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Sophia Antipolis, France, 23rd – 27th August 1999

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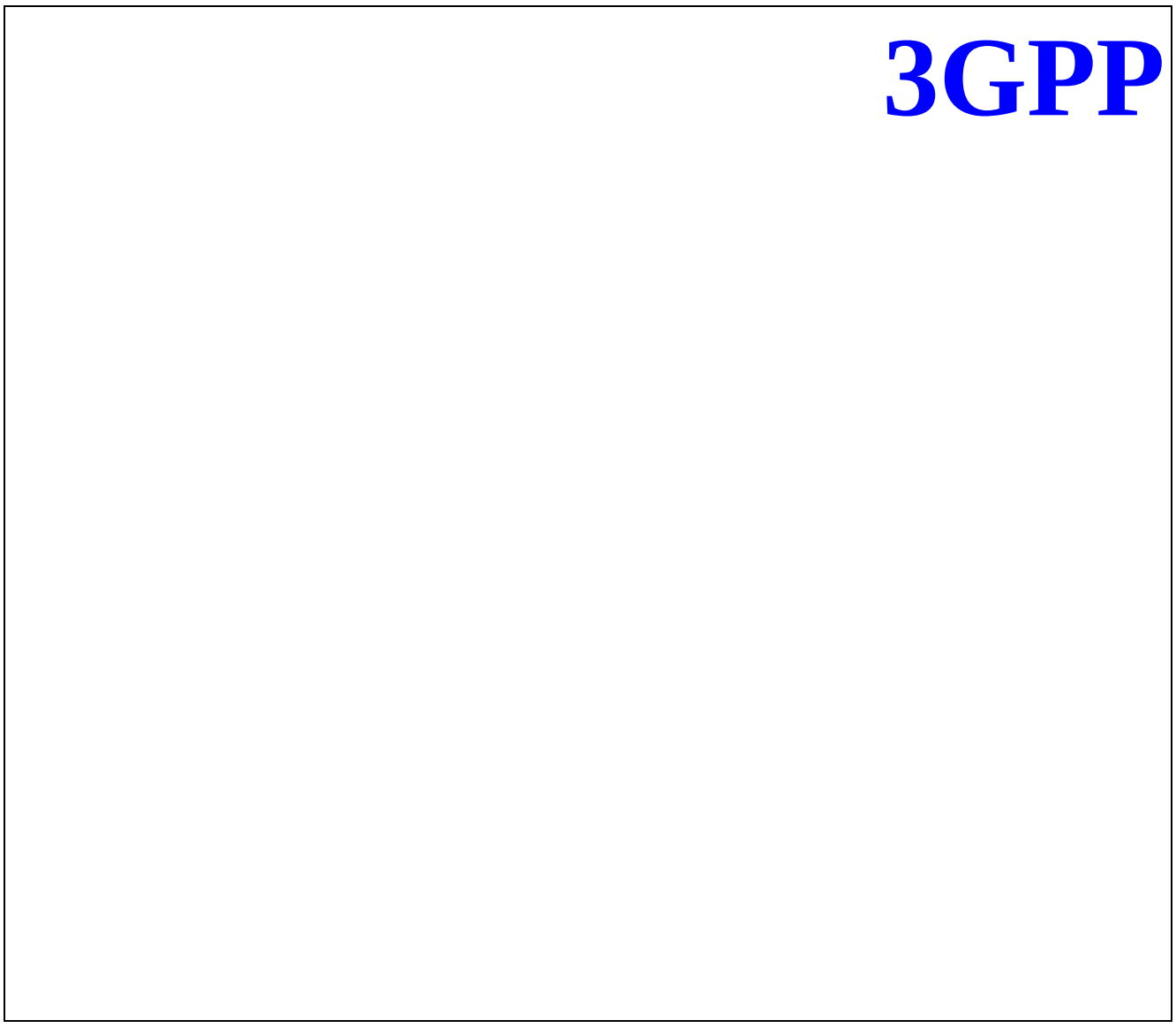
3GPP

Note: Revision marks reflect the changes since version 1.1.1, i.e. the corrections agreed when approving the version 1.1.1 as version 1.2.0 as well as the updates due to agreements made at RAN WG3#5 are shown. The latter changes have not been approved by RAN WG3 yet.



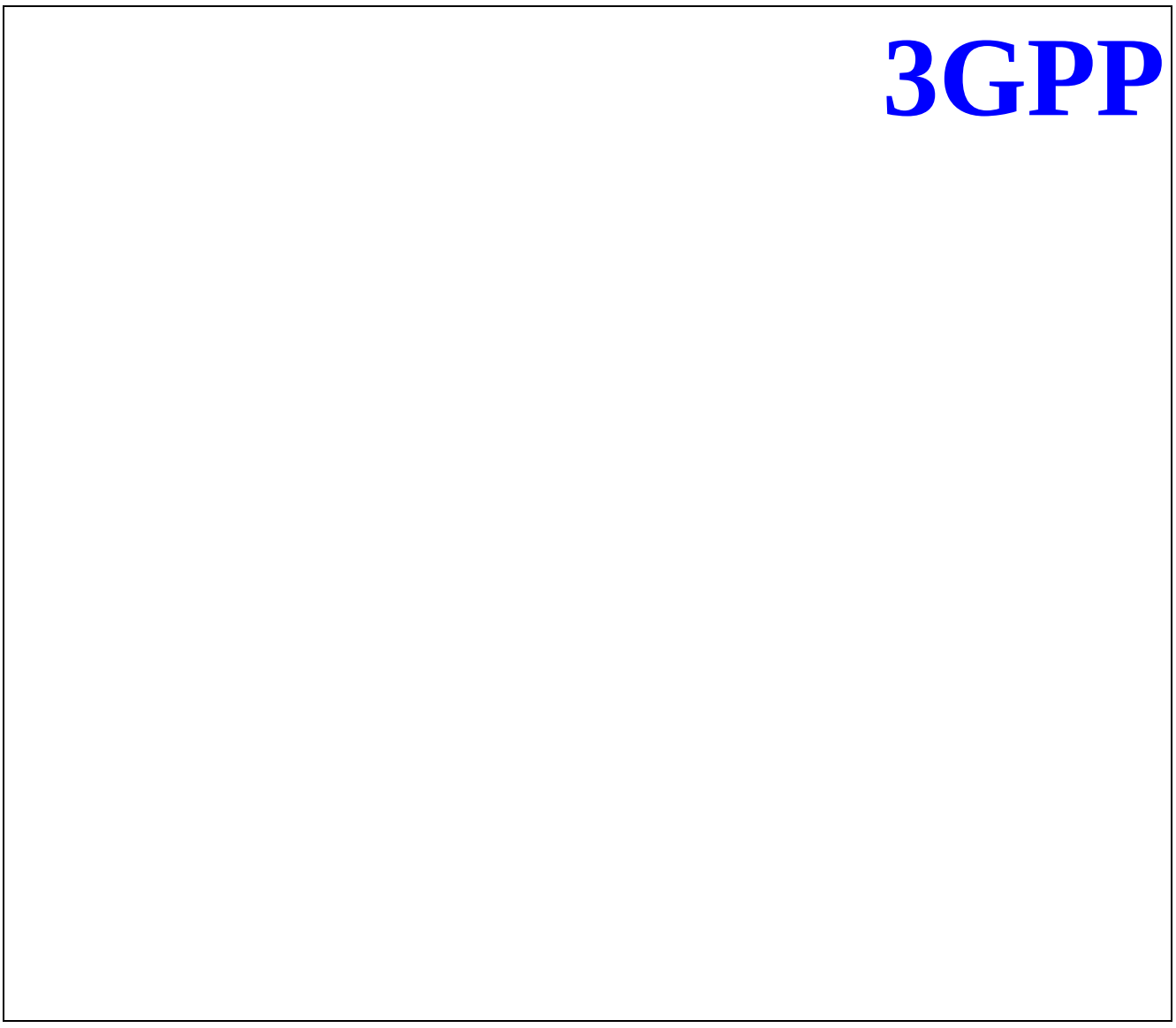
TS 25.423 V1.2.~~0~~ 2 (1999-07)

Technical Specification

3rd Generation Partnership Project (3GPP);
Technical Specification Group (TSG) RAN

UTRAN Iur Interface RNSAP Signalling

[UMTS 25.423]



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Contents

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group RAN.

The contents of this TS may be subject to continuing work within the 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:

Version m.t.e

where:

m indicates [major version number]

x the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

y the third digit is incremented when editorial only changes have been incorporated into the specification.

Scope

The present document specifies the radio network layer signalling procedures between RNCs in UTRAN.

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.
- 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] UMTS 25.931, UTRAN Functions, Examples on Signalling Procedures

[2] UMTS 25.426, UTRAN Iur and Iub Interface Data Transport & Transport Layer Signalling for DCH Data Streams

[3] UMTS xx.yyy, Specification containing different Identifiers for UMTS (to be identified)

[Editor's note:

The reference [3] needs to be identified. Until then the description of the parameters CN PS Domain Identifier, CN CS Domain Identifier, and CRNC ID contains more information than otherwise may be needed.]

Definitions, Symbols and Abbreviations

Definitions

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

<defined term>: <definition>.

example: text used to clarify abstract rules by applying them literally.

Symbols

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

<symbol> <Explanation>

Abbreviations

AAL2	ATM Adaptation Layer type 2
ASN.1	Abstract Syntax Notation One
ATM	Asynchronous Transfer Mode
BCCH	Broadcast Control Channel
BID	Binding Identity
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CN	Core Network
CRNC	Controlling RNC
DCH	Dedicated Channel
DL	Downlink
DRNC	Drift RNC
DRNS	Drift RNS
DRX	Discontinuous Reception~~???????~~

~~[Editor's note:~~

~~The abbreviation DRX is undefined. It is only used in one chapter (URA Paging). It needs to be deleted or clarified. Contributions are invited]~~

FN	Frame Number
FP	Frame Protocol
MAC	Medium Access Control
PDU	Protocol Data Unit
QoS	Quality of Service
RAB	Radio Access Bearer
RL	Radio Link
RNS	Radio Network Subsystem
RNSAP	Radio Network Subsystem Application Part
RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
SRNC	Serving RNC
SRNS	Serving RNS
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
UARFCN	UMTS Absolute Radio Frequency Channel Number
UARFN	UMTS Absolute Radio Frequency Number
UE	User Equipment
UL	Uplink
URA	UTRAN Registration Area

UTRAN UMTS Terrestrial Radio Access Network

General

[Editor´s note: This chapter should describe requirements on RNSAP forward/backward compatibility, error handling principles, message coding principles etc.]

The sender of an RNSAP messag shall include the Source Signalling Address, i.e. the Signalling Address of the sending node.

The issue of the transport layer address is FFS.

RNSAP Services

The RNSAP offers the following services:

RNSAP Procedure Modules

The Iur interface RNSAP procedures are divided into four modules as follows:

1. RNSAP Basic Mobility Procedures
2. RNSAP DCH Procedures
3. RNSAP Common Transport Channel Procedures
4. RNSAP ~~Common~~ Global Procedures

The Basic Procedures module contains procedures used to handle the mobility within UTRAN. ~~If procedures from this module are not used, then the cell level mobility will not be supported between corresponding RNS, and those RNSs are considered to belong to different UTRANs.~~

The DCH Procedures module contains procedures that are used to handle DCHs between two RNSs. If procedures from this module are not used in a specific Iur, then the usage of DCH traffic between corresponding RNSs is not possible. ~~If this category is supported then the existence of Iur user plane for DCH is also assumed.~~

The Common Transport Channel Procedures module contains procedures that are used to control common transport channel data streams over Iur interface. ~~If the procedures within this module are not used on a specific Iur, then the common channel data can not be transported between corresponding UTRANs.~~

The ~~Common~~ Global Procedures module contains procedures that are not related to a specific UE. The procedures in this module are in contrast to the above modules involving two peer CRNCs.

~~[Editor's Note:~~

~~RNSAP DCH Procedures will be standardised but whether they become mandatory or optional is FFS.~~

~~RNSAP Common Transport Channel Procedures will be standardised but whether they become mandatory or optional is FFS.]~~

Parallel Transactions

There can only be one RNSAP procedure for a specific UE active at one instance of time.

Services Expected from Signalling Transport

Functions of RNSAP

The following procedures are included in RNSAP:

Basic Mobility Procedures	**Reference**
Uplink SignallingTransfer	0
Downlink SignallingTransfer	0
SRNS Relocation Commit	0
Paging Request	0
DCH procedures	
Radio Link Setup	0
Radio Link Addition	0
Radio Link Deletion	0
Radio Link Reconfiguration (synchronised)	0
Radio Link Reconfiguration (unsynchronised)	0
Physical Channel Reconfiguration	0
Radio Link Failure	0
Radio Link Load Indication	0
Measurement Request	0
Measurements Reporting	0
Measurement Termination	0
Down Link Power Control	0~~8.2.10~~
Common Transport Channel Procedures	
Common Transport Channel Release	0
Common Transport Channel Initialisation	0
~~Common~~ Global **Procedures**	
Load Information Request	0
Load Information	0

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).
]

Basic Mobility Procedures

Uplink SignallingTransfer

The Uplink Signalling Transfer message is used to transfer radio interface messages containing s-RNTI and SRNC ID as UE addressing information from the CRNC to the Serving RNC. The message contains the message received L3 Information, S-RNTI, D-RNTI, C-RNTI, and the UTRAN Cell- Identifier (UC-Id) (the RRC message reception cell). The message further more includes the identifier for the CRNC. If the message received from the UE was the first message from that UE in the DRNC the UPLINK SIGNALLING TRANSFER message further more includes the identifiers for the CN CS Domain and CN PS Domain that the CRNC is connected to. These CN Domain Identifiers are nbased on the LAC and RAC respectively of the cell where the message was received from the UE.

[Editor's note:

The above added text, staring with "The message further more …" is modified to reflect the decision that the CN Domain Identifiers only are included at first access from a UE in a DRNC, i.e. when there is no UE context for the UE in question in the DRNC. This note is to be deleted when the above added text is approved.]

