TSG-RAN Meeting #11
Palm Springs, CA, U.S.A., 13-16 March 2001

RP-010163

Title: **Agreed CRs to WI "ETRAN-MigrMod"**

Source: **TSG-RAN WG3**

Agenda item: **5.3.3**

Tdoc_Num	Specification	CR_Num	Revision_Num	CR_Subject	CR_Category	WG_Status	Cur_Ver_Num	New_Ver_Num	Workitem
R3-010673	25.931	006	1	Introduction of the Modification Procedure of Q.2630.2	B	agreed	3.2.0	4.0.0	ETRAN-MigrMod
R3-010672	25.434	007	1	Introduction of Modification procedure of Q.2630.2	B	agreed	3.4.0	4.0.0	ETRAN-MigrMod
R3-010668	25.424	009	1	Introduction of Modification procedure of Q.2630.2	B	agreed	3.5.0	4.0.0	ETRAN-MigrMod
R3-010666	25.420	010	1	Introduction of Q.2630.2	B	agreed	3.2.0	3.3.0	ETRAN-MigrMod
R3-010669	25.426	012	1	Introduction of Modification procedure of Q.2630.2	B	agreed	3.5.0	4.0.0	ETRAN-MigrMod
R3-010663	25.410	015	1	Introduction of Q.2630.2	B	agreed	3.3.0	4.0.0	ETRAN-MigrMod
R3-010670	25.430	016	1	Introduction of Q.2630.2	B	agreed	3.4.0	4.0.0	ETRAN-MigrMod
R3-010665	25.414	025	1	Introduction of Modification procedure of Q.2630.2	B	agreed	3.6.0	4.0.0	ETRAN-MigrMod
R3-010894	25.413	250	2	Introduction of transport bearer modification procedure	B	agreed	3.4.0	4.0.0	ETRAN-MigrMod

CR-Form-v3

CHANGE REQUEST

| ⌘ | **25.410** CR **15** | ⌘ | rev | **1** | ⌘ | Current version: | **3.3.0** | ⌘ |

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network **X**

Title: ⌘	Introduction of Q.2630.2	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category: ⌘	**B**	***Release:*** ⌘ REL-4

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R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘	1. In 4.5.2.1, Q.2630.1 is replaced by Q.2630.2. 2. In 6.2, Q.2630.1 is replaced by Q.2630.2.
Consequences if not approved: ⌘	

Clauses affected: ⌘	4.5.2.1 and 6.2
Other specs affected: ⌘	☐ Other core specifications ⌘
	☐ Test specifications
	☐ O&M Specifications
Other comments: ⌘	

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4.5.2.1 Use of AAL2

AAL2 is used as the user data bearer towards the CS domain.

Q.2630.1 2 is used as the protocol for dynamically setup AAL-2 connections over Iu towards the CS domain. Q.2630.2 adds new optional capabilities to Q.2630.1.

6.2 Iu-CS

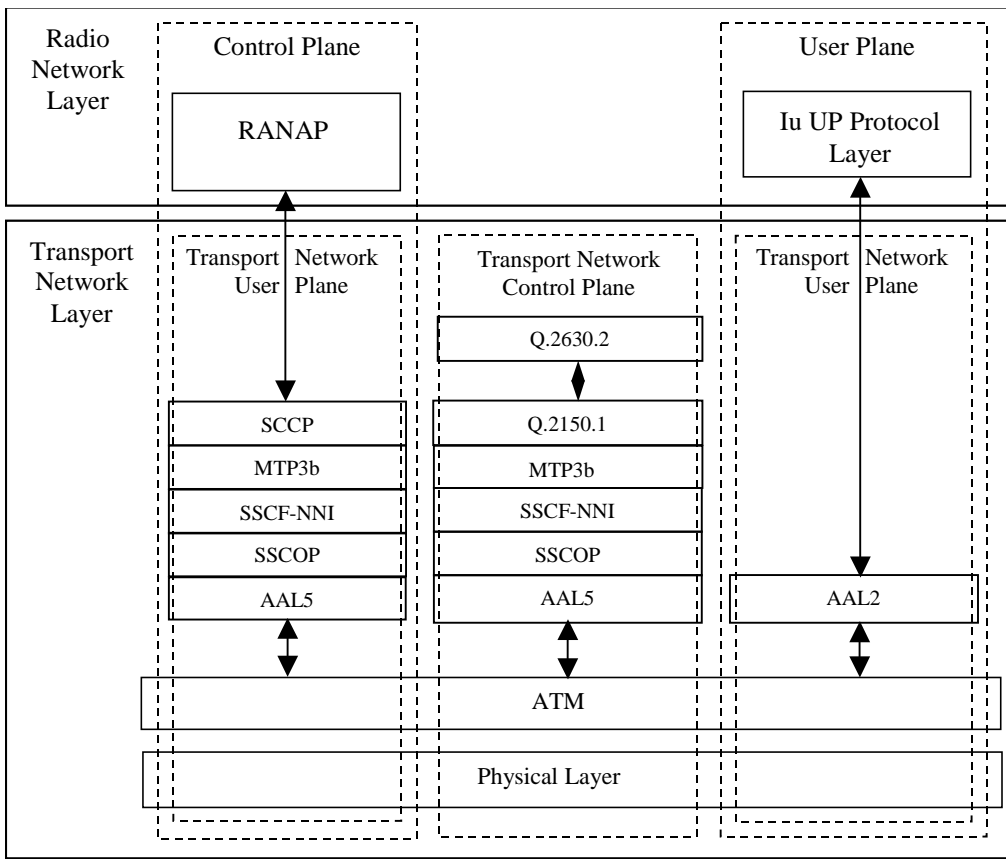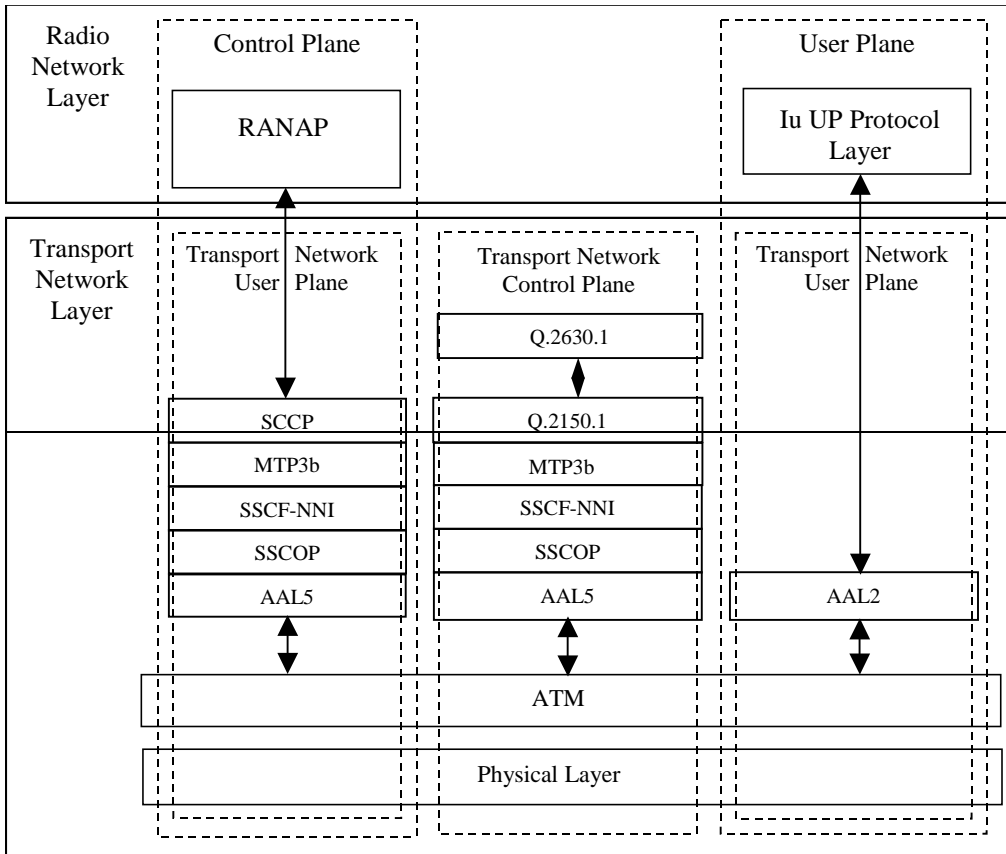Figure 6.1 shows the protocol structure for I$_u$-CS, following the structure described in [1].

Radio Network Layer	Control Plane		User Plane
	RANAP		Iu UP Protocol Layer

Transport Network Layer	Transport User | Network Plane	Transport Network Control Plane	Transport User | Network Plane
		Q.2630.1	
	SCCP	Q.2150.1	
	MTP3b	MTP3b	
	SSCF-NNI	SSCF-NNI	
	SSCOP	SSCOP	
	AAL5	AAL5	AAL2
		ATM	
		Physical Layer	

Radio Network Layer	Control Plane		User Plane
	RANAP		Iu UP Protocol Layer

Transport Network Layer	Transport User | Network Plane	Transport Network Control Plane	Transport User | Network Plane
		Q.2630.2	
	SCCP	Q.2150.1	
	MTP3b	MTP3b	
	SSCF-NNI	SSCF-NNI	
	SSCOP	SSCOP	
	AAL5	AAL5	AAL2
		ATM	
		Physical Layer	

Figure 6.1: I$_u$ –Interface Protocol Structure towards CS Domain

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CHANGE REQUEST

⌘ **25.413 CR 250** ⌘ rev **2** ⌘ Current version: **3.4.0.** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network **X**

Title: ⌘	Introduction of transport bearer modification procedure	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	**Date:** ⌘ February 2001
Category: ⌘ **B**		**Release:** ⌘ REL-4

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R97   (Release 1997)
R98   (Release 1998)
R99   (Release 1999)
REL-4   (Release 4)
REL-5   (Release 5)

Reason for change: ⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘	1. In 8.2.2, description for the case of transport bearer modification procedure is added.
Consequences if not approved: ⌘	Backward compatibility: This CR is backward compatible with the previous version. See TR 25.954 for details.

Clauses affected: ⌘	8.2.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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Table 3: Class 3

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

The following applies concerning interference between Elementary Procedures:

- The Reset procedure takes precedence over all other EPs.

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

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

8.2 RAB Assignment

8.2.1 General

The purpose of the RAB Assignment procedure is to establish new RABs and/or to enable modifications and/or releases of already established RABs for a given UE. The procedure uses connection oriented signalling.

8.2.2 Successful Operation

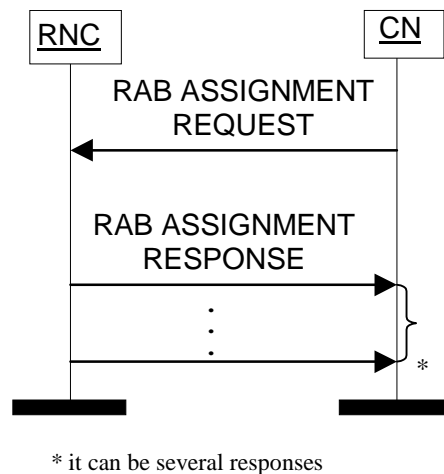* it can be several responses

Figure 1: RAB Assignment procedure. Successful operation.

The CN shall initiate the procedure by sending a RAB ASSIGNMENT REQUEST message. When sending the RAB ASSIGNMENT REQUEST message, the CN shall start the T $_{RABAssgt}$ timer.

The CN may request UTRAN to:

- establish,

- modify,

- release

one or several RABs with one RAB ASSIGNMENT REQUEST message.

The message shall contain the information required by the UTRAN to build the new RAB configuration, such as:

- list of RABs to establish or modify with their bearer characteristics;

-    list of RABs to release.

For each RAB requested to establish, the message shall contain:

-    RAB ID.

-    RAB parameters (including e.g. Allocation/Retention Priority).

-    User Plane Mode Information (i e User Plane Mode and UP Mode Versions).

-    Transport Layer Address.

-    Iu Transport Association.

-    PDP Type Information (only for PS)

-    Data Volume Reporting Indication (only for PS).

-    DL GTP-PDU sequence number (only when GTP-PDU sequence number is available in cases of handover from GPRS to UMTS or when establishing a RAB for an existing PDP context).

-    UL GTP-PDU sequence number (only when GTP-PDU sequence number is available in cases of handover from GPRS to UMTS or when establishing a RAB for an existing PDP context).

-    DL N-PDU sequence number (only when N-PDU sequence number is available in case of handover from GPRS to UMTS).

-    UL N-PDU sequence number (only when N-PDU sequence number is available in case of handover from GPRS to UMTS).

For each RAB requested to modify, the message may contain:

-     RAB ID (mandatory).

-    NAS Synchronisation Indicator.

-    RAB parameters.

-    Transport Layer Address.

-    Iu Transport Association.

For each RAB request to release, the message shall contain:

-    RAB ID.

-    Cause.

Upon reception of the RAB ASSIGNMENT REQUEST message UTRAN shall execute the requested RAB configuration.

The RAB ID shall identify uniquely the RAB for the specific CN domain for the particular UE, which makes the RAB ID unique over the Iu connection on which the RAB ASSIGNMENT REQUEST message is received. When a RAB ID already in use over that particular Iu instance is used, the procedure is considered as modification of that RAB.

The RNC shall pass the contents of *RAB ID* IE to the radio interface protocol for each RAB requested to establish or modify.

The RNC shall establish or modify the resources according to the values of the *Allocation/Retention Priority* IE (priority level, pre-emption indicators, queuing) and the resource situation as follows:

-    The RNC shall consider the priority level of the requested RAB, when deciding on the resource allocation.

-    If the requested RAB is allowed for queuing and the resource situation so requires, RNC may place the RAB in the establishment queue.

-    The priority levels and the pre-emption indicators may (singularly or in combination) be used to determine whether the RAB assignment has to be performed unconditionally and immediately. If the requested RAB is

marked as "may trigger pre-emption" and the resource situation so requires, RNC may trigger the pre-emption procedure which may then cause the forced release of a lower priority RAB which is marked as "pre-emptable". Whilst the process and the extent of the pre-emption procedure is operator dependent, the pre-emption indicators, if given in the RAB ASSIGNMENT REQUEST message, shall be treated as follows:

1. The values of the last received *Pre-emption Vulnerability* IE and *Priority Level* IE shall prevail.

2. If the *Pre-emption Capability* IE is set to "may trigger pre-emption", then this allocation request may trigger the pre-emption procedure.

3. If the *Pre-emption Capability* IE is set to "shall not trigger pre-emption", then this allocation request shall not trigger the pre-emption procedure.

4. If the *Pre-emption Vulnerability* IE is set to "pre-emptable", then this connection shall be included in the pre-emption process.

5. If the *Pre-emption Vulnerability* IE is set to "not pre-emptable", then this connection shall not be included in the pre-emption process.

6. If the *Priority Level* IE is set to "no priority used" the given values for the *Pre-emption Capability* IE and *Pre-emption Vulnerability* IE shall not be considered. Instead the values "shall not trigger pre-emption" and "not pre-emptable" shall prevail.

- If the *Allocation/Retention Priority* IE is not given in the RAB ASSIGNMENT REQUEST message, the allocation request shall not trigger the pre-emption process and the connection may be pre-empted and considered to have the value "lowest" as priority level. Moreover, queuing shall not be allowed.

- The UTRAN pre-emption process shall keep the following rules:

  1. UTRAN shall only pre-empt RABs with lower priority, in ascending order of priority.

  2. The pre-emption may be done for RABs belonging to the same UE or to other UEs.

If the *NAS Synchronisation Indicator* IE is contained in the RAB ASSIGNMENT REQUEST message, the RNC shall pass it to the radio interface protocol for the transfer to the UE.

