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Technical Specification

**Universal Mobile Telecommunications System (UMTS);
UTRAN Iub Interface Data Transport and
Transport Signalling for Common;
Transport Channel Data Streams
(3G TS 25.434 version 3.1.0 Release 1999)**



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Contents

| | |
|---|---|
| 1 Scope..... | 5 |
| 2 References..... | 5 |
| 3 Definitions, symbols and abbreviations..... | 5 |
| 3.1 Definitions..... | 5 |
| 3.2 Symbols..... | 5 |
| 3.3 Abbreviations..... | 5 |
| 4 ATM Layer..... | 6 |
| 4.1 General..... | 6 |
| 4.2 Protection Switching at ATM Layer..... | 6 |
| 5 I _{ub} Data Transport for Common Transport Channel Data Streams..... | 6 |
| 5.1 Introduction..... | 6 |
| 5.2 Transport Layer..... | 6 |
| 6 I _{ub} Transport Signalling for Common Transport Channel Data Streams..... | 7 |
| 6.1 Introduction..... | 7 |
| 6.2 Transport Signalling..... | 7 |
| 7 Signalling Bearer for Transport Signalling on I _{ub} Interface..... | 7 |
| 7.1 Introduction..... | 7 |
| 7.2 Signalling Bearer..... | 7 |
| History..... | 9 |

Foreword

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1 Scope

This document shall provide a specification of the UTRAN RNC-Node B (Iub) interface Data Transport and Transport Signalling for Common Transport Channel data streams.

2 References

References may be made to:

- 3 specific versions of publications (identified by date of publication, edition number, version number, etc.), in which case, subsequent revisions to the referenced document do not apply;
- 3 all versions up to and including the identified version (identified by “up to and including” before the version identity);
- 3 all versions subsequent to and including the identified version (identified by “onwards” following the version identity); or
- 3 publications without mention of a specific version, in which case 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.363.2 B-ISDN ATM Adaptation Layer type 2 (9/97).
- [2] ITU-T Recommendation I.366.1 Segmentation and Reassembly Service Specific Convergence Sublayer for the AAL type 2 (6/98).
- [3] Draft New ITU-T Recommendation Q.2630.1 AAL Type 2 signalling protocol (Capability Set 1).
- [4] ITU-T Recommendation Q.2110 B-ISDN ATM Adaptation layer – Service Specific Connection Oriented Protocol (SSCOP) (7/94).
- [5] 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).
- [6] Draft New ITU-T Recommendation Q.2150.2 AAL Type 2 Signalling Transport Converter on SSCOP.
- [7] ITU-T Recommendation I.361 B-ISDN ATM Layer Specification (11/95)
- [8] ITU-T Rec. **I.630** (2/99) ATM Protection Switching

3 Definitions, symbols and abbreviations

3.1 Definitions

3.2 Symbols

3.3 Abbreviations

| | |
|------|----------------------------------|
| AAL | ATM Adaption Layer |
| AAL2 | AAL Type 2 |
| ATM | Asynchronous Transfer Mode |
| CPS | Common Part Sublayer |
| CPCS | Common Part Convergence Sublayer |
| DSCH | Downlink Shared Channel |

| | |
|-------|---|
| FACH | Forward Access Channel |
| FP | Frame Protocol |
| RACH | Random Access Channel |
| RNC | Radio Network Controller |
| SAAL | Signalling ATM Adaption Layer |
| SAR | Segmentation and Reassembly |
| SSCOP | Service Specific Connection Oriented Protocol |
| SSCF | Service Specific Co-ordination Function |
| SSCS | Service Specific Convergence Sublayer |
| SSSAR | Service Specific Segmentation and Reassembly |
| UMTS | Universal Mobile Telecommunication Network |
| UNI | User-Network Interface |
| STC | Signalling Transport Converter |
| UTRAN | UMTS Terrestrial Radio Access Network |

4 ATM Layer

4.1 General

ATM shall be used in the transport network user plane and the transport network control plane according to I.361[7].

