

3GPP TSG-RAN-WG3 meeting #6

Document R3-99A35

Sophia Antipolis, France, August 23-27, 1999

Agenda Item : 22

3G CHANGE REQUEST

25.426 CR

Current Version: **3.0.0**

3G specification number ↑

↑ CR number as allocated by 3G support team

For submission to TSG

list TSG meeting no. here ↑

for approval 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

Core Network

Source:

Mitsubishi

Date:

Aug 23-27, 1999

Subject:

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

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
- Other 2G core specifications
- MS test specifications
- BSS test specifications
- O&M specifications

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- List of CRs: 25.414, 25.424, 25.434
- List of CRs:
- List of CRs:
- List of CRs:
- List of CRs:

Other comments:

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Note: The content has to be reviewed according to the 3GPP IPR rules.

Foreword

This Technical Specification has been produced by the 3GPP.

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version 3.y.z

where:

- x the first digit:
 - 1 presented to TSG for information;
 - 2 presented to TSG for approval;
 - 3 Indicates TSG approved document under change control.
- y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.
- z the third digit is incremented when editorial only changes have been incorporated in the specification.

1 Scope

The scope of this Technical Specification is to specify 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 this TS.

2 References

- [1] TS UMTS 25.427: UTRAN Iur and Iub User plane Protocol for DCH Data Streams
- [2] ITU-T Recommendation I.361 B-ISDN ATM Layer Specification (11/95)
- [3] ITU-T Recommendation I.363.2 B-ISDN ATM Adaptation Layer type 2 (9/97)
- [4] ITU-T Recommendation I.366.1 Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL type 2 (6/98)

- [5] Draft new ITU-T Recommendation Q.2630.1 AAL Type 2 signalling protocol (Capability Set 1)
- [6] ITU-T Recommendation E.191 B-ISDN numbering and addressing (10/96)
- [7] ITU-T Recommendation X.213 Information Technology – Open Systems Interconnection – Network Service Definition (11/95)
- [8] ITU-T Recommendation Q.2110 B-ISDN ATM Adaptation layer – Service Specific Connection Oriented Protocol (SSCOP) (7/94)
- [9] ITU-T Recommendation Q.2130 B-ISDN Signaling ATM Adaptation Layer – Service Specific Coordination Function for Support of Signaling at the User Network Interface (SSCF at UNI) (7/94)
- [10] Draft new ITU-T Recommendation Q.2150.2 AAL Type 2 Signalling Transport Converter on SSCOP
- [11] ITU-T Recommendation Q.2210 Message transfer part level 3 functions and messages using the services of the ITU-T Recommendation Q.2140 (7/96)
- [12] ITU-T Recommendation Q.2140 B-ISDN Signaling ATM Adaptation Layer – Service Specific Coordination Function for Support of Signaling at the Network Node Interface (SSCF at NNI) (2/95)
- [13] Draft new ITU-T Recommendation Q.2150.1 AAL Type 2 Signalling Transport Converter on MTP-3B
- [14] Ong Lyndon et.al. Internet-Draft Architectural Framework for Signalling Transport, draft-ietf-sigran-framework-arch-01.txt, April 1999
- [15] IETF RFC 791 (09/1981) Internet Protocol

3 Abbreviations and Definitions

3.1 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
MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
SAAL	Signalling ATM Adaptation 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 sublayer
STC	Signalling Transport Converter
UNI	User-Network Interface

3.2 Definitions

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

4 I_{ur} and I_{ub} Data Transport for DCH Data Streams

4.1 Introduction

The Frame Protocol for DCH data streams [1] is the user of the transport layer specified in this Technical Specification.

4.2 Transport Layer

Asynchronous Transfer Mode (ATM) [2] and ATM Adaptation Layer type 2 (AAL2) [3, 4] are used as a transport layer for DCH data streams on I_{ur} and I_{ub} interfaces. Service Specific Segmentation and Reassembly (SSSAR) sublayer for AAL2 is used for the segmentation and reassembly of AAL2 SDUs.

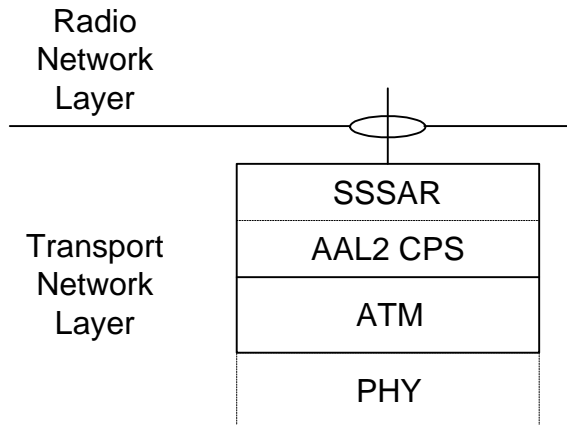


Figure 1. Transport network layer for DCH data streams over I_{ur} and I_{ub} interfaces.

