2 References

<… cut text …>

[31]   IETF RFC 4234: "Augmented BNF for Syntax Specifications: ABNF", Crocker D. and Overell P., October 2005.

[32]   IETF RFC 4281: "The Codecs Parameter for ``Bucket´´ Media Types", Gellens R., Singer D. and Frojdh P., November 2005.[33] IETF RFC 4648: "The Base16, Base32, and Base64 Data Encodings", Josefsson S., October 2006.

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Annex A (normative): MIME Type Registrations for 3GP files

A.1   MIME Types

A.1.1   General

This registration is an update and replacement of RFC 3839. It applies to all files defined as using the '3GP' file format and identified with a suitable brand in a 3GPP specification. The usual file suffix for all these files is ".3gp". The difference between the current registration and RFC 3839 is the inclusion of two optional parameters.

A.1.2   Files with audio but no visual content

The type "audio/3gpp" may be used for files containing audio but no visual presentation (neither video nor timed text, for example).

Type name: audio

Subtype name: 3gpp

Required parameters: none

Optional parameters:

codecs: is a single value or a comma-separated list that identifies the codec(s) needed for rendering the content contained (in tracks) of a file. The codecs parameter is defined in RFC 4281 [32]. The ISO file format name space and ISO syntax in clauses 3.2 and 3.3 of RFC 4281, respectively, shall be used together with additions defined in clause A.2.2 of the present document.

types: is a single value or a comma-separated list that identifies the MIME media types of the content contained (in items) in a file. It is defined in clause A.2.3 of the present document.

                 Note that if either the codecs or the types parameter is used, and both content in tracks and items are needed for rendering the content of a file, then both the codecs and the types parameter shall be used.

Encoding considerations: files are binary and should be transmitted in a suitable encoding without CR/LF conversion, 7-bit stripping etc.; base64 (RFC 4648 [33]) is a suitable encoding.

Security considerations: see the security considerations section in A.3 of the present document.

Interoperability considerations: The 3GPP organization has defined the specification, interoperability, and conformance. IMTC conducts interoperability testing.

Published specification: 3GPP TS 26.234, Release 5; 3GPP TS 26.244, Release 6 or later. 3GPP specifications are publicly accessible at the 3GPP web site, www.3gpp.org.

Applications which use this media type: Multi-media

Additional information: The type "audio/3gpp" may be used for files containing audio but no visual presentation. Files served under this type must not contain any visual material. (Note that timed text is visually presented and is considered to be visual material).

Magic number(s):   None. However, the file-type box must occur first in the file, and must contain a 3GPP brand in its compatible brands list.

File extension(s):   '3gp' and '3gpp' are both declared at http://www.nist.gov/nics/; 3gp is preferred

Macintosh File Type Code(s): '3gpp'

Person & email address to contact for further information:

Per Fröjdh
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Intended usage: COMMON

Restrictions on usage: Note that this MIME type is used only for files; separate types are used for real-time transfer, such as for the RTP payload format for AMR audio (RFC 3267 [15]).

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A.1.3   Any files

The type "video/3gpp" is valid for all files. It is valid to serve an audio-only file as "video/3gpp".

MIME media type name: video
MIME subtype name: 3gpp

Required parameters: none

Optional parameters:

codecs: is a single value or a comma-separated list that identifies the codec(s) needed for rendering the content contained (in tracks) of a file. The codecs parameter is defined in RFC 4281 [32]. The ISO file format name space and ISO syntax in clauses 3.2 and 3.3 of RFC 4281, respectively, shall be used together with additions defined in clause A.2.2 of the present document.

types: is a single value or a comma-separated list that identifies the MIME media types of the content contained (in items) in a file. It is defined in clause A.2.3 of the present document.

Note that if either the codecs or the types parameter is used, and both content in tracks and items are needed for rendering the content of a file, then both the codecs and the types parameter shall be used.

Encoding considerations: files are binary and should be transmitted in a suitable encoding without CR/LF conversion, 7-bit stripping etc.; base64 (RFC 4648 [33]) is a suitable encoding.

Security considerations: see the security considerations section in A.3 of the present document.

Interoperability considerations: The 3GPP organization has defined the specification, interoperability, and conformance. IMTC conducts interoperability testing.

Published specification: 3GPP TS 26.234, Release 5; 3GPP TS 26.244, Release 6 or later. 3GPP specifications are publicly accessible at the 3GPP web site, www.3gpp.org.

Applications which use this media type: Multi-media

Additional information:

Magic number(s): None. However, the file-type box must occur first in the file, and must contain a 3GPP brand in its compatible brands list.

File extension(s): '3gp' and '3gpp' are both declared at http://www.nist.gov/nics/; 3gp is preferred

Macintosh File Type Code(s): '3gpp'

Person & email address to contact for further information:

Per Fröjdh
Per.Frojdh@ericsson.com

Intended usage: COMMON

Restrictions on usage: Note that this MIME type is used only for files; separate types are used for real-time transfer, such as for the RTP payload format for AMR audio (RFC 3267 [15]).

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A.2 Optional parameters

A.2.1 General

Two optional parameters are defined here for the "audio/3gpp" and "video/3gpp" media types. Additional parameters may be specified by updating the media type registrations. Any unknown parameter shall be ignored.

