

GROUP TEST

The web browser is the most indispensable software in your distro. **Mayank Sharma** looks at six of the most popular options.

On Test

Firefox



URL www.firefox.com

VERSION 33.0.3

LICENCE MPL 2.0

Can the default browser for most Linux distros stand up to the competition?

Chromium



URL www.chromium.org

VERSION 38.0.2125

LICENCE Various open source licences.

Is the browser from Google just an open source hogwash?

Epiphany



URL <https://wiki.gnome.org/Apps/Web>

VERSION 3.12.0

LICENCE GPL v2

Can GNOME's default web browser hold the fort?

Konqueror



URL www.konqueror.org

VERSION 4.14

LICENCE GPL v2

Can this multifaceted option from KDE take on purpose-built web browsers?

Midori



URL www.midori-browser.org

VERSION 0.5.8

LICENCE LGPL v2.1

Will this minion be able to hold a candle to the giants?

Opera



URL www.opera.com

VERSION 12.16

LICENCE Proprietary

Do we really need proprietary software in this field?

Web browsers

Web browsers shape the way we view and interact with the internet. They have grown along with the internet as it evolved from primarily a read-only medium to a content-creation platform. As content producers explore new avenues of pushing more content and creation avenues to us users, web browsers must keep pace with the new and upcoming protocols and web technologies that piggyback the content.

It's fair to say that the web browser has become the most widely used piece of software. With the rising number of web-based apps and cloud services, the web browser is probably the first app you call upon after logging into the desktop. In fact, for some people it wouldn't be unfair to say that the performance of the browser dictates their whole desktop experience. This is why you need to make sure you pick the correct web browser for you.

A web browser is a complex piece of software, though it might not look it. You want it to be secure while you use it to pass your credit card information to an online retailer. Furthermore, you want it to be reliable when you're using a web-based email service or an online office suite or updating project specs on the corporate intranet. Finally, you want it to be able to handle all sorts of multimedia while being zippy enough so as not to sap the resources on your computer. And you want all of this in a well-integrated package that offers a great user experience.

In the good old days, the choice was simple as there were few options. For a long time, *Firefox* was the default web browser for virtually every Linux distro. However, over the years it's given users a lot of reasons to demand alternatives and the community and the larger Linux ecosystem hasn't disappointed. We evaluate some of the best options that are also easily accessible.

“The web browser has become the most widely used piece of software.”

Testing the browsers

We've tested the browsers on a variety of parameters. Some parameters, such as the availability of add-ons and extensions, get more weight than, say, the availability of a feature like private mode. To test their adherence to web standards we also subjected them to popular tests such as Acid 3, which checks compliance with elements of various web standards including

Document Object Model (DOM) and JavaScript. In addition to the browser, we also look at their ancillary services such as bookmarks, users and download management. While all of the browsers on test should be available on virtually every Linux desktop distro, we've assessed them from inside the Arch-based Manjaro Linux as well as on Fedora 20.

Plugins and add-ons

Customise your web experience with extra bits and bobs.

While all browsers are usable straight out of the box, you'll need to extend them with add-ons and plugins for a truly customised user experience. In that respect all web browsers give you access to add-ons for you to tailor the app to your needs.

The most popular browsers usually have the largest community of users and developers and as a result have the largest and most varied selection of extensions.

Firefox has a dedicated add-ons website (<https://addons.mozilla.org>) and, while *Chromium* doesn't have a dedicated extensions site of its own, its users can flesh it with add-ons from *Chrome's* web store (<https://chrome.google.com/webstore/category/extensions>). Both websites list hundreds of add-ons in well laid-out categories and allow you to find and install extensions in a matter of clicks. *Opera* has a dedicated add-ons website as well (<https://>

addons.opera.com/en/), but its collection isn't as diverse as *Firefox's* and *Chromium's*.

The minuscule *Midori* browser ships with over two dozen extensions that you can enable and configure from within the browser itself. *Epiphany* doesn't have a traditional extensions model that allows plugging in external add-ons. Instead the extensions for *Epiphany* are shipped along with the browser itself. Similarly, *Konqueror* also ships with extensions.

Opera 12.16

Can it conduct the choir?

