TSG RAN Meeting #28   **RP-050230**
Quebec, Canada, 01 - 03 June 2005
Title   **CRs (Rel-6 cat. B) on EDCH**

Source   **TSG RAN WG3**
Agenda Item   **8.6**

RAN3 Tdoc	Spec	CR	Rev	Cat	curr. Vers.	new Vers.	Rel	Work item	Title
R3-050702	25.423	1077	1	B	6.5.0	6.6.0	Rel-6	EDCH-Iurlub	Introduction of Bundling Feature
R3-050703	25.433	1122	1	B	6.5.0	6.6.0	Rel-6	EDCH-Iurlub	Introduction of Bundling Feature
R3-050770	25.931	30	1	B	6.1.0	6.2.0	Rel-6	EDCH-Iurlub	Introduction of E-DCH scenarios

CR-Form-v7.1

CHANGE REQUEST

⌘	**25.423**	CR	**1077**	⌘rev	**1**	⌘	Current version:	**6.5.0**	⌘

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

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

Title: ⌘	Introduction of Bundling Feature	
Source: ⌘	RAN3	
Work item code: ⌘	EDCH-IurIub	***Date:*** ⌘ 10/05/2005
Category: ⌘ **B**		***Release:*** ⌘ Rel-6

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

Use *one* of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘	The introduction of signal for the control of bundling mode for 2ms TTI AIF data over Iur.
Summary of change: ⌘	- The Bundling Mode Indicator IE was added in RADIO LINK SETUP REQUEST, RADIO LINK RECONFIGURATION PREPARE and RADIO LINK RECONFIGURATION REQUEST messages. - The corresponding ASN.1 changes were made. **Impact analysis** This CR has isolated impact on the previous release of the specification because the changes effects only E-DCH function.
Consequences if not approved: ⌘	Bundling mode of 2ms TTI AIF data over Iur cannot be controlled by the SRNC.
Clauses affected: ⌘	8.3.1.2, 8.3.4.2, 8.3.7.2, 9.2.1.30OG, 9.2.2.4F, 9.2.2.xx(new), 9.3.4

		Y	N		
Other specs	⌘	X		Other core specifications ⌘	CR1122r1 TS 25.433 v6.5.0
Affected:			X	Test specifications	
			X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.3.1 Radio Link Setup

8.3.1.1 General

This procedure is used for establishing the necessary resources in the DRNS for one or more radio links.

The connection-oriented service of the signalling bearer shall be established in conjunction with this procedure.
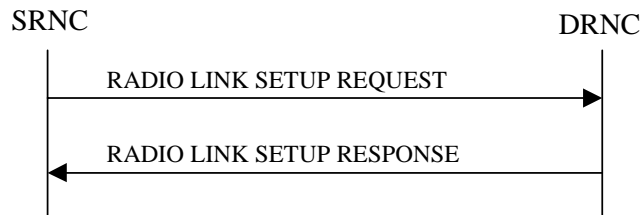
8.3.1.2 Successful Operation

Figure 5: Radio Link Setup procedure: Successful Operation

When the SRNC makes an algorithmic decision to add the first cell or set of cells from a DRNS to the active set of a specific UE-UTRAN connection, the RADIO LINK SETUP REQUEST message is sent to the corresponding DRNC to request establishment of the radio link(s). The Radio Link Setup procedure is initiated with this RADIO LINK SETUP REQUEST message sent from the SRNC to the DRNC.

Upon receipt of the RADIO LINK SETUP REQUEST message, the DRNS shall reserve the necessary resources and configure the new RL(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The DRNS shall prioritise resource allocation for the RL(s) to be established according to Annex A.

If the RADIO LINK SETUP REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request for a time period not to exceed the value of the *Allowed Queuing Time* IE before starting to execute the request.

Transport Channels Handling:

  DCH(s):

  [TDD - If the *DCH Information* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the new DCHs according to the parameters given in the message.]

  If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, then the DRNS shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs.

  If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Uplink DCH only", the DRNS shall ignore the *Transport Format Set* IE for the downlink for this DCH. As a consequence this DCH is not included as a part of the downlink CCTrCH.

  [TDD - If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Downlink DCH only", the DRNS shall ignore the *Transport Format Set* IE for the uplink for this DCH. As a consequence this DCH is not included as a part of the uplink CCTrCH.]

  [FDD - For each DCH which do not belong to a set of co-ordinated DCHs, and which includes a *QE-Selector* IE set to "selected", the DRNS shall use the Transport channel BER from that DCH for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If the *QE-Selector* IE is set to "non-selected", the DRNS shall use the Physical channel BER for the QE in the UL data frames, ref. [4].]

  For a set of co-ordinated DCHs, the DRNS shall use the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" for the QE in the UL data frames, ref. [4]. [FDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use the Physical channel BER for the QE, ref. [4]. If all

DCHs have *QE-Selector* IE set to "non-selected", the DRNS shall use the Physical channel BER for the QE, ref. [4].] [TDD - If no Transport channel BER is available for the selected DCH, the DRNS shall use 0 for the QE, ref. [4].]

The DRNS shall use the included *UL DCH FP Mode* IE for a DCH or a set of co-ordinated DCHs as the DCH FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Startpoint in the user plane for the DCH or the set of co-ordinated DCHs.

The DRNS shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Endpoint in the user plane for the DCH or the set of co-ordinated DCHs.

The *Frame Handling Priority* IE defines the priority level that should be used by the DRNS to prioritise between different frames of the data frames of the DCHs in the downlink on the radio interface in congestion situations once the new RL(s) have been activated.

The *Traffic Class* IE may be used to determine the transport bearer characteristics to apply between DRNC and Node B for the related DCH or set of co-ordinated DCHs. The DRNC should ignore the *Traffic Class* IE if the *TrCH Source Statistics Descriptor* IE indicates the value "RRC".

If the *TNL QoS* IE is included for a DCH or a set of co-ordinated DCHs and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related DCH or set of co-ordinated DCHs.

If the *DCH Information* IE contains a *DCH Specific Info* IE which includes the *Guaranteed Rate Information* IE, the DRNS shall treat the included IEs according to the following:

- If the *Guaranteed Rate Information* IE includes the *Guaranteed UL Rate* IE, the DRNS shall apply the Guaranteed Rate in the uplink of this DCH. The DRNS may decide to request the SRNC to limit the user rate of the uplink of the DCH at any point in time. The DRNS may request the SRNC to reduce the user rate of the uplink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to only reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed UL Rate* IE, the DRNS shall not limit the user rate of the uplink of the DCH.

- If the *Guaranteed Rate Information* IE includes the *Guaranteed DL Rate* IE, the DRNS shall apply the Guaranteed Rate in the downlink of this DCH. The DRNS may decide to request the SRNC to limit the user rate of the downlink of the DCH at any point in time. The DRNS may request the SRNC to reduce the user rate of the downlink of the DCH below the guaranteed bit rate, however, whenever possible the DRNS should request the SRNC to only reduce the user rate between the maximum bit rate and the guaranteed bit rate. If the *DCH Specific Info* IE in the *DCH Information* IE does not include the *Guaranteed DL Rate* IE, the DRNS shall not limit the user rate of the downlink of the DCH.

DSCH(s):

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNC shall establish the requested DSCHs [FDD - on the RL indicated by the PDSCH RL ID IE]. If the *Transport Layer Address* IE and *Binding ID* IE are included in the *DSCH Information* IE the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the DSCH. In addition, the DRNC shall send a valid set of *DSCH Scheduling Priority* IE and *MAC-c/sh SDU Length* IE parameters to the SRNC in the RADIO LINK SETUP RESPONSE message. If the *PDSCH RL ID* IE indicates a radio link in the DRNS, then the DRNC shall allocate a DSCH-RNTI to the UE Context and include the *DSCH-RNTI* IE in the RADIO LINK SETUP RESPONSE message.

If the *DSCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS may use the *Traffic Class* IE to determine the transport bearer characteristics to apply between DRNC and Node B for the related DSCHs.

The DRNC shall include the *DSCH Initial Window Size* IE in the RADIO LINK SETUP RESPONSE message for each DSCH, if the DRNS allows the SRNC to start transmission of MAC-c/sh SDUs before the DRNS has allocated capacity on user plane as described in [32].

[TDD - USCH(s)]:

[TDD - The DRNS shall use the list of RB Identities in the *RB Info* IE in the *USCH information* IE to map each *RB Identity* IE to the corresponding USCH. If the *Transport Layer Address* IE and *Binding ID* IE are included in the *USCH Information* IE the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the USCH.]

[TDD - If the *USCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS may use the *Traffic Class* IE to determine the transport bearer characteristics to apply between DRNC and Node B for the related USCHs.]

[TDD - If the *USCH Information* IE is included in the RADIO LINK SETUP REQUEST message and contains the *TNL QoS* IE, and if ALCAP is not used, the DRNS may use the *TNL QoS* IE to determine the transport bearer characteristics to apply in the uplink for the related USCH.]

[TDD - If the *USCH Information* IE is included in the RADIO LINK SETUP REQUEST message, the DRNS shall establish the requested USCHs, and the DRNC shall provide the [3.84 Mcps TDD - *USCH Information Response* IE] [1.28 Mcps TDD - USCH Information Response LCR IE] in the RADIO LINK SETUP RESPONSE message.]

[TDD - CCTrCH Handling]:

[TDD - If the *UL CCTrCH Information* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the new UL CCTrCH(s) according to the parameters given in the message.]

[1.28Mcps TDD - If the *UL CCTrCH Information LCR* IE includes the *TDD TPC Uplink Step Size* IE, the DRNS shall configure the uplink TPC step size according to the parameters given in the message.]

[TDD - If the *DL CCTrCH Information* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the new DL CCTrCH(s) according to the parameters given in the message.]

[TDD - If the *TPC CCTrCH List* IE is present in the RADIO LINK SETUP REQUEST message, the DRNS shall configure the identified UL CCTrCHs with TPC according to the parameters given in the message.]

HS-DSCH:

If the *HS-DSCH Information* IE is present in the RADIO LINK SETUP REQUEST message, then:

- The DRNS shall setup the requested HS-PDSCH resources on the Serving HS-DSCH Radio Link indicated by the *HS-PDSCH RL ID* IE.

- The DRNC shall include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK SETUP RESPONSE message.

- The DRNC shall allocate an HS-DSCH-RNTI to the UE Context and include the *HS-DSCH-RNTI* IE in the RADIO LINK SETUP RESPONSE message.

- The DRNC shall include in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for establishment of transport bearer for every HS-DSCH MAC-d flow being established.

- If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *HS-DSCH Information* IE for an HS-DSCH MAC-d flow, then the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the concerned HS-DSCH MAC-d flow.

- The DRNS may use the *Traffic Class* IE for a specific HS-DSCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK SETUP REQUEST message includes the *MAC-hs Guaranteed Bit Rate* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK SETUP REQUEST message includes the *Discard Timer* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the DRNS shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- The DRNC shall include the *HS-DSCH Initial Capacity Allocation* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK SETUP RESPONSE message for every HS-DSCH MAC-d flow being established, if the DRNS allows the SRNC to start transmission of MAC-d PDUs before the DRNS has allocated capacity on user plane as described in [32].

- [FDD - If the RADIO LINK SETUP REQUEST message includes the *HS-SCCH Power Offset* IE in the *HS-DSCH Information* IE, then the DRNS may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [FDD - The DRNC shall include the *Measurement Power Offset* IE in the *HS-DSCH Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD - The DRNS shall allocate HS-SCCH codes corresponding to the HS-DSCH and the DRNC shall include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [TDD - The DRNS shall allocate HS-SCCH parameters corresponding to the HS-DSCH and the DRNC shall include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [TDD - The DRNC shall include the [3.84 Mcps TDD - *HS-PDSCH Timeslot Specific Information* IE] [1.28 Mcps TDD - *HS-PDSCH Timeslot Specific Information LCR* IE] in the *HS-DSCH Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD - The DRNC shall include the *HS-PDSCH And HS-SCCH Scrambling Code* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *HARQ Preamble Mode* IE in the *HS-DSCH Information* IE, then the DRNS shall use the indicated HARQ Preamble Mode as described in [10].]

[FDD - E-DCH:]

[FDD - If the *E-DCH FDD Information* IE is present in the RADIO LINK SETUP REQUEST message and the *RL Information* IE contains the *RL specific E-DCH Information* IE for one Radio Link then:

- The DRNS shall setup the requested E-DCH resources on the Radio Link indicated by the *RL ID* IE in the *RL Information* IE.

- The RADIO LINK SETUP REQUEST message shall contain in the *RL Information* IE for every RL the *E-DCH RL Indication* IE indicates whether this RL has configured E-DCH resources.

- If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *RL specific E-DCH Information* IE for an E-DCH MAC-d flow, then the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for the concerned E-DCH MAC-d flow.

- The DRNS may use the *Traffic Class* IE for a specific E-DCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK SETUP REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE, then the DRNS shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK SETUP REQUEST message includes the *Maximum Number of Retransmissions for E-DCH* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE, then the DRNS shall use this information to report if the maximum number of retransmissions has elapsed.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- The DRNC shall include the *E-AGCH and E-RGCH and E-HICH FDD Scrambling Code* IE and the *E-RGCH and E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* IE and the *E-HICH Signature Sequence IE* in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK SETUP RESPONSE message.

- If the RADIO LINK SETUP REQUEST message contains the *Serving E-DCH RL* IE then the DRNC shall allocate an E-RNTI and include this E-RNTI and the Channelisation Code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the *RL Information* IE for the indicated RL in the RADIO LINK SETUP RESPONSE message.

- If the RADIO LINK SETUP REQUEST message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the DRNS shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the DRNS shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.]

Physical Channels Handling:

partially omitted

8.3.4 Synchronised Radio Link Reconfiguration Preparation

8.3.4.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of Radio Link(s) related to one UE-UTRAN connection within a DRNS.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

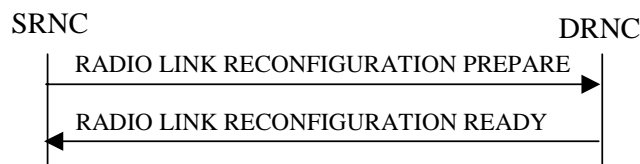### 8.3.4.2 Successful Operation

Figure 10: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION PREPARE message to the DRNC.

Upon receipt, the DRNS shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

==partially omitted==

[FDD - E-DCH Setup:]

[FDD - If the *E-DCH FDD Information* IE is present in the RADIO LINK RECONFIGURATION PREPARE message and the *RL Information* IE contains the *RL specific E-DCH Information* IE for one Radio Link then:

- The DRNS shall setup the requested E-DCH resources on the Radio Link indicated by the *RL ID* IE in the *RL Information* IE.

- The RADIO LINK RECONFIGURATION PREPARE message shall contain in the *RL Information* IE for every RL the *E-DCH RL Indication* IE indicates whether this RL has configured E-DCH resources.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-es Guaranteed Bit Rate* IE for an E-DCH MAC-d flow in the *E-DCH FDD Information* IE, then the DRNS shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Maximum Number of Retransmissions for E-DCH* IE for a E-DCH MAC-d flow in the *E-DCH FDD Information* IE, then the DRNS shall use this information to report if the maximum number of retransmissions has been exceeded.

- The DRNS may use the *Traffic Class* IE for a specific E-DCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- The DRNC shall include the *E-AGCH and E-RGCH and E-HICH FDD Scrambling Code* IE and the *E-RGCH and E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* IE and the *E-HICH Signature Sequence* IE in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION READY message.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the DRNS shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the DRNS shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.]

[FDD - Serving E-DCH Radio Link Change:]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Serving E-DCH RL ID* IE, this indicates the new Serving E-DCH Radio Link:

- If the old Serving E-DCH RL is within this DRNS, the DRNS shall de-allocate the E-AGCH resources of the old Serving E-DCH Radio Link.

- If the new Serving E-DCH RL is within this DRNS, the DRNS shall allocate an E-RNTI identifier for the new Serving E-DCH Radio Link and include this identifier along with the channelisation code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the *RL Information Response* IE for the indicated RL in the RADIO LINK RECONFIGURATION READY message.]

