

HTTP Compression

HTTP Compression

To improve transfer speed and optimize bandwidth utilization, an HTTP server may compress data sent in response to an HTTP request. This is called [HTTP compression](#).

The client and the server negotiate compression automatically. A client indicates its support for HTTP compression in the request. Consequently the server will know when it's safe to compress the response and what compression algorithm to use.

For example, a client that supports HTTP compression often sends the following request header:

HTTP request header

```
Accept-Encoding: deflate, gzip
```

If the server supports HTTP compression at all, invariably it will support `gzip`, in which case it might compress the response as indicated in the following response header:

HTTP response header

```
Content-Encoding: gzip
```

In fact, Apache's `mod_deflate` module supports `gzip` compression ([RFC 1952](#)) only.



A historical anecdote

The use of the word "deflate" in this context is a misnomer. In the HTTP request header above, "deflate" actually refers to `zlib` ([RFC 1950](#)), which (like `gzip`) is based on `deflate` compression ([RFC 1951](#)). Historically, this unfortunate choice of words has resulted in incompatibilities, which is why you won't find a server that supports "deflate." This is explained in more detail on the [ZLIB FAQ](#) page.

As it turns out, SAML metadata is highly compressible, as illustrated below:

Illustrating HTTP compression with curl

```
$ url=http://md.incommon.org/InCommon/InCommon-metadata.xml

$ curl --verbose $url > /dev/null
*   Trying 207.75.165.125...
* Connected to md.incommon.org (207.75.165.125) port 80 (#0)
> GET /InCommon/InCommon-metadata.xml HTTP/1.1
> Host: md.incommon.org
> User-Agent: curl/7.43.0
> Accept: */*
>
< HTTP/1.1 200 OK
< Date: Fri, 12 May 2017 06:15:29 GMT
< Server: Apache
< Last-Modified: Thu, 11 May 2017 19:20:24 GMT
< ETag: "2a03576-54f447b0aaa5b"
< Accept-Ranges: bytes
< Content-Length: 44053878
< Content-Type: application/samlmetadata+xml
<
* Connection #0 to host md.incommon.org left intact

$ curl --verbose --compressed $url > /dev/null
*   Trying 207.75.165.125...
* Connected to md.incommon.org (207.75.165.125) port 80 (#0)
> GET /InCommon/InCommon-metadata.xml HTTP/1.1
> Host: md.incommon.org
> User-Agent: curl/7.43.0
> Accept: */*
> Accept-Encoding: deflate, gzip
>
< HTTP/1.1 200 OK
< Date: Fri, 12 May 2017 06:16:36 GMT
< Server: Apache
< Last-Modified: Thu, 11 May 2017 19:20:24 GMT
< ETag: "808ca7-54f447b0ac5af"
< Accept-Ranges: bytes
< Content-Length: 8424615
< Content-Encoding: gzip
< Vary: Accept-Encoding
< Content-Type: application/samlmetadata+xml
<
* Connection #0 to host md.incommon.org left intact
```

Shibboleth supports HTTP compression out of the box, with zero configuration. If you know of other metadata client software that supports HTTP compression, please add a comment to this page.