

TSG RAN Meeting #17
 Biarritz, France, 3 - 6 September, 2002

RP-020611

Title CRs (Rel-4 and Rel-5 Category A) for
Addition of new reference on SCTP checksum
Source TSG RAN WG3
Agenda Item 7.3.4

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	REL	CR	Rev	Cat	Title	Work item
R3-022026	25.412	4.0.0	4.1.0	REL-4	012	1	F	Addition of new reference on SCTP checksum	TEI4
R3-022028	25.422	4.1.1	4.2.0	REL-4	013	1	F	Addition of new reference on SCTP checksum	TEI4
R3-022030	25.426	4.3.0	4.4.0	REL-4	027	1	F	Addition of new reference on SCTP checksum	TEI4
R3-022027	25.412	5.0.0	5.1.0	REL-5	011	1	A	Addition of new reference on SCTP checksum	TEI4
R3-022029	25.422	5.0.0	5.1.0	REL-5	012	1	A	Addition of new reference on SCTP checksum	TEI4
R3-022031	25.426	5.1.0	5.2.0	REL-5	026	1	A	Addition of new reference on SCTP checksum	TEI4
R3-022032	25.432	5.0.1	5.2.0	REL-5	003	1	A	Addition of new reference on SCTP checksum	TEI4

CR-Form-v7

CHANGE REQUEST

25.412 CR 011 # rev **1** # Current version: **5.0.0**

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	# Addition of new reference on SCTP checksum		
Source:	# RAN WG3		
Work item code:	# TEI4	Date:	# 20/08/2002
Category:	# A	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# To provide the new reference to the IETF RFC 3309 which gives the newly devised error free checksum algorithm for SCTP. This is an essential correction.
Summary of change:	# A new RFC reference is provided and stipulated to be used for SCTP.
Consequences if not approved:	# An error prone checksum algorithm for SCTP will continue to be used. For users SCTP over IP faulty small packets could be transferred without detection and if this occurs, this could result in serious misoperation of the system. Impact Analysis: This CR has only isolated impact with the previous version of the specification because it affects implementations supporting the functionality that is being corrected in this CR.

Clauses affected:	# 2; 5.2.3; 5.3.3; 5.3.4										
Other specs affected:	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td style="text-align: center;"></td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.412 CR012r1; 25.422 CR012r1, CR013r1; 25.426 CR026r1, CR027r1; 25.432 CR003r1
Y	N										
X											
	X										
	X										
Other comments:	#										

How to create CRs using this form:

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- 3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

2 References

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- [17] G. Sidebottom et al, "SS7 MTP3 – User Adaptation Layer", draft-ietf-sigtran-m3ua-11.txt (Work In Progress), IETF, January 2002.
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- [22] IETF RFC 1990: "The PPP Multilink Protocol (MP)".

- [23] IETF RFC 2686 (09/1999): "The Multi-Class Extension to Multi-Link PPP".
- [24] IETF RFC 2509 (02/1999): "IP Header Compression over PPP".
- [25] IETF RFC 2460: "Internet Protocol, Version 6 (Ipv6) Specification".
- [26] IETF RFC 2474 (12/1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".
- [27] IETF RFC 768 (09/1980): "User Datagram Protocol".
- [28] IETF RFC 3031 (01/2001): "MPLS".
- [29] IETF RFC 3153 (08/2001): "PPPMultiplexing".
- [30] RFC 3309: "'SCTP Checksum Change'".

3 Abbreviations

5.2.3 IP Transport Option

1. **SCCP**, see subclause 5.2.2.
2. **M3UA** refers to the SCCP adaptation layer "SS7 MTP3 – User Adaptation Layer " [17] also developed by the Sigtran working group of the IETF.
3. **SCTP** refers to the Stream Control Transmission Protocol [16] developed by the Sigtran working group of the IETF for the purpose of transporting various signalling protocols over IP networks. The checksum method specified in RFC 3309 [30] shall be used instead of the method specified in RFC 2960 [16].
4. **IP**. IPv6 shall be supported according to [25]. IPv4 support [13] is optional.