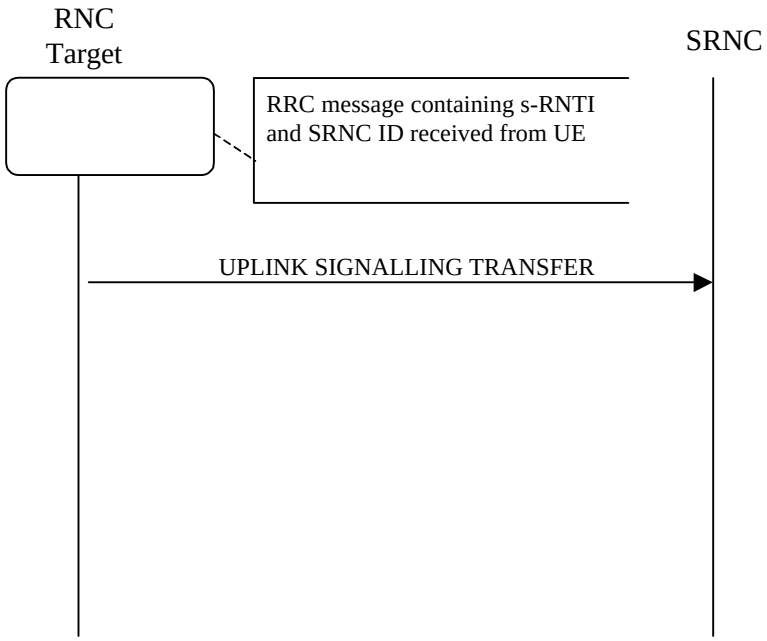


Figure 9-8: An example RNSAP message flow at I_{ur} interface for Uplink Signalling Transfer

Downlink SignallingTransfer

The procedure may be used by the SRNC in response to a received Uplink Signalling Transfer message.

The procedure consists in the Downlink Signalling Transfer message sent by the SRNC to the DRNC.

The message contains the L3 Information to be sent to the UE, the UTRAN Cell Identifier (UC-Id) contained in the Uplink Signalling Transfer message, the ~~C~~D-RNTI and an indication if the ~~C~~D-RNTI shall be released at the reception of the message.

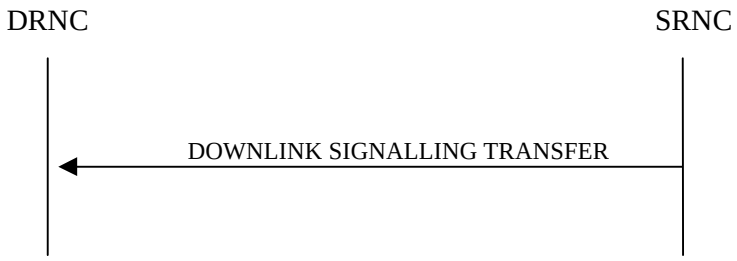


Figure 9-9: An example RNSAP message flow at I_{ur} interface for Downlink Signalling Transfer

SRNS Relocation Commit

The SRNS RELOCATION COMMIT procedure is part of the SRNS Relocation procedure described in [1].

The source RNC sends the SRNS 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 [1]. When the UE is utilising one or more radio links in the DRNC the message will be sent using the connection oriented service of the signalling bearer and no further identification of the UE context in the DRNC is required. If on the other hand, the UE is not utilising any radio link and thus uses common transport channel resources the message will be sent using the connectionless service of the signalling bearer and the D-RNTI is included in the message to identify the UE context in the DRNC.

[Editor's note:

The above description on when to use connection oriented and when to use connectionless service of the signalling bearer as well as when to use the D-RNTI is the editor's proposal on this text, as requested at the RAN WG3 meeting #5. The note shall be deleted when the text is approved.]

At reception of the SRNS 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 SRNS RELOCATION COMMIT message the target RNC has received a request to perform SRNS 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. 9-14: SRNC Relocation Commit

~~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 SRNC ID and S-RNTI, and the SRNC indicates which area to page in by ~~the message~~ the URA identity

or the UTRAN Cell Identifier (UC-Id). The SRNC also provides other ~~as well as~~ potential information that may be needed (e.g. DRX parameters).

[Editor's note:

The UE identification was regarded FFS pending the RRC specification when R3-(99)680 was concluded upon. However, later when R3-(99)656 was concluded upon the SRNC-ID and the S-RNTI were added to the message in chapter below. The UE identification is therefore not regarded as FFS anymore.]

~~[Editor's note:~~

~~The abbreviation DRX is undefined. It is only used in this chapter. It needs to be deleted or clarified. Contributions are invited]~~

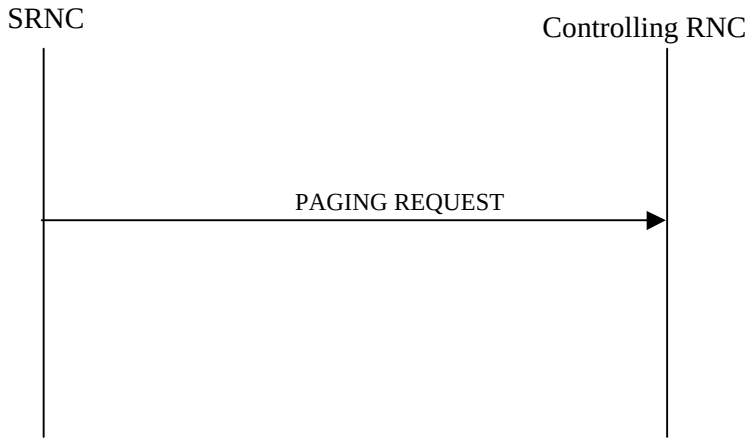


Figure 9-13. ~~URA~~ Paging Request

DCH procedures

Radio Link Setup

When the serving RNC makes an algorithmic decision to add the first cell or set of cells from another RNS (a drift RNS) to the active set of a specific RRC connection, the RNSAP message RADIO LINK SETUP REQUEST is sent to the corresponding drift RNC to request setup of the radio link(s). This message contains essentially RL identifier(s), the target UTRAN Cell Identifier(s) (UC-Id(s)), transport format sets (TFSs) for each active DCH and DSCH, and desired radio resources for each radio link. The message also contains the MACd-MACsh Transport Format Set for if a DSCH is involved in the setup. The serving RNC also indicates when several radio links are to be setup in the drift RNS, either that

1. the radio links may be combined by the DRNS, or
2. the radio links must not be combined.

Additional information is FFS.

[Editor's note:

When reading the text above it is clear that there is an inconsistency when it comes to the description of the Transport Format Set for the DSCH. There are two descriptions. The first one was agreed as text for the procedure (R3-(99)652) and describes the TFS in the same way for both DCHs and a DSCH. The second description was agreed as content of the message (R3-(99)675) and describes the TFS for the DSCH as the MACd-MACsh TFS. The message contents was agreed later during the meeting. Contributions are invited to clarify the TFS for the DSCH.]

When setting up coordinated DCHs, if the receiver is not able to setup one of the DCHs, the setup of the other DCHs requested with the same DCH Combination Indicator value shall be rejected.

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 channelisation codes for each RL and assigns a binding identifier and a transmission address (e.g. ATM Address) for each DCH as well as for the DSCH if no suitable Iur User plane Transport bearer is available. This information is sent to the serving RNS in the message RADIO LINK SETUP RESPONSE when all the RLs have been successfully setup. The drift RNS also provides the serving RNC with the:

- UTRAN Cell Identifier~~ty~~ (UC-Id) of all neighboring cells to the cell(s) where the radio link(s) is added.
- Information related to neighboring cells necessary for the serving RNS (the exact parameters are FFS)~~, and the Signaling Address of any RNC controlling neighboring cells not controlled by the drift RNS~~.
- The node identifications (i.e. RNC, CN domain nodes) of any RNC controlling neighbouring cells not controlled by the drift RNC.
- The node identifications of the CN Domain nodes that the RNC is connected to (using LAC and RAC of the current cell).
- The DSCH TFS.

[Editor's note:

The second last bullet point (CN Domain Identifiers of the CN nodes that the RNC is connected to) has been added since it was clarified in the meeting that the bullet point was missing for the procedure but the parameters were present (and agreed) for the message. This note is to be deleted when the above bullet point is approved.]

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

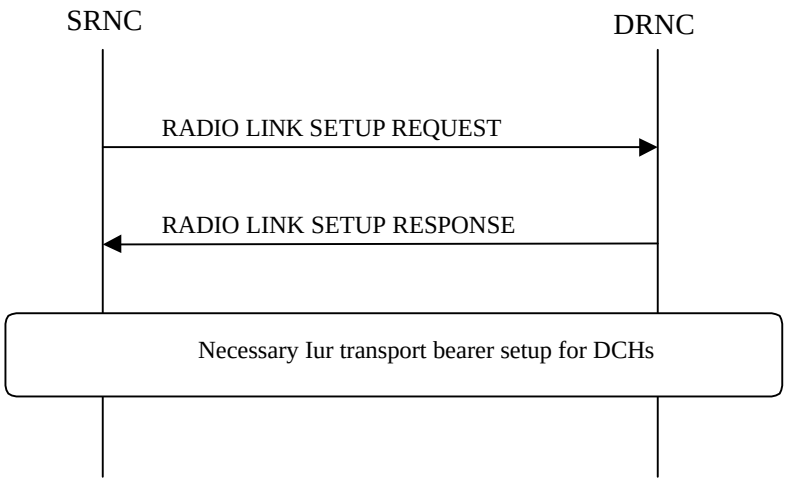
The serving RNC is responsible for setting up the I_{ur} transport bearers for each DCH and for the DSCH if required. The transport bearers are setup towards the address indicated in the RADIO LINK SETUP RESPONSE message from the drift RNC. Also the setup messages should include the corresponding binding identifier, which will be used by the drift RNC to map each transport bearer to the corresponding DCH or DSCH.

In unsuccessful case (i.e. one or more RLs can not be setup) an RNSAP message RADIO LINK SETUP FAILURE is returned, indicating among other things the reason for failure.

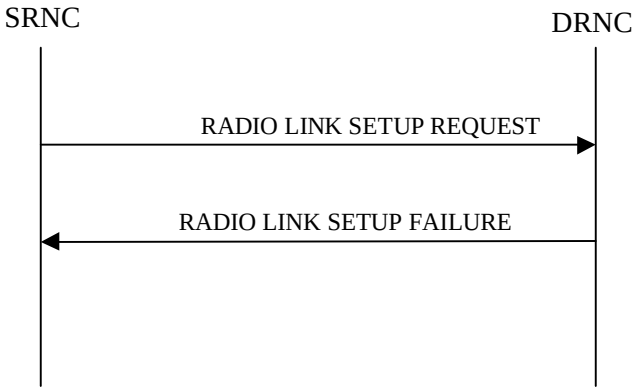
An example of a corresponding message flow at the Iur interface is presented in Figure 9-1.

Editor's note:

The above information related to the DSCH is agreed as a working assumption.]



(Successful Case)



(Unsuccessful Case)

Figure 9-1. An example RNSAP message flow at I_{ur} interface for RL setup.

Radio Link Addition

When the serving RNC makes an algorithmic decision to add an additional cell or set of cells from another RNS (a drift RNS) to the active set of a specific RRC connection, the RNSAP message RADIO LINK ADDITION REQUEST is sent to the corresponding drift RNC to request addition of a radio link. This message contains essentially RL identifier, the target UTRAN Cell Identifier (UC-Id), transport format sets (TFSs) for each active DCH and desired radio resources for each radio link. The serving RNC 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 channelisation codes for each RL and assigns a binding identifier and a transmission address (e.g. AAL2 address) for each DCH. The message may further more contain the DSCH TFS and its related Binding ID.The time at which the DRNS allocates the channelisation code is FFS. This information is sent to the Serving RNC in the message RL ADDITION RESPONSE when all RLs have been successfully setup. The drift RNC also provides the SRNC with the:

- UTRAN Cell Identifier~~ty~~ (UC-Id) of all neighboring cells to the cell(s) where the radio link(s) 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~~

- The node identifications (i.e. RNC, CN domain nodes) of any RNC controlling neighbouring cells not controlled by the drift RNC.

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

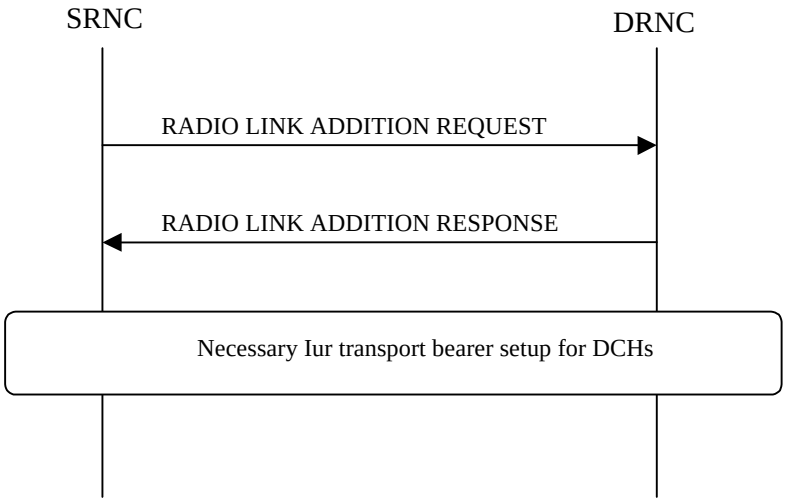
The serving RNC is responsible for setting up the I_{ur} transport bearers for each DCH. The transport bearers are setup towards the address indicated in the RL ADDITION RESPONSE message from the drift RNC. Also the setup messages should include the corresponding binding identifier, which will be used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

In case the serving RNC 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 RESPONSE message indicate that the already existing I_{ur} transport bearers can be used also for the new

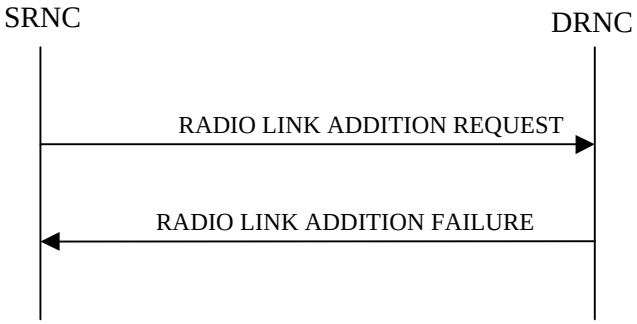
radio link. In such a case the response includes the ATM Binding ID of the already existing AAL2 connection. If old transport bearers are used, then the serving RNC does not perform additional transport bearer setups.

