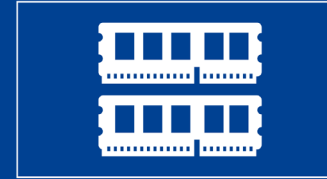


CPU



Processes



RAM

NEXT LEVEL HOSTING BY 1&1

PERFORMANCE LEVEL: PERFORMANCE THAT GROWS WITH YOUR REQUIREMENTS

Fast page loading and short response times play important roles in determining the success of your websites.

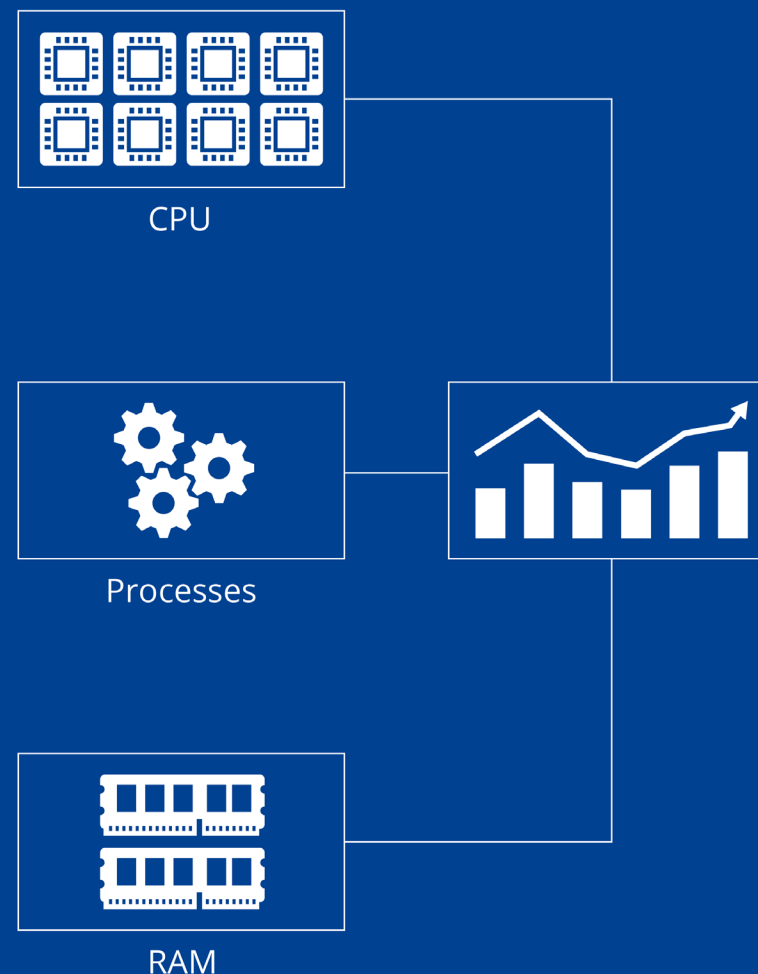
This article will show you how the performance levels in 1&1 Web Hosting let you respond to increased demands on your websites by temporarily activating additional resources.

How can I increase my websites' performance when I need it?

When your website gets noticed, it's a sign of success. As visitor numbers increase, however, your websites may need additional resources to ensure that your visitors experience short loading and response times.

In the Performance Level section of the 1&1 Control Panel, you can now check the capacity utilization of your websites and applications (CMSs) and switch to a higher performance level when demands increase.

Respond quickly and flexibly to increased demands by increasing the RAM, processes and memory limit of your contract.



Which resources affect the performance of my websites?

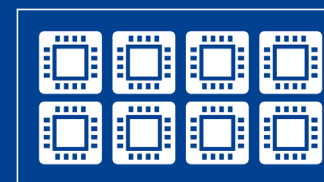
With shared hosting, many users share resources on a single server. Many of these resources are virtually unlimited and do not have to be rationed.

We therefore offer users on most of our contracts many resources, such as bandwidth and storage space, without upper limits (details).

Server resources such as processors (CPUs), processes, data throughput (I/O) and RAM are not unlimited, however. To ensure that we can offer uniformly high performance to all users, we have to define an upper limit per user for some of these resources.

