CS744: Design and Engineering of Computing Systems
PROGRAMMING ASSIGNMENT 4

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