If the RAB ASSIGNMENT REQUEST message includes the *PDP Type Information* IE, the UTRAN may use this to configure any compression algorithms.

If the *Service Handover* IE is included, this tells if the RAB

- should be handed over to GSM, i.e. from NAS point of view, the RAB should be handed over to GSM as soon as possible although the final decision whether to perform a handover to GSM is still made in UTRAN.

- should not be handed over to GSM, i.e. from NAS point of view, the RAB should remain in UMTS as long as possible although the final decision whether to perform a handover to GSM is still made in UTRAN.

- shall not be handed over to GSM, i.e. the RAB shall never be handed over to GSM. This means that UTRAN shall not initiate handover to GSM for the UE unless the RABs with this indication have first been released with the normal release procedures.

The value of the *Service Handover* IE is valid throughout the lifetime of the RAB or until changed by a RAB modification.

The *Service Handover* IE shall only influence decisions made regarding UTRAN initiated handovers.

If the *Service Handover* IE is not included, the decision whether to perform a handover to GSM is only an internal UTRAN matter.

UTRAN shall report to CN, in the first RAB ASSIGNMENT RESPONSE message, the result for all the requested RABs, such as:

- List of RABs successfully established or modified.

- List of RABs released.

- List of RABs queued.

- List of RABs failed to establish or modify.

- List of RABs failed to release.

UTRAN shall report the outcome of a specific RAB to establish or modify only after the transport network control plane signalling, which is needed for RAB establishment or modification, has been executed. ~~The~~ At a RAB establishment, the transport network control plane signalling shall use the *Transport Layer Address* IE and *Iu Transport Association* IE. At a RAB modification, it is up to the RNC to decide if any transport network control plane signalling shall be performed ~~for the possibly included *Transport Layer Address* IE and *Iu Transport Association* IE~~ or if the already existing transport bearer shall be used. If the RNC decides to establish a new transport bearer, the transport network control plane signalling shall use the possibly included *Transport Layer Address* IE and *Iu Transport Association* IE. T~~t~~hen the switch over to this new transport bearer shall be done immediately after transport bearer establishment and initialisation of the user plane mode. If the RNC decides to modify the already existing transport bearer, the transport network control plane signalling shall not use the possibly included *Transport Layer Address* IE and *Iu Transport Association* IE. That is, re-binding with *Iu Transport Association* IE shall not be done.

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CHANGE REQUEST

| ⌘ | **25.414** CR **25** | ⌘ | rev | **1** | ⌘ | Current version: | **3.6.0** | ⌘ |

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network **X**

Title: ⌘	Introduction of Modification procedure of Q.2630.2	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category: ⌘	**B**	***Release:*** ⌘ REL-4

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R99 (Release 1999)
REL-4 (Release 4)
REL-5 (Release 5)

Reason for change: ⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘	1. In 2, Q.2630.2 is added. 2. In 3.2, abbreviation LC is added. 3. In 5.2.1, Q.2630.1 is replaced by Q.2630.2. 4. In 5.2.2.1, Q.2630.1 is replaced by Q.2630.2, AAL2 Link Characteristics (ALC) is changed to Link Characteristics (LC), and Modification Request message is added as a message which shall use LC.
Consequences if not approved: ⌘	

Clauses affected: ⌘	2, 3.2, 5.2.1, and 5.2.2.1
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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1 Scope

The present document specifies the standards for user data transport protocols and related signalling protocols to establish user plane transport bearers over the UTRAN Iu interface.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   ITU-T Recommendation I.361 (2/1999): "B-ISDN ATM Layer Specification".

[2]   ITU-T Recommendation I.363.2 (9/1997): "B-ISDN ATM Adaptation Layer Type 2 Specification".

[3]   ITU-T Recommendation I.363.5 (8/1996): "B-ISDN ATM Adaptation Layer Type 5 Specification".

[4]   ITU-T Recommendation I.366.1 (6/1998): "Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL Type 2".

[5]   ITU-T Recommendation E.164 (5/1997): "Numbering Plan for the ISDN Era".

[6]   ITU-T Recommendation Q.2110 (7/1994): "B-ISDN ATM Adaptation Layer-Service Specific Connection Oriented Protocol (SSCOP)".

[7]   ITU-T Recommendation Q.2140 (2/1995): "B-ISDN ATM Adaptation Layer-Service Specific Coordination Function for Support of Signalling at the Network Node Interface (SSCF-NNI)".

[8]   ITU-T Recommendation Q.2150.1 (1999): "B-ISDN ATM Adaptation Layer-Signalling Transport Converter for the MTP3b".

[9]   ITU-T Recommendation Q.2210 (7/1996): "Message Transfer Part level 3 functions and messages using the services of ITU-T Recommendation Q.2140".

[10]   ITU-T Recommendation Q.2630.1 (1999): "AAL type 2 Signalling Protocol (Capability Set 1)".

[11]   ITU-T Recommendation X.213 (8/1997): "Information Technology-Open Systems Interconnection-Network Service Definitions".

[12]   IETF RFC 768 (8/1980): "User Datagram Protocol".

[13]   IETF RFC 791 (9/1981): "Internet Protocol".

[14]   IETF RFC 2684 (9/1999): "Multiprotocol Encapsulation over ATM Adaptation Layer 5".

[15]   IETF RFC 2225 (4/1998): "Classical IP and ARP over ATM".

[16]   IETF RFC 2460 (12/1998): "Internet Protocol, Version 6 (IPv6) Specification".

[17]   3GPP TS 29.060: "3GPP; TSG CN; GPRS; GPRS Tunnelling Protocol (GTP)".

[18]   IETF RFC 793 (9/1981): "TCP, Transmission Control Protocol".

[19]   IETF RFC 2475 (12/1998): "An Architecture for Differentiated Services".

[20]   ITU-T Implementor's guide (12/99) for recommendation Q.2210 (07/96).

[xx]   ITU-T Recommendation Q.2630.2 (12/2000): "AAL Type 2 signalling protocol (Capability Set 2)".

3.2 Abbreviations

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

AAL	ATM Adaptation Layer
AESA	ATM End System Address
ALCAP	Access Link Control Application Part
ARP	Address Resolution Protocol
ATM	Asynchronous Transfer Mode
CN	Core Network
GTP	GPRS Tunnelling Protocol
IP	Internet Protocol
LC	Link Characteristics
LIS	Logical IP Subnet
MTP3b	Message Transfer Part level 3 for Q.2140
NSAP	Network Service Access Point
PDU	Protocol Data Unit
RFC	Request For Comment
RNC	Radio Network Controller
SA	Service Area
SABP	Service Area Broadcast Protocol
SABS	Service Area Broadcast Service
SAR	Segmentation and Reassembly
SCCF-NNI	Service Specific Coordination Function-Network Node Interface
SSCOP	Service Specific Connection Oriented Protocol
SSCS	Service Specific Convergence Sublayer
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
VC	Virtual Circuit

5.2.1   General

Figure 2 shows the protocol stack for the transport network control plane on the Iu interface towards the circuit switched domain.
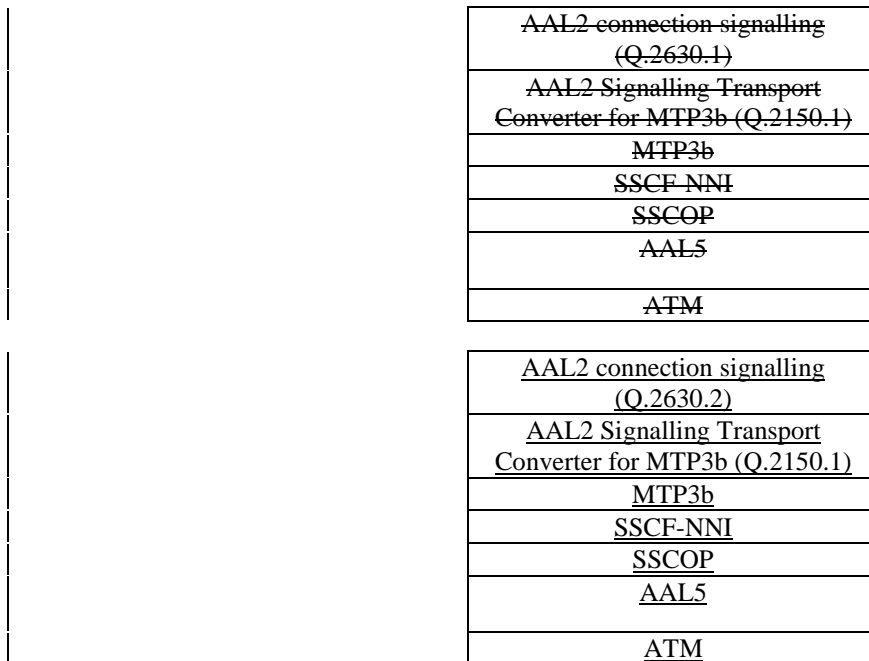
AAL2 connection signalling (Q.2630.1)
AAL2 Signalling Transport Converter for MTP3b (Q.2150.1)
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SSCF-NNI
SSCOP
AAL5
ATM

AAL2 connection signalling (Q.2630.2)
AAL2 Signalling Transport Converter for MTP3b (Q.2150.1)
MTP3b
SSCF-NNI
SSCOP
AAL5
ATM

Figure 2

5.2.2.1 ~~AAL2 Signalling Protocol (Q.2630.1~~

5.2.2.1 AAL2 Signalling Protocol (Q.2630.2)

Q.2630.~~1~~ 2 [~~10~~xx] shall be used for establishing AAL2 connections towards the circuit switched domain. Q.2630.2 [xx] adds new optional capabilities to Q.2630.1 [10].

The AAL2 transport layer uses the embedded E.164 [5] or AESA variants of the NSAP addressing formats [11]. Native E.164 addressing shall not be used.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH request primitive of [~~10~~xx].

If there is an AAL2 switching function in the transport network layer of the interface, the ~~AAL2~~ Link Characteristics parameter (~~A~~LC) in the Establish Request message and in the Modification Request message of AAL2 signalling protocol shall be used.

CR-Form-v3

CHANGE REQUEST

⌘　　　**25.420** CR **10**　　⌘ rev **1** ⌘　Current version: **3.2.0** ⌘

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Consequences if not approved: ⌘	

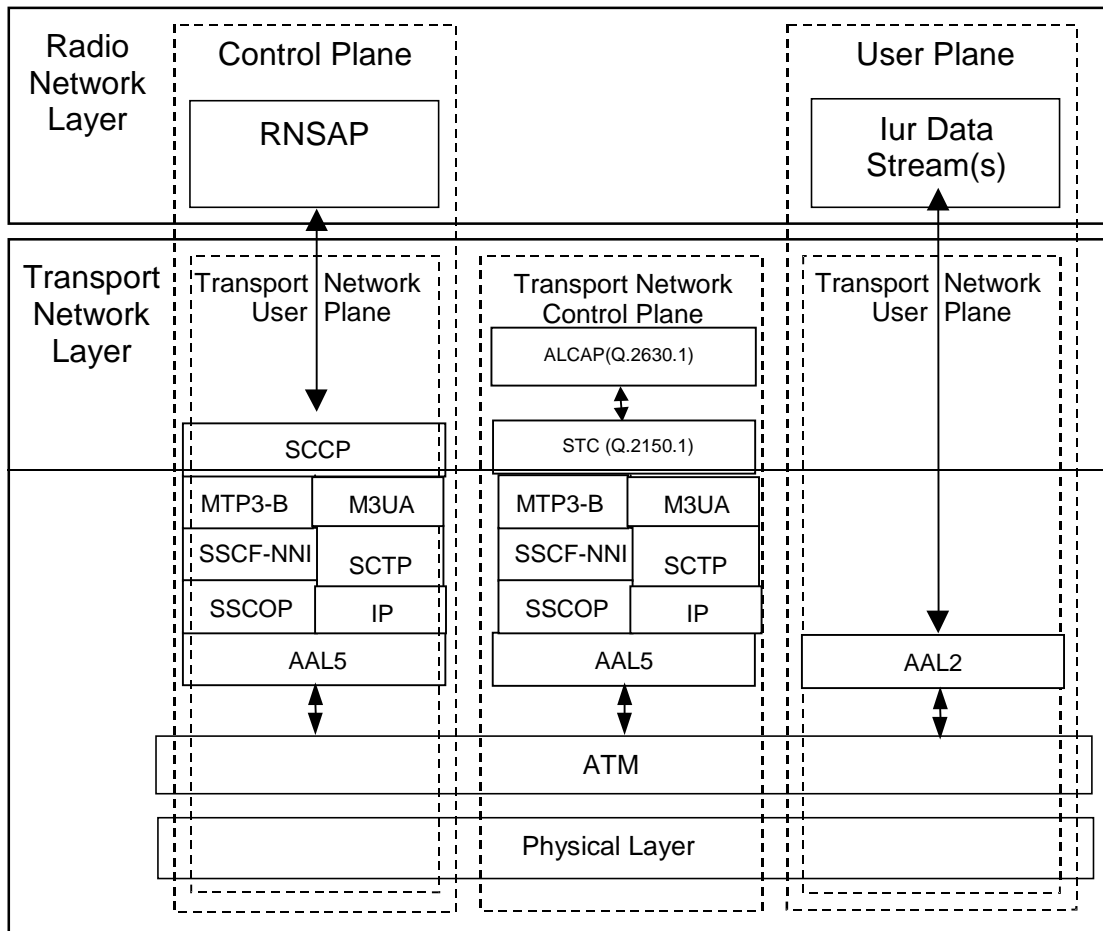|		
Clauses affected: ⌘	8	
Other specs affected: ⌘	☐ Other core specifications ⌘	
	☐ Test specifications	
	☐ O&M Specifications	
Other comments: ⌘		

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

8   I$_{ur}$ Interface Protocol Structure

The Iur interface protocol architecture consists of two functional layers:

- Radio Network Layer, defines the procedures related to the interaction of two RNCs within a PLMN. The radio network layer consists of a Radio Network Control Plane and a Radio Network User Plane.

