

Ranked: Best web browsers for security and privacy in 2020

• 13 min read



Caleb

Last updated: September 14, 2020



In a listicle world where even **the trivial** is quantified, judged, and graded, let's rank something important for a change: Which web browsers are best for protecting your security and privacy?

The contestants

First, we took measure of the goliaths: **Google Chrome**, the runaway leader in market share; Microsoft's **Edge**, the upstart heir to the now-defunct Internet Explorer; Safari, a default choice for Apple users; and **Firefox**, the only major browser that is open-source.

Next, we dug a little deeper to assess the less popular but nonetheless powerful browsers that claim to prioritize your security and privacy: **Brave**, **Opera**, and **Tor Browser**.

Let's see how these browsers fare in privacy and security.

Need help? Chat with us!

1. Microsoft Edge



Microsoft has been keen to make **Edge** the browser of choice among Windows users, having retired Internet Explorer. Since its launch in 2015, Edge has expanded beyond Windows 10 to more operating systems, including Mac, Android, and iOS.

Microsoft clearly wants this browser to have the *edge* on its predecessor in terms of page load speeds, but what about its security and privacy?

The good

This year Microsoft made a significant shift in Edge's design—as of January 2020, the browser is **Chromium-based**, which means part of its code is open-source. The browser itself updates its software at least **once a week**, mainly consisting of security updates. We can't overstate enough how important it is to **update your apps and devices** even if it's tedious to do so. It's good to see that Edge is coming out with regular updates to patch security issues.

Microsoft has also rolled out Automatic Profile Switching, which is supposed to help switch between your work and non-work accounts easily.

The bad

A **fundamental flaw in Edge's security** came to light this year, when security researchers revealed that Edge “send[s] persistent identifiers than can be used to link requests (and associated IP address/location) to backend servers.”

A company spokeswoman told **ZDNet** that “Microsoft Edge sends diagnostic data used for product improvement purposes, which includes a device identifier. On Windows, this identifier enables a single-click ability to delete the related diagnostic data associated with the device ID stored on Microsoft servers at any time (from Windows settings), something which is not offered by all vendors.”

Need help? Chat with us!

diagnostic data may contain information about websites you visit. However, it is not used to track your browsing history or URLs specifically tied to you.”

Regardless, such data collection can reveal much about the user’s identity, and not much can really be done about it.

You can see more on what Edge collects [here](#), but the fact that the browser can identify your device alone is worrisome, and we’d avoid using it.

Would we recommend this browser? *No.*



6. Opera



The creator of the CSS web standard, Hakon Wium Lie, developed Opera in 1995. The browser has since adopted much of Chromium’s code into its software and is now considered one of the more popular privacy-oriented browsers.

The good

The Opera browser has a **built-in ad blocker** and uses a tracker blocker that takes from the **EasyPrivacy Tracking Protection List**, which can help protect users from seeing ads and being tracked by advertisers and other websites. It bases part of its code on Chromium, which is open-source and therefore can be scrutinized.

The bad

As with Chrome, Opera’s default window will cache your data, and its Private one won’t—although you can tweak this in your settings to make it so in the default browser window.

While Opera does provide ways to customize your privacy and security, the opt-out method of securing and privatizing your browsing experience may not be appreciated by tho [Need help? Chat with us!](#)

Opera also has a free built-in VPN that it **bought in 2016**. It's a troubling addition to the browser, as it **tracks bandwidth and logs usage**, and Opera *itself* is **owned by a company** based in a country notorious for privacy violations. Browser beware.

Would we recommend this browser? No.

5. Apple Safari



Safari is only available on Apple products now, but for a short while it was **found on PCs**. Safari is the default browser for Mac, but like Microsoft's Edge it plays second fiddle to Google Chrome in its popularity.

The good

Safari prevents suspicious sites from loading and alerts you to the potential danger. By running web pages in a sandbox, Safari also prevents malicious code on one page from affecting the entire browser or accessing your data.

In the few years since Safari's **Intelligent Tracking Prevention (ITP)** feature launched, the browser appears to have prevented websites from tracking users, making it difficult for advertisers to target. It also helps camouflage **digital fingerprinting** and prevents third-party sites from leaving data in your cache by default, helping you stay anonymous online. In addition, Safari offers a range of **useful extensions** to safeguard your privacy.

The bad

Like Chrome and Edge, Safari is not open-source, so outsiders can't scrutinize any of its code. Safari updates are offered at very irregular intervals, which is surprising given that it's made by the **world's largest technology company**. When compared with its rivals, Safari updates *much* more slowly. Mac users are arguably exposed to fewer internet vulnerabilities than PC users, but the lower frequency is still troubling.

Need help? Chat with us!

~~Safari users' web-browsing habits.~~ Some of these issues were addressed in later Apple security updates, but that may not be enough to quell suspicions of the browser.

