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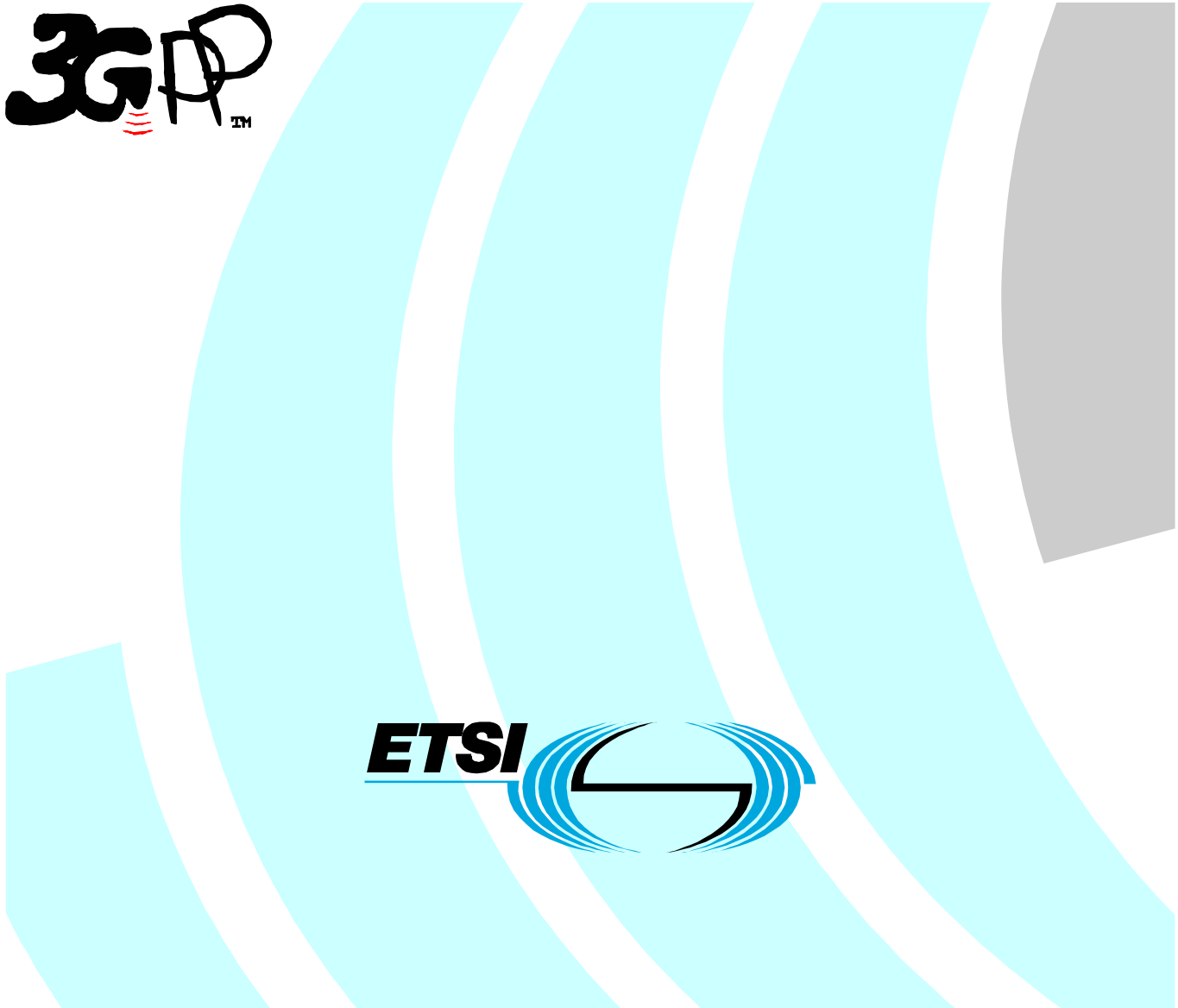
Technical Specification

