3GPP TSG-RAN meeting #5
Kyongju, Korea, 6-8 October 1999

RP-99517

Title: Approved Change Requests on TS 25.414
Agenda item: 6.4.3

TDOC	STATUS	SPEC	CR	REV	SUBJECT	CAT	CURRENT	NEW
R3-99a32	approved	25.414	001		Mapping of binding id	D	3.0.0	3.1.0
R3-99c08	approved	25.414	002		Reference to GTP-U protocol specification	F	3.0.0	3.1.0
R3-99c75	approved	25.414	003		The use of Classical IP over ATM over the Iu interface	F	3.0.0	3.1.0
R3-99d03	approved	25.414	004		ATM switching layer	B	3.0.0	3.1.0

3GPP TSG-RAN-WG3 meeting #6 *Document* ***R3-99A32***

Sophia Anitpolis, France, August 23-27, 1999 *Agenda Item : 22*

3G CHANGE REQUEST

25.414 **CR** **001** Current Version: 3.0.1

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submission to TSG *list TSG meeting no. here ↑* for approval [X] for information [ ] *(only one box should be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [ ] UTRAN [X] Core Network [ ]

Source: Mitsubishi Electric **Date:** Aug 23-27, 1999

Subject: Mapping of binding id

3G Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[ ]
C	Functional modification of feature	[ ]
D	Editorial modification	[X]

Reason for change: Precise how to map binding Identifier within the current transport network (when using AAL2)

Clauses affected:

Other specs affected:

Other 3G core specifications	[X]	→ List of CRs:	25.424, 25.434, 25.426
Other 2G core specifications	[ ]	→ List of CRs:	
MS test specifications	[ ]	→ List of CRs:	
BSS test specifications	[ ]	→ List of CRs:	
O&M specifications	[ ]	→ List of CRs:	

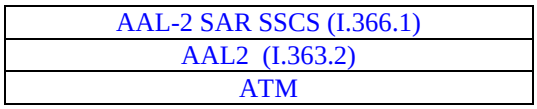
Other comments:

5 Circuit switched domain

5.1 Transport network user plane

5.1.1 General

The following figure shows the protocol stack for the transport network user plane on the Iu interface towards the circuit switched domain.



5.1.2 ATM Adaptation Layer 2

5.1.2.1 AAL2-Segmentation and Reassembly Service Specific Convergence Sublayer (I.366.1)

AAL2 segmentation and reassembly shall be used according to I.366.1**Error! Reference source not found.**.

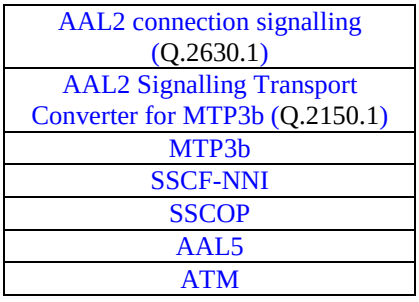
5.1.2.2 AAL2-specification (I.363.2)

AAL2 shall be used according to I.363.2 **Error! Reference source not found.**.

5.2 Transport network control plane

5.2.1 General

The following figure shows the protocol stack for the transport network control plane on the Iu interface towards the circuit switched domain.



5.2.2 Signalling protocol (ALCAP)

5.2.2.1 AAL2 Signalling Protocol (Q.2630.1)

Q.2630.1 **Error! Reference source not found.** shall be used for establishing AAL2 connections towards the circuit switched domain. The AAL2 transport layer uses the embedded E.164 **Error! Reference source not found.** or AESA

variants of the NSAP addressing formats **Error! Reference source not found.**. 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]

5.2.3 Signalling transport converter

5.2.3.1 AAL2 MTP3B Signalling Transport Converter (Q.2150.1)

The AAL2 MTP3b Signalling Transport Converter shall be used according to Q.2150.1 **Error! Reference source not found.**.

5.2.4 MTP3b (Q.2210)

MTP3b shall be used according to Q.2210 **Error! Reference source not found.**.

5.2.5 SSCF-NNI (Q.2140)

SSCF-NNI shall be used according to Q.2140 **Error! Reference source not found.**.

5.2.6 SSCOP (Q.2110)

SSCOP shall be used according to Q.2110 **Error! Reference source not found.**.

5.2.7 ATM Adaptation Layer Type 5 (I.363.5)

AAL5 shall be used according to I.363.5 **Error! Reference source not found.**.

3GPP TSG-RAN3 meeting #7 **Document R3-99C08**

Sophia Antipolis, France, 20-24 Sept 1999

3G CHANGE REQUEST

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25.414 **CR** **002** Current Version: 3.0.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG RAN3#7 *list TSG meeting no. here ↑* for approval [X] for information [ ] *(only one box should be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [ ] UTRAN [X] Core Network [ ]

Source: Ericsson **Date:** 20 Sept 1999

Subject: Reference to GTP-U protocol specification

3G Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in a 2G specification	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Reason for change: A placeholder reference to the GTP-U protocol was put in 3.0.0. The reference should now be added as shown below.

