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Technical Specification

3rd Generation Partnership Project; Technical Specification Group Radio Access Network; UTRAN Iu-PS interface: signalling transport (Release 11)



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Foreword

This Technical Specification 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 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 (1996-07): "Functional description of the signalling connection control part".
- [3] ITU-T Recommendation Q.712 (1996-07): "Definition and function of Signalling connection control part messages".
- [4] ITU-T Recommendation Q.713 (1996-07): "Signalling connection control part formats and codes".
- [5] ITU-T Recommendation Q.714 (1996-07): "Signalling connection control part procedures".
- [6] ITU-T Recommendation Q.715 (1996-07): "Signalling connection control part user guide".
- [7] ITU-T Recommendation Q.716 (1993-03): "Signalling Connection Control Part (SCCP) performance".
- [8] 3GPP TS 25.305: "Stage 2 functional specification of UE positioning in UTRAN"

3 Definitions and abbreviations

3.1 Definitions

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

Stand-Alone SMLC (SAS): As defined in TS 25.305 [8].

3.2 Abbreviations

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

PCAP	Position Calculation Application Part
SAP	Service Access Point
SAS	Stand-Alone SMLC
SCCP	Signalling Connection Control Part
SMLC	Serving Mobile Location Centre

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 TS 25.422 [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 ITU-T Rec. Q.711 [2], ITU-T Rec. Q.712 [3], ITU-T Rec. Q.713 [4], ITU-T Rec. Q.714 [5], ITU-T Rec. Q.715 [6], and ITU-T Rec. Q.716 [7].

Annex A (informative): Change history

Date / TSG	TSG Doc.	CR	Rev	Subject/Comment	New
12/2008	-	-	-	Creation of Rel-8 version based on v7.1.0	8.0.0
12/2009	-	-	-	Creation of Rel-9 version based on v8.0.0	9.0.0
SP-49	SP-100629			Clarification on the use of References (TS 21.801 CR#0030)	9.0.1
03/2011				Creation of Rel-10 version based on v9.0.1	10.0.0
52	RP-110685	0003	1	References cleanup (25.452)	10.1.0
09/2012				Update to Rel-11 version (MCC)	11.0.0