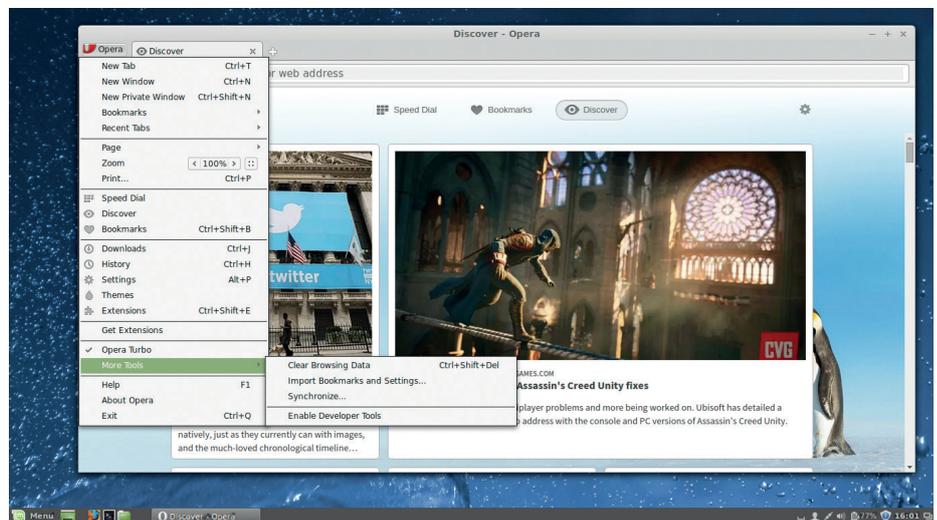
Opera is one of the oldest browsers, having come into being as a research project in 1994. Its first version was released in 1995 but it wasn't until 2000 that *Opera* was available for Linux, and it took another five years for the software to become ad-free freeware.

Opera on Linux includes all of the features you'd expect from a web browser, including support for multiple tabs, a search-engine toolbar, bookmark management, a password manager, per-site security configuration, download manager, auto-updater, and optional add-ons.

One of its best privacy-focused features is the option to delete private data, such as cookies, browsing history, items in cache and passwords with the click of a button. The browser also likes to flaunt its security-related features. When visiting a site, *Opera* displays a security badge in the address bar that shows details about the website, including its security certificates. *Opera* also checks visits against blacklists for phishing and malware websites, and displays a warning page if you visit a known offender.

Resting on its laurels

The status bar at the bottom includes buttons to turn on the Turbo mode and Opera Link. The Turbo mode shrinks the pages before sending them to the user. This helps keep costs down on networks where you are charged for the amount of data transferred. The feature is turned off by default and even after you enable it, it'll



The *Opera Mini* browser for Android is still one of the popular mobile browsers, particularly for the Turbo feature which is known to reduce pages by up to 80% of their original size.

ignore any traffic passing on secure HTTPS channels. Opera Link is the browser's synchronisation feature, which can sync bookmarks, history, searches and more. If you want to extend *Opera*, you can download extensions and themes from the dedicated website (<https://addons.opera.com>).

In terms of performance, *Opera* is comparable to *Firefox* and *Chromium*. But while it passed the Acid 3 test, *Opera* scored lower in the HTML 5 test. That's primarily because *Opera's* current stable Linux version was released back in July 2013 and still uses the *Presto* layout engine. This has been replaced by Google's *Blink* layout engine which is used in the current stable builds for Windows and Mac OS X. On Linux, the *Blink*-based *Opera 26* is only available in beta.

The beta version is available as a binary download for popular Linux distros. It features an updated simplified interface and

an improved Turbo mode. There's also a new Discover feature that shows news and other articles much like StumbleUpon. This beta version also lets you share individual bookmarks or entire bookmark folders with anyone on the web by creating a special share.opera.com URL with your shared bookmarks that's valid for 14 days.

As expected, the beta version scores higher on the HTML 5 test than the stable version. Although we didn't run into any unexpected problems, the software is beta for a reason and it must be pretty serious. What else would explain the lack of a stable Linux release for more than a year?

VERDICT

A proprietary solution that runs well but doesn't offer anything spectacular.

★★★★★

Epiphany 3.12

A profound experience.

Epiphany, now rechristened simply as *Web*, is the default browser of the Gnome desktop environment. As part of the Gnome desktop, the browser adheres to the Gnome Human Interface Guidelines (HIG) and maintains a simple user interface with only a required minimum number of features exposed to users.

Epiphany has all the core web browser features such as tabbed browsing, bookmark management, and an incognito mode. Since version 3.2 the browser can also be used as launchers for web apps. The launchers are standalone instances of the browsers that are listed along with the offline apps in the Applications menu of the desktop. You can access and manage the launchers with the special **about:applications** URI from within *Epiphany* itself.

