

# Exhibit 17

# Usage share of web browsers

The **usage share of web browsers** is the percentage of visitors to a group of websites that use a particular web browser. For example, when it is said that Internet Explorer has 51% usage share, it means that some version of Internet Explorer is used by 51% of visitors that visit a given set of sites.

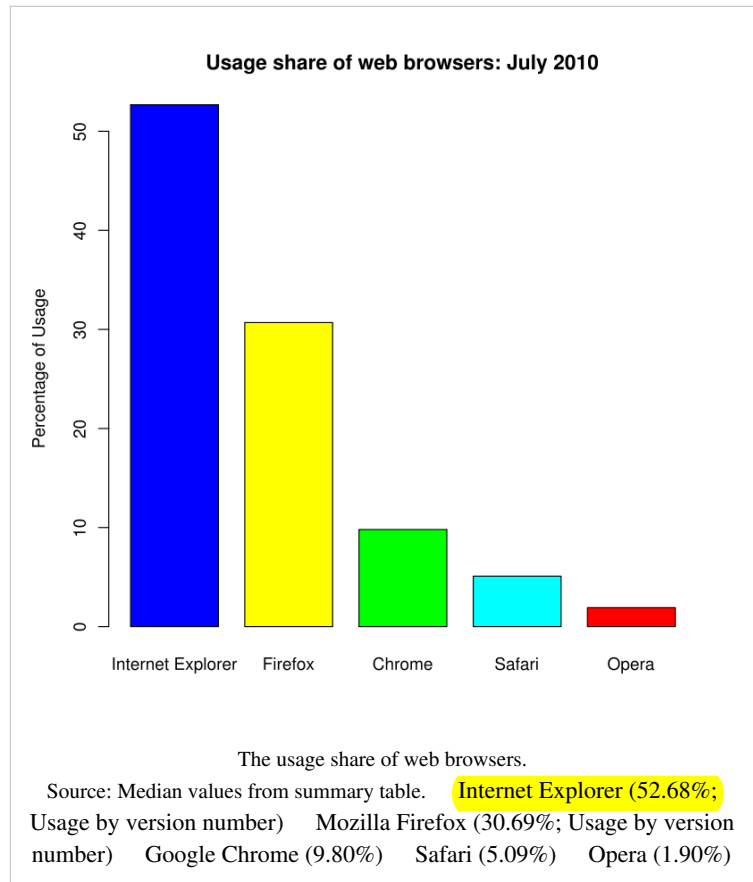
## Accuracy

Measuring browser usage in the number of requests (page hits) made by each user agent can be misleading.

## Overestimation

Not all requests are generated by a user, as a user agent can make requests at regular time intervals without user input. In this case the user's activity might be overestimated. Some examples:

- A web browser that refreshes the webpage at a regular time interval.
- A feed reader that requests the RSS or Atom feed at a regular time interval.
- Extra files like CSS hacks and JavaScript hacks are often sent to Internet Explorer.
- Gecko-based browsers (such as Firefox) can prefetch linked web pages, potentially increasing hits. Link prefetching in Gecko-based browsers is used on pages with enhanced markup, including Google search results.<sup>[1]</sup>
- A user who revisits a site shortly after changing or upgrading browsers may be double-counted under some methodologies; overall numbers at the time of a new version's release may be skewed.<sup>[2]</sup>
- Certain anti-virus products fake their user-agent to appear to be popular browsers. This is done to trick attack sites that might display clean content to the scanner, but not to the browser. The Register reported in June 2008 that traffic from AVG Linkscanner, using an IE6 user-agent, outstripped human link clicks by nearly 10 to 1.<sup>[3]</sup>
- Many types of software, such as Web validators or crawlers, fetch web pages, and send fictitious user-agent strings to appear more like normal traffic.
- Browsers such as Safari maintain a dashboard of frequently visited sites. This generates hits to those sites on browser start or at times on launch of a new tab, in order to update the thumbnail images.