[FDD - E-DCH Modification:]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *E-DCH FDD Information To Modify* IE, then:

- If the *E-DCH FDD Information To Modify* IE contains a *E-DCH MAC-d Flow Information* IE which includes the *Allocation/Retention Priority* IE, the DRNS shall apply the new Allocation/Retention Priority to this E-DCH in the new configuration according to Annex A.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Data Description Indicator* IE, the DRNC shall use the DDI values indicated in the *Data Description Indicator* IE in the new configuration.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH FDD Information To Modify* IE, the DRNS shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Maximum Number of Retransmissions for E-DCH* IE for a E-DCH MAC-d flow in the *E-DCH FDD Information To Modify* IE, then the DRNS shall use this information to report if the maximum number of retransmissions has been exceeded.

- The DRNC shall include the *E-AGCH and E-RGCH and E-HICH FDD Scrambling Code* IE and the *E-RGCH and E-HICH Channelisation Code* IE and the corresponding E-RGCH Signature *Sequence* IE and *E-HICH Signature Sequence* IE in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION READY message.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information To Modify* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the DRNS shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the DRNS shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.]

[FDD - E-DCH MAC-d Flow Addition:]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an *E-DCH MAC-d Flows To Add* IE in the *RL Information* IE, then the DRNS shall use this information to add the indicated E-DCH MAC-d flows.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *E-DCH MAC-d Flows To Add* IE, then:

- The DRNS may use the *Traffic Class* IE for a specific E-DCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH MAC-d Flows To Add* IE, the DRNS shall use this information to optimise MAC-e scheduling decisions.]

[FDD - E-DCH MAC-d Flow Deletion:]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an E-DCH *MAC-d Flows To Delete* IEs, then the DRNS shall use this information to delete the indicated E-DCH MAC-d flows. When an E-DCH MAC-d flow is deleted, all its associated Priority Queues shall also be removed.]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes an *E-DCH MAC-d Flows To Delete* IE requesting the deletion of all remaining E-DCH MAC-d flows for the UE Context, then the DRNC shall delete the E-DCH configuration from the UE Context and release the E-DCH resources.]

[1.28Mcps TDD - Uplink Synchronisation Parameters LCR]:

[1.28Mcps TDD -If the *Uplink Synchronisation Parameters LCR* IE is present, the DRNC shall use the indicated values of *Uplink synchronisation stepsize* IE and *Uplink synchronisation frequency* IE when evaluating the timing of the UL synchronisation.]

[1.28Mcps TDD - Uplink Timing Advance Control LCR]:

[1.28Mcps TDD - The DRNC shall include the *Uplink Timing Advance Control LCR* IE in the RADIO LINK RECONFIGURATION READY message, if the Uplink Timing Advance Control parameters have been changed.]

[TDD] DSCH RNTI Addition/Deletion

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the PDSCH RL ID IE, then the DRNS shall use it as the new RL identifier for PDSCH and PUSCH.]

- [TDD - If the indicated PDSCH RL ID is in the DRNS and there was no DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a DSCH-RNTI to the UE Context and include the DSCH-RNTI IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the indicated PDSCH RL ID is in the DRNS and there was a DSCH-RNTI allocated to the UE Context, the DRNC shall allocate a new DSCH-RNTI to the UE Context, release the old DSCH-RNTI and include the DSCH-RNTI IE in the RADIO LINK RECONFIGURATION READY message.]

- [TDD - If the indicated PDSCH RL ID is not in the DRNS and there was a DSCH-RNTI allocated to the UE Context, the DRNC shall release this DSCH-RNTI.]

[TDD - If the RADIO LINK RECONFIGURATION PREPARE message includes a DSCHs to Delete IE and/or a USCHs to Delete IE which results in the deletion of all DSCH and USCH resources for the UE Context, then the DRNC shall release the DSCH-RNTI allocated to the UE Context, if there was one.]

[FDD – Phase Reference Handling]:

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *UE Support Of Dedicated Pilots For Channel Estimation* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for DCH or DSCH.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *UE Support Of Dedicated Pilots For Channel Estimation Of HS-DSCH* IE, the DRNC shall assume that dedicated pilots may be used for channel estimation for HS-DSCH.]

[FDD – If Primary CPICH usage for channel estimation information has been reconfigured, the DRNC shall include the *Primary CPICH Usage For Channel Estimation* IE in the RADIO LINK RECONFIGURATION READY message.]

[FDD – If Secondary CPICH information for channel estimation has been reconfigured, the DRNC shall include the *Secondary CPICH Information Change* IE in the RADIO LINK RECONFIGURATION READY message.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes *Phase Reference Update Indicator* IE, DRNC shall modify the channel estimation information according to [10] subclause 4.3.2.1 and set the value(s) in *Primary CPICH Usage For Channel Estimation* IE and/or *Secondary CPICH Information Change* IE in the RADIO LINK RECONFIGURATION READY message accordingly.]

General

If the requested modifications are allowed by the DRNC and the DRNC has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the SRNC with the RADIO LINK RECONFIGURATION READY message. When this procedure has been completed successfully there exists a Prepared Reconfiguration, as defined in subclause 3.1.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Layer Address* IE and *Binding ID* IE in the *DSCHs To Modify* IE, *DSCHs To Add* IE, [TDD - *USCHs To Modify* IE, *USCHs To Add* IE], *HS-DSCH Information* IE, *HS-DSCH Information To Modify* IE, *HS-DSCH MAC-d Flows To Add* IE, [FDD - *E-DCH MAC-d Flows to Add*,] or in the *RL Specific DCH Information* IEs, the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d flow] being added, or any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d flow] being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

The DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Transport Layer Address* IE and the *Binding ID* IE for any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d flow being added,] or any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d flow] being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. In the case of a set of co-ordinated DCHs requiring a new transport bearer on the Iur interface, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included for only one of the DCHs in the set of co-ordinated DCHs.

In the case of a Radio Link being combined with another Radio Link within the DRNS, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included for only one of the combined Radio Links.

Any allowed rate for the uplink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the uplink of a DCH due to congestion caused by the UL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Allowed UL Rate* IE in the *DCH Information Response* IE for this Radio Link.

Any allowed rate for the downlink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the downlink of a DCH due to congestion caused by the DL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Allowed DL Rate* IE in the *DCH Information Response* IE for this Radio Link.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s) and the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Maximum Uplink SIR* IE and *Minimum Uplink SIR* IE for each Radio Link when these values are changed.

[FDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include in the RADIO LINK RECONFIGURATION READY message the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE respectively. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH or on the F-DPCH of the RL -except, if the UE Context is configured to use DPCH in the downlink, during compressed mode, when the δP_{curr}, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power for the associated compressed frame.]

[3.84 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION READY message. If the maximum or minimum power needs to be different for particular DCH type CCTrCHs, the

DRNC shall include the new value(s) for that CCTrCH in the *CCTrCH Maximum DL TX Power* IE and *CCTrCH Minimum DL TX Power.* The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE/*CCTrCH Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE/*CCTrCH Minimum DL TX Power* IE on any DL DPCH within each CCTrCH of the RL.]

[1.28 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION READY message. If the maximum or minimum power needs to be different for particular timeslots within a DCH type CCTrCH, the DRNC shall include the new value(s) for that timeslot in the *Maximum DL TX Power* IE and *Minimum DL TX Power* within the *DL Timeslot Information LCR* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE on any DL DPCH within each timeslot of the RL.]

[TDD - If the [3.84Mcps TDD - *DL Time Slot ISCP Info* IE][1.28Mcps TDD - *DL Time Slot ISCP Info LCR* IE] is present, the DRNS should use the indicated values when deciding the Initial DL TX Power.]

[TDD - If the *Primary CCPCH RSCP Delta* IE is included, the DRNS shall assume that the reported value for Primary CCPCH RSCP is in the negative range as per [24], and the value is equal to the *Primary CCPCH RSCP Delta* IE. If the *Primary CCPCH RSCP Delta* IE is not included and the *Primary CCPCH RSCP* IE is included, the DRNS shall assume that the reported value is in the non-negative range as per [24], and the value is equal to the *Primary CCPCH RSCP* IE. The DRNS shall use the indicated values when deciding the Initial DL TX Power.]

8.3.7 Unsynchronised Radio Link Reconfiguration

8.3.7.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a DRNS.

The procedure is used when there is no need to synchronise the time of the switching from the old to the new radio link configuration in the cells used by the UE-UTRAN connection within the DRNS.

This procedure shall use the signalling bearer connection for the relevant UE Context.

The Unsynchronised Radio Link Reconfiguration procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.7.2 Successful Operation

```
        SRNC                                                    DRNC
         |                                                        |
         |      RADIO LINK RECONFIGURATION REQUEST                |
         |------------------------------------------------------->|
         |                                                        |
         |      RADIO LINK RECONFIGURATION RESPONSE               |
         |<-------------------------------------------------------|
         |                                                        |
```
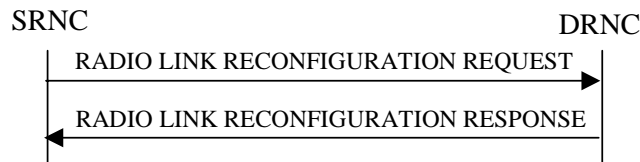
Figure 14: Unsynchronised Radio Link Reconfiguration procedure, Successful Operation

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the SRNC by sending the RADIO LINK RECONFIGURATION REQUEST message to the DRNC.

Upon receipt, the DRNS shall modify the configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Allowed Queuing Time* IE the DRNS may queue the request the time corresponding to the value of the *Allowed Queuing Time* IE before starting to execute the request.

The DRNS shall prioritise resource allocation for the RL to be modified according to Annex A.

DCH Modification:

==partially omitted==

[FDD - E-DCH Setup:]

[FDD - If the *E-DCH FDD Information* IE is present in the RADIO LINK RECONFIGURATION REQUEST message and the *RL Information* IE contains the *RL specific E-DCH Information* IE for one Radio Link then:

- The DRNS shall setup the requested E-DCH resources on the Radio Link indicated by the *RL ID* IE in the *RL Information* IE.

- The RADIO LINK RECONFIGURATION REQUEST message shall contain in the *RL Information* IE for every RL the *E-DCH RL Indication* IE indicates whether this RL has configured E-DCH resources.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE for an E-DCH MAC-d flow in the *E-DCH FDD Information* IE, then the DRNS shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Maximum Number of Retransmissions for E-DCH* IE for a E-DCH MAC-d flow in the *E-DCH FDD Information* IE, then the DRNS shall use this information to report if the maximum number of retransmissions has been exceeded.

- The DRNS may use the *Traffic Class* IE for a specific E-DCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- The DRNC shall include the *E-AGCH and E-RGCH and E-HICH FDD Scrambling Code* IE and the *E-RGCH and E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* IE and the *E-HICH Signature Sequence* IE in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the DRNS shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the DRNS shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.]

[FDD - Serving E-DCH Radio Link Change:]

[FDD - If the RADIO LINK RECONFIGURATION PREPARE message includes the *Serving E-DCH RL* IE, this indicates the new Serving E-DCH Radio Link:

- If the old Serving E-DCH RL is within this DRNS, the DRNS shall de-allocate the E-AGCH resources of the old Serving E-DCH Radio Link.

- If the new Serving E-DCH RL is within this DRNS, the DRNS shall allocate an E-RNTI identifier for the new Serving E-DCH Radio Link and include this identifier along with the channelisation code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the *RL Information Response* IE for the indicated RL in the RADIO LINK RECONFIGURATION RESPONSE message.]

[FDD - E-DCH Modification:]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *E-DCH FDD Information To Modify* IE, then:

- If the *E-DCH FDD Information To Modify* IE contains a *E-DCH MAC-d Flow Information* IE which includes the *Allocation/Retention Priority* IE, the DRNS shall apply the new Allocation/Retention Priority to this E-DCH in the new configuration according to Annex A.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the DRNS to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Data Description Indicator* IE, the DRNC shall use the DDI values indicated in the *Data Description Indicator* IE in the new configuration.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH FDD Information To Modify* IE, the DRNS shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Maximum Number of Retransmissions for E-DCH* IE for a E-DCH MAC-d flow in the *E-DCH FDD Information To Modify* IE, then the DRNS shall use this information to report if the maximum number of retransmissions has been exceeded.

- The DRNC shall include the *E-AGCH and E-RGCH and E-HICH FDD Scrambling Code* IE and the *E-RGCH and E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* IE and the *E-HICH Signature Sequence* IE in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information To Modify* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the DRNS shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the DRNS shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.]

[FDD - E-DCH MAC-d Flow Addition:]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes an *E-DCH MAC-d Flows To Add* IE, then the DRNS shall use this information to add the indicated E-DCH MAC-d flows.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes the *E-DCH MAC-d Flows To Add* IE, then:

- The DRNS may use the *Traffic Class* IE for a specific E-DCH MAC-d flow to determine the transport bearer characteristics to apply between DRNC and Node B.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH MAC-d Flows To Add* IE, the DRNS shall use this information to optimise MAC-e scheduling decisions.]

[FDD - E-DCH MAC-d Flow Deletion:]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes an *E-DCH MAC-d Flows To Delete* IEs, then the DRNS shall use this information to delete the indicated E-DCH MAC-d flows. When an E-DCH MAC-d flow is deleted, all its associated Priority Queues shall also be removed.]

[FDD - If the RADIO LINK RECONFIGURATION REQUEST message includes an *E-DCH MAC-d Flows To Delete* IE requesting the deletion of all remaining E-DCH MAC-d flows for the UE Context, then the DRNC shall delete the E-DCH configuration from the UE Context and release the E-DCH resources.]

General:

If the requested modifications are allowed by the DRNS, and if the DRNS has successfully allocated the required resources and changed to the new configuration, the DRNC shall respond to the SRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *RL Specific DCH Information* IE, *HS-DSCH Information* IE, *HS-DSCH Information To Modify Unsynchronised* IE, *HS-DSCH MAC-d Flows To Add* IE, [FDD - or *E-DCH MAC-d Flows to Add* IE], the DRNC may use the transport layer address and the binding identifier received from the SRNC when establishing a transport bearer for any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d flow] being added, or any Transport Channel or HS-DSCH MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

The DRNC shall include the *Transport Layer Address* IE and the *Binding ID* IE in the RADIO LINK RECONFIGURATION RESPONSE message for any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d] flow being added, or any Transport Channel, HS-DSCH MAC-d flow [FDD - or E-DCH MAC-d flow] being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. The detailed frame protocol handling during transport bearer replacement is described in [4], subclause 5.10.1.

In the case of a set of co-ordinated DCHs requiring a new transport bearer on the Iur interface, the DRNC shall include the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE only for one of the DCHs in the set of co-ordinated DCHs.

In the case of a Radio Link being combined with another Radio Link within the DRNS, the DRNC shall include the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE in the RADIO LINK RECONFIGURATION RESPONSE message for only one of the combined Radio Links.

Any allowed rate for the uplink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the uplink of a DCH due to congestion caused by the UL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Allowed UL Rate* IE in the *DCH Information Response* IE for this Radio Link.

Any allowed rate for the downlink of a modified DCH provided for the old configuration will not be valid for the new configuration. If the DRNS needs to limit the user rate in the downlink of a DCH due to congestion caused by the DL UTRAN Dynamic Resources (see subclause 9.2.1.79) in the new configuration for a Radio Link, the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Allowed DL Rate* IE in the *DCH Information Response* IE for this Radio Link.

The DRNS decides the maximum and minimum SIR for the uplink of the Radio Link(s), and the DRNC shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Maximum Uplink SIR* IE and *Minimum Uplink SIR* IE for each Radio Link when these values are changed.

[FDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION RESPONSE message. The DRNS shall not transmit with a higher power than indicated by the *Maximum DL TX Power* IE or lower than indicated by the *Minimum DL TX Power* IE on any DL DPCH or on the F-DPCH of the RL except, if the UE Context is configured to use DPCH in the downlink, during compressed mode, when the δP_{curr}, as described in ref.[10] subclause 5.2.1.3, shall be added to the maximum DL power for the associated compressed frame.]

[3.84 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION RESPONSE message. If the maximum or minimum power needs to be different for particular DCH type CCTrCHs, the DRNC shall include the new value(s) for that CCTrCH in the *CCTrCH Maximum DL TX Power* IE and *CCTrCH Minimum DL TX Power.* The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE/*CCTrCH Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE/*CCTrCH Minimum DL TX Power* IE on any DL DPCH within each CCTrCH of the RL.]