- Transport layer, defines procedures for establishing physical connections between two RNCs within a PLMN.
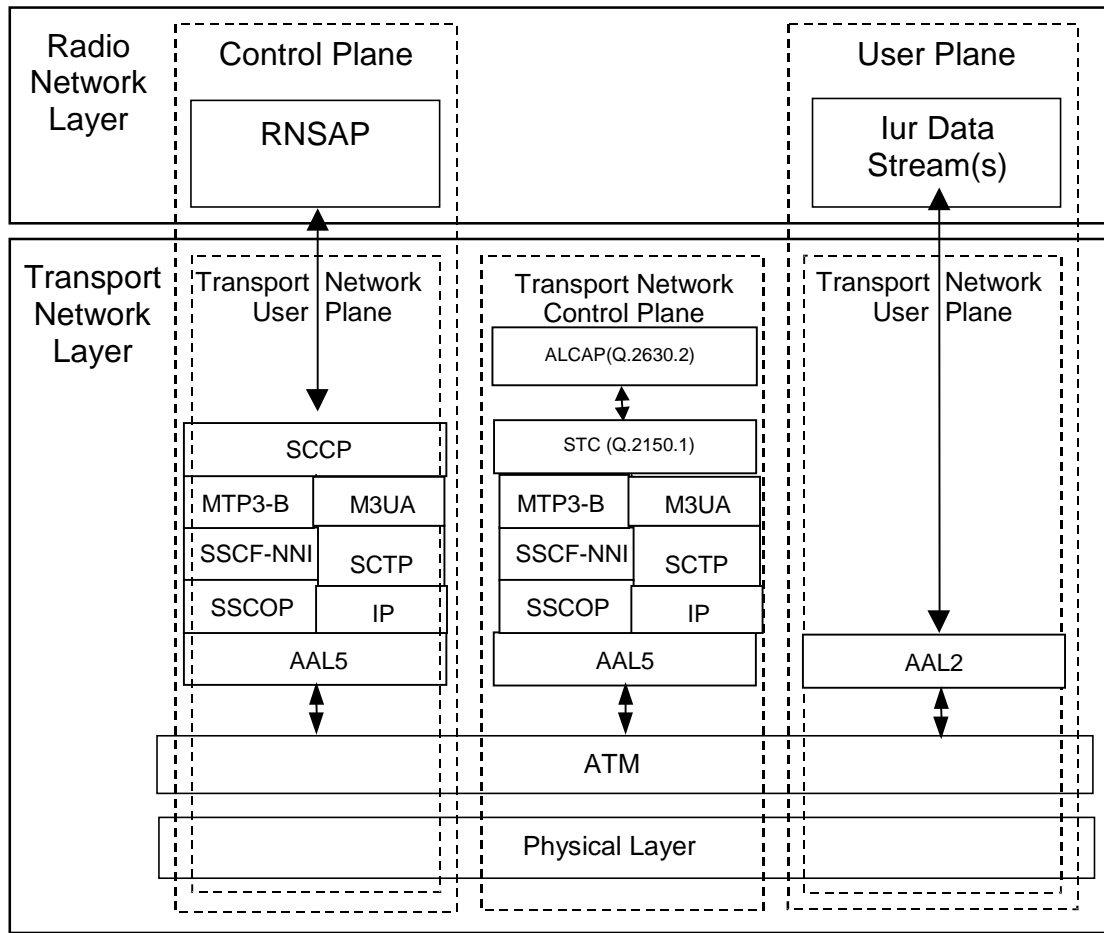
Radio Network Layer	Control Plane		User Plane
	RNSAP		Iur Data Stream(s)

Transport Network Layer	Transport User Network Plane	Transport Network Control Plane	Transport User Network Plane
		ALCAP(Q.2630.1)	
	SCCP	STC (Q.2150.1)	
	MTP3-B / M3UA	MTP3-B / M3UA	
	SSCF-NNI / SCTP	SSCF-NNI / SCTP	
	SSCOP / IP	SSCOP / IP	
	AAL5	AAL5	AAL2
	ATM		
	Physical Layer		

Radio Network Layer	Control Plane		User Plane
	RNSAP		Iur Data Stream(s)

Transport Network Layer

Transport User	Network Plane
SCCP	
MTP3-B	M3UA
SSCF-NNI	SCTP
SSCOP	IP
AAL5	

Transport Network Control Plane

ALCAP(Q.2630.2)

STC (Q.2150.1)

MTP3-B	M3UA
SSCF-NNI	SCTP
SSCOP	IP
AAL5	

Transport User	Network Plane
AAL2	

ATM

Physical Layer

Figure 4: Iur Interface Protocol Structure

CR-Form-v3

CHANGE REQUEST

| ⌘ | **25.424 CR 9** | ⌘ | rev | **1** | ⌘ | Current version: | **3.5.0** | ⌘ |

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title: ⌘	Introduction of Modification procedure of Q.2630.2	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category: ⌘ **B**		***Release:*** ⌘ REL-4

Use one of the following categories:	*Use one of the following releases:*
F *(essential correction)*	*2* *(GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96* *(Release 1996)*
B *(Addition of feature),*	*R97* *(Release 1997)*
C *(Functional modification of feature)*	*R98* *(Release 1998)*
D *(Editorial modification)*	*R99* *(Release 1999)*
Detailed explanations of the above categories can	*REL-4* *(Release 4)*
be found in 3GPP TR 21.900.	*REL-5* *(Release 5)*

Reason for change: ⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘	1. In 2, Q.2630.1 is replaced by Q.2630.2. 2. In 3.2, abbreviation LC is added. 3. In 6.2, Q.2630.1 is replaced by Q.2630.2, AAL2 Link Characteristics (ALC) is changed to Link Characteristics (LC), and Modification Request message is added as a message which shall use LC.
Consequences if not approved: ⌘	

Clauses affected: ⌘	2, 3.2, and 6.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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

1 Scope

The present document shall provide a specification of the UTRAN RNC-RNC (Iur) interface Data Transport and Transport Signalling for Common Transport Channel data streams.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   ITU-T Recommendation I.361 (11/95): "B-ISDN ATM Layer Specification".

[2]   ITU-T Recommendation I.363.2 (9/97): "B-ISDN ATM Adaptation Layer type 2".

[3]   ITU-T Recommendation I.366.1 (6/98): "Segmentation and Re-assembly Service Specific Convergence Sublayer for the AAL type 2".

[4]   New ITU-T Recommendation Q.2630.1 (1999): "AAL Type 2 signalling protocol (Capability Set 1)".

[5]   ITU-T Recommendation E.191 (10/96): "B-ISDN numbering and addressing".

[6]   3GPP TS 25.426: "UTRAN I$_{ur}$ and I$_{ub}$ Interface Data Transport & Transport Signalling for DCH Data Streams".

[7]   3GPP TS 25.434: "UTRAN I$_{ub}$ Interface Data Transport & Transport Signalling for Common Transport Channel Data Streams".

[xx]   ITU-T Recommendation Q.2630.2 (12/2000): "AAL Type 2 signalling protocol (Capability Set 2)".

3 Definitions and abbreviations

3.1 Definitions

Common Transport Channels are defined as transport channels that are shared by several users i.e. RACH, CPCH [FDD], FACH and DSCH.

3.2 Abbreviations

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

AAL2	ATM Adaptation Layer type 2
AESA	ATM End System Address
ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
CPCH	Common Packet Channel
CPS	Common Part Sublayer
DSCH	Downlink Shared Channel

FACH	Forward Access Channel
LC	Link Characteristics
MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
RACH	Random Access Channel
SAAL	Signalling ATM Adaptation Layer
SSCOP	Service Specific Connection Oriented Protocol
SSCF	Service Specific Co-ordination Function
SSCS	Service Specific Convergence Sublayer
SSSAR	Service Specific Segmentation and Re-assembly sublayer
STC	Signalling Transport Converter
UNI	User-Network Interface
USCH	Uplink Shared Channel

6.2   Transport Signalling

AAL2 signalling protocol Capability Set 12, ITU-T Recommendation Q.2630.1 2 [4xx], is the signalling protocol to control the AAL2 connections on Iur interfaces. Q.2630.2 [xx] adds new optional capabilities to Q.2630.1 [4].

AAL2 transport layer addressing is based on embedded E.164 or AESA variants of the NSAP addressing format [5]. Native E.164 addressing shall not be used.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [4xx].

If there is an AAL2 switching function in the transport network layer of the interface, the AAL2 Link Characteristics parameter (ALC) in the Establish Request message and in the Modification Request message of AAL2 signalling protocol shall be used.

CHANGE REQUEST

⌘ **25.426 CR 12** ⌘ rev **1** ⌘ Current version: **3.5.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title: ⌘	Introduction of Modification procedure of Q.2630.2	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category: ⌘	**B**	***Release:*** ⌘ REL-4

Use one of the following categories:	*Use one of the following releases:*
F *(essential correction)*	*2 (GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96 (Release 1996)*
B *(Addition of feature),*	*R97 (Release 1997)*
C *(Functional modification of feature)*	*R98 (Release 1998)*
D *(Editorial modification)*	*R99 (Release 1999)*
Detailed explanations of the above categories can	*REL-4 (Release 4)*
be found in 3GPP TR 21.900.	*REL-5 (Release 5)*

Reason for change: ⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘	1. In 2, Q.2630.1 is replaced by Q.2630.2. 2. In 3.2, abbreviation LC is added. 3. In 6.1, Q.2630.1 is replaced by Q.2630.2, Modification procedure is introduced, AAL2 Link Characteristics (ALC) is changed to Link Characteristics (LC), and Modification Request message is added as a message which shall use LC. 4. In 7.2, Q.2630.1 is replaced by Q.2630.2. 5. In 8.2, Q.2630.1 is replaced by Q.2630.2.
Consequences if not approved: ⌘	

Clauses affected: ⌘	2, 3.2, 6.1, 7.2, and 8.2
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications
Other comments: ⌘	

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downloaded from the 3GPP server under ftp://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

1   Scope

The present document specifies the transport bearers for the DCH data streams on UTRAN Iur and Iub interfaces. The corresponding Transport Network Control plane is also specified. The physical layer for the transport bearers is outside the scope of the present document.

2   References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   TS UMTS 25.427: "UTRAN Iur and Iub User plane Protocol for DCH Data Streams".

[2]   ITU-T Recommendation I.361 (1995): "B-ISDN ATM Layer Specification".

[3]   ITU-T Recommendation I.363.2 (1997): "B-ISDN ATM Adaptation Layer type 2".

[4]   ITU-T Recommendation I.366.1 (1998): "Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL type 2".

[5]   (Void)

Note: this reference will be to ITU-T Recommendation Q.2630.1 (1999): "AAL Type 2 signalling protocol (Capability Set 1)" when this becomes available.

[6]   ITU-T Recommendation E.191 (1996): "B-ISDN numbering and addressing".

[7]   ITU-T Recommendation X.213 (1995): "Information Technology - Open Systems Interconnection - Network Service Definition".

[8]   ITU-T Recommendation Q.2110 (1994): "B-ISDN ATM Adaptation layer - Service Specific Connection Oriented Protocol (SSCOP".

[9]   ITU-T Recommendation Q.2130 (1994): "B-ISDN Signalling ATM Adaptation Layer - Service Specific Coordination Function for Support of Signalling at the User Network Interface (SSCF at UNI".

[10]   ITU-T Recommendation Q.2150.2: "AAL type 2 signalling transport converter on SSCOP".

[11]   ITU-T Recommendation Q.2210 (1996): Message transfer part level 3 functions and messages using the services of the ITU-T Recommendation Q.2140".

[12]   ITU-T Recommendation Q.2140 (1995): "B-ISDN Signalling ATM Adaptation Layer - Service Specific Coordination Function for Support of Signalling at the Network Node Interface (SSCF at NNI)".

[13]   New ITU-T Recommendation Q.2150.1 (1999): "AAL Type 2 Signalling Transport Converter on MTP-3B".

[14]   IETF RFC 791 (1981): "Internet Protocol".

[15]   IETF RFC 1483 (1993): "Multiprotocol Encapsulation over ATM Adaptation Layer 5".

[16]   IETF RFC 2225 (1998): "Classical IP and ARP over ATM".

[17]   IETF RFC 768 (1980): "User Datagram Protocol".

 [18]   IETF RFC 2960 (10/2000): "Stream Control Transmission Protocol".

[19]   G. Sidebottom et al, "SS7 MTP3 - User Adaptation Layer", draft-ietf-sigtran-m3ua-04.txt (Work In Progress), IETF, September 2000.

[20]   ITU-T Recommendation I.630 (1999): "ATM Protection Switching".

[21]   ITU-T Implementor's guide (12/99) for recommendation Q.2210 (07/96).

[xx]   ITU-T Recommendation Q.2630.2 (12/2000): "AAL Type 2 signalling protocol (Capability Set 2)".

3   Definitions and abbreviations

3.1   Definitions

ALCAP is a generic name for the transport signalling protocol used to setup and tear down transport bearers.

3.2   Abbreviations

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

AAL2	ATM Adaptation Layer type 2
AESA	ATM End System Address
ATM	Asynchronous Transfer Mode
CPCS	Common Part Convergence Sublayer
CPS	Common Part Sublayer
DCH	Dedicated Channel
LC	Link Characteristics
M3UA	SS7 MTP3 User Adaptation Layer
MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
SAAL	Signalling ATM Adaptation Layer
SAR	Segmentation and Reassembly
SCTP	Stream Control Transmission Protocol
SSCF	Service Specific Co-ordination Function
SSCOP	Service Specific Connection Oriented Protocol
SSCS	Service Specific Convergence Sublayer
SSSAR	Service Specific Segmentation and Reassembly sublayer
STC	Signalling Transport Converter
UNI	User-Network Interface

6.1 ALCAP

AAL2 signalling protocol Capability Set 1 2 [5xx] is the signalling protocol to control AAL2 connections on Iub and Iur interfaces. Q.2630.2[xx] adds new optional capabilities to Q.2630.1[5].

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [5xx].

User Plane Transport bearers for Iur interface are established and, released and optionally modified by the ALCAP in the Serving RNC. The binding identity shall already be assigned and tied to a radio application procedure when the first ALCAP message is received over the Iur interface in the Drift RNC.

User Plane Transport bearers for Iub interface are established and, released and optionally modified by the ALCAP in the Controlling RNC.

AAL2 transport layer addressing is based on embedded E.164 or AESA variants of the NSAP addressing format [6, 7]. Native E.164 addressing shall not be used.

If there is an AAL2 switching function in the transport network layer of the interface, the AAL2 Link Characteristics parameter (ALC) in the Establish Request message and in the Modification Request message of AAL2 signalling protocol shall be used.

