Network Working Group Request for Comments: 4229 Category: Informational M. Nottingham J. Mogul HP Labs December 2005

## HTTP Header Field Registrations

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## Abstract

This document defines the initial contents of a permanent IANA registry for HTTP header fields and a provisional repository for HTTP header fields, per RFC 3864.

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## 1. Introduction

 ${
m HTTP/1.0~[3]}$  and  ${
m HTTP/1.1~[11]}$  define protocol constructs (respectively, the HTTP-header and message-header BNF rules) that are used as message headers. These specifications also define a number of HTTP headers themselves, and they provide for extension through the use of new field-names.

This document defines the initial contents of an IANA registry that catalogs permanent HTTP header field-names, and of an IANA repository that catalogs provisional HTTP header field-names. Both are operated according to Registration Procedures for Message Header Fields [1].

Note that neither tracks the syntax or semantics of field-values. Also, while some HTTP headers have different semantics depending on their context (e.g., Cache-Control in requests and responses), both registries consider the HTTP header field-name name space singular.

Also, some contact details listed may no longer be correct.

# 2. Registration Templates

Header field entries are summarized in tabular form for convenience of reference and presented in full in the following sections.

# 2.1. Permanent HTTP Header Field Registrations

Header name	Protocol
A-IM	http
Accept	http
Accept-Additions	http
Accept-Charset	http
Accept-Encoding	http
Accept-Features	http
Accept-Language	http
Accept-Ranges	http
Age	http
Allow	http
Alternates	http
Authentication-Info	http
Authorization	http
C-Ext	http
C-Man	http
C-Opt	http
C-PEP	http
C-PEP-Info	http
Cache-Control	http
Connection	http
Content-Base	http
Content-Disposition	http
Content-Encoding	http
Content-ID	http
Content-Language	http
Content-Length	http
Content-Location	http
Content-MD5	http
Content-Range	http
Content-Script-Type	http
Content-Style-Type	http
Content-Type	http
Content-Version	http
Cookie	http
Cookie2	http
DAV	http
Date	http
Default-Style	http
Delta-Base	http
Depth	http
Derived-From	http
Destination	http
Differential-ID	http
Digest	http

ETag	http
Expect	http
Expires	http
Ext	http
From	http
GetProfile	http
Host	http
IM	http
If	http
If-Match	http
If-Modified-Since	http
If-None-Match	http
If-Range	http
If-Unmodified-Since	http
Keep-Alive	http
Label	http
Last-Modified	http
Link	http
Location	http
Lock-Token	http
MIME-Version	http
Man	http
Max-Forwards	http
Meter	http
Negotiate	http
Opt	http
Ordering-Type	http
Overwrite	http
P3P	http
PEP	http
PICS-Label	http
Pep-Info	http
Position	http
Pragma	http
ProfileObject	http
Protocol	http
Protocol-Info	http
Protocol-Query	http
Protocol-Request	http
Proxy-Authenticate	http
Proxy-Authentication-Inf	o http
Proxy-Authorization	http
Proxy-Features	http
Proxy-Instruction	http
Public	http
Range	http
Referer	http
Retry-After	http

```
Safe
                      http
Security-Scheme
                      http
Server
                      http
Set-Cookie
                     http
Set-Cookie2
                     http
SetProfile
                      http
SoapAction
                     http
Status-URI
                      http
Surrogate-Capability http
Surrogate-Control
                     http
TCN
                     http
TE
                      http
Timeout
                      http
Trailer
                      http
Transfer-Encoding
                      http
URI
                      http
Upgrade
                      http
User-Agent
                      http
Variant-Vary
                      http
Vary
                      http
Via
                      http
WWW-Authenticate
                     http
Want-Digest
                      http
Warning
                      http
```

# 2.1.1. Header field: A-IM

Applicable protocol: http [11]

Status: standard

Author/change controller:
 IETF (iesg@ietf.org)