[1.28 Mcps TDD - If the DL TX power upper or lower limit has been re-configured, the DRNC shall include the new value(s) in the *Maximum DL TX Power* IE and *Minimum DL TX Power* IE in the RADIO LINK RECONFIGURATION RESPONSE message. If the maximum or minimum power needs to be different for particular timeslots within a DCH type CCTrCH, the DRNC shall include the new value(s) for that timeslot in the *Maximum DL TX Power* IE and *Minimum DL TX Power* within the *DL Timeslot Information LCR* IE. The DRNS shall not transmit with a higher power than indicated by the appropriate *Maximum DL TX Power* IE or lower than indicated by the appropriate *Minimum DL TX Power* IE on any DL DPCH within each timeslot of the RL.]

9.2.1.30OG E-DCH MAC-d Flows Information

The *E-DCH MAC-d Flows Information* IE is used for the establishment of E-DCH MAC-d flows.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
E-DCH MAC-d Flow Specific Information		*1..<maxnoofEDCHMACdFlows>*				
>E-DCH MAC-d Flow ID	M		9.2.1.30O			
>Allocation/Retention Priority	O		9.2.1.1			
>TNL QoS	O		9.2.1.56A			
>Payload CRC Presence Indicator	M		9.2.1.42			
>Maximum Number of Retransmissions for E-DCH	O		9.2.1.30OF			
>Bundling Mode Indicator	O		9.2.2.xx			
Data Description Indicator		1..<maxnoofDDIs>				
>E-DCH DDI Value	M		9.2.1.45C			
>Associated E-DCH MAC-d Flow	M		E-DCH MAC-d Flow ID 9.2.1.30O	The E-DCH MAC-d Flow ID shall be one of the flow IDs defined in the E-DCH MAC-d Flow Specific Information of this IE. Multiple E-DCH DDI Values can be associated with the same E-DCH MAC-d Flow ID.		
>MAC-d PDU Size	M		9.2.1.34A			
>Scheduling Priority Indicator	M		9.2.1.51A			
>MAC-es Guaranteed Bit Rate	O		9.2.1.30OH			

Range bound	Explanation
maxnoofEDCHMACdFlows	Maximum number of E-DCH MAC-d flows.
maxnoofDDIs	Maximum number of Data Description Indicators

9.2.2.4F   E-DCH FDD Information To Modify

The E-DCH *FDD Information* IE provides information for an E-DCH to be modified.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description	Criticality	Assigned Criticality
E-DCH MAC-d Flow Specific Information		1..<*maxnoofEDCHMACdFlows*>				
>E-DCH MAC-d Flow ID	M		9.2.1.30O			
>Allocation/Retention Priority	O		9.2.1.1			
>Transport Bearer Request Indicator	M		9.2.1.61			
>TNL QoS	O		9.2.1.56A			
>Maximum Number of Retransmissions for E-DCH	O		9.2.1.30OF			
>Bundling Mode Indicator	O		9.2.2.xx			
Data Description Indicator		0..<maxnoofDDIs>				
>E-DCH DDI Value	M		9.2.1.45C			
>Associated E-DCH MAC-d Flow	M		E-DCH MAC-d Flow ID 9.2.1.30O	Shall only refer to an E-DCH MAC-d Flow ID identified by the *E-DCH MAC-d Flow ID* IE above. Multiple E-DCH DDI Values can be associated with the same E-DCH MAC-d Flow ID.		
>MAC-d PDU Size	M		9.2.1.34A			
>Scheduling Priority Indicator	M		9.2.1.51A			
>MAC-es Guaranteed Bit Rate	O		9.2.1.30OH			

Range bound	Explanation
maxnoofEDCHMACdFlows	Maximum number of E-DCH MAC-d flows.
maxnoofDDIs	Maximum number of Data Description Indicators

9.2.2.xx   Bundling Mode Indicator

The Bundling Mode Indicator indicates whether the bundling shall be done or shall not be done for Iur.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Bundling Mode Indicator			ENUMERATED (Bundling, No bundling)	The value "Bundling" is applicable only when E-TTI indicates "2ms".

9.3.4   Information Element Definitions

<mark>partially ommited</mark>

```
-- B

BadSatellites ::= SEQUENCE {
    badSatelliteInformation      SEQUENCE (SIZE (1..maxNoSat)) OF
        SEQUENCE {
            badSAT-ID                   SAT-ID,
            iE-Extensions               ProtocolExtensionContainer { { BadSatelliteInformation-ExtIEs} }      OPTIONAL,
            ...
        },
    iE-Extensions                ProtocolExtensionContainer { { BadSatellites-ExtIEs} }      OPTIONAL,
    ...
}

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

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

Band-Indicator ::= ENUMERATED {
    dcs1800Band,
    pcs1900Band,
    ...
}

BCC ::= BIT STRING (SIZE (3))

BCCH-ARFCN ::= INTEGER (0..1023)

BetaCD ::= INTEGER (0..15)

BindingID                ::= OCTET STRING (SIZE (1..4,...))
-- If the Binding ID includes an UDP port, the UDP port is included in octet 1 and 2.

BLER                     ::= INTEGER (-63..0)
-- Step 0.1 (Range -6.3..0). It is the Log10 of the BLER

SCTD-Indicator  ::= ENUMERATED {
    active,
    inactive
}

BSIC ::= SEQUENCE {
    nCC         NCC,
    bCC         BCC
```

```
}

BundlingModeIndicator ::= ENUMERATED {
    bundling,
    no-bundling
}

BurstModeParameters ::= SEQUENCE {
    burstStart      INTEGER (0..15),
    burstLength     INTEGER (10..25),
    burstFreq       INTEGER (1..16),
    iE-Extensions              ProtocolExtensionContainer { { BurstModeParameters-ExtIEs} }     OPTIONAL,
    ...
}

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

-- C
```

```
-- E

EDCH-DDI-Value ::= INTEGER (0..63)

EDCH-FDD-DL-ControlChannelInformation ::= SEQUENCE {
    eAGCH-ERGCH-EHICH-FDD-ScramblingCode              DL-ScramblingCode,
    eAGCH-ChannelisationCode                          FDD-DL-ChannelisationCodeNumber    OPTIONAL,
    e-RNTI                                            E-RNTI,
    eRGCH-EHICH-ChannelisationCode                    FDD-DL-ChannelisationCodeNumber    OPTIONAL,
    eRGCH-SignatureSequence                           ERGCH-SignatureSequence,
    eHICH-SignatureSequence                           EHICH-SignatureSequence,
    iE-Extensions                                     ProtocolExtensionContainer { { EDCH-FDD-DL-ControlChannelInformation-ExtIEs } }
    OPTIONAL,
    ...
}

EDCH-FDD-DL-ControlChannelInformation-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-FDD-Information ::= SEQUENCE {
    eDCH-MACdFlows-Information                 EDCH-MACdFlows-Information,
    eDCH-UE-Capabilities-Information           EDCH-Physical-Layer-Category,
    iE-Extensions                             ProtocolExtensionContainer { { EDCH-FDD-Information-ExtIEs } }      OPTIONAL,
    ...
}

EDCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
EDCH-FDD-InformationResponse ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF EDCH-FDD-InformationResponseItem

EDCH-FDD-InformationResponseItem ::= SEQUENCE {
    eDCH-MACdFlow-ID                EDCH-MACdFlow-ID,
    bindingID                       BindingID           OPTIONAL,
    transportLayerAddress           TransportLayerAddress   OPTIONAL,
    iE-Extensions                   ProtocolExtensionContainer { {EDCH-FDD-InformationResponseItem-ExtIEs} } OPTIONAL,
    ...
}

EDCH-FDD-InformationResponseItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-FDD-Information-To-Modify ::= SEQUENCE {
    eDCH-MACdFlow-Specific-Information           EDCH-MACdFlow-Specific-InfoList,
    data-Description-Indicator                   Data-Description-IndicatorList,
    iE-Extensions                                ProtocolExtensionContainer { { EDCH-FDD-Information-To-Modify-ExtIEs } }      OPTIONAL,
    ...
}

EDCH-FDD-Information-To-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-FDD-Update-Information ::= SEQUENCE (SIZE (1..maxNrOfRLs)) OF EDCH-FDD-Update-InfoItem

EDCH-FDD-Update-InfoItem  ::= SEQUENCE {
    eDCH-FDD-DL-ControlChannelInformation         EDCH-FDD-DL-ControlChannelInformation        OPTIONAL,
    iE-Extensions                                 ProtocolExtensionContainer { { EDCH-FDD-Update-InfoItem-ExtIEs } }      OPTIONAL,
    ...
}

EDCH-FDD-Update-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-MACdFlow-ID ::= INTEGER (0..7)

EDCH-MACdFlows-Information ::= SEQUENCE {
    eDCH-MACdFlow-Specific-Information           EDCH-MACdFlow-Specific-InfoList,
    data-Description-Indicator                   Data-Description-IndicatorList,
    iE-Extensions                                ProtocolExtensionContainer { { EDCH-MACdFlow-Specific-Information-ExtIEs } }      OPTIONAL,
    ...
}

EDCH-MACdFlow-Specific-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-MACdFlow-Specific-InfoList ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF EDCH-MACdFlow-Specific-InfoItem
```

```
EDCH-MACdFlow-Specific-InfoItem ::= SEQUENCE {
    eDSCH-MACdFlow-ID                    EDCH-MACdFlow-ID,
    allocationRetentionPriority          AllocationRetentionPriority          OPTIONAL,
    tnlQoS                               TnlQos                               OPTIONAL,
    payloadCRC-PresenceIndicator         PayloadCRC-PresenceIndicator,
    maxNr-Retransmissions-EDCH           MaxNr-Retransmissions-EDCH           OPTIONAL,
    bundlingModeIndicator                BundlingModeIndicator                OPTIONAL,
    iE-Extensions                        ProtocolExtensionContainer { { EDCH-MACdFlow-Specific-InfoItem-ExtIEs } }        OPTIONAL,
    ...
}

EDCH-MACdFlow-Specific-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-MACdFlows-To-Delete ::= SEQUENCE (SIZE (1..maxNrOfMACdFlows)) OF EDCH-MACdFlows-To-Delete-Item

EDCH-MACdFlows-To-Delete-Item ::= SEQUENCE {
    eDSCH-MACdFlow-ID                    EDCH-MACdFlow-ID,
    iE-Extensions                        ProtocolExtensionContainer { { EDCH-MACdFlows-To-Delete-Item-ExtIEs } }         OPTIONAL,
    ...
}

EDCH-MACdFlows-To-Delete-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EDCH-Physical-Layer-Category ::= INTEGER -- FFS

EDCH-RL-Indication ::= ENUMERATED {
    eDCH,
    non-EDCH
}

EDPCH-Information-FDD ::= SEQUENCE {
    minULChannelisationCodeLength-EDCH-FDD              MinULChannelisationCodeLength-EDCH-FDD,
    maxNrUL-EDPDCHs                                     MaxNrUL-EDPDCHs           OPTIONAL,
    -- This IE is present if Minimum UL Channelisation Code Length for E-DCH IE is present.
    punctureLimit                                      PunctureLimit,
    e-TFCS                                             E-TFCS,
    e-TTI                                             E-TTI,
    iE-Extensions                        ProtocolExtensionContainer { { EDPCH-Information-FDD-ExtIEs } }        OPTIONAL,
    ...
}

EDPCH-Information-FDD-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

EHICH-SignatureSequence ::= INTEGER  (0..maxNrofSigSeqERGHICH-1)

ERGCH-SignatureSequence ::= INTEGER  (0..maxNrofSigSeqERGHICH-1)
```

```
E-RNTI ::= INTEGER (0..65535)


E-TFCS ::= SEQUENCE {
    -- FFS
}


E-TTI  ::= ENUMERATED {
    tti10,
    tti2
-- 10ms TTI, 2ms TTI
}


EnhancedDSCHPC ::= SEQUENCE {
    enhancedDSCHPCWnd    EnhancedDSCHPCWnd,
    enhancedDSCHPCCounter    EnhancedDSCHPCCounter,
    enhancedDSCHPowerOffset EnhancedDSCHPowerOffset,
    ...
}


EnhancedDSCHPCCounter ::= INTEGER (1..50)


EnhancedDSCHPCIndicator ::= ENUMERATED {
    enhancedDSCHPCActiveInTheUE,
    enhancedDSCHPCNotActiveInTheUE
}


EnhancedDSCHPCWnd ::= INTEGER (1..10)


EnhancedDSCHPowerOffset ::= INTEGER (-15..0)


Enhanced-PrimaryCPICH-EcNo          ::= INTEGER (0..49)


EventA ::= SEQUENCE {
    measurementTreshold    MeasurementThreshold,
    measurementHysteresisTime    MeasurementHysteresisTime       OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { {EventA-ExtIEs} } OPTIONAL,
    ...
}


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


EventB ::= SEQUENCE {
    measurementTreshold    MeasurementThreshold,
    measurementHysteresisTime    MeasurementHysteresisTime       OPTIONAL,
    iE-Extensions          ProtocolExtensionContainer { {EventB-ExtIEs} } OPTIONAL,
    ...
}


EventB-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

```
EventC ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime        MeasurementChangeTime,
    iE-Extensions                ProtocolExtensionContainer { {EventC-ExtIEs} } OPTIONAL,
    ...
}

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

EventD ::= SEQUENCE {
    measurementIncreaseDecreaseThreshold    MeasurementIncreaseDecreaseThreshold,
    measurementChangeTime        MeasurementChangeTime,
    iE-Extensions                ProtocolExtensionContainer { {EventD-ExtIEs} } OPTIONAL,
    ...
}

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

EventE ::= SEQUENCE {
    measurementThreshold1        MeasurementThreshold,
    measurementThreshold2        MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime    MeasurementHysteresisTime        OPTIONAL,
    reportPeriodicity            ReportPeriodicity            OPTIONAL,
    iE-Extensions                ProtocolExtensionContainer { {EventE-ExtIEs} } OPTIONAL,
    ...
}

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

EventF ::= SEQUENCE {
    measurementThreshold1        MeasurementThreshold,
    measurementThreshold2        MeasurementThreshold            OPTIONAL,
    measurementHysteresisTime    MeasurementHysteresisTime        OPTIONAL,
    reportPeriodicity            ReportPeriodicity            OPTIONAL,
    iE-Extensions                ProtocolExtensionContainer { {EventF-ExtIEs} } OPTIONAL,
    ...
}

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

ExtendedGSMCellIndividualOffset ::= INTEGER (-50..-11|11..50)