In unsuccessful case (i.e. one or more RLs can not be added) an RNSAP message RADIO LINK ADDITION FAILURE is returned, indicating among other things the reason for failure.

An example of a corresponding message flow at I_{ur} interface is presented in figure 9-2.



(Successful case)



(Unsuccessful case)

Figure 9-2. An example RNSAP protocol message flow at I_{ur} interface for inter RNS RL addition.

Radio Link Deletion

When the serving RNC 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 to request deletion of radio link is sent to the corresponding drift RNC. 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 RNC by the message RL DELETION RESPONSE.

The serving RNC 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 9-3.

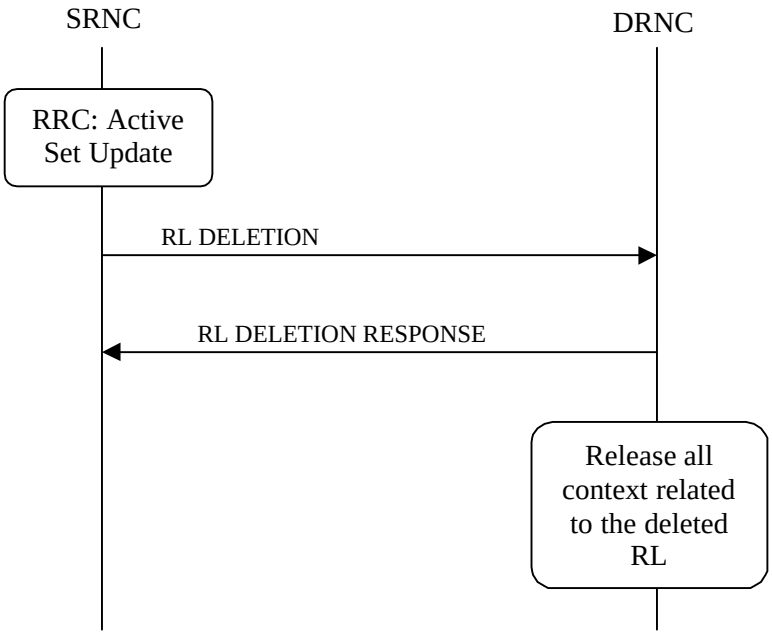


Figure 9-3. An example RNSAP protocol message flow at I_{ur} interface for interRNS RL deletion.

Radio Link Reconfiguration (synchronised)

[Editor's note:

It is agreed as a working assumption that not only the unsynchronised reconfiguration (chapter 8.2.5 below) but also the synchronised reconfiguration procedure can be used for a DSCH. However, the text below does not reflect this decision, due to lack of contributions. Contributions are invited.]

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, or to perform physical channel reconfiguration.

The RL Reconfiguration procedure is initiated by the serving RNC by sending the RNSAP message RL RECONFIGURATION PREPARE to the DRNC. 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 channelisation code type(s)
- New UL channelisation 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
- MACd-sh Transport Format Set and the associated RL ID for a DSCH (if any)

If the proposed modifications are allowed by the DRNS resource management algorithms, and the DRNC has successfully reserved the required resources it responds to the SRNC with RL RECONFIGURATION READY message.

When setting up coordinated DCHs, if the receiver is not able to setup one of the DCHs, the setup of the other DCHs requested with the same DCH Combination Indicator value shall be rejected.

In case of deleting one or more coordinated DCHs, the deletion of all DCHs established together with the same value for the DCH Combination Indicator, shall be requested with one message. If deletion of only a subset of the coordinated DCHs is requested, the complete deletion shall be rejected

If the requested reconfiguration fails for one or more RLs the DRNC sends the RNSAP message RL RECONFIGURATION FAILURE to the SRNC, indicating among other things the reason for failure.

The RL RECONFIGURATION READY message contains the downlink channelisation 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). The message may further more contain the DSCH TFS and its related Binding ID.

SRNC informs the UE about the changes in radio links (RL) with the relevant RRC message(s) and sends the RL RECONFIGURATION COMMIT message to DRNCs.

SRNC is responsible for releasing unnecessary Iur transport bearers (if any).

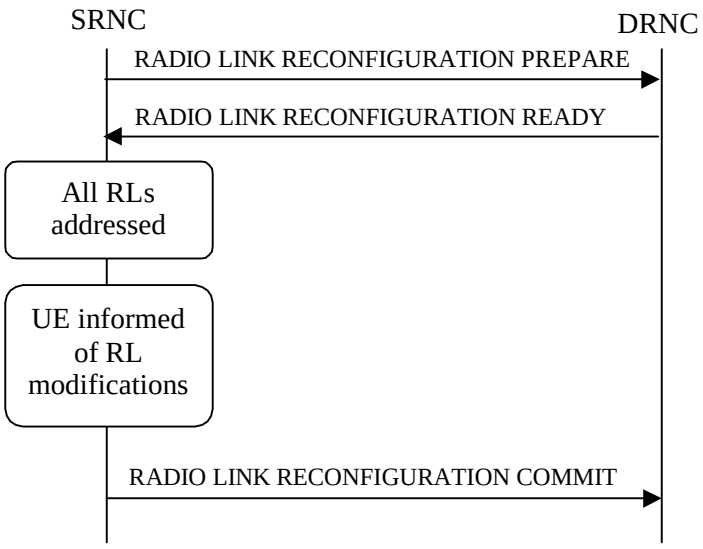
Note. A mechanism for synchronising the switch from the old to the new configuration in the UE and the DRNS in needed and FFS.

Editor's note:

The above information related to the DSCH is agreed as a working assumption.]

[Editor's note:

The restrictions on addition and deletion of a DSCH are FFS.]



(Successful case)

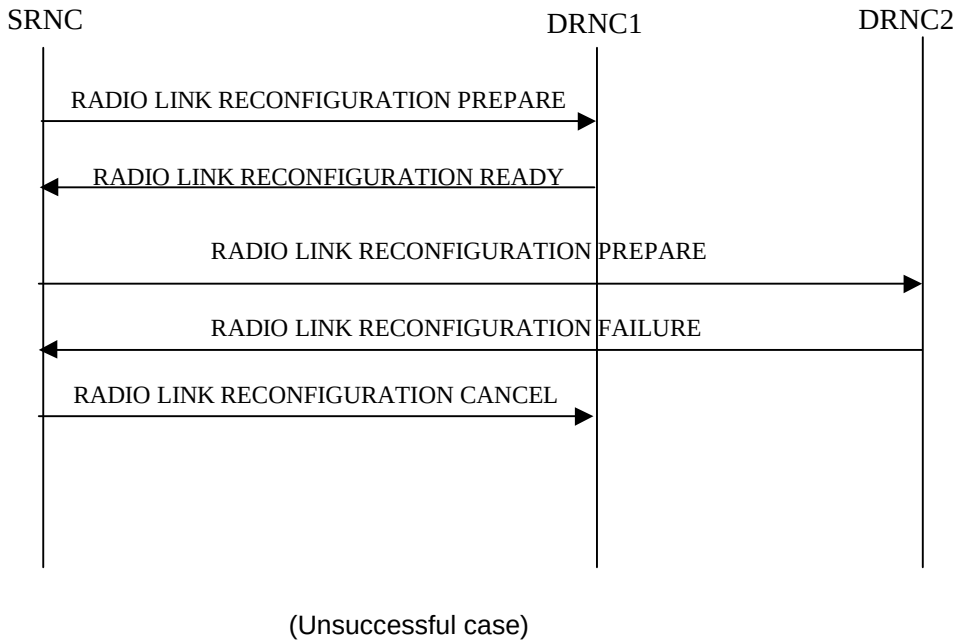


Figure 9-4. RL Reconfiguration procedure (synchronised)

Radio Link Reconfiguration (unsynchronised)

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 or DSCH, or to perform transport channel reconfiguration.

The Unsynchronised RL Reconfiguration is used when there is no need to synchronise the time of the switching from the old to the new configuration in the NodeBs used by the UE-UTRAN connection. This is the case when new TFCs are added or old TFCs are deleted without changing the TFCI values of the TFCs that are maintained during the reconfiguration.

The RL Reconfiguration procedure (unsynchronised) is initiated by the serving RNC by sending the RNSAP message RL RECONFIGURATION to the DRNC. 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:

- New TFCS
- IDs of the DCHs to be added / deleted or modified
- Priority of the added/modified DCH
- TFS of the added/modified DCH
- DSCH Information (DSCH Identifier, RL Identifier, Transport Format Set)
- MACd-sh Transport Format Set and the associated RL ID for a DSCH (if any)

[Editor's note:

The two above bullet points related to DSCH Information are not fully consistent. The first one was agreed as text for the procedure (R3-(99)652) and the second one as content of the message (R3-(99)675). The message contents was agreed later during the meeting. Contributions are invited to clarify this issue.]

If the proposed modifications are allowed by the DRNS resource management algorithms, and the DRNC has successfully reserved the required resources it responds to the SRNC with RL RECONFIGURATION RESPONSE message.

When setting up coordinated DCHs, if the receiver is not able to setup one of the DCHs, the setup of the other DCHs requested with the same DCH Combination Indicator value shall be rejected.

In case of deleting one or more coordinated DCHs, the deletion of all DCHs established together with the same value for the DCH Combination Indicator, shall be requested with one message. If deletion of only a subset of the coordinated DCHs is requested, the complete deletion shall be rejected

If the requested reconfiguration fails for one or more RLs the DRNC sends the RNSAP message RL RECONFIGURATION FAILURE to the SRNC, indicating among other things the reason for failure.

The RL RECONFIGURATION RESPONSE 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). The message may further more contain the DSCH TFS and its related Binding ID.

SRNC is responsible for releasing unnecessary Iur transport bearers (if any).

Editor's note:

The above information related to the DSCH is agreed as a working assumption.]

[Editor's note:

The restrictions on addition and deletion of a DSCH are FFS.]

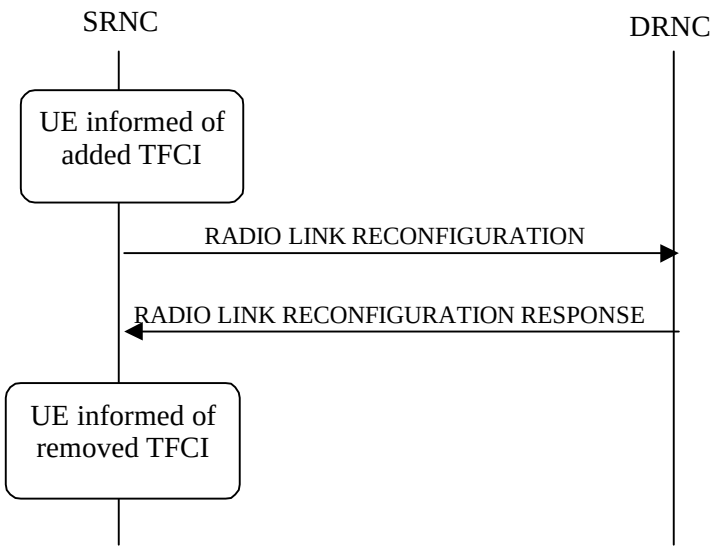


Figure 9-5. RL Reconfiguration procedure (unsynchronised)

Physical Channel Reconfiguration

[Editor's note: The description of this procedure does not match the changes to the message PHYSICAL CHANNEL RECONFIGURATION REQUEST agreed at the RAN WG3 meeting #4 in Warwick.]

Physical Channel Reconfiguration procedure is initiated by the DRNC when it detects the need to reconfigure one of its physical channels. The DRNC sends a PHYSICAL CHANNEL RECONFIGURATION REQUEST to the SRNC via the appropriate dedicated connection.

Upon reception of the PHYSICAL CHANNEL RECONFIGURATION REQUEST, the SRNC decides appropriate execution time for the change. It informs the UE and responds with the PHYSICAL CHANNEL RECONFIGURATION COMMAND to the DRNC.

[Editor's note:

The editor has altered the text in the above paragraph in order to avoid unnecessary dependencies with other specification. This alteration was requested by RAN WG3 #5 in Helsinki. This note is to be deleted when the above paragraph is approved.]

If the SRNC can not accept the reconfiguration request it will send the PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the DRNC.

If the DRNC receives RL RECONFIGURATION PREPARE, RL RECONFIGURATION or RL DELETION it should also be interpreted as a physical channel reconfiguration failure. These messages thus override the DRNC request for physical channel reconfiguration.

In FDD Physical Channel Reconfiguration ~~DL Code Reconfiguration~~ is used to change the DL channelisation 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 channelisation code pool.

~~Code reconfiguration~~The procedure is initiated ~~by the DRNS,~~ when ~~it~~ the DRNC detects unwanted fragmentation in the DL channelisation code pool(s). In this case the ~~DRNC sends~~ PHYSICAL CHANNEL RECONFIGURATION REQUEST ~~to the SRNC via the appropriate dedicated connection. The~~ message includes the radio link ID(s) and proposal for the new DL channelisation codes for them. Upon reception of

~~SRNC decides appropriate execution time for the change. SRNC sends relevant RRC message(s) to the UE and RNSAP~~ PHYSICAL CHANNEL RECONFIGURATION COMMAND ~~to the DRNS.~~

~~DRNS~~ DRNC makes the switch to the new codes and releases the old DL channelisation codes.