Would we recommend this browser? *Not until we see an open-source version, and even then maybe not.*

4. Google Chrome



Over a decade has passed since the launch of **Google Chrome**, and it has since become the undisputed leader in **browser market share**, at almost 80%. Given its reputation for speed and the prevalence of Google services in our lives (web search, **YouTube**, **Gmail**, Google Docs, etc.), it's no surprise Chrome has become the most widely used web browser today. But how does it perform on your privacy and security?

The good

In addition to leading its competitors in update frequency and scanning for harmful downloads, Google automatically updates Chrome to the latest version **every six to eight weeks**, ensuring its users are always enjoying the latest browsing features. Part of its code is also open-source, which allows users to scrutinize, and also adopt, parts of its code.

Google has also **encouraged hackers to find vulnerabilities in its own browser** so the company can improve its product.

The bad

While the browser does offer the usual pop-up blocker and allows users to send a “do not track” request along with their browser traffic (which, by the way, does very little to stop sites from tracking you), one simply cannot ignore that Chrome belongs to the company that makes millions from **knowing everything about you**.

Need help? Chat with us!

in another update. There are **ways around this**, but Google is still using Chrome to learn about you and then monetizing that information.

Google did **announce** that they would eventually force third-party cookies to identify themselves on Chrome, but no word on when that will happen, nor whether this would actually stop trackers.

Chrome also boasts an extensive library of **browser extensions**, which offer a range of additional functionalities but at the cost of reduced privacy. Furthermore, since Chrome is a closed-source browser, no one can crack it open to see what (if anything) is hidden in the code. That said, this is no problem if you trust **Google's stance on privacy**, and there is also an **open-sourced version of Chrome** available.

Would we recommend this browser? *Not unless you want Google tracking everything, no.*



3. Brave



Brave was founded in 2016 by Brenden Eich, the former Mozilla head who also created JavaScript. While relatively new on the scene, Brave packs quite a punch in its fast-performing, privacy-focused, and minimalistic design. Having moved on from perpetual beta to a fully-fledged browser, it's set to show us how it fares as a privacy-oriented product.

The good

Brave has several features that keep your browsing activity private, with a default ad blocker that also stops ads from tracking your online behavior, as well as a function to secure unencrypted sites with HTTPS when necessary.

keep scripts from loading. Brave settings provide plenty of ways to customize your browsing experience to be as secure as you want it.

In December 2018, Brave fully **transitioned to the Chromium codebase**, making it easier for users to carry over their Chrome extensions—though they should be wary of what data third-party extensions collect.

The bad

Brave's new Tor tab may be private, but it falls short of Tor's own privacy standards with a customizable window size that could be used to **fingerprint your browsing**.

The questionable

While Brave blocks ads, it has also launched its own ad program in April 2019. This has **attracted some criticism** and claims of hypocrisy, as it layers its own ads on top of the ads found on websites, allowing them to essentially profit from the sites without giving the creators anything.

Brave's cryptocurrency, called the Basic Attention Token (or BAT), does allow users to anonymously pay publishers for their content through micro-donations and get a percentage of it back.

Its ICO raised a few eyebrows, however, not least because in the brief 30 seconds the coins were available, 40% of them ended up in the hands of a very small group of people. Inevitably, this drew suspicions that large advertising agencies had snapped up the tokens, which would seem to defeat the purpose of BAT in the first place.

A Brave developer has **told ExpressVPN** that 300 million BAT has been placed into a User Growth Pool to distribute to Brave users monthly as free grants and referral rewards, although this in itself seems to be a **work in progress**. The inclusion of a cryptocurrency within a browser is certainly novel, but it looks like it will take some time before it starts functioning as intended.

Would we recommend this browser? *Yes, although be wary of using their BAT currency.*

2. Mozilla Firefox



Of all the browsers featured in this ranking, **Firefox** is the only one that is developed by a nonprofit organization, **Mozilla**. The browser is well known for its customizability and has long been a favored alternative to its brethren from Google, Microsoft, and Apple.

The good

Firefox does not update as frequently as Google Chrome, but it does at least update within a regular timeframe. Given that the Mozilla Foundation is a nonprofit, it's impressive to see its coding volunteers constantly working to ensure Firefox is loaded with the latest security and browsing features within weeks.

Firefox offers a suite of security features that any internet user will appreciate: phishing and malware protection, blocking reported attack websites/web forgeries, and warning users when a site is trying to install add-ons.

Firefox is relatively lightweight, compared with its competitors. In keeping with the times, Firefox features "**Content Blocking**," allowing users to block all trackers the browser detects. Firefox also provides users with the option to compartmentalize their browsers, preventing platforms like Facebook from tracking your activity outside of Facebook.

But most important, Firefox is the only widely used web browser that is completely open-source. Anyone can examine Firefox's source code, making sure there are no sketchy elements (like tracking software) baked into the final product.