5 Transport Signalling Application for DCH Data Streams

5.1 ALCAP

AAL2 signalling protocol Capability Set 1 [5] is the signalling protocol to control AAL2 connections on I_{ub} and I_{ur} interfaces.

[Binding ID shall be copied in SUGR parameter of ESTABLISH.request primitive of \[5\].](#)

User Plane Transport bearers for I_{ur} interface are established and released 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 I_{ur} interface in the Drift RNC.

User Plane Transport bearers for I_{ub} interface are established and released 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.

6 Signalling Bearer for ALCAP on I_{ub} Interface

6.1 Introduction

This chapter specifies the signalling bearer for the ALCAP on I_{ub} interface. Signalling bearer is used for the conveyance of the ALCAP messages between the peer UTRAN nodes.

4.26.2 Signalling Bearer

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

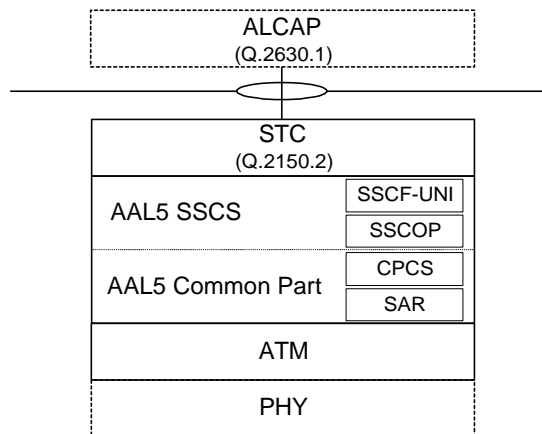


Figure 2: Signalling bearer for ALCAP on I_{ub} interface.

7 Signalling Bearer for ALCAP on I_{ur} Interface

7.1 Introduction

This chapter specifies the signalling bearer for the ALCAP on the I_{ur} interface. Signalling bearer is used for the conveyance of the ALCAP messages between the peer UTRAN nodes.

4.27.2 Signalling Bearer

MTP-3B [11] and SAAL-NNI [12, 8] are used as a signalling for AAL2 signalling. Signalling Transport Converter for MTP-3B is applied [13]. The following figure shows the signalling bearer protocol stack for the ALCAP on I_{ur} interface.

Note: Signalling bearer solution based on Common Transport Protocol/Internet Protocol (CTP/IP) [14, 15] may be considered depending on the outcome of the signalling bearer considerations for RNSAP in TSG RAN.

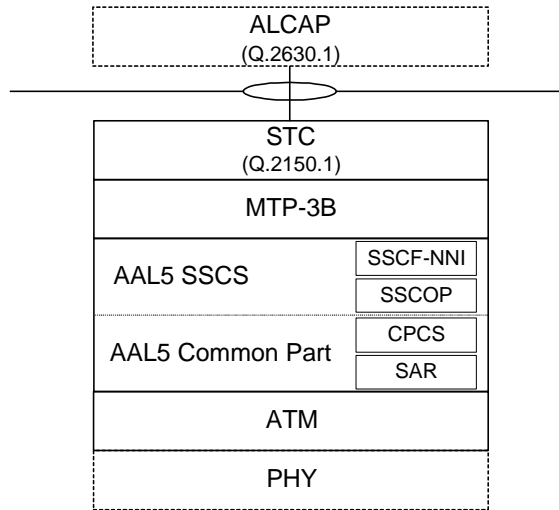


Figure 3: Signalling bearer for ALCAP on Iur interface.

8 History

Document history		
Edition	Date	Document Structure Proposal
0.0.1	February 1999	First draft (skeleton).
0.0.2	March 1999	Relevant contents from the Merged Interface Descriptions of Iur and Iub, v0.0.2, incorporated.
0.0.3	March 1999	Changes after TSG RAN WG3 #2 meeting; no changes.
0.0.4	April 1999	-ALCAP stacks revised, STC added. -"AAL5 and other options (FFS)" removed. -> For mail approval in TSG RAN WG3.
0.1.0	April 1999	Mail approval of version 0.0.4 by TSG RAN WG3 -> Tdoc R3-99245 for TSG RAN WG3 #3 meeting
1.0.1	April 1999	TSG RAN WG3 #3 meeting, 1 st review (Tdoc R3-99374): -Title S3.26 replaced by TS 25.426. -Ch 5.1 ALCAP function in SRNC and in CRNC, E.164e and AESA address formats. -Ch 7.2 note on signalling bearer solution based on CTP/IP.
1.0.2	April 1999	TSG RAN WG3 #3 meeting, 2 nd review (Tdoc R3-99407): -Ch 2 and Ch 3 updated. -Ch 6.2&7.2 SAAL-UNI&NNI split, respectively.
2.0.0	April 1999	Tdoc R3-99407 accepted. For TSG RAN approval.
3.0.0	June 1999	Approved by TSG-RAN by correspondence
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