The audio/rtp-vorbis MIME Type
draft-short-avt-rtp-vorbis-mime-00.txt

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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 [1].

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Abstract

This document explains the need for a MIME subtype which identifies a Vorbis audio payload to be used within a Realtime Transport Protocol (RTP) bitstream.

This document also provides the necessary information to register audio/rtp-vorbis as a MIME type.
1. Introduction

The Vorbis Bitstream format [5] developed by Xiph.org is a compressed audio format that uses psychoacoustic compression algorithms with highly optimized bit-allocation. It has been developed as part of a larger project which aims to present a series of multimedia content carrier bitstreams, which are to be freely available to the computing community at large. These bitstreams are created by software or hardware encoder-decoders (codecs).

For file based storage, Vorbis is generally encapsulated within the Ogg bitstream format described in [2]. However, raw packets from the Vorbis codecs can be used directly with transport mechanisms that provide their own framing and packet-separation.

One such mechanism is the Real-time Transport Protocol (RTP), described in [3]. A payload format for using Vorbis audio over RTP is described in [4]. This document serves to register the audio/rtp-vorbis MIME type, and is a companion document to [4].

2. Registration Information:

To: ietf-types@iana.org

Subject: Registration of MIME type audio/rtp-vorbis

Media MIME type name: audio

Media MIME subtype name: rtp-vorbis

Required Parameters: none

Optional Parameters: none

Encoding Considerations:

The Vorbis audio data is always wrapped within and RTP bitstream when transported with this MIME type.

Since the Vorbis data is already compressed as detailed above, further lossless compression MAY be unnecessary. However, RTP header compression MAY be used to reduce the packet size.

See [4] for further information on RTP encoding issues.
Security Considerations:

The Vorbis format is highly specified [5] and so cannot contain security violating code. It could be possible to exploit errors or vulnerabilities in the decoder implementation, by abusing fields with arbitrary code. It is the decoder’s responsibility to ensure that untrusted code is not executed.

Vorbis bitstreams are neither signed nor encrypted, so external security systems should be added to ensure authenticity or confidentiality where required.

Cryptographic authentication of incoming RTP and RTCP packets is highly recommended. Without such protections, attackers could corrupt the audio bitstream, potentially damaging speakers and eardrums.

Further RTP security considerations are detailed in [3].

Interoperability Consideration:

Conformance to the specification detailed in [4] ensures no interoperability issues need arise.

Published Specification:

See [4]

Applications which use this media type:

Any application which uses the specification outlined in [4] will be able to decode the bitstream.

Additional Information:

Magic Numbers: none

File Extension: none

Macintosh File Type Code: none

Object Identifier(s) of OID(s): none
For questions about this proposal contact:
Barry Short <b.short@elec.gla.ac.uk>.

For technical questions about Vorbis see the mailing list of the developer community <http://www.xiph.org/archives>

Internet Usage: COMMON

Author/Change Controller:
This document was written by Barry Short, changes of this document will be handled by the author or a representative of the Vorbis development community.

3. Security Considerations:
Security considerations are discussed in the security considerations clause in section 2 of this document.

4. References

1. Key words for use in RFCs to Indicate Requirement Levels (RFC 2119)

2. The Ogg encapsulation format,
   Work in Progress, draft-pfeiffer-ogg-fileformat-00.txt


4. RTP Payload Format for Vorbis Encoded Audio.
   Work in Progress, draft-kerr-avt-vorbis-rtp-00.txt

5. libvorbis: Available from Xiph website, http://www.xiph.org

5. Author’s address
Barry Short
Centre for Music Technology
University of Glasgow
Glasgow
UK
G12 8LT
Phone: +44 141 330 5740
Email: b.short@elec.gla.ac.uk
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7. Acknowledgement

This document borrows from previous MIME type registrations, Internet-Drafts and RFCs. Thanks also to the Vorbis community.