Epiphany's built-in preference manager is designed to present user-only basic browser-specific settings.

To tweak more advanced options you need the external GSettings configurators such as **dconf** or the graphical *dconf-editor*. The 3.12 version is a major release of the browser that includes performance and user interface enhancements such as the new address bar design, which replaces the traditional URL bar with the page title once the page has finished loading. The recently released 3.14 version is just a minor update that adds support for blocking invalid SSL certificates, and improved security by warning users visiting pages with mixed content.

However, we aren't impressed by the browser's usability. For starters, you can't switch tabs by using the popular Ctrl+Tab key combination. Also, you



Epiphany is now the default browser in the Raspberry Pi's official Raspbian distro.

can't customise the websites displayed in the speed dial, and there is no add-ons management infrastructure. We also feel that the redesigned address bar might confuse new users who won't expect to find it there.

“As part of Gnome, Epiphany adheres to the Gnome Human Interface Guidelines.”

VERDICT
If you're a Gnome user, use this default browser for creating nifty little web apps.
★★★★★

Konqueror 4.14

Too many kooks?

What *Epiphany* is to Gnome, *Konqueror* is to KDE. The browser is part of the KDE Software Compilation and up until the release of KDE 4 was one of the best things about KDE – a fully functional web-browser and a very capable file manager. In fact it was pitched as an advanced file manager that can display web pages. With the release of KDE4, *Konqueror* was replaced as the default file manager by *Dolphin*. However *Konqueror* can still display a web page just as easily as it can display a Samba share or a remote FTP site.

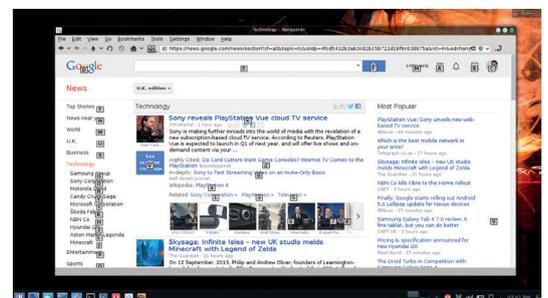
By default, *Konqueror* uses the *KHTML* rendering engine. Although this supports the latest web standards such as HTML 5, JavaScript, CSS 3 and others, you should use the browser's ability to change rendering engine and switch to *WebKit* which enhances the user experience manifold.

Konqueror is well integrated within KDE and uses the KParts object model to let you view various types of files from with *Konqueror* itself. So in essence it provides you with a PDF viewer, an FTP client, a text editor, a spreadsheet editor, a word document editor, an SVN client and more, all within the browser window itself.

A many-stringed bow

As a web browser, *Konqueror* includes a bookmark manager, password manager and a tabbed interface, and lets you define web shortcuts for quick access to popular web services. The browser comes with a nice set of plugins such as a custom ad blocker, automatic web page translation tool, a user agent switcher, shell command panel, and more.

Konqueror also ships with multiple profiles each designed for a particular



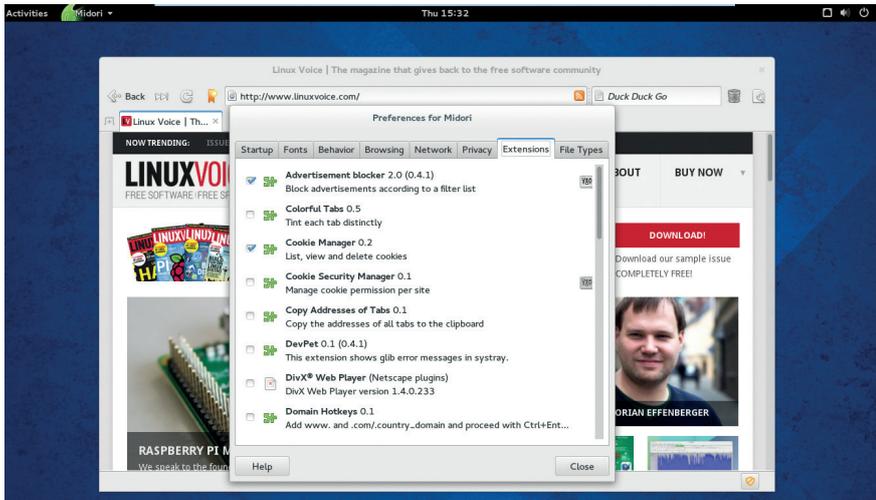
One of the good things about *Konqueror* is that it can be controlled entirely from the keyboard.

use type and you can also view multiple websites in a single window with its split view functionality. However, one of the things that's missing from *Konqueror's* repertoire is an incognito private browsing mode. You also won't find any privacy options in its long list of settings, nor will you find a long list of add-ons.

