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Hypertext Transfer Protocol (HTTP) Client-Initiated Content-Encoding
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Abstract

In HTTP, "Content Codings" allow for payload encodings such as for compression or integrity checks. In particular, the "gzip" content coding is widely used for payload data sent in response messages.

Content Codings can be used in request messages as well, however discoverability is not on par with response messages. This document extends the HTTP "Accept-Encoding" header field for use in responses.

Editorial Note (To be removed by RFC Editor before publication)

Distribution of this document is unlimited. Although this is not a work item of the HTTPbis Working Group, comments should be sent to the Hypertext Transfer Protocol (HTTP) mailing list at ietf-http-wg@w3.org [1], which may be joined by sending a message with subject "subscribe" to ietf-http-wg-request@w3.org [2].

Discussions of the HTTPbis Working Group are archived at <http://lists.w3.org/Archives/Public/ietf-http-wg/>.

XML versions, latest edits, and the issues list for this document are available from <http://greenbytes.de/tech/webdav/#draft-reschke-http-cice>.

Status of This Memo

This Internet-Draft will expire on November 11, 2014.

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Table of Contents

1. Introduction

In HTTP, "Content Codings" allow for payload encodings such as for compression or integrity checks ([HTTPSEM], Section 3.1.2). In particular, the "gzip" content coding is widely used for payload data sent in response messages.

Content Codings can be used in request messages as well, however discoverability is not on par with response messages. This document extends the HTTP "Accept-Encoding" header field ([HTTPSEM], Section 5.3.4) for use in responses.

2. Notational Conventions

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 [RFC2119].

This document reuses terminology used in the base HTTP specifications, namely Section 2 of [HTTPMSG] and Section 3.1.2 of [HTTPSEM].

3. Extensions to 'Accept-Encoding' Header Field

Section 5.3.4 of [HTTPSEM] defines "Accept-Encoding" as a request header field only.

This specification extends that definition to allow "Accept-Encoding" as response header field as well. When present, it indicates what content codings a server is willing to accept in requests. In particular, a field value that contains "identity" only implies that no content codings are supported at all.

Note that this information applies to the resource to which the request was addressed. The set of supported encodings might vary for different resources on the same server, and could also vary depending on other aspects of the request (such as the request method).

Section 6.5.13 of [HTTPSEM] defines status code 415 (Unsupported Media Type) to apply to both media type and content coding related problems.

Servers that fail a request due to an unsupported content coding SHOULD respond with a 415 status and SHOULD include an "Accept-Encoding" header in that response, allowing clients to distinguish between content coding related issues and media type related issues.

4. Example

Client submits a POST request using Content-Encoding "compress" ([HTTPSEM], Section 3.1.2.1):

```
POST /edit/ HTTP/1.1
Host: example.org
Content-Type: application/atom+xml;type=entry
Content-Encoding: compress

...compressed payload...
```

Server rejects request because it only allows the "gzip" content coding:

```
HTTP/1.1 415 Unsupported Media Type
Date: Fri, 09 May 2014 11:43:53 GMT
Accept-Encoding: gzip
Content-Length: 68
Content-Type: text/plain

This resource only supports the "gzip" content coding in requests.
```

...at which point the client can retry the request with the supported "gzip" content coding.

Alternatively, a server that does not support any content codings in requests could answer with:

```
HTTP/1.1 415 Unsupported Media Type
Date: Fri, 09 May 2014 11:43:53 GMT
Accept-Encoding: identity
Content-Length: 61
Content-Type: text/plain

This resource does not support content codings in requests.
```

5. Security Considerations

This specification does not introduce any new security considerations beyond those discussed in Section 9 of [HTTPSEM].

6. IANA Considerations

HTTP header fields are registered within the "Message Headers" registry located at <http://www.iana.org/assignments/message-headers>, as defined by [BCP90].

This document updates the definition of the "Accept-Encoding" header field, so the "Permanent Message Header Field Names" registry shall be updated accordingly:

Header Field Name	Protocol	Status	Reference
Accept-Encoding	http	standard	[HTTPSEM], Section 5.3.4, extended by Section 3 of this document

7. References

7.1. Normative References

[HTTPMSG] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing", draft-ietf-httpbis-p1-messaging-26 (work in progress), February 2014.

[HTTPSEM] Fielding, R., Ed. and J. Reschke, Ed., "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content", draft-ietf-httpbis-p2-semantics-26 (work in progress), February 2014.

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

7.2. Informative References

[BCP90] Klyne, G., Nottingham, M., and J. Mogul, "Registration Procedures for Message Header Fields", BCP 90, RFC 3864, September 2004.

URIs

[1] <mailto:ietf-http-wg@w3.org>

[2] <mailto:ietf-http-wg-request@w3.org?subject=subscribe>

Appendix A. Open issues (to be removed by RFC Editor prior to publication)

A.1. edit

Type: edit

julian.reschke@greenbytes.de (2011-04-15): Umbrella issue for editorial fixes/enhancements.

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