[Editor's note:

The above paragraph, starting from "In FDD …", is not exactly as in the contribution R3-(99)697. The reason is that the contribution did not contain the exact text from this specification. Some minor alterations of the text have been made to accommodate the contribution. This note is to be deleted when the above paragraph is approved.]

~~If the SRNC can not accept the DL code reconfiguration request it will send the PHYSICAL CHANNEL RECONFIGURATION FAILURE message to the DRNS.~~

~~If the DRNC receives RL RECONFIGURATION PREPARE, RL RECONFIGURATION or RL DELETION it should also be interpreted as a DL code reconfiguration failure. These messages thus override the DRNC request for physical channel reconfiguration.~~

In TDD Physical Channel Reconfiguration is used to change the UL/DL TS and/or User Code of the radio link related to one UE-UTRAN connection. In this case the PHYSICAL CHANNEL RECONFIGURATION REQUEST message includes the radio link ID and proposal for the new UL/DL TS and/or User Code.

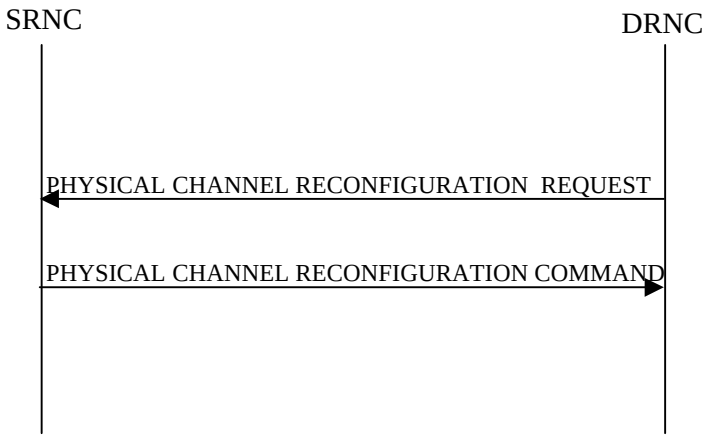


Figure 9-6. Physical Channel Reconfiguration procedure

Radio Link Failure

This procedure is started by the drift RNS when a radio link is no longer available. The reasons for this is a DRNS internal failure or congestion (in the RNC or in the Node B or in the interfaces) or lost radio interface synchronisation due to bad radio condition. Other reasons are FFS.

As consequence the DRNC sends the RNSAP message RL FAILURE 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 FAILURE the SRNC could perform the following actions:~~

~~- Inform the UE that the radio link has to be removed.~~

~~- Perform relevant procedures (RL 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.~~

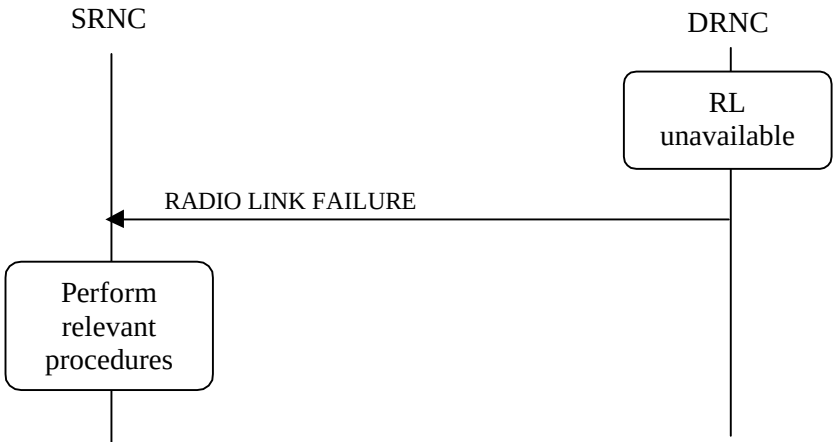


Figure 9-11. RL Failure procedure

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

Radio Link Load Indication

Load Indication procedure is triggered by the Drift RNS. It is used to indicate to the Serving RNC about the necessity to modify some DCH parameters within the Drift RNS. Whether or not to include this procedure in the Radio Measurement Reporting procedure is FFS.

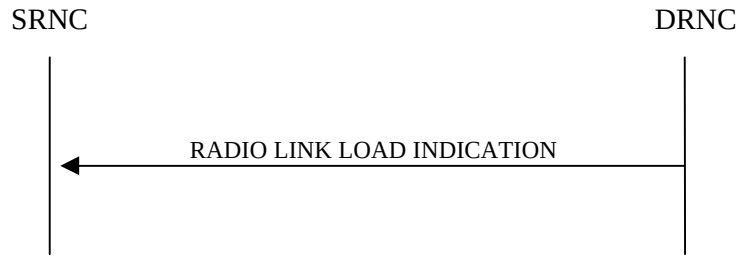


Figure 9-x: An example RNSAP message flow at I_{ur} interface for Radio Link Load Indication.

Measurement Request

For requesting measurements, the SRNC use the following procedure:

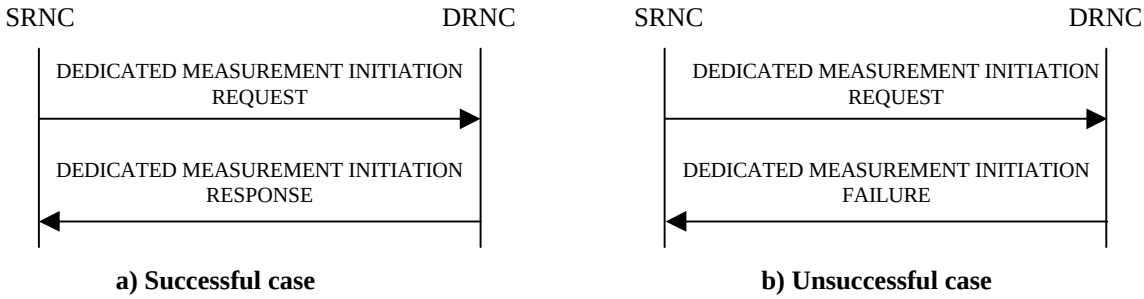


Figure 9-x: Measurement Request Procedure

The DEDICATED MEASUREMENT INITIATION REQUEST message includes the following information:

Measurement Id: This is a SRNC defined identifier that uniquely identifies the measurement.

Measurement Object: This defines on which resource the measurement should be performed. For example might this identifier point out a radio link. *Other measurement objects are FFS.*

Measurement Type: This defines what measurement that should be performed. This could for example be “used power on the downlink” or “UL RL quality estimate”. *Other measurement types are FFS.*

Measurement Characteristics: This defines how the measurements should be performed. For example measurement frequency, timing information, filtering information. *The exact structure and contents of this parameter is dependent on the Measurement Type and is FFS.*

Report Characteristics: The reporting could be any of the following classes:

> **Periodic:** Reports should be delivered in a periodic matter with some frequency. In this case the update frequency have to be specified.
>
> **Event Triggered:** Reports should be delivered upon a specific event in Node B. In this case the event have to be specified.

Immediate Reporting: A report should be delivered immediately. Only one measurement report should be sent and after that the measurement is automatically cancelled.

The possibility to request several measurements for the same event is FFS.

The DEDICATED MEASUREMENT INITIATION RESPONSE message is used to accept a requested measurement and it includes the following information:

Measurement Id: This is the same Id that was used in the request.

The DEDICATED MEASUREMENT INITIATION FAILURE message is used to reject a requested measurement and it includes the following information:

Measurement Id: This is the same Id that was used in the request.

Cause: This states the cause for the reject. *The exact content of this parameter is FFS.*

~~8.2.9Radio~~ Measurements Reporting

This procedure is used by the DRNC to report its ~~radio~~ measurements to the SRNC.

When the measurement reporting criteria are met, the DRNC send the ~~RNSAP~~ DEDICATED MEASUREMENT REPORT message to the SRNC using the dedicated signalling bearer connection. ~~The message includes at least the used downlink power.~~

~~The reporting criteria are set with the RL Setup procedure.~~

Figure 9-12. ~~Radio~~ Measurements Reporting

The DEDICATED MEASUREMENT REPORT message includes the following information:

Measurement Id: This is the same id that was used in the request.

Time Reference: This is a time reference showing the time of the measurement. *The accuracy of this is FFS.*

Value

The possibilities for including several values and/or several measurements in the same report are FFS.

Measurement Termination

For termination of previously requested measurements, the SRNC use the following procedure:

Figure 9-x: Measurement Termination Procedure initiated by SRNC

The DEDICATED MEASUREMENT TERMINATION REQUEST message includes the following information:

Measurement Id: This is the same Id that was used in the request.

For termination of previously requested measurements, the DRNC use the following procedure:

Figure 9-x: Measurement Termination Procedure initiated by DRNC

The DEDICATED MEASUREMENT FAILURE INDICATION message includes the following information:

Measurement Id: This is the same Id that was used in the request.

Cause: This states the reason for the termination. *The exact content of this parameter is F.F.S.*

~~8.2.10~~Down Link Power Control

The purpose of this procedure is to balance the DL transmission powers of the radio links used for the related RRC connection within the NodeB. The DL POWER CONTROL procedure is initiated by the Serving RNC by sending a DL POWER CONTROL message to the DRNC, which contains the desired downlink reference power for the radio links within the NodeB of the DRNS.

Figure 9-15: DL POWER CONTROL Procedure.

Common Transport Channel Procedures

~~C-RNTI~~ Common Transport Channel Release

This procedure is used by the SRNC to request release of the Common Transport Channel Traffic Context Identity for a given UE in the DRNS.

SRNC initiates the ~~C-RNTI~~ Common Transport Channel Release procedure in order to indicate that the ~~C~~D-RNTI can be released from the DRNC. SRNC sends the message ~~C-RNTI~~ COMMON TRANSPORT CHANNEL RELEASE to the DRNC. The message contains the ~~C~~D-RNTI of the UE whose context shall be released.

At the reception of the message, the DRNC releases the ~~C~~D-RNTI used by the UE.

[Editor's note: The procedure and the message may have to be renamed.]

Figure 9-17: ~~C-RNTI~~Common Transport Channel Release ~~Request~~

Common Transport Channel Initialisation

Common Transport Channel Request procedure is used by the SRNC for the initialisation of the Common Transport Channel user plane towards the DRNC and /or for the initialisation of the UE context in the DRNC. The procedure is triggered by SRNC as consequence of a received Uplink Signalling Transfer message in case there is a need for such initialisation.

The procedure consists of the message COMMON TRANSPORT CHANNEL REQUEST from the SRNC to the DRNC, and COMMON TRANSPORT CHANNEL RESPONSE from DRNC to SRNC. The need for a COMMON TRANSPORT CHANNEL FAILURE is FFS.

At initialisation of the Common Transport Channel user plane towards the DRNC the SRNC determines whether there exists a transport bearer that can be used for this particular UE, or whether a new transport bearer needs to be established. If the SRNC decides to use an existing transport bearer it will not request transport layer address and binding identity in the RNSAP Common Transport Channel Request message, but inform the DRNC which transport bearer to use.

[Editor's note: The procedure and the messages may have to be renamed.]

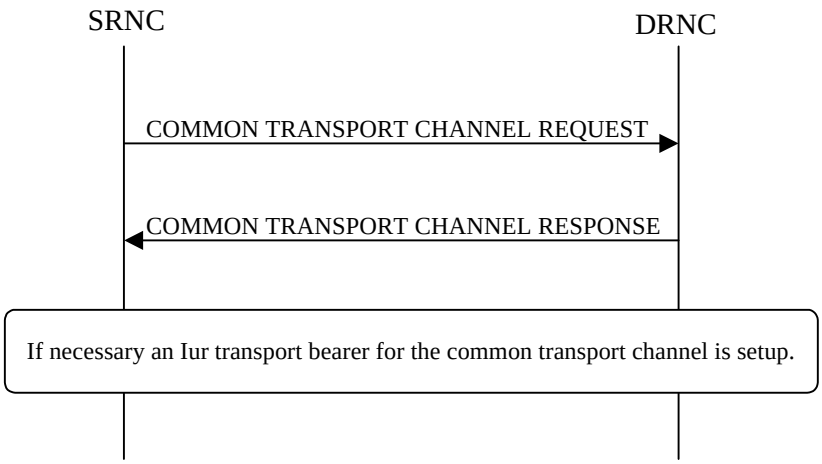


Figure 9-x. An example RNSAP message flow at I_{ur} interface for Common Transport Channel Initialization.

~~1.4Common~~ Global Procedures

Load Information Request

The Load Information Request procedure is used by CRNC1 to set in CRNC2 the reporting criteria used by the load information procedure towards CRNC1. The procedure consists in the message LOAD INFORMATION REQUEST sent by CRNC1 to CRNC2 using the connectionless service of the signalling bearer.

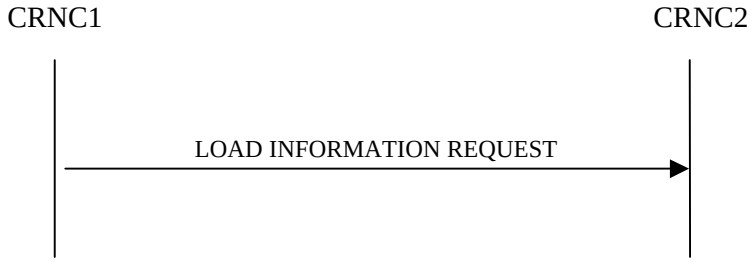


Figure 9-x: An example RNSAP message flow at I_{ur} interface for Load Information Request.

Load Information

With this procedure CRNC1 informs CRNC2 about the load in one or more cells under its control.

When the load information reporting criteria are met, CRNC1 sends to CRNC2 the RNSAP LOAD INFORMATION message using the connectionless service of the signalling bearer. This message contains information about the load in one or more cell.

The load information reporting criteria may be defined via O&M or using the Load Information procedure.

