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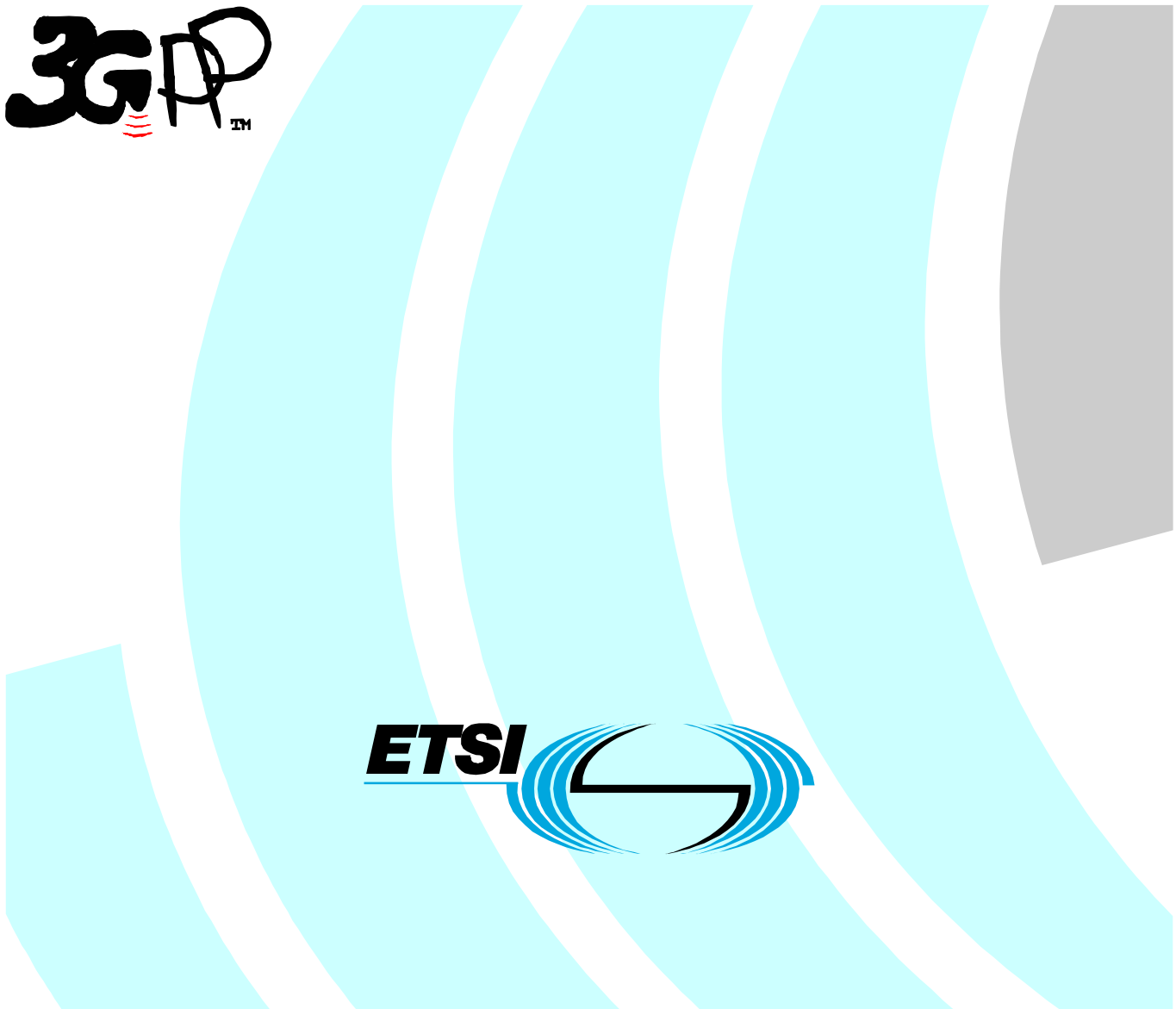
Technical Specification

Universal Mobile Telecommunications System (UMTS);
UTRAN Iur interface data transport & transport signalling for CCH data streams
(3GPP TS 25.424 version 3.9.0 Release 1999)



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Foreword

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Contents

Foreword

This Technical Specification (TS) has been produced by the 3rd Generation Partnership Project (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 the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

- x the first digit:
  - 1 presented to TSG for information;
  - 2 presented to TSG for approval;
  - 3 or greater 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 document.

1 Scope

The present document shall provide a specification of the UTRAN RNC-RNC (Iur) interface Data Transport and Transport Signalling for Common Transport Channel data streams.