-- F
```

CR-Form-v7.1

CHANGE REQUEST

⌘   **25.433**   CR   **1122**   ⌘**rev**   **1**   ⌘   Current version: **6.5.0**   ⌘

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

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

Title: ⌘	Introduction of Bundling Feature

Source: ⌘	RAN3

Work item code:⌘	EDCH-IurIub		**Date:** ⌘	10/05/2005

Category: ⌘ **B**   **Release:** ⌘ Rel-6

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

Use <u>one</u> of the following releases:
Ph2   (GSM Phase 2)
R96   (Release 1996)
R97   (Release 1997)
R98   (Release 1998)
R99   (Release 1999)
Rel-4   (Release 4)
Rel-5   (Release 5)
Rel-6   (Release 6)
Rel-7   (Release 7)

Reason for change: ⌘	The introduction of bundling feature for 2ms TTI AIF data over Iub.

Summary of change:⌘	- The Bundling Mode Indicator IE was added in RADIO LINK SETUP REQUEST, RADIO LINK RECONFIGURATION PREPARE and the RADIO LINK RECONFIGURATION REQUEST messages. - The corresponding ASN.1 changes were made. **Impact analysis** This CR has isolated impact on the previous release of the specification because the chages effects only E-DCH function.

Consequences if not approved: ⌘	Bundling of 2ms TTI AIF data over Iub is not feasible.

Clauses affected: ⌘	8.2.17.2, 8.3.2.2, 8.3.5.2, 9.2.2.13Df, 9.2.2.xx(new), 9.3.4

		Y	**N**		
Other specs ⌘		**X**		Other core specifications ⌘	CR1077r1 TS 25.423 v6.5.0
Affected:			**X**	Test specifications	
			X	O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

8.2.17   Radio Link Setup

8.2.17.1   General

This procedure is used for establishing the necessary resources for a new Node B Communication Context in the Node B.

[FDD - The Radio Link Setup procedure is used to establish one or more radio links. The procedure establishes one or more DCHs on all radio links, and in addition, it can include the establishment of one or more DSCHs or an HS-DSCH on one radio link.]

[TDD - The Radio Link Setup procedure is used to establish one radio link including one or more transport channels. The transport channels can be a mix of DCHs, DSCHs, and USCHs, or DCHs and an HS-DSCH, including also combinations where one or more transport channel types are not present.]
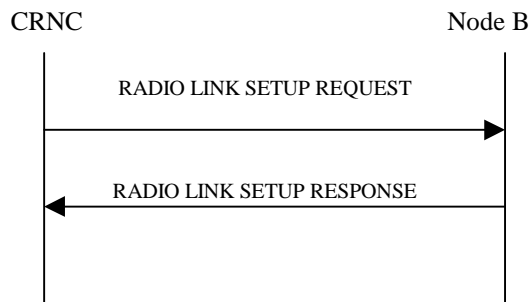
8.2.17.2   Successful Operation

Figure 24: Radio Link Setup procedure, Successful Operation

The procedure is initiated with a RADIO LINK SETUP REQUEST message sent from the CRNC to the Node B using the Node B Control Port.

Upon reception of the RADIO LINK SETUP REQUEST message, the Node B shall reserve necessary resources and configure the new Radio Link(s) according to the parameters given in the message.

The Node B shall prioritise resource allocation for the RL(s) to be established according to Annex A.

Transport Channels Handling:

> **DCH(s):**
>
> [TDD - If the *DCH Information* IE is present, the Node B shall configure the new DCH(s) according to the parameters given in the message.]
>
> If the RADIO LINK SETUP REQUEST message includes a *DCH Information* IE with multiple *DCH Specific Info* IEs, then the Node B shall treat the DCHs in the *DCH Information* IE as a set of co-ordinated DCHs. The Node B shall include these DCHs in the new configuration only if it can include all of them in the new configuration.
>
> If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Uplink DCH only", the Node B shall ignore the *Transport Format Set* IE for the downlink for this DCH. As a consequence this DCH is not included as a part of the downlink CCTrCH.
>
> [TDD - If the *DCH Specific Info* IE includes the *Unidirectional DCH Indicator* IE set to "Downlink DCH only", the Node B shall ignore the *Transport Format Set* IE for the uplink for this DCH. As a consequence this DCH is not included as a part of the uplink CCTrCH.]
>
> [FDD - For DCHs which do not belong to a set of co-ordinated DCHs with the *QE-Selector* IE set to "selected", the Transport channel BER from that DCH shall be the base for the QE in the UL data frames. If no Transport channel BER is available for the selected DCH, the Physical channel BER shall be used for the

QE, ref. [16]. If the *QE-Selector* IE is set to "non-selected", the Physical channel BER shall be used for the QE in the UL data frames, ref. [16].]

For a set of co-ordinated DCHs, the Transport channel BER from the DCH with the *QE-Selector* IE set to "selected" shall be used for the QE in the UL data frames, ref. [16]. [FDD - If no Transport channel BER is available for the selected DCH, the Physical channel BER shall be used for the QE, ref. [16]. If all DCHs have *QE-Selector* IE set to "non-selected", the Physical channel BER shall be used for the QE, ref. [16]].

The Node B shall use the included *UL FP Mode* IE for a DCH or a set of co-ordinated DCHs as the FP Mode in the Uplink of the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWS* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Startpoint in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The Node B shall use the included *ToAWE* IE for a DCH or a set of co-ordinated DCHs as the Time of Arrival Window Endpoint in the user plane for the DCH or the set of co-ordinated DCHs in the configuration.

The received *Frame Handling Priority* IE specified for each Transport Channel should be used when prioritising between different frames in the downlink on the radio interface in congestion situations within the Node B once the new RL(s) has been activated.

If the *TNL QoS* IE is included for a DCH or a set of co-ordinated DCHs and if ALCAP is not used, the *TNL QoS* IE may be used by the Node B to determine the transport bearer characteristics to apply in the uplink between the Node B and the CRNC for the related DCH or set of co-ordinated DCHs.

[FDD - The *Diversity Control Field* IE indicates for each RL (except the first RL in the message) whether the Node B shall combine the concerned RL or not.

- If the *Diversity Control Field* IE is set to"May", the Node B shall decide for either of the alternatives.

- If the *Diversity Control Field* IE is set to "Must", the Node B shall combine the RL with one of the other RL.

- If the *Diversity Control Field* IE is set to "Must not", the Node B shall not combine the RL with any other existing RL.

The *Diversity Control Field* IE is applied to Dedicated Transport Channels (DCH) only,in case of E-DCH it shall always be assumed to be set to "Must". When a new RL is to be combined, the Node B shall choose which RL(s) to combine it with.]

[FDD - In the RADIO LINK SETUP RESPONSE message, the Node B shall indicate for each RL with the Diversity Indication in the *RL Information Response* IE whether the RL is combined or not.]

- [FDD - In case of not combining with a RL previously listed in the RADIO LINK SETUP RESPONSE message or for the first RL in the RADIO LINK SETUP RESPONSE message, the Node B shall include in the *DCH Information Response* IE in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

- [FDD - Otherwise in case of combining, the *RL ID* IE indicates (one of) the RL(s) previously listed in this RADIO LINK SETUP RESPONSE message with which the concerned RL is combined.]

[TDD - The Node B shall include in the *DCH Information Response* IE in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for the transport bearer to be established for each DCH of this RL.]

In the case of a set of co-ordinated DCHs, the *Binding ID* IE and the *Transport Layer Address* IE shall be specified for only one of the DCHs in the set of co-ordinated DCHs.

DSCH(s):

If the *DSCH Information* IE is present, the Node B shall configure the new DSCH(s) according to the parameters given in the message.

[FDD - If the RADIO LINK SETUP REQUEST message includes the *TFCI2 Bearer Information* IE then the Node B shall support the establishment of a transport bearer on which the DSCH TFCI Signaling control frames shall be received. The Node B shall manage the time of arrival of these frames according to the values of ToAWS and ToAWE specified in the IEs. The *TFCI2 Bearer Information Response* IE containing the *Binding ID* IE and the *Transport Layer Address* IE for the new bearer to be set up for this purpose shall be returned in the RADIO LINK SETUP RESPONSE message. If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *TFCI2 Bearer Information* IE the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a TFCI2 transport bearer.]

If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *DSCH Information* IE, the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a transport bearer for the DSCH.

The Node B shall include in the *DSCH Information Response* IE in the RADIO LINK SETUP RESPONSE the *Binding ID* IE and the *Transport Layer Address* IE for the transport bearer to be established for each DSCH of this RL.

[TDD - USCH(s)]:

[TDD - If the *USCH Information* IE is present, the Node B shall configure the new USCH(s) according to the parameters given in the message.]

[TDD - If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *USCH Information* IE, the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a transport bearer for the USCH.]

[TDD - If the RADIO LINK SETUP REQUEST message includes the *TNL QoS* IE in the *USCH Information* IE and if ALCAP is not used, the Node B may use the *TNL QoS* IE to determine the transport bearer characteristics to apply in the uplink for the related USCH.]

[TDD -If the *USCH Information* IE is present, the Node B shall include in the *USCH Information Response* IE in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and the *Transport Layer Address* IE for the transport bearer to be established for each USCH of this RL.]

HS-DSCH:

If the *HS-DSCH Information* IE is present in the RADIO LINK SETUP REQUEST message, then:

- The Node B shall setup the requested HS-PDSCH resources on the Serving HS-DSCH Radio Link indicated by the *HS-PDSCH RL ID* IE.

- The Node B shall include the *HARQ Memory Partitioning* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK SETUP RESPONSE message.

- The Node B shall include in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for establishment of transport bearer for every HS-DSCH MAC-d flow being established.

- If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *HS-DSCH Information* IE for an HS-DSCH MAC-d flow, then the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a transport bearer for the concerned HS-DSCH MAC-d flow.

- If the RADIO LINK SETUP REQUEST message includes the *MAC-hs Guaranteed Bit Rate* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the Node B shall use this information to optimise MAC-hs scheduling decisions for the related HSDPA Priority Queue.

- If the RADIO LINK SETUP REQUEST message includes the *Discard Timer* IE for a Priority Queue in the *HS-DSCH MAC-d Flows Information* IE in the *HS-DSCH Information* IE, then the Node B shall use this information to discard out-of-date MAC-hs SDUs from the related HSDPA Priority Queue.

- The Node B shall include the *HS-DSCH Initial Capacity Allocation* IE in the [FDD – *HS-DSCH FDD Information Response* IE] [TDD – *HS-DSCH TDD Information Response* IE] in the RADIO LINK SETUP RESPONSE message for every HS-DSCH MAC-d flow being established, if the Node B allows the CRNC to start transmission of MAC-d PDUs before the Node B has allocated capacity on user plane as described in [24].

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *HS-SCCH Power Offset* IE in the *HS-DSCH Information* IE, then the Node B may use this value to determine the HS-SCCH power. The HS-SCCH Power Offset should be applied for any HS-SCCH transmission to this UE.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *Measurement Power Offset* IE in the *HS-DSCH Information* IE, then the Node B shall use the measurement power offset as described in ref [10], subclause 6A.2.]

- [FDD – The Node B shall allocate HS-SCCH codes corresponding to the HS-DSCH and include the *HS-SCCH Specific Information Response* IE in the *HS-DSCH FDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [TDD – The Node B shall allocate HS-SCCH parameters corresponding to the HS-DSCH and include the [3.84Mcps TDD - *HS-SCCH Specific Information Response* IE] [1.28Mcps TDD - *HS-SCCH Specific Information Response LCR* IE] in the *HS-DSCH TDD Information Response* IE in the RADIO LINK SETUP RESPONSE message.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *HARQ Preamble Mode* IE in the *HS-DSCH Information* IE, then the Node B shall use the indicated HARQ Preamble Mode as described in [10].]

[FDD - E-DCH]:

[FDD – If the *E-DCH FDD Information* IE is present in the RADIO LINK SETUP REQUEST message:]

- [FDD – The Node B shall setup the requested E-DCH resources on the Radio Links indicated by the *E-DCH RL Indication* IE in the *RL Information* IE.]

- [FDD – The Node B shall include in the RADIO LINK SETUP RESPONSE message the *Binding ID* IE and *Transport Layer Address* IE for establishment of transport bearer for every E-DCH MAC-d flow being established.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IE in the *E-DCH Information* IE for an E-DCH MAC-d flow, then the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a transport bearer for the concerned E-DCH MAC-d flow.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE in the *Data Descriptor Indicator* IE in the *E-DCH Information* IE, then the Node B shall use this information to optimise MAC-e scheduling decisions for the related reordering queue.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *Maximum Number Of Retransmissions For E-DCH* IE in the *E-DCH FDD Information* IE, then the Node B shall use this information to report if the maximum number of retransmissions has elapsed.]

- [FDD – If the *TNL QoS* IE is included for an E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the Node B to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.]

- [FDD – The Node B shall include the *E-AGCH And E-RGCH/E-HICH FDD Scrambling Code* IE, the *E-RGCH/E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* and *E-HICH Signature Sequence* IEs in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK SETUP RESPONSE message for every RL indicated by the *E-DCH RL Indication* IE in the *RL Information* IE.]

- [FDD – If the RADIO LINK SETUP REQUEST message includes the *Serving E-DCH RL* IE indicating that the Serving E-DCH RL is in this Node B, then the Node B shall allocate an E-RNTI identifier for the corresponding RL and include this E-RNTI identifier and the channelisation code of

the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK SETUP RESPONSE message.

-   If the RADIO LINK SETUP REQUEST message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the Node B shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the Node B shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.]

Physical Channels Handling:

<mark>partially omitted</mark>

8.3.2 Synchronised Radio Link Reconfiguration Preparation

8.3.2.1 General

The Synchronised Radio Link Reconfiguration Preparation procedure is used to prepare a new configuration of Radio Link(s) related to one Node B Communication Context.

The Synchronised Radio Link Reconfiguration Preparation procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.2.2 Successful Operation

CRNC   Node B

RADIO LINK RECONFIGURATION PREPARE
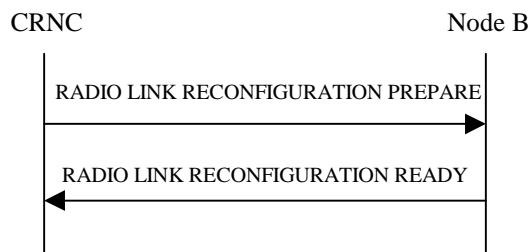
RADIO LINK RECONFIGURATION READY

Figure 30: Synchronised Radio Link Reconfiguration Preparation procedure, Successful Operation

The Synchronised Radio Link Reconfiguration Preparation procedure is initiated by the CRNC by sending the RADIO LINK RECONFIGURATION PREPARE message to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the Node B shall reserve necessary resources for the new configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The Node B shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

<mark>partially omitted</mark>

E-DCH Setup:

If the *E-DCH FDD Information* IE is present in the RADIO LINK RECONFIGURATION PREPARE message:

- The Node B shall setup the requested E-DCH resources on the Radio Links indicated by the *E-DCH RL Indication* IE in the *RL Information* IE.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-es Guaranteed Bit Rate* IE in the *Data Description Indicator* IE in the *E-DCH FDD Information* IE, then the Node B shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the the *Maximum Number Of Retransmissions For E-DCH* IE in the *E-DCH FDD Information* IE, then the Node B shall use this information to report if the maximum number of retransmissions has elapsed.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the Node B to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- The Node B shall include the *E-AGCH And E-RGCH/E-HICH FDD Scrambling Code* IE, the *E-RGCH/E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* and *E-HICH Signature Sequence* IEs in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK

RECONFIGURATION READY message for every RL indicated by the *E-DCH RL Indication* IE in the *RL Information* IE.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Serving E-DCH RL* IE indicating that the Serving E-DCH RL is in this Node B, then the Node B shall allocate an E-RNTI identifier for the corresponding RL and include this E-RNTI identifier and the channelisation code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION READY message.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the Node B shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the Node B shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.

Serving E-DCH Radio Link Change:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Serving E-DCH RL* IE, this indicates the new Serving E-DCH Radio Link:

- If the old Serving E-DCH RL is in this Node B, the Node B shall de-allocate the E-AGCH resources of the old Serving E-DCH Radio Link.

- If the new Serving E-DCH RL is in this Node B, the Node B shall allocate an E-RNTI identifier for the new Serving E-DCH Radio Link and include this identifier along with the channelisation code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION READY message.

E-DCH Modification:

If the RADIO LINK RECONFIGURATION PREPARE message includes the *E-DCH FDD Information To Modify* IE, then:

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Data Description Indicator* IE, the Node B shall delete the previous list of Data Description Indicator values for this Node B Communication Context and use the DDI values indicated in the *Data Description Indicator* IE in the new configuration.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information To Modify* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the Node B shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the Node B shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.

E-DCH MAC-d Flow Addition/Deletion:

If the RADIO LINK RECONFIGURATION PREPARE message includes any *E-DCH MAC-d Flows To Add* or E-DCH *MAC-d Flows To Delete* IEs, then the Node B shall use this information to add/delete the indicated E-DCH MAC-d flows. When an E-DCH MAC-d flow is deleted, all its associated configuration data shall also be removed.

If the RADIO LINK RECONFIGURATION PREPARE message includes an *E-DCH MAC-d Flows To Delete* IE requesting the deletion of all remaining E-DCH MAC-d flows for the UE Context, then the Node B shall delete the E-DCH configuration from the Node B Communication Context and release the E-DCH resources.

If the RADIO LINK RECONFIGURATION PREPARE message includes the *E-DCH MAC-d Flows To Add* IE, then:

- If the RADIO LINK RECONFIGURATION PREPARE message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH MAC-d Flows To Add* IE, the Node B shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION PREPARE message includes the the *Maximum Number of Retransmissions for E-DCH* IE in the *E-DCH MAC-d Flows To Add* IE, then the Node B shall use this information to report if the maximum number of retransmissions has elapsed.

[FDD - Phase Reference Handling]:

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Primary CPICH Usage For Channel Estimation* IE, the Node B shall assume that Primary CPICH usage for channel estimation has been reconfigured.]

[FDD – If the RADIO LINK RECONFIGURATION PREPARE message includes the *Secondary CPICH Information Change* IE, the Node B shall assume that Secondary CPICH usage for channel estimation has been reconfigured.]

General

If the RADIO LINK RECONFIGURATION PREPARE message includes the *Transport Layer Address* IE and *Binding ID* IEs in the *DSCHs To Modify*, *DSCHs To Add*, [TDD - *USCHs To Modify*, *USCHs To Add*], *HS-DSCH Information*, *HS-DSCH Information To Modify*, *HS-DSCH MAC-d Flows To Add, E-DCH Information*, *E-DCH Information To Modify*, *E-DCH MAC-d Flows To Add* or in the *RL Specific DCH Information* IEs, the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a transport bearer for any Transport Channel or MAC-d flow being added, or any Transport Channel or MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

If the requested modifications are allowed by the Node B and the Node B has successfully reserved the required resources for the new configuration of the Radio Link(s), it shall respond to the CRNC with the RADIO LINK RECONFIGURATION READY message. When this procedure has been completed successfully there exists a Prepared Reconfiguration, as defined in subclause 3.1.

The Node B shall include in the RADIO LINK RECONFIGURATION READY message the *Transport Layer Address* IE and the *Binding ID* IE for any Transport Channel or MAC-d flow being added or any Transport Channel or MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

In the case of a set of co-ordinated DCHs requiring a new transport bearer on the Iub interface, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the DCH in the set of co-ordinated DCHs.

In the case of a Radio Link being combined with another Radio Link within the Node B, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the combined Radio Links.

8.3.5 Unsynchronised Radio Link Reconfiguration

8.3.5.1 General

The Unsynchronised Radio Link Reconfiguration procedure is used to reconfigure Radio Link(s) related to one UE-UTRAN connection within a Node B.

The Unsynchronised Radio Link Reconfiguration procedure is used when there is no need to synchronise the time of the switching from the old to the new configuration in one Node B used for a UE-UTRAN connection with any other Node B also used for the UE–UTRAN connection.

The Unsynchronised Radio Link Reconfiguration procedure shall not be initiated if a Prepared Reconfiguration exists, as defined in subclause 3.1.

8.3.5.2 Successful Operation