While Mozilla **does heavily emphasize its default settings** and the fact that it provides "strong privacy protection from the moment [users] install," you can still customize a fairly detailed list of privacy and security settings, which include features like the ability to block cookies and third-party trackers and the level of security that you want.

The bad

Nothing, really. Firefox is quite a secure and private browser, you just need to manually customize it so that it is.

Would we recommend this browser? Yes.

Need help? [Chat with us!](#)

1. Tor Browser



Developed by The Tor Project in 2002, and based on Firefox's browser, Tor Browser was built for users to access the internet anonymously via the Tor network. Your activity and identity are masked by Tor, which encrypts your traffic in at least three layers by "**bouncing your communications around a distributed network of relays**" selected from thousands of volunteer computers.

Read: [A beginner's guide to Tor](#)

The good

Most of Tor's updates follow Firefox's bug fixes and security patches. The updates are incredibly important to prevent anyone from exploiting bugs and security flaws in older versions of the Tor Browser.

The Tor Browser's privacy is aided very much by its security—no one watching your connection can track your internet activity, nor can they identify you unless you explicitly identify yourself. Additionally, Tor does not track your browsing history and clears your cookies after every session. Tor also protects users from sites that try to **fingerprint browsing history** with its integration of NoScript. **Based on tests of unique browser fingerprinting**, only Tor can reduce the uniqueness of your fingerprint.

As **we mentioned in our review** of the Tor Browser, the process of bouncing your data through several relays makes it *incredibly difficult* for anyone to trace you and your activity. It's not *completely* secure, as an FBI bust on the infamous Silk Road marketplace proved, but unless you're running a high-profile and illegal operation on the Tor network, it's unlikely that resources will be spent tracking down your browsing habits.

The bad

The Tor browser may actually be secure to a fault: Internet speed is likely to be affected as it routes traffic over three different hops through the Tor network, and it may break s

[Need help? Chat with us!](#)

Be aware that law enforcement and ISPs can see who uses Tor, even if they don't know what you're doing on it. For maximum security, connect to a **VPN** first, and then start up the browser.

Read: [How to combine Tor with a VPN](#)

Would we recommend this browser? Yes. Just be careful about how you use it, like with any other browser.

The best web browser is...

Having evaluated these browsers, here's how they rank:

1. Tor Browser

2. Firefox

3. Brave

4. Chrome

5. Safari

6. Opera

7. Edge

Of course, there are many other important factors we could've included, such as browser speed and customizability. But for privacy and security, Tor Browser is ExpressVPN's pick out of these popular web browsers.

The last step to secure and private browsing

As we've seen, each of these browsers has its respective strengths and weaknesses—including potentially **tracking your web traffic** and selling it to third parties.

And try as they might to give you a secure and private browser experience, the only way to protect all of your device traffic (**from your ISP**, for instance) is to **use a VPN**.

Instead of fiddling with customized browser settings, all you need to do is hit "connect," and let our VPN safeguard your security and privacy as you enjoy the internet—**from any device**.

Need help? Chat with us!

[Articles](#) / [Online Security](#) / [Browsers](#)[Table of Contents](#)

What Is The Fastest Browser? Surfing Speedily in 2020



By [Aleksander Hougen](#) (*Editor*).

— Last Updated: 19 Feb'20

When you're choosing what web browser to go with, speed is a crucial metric. However, it's one that can be difficult to test and — due to the ever-evolving nature of web browsers — challenging to find any concrete information that isn't horribly outdated. Thus, we have tested all the major web browsers to find the fastest one around.

To cut right to the chase, Vivaldi is the fastest internet browser we tested. It performed great in all three benchmark tests we used to compare the providers, outpacing all the competition. However, Opera wasn't far behind, and when looking purely at graphically intensive tasks, Opera and Chrome were the fastest.

These results represent the performance of the browsers today and, even if you're reading in the far future, should provide some guidelines on where to look for the fastest web browser. If you're wondering how we made our list, be sure to jump down to the bottom to read our web browser speed-testing process.