Note: This does not preclude the single implementation and use of Ipv4.

Due to the possible transition from IPv4 to IPv6 the IP dual stack support is recommended.

An RNC using IP transport option shall support Diffserv code point marking [26]. The Diffserv code point may be determined from the application parameters.

5.3 Signalling Bearer for Packet Switched Domain

5.3.3 ATM Transport Option 2

1. **SCCP**, see subclause 5.3.2.
2. **M3UA** refers to the SCCP adaptation layer "SS7 MTP3 – User Adaptation Layer " [17] also developed by the Sigtran working group of the IETF. An RNC equipped with the M3UA stack option shall have client functionality. This enables the RNC to report to the SGSN when it is a newly introduced entity in the network.
3. **SCTP** refers to the Stream Control Transmission Protocol [16] developed by the Sigtran working group of the IETF for the purpose of transporting various signalling protocols over IP networks. The multi-homing services of SCTP shall be required at both ends of an SCTP-association to enable transport redundancy and reliability.
M3UA. An implementation of SCTP to this document shall utilise the new checksum method specified in RFC 3309 [30] instead of the method specified in RFC 2960 [16].
4. **IP** [13] over ATM is defined in [14] and [15].
5. **AAL5** refers to [6]. It shall be possible to use AAL5 connections pre-configured as PVCs for signalling transport on the Iu-interface.

5.3.4 IP Transport Option

1. **SCCP** , see subclause 5.3.2.
2. **M3UA**, refers to the SCCP adaptation layer "SS7 MTP3 – User Adaptation Layer " [17] also developed by the Sigtran working group of the IETF.
3. **SCTP**, refers to the Stream Control Transmission Protocol [16] developed by the Sigtran working group of the IETF for the purpose of transporting various signalling protocols over IP networks. An implementation of SCTP to this document shall utilise the new checksum method specified in RFC 3309 [30] instead of the method specified in RFC 2960 [16].
4. **IP**. IPv6 shall be supported according to [25]. IPv4 support [13] is optional.

Note: This does not preclude the single implementation and use of IPv4.

Due to the possible transition from IPv4 to IPv6, the IP dual stack support is recommended.

An RNC using IP transport option shall support Diffserv code point marking [26]. The Diffserv code point may be determined from the application parameters.

5.4 Services Provided by the Signalling Bearer

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CHANGE REQUEST

№ **25.412 CR 012** № rev **1** № Current version: **4.0.0** №

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the № symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	№ Addition of new reference on SCTP checksum		
Source:	№ RAN WG3		
Work item code:	№ TEI4	Date:	№ 20/08/2002
Category:	№ F	Release:	№ Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)	2 (GSM Phase 2)	
	A (corresponds to a correction in an earlier release)	R96 (Release 1996)	
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	C (functional modification of feature)	R98 (Release 1998)	
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Summary of change:	№ A new RFC reference is provided and stipulated to be used for SCTP.
Consequences if not approved:	№ An error prone checksum algorithm for SCTP will continue to be used. For users SCTP over IP faulty small packets could be transferred without detection and if this occurs, this could result in serious misoperation of the system. Impact Analysis: This CR has only isolated impact with the previous version of the specification because it affects implementations supporting the functionality that is being corrected in this CR.

Clauses affected:	№ 2; 5.3.1										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;"></td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> </table> Other core specifications	Y	N	X			X		X	№	25.412 CR011r1; 25.422 CR012r1, CR013r1; 25.426 CR026r1, CR027r1; 25.432 CR003r1
Y	N										
X											
	X										
	X										
Other comments:	№										

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- [18] 3GPP TS 25.410: "UTRAN Iu Interface: General Aspects and Principles".
- [19] RFC 3309: "SCTP Checksum Change".