VERDICT
As far as default browsers go, *Konqueror* is ace.
★★★★★

Midori 0.5.8

Not as green as you might expect.



In *Midori*, private sessions run as a separate process, so if your private browsing crashes, it won't affect the normal browser session.

Development on the *Midori* browser started in 2003 and the browser was designed with the idea to make most of the available resources. Quick launch speeds and minimal resource usage are the hallmarks of the browser. No wonder then that *Midori* is popular with lightweight distros and the default browsers on distros such as SLiTaz, Trisquel Mini and Elementary OS.

It uses the *WebKit* rendering engine and performs just as well as the other browsers using this engine. Yet despite its lightweight nature and design, *Midori* has all the features you'd expect from a web browser including a speed dial, tabbed interface, bookmark management, configurable web search as well as an incognito mode.

The browser can show you DOM storage items and can create multiple browser profiles. Like *Epiphany*, *Midori* can also create desktop launcher shortcuts for websites. These launchers run simple single-instance windows of the browser that have no address bar.

Midori can clear private data with a single click and you can also set it to clear data while quitting. You'll also find some privacy-related control in the browser's settings section. And there's a trash icon next to the address bar that lists recently closed tabs and windows along with a button to clear this list.

The browser also ships with a bunch of useful add-ons. There's an ad-blocker,

cookie manager, external download manager, feed panel, mouse gestures, custom keyboard shortcuts and more, along with support for *Netscape*-style plugins for supporting different media through external players such as *Totem* and *VLC*.

The latest release of the browser features several notable improvements to its *WebKit 2* rendering engine including improved text selection behaviour, favicons and more. The AdBlock extension has been rewritten in Vala and features a new status bar entry to toggle the add-on for individual sites and also show a list of items that were blocked on the respective site. The release also features two new extensions. One lets you use the Ctrl+Enter key combination to autocomplete URLs and the other adds a little notes panel that saves any selected text as you browse the web.

Midori was remarkably stable and properly rendered every popular social network we pointed it to including Facebook, Twitter, Youtube, LinkedIn, and Spotify. However it doesn't have a synchronisation feature, nor a mobile client and while its collection of add-ons is useful it's nowhere as comprehensive as the web stores of *Firefox* and *Chrome*.

VERDICT

An impressive browser that's light only in size and not features.

★★★★★

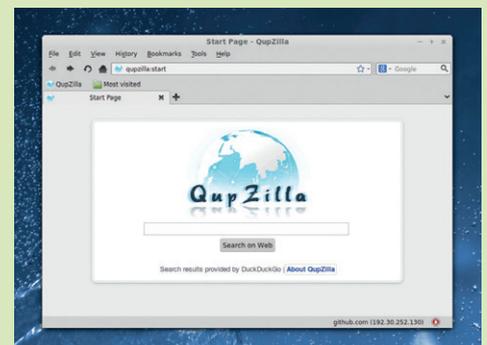
Variants and other options

Look beyond the obvious.

In this test we've only looked at some of the most popular web browsers available and there's no dearth of alternatives. If you're looking for more than just a browser, there's *SeaMonkey*, which is the continuation of the Mozilla Application Suite and uses the same code as *Firefox* but is developed outside the control of the Mozilla Foundation. In fact, *Firefox* has spawned several browsers each with its own distinct purpose. There's the ESR version (Extended Support Release) for users who don't want a new version every few weeks (or for organisations that just can't handle the hassle of constant upgrades).

If you are a Debian user, your distro ships with the *Iceweasel* browser, which is a rebranded *Firefox* release stripped of all the Mozilla trademarks. Then there's *PaleMoon*, also from *Firefox*, that has stopped support for older hardware and optimised it for performance on newer devices.

Similarly, *Chromium* fuels a bunch of browsers as well, most notably the proprietary *Chrome* browser. The *SRWare Iron* browser is another proprietary freeware browser that aims to eliminate usage tracking and other privacy-compromising functionality in *Chrome*. KDE users should also check out the lightweight *WebKit*-based *Rekonq* browser, which is also pretty well integrated in KDE. There's also *Dillo* for resource-conscious users and some text-based browsers such as *Lynx*, which is still in active development 22 years after its initial release.



QupZilla is a zippy browser that's designed to provide a native feel on all supported platforms and across Linux desktops.