```
      CRNC                                    Node B

        │   RADIO LINK RECONFIGURATION REQUEST   │
        │ ──────────────────────────────────────▶│
        │                                        │
        │  RADIO LINK RECONFIGURATION RESPONSE   │
        │ ◀──────────────────────────────────────│
        │                                        │
```
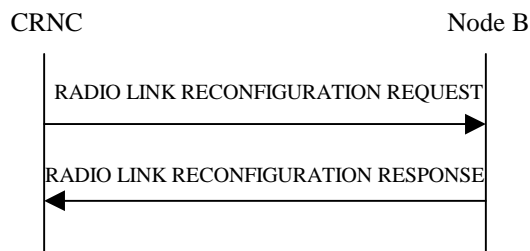
Figure 34: Unsynchronised Radio Link Reconfiguration Procedure, Successful Operation

The Unsynchronised Radio Link Reconfiguration procedure is initiated by the CRNC by sending the RADIO LINK RECONFIGURATION REQUEST message to the Node B. The message shall use the Communication Control Port assigned for this Node B Communication Context.

Upon reception, the Node B shall modify the configuration of the Radio Link(s) according to the parameters given in the message. Unless specified below, the meaning of parameters is specified in other specifications.

The Node B shall prioritise resource allocation for the RL(s) to be modified according to Annex A.

DCH Modification:

<mark>partially omitted</mark>

E-DCH Setup:

If the *E-DCH FDD Information* IE is present in the RADIO LINK RECONFIGURATION REQUEST message:

- The Node B shall setup the requested E-DCH resources on the Radio Links indicated by the *E-DCH RL Indication* IE in the *RL Information* IE.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH MAC-d Flows Information* IE, then the Node B shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the the *Maximum Number Of Retransmissions For E-DCH* IE in the *E-DCH MAC-d Flows Information* IE, then the Node B shall use this information to report if the maximum number of retransmissions has elapsed.

- If the *TNL QoS* IE is included for a E-DCH MAC-d flow and if ALCAP is not used, the *TNL QoS* IE may be used by the Node B to determine the transport bearer characteristics to apply in the uplink for the related MAC-d flow.

- The Node B shall include the *E-AGCH And E-RGCH/E-HICH FDD Scrambling Code* IE, the *E-RGCH/E-HICH Channelisation Code* IE and the corresponding *E-RGCH Signature Sequence* and *E-HICH Signature Sequence* IEs in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message for every RL indicated by the *E-DCH RL Indication* IE in the *RL Information* IE.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Serving E-DCH RL* IE, then the Node B shall allocate an E-RNTI identifier for the corresponding RL and include this E-RNTI identifier and the channelisation code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the Node B shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the Node B shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.

Serving E-DCH Radio Link Change:

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Serving E-DCH RL* IE, this indicates the new Serving E-DCH Radio Link:

- If the old Serving E-DCH RL is in this Node B, the Node B shall de-allocate the E-AGCH resources of the old Serving E-DCH Radio Link.

- If the New Serving E-DCH RL is in this Node B, the Node B shall allocate an E-RNTI identifier for the new Serving E-DCH Radio Link and include this identifier along with the channelisation code of the corresponding E-AGCH in the *E-DCH FDD DL Control Channel Information* IE in the RADIO LINK RECONFIGURATION RESPONSE message.

E-DCH Modification:

If the RADIO LINK RECONFIGURATION REQUEST message includes the *E-DCH FDD Information To Modify* IE, then:

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Data Description Indicator* IE, the Node B shall delete the previous list of DDI values for this Node B Communication Context and use the DDI values indicated in the *Data Description Indicator* IE in the new configuration.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *Bundling Mode Indicator* IE for a E-DCH MAC-d flow in the *E-DCH MAC-d Flow Specific Information* IE in the *E-DCH FDD Information To Modify* IE and the *Bundling Mode Indicator* IE is set to "Bundling" and the *E-TTI* IE is set to "2ms", then the Node B shall use the bundling mode for the E-DCH UL data frames for the related Mac-d flow, otherwise the Node B shall use the non-bundling mode for the E-DCH UL data frames for the related Mac-d flow.

E-DCH MAC-d Flow Addition/Deletion:

If the RADIO LINK RECONFIGURATION REQUEST message includes any *E-DCH MAC-d Flows To Add* or E-DCH *MAC-d Flows To Delete* IEs, then the Node B shall use this information to add/delete the indicated E-DCH MAC-d flows. When an E-DCH MAC-d flow is deleted, all its associated configuration data shall also be removed.

If the RADIO LINK RECONFIGURATION REQUEST message includes an *E-DCH MAC-d Flows To Delete* IE requesting the deletion of all remaining E-DCH MAC-d flows for the UE Context, then the Node B shall delete the E-DCH configuration from the Node B Communication Context and release the E-DCH resources.

If the RADIO LINK RECONFIGURATION REQUEST message includes the *E-DCH MAC-d Flows To Add* IE, then:

- If the RADIO LINK RECONFIGURATION REQUEST message includes the *MAC-es Guaranteed Bit Rate* IE in the *E-DCH MAC-d Flows To Add* IE, the Node B shall use this information to optimise MAC-e scheduling decisions.

- If the RADIO LINK RECONFIGURATION REQUEST message includes the the *Maximum Number Of Retransmissions For E-DCH* IE in the *E-DCH MAC-d Flows To Add* IE, then the Node B shall use this information to report if the maximum number of retransmissions has elapsed.

General

If the RADIO LINK RECONFIGURATION REQUEST message includes the *Transport Layer Address* IE and *Binding ID* IEs in the *HS-DSCH Information* IE, *HS-DSCH Information To Modify Unsynchronised* IE, *HS-DSCH MAC-d Flows To Add* IE, *E-DCH Information* IE, *E-DCH Information To Modify* IE, *E-DCH MAC-d Flows To Add* IE or in the *RL Specific DCH Information* IE, the Node B may use the transport layer address and the binding identifier received from the CRNC when establishing a transport bearer for any Transport Channel or MAC-d flow being added or any Transport Channel or MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE.

If the requested modifications are allowed by the Node B, the Node B has successfully allocated the required resources, and changed to the new configuration, it shall respond to the CRNC with the RADIO LINK RECONFIGURATION RESPONSE message.

The Node B shall include in the RADIO LINK RECONFIGURATION RESPONSE message the *Transport Layer Address* IE and the *Binding ID* IE for any Transport Channel or MAC-d flow being added or any Transport Channel or MAC-d flow being modified for which a new transport bearer was requested with the *Transport Bearer Request Indicator* IE. The detailed frame protocol handling during transport bearer replacement is described in [16], subclause 5.10.1.

In the case of a set of co-ordinated DCHs requiring a new transport bearer on the Iub interface, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the DCH in the set of coordinated DCHs.

In the case of a Radio Link being combined with another Radio Link within the Node B, the *Transport Layer Address* IE and the *Binding ID* IE in the *DCH Information Response* IE shall be included only for one of the combined Radio Links.

In the case of a signalling bearer re-arrangement, the new Communication Control Port shall be used once the Node B has sent the RADIO LINK RECONFIGURATION RESPONSE message via the old Communication Control Port.

9.2.1.29ab   E-DCH MAC-d Flows Information

The *E-DCH MAC-d Flows Information* IE is used for the establishment of E-DCH MAC-d flows.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
E-DCH MAC-d Flow Specific Information		*1..<maxnoofEDCHMACdFlows>*		
>E-DCH MAC-d Flow ID	M		9.2.1.29ad	
>Binding ID	O		9.2.1.4	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.63	Shall be ignored if bearer establishment with ALCAP.
>Allocation/Retention Priority	M		9.2.1.1A	
>TNL QoS	O		9.2.1.58A	
>Payload CRC Presence Indicator	M		9.2.1.49	
>Maximum Number Of Retransmissions For E-DCH	M		9.2.1.39a	
>Bundling Mode Indicator	O		9.2.2.xx	
Data Description Indicator		*1..<maxnoofDDIs>*		
>E-DCH DDI Value	M		9.2.1.29af	
>Associated E-DCH MAC-d Flow ID	M		E-DCH MAC-d Flow ID 9.2.1.29ad	The E-DCH MAC-d Flow ID shall be one of the flow IDs defined in the E-DCH MAC-d Flow Specific Information of this IE. Multiple E-DCH DDI Values can be associated with the same E-DCH MAC-d Flow ID.
>MAC-d PDU Size	M		9.2.1.38A	
>Scheduling Priority Indicator	M		9.2.1.53H	
>MAC-es Guaranteed Bit Rate	O		9.2.1.38aa	

Range Bound	Explanation
maxnoofEDCHMACdFlows	Maximum number of E-DCH MAC-d flows
maxnoofDDIs	Maximum number of Data Description Indicators

9.2.2.13Df   E-DCH FDD Information to Modify

The *E-DCH FDD Information to Modify* IE is used for the modification of an E-DCH.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
E-DCH MAC-d Flow Specific Information		*0..<maxnoofEDCHMACdFlows>*		
>E-DCH MAC-d Flow ID	M		9.2.1.29ad	
>Allocation/Retention Priority	O		9.2.1.1A	
>Transport Bearer Request Indicator	M		9.2.1.62A	
>Binding ID	O		9.2.1.4	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.63	Shall be ignored if bearer establishment with ALCAP.
>TNL QoS	O		9.2.1.58A	
>Maximum Number Of Retransmissions For E-DCH	O		9.2.1.39a	
>Bundling Mode Indicator	O		9.2.1.xx	
Data Description Indicator		*0..<maxnoofDDIs>*		
>E-DCH DDI Value	M		9.2.1.29af	
>Associated E-DCH MAC-d Flow ID	M		E-DCH MAC-d Flow ID 9.2.1.29ad	Shall only refer to an E-DCH MAC-d flow identified by the *E-DCH MAC-d Flow ID* IE above. Multiple E-DCH DDI Values can be associated with the same E-DCH MAC-d Flow ID.
>MAC-d PDU Size	M		9.2.1.38A	
>Scheduling Priority Indicator	M		9.2.1.53H	
>MAC-es Guaranteed Bit Rate	O		9.2.1.38aa	

Range bound	Explanation
maxnoofEDCHMACdFlows	Maximum number of E-DCH MAC-d flows.
maxnoofDDIs	Maximum number of Data Description Indicators

9.2.2.xx Bundling Mode Indicator

The Bundling Mode Indicator indicates whether the bundling shall be done or shall not be done for Iub.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
Bundling Mode Indicator			ENUMERATED (Bundling, No bundling)	The value "Bundling" is applicable only when E-TTI indicates "2ms".

9.3.4   Information Elements Definitions

<mark>partially ommited</mark>

```
-- =======================================
--  B
-- =======================================

BCCH-ModificationTime ::= INTEGER  (0..511)
-- Time = BCCH-ModificationTime * 8
-- Range 0 to 4088, step 8
-- All SFN values in which MIB may be mapped are allowed

Best-Cell-Portions-Value::= SEQUENCE (SIZE (1..maxNrOfCellPortionsPerCell)) OF Best-Cell-Portions-Item

Best-Cell-Portions-Item ::= SEQUENCE {
    cellPortionID               CellPortionID,
    sIRValue                    SIR-Value,
    iE-Extensions               ProtocolExtensionContainer { { Best-Cell-Portions-Item-ExtIEs} }                OPTIONAL,
    ...
}

Best-Cell-Portions-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

BindingID ::= OCTET STRING (SIZE (1..4, ...))
-- If the Binding ID includes a UDP port, the UDP port is included in octet 1 and 2.The first octet of
-- the UDP port field is included in the first octet of the Binding ID.

BetaCD ::= INTEGER (0..15)

BlockingPriorityIndicator ::= ENUMERATED {
    high,
    normal,
    low,
    ...
}
-- High priority: Block resource immediately.
-- Normal priority: Block resource when idle or upon timer expiry.
-- Low priority: Block resource when idle.

