MECCA HOSTING

You're losing sales
if your website isn't fast enough

4 seconds is the maximum length of time an average online shopper will wait for a Web page to load.

Are you losing sales because your website isn't fast enough? Here you'll find the secrets to vastly improving the performance of your website.

"Four seconds is the maximum length of time an average online shopper will wait for a Web page to load before potentially abandoning a retail site." This is according to research done by Jupiter Research for Akamai; see their press release at http://www.akamai.com/html/about/press/releases/2006/press_110606.html.

This report shows that more than one-third of shoppers with a poor experience abandoned the site entirely, while 75 percent were likely not to shop on that site again. The vast majority of websites actually load much, much slower and are losing 1/3 of their potential customers. The load time of your web pages is critical in keeping visitors on your site and eventually purchasing your product or service.

Mecca Hosting has been a leader in fast web hosting since our first prototype system was launched in 1999. Our systems have continually improved over the years with the launch of our "Athena" architecture in 2002, and finally, our high-performance "Atlas" systems released in 2005. One of our founding principles has always been to provide a blazingly fast hosting service. We have continuously improved our systems over the years and are making a lot of our secrets available to you.

There is a free tool available at http://www.website-optimization.com/services/analyze/ which can be used to obtain website performance information on any Internet site. This site does not have a download time for 256K, which is the current average connection speed, but you can cut the "ISDN 128K" time listed in half to get the average load time.

THERE ARE 7 STEPS TO IMPROVING YOUR WEBSITE LOAD TIMES.

- *The amount of access (bandwidth) available to your web server.*
- *The size of every image used on each web page.*
- *The total number of images and scripts associated with each web page.*
- *The use of compression for downloading content like html, javascript, and css files.*
- *The use of caching to ensure that the same content is not downloaded multiple times.*
- *The loading of images and scripts before they are required.*
- *Restricting website traffic from spamming bots and hacker tools.*

The amount of access (bandwidth) available to your web server.

The bandwidth to your web server is like a pipe and each pipe can only transport so much traffic to and from the server. The size of the available pipes and the amount of traffic they are handling can be critical

to your web page load times. You have to ensure that there is sufficient bandwidth available to handle all the websites that share your web server, as well as, having additional "burstable" bandwidth to handle sudden traffic spikes.

At Mecca Hosting, we designed our hosting service back in 1999 to be the fastest service on the market. In order to accomplish this task, we had to be sure that we looked at the available technology from a fresh perspective and not just do things the same way as every other hosting company.

From business to special interest groups, you want your web site to be fast so your visitor has the best possible experience.

We use only the fastest Internet connections available.

- *We use different servers and data centers to handle e-mail traffic.*
- *We ensure that servers are not handling too many websites.*
- *We continuously monitor the traffic on every web server.*
- *We only utilize data centers that have multiple fiber optic connections to the Internet, using different providers for redundency; these fiber optic connections are some of the largest pipes available and can handle a tremendous amount of traffic.*

We separate our website and e-mail hosting to ensure fastest web page load times. We knew that combining services, as other hosting companies do, would certainly save us a lot of money, but it would not enable us to provide the fastest possible hosting service. The response times of a website are absolutely critical and combining e-mail traffic with websites only results in slower performance, which is why we've always separated these two services.

We only load a web server with 50% of the websites that it is designed to handle, which ensures that it always responds quickly. As websites grow and receive more traffic, the sites are relocated to other web servers to ensure that the current server does not become overloaded. We work 24 hours a day to ensure that every website we host performs as fast as possible through this continual process of load balancing.

We can only ensure best performance through continous monitoring. All of our servers continuously monitor their bandwidth usage and alert us as to any traffic spikes or increasing website traffic. This information allows us to be proactive about managing rapidly growing websites to ensure that other sites are not affected by this rapid growth.

The size of every image used on each web page can slow down your web site.