Internet Engineering Task Force

Specification document(s):
 RFC3229 [16]

```
2.1.2. Header field: Accept
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.3. Header field: Accept-Additions
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
      IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2324 [9]
  Related information: spoof
2.1.4. Header field: Accept-Charset
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
```

```
2.1.5. Header field: Accept-Encoding
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.6. Header field: Accept-Features
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Andrew H. Mutz (mutz@hpl.hp.com)
     Koen Holtman (koen@win.tue.nl)
   Specification document(s):
     RFC2295 [7]
2.1.7. Header field: Accept-Language
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
```

```
2.1.8. Header field: Accept-Ranges
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.9. Header field: Age
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.10. Header field: Allow
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.11. Header field: Alternates
  Applicable protocol: http [11]
  Status: experimental
```

```
Author/change controller:
     Andrew H. Mutz (mutz@hpl.hp.com)
     Koen Holtman (koen@win.tue.nl)
  Specification document(s):
     RFC2295 [7]
2.1.12. Header field: Authentication-Info
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2617 [12]
2.1.13. Header field: Authorization
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.14. Header field: C-Ext
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@microsoft.com)
     Paul J. Leach (paulle@microsoft.com)
     Scott Lawrence (lawrence@agranat.com)
  Specification document(s):
     RFC2774 [14]
```

```
2.1.15. Header field: C-Man
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@microsoft.com)
     Paul J. Leach (paulle@microsoft.com)
     Scott Lawrence (lawrence@agranat.com)
   Specification document(s):
     RFC2774 [14]
2.1.16. Header field: C-Opt
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@microsoft.com)
     Paul J. Leach (paulle@microsoft.com)
     Scott Lawrence (lawrence@agranat.com)
  Specification document(s):
     RFC2774 [14]
2.1.17. Header field: C-PEP
  Applicable protocol: http [11]
  Status: deprecated
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Dan Connolly (connolly@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Rohit Khare (khare@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Eric Prud'hommeaux (eric@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
  Specification document(s):
     PEP [29]
```

```
2.1.18. Header field: C-PEP-Info
  Applicable protocol: http [11]
  Status: deprecated
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Dan Connolly (connolly@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Rohit Khare (khare@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Eric Prud'hommeaux (eric@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Specification document(s):
        PEP [29]
2.1.19. Header field: Cache-Control
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.20. Header field: Connection
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
```

```
2.1.21. Header field: Content-Base
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2068 [4]
2.1.22. Header field: Content-Disposition
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.23. Header field: Content-Encoding
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.24. Header field: Content-ID
  Applicable protocol: http [11]
  Status: informational
```

```
Author/change controller:
     Arthur van Hoff (avh@marimba.com)
     Marimba Inc.
     John Giannandrea (jg@netscape.com)
     Netscape Inc.
     Mark Hapner (mark.hapner@sun.com)
     Sun Microsystems Inc.
     Steve Carter (srcarter@novell.com)
     Novell Inc.
     Milo Medin (medin@home.net)
     At Home Corp
  Specification document(s):
     DRP [20]
2.1.25. Header field: Content-Language
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.26. Header field: Content-Length
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.27. Header field: Content-Location
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.28. Header field: Content-MD5
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.29. Header field: Content-Range
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.30. Header field: Content-Script-Type
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     W3C (web-human@w3.org)
     World Wide Web Consortium
  Specification document(s):
     HTML 4 [21]
```

```
2.1.31. Header field: Content-Style-Type
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      W3C (web-human@w3.org)
      World Wide Web Consortium
   Specification document(s):
     HTML 4 [21]
2.1.32. Header field: Content-Type
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.33. Header field: Content-Version
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2068 [4]
2.1.34. Header field: Cookie
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2965 [15]
2.1.35. Header field: Cookie2
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2965 [15]
2.1.36. Header field: DAV
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2518 [10]
2.1.37. Header field: Date
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
```

```
2.1.38. Header field: Default-Style
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      W3C (web-human@w3.org)
     World Wide Web Consortium
   Specification document(s):
     HTML 4 [21]
2.1.39. Header field: Delta-Base
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC3229 [16]
2.1.40. Header field: Depth
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
      Internet Engineering Task Force
   Specification document(s):
     RFC2518 [10]
2.1.41. Header field: Derived-From
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2068 [4]
2.1.42. Header field: Destination
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2518 [10]
2.1.43. Header field: Differential-ID
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Arthur van Hoff (avh@marimba.com)