The Fastest Browsers 2020

1

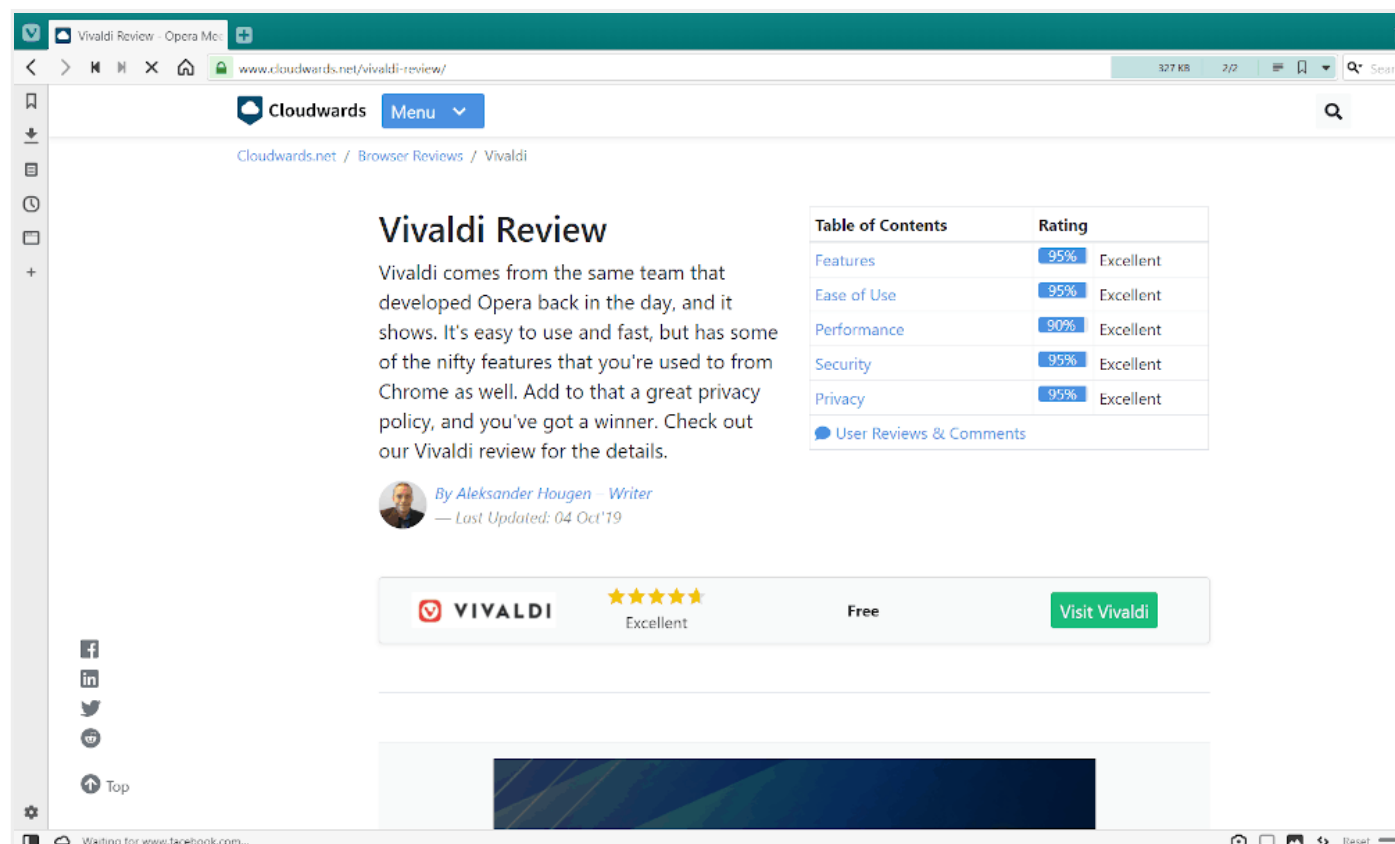
vivaldi.com**Free**[Visit Vivaldi](#)[Review](#)☐ Compare

1. [Vivaldi](#)

The Vivaldi browser has featured prominently in our rankings, topping the list of the [best browsers](#), in general, and coming in fourth place for the [best browser for](#)

[Mac](#), where it would've been higher if it wasn't for the lack of an iOS version.

It was also our third pick for the most secure browser, meaning you won't have to choose between performance and security with Vivaldi. If you want to learn why we think it's the best web browser, make sure to read our [Vivaldi review](#) for all the details.



The screenshot shows a web browser window displaying the 'Vivaldi Review' page on Cloudwards.net. The page layout includes a header with the Cloudwards logo and a search bar. The main content area features the title 'Vivaldi Review' and a paragraph describing the browser's origins and features. To the right, a 'Table of Contents' table lists various categories with their respective ratings. Below the text, there is a section for the reviewer, Aleksander Hougen, and a 'Visit Vivaldi' button. The bottom of the page shows a social media sharing bar and a 'Top' button.

Table of Contents	Rating
Features	95% Excellent
Ease of Use	95% Excellent
Performance	90% Excellent
Security	95% Excellent
Privacy	95% Excellent
User Reviews & Comments	

For now, though, let's take a deeper look at Vivaldi's speed performance. The browser achieved the best results in responsiveness to basic JavaScript applications, which is the most important metric when comparing browser speeds.

Although it didn't do as well with graphically intensive tasks, for most users this is a far less common use-case for a browser and, as such, is less important.

For more advanced JavaScript applications, four out of five picks in this article achieved similar results, and Vivaldi landed right in the middle of those four, but still with very little difference between it and the top spot.

[Visit Vivaldi](#)

2. [Opera](#)

The Opera web browser is also lightning-fast, at least on desktop, and it did especially well in our graphics test. This means that if you use a lot of graphic-intensive applications through a web browser, Opera might be your best bet. Overall, though, it lags behind Vivaldi for basic JavaScript responsiveness, and therefore ends up in second place on this list.

