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Security Strengths and Weaknesses of Two Popular Web Servers

As the mediator between your business and the world the Web Server that you choose must be completely sound in regards to security. You do have many options when choosing which Web Server package you will use to transmit your company's on-line presence to the rest of the world. There are two Web Server packages in particular that dominate the market for Web Servers. These two Web Server packages are Microsoft's Internet Information Server, and Apache.

What is a Web Server?

The definition and purpose of a web server is a software package that serves either static content to a Web browser at a basic level, or dynamic content that require end-user interaction. For example, a web server may receive a request for a Web page such as www.amazon.com/index.html. The Web Server would then map the Uniform Resource Locator (URL) to a local file on the host server. In this case the file, index.html is somewhere on the host file system. The server then loads this file from disk and serves it out across the network to the user's Web browser. The browser and the server are talking to each other using Hypertext Transfer Protocol (HTTP) which controls this entire exchange.

How does a Web Server transmit dynamic content?

Web Servers don't just send static documents and files across the network they also transmit dynamic content. This could be done through web pages created in response to a user input, which is done directly or indirectly by the user. An example of the user directly influencing the output of a web page could be through the use of on-page forms backed by some sort of executable program or code. Also, an example of a user indirectly influencing the results of a web page may be through the use of "cookies." Cookies are short pieces of data used by Web Servers to help identify web users.

Common Gateway Interface (CGI), and JavaScript for Dynamic Content

With CGI an end-user can visit your site and perform specified tasks with the CGI programs you have. The Common Gateway Interface (CGI) is a frequently used technique of interfacing external applications with Web Servers. A standard HTML document that a Web Server retrieves is static and will never change. However, with a CGI program the Web Server will send the results for the web page upon receipt of the criteria for the page. This allows for the output of dynamic information. For example, let's say that you wanted to connect your Stamp Collection database to the Internet, to allow people from all over the world to look through it based upon whatever criteria they set. Basically, you need to create a CGI program that the Web Server will execute to transmit information to the database software, and receive the results back again and provide them to the end-user. A CGI program can be written in several languages such as Visual Basic, PERL, or C++ that allows it to be executed on the system. CGI programs are one way of making Internet content dynamic, but there are other methods of doing this. For example, simply adding a few lines of JavaScript code to an HTML file will make the web page very dynamic. The JavaScript could all be within the HTML thus making the program execute on the host side rather than the server. An example of some JavaScript would be a program that pulls the local date of the user machine and displays it on the user's screen. Here is the code for such a program:

```
<SCRIPT LANGUAGE="JavaScript">
function displaydatetime() {
if (!document.layers && !document.all)        return;
var today;
var timeLocal;
```