Whitewater HTTP Performance

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Sponsor: David Hadley - SilverCloud Inc.

Goal: Determine which web server and operating system combinations perform the best with the added overhead of new HTTP functionality.

Approach: Create a closed network with a single server connected to six clients through a switch. Generate traffic toward the server from each client simultaneously for 2.5 minutes. In the end we compared the requests per second served by each OS/Web Server combination. The more requests fulfilled per second the higher the server performance rating.

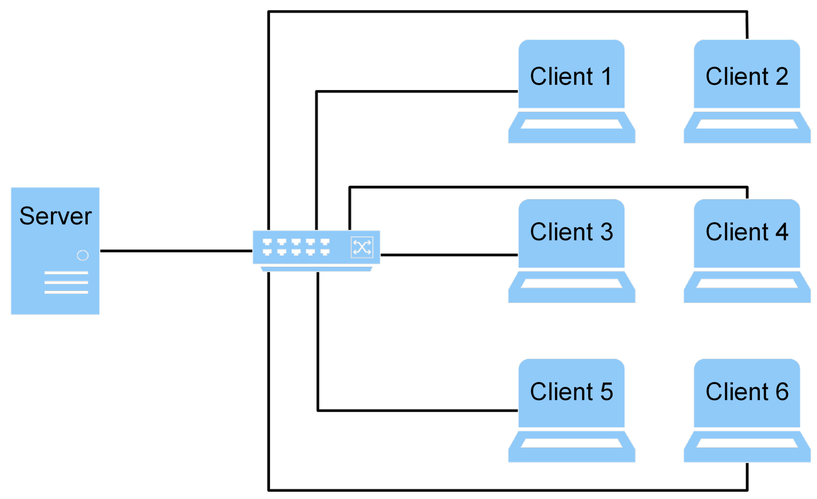
Scope:

Persistent Connections - Keeping communication channels alive to improve performance.

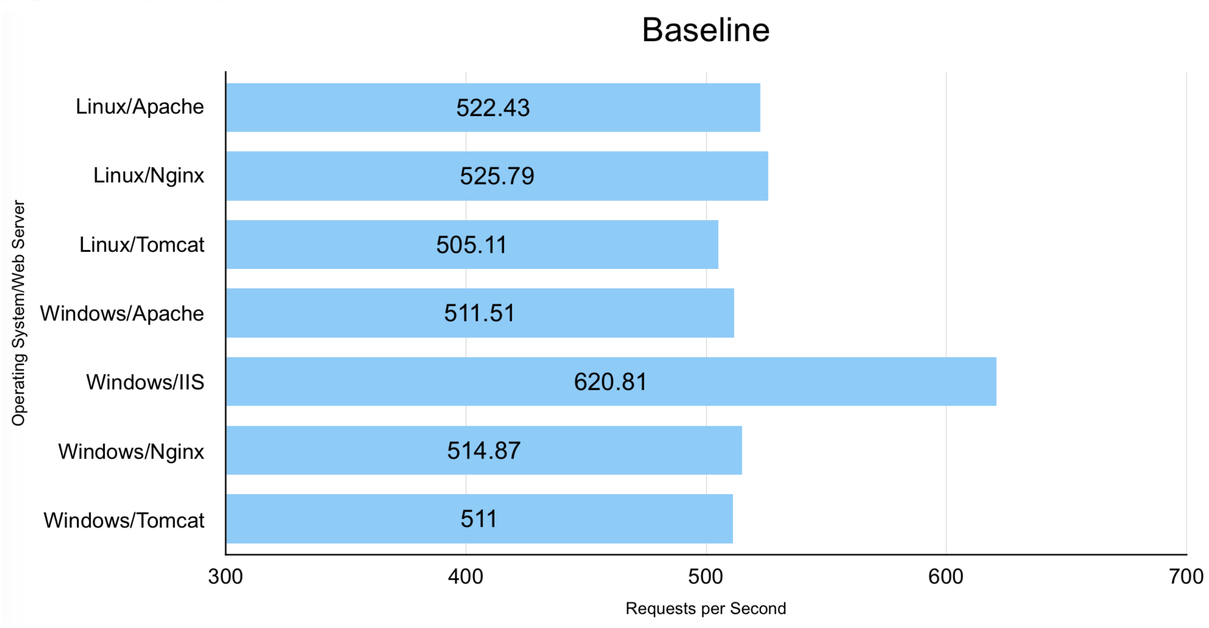
Caching - Testing the effects of in-memory server side caching.

