TSG RAN Meeting #21 **RP-030538**
Frankfurt, Germany, 16 - 19 September 2003

Title **Revised CRs (Rel-5 only) to TS 25.424, TS 25.426 and TS 25.434 on Handling of maximum bit rate exceeding 2048kbit/s**
Source **NEC, Siemens, Nortel, Nokia**
Agenda Item **7.4.6**

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
-	25.424	5.1.0	5.2.0	REL-5	025	3	F	Handling of maximum bit rate exceeding 2048kbit/s	HSDPA-IubIur
-	25.426	5.2.0	5.3.0	REL-5	031	3	F	Handling of maximum bit rate exceeding 2048kbit/s	HSDPA-IubIur
-	25.434	5.1.0	5.2.0	REL-5	027	3	F	Handling of maximum bit rate exceeding 2048kbit/s	HSDPA-IubIur

Note: The revisions 1 (Rev 1) of 3 CRs were considered as 'technically correct' in RAN3 (instead of being 'agreed') as there was no consensus because the CRs would imply a different interpretation for the Link Characteristics than the original interpretation in ITU-T Recommendation Q.2630.2.

The revisions 2 (Rev 2) of 3 CRs are small corrections of the reference numbers of Q.2630.2 in the CR text.

The revisions 3 (Rev 3) of 3 CRs introduce a note which highly recommends to separate traffic using this modified Q.2630.2 from other traffic.

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CHANGE REQUEST

⌘ **25.424** **CR** **025** ⌘**rev** **3** ⌘ Current version: **5.1.0** ⌘

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

Title:	⌘	Handling of maximum bit rate exceeding 2048Kbit/s
Source:	⌘	NEC, Siemens, Nortel, Nokia
Work item code:	⌘	HSDPA-IubIur
Date:	⌘	16/09/2003
Category:	⌘	**F**
Release:	⌘	REL-5

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

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	As the HSDPA can support up to 14.4Mbps, the transport signalling in case of ATM option for Iur/Iub also need to update in order to align the maximum bit rate.
Summary of change:	⌘	The value of maximum and average CPS-SDU bit rate in Link Characteristics(LC) in AAL2 signalling messages is set to 2048 Kbit/s, it means the bit rate is 2048 Kbit/s or more than 2048Kbit/s
Consequences if not approved:	⌘	If this CR is not approved, the transport layer in UTRAN will not be able to support the maximum bit rate for HSDPA which is exceeding 2048Kbit/s Impact Analysis: Impact assessment towards the previous version of the specification (same release): This CR has [isolated impact] with the previous version of the specification (same release) because it affect implementations supporting ALCAP. This CR has an impact under [protocol & functional] point of view. The impact [can] be considered isolated because the change affects [one] [system function] namely maximum bit rate in transport layer.

Clauses affected:	⌘	3.2, 6.2			
		Y	**N**		
Other specs affected:	⌘	**X**		Other core specifications	⌘ CR031r3 on TS25.426 v5.2.0 CR027r3 on TS25.434 v5.1.0
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:

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

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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.

2 References

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

[2] ITU-T Recommendation I.363.2 (11/2000): "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 (12/99): "AAL Type 2 signalling protocol (Capability Set 1)".

[5] ITU-T Recommendation E.191 (03/00): "B-ISDN 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".

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

[9] ITU-T Recommendation X.213 (11/95): "Information Technology - Open Systems Interconnection - Network Service Definition".

[10] IETF STD 51, RFC 1661 (July 1994): "The Point-To-Point Protocol (PPP)".

[11] IETF STD 51, RFC 1662 July 1994: "PPP in HDLC-like Framing".

[12] IETF RFC 2507 (February 1999): "IP header compression".

[13] IETF RFC 1990 "The PPP Multilink Protocol (MP)".

[14] IETF RFC 2686 "The Multi-Class Extension to Multi-Link PPP".

[15] IETF RFC 2509 (February 1999): "IP Header Compression over PPP".

[16] IETF RFC 2460 "Internet Protocol, Version 6 (Ipv6) Specification".