A.2.2 Codecs parameter

The codecs parameter is defined in RFC 4281. The ISO file format name space and ISO syntax in clauses 3.2 and 3.3 of RFC 4281 [32] shall be used together with extensions to the ISO syntax specified here.

The syntax in clause 3.3 of RFC 4281 defines the usage of the codecs parameter for files based on the ISO base media file format and specifies that the first element of a parameter value is a sample description entry four-character code. It also includes specific definitions for MPEG audio ('mp4a') and MPEG video ('mp4v') where each value in addition to the four-character code includes two elements signalling Object Type Indications and Profile Level Indications (video only). These definitions apply to the MPEG codecs used by the 3GP file format, such as MPEG-4 Visual [10], MPEG-4 AAC [13] and Enhanced aacPlus [23, 24, 25]. Values for other codecs used by the 3GP file format are specified below.

When the first element of a value is 's263', indicating H.263 video [9], the second element is the decimal representation of the profile, e.g., 0 or 3, and the third element is the decimal representation of the level, e.g. 10 or 45.

When the first element of a value is 'avc1', indicating H.264 (AVC) video [29], the second element is the hexadecimal representation of the following three bytes in the sequence parameter set NAL unit specified in [29]: 1) profile_idc, 2) a byte composed of the values of constraint_set0_flag, constraint_set1_flag, constraint_set2_flag, constraint_set3_flag, and reserved_zero_4bits in bit-significance order, starting from the most significant bit, and 3) level_idc. Note that reserved_zero_4bits is required to be equal to 0 in [29], but other values for it may be specified in the future by ITU-T or ISO/IEC.

When the first element of a value is one of the following elements, no other elements are defined for that value:

- 'samr', indicating AMR narrow-band speech [11];

- 'sawb', indicating AMR wide-band speech [12];

- 'sawp', indicating Extended AMR wide-band audio [21];

- 'tx3g', indicating timed text [4].

The following syntax defines all values above in ABNF (RFC 4234 [31]) by extending the definition in clause 3.3 of RFC 4281:

id-iso   = iso-gen / iso-mpega / iso-mpegv / iso-amr / iso-amr-wb / iso-amr-wbp / iso-tt / iso-h263 / iso-h264

                   ; iso-gen, iso-mepga, iso-mpegv as defined in RFC 4281

iso-amr   = %x73.61.6d.72   ; 'samr'

iso-amr-wb   = %x73.61.77.62   ; 'sawb'

iso-amr-wbp   = %x73.61.6d.74   ; 'sawp'

iso-tt   = %x74.78.33.67   ; 'tx3g'

iso-h263   = s263 "." h263-profile "." h263-level

iso-h264   = avc1 "." h264-plid

s263   = %x73.32.36.33   ; 's263'

avc1   = %x61.76.63.31   ; 'avc1'

h263-profile   = 1*DIGIT

h263-level   = 1*DIGIT

h264-plid   = 6(DIGIT / "a"/ "b" / "c" / "d" / "e" / "f" / "A" / "B" / "C" / "D" / "E" / "F")

                   ; leading "0x" omitted

A.2.3   Types parameter

The types parameter is a single value or a comma-separated list that identifies the MIME media types of the content contained (in items) of a 3GP file. Each value consists of a type-subtype pair and corresponds to a value of the content_type field provided for an item in the item information box.

If the types parameter is present, then it shall include all MIME types needed for rendering the content contained (in items) of a file.

The types parameter is defined in ABNF (RFC 4234 [31]) below:

types	=	"types" "=" type-entries
type-entries	=	type-entry / type-list
type-entry	=	type "/" subtype *(";" parameter)
type	=	token
subtype	=	token
parameter	=	attribute "=" value
attribute	=	token
value	=	token / quoted-string
token	=	1*(%x21 / %x23-27 / %x2A-2B / %x2D-2E / %x30-39
		/ %x41-5A / %x5E-7A / %x7C / %x7E)
		; 1*<any CHAR except CTLs or tspecials>
quoted-string	=	(DQUOTE *qdtext DQUOTE)
DQUOTE	=	%x22 ; " (double quote)
qdtext	=	%x20-21 / %x23-7D / %x80-FF ; any TEXT except <">
type-list	=	DQUOTE type-entry *("," type-entry) DQUOTE

A.3 Security considerations

The 3GPP file format may contain audio, video, and displayable text data. There is currently no provision for 'active' elements (such as scripts) of any kind. Clearly it is possible to author malicious files which attempt to call for an excessively large picture size, high sampling-rate audio etc. However, clients can and usually do protect themselves against this kind of attack. It should be noted that selected metadata fields may encompass information partly intended to protect the media against unauthorized use or distribution. In this case, the intention is that alteration or removal of the data in the field would be treated as an offense under national agreements based on World Intellectual Property Organization (WIPO) treaties.

3GPP files have an extensible structure, so that it is theoretically possible that metadata fields or media formats could be defined in the future which could be used to induce particular actions on the part of the recipient, thus presenting additional security risks. However, this type of capability is currently not supported in the referenced specification.

There is no current provision in the standards for encryption, signing, or authentication of these file formats.

Editor's note: Before approval of this CR, this section needs to be updated to reflect any impacts of using scripts in DIMS contained in 3GP files.