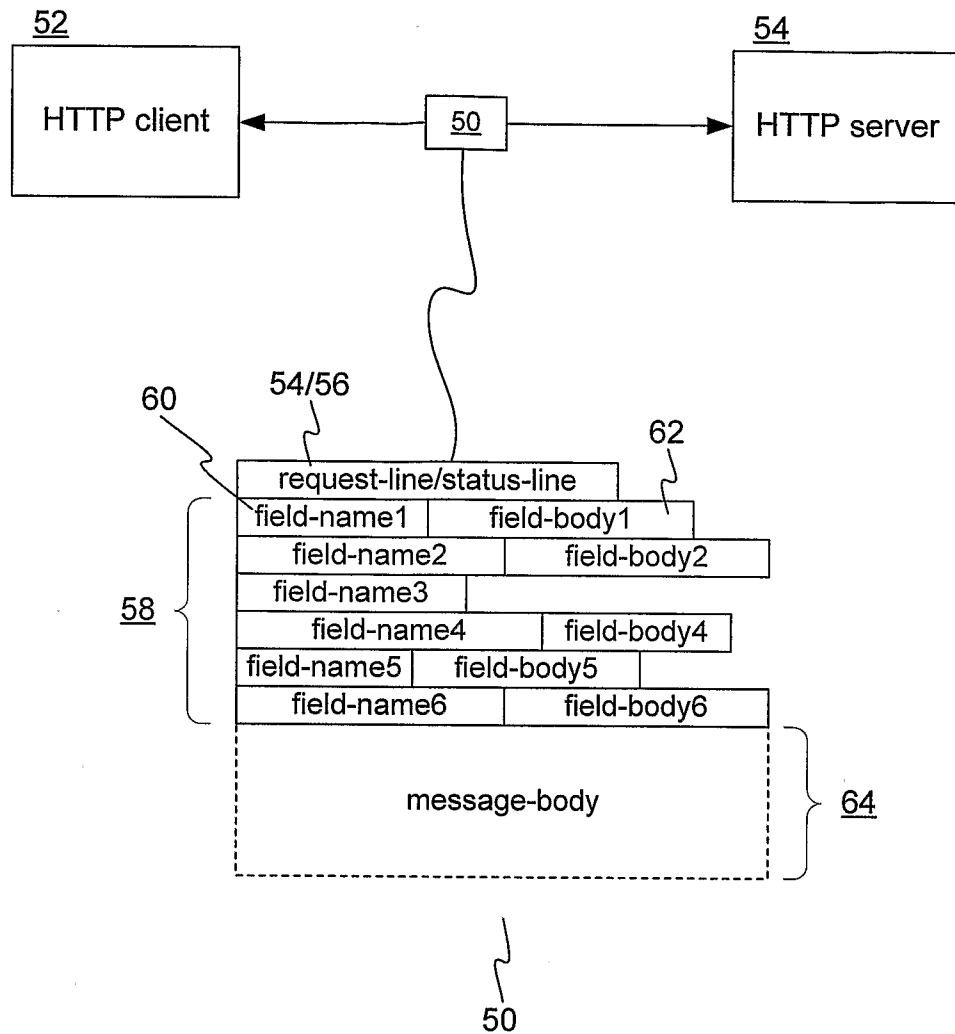