Performance levels let you adjust this upper limit for all websites on your contract.

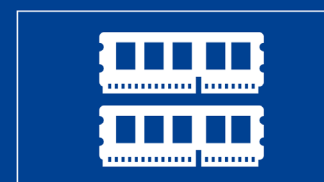
Below is a description of how the various resources affect your websites' performance ...



CPU



Processes



RAM

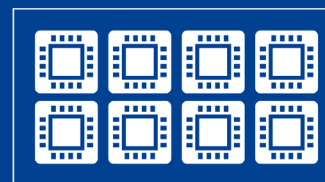
Processor: CPU & processes

Your server's CPU delivers content to your visitors, processes scripts and writes data to the RAM or to databases.

The number of available CPU cores and their clock frequencies are the deciding factors for your websites' performance. Websites that use databases and script languages like PHP often place higher demands on the server's CPU.

Processes refer to the number of connections your server can process simultaneously. It is important to note that only active connections count toward the number of available simultaneous process. In other words, once a connection ends, it is no longer counted as a process.

When a visitor opens your website, the browser establishes a certain number of connections to the server. These connections, in turn, contain requests through which your visitor's browser requests content from the server or transmits user actions to the server.



CPU



Processes

Connections are opened for example:

- ▶ When a page is loaded
- ▶ When a visitor executes an action on your website, for example submitting a comment or adding a product to the shopping cart

Generally, the server can process individual connections and requests in a few milliseconds. Once this processing is complete, all processes are once again available.

Important: Users that are reading or viewing your website do not use any processes until they execute their next action.

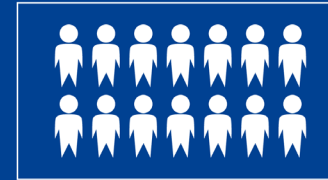
Connections therefore represent much more than just the number of simultaneous visitors to your websites.



CPU performance and the number of available processes are especially important in the following cases:

- ▶ High traffic: Your website has many simultaneous visitors regularly or at certain times
- ▶ High level of interaction: Visitors, authors and administrators for your website regularly execute a large number of actions (online store, chat, forum, news portal)
- ▶ High complexity: Your website uses complicated scripts, add-ons, plugins or themes
- ▶ Lack of optimization: Websites with poor, outdated or not optimized code

Before raising your performance level, it may be a good idea to replace or deactivate poorly optimized applications or plugins to improve the speed of your website. You can check and optimize your website for free using 1&1 Website Checker.

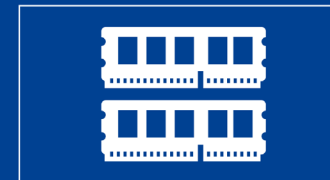


RAM & memory limit for script languages like PHP

RAM is how your server remembers information.

- ▶ Websites are loaded from the RAM significantly faster than from a mechanical hard disk or SSD
- ▶ Script languages like PHP write to the RAM and therefore require sufficient space (PHP memory limit)
- ▶ As a general rule, more RAM means that a server can work faster and process more complex tasks.

More RAM is particularly useful when you want or need to use memory-intensive scripts (e.g. Perl, PHP, Python or Ruby) or complex e-commerce applications like WooCommerce, Magento or PrestaShop that require a large amount of memory and it is not possible to optimize the source code.



RAM

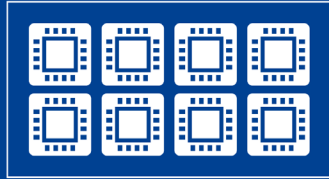
Adjusting the Performance Level in the 1&1 Control Panel

In the Performance Level section, you can see how fast your websites are responding to your visitors' requests and flexibly scale the performance of your contract.

The following additional tools allow you to access visitor statistics and analyze your websites' performance in detail:

- ▶ Use 1&1 SiteAnalytics to access detailed visitor statistics for your websites.
- ▶ Use the 1&1 Website Checker to check the speed and security of your website, how it is displayed and how easily it is found by search engines.

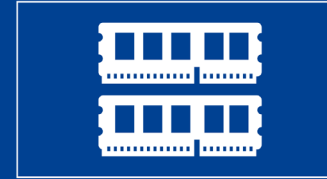




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