Provide load sharing.

Addressing of RNSs over the Iur Interface:

- For an RRC connection using a dedicated channel, the Iur standard shall allow the addition / deletion of cells belonging to any RNS within the PLMN.
- The specification of the Iur interface shall allow the SRNS to address any other RNS in the PLMN for establishing a signalling bearer over Iur.
- The specification of the Iur interface shall allow the SRNS to address any other RNS within the PLMN for establishing user data bearers for Iur data streams.

NOTE: Connectionless RNSAP over Iur is for further studies.

7.3.2 Services provided by the signalling bearer

When considering the requirements that the upper layer, i.e. RNSAP, have on the SB, there are a number of services it has to provide and a number of functions to perform.
Table 1 gives an overview of the minimum set of services that the signalling bearer shall provide to the upper layers.

Table 1: Network service primitives for the Signalling Bearer (SB)

Primitives	
Generic name	Specific name
N-CONNECT	Request Indication Response Confirm
N-DATA	Request Indication
N-DISCONNECT	Request Indication
N-UNITDATA	Request Indication
N-STATUS	Indication

7.3.3 Signalling Bearer

[Editor´s note: This chapter should refer to specifications of the Signalling Bearer for the Radio Network Layer protocol(s).Limitations in usage of options of the protocol(s) should be described.]
Two alternative signalling bearers for the Radio Network Control Plane are shown in table 2 below.

Table 2: Alternatives for the Iur protocol protocol stack (Radio Network Control Plane)

	Alternative 1	**Alternative 2**
Radio Network Layer	RNSAP	
Transport Layer: Signalling Bearer	**TCP**	**SCCP**
	IP	**MTP3b**
		SSCF
		SSCOP
	AAL5	
	ATM	
Physical Layer	**PHY**	

NOTE: These two alternatives are subject to further investigations. One of the two alternatives should be finally selected to be included in the standard.

8 I_{ur} -Interface Protocol Layer Specification for Transport Network Control Plane

8.1 Introduction

[Editor´s note: This chapter should describe general requirements and structure of the Transport Network Control Plane.]

8.2 Transport Layer

8.2.1 General

8.2.2 ALCAP

[Editor´s note: This chapter should refer to specifications of the Transport Network Control protocols represented by the generic name ALCAP. Limitations in usage of options of the protocol should be described.]
The AAL Type 2 Signalling Protocol (Q.aal2) developed by ITU SG11 [8] and [9] will be used for establishment of AAL2-connections over the Iur interface.

8.2.3 Signalling Bearer

[Editor´s note: This chapter should refer to specifications of the Signalling Bearer protocol(s). Limitations in usage of options of the protocol(s) should be described.]
MTP3/SAAL-NNI is used as Signalling Bearer for Q.aal2 as shown in the figure below:

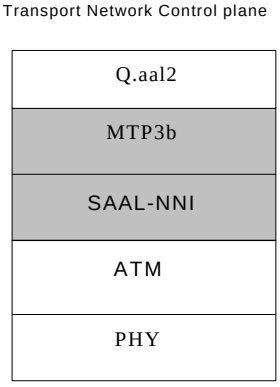

Figure 8-1: Signalling bearer for Q.aal2 on Iur.

9 I_{ur} -Interface Protocol Layer Specification for User Plane

9.1 Introduction

[Editor´s note: This chapter should describe the structure of the User Plane
According to Minutes of Meeting SMG2 ARC EG#4, Tdoc SMG2 UMTS-ARC 129/98, chapter 8.e, the specification of I_{ur} data streams for soft handover should be described in [4]. Therefore, only a reference is made in this document. Other I_{ur} data streams are FFS.]

9.2 Radio Network Layer

9.2.1 General

[Editor´s note: This chapter should describe structure of Iur Data Streams]
For the user plane of the radio network layer there are four frame handling protocols:

Dedicated Channel Frame Protocol (DCH FP) for transport of Iur data streams carried on dedicated channels on the Uu-interface.

Random Access Channel Frame Protocol (RACH FP) for transport of Iur data streams carried on RACH on the Uu-interface.

Forward Access Channel Frame Protocol (FACH FP) for transport of Iur data streams carried on FACH on the Uu-interface.

Downlink Shared Channel Frame Protocol (DSCH FP) for transport of Iur data streams carried on DSCH on the Uu-interface.

NOTE.: Whether FAUSH data streams are carried over Iur is FFS.