Cloudwards.net / Browser Reviews / Opera

Opera Review

Opera has been around a long time and has built a small, but loyal, fan base over the years. A few years it made headlines for being the first browser to have a built-in VPN, but a recent change in ownership has cast its security and privacy in a new light. Read our full Opera review for the details.

By Aleksander Hougen – Writer
— Last Updated: 12 Jun'19

Table of Contents	Rating
Features	95% Excellent
Ease of Use	90% Excellent
Performance	65% Decent
Security	60% Fair
Privacy	40% Terrible

User Reviews & Comments

Opera ★★★★★ Decent Free [Visit Opera](#)

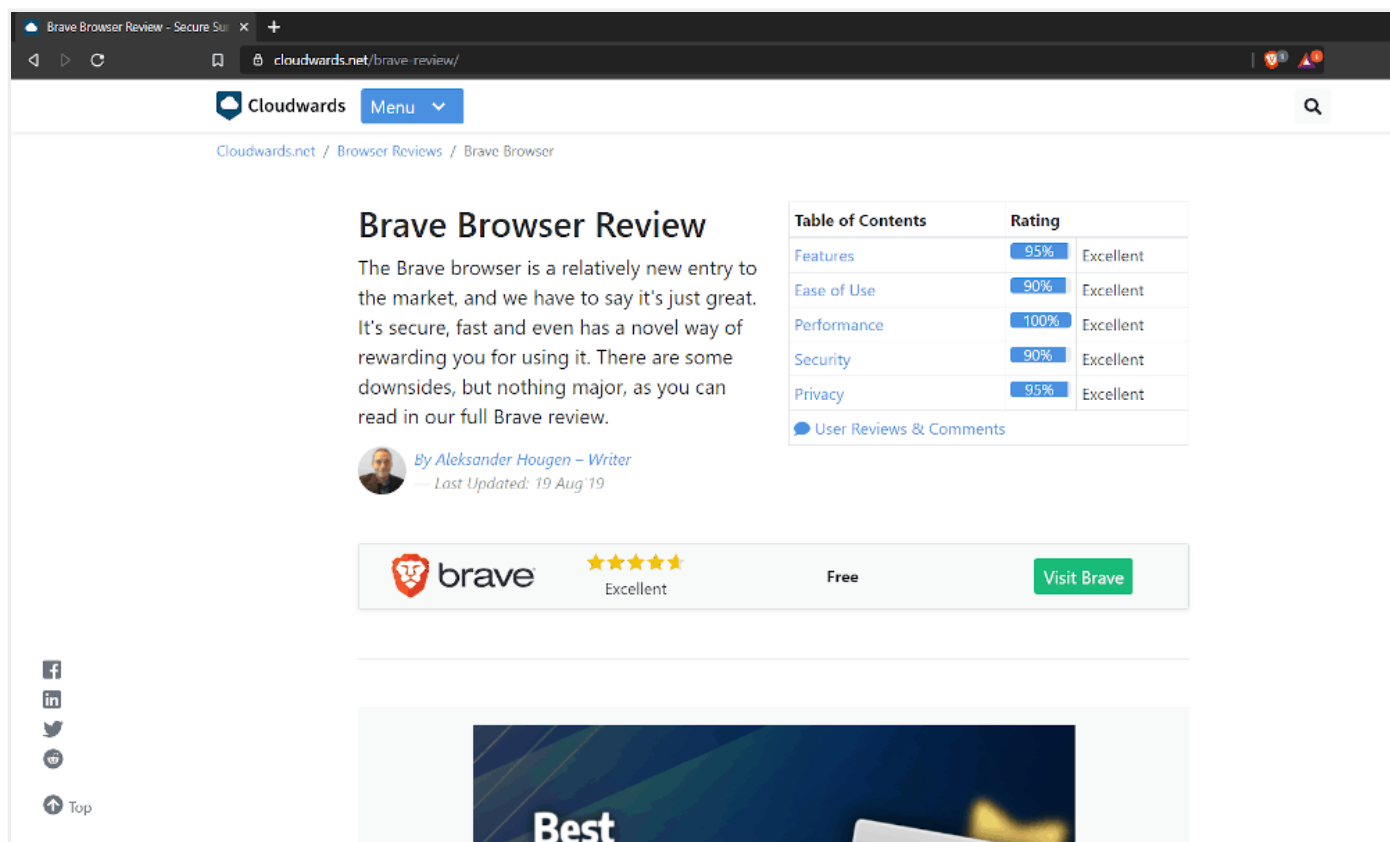
As mentioned earlier, the results for more heavy-duty JavaScript apps were pretty similar, and Opera edged in just ahead of Vivaldi and Brave (our next pick), tying with Chrome for first place.