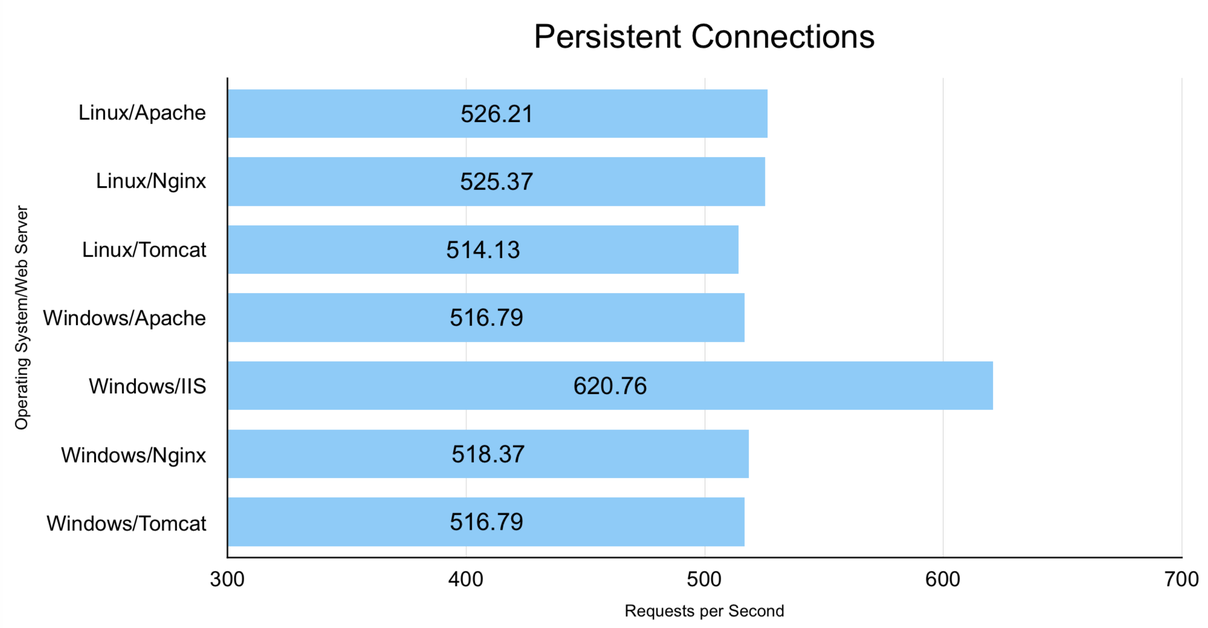
Protection Realms - Identifying overhead created by securing directories within a server.

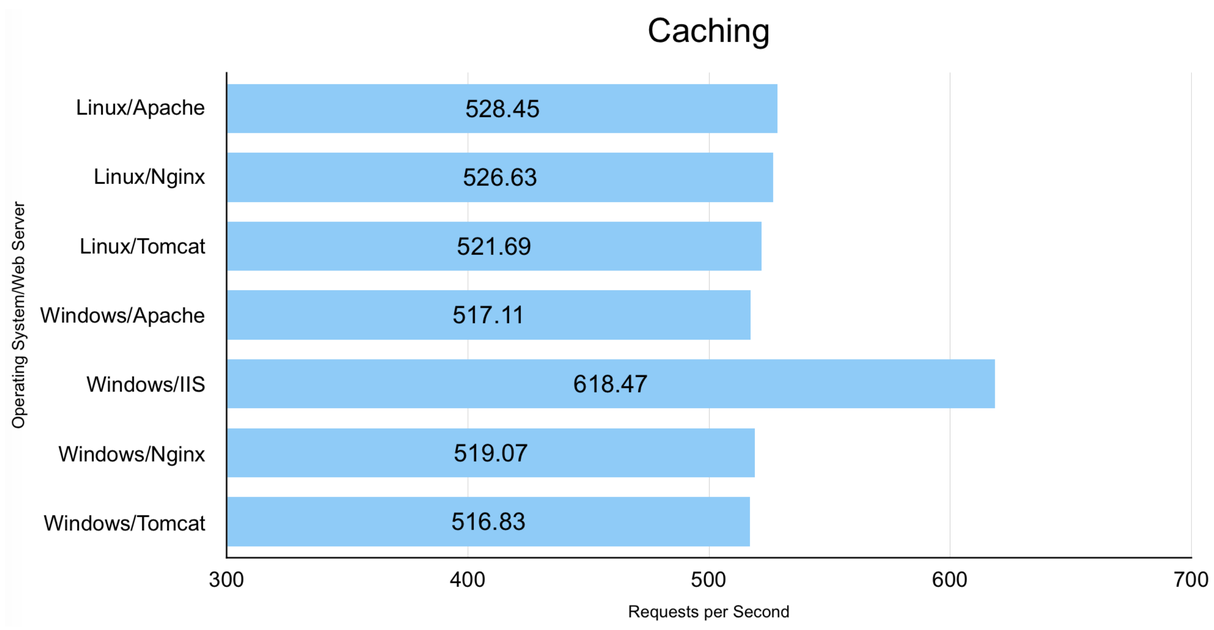
System Architecture:

