TSG RAN Meeting #19 **RP-030061**
Birmingham, UK, 11 - 14 March 2003

Title **CR (Rel-5 only) to 25.414 on Minor cleanup of 25.414**
Source **TSG RAN WG3**
Agenda Item **8.3.5**

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
R3-030148	25.414	5.3.0	5.4.0	REL-5	052	-	F	Minor cleanup of 25.414	TEI5

3GPP TSG-RAN3 Meeting #34
Sophia Antipolis, France, 17th – 24th Feb. 2003

Tdoc R3-030148

CR-Form-v7

CHANGE REQUEST

⌘ **25.414** **CR** **052** ⌘ **rev** **-** ⌘ Current version: **5.3.0** ⌘

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

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

Title:	⌘	Minor cleanup of 25.414
Source:	⌘	RAN WG3
Work item code:	⌘	TEI5
Date:	⌘	10/02/2003
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: ⌘

There are two identical references defined for RFC 2474 (DiffServ) in section 2, [19] and [31]. The wrong reference number is also used at some places in the procedure text. The second reference [31] was erroneously introduced by CR030r3 (R3-020882), the CR also contained some other mistakes.

The current text before the figure in 5.1.1 is not according to CR030r3. It appears as if the proposed text for clause 4.2 in the CR has been implemented instead of the proposed text for 5.1.1.

The reference to [x3] in section 5.1.3.3.2 should according CR030r3 be a reference to [24] (25.415).

The two references from section 6.1.2.5 to “6.1.4” must be wrong since the referred to clause does not exist. The correct reference for both instances should be “6.1.2.4”.

Summary of change: ⌘

Remove the second defined reference for RFC 2474 (DiffServ) in section 2, and correct the related erroneous reference numbers in the procedure text. As a result of the removal of reference [31] all reference numbers [32] – [36] needs to be renumbered. (33, 34 and 35 introduced with CR030r3 are however not used in the procedure text).

Re-insert the initially proposed text for section 5.1.1 from CR030r3.

Replace reference number [x3] by [24].

References to non existing clause 6.1.4 is corrected to the intended clause 6.1.2.4.

		Impact assessment towards the previous version of the specification (same release): This CR has no impact towards the previous version of the specification (same release).
Consequences if not approved:	⌘	Duplicated references and erroneous references in the procedure text will remain.

Clauses affected:	⌘	2, 5.1.1, 5.1.3.3.2, 5.1.3.5, 5.2.2.1.1, 5.3.3, 6.1.2.5, 6.1.3.4, 7.1.3.4			
		Y	**N**		
Other specs affected:	⌘		**X**	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	
Other comments:	⌘				

How to create CRs using this form:

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

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

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. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

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

[2] ITU-T Recommendation I.363.2 (11/00): "B-ISDN ATM Adaptation layer specification: Type 2 AAL".

[3] ITU-T Recommendation I.363.5 (8/96): "B-ISDN ATM Adaptation layer specification: Type 5 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 E.164 (5/97): "The international public telecommunication numbering plan".

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

[7] 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-NNI)".

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

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

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

[11] ITU-T Recommendation X.213 (11/95): "Information technology - Open systems interconnection - Network Service Definitions".

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

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

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

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

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

[17] 3GPP TS 29.060: "General Packet Radio Service (GPRS) Service description; Stage 2".

[18] IETF RFC 793 (September 1981): "Transmission Control Protocol".

[19] IETF RFC 2474 (December 1998): "Definition of the Differentiated Services Field (DS Field) in the Ipv4 and Ipv6 Headers".

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

[21] ITU-T Recommendation Q.2630.2 (12/00): "AAL type 2 signalling protocol (Capability Set 2)".

[22] IETF RFC 1889 (January 1996): "RTP: A Transport Protocol for Real Time Applications".

[23] IETF RFC 1890 (January 1996): "RTP Profile for Audio and Video Conferences with Minimal Control".

[24] 3G TS 25.415: "UTRAN Iu Interface User Plane Protocols"

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

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

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

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

[29] IETF RFC 2686 (September 1996): "The Multi-Class Extension to Multi-Link PPP".

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

~~[31] IETF RFC 2474 (December 1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".~~

[~~32~~31] "IP-ALCAP" [ffs.]

[~~33~~32] IETF RFC 3153 (August 2001): "PPP Multiplexing".

[~~34~~33] IETF RFC 2364 (July 1998): "PPP over AAL5".

[~~35~~34] IETF RFC 3031 (January 2001): "Multiprotocol Label Switching Architecture".

[~~36~~35] ITU-T Recommendation E.191 (03/00): "B-ISDN addressing".

4 Data Link Layer

4.1 ATM Transport Option

ATM shall be used in the transport network user plane and the transport network control plane according to ITU-T Recommendation I.361 [1]. The structure of the cell header used in the UTRAN Iu interface is the cell header format and encoding at NNI (see figure 3/I.361).

4.2 IP Transport Option

An RNC/CN-node supporting IP transport option on the Iu interface shall support PPP protocol with HDLC framing [25], [26].

NOTE: This does not preclude the single implementation and use of any other protocols (e.g. PPPMux/AAL5/ATM, PPP/AAL2/ATM, Ethernet, MPLS/ATM, etc.) fulfilling the UTRAN requirements toward the upper layers.

An RNC/CN-node supporting IP transport option on the Iu interface and having interfaces connected via slow bandwidth PPP links like E1/T1/J1 shall also support IP Header Compression [27] and the PPP extensions ML/MC-PPP [28], [29]. In this case the negotiation of header compression [27] over PPP shall be performed via [30].