Opera has been around a long time and changed a lot over the course of its development. If you'd like to learn everything there is to know about the elder statesman of internet browsers, check out our full [Opera browser review](#).

[Visit Opera](#)

3. [Brave](#)

If you're concerned with privacy and security, then few browsers will be able to compete with Brave, as we covered at length in our full [Brave review](#). It's also our number-two pick for the [best browser for Android](#), as well as our choice for the [best browser for Mac](#).



Cloudwards.net / Browser Reviews / Brave Browser


Brave Browser Review

The Brave browser is a relatively new entry to the market, and we have to say it's just great. It's secure, fast and even has a novel way of rewarding you for using it. There are some downsides, but nothing major, as you can read in our full Brave review.

By Aleksander Hougen – Writer
— Last Updated: 19 Aug '19

Table of Contents	Rating
Features	95% Excellent
Ease of Use	90% Excellent
Performance	100% Excellent
Security	90% Excellent
Privacy	99% Excellent

[User Reviews & Comments](#)

 brave ★★★★★ Excellent Free [Visit Brave](#)

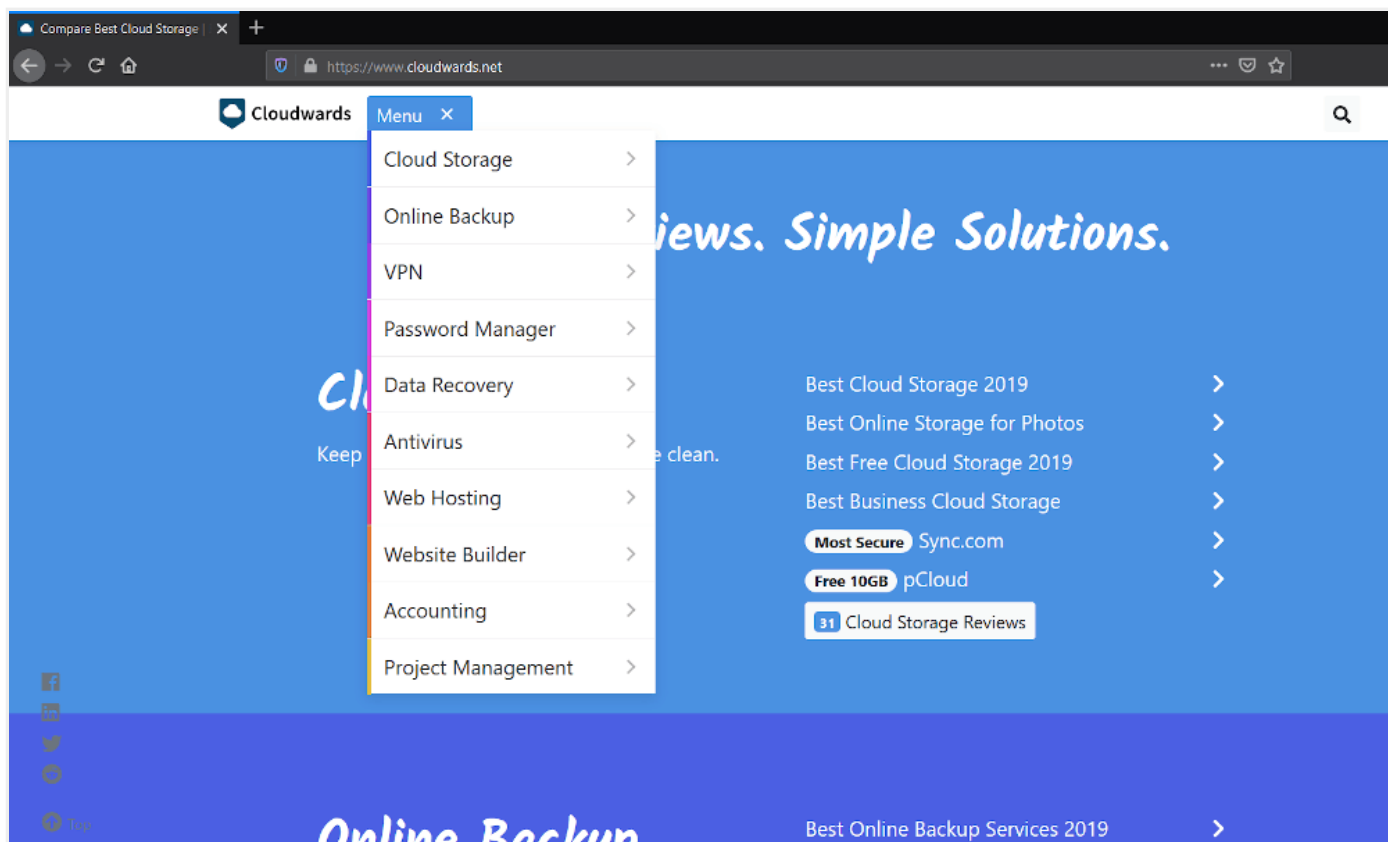
Best

In terms of speed, compared to the other picks on this list, Brave is solidly middle of the road. For basic JavaScript applications, it lands in fourth place, a hair's breadth behind Firefox, but still ends up as our number-three pick due to the latter's lackluster performance in the remaining two tests, where Brave did much better.

