

- Start four separate instances of the client at the same time, one GETting each of the files and measure (using `time(1)`) how long it takes to get the files. Perhaps the best way to do this is to write a simple shell script (command file) that starts four copies of the client program in the background, by using `&` at the end. Repeat the same experiment after you implement multi-threading. Is there any difference in performance?
 - For my multi threaded server, sending four requests at the same time to get a 4MB file takes 14.949s. My single threaded server, only does 1 request and it takes it 6.6881s so, if I multiply that by 4 (number of requests) it would roughly equal 27s. So I can indeed see a big difference in performance. The multi threaded server has a much higher throughput than my single threaded server.
- What is likely to be the bottleneck in your system?
 - Definitely handling large files would be a bottleneck in my system. Also, if there are only a few threads created and a large number of requests are sent at the same time, that is a likely bottleneck in my system.
- How much concurrency is available in various parts, such as dispatch, worker, logging?
 - The workers can handle up to N requests at the same time, because that is the total number of available threads. My dispatcher on the other hand, can put a huge number of requests on the queue that my workers will handle N at a time. Logging is done concurrently since I don't block the writing to the logfile for an individual process.
- Can you increase concurrency in any of these areas and, if so, how?
 - Yes, I could perhaps set up some kind of priority queue which could handle all the small files first and then process all the bigger files.