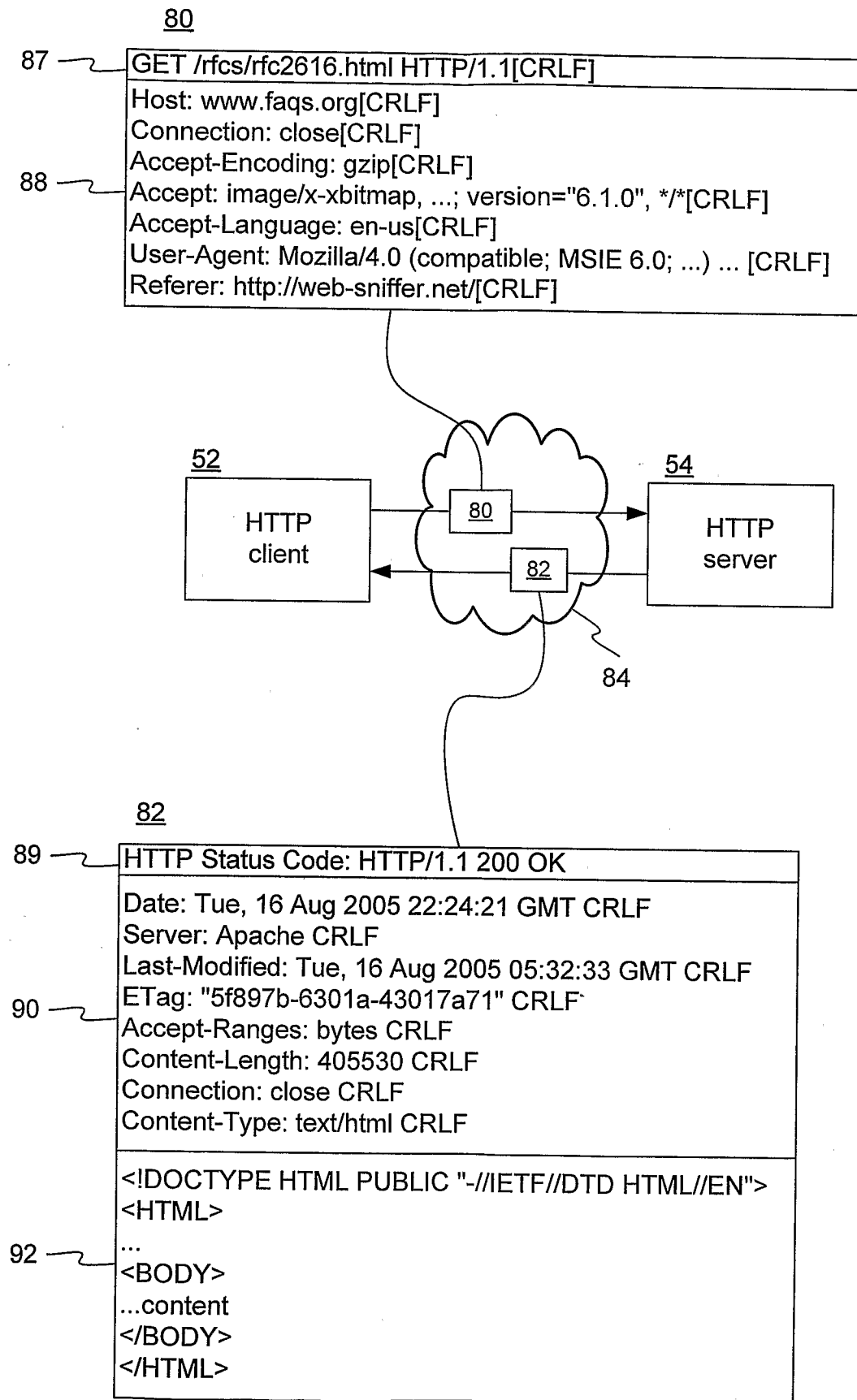