The size of the images you have on your web page greatly affects the load time of your page. Generally, the source image originates from a large format, such as a digital camera, and as such, is a very large image; often larger than 1MB in size. The image must be reduced to a smaller size in pixels that is appropriate for a web site, such 600W x 300H or smaller. In addition to reducing the size, a format must be chosen in which to store the image. For images with a lot of colors, like photographs, the JPEG format should be used; otherwise, the GIF format should be used where possible. A good tool for optimizing images for your website is Adobe PhotoShop, as it has a "Save for Web" option which allows you to choose various formats and also compare the various optimized images for quality and size.

You should work on every image to try to make it as small as possible. A 50KB image takes an average of 2 seconds to download, so if you had only 2 images on your page that were each 50KB in size, it would already take more than 4 seconds to download that page.

An image display size that has only been reduced by specifying a smaller width and height in a web publishing program does not actually make the image smaller in size. The web browser must still download the entire image and then resizes the image internally. The process of resizing images also takes time and affects load times. Most web browsers are not good at resizing images, as they were not primarily designed for this purpose, which means that these reduced images often appear grainy. You must utilize an image processing program in order to be able to optimize an image for use on the Web.

Limit the total number of images and scripts associated with each web page.

All web browsers can simultaneously download multiple images and content of the web page at the same time; however, there is a limit as to the number of simultaneous files that can be downloaded. In addition, there is a small delay associated with establishing a connection to the web server and requesting another file. For these reasons, it is very important to reduce the number of "hits" or files that must be downloaded to display your web page.

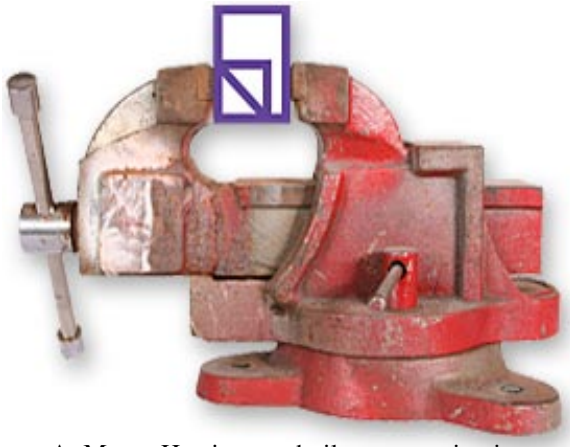
All style sheets (css files) and scripts like Javascript (js files) should be embedded into a single HTML file, rather than placing them into separate files. Although it may seem redundant to place this information in each and every web page, the impact on page load times is significant. Also, the HTML file will be compressed allowing for the compression of that data as well, which is mentioned further in "Using Compression".

Finally, you should check to see if there are any images that can be grouped together and joined as a single image. If the images have links associated with them, then you can create an image map so that a single image can be used that has multiple different links. If your web publishing program does not support creating image maps, you can find a tutorial on creating them at http://www.kasparius.com/tutorials/imagemap/index.htm.

Limit the total number of images and scripts associated with each web page to speed up load time.

The use of compression for downloading content like html, javascript, and css files.

The creation and management of compressed content can be difficult. Your web hosting company may need to specially configure your account to handle compressed html files, which are typically stored as index.html.gz on the server. You'll also need to have an uncompressed version for those web browsers that do not support compression.



At Mecca Hosting, we built compression into our web server platform, so if the browser supports compression, we will automatically compress the file before delivering it to the browser. This greatly simplifies the process for our customers, as they don't have to make any changes to their website and see an immediate improvement in load times. The majority of HTML, CSS, and Javascript files are all text and highly compressable; we can typically reduce those files to less than 30% of their original size.

The use of caching to ensure that the same content is not downloaded multiple times.

The caching of the web page and content itself is generally not recommended, however, the caching of images is highly recommended. If an image is changed on a web page, it is usually replaced with a different image that has a different name, which would not be cached. Typically, it is rare for an image with the same name to change frequently, so the web browser should be told to cache all images for about 1 day.

