

Technical Specification Group Services and System Aspects  
Meeting #10, Bangkok, Thailand, 11-14 December 2000

**TSGS#10(00)0578**

**Source:** TSG-SA WG4  
**Title:** CR to TS 26.111  
**Document for:** Approval  
**Agenda Item:** 7.4.3

The following CR was agreed by correspondence after the TSG-SA WG4 meeting #14 and is presented to TSG SA #10 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Ver	WG	Meeting	S4 doc
26.111	005	1	R99	MPEG4 visual simple profile @ level 0	F	3.2.1	S4	TSG-S4#14	S4-000630

## CHANGE REQUEST

⌘ **TS 26.111 CR 5** ⌘ rev **1** ⌘ Current version: **3.2.1** ⌘

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

**Proposed change affects:** ⌘ (U)SIM  ME/UE  Radio Access Network  Core Network

<b>Title:</b>	⌘ MPEG4 visual simple profile @ level 0		
<b>Source:</b>	⌘ TSG-SA WG4		
<b>Work item code:</b>	⌘ WI2 Multimedia Codec	<b>Date:</b>	⌘ 11.12.2000
<b>Category:</b>	⌘ <b>F</b>	<b>Release:</b>	⌘ 99
	<i>Use one of the following categories:</i> <b>F</b> (essential correction) <b>A</b> (corresponds to a correction in an earlier release) <b>B</b> (Addition of feature), <b>C</b> (Functional modification of feature) <b>D</b> (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		<i>Use one of the following releases:</i> <b>2</b> (GSM Phase 2) <b>R96</b> (Release 1996) <b>R97</b> (Release 1997) <b>R98</b> (Release 1998) <b>R99</b> (Release 1999) <b>REL-4</b> (Release 4) <b>REL-5</b> (Release 5)

<b>Reason for change:</b>	⌘ The purpose of this change request is to clarify the restrictions as specified in TS 26.111 placed on MPEG-4 Visual codecs utilized within 3G-324M terminals due to updated conformance point by ISO MPEG.
<b>Summary of change:</b>	⌘ Replace MPEG-4 codec restrictions by reference to MPEG-4 conformance point.
<b>Consequences if not approved:</b>	⌘ 3G-324M terminals using MPEG-4 visual simple profile @ level 1 with particular 3GPP restrictions. Therefore the signalling is only valid for 3GPP terminals. If the text is not changed to the updated conformance point interoperability to other terminals can not be guaranteed.

<b>Clauses affected:</b>	⌘ 2., 6.6 and 6.6.1		
<b>Other specs Affected:</b>	⌘ <input checked="" type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘ TS 26.911	
<b>Other comments:</b>	⌘		

### How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at: [http://www.3gpp.org/3G\\_Specs/CRs.htm](http://www.3gpp.org/3G_Specs/CRs.htm). Below is a brief summary:

- 1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
- 2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under <ftp://www.3gpp.org/specs/> For the latest version, look for the directory name with the latest date e.g. 2000-09 contains the specifications resulting from the September 2000 TSG meetings.
- 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.

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## 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.