7.2 Signalling Bearer

SAAL-UNI [8, 9] is used as a signalling bearer for the AAL Type 2 Signalling protocol on Iub interface. Signalling Transport Converter for SSCOP is applied [9]. The following figure shows the signalling bearer protocol stack for the ALCAP on Iub interface.
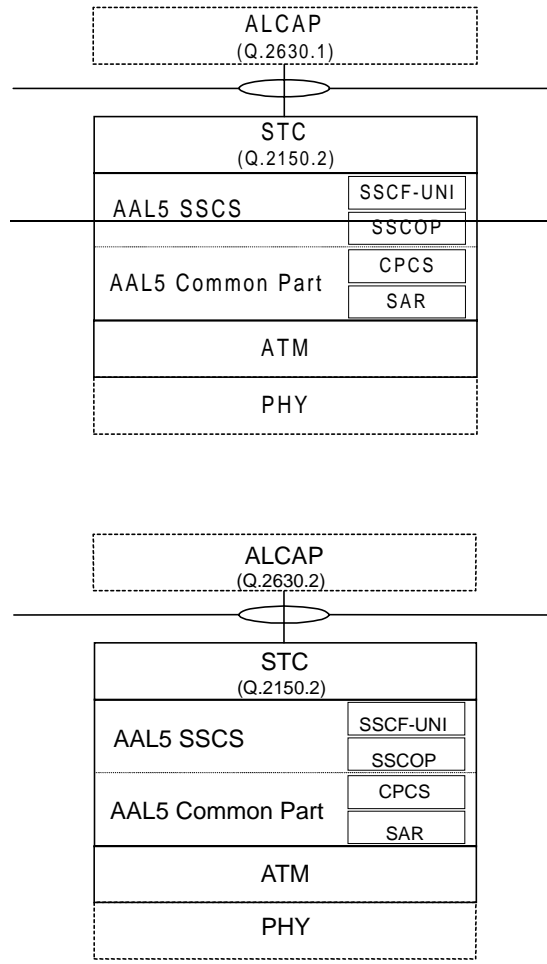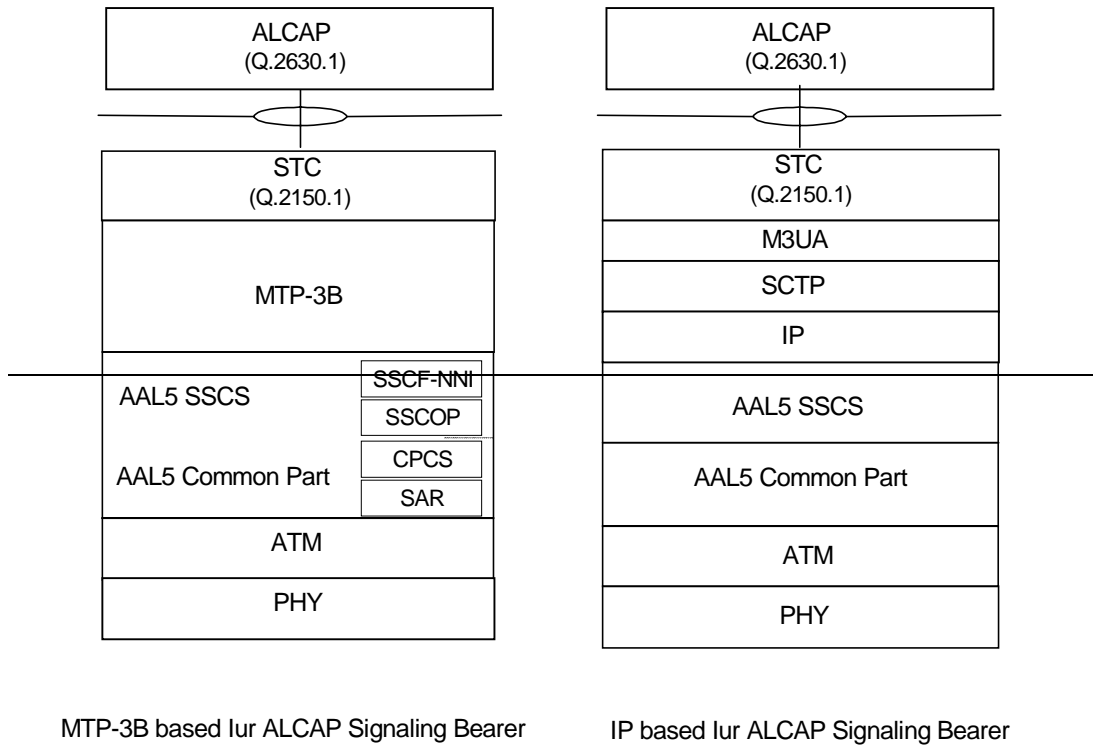

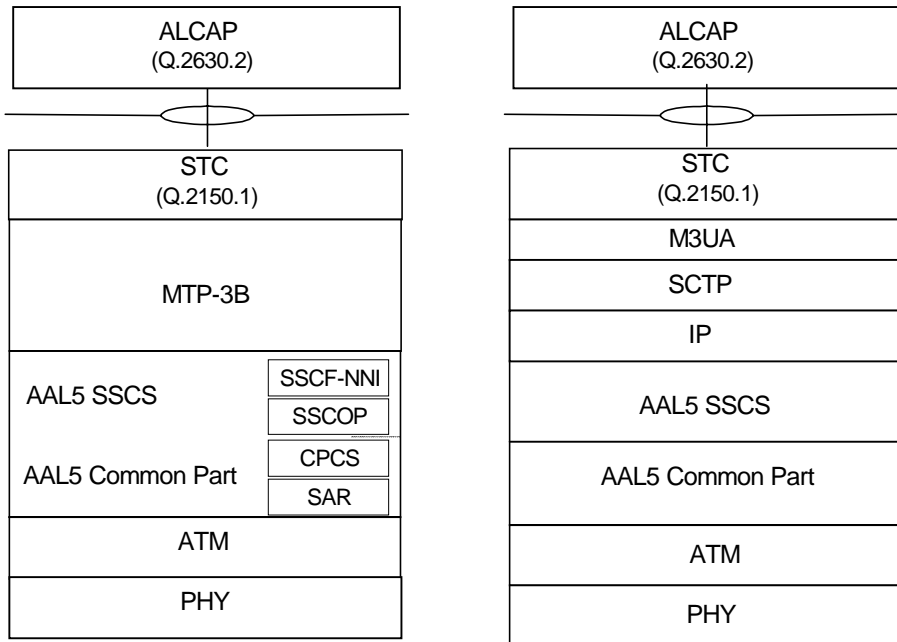**Figure 2: Signalling bearer for ALCAP on Iub interface**

8.2 Signalling Bearer

There are two protocol stacks specified for Iur ALCAP Signalling Bearer - one based on MTP-3B [11, 21] and SAAL-NNI [12, 8] and the other based on SCTP [18]. Signalling Transport Converter for MTP-3B is applied [13]. MTP-3 User Adaptation Layer (M3UA) for SCTP is applied [19]. The following figure shows the signalling bearer protocol stacks for the ALCAP on Iur interface.

```
┌─────────────────────┐          ┌─────────────────────┐
│       ALCAP         │          │       ALCAP         │
│     (Q.2630.1)      │          │     (Q.2630.1)      │
└─────────────────────┘          └─────────────────────┘
         ──◯──                            ──◯──
┌─────────────────────┐          ┌─────────────────────┐
│       STC           │          │       STC           │
│     (Q.2150.1)      │          │     (Q.2150.1)      │
├─────────────────────┤          ├─────────────────────┤
│                     │          │       M3UA          │
│      MTP-3B         │          ├─────────────────────┤
│                     │          │       SCTP          │
│                     │          ├─────────────────────┤
│                     │          │        IP           │
├───────────┬─────────┤          ├─────────────────────┤
│ AAL5 SSCS │SSCF-NNI │          │     AAL5 SSCS        │
│           ├─────────┤          │                     │
│           │ SSCOP   │          ├─────────────────────┤
│ AAL5      ├─────────┤          │  AAL5 Common Part   │
│ Common    │ CPCS    │          │                     │
│ Part      ├─────────┤          │                     │
│           │  SAR    │          │                     │
├───────────┴─────────┤          ├─────────────────────┤
│        ATM          │          │        ATM          │
├─────────────────────┤          ├─────────────────────┤
│        PHY          │          │        PHY          │
└─────────────────────┘          └─────────────────────┘

MTP-3B based Iur ALCAP Signaling Bearer    IP based Iur ALCAP Signaling Bearer


┌─────────────────────┐          ┌─────────────────────┐
│       ALCAP         │          │       ALCAP         │
│     (Q.2630.2)      │          │     (Q.2630.2)      │
└─────────────────────┘          └─────────────────────┘
         ──◯──                            ──◯──
┌─────────────────────┐          ┌─────────────────────┐
│       STC           │          │       STC           │
│     (Q.2150.1)      │          │     (Q.2150.1)      │
├─────────────────────┤          ├─────────────────────┤
│                     │          │       M3UA          │
│      MTP-3B         │          ├─────────────────────┤
│                     │          │       SCTP          │
│                     │          ├─────────────────────┤
│                     │          │        IP           │
├───────────┬─────────┤          ├─────────────────────┤
│ AAL5 SSCS │SSCF-NNI │          │     AAL5 SSCS        │
│           ├─────────┤          │                     │
│           │ SSCOP   │          ├─────────────────────┤
│ AAL5      ├─────────┤          │  AAL5 Common Part   │
│ Common    │ CPCS    │          │                     │
│ Part      ├─────────┤          │                     │
│           │  SAR    │          │                     │
├───────────┴─────────┤          ├─────────────────────┤
│        ATM          │          │        ATM          │
├─────────────────────┤          ├─────────────────────┤
│        PHY          │          │        PHY          │
└─────────────────────┘          └─────────────────────┘

MTP-3B based Iur ALCAP Signaling Bearer    IP based Iur ALCAP Signaling Bearer
```

Figure 3: Signalling bearers for ALCAP on Iur interface

CR-Form-v3

CHANGE REQUEST

⌘	**25.430** CR **16**	⌘ rev **1** ⌘	Current version: **3.4.0** ⌘

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Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network **X** Core Network ☐

Title: ⌘	Introduction of Q.2630.2	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category: ⌘	**B**	***Release:*** ⌘ REL-4

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

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

Reason for change: ⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘	In 7, Q.2630.1 is replaced by Q.2630.2.
Consequences if not approved: ⌘	

Clauses affected: ⌘	7	
Other specs affected: ⌘	☐ Other core specifications ⌘ ☐ Test specifications ☐ O&M Specifications	
Other comments: ⌘		

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

7   Iub Interface Protocol Structure
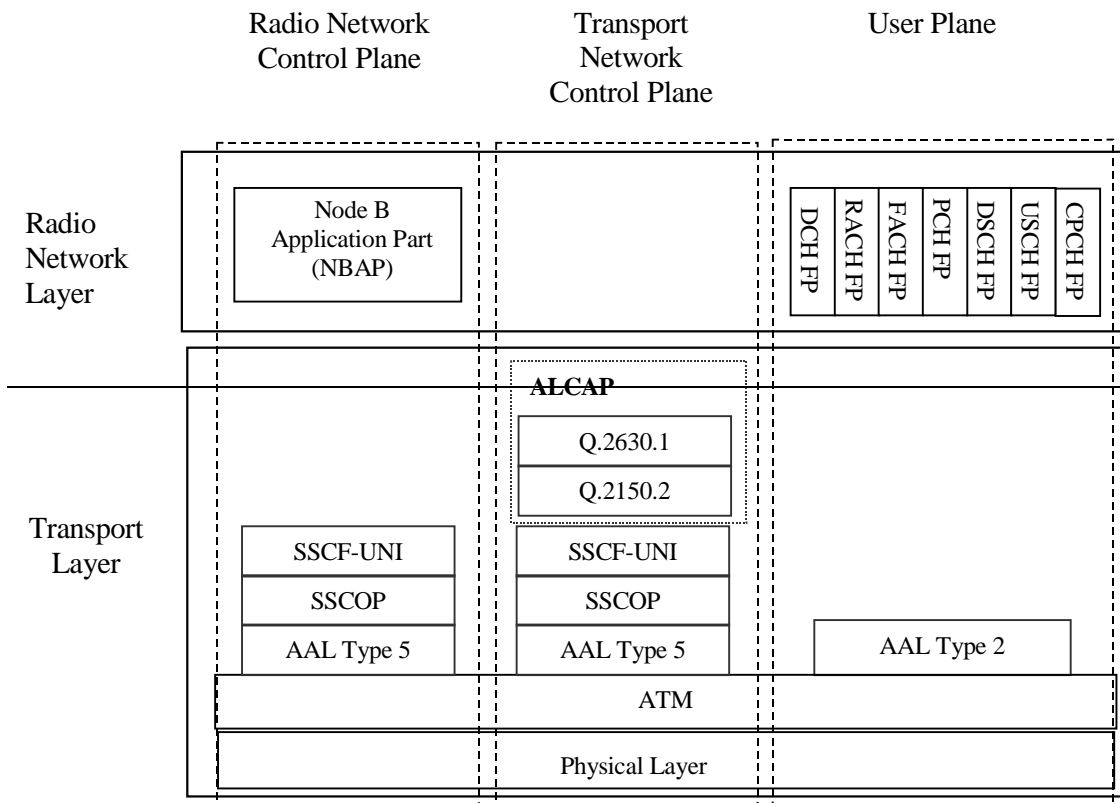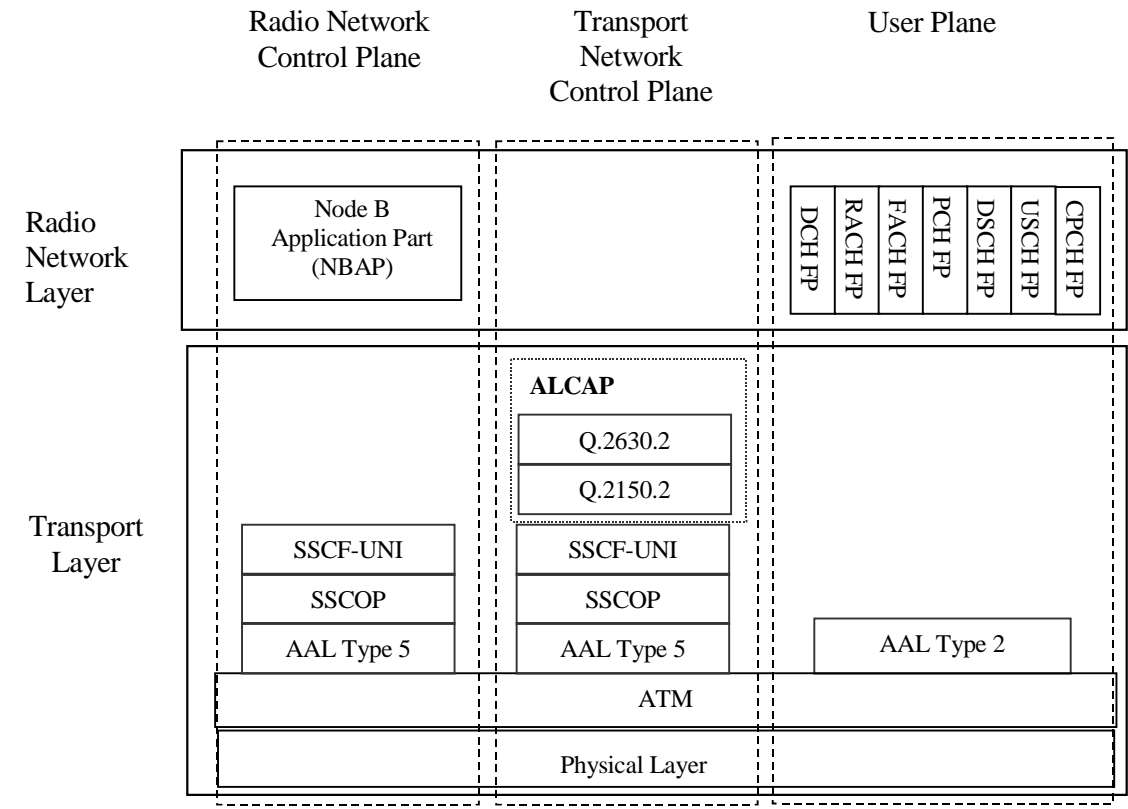
Figure 7: Iub Interface Protocol Structure.

The Iub interface protocol architecture consists of two functional layers:

1. Radio Network Layer, defines procedures related to the operation of Node B. The radio network layer consists of a radio network control plane and a radio network user plane.

2. Transport Layer, defines procedures for establishing physical connections between Node B and the RNC.

There shall be one dedicated AAL2 connection for each RACH, one for each FACH transport channel, and one for each CPCH [FDD].

CR-Form-v3

CHANGE REQUEST

| ⌘ | **25.434** CR **7** | ⌘ | rev | **1** | ⌘ | Current version: | **3.4.0** | ⌘ |

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Proposed change affects: ⌘   (U)SIM ☐   ME/UE ☐   Radio Access Network **X**   Core Network ☐

Title:	⌘	Introduction of Modification procedure of Q.2630.2
Source:	⌘	R-WG3
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category:	⌘ **B**	***Release:*** ⌘ REL-4

Use one of the following categories:	*Use one of the following releases:*
F *(essential correction)*	*2 (GSM Phase 2)*
A *(corresponds to a correction in an earlier release)*	*R96 (Release 1996)*
B *(Addition of feature),*	*R97 (Release 1997)*
C *(Functional modification of feature)*	*R98 (Release 1998)*
D *(Editorial modification)*	*R99 (Release 1999)*
Detailed explanations of the above categories can	*REL-4 (Release 4)*
be found in 3GPP TR 21.900.	*REL-5 (Release 5)*

Reason for change:	⌘	Reflection of Rel4 WI TR 25.954 "Transport bearer modification procedure on Iub, Iur, and Iu".
Summary of change: ⌘		1. In 2, Q.2630.1 is replaced by Q.2630.2. 2. In 3.3, abbreviation LC is added. 3. In 6.2, Q.2630.1 is replaced by Q.2630.2, AAL2 Link Characteristics (ALC) is changed to Link Characteristics (LC), and Modification Request message is added as a message which shall use LC. 4. In 7.2, Q.2630.1 is replaced by Q.2630.2.
Consequences if not approved:	⌘	

Clauses affected:	⌘	2, 3.3, 6.2, and 7.2
Other specs affected:	⌘ ☐	Other core specifications ⌘
	☐	Test specifications
	☐	O&M Specifications
Other comments:	⌘	

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Comprehensive information and tips about how to create CRs can be found at: http://www.3gpp.org/3G_Specs/CRs.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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 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.