5 Circuit switched domain

5.1 Transport network user plane

5.1.1 General

~~An RNC/CN-node supporting IP transport option on the Iu interface shall support PPP protocol with HDLC framing [25], [26].~~

~~NOTE: This does not preclude the single implementation and use of any other protocols (e.g. PPPMux/AAL5/ATM, PPP/AAL2/ATM, Ethernet, MPLS/ATM, etc.) fulfilling the UTRAN requirements toward the upper layers.~~

~~An RNC/CN-node supporting IP transport option on the Iu interface and having interfaces connected via slow bandwidth PPP links like E1/T1/J1 shall also support IP Header Compression [27] and the PPP extensions ML/MC-PPP [28], [29]. In this case the negotiation of header compression [27] over PPP shall be performed via [30].~~

There are two options for the transport layer for data streams over Iu-CS:

1) ATM based Transport (ATM transport option)

2) IP based Transport (IP transport option)

The following figure shows the protocol stacks of the two options.

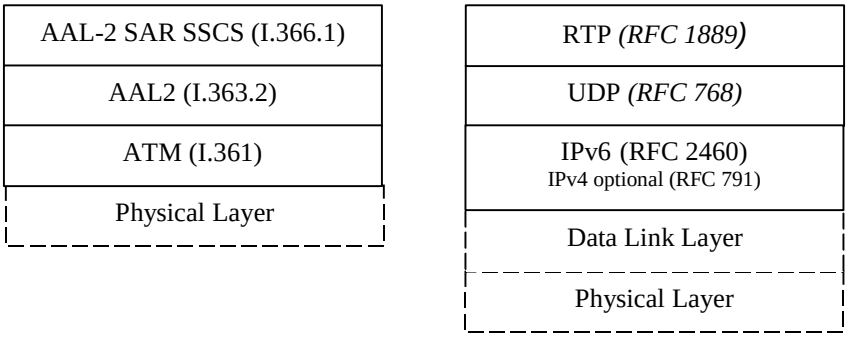

Figure 1. Transport network layer for data streams over Iu-CS.

5.1.3.3.2 RTP Payload

A single Iu UP PDU, as described in [~~x3~~24], shall be transported as RTP payload.

5.1.3.4 RTCP

RTCP [22] may be applied. RTCP over UDP [12] over IPv6 [16] shall be used (IPv4 [13] may be used optionally). The use of the RTCP protocol is optional. The receiving entity may ignore incoming RTCP PDUs.

Figure 1a shows the protocol stack for the transport of RTCP. The above Sections about IP and UDP shall also apply for the transport of RTCP.

RTCP*(RFC 1889)*
UDP *(RFC 768)*
IPv6 (RFC2460) IPv4 optional (RFC 791)

Figure 1a. RTCP Protocol stack for data stream transport on Iu-CS.

5.1.3.5 Diffserv code point marking

IP Differentiated Services code point marking [~~32~~19] shall be supported. The Diffserv code point may be determined from the application parameters.

5.2.2 Transport Signalling for the ATM Transport Option

5.2.2.1 Signalling protocol (ALCAP)

5.2.2.1.1 AAL2 Signalling Protocol (Q.2630.2)

In the ATM transport option ITU-T Recommendation Q.2630.2 [21] shall be used for establishing AAL2 connections towards the circuit switched domain. ITU-T Recommendation Q.2630.2 [21] adds new optional capabilities to ITU-T Recommendation Q.2630.1 [10].

The AAL2 transport layer uses the embedded E.164 or other AESA variants of the NSAP addressing formats [11, ~~36~~35]. Native E.164 addressing [5] shall not be used.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH request primitive of ITU-T Recommendation Q.2630.2 [21].

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.

5.2.2.2 Signalling transport converter

5.3.3 IP-ALCAP for the Interworking

In the third interworking alternative as introduced in subclause 5.3.2, [~~32~~31] is used as the IP-ALCAP protocol between the RNC/CN-node supporting IP transport option and the Transport Network Layer Interworking Unit.

The following figure shows the protocol stack for IP-ALCAP over Iu-CS in the third interworking alternative as introduced in subclause 5.3.2.

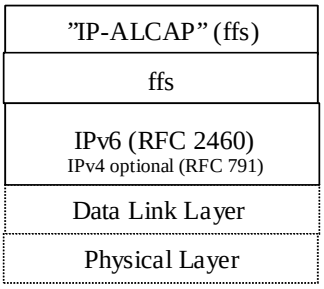

Figure 2a. Signalling bearer for IP-ALCAP.

6.1.2.5 IP/ATM

When the association mentioned in 6.1.2.4 is made using 0&M, the "LLC encapsulation" option of "Multiprotocol Encapsulation over AAL5" shall be used to carry the IP packets over the ATM transport network when PVCs are used.

When the association mentioned in 6.1.2.4 is made using "ATM Inverse ARP", "Classical IP and ARP" over ATM protocols and the "LLC encapsulation" option of "Multiprotocol Encapsulation over AAL5" shall be used to carry the IP packets over the ATM transport network when PVCs are used. "Classical IP and ARP over ATM" is specified in RFC 2225 [15]. "Multiprotocol Encapsulation over AAL5" is specified in RFC 2684 [14].

"Classical IP and ARP over ATM" allows routers to be members of one or more LISs. The CN side of the Iu interface shall provide IP routing functionalities. The RNC side of the Iu interface may provide routing functionalities. If the RNC side of the Iu interface does not provide routing functionalities, the RNC routing tables shall include default route entries.

6.1.3.4 Diffserv code point marking

IP Differentiated Services code point marking [~~31~~19] shall be supported. The Diffserv code point may be determined from the application parameters.

7.1.3.4 Diffserv code point marking

IP Differentiated Services code point marking [~~x11~~19] shall be supported. The Diffserv code point may be determined from the application parameters.