If your web hosting company uses the Apache web server and supports the "expires" module, then you can create a .htaccess with the following directives to tell the web browser to cache all image files.

```
ExpiresActive on
ExpiresByType image/gif A86400
ExpiresByType image/jpeg A86400
ExpiresByType image/png A86400
```

This will request that the web browser cache GIF, JPG, and PNG image files for a period of 1 day.

At Mecca Hosting, we automatically cache all image iles for 1 day by default, so it isn't necessary to setup a .htaccess file with our services.

The loading of images and scripts before they are required.

You can provide directives in your web page to tell the web browser to download content while it is idle.

Generally, a visitor will spend at least a minute or two reading the content of a web page; while the visitor is reading a page, the browser can be downloading images associated with the next page. This results in an almost instant load of the next page, assuming that you instructed the browser to download all the images for that page. The following is an example of HEAD section of an HTML web page that instructions a browser to download or pre-fetch images and a script for another web page.

```
<HEAD>
<TITLE>My Page</TITLE>
<LINK REL=”prefetch” href=”/images/myimage1.gif”>
<LINK REL=”prefetch” href=”/images/myimage2.jpg”>
<LINK REL=”prefetch” href=”/css/styles.css”>
</HEAD>
```

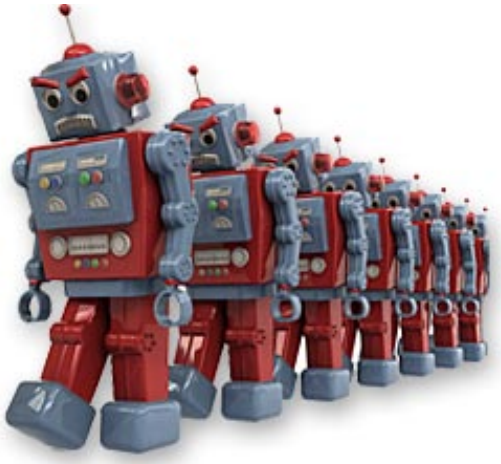
There is no limit to the number of “prefetch” entries you can enter, however, the browser will stop downloading files when the visitor directs it to another page.

Restricting website traffic from spamming bots and hacker tools.

The traffic generated by automated “bots” (computer programs) is tremendous and can cause serious performance issues. This is primarily due to the large number of bots that exist on the Internet and the frequency with which they impact the same website, over and over.

“According to statistics released by Symantec, an average of 57,000 types of bots were observed per day over the first six months of 2006. During that period, the anti-virus vendor discovered 4.7 million distinct computers being actively used in botnets.”

Mecca Hosting uses a proprietary system to detect and block the vast majority of bad bots. We do allow hundreds of known good bots, such as search engines, optimization tools, copyright protection, and site monitoring bots; just to name a few. This system prevents bots from spamming blogs, guestbooks, and online forums with hundreds and even thousands of advertisements.



The ability to accurately detect bots and block them is very sophisticated; it is something that most hosting companies are not capable of doing. However, this capability is critically important to ensure that your website always responds rapidly. There are millions of bots on the Internet, which use a large amount of the important bandwidth for your website.

Join the thousands of other customers that are enjoying the benefits of our services by signing up online now.

Photo courtesy of Andy Cook at www.RockyMtnRefl.co

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Mecca Hosting is a full service web hosting company offering a complete selection of hosting packages at reasonable prices.

Our users appreciate our reliable service, quick response time, and uncompromising dedication to performance and security. In addition to providing a wide range of hosting packages which allows you to custom tailor your service to your organizational needs, we also provide online tutorials and web-builder options.

Our services may be accessed at: http://www.meccahosting.com/

“I am quite impressed that you have such excellent service at so competitive a price.”

—Richard
Plaistow
New Hampshire
USA