**3GPP TSG- Meeting #**

**, , -  *revision of S4-240692***

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network | **x** |

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| ***Title:***  |  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
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| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | Support for IVAS messaging  |
|  |  |
| ***Summary of change:*** | Addition of IVAS Messaging Profile based on TS 26.117 and TS 26.244- Definition of IVAS Player and Decoding capability- Definition of IVAS Content Generator capabilityRecommendation for IVAS for speech and audio message reception and generation |
|  |  |
| ***Consequences if not approved:*** | IVAS can not be used for messaging |
|  |  |
| ***Clauses affected:*** | 5.1, 5.5, 6.2.3, 6.3.3 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  |  |
| ***affected:*** |  | **X** |  Test specifications |  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* First Change \* \* \* \*

## 5.1 Introduction

In order to guarantee a minimum support and compatibility between messaging capable terminals, MMBP Generators and MMBP Players in UEs supporting specific media content with associated media types.

The clause defines multimedia messaging body parts (MMBPs) for different media types as well as the associated media types.

According to the introduction in clause 4, MMBPs defined in this clause,

- may be used as full body parts or sub-parts in message bodies.

- may either be a single binary octet string, or they may consist of multiple parts. If the latter, the conceptual relationship introduced in clause 4.4 is defined that is mapped to container formats defined in clause 5.2.

Media Types and related capabilities defined in this specification for playback are provided in Table 5.1-1.

Table 5.1-1 Media Types and Capabilities defined in TS 26.143 for playback and decoding

|  |  |  |  |
| --- | --- | --- | --- |
| **Media Type in the present TS** | Capabilities defined in this specification | Clause | Media Type signalling example |
| **Multipart MMBPs and Container Formats** | 26143\_CONTAINER\_RFC2046\_SINGLE26143\_CONTAINER\_RFC2046\_MIXED26143\_CONTAINER\_RFC2046\_ALTERNATIVE26143\_CONTAINER\_RFC2046\_PARALLEL26143\_CONTAINER\_RFC2387\_RELATED26143\_CONTAINER\_MP4\_3GP9 | 5.2.1 | Media type of subtypemultipart/mixedmultipart/alternativemultipart/parallelmultipart/relatedvideo/mp4, profile="3gp9" |
| **Text** | 26143\_TEXT\_PLAIN | 5.3.1 | text/plain |
| **Speech** | 26143\_AUDIO\_IVAS 26143\_AUDIO\_EVS 26143\_AUDIO\_AMR-WB26143\_AUDIO\_AMR | 5.5.1 | audio/mp4 |
| **Audio** | 26143\_AUDIO\_IVAS 26143\_AUDIO\_XHE-AAC 26143\_AUDIO\_EAAC+ | 5.5.1 | audio/mp4 |
| **Image** | 26143\_IMG\_JPEG 26143\_IMG\_HEIC26143\_IMG\_GIF26143\_IMG\_PNG | 5.4.1 | image/jpegimage/heic, profile="heic,MiHB" imageTypes="hvc1.1.2.L153.B0"image/gifimage/png |
| **Video** | 26143\_VIDEO\_AVC-HD26143\_VIDEO\_AVC-FullHD26143\_VIDEO\_HEVC-HD26143\_VIDEO\_HEVC-FullHD26143\_VIDEO\_HEVC-UHD  | 5.6.1 | video/mp4, profile="3gp9" codecs="avc1.640028"video/mp4, profile="3gp9" codecs="avc1.640029"video/mp4, profile="3gp9" codecs="hvc1.1.2.L93.B0"video/mp4, profile="3gp9" codecs="hvc1.1.2.L123.B0"video/mp4, profile="3gp9" codecs="hvc1.1.2.L153.B0" |
| **Subtitles and Text** | 26143\_TT\_3GPP26143\_TT\_IMSC11 | 5.7.1 | text/mp4, profile="3gp9" codecs="tx3g"application/mp4, profile="3gp9" codecs="stpp.ttml.im2t" |
| **3d scenes and assets** | 26143\_SCENE\_GLTF20 26143\_SCENE\_GLTF20\_AR 26143\_SCENE\_GLTF20\_GLB26143\_SCENE\_GLTF20\_GLB\_AR | 5.8 | model/gltf+jsonmodel/gltf-binary |
| **Presentation format** | 26143\_PRESENTATION\_HTML5  | 5.9 | text/html |

Media Types and related capabilities defined in this specification for content generation are provided in Table 5.1-2.