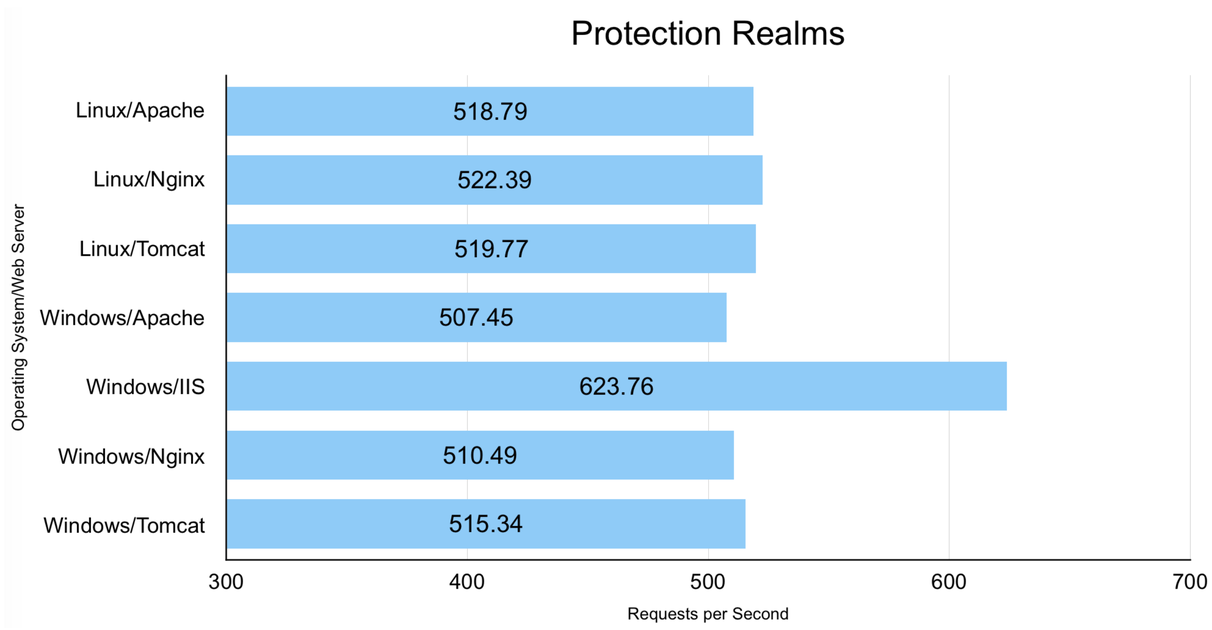


Results:









Conclusion: After conducting our tests, we determined that IIS is the leading web server in terms of performance in all circumstances. The results of the persistent connections test shows there is not a significant performance increase gained by implementing persistent connections on any OS/web server combination. When it comes to caching, Linux sees a greater performance increase on all web servers compared to Windows. Finally, compared to the baseline test, Tomcat performs the best when information is requested from a protected directory.