SCTD-Indicator ::= ENUMERATED {
    active,
    inactive
}

BundlingModeIndicator ::= ENUMERATED {
    bundling,
    no-bundling
}
```

```
-- =======================================
-- C
-- =======================================
```

<mark>partially omitted</mark>

```
-- ======================================
--  E
-- ======================================

E-AGCH-FDD-Code-Information ::= CHOICE {
    replace                     E-AGCH-FDD-Code-List,
    remove                      NULL,
    ...
}


E-AGCH-FDD-Code-List ::= SEQUENCE (SIZE (1..maxNrOfE-AGCHs)) OF E-AGCH-FDD-Code-Information-Item


E-AGCH-FDD-Code-Information-Item ::= INTEGER (0..maxE-AGCH-CodeNrComp-1)


E-DCH-Capability ::= ENUMERATED {
    e-DCH-capable,
    e-DCH-non-capable
}


E-DCH-DDI-Value ::= INTEGER (0..63)


E-DCH-FDD-DL-Control-Channel-Information ::= SEQUENCE {
    e-AGCH-And-E-RGCH-E-HICH-FDD-Scrambling-Code    DL-ScramblingCode                                                           OPTIONAL,
    e-AGCH-Channelisation-Code                      FDD-DL-ChannelisationCodeNumber                                             OPTIONAL,
    e-RNTI                                          E-RNTI                                                                      OPTIONAL,
    e-RGCH-E-HICH-Channelisation-Code               FDD-DL-ChannelisationCodeNumber,
    e-RGCH-Signature-Sequence                       E-RGCH-Signature-Sequence,
    e-HICH-Signature-Sequence                       E-HICH-Signature-Sequence,
    iE-Extensions                                   ProtocolExtensionContainer { { E-DCH-FDD-DL-Control-Channel-Information-ExtIEs} }   OPTIONAL,
    ...
}


E-DCH-FDD-DL-Control-Channel-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


E-DCH-FDD-Information ::= SEQUENCE {
    e-DCH-MACdFlows-Information                      E-DCH-MACdFlows-Information,
    ue-E-DCH-Capability-Info                        UE-E-DCH-Capability-Information,
    iE-Extensions                                   ProtocolExtensionContainer { { E-DCH-FDD-Information-ExtIEs} }               OPTIONAL,
    ...
}


E-DCH-FDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


E-DCH-FDD-Information-Response ::= SEQUENCE {
    e-DCH-MACdFlow-Specific-InformationResp         E-DCH-MACdFlow-Specific-InformationResp                                     OPTIONAL,
    iE-Extensions                                   ProtocolExtensionContainer { { E-DCH-FDD-Information-Response-ExtIEs } }     OPTIONAL,
    ...
}
```

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```
E-DCH-FDD-Information-Response-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

E-DCH-FDD-Information-to-Modify ::= SEQUENCE {
    e-DCH-MACdFlow-Specific-Info-to-Modify        E-DCH-MACdFlow-Specific-InfoList-to-Modify              OPTIONAL,
    data-Description-Indicator                    Data-Description-Indicator                              OPTIONAL,
    iE-Extensions                                 ProtocolExtensionContainer { { E-DCH-FDD-Information-to-Modify-ExtIEs} }   OPTIONAL,
    ...
}

E-DCH-FDD-Information-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

E-DCH-MACdFlow-ID ::= INTEGER (0..maxNrOfEDCHMACdFlows-1)

E-DCH-MACdFlows-Information ::= SEQUENCE {
    e-DCH-MACdFlow-Specific-Info                  E-DCH-MACdFlow-Specific-InfoList,
    data-Description-Indicator                    Data-Description-Indicator,
    iE-Extensions                                 ProtocolExtensionContainer { { E-DCH-MACdFlows-Information-ExtIEs} }      OPTIONAL,
    ...
}

E-DCH-MACdFlows-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

E-DCH-MACdFlow-Specific-InfoList ::= SEQUENCE (SIZE (1..maxNrOfEDCHMACdFlows)) OF E-DCH-MACdFlow-Specific-InfoItem

E-DCH-MACdFlow-Specific-InfoItem ::= SEQUENCE {
    e-DCH-MACdFlow-ID                             E-DCH-MACdFlow-ID,
    bindingID                                     BindingID                                               OPTIONAL,
    transportLayerAddress                         TransportLayerAddress                                   OPTIONAL,
    allocationRetentionPriority                   AllocationRetentionPriority,
    tnlQos                                        TnlQos                                                  OPTIONAL,
    payloadCRC-PresenceIndicator                  PayloadCRC-PresenceIndicator,
    maximum-Number-of-Retransmissions-For-E-DCH   Maximum-Number-of-Retransmissions-For-E-DCH,
    bundlingModeIndicator                         BundlingModeIndicator                                   OPTIONAL,
    iE-Extensions                                 ProtocolExtensionContainer { { E-DCH-MACdFlow-Specific-InfoItem-ExtIEs} } OPTIONAL,
    ...
}

E-DCH-MACdFlow-Specific-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

E-DCH-MACdFlow-Specific-InformationResp ::= SEQUENCE (SIZE (1..maxNrOfEDCHMACdFlows)) OF E-DCH-MACdFlow-Specific-InformationResp-Item

E-DCH-MACdFlow-Specific-InformationResp-Item ::= SEQUENCE {
    e-DCH-MACdFlow-ID                             E-DCH-MACdFlow-ID,
    bindingID                                     BindingID                                               OPTIONAL,
    transportLayerAddress                         TransportLayerAddress                                   OPTIONAL,
```

```
        iE-Extensions                                  ProtocolExtensionContainer { { E-DCH-MACdFlow-Specific-InformationResp-Item-ExtIEs} }  OPTIONAL,
        ...
    }

    E-DCH-MACdFlow-Specific-InformationResp-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
        ...
    }

    E-DCH-MACdFlow-Specific-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfEDCHMACdFlows)) OF E-DCH-MACdFlow-Specific-InfoItem-to-Modify

    E-DCH-MACdFlow-Specific-InfoItem-to-Modify ::= SEQUENCE {
        e-DCH-MACdFlow-ID                              E-DCH-MACdFlow-ID,
        allocationRetentionPriority                    AllocationRetentionPriority                                                  OPTIONAL,
        transportBearerRequestIndicator                TransportBearerRequestIndicator,
        bindingID                                      BindingID                                                                    OPTIONAL,
        transportLayerAddress                          TransportLayerAddress                                                        OPTIONAL,
        tnlQos                                         TnlQos                                                                       OPTIONAL,
        maximum-Number-of-Retransmissions-For-E-DCH    Maximum-Number-of-Retransmissions-For-E-DCH                                  OPTIONAL,
        iE-Extensions                                  ProtocolExtensionContainer { { E-DCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs} }   OPTIONAL,
        ...
    }

    E-DCH-MACdFlow-Specific-InfoItem-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
        ...
    }

    E-DCH-MACdFlows-to-Delete ::= SEQUENCE (SIZE (1..maxNrOfEDCHMACdFlows)) OF E-DCH-MACdFlow-to-Delete-Item

    E-DCH-MACdFlow-to-Delete-Item ::= SEQUENCE {
        e-DCH-MACdFlow-ID                              E-DCH-MACdFlow-ID,
        iE-Extensions                                  ProtocolExtensionContainer { { E-DCH-MACdFlow-to-Delete-Item-ExtIEs} }           OPTIONAL,
        ...
    }

    E-DCH-MACdFlow-to-Delete-Item-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
        ...
    }

    E-DCH-Physical-Layer-Category ::= INTEGER (0)
    -- FFS.

    E-DCH-RL-Indication ::= ENUMERATED {
        e-DCH,
        non-e-DCH
    }

    E-HICH-Signature-Sequence ::= INTEGER (0..maxNrofSigSeqRGHI-1)

    End-Of-Audit-Sequence-Indicator ::= ENUMERATED {
        end-of-audit-sequence,
        not-end-of-audit-sequence
    }
```

```
EnhancedDSCHPC ::= SEQUENCE {
    enhancedDSCHPCWnd    EnhancedDSCHPCWnd,
    enhancedDSCHPCCounter    EnhancedDSCHPCCounter,
    enhancedDSCHPowerOffset EnhancedDSCHPowerOffset,
    ...
}

EnhancedDSCHPCCounter ::= INTEGER (1..50)

EnhancedDSCHPCIndicator ::= ENUMERATED {
    enhancedDSCHPCActiveInTheUE,
    enhancedDSCHPCNotActiveInTheUE
}

EnhancedDSCHPCWnd ::= INTEGER (1..10)

EnhancedDSCHPowerOffset ::= INTEGER (-15..0)

E-RGCH-E-HICH-FDD-Code-Information ::= CHOICE {
    replace                 E-RGCH-E-HICH-FDD-Code-List,
    remove                  NULL,
    ...
}

E-RGCH-E-HICH-FDD-Code-List ::= SEQUENCE (SIZE (1..maxNrOfE-RGCHs-E-HICHs)) OF E-RGCH-E-HICH-FDD-Code-Information-Item

E-RGCH-E-HICH-FDD-Code-Information-Item ::= INTEGER (0..maxE-RGCH-E-HICH-CodeNrComp-1)

E-RGCH-Signature-Sequence ::= INTEGER (0..maxNrofSigSeqRGHI-1)

E-RNTI ::= INTEGER (0..65535)

E-TFCS ::= SEQUENCE {
    -- Coding is FFS
    iE-Extensions                           ProtocolExtensionContainer { {E-TFCS-ExtIEs} }                OPTIONAL,
    ...
}

E-TFCS-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

E-TTI ::= ENUMERATED {
    e-TTI-2ms,
    e-TTI-10ms
}

-- ========================================
--  F
-- ========================================
```

partially ommited

CR-Form-v7.1

CHANGE REQUEST

⌘ **25.931** CR **030** ⌘**rev** **1** ⌘ Current version: **6.1.0** ⌘

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

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

Title: ⌘	Introduction of EDCH scenarios
Source: ⌘	RAN3
Work item code:⌘	EDCH-IubIur **Date:** ⌘ 4/5/2005
Category: ⌘ **B**	**Release:** ⌘ Rel-6

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

Use <u>one</u> of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change: ⌘	Include EDCH scenarios.
Summary of change:⌘	Added EDCH signalling examples.
Consequences if not approved: ⌘	EDCH signalling examples will not be covered.

Clauses affected: ⌘	3, 7.x(new)

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

Other comments: ⌘	

How to create CRs using this form:
Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

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

************************FIRST CHANGE**********************

3 Definitions, abbreviations and notation

3.1 Definitions

For the purposes of the present document, the terms and definitions given in [1], [2] and [4] apply.

3.2 Abbreviations

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

NOTE: More extensive abbreviations on UMTS are provided in [1].

AAL2	ATM Adaptation Layer type 2
ACK	Acknowledgement
AICH	Acquisition Indicator Channel
ALCAP	Access Link Control Application Part
AM	Acknowledged Mode
APN	Access Point Name
AS	Access Stratum
ATM	Asynchronous Transfer Mode
BCCH	Broadcast Control Channel
BCFE	Broadcast Control Functional Entity
BER	Bit Error Rate
BLER	Block Error Rate
BMC	Broadcast/Multicast Control
BSS	Base Station Sub-system
BSSMAP	Base Station System Management Application Part
CCCH	Common Control Channel
CCPCH	Common Control Physical Channel
CFN	Connection Frame Number
CM	Connection Management
CN	Core Network
CPCH	Common Packet CHannel
CPICH	Common Pilot Channel
CRNC	Controlling RNC
C-RNTI	Cell RNTI
CS	Circuit Switched
DCA	Dynamic Channel Allocation
DCCH	Dedicated Control Channel
DCFE	Dedicated Control Functional Entity
DCH	Dedicated Channel
DC-SAP	Dedicated Control-SAP
DL	Downlink
DPCCH	Dedicated Physical Control Channel
DPCH	Dedicated Physical Channel
DRAC	Dynamic Resource Allocation Control
DRNC	Drift RNC
DRNS	Drift RNS
DRX	Discontinuous Reception
DSCH	Downlink Shared Channel
DTCH	Dedicated Traffic Channel
E-AGCH	EDCH – Absolute Grant Channel
E-DCH	Enhanced – Dedicated Channel
E-DPCH	EDCH – Dedicated Physical Channel
E-HICH	EDCH - HARQ Acknowledgement Indicator Channel
E-RGCH	EDCH – Relative Grant Channel

E-RNTI   E-DCH Radio Network Temporary Identifier
EP   Elementary Procedure
FACH   Forward Access Channel
FAUSCH   Fast Uplink Signalling Channel
FDD   Frequency Division Duplex
FFS   For Further Study
FN   Frame Number
FP   Frame Protocol
HS-DSCH   High Speed Downlink Shared Channel
HS-PDSCH   High Speed Physical Downlink Shared Channel
HS-SCCH   High Speed Shared Control Channel
ID   Identifier
IE   Information Element
IMEI   International Mobile Equipment Identity
IMSI   International Mobile Subscriber Identity
IP   Internet Protocol
ISCP   Interference on Signal Code Power
L1   Layer 1
L2   Layer 2
L3   Layer 3
LAI   Location Area Identity
MAC   Medium Access Control
MAC-hs   Medium Access Control for HS-DSCH
MBMS   Multimedia Broadcast Multicast Service
MCC   Mobile Country Code
MCCH   Multicast Control Channel
MM   Mobility Management
MNC   Mobile Network Code
MS   Mobile Station
MSC   Mobile services Switching Center
NAS   Non Access Stratum
NBAP   Node B Application Protocol
Nt-SAP   Notification SAP
NW   Network
O   Optional
ODMA   Opportunity Driven Multiple Access
PCCH   Paging Control Channel
PCH   Paging Channel
PDCP   Packet Data Convergence Protocol
PDSCH   Physical Downlink Shared Channel
PDU   Protocol Data Unit
PLMN   Public Land Mobile Network
PNFE   Paging and Notification control Functional Entity
PRACH   Physical Random Access CHannel
PS   Packet Switched
PSCH   Physical Synchronisation Channel
PTM   Point To Multipoint
P-TMSI   Packet Temporary Mobile Subscriber Identity
PTP   Point To Point
PUSCH   Physical Uplink Shared Channel
QoS   Quality of Service
RAB   Radio Access Bearer
RACH   Random Access CHannel
RAI   Routing Area Identity
RANAP   Radio Access Network Application Part
RB   Radio Bearer
RFE   Routing Functional Entity
RL   Radio Link
RLC   Radio Link Control
RNC   Radio Network Controller
RNS   Radio Network Subsystem
RNSAP   Radio Network Subsystem Application Part

RNTI	Radio Network Temporary Identifier
RRC	Radio Resource Control
RSCP	Received Signal Code Power
RSSI	Received Signal Strength Indicator
SAI	Service Area Identifier
SAP	Service Access Point
SCCP	Signalling Connection Control Part
SCFE	Shared Control Function Entity
SF	Spreading Factor
SFN	System Frame Number
SGSN	Serving GPRS Support Node
SHCCH	Shared Control Channel
SIR	Signal to Interference Ratio
SRNC	Serving RNC
SRNS	Serving RNS
S-RNTI	SRNC - RNTI
SSDT	Site Selection Diversity Transmission
TDD	Time Division Duplex
TEID	Tunnel Endpoint Identifier
TF	Transport Format
TFCI	Transport Format Combination Indicator
TFCS	Transport Format Combination Set
TFS	Transport Format Set
TME	Transfer Mode Entity
TMGI	Temporary Multicast Group Identifier
TMSI	Temporary Mobile Subscriber Identity
Tr	Transparent
Tx	Transmission
UARFCN	UMTS Absolute Radio Frequency Channel Number
UE	User Equipment
UL	Uplink
UM	Unacknowledged Mode
UMTS	Universal Mobile Telecommunication System
UNACK	Unacknowledgement
URA	UTRAN Registration Area
U-RNTI	UTRAN-RNTI
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

***********************LAST CHANGE***********************

7.x   E-DCH Specific Scenarios

7.x.1   E-DCH Establishment and EDCH TTI Reconfiguration

This scenario shows an example of E-DCH configuration. Also TTI reconfiguration is shown in the same scenario. It is assumed that in this example DCH was established before.
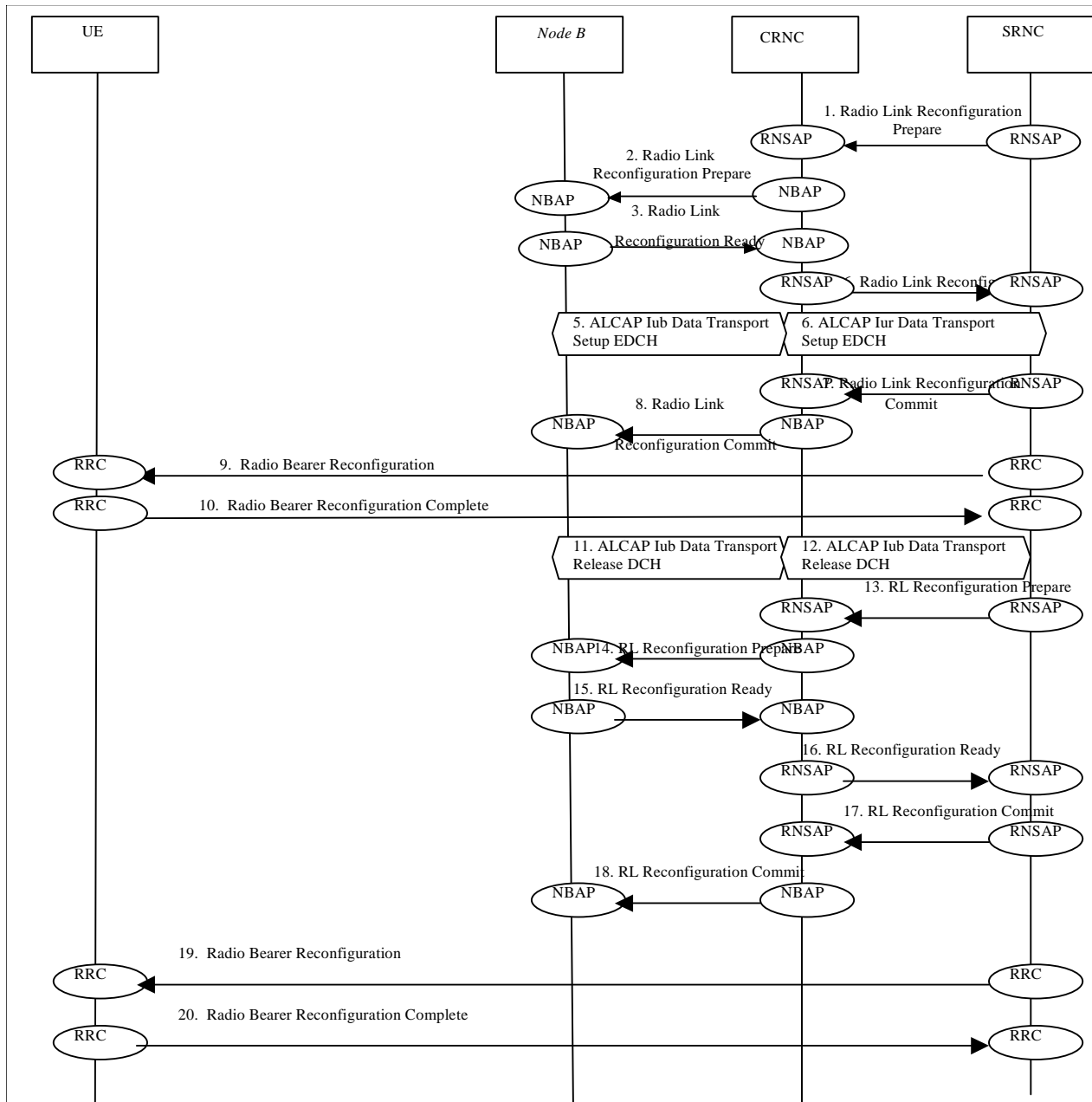
Figure x1: E-DCH Establishment and E-DCH TTI Reconfiguration

1. The SRNC decides there is a need for a establishing E-DCH for a UE and prepares the RNSAP message **Radio Link Reconfiguration Prepare** which is transmitted to the CRNC.

