CR-Form-v7

CHANGE REQUEST

⌘ **26.140 CR 008** ⌘ **rev 1** ⌘ Current version: **5.2.0** ⌘

*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 ☐ Core Network ☐

Title: ⌘	Update of MMS codecs and formats with H.264	
Source: ⌘	Apple Computer, AT&T Wireless Services, Ericsson, France Telecom, Fraunhofer, Nokia (editor), ORANGE, PacketVideo, Panasonic, Philips, RealNetworks, Sharp, STMicroelectronics, Texas Instruments, Toshiba, Vodafone	
Work item code: ⌘	MMS6-Codec	***Date:*** ⌘ 10/09/2004

Category: ⌘ **B**   ***Release:*** ⌘ Rel-6

Use <u>one</u> 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 <u>one</u> 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: ⌘	Update of MMS Codecs and formats with new agreed optional video codec.
Summary of change: ⌘	Specification text and references for new video codec, H.264, are included to the technical specification
Consequences if not approved: ⌘	No optional new video codec and as a consecuence no video quality improvement defined for MMS in Release 6

Clauses affected: ⌘	2, 3.2, 4.7

	Y	N	
Other specs affected: ⌘		X	Other core specifications ⌘
		X	Test specifications
		X	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. 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://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 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.

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. 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] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] The Unicode Consortium: "The Unicode Standard", Version 2.0, Addison-Wesley Developers Press, 1996.URL: http://www.unicode.org/.

[3] ANSI X3.4, 1986: "Information Systems; Coded Character Set 7 Bit; American National Standard Code for Information Interchange".

[4] ISO/IEC 8859-1:1998: "Information technology; 8-bit single-byte coded graphic character sets; Part 1: Latin alphabet No. 1".

[5] IETF; RFC 2279: "UTF-8, A Transformation format of ISO 10646", URL: http://www.ietf.org/rfc/rfc2279.txt.

[6] 3GPP TS 24.011: "Point-to-Point (PP) Short Message Service (SMS) support on mobile radio interface".

[7] 3GPP TS 26.090: "AMR speech Codec Transcoding functions".

[8] ITU-T Recommendation T.81: "Information technology; Digital compression and coding of continuous-tone still images: Requirements and guidelines".

[9] "JPEG File Interchange Format", Version 1.02, September 1, 1992

[10] ITU-T Recommendation H.263: "Video coding for low bit rate communication".

[11] ITU-T Recommendation H.263 (annex X): "Annex X: Profiles and levels definition".

[12] ISO/IEC 14496-2 (1999): "Information technology - Coding of audio-visual objects - Part 2: Visual".

[13] ISO/IEC 14496-2:1999/FDAM4, ISO/IEC JTC1/SC 29/WG11 N3904, Pisa, January, 2001.

[14] 3GPP TS 26.234: "End-to-end transparent streaming Service; Protocols and codecs".

[15] CompuServe Incorporated: "GIF Graphics Interchange Format: A Standard defining a mechanism for the storage and transmission of raster-based graphics information", Columbus, OH, USA, 1987

[16] Compuserve Incorporated, Columbus, Ohio (1990): "Graphics Interchange Format (Version 89a)".

[17] IETF RFC 2083: "PNG (Portable Networks Graphics) Specification version 1.0 ", T. Boutell, et. al., March 1997

[18] ITU-T Recommendation H.263 (1998): "Video coding for low bit rate communication - Annex X, Profiles and Levels Definition".

[19] ISO/IEC 14496-3:2001, "Information technology -- Coding of audio-visual objects -- Part 3: Audio".

[20] W3C Working Draft: "Scalable Vector Graphics (SVG)", http://www.w3.org/TR/SVG11.

[21] W3C Working Draft: "Mobile SVG Profiles: SVG Tiny and SVG Basic", http://www.w3.org/TR/SVGMobile

[22] 3GPP 22.140: "Service Aspects; Stage 1; Multimedia Messaging Service".:

[23] 3GPP 23.140: "Multimedia Messaging Service (MMS); Functional Description; Stage 2".

[24] W3C Recommendation: "Synchronized Multimedia Integration Language (SMIL 2.0)", http://www.w3.org/TR/2001/REC-smil20-20010807/, August 2001

[25] IETF RFC 2046: "Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types".

[26] 3GPP TS 26.071: "Mandatory Speech Codec speech processing functions; AMR Speech Codec; General description".

[27] 3GPP TS 26.171: "AMR speech codec; General description".

[28] Scalable Polyphony MIDI Specification, RP-34, MIDI Manufacturers Association, Los Angeles, CA, 2002, http://www.midi.org/about-midi/abtspmidi.htm

[29] Scalable Polyphony MIDI Device 5-to-24 Note Profile for 3GPP, RP-35, MIDI Manufacturers Association, Los Angeles, CA, 2002, http://www.midi.org/about-midi/abtspmidi.htm

[30] WAP-277, XHTML Mobile Profile, WAP Forum, http://www.wapforum.org/what/technical.htm

[31] "Standard MIDI Files 1.0", RP-001, in "The Complete MIDI 1.0 Detailed Specification, Document Version 96.1 " The MIDI Manufacturers Association, Los Angeles, CA, USA, February 1996.

[32] IETF RFC 3267: " RTP payload format and file storage format for the Adaptive Multi-Rate (AMR) Adaptive Multi-Rate Wideband (AMR-WB) audio codecs ", March 2002.

[33] ITU-T Recommendation H.264 (2003): "Advanced video coding for generic audiovisual services" | ISO/IEC 14496-10:2003: "Information technology ñ Coding of audio-visual objects ñ Part 10: Advanced Video Coding".

[34] ISO/IEC 14496-10/FDAM1: "AVC Fidelity Range Extensions".

3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply:

3GP	3GPP file format
AAC	Advanced Audio Coding
AVC	Advanced Video Coding
CC/PP	Composite Capability/Preference Profiles
GIF	Graphics Interchange Format
H.263	ITU-T video codec
ITU-T	International Telecommunications Union - Telecommunications
JFIF	JPEG File Interchange Format
JPEG	Joint Picture Expert Group
MIDI	Musical Instrument Digital Interface
MIME	Multipurpose Internet Mail Extensions
MM	Multimedia Message
MMS	Multimedia Messaging Service
MPEG	Motion Picture Expert Group
MP4	MPEG-4 file format
PSS	Packet-switched Streaming Service
SP-MIDI	Scalable Polyphony MIDI
SVG	Scalable Vector Graphics
UTF-8	Unicode Transformation Format (the 8-bit form)

4.7   Video

For terminals supporting media type video, ITU-T Recommendation H.263 [10] profile 0 level 10 shall be supported. This is the mandatory video codec for the MMS. In addition, MMS should support:

- H.263 [11] Profile 3 Level 10;

- MPEG-4 Visual Simple Profile Level 0, [12] and [13].

- H.264 (AVC) Baseline Profile Level 1b [33][34] with constraint_set1_flag=1;

These two three video codecs are optional to implement. There are no requirements on output timing conformance of H.264 (AVC) decoding (Annex C of [33]).

An optional video buffer model is given in defined in annex G of document [14] should be used with H.263 and MPEG-4. It shall not be used with H.264 (AVC).

NOTE: ITU-T Recommendation H.263 profile 0 has been mandated to ensure that video-enabled MMS supports a minimum baseline video capability. Both H.263 and MPEG-4 visual decoders can decode an H.263 profile 0 bitstream. It is strongly recommended, though, that an H.263 profile 0 bitstream is transported and stored as H.263 and not as MPEG-4 visual (short header), as MPEG-4 visual is not mandated by MMS.