Clauses affected: 2 References

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

[17] ~~"GTP-U Specification".~~3G TS 29.060: "3GPP; TSG CN; GPRS; GPRS Tunnelling Protocol (GTP)".

3GPP TSG-RAN3 meeting #7 ***Document*** ***R3-99C75***

Sophia Antipolis, France, 20-24 Sept 1999

3G CHANGE REQUEST

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25.414 **CR** **003** Current Version: 3.0.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG RAN3#7 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [ ] UTRAN [X] Core Network [X]

Source: Ericsson **Date:** 20 Sept 1999

Subject: The use of Classical IP over ATM over the Iu interface

3G Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	X
A	Corresponds to a correction in a 2G specification	
B	Addition of feature	
C	Functional modification of feature	
D	Editorial modification	

Reason for change: Classical IP over ATM should only be required when ATM Permanent Virtual circuits are used over the Iu and should not be required when Switched Virtual Circuits are used.

Clauses affected: 6.1.4 and 6.1.5

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

6.1.4 ATM Adaptation Layer Type 5 (I.363.5)

AAL5 shall be used according to I.363.5 [3].

AAL5 virtual circuits are used to transport the IP packets across the Iu interface toward the packet switched domain. Multiple VCs can be used over the interface. There is a one-to-one relationship between the VC and the IP address as required by Classical IP over ATM. An association must be made between a peer node's IP address and a VC. This association can be made using O&M or using ATM Inverse ARP according to Classical IP over ATM when PVCs are used.

6.1.5 IP/ATM

Classical IP over ATM protocols are used to carry the IP packets over the ATM transport network when PVCs are used. Classical IP over ATM is specified in IETF RFC 2225 [15]. Multiprotocol Encapsulation over AAL5 is specified in IETF RFC 1483 [14].

3GPP TSG-RAN-WG3 meeting #7

Sophia Antipolis, France, September 20-24, 1999

Document* *R399D03

3G CHANGE REQUEST

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25.414 **CR** **004** Current Version: 3.0.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG *list TSG meeting no. here ↑* | for approval [X] | for information [ ] | *(only one box should be marked with an X)*

Form: 3G CR cover sheet, version 1.0 *The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf*

Proposed change affects: *(at least one should be marked with an X)* USIM [ ] ME [ ] UTRAN [X] Core Network [ ]

Source: Motorola **Date:** Sept 20-24, 1999

Subject: ATM switching layer

3G Work item:

Category: *(only one category shall be marked with an X)*

F	Correction	[ ]
A	Corresponds to a correction in a 2G specification	[ ]
B	Addition of feature	[X]
C	Functional modification of feature	[ ]
D	Editorial modification	[ ]

Reason for change: For multivendor operability it is required to specify the mechanism by which redundancy of pathways between CN and RNC will be accomplished when redundancy is supported.

Clauses affected:

Other specs affected:

Other 3G core specifications	[ ]	→ List of CRs:
Other 2G core specifications	[ ]	→ List of CRs:
MS test specifications	[ ]	→ List of CRs:
BSS test specifications	[ ]	→ List of CRs:
O&M specifications	[ ]	→ List of CRs:

Other comments:

help.doc

<--------- double-click here for help and instructions on how to create a CR.

21 References

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

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

[1] 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 1483 (7/1993): “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] ”GTP-U Specification”.

[18] ITU-T Rec. **I.630** (2/99) ATM Protection Switching

32 Definitions, symbols and abbreviations

3.12.1 Definitions

ALCAP Generic name for the transport signalling protocols used to set-up and teardown transport bearers.

2.2 Symbols

3.32.3 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
RFC	Request For Comment
CN	Core Network
GTP	GPRS Tunnelling Protocol
IP	Internet Protocol
MTP3b	Message Transfer Part level 3 for Q.2140
NSAP	Network Service Access Point
PDU	Protocol Data Unit
RNC	Radio Network Controller
SAR	Segmentation and Reassembly
SCCF-NNI	Service Specific Coordination Function-Network Node Interface
SSCOP	Service Specific Connection Oriented Protocol
SSCS	Service Specific Convergence Sublayer
UDP	User Datagram Protocol
VC	Virtual Circuit

43 ATM Layer (I.361)

3.1 General

ATM shall be used in the transport network user plane and the transport network control plane according to I.361[1].

3.2 Protection Switching at ATM Layer

If redundancy of pathways at ATM layer between CN and RNC is supported, it shall be implemented using ATM Protection Switching according to I.630 [18].