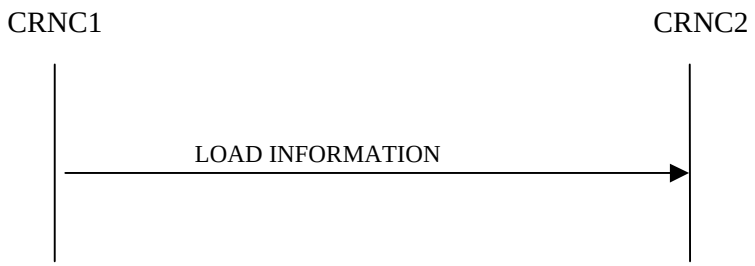


Figure 9-x: An example RNSAP message flow at I_{ur} interface for Load Information.

Elements for RNSAP Communication

Message Functional Definition and Content

This chapter defines the structure of the messages required for the RNSAP protocols.

For each message there is, a table listing the signaling elements in their order of appearance in the transmitted message.

All the RNSAP messages are listed in the following table:

Message name	Reference
RADIO LINK SETUP REQUEST	0
RADIO LINK SETUP RESPONSE	0
RADIO LINK SETUP FAILURE	0
RADIO LINK ADDITION	0
RADIO LINK ADDITION RESPONSE	0
RADIO LINK ADDITION FAILURE	0
RADIO LINK DELETION	0
RADIO LINK DELETION RESPONSE	0
RADIO LINK RECONFIGURATION PREPARE	0
RADIO LINK RECONFIGURATION READY	0
RADIO LINK RECONFIGURATION COMMIT	0
RADIO LINK RECONFIGURATION FAILURE	0
RADIO LINK RECONFIGURATION CANCEL	0
RADIO LINK RECONFIGURATION	0
RADIO LINK RECONFIGURATION RESPONSE	0
RADIO LINK FAILURE	0
DOWNLINK POWER CONTROL	0
PHYSICAL CHANNELRECONFIGURATION REQUEST	0
PHYSICAL CHANNELRECONFIGURATION COMMAND	0
PHYSICAL CHANNELRECONFIGURATION FAILURE	0
UPLINK SIGNALLING TRANSFER	0
DOWNLINK SIGNALLING TRANSFER	0
SRNS RELOCATION COMMIT	0
URA PAGING REQUEST	0
DEDICATED MEASUREMENT INITIATION REQUEST	
DEDICATED MEASUREMENT INITIATION RESPONSE	
DEDICATED MEASUREMENT INITIATION FAILURE	
DEDICATED MEASUREMENT REPORT	0
DEDICATED MEASUREMENT TERMINATION REQUEST	
DEDICATED MEASUREMENT FAILURE	
~~C-RNTI~~ COMMON TRANSPORT CHANNEL RELEASE	0
LOAD INFORMATION REQUEST	0
LOAD INFORMATION	0
COMMON TRANSPORT CHANNEL REQUEST	0
COMMON TRANSPORT CHANNEL RESPONSE	0
RADIO LINK LOAD INDICATION	0

Message Contents

An information element can be of the following *types*:

M	The information element is mandatory, i.e. always present in the message
O	The information element is optional, i.e. may or may not be present in the message independently on the presence or value of other information elements in the same message
C#	The presence of the information element is conditional to the presence or to the value of another information element, as reported in the correspondent note below the message description.

In case of an information element group, the group is preceded by a name for the info group (in bold). It is also indicated whether the group is mandatory, optional or conditional. Each group may be also repeated within one message. The presence field of the information elements inside one group defines if the information element is mandatory, optional or conditional if the group is present.

Note 1: The proposed tables with the message contents do not include the length and direction columns proposed by TTC.

Note 2: The proposed message structure does not include the 'length' and 'compatibility information' parameters that are proposed by TTC, because they will be specified by the formal language.

RADIO LINK SETUP REQUEST

Information element	Reference	Type
Message type	~~9.2.24~~	M
Transaction ID	~~9.2.45~~	M
S-RNTI	~~9.2.43~~	M
DCH information		M
DCH ID	~~9.2.11~~	M
DCH Combination Indicator		O
DCH ~~Type~~Priority	~~9.2.13~~	M
Transport format set (DL)	~~9.2.48~~	M
Transport format set (UL)	~~9.2.48~~	M
TFCS (UL)	~~9.2.47~~	M
TFCS (DL)	~~9.2.47~~	M
Uplink scrambling code		M
UL Channelisation Codes		**M**
Channelisation code length (UL)	~~9.2.6~~	M
DL Channelisation Codes		**M**
Channelisation code length (DL)	~~9.2.6~~	M
RL information		**M**
RL-ID	~~9.2.39~~	M
UTRAN Cell- Identifier (UC-Id)	~~9.2.3~~	M
OFF	~~9.2.31~~	M
Chip offset	~~9.2.7~~	M
Diversity control field	~~9.2.14~~	C2
~~Perch channel~~ Primary CCPCH Ec/Io	~~9.2.34~~	M
Uplink Eb/No Target	~~9.2.52~~	M
Maximum Uplink Eb/No	~~9.2.23~~	FFS
Minimum Uplink Eb/No	~~9.2.25~~	FFS
DL reference power	~~9.2.18~~	M
DSCH Information		**O**
RL ID		M
MACd-MACsh Transport Format Set		M

C2=present only if *# of RL* >1

[Editor's note:

This DSCH Information is agreed as a working assumption (RAN WG3 #5).]

~~1.1.3~~RADIO LINK SETUP RESPONSE

Information element	Reference	Type
Message type		M
Transaction ID		M
~~C~~D-RNTI		M
CN PS Domain Identifier		O
CN CS Domain Identifier		O
RL information response		**M**
RL-ID		M
Diversity Indication		C1
Reference RL-ID		C2
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH information response		**C3**
DCH ID		M
Binding ID		M
Transport Address		FFS
Neighbouring cell information		**O**
UTRAN Cell Identifier (UC-Id)		~~O~~M
~~CRNC ID~~		~~O~~
CN PS Domain Identifier		O
CN CS Domain Identifier		O
Primary CCPCH Radio Resource Information		**M**
UARFCN		M
Primary CCPCH scrambling code		M
Primary CCPCH TX Power		O
Frame Offset		O
DSCH Information Response		**O**
DSCH TFS		M
Binding ID		M

C1=present only if *# of RL* >1

C2=present only if *Diversity Indication* is 'ON'

C3= present only if *Diversity Indication* is 'OFF'

[Editor's note:

This DSCH Information Response is agreed as a working assumption (RAN WG3 #5).]

~~1.1.4~~RADIO LINK SETUP FAILURE

Information element	Reference	Type
Message type		M
Transaction ID		M
CN PS Domain Identifier		C4
CN CS Domain Identifier		C4
RL not setup		**M**
RL ID		M
RL Failure Cause		M
RL information response (RL successfully setup)		**O**
RL-ID		M
Diversity Indication		C1
Reference RL-ID		C2
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH successfully setup		**C3**
DCH ID		M
Binding ID		M
Transport Address		O
Neighbouring cell information		**O**
UTRAN Cell Identifier (UC-Id)		~~O~~M
~~CRNC Address~~		~~O~~
CN PS Domain Identifier		O
CN CS Domain Identifier		O
Primary CCPCH Radio Resource Information		**M**
UARFCN		M
Primary CCPCH scrambling code		M
Primary CCPCH TX Power		O
Frame Offset		O

C1=present only if *# of RL* >1

C2=present only if *Diversity Indication* is 'ON'

C3= present only if *Diversity Indication* is 'OFF'

C4= the parameter **may** be present if there is any RL being successfully set-up.

[Editor's note:

This message needs to be updated with the necessary DSCH information.]

~~1.1.5~~RADIO LINK ADDITION

Information element	Reference	Type
Message type		M
Transaction ID		M
RL information		**M**
RL-ID		M
UTRAN Cell- Identifier (UC-Id)		M
OFF		M
Chip offset		M
Diversity Control field		M
~~Perch channel~~ Primary CCPCH Ec/Io		M
Uplink Eb/No Target		M
Uplink Maximum Eb/No		FFS
Uplink Minimum Eb/No		FFS
DL reference power		O

~~1.1.6~~RADIO LINK ADDITION RESPONSE

Information element	Reference	Type
Message type		M
Transaction ID		M
RL information response		**M**
RL-ID		M
Diversity Indication		M
Reference RL-ID		C1
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH information response		C2
DCH ID		M
Binding ID		M
Transport Address		FFS
Neighbouring cell information		**O**
UTRAN Cell Identifier (UC-Id)		M
~~CRNC Address~~		~~O~~
CN PS Domain Identifier		O
CN CS Domain Identifier		O
Primary CCPCH Radio Resource Information		**M**
UARFCN		M
Primary CCPCH scrambling code		M
Primary CCPCH TX Power		O
Frame Offset		O
DSCH Information Response		**O**
DSCH TFS		M
Binding ID		M

C1=present only if *Diversity Indication* is 'ON'

C2= present only if *Diversity Indication* is 'OFF'

[Editor's note:

This DSCH Information Response is agreed as a working assumption (RAN WG3 #5).]

~~1.1.7~~RADIO LINK ADDITION FAILURE

Information element	Reference	Type
Message type		M
Transaction ID		M
RL not setup		**M**
RL-ID		M
RL Failure cause		M
RL information response (RL successfully setup)		**M**
RL-ID		M
Diversity Indication		M
Reference RL-ID		C1
DL Scrambling code		M
DL Channelisation Codes		**M**
DL Channelisation code		M
DCH information response		C2
DCH ID		M
Binding ID		M
Transport Address		O
Neighbouring cell information		**O**
UTRAN Cell Identifier (UC-Id)		M
~~CRNC Address~~		~~O~~
CN PS Domain Identifier		O
CN CS Domain Identifier		O
Primary CCPCH Radio Resource Information		**M**
UARFCN		M
Primary CCPCH scrambling code		M
Primary CCPCH TX Power		O
Frame Offset		O

[Editor's note:

The parameter group "RL information response (RL successfully setup)" is indicated as mandatory. However, this must be a typo. The failure can of course be such that no RL is added. Compare for instance with RL SETUP FAILURE.]

Note1: The message has the same contents of the RL SETUP FAILURE message, and may be not needed.

~~1.1.8~~RADIO LINK DELETION

Information element	Reference	Type
Message type		M
Transaction ID		M
RL to delete		**M**

RL-ID		M

~~1.1.9~~RADIO LINK DELETION RESPONSE

Information element	Reference	Type
Message type		M
Transaction ID		M

~~1.1.10~~RADIO LINK RECONFIGURATION PREPARE

Information element	Reference	Type
Message type		M
Transaction ID		M
DCHs to modify		**O**
DCH ID		M
DCH ~~Type~~Priority		O
Transport format set (DL)		O
Transport format set (UL)		O
DCHs to add		**O**
DCH ID		M
DCH Combination Indicator		O
DCH ~~Type~~Priority		M
Transport format set (DL)		M
Transport format set (UL)		M
DCHs to delete		**O**
DCH ID		M
TFCS (DL)		M
TFCS (UL)		M
Uplink Scrambling code		O
UL Channelisation Codes		**O**
Channelisation code (UL)		M
DL Channelisation Codes		**O**
Channelisation code length (DL)		M
Uplink Maximum Eb/No		FFS
Uplink Minimum Eb/No		FFS
DL reference power		FFS
DSCH Information		**O**
RL ID		M
MACd-MACsh Transport Format Set		M

[Editor's note:

This DSCH Information is agreed as a working assumption (RAN WG3 #5).]

~~1.1.11~~RADIO LINK RECONFIGURATION READY

Information element	Reference	Type
Message type		M
Transaction ID		M
RLs to be reconfigured (synch)		**O**
RL ID		M
Channelisation Codes (DL)		**O**
Channelisation code (DL)		M
DCH to be setup		**O**
DCH ID		M
Binding ID		M
Transport Address		FFS
DSCH Information Response		**O**
DSCH TFS		M
Binding ID		M

[Editor's note:

This DSCH Information Response is agreed as a working assumption (RAN WG3 #5).]

~~1.1.12~~RADIO LINK RECONFIGURATION COMMIT

Information element	Reference	Type
Message type		M
Transaction ID		M
CFN		M

~~1.1.13~~RADIO LINK RECONFIGURATION FAILURE

Information element	Reference	Type
Message type		M
Transaction ID		M
Cause1		M
RLs not reconfigured		**O**
RL ID		M
Cause2		M

~~1.1.14~~RADIO LINK RECONFIGURATION CANCEL

Information element	Reference	Type
Message type		M
Transaction ID		M

~~1.1.15~~RADIO LINK RECONFIGURATION

Information element	Reference	Type
Message type		M
Transaction ID		M
DCHs to modify		O
DCH ID		M
DCH ~~Type~~Priority		O
Transport format set (DL)		O
Transport format set (UL)		O
DCHs to add		O
DCH ID		M
DCH Combination Indicator		O
DCH ~~Type~~Priority		M
Transport format set (DL)		M
Transport format set (UL)		M
DCHs to delete		O
DCH ID		M
TFCS (DL)		O
TFCS (UL)		O
Uplink Maximum Eb/No		FFS
Uplink Minimum Eb/No		FFS
DL reference power		O
DSCH Information		**O**
RL ID		M
MACd-MACsh Transport Format Set		M

[Editor's note:

This DSCH Information is agreed as a working assumption (RAN WG3 #5).]

~~1.1.16~~RADIO LINK RECONFIGURATION RESPONSE

Information element	Reference	Type
Message type		M
Transaction ID		M
RLs to be reconfigured (unsynch)		**O**
RL ID		M
DCHs to be setup		**M**

DCH ID		M
Binding ID		M
Transport Address		FFS
DSCH Information Response		**O**
DSCH TFS		M
Binding ID		M

[Editor's note:

This DSCH Information Response is agreed as a working assumption (RAN WG3 #5).]

~~1.1.17~~RADIO LINK FAILURE

Information element	**Reference**	**Type**
Message type		M
Transaction ID		M
RLs Unavailable		**M**
RL ID		M
Cause for RL failure		M

~~1.1.18~~DOWNLINK POWER CONTROL

[Editor's note:

The contents this chapters has partly not been agreed. This is left from the merging of the TTC/ARIB and ETSI documentation. The content (except DL Reference Power) is FFS. Contributions are invited.]