3 Abbreviations

5.3.1 Protocol Stack for the PS Domain

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

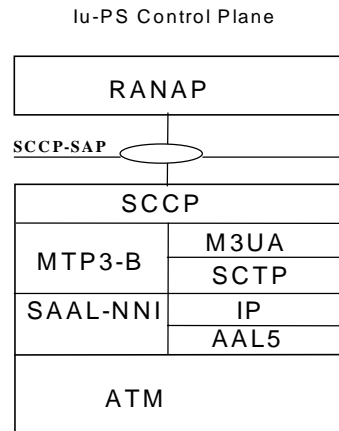


Figure 2: SAP between RANAP and its transport for the Iu –IP domain

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.

1. **SCCP** [7] provides connectionless service, class 0, 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** [16] refers to the Stream Control Transmission Protocol [16] developed by the Sigtran working group of the IETF for the purpose of transporting various signalling protocols over IP networks. The checksum method specified in RFC 3309 [19] shall be used instead of the method specified in RFC 2960 [16]. **M3UA** refers to the SCCP adaptation layer "SS7 MTP3 – User Adaptation Layer " [17] also developed by the Sigtran working group of the IETF.
6. **IP** [13] over ATM is defined in [14] and [15].

5.3.2 Protocol Services

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CHANGE REQUEST

25.422 CR 012 # rev **1** # Current version: **5.0.0**

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Addition of new reference on SCTP checksum		
Source:	# RAN WG3		
Work item code:	# TEI4	Date:	# 20/08/2002
Category:	# A	Release:	# Rel-5
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Clauses affected:	# 2; 5.2.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;"></td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.422 CR013r1; 25.412 CR011r1, CR012r1; 25.426 CR026r1, CR027r1; 25.432 CR003r1
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	#										

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3 Abbreviations

5.2.2 ATM Option 2

1. **SCCP**. See subclause 5.2.1
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5.2.3 IP Transport Option

CR-Form-v7

CHANGE REQUEST

25.422 CR 013 # rev **1** # Current version: **4.1.1**

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

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Work item code:	# TEI4	Date:	# 20/08/2002
Category:	# F	Release:	# Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# To provide the new reference to the IETF RFC 3309 which gives the newly devised error free checksum algorithm for SCTP. This is an essential correction.
Summary of change:	# A new RFC reference is provided and stipulated to be used for SCTP.
Consequences if not approved:	# An error prone checksum algorithm for SCTP will continue to be used. For users SCTP over IP faulty small packets could be transferred without detection and if this occurs, this could result in serious misoperation of the system.
	Impact Analysis: This CR has only isolated impact with the previous version of the specification because it affects implementations supporting the functionality that is being corrected in this CR.

Clauses affected:	# 2; 5.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.412 CR011r1, CR012r1; 25.422 CR012r1; 25.426 CR026r1 CR027r1; 25.432 CR003r1
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	#										

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at <http://www.3gpp.org/specs/CR.htm>.

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- [2] ITU-T Recommendation Q.2110 (7/94): "B-ISDN ATM adaptation layer - Service Specific Connection Oriented Protocol (SSCOP)".
- [3] ITU-T Recommendation Q.2140 (2/95): "B-ISDN ATM adaptation layer - Service Specific Co-ordination Function for signalling at the Network Node Interface (SSCF AT NNI)".
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- [5] ITU-T Recommendation I.361 (11/95): "B-ISDN ATM layer specification".
- [6] ITU-T Recommendation I.363.5 (8/96): "B-ISDN ATM Adaptation Layer specification: Type 5 AAL".
- [7] ITU-T Recommendation Q.711 (7/96): "Functional description of the signalling connection control part".
- [8] ITU-T Recommendation Q.712 (7/96): "Definition and function of Signalling connection control part messages".
- [9] ITU-T Recommendation Q.713 (7/96): Signalling connection control part formats and codes.
- [10] ITU-T Recommendation Q.714 (7/96): "Signalling connection control part procedures".
- [11] ITU-T Recommendation Q.715 (7/96): "Signalling connection control part user guide".
- [12] ITU-T Recommendation Q.716 (3/93): "Signalling System No. 7 - Signalling Connection Control Part (SCCP) performance".
- [13] IETF RFC 791 (September 1981): "Internet Protocol".
- [14] IETF RFC 1483 (July 1993): "Multi protocol Encapsulation over ATM Adaptation Layer 5".
- [15] IETF RFC 2225 (April 1998): "Classical IP and ARP over ATM".
- [16] IETF RFC 2960 (October 2000): "Stream Control Transmission Protocol".
- [17] G. Sidebottom et al, "SS7 MTP3 - User Adaptation Layer", draft-ietf-sigtran-m3ua-04.txt (Work In Progress), IETF, September 2000.
- [18] RFC 3309: ""SCTP Checksum Change"".