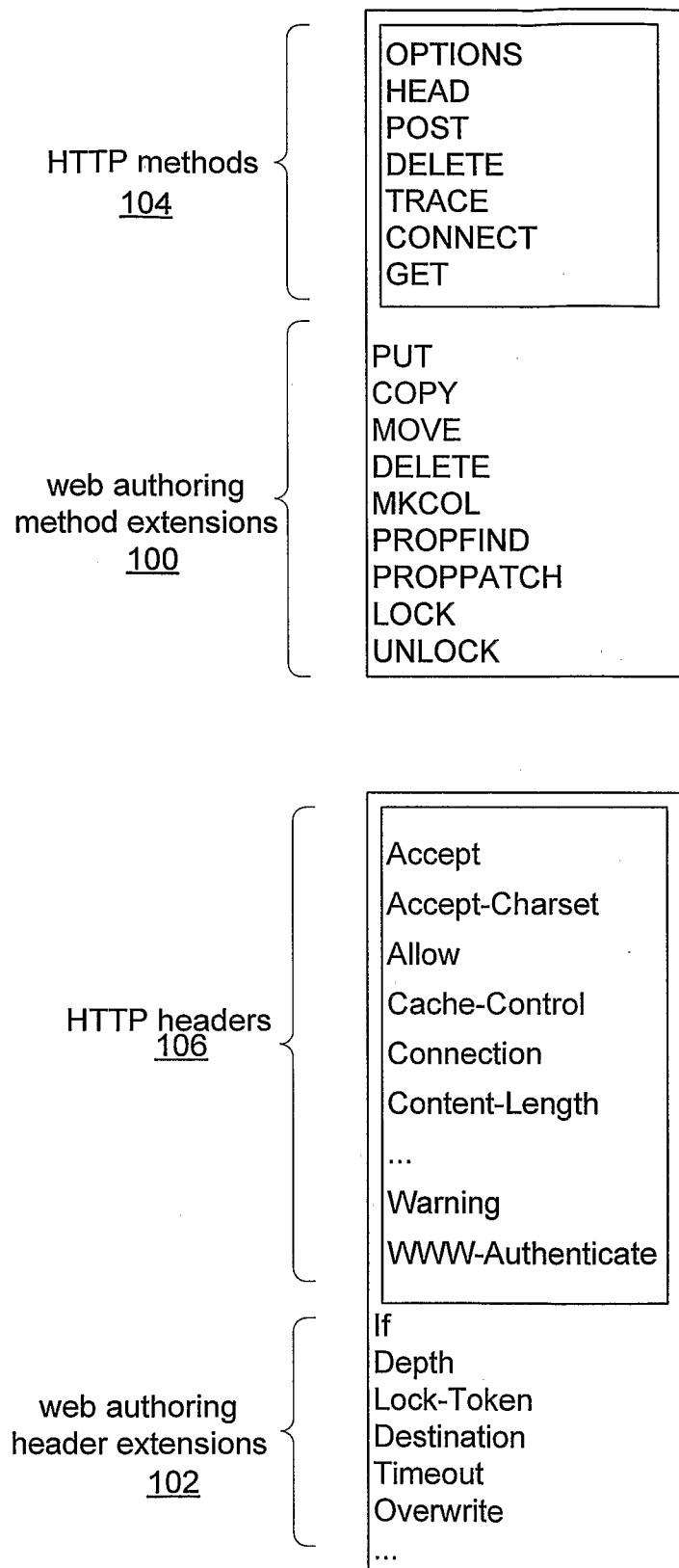


RELATED ART
FIG. 1



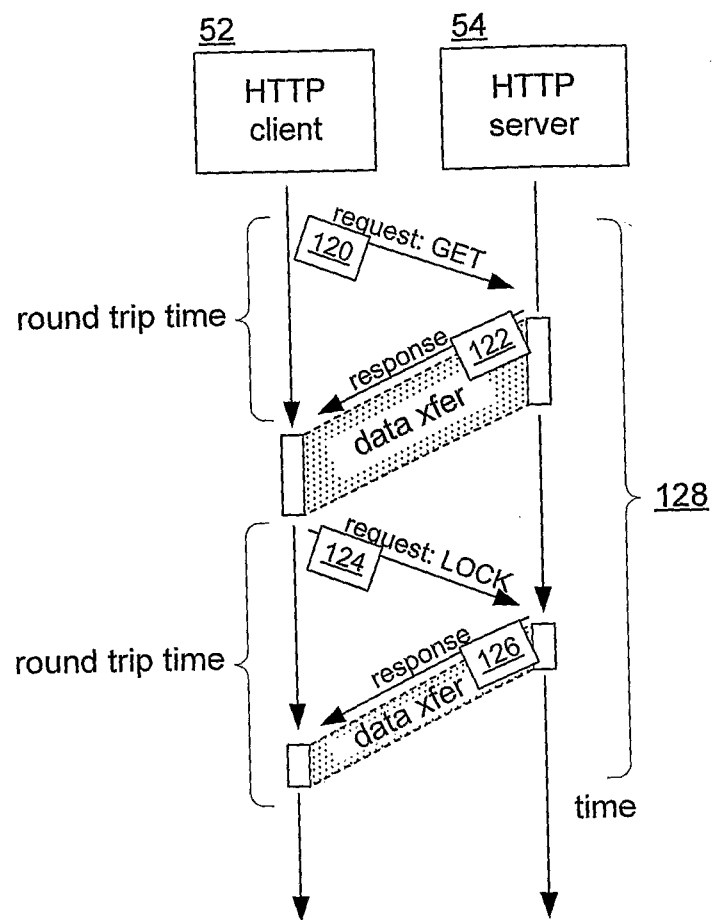
RELATED ART

FIG. 2



RELATED ART

FIG. 3



RELATED ART
FIG. 4

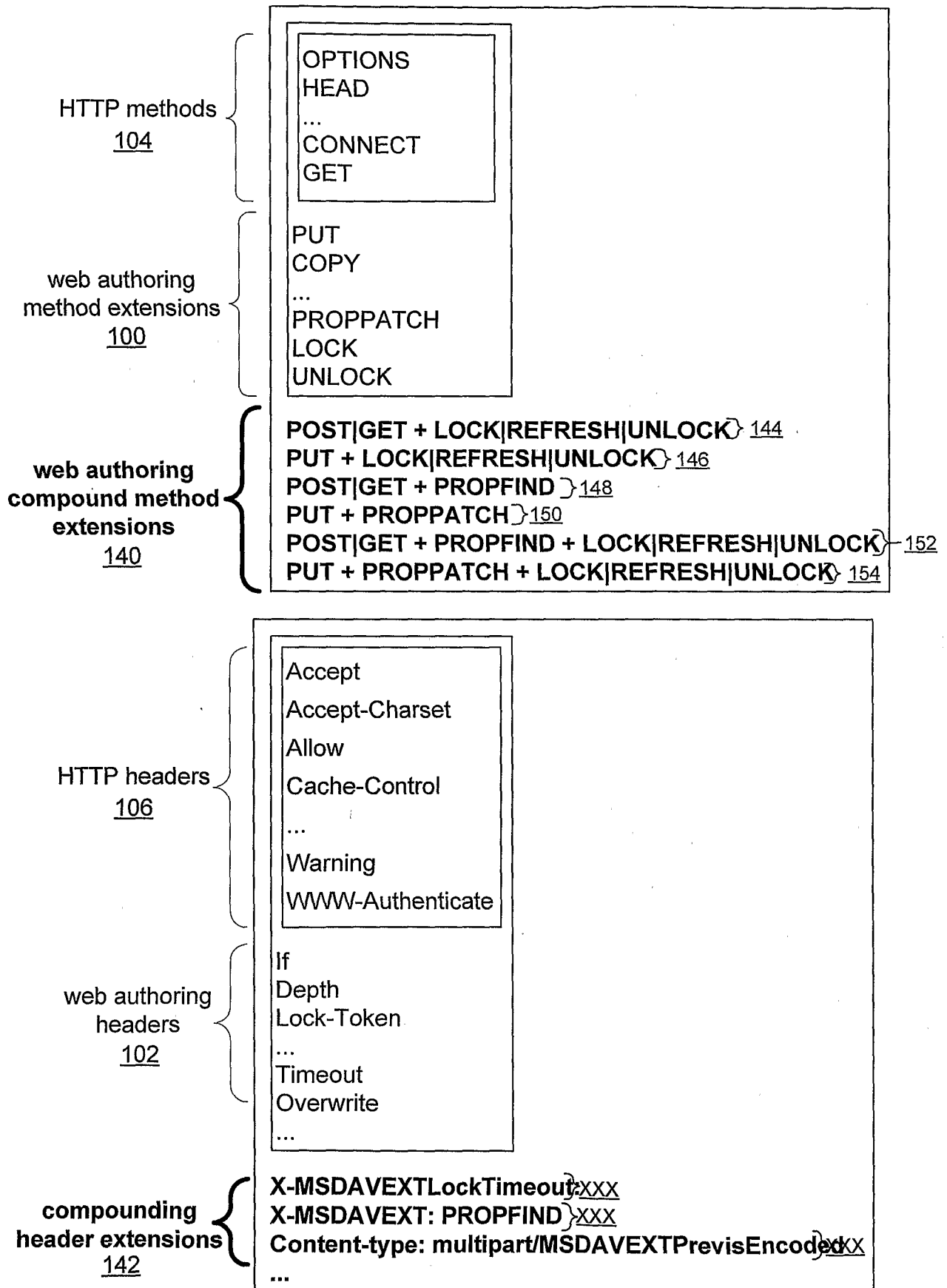


FIG. 5

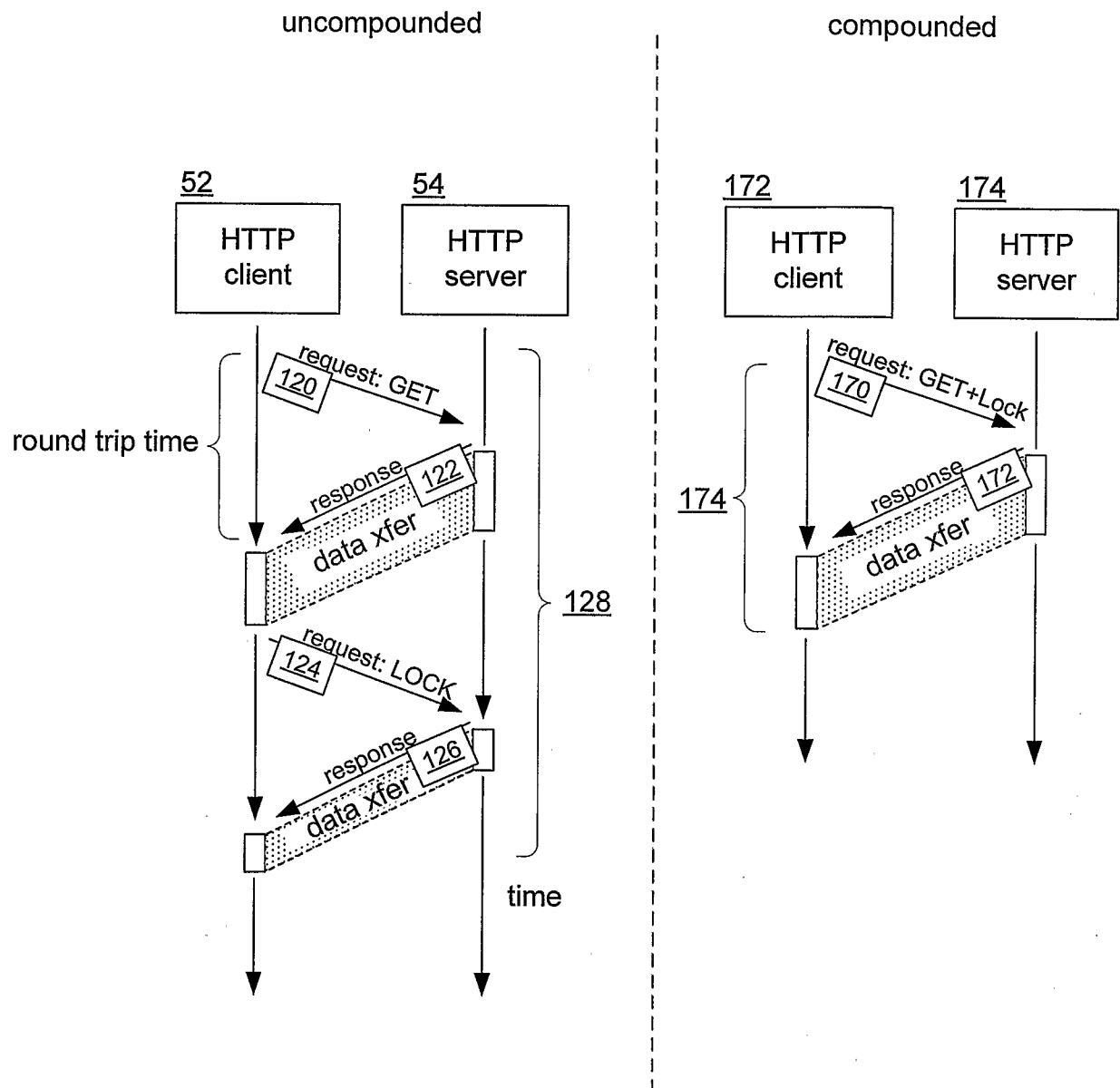


FIG. 6

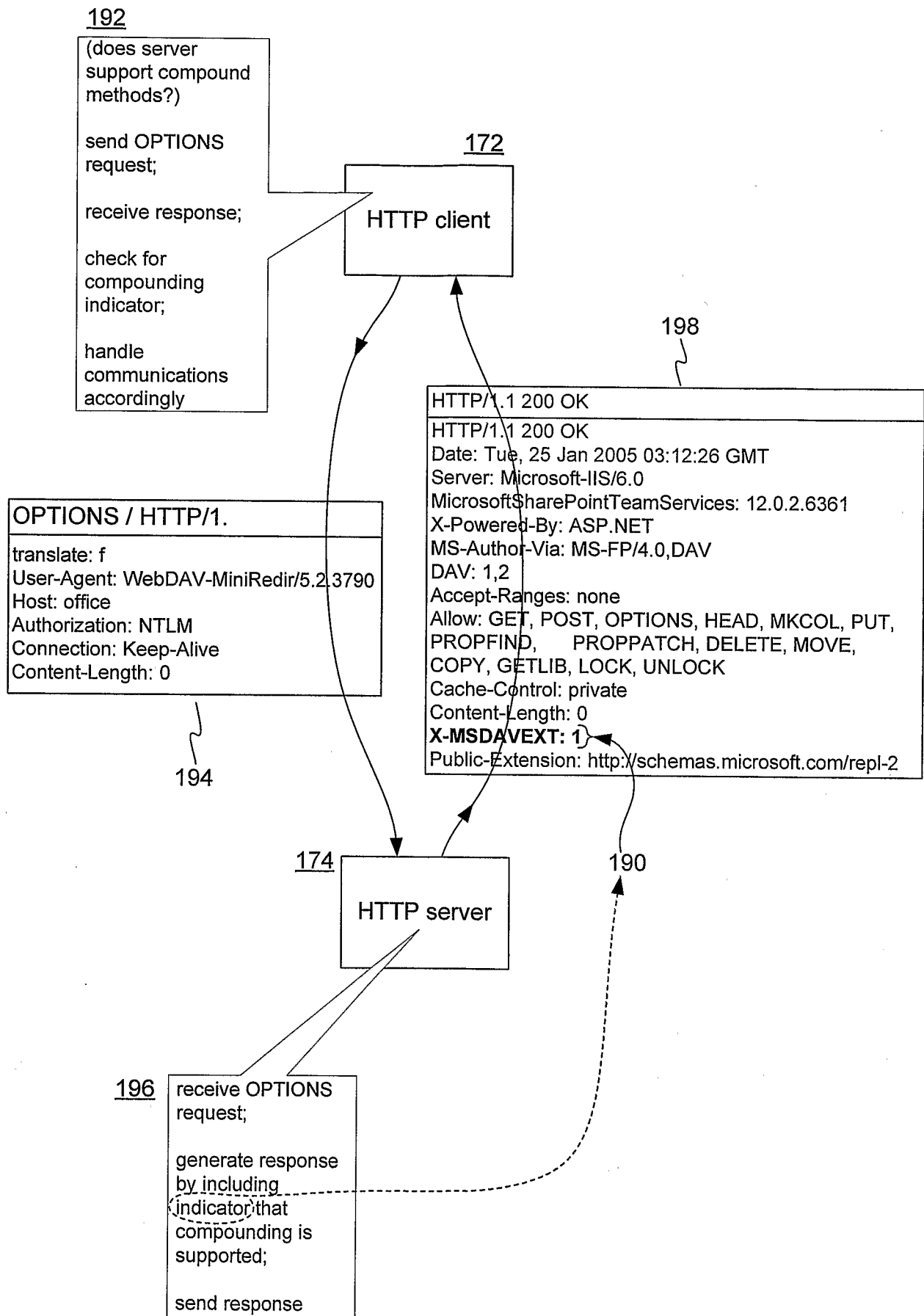


FIG. 7

example POST+UNLOCK request:

228	POST http://www.example.com/name_of_file.htm
...	...
222	Content-Type: application/x-www-form-urlencoded; charset=utf-8; ...