## Underestimation

It is also possible to underestimate the usage share by using the number of requests, for example:

- A graphical browser typically results in more hits than a text browser, as it downloads files referred to by the HTML document (e.g., images, CSS, and JavaScript).
- Many browsers and download managers spoof a different user agent string to the web server to prevent erroneous or malicious browser sniffing which could result in receiving broken or incompatible code, or being completely blocked, and thus increasing the statistics for other browsers (as an example, prior to version 9, the Opera web browser had "Identify as Internet Explorer" as the default user setting). Sometimes you can detect these spoofing browsers based on other things but some people do not do it. (An example is Internet Explorer Mobile which ships in Windows Mobile 6.1.4 and 6.5 with the default user agent string as IE6 Windows XP. Internet Explorer Mobile can be identified by looking at the other HTTP Headers)
- Text-based and audio-based browsers do not download any web bugs at all.
- Gecko-based browsers since Firefox 1.5 and Opera use fast Document Object Model (DOM) caching. JavaScript is only executed on pageload from net or disk cache, but not if it is loaded from DOM cache. This can have an impact on JavaScript based tracking of browser statistics.<sup>[4]</sup>
- Some browser extensions and security programs (such as the popular Firefox extension NoScript) block JavaScript, Adobe Flash, Applets and some forms of HTML (HTML blocked through ClearClick) for non-whitelisted sites. This may also affect JavaScript based tracking of browser statistics.
- Many browsers accessing a site via one proxy are apt to be counted as only one access if the proxy caches the result; it is usual for browsers on mobile phones in particular to access the web via proxies (many of which violate HTTP's specifications for proxies; even if a web bug is designed to work despite proxying, the proxies run by mobile operators may well mislead it).
- While most browsers generate additional page hits by refreshing web pages when user navigates back through page history, some browsers (such as Opera) reuse cached content without resending requests to the server.<sup>[5] [6]</sup>
- Generally, the more faithfully a browser implements HTTP's cache specifications, the more it will be under-reported relative to browsers that implement those specifications poorly.<sup>[6]</sup>
- Plug-ins may change, or append text to, the User Agent string. This can lead to Browser Detection flaws.
- User Agents are not guaranteed to be a certain format. As an example of the inconsistency, almost every User Agent pretends to be Mozilla 5.0.
- Some ISPs, mainly mobile phone carriers, have begun stripping the user agent strings.<sup>[7]</sup>

## Summary table

The following table summarizes the usage share of browsers for July 2010.

Source	Internet Explorer	Firefox	Chrome	Safari	Opera
Net Applications <sup>[8]</sup>	60.74%	23.91%	7.16%	5.09%	2.45%
W3Counter <sup>[9][10]</sup>	44.4%	31.4%	9.8%	1.9%	2.1%
Stat Counter <sup>[11]</sup>	52.68%	30.69%	9.88%	4.07%	1.91%
StatOwl <sup>[12][13]</sup>	61.73%	21.66%	6.95%	8.94%	0.36%
Clicky <sup>[14]</sup>	49.26%	30.88%	10.53%	7.87%	1.26%
<b>Mean</b>	<b>53.76%</b>	<b>27.71%</b>	<b>8.86%</b>	<b>5.57%</b>	<b>1.62%</b>
<b>Median</b>	<b>52.68%</b>	<b>30.69%</b>	<b>9.80%</b>	<b>5.09%</b>	<b>1.91%</b>

[1] "Google feature list" (<http://www.google.com/help/features.html#prefetch>). Google. . Retrieved 3 February 2010.

[2] Gregg Keizer (2008-06-23). "Firefox 3.0 boosts Mozilla's market share" (<http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9102398>). *Computerworld*. IDG. . Retrieved 2008-06-27.

[3] Cade Metz (2008-06-26). "AVG disguises fake traffic as IE6" ([http://www.theregister.co.uk/2008/06/26/avg\\_disguises\\_fake\\_traffic\\_as\\_ie6/](http://www.theregister.co.uk/2008/06/26/avg_disguises_fake_traffic_as_ie6/)). *The Register*. . Retrieved 2008-09-05.

[4] Sheppy (1 Sep 2009). "Using Firefox 1.5 caching" ([https://developer.mozilla.org/en/docs/Using\\_Firefox\\_1.5\\_caching](https://developer.mozilla.org/en/docs/Using_Firefox_1.5_caching)). Mozilla. . Retrieved 3 February 2010.