[Visit Brave](#)

4. [Mozilla Firefox](#)

Firefox is an excellent browser, noted for its serious commitment to privacy and wide range of features, as we noted in our [Firefox review](#). Although it hasn't won any of our rankings outright, it has featured in the top five in all of them and handily won our comparisons of [Firefox vs. Chrome](#) and [Opera vs. Firefox](#).



In terms of performance, the current version of the Firefox browser is a bit of a mixed bag. It did well with basic JavaScript applications, coming in third behind Vivaldi and Opera, but did horribly when it comes to graphics and heavier web applications. It stands out especially in the latter category, as all our other picks were well ahead of Firefox in these tests.

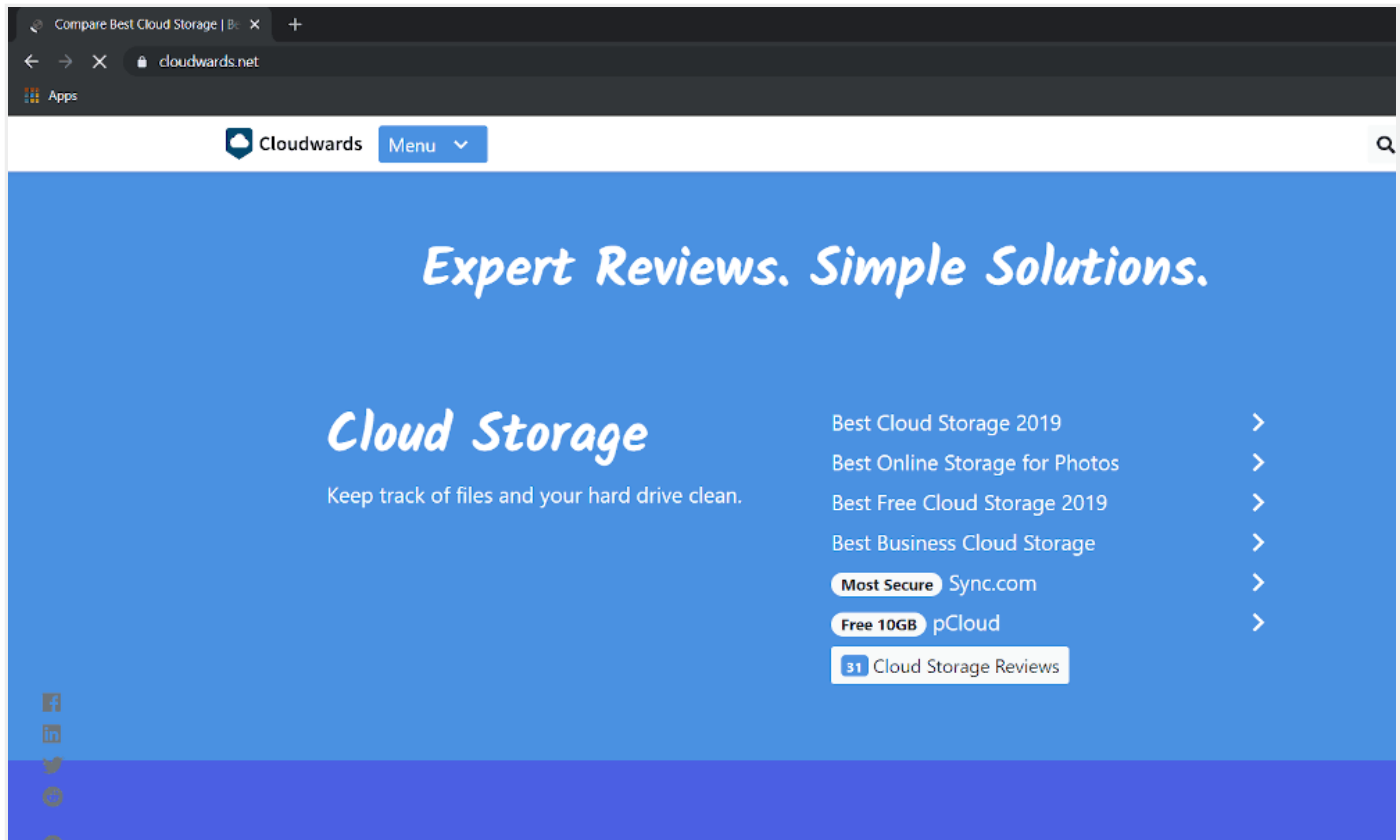
Nevertheless, Firefox is still a fast browser and easily beats our final pick of this list due to its good results for lightweight web applications, which, as mentioned earlier, is the most important criterion we tested for.