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

[18] IETF RFC 2474 (December 1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

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

[20] IETF RFC 3153 (1/2001): "PPP Multiplexing".

[21] IETF RFC 2364 (1/2001): "PPP over AAL5".

[22] IETF RFC 3031 (1/2001):"Multiprotocol Label Switching Architecture".

[23] ITU-T Recommendation E.164 (5/97): " The international public telecommunication numbering plan ".

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
AAL5	ATM Adaptation Layer type 5
AESA	ATM End System Address
ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
CPCH	Common Packet Channel
CPS	Common Part Sublayer
DiffServ	Differentiated Services
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
HDLC	High level Data Link Control
HS-DSCH	High Speed Downlink Shared Channel
IP	Internet Protocol
IPv4	Internet Protocol, version 4
IPv6	Internet Protocol, version 6
IWF	Interworking Function
IWU	Interworking Unit
LC	Link Characteristics
ML/MC PPP	Multilink-Multiclass PPP
MPLS	Multiprotocol Label Switching
MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
PPP	Point-to-Point Protocol
PPPMux	PPP Multiplexing
PT	Path Type
QoS	Quality of Service
RACH	Random Access Channel
SAAL	Signalling ATM Adaptation Layer
SDU	Service Data Unit
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
TNL	Transport Network Layer
UDP	User Datagram Protocol
UNI	User-Network Interface
USCH	Uplink Shared Channel

6 I_{ur} Transport Signalling Application for Common Transport Channel Data Streams

6.1 Introduction

This clause specifies the transport signalling protocol(s) used to establish the user plane transport bearers. The protocol stack is shown in [6].

6.2 Transport Signalling in case of ATM option

AAL2 signalling protocol Capability Set 2, ITU-T Recommendation Q.2630.2 [8], is the signalling protocol to control the AAL2 connections on Iur interfaces. Q.2630.2 [8] adds new optional capabilities to Q.2630.1 [4].

AAL2 transport layer addressing is based on embedded E.164 or other AESA variants of the NSAP addressing format [5,9]. Native E.164 [23] addressing shall not be used.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [8]. The binding identifier shall already be assigned and tied to a radio application procedure when the Establish Request message is received over the Iur interface in the Drift RNC.

User Plane Transport bearers are established and in all normal cases released by the ALCAP in the Serving RNC.

The Link Characteristics parameter (LC) shall be included in the Establish Request message and in the Modification Request message of AAL2 signalling protocol.

If there is an AAL2 switching function in the transport network layer of the interface, the Path Type parameter (PT) may be included in the Establish Request message of AAL2 signalling protocol for prioritisation at ATM level.

If the value in either the Maximum CPS-SDU Bit Rate or the Average CPS-SDU Bit Rate of the Link Characteristics(LC) in AAL 2 signalling messages as specified in reference [8] is 2048 Kbit/s, it shall be interpreted as bit rate 2048 Kbit/s or higher.

NOTE: Separation of traffic (e.g. HS-DSCH) that is using this modified interpretation of Link Characteristics in ref. [8] from other traffic is highly recommended. Otherwise the potential bursty nature of this specific traffic in combination with its unknown bit rate may decrease the QoS of all traffic within the same AAL type 2 path.

6.3 Transport Signalling in case of IP Transport Option

An ALCAP protocol is not required in case both RNCs are using the IP transport option.

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CHANGE REQUEST

⌘ **25.426** **CR** **031** ⌘**rev** **3** ⌘ Current version: **5.2.0** ⌘

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

Title:	⌘	Handling of maximum bit rate exceeding 2048Kbit/s
Source:	⌘	NEC, Siemens, Nortel, Nokia
Work item code:	⌘	HSDPA-IubIur
Date:	⌘	16/09/2003
Category:	⌘	**F**
Release:	⌘	REL-5

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R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)

Reason for change: ⌘ As the HSDPA can support up to 14.4Mbps, the transport signalling in case of ATM option for Iur/Iub also need to update in order to align the maximum bit rate.