Universal Mobile Telecommunications System (UMTS); UTRAN Iupc interface: signalling transport (3GPP TS 25.452 version 6.0.0 Release 6)



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Foreword

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Contents

Foreword

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

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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.
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1 Scope

The present document specifies the signalling transport related to PCAP signalling to be used across the Iupc interface. The Iupc interface is a logical interface for the interconnection of Stand-Alone SMLC (SAS) and Radio Network Controller (RNC) components of the Universal Terrestrial Radio Access Network (UTRAN) for the UMTS system. The radio network control signalling between these nodes is based upon the Position Calculation Application Part (PCAP).

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] 3GPP TS 25.422: "UTRAN Iur Interface Signalling Transport".

[2] ITU-T Recommendation Q.711 (1996): "Functional description of the signalling connection control part".

[3] ITU-T Recommendation Q.712 (1996): "Definition and function of Signalling connection control part messages".

[4] ITU-T Recommendation Q.713 (1996): "Signalling connection control part formats and codes".

[5] ITU-T Recommendation Q.714 (1996): "Signalling connection control part procedures".

[6] ITU-T Recommendation Q.715 (1996): "Signalling connection control part user guide".

[7] ITU-T Recommendation Q.716 (1993): "Signalling Connection Control Part (SCCP) performance".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of the present document, the following definition applies:

Stand-Alone SMLC (SAS): A logical node that interconnects to the RNC over the Iupc interface via the PCAP protocol. This node provides GPS related data to the RNC, and may perform the position calculation function.

3.2 Abbreviations

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

AAL5	ATM Adaptation Layer type 5
A-GPS	Assisted GPS
ATM	Asynchronous Transfer Mode
CRNC	Controlling Radio Network Controller
GPS	Global Positioning System

GT	Global Title
IP	Internet Protocol
M3UA	SS7 MTP3 User Adaptation Layer
MTP	Message Transfer Part
PCAP	Position Calculation Application Part
RNC	Radio Network Controller
SAP	Service Access Point
SAS	Stand-Alone SMLC
SCCP	Signalling Connection Control Part
SCTP	Stream Control Transmission Protocol
SMLC	Serving Mobile Location Centre
SPC	Signalling Point Code
SRNC	Serving Radio Network Controller
SS7	Signalling System N° 7
SSCF-NNI	Service Specific Co-ordination Function – Network Node Interface
SSCOP	Service Specific Connection Oriented Protocol
SSN	Sub-System Number
UE	User Equipment
UMTS	Universal Mobile Telecommunication System
UTRAN	UMTS Terrestrial Radio Access Network

4 PCAP Signalling Bearer

4.1 Introduction

This clause specifies the Signalling Bearer protocol stack that supports the PCAP signalling protocol.

The following requirements on the Signalling Bearer can be stated:

- provide reliable transfer of control plane signalling messages in both connectionless mode and connection-oriented mode;
- provide separate independent connections for distinguishing individual transactions;
- provide networking and routing functions;
- provide redundancy in the signalling network;
- provide load sharing.

4.2 Signalling Bearer

The Iupc signalling bearer shall comply with the requirements of clause 5.2 in [1].

4.3 Services Provided by the Signalling Bearer

When considering the requirements that the upper layers, i.e. PCAP, have on the Signalling Bearer, there are a number of services it has to provide and a number of functions to perform. These numbers of services that the signalling bearer shall provide, to the upper layers, are stated in references [2] to [7].

Annex A (informative): Change history

Change history							
Date	**TSG #**	**TSG Doc.**	**CR**	**Rev**	**Subject/Comment**	**Old**	**New**
09/2001	13	RP-010640	-	-	Approved at TSG RAN #13 and placed under Change Control	-	5.0.0
03//2003	19	RP-030084	001		CR on revising the definition of SAS to support all REL-4 UE positioning methods	5.0.0	6.0.0

History

Document history		
V6.0.0	March 2003	Publication