- [1] ITU-T Recommendation H.223: "Multiplexing protocol for low bitrate multimedia communication".
- [2] ITU-T Recommendation H.223 - Annex A: "Multiplexing protocol for low bitrate multimedia communication over low error-prone channels".
- [3] ITU-T Recommendation H.223 - Annex B: "Multiplexing protocol for low bitrate multimedia communication over moderate error-prone channels".
- [4] ITU-T Recommendation H.223 - Annex C: "Multiplexing protocol for low bitrate multimedia communication over highly error-prone channels".
- [5] ITU-T Recommendation H.223 - Annex D: "Optional multiplexing protocol for low bitrate multimedia communication over highly error-prone channels".
- [6] ITU-T Recommendation H.245: "Control protocol for multimedia communication".
- [7] ITU-T Recommendation G.723.1: "Dual rate speech coder for multimedia communication transmitting at 5,3 and 6,3 kbit/s".
- [8] ITU-T Recommendation H.263: "Video coding for low bitrate communication".
- [9] ITU-T Recommendation H.261: "Video CODEC for audiovisual services at p X 64 kbit/s".
- [10] ITU-T Recommendation H.324: "Terminal for low bitrate multimedia communication".
- [11] 3GPP Technical Specification 3G TS 26.111: "Modifications to H.324".
- [12] 3GPP Technical Specification 3G TS 26.112: "Call Set Up Requirements".
- [13] 3GPP Technical Reference 3G TS 26.911: "Terminal Implementor's Guide".
- [14] ITU-T Recommendation X.691: "Information Technology - ASN.1 Encoding Rules - Specification of Packed Encoding Rules (PER)".
- [15] International Standard ISO/IEC 14494-2: "Information technology - Generic coding of audio-visual object - Part 2: Visual, 1999".
- [16] 3GPP Technical Specification 3G TS 26.071: "Mandatory Speech Codec; General Description".
- [17] 3GPP Technical Specification 3G TS 26.090: "Mandatory Speech Codec; Speech Transcoding Functions".
- [18] 3GPP Technical Specification 3G TS 26.073: "Mandatory Speech Codec; ANSI C-Code".
- [19] International Standard ISO/IEC 14496-2 "Study on FPDAM 4", (see doc. ISO/IEC WG11 N3670)

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## 6.6 Video channels

Support for H.261 is optional.

Support for MPEG-4 Visual is optional. When supported, MPEG-4 Visual codecs shall support Simple Profile @ Level 0. The FLC code 0000 1000 in Table G-1 – “FLC table for profile and level indication” in ISO/IEC 14496-2 is assigned to it. Additional information can be found in [19].

MPEG-4 Visual Simple Profile @ level 0 provides error concealment as part of the simple profile through Data Partitioning (DP), Reversible Variable Length Coding (RVLC), Resynchronization Marker (RM) and header extension code. MPEG-4 Visual is baseline compatible with H.263.

When opening a logical channel for MPEG-4 Visual, configuration information (Visual Object Sequence Header, Visual Object Header, and Video Object Layer Header) shall be sent in the decoderConfigurationInformation parameter. The same information shall also be sent in the MPEG-4 video bitstream. If the operational mode of MPEG-4 Visual encoder needs to be changed, the existing MPEG-4 video logical channel shall be closed and H.245 procedures for opening a new MPEG-4 video logical channel shall be started. The new operational mode shall be indicated in the parameters of the new logical channel.

### 6.6.1 Requirements for MPEG-4 usage

The following requirements (a)–(e) apply to the usage of specific parameters within MPEG-4.

- a) ~~Each 3G-324M MPEG-4 decoder shall be able to decode all frame rates up to 15 frames per second, but need not support higher rates when MPEG-4 Simple Profile Level 1 is used.~~
- b) ~~Each 3G-324M MPEG-4 encoder shall use a fixed f\_code value of 1 when MPEG-4 Simple Profile Level 1 is used.~~
- c) ~~Each 3G-324M MPEG-4 encoder shall use a fixed intra\_dc\_vlc\_threshold of 0 when MPEG-4 Simple Profile Level 1 is used.~~
- d) ~~Each 3G-324M MPEG-4 decoder shall be able to decode all horizontal luminance pixel resolutions up to 176 pels/line when MPEG-4 Simple Profile Level 1 is used. The decoder shall not be required to support higher horizontal resolutions even if the resulting number of MBs was within the 99 MB limit stipulated in MPEG-4 Simple Profile Level 1.~~
- e) ~~Each 3G-324M MPEG-4 decoder shall be able to decode all vertical luminance pixel resolutions up to 144 pels/VOP when MPEG-4 Simple Profile Level 1 is used. The decoder shall not be required to support higher vertical resolutions even if the resulting number of MBs was within the 99 MB limit stipulated in MPEG-4 Simple Profile Level 1.~~