Firefox 33.0.3 vs Chromium 38.0.2125

The battle of the alpha behemoths.

Firefox and Chromium are by far the biggest and most comprehensive web browser projects of the lot and the only real challengers to each other.

Firefox has long been considered the *de-facto* browser for the open source community. It was fast, it was innovative and it championed standards compliance while other browsers of the time (we're looking at you, *Internet Explorer*) were trying to manoeuvre the web as per their whims and wishes.

Firefox proudly continues its tradition and is still known for its technical innovations and customisations. If there's something you can do with a web browser – tabbed browsing, location-aware browsing, incremental find, smart bookmarking, managing downloads, browsing privately – you can do it with Firefox. The browser also strives to support the new and upcoming open technologies such as WebM and HTML 5.

Firefox is also the most localised web browser, with support for over 70 languages. The browser has an excellent security record and is known for offering bug bounties to developers who discover a security hole. It also implements Google's Safe Browsing API to safeguard its users from phishing and malware.

There was a time when other browsers scored over Firefox just for their looks and customisation potential. However, the latest version of Firefox

is highly customisable. In fact you can rearrange the entire interface as per your needs. The browser now ships with a new view for customisation that lets you rearrange the various components of the browser window.

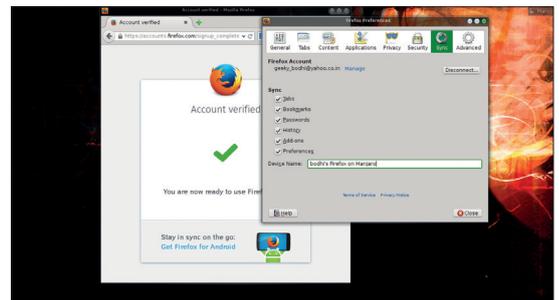
Another strength of the browser is the plethora of add-ons freely available on a dedicated website of their own. There's also the Firefox Sync service, which helps users synchronise passwords, history, bookmarks and open tabs by storing encrypted copies on Mozilla servers.

Firefox is also a wonderful platform for web developers and includes tools such as the Error Console and the DOM Inspector as well as extensions such as Firebug. Furthermore, Mozilla has recently announced a new release dubbed Firefox Developer Edition built especially for web developers.

All that glitters ain't gold

The Chromium project impressed users right from its initial release in 2008. The open source project lends code to Google's proprietary Chrome browser, which only adds some Google trademarked and proprietary code on top of Chromium.

Chromium impressed users with its minimalist user interface. The browser won accolades and users for being faster than Firefox and for making judicious use of computer resources despite matching the latter for features. Chromium can do all the usual things you can do with Firefox and also



Firefox is available for all major operating systems and also works on Android smartphones.

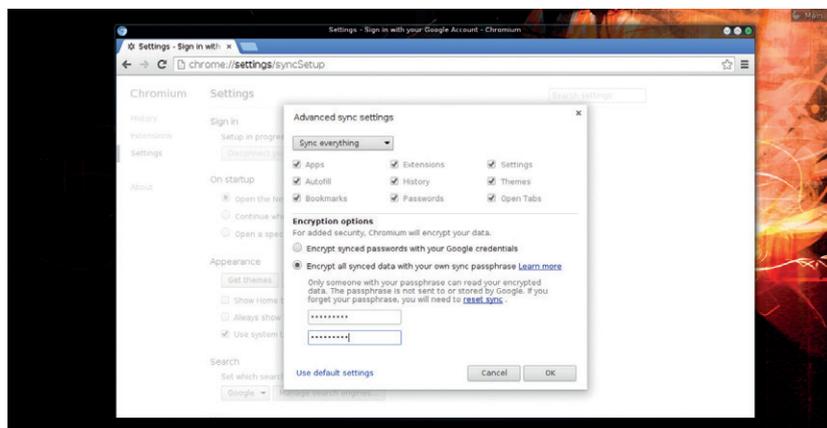
includes a PDF reader. Like Firefox, it's hot on new and upcoming open protocols, and supports Vorbis, Theora and WebM codecs among others.

Chromium's snapshots are built automatically several times a day and made available as binary releases. These are then taken by distro packagers and included in the respective software repositories. While the browser is available for multiple platforms, there is no mobile client, although you can compile one yourself. You can extend Chromium by

“Like Firefox, Chromium is hot on upcoming open protocols, and supports Vorbis.”

fetching extensions from Chrome's web store, which is as diverse as Firefox's. Chromium also sports a sync feature similar to Firefox.

