Network Working Group
Request for Comments: 3003
Category: Standards Track

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The audio/mpeg Media Type

Status of this Memo

This document specifies an Internet standards track protocol for the Internet community, and requests discussion and suggestions for improvements. Please refer to the current edition of the "Internet Official Protocol Standards" (STD 1) for the standardization state and status of this protocol. Distribution of this memo is unlimited.

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Abstract

The audio layers of the MPEG-1 and MPEG-2 standards are in frequent use on the internet, but there is no uniform Multipurpose Internet Mail Extension (MIME) type for these files. The intention of this document is to define the media type audio/mpeg to refer to this kind of contents.

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119 [RFC2119].

1. MPEG audio

The audio compression defined as layer I, layer II and layer III in the MPEG-1 [MPEG-1] and MPEG-2 [MPEG-2] standards is a popular method of compressing audio with a low quality loss. The compressed audio is split into several small data frames, each containing a frame header and compressed audio data.

The mime type audio/mpeg defines a elementary byte stream containing MPEG frames according to [MPEG-1] and [MPEG-2], possibly interspersed with non MPEG data. Non MPEG data is data without MPEG synchronization or in other ways not possible to decompress without error.

Typically MPEG audio meta data is concatenated with the MPEG stream, e.g., the meta data format ID3 puts a 128 byte data block in the end of the stream while ID3v2 [ID3V2] prepends a data block of variable

size to the stream.

NOTE: MPEG audio was not designed as a file format but as a format for transmitting audio streams. As such, it does not have any well defined way of including meta data along with audio information. Some products embed meta data using zero amplitude frames or disguised as transmission errors. Others embed the MPEG data in WAV format.

NOTE: The audio/MPS mime type is in use in addition to the audio/mpeg. The MPA [RFC 1890] sub-type refers to MPEG audio when it is segmented and send as a Realtime Transport Protocol (RTP) payload.

2. Registration Information

To: ietf-types@iana.org Subject: Registration of MIME media type audio/mpeg

MIME media type name: audio

MIME subtype name: mpeg

Required parameters: none

Optional parameters: none

Encoding considerations:

For use over internet it is assumed that lower layers take care of transmission errors, so audio/mpeg data MAY include MPEG frames generated without the optional cyclic redundancy checks (CRC) for improved audio quality.

The MPEG audio data is binary data, and must be encoded for non-binary transport; the Base64 encoding is suitable for Email. Note that the MPEG audio data does not compress easily using lossless compression.

Security considerations:

MPEG is a tagged data format, and some tags are available for private use. As such, arbitrary material could potentially be transferred in the MPEG stream, including executable content. Tagged data containing executable content SHOULD never be sent and MUST not be executed if it is received.

NOTE

The requirement that such content not be executed on receipt is especially important since situations exist where content will be generated independently and therefore could contain executable content that the sender is unaware of.

Audio/mpeg objects are not signed or encrypted internally. External security mechanisms must be employed to ensure content confidentiality

Interoperability considerations:

MPEG audio has proven to be widely interoperable across computer platforms.

Published specification: see [MPEG-1] and [MPEG-2]

Applications which use this media type:

MPEG audio is device-, platform- and vendor-neutral and is supported by a wide range of encoders and decoders (players).

Additional information:

Magic number(s): none
File extension(s): .mp1, .mp2, .mp3
Macintosh File Type Code(s): MPEG
Object Identifier(s) or OID(s): none

Person & email address to contact for further information:

The author of this document.

Intended usage: COMMON

Author/Change controller: Martin Nilsson (see section 5)

3. Security Considerations

Security considerations are discussed in the security considerations clause of the MIME registration in section 2.

4. References

[ID3v2]
Martin Nilsson, "ID3 tag version 2.3.0".
<url:http://www.id3.org/id3v2.3.0.txt>

[MPEG-1]
ISO/IEC 11172-3:1993.
Coding of moving pictures and associated audio for digital storage media at up to about 1,5 Mbit/s, Part 3: Audio.
Technical committee / subcommittee: JTC 1 / SC 29

[MPEG-2]
ISO/IEC 13818-3:1995
Generic coding of moving pictures and associated audio information, Part 3: Audio.
Technical committee / subcommittee: JTC 1 / SC 29

and

ISO/IEC DIS 13818-3
Generic coding of moving pictures and associated audio information, Part 3: Audio (Revision of ISO/IEC 13818-3:1995)

[RFC2119]
Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

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