222	Lock-Token: opaquelocktoken:{3932E32A-8825-494E-A19E-E714A7A741A8}20041130T183232Z
224	X-MSDAVEXTLockTimeout: second-0
...	...
	<content>

	220 HTTP verb	222 headers		226 result
		Lock-Token:	224 X-MSDAVEXT LockTimeout:	
144	GET POST	Y	N	FAIL
	GET POST	Y	Y	FAIL - if token doesn't match LOCK - if no existing lock at server REFRESH - if X-MSDAVEXTLockTimeout ≠ 0 UNLOCK - if X-MSDAVEXTLockTimeout = 0
	GET POST	N	Y	sent lock token: FAIL - if file is already locked FAIL - if file is locked & X-...Lock-Timeout=0 didn't send lock token: LOCK - if no existing lock at server
	GET POST	N	N	return file
146	PUT	Y	N	success - if token matched FAIL - if token mismatch or file not locked
	PUT	Y	Y	FAIL - if token doesn't match LOCK - if no existing lock at server REFRESH - if X-MSDAVEXTLock-Timeout ≠ 0 UNLOCK - if X-MSDAVEXTLock-Timeout = 0
	PUT	N	Y	sent lock token: FAIL - if file is already locked FAIL - if file is locked & X-...Lock-Timeout=0 didn't send lock token: LOCK - if no existing lock at server
