

What Is TTFB ? 【Reduce Time to first byte in WordPress】



TTFB or Time to First Byte is the time it takes for the response of a website or web service to reach its customer. Websites may optimize their servers to operate faster and more efficiently by finding where delays arise. Since the speed of a website will affect its rankings for web searches, TTFB has become crucial to Search Engine Optimization.

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Key Takeaways

- If it takes more than 3 seconds to load a page, 40 percent of users abandon it.
- TTFB (the time taken to load a web page) has an enormous effect on [customer retention](#).
- According to [Google](#), the TTFB of your website should be lower than 200 milliseconds.
- One way of reducing the time that users spend waiting for pages to load is to optimize the server to work more effectively.
- One of the largest causes of slower TTFB is dynamic content that is commonly used by WordPress.
- In reducing your TTFB, a fast [WordPress host](#), CDN, caching, and DNS all play important roles. Fixing these constraints or improving them will do the trick.
- Caching your dynamic pages hugely improves your TTFB.
- Keeping up to date with new hardware releases, checking the load capacity of your web server, and developing a caching mechanism are some ways to keep your TTFB in check.

What Is TTFB?

TTFB originally stood for “time to the first byte”. This is the amount of time it takes when a user sends an HTTP request from the webserver to receive its first byte of data. The smaller the TTFB, the faster the desired resource can begin to deliver to the browser. Therefore, TTFB is an essential part of website optimization.

The time to the first byte consists of 3 separate components:

1-The time necessary for the HTTP request to be sent:

This may differ based on the time it takes for a DNS lookup to complete, network speed of the visitor, distance to the server, and communication interruptions. Websites have no power over the user's connection to the Internet, but their TTFB is still affected by possible interruptions.

2-The time necessary for the server to process the order:

This includes starting processes, sending messages to the database, running web scripts, and communicating on the network with other systems. Caching web pages, optimizing server-side code, and improving hardware resources are appropriate practices used by businesses to reduce TTFB.

3-The time necessary for the server to send the first byte of the response back to the user:

This phase depends on the connection speed of both the server and the user. The TTFB is evaluated when the client starts to receive the response; basically when the first byte is received by the client. Almost 40 percent of the TTFB can be accounted for by transmitting a request and a response over a network.

Depending on the type of content you provide (static or dynamic), the configuration of your server, etc. TTFB may vary greatly. Therefore, determining the TTFB of your website is difficult, and deciding what a good TTFB number is, depends on your situation.

On average, however, anything with a TTFB of fewer than 100 milliseconds is excellent. It is standard to provide anything between 200-500 milliseconds. A response between 500 milliseconds – 1 second is less than optimal and anything greater than 1 second is likely to need more examination. Your website's TTFB should be 200 milliseconds or less, according to [Google](#).

Normal TTFB speeds are 100 milliseconds for static content and 200-500 milliseconds for dynamic content, i.e. content that is compiled from a database and templates.

Such response times are common measurements, but do not extend to all websites. Sometimes TTFB is inevitably greater than one second, depending on the type of content and complexity of the request.

4 Tools to Measure Your TTFB

By using a platform such as [WebPageTest](#), the TTFB for a specific resource can be determined. In addition, you can check TTFB using these tools:

1. [Gtmetrix.com](#)
2. [Performance.sucuri.net](#)
3. [Tools.keycdn.com/performance](#)
4. [Google Chrome browser Inspect tool](#)

Why is it Necessary to Improve Your TTFB?

TTFB optimization helps both consumers and providers of content. Users receive an enhanced browsing experience where they have to wait less time before getting a response from a web service. When consumers are less likely to leave because of delays or slow loading, businesses see higher customer loyalty and retention.

Slow server response times affect performance. It is bad when the browser waits over 600 milliseconds for the server to reply to the main data request. One potential cause of long page loads is poor server response times.

When users navigate to a URL in their web browser, the browser sends a network request to retrieve the content. Your server answers the request with the page content.

The server may need to do a lot of work to return a page with all of the content that clients need. For example, if users want to look at their order history, the server needs to retrieve the history of each user from a database, and then put that content into the page. One way of reducing the time that users spend waiting for pages to load is to optimize the server to work more efficiently.

Connecting to a web server is a multi-step procedure where each step can lead to delays. Being aware of the potential of the downturn is key to improving the user experience when a website is slow or non-responsive.

What Factors Impact TTFB?

To find out what triggers a slow TTFB, there is a multitude of items to investigate. If you find that your resources produce a long time to the first byte, then it is important to investigate the problem and make any required adjustments to optimize your site.

Common reasons why you have TTFB that is slower than usual might include:

- Dynamic content: disk usage, disk speed, RAM usage

- Increased web traffic
- Networking problems
- Poorly built web server, settings for PHP/ASP
- Problems with server capacity: disk I/O, RAM, network slowdowns
- Database issues: setup of databases, architecture, speed

Dynamic content which is frequently used by WordPress is one of the major causes of longer TTFB. Most pages on the web are dynamic.