3 Abbreviations

5.2 Signalling Bearer

This subclause refers to specifications of the Signalling Bearer for the Radio Network Layer protocols. As shown in figure 1, the standard allows operators to choose one out of two protocol to suites for transport of SCCP messages.

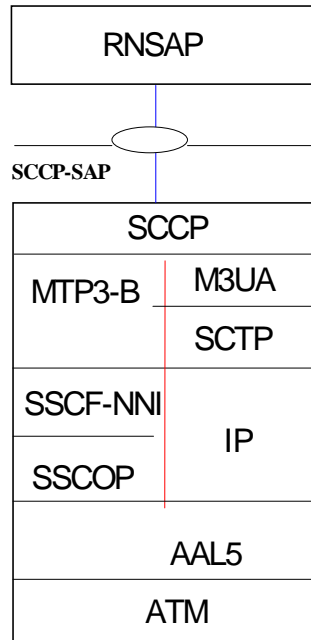


Figure 1: Signalling bearer for RNSAP

1. **SCCP** [7] provides connectionless service, class 0, 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** [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** refers to the Stream Control Transmission Protocol [16] developed by the Sigtran working group of the IETF for the purposes of transporting various signalling protocols over IP networks. The checksum method specified in RFC 3309 [18] shall be used instead of the method specified in RFC 2960 [16]. M3UA refers to the SCCP adaptation layer "SS7 MTP3 - User Adaptation Layer" [17] also developed by the Sigtran working group of the IETF.
6. **IP** [13] over ATM is defined in [14] and [15].

5.3 Services Provided by the Signalling Bearer

CHANGE REQUEST

25.426 CR 026 # rev **1** # Current version: **5.1.0**

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps ME Radio Access Network Core Network

Title:	# Addition of new reference on SCTP checksum		
Source:	# RAN WG3		
Work item code:	# TEI4	Date:	# 20/08/2002
Category:	# A	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# To provide the new reference to the IETF RFC 3309 which gives the newly devised error free checksum algorithm for SCTP. This is an essential correction.
Summary of change:	# A new RFC reference is provided and stipulated to be used for SCTP.
Consequences if not approved:	# An error prone checksum algorithm for SCTP will continue to be used. For users SCTP over IP faulty small packets could be transferred without detection and if this occurs, this could result in serious misoperation of the system.
	Impact Analysis: This CR has only isolated impact with the previous version of the specification because it affects implementations supporting the functionality that is being corrected in this CR.

Clauses affected:	# 2; 8.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;"></td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.426 CR 027r1; 25.412 CR011r1, CR012r1; 25.422 CR012r1, CR013r1; 25.432 CR003r1
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	#										

How to create CRs using this form:

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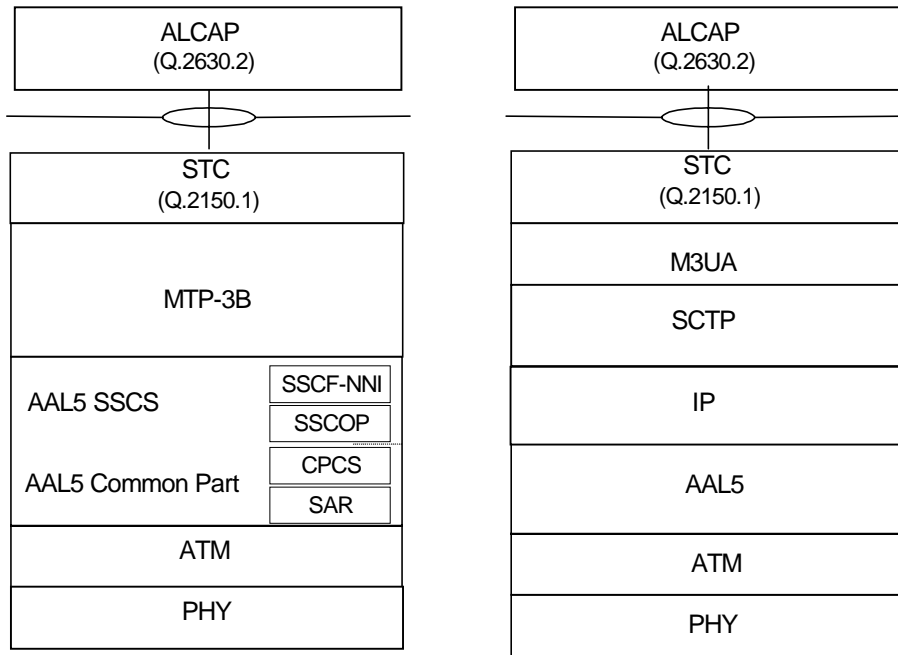
- [1] 3GPP TS 25.427: "UTRAN Iur and Iub User interface plane protocols for DCH data streams".
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- [5] ITU-T Recommendation Q.2630.1 (12/99): "AAL type 2 signalling protocol (Capability Set 1)".
- [6] ITU-T Recommendation E.191 (10/96): "B-ISDN numbering and addressing".
- [7] ITU-T Recommendation X.213 (11/95): "Information Technology - Open Systems Interconnection - Systems Interconnection - Network Service Definition".
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- [9] ITU-T Recommendation Q.2130 (7/94): "B-ISDN signalling ATM adaptation layer - Service Specific Coordination Function for Support of Signalling at the User-Network Interface (SSCF at UNI)".
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- [19] G. Sidebottom et al, "SS7 MTP3 - User Adaptation Layer", draft-ietf-sigtran-m3ua-12.txt (Work In Progress), IETF, February 2002.
- [20] ITU-T Recommendation I.630 (2/99): "ATM protection switching".

- [21] ITU-T Recommendation Q.Imp2210: "Implementor's guide (03/99) for Recommendation Q.2210 (07/96)".
- [22] ITU-T Recommendation Q.2630.2 (12/2000): "AAL type 2 signalling protocol (Capability Set 2)".
- [23] IETF STD 51, RFC 1661 (July 1994): "The Point-To-Point Protocol (PPP)".
- [24] IETF STD 51, RFC 1662 (July 1994): "PPP in HDLC-like Framing".
- [25] IETF RFC 2507, (February 1999): "IP header compression".
- [26] IETF RFC 1990 "The PPP Multilink Protocol (MP)".
- [27] IETF RFC 2686 "The Multi-Class Extension to Multi-Link PPP".
- [28] IETF RFC 2509, (February 1999): "IP Header Compression over PPP".
- [29] IETF RFC 2460 "Internet Protocol, Version 6 (IPv6) Specification".
- [30] IETF RFC 2474 (December 1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".
- [31] IETF RFC 768 (8/1980): "User Datagram Protocol".
- [32] IETF RFC 3153 (August 2001): "PPP Multiplexing".
- [33] IETF RFC 2364 (July 1998): "PPP over AAL5".
- [34] IETF RFC 3031 (January 2001): "Multiprotocol Label Switching Architecture".
- [35] "IP-ALCAP" [ffs]
- [36] RFC 3309: "SCTP Checksum Change".

3 Definitions and abbreviations

8.2 Signalling Bearer in ATM Transport Option

There are two protocol stacks specified for Iur ALCAP Signalling Bearer in ATM option - one based on MTP-3B [11, 21] and SAAL-NNI [12, 8] and the other based on SCTP [18]. Signalling Transport Converter for MTP-3B is applied [13]. MTP-3 User Adaptation Layer (M3UA) for SCTP is applied [19]. Classical IP over ATM is specified in [16]. Multiprotocol Encapsulation over AAL5 is specified in [15]. The checksum method specified in RFC 3309 [36] shall be used instead of the method specified in RFC 2960 [18]. The following figure shows the signalling bearer protocol stacks for the ALCAP on Iur interface.