     Marimba Inc.
     John Giannandrea (jg@netscape.com)
     Netscape Inc.
     Mark Hapner (mark.hapner@sun.com)
     Sun Microsystems Inc.
     Steve Carter (srcarter@novell.com)
     Novell Inc.
     Milo Medin (medin@home.net)
     At Home Corp
   Specification document(s):
     DRP [20]
2.1.44. Header field: Digest
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC3230 [17]
2.1.45. Header field: ETag
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.46. Header field: Expect
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.47. Header field: Expires
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
```

```
2.1.48. Header field: Ext
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@microsoft.com)
     Paul J. Leach (paulle@microsoft.com)
     Scott Lawrence (lawrence@agranat.com)
   Specification document(s):
     RFC2774 [14]
2.1.49. Header field: From
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.50. Header field: GetProfile
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Pat Hensley (hensley@firefly.net)
     FireFly Network, Inc.
     Max Metral (max@firefly.net)
     FireFly Network, Inc.
     Upendra Shardanand (shard@firefly.net)
     FireFly Network, Inc.
     Donna Converse (converse@netscape.com)
     Netscape Communications
     Mike Myers (mmyers@verisign.com)
     Verisign, Inc.
   Specification document(s):
     OPS over HTTP [22]
```

```
2.1.51. Header field: Host
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.52. Header field: IM
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC3229 [16]
2.1.53. Header field: If
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2518 [10]
2.1.54. Header field: If-Match
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.55. Header field: If-Modified-Since
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.56. Header field: If-None-Match
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.57. Header field: If-Range
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
```

```
2.1.58. Header field: If-Unmodified-Since
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.59. Header field: Keep-Alive
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2068 [4]
2.1.60. Header field: Label
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC3253 [18]
2.1.61. Header field: Last-Modified
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.62. Header field: Link
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2068 [4]
2.1.63. Header field: Location
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.64. Header field: Lock-Token
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2518 [10]
```

```
2.1.65. Header field: MIME-Version
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.66. Header field: Man
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@microsoft.com)
     Paul J. Leach (paulle@microsoft.com)
     Scott Lawrence (lawrence@agranat.com)
  Specification document(s):
     RFC2774 [14]
2.1.67. Header field: Max-Forwards
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.68. Header field: Meter
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2227 [6]
2.1.69. Header field: Negotiate
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Andrew H. Mutz (mutz@hpl.hp.com)
     Koen Holtman (koen@win.tue.nl)
  Specification document(s):
     RFC2295 [7]
2.1.70. Header field: Opt
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@microsoft.com)
     Paul J. Leach (paulle@microsoft.com)
     Scott Lawrence (lawrence@agranat.com)
  Specification document(s):
     RFC2774 [14]
2.1.71. Header field: Ordering-Type
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesq@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC3648 [19]
```

```
2.1.72. Header field: Overwrite
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2518 [10]
2.1.73. Header field: P3P
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     W3C (web-human@w3.org)
     World Wide Web Consortium
   Specification document(s):
     P3P [23]
2.1.74. Header field: PEP
  Applicable protocol: http [11]
  Status: deprecated
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Dan Connolly (connolly@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Rohit Khare (khare@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Eric Prud'hommeaux (eric@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
  Specification document(s):
     PEP [29]
```

```
2.1.75. Header field: PICS-Label
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     W3C (web-human@w3.org)
     World Wide Web Consortium
   Specification document(s):
     PICSLabels [24]
2.1.76. Header field: Pep-Info
  Applicable protocol: http [11]
  Status: deprecated
  Author/change controller:
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Dan Connolly (connolly@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Rohit Khare (khare@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
     Eric Prud'hommeaux (eric@w3.org)
     World Wide Web Consortium, MIT Laboratory for Computer Science
  Specification document(s): PEP [29]
2.1.77. Header field: Position
     Applicable protocol: http [11]
     Status: standard
     Author/change controller:
        IETF (iesg@ietf.org)
        Internet Engineering Task Force
     Specification document(s):
        RFC3648 [19]
```

```
2.1.78. Header field: Pragma
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.79. Header field: ProfileObject
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Pat Hensley (hensley@firefly.net)
     FireFly Network, Inc.
     Max Metral (max@firefly.net)
     FireFly Network, Inc.
     Upendra Shardanand (shard@firefly.net)
     FireFly Network, Inc.
     Donna Converse (converse@netscape.com)
     Netscape Communications
     Mike Myers (mmyers@verisign.com)
     Verisign, Inc.
  Specification document(s):
     OPS over HTTP [22]
2.1.80. Header field: Protocol
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     W3C (web-human@w3.org)
     World Wide Web Consortium
  Specification document(s):