	PUT	N	N	return file

example PUT+REFRESH request:

230	PUT http://www.example.com/somefile/name_of_file.htm
...	...
224	Content-Type: application/x-www-form-urlencoded; charset=utf-8; ...
224	X-MSDAVEXTLockTimeout: second-120
222	Lock-Token: opaquelocktoken:{3932E32A-8825-494E-A19E-E714A7A741A8}20041130T183232Z
...	...
	<content>

FIG. 8

244

HTTP verb	header		result (effective method)
	Content-type:	X-MSDAVEXT:	
GET	multipart/MSDAVEXTPrefixEncoded	PROPFIND	GET+PROPFIND
POST	multipart/MSDAVEXTPrefixEncoded	PROPFIND	POST+PROPFIND
PUT	multipart/MSDAVEXTPrefixEncoded	PROPPATCH	PUT+PROPPATCH
PUT	multipart/MSDAVEXTPrefixEncoded	PROPFIND	PUT+PROPFIND

240

242

246 example GET+PROPFIND request:

```

POST /shared%20documents//Copy%20of%20Folder/test.rtf HTTP/1.1
translate: f
User-Agent: Microsoft-WebDAV-MiniRedir/5.2.3790
Host: office
Connection: Keep-Alive
Pragma: no-cache
X-MSDAVEXT: PROPFIND
Content-type: ...
...
  
