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Technical Specification

3rd Generation Partnership Project (3GPP);
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Iu Interface Data Transport and Transport Signalling

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Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project, Technical Specification Group RAN.

The contents of this TS may be subject to continuing work within the 3GPP and may change following formal TSG approval. Should the TSG modify the contents of this TS, it will be re-released with an identifying change of release date and an increase in version number as follows:
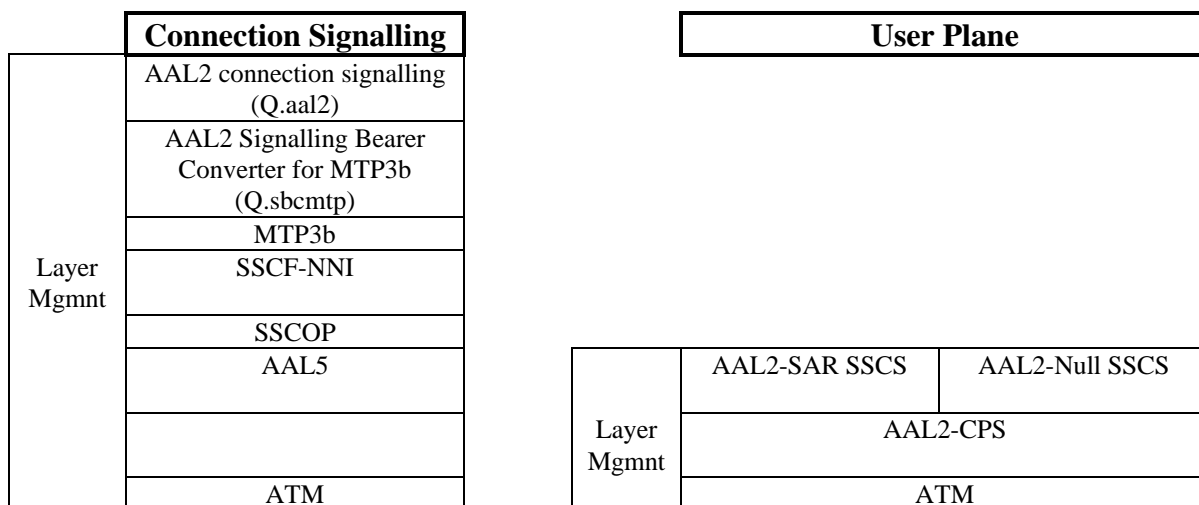
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where:

m   indicates [major version number]

x   the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

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Introduction

Iu interface towards the PSTN/ISDN Domain

Data is transported over ATM Adaptation Layer 2 (AAL2) connections. An AAL2 connection is required for each Radio Access Bearer established.

	Connection Signalling		**User Plane**	
Layer Mgmnt	AAL2 connection signalling (Q.aal2)			
	AAL2 Signalling Bearer Converter for MTP3b (Q.sbcmtp)			
	MTP3b			
	SSCF-NNI			
	SSCOP			
	AAL5	Layer Mgmnt	AAL2-SAR SSCS	AAL2-Null SSCS
			AAL2-CPS	
	ATM		ATM	

Iu interface towards the IP Domain

Multiple flows are multiplexed over an ATM virtual circuit within ATM Adaptation Layer 5 data units.

	User Plane
Layer Mgmnt	AAL5
	ATM
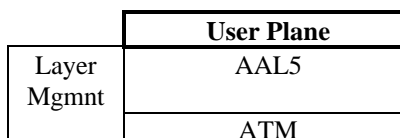
1 Scope

The present document specifies the standards for user data transport protocols and related signalling protocols to establish user plane transport bearers. It provides a summary of the protocols contained in the ITU Recommendations and their usage in the UTRAN. This includes the usage of the optional aspects of the protocol and how the protocol is applied in the UTRAN. In the event of any differences between the content of this specification and the corresponding ITU Recommendations, the Recommendations take precedence.

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.
- 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~~1~~] ITU-T draft Recommendation Q.aal2, (BER-045R2): "AAL type 2 Signalling Protocol (Capability Set 1)".

[2] ITU-T draft Recommendation Q.sbcmtp, (BER-043): "AAL type 2 Signalling Bearer Broadband MTP".

[3] ITU-T Recommendation I.363.2, "B-ISDN ATM Adaptation Layer Type 2 Specification".

[4] ………………….

3 Definitions, symbols and abbreviations

3.1 Definitions

3.2 Symbols

3.3 Abbreviations

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

ATM   Asynchronous Transfer Mode
AAL   ATM Adaptation Layer
CPS   Common Part Sublayer
SBC   Signalling Bearer Converter
SSCS   Service Specific Convergence Sublayer
…..

[provide high level description of primitives and parameters, what options are necessary, any extensions required to support UTRAN application and information about how it is used particularly for the UTRAN application]

4 ATM Layer (I.361)

The ATM layer is based on I.361.

5 PSTN/ISDN domain

5.1 User plane transport layer

5.1.1 ATM Adaptation Layer 2

5.1.1.1 AAL2-specification (I.363.2)

<u>Description</u>

AAL2 provides the ability to multiplex variable length minicells within an ATM cell. The AAL2 connections can be established dynamically using Q.aal2 signalling.

<u>Primitives and parameters</u>

Primitive	Parameters
CPS-UNITDATA request	CPS-interface Data CPS-user to user indication
CPS-UNITDATA indication	CPS-interface Data CPS-user to user indication

Table 1~~1~~: Primitives between CPS and SSCS

Primitive	Parameters
MAAL-UNITDATA request	CPS-interface Data CPS-user to user indication CPS Channel Identifier
MAAL-UNITDATA indication	CPS-interface Data CPS-user to user indication CPS-Channel identifier

Table 2~~2~~: Primitives between CPS and Layer Management

CPS packet fields
Channel ID
Length Indicator
User to user indication
Header Error Control
CPS information

Table 3~~3~~: CPS packet header fields

CPS PDU fields
Offset field
Sequence number
Parity
Padding

Table 4~~4~~: CPS PDU header fields

<u>AAL2-CPS Procedures</u>

The UTRAN shall comply with the procedures specified in section 10 of I.363.2.

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

Allows packet size of more than the maximum length specified in the CPS. This allows the multiplexing with low rate and shorter packets for delay sensitive applications.

The following capabilities are provided:

- Segmentation and Reassembly

- Optional transmission error detection

- Optional assured data transfer.

5.2 ALCAP

5.2.1 Signaling protocol

5.2.1.1 AAL2 Signalling Protocol (Q.aal2)

The AAL type 2 signalling protocol provides the signalling capability to establish, release, and maintain AAL2 point-to-point connections across a series of ATM connections that carry AAL2 links.

5.2.2 Signaling bearer converter

5.2.2.1 AAL2 MTP3B SBC (Q.sbcmtp)

The AAL type 2 MTP3b signalling bearer converter allows the AAL2 signalling protocol to be used over the broadband MTP specified in Q.2210. The services and functions provided are:

- Independence from the underlying transmission media.

- Transparency of the transferred information.

- Data transfer service availability reporting to the SBC user.

- Congestion reporting to the SBC user.

6 IP domain

6.1 User data transport

6.1.1 IP

6.1.2 ATM Adaptation Layer 5 (I.363.5)

History

Document history		
Edition x	<MMMM yyyy>	Publication as <old doctype> <old docnumber>
0.0.1	Feb 1999	First draft
0.0.2	Feb 1999	Relevant contents from the Merged Description of Iu Interface, v0.0.2, incorporated.
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