Information element	**Reference**	**Type**
Message type		M
Transaction ID		M
Length		M
Message Compatibility Information		M
DL Reference Power		M

~~1.1.19~~PHYSICAL CHANNEL RECONFIGURATION REQUEST

Information element	**Reference**	**Type**
Message type		M
Transaction ID		M
RL ID		M
FDD Physical Channel Information		**C1**

Channelisation code (DL)		M
TDD Physical Channel Information		**C1**
User Code		M
UL Time Slot		M
DL Time Slot		M

C1= either the FDD Physical Channel Information or the TDD Physical Channel Information is included in the message.

~~1.1.20~~PHYSICAL CHANNEL RECONFIGURATION COMMAND

Information element	Reference	Type
Message type		M
Transaction ID		M
CFN		M

~~1.1.21~~PHYSICAL CHANNEL RECONFIGURATION FAILURE

Information element	Reference	Type
Message type		M
Transaction ID		M
Cause		FFS

~~1.1.22~~UPLINK SIGNALLING TRANSFER

Information element	Reference	Type
Message type		M
Transaction ID		M
UTRAN Cell- Identifier (UC-Id)		M
C-RNTI		M
S-RNTI		M
D-RNTI		O
L3 Information		M
CN PS Domain Identifier		O
CN CS Domain Identifier		O
~~SGSN Signalling Address~~		~~M (see Editor's note)~~

~~[Editor's note:~~

~~The parameter "SGSN Signalling Address" is dependent on the solution of the addressing principles to be received from 3GPP TSG SA WG2. The existence of the parameter is thus FFS.]~~

[Editor's note:

The parameter D-RNTI is added as a consequence of contribution R3-(99)661. It is proposed to be optional based on the discussion in Helsinki. During the discussion it became clear that the D-RNTI is allocated at the first Cell Update in a new DRNC and then maintained until released from the SRNC. This means that it is only necessary to give the D-RNTI to the SRNC when it is allocated, i.e. at the first Cell Update in that DRNC. This note is to be deleted when the "type" of the parameter is approved.]

~~1.1.23~~DOWNLINK SIGNALLING TRANSFER

Information element	Reference	Type
Message type		M
Transaction ID		M
UTRAN Cell Identifier (UC-Id)		M
~~C~~D-RNTI		M
L3 Information		M
~~C~~D-RNTI Release indication		M

~~1.1.24~~SRNS RELOCATION COMMIT

[Editor's note:

This message has no content described due to lack of contributions. Contributions are invited.]

Information element	Reference	Type
Message type		M
Transaction ID		M
D-RNTI		O

~~1.1.25URA~~ PAGING REQUEST

~~[Editor's note:~~

~~This message has no content described due to lack of contributions. Contributions are invited.]~~

Information element	Reference	Type
Message type		M
Transaction ID		M
URA ID		C1
UTRAN Cell Identifier (UC-Id)		C1
SRNC Id		M
S-RNTI		M
DRX parameter		M

C1=either the URA ID or the UC-Id is included

[Editor's note:

If the SRNC ID and the S-RNTI are used to calculate the paging group the DRX parameter is not needed.]

DEDICATED MEASUREMENT INITIATION REQUEST

Information element	Reference	Type
Message type		M
Transaction ID		M
Measurement ID		M
Measurement Object		M
Measurement Type		M
Measurement Characteristics		M
Report Characteristics		M

DEDICATED MEASUREMENT INITIATION RESPONSE

Information element	Reference	Type
Message type		M
Transaction ID		M
Measurement ID		M

DEDICATED MEASUREMENT INITIATION FAILURE

[Editor's note:

This Cause parameter has a very general name. This parameter may have to be renamed to be distinguished from other cause parameters.]

Information element	Reference	Type
Message type		M
Transaction ID		M
Measurement ID		M
Cause		M

~~1.1.26~~DEDICATED MEASUREMENT REPORT

~~[Editor's note:~~

~~This message has no content described due to lack of contributions. Contributions are invited.]~~

Information element	Reference	Type
Message type		M
Transaction ID		M
Measurement ID		M
Time Reference		M
Value		M

DEDICATED MEASUREMENT TERMINATION REQUEST

Information element	Reference	Type

Message type		M
Transaction ID		M
Measurement ID		M

DEDICATED MEASUREMENT FAILURE INDICATION

[Editor's note:

This Cause parameter has a very general name. This parameter may have to be renamed to be distinguished from other cause parameters.]

Information element	**Reference**	**Type**
Message type		M
Transaction ID		M
Measurement ID		M
Cause		M

~~1.1.27C-RNTI~~ COMMON TRANSPORT CHANNEL RELEASE

Information element	**Reference**	**Type**
Message type		M
Transaction ID		M
~~C~~D-RNTI		M

~~1.1.28~~LOAD INFORMATION REQUEST

[Editor's note:

This message has no content described due to lack of contributions. Contributions are invited.]

Information element	Reference	Type
Message type		M
Transaction ID		M

~~1.1.29~~LOAD INFORMATION

[Editor's note:

This message has no content described due to lack of contributions. Contributions are invited.]

Information element	Reference	Type
Message type		M
Transaction ID		M

~~1.1.30~~COMMON TRANSPORT CHANNEL REQUEST

[Editor's note:

This message has no content described due to lack of contributions. Contributions are invited.]

Information element	Reference	Type
Message type		M
Transaction ID		M

~~1.1.31~~COMMON TRANSPORT CHANNEL RESPONSE

[Editor's note:

This message has no content described due to lack of contributions. Contributions are invited.]

Information element	Reference	Type
Message type		M
Transaction ID		M

~~1.1.32~~RADIO LINK LOAD INDICATION

[Editor's note:

This message has no content described due to lack of contributions. Contributions are invited.]

Information element	Reference	Type
Message type		M

Transaction ID		M

~~1.2~~Information Element Functional Definition and Contents

[Editor's note: The contents of this chapter related to encoding of parameters is FFS. It has not been agreed between ETSI and TTC/ARIB. Study item Iu/7 from TTC/ARIB-ETSI merging: It has been decided to use ASN.1 to specify the messages and parameters. However, the encoding (transfer syntax) is still FFS.]

This paragraph contains the CODING of the signaling elements used.
The following convention are assigned for the sequence of transmission of bits and bytes:
Each bit position is marked as 1 to 8. Bit 1 is the least significant bit and is transmitted first.
In an element octets are identified by number, octet 1 is transmitted first, then octet 2 etc.

Length Indicator

It is desirable to have Length for messages and parameters because future version of protocol may have extension to the present message or parameter, and also variable size can be present in some parameters as well.

In case of message size exceeding 256 byte it is better to have 2 bytes for message LENGTH.

However it is enough to have 1 byte for parameter LENGTH.

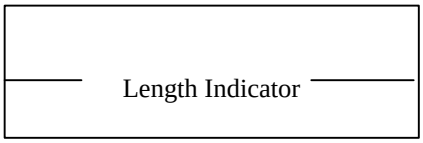


Fig. 3.2.2-1 Length Indicator for Message

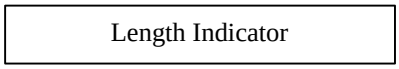


Fig. 3.2.2-2 Length Indicator for Parameter

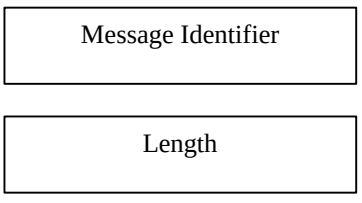
Compatibility Information
Compatibility Information is used in the situation of unrecognized messages or parameter. This parameter should be placed at a certain place then it is easy to pick up this parameter in any circumstances.

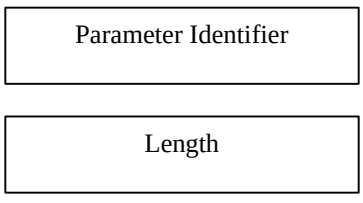
Consequently, the format can be as follow:

Message Identifier / Length / Compatibility Info / parameters

Parameter Identifier / Length / Compatibility Info / Fields

Figure 3 shows the coding format of message and Figure 4 shows the coding format of parameter.





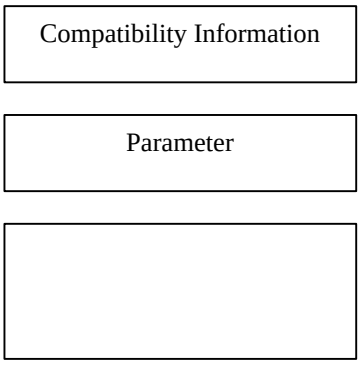


Fig. 3.2.2-3 Message Coding Format

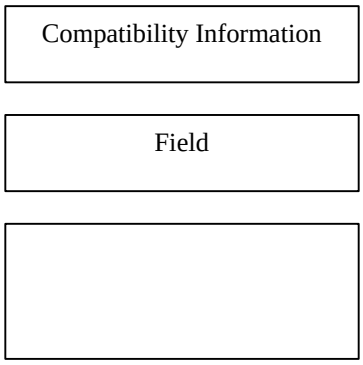


Fig. 3.2.2-4 Parameter Coding Format

Fixed size data and Variable size data in Field

It may have two types of filed i.e. with variable size or fixed size in data of field. It has no any problem to specify the fixed size field. Figure5 shows an example of fixed size data in field.

Fig. 3.2.2-5 Format for fixed size field

Regarding the variable size of data

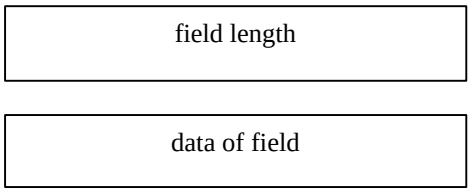


Fig. 3.2.2-6 Length method

The elements used and their CODING are:

Element Identifier Coding	**Element name**	**Reference**
	ATM Binding ID	
	ATM Address	
	No of DCHs	
	DCH ID	
	TFS(for DCH)	
	TFCS(for DCHs)	
	Radio Frequency	
	UL scrambling code	
	UL channelisation code type	
	No. of UL channelisation code	
	UL channelisation code ID	

	UL Interference Level	
	DL channelisation code type	
	No. of DL channelisation code	
	DL channelisation code id	
	Cell Id	
	Neighbor Cell Information	
	Soft Combination Indication	
	Phase Difference	
	Radio Link ID	
	No. of Radio Links	
	Execution Time	
	Slot offset	
	Frame offset	
	Initial DL Power	
	DL Power Range	
	Target UL Eb/Io	
	Old RNTI	
	Old URA ID	
	DCH QoS	

Binding ID

Binding ID is an identifier for an user data stream. The Binding ID is allocated by the Drift RNC and it should be unique among all active transport bearers to/from the related drift RNC.

~~1.1.2~~Cause

[Editor's note:

Presently there exists a number of parameters named "Cause" or similar to that. It is unclear whether some of these parameters are the same or if they are all different. When starting to define the possible values of the various cause parameters this has to be sorted out.]

This element is used to indicate the reason for a particular event to have occurred and is coded as shown below.

The cause value is a single octet element if the extension bit (bit 8) is set to 0. If it is set to 1 then the cause value is a 2octet field.

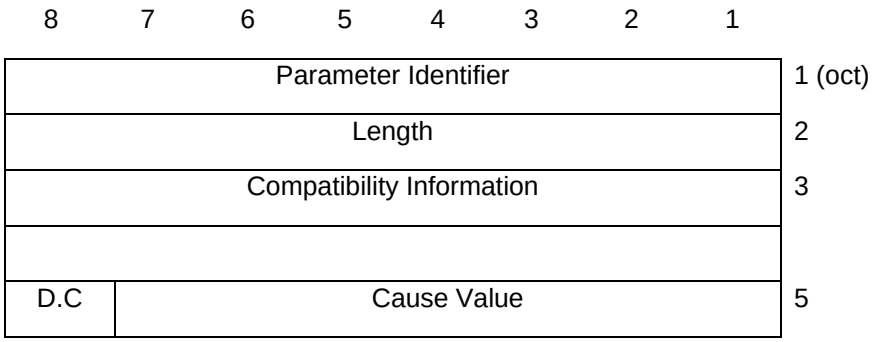


Fig.3.2.2.7 format of Cause

Cause Value:

Class : Normal event

Class: Normal event

Class: Resource unavailable

Class : Service or option not available

Class : Service or option not implemented

Class : invalid message (eg parameter out of range)

Class : protocol error

Class : interworking

The following table shows example of cause value.

Table3.2.2.7 cause value

Cause Value		
Class	value	
765	4321	
		Normal termination Mobile illegal (ex. Authentication NG) O & M intervention Equipment failure Protocol error Message type non-existent or not implemented Information element/parameter non-existent or not implemented Radio link failure BS approach link failure Timer expired Ciphering algorithm not supported Resource unavailable Other values are reserved

~~1.1.3Cell ID~~

~~Cell ID is an identifier for a cell. A cell is associated to one BCCH. A cell may have different DL scrambling codes, or use different DL scrambling code offsets.~~

~~1.1.4~~CFN

Connection Frame Number, included in the DCH FP frame. Node B maps the CFN with the cell FN via the Frame offset.

~~1.1.5~~Channelisation Code

Channelisation code can be defined e.g. by indicating the level and branch in the code tree.

~~1.1.6~~Channelisation Code Length

Channelisation code length defines the level of the related channelisation code in the channelisation code tree.

~~1.1.7~~Chip Offset

Defines the radio timing offset inside a radio frame. The precision is at chip level.

CN PS Domain Identifier

Identification of the CN node in the PS Domain. The format of the identification of the CN PS Do-main Node ID is specified in [3].

Note: Until the specification [3] has been identified, the CN PS Domain Node ID format should be described in this specification. The CN PS Domain Identifier has one of the following formats:

RAC

PLMN Id and RAC.