Dynamic web pages ought to be assembled each time a user requests the web page, unlike static web pages that are sent to a web browser immediately upon request. What slows TTFB is this assembly process.

Typically, dynamic web pages are compiled from content stored in a database and from template files stored on the hard disk of the webserver. Usually, pictures and other additional resources, such as CSS and JavaScript, also come from hard disk files. Anything in the database is stored by such mechanisms.

The time to search for and get the appropriate content from the database, get the files, and bring everything together may easily form a slowdown, particularly if the server has to do so for several users at the same time.

How You Can Reduce TTFB on Your WordPress Site

The WordPress core group often keeps adding performance optimizations to their updates, along with plugin and theme authors. This sometimes indicates that the queries that their code extends to the database have been improved, or updates that impact the effectiveness of the PHP code have been produced.

Keeping only the plugins and themes you need and deleting the rest is the standard way. So, check your plugins and themes frequently, and delete those that you don't need anymore.

The quality of your plugins can also influence your TTFB, so look for plugins that affect the performance of your site. For example, [Broken Link Checker](#) is programmed to run in the background, checking every so often for broken links. The result is a slower WordPress administrator and elevated TTFB.

Using a fast hosting provider that has a fully thought out design, will go a long way towards reducing your TTFB. Controlled WordPress hosts set up their servers for

WordPress sites exclusively, so you can be sure that your dynamic content is in safe hands.

It's important where your servers are. Select a host that is geographically close to where your users are.

Selecting an excellent WordPress host is a perfect way to minimize TTFB. You will see a 20 percent decrease in TTFB globally by using a quicker host, and a 32 percent decrease in TTFB across the United States and Canada. Moreover, good hosting is essential to ensure that you have the newest edition of PHP. Your TTFB score can improve significantly by combining a fast host with a well-developed WordPress platform.

Again, although the number of clients your site receives can't be managed, you can monitor the scalability of your site. So, if you expect high traffic to your site, make sure your host can rapidly scale your site to enhance its TTFB.

✓[Best solution for reducing TTFB:](#)

Here's a tip for you if you are trying to get the best out of your host. With 365/24/7 technical support, **Routerhosing** provides an outstanding [WordPress host](#), the best security methods and algorithms for DDOS attacks, complete control over your server, 99.99% uptime, dedicated resources, and a range of payment options (such as Bitcoin, Altcoin, Credit Cards, Perfect Money, and others). Its best feature is the 7-day money-back guarantee that allows you to test one of the plans.

[How Does CDN Affect TTFB?](#)

As described above, the networking speed between the server and your machine affects TTFB significantly. If you use a CDN (Content Delivery Network) service that has endpoints near your geographic location, it will drastically improve the speed of your website.[\(what is CDN?\)](#)

A CDN can reduce the delay between the user and the webserver. The cacheable content of the web page will be cached on the CDN and then users can fetch it much easier and faster. Some CDNs provide functions that allow faster retrieval of dynamic content, as the delays are optimized by navigating within the CDN.

If despite optimized response times, the time to the first byte increases, it may be due to a constraint in the IT facilities or a generally overburdened web server. You can contact your server operators or web hosts in this situation. Changing the applications on the webserver can also have a positive impact on the TTFB.

Improving TTFB by Caching

Caching on your WordPress platform is possibly one of the best ways to reduce your TTFB. Most of us think that caching will only help reduce your load times, but in fact, it also helps to reduce TTFB as it reduces the load on server.

By caching your dynamic pages, major enhancements to TTFB occur. Caching your pages makes the pages pre-built and ready to go with HTML as soon as the pages are requested by a browser.

Plugins like [WP Super Cache](#) help you to cache dynamic pages. This plugin keeps track of when a dynamic saved page should be refreshed so that the newest possible copy is provided.

Configuring a [.htaccess](#) web file is also a popular way to cache files – but not dynamic material. Beware that small mistakes in this file can lead to major problems. It is advisable to employ a specialist. Besides, hosting WordPress will offer you caching capabilities that enhance the TTFB of your web.

Final Thoughts

The time it takes for a web page to load (TTFB) has a huge effect on customer retention. When 40 percent of users leave a website that takes longer than 3 seconds to load, it becomes crucial to have a low TTFB. It not only decreases the risk of losing a buyer, but also ensures that customers have an online experience that is efficient and interactive.

✓ Your website's TTFB should be 200 milliseconds or less, according to Google. One way to reduce the time spent waiting for pages to load is to configure the server to work more effectively.

✓ A fast WordPress administrator, CDN, caching, and DNS all play important roles in reducing your TTFB. Fixing these inefficiencies or strengthening them would do the job. One of the largest triggers of slower TTFB is dynamic content that is widely used by WordPress. By caching your dynamic pages, major enhancements to TTFB appear.

Keeping up to date with recent software updates, checking the load capacity of your webserver, and introducing a caching feature are a few ways to keep your TTFB low.

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