     PICSLabels [24]
```

```
2.1.81. Header field: Protocol-Info
  Applicable protocol: http [11]
  Status: deprecated
  Author/change controller:
     Don Eastlake (dee@cybercash.com)
     Rohit Khare (khare@w3.org)
     Jim Miller (jmiller@w3.org)
   Specification document(s):
     Selecting Payment Mechanisms [26]
2.1.82. Header field: Protocol-Query
  Applicable protocol: http [11]
  Status: deprecated
  Author/change controller:
     Don Eastlake (dee@cybercash.com)
     Rohit Khare (khare@w3.org)
     Jim Miller (jmiller@w3.org)
  Specification document(s):
     Selecting Payment Mechanisms [26]
2.1.83. Header field: Protocol-Request
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     W3C (web-human@w3.org)
     World Wide Web Consortium
   Specification document(s):
     PICSLabels [24]
2.1.84. Header field: Proxy-Authenticate
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.85. Header field: Proxy-Authentication-Info
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2617 [12]
2.1.86. Header field: Proxy-Authorization
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.87. Header field: Proxy-Features
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Phillip M. Hallam-Baker (hallam@w3.org)
     W3C
  Specification document(s):
     Proxy Notification [27]
```

```
2.1.88. Header field: Proxy-Instruction
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
      Phillip M. Hallam-Baker (hallam@w3.org)
     W3C
   Specification document(s):
     Proxy Notification [27]
2.1.89. Header field: Public
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2068 [4]
2.1.90. Header field: Range
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
      IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.91. Header field: Referer
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.92. Header field: Retry-After
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.93. Header field: Safe
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Koen Holtman (koen@win.tue.nl)
  Specification document(s):
     RFC2310 [8]
2.1.94. Header field: Security-Scheme
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Eric Rescorla (ekr@rtfm.com)
     A. Schiffman (ams@terisa.com)
  Specification document(s):
     RFC2660 [13]
```

```
2.1.95. Header field: Server
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.96. Header field: Set-Cookie
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2109 [5]
2.1.97. Header field: Set-Cookie2
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2965 [15]
2.1.98. Header field: SetProfile
  Applicable protocol: http [11]
  Status: informational
```

```
Author/change controller:
     Pat Hensley (hensley@firefly.net)
     FireFly Network, Inc.
     Max Metral (max@firefly.net)
     FireFly Network, Inc.
     Upendra Shardanand (shard@firefly.net)
     FireFly Network, Inc.
     Donna Converse (converse@netscape.com)
     Netscape Communications
     Mike Myers (mmyers@verisign.com)
     Verisign, Inc.
  Specification document(s):
     OPS over HTTP [22]
2.1.99. Header field: SoapAction
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Don Box (dbox@develop.com)
     DevelopMentor
     David Ehnebuske (davide@us.ibm.com)
     Gopal Kakivaya (gopalk@microsoft.com)
     Microsoft
     Andrew Layman (andrewl@microsoft.com)
     Microsoft
     Noah Mendelsohn (Noah_Mendelsohn@lotus.com)
     Lotus Development Corp.
     Hernik Frystyk Nielsen (frystyk@microsoft.com)
     Microsoft
     Satish Thatte (satisht@microsoft.com)
     Microsoft
     Dave Winer (dave@userland.com)
     UserLand Software, Inc.
   Specification document(s):
     SOAP [28]
2.1.100. Header field: Status-URI
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2518 [10]
2.1.101. Header field: Surrogate-Capability
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Mark Nottingham (mnot@akamai.com)
     Akamai
     Xiang Liu (xiang.liu@oracle.com)
     Oracle
   Specification document(s):
     edge-arch [25]
2.1.102. Header field: Surrogate-Control
  Applicable protocol: http [11]
  Status: informational
  Author/change controller:
     Mark Nottingham (mnot@akamai.com)
     Akamai
     Xiang Liu (xiang.liu@oracle.com)
     Oracle
   Specification document(s):
     edge-arch [25]
2.1.103. Header field: TCN
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Andrew H. Mutz (mutz@hpl.hp.com)
     Koen Holtman (koen@win.tue.nl)
```

```
Specification document(s):
     RFC2295 [7]
2.1.104. Header field: TE
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.105. Header field: Timeout
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2518 [10]
2.1.106. Header field: Trailer
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.107. Header field: Transfer-Encoding
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.108. Header field: URI
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2068 [4]
2.1.109. Header field: Upgrade
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.110. Header field: User-Agent
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
```

```
2.1.111. Header field: Variant-Vary
  Applicable protocol: http [11]
  Status: experimental
  Author/change controller:
     Andrew H. Mutz (mutz@hpl.hp.com)
     Koen Holtman (koen@win.tue.nl)
  Specification document(s):
     RFC2295 [7]
2.1.112. Header field: Vary
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.113. Header field: Via
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
   Specification document(s):
     RFC2616 [11]
2.1.114. Header field: WWW-Authenticate
  Applicable protocol: http [11]
  Status: standard
```

```
Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
2.1.115. Header field: Want-Digest
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
     IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC3230 [17]
2.1.116. Header field: Warning
  Applicable protocol: http [11]
  Status: standard
  Author/change controller:
    IETF (iesg@ietf.org)
     Internet Engineering Task Force
  Specification document(s):
     RFC2616 [11]
```