[Visit Firefox](#)

5. Google Chrome and Chromium

Google's browser behemoth rounds out our list of the top five fastest browsers. Despite achieving the best score for graphical performance, it was dead last in terms of basic JavaScript responsiveness, which, as we've repeated a few times now, is the test we're putting the most weight on.

For more advanced JavaScript applications, it also did very well, but the difference here was pretty minor, so it's not enough for Chrome to make it higher up on the list.



It's worth mentioning that if you're comparing [Chromium vs. Chrome](#) in terms of speed, there is very little difference to speak of, with Chromium being perhaps a little bit faster than its much more popular offspring. Because the results were so similar, and the fact that there's not much difference between them to begin with, the two browsers share the final spot on the list.

Chromium Review

Google's open development platform, Chromium, is what built the behemoth known as Google Chrome today. In this Chromium review, we're going to go back to basics and see how good the core browser really is.

By Aleksander Høgen – Writer
— Last Updated: 30 Jul'19

Table of Contents	Rating
Features	85% Very Good
Ease of Use	75% Good
Performance	70% Decent
Security	70% Decent
Privacy	55% Fair
User Reviews & Comments	

Decent

Free

Visit Chromium

Be sure to read our [Chromium review](#) before you switch over, though, as there are some serious stability concerns with the open-source browser that you should consider before making the switch from Chrome to Chromium.

If you want to compare them yourself, you can read our [Google Chrome review](#), as well, so you have all the information you need on both alternatives.

Google Chrome
★★★★★
[Review](#)

Visit Google Chrome

How to Test Your Web Browser's Speed

Testing the speed of a web browser is not as simple as it sounds. Most speed tests you'll find online are focused on measuring your connection speed and not the speed of the browser itself. However, BrowserBench has helpfully created a suite of benchmark tests focused on three different aspects of web browser performance.

browser**bench**.org

JetStream2

JetStream 2 is a JavaScript and WebAssembly benchmark suite focused on advanced web applications.

motionmark

MotionMark is a benchmark designed to put browser graphics systems to the test.

speedometer

Speedometer is a browser benchmark that measures the responsiveness of web applications.

First and most important is Speedometer 2.0, which runs 480 different standard web applications in swift succession, measuring how quickly the browser handles them and averaging the results to give you a score that represents the maximum runs per minute the browser can do.

Out of the three tests we used, we put the greatest emphasis on this one, as it covers what is likely to be the majority of your browsing activity and thus will be much more noticeable than the other two tests.



Using JetStream to Test Uncommon Web Applications

Next is JetStream, which covers more advanced, heavier and less common web applications in a similar process. Four out of the five browsers (with Firefox as the odd one out) got very similar scores in this test, meaning it didn't factor as heavily in our ranking.

Finally, MotionMark renders a bunch of advanced visuals, measuring how well each browser's graphics engine performs when put under heavy load.



Stabilizing Our Web Browser Speed Test Results

When using these tests, it's important to ensure that you're connected to a stable internet connection, as swings in connection speed can easily influence the results, tainting them and rendering them pretty much useless.

To account for this, we used a stable connection and ran the tests for each browser several times, averaging out the scores before ranking them accordingly.

It's also important to free up all your system's resources for the test, so if you want the most accurate results, shut down everything (including extensions) except for the browser you want to test.

For the purposes of these tests, we used an Acer Aspire E5-575G laptop with an Intel i5-6200U CPU running at 2.40GHz, an Nvidia [GeForce](#) GTX 950M graphics processor, 6GB of RAM and a standard (non-SSD) 120GB hard drive running 64-bit Windows 10 Home version 1903.

This means that this list focuses on the fastest browser for Windows 10 (and to a certain extent the fastest browser for Windows 7, as the performance should be identical), rather than the fastest Android browser or the fastest browser for Mac.



[Review](#)

[Visit Vivaldi](#)

place, the [Vivaldi](#) browser continues to cement itself as an all-around excellent browser. Opera, Brave and Firefox also did very well, and Chrome and Chromium certainly aren't slow, either, even though they ended up tied in last place on this list.

If you're interested in learning more about the various internet browsers out there, you can check out our collection of [browser reviews](#). We've also pitted several browsers against each other in head-to-head battles, such as [Microsoft Edge vs. Chrome](#) and [Opera vs. Chrome](#).

If security is your main concern, we also ranked the [most secure web browsers](#), featuring several that weren't included here, such as Tenta and Puffin (which is incredibly fast on iOS but painfully slow on other platforms). If you're using a Chromium-based browser and want to make it even more secure, then you should read our list of the [best browser security extensions](#).

What do you think of our browser speed ranking? Have you experienced different results from the ones in this list, or did we neglect a performance test that you like? Let us know in the comments below. Thank you for reading.

Was this post helpful?