**Apache: Linux vs. Windows**

Apache is a webserver hosting application that is essentially one of the major backbone programs of the Internet, with sixty six percent of web servers being Apache (Hewlett-Packard Development Company, L.P. 2009). As such there are both Linux and Windows versions of the application available, however the majority of the webservers that use the Apache software are Linux based instead of Windows. To someone just learning about PC’s, they might find this odd because they will have never heard of Linux, or only heard the term in passing, and thus not understand the reasons why Linux is used when Microsoft Windows has a large majority of the consumer market.

In order to properly understand why Apache server administrators prefer Linux, we must first look at a few areas of important differences between Linux Windows. These differences are the general differences between how the two operating systems function in general; the cost of the operating systems, and in the security vulnerability that each operating system presents.

In looking into the general differences between how the two operating systems function, it becomes clear very quickly that Linux has a performance edge over windows. This edge is seen in its raw execution times, Thread Creation Speed and Decay, Process Creation Speed and Decay and Context switching. In all of these areas Linux outperforms Windows based operating systems for performing tasks, which means that overall the Linux server will be able to accomplish any given task that can be compared on a Windows server faster than the Windows based server (Riley, J.S. 2006).

On top of these results is the fact that Linux servers are generally cheaper to purchase and run than a Windows based server. While there are commercial editions of Linux that are available, the majority of the commercial price is going to be for external support of the operating system. This means that if you do not need external support to that extent that the server administrator can go with one of the many free versions of Linux that are available for download. While this is a huge cost saving aspect of Linux, another cost saver is the fact that because Linux servers can be specifically installed to run as a server only the hardware requirements are much less when compared to windows. This means that Linux servers can run with fewer hardware resources in comparison to a windows server.

The next reason for using Linux over Windows is that of Security issues presented within the windows system, and the data vulnerability and lack of uptime that this issue presents.

While both systems have their fair share of security flaws patches, and fixes that constantly need to be applied to their servers to keep their systems secured, Linux has fewer high severity issues than Windows, and issues that are found and patched, more often than not do not require a server reboot to take effect, unlike windows (Petreley, N. 2004).

 While an end user might be thinking about a PC reboot and that it only takes 5 minutes, in reality a server reboot can take much longer than that depending upon the amount of information that has to be processed during the reboot itself. These reboots, also interrupt server uptime statistics, which is vitally important for the mass connected networked world that we live in today. The more you have to reboot a server, the less stable that server is, and the more downtime that users of that server will experience. While most server administrators will wait until the server is not functioning during its prime time to do reboots, this still equates to server downtimes that businesses do not want.

With these differences in consideration, it is fairly easy to see why Apache is run primarily on Linux instead of Windows. Faster server request processing and when properly maintained and extremely stable platform that requires very little actual downtime allows the server to perform its intended function faster and for a longer time period in comparison to Microsoft Windows.

**Participation**

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Final Editing

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