Summary of change: ⌘ The value of maximum and average CPS-SDU bit rate in Link Characteristics(LC) in AAL2 signalling messages is set to 2048 Kbit/s, it means the bit rate is 2048 Kbit/s or more than 2048Kbit/s

Consequences if not approved: ⌘ If this CR is not approved, the transport layer in UTRAN will not be able to support the maximum bit rate for HSDPA which is exceeding 2048Kbit/s

Impact Analysis:

Impact assessment towards the previous version of the specification (same release):

This CR has [isolated impact] with the previous version of the specification (same release) because it affect implementations supporting ALCAP.

This CR has an impact under [protocol & functional] point of view.
The impact [can] be considered isolated because the change affects [one] [system function] namely maximum bit rate in transport layer.

Clauses affected: ⌘ 3.2, 6.2

		Y	N			
Other specs affected:	⌘	X		Other core specifications	⌘	CR025r3 on TS25.424 v5.1.0 CR027r3 on TS25.434 v5.1.0
			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘

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[1] 3GPP TS 25.427: "UTRAN Iur and Iub User interface plane protocols for DCH data streams".

[2] ITU-T Recommendation I.361 (11/95): "B-ISDN ATM layer specification".

[3] ITU-T Recommendation I.363.2 (11/2000): "B-ISDN ATM Adaptation Layer specification; Type 2 AAL".

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

[5] ITU-T Recommendation Q.2630.1 (12/99): "AAL type 2 signalling protocol (Capability Set 1)".

[6] ITU-T Recommendation E.191 (03/00): "B-ISDN addressing".

[7] ITU-T Recommendation X.213 (11/95): "Information Technology - Open Systems Interconnection - Systems Interconnection - Network Service Definition".

[8] ITU-T Recommendation Q.2110 (7/94): "B-ISDN ATM adaptation layer - Service Specific Connection Oriented Protocol (SSCOP)".

[9] ITU-T Recommendation Q.2130 (7/94): "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 (12/99): "AAL type 2 signalling transport converter on SSCOP)".

[11] ITU-T Recommendation Q.2210 (7/96): Message transfer part level 3 functions and messages using the services of the ITU-T Recommendation Q.2140".

[12] ITU-T Recommendation Q.2140 (2/95): "B-ISDN ATM adaptation layer - Service Specific Coordination Function for Support of Signalling at the Network Node Interface (SSCF at NNI)".

[13] ITU-T Recommendation Q.2150.1 (12/99): "AAL type 2 signalling transport converter on broadband MTP".

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

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

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

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

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

[19] G. Sidebottom et al, "SS7 MTP3 - User Adaptation Layer", draft-ietf-sigtran-m3ua-12.txt (Work In Progress), IETF, February 2002.

[20] ITU-T Recommendation I.630 (2/99): "ATM protection switching".

[21] ITU-T Recommendation Q.Imp2210: "Implementor's guide (03/99) for Recommendation Q.2210 (07/96)".

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

[23] IETF STD 51, RFC 1661 (July 1994): "The Point-To-Point Protocol (PPP)".

[24] IETF STD 51, RFC 1662 (July 1994): "PPP in HDLC-like Framing".

[25] IETF RFC 2507, (February 1999): "IP header compression".

[26] IETF RFC 1990 "The PPP Multilink Protocol (MP)".

[27] IETF RFC 2686 "The Multi-Class Extension to Multi-Link PPP".

[28] IETF RFC 2509, (February 1999):"IP Header Compression over PPP".

[29] IETF RFC 2460 "Internet Protocol, Version 6 (IPv6) Specification".

[30] IETF RFC 2474 (December 1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

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

[32] IETF RFC 3153 (August 2001): "PPP Multiplexing".

[33] IETF RFC 2364 (July 1998): "PPP over AAL5".

[34] IETF RFC 3031 (January 2001): "Multiprotocol Label Switching Architecture".

[35] "IP-ALCAP" [ffs]

[36] ITU-T Recommendation E.164 (5/97): " The international public telecommunication numbering plan ".

