

## Monitoring Website Responsiveness & Server Latency

Search Engines require websites to be fast loading and reliable when factoring search engine indexation. A poor performing website can cause visitors to leave the site, and so despite the content being relevant – search engines will penalize a website if there is a high bounce rate – often caused by web-pages downloading slowly as a result of a slow server.

### What Causes Slow Sites?

When you visit a web site, there are many events occurring in the background:

1. The network needs to lookup the URL you typed in to an IP address. This is the DNS step.
2. You send your request (in the form of packets) to the server. The packets need to traverse the network to the server. Your packets travel in “hops” across the network, from router to router, until they reach their destination.
3. The server needs to render the information that you request.
4. The information needs to make its way back to you, completing the round trip.

There are many things that can cause a site to slow down or stop responding. We will use 2 simple categories of problems – Network Latency and Server Problems.

**Network Latency** – There is a round trip communication process that needs to take place, and the longer the server is away from you, the longer the packets will take to travel back and forth. You can see the path that your packets travel by using a trace route tool or command. (See Trace Route below). Your packets share the route with billions of other packets, and sometimes traffic can get thick and slow in parts of this round trip. If there are some problems in the network, like connections or routers that are down or malfunctioning, network latency will increase. A couple of important factors can affect Network Latency:

- In many cases, the network problems are at the endpoints – your end or the server end. If the server is in a place where the network connections are less than optimal, you will have problems.
- A firewall is part of the network latency. If the firewall is busy with a DOS attack, there will be network latency.

**Server Latency** – This is simple – if the server is busy, it will take longer to process your request. This type of problem is harder to diagnose.

### Monitoring Services and Tools

If you have a Windows computer you have some basic tools that you can use to measure network latency. You can bring up a Command window (click on Start – Run, and then type “cmd” at the prompt).

- **Ping** – shows you the round trip between you and the server
- **Trace Route** – shows you all of the hops and the time between hops.

There are also a number of services out there, some free, that will monitor your site and provide graphs and statistics on performance.

mon.itor.us provides a “24 x 7” network and website monitoring service to help its users quickly identify faults and deficiencies to ensure continuous operations of their IT infrastructure and maintain business operations that provide the ultimate web experience.

SearchForecast suggest clients review their website using the mon.itor.us service to ensure best practice SEO



The screenshot shows the mon.itor.us website interface. At the top, there is a navigation menu with links for Open Source, Benchmarks, Video, Help, Blog, Forum, Features, About, Advertise with us, and Link to Us. The main header includes the mon.itor.us logo, the tagline "Monitor Websites, Servers, Visitors and more", and the slogan "Easy, Innovative, Free forever...". There are input fields for Email and Password, and a Login button. Below the header, it states "Currently 72642 sites are monitored. 10460448 checks per day". The main content area is divided into three sections: External Monitoring, Internal Monitoring, and Visitors Tracking. Each section includes an icon, a title, a brief description, and a "more info" link with an "Easy Start" button. On the right side, there is a preview of the monitoring dashboard, showing various charts and tables.

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