# 2.2. Provisional HTTP Header Field Submissions

```
Header name
                   Protocol
-----
Compliance
                     http
Content-Transfer-Encoding http
Cost
                      http
Message-ID
                      http
                     http
Non-Compliance
Optional
                     http
Resolution-Hint
                     http
Resolver-Location
                     http
SubOK
                     http
Subst
                     http
Title
                     http
UA-Color
                      http
UA-Media
                     http
UA-Pixels
                     http
UA-Resolution
                     http
UA-Windowpixels
                     http
Version
                      http
```

## 2.2.1. Header field: Compliance

Applicable protocol: http [11]

Status: provisional

Author/change controller: Jeffrey C. Mogul (mogul@wrl.dec.com)
Western Research Laboratory, Digital Equipment Corporation Josh
Cohen (josh@netscape.com) Netscape Communications Corporation
Scott Lawrence (lawrence@agranat.com) Agranat Systems, Inc.

```
Specification document(s):
    OPTIONS messages [31]
```

# 2.2.2. Header field: Content-Transfer-Encoding

Applicable protocol: http [11]

Status: provisional

Author/change controller:

Tim Berners-Lee (timbl@w3.org)
MIT Laboratory for Computer Science

```
Specification document(s):
     Object Headers [2]
2.2.3. Header field: Cost
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Tim Berners-Lee (timbl@w3.org)
     MIT Laboratory for Computer Science
  Specification document(s):
     Object Headers [2]
2.2.4. Header field: Message-ID
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Tim Berners-Lee (timbl@w3.org)
     MIT Laboratory for Computer Science
  Specification document(s):
     Object Headers [2]
2.2.5. Header field: Non-Compliance
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller: Jeffrey C. Mogul (mogul@wrl.dec.com)
     Western Research Laboratory, Digital Equipment Corporation Josh
     Cohen (josh@netscape.com) Netscape Communications Corporation
     Scott Lawrence (lawrence@agranat.com) Agranat Systems, Inc.
   Specification document(s):
     OPTIONS messages [31]
2.2.6. Header field: Optional
  Applicable protocol: http [11]
  Status: provisional
```

```
Author/change controller:
     John Mallery (jcma@ai.mit.edu)
     MIT Artificial Intelligence Laboratory
     Lewis Girod (girod@lcs.mit.edu)
     MIT Laboratory for Computer Science
     Benjie Chen (benjie@lcs.mit.edu)
     MIT Laboratory for Computer Science
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium
   Specification document(s):
     WIRE [32]
2.2.7. Header field: Resolution-Hint
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     John Mallery (jcma@ai.mit.edu)
     MIT Artificial Intelligence Laboratory
     Lewis Girod (girod@lcs.mit.edu)
     MIT Laboratory for Computer Science
     Benjie Chen (benjie@lcs.mit.edu)
     MIT Laboratory for Computer Science
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium
  Specification document(s):
     WIRE [32]
2.2.8. Header field: Resolver-Location
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     John Mallery (jcma@ai.mit.edu)
     MIT Artificial Intelligence Laboratory
     Lewis Girod (girod@lcs.mit.edu)
     MIT Laboratory for Computer Science
     Benjie Chen (benjie@lcs.mit.edu)
     MIT Laboratory for Computer Science
     Henrik Frystyk Nielsen (frystyk@w3.org)
     World Wide Web Consortium
```

```
Specification document(s):
     WIRE [32]
2.2.9. Header field: SubOK
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller: Jeffrey C. Mogul (mogul@wrl.dec.com)
     Western Research Laboratory, Digital Equipment Corporation Arthur
     van Hoff (avh@marimba.com) Marimba, Inc.
  Specification document(s):
     Duplicate Suppression [33]
2.2.10. Header field: Subst
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller: Jeffrey C. Mogul (mogul@wrl.dec.com)