[5] Pettersen, Yngve Nysæter (27. February 2007). "Introducing Cache Contexts, or: Why the browser does not know you are logged out" (<http://my.opera.com/yngve/blog/2007/02/27/introducing-cache-contexts-or-why-the>). Opera Software. . Retrieved 3 February 2010.

[6] Sharovатов, Vitaly (3 June 2008). "HTTP History Lists and Back Button" (<http://sharovatov.wordpress.com/2008/06/03/http-history-lists-and-back-button/>). WordPress. . Retrieved 3 February 2010.

[7] Butcher, Mike (September 21, 2007). "Vodafone in mobile web storm" (<http://eu.techcrunch.com/2007/09/21/vodafone-in-mobile-web-storm/>). TechCrunch Europe. . Retrieved 3 February 2010.

[8] <http://marketshare.hitslink.com/report.aspx?qprid=0>

[9] <http://w3counter.com/globalstats.php>

[10] W3Counter is not affiliated with the W3C.

[11] <http://gs.statcounter.com/>

[12] [http://statowl.com/web\\_browser\\_market\\_share.php](http://statowl.com/web_browser_market_share.php)

[13] 92% of sites monitored by StatOwl serve predominantly United States market.

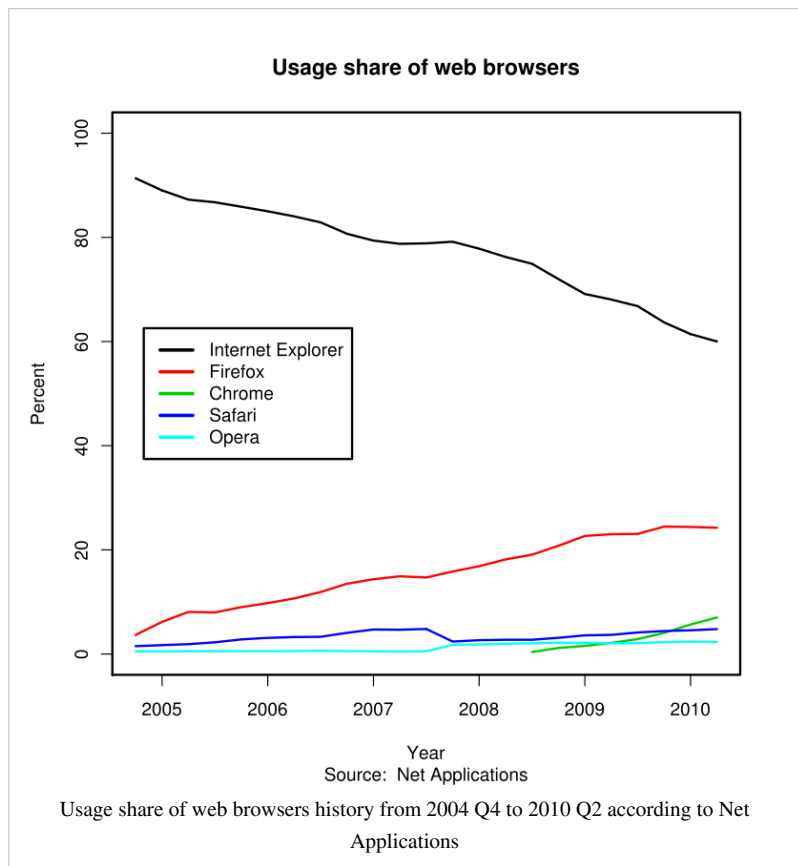
[14] <http://www.getclicky.com/marketshare/global/web-browsers/>

## Historical usage share

### Net Applications (2004 Q4 to present)

Netapplications bases its usage share mainly on the usage statistics of 40,000 websites having around 160 million unique visitors.

On 2009-08-01, Net Applications began weighting its raw data based on the number of internet users in the countries concerned, using data from the CIA ; the changes were applied retroactively to older data.<sup>[2]</sup> The table below uses weighted data from 2007 Q4 onwards.



# Article Sources and Contributors

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