Table 5.1-2 Media Types and Capabilities defined in TS 26.143 for generation

|  |  |  |  |
| --- | --- | --- | --- |
| Media Type in the present TS | Capabilities defined in this specification | Clause | Media Type signalling example |
| **Multipart MMBPs and Container Formats** | 26143\_CONTAINER\_RFC2046\_SINGLE\_GEN26143\_CONTAINER\_RFC2046\_MIXED\_GEN26143\_CONTAINER\_RFC2046\_ALTERNATIVE\_GEN26143\_CONTAINER\_RFC2046\_PARALLEL\_GEN26143\_CONTAINER\_MP4\_3GP9\_GEN | 5.2.2 | Media type of subtypemultipart/mixedmultipart/alternativemultipart/parallelvideo/mp4, profile="3gp9" |
| **Text** | 26143\_TEXT\_ENC\_PLAIN | 5.3.1 | text/plain |
| **Speech** | 26143\_AUDIO\_ENC\_IVAS26143\_AUDIO\_ENC\_EVS 26143\_AUDIO\_ENC\_AMR-WB26143\_AUDIO\_ENC\_AMR | 5.5.1 | audio/mp4 |
| **Audio** | 26143\_AUDIO\_ENC\_IVAS26143\_AUDIO\_ENC\_XHE-AAC 26143\_AUDIO\_ENC\_EAAC+ | 5.5.1 | audio/mp4 |
| **Image** | 26143\_IMG\_ENC\_JPEG  | 5.4.1 | image/jpeg |
| **Video** | 26143\_VIDEO\_ENC\_AVC-HD26143\_VIDEO\_ENC\_AVC-FullHD26143\_VIDEO\_ENC\_HEVC-HD26143\_VIDEO\_ENC\_HEVC-FullHD26143\_VIDEO\_ENC\_HEVC-UHD  | 5.6.2 | video/mp4, profile="3gp9" codecs="avc1.640028"video/mp4, profile="3gp9" codecs="avc1.640029"video/mp4, profile="3gp9" codecs="hvc1.1.2.L93.B0"video/mp4, profile="3gp9" codecs="hvc1.1.2.L123.B0"video/mp4, profile="3gp9" codecs="hvc1.1.2.L153.B0" |
| **Text** | 26143\_TT\_ENC\_3GPP | 5.7.2 | text/mp4, profile="3gp9" codecs="tx3g" |

\* \* \* Next Change \* \* \* \*

## 5.5 Speech and Audio

### 5.5.1 Player and Decoding capabilities

The capability 26143\_AUDIO\_IVAS is defined as the capability of playing back (decoding and rendering) a file that

- is decodable by a decoder capable of the **IVAS** decoding capabilities as defined in clause 5.2 of TS 26.117 [5] and the receiver requirements in clause 6.3.5.2 of TS 26.117 [5],

- is encapsulated in an ISO BMFF Track [14] conforming with the requirements of the sample entry 'sivs' as defined in TS 26.244 [26],

- is contained in a 3GP file that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

In the context of this specification, the media type for files with this capability 26143\_AUDIO\_IVAS shall be signalled with audio/mp4, profile="3gp9" codecs="sivs" or an equivalently compatible media type.

The capability 26143\_AUDIO\_EVS is defined as the capability of playing back (decoding and rendering) a file that

- is decodable by a decoder capable of the **EVS** decoding capabilities as defined in clause 5.2 of TS 26.117 [5] and the receiver requirements in clause 6.2.4.2 of TS 26.117 [5],

- is encapsulated in an ISO BMFF Track [14] conforming with the requirements of the sample entry 'sevs' as defined in TS 26.244 [26],

- is contained in a 3GP file that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

In the context of this specification, the media type for files with this capability 26143\_AUDIO\_EVS shall be signalled with audio/mp4, profile="3gp9" codecs="sevs" or an equivalently compatible media type.

