Technical Specification Group Services and System Aspects ***TSGS#17(02)0436***
Meeting #17, Biarritz, France, 9-12 September 2002

Source: **TSG-SA WG4**

Title: CRs to TS 26.093 on Corrections of Codec Type Names (R99, Release 4 and Release 5)

Document for: **Approval**

Agenda Item: **7.4.3**

The following CRs, agreed at the TSG-SA WG4 meeting #22, are presented to TSG SA #17 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Vers	WG	Meeting	S4 doc
26.093	007		R99	Correction of Codec Type Names	F	3.3.0	S4	TSG-SA WG4#22	S4-020453
26.093	008		Rel-4	Correction of Codec Type Names	A	4.0.0	S4	TSG-SA WG4#22	S4-020454
26.093	009		Rel-5	Correction of Codec Type Names	A	5.0.0	S4	TSG-SA WG4#22	S4-020455

3GPP TSG-SA4 Meeting #22
Tampere, Finland, 22-26 July 2002

Tdoc ⌘S4-020453

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CHANGE REQUEST

⌘ **26.093** **CR** **007** ⌘ **rev** **-** ⌘ Current version: **3.3.0** ⌘

*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 [X] Radio Access Network [X] Core Network [X]

Title:	⌘	Correction of Codec Type Names
Source:	⌘	TSG-SA WG4
Work item code:	⌘	AMR
Date:	⌘	12/Sept/2002
Category:	⌘	**F**
Release:	⌘	R99

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:

2	*(GSM Phase 2)*
R96	*(Release 1996)*
R97	*(Release 1997)*
R98	*(Release 1998)*
R99	*(Release 1999)*
Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Inconsistencies in the Standard
Summary of change:	⌘	Correction of Codec Type Names as a consequence of long agreed decisions
Consequences if not approved:	⌘	Potential misunderstandings, inconsistencies

Clauses affected:	⌘	1

Other specs affected:	⌘	Y	N		⌘	
		[ ]	[ ]	Other core specifications	⌘	Similar TS in REL-4 and REL-5
		[ ]	[ ]	Test specifications		
		[ ]	[ ]	O&M Specifications		

Other comments:	⌘	

How to create CRs using this form:
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1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
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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.

1 Scope

This document describes the Source Controlled Rate (SCR)operation of the Adaptive Multi-Rate speech Codec in Codec Types UMTS_AMR and UMTS_AMR2 ~~GSM_AMR~~ for the UMTS system. The implementation of this SCR operation is mandatory in all UMTS equipment.

The description is structured according to the block diagram in figure 1. This structure of distributing the various functions between system entities is not mandatory for implementation, as long as the operation on the speech decoder output remains the same.

Annex A describes the Discontinuous Transmission (DTX) operation of the Adaptive Multi-Rate speech Codec in Codec Types ~~GSM_AMR~~FR_AMR and HR_AMR for the GSM system. This annex is the former GSM 06.93 (release 98).

Annexes B to E describe the SCR operation of the Adaptive Multi-Rate speech Codec in Codec Types GSM_EFR, TDMA_EFR, TDMA_US1 and PDC_EFR for the UMTS system.

Next Modified Section

5.1.1 General operation

The TX SCR handler passes traffic frames, individually marked by TX_TYPE, to the Framing unit. Each frame consists of bit fields containing the information bits, the codec mode indication, and the TX_TYPE. TX_TYPE shall be used to specify the contents of the frame. The table below provides an overview of the different TX_TYPEs used and explains the required contents in the information bit and the mode indication bit fields.

TX_TYPE	**Information Bits**	**Mode Indication**
SPEECH_GOOD	Speech frame, size 95..244 bits, depending on codec mode	Current codec mode
SPEECH_BAD	Corrupt speech frame (bad CRC), size 95..244 bits, depending on codec mode	Current codec mode
SID_FIRST	Marker for the end of talkspurt, no further information, all 35 comfort noise bits set to “0”	The codec mode that would have been used if TX_TYPE had been “SPEECH_GOOD”
SID_UPDATE	35 comfort noise bits	The codec mode that would have been used if TX_TYPE had been “SPEECH_GOOD”
SID_BAD	Corrupt SID update frame (bad CRC)	The codec mode that would have been used if TX_TYPE had been “SPEECH_GOOD”
NO_DATA	No useful information, nothing to be transmitted	No useful information

Table 1: SCR TX_TYPE identifiers for UMTS_AMR and UMTS_AMR2~~GSM_AMR~~

Next Modified Section

5.2.1 General operation

The AN passes all the received traffic frames to the RX SCR handler, classified with RX_TYPE, as described in Table 2 (see TS 26.102). The RX SCR handles the frame accordingly.

RX_TYPE	Information Bits
SPEECH_GOOD	Speech frame without detected errors.
SPEECH_BAD	(likely) speech frame with bad CRC (or estimated to be very bad by the RX part of the AN)
SID_FIRST	This SID-frame marks the beginning of a comfort noise period.
SID_UPDATE	Correct SID update frame
SID_BAD	Corrupt SID update frame (bad CRC; applicable only for SID_UPDATE frames)
NO_DATA	Nothing useable was received. The synthesis mode of the previous frame type is used.

