

# ETSI TS 125 424 V4.3.0 (2002-06)

---

*Technical Specification*

**Universal Mobile Telecommunications System (UMTS);  
UTRAN Iur interface data transport & transport signalling  
for CCH data streams  
(3GPP TS 25.424 version 4.3.0 Release 4)**

---



---

Reference

RTS/TSGR-0325424v430

---

Keywords

UMTS

**ETSI**

650 Route des Lucioles  
F-06921 Sophia Antipolis Cedex - FRANCE

Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
Association à but non lucratif enregistrée à la  
Sous-Préfecture de Grasse (06) N° 7803/88

---

**Important notice**

Individual copies of the present document can be downloaded from:

<http://www.etsi.org>

The present document may be made available in more than one electronic version or in print. In any case of existing or perceived difference in contents between such versions, the reference version is the Portable Document Format (PDF). In case of dispute, the reference shall be the printing on ETSI printers of the PDF version kept on a specific network drive within ETSI Secretariat.

Users of the present document should be aware that the document may be subject to revision or change of status. Information on the current status of this and other ETSI documents is available at

<http://portal.etsi.org/tb/status/status.asp>

If you find errors in the present document, send your comment to:

[editor@etsi.fr](mailto:editor@etsi.fr)

---

**Copyright Notification**

No part may be reproduced except as authorized by written permission.  
The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 2002.  
All rights reserved.

**DECT**<sup>TM</sup>, **PLUGTESTS**<sup>TM</sup> and **UMTS**<sup>TM</sup> are Trade Marks of ETSI registered for the benefit of its Members.  
**TIPHON**<sup>TM</sup> and the **TIPHON logo** are Trade Marks currently being registered by ETSI for the benefit of its Members.  
**3GPP**<sup>TM</sup> is a Trade Mark of ETSI registered for the benefit of its Members and of the 3GPP Organizational Partners.

---

## Intellectual Property Rights

IPRs essential or potentially essential to the present document may have been declared to ETSI. The information pertaining to these essential IPRs, if any, is publicly available for **ETSI members and non-members**, and can be found in ETSI SR 000 314: "*Intellectual Property Rights (IPRs); Essential, or potentially Essential, IPRs notified to ETSI in respect of ETSI standards*", which is available from the ETSI Secretariat. Latest updates are available on the ETSI Web server (<http://webapp.etsi.org/IPR/home.asp>).

Pursuant to the ETSI IPR Policy, no investigation, including IPR searches, has been carried out by ETSI. No guarantee can be given as to the existence of other IPRs not referenced in ETSI SR 000 314 (or the updates on the ETSI Web server) which are, or may be, or may become, essential to the present document.

---

## Foreword

This Technical Specification (TS) has been produced by ETSI 3rd Generation Partnership Project (3GPP).

The present document may refer to technical specifications or reports using their 3GPP identities, UMTS identities or GSM identities. These should be interpreted as being references to the corresponding ETSI deliverables.

The cross reference between GSM, UMTS, 3GPP and ETSI identities can be found under [www.etsi.org/key](http://www.etsi.org/key).

---

# Contents

Intellectual Property Rights .....	2
Foreword.....	2
Foreword.....	4
1 Scope .....	5
2 References .....	5
3 Definitions and abbreviations.....	5
3.1 Definitions .....	5
3.2 Abbreviations .....	5
4 ATM Layer.....	6
4.1 General .....	6
5 I <sub>ur</sub> Data Transport for Common Transport Channel Data Streams.....	6
5.1 Introduction .....	6
5.2 Transport Layer .....	6
6 I <sub>ur</sub> Transport Signalling Application for Common Transport Channel Data Streams .....	7
6.1 Introduction .....	7
6.2 Transport Signalling .....	7
7 Signalling Bearer for ALCAP on I <sub>ur</sub> Interface.....	7
<b>Annex A (informative): Change history .....</b>	<b>8</b>
History .....	9

---

# Foreword

This Technical Specification (TS) has been produced by the 3<sup>rd</sup> 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 ( $I_{ur}$ ) 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 (11/2000): "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 Q.2630.2 (12/2000): "AAL Type 2 signalling protocol (Capability Set 2)".
- [9] ITU-T Recommendation X.213 (11/95): "Information Technology - Open Systems Interconnection - Network Service Definition".
- [10] 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
LC	Link Characteristics
MTP	Message Transfer Part
NNI	Network-Node Interface
NSAP	Network Service Access Point
PT	Path Type
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<sub>ur</sub> Data Transport for Common Transport Channel Data Streams

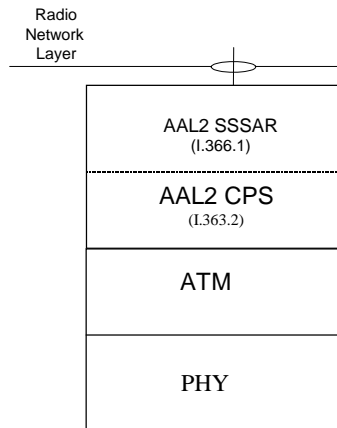
### 5.1 Introduction

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<sub>ur</sub> 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 2, ITU-T Recommendation Q.2630.2 [8], is the signalling protocol to control the AAL2 connections on Iur interfaces. Q.2630.2 [8] adds new optional capabilities to Q.2630.1 [4].

AAL2 transport layer addressing is based on embedded E.164 or other AESA variants of the NSAP addressing format [5, 9]. Native E.164 addressing [10] shall not be used.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [8]. 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 Link Characteristics parameter (LC) shall be included in the Establish Request message and in the Modification Request message of AAL2 signalling protocol.

If there is an AAL2 switching function in the transport network layer of the interface, the Path Type parameter (PT) may be included in the Establish Request message of AAL2 signalling protocol for prioritisation at ATM level.

## 7 Signalling Bearer for ALCAP on I<sub>ur</sub> 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

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New
March 01	11	RP-010162	009		Approved at TSG RAN #11 and placed under Change Control	-	4.0.0
12/2001	14	RP-010857	013		Reference corrections	4.0.0	4.1.0
03/2002	15	RP-020171	019		Alignment of 25.424 to 25.426 and Correction to transport bearers release initiation	4.1.0	4.2.0
06/2002	16	RP-020408	022		Correction of Aesa formats	4.2.0	4.3.0

---

# History

<b>Document history</b>		
V4.0.0	March 2001	Publication
V4.1.0	December 2001	Publication
V4.2.0	March 2002	Publication
V4.3.0	June 2002	Publication