     Western Research Laboratory, Digital Equipment Corporation Arthur
     van Hoff (avh@marimba.com) Marimba, Inc.
  Specification document(s):
     Duplicate Suppression [33]
2.2.11. Header field: Title
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Tim Berners-Lee (timbl@w3.org)
     MIT Laboratory for Computer Science
  Specification document(s):
     Object Headers [2]
2.2.12. Header field: UA-Color
  Applicable protocol: http [11]
  Status: provisional
```

```
Author/change controller:
     Larry Masinter (LMM@acm.org)
     Adobe Systems
     Lou Montulli (montulli@netscape.com)
     Netscape Communications Corp.
     Andrew H. Mutz (mutz@hpl.hp.com)
     Hewlett-Packard Company
  Specification document(s):
     UA Attributes [30]
2.2.13. Header field: UA-Media
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Larry Masinter (LMM@acm.org)
     Adobe Systems
     Lou Montulli (montulli@netscape.com)
     Netscape Communications Corp.
     Andrew H. Mutz (mutz@hpl.hp.com)
     Hewlett-Packard Company
  Specification document(s):
     UA Attributes [30]
2.2.14. Header field: UA-Pixels
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Larry Masinter (LMM@acm.org)
     Adobe Systems
     Lou Montulli (montulli@netscape.com)
     Netscape Communications Corp.
     Andrew H. Mutz (mutz@hpl.hp.com)
     Hewlett-Packard Company
  Specification document(s):
     UA Attributes [31]
```

```
2.2.15. Header field: UA-Resolution
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Larry Masinter (LMM@acm.org)
     Adobe Systems
     Lou Montulli (montulli@netscape.com)
     Netscape Communications Corp.
     Andrew H. Mutz (mutz@hpl.hp.com)
     Hewlett-Packard Company
  Specification document(s):
     UA Attributes [30]
2.2.16. Header field: UA-Windowpixels
  Applicable protocol: http [11]
  Status: provisional
  Author/change controller:
     Larry Masinter (LMM@acm.org)
     Adobe Systems
     Lou Montulli (montulli@netscape.com)
     Netscape Communications Corp.
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  Specification document(s):
     UA Attributes [30]
2.2.17. Header field: Version
  Applicable protocol: http [11]
  Status: provisional
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  Specification document(s):
     Object Headers [2]
```

# 3. IANA Considerations

This specification provides initial registrations of HTTP header fields in the "Permanent Message Header Field Registry", defined by Registration Procedures for Message Header Fields [1].

It also provides initial submissions of HTTP header fields in the "Provisional Message Header Field Repository", defined by the same document.

### 4. Security Considerations

No security considerations are introduced by this document beyond those already inherent in use of the HTTP header fields referenced.

### 5. Acknowledgements

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#### 6. Informative References

- [1] Klyne, G., Nottingham, M., and J. Mogul, "Registration Procedures for Message Header Fields", BCP 90, RFC 3864, September 2004.
- [2] Berners-Lee, T., "Object Header lines in HTTP", May 1994, <a href="http://www.w3.org/Protocols/HTTP/Object\_Headers.html">http://www.w3.org/Protocols/HTTP/Object\_Headers.html</a>.
- [3] Berners-Lee, T., Fielding, R., and H. Nielsen, "Hypertext Transfer Protocol -- HTTP/1.0", RFC 1945, May 1996.
- [4] Fielding, R., Gettys, J., Mogul, J., Nielsen, H., and T. Berners-Lee, "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2068, January 1997.
- [5] Kristol, D. and L. Montulli, "HTTP State Management Mechanism", RFC 2109, February 1997.
- [6] Mogul, J. and P. Leach, "Simple Hit-Metering and Usage-Limiting for HTTP", RFC 2227, October 1997.
- [7] Holtman, K. and A. Mutz, "Transparent Content Negotiation in HTTP", RFC 2295, March 1998.
- [8] Holtman, K., "The Safe Response Header Field", RFC 2310, April 1998.