CN CS Domain Identifier

Identification of the CN node in the PS Domain. The format of the identification of the CN CS Do-main Node ID is specified in [3].

Note: Until the specification [3] has been identified, the CN CS Domain Node ID format should be described in this specification. The CN CS Domain Identifier has one of the following formats:

LAC

PLMN Id and LAC.

~~1.1.8CRNC Address~~CRNC ID

~~Address of the CRNC. The exact definition is FFS.~~Identification of the CRNC. The format of the identification of the CRNC ID is specified in [3].

Note: until the specification [3] has been identified, the CRNC ID format should be described in this specification. The CRNC ID has one of the following formats:

RNC Id

Global RNC Id: PLMN-Id (MCC and MNC) and RNC Id

~~1.1.9~~C-RNTI

C-RNTI is the UE ~~context~~ identifier in the DRNC to be used over the radio interface. ~~It is unique in the DRNC and it is released when the UE is not using anymore resources in that DRNS.~~

~~1.1.10C~~D-RNTI Release Indication

The ~~C~~D-RNTI Release Indication indicates whether or not a CRNC can release the ~~C~~D-RNTI being allocated for a particular UE.

DCH Combination Indicator

The DCH Combination Indicator is used to indicate the multiplexing of more than one DCH on one transport bearer. The value should be unique for each group of coordinated DCHs per request message.

~~1.1.11~~DCH ID

DCH ID is an identifier for an active dedicated transport channel. DCH ID should be unique for each active DCH among the active DCHs simultaneously allocated for the same UE.

~~1.1.12~~DCH QoS

~~9.2.13DCH Type~~DCH Priority

Defines a priority level of the transport channel.

[Editor's note:

The usage of this parameter needs to be clarified.]

~~1.1.14~~Diversity Control Field

Indicates if the RL may, must not (or must, FFS) be combined with the others.

~~1.1.15~~Diversity Indication

Indicates if the RL has been (ON) or has been not (OFF) combined with another RL.

~~1.1.16~~DL Channelisation Code ID

~~9.2.17~~DL Channelisation Code Type

~~9.2.18~~DL Reference Power

Reference transmission power which is used by the fast downlink closed loop power control to eliminate the power drifting problem.

~~1.1.19~~DL Scrambling Code

DL scrambling code to be used by the RL. One cell may have multiple DL scrambling codes available.

~~9.2.20~~D-RNTI

D-RNTI is the UE context identifier in the DRNC. It is unique in the DRNC and it is released when the UE is not using anymore resources in that DRNS.

Editor's note:

The description of the parameter is an exact copy of the previous description of the C-RNTI where only the name of the parameter has been changed.]

DRX Parameter

DSCH TFS

~~1.1.20~~Execution Time

~~9.2.21~~Information Transfer Capability

This element is included Information Transfer Capability which has been requested by the UE.

[Note: The following should be described the cording format.(The detail is FFS.)]

~~1.1.22~~Initial DL Power

MACd-MACsh Transport Format Set

~~9.2.23~~Maximum Uplink Eb/No (FFS)

Indicate the maximum allowed Eb/No to be used by the UL inner loop power control.

Measurement Characteristics

This parameter defines how a measurement should be performed. For example measurement frequency, timing information, filtering information. *The exact structure and contents of this parameter is dependent on the Measurement Type and is FFS*

Measurement ID

This is a SRNC defined identifier that uniquely identifies the measurement.

Measurement Object

This defines on which resource the measurement should be performed. For example might this identifier point out a radio link. *Other measurement objects are FFS*

Measurement Type

This defines what measurement that should be performed. This could for example be “used power on the downlink” or “UL RL quality estimate”. *Other measurement types are FFS*

~~1.1.24~~Message Type

Message Type uniquely identifies the message being sent. It is a single octet element, mandatory in all messages.

8765 4321	
	RADIO LINK SETUP RADIO LINK SETUP RESPONSE RADIO LINK SETUP FAILURE
	RADIO LINK ADDITION RADIO LINK ADDITION RESPONSE RADIO LINK ADDITION FAILURE
	RADIO LINK DELETION RADIO LINK DELETION RESPONSE

	RADIO LINK RECONFIGURATION PREPARE RADIO LINK RECONFIGURATION READY RADIO LINK RECONFIGURATION COMMIT RADIO LINK RECONFIGURATION FAILURE RADIO LINK RECONFIGURATION CANCEL RADIO LINK RECONFIGURATION RADIO LINK RECONFIGURATION RESPONSE
	RADIO LINK FAILURE
	DL POWER CONTROL
	UPLINK SIGNALLING TRANSFER DOWNLINK SIGNALLING TRANSFER SRNS RELOCATION COMMIT URA PAGING REQUEST MEASUREMENT REPORT C-RNTI RELEASE
	DL CODE RECONFIGURATION REQUEST DL CODE RECONFIGURATION COMMAND DL CODE RECONFIGURATION FAILURE

Message Compatibility Information

Message Compatibility Information is used in the situation of unrecognized messages.

8 7 6 5 4 3 2 1

Message Compatibility Information	1(oct)

Fig.3.2.2.2 Message Compatibility Information

Table 3.2.2.2 Message Compatibility Information octet

Bit	
8	Reserved
:	
4	Pass On not possible
3	Discard Message
2	***Send Notify (1)***
1	***Release Indicator***

~~1.1.25~~Minimum Uplink Eb/No (FFS)

Indicate the maximum allowed Eb/No to be used by the UL inner loop power control.

~~1.1.26~~Neighbor Cell Information

~~9.2.27~~No .of DCHs

~~9.2.28~~No. of DL Channelisation Code

~~9.2.29~~No. of Radio Links

~~9.2.30~~No. of UL Channelisation Code

~~9.2.31~~OFF

OFF (Frame offset) is the desired offset between dedicated channel downlink transmission frames (CFN, connection frame number) and the broadcast channel frame offset (cell frame number). The frame offset value is UE and cell specific.

~~1.1.32~~Old RNTI

~~9.2.33~~Old URA ID

~~9.2.34Perch Channel~~ Primary CCPCH Ec/Io

Signal-to-interference ratio per chip of the ~~perch channel~~ primary CCPCH measured by the terminal. The name shall be aligned with WG1&2.

[Editor's note:

The name used in the RRC protocol is Primary CCPCH **RX** Ec/Io as part of the parameter "Intra-frequency measurement quantity".]

~~1.1.35~~Phase Difference

~~9.2.36~~Primary CCPCH Scrambling Code

Defines the scrambling code used by the cell to broadcast the BCCH.

~~1.1.37~~Radio Frequency

~~9.2.38~~Reference RL ID

ID of the RL which the RL in question has been combined with.

Report Characteristics

The Report Characteristics could be any of the following classes:

Periodic: Reports should be delivered in a periodic matter with some frequency. In this case the update frequency have to be specified.

Event Triggered: Reports should be delivered upon a specific event in Node B. In this case the event have to be specified.

Immediate Reporting: A report should be delivered immediately. Only one measurement report should be sent and after that the measurement is automatically cancelled.

~~1.1.39~~RL ID

RL ID is an identifier for the corresponding Radio Link for one UE. RL ID is allocated by the serving RNC during the branch allocation, and it should be stored both to the serving- and drift RNCs as long as the said RL exists. RL ID can be used later as a reference to the said RL between the serving- and the drift RNC. RL ID should be unique for each active RL among the active RLs simultaneously allocated for the same UE.

~~1.1.40~~SGSN Signalling Address (FFS)

The SGSN Signalling Address indicates the signalling address of an SGSN directly connected to a particular RNC. The existence of this parameter is FFS.

~~1.1.41~~Slot Offset

~~9.2.42~~Soft Combination Indicator

SRNC Id

~~9.2.43~~S-RNTI

S-RNTI is the UE context identifier in the SRNC. It is allocated by the SRNC and maintained for all the time the RRC connection is terminating in the SRNC.

~~1.1.44~~Target UL Eb/I0

Time Reference

This is a time reference showing the time of a measurement. *The accuracy of this is FFS.*

~~9.2.45~~Transaction ID

[Editor's note: The existence of this parameter has been agreed. However, the description may have to be improved to reflect the agreed purpose. Contributions are invited.]

Transaction ID is a unique identifier among all the messages having the same message type and which are sent using the same RNSAP signalling bearer connection. The identifier must be unique among those messages that are in pending state, i.e. messages that can still be references to in a forthcoming message. Transaction Id for complete-, proceeding-, acknowledge- and confirm-type of messages is the same transaction ID that was used in the message for which the above mentioned type message is related to. FFS.

~~1.1.46~~Transport Address

Defines the transport address of the DRNC. For details on the Transport Address used see [2].. The addressing in UTRAN is FFS.

~~1.1.47~~Transport Format Combination Set

The Transport Format Combinations Set defines the allowed combinations of the transport formats of the transport channels.

~~1.1.48~~Transport Format Set

Transport format set is a set of transport formats allocated for a DCH. Each transport format defines one combination of parameters that describes 1) the format of the MAC PDU to be transmitted over Iur 2) The procedures that should be done at layer 1 for the MAC-PDUs upon reception.

~~1.1.49~~UARFN

The UTRAN Absolute Radio Frequency Number defines the carrier.

~~1.1.50~~UL Channelisation Code ID

~~9.2.51~~UL Channelisation Code Type

~~9.2.52~~UL Eb/No Target

Indicates the UL Eb/No target to be used by the UL closed loop power control.

~~1.1.53~~UL Interference Level

~~9.2.54~~UL Scrambling Code

Uplink scrambling code is the scrambling code that is used by the UE.

UTRAN Cell Identifier

The UTRAN Cell Identifier (UC-Id) is used to identify the cell uniquely within UTRAN. The UC-Id consists of the Controlling RNC Identifier (CRNC-Id) and a Cell Identifier (C-Id). The C-Id is unique only within one RNS.

[Editor's note:

The description of the parameter is the editor's proposal, based on the agreed description provided in R3(99)772. This note shall be deleted when the description is approved.]

[Editor's note:

It needs to be defined whether the UC-Id always will exist in its UTRAN unique format (CRNC-Id + C-Id) or if only the C-Id can be used, e.g. in the case of neighbouring RNCs.]

Value

~~1.1.55~~L3 Information

This parameter contains the Layer 3 Information from a Uu message as received from the UE over the Uu interface or the Layer 3 Information for a Uu message to be sent to a UE by the CRNC.

~~1.3~~Message and Information element abstract syntax (with ASN.1)

~~Editor's note:~~

~~ASN.1 definitions for messages and information elements. Similar text than the chapter 5 of this contribution.]~~[

[Editor's note:

The below ASN.1 structure is agreed as a working assumption (at RAN WG3 #5 in Helsinki).]

[Editor's note:

The parts related to compatibility and version handling in the below ASN.1 structure is FFS since the Compatibility and Version Handling is FFS.]

PDU Descriptions for RNSAP

```
-- **************************************************************
--
-- PDU descriptions for RNSAP.
--
-- **************************************************************

RNSAP-PDU-descriptions -- { object identifier to be allocated }--
DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- **************************************************************
--
-- PDU content types from the PDU module.
--
-- **************************************************************

IMPORTS
-- Imports PDU content types from RNSAP PDU contents module
-- *** TO BE DEFINED ***
    ExampleMessageContents1,
    ExampleMessageContents2-v1,
    ExampleMessageContents2-v2,
    ExampleMessageContents3
FROM RNSAP-PDU-contents;

-- **************************************************************
--
-- Table column structure.
--
-- RNSAP-PDU-DESCR associates a RNSAP PDU structure with a PDU
-- identifier.
--
-- **************************************************************

RNSAP-PDU-DESCR ::= CLASS {
    &PDUType,
    &versionID              VersionID   UNIQUE,
    &LogicalProcedure       LogicalProcedure
}
WITH SYNTAX {
    PDU TYPE                &PDUType
    VERSION NUMBER AND ID   &versionID
    LOGICAL PROCEDURE       &LogicalProcedure
}

-- *** TO BE DEFINED ***
VersionID ::= SEQUENCE {
    pduID                   INTEGER (0..63),
    versionNumber           VersionNumber
}

-- *** TO BE DEFINED ***
VersionNumber               ::= INTEGER (1 .. 255)

-- *** TO BE DEFINED ***
LogicalProcedure            ::= ENUMERATED {
    basic,
    dedicated,
    common,
    global
}

-- **************************************************************
--
-- Table row definitions.
--
-- RNSAP PDU descriptions.
--
-- **************************************************************

RNSAP-PDUs RNSAP-PDU-DESCR ::= {
    -- *** TO BE DEFINED ***
    exampleMessage1     |
    exampleMessage2-v1  |
    exampleMessage2-v2  |
    exampleMessage3     |

    -- Additional PDU descriptions can be added in future
    ...
```

```
}
-- *** TO BE DEFINED ***
exampleMessage1 RNSAP-PDU-DESCR ::= {
    PDU TYPE              ExampleMessageContents1
    VERSION NUMBER AND ID       { pduID 1, versionNumber 1 }
    LOGICAL PROCEDURE         { global }
}

exampleMessage2-v1 RNSAP-PDU-DESCR ::= {
    PDU TYPE                  ExampleMessageContents2-v1
    VERSION NUMBER AND ID     { pduID 2, versionNumber 1 }
    LOGICAL PROCEDURE         { dedicated }
}

exampleMessage2-v2 RNSAP-PDU-DESCR ::= {
    PDU TYPE                  ExampleMessageContents2-v2
    VERSION NUMBER AND ID     { pduID 2, versionNumber 2 }
    LOGICAL PROCEDURE         { dedicated }
}

exampleMessage3 RNSAP-PDU-DESCR ::= {
    PDU TYPE                  ExampleMessageContents3
    VERSION NUMBER AND ID     { pduID 3, versionNumber 1 }
    LOGICAL PROCEDURE         { basic | dedicated }
}

-- ****************************************************************
--
-- Generic PDU structure. The RNSAP-PDUs table above describes
-- valid contents for the vid, indication and value fields.
--
-- ****************************************************************

RNSAP-PDU ::= SEQUENCE {
    vid         RNSAP-PDU-DESCR.&versionID    ({RNSAP-PDUs}),
    value       RNSAP-PDU-DESCR.&PDUType      ({RNSAP-PDUs}{@vid})
}

END
```