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 (9/97): "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 X.213 (11/95): "Information Technology - Open Systems Interconnection - Network Service Definition".

[9] 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
AESA	ATM End System Address

ALCAP	Access Link Control Application Part
ATM	Asynchronous Transfer Mode
CPCH	Common Packet Channel
CPS	Common Part Sublayer
DSCH	Downlink Shared Channel
FACH	Forward Access Channel
MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
RACH	Random Access Channel
SAAL	Signalling ATM Adaptation Layer
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
UNI	User-Network Interface
USCH	Uplink Shared Channel

4 ATM Layer

4.1 General

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 Iur interface is the cell header format and encoding at NNI (see Figure 3/I.361 [1]).

5 I_{ur} Data Transport for Common Transport Channel Data Streams

5.1 Introduction

This clause specifies the transport layers that support Common Channels (FACH, RACH, CPCH [FDD], DSCH, USCH [TDD]) Iur data streams.

5.2 Transport Layer

ATM [1], AAL type 2 (ITU-T Recommendations I.363.2 [2] and I.366.1 [3]) is used as the standard transport layer for RACH, CPCH [FDD], FACH, USCH [TDD] and DSCH Iur data streams.

These AAL2 connections are established via the transport signalling protocol described in clause 5.

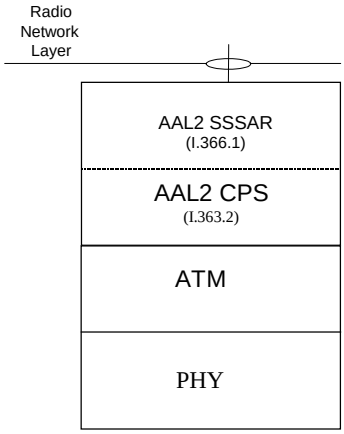

Figure 1: Protocol stack for RACH, CPCH [FDD], FACH, USCH [TDD] and DSCH data transport on Iur

Figure 1 shows the protocol stack for the transport of RACH, CPCH [FDD], FACH, USCH [TDD] and DSCH Iur data streams. Service Specific Segmentation and Re-assembly (SSSAR) is used for the segmentation and re-assembly of AAL2 SDUs (i.e. SSSAR is only considered from ITU-T Recommendation I.366.1 [3]).

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

AAL2 signalling protocol Capability Set 1, ITU-T Recommendation Q.2630.1 [4], is the signalling protocol to control the AAL2 connections on Iur interfaces. AAL2 transport layer addressing is based on embedded E.164 or other AESA variants of the NSAP addressing format [5, 8]. Native E.164 addressing [9] shall not be used.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [4]. 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 AAL2 Link Characteristics parameter (ALC) shall be included in the Establish Request message of AAL2 signalling protocol.

7 Signalling Bearer for ALCAP on I_{ur} Interface

The signalling bearer for the ALCAP on the Iur interface for common transport channels data streams is the same as the signalling bearer for the ALCAP on the Iur interface for DCH data streams, defined in [6].

Annex A (informative): Change history

Change history					
TSG RAN#	Version	CR	Tdoc RAN	New Version	Subject/Comment
RAN_04	-	-	-	3.0.0	Approved by TSG-RAN by correspondence
RAN_05	3.0.0	-	-	3.1.0	Approved by TSG-RAN #5
RAN_07	3.1.0	-	-	3.2.0	Approved at TSG RAN #7
RAN_08	3.2.0	-	RP-000245	3.3.0	Approved at TSG RAN #8
RAN_09	3.3.0	005	RP-000382	3.4.0	Approved at TSG RAN #9
RAN_10	3.4.0	006	RP-000622	3.5.0	Approved at TSG RAN #10
RAN_11	3.5.0	007 008	RP-010119	3.6.0	Approved at TSG RAN #11
RAN 14	3.6.0	012	RP-010857	3.7.0	Reference corrections
RAN 15	3.7.0	018	RP-020171	3.8.0	Alignment of 25.424 to 25.426 and Correction to transport bearers release initiation
RAN 16	3.8.0	021	RP-020408	3.9.0	Correction of Aesa formats

History

Document history		
V3.1.0	January 2000	Publication
V3.2.0	March 2000	Publication
V3.3.0	June 2000	Publication
V3.4.0	September 2000	Publication
V3.5.0	December 2000	Publication
V3.6.0	March 2001	Publication
V3.7.0	December 2001	Publication
V3.8.0	March 2002	Publication
V3.9.0	June 2002	Publication