4.2 Protection Switching at ATM Layer

If redundancy of pathways at ATM layer between RNC and Node B is supported, it shall be implemented using ATM Protection Switching according to I.630 [8].

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

5.1 Introduction

This chapter specifies the transport layers that support Common Transport Channels (FACH, RACH, DSCH) data streams.

5.2 Transport Layer

ATM and AAL2 (I363.2 [1] and I366.1 [2]) is used at the standard transport layer for Iub RACH, FACH, and DSCH data streams.

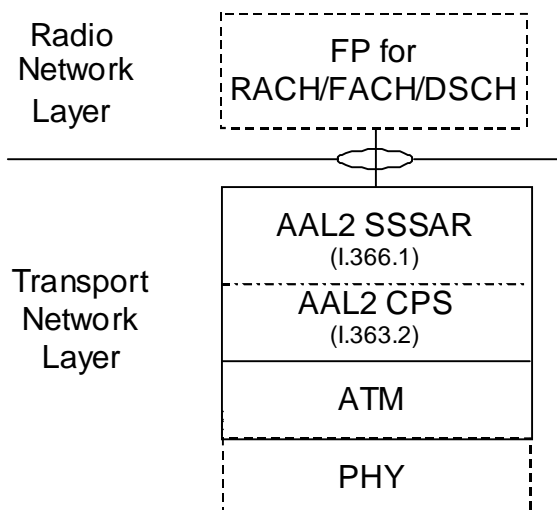


Figure 1: Protocol stack for RACH, FACH, and DSCH Iub data stream transport.

Figure 1 shows the protocol stack for the transport of RACH, FACH and DSCH Iub data streams. The Service Specific Segmentation and Reassembly (SSSAR) sublayer is used for the segmentation and reassembly of AAL2 SDUs (i.e. SSSAR is only considered from I366.1).

6 I_{ub} Transport Signalling for Common Transport Channel Data Streams

6.1 Introduction

This chapter specifies the transport signalling protocol(s) used to establish the user plane transport bearers. The protocol stack is shown in chapter 6 (Figure 2).

6.2 Transport Signalling

Q.2630.1 as development by ITU [3] is selected as the standard AAL2 signalling protocol for Iub.

7 Signalling Bearer for Transport Signalling on I_{ub} Interface

7.1 Introduction

This chapter specifies the signalling bearer protocol stack which supports the transport signalling protocol.

7.2 Signalling Bearer

SAAL-UNI is the standard signalling bearer for the AAL Type Signalling protocol (Q.2630.1) on Iub [4,5]. The protocol stack is shown in Figure 2 below.

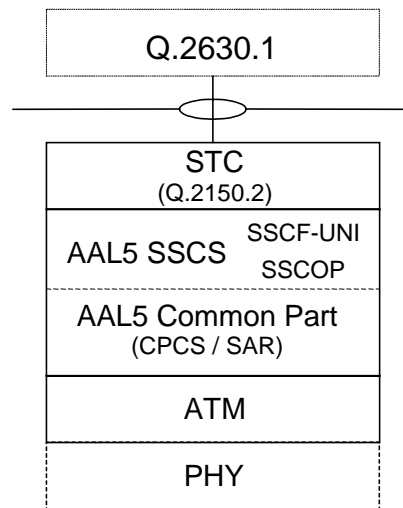


Figure 2: Transport Network Control plane protocol structure on Iub.

Binding ID provided by the radio network layer shall be copied in SUGR parameter of ESTABLISH.request primitive of [3].

A signalling transport converter (STC) is shown in the protocol stack, since Q.2630.1 does not include this. The converter relevant for Iub is Q.2150.2 [6]. The AAL5 Common Part contains CPCS and SAR.

History

| Document history | | |
|-------------------------|--------------|-------------|
| V3.1.0 | January 2000 | Publication |
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