

Web Page Caching and Refresh Handling (Web Page Revisit Cache Handling)

Client			HTTP Server	EventHelix.com/EventStudio 2.5
Web Browser			Web Server	
Port 1368	Port 1367	Port 1366	Port 80	10-Oct-05 04:42 (Page 1)

This Tutorial Sequence Diagram was generated with EventStudio System Designer 2.5 (<http://www.EventHelix.com/EventStudio>).

LEG: Web Cache handling when the user revisits home page

This sequence diagram tutorial describes the web caching feature on the web browser side. HTTP primitives that facilitate the implementation of web browser level caching are shown using a live example.

Two scenarios are covered:

- The user revisits the EventHelix.com home page.
- The user issues a refresh command for the EventHelix.com home page.

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Scenario: The user revisits the EventHelix.com home page.

Check if a local copy of the requested page is available.

The browser checks if a local copy of the page is available. In this case, it is available. The timestamp of the local copy in the browser cache is recorded. This timestamp will be sent to the web server in the following HTTP GET.

HTTP GET
Request URI: /,
Request Version: HTTP /1.1,
If-Modified-Since: Mon, 03 Oct 2005 10:31:47 GMT,
tcp.len = 472

The browser (Internet Explorer 6.0) requests the home page by specifying the requested URI as "/". The browser uses the If-Modified-Since primitive to indicate to the web server that it already has a cached version that is timestamped "Mon, 03 Oct 2005 10:31:47 GMT".

Check if the requested page has been modified since Mon, 03 Oct 2005 10:31:47 GMT

The web server checks the page modification time against the time specified in the HTTP request.

HTTP 304 Not Modified
Request Version: HTTP /1.1,
tcp.len = 270

The web server determines that the page has not been modified since "Mon, 03 Oct 2005 10:31:47 GMT", so it replies back to the browser that the page has not been modified. HTTP 304 code is used to notify that the page has not changed since the specified date.

Display page and embedded images from cache

The web server has indicated that the page has not been modified, thus the cache entry is current. The browser displays the page from the cache. In this case, the browser also assumes that none of the images contained in the page have been modified.

HTTP GET
Request URI: /_themes/eventhelix/even1000.css,
Request Version: HTTP /1.1,
If-Modified-Since: Sat, 22 Nov 2003 03:08:23 GMT,
tcp.len = 381

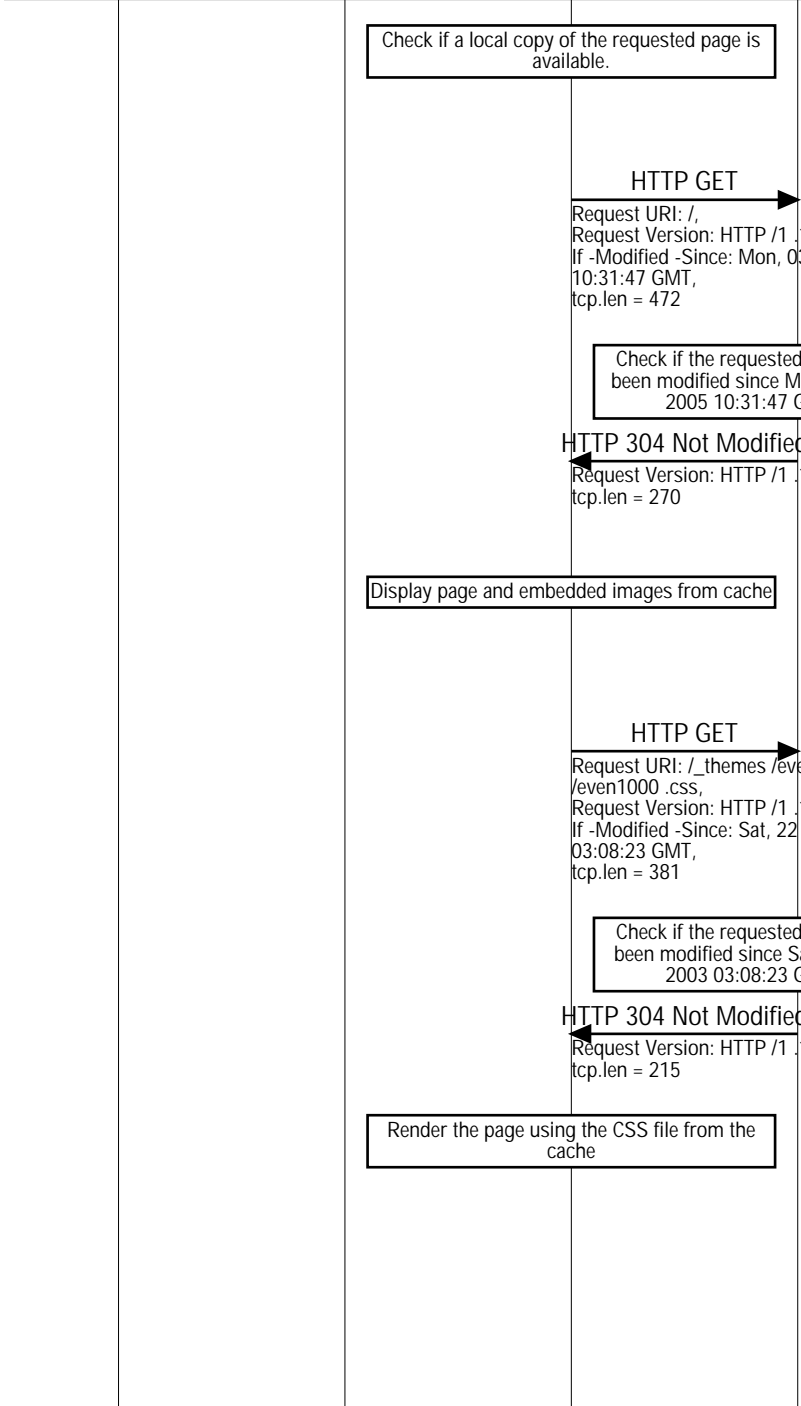
The browser requests the Cascading Style Sheet used in the page from the web server. Again, the timestamp from the cache is sent to the web server.

