

**3GPP TSG-RAN meeting #5
 Kyongju, Korea, 6-8 October 1999**

RP-99514

Title: Approved Change Requests on TS 25.412
 Agenda item: 6.4.3

TDOC	STATUS	SPEC	CR	REV	SUBJECT	CAT	CURRENT	NEW
R3-99c93	approved	25.412	001		SCTP Evaluation	D	3.0.0	3.1.0
R3-99d04	approved	25.412	002		ATM switching layer	B	3.0.0	3.1.0

Sophia Antipolis, France, September 20 - 24
1999

3G CHANGE REQUEST

Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.

25.412 CR 001

Current Version: **3.0.0**

3G specification number ↑

↑ CR number as allocated by 3G support team

For submission to TSG
list TSG meeting no. here ↑

for approval
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(only one box should be marked with an X)

Form: 3G CR cover sheet, version 1.0 The latest version of this form is available from: ftp://ftp.3gpp.org/Information/3GCRF-xx.rtf

Proposed change affects:
(at least one should be marked with an X)

USIM

ME

UTRAN

Core Network

Source:

Date:

Subject:

3G Work item:

Category:

- F Correction
- A Corresponds to a correction in a 2G specification
- B Addition of feature
- C Functional modification of feature
- D Editorial modification

(only one category shall be marked with an X)

<input type="checkbox"/>
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<input checked="" type="checkbox"/>

Reason for change:

The TSG RAN WG3 has concluded that SCTP is ready for reference in 3GPP specifications. This CR presents the changes necessary to update TS 25.412 accordingly.

Clauses affected:

Other specs affected:

- Other 3G core specifications → List of CRs:
- Other 2G core specifications → List of CRs:
- MS test specifications → List of CRs:
- BSS test specifications → List of CRs:
- O&M specifications → List of CRs:

Other comments:

4. **Q.2210** (7/96) Message transfer part level 3 functions and messages using the services of ITU-T Recommendation Q.2140.
5. **I.361** (11/95) B-ISDN ATM layer specification.
6. **I.363.5** (8/96) B-ISDN ATM Adaptation Layer Type 5.
7. **Q.711** (7/96) Functional description of the signalling connection control part
8. **Q.712** (7/96) Definition and function of Signalling connection control part messages
9. **Q.713** (7/96) Signalling connection control part formats and codes
10. **Q.714** (7/96) Signalling connection control part procedures
11. **Q.715** (7/96) Signalling connection control part user guide
12. **Q.716** (3/93) Signalling connection control part (SCCP) performance
13. **IETF RFC 791** (9/1981): Internet Protocol

[14. IETF RFC 1483 \(7/1993\): "Multiprotocol Encapsulation over ATM Adaptation Layer 5"](#)

[15. IETF RFC 2225 \(4/1998\): "Classical IP and ARP over ATM"](#)

[16. IETF RFC 768 \(8/1980\): "User Datagram Protocol"](#)

~~14. Rytina I., "Framework for generic Common Transport Protocol", draft-sigtran-rytina-generic-framework-00.txt, IETF, Feb. '99.~~

[17. R. Stewart et al, "Simple Control Transmission Protocol", draft-ietf-sigtran-sctp-v0.txt \(Work In Progress\), IETF, September 1999](#)

[18. G. Sidebottom et al, "SS7 ISUP Tunneling", draft-ietf-sigtran-itun-00.txt \(Work In Progress\), IETF, June 1999](#)

1 3 Definitions, symbols and abbreviations

1.1 3.1 Definitions

1.2 3.2 Symbols

1.3 3.3 Abbreviations

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

AAL	ATM Adaptation Layer
AAL5	ATM Adaptation Layer 5
ATM	Asynchronous Transfer Mode
CS	Circuit Switched
CTP	Common Transport Protocol
IP	Internet Protocol
ITUN	SS7 ISUP Tunnelling (Adaptation layer for ISUP and SCCP for SCTP)
MTP3-B	Message Transfer Part
PS	Packet Switched
RANAP	Radio Access Network Application Part
RNC	Radio Network Controller
SAAL-NNI	Signalling ATM Adaptation Layer – Network Node Interface
SCTP	Simple Control Transmission Protocol
SSCF	Service Specific Co-ordination Function
SCCP	Signalling Connection Control Part
SSCOP	Service Specific Connection Oriented Protocol

1.4 4.3 Signalling Bearer for Packet Switched Domain

The protocol stacks for the PS Domain is shown in figure 2. The standard allows operators to chose one out of two standardised protocol to suites for transport of SCCP messages.

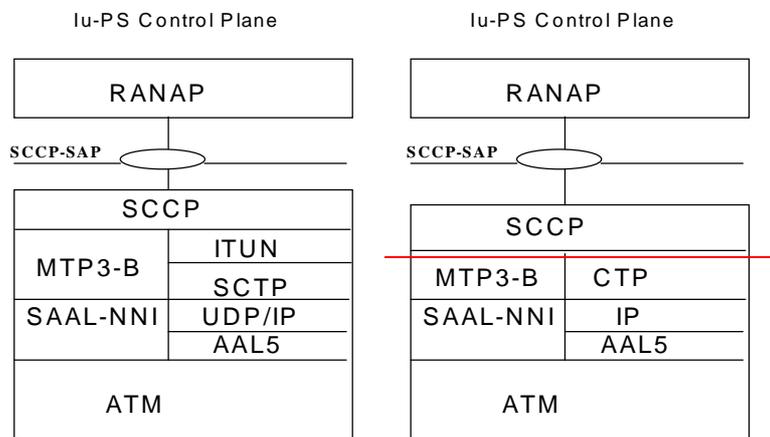


Figure 2 SAP between RANAP and its transport for the Iu -IP domain

Figure 2 shows, for the Iu IP domain, the point at which the service primitives are invoked. A single SAP is defined independently of the signalling bearer. The SAP provides the SCCP primitives. The figure is not intended to constrain the architecture.

