

Web Hosting - What is it?

An explanation of Internet terminology.

Background

"Web Hosting" is the name given to the service of making a website available to the world via the Internet. In order to provide this service, a Web Hosting company must have "Web Servers" permanently connected to the Internet. The client's website is then placed on a "web server", and the website's domain name is then "pointed" to that web server. When a web visitor (anywhere in the world) tries to access such a website (which is usually done via the website's domain name), the Internet "resolves" the domain name (that is, determines the location of the actual web server that is hosting the website) and forwards the access request to that web server. The web server then passes the request on to the web site for appropriate action. This latter step is sometimes referred to as "serving up" the website, hence the term *web server*.

When a company "hosts" a client's website like this, there are certain implied expectations, including, but not limited to:

- ▶ The web server should be reliable, that is, it should be operating a high percentage of the time, typically expressed as "uptime" eg 99% uptime, which means that over an extended measuring period, on average, the web server is unable to serve up your web pages only 1% of the time.
- ▶ The web server should be fast and have sufficient capacity to handle all the requests it receives. This is affected not only by the capability of the web server hardware, but also by how many web sites the Web Hosting company chooses to place on the same physical web server.
- ▶ The web server should be secure, that is, to the maximum extent possible, it should be protected from unauthorised physical access and from malicious activities such as hacking.
- ▶ The web server should be backed up regularly, to minimise the loss of client data, should some breakdown or disaster actually occur.

Netsite Australia web servers are situated in state-of-the-art, secure, Australian and overseas data centres. The centres have uninterruptible power with generator backup, multiple backbone data connections and daily off-site data backup. Servers have both hardware and software-based firewall security and 99.8% uptime. Servers are Intel quad-processor, or AMD dual-processor.









How is Web Hosting Paid For?

The cost of hosting a web site is usually determined by measuring two factors. The first is the amount of **disk space** that the web site actually occupies on the web server. The second measure is the amount of data that the web server has to transfer both in and out of the web site. This is often called **bandwidth**. Both these terms are measured in Megabytes, abbreviated MB. 1MB is roughly 1 million characters, or their equivalent. The old-style 3 1/2 inch floppy disk had a capacity of 1.4MB, while a CD has a capacity of about 700MB, and a DVD has a capacity of about 4,700MB.

Disk Space

This is the amount of space your web site takes up just sitting on the web server. There are many things that take up space on the web server. The obvious ones are the space to store your web pages themselves, and the graphic/photographic¹ images that are included on those pages. Since the images are only stored once and re-used, they only count once when determining the total disk space required. The following table gives some idea of the amount of disk space taken up by different types of website objects.

You can see that some website objects take up a trivial amount of space, and others take up huge amounts. For example, a **Netsite Australia** small hosting package, which includes 40MB of disk space, could theoretically store about 4,000 web pages or graphic files, or 400 average-sized photographs, or only about 10 average MP3 audio files.

Object	Typical size range in MB		Typical size expressed graphically
A Web Page (.htm)	0.001	0.05	 x 1
A Graphic (.gif)	0.001	0.05	 x 1
A Photograph (.jpg)	0.005	0.2	 x 1
A PDF (.pdf)	0.05	1.0	 x 1
A Database	0.01	1.0	 x 1
An MP3 music file (.mp3)	1.0	10.0	 x 8
A Mailbox allowance	10.0	20.0	 x 30
Capacity of small web site	20.0	50.0	 x 80

Disk space is also required for each mailbox. An allowance of 10 to 20 MB per mailbox is usually made. Because mailboxes share the web server space on **Netsite Australia** web servers, this allowance can be reduced as the number of mailboxes increases, on the assumption that not all mailboxes will be full at the same time. Therefore, you might allow only 50 MB for four mailboxes.

There are other things that take up disk space as well. If your web site will deliver documents, such as Word Documents or PDF files, these will take up disk space. Finally, if your web site uses a database to record information, either about your products or services, or about the visitors to your web site, then this database will also take up disk space. A small database will typically be less than 1 MB. However a database can actually be very large, depending on what it is used for and how much information is recorded in it.

The disk space you are charged for is not the amount of space your web site actually occupies at any point in time, but rather it is the amount of space allocated on the

¹ A graphic image is a cartoon-style picture or an icon, such as an arrow, these invariably take a lot less space to store than a photograph, which is something taken by a camera or scanned by a scanner.

web server, to your web site. The reason for this is that the disk space has to be available at all times, even when your web server is not actually using it, just in case it is suddenly required. You would not want your web site to stop working suddenly because it received a lot of traffic, or you went away on the weekend, and your mail box filled up, or just when you've had an excellent response to an advertising campaign!

Bandwidth

Bandwidth is a technical term for the amount of information that the web server has to deliver (or transfer) to your web site visitors, plus the amount of information uploaded onto your web site. Bandwidth is sometimes referred to as "data transfer" and is also measured in MB.

When a web page is first displayed to a visitor this adds the following to the bandwidth usage for this web site:

- ▶ the size of the web page itself,
- ▶ plus size of all the images on the page,
- ▶ plus some additional overhead

If the visitor later returns to the same web page, or loads it again using the browser's Refresh or Reload button, then at worst, this may add the same amount to the bandwidth usage for this web site. In reality, loading the web page again won't add very much to the bandwidth usage, because the browser keeps the web page and all its contents in memory, and only asks the web server whether any part of the web page has changed since it was last displayed. Therefore, the web server is only answering some simple questions and is not transferring the web page and all its content back to the visitor, all over again.

The bandwidth you are charged for is the bandwidth allowance for your web site, not the bandwidth that you actually use over a period of time. The reason for this is that **Netsite Australia** (as with other Web Hosting companies) has to make provision for all web sites to consume their full bandwidth, in the worst case, all at the same time. To do this, we have to make available a lot more capacity than is actually being used most of the time.

Many small web sites use less than 100 MB of bandwidth in a month. Popular sites, (usually those that get reciprocal links with other popular web sites), can naturally exceed this figure.

Conclusion

Netsite Australia hosts web sites that we design and maintain, but we can also host web sites that are designed and maintained by our customers.

To determine the disk space and bandwidth allowance required for your web server, you need to compromise between how much excess capacity you want to have in reserve, in case it is required, and how much unused capacity you want to pay for. This is a decision best discussed with a **Netsite Australia** consultant.

Please contact **Netsite Australia** to find out about our Web Hosting plans, or visit our web site at <http://netsite.net.au/>

This and other documents can be found at <http://netsite.net.au/>

Netsite Australia

ABN: 48 003 403 941

Phone: (03) 6261 5806 9am to 8pm, 7 days
E-mail: webhosting@drscc.com.au (read at least twice daily)