   Parameters: DCHs to Delete IE, E-DPCH Information (TFCS, TTI), Serving E-DCH RL ID, E-DCH FDD Information.

2. The CRNC requests the E-DCH Node B to perform a synchronised radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**, for the E-DCH radio link

   Parameters: DCHs to Delete IE, Servine E-DCH RL ID**,** E-DCH FDD Information.

3. The E-DCH Node B returns a NBAP message **Radio Link Reconfiguration Ready**.
   Parameters: DCH Information Response , E-DCH FDD Information Response.

4. The CRNC returns the RNSAP message **Radio Link Reconfiguration Ready** to the SRNC.
   Parameters: DCH Information Response, E-DCH FDD Information Response.

5.   The CRNC initiates set-up of a new Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iub Data Transport Bearer to the E-DCH.

6.   The SRNC initiates set-up of a new Iur Data Transport bearer using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur Data Transport Bearer to the E-DCH.

7.   The SRNC proceeds by transmitting the RNSAP message **Radio Link Reconfiguration Commit** to the CRNC. Parameters: SRNC selected activation time in the form of a CFN.

8.   The CRNC transmits the NBAP message **Radio Link Reconfiguration Commit** to the E-DCH Node B including the activation time.
Parameters: CRNC selected activation time in the form of a CFN.

9.   The SRNC also transmits a RRC message **Radio Bearer Reconfiguration** to the UE.
Parameters: activation time, E-DCH Info and E-RNTI.

10. The UE returns a RRC message **Radio Bearer Reconfiguration Complete** to the SRNC.

11. The CRNC initiates release of the old Iub Data Transport bearer (DCH) using ALCAP protocol.

12. The SRNC initiates release of the old Iur Data Transport bearer (DCH) using ALCAP protocol.

13. The SRNC decides there is a need for a TTI reconfiguration and prepares the RNSAP message **Radio Link Reconfiguration Prepare** which is transmitted to the CRNC.

     Parameters: E-DPCH Information (TTI).

14. The CRNC requests the E-DCH Node B to perform a synchronised radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**, for the E-DCH radio link

15. The E-DCH Node B returns a NBAP message **Radio Link Reconfiguration Ready**.
Parameters: E-DCH FDD Information Response.

16. The CRNC returns the RNSAP message **Radio Link Reconfiguration Ready** to the SRNC.
Parameters: E-DCH FDD Information Response.

17. The SRNC proceeds by transmitting the RNSAP message **Radio Link Reconfiguration Commit** to the CRNC.
Parameters: SRNC selected activation time in the form of a CFN.

18. The CRNC transmits the NBAP message **Radio Link Reconfiguration Commit** to the E-DCH Node B including the activation time.
Parameters: CRNC selected activation time in the form of a CFN.

19. The SRNC also transmits a RRC message **Radio Bearer Reconfiguration** to the UE.
Parameters: activation time, E-DCH Info and E-RNTI.

20. The UE returns a RRC message **Radio Bearer Reconfiguration Complete** to the SRNC.

7.x.2   Soft Handover

Radio Link Addition (Branch Addition)

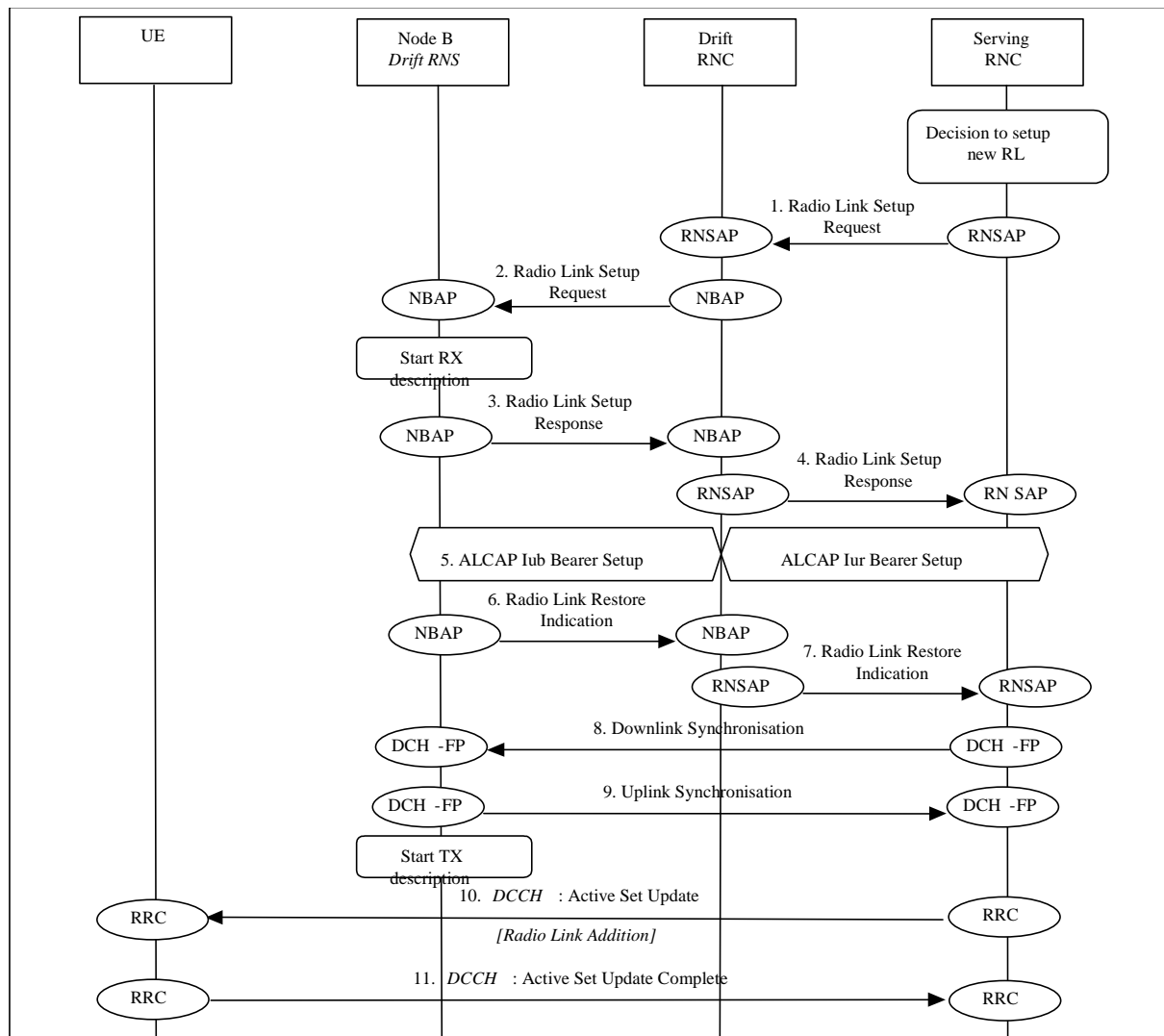This example shows establishment of a radio link via a Node B controlled by another RNC than the serving RNC.

Figure x2: Soft Handover - Radio Link Addition (Branch Addition)

1. SRNC decides to setup a radio link with E-DCH via a new cell controlled by another RNC. The E-DCH serving RL is not in the new NodeB. So, this scenario is a soft HO branch addition without simultaneous serving E-DCH RL change. SRNC requests DRNC for radio resources by sending RNSAP message **Radio Link Setup Request**. If this is the first radio link via the DRNC for this UE, a new Iur signalling connection is established. This Iur signalling connection will be used for all RNSAP signalling related to this UE.
Parameters: E-DPCH Information (TFCS, TTI), E-DCH FDD Information.

2. If requested resources are available, DRNC sends NBAP message **Radio Link Setup Request** to Node B.
Parameters: Cell id, UL DPDCH Indicator for E-DCH operation, E-DPCH Information, E-DCH FDD Information.
Then Node B starts the UL reception of DPCCH only. Reception of DPDCH, E-DPCCH and E-DPDCH will start only after Iub TBs are setup and UL sync is achieved.

3. Node B selects for each Radio Link of the specific UE, one of the E-RGCH/E-HICH codes, allocates an E-RGCH sequence number and an E-HICH sequence number, and sends this info to the RNC. Similarly, the Node B selects for the E-DCH serving Radio Link one of the E-AGCH codes, allocates an E-RNTI and sends this info to the RNC with NBAP message **Radio Link Setup Response**.
Parameters: E-DCH RL Set ID, E-DCH FDD DL Control Channel Information, E-DCH FDD Information Response.

4. DRNC sends RNSAP message **Radio Link Setup Response** to SRNC.
Parameters: E-DCH FDD Information Response, E-DCH RL Set ID, E-DCH FDD DL Control Channel Information.

5. SRNC initiates setup of Iur/Iub Data Transport Bearer using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iub Data Transport Bearer to E-DCH.
    This may be repeated for each Iur/Iub Data Transport Bearer to be setup.

6./7.   Node B achieves uplink sync on the Uu and notifies DRNC with NBAP message **Radio Link Restore Indication**. In its turn DRNC notifies SRNC with RNSAP message **Radio Link Restore Indication.**

8./9.   Node B and SRNC establish synchronism for the Data Transport Bearer(s) by means of exchange of the appropriate DCH Frame Protocol frames **Downlink Synchronisation** and **Uplink Synchronisation**, relative already existing radio link(s). Then Node B starts DL transmission.

10. SRNC sends RRC message **Active Set Update** (Radio Link Addition) to UE on DCCH.
    Parameters: Update type, Cell id, DL scrambling code, Power control information, Ncell information.

11. UE acknowledges with RRC message **Active Set Update Complete**.

7.x.3   Intra-Node B synchronised serving E-DCH cell change

This subclause shows an example of an intra-Node B serving E-DCH cell change while keeping the dedicated physical channel configuration and the active set.
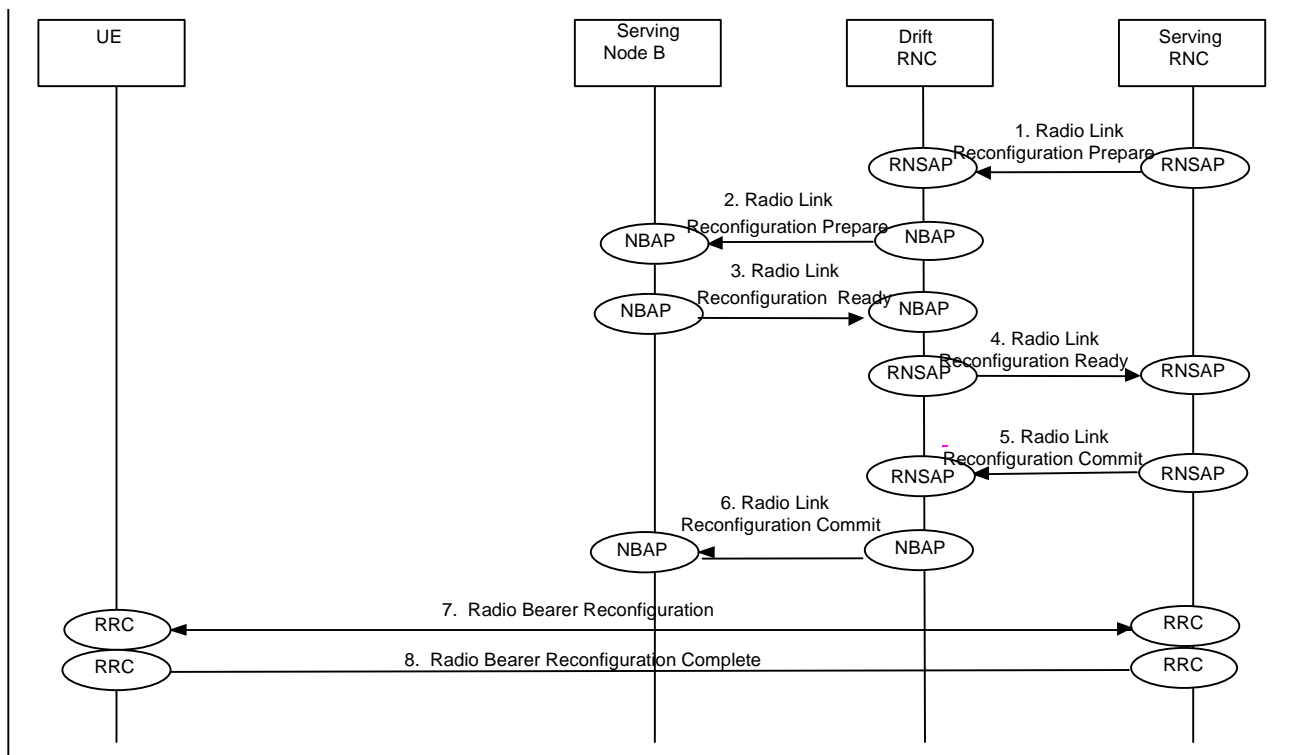

Figure x3: Intra-Node B synchronised serving E-DCH cell change

1. The SRNC decides there is a need for a serving E-DCH cell change and prepares a RNSAP message **Radio Link Reconfiguration Prepare** which is transmitted to the DRNC.
    Parameters: Serving E-DCH RL ID.

2. In this case, both the source and target E-DCH cells are controlled by the same Node B. The DRNC requests the serving E-DCH Node B to perform a synchronised radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**. The reconfiguration comprises a transfer of the E-DCH resources from the source E-

DCH radio link to the target E-DCH radio link.
Parameters: Serving E-DCH RL ID.

3. The serving E-DCH Node B returns a NBAP message **Radio Link Reconfiguration Ready**.
Parameters: AGCH channelisation code (and scrambling code), E-RNTI.

4. The DRNC returns a RNSAP message **Radio Link Reconfiguration Ready** to the SRNC.
Parameters: AGCH channelisation code (and scrambling code), E-RNTI.

5. The SRNC now proceeds by transmitting RNSAP message **Radio Link Reconfiguration Commit** to the DRNC.
Parameters: SRNC selected activation time in the form of a CFN.

6. The DRNC transmits a NBAP message **Radio Link Reconfiguration Commit** to the serving E-DCH Node B. At the indicated activation time the serving E-DCH Node B stops sending E-DCH grants via the old E-AGCH and starts sending E-DCH grants to the UE via the E-AGCH in the target E-DCH cell.
Parameters: SRNC selected activation time in the form of a CFN.