1 Scope

The present document shall provide a specification of the UTRAN RNC-Node B (Iub) interface Data Transport and Transport Signalling for Common Transport Channel data streams.

2 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies.

[1]   ITU-T Recommendation I.363.2 (1997): "B-ISDN ATM Adaptation Layer type 2".

[2]   ITU-T Recommendation I.366.1 (1998): "Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL type 2".

[3]   (Void)

Note: The above reference will be to ITU-T Recommendation Q.2630.1 (1999): "AAL Type 2 signalling protocol (Capability Set 1)" when available.

[4]   ITU-T Recommendation Q.2110 (1994): "B-ISDN ATM Adaptation layer – Service Specific Connection Oriented Protocol (SSCOP)".

[5]   ITU-T Recommendation Q.2130 (1994): "B-ISDN Signalling ATM Adaptation Layer – Service Specific Coordination Function for Support of Signalling at the User Network Interface (SSCF at UNI)".

[6]   ITU-T Recommendation Q.2150.2 (12/99): "AAL type 2 signalling transport converter on SSCOP".

[7]   ITU-T Recommendation I.361 (1995): "B-ISDN ATM Layer Specification".

[8]   ITU-T Recommendation I.630 (1999): "ATM Protection Switching".

[xx]   ITU-T Recommendation Q.2630.2 (12/2000): "AAL Type 2 signalling protocol (Capability Set 2)".

3 Definitions, symbols and abbreviations

3.1 Definitions

3.2 Symbols

3.3 Abbreviations

AAL	ATM Adaption Layer
AAL2	AAL Type 2
ATM	Asynchronous Transfer Mode
CPCH	Common Packet Channel
CPCS	Common Part Convergence Sublayer
CPS	Common Part Sublayer
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
FP	Frame Protocol
LC	Link Characteristics
RACH	Random Access Channel
RNC	Radio Network Controller
SAAL	Signalling ATM Adaption Layer
SAR	Segmentation and Reassembly
SSCF	Service Specific Co-ordination Function
SSCOP	Service Specific Connection Oriented Protocol
SSCS	Service Specific Convergence Sublayer
SSSAR	Service Specific Segmentation and Reassembly
STC	Signalling Transport Converter
UMTS	Universal Mobile Telecommunication Network
UNI	User-Network Interface
USCH	Uplink Shared Channel
UTRAN	UMTS Terrestrial Radio Access Network

6.2   Transport Signalling

Q.2630.1 2 as developed by ITU-T [3xx] is selected as the standard AAL2 signalling protocol for Iub. Q.2630.2[xx]
adds new optional capabilities to Q.2630.1[3].

If there is an AAL2 switching function in the transport network layer of the interface, the AAL2 Link Characteristics
parameter (ALC) in the Establish Request message and in the Modification Request message of AAL2 signalling
protocol shall be used.

7.2   Signalling Bearer

 SAAL-UNI is the standard signalling bearer for the AAL Type Signalling protocol (Q.2630.~~1~~2) on Iub [4, 5]. The protocol stack is shown in Figure 2 below.
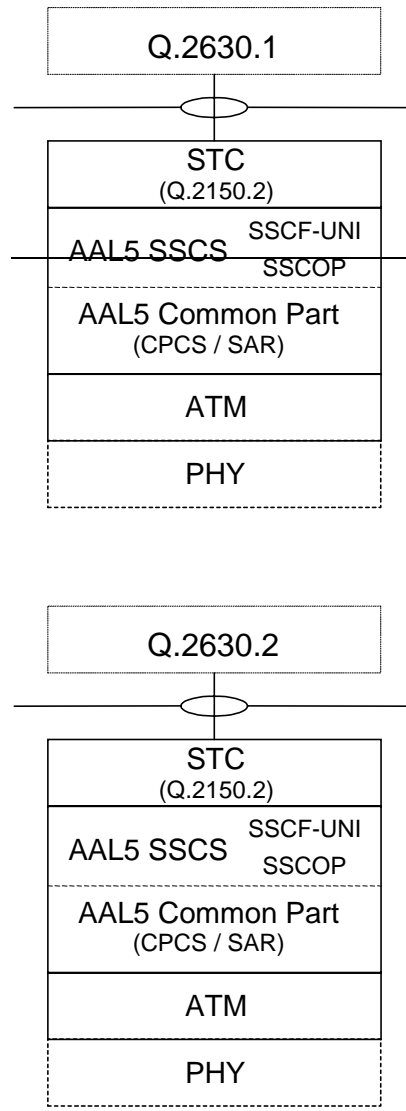
Figure 2: Transport Network Control plane protocol structure on Iub

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [3].

The signalling transport converter (STC) relevant for Iub is Q.2150.2 [6]. The AAL5 Common Part contains CPCS and SAR.

CR-Form-v3

CHANGE REQUEST

| ⌘ | **25.931** CR **006** | ⌘ | rev | **1** | ⌘ | Current version: | **3.2.0** | ⌘ |

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

Proposed change affects: ⌘ (U)SIM ☐ ME/UE ☐ Radio Access Network ☒ Core Network ☒

Title: ⌘	Introduction of the Modification Procedure of Q.2630.2	
Source: ⌘	R-WG3	
Work item code: ⌘	ETRAN-MigrMod	***Date:*** ⌘ February 2001
Category: ⌘	**B**	***Release:*** ⌘ REL-4

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

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

Reason for change: ⌘	1. The current signalling sequence example of Radio Access Bearer Modification does not take into account that the timing of the transport bearer modification is different when increasing the bandwidth and decreasing the bandwidth. 2. The Transport Channel Reconfiguration signalling sequences are based on Q.2630.1. This CR introduces Q.2630.2 into these example sequences.
Summary of change: ⌘	1. The timing of the transport bearer modification is shown to be before the indicated CFN when increasing the bandwidth, and after the indicated CFN when decreasing the bandwidth. 2. The use of the modification procedure shown for Transport Channel Reconfiguration is following cases: • Synchronised reconfiguration, bandwidth increase, • Synchronised reconfiguration, bandwidth decrease, • Unsynchronised reconfiguration, bandwidth increase, and • Unsynchronised reconfiguration, bandwidth decrease.
Consequences if not approved: ⌘	-

Clauses affected: ⌘	4.6, 4.6.1, 7.8.1, 7.14.1 and 7.14.2

Other specs ⌘	☐	Other core specifications ⌘	
affected:	☐	Test specifications	
	☐	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/3G_Specs/CRs.htm. Below is a brief summary:

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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://www.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.

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

4.6 ALCAP

ALCAP is a generic name to indicate the protocol(s) used to establish data transport bearers on the Iu, Iur and Iub interfaces. Q.2630.~~1~~ 2 (Q AAL2) is one of the selected protocols to be used as ALCAP. Q.2630.2 adds new optional capabilities to Q.2630.1.

The following should be noted:

- data transport bearers may be dynamically established using ALCAP or preconfigured;

- transport bearers may be established before or after allocation of radio resources.

4.6.1 Q.2630.~~1~~ 2 (Q.AAL 2)

The following figure is showing an example of use of Q.2630.2~~1~~ in the UTRAN context, for the different interfaces.
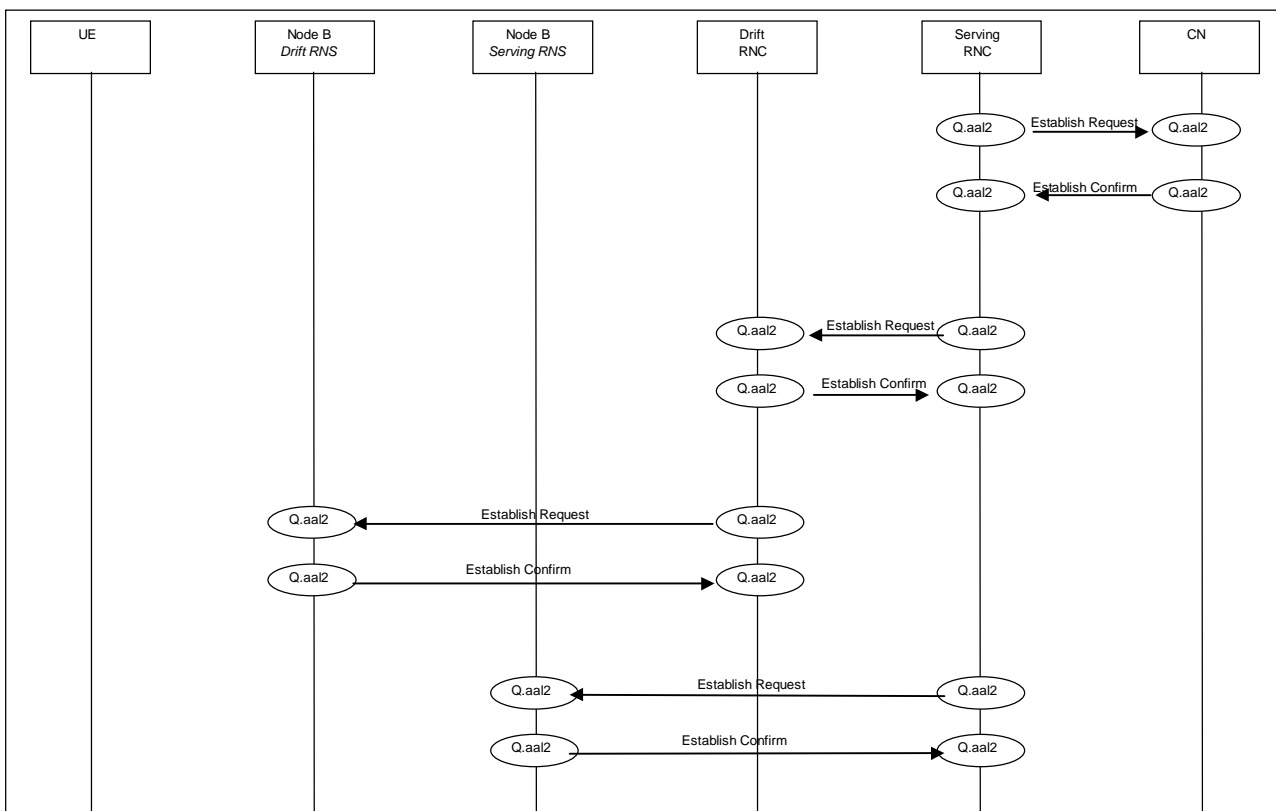
Figure 2: Example on Q.2630.~~1~~2

7.8.1   DCCH on DCH - Synchronised

This example shows modification of a radio access bearer established on a dedicated channel (DCH) with UE in macrodiversity between two RNCs. A NSAP synchronised procedure is used and a successful case is shown. For an unsuccessful case it's important to note that a failure message can be sent in any point of the Message Sequence Chart (MSC); in particular could be in RRC reconfiguration response (# 16)..

A radio access bearer modification procedure (via radio access bearer assignment message) is shown with mapping to Radio Bearer reconfiguration. Note that this is not possible if the used transport channel or logical channel is changed because the Radio Bearer reconfiguration does not permit a change in type of channel (see [8]).

7.8.1.1 Synchronised DCH modification, Bandwidth increase
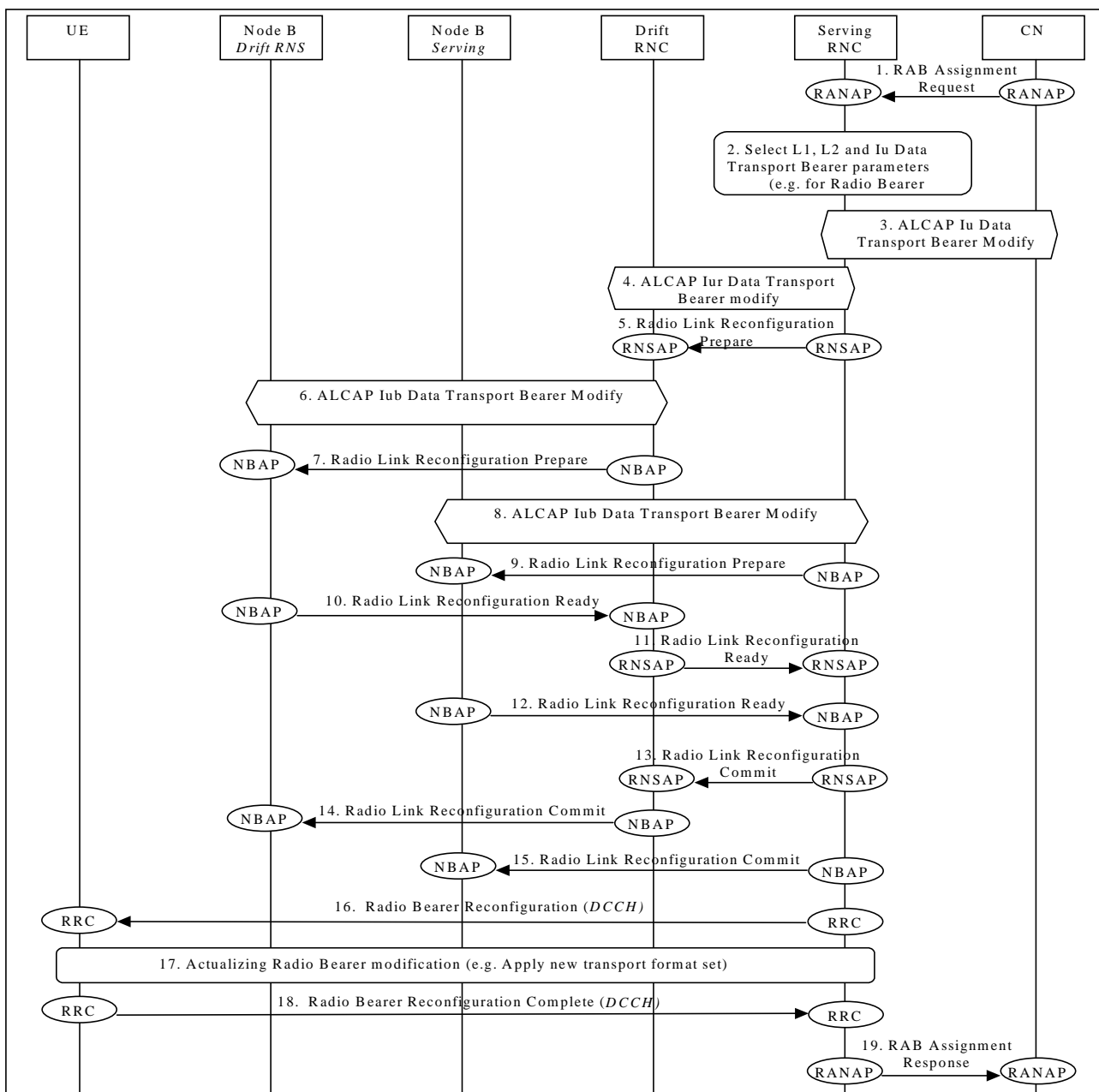
Figure 20: Radio Access Bearer Modification, Synchronised DCH modification, Bandwidth increase

