Joint TSG-S4#10 – SMG11#15 meeting *Document* ***S4-(00)017~~58~~***

February 28-March 3 2000, Helsinki, Finland

3G CHANGE REQUEST

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26.102	**CR**	**004**	**Rev1**	Current Version:	3.0.0

3G specification number ↑ *↑ CR number as allocated by 3G support team*

For submision to TSG SA4#10 *list TSG meeting no. here ↑*

for approval [X]
for information [ ]

(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 [X]

Source: Ericsson **Date:** 02-03-2000

Subject: Introduction of determination of QoS parameters used at RAB assignment

3G Work item: QoS for Speech & Multimedia Codecs / Adaptive Multi-Rate Speech Codec

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	[X]
D	Editorial modification	[ ]

Reason for change: Agreed CR S4-(00)0091R needs some clarifications due to agreed CR R3-000377. The latter CR requires the specification of the asymmetry or symmetry of the RAB and traffic direction. It further clarifies that no separate indication must be provided to UTRAN to indicate a change of the inter-PDU transmission interval for some frames.

Clauses affected: 5

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.

TS 26.102 V3.0.0 (1999-12)

Technical Specification

TSG-SA Codec Working Group
Mandatory speech codec;
AMR speech codec; Interface to Iu and Uu

Reference
TSG-SA4-W1 (26102-050.doc)

Keywords
Adaptive Multi-Rate, Mandatory speech codec

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5 RAB aspects

During the RAB Assignment procedure initiated by the CN to establish the RAB for AMR, the RAB parameters are defined. The AMR RAB is established with one or more RAB co-ordinated sub flows with predefined sizes and QoS parameters. In this way, each Transport Format Combination between sub flows corresponds to one AMR frame type. On the Iu interface, these RAB parameters define the corresponding parameters regarding the transport of AMR frames.

Some of the QoS parameters in the RAB assignment procedure are determined from the Bearer Capability Information Element used at call set up. These QoS parameters as defined in [3], can be set as follows:

RAB service attribute	***RAB service attribute value***			***Comments***
Traffic Class	Conversational			
RAB Asymmetry Indicator	Symmetric, bidirectional			Symmetric RABs are used for uplink and downlink
Maximum bit rate	12.2 / 10.2 / 7.95 / 7.4 / 6.7 / 5.9 / 5.15 / 4.75 kbit/s			This value depends on the highest mode rate in the RFCS
Guaranteed bit rate	12.2 / 10.2 / 7.95 / 7.4 / 6.7 / 5.9 / 5.15 / 4.75 kbit/s			One of the values is chosen, depending on the lowest rate controllable SDU format (note 2)
Delivery Order	Yes			(note 1)
Maximum SDU size	244 / 204 / 159 / 148 / 134 / 118 / 103 / 95 bits			Maximum size of payload field in IU UP, according to the highest mode rate in the RFCS
Traffic Handling Priority	Not applicable			Parameter not applicable for the conversational traffic class. (note 1)
Source statistics descriptor	Speech			(note 1)
SDU Parameters	RAB subflow 1 (Class A bits)	RAB subflow 2 (Class B bits)	RAB subflow 3 (Class C bits)	The number of SDU, their number of RAB subflow and their relative subflow size is subject to operator tuning (note 3)
SDU error ratio	$7 * 10^{-3}$	-	-	(note 3)
Residual bit error ratio	10^{-6}	10^{-3}	$5 * 10^{-3}$	(note 3 – applicable for every subflow)
Delivery of erroneous SDUs	yes	-	-	Class A bits are delivered with error indication; Class B and C bits are delivered without any error indication.
SDU format information 1-9				(note 4)
Subflow SDU size 1-9	(note 5)	(note 5)	(note 5)	
~~Subflow SDU size parameters 10~~ SDU format information 10				~~(note 6)~~ (note 4)
~~Subflow SDU size 10~~ Subflow SDU size 10	~~0~~ 0	~~0~~ 0	~~0~~ 0	(note 6)

Table 5-1: Example of mapping of BC IE into QoS parameters for UMTS AMR.

Note 1: these parameters apply to all UMTS speech codec types.
Note 2: the guaranteed bit rate depends on the periodicity and the lowest rate controllable SDU size.
Note 3: these parameters are subject to operator tuning.
Note 4: SDU format information has to be specified for each AMR core frame type (i.e. with speech bits and comfort noise bits) included in the RFCS as defined in [2].
Note 5: The subflow SDU size corresponding to an AMR core frame type indicates the number of bits in the class A, class B and class C fields.
~~Note 6: Indication of SDU size = 0 is needed to inform RNC about possible change of the inter PDU transmission interval for some frames (SID frame in this case).~~

Note 6: SDU size = 0 is needed for Initial Time Alignment

The conversational traffic class shall be used for the speech service, which is identified by the ITC parameter of the bearer capability information element in the SETUP message. This shall apply for all UMTS speech codec types.
The parameters traffic class, transfer delay, traffic handling priority and source statistics descriptor shall be the same for all speech codec types applicable for UMTS.