RNSAP PDU Content Definitions

[Editor's note:

To avoid syntax error problems in an ASN.1 compiler the empty IMPORT statements in the module below has been "commented them out" (i.e. two dashes are added in the beginning of the line) to avoid syntax errors.]

```
-- ****************************************************************
--
-- RNSAP PDU content definitions
--
-- ****************************************************************

RNSAP-PDU-contents DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- IMPORTS

-- *** TO BE DEFINED ***
-- FROM RNSAP-IEs

-- *** TO BE DEFINED ***
-- FROM RNSAP-Constants;

-- Definitions of RNSAP PDU content types one by one
-- *** TO BE DEFINED ***

ExampleMessageContents1 ::= SEQUENCE {
    -- *** IEs to be defined ***
    ...
}

ExampleMessageContents2-v1 ::= SEQUENCE {
    -- *** IEs to be defined ***
    ...
}

ExampleMessageContents2-v2 ::= SEQUENCE {
    -- *** IEs to be defined ***
```

```
    ...
}

ExampleMessageContents3 ::= SEQUENCE {
    -- *** IEs to be defined ***
    ...
}

END
```

RNSAP Information Elements

[Editor's note:

To avoid syntax error problems in an ASN.1 compiler the empty IMPORT statements in the module below has been "commented them out" (i.e. two dashes are added in the beginning of the line) to avoid syntax errors.]

```
-- **************************************************************
--
-- RNSAP Information Elements
--
-- **************************************************************

RNSAP-IEs DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- IMPORTS

-- *** TO BE DEFINED ***
-- FROM RNSAP-Constants;

-- Definitions of RNSAP IEs one by one
-- *** TO BE DEFINED ***

END
```

Constant Definitions for RNSAP

```
-- **************************************************************
--
-- Constant definitions for RNSAP
--
-- **************************************************************

RNSAP-Constants DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

-- Definitions of RNSAP constants one by one
-- *** TO BE DEFINED ***

END
```

~~1.4~~Message transfer syntax

[Editor's note:

The transfer syntax has been agreed to be either BER or PER (as a result of contribution R3-(99)639), which one to ~~be used~~use is FFS.]

~~1.5~~Timers

Handling of Unknown, Unforeseen and Erroneous Protocol Data

Annex A (normative):

Annex B (informative):

Document Stability Assessment Table

Section	Content missing	Incomplete	Restructuring needed	Checking needed	Editorial work required	Finalisation needed	Almost stable	Stable
1								√
2					√			
3				√				
4		√						
5				√				
6	√							
7				√				
8								
8.1				√				
8.2				√				
8.3		√						
8.4		√						
9								
9.1		√						
9.2		√						
9.3	√							
9.4	√							
9.5	√							
10	√							

~~12~~History

Document history		
1.2.2	August 1999	In this version the editor's note on the cover page has been deleted. The editor's notes in chapter 8.2.1 and 8.2.5 are modified to encourage contributions to clarify the inconsistencies described in the notes. The figure text in chapter 8.3.1 has been corrected.
1.2.1	July 1999	The following updates of this version have been made due to the decisions taken at RAN WG3 #5 in Helsinki: • The description on whether an RNSAP module is optional or mandatory has been removed (chapter 5.1) as a consequence of the decision on R3-(99)671 not to describe if a certain procedure is optional or mandatory. • The description of the Global Procedures module is changed to indicate that the procedures are between peer CRNCs not peer RNCs as a result of decisions on R3-(99)642. The descriptions in of all the Global Procedures are updated accordingly (chapter 8.4). • The ASN.1 agreed modules have been added (chapter 9.3) as a result of decisions on R3-(99)668. For clarity, each module is placed in a separate sub-chapter. • The Cell ID is changed to UTRAN Cell Identifier (UC-Id) throughout the contribution and the previous parameter Cell ID is deleted as a result of decisions R3-(99)661. The UTRAN Cell Identifier is added in the list of parameters (chapter 9.2.68), described in accordance with R3(99)772. • The D-RNTI is added in the UPLINK SIGNALLING TRANSFER message (chapters 8.1.1 and 9.1.22). The C-RNTI is replaced by the D-RNTI in the DOWNLINK SIGNALLING TRANSFER and C-RNTI RELEASE messages (chapters 8.1.2, 9.1.23, 8.3.1, and 9.1.27). The description of the parameter C-RNTI is updated to show the new usage (chapter 9.2.8). The parameter C-RNTI Release Indicator is renamed to D-RNTI Release Indicator (chapter 9.2.11). All of this as a consequence of R3-(99)662. • The Common Transport Channel Initialisation procedure is updated and the C-RNTI Release procedure and message are renamed to Common Transport Channel Release (chapters 8.3.1, 8.3.2 and 9.1.27). • Document stability assessment table added as Annex B in accordance with R3-(99)771. • The procedures for Measurement Request and Measurement termination are added and the Measurement Reporting procedure (renamed) (chapters 8.2.9 -- 11 and 9.1.) as a result of decisions on R3-(99)736. The parameters described in the contribution were added (unless already existing) with the description given in the procedure chapter of the contribution (chapter 9.1.26 -- 31). • The UL RL Quality Estimate is added as a Measurement Type in the Measurement Request procedure (chapter 8.2.9) as a result of decisions on R3-(99)760. • The procedures Uplink Signalling Transfer, RL Setup, and RL Addition have been modified (chapters 8.1.1, 8.2.1, and 8.1.2) as a result of decisions on R3-(99)744. Further more, the messages RL SETUP RESPONSE, RL SETUP FAILURE, RL ADDITION RESPONSE, RL ADDITION FAILURE, and UPLINK SIGNALLING TRANSFER have been updated (chapters 9.1.3, 9.1.4, 9.1.6, 9.1.7, and 9.1.22). In addition, the parameter CRNC Address has been renamed and modified and the parameters CN PS Domain Identifier and CN CS Domain Identifier have been added (chapters 9.2.7, 9.2.8, and 9.2.9). • The URA Paging Request procedure and message are renamed to Paging Request (chapter 8.1.4 and 9.1.25) as a result of decisions on R3-(99)680. The UC-Id is added as a possible identification of the "paging area". When this contribution was agreed the UE identification was regarded as FFS. However, see also the results of R3-(99)656 below. • The procedure Physical Channel Reconfiguration has been modified (chapter 8.2.6) as a result of the decisions on R3-(99)697.

		• The procedure text of the procedures Radio Link Setup (obvious typo corrected) and Radio Link Reconfiguration (unsynchronised) are modified (chapters 8.2.1 and 8.2.5) as a result of decisions on R3-(99)652. Further more, the C-RNTI is changed to D-RNTI in the RADIO LINK SETUP RESPONSE message (chapter 9.1.3). • The procedures RL Setup, RL Reconfiguration (synchronised), and RL Reconfiguration (unsynchronised) are modified (chapters 8.2.1 parameter DCH Combination Indicator is added to the RL SETUP REQUEST, RL RECONFIGURATION PREPARE, and RL RECONFIGURATION messages as well as in the list of parameters (chapters 9.1.2, 9.1.10, 9.1.15, and 9.2.12). • The messages RL SETUP REQUEST, RL RECONFIGURATION PREPARE, RL RECONFIGURATION, RL SETUP RESPONSE, RL ADDITION RESPONSE, RL RECONFIGURATION READY, and RL RECONFIGURATION RESPONSE have been updated with the DSCH Information and DSCH Information Response respectively (chapters 9.1.2, 9.1.10, 9.1.15, 9.1.3, 9.1.6, 9.1.11, and 9.1.16) as a result of decisions on R3-(99)675. The new parameters are also added to the list of parameters (chapters 9.2.24 and 9.2.28) • The neighbouring cell information is updated in the RADIO LINK SETUP RESPONSE, RADIO LINK SETUP FAILURE, RADIO LINK ADDITION RESPONSE, and RADIO LINK ADDITION FAILURE messages (chapters 9.1.3, 9.1.4, 9.1.6, and 9.1.7) as a result of decisions on R3-(99)655. • Parameters are added to the URA PAGING REQUEST message (chapter 9.1.25) R3(99)656. The DRX Parameter is added to the list of parameters (chapter 9.2.23). The SRNC-Id is added to the list of parameters (chapter 9.2.54). As a consequence of this contribution the UE identification for this message is not regarded as FFS anymore. • The Parameter Perch Channel Ec/Io to Primary CCPCH Ec/Io (chapters 9.1.2, 9.1.5, and 9.2.44) as a result of decisions on R3-(99)646. • The D-RNTI is added as an optional parameter in the SRNS RELOCATION COMMIT message (chapter 9.1.24). A description on when the connection oriented and connectionless services of the signalling bearer are used as well as when the D-RNTI is used is included (chapter 8.1.3). The D-RNTI parameter is added in the list of parameters (chapter 9.2.22). All as a consequence of decision taken regarding R3-(99)647. • The possible actions to be taken at reception of RL FAILURE have been removed (chapter 8.2.7) on R3-(99)610. • The parameter DCH Type is renamed to DCH Priority throughout the specification as a result of decisions on R3-(99)740.
1.2.0	July 1999	Approved by RAN WG3 with the following correction: • The Common Procedures module is renamed to Global Procedures.
1.1.1	June 1999	This revision contains updates due to decisions regarding the following contributions at RAN WG3 #4 in Warwick: • R3-(99)490 (RL Load Indication procedure in chapter 8.2). • R3-(99)516 (Load Information, Load Information Request, Measurement reporting, and DL Power Control procedures in chapters 8.2 and 8.4. A new module is added to the RNSAP modules in chapter 5.1.). • R3-(99)493 (Physical Channel Reconfiguration in chapter 8.2 and the corresponding messages in chapter 9.1). • R3-(99)452 (RL SETUP, RL ADDITION, RL RECONFIGURATION PREPARE, and RL RECONFIGURATION messages in chapter 9.1). • R3-(99)583 (Uplink Signalling Transfer, Downlink Signalling Transfer, Common Transport Channel initialisation in chapter 8.~~2~~ 1 and 8.4 and the corresponding messages in chapter 9.1). The chapter “Downlink Signalling Transfer” was moved back to chapter 8.3 (Common Transport Channel Procedures). • R3-(99)449 ([no] Parallel Transactions in chapter 5 and addition of Transaction Id as mandatory in all messages).
1.1.0	June 1999	Approved by RAN WG3 with the following corrections:

		• The specification number is corrected. • The chapter "Downlink Signalling Transfer" was moved from the chapter 8.1 (Basic Mobility Procedures) to chapter 8.3 (Common Transport Channel Procedures)
1.0.2	May 1999	• Chapters 8.1, 8.3, 9.1, and 9.2 are updated in accordance with the decisions made regarding R3-(99)341. • Chapters 9.1.22 and 9.2 are updated in accordance with the decision made regarding R3-(99)360. • A note is added to chapter 4 to reflect the decision on the "Source Signalling Address" made regarding R3-(99)360. • Abbreviations added in chapter 3.
1.0.1	April 1999	• Specification number changed to UMTS 25.413. • Title corrected UTRAN Iur Interface RNSAP Signalling. • A short scope is added. • Editors note added in chapter 5.1 "RNSAP Procedure Modules" to reflect the previous decision, as described in UMTS 25.420. • Chapter 8 updated in accordance with R3-(99)262. (RNS changed to RNC in a lot of places (primarily in relation to transmission or reception of messages) and SRNC Relocation is renamed to SRNS Relocation.) • The reference to YY.02 in the chapter "SRNS Relocation Commit" has been updated to refer to UMTS 25.931. • Chapter 9.2.45 "Transport Address" has been updated with a reference to 25.426 in accordance with R3-(99)275. • Chapter 12 has been deleted to avoid inconsistencies. • Chapter 7 is updated with a list of "elementary" procedures from chapter 8. • The title of chapter 8 is changed to "RNSAP Procedures" since not all procedures are true elementary procedures. • Chapter 8.2.11 "Uplink Outer Loop Power Control" has been removed in accordance with the decision to use inband signalling for this procedure was taken based on the Iur/1 Study Item Report R3-(99)282 • The list of messages in Chapter 9.1 (before 9.1.1) as well as the chapters 9.1.x are updated so that all messages described in chapter 8 are described. The messages not described in chapter 8 are deleted. This update also applied to the parameter "Message Type" in chapter 9.2.24. • All descriptions of messages in chapters 9.1.x have been removed. For a description of when the messages are used see chapter 8. • Chapter 9.2 is updated in accordance with R3-(99)348.
1.0.0	April 1999	Raised to version 1.0.0 by the TSG RAN meeting #3 in Japan, April 1999. The content is identical to version 0.1.0.
0.1.0	April 1999	Only version number stepped, otherwise same as 0.0.5.
0.0.5	April 1999	• Editor's notes in ch. 9.1 and 9.2 modified to reflect agreements at WG3#2 in Nynäshamn, Sweden.
0.0.4	April 1999	• Elementary procedures in ch. 8 grouped into basic mobility-, DCH- and CCH procedures. • References added to msg. table in ch 9.1. • IEs in ch. 9.2 alphabetically ordered. • Started to add references in msg. contents tables in ch. 9.1.x. • Editor's note in ch. 8.1.2 refering to study item Iu/3 removed since study item resolved. • Procedure Outer Loop Power Control renamed Up Link Outer Loop Power Control.
0.0.3	March 1999	Updated according to changes at WG3#2 in Nynäshamn:

		• Ch. 8.8 Cell/URA Update Indication procedure updated. • Ch. 8.16 CCHT Release Request procedure added. • Updated according to tdoc R3-99178, R3-99179, R3-99171, R3-99182, R3-99175, R3-99198.
0.0.2	February 1999	Introduction of content from the Merged Description of I_{ur} Interface, V0.0.2 1999-02.
0.0.1	February 1999	Document Structure Proposal.
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