1. CN initiates modification of the radio access bearer with RANAP message **Radio Access Bearer Assignment Request.**
   Parameters: parameters to be modified at lower level e.g. Maximum Bit Rate.
2. Interworking functions. SRNC chooses which parameters (lower level) ought to be modified and what kind of procedure has to start up (i.e Radio Bearer Reconfiguration for RRC).
3. SRNC starts an Iu Data Transport Bearer Modification between the CN and the SRNC using the ALCAP protocol with AAL2 bindings carried by radio access bearer assignment message (this step is not required towards PS domain). This has to be done before Radio Reconfiguration itself because the transport channel must be ready when the radio channel will be ready.
4. SRNC initiates modify of Iur (Serving RNS) Data Transport bearer. In the case that ALCAP is implemented by Q.AAL2 (Q.2630.2 but without modification) it implies the release of the existing bearer and the establishment of a new one.
5. SRNC requests DRNC to prepare modification of DCH carrying the radio access bearer (**Radio Link Reconfiguration Prepare**).
   Parameters: Transport Format Combination Set, UL scrambling code, Transport Bearer Request Indicator, etc.
6. DRNC initiates modify of Iub Data Transport bearer. In the case that ALCAP is implemented by Q.AAL2 (Q.2630.2 but without modification procedure) it implies the release of the existing bearer and the establishment of a new one.
7. DRNC requests its Node B to prepare modification of DCH related to the radio access bearer (**Radio Link Reconfiguration Prepare**).
8. SRNC initiates modify of Iub (Serving RNS) Data Transport bearer. In the case that ALCAP is implemented by Q.AAL2 (Q.2630.2 but without modification procedure) it implies the release of the existing bearer and the establishment of a new one.
9. SRNC requests its Node B to prepare modification of DCH carrying the radio access bearer (**Radio Link Reconfiguration Prepare**).
   Parameters: Transport Format Combination Set, UL scrambling code (FDD only), Time Slots (TDD only), User Codes (TDD only), Tranport Bearer Request Indicator.
10. Node B (drift) notifies DRNC that modification preparation is ready (**Radio Link Reconfiguration Ready**).
11. DRNC notifies SRNC that modification preparation is ready (**Radio Link Reconfiguration ready**).
12. Node B (serving) notifies SRNC that modification preparation is ready (**Radio Link Reconfiguration Ready**).
    Note: here a **Radio Link Reconfiguration Failure** could occur.
13. RNSAP message **Radio Link Reconfiguration Commit** is sent from SRNC to DRNC.
14. NBAP message **Radio Link Reconfiguration Commit** is sent from DRNC to Node B (drift).
15. NBAP message **Radio Link Reconfiguration Commit** is sent from SRNC to Node B (serving).
16. RRC message **Radio Bearer Reconfiguration** is sent by controlling RNC (here SRNC) to UE.
17. Both UE and Nodes B actualise modification of DCH (i.e. applying a new transport format).
18. UE sends RRC message **Radio Bearer Reconfiguration Complete** to SRNC.
19. SRNC acknowledges the modification of radio access bearer (**Radio Access Bearer Assignment Response**) towards CN.
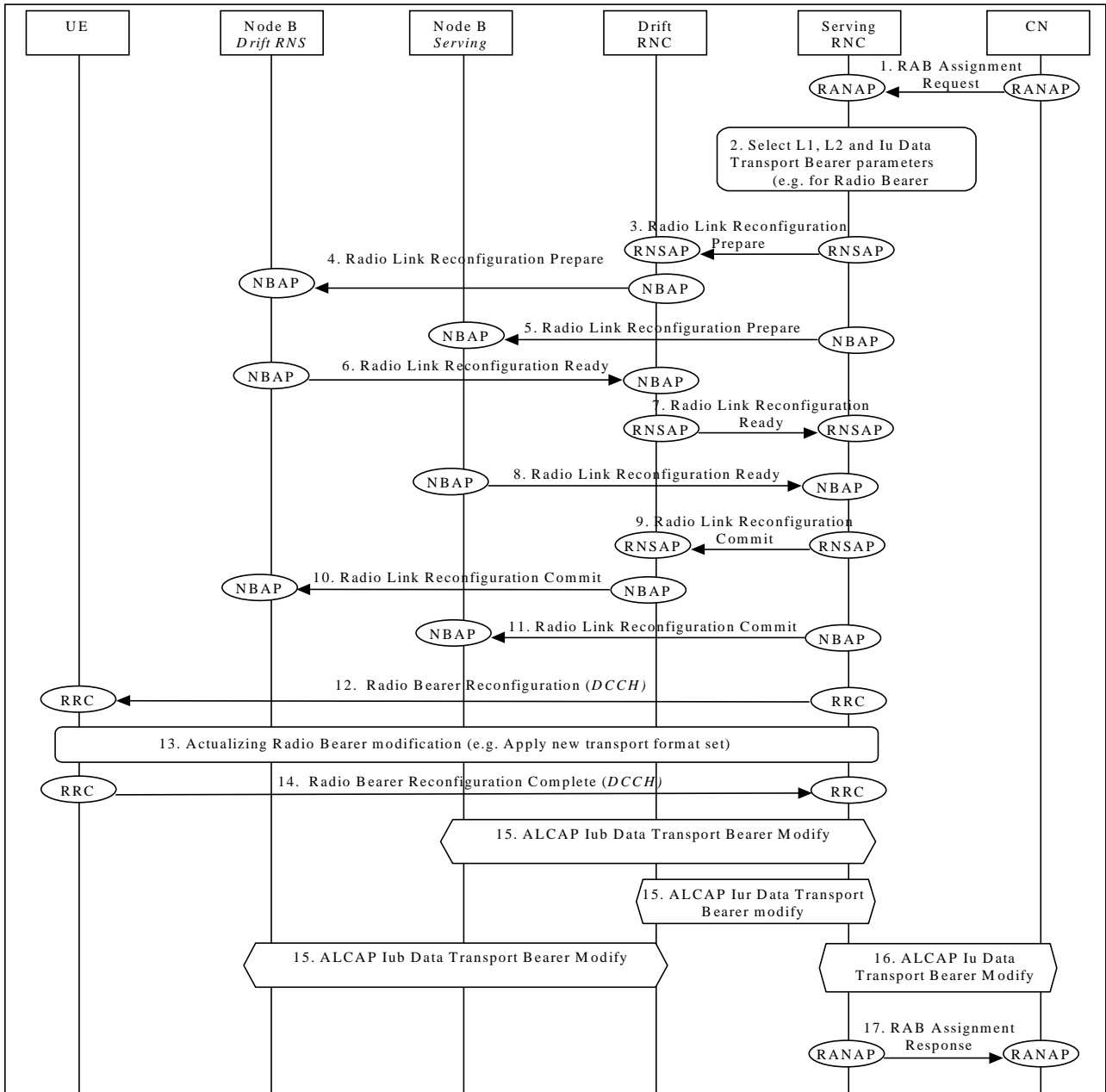
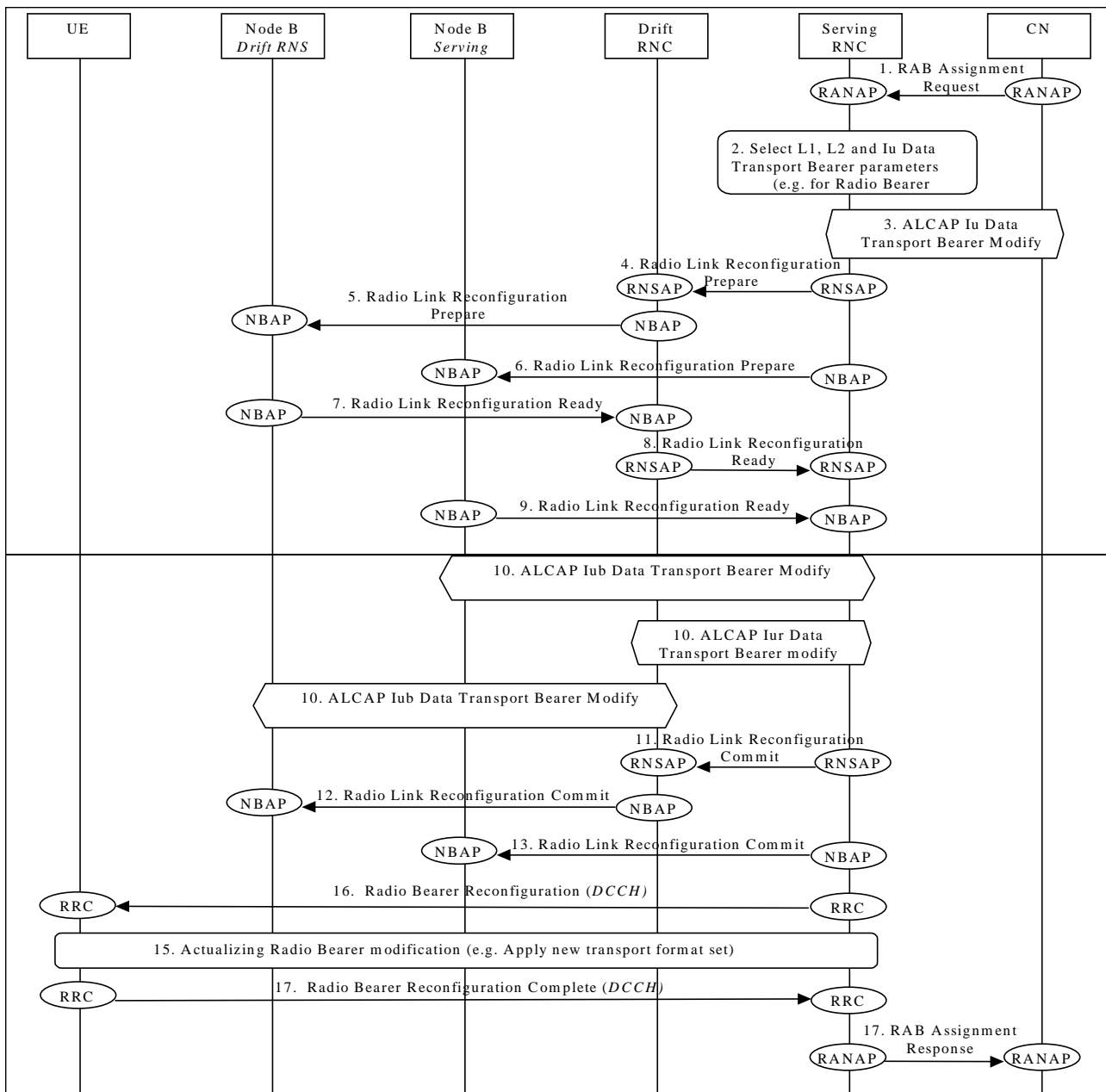## 7.8.1.2 Synchronised DCH modification, Bandwidth decrease

Figure 20a: Radio Access Bearer Modification, Synchronised DCH Modification, Bandwidth decrease

1. CN initiates modification of the radio access bearer with RANAP message **Radio Access Bearer Assignment Request.**
   Parameters: parameters to be modified at lower level e.g. Maximum Bit Rate.
2. Interworking functions. SRNC chooses which parameters (lower level) ought to be modified and what kind of procedure has to start up (i.e Radio Bearer Reconfiguration for RRC).
3. SRNC requests DRNC to prepare modification of DCH carrying the radio access bearer (**Radio Link Reconfiguration Prepare**).
   Parameters: Transport Format Combination Set, UL scrambling code, Transport Bearer Request Indicator, etc.
4. DRNC requests its Node B to prepare modification of DCH related to the radio access bearer (**Radio Link Reconfiguration Prepare**).
5. SRNC requests its Node B to prepare modification of DCH carrying the radio access bearer (**Radio Link Reconfiguration Prepare**).
   Parameters: Transport Format Combination Set, UL scrambling code (FDD only), Time Slots (TDD only), User Codes (TDD only), Transport Bearer Request Indicator.

6. Node B (drift) notifies DRNC that modification preparation is ready (**Radio Link Reconfiguration Ready**).
7. DRNC notifies SRNC that modification preparation is ready (**Radio Link Reconfiguration ready**).
8. Node B (serving) notifies SRNC that modification preparation is ready (**Radio Link Reconfiguration Ready**). Note: here a **Radio Link Reconfiguration Failure** could occur.
9. RNSAP message **Radio Link Reconfiguration Commit** is sent from SRNC to DRNC.
10. NBAP message **Radio Link Reconfiguration Commit** is sent from DRNC to Node B (drift).
11. NBAP message **Radio Link Reconfiguration Commit** is sent from SRNC to Node B (serving).
12. RRC message **Radio Bearer Reconfiguration** is sent by controlling RNC (here SRNC) to UE.
13. Both UE and Nodes B actualise modification of DCH (i.e. applying a new transport format).
14. UE sends RRC message **Radio Bearer Reconfiguration Complete** to SRNC.
15. SRNC initiates modify of Iub (Serving RNS) Data Transport bearer. The same does DRNC with its own Iub. SRNC initiates modify of Iur (Serving RNS) Data Transport bearer. In the case that ALCAP is implemented by Q.AAL2 (Q.2360.2 but without modification procedure) it implies the release of the existing bearer and the establishment of a new one.
16. SRNC starts an Iu Data Transport Bearer Modification between the CN and the SRNC using the ALCAP protocol with AAL2 bindings carried by radio access bearer assignment message (this step is not required towards PS domain). This has to be done after the initialisation of the user plane mode.
17. SRNC acknowledges the modification of radio access bearer (**Radio Access Bearer Assignment Response**) towards CN.

Figure 20: Radio Access Bearer Modification - DCH Modification - Synchronised

1. CN initiates modification of the radio access bearer with RANAP message **Radio Access Bearer Assignment Request.**
   Parameters: parameters to be modified at lower level e.g. Maximum Bit Rate.
2. Interworking functions. SRNC chooses which parameters (lower level) ought to be modified and what kind of procedure has to start up (i.e Radio Bearer Reconfiguration for RRC).
3. SRNC starts an Iu Data Transport Bearer Modification between the CN and the SRNC using the ALCAP protocol with AAL2 bindings carried by radio access bearer assignment message (this step is not required towards PS domain). This has to be done before Radio Reconfiguration itself because the transport channel must be ready when the radio channel will be ready.
4. SRNC requests DRNC to prepare modification of DCH carrying the radio access bearer (**Radio Link Reconfiguration Prepare**).
   Parameters: Transport Format Combination Set, UL scrambling code, etc.
5. DRNC requests its Node B to prepare modification of DCH related to the radio access bearer (**Radio Link Reconfiguration Prepare**).
6. SRNC requests its Node B to prepare modification of DCH carrying the radio access bearer (**Radio Link Reconfiguration Prepare**).
   Parameters: Transport Format Combination Set, UL scrambling code (FDD only), Time Slots (TDD only), User Codes (TDD only).
7. Node B (drift) notifies DRNC that modification preparation is ready (**Radio Link Reconfiguration Ready**).
8. DRNC notifies SRNC that modification preparation is ready (**Radio Link Reconfiguration ready**).
9. Node B (serving) notifies SRNC that modification preparation is ready (**Radio Link Reconfiguration Ready**).
   Note: here a **Radio Link Reconfiguration Failure** could occur.
10. SRNC initiates modify of Iub (Serving RNS) Data Transport bearer. The same does DRNC with its own Iub. SRNC initiates modify of Iur (Serving RNS) Data Transport bearer. In the case that ALCAP is implemented by Q.AAL2 (Q.2360.1) it implies the release of the existing bearer and the establishment of a new one.
11. RNSAP message **Radio Link Reconfiguration Commit** is sent from SRNC to DRNC.
12. NBAP message **Radio Link Reconfiguration Commit** is sent from DRNC to Node B (drift).
13. NBAP message **Radio Link Reconfiguration Commit** is sent from SRNC to Node B (serving).
14. RRC message **Radio Bearer Reconfiguration** is sent by controlling RNC (here SRNC) to UE.
15. Both UE and Nodes B actualise modification of DCH (i.e. applying a new transport format).
16. UE sends RRC message **Radio Bearer Reconfiguration Complete** to SRNC.
17. SRNC acknowledges the modification of radio access bearer (**Radio Access Bearer Assignment Response**) towards CN.