~~Note: In case CTP Protocol does not become ready, for reference, by September '99, WG3 will re-evaluate the protocol option of using CTP for release '99.~~

- 1 **SCCP** [7] provides connectionless service, class 0, connectionless service with guaranteed order, class 1, connection oriented service, class 2, separation of the connections mobile by mobile basis on the connection oriented link and establishment of a connection oriented link mobile by mobile basis.
- 2 **MTP3-B** [4] provides message routing, discrimination and distribution (for point-to-point link only), signalling link management load sharing and changeover/back between link within one link-set. The need for multiple link-sets is precluded.
- 3 **SAAL-NNI** [1] consists of the following sub-layers: - **SSCF-NNI** [3], - **SSCOP** [2] and – **AAL5** [6]. The SSCF maps the requirements of the layer above to the requirements of SSCOP. Also SAAL connection management, link status and remote processor status mechanisms are provided. SSCOP provides mechanisms for the establishment and release of connections and the reliable exchange of signalling information between signalling entities. Adapts the upper layer protocol to the requirements of the Lower ATM cells.
- 4 **ATM** [5]
- 5 ~~SCTP [14] is a generic term used to describe the~~ [prefers to the Simple Control Transmission Protocol \[17\] being developed by the Sigtran working group of the IETF for the purposes of transporting various signaling protocols over IP networks.](#) [ITUN refers to the SCCP adaptation layer “SS7 ISUP Tunneling” \[18\] also developed by the Sigtran working group of the IETF.](#)
- 6 [UDP\[16\] / IP \[13\] over ATM are defined in \[14\] and \[15\].](#) ~~is supported by AAL5 [6] and ATM [5]~~

Sophia Antipolis, France, September 20-24, 1999

3G CHANGE REQUEST

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25.412 CR 002

Current Version: 3.0.0

3G specification number ↑

↑ CR number as allocated by 3G support team

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Proposed change affects:
(at least one should be marked with an X)

USIM

ME

UTRAN

Core Network

Source: Motorola

Date: Sept 20-24, 1999

Subject: ATM switching layer

3G Work item:

Category:

(only one category shall be marked with an X)

- F Correction
- A Corresponds to a correction in a 2G specification
- B Addition of feature
- C Functional modification of feature
- D Editorial modification

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Reason for change:

For multivendor operability it is required to specify the mechanism by which redundancy of pathways between CN and RNC will be accomplished when redundancy is supported.

Clauses affected:

Other specs affected:

- Other 3G core specifications → List of CRs:
- Other 2G core specifications → List of CRs:
- MS test specifications → List of CRs:
- BSS test specifications → List of CRs:
- O&M specifications → List of CRs:

Other comments:



help.doc

<----- double-click here for help and instructions on how to create a CR.

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.
 - 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. **Q.2100** (7/94) B-ISDN signalling ATM adaptation layer (SAAL) - overview description.
 2. **Q.2110** (7/94) B-ISDN ATM adaptation layer - Service specific connection oriented protocol (SSCOP).
 3. **Q.2140** (2/95) B-ISDN ATM adaptation layer - Service specific coordination function for signalling at the network node interface (SSCF AT NNI).
 4. **Q.2210** (7/96) Message transfer part level 3 functions and messages using the services of ITU-T Recommendation Q.2140.
 5. **I.361** (11/95) B-ISDN ATM layer specification.
 6. **I.363.5** (8/96) B-ISDN ATM Adaptation Layer Type 5.
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 14. Rytina I., "Framework for generic Common Transport Protocol", draft-sigtran-rytina-generic-framework-00.txt, IETF, Feb. '99.

[15. ITU-T Rec. I.630 \(2/99\) ATM Protection Switching](#)

3 Definitions, symbols and abbreviations

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3.2 Symbols

3.3 Abbreviations

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SSCOP	Service Specific Connection Oriented Protocol

4 ATM Layer

4.1 General

ATM shall be used in the radio network control plane according to I.361 [5].

4.2 Protection Switching at ATM Layer

If redundancy of pathways at ATM layer between CN and RNC is supported, it shall be implemented using ATM Protection Switching according to I.630 [15].

45 RANAP Signalling Bearer

4.15.1 Introduction

This chapter specifies the Signaling Bearer protocol stack that supports the RANAP signaling 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 transactions with individual UE's;
- Supervise the 'UE connections' and provide connection status information to the Upper Layers for individual UE's;
- Provide networking and routing functions;
- Provide redundancy in the signalling network;
- Provide load sharing.

4.25.2 Signalling Bearer for Circuit Switched Domain