Check if the requested page has been modified since Sat, 22 Nov 2003 03:08:23 GMT

The CSS file has not been modified since the specified time, the web server sends HTTP 304 to signal that.

HTTP 304 Not Modified
Request Version: HTTP /1.1,
tcp.len = 215

Render the page using the CSS file from the cache



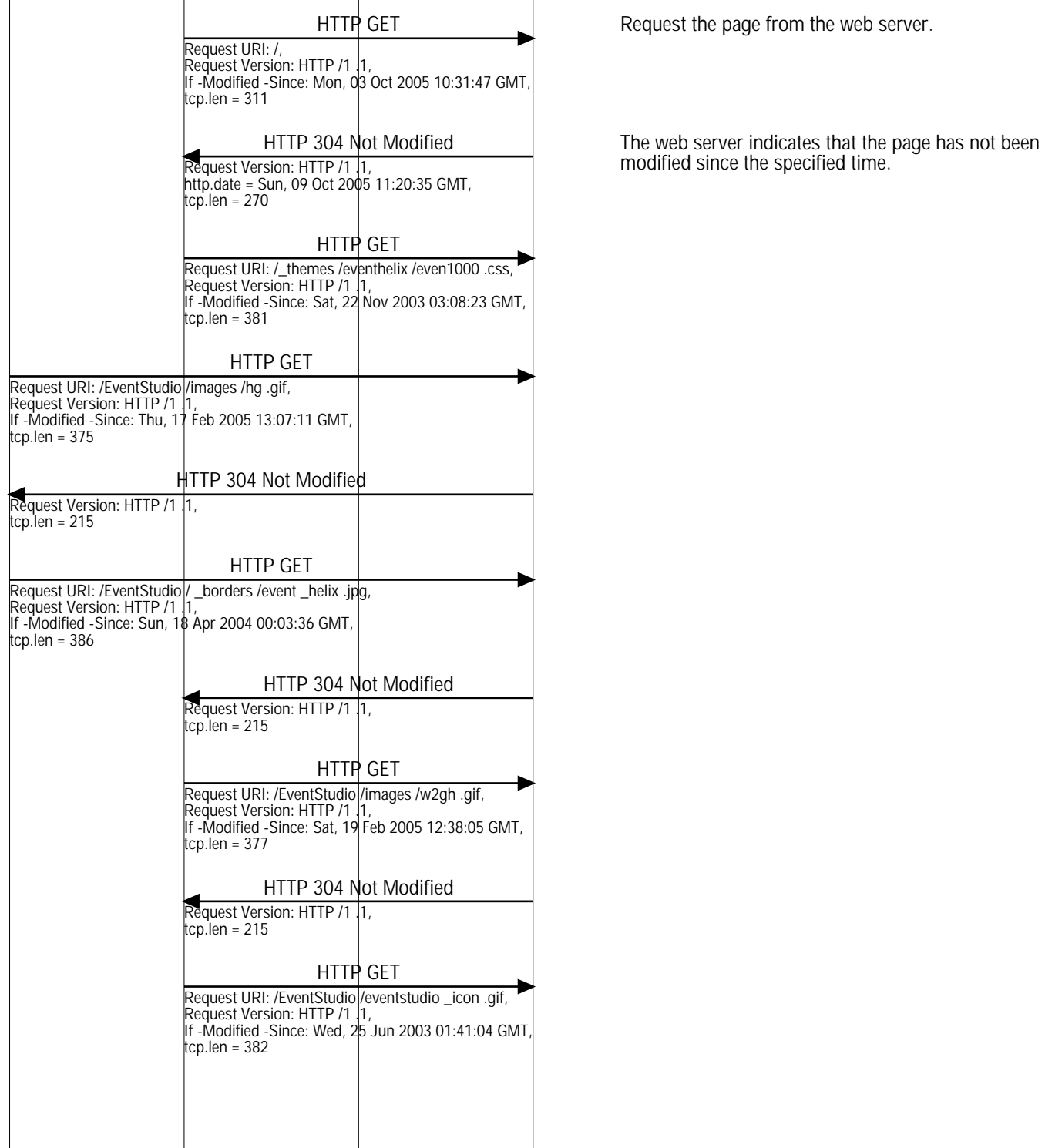
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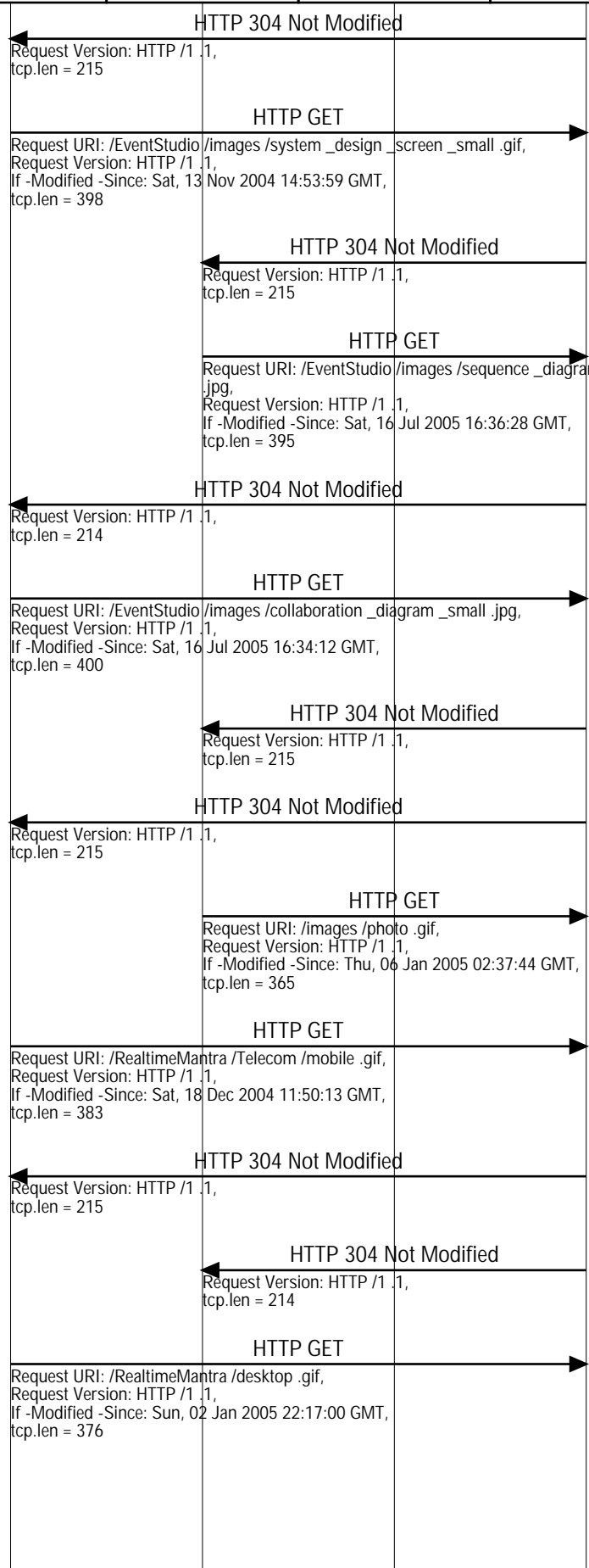
LEG: Web Cache handling when the user refresh command for the home page

Scenario: The user issues a refresh command for the EventHelix.com home page.
 This case differs from a revisit as the web browser will issue an HTTP GET for each event element contained in the page.
 Also note that the browser uses two client end ports to speed up the page refresh. Web page elements are being concurrently requested via two different ports.



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Client		HTTP Server		EventHelix.com/EventStudio 2.5
Web Browser		Web Server		
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