Table 2: RX_TYPE identifiers for UMTS_AMR and UMTS_AMR2

3GPP TSG-SA4 Meeting #22
Tampere, Finland, 22-26 July 2002

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CHANGE REQUEST

⌘ **26.093** **CR** **008** ⌘ **rev** **-** ⌘ Current version: **4.0.0** ⌘

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Proposed change affects: UICC apps⌘ [ ] ME [X] Radio Access Network [X] Core Network [X]

Title:	⌘	Correction of Codec Type Names
Source:	⌘	TSG-SA WG4
Work item code:	⌘	AMR
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	REL-4

Use one of the following categories:
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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Inconsistencies in the Standard
Summary of change:	⌘	Correction of Codec Type Names as a consequence of long agreed decisions
Consequences if not approved:	⌘	Potential misunderstandings, inconsistencies

Clauses affected:	⌘	1			
Other specs affected:	⌘	**Y** / **N**	Other core specifications	⌘	Similar TS in R99 and REL-5
		[ ] [ ]	Test specifications		
		[ ] [ ]	O&M Specifications		
Other comments:	⌘				

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1 Scope

This document describes the Source Controlled Rate (SCR)operation of the Adaptive Multi-Rate speech Codec in Codec Types UMTS_AMR and UMTS_AMR2 ~~GSM_AMR~~ for the UMTS system. The implementation of this SCR operation is mandatory in all UMTS equipment.

The description is structured according to the block diagram in figure 1. This structure of distributing the various functions between system entities is not mandatory for implementation, as long as the operation on the speech decoder output remains the same.

Annex A describes the Discontinuous Transmission (DTX) operation of the Adaptive Multi-Rate speech Codec in Codec Types ~~GSM_AMR~~FR_AMR and HR_AMR for the GSM system. This annex is the former GSM 06.93 (release 98).

Annexes B to E describe the SCR operation of the Adaptive Multi-Rate speech Codec in Codec Types GSM_EFR, TDMA_EFR, TDMA_US1 and PDC_EFR for the UMTS system.

Next Modified Section

5.1.1 General operation

The TX SCR handler passes traffic frames, individually marked by TX_TYPE, to the Framing unit. Each frame consists of bit fields containing the information bits, the codec mode indication, and the TX_TYPE. TX_TYPE shall be used to specify the contents of the frame. The table below provides an overview of the different TX_TYPEs used and explains the required contents in the information bit and the mode indication bit fields.

TX_TYPE	**Information Bits**	**Mode Indication**
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SID_FIRST	Marker for the end of talkspurt, no further information, all 35 comfort noise bits set to “0”	The codec mode that would have been used if TX_TYPE had been “SPEECH_GOOD”
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SID_BAD	Corrupt SID update frame (bad CRC)	The codec mode that would have been used if TX_TYPE had been “SPEECH_GOOD”
NO_DATA	No useful information, nothing to be transmitted	No useful information

Table 1: SCR TX_TYPE identifiers for UMTS_AMR and UMTS_AMR2~~GSM_AMR~~

Next Modified Section

5.2.1 General operation

The AN passes all the received traffic frames to the RX SCR handler, classified with RX_TYPE, as described in Table 2 (see TS 26.102). The RX SCR handles the frame accordingly.

RX_TYPE	Information Bits
SPEECH_GOOD	Speech frame without detected errors.
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SID_FIRST	This SID-frame marks the beginning of a comfort noise period.
SID_UPDATE	Correct SID update frame
SID_BAD	Corrupt SID update frame (bad CRC; applicable only for SID_UPDATE frames)
NO_DATA	Nothing useable was received. The synthesis mode of the previous frame type is used.

Table 2: RX_TYPE identifiers for UMTS_AMR and UMTS_AMR2

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CHANGE REQUEST

⌘ **26.093** **CR** **009** ⌘ **rev** **-** ⌘ Current version: **5.0.0** ⌘

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Source:	⌘	TSG-SA WG4
Work item code:	⌘	AMR
Date:	⌘	12/Sept/2002
Category:	⌘	**A**
Release:	⌘	REL-5

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Rel-4	*(Release 4)*
Rel-5	*(Release 5)*
Rel-6	*(Release 6)*

Reason for change:	⌘	Inconsistencies in the Standard
Summary of change:	⌘	Correction of Codec Type Names as a consequence of long agreed decisions Add OHR_AMR to the list for GERAN
Consequences if not approved:	⌘	Potential misunderstandings, inconsistencies

Clauses affected:	⌘	1

Other specs affected:	⌘	Y	N		⌘	
		[ ]	[ ]	Other core specifications	⌘	Similar TS in R99 and REL-4
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Other comments:	⌘	

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Annex A describes the Discontinuous Transmission (DTX) operation of the Adaptive Multi-Rate speech Codec in Codec Types ~~GSM_AMR~~FR_AMR, ~~and~~ HR_AMR and OHR_AMR for ~~the GSM system~~GERAN. This annex is the former GSM 06.93 (release 98).

Annexes B to E describe the SCR operation of the Adaptive Multi-Rate speech Codec in Codec Types GSM_EFR, TDMA_EFR, TDMA_US1 and PDC_EFR for the UMTS system.

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Table 1: SCR TX_TYPE identifiers for UMTS_AMR and UMTS_AMR2~~GSM_AMR~~

Next Modified Section

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SID_UPDATE	Correct SID update frame
SID_BAD	Corrupt SID update frame (bad CRC; applicable only for SID_UPDATE frames)
NO_DATA	Nothing useable was received. The synthesis mode of the previous frame type is used.

Table 2: RX_TYPE identifiers for UMTS_AMR and UMTS_AMR2