[37] RFC 3309: "SCTP Checksum Change".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following term and definition applies:

ALCAP: 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
HDLC	High level Data Link Control
HS-DSCH	High Speed Downlink Shared Channel
IP	Internet Protocol
LC	Link Characteristics
M3UA	SS7 MTP3 User Adaptation layer
ML/MC	Multi-link / Multi-class
MPLS	Multiprotocol Label Switching

MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
PPP	Point to Point Protocol
PT	Path Type
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
TNL-IWU	Transport Network Layer Interworking Unit
UDP	User Datagram Protocol
UNI	User-Network Interface

6 Transport Signalling Application for DCH Data Streams

6.1 Introduction

This chapter specifies the ALCAP protocol(s) to be used in Iur and Iub interfaces for DCH data streams.

6.2 ALCAP in ATM Transport Option

AAL2 signalling protocol Capability Set 2 [22] is the signalling protocol to control AAL2 connections on Iub and Iur interfaces. Q.2630.2 [22] 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 [22].

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

User Plane Transport bearers for Iub interface are established, in all normal cases released and optionally modified by the ALCAP in the Controlling RNC. binding identifier shall already be assigned and tied to a radio application procedure when the Establish Request message is received over the Iub interface in the Node B. In case of a Reset initiated by the CRNC, the ALCAP in the Node B shall release the transport bearers involved in the impacted Node B Communication Contexts. The Node B shall also initiate release of the user plane transport bearers for the removed dedicated channels that were remaining within the cell when the cell is deleted.

AAL2 transport layer addressing is based on embedded E.164 or other AESA variants of the NSAP addressing format [6, 7]. Native E.164 addressing [36] shall not be used.

The Link Characteristics parameter (LC) shall be included in the Establish Request message and in the Modification Request message of AAL2 signalling protocol.

If there is an AAL2 switching function in the transport network layer of the interface, the Path Type parameter (PT) may be included in the Establish Request message of AAL2 signalling protocol for prioritisation at ATM level.

If the value in either the Maximum CPS-SDU Bit Rate or the Average CPS-SDU Bit Rate of the Link Characteristics(LC) in AAL2 signalling messages as specified in reference [22] is 2048 Kbit/s, it shall be interpreted as bit rate 2048 Kbit/s or higher.

NOTE: Separation of traffic (e.g. HS-DSCH) that is using this modified interpretation of Link Characteristics in ref. [22] from other traffic is highly recommended. Otherwise the potential bursty nature of this specific traffic in combination with its unknown bit rate may decrease the QoS of all traffic within the same AAL type 2 path.

6.3 ALCAP in IP Transport Option

An ALCAP protocol is not required in case both UTRAN nodes are using the IP transport option.

Application of ALCAP in IP to ATM interworking case is defined in chapter 9 of this Technical Specification.

3GPP TSG-RAN Meeting #21
Frankfurt, Germany, September 16th – 19th , 2003

Tdoc RP-030538

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CHANGE REQUEST

⌘ **25.434** **CR** **027** ⌘**rev** **3** ⌘ Current version: **5.1.0** ⌘

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Release:	⌘	REL-5

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Reason for change: ⌘ As the HSDPA can support up to 14.4Mbps, the transport signalling in case of ATM option for Iur/Iub also need to update in order to align the maximum bit rate.

Summary of change: ⌘ The value of maximum and average CPS-SDU bit rate in Link Characteristics(LC) in AAL2 signalling messages is set to 2048 Kbit/s, it means the bit rate is 2048 Kbit/s or more than 2048Kbit/s

Consequences if not approved: ⌘ If this CR is not approved, the transport layer in UTRAN will not be able to support the maximum bit rate for HSDPA which is exceeding 2048Kbit/s

Impact Analysis:

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		Y	N			
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			X	Test specifications		
			X	O&M Specifications		

Other comments: ⌘

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[1] ITU-T Recommendation I.363.2 (11/2000): "B-ISDN ATM Adaptation layer specification: Type 2 AAL".

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

[3] ITU-T Recommendation Q.2630.1 (12/99): "AAL type 2 signalling protocol (Capability Set 1)".

[4] ITU-T Recommendation Q.2110 (7/94): "B-ISDN ATM adaptation layer - Service Specific Connection Oriented Protocol (SSCOP)".

[5] ITU-T Recommendation Q.2130 (7/94): "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): "Signalling transport converter on SSCOP and SSCOPMCE".