- [9] Masinter, L., "Hyper Text Coffee Pot Control Protocol (HTCPCP/1.0)", RFC 2324, April 1998.
- [10] Goland, Y., Whitehead, E., Faizi, A., Carter, S., and D. Jensen, "HTTP Extensions for Distributed Authoring -- WEBDAV", RFC 2518, February 1999.
- [11] Fielding, R., Gettys, J., Mogul, J., Frystyk, H., Masinter, L., Leach, P., and T. Berners-Lee, "Hypertext Transfer Protocol -- HTTP/1.1", RFC 2616, June 1999.
- [12] Franks, J., Hallam-Baker, P., Hostetler, J., Lawrence, S., Leach, P., Luotonen, A., and L. Stewart, "HTTP Authentication: Basic and Digest Access Authentication", RFC 2617, June 1999.
- [13] Rescorla, E. and A. Schiffman, "The Secure HyperText Transfer Protocol", RFC 2660, August 1999.
- [14] Nielsen, H., Leach, P., and S. Lawrence, "An HTTP Extension Framework", RFC 2774, February 2000.
- [15] Kristol, D. and L. Montulli, "HTTP State Management Mechanism", RFC 2965, October 2000.
- [16] Mogul, J., Krishnamurthy, B., Douglis, F., Feldmann, A., Goland, Y., van Hoff, A., and D. Hellerstein, "Delta encoding in HTTP", RFC 3229, January 2002.
- [17] Mogul, J. and A. Van Hoff, "Instance Digests in HTTP", RFC 3230, January 2002.
- [18] Clemm, G., Amsden, J., Ellison, T., Kaler, C., and J. Whitehead, "Versioning Extensions to WebDAV (Web Distributed Authoring and Versioning)", RFC 3253, March 2002.
- [19] Whitehead, J. and J. Reschke, Ed., "Web Distributed Authoring and Versioning (WebDAV) Ordered Collections Protocol", RFC 3648, December 2003.
- [20] Hoff, A., Payne, J., Hapner, M., Carter, S., and M. Medin, "The HTTP Distribution and Replication Protocol", W3C NOTE NOTE-drp-19970825, August 1997.
- [21] Raggett, D., Hors, A., and I. Jacobs, "HTML 4.01 Specification", W3C REC REC-html401-19991224, December 1999.

- [22] Hensley, P., Metral, M., Shardanand, U., Converse, D., and M. Myers, "Implementation of OPS Over HTTP", W3C NOTE NOTE-OPS-OverHTTP, June 1997.
- [23] Marchiori, M., "The Platform for Privacy Preferences 1.0 (P3P1.0) Specification", W3C REC REC-P3P-20020416, April 2002.
- [24] Krauskopf, T., Miller, J., Resnick, P., and W. Treese, "PICS
  1.1 Label Distribution -- Label Syntax and Communication
  Protocols", W3C REC REC-PICS-labels-961031, October 1996.
- [25] Nottingham, M. and X. Liu, "Edge Architecture Specification", W3C NOTE NOTE-edge-arch-20010804, August 2001.
- [26] Chung, E. and D. Dardailler, "White Paper: Joint Electronic Payment Initiative", W3C NOTE NOTE-jepi-970519, May 1997.
- [27] Hallam-Baker, P., "Notification for Proxy Caches", W3C NOTE WD-proxy-960221, February 1996.
- [28] Box, D., Ehnebuske, D., Kakivaya, G., Layman, A., Mendelsohn, N., Nielsen, H., Thatte, S., and D. Winer, "Simple Object Access Protocol (SOAP) 1.1", W3C NOTE NOTE-SOAP-20000508, May 2000.
- [29] Connolly, D., Prod'hommeaux, E., Nielsen, H., and R. Khare,
   "PEP Specification: an Extension Mechanism for HTTP", Nov 1998,
   <a href="http://www.w3.org/TR/WD-http-pep">http://www.w3.org/TR/WD-http-pep</a>.
- [30] Masinter, L., Montulli, L., and A. Mutz, "User-Agent Display Attributes Headers", Work in Progress, November 1996.
- [31] Mogul, J., Cohen, J., and S. Lawrence, "Specification of HTTP/1.1 OPTIONS messages", Work in Progress, August 1997.
- [32] Girod, L., Chen, B., Henrik, H., and J. Mallery, "WIRE W3 Identifier Resolution Extensions", Work in Progress, March 1998.
- [33] Mogul, J. and A. van Hoff, "Duplicate Suppression in HTTP", Work in Progress, April 1998.

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