7. The SRNC transmits a RRC message **Radio Bearer Reconfiguration** to the UE.
Parameters: activation time, E-DCH Info and E-RNTI.

8. At the indicated activation time the UE stops receiving E-DCH absolute grants from the source E-DCH cell and starts reception of E-DCH absolute grants in the target E-DCH cell. The UE then returns a RRC message **Radio Bearer Reconfiguration Complete** to the SRNC.

7.x.4 Inter-Node B (intra DRNC) synchronised serving E-DCH cell change

This subclause shows an ATM example of an inter-Node B serving E-DCH cell change while keeping the dedicated physical channel configuration and active set.
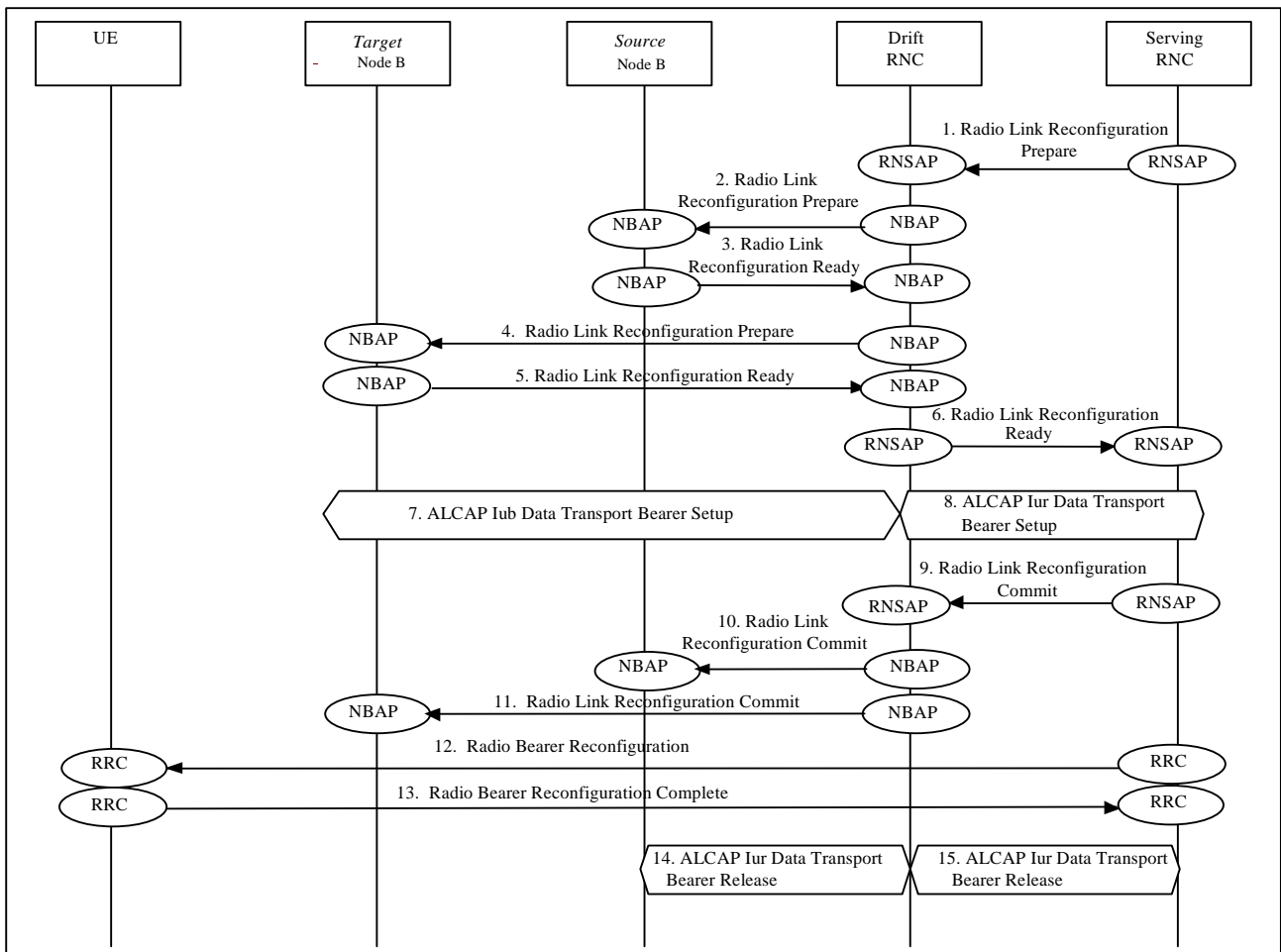
Figure x4: Inter-Node B (intra-DRNC) synchronised serving E-DCH cell change

1.   The SRNC decides there is a need for a serving E-DCH cell change and prepares the RNSAP message **a Radio Link Reconfiguration Prepare** which is transmitted to the DRNC. Parameters: SRNC selected E-DCH RL ID.

2.   In this case, the source and target E-DCH cells are controlled by different Node Bs. The DRNC requests the source E-DCH Node B to perform a synchronised radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**, removing its E-DCH resources for the source E-DCH radio link Parameters: E-DCH MAC-d Flows To Delete.

3.   The source E-DCH Node B returns a NBAP message **Radio Link Reconfiguration Ready**.
     Parameters: No E-DCH related parameters.

4.   The DRNC requests the target E-DCH Node B to perform a synchronised radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**, adding E-DCH resources for the target E-DCH radio link.
     Parameters: E-DCH FDD Information, a DRNC selected E-RNTI, E-DCH RL ID.

5.   The target E-DCH Node B returns the NBAP message **Radio Link Reconfiguration Ready**.
     Parameters: E-DCH FDD Information Response.

6.   The DRNC returns the RNSAP message **Radio Link Reconfiguration Ready** to the SRNC.
     Parameters: E-DCH FDD Information Response.

7.   The DRNC initiates set-up of a new Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iub Data Transport Bearer to the E-DCH.

8.   The SRNC may initiate set-up of a new Iur Data Transport bearer using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur Data Transport Bearer to the E-DCH.

9. The E-DCH transport bearer to the target E-DCH Node B is established. The SRNC proceeds by transmitting the RNSAP message **Radio Link Reconfiguration Commit** to the DRNC.
    Parameters: SRNC selected activation time in the form of a CFN.

10. The DRNC transmits the NBAP message **Radio Link Reconfiguration Commit** to the source E-DCH Node B including the activation time. At the indicated activation time the source E-DCH Node B stops and the target E-DCH Node B starts transmitting on the E-DCH to the UE.
    Parameters: SRNC selected activation time in the form of a CFN.

11. The DRNC transmits the NBAP message **Radio Link Reconfiguration Commit** to the target E-DCH Node B including the activation time. At the indicated activation time the source E-DCH Node B stops and the target E-DCH Node B starts transmitting on the E-DCH to the UE.
    Parameters: SRNC selected activation time in form of a CFN.

12. The SRNC also transmits a RRC message **Radio Bearer Reconfiguration** to the UE.
    Parameters: activation time, E-DCH Info and E-RNTI.

13. At the indicated activation time the UE stops receiving E-DCH in the source E-DCH cell and starts E-DCH reception in the target E-DCH cell. The UE returns a RRC message **Radio Bearer Reconfiguration Complete** to the SRNC.

14. The DRNC initiates release of the old Iub Data Transport bearer using ALCAP protocol.

15. If the new Iur Data Transport Bearer was setup in 8, then the SRNC initiates release of the old Iur Data Transport bearer using ALCAP protocol.

7.x.5   Hard Handover

Inter-Node B (intra DRNC) synchronised serving E-DCH cell change at hard handover

In the following example the E-DCH mobility procedure is performed in two steps: the first step consists of establishing a new radio link without the E-DCH resources; the next step is a transfer of the E-DCH resources to this new radio link followed by a release of the old radio link. In the radio interface, a combined procedure is used.
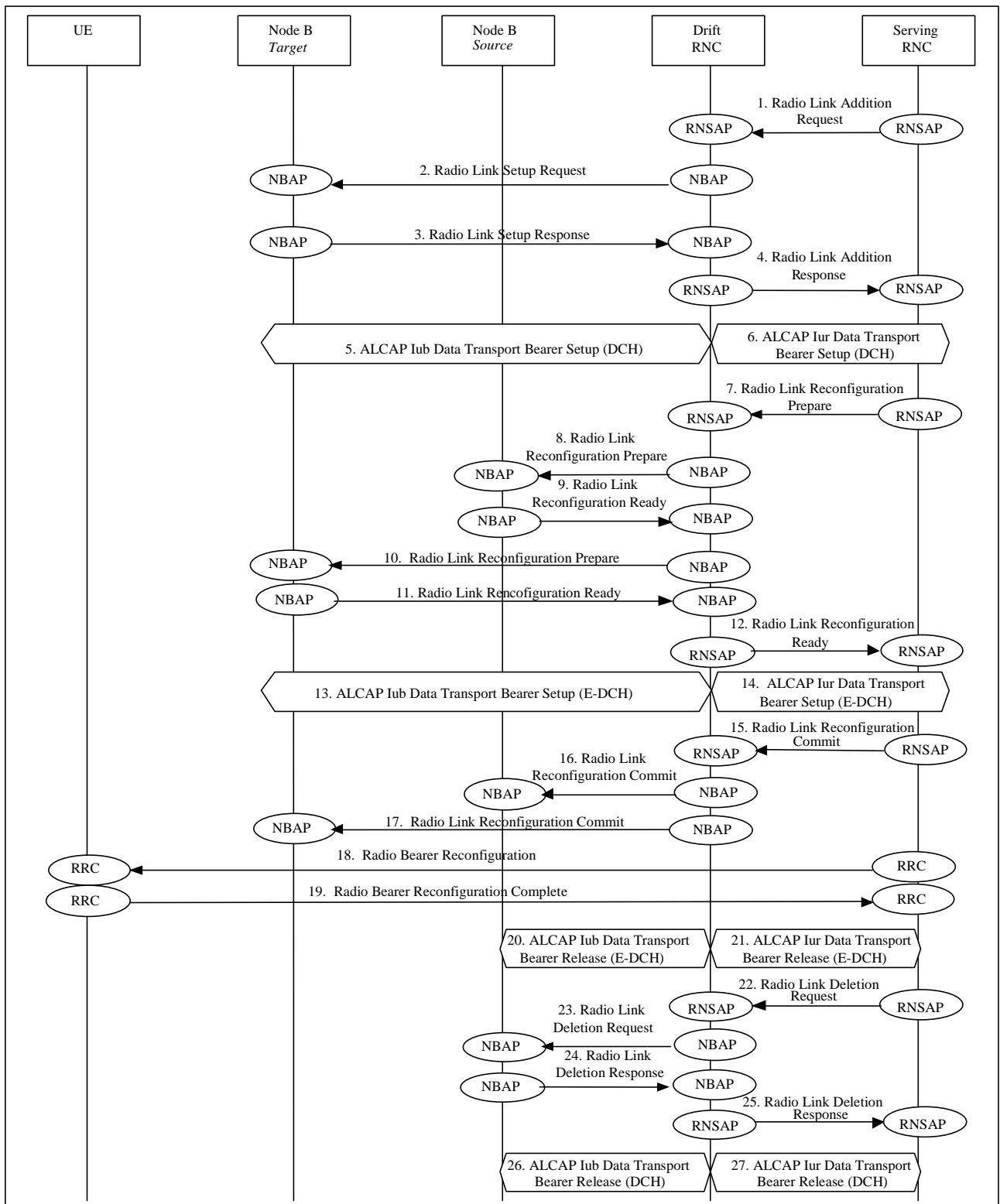
Figure x5: Inter-Node B (intra DRNC) synchronised serving E-DCH cell change at hard handover

1. The SRNC decides that there is a need for a hard handover combined with a serving E-DCH cell change. It prepares a RNSAP message **Radio Link Addition Request**, which is transmitted to the DRNC.
    Parameters: target cell ID.

2. The DRNC allocates radio resources for the new radio link and requests the target Node B to establish a new radio link by transmitting a NBAP message **Radio Link Setup Request.**
    Parameters: No E-DCH specific parameters.

3. The target Node B allocates resources, starts physical layer reception on the DPCH on the new radio link and responds with the NBAP message **Radio Link Setup Response**.
    Parameters: No E-DCH specific parameters.

4. The DRNC responds to the SRNC with the RNSAP message **Radio Link Addition Response** and the DCH transport bearer is established.

5. The DRNC initiates set-up of a new Iub Data Transport Bearer using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur Data Transport Bearer to the DCH.

6. The SRNC initiates set-up of a new Iur Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur Data Transport Bearer to the DCH.

7. As the next step, the SRNC prepares the RNSAP message **Radio Link Reconfiguration Prepare** which is transmitted to the DRNC.
    Parameters: SRNC selected E-DCH RL ID.

8. The DRNC requests the source E-DCH Node B to perform a synchronised radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**, removing its E-DCH resources for the source E-DCH radio link.
    Parameters: E-DCH MAC-d Flows to Delete.

9. The source E-DCH Node B returns the NBAP message **Radio Link Reconfiguration Ready**.
    Parameters: no E-DCH specific parameters.

10. The DRNC requests the target E-DCH Node B to perform a synchronized radio link reconfiguration using the NBAP message **Radio Link Reconfiguration Prepare**, adding E-DCH resources for the target E-DCH radio link.
    Parameters: E-DCH RL ID, DRNC selected E-RNTI.

11. The target E-DCH Node B returns the NBAP message **Radio Link Reconfiguration Ready**.
    Parameters: E-DCH Information Response.

12. The DRNC returns the RNSAP message **Radio Link Reconfiguration Ready** to the SRNC.
    Parameters: E-DCH information response and the DRNC selected E-DCH-RNTI.

13. The DRNC initiates set-up of a new Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iub Data Transport Bearer to the E-DCH.

14. The SRNC may initiate set-up of a new Iur Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur Data Transport Bearer to the E-DCH.

15. The E-DCH transport bearer to the target E-DCH Node B is established. The SRNC proceeds by transmitting the RNSAP message **Radio Link Reconfiguration Commit** to the DRNC including an SRNC selected activation time in the form of a CFN.
    Parameters: SRNC selected activation time in the form of a CFN.

16. The DRNC transmits a NBAP message **Radio Link Reconfiguration Commit** to the source E-DCH Node B including the activation time. At the indicated activation time the source E-DCH Node B stops and the target E-DCH Node B starts transmitting on the E-DCH to the UE.
    Parameters: SRNC selected activation time in the form of a CFN.

17. The DRNC transmits a NBAP message **Radio Link Reconfiguration Commit** to the target E-DCH Node B including the activation time. At the indicated activation time the source E-DCH Node B stops and the target E-DCH Node B starts transmitting on the E-DCH to the UE.
    Parameters: SRNC selected activation time in the form of a CFN

18. The SRNC also transmits a RRC message **Radio Bearer Reconfiguration** to the UE.
    Parameters: activation time, E-DCH Info and E-RNTI.

19. At the indicated activation time the UE stops receiving E-DCH in the source E-DCH cell and starts E-DCH reception in the target E-DCH cell. The UE returns a RRC message **Radio Bearer Reconfiguration Complete** to the SRNC

20. The DRNC initiates release of the old Iub Data Transport bearer to the source E-DCH Node B using ALCAP protocol.

21. If a new Iur Data Transport Bearer was setup in 14, then the SRNC initiates release of the old Iur Data Transport bearer using ALCAP protocol.

22. The SRNC then finalises the procedure by transmitting the RNSAP message **Radio Link Deletion Request** to the DRNC.
    In the message the source cell to be deleted is identified.
    Parameters: RL ID.

23. The DRNC transmits the NBAP message **Radio Link Deletion Request** to the source Node B.
    Parameters: RL ID.

24. The source Node B releases resources for the source radio link and returns the NBAP message **Radio Link Deletion Response** to the DRNC.

25. The DRNC returns the RNSAP message **Radio Link Deletion Response** to the SRNC.

26. The DRNC initiates release of the old Iub DCH Transport bearer to the source E-DCH Node B using ALCAP protocol.

27. The SRNC initiates release of the old Iur DCH Transport bearer using ALCAP protocol.