```

242

250 example GET+PROPFIND response:

```

HTTP/1.1 200 OK
Date: Tue, 25 Jan 2005 03:12:31 GMT
Server: Microsoft-IIS/6.0
MicrosoftSharePointTeamServices: 6.0.2.6361
X-Powered-By: ASP.NET
Last-Modified: Thu, 12 Feb 2004 02:33:01 GMT
ETag: "{3E94207C-8E12-4491-B0FF-A903E2C9610E},7"
ResourceTag: rt:3E94207C-8E12-4491-B0FF-A903E2C9610E@00000000007
Content-type: multipart/MSDAVEXTPrefixEncoded ; ...
Cache-Control: private
X-MSDAVEXTLockTimeout: Second-####
Lock-Token: opaquelocktoken:{4A7A741A8}20041130T183232Z
Content-Length: #####
Public-Extension: http://schemas.microsoft.com/repl-2
  
```

240

(some number of seconds)

(size of body 248)

248

```

<length of properties section>
<properties>
<length of resource>
<resource>
  
```

FIG. 9

270 example PUT+PROPPATCH+UNLOCK request:

PUT /shared%20documents/Copy%20of%20Folder/test.rtf HTTP/1.1 ... translate: f User-Agent: Microsoft-WebDAV-MiniRedir/5.2.3790 Host: dustinfrserver Content-Length: 114234 Connection: Keep-Alive X-MSDAVEXT: PROPPATCH X-MSDAVEXTLockTimeout: Second-0 Lock-Token: opaquelocktoken:{4A7A741A8}20041130T183232Z Content-type: multipart/MSDAVEXTPrefixEncoded Pragma: no-cache Authorization: NTLM ... <length of properties section><some pushed properties> <length of resource><some PUT resource subject to the pushed properties>
--

272 example PUT+PROPPATCH+UNLOCK response:

HTTP/1.1 200 OK HTTP/1.1 200 OK Date: Tue, 30 Nov 2004 18:32:34 GMT Server: Microsoft-IIS/6.0 X-Powered-By: ASP.NET MicrosoftSharePointTeamServices: 6.0.2.5530 Cache-Control: private Content-Length: 0 Public-Extension: http://schemas.microsoft.com/repl-2
--

FIG. 10

290 example POST+PROPFIND+LOCK request:

POST /shared%20documents/Copy%20of%20Folder/test.rtf HTTP/1.1
translate: f User-Agent: Microsoft-WebDAV-MiniRedir/5.2.3790 Host: dustinfrserver Connection: Keep-Alive X-MSDAVEXT: PROPFIND X-MSDAVEXTLockTimeout: Second-60 Content-Length: 0 Pragma: no-cache Authorization: NTLM ...

292 example POST+PROPFIND+LOCK response:

HTTP/1.1 200 OK
Date: Tue, 30 Nov 2004 18:32:34 GMT Server: Microsoft-IIS/6.0 X-Powered-By: ASP.NET MicrosoftSharePointTeamServices: 6.0.2.5530 Cache-Control: private Content-Length: 1056 Content-type: multipart/MSDAVEXTPrefixEncoded ; ... X-MSDAVEXTLockTimeout: Second-60 Lock-Token: opaquelocktoken:{4A7A741A8}20041130T183232Z Public-Extension: http://schemas.microsoft.com/repl-2 ...
00000000000001F4 <500 bytes of some returned properties> 000000000000020C <524 bytes of some posted resource>

FIG. 11

300

Extended Error code (Decimal)	an error code which the client can map to a system-level error code
String (URL Encoded)	a string with extended information for clients to use

302

HTTP/1.1 401 Unauthorized
Content-Length: 1656 Content-Type: text/html X-MSDAVEXT_ERROR: 2342; The file is checked out to "Redmond\dustinfr" Server: Microsoft-IIS/6.0 WWW-Authenticate: NTLM X-Powered-By: ASP.NET MicrosoftSharePointTeamServices: 12.0.0.000 Date: Tue, 25 Jan 2005 03:11:51 GMT ...

FIG. 12