MTP-3B based Iur ALCAP Signalling Bearer

IP based Iur ALCAP Signalling Bearer

Figure 3: Signalling bearers for ALCAP on Iur interface

8.3 Signalling Bearer in IP Transport Option

CR-Form-v7

CHANGE REQUEST

25.426 CR 027 # rev **1** # Current version: **4.3.0**

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Addition of new reference on SCTP checksum		
Source:	# RAN WG3		
Work item code:	# TEI4	Date:	# 20/08/2002
Category:	# F	Release:	# Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# To provide the new reference to the IETF RFC 3309 which gives the newly devised error free checksum algorithm for SCTP. This is an essential correction.
Summary of change:	# A new RFC reference is provided and stipulated to be used for SCTP.
Consequences if not approved:	# An error prone checksum algorithm for SCTP will continue to be used. For users SCTP over IP faulty small packets could be transferred without detection and if this occurs, this could result in serious misoperation of the system.
	Impact Analysis: This CR has only isolated impact with the previous version of the specification because it affects implementations supporting the functionality that is being corrected in this CR.

Clauses affected:	# 2; 8.2										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="width: 20px; text-align: center;">Y</td> <td style="width: 20px; text-align: center;">N</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> <tr> <td></td> <td style="text-align: center;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.412 CR011r1, CR012r1; 25.422 CR012r1, CR013r1; 25.426 CR026r1; 25.432 CR003r1
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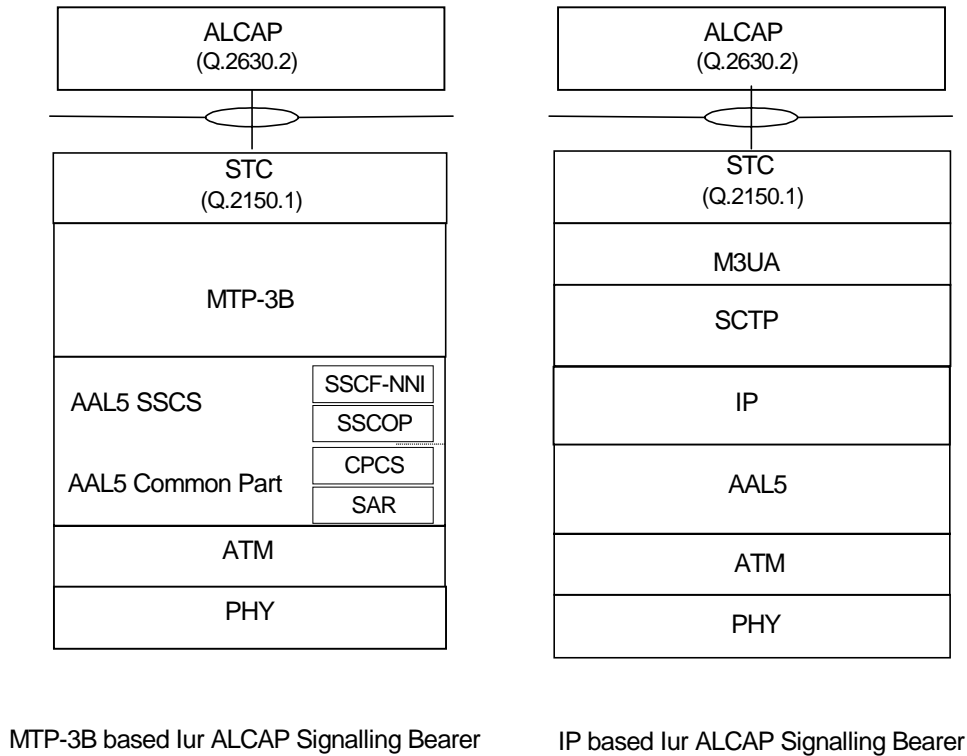


Figure 3: Signalling bearers for ALCAP on Iur interface

CR-Form-v7

CHANGE REQUEST

25.432 CR 003 # rev **1** # Current version: **5.0.1**

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the # symbols.