A radio access bearer modification procedure (via radio access bearer assignment message) is shown with mapping to Radio Bearer reconfiguration. Note that this is not possible if we want to change what transport channel or logical channel you use, because RB reconfiguration does not permit a change in type of channel (see [8]).

7.14.1   Synchronised Transport Channel Reconfiguration

The procedure can be applied when the reconfiguration time requires being synchronised among Node-Bs, SRNC and UE.

7.14.1.1 Synchronised Reconfiguration, Q.2630.2 modification procedure not used
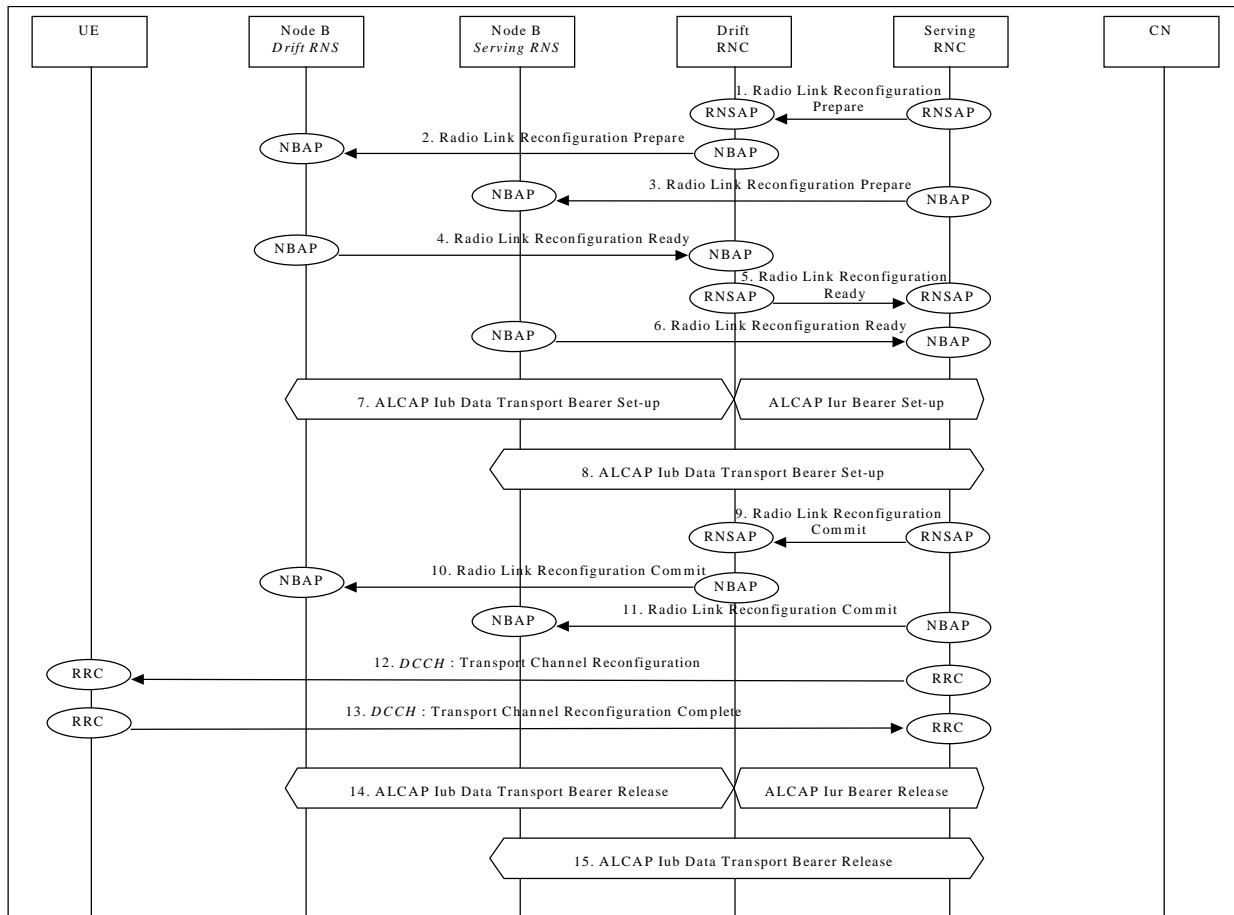

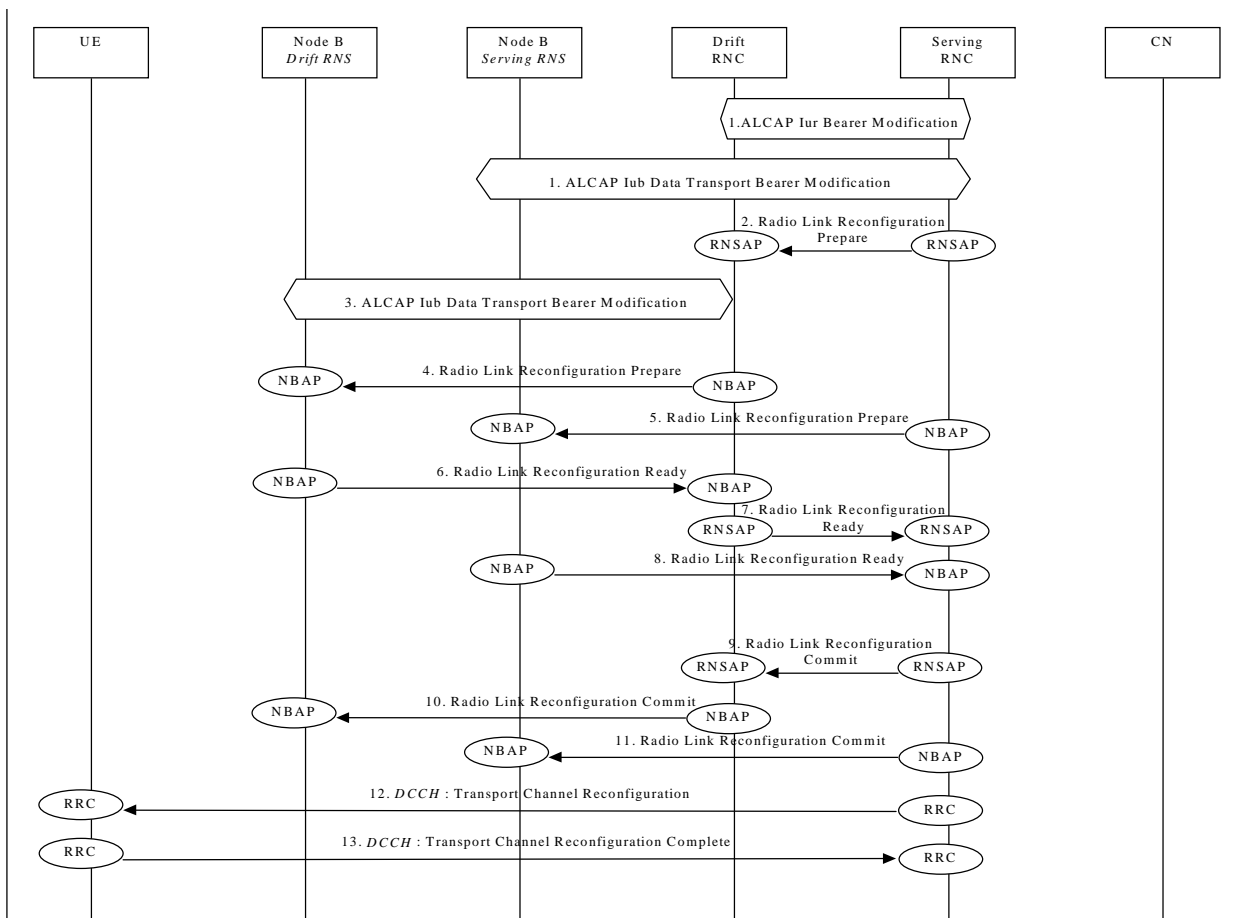**Figure 41: Synchronised Transport Channel Reconfiguration**

1. SRNC decided that there is a need for a synchronous Transport Channel Reconfiguration and requests DRNC to prepare reconfiguration of DCH **Radio Link Reconfiguration Prepare**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only).
2. DRNC requests its Node B to prepare reconfiguration of DCH to carry the radio access bearer (**Radio Link Reconfiguration   Prepare**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information Time Slots (TDD only), User Codes (TDD only).
3. SRNC requests its Node B to prepare reconfiguration of DCH (**Radio Link Reconfiguration Prepare**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only).
4. Node B allocates resources and notifies DRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).
    Parameters: Transport layer addressing information (AAL2 address, AAL2 Binding Id) for Iub Data Transport Bearer.
5. DRNC notifies SRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).
    Parameters: Transport layer addressing information (AAL2 address, AAL2 Binding Id) for Iur Data Transport Bearer.

6. Node B allocates resources and notifies SRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).
    Parameters: Transport layer addressing information (AAL2 address, AAL2 Binding Id) for Iub Data Transport Bearer.

7. SRNC initiates (if needed) establishment of new Iur/Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur/Iub Data Transport Bearer to DCH.

8. SRNC initiates (if needed) establishment of new Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iub Data Transport Bearer to DCH.

9. RNSAP message **Radio Link Reconfiguration Commit** is sent from SRNC to DRNC.
    Parameters: CFN.

10. NBAP message **Radio Link Reconfiguration Commit** is sent from DRNC to Node B.
    Parameters: CFN.

11. NBAP message **Radio Link Reconfiguration Commit** is sent from SRNC to Node B.
    Parameters: CFN.

12. RRC message **Transport Channel Reconfiguration** is sent by SRNC to UE.

13. UE sends RRC message **Transport Channel Reconfiguration Complete** to SRNC.

14. Not used resources in-DRNC and Node B (Drift RNS) are released. DRNC initiates release of Iur and Iub (Drift RNS) Data Transport bearer using ALCAP protocol.

15. Not used resources in SRNC and Node B (Serving RNS) are released. SRNC initiates release of Iub (Serving RNS) Data Transport bearer using ALCAP protocol.

7.14.1.2 Synchronised Reconfiguration, Bandwidth Increase with Q.2630.2 modification procedure

Figure 41a: Synchronised Transport Channel Reconfiguration, Bandwidth Increase

1. SRNC decides that there is a need for synchronous Transport Channel Reconfiguration and initiates transport bearer modification of the Transport Bearer(s), if LC modification is enabled over the connection(s).

2. SRNC requests DRNC to prepare reconfiguration of DCH (**Radio Link Reconfiguration Prepare**). Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

3. DRNC initiates transport bearer modification on Iub connection.

4. DRNC requests its Node B to prepare reconfiguration of DCH to carry the radio access bearer (**Radio Link Reconfiguration Prepare**). Parameters: Transport Format Set, Transport Format Combination Set, Power control information Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

5. SRNC requests its Node B to prepare reconfiguration of DCH (**Radio Link Reconfiguration Prepare**). Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

6. Node B allocates resources and notifies DRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).

7. DRNC notifies SRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).

8. Node B allocates resources and notifies SRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).

9. RNSAP message **Radio Link Reconfiguration Commit** is sent from SRNC to DRNC. Parameters: CFN

10. NBAP message **Radio Link Reconfiguration Commit** is sent from DRNC to Node B. Parameters: CFN

11. NBAP message **Radio Link Reconfiguration Commit** is sent from SRNC to Node B. Parameters: CFN

12. RRC message **Transport Channel Reconfiguration** is sent by SRNC to UE.

13. UE sends RRC message **Transport Channel Reconfiguration Complete** to SRNC.

7.14.1.3 Synchronised Reconfiguration, Bandwidth Decrease with Q.2630.2 modification procedure
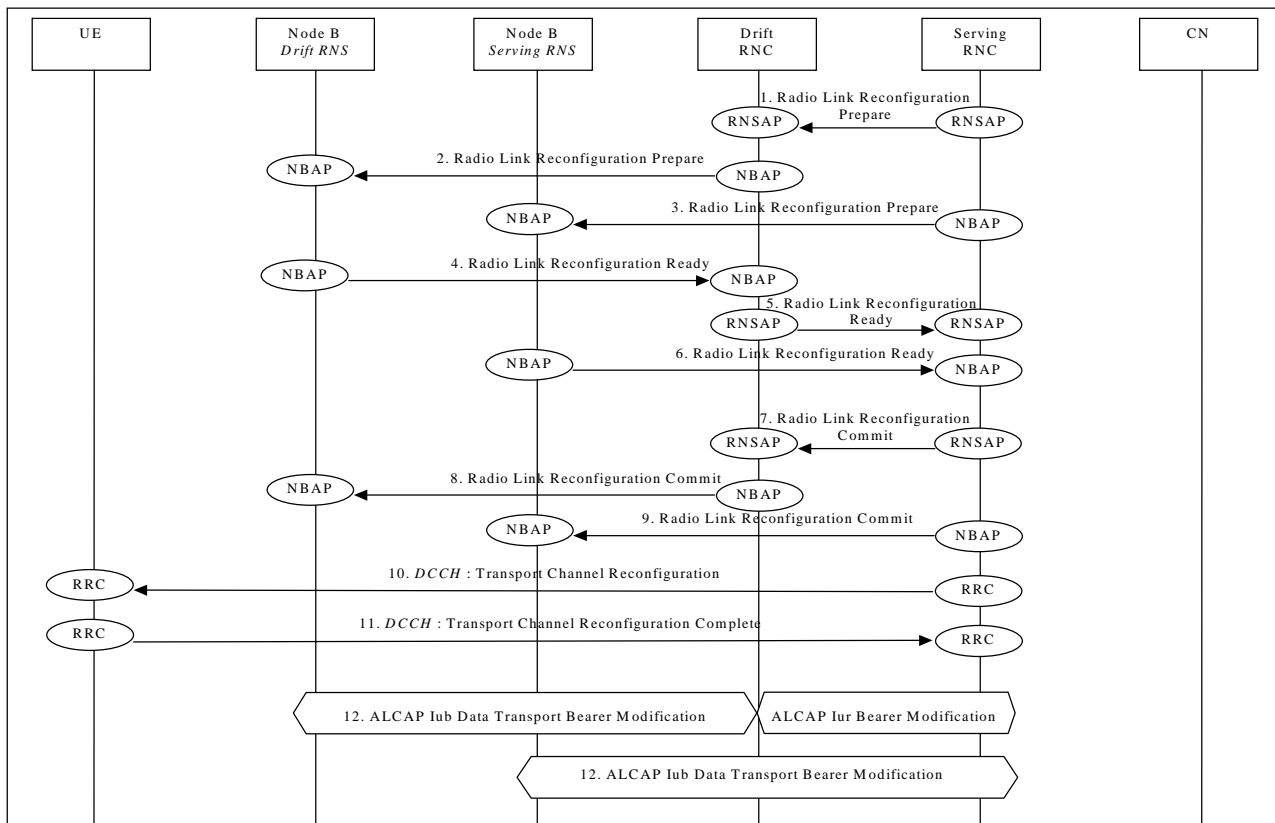
Figure 41b: Synchronised Transport Channel Reconfiguration, Bandwidth Decrease

1. SRNC decides that there is a need for a synchronous Transport Channel Reconfiguration and this procedure is initiated, if LC modification is enabled over the Transport Bearer(s).   SRNC requests DRNC to prepare reconfiguration of DCH (**Radio Link Reconfiguration Prepare**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.
2. DRNC requests the Node B to prepare reconfiguration of DCH to carry the radio access bearer (**Radio Link Reconfiguration Prepare**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.
3. SRNC requests its Node B to prepare reconfiguration of DCH (**Radio Link Reconfiguration Prepare**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.
4. Node B allocates resources and notifies DRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).
5. DRNC notifies SRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).
6. Node B allocates resources and notifies SRNC that the reconfiguration is ready (**Radio Link Reconfiguration Ready**).
7. RNSAP message **Radio Link Reconfiguration Commit** is sent from SRNC to DRNC.
    Parameters: CFN.
8. NBAP message **Radio Link Reconfiguration Commit** is sent from DRNC to Node B
    Parameters: CFN.
9. NBAP message **Radio Link Reconfiguration Commit** is sent from SRNC to Node B.
    Parameters: CFN.
10. RRC message **Transport Channel Reconfiguration** is sent by SRNC to UE.
11. UE sends RRC message **Transport Channel Reconfiguration Complete** to SRNC.
12. SRNC initiates a transport bearer modification for the Transport Bearer(s).