The capability 26143\_AUDIO\_AMR-WB is defined as the capability of playing back (decoding and rendering) a file that

- is decodable by a decoder capable of the **AMR-WB** decoding capabilities as defined in clause 5.2 of TS 26.117 [5] and the receiver requirements in clause 6.2.3.2 of TS 26.117 [5],

- is encapsulated in an ISO BMFF Track [14] conforming with the requirements of the sample entry 'sawb' as defined in TS 26.244 [26],

- is contained in a 3GP file that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

In the context of this specification, the media type for files with this capability 26143\_AUDIO\_EVS shall be signalled with audio/mp4, profile="3gp9" codecs="sawb" or an equivalently compatible media type.

The capability 26143\_AUDIO\_AMR is defined as the capability of playing back (decoding and rendering) a file that

- is decodable by a decoder capable of the **AMR** decoding capabilities as defined in clause 5.2 of TS 26.117 [5] and the receiver requirements in clause 6.2.2.2 of TS 26.117 [5],

- is encapsulated in an ISO BMFF Track [14] conforming with the requirements of the sample entry 'samr' as defined in TS 26.244 [26],

- is contained in a 3GP file that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

In the context of this specification, the media type for files with this capability 26143\_AUDIO\_EVS shall be signalled with audio/mp4, profile="3gp9" codecs="samr" or an equivalently compatible media type.

The capability 26143\_AUDIO\_XHE-AAC is defined as the capability of playing back (decoding and rendering) a file that

- is decodable by a decoder capable of the **xHE-AAC stereo** decoding capabilities as defined in clause 5.2 of TS 26.117 [5] and the receiver requirements in clause 6.4.2.2 of TS 26.117 [5],

- is encapsulated in an ISO BMFF Track [14] conforming with the requirements of the sample entry 'mp4a.40.29',

- is contained in a 3GP file that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

In the context of this specification, the media type for files with this capability 26143\_AUDIO\_XHE-AAC shall be signalled with audio/mp4, profile="3gp9" codecs="mp4a.40.29" or an equivalently compatible media type.

The capability 26143\_AUDIO\_EAAC+ is defined as the capability of playing back (decoding and rendering) a file that

- is decodable by a decoder capable of the **eAAC+** decoding capabilities as defined in clause 5.2 of TS 26.117 [5] and the receiver requirements in clause 6.3.2.2 of TS 26.117 [5],

- is encapsulated in an ISO BMFF Track [14] conforming with the requirements of the sample entry 'mp4a.40.5',

- is contained in a 3GP file that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

In the context of this specification, the media type for files with this capability 26143\_AUDIO\_EVS shall be signalled with audio/mp4, profile="3gp9" codecs="mp4a.40.5" or an equivalently compatible media type.

### 5.5.2 MMBP Content Generator capabilities

The capability 26143\_AUDIO\_ENC\_IVAS for a content generator is defined as the combination of the following capabilities:

- the capability to generate a file from an audio signal in real-time, such that the file can be played back by a player with the capability 26143\_AUDIO\_IVAS,

- the *IVAS* encoding capabilities as defined in clause 5.3 of TS 26.117 [5] and the sender requirements in clause 6.3.5.3 of TS 26.117 [5],

- the capability to generate an ISO BMFF track that conforms with the requirements of the sample entry 'sivs' as defined in TS 26.244 [26].

- the generation of a 3GP file from the ISO BMFF track that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

- the provisioning of media type signalling with the generated file using audio/mp4, profile="3gp9" codecs="sivs" or an equivalently compatible media type.

The capability 26143\_AUDIO\_ENC\_EVS for a content generator is defined as the combination of the following capabilities:

- the capability to generate a file from an audio signal in real-time, such that the file can be played back by a player with the capability 26143\_AUDIO\_EVS,

- the *EVS* encoding capabilities as defined in clause 5.3 of TS 26.117 [5] and the sender requirements in clause 6.2.4.3 of TS 26.117 [5],

- the capability to generate an ISO BMFF track that conforms with the requirements of the sample entry 'sevs' as defined in TS 26.244 [26].