Chromium has more privacy-related controls than Firefox, but that's primarily because the browser uses more privacy-invasive services than Firefox. For example, Chromium uses a web service to resolve navigation errors along with a prediction service to complete searches and URLs. The one area that Chromium scores over Firefox is user management, which is more intuitive in Chromium than in Firefox.



Chromium uses multiple processes to isolate websites in different tabs from each other.

VERDICT	
FIREFOX: The open source champion does well to keep up with the competition.	CHROMIUM: It won users with its speed but it has to pay heed to Google's whims.
★★★★★	★★★★★

OUR VERDICT

Web browsers

This was always going to be between *Firefox* and *Chromium*. That's not to say that the other browsers didn't stand a chance. In fact, we were tempted to give the top honours to *Midori*. *Midori* is an impressive piece of software that's not only fast and lightweight but is also full of useful features and has enough room for extensibility. It easily obliterates the other contenders in this group test but lacks the advanced power user features that you get with *Firefox* and *Chromium*, such as a synchronisation feature.

There's not much to choose

from *Chromium* is its process model, which handles unresponsive web pages more gracefully than *Firefox*, but is also responsible for its high resource usage.

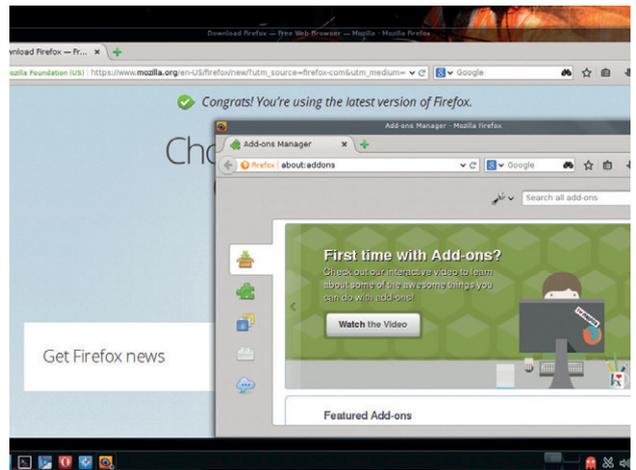
But *Firefox* is more than just a browser and has been fighting the good fight for quite some time. Its commitment to promote open standards, privacy and the open web are as important and worthy of support as the software itself. Also, unlike some projects, *Firefox* doesn't rest on its laurels and strives to innovate and adapt to the dynamic space in which it operates. The project has just celebrated the

“Firefox strives to innovate and adapt to the dynamic space in which it operates.”

from between *Firefox* and *Chromium*. As browsers they are almost equally matched. We like *Firefox's* implementation of a few features, most notably Firefox Sync, which encrypts all synced data and also lets you use a custom server instead of Mozilla's. Over the years *Firefox* has also been able to streamline itself and match *Chromium* for speed and performance. The one feature *Firefox* hasn't been able to adapt

10th anniversary of *Firefox 1.0* with a special anniversary release that comes with a Forget button that helps you erase recent activity if you accidentally fall down a rabbit hole on the web.

Mozilla's official mission statement is to build a better internet. The team also just happen to produce a wonderful browser that outperforms the competition on merit. We're glad to see it back at the top of the tree. 🐘



This group test wasn't lost by any browser (there's some fantastic software for Linux) as much as it was won by *Firefox*.

1st Firefox 33.0.3

Licence MPL 2.0 Version 33.0.3

www.firefox.com

If it keeps up the good work, it'll be hard for anyone to displace *Firefox* from the top step.

2nd Chromium 38.0.2125

Licence Various open source licenses. Version 38.0.2125

www.chromium.org

The only real competition to *Firefox*; loses for its focus on powering proprietary solutions instead of catering to its users.

3rd Midori 0.5.8

Licence GPL v2 Version 3.12.0

www.midori-browser.org

The go-to browser for anyone concerned about resource consumption.

4th Konqueror 4.14

Licence GPL v2 Version 4.14

www.konqueror.org

Like most things KDE, *Konqueror* loses out for trying too hard. As part of an integrated desktop though, it's well worth trying.

5th Epiphany 3.12

Licence LGPL v2.1 Version 0.5.8

<https://wiki.gnome.org/Apps/Webe>

Gnome's default browser is good for creating web apps, but falls behind in daily usage.

6th Opera 12.16

Licence Proprietary Version 12.16

www.opera.com

The ugly proprietary duckling pales in front of the white open source swans.



Midori ships with several useful plugins, and is fantastic for older machines.