9.2.2 Dedicated Channel Frame Protocol

The specification of the DCH data streams follows the Dedicated Channel frame Protocol as specified for the Iub/Iur DCH data streams. For a specification of the protocol see the Description of Iub Interface [4].

9.2.3 FACH Frame Protocol

The FACH Frame Protocol for Iur is FFS.

9.2.4 RACH Frame Protocol

The RACH Frame Protocol for Iur is FFS.

9.2.5 DSCH Frame Protocol

The DSCH Frame Protocol for Iur is FFS.

9.3 Transport Layer

[Editor´s note: This chapter should refer to specifications of the Transport Layer *protocol(s). Limitations in usage of options of the protocol(s) should be described.]*
ATM and AAL2 is used as transport bearer for Iur DCH data streams.
The transport bearer for Iur RACH/FACH/DSCH data streams is FFS.

10 Physical Layer

11 Example Sequences

[Editor's note: This chapter should contain examples of sequences including both Radio Network Control and Transport Network Control.]

History

Document history		
Date	Version	Comment
Aug 1998	0.0.1	First draft
Sept 1998	0.0.2	Revised according to decisions taken during SMG2-UTRAN ARC EG #5 Editorial change: Tdoc numbers removed from chapter 4, References Chapter 7 renamed from Iur Functional Division. Functional descriptions removed Editor's proposal for Iur protocol structure in chapter 8 accepted as the working assumption Additions in section 9.2.2.1 related to Tdoc SMG2 UMTS-ARC 166/98 Addition of 9.2.2.4 DCH Modification with approved text from Tdoc SMG2 UMTS-ARC 144/98. Sequence charts (with approved modifications) from Tdoc SMG2 UMTS-ARC 173/98 Addition of 9.2.2.5 Load Indication with approved text from Tdoc SMG2 UMTS-ARC 145/98
Oct 1998	0.0.3	Changes up to and including ARC EG meeting #6 approved.
Nov 1998	0.0.4	Additions and modification from ARC EG meeting #7 incorporated.
Nov 1998	0.0.5	Additions and modification from ARC EG meeting #8: Ch. 6.2: Categorisation of Iur data streams included. Ch. 9.1: Radio Network Control Plane protocol stack alternatives table moved to ch. 9.3.2 Signalling Bearer. Ch. 9.2.2.7 deleted. RNSAP procedure DCH modification replaced by RL Reconfiguration procedure. Ch. 9.3.2 and 9.3.3 merged to one chapter 'Signalling Bearer'. Ch. 10.2.2: reference to Q.aal2 as the selected ALCAP protocol included. Ch. 10.2.3 and 10.2.4 merged to one chapter 'Signalling Bearer'. Ch. 10.2.3: MTP3B/SAAL-NNI included as signalling bearer for Q.aal2. Ch. 11.2: New sub-chapter for DCH-, RACH- and FACH frame handling protocols added. Ch. 11.3: Ref. to ATM and AAL2 as transport bearer for Iur DCH data streams added.
Dec 1998	0.0.6	Additions and modification from ARC EG meeting #9: Ch. 6.2: structure changed. DSCH included as user data stream. Traffic management of DSCH added. Ch. 9.2.2.5 SRNS Relocation Request: updated according to Tdocs 355 and 407(/399). Ch. 9.3.1 requirements on the signalling beare updated. Ch. 9.3.2 Services provided by the signalling bearer added. Ch. 11.2.1 and 11.2.5: DSCH Frame Protocol added (Tdoc 355). Ch. 11.3: DSCH added to list of data streams for which transport bearer is FFS.
Jan 1999	0.0.7	Additions and modifications based on comments received on the reflector until Jan 11, 1999: Ch. 6.2: statement added for RACH, FACH and DSCH that the contents of the data streams is FFS. RL Reconfiguration Response renamed to RL Reconfiguration Proceeding in fig. 9-3. Ch. 9.2.2.5 SRNS Relocation Request procedure replaced by the new procedure Cell/URA Update Indication (temporary name) to align with the SRNS Relocation procedure in [10] and remove inconsistency. Ch. 9.2.2.10 SRNC Relocation Commit procedure added. Ch. 9.2.2.1 RL Addition: RL Addition Complete msg. Removed from figure and put FFS in order to align with ZZ.02.
Jan 1999	0.1.0	Approved by SMG2-ARC for submission to SMG2 plenary.
Jan 1999	1.0.0	Ch. 7.2.1: editor's note 'The issue of the transport layer address is FFS'added. Approved by SMG2 for submission to SMG plenary. Version 1.0.0 Clause renumbered and reformat
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