Proposed change affects: UICC apps# ME Radio Access Network Core Network

Title:	# Addition of new reference on SCTP checksum		
Source:	# RAN WG3		
Work item code:	# TEI4	Date:	# 20/08/2002
Category:	# A	Release:	# Rel-5
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
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Clauses affected:	# 2; 5.3										
Other specs affected:	<table border="1" style="display: inline-table; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 20px;">Y</td> <td style="width: 20px;">N</td> </tr> <tr> <td style="width: 20px;">X</td> <td style="width: 20px;"></td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> <tr> <td style="width: 20px;"></td> <td style="width: 20px;">X</td> </tr> </table>	Y	N	X			X		X	Other core specifications	# 25.426 CR 027r1, CR026r1; 25.412 CR011r1, CR012r1; 25.422 CR012r1, CR013r1
Y	N										
X											
	X										
	X										
		Test specifications									
		O&M Specifications									
Other comments:	#										

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- 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 Q.2100 (07/94): "B-ISDN signalling ATM adaptation layer (SAAL) overview description".
- [2] ITU-T Recommendation Q.2130 (07/94): "B-ISDN signalling ATM adaptation layer – Service specific coordination function for support of signalling at the user network interface (SSCF–UNI)".
- [3] ITU-T Recommendation Q.2110 (07/94): "B-ISDN ATM adaptation layer – Service specific connection oriented protocol (SSCOP)".
- [4] ITU-T Recommendation I.363.5 (08/96): "B-ISDN ATM Adaptation Layer Type 5 Specification".
- [5] ITU-T Recommendation I.361: B-ISDN ATM Layer Specification (11/95).
- [6] ITU-T Rec. I.630 (2/99): ATM Protection Switching.
- [7] IETF RFC 2960, (October 2000): "Stream Control Transmission Protocol".
- [8] IETF RFC 2460, (December 1998): "Internet Protocol, Version 6 (IPv6) Specification".
- [9] IETF RFC 791, (September 1981): "Internet Protocol".
- [10] IETF RFC 2474, (December 1998): "Definition of the Differentiated Services Field (DS Field) in the IPv4 and IPv6 Headers".
- [11] IETF RFC 1661, (July 1994): "The Point-to-Point Protocol (PPP)".
- [12] IETF RFC 1662, (July 1994): "PPP in HDLC-like Framing".
- [13] IETF RFC 2507, (February 1999): "IP header compression".
- [14] IETF RFC 1990, (August 1996): "The PPP Multilink Protocol (MP)".
- [15] IETF RFC 2686, (September 1999): "The Multi-Class Extension to Multi-Link PPP".
- [16] IETF RFC 2509, (February 1999): "IP Header Compression over PPP".
- [17] IETF RFC 3153, (August 2001): "PPP Multiplexing".
- [18] IETF RFC 2364, (July 1998): "PPP over AAL5".
- [19] IETF RFC 3031, (January 2001): "Multiprotocol Label Switching Architecture".
- [20] RFC 3309: "SCTP Checksum Change".

3 Definitions, symbols and abbreviations

5.3 Signalling bearer in case of IP Transport Option

SCTP [7] over IP shall be supported as the transport for NBAP signalling bearer on Iub Interface. The data link layer is as specified in chapter 4.2

The checksum method specified in RFC 3309 [20] shall be used instead of the method specified in RFC 2960 [7].

An IP UTRAN node shall support IPv6 [8]. The support of IPv4 [9] is optional.

NOTE: This does not preclude single implementation and use of IPv4.

IP dual stack is recommended for the potential transition period from IPv4 to IPv6 in the transport network.

Each signalling bearer between the RNC and Node B shall correspond to one single SCTP stream in UL and one single SCTP stream in DL direction, both streams belonging to the same SCTP association.

IP Differentiated Services code point marking [10] shall be supported. The Diffserv code point may be determined from the application parameters.