7.14.2   Unsynchronised Transport Channel Reconfiguration

The procedure can be applied when the reconfiguration time does not require being synchronised among Node-Bs, SRNC and UE.

7.14.2.1 Unsynchronised Reconfiguration, Q.2630.2 modification procedure not used
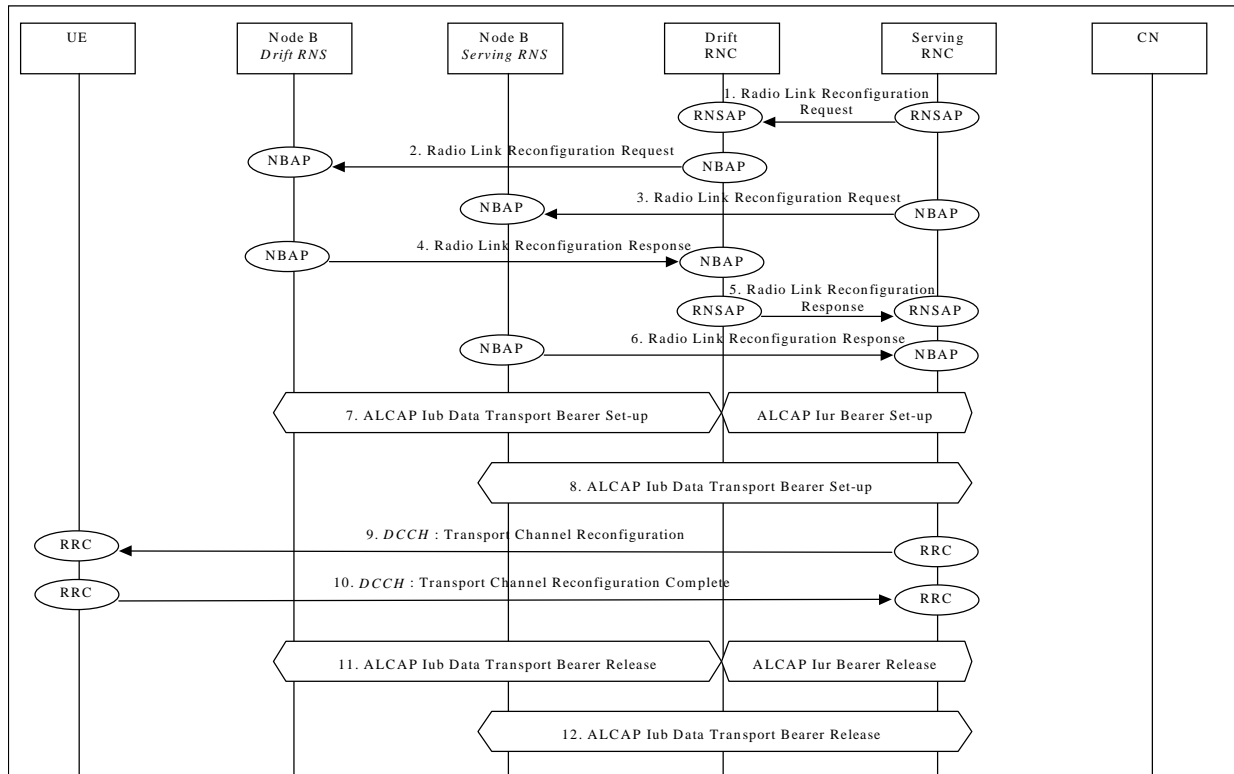

Figure 42: Unsynchronised Transport Channel Reconfiguration

1. SRNC decided that there are no need for a synchronised Transport Channel Reconfiguration, and requests DRNC to reconfigure the DCH. It includes in the message **Radio Link Reconfiguration Request** that the modification shall be done immediately without waiting for the commit message.
   Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only).
2. DRNC requests its Node B to reconfigure the DCH in the existing Radio Link (**Radio Link Reconfiguration Request**)**.**
   Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only).
3. SRNC requests its Node B to reconfigure the DCH in the existing Radio Link (**Radio Link Reconfiguration Request**)**.**
   Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only).
4. Node B of the DRNC allocates resources and notifies DRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).
   Parameters: Transport layer addressing information (AAL2 address, AAL2 Binding Id) for Iub Data Transport Bearer.
5. DRNC notifies SRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).
   Parameters: Transport layer addressing information (AAL2 address, AAL2 Binding Id) for Iur Data Transport Bearer.
6. Node B of the SRNC allocates resources and notifies DRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).
   Parameters: Transport layer addressing information (AAL2 address, AAL2 Binding Id) for Iub Data Transport Bearer.

7. SRNC initiates (if needed) establishment of new Iur/Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iur/Iub Data Transport Bearer to DCH.
8. SRNC initiates (if needed) establishment of new Iub Data Transport Bearers using ALCAP protocol. This request contains the AAL2 Binding Identity to bind the Iub Data Transport Bearer to DCH.
9. RRC message **Transport Channel Reconfiguration** is sent by SRNC to UE.
10. UE sends RRC message **Transport Channel Reconfiguration Complete** to SRNC.
11. Not used resources in-DRNC and Node B (Drift RNS) are released. DRNC initiates release of Iur and Iub (Drift RNS) Data Transport bearer using ALCAP protocol
12. Not used resources in SRNC and Node B (Serving RNS) are released. SRNC initiates release of Iub (Serving RNS) Data Transport bearer using ALCAP protocol.

7.14.2.2 Unsynchronised Reconfiguration, Bandwidth Increase with Q.2630.2 modification procedure
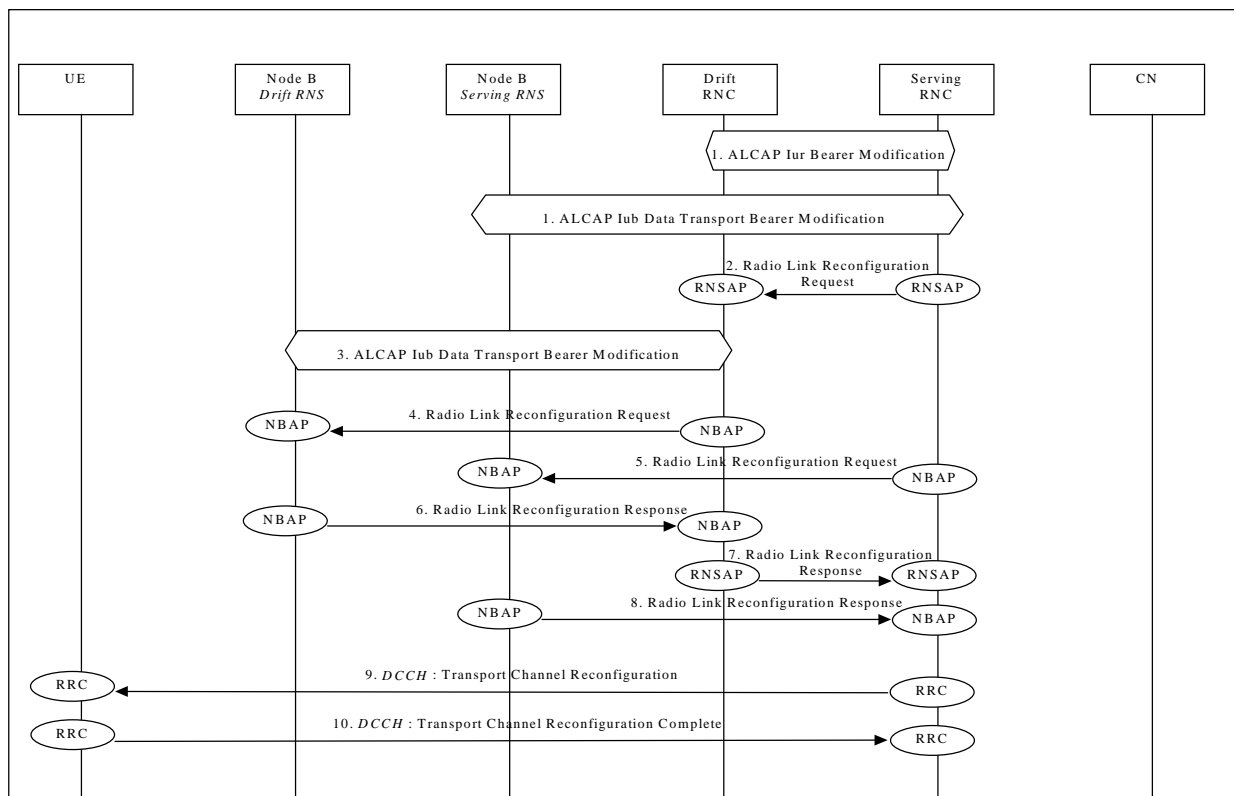

Figure 42a: Unsynchronised Transport Channel Reconfiguration, Bandwidth Increase

1. SRNC decides that there is no need for a synchronised Transport Channel Reconfiguration and initiates the transport bearer modification of the Transport Bearer(s), if LC modification is supported over the Transport Bearer(s).
2. SRNC requests DRNC to reconfigure the DCH. It includes in the message **Radio Link Reconfiguration Request** that the modification shall be done immediately without waiting for the commit message.
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.
3. DRNC initates transport bearer modification, if LC modification is supported over the bearer.
4. DRNC requests its Node B to reconfigure the DCH in the existing Radio Link (**Radio Link Reconfiguration Request**).
    Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only). The flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.
5. SRNC requests its Node B to reconfigure the DCH in the existing Radio Link (**Radio Link Reconfiguration Request**).

Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

6. Node B of the DRNC allocates resources and notifies DRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).

7. DRNC notifies SRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).

8. Node B of the SRNC allocates resources and notifies DRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).

9. RRC message **Transport Channel Reconfiguration** is sent by SRNC to UE.

10. UE sends RRC message **Transport Channel Reconfiguration Complete** to SRNC

7.14.2.3 Unsynchronised Reconfiguration, Bandwidth Decrease with Q.2630.2 modification procedure
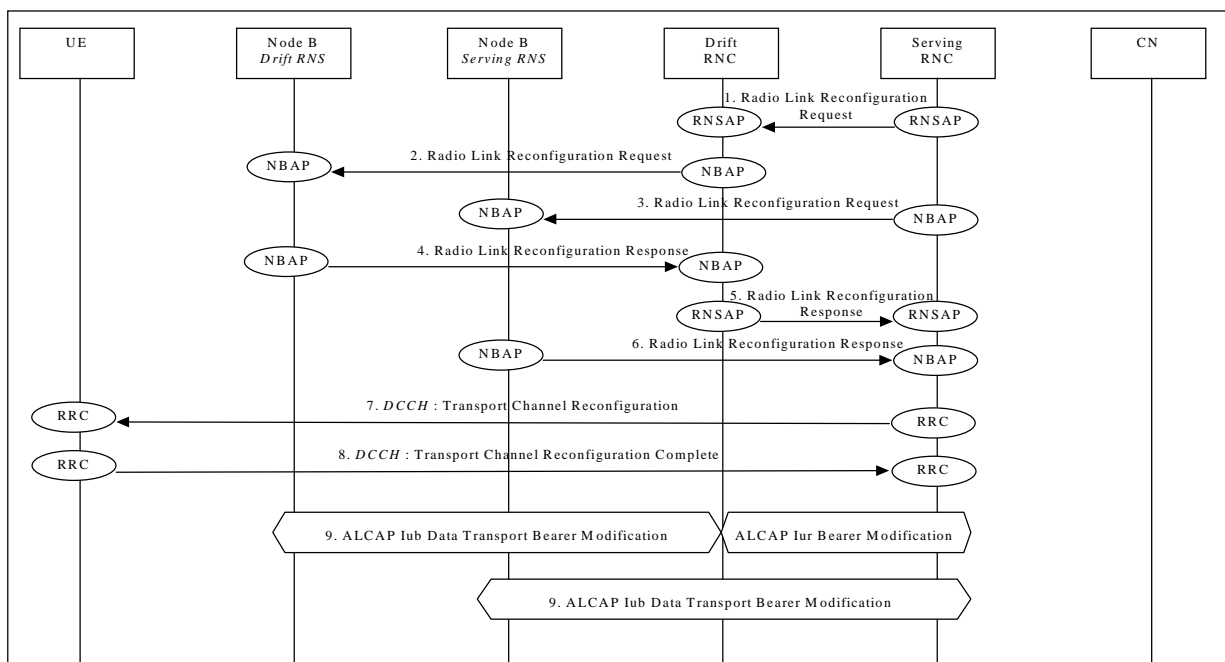

Figure 42b: Unsynchronised Transport Channel Reconfiguration, Bandwidth Decrease

1. SRNC decided that there are no need for a synchronised Transport Channel Reconfiguration, and requests DRNC to reconfigure the DCH. It includes in the message **Radio Link Reconfiguration Request** that the modification shall be done immediately without waiting for the commit message.
Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

2. DRNC requests its Node B to reconfigure the DCH in the existing Radio Link (**Radio Link Reconfiguration Request**).
Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

3. SRNC requests its Node B to reconfigure the DCH in the existing Radio Link (**Radio Link Reconfiguration Request**).
Parameters: Transport Format Set, Transport Format Combination Set, Power control information, Time Slots (TDD only), User Codes (TDD only), the flag "Transport Bearer Request Indicator" shall be set to BEARER NOT REQUESTED.

4. Node B of the DRNC allocates resources and notifies DRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).

5. DRNC notifies SRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).

6. Node B of the SRNC allocates resources and notifies DRNC that the reconfiguration is done (**Radio Link Reconfiguration Response**).

7. RRC message **Transport Channel Reconfiguration** is sent by SRNC to UE.

8.   UE sends RRC message **Transport Channel Reconfiguration Complete** to SRNC.

9.   SRNC initiates transport bearer modification of Iub/iur Data Transport Bearers using ALCAP protocol.