[7] ITU-T Recommendation I.361 (11/95): "B-ISDN ATM layer specification".

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[13] IETF RFC 2460, (December 1998): "Internet Protocol, Version 6 (IPv6) Specification".

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

[15] IETF RFC 2474, (December 1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".

[16] IETF RFC 1661, (July 1994): "The Point-to-Point Protocol (PPP)".

[17] IETF RFC 1662, (July 1994): "PPP in HDLC-like Framing".

[18] IETF RFC 2507, (February 1999): "IP header compression".

[19] IETF RFC 1990, (August 1996): "The PPP Multilink Protocol (MP)".

[20] IETF RFC 2686, (September 1999): "The Multi-Class Extension to Multi-Link PPP".

[21] IETF RFC 2509, (February 1999): "IP Header Compression over PPP".

[22] 3GPP TS 25.401, "UTRAN Overall Description"

[23] 3GPP TS 25.426, "UTRAN Iur and Iub Interface Data Transport & Transport Signalling for DCH Data Streams"

[24] IETF RFC 3153, (August 2001): "PPP Multiplexing".

[25] IETF RFC 2364, (July 1998): "PPP over AAL5".

[26] IETF RFC 3031, (January 2001): "Multiprotocol Label Switching Architecture".

[27] ITU-T Recommendation E.164 (5/97): " The international public telecommunication numbering plan ".

3 Definitions, symbols and abbreviations

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

3.1 Definitions

For the purposes of the present document, the following terms and definitions apply.

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

IP UTRAN node: An UTRAN Node supporting the IP Transport Option

3.2 Symbols

Void.

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
HDLC	High-level Data Link Control
HS-DSCH	High Speed Downlink Shared Channel
IP	Internet Protocol
LC	Link Characteristics
PPP	Point-to-Point Protocol
PT	Path Type
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
UDP	User Datagram Protocol
UMTS	Universal Mobile Telecommunication Network
UNI	User-Network Interface

USCH Uplink Shared Channel
UTRAN UMTS Terrestrial Radio Access Network

6 I_{ub} Transport Signalling Application for Common Transport Channel Data Streams

6.1 Introduction

This subclause specifies the transport signalling protocol(s) used to establish the user plane transport bearers. The protocol stack is shown in clause 7 (figure 2).

6.2 Transport Signalling in case of ATM Transport Option

Q.2630.2 as developed by ITU-T [9] is selected as the standard AAL2 signalling protocol for Iub. ITU-T Recommendation Q.2630.2 [9] adds new optional capabilities to ITU-T Recommendation Q.2630.1 [3].

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [9]. The binding identifier shall already be assigned and tied to a radio application procedure when the Establish Request message is received over the Iub interface in the Node B.

User Plane Transport bearers are established and in all normal cases released by the ALCAP in the Controlling RNC. The Node B shall initiate release of the user plane transport bearers for the removed common channels that were remaining within the cell when the cell is deleted.

AAL2 transport layer addressing is based on embedded E.164 or other AESA variants of the NSAP addressing format [10, 11]. Native E.164 addressing [27] shall not be used.

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

If there is an AAL2 switching function in the transport network layer of the interface, the Path Type parameter (PT) may be included in the Establish Request message of AAL2 signalling protocol for prioritisation at ATM level.

If the value in either the Maximum CPS-SDU Bit Rate or the Average CPS-SDU Bit Rate of the Link Characteristics(LC) in AAL2 signalling messages as specified in reference [9] is 2048 Kbit/s, it shall be interpreted as bit rate 2048 Kbit/s or higher.

NOTE: Separation of traffic (e.g. HSDPA) using this modified Q.2630.2 [9] from other traffic is highly recommended. Otherwise the bursty nature of the HSDPA traffic in combination with the unknown traffic volume per connection for bit rates exceeding 2048 Kbit/s may decrease the QoS of all traffic within the same AAL type 2 path.

6.3 Transport Signalling in case of IP Transport Option

An ALCAP protocol is not required in case both UTRAN Nodes (RNC and Node B) are using the IP Transport Option.