- the generation of a 3GP file from the ISO BMFF track that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

- the provisioning of media type signalling with the generated file using audio/mp4, profile="3gp9" codecs="sevs" or an equivalently compatible media type.

The capability 26143\_AUDIO\_ENC\_AMR-WB for a content generator is defined as the combination of the following capabilities:

- the capability to generate a file from an audio signal in real-time, such that the file can be played back by a player with the capability 26143\_AUDIO\_AMR-WB,

- the *AMR-WB* encoding capabilities as defined in clause 5.3 of TS 26.117 [5] and the sender requirements in clause 6.2.3.3 of TS 26.117 [5],

- the capability to generate an ISO BMFF track that conforms with the requirements of the sample entry 'sawb' as defined in TS 26.244 [26].

- the generation of a 3GP file from the ISO BMFF track that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

- the provisioning of media type signalling with the generated file using audio/mp4, profile="3gp9" codecs="sawb" or an equivalently compatible media type.

The capability 26143\_AUDIO\_ENC\_AMR for a content generator is defined as the combination of the following capabilities:

- the capability to generate a file from an audio signal in real-time, such that the file can be played back by a player with the capability 26143\_AUDIO\_AMR,

- the *EVS* encoding capabilities as defined in clause 5.3 of TS 26.117 [5] and the sender requirements in clause 6.2.2.3 of TS 26.117 [5],

- the capability to generate an ISO BMFF track that conforms with the requirements of the sample entry 'samr' as defined in TS 26.244 [26].

- the generation of a 3GP file from the ISO BMFF track that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

- the provisioning of media type signalling with the generated file using audio/mp4, profile="3gp9" codecs="samr" or an equivalently compatible media type.

The capability 26143\_AUDIO\_ENC\_XHE-AAC for a content generator is defined as the combination of the following capabilities:

- the capability to generate a file from an audio signal in real-time, such that the file can be played back by a player with the capability 26143\_AUDIO\_XHE-AAC,

- the *xHE-AAC stereo* encoding capabilities as defined in clause 5.3 of TS 26.117 [5] and the sender requirements in clause 6.4.2.3 of TS 26.117 [5],

- the capability to generate an ISO BMFF track that conforms with the requirements of the sample entry 'mp4a.40.29' as defined in TS 26.244 [26].

- the generation of a 3GP file from the ISO BMFF track that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

- the provisioning of media type signalling with the generated file using audio/mp4, profile="3gp9" codecs="mp4a.40.29" or an equivalently compatible media type.

The capability 26143\_AUDIO\_ENC\_EAAC+ for a content generator is defined as the combination of the following capabilities:

- the capability to generate a file from an audio signal in real-time, such that the file can be played back by a player with the capability 26143\_AUDIO\_EAAC+,

- the *eAAC+* encoding capabilities as defined in clause 5.3 of TS 26.117 [5] and the sender requirements in clause 6.3.2.3 of TS 26.117 [5],

- the capability to generate an ISO BMFF track that conforms with the requirements of the sample entry 'mp4a.40.5' as defined in TS 26.244 [26].

- the generation of a 3GP file from the ISO BMFF track that conforms to the 26143\_CONTAINER\_MP4\_3GP9 capability as defined in clause 5.2.

- the provisioning of media type signalling with the generated file using audio/mp4, profile="3gp9" codecs="mp4a.40.5" or an equivalently compatible media type.

\* \* \* Next Change \* \* \* \*

### 6.2.3 Media Types

The capability 26143\_TEXT\_PLAIN as defined in clause 5.3 shall be supported.

If still images are supported,

- the 26143\_IMG\_JPEG capability as defined in clause 5.4.1 shall be supported,

- the 26143\_IMG\_HEIC capability as defined in clause 5.4.1 should be supported.

If bitmap graphics are supported,

- the 26143\_IMG\_GIF capability as defined in clause 5.4.1 should be supported.

- the 26143\_IMG\_PNG capability as defined in clause 5.4.1 should be supported.

If the reception of audio or speech is supported, then the following applies:

- the 26143\_AUDIO\_IVAS capability as defined in clause 5.5.1 should be supported.

- the 26143\_AUDIO\_EVS capability as defined in clause 5.5.1 shall be supported.

- the 26143\_AUDIO\_AMR-WB capability as defined in clause 5.5.1 shall be supported.

- the 26143\_AUDIO\_XHE-AAC capability as defined in clause 5.5.1 should be supported.

- the 26143\_AUDIO\_AMR capability as defined in clause 5.5.1 shall be supported.

- the 26143\_AUDIO\_EAAC+ capability as defined in clause 5.5.1 shall be supported.

If the reception of video is supported, then the following applies:

- the 26143\_VIDEO\_AVC-HD capability as defined in clause 5.6.1 shall be supported.

- the 26143\_VIDEO\_HEVC-HD capability as defined in clause 5.6.1 should be supported.

If the reception of HD-HDR video is supported, then the following applies:

- the 26143\_VIDEO\_AVC-FullHD capability as defined in clause 5.6.1 shall be supported.

- the 26143\_VIDEO\_HEVC-FullHD capability as defined in clause 5.6.1 shall be supported.

- the 26143\_VIDEO\_HEVC-UHD capability as defined in clause 5.6.1 should be supported.

If timed text is supported,

- the 26143\_TT\_3GPP capability as defined in clause 5.7.1 shall be supported.

- the 26143\_TT\_IMSC11 capability as defined in clause 5.7.1 should be supported.

If a processor for media type 'model' as defined in RFC2077 [33] is supported (i.e. a processor for 3D scenes and objects), then a processor for the media subtype 'model/gltf' should be supported. If a processor for the media subtype 'model/gltf' is supported,

- the 26143\_SCENE\_GLTF20 capability and the 26143\_SCENE\_GLTF20\_GLB capability as defined in clause 5.8 shall be supported assuming either a single body part or a multipart/related body part as defined in clause 5.2.

- and if the device is a device type as defined in TS 26.119 [34], clause 10, the 26143\_SCENE\_GLTF20\_AR and the 26143\_SCENE\_GLTF20\_GLB\_AR capability as defined in clause 5.8 shall be supported assuming either a single body part or a multipart/related body part as defined in clause 5.2.

If a processor for the media type text/html is supported, the 26143\_PRESENTATION\_HTML5 capability as defined in clause 5.9 should be supported assuming either a single body part or a multipart/related body part as defined in clause 5.2. The media formats shall be restricted to the capabilities defined in this clause.

\* \* \* Next Change \* \* \* \*

### 6.3.3 Media Types

If the transmission of images is supported, then the following applies:

- the 26143\_IMAGE\_ENC\_JPEG capability as defined in clause 5.4.2 shall be supported.

If the transmission of speech is supported, then the following applies:

- the 26143\_AUDIO\_ENC\_IVAS capability as defined in clause 5.5.2 should be supported.

- the 26143\_AUDIO\_ENC\_EVS capability as defined in clause 5.5.2 shall be supported.

- the 26143\_AUDIO\_ENC\_AMR-WB capability as defined in clause 5.5.2 should be supported.

- the 26143\_AUDIO\_ENC\_AMR capability as defined in clause 5.5.2 may be supported.

If the transmission of audio is supported, then the following applies:

- the 26143\_AUDIO\_ENC\_IVAS capability as defined in clause 5.5.2 should be supported.

- the 26143\_AUDIO\_ENC\_EAAC+ capability as defined in clause 5.5.2 shall be supported.

- the 26143\_AUDIO\_ENC\_XHE-AAC capability as defined in clause 5.5.2 should be supported.

If the transmission of video is supported, then the following applies:

- the 26143\_VIDEO\_ENC\_HEVC-FullHD capability as defined in clause 5.6.2 shall be supported.

If the transmission of timed text is supported, then the following applies:

- the 26143\_TT\_ENC\_3GPP capability as defined in clause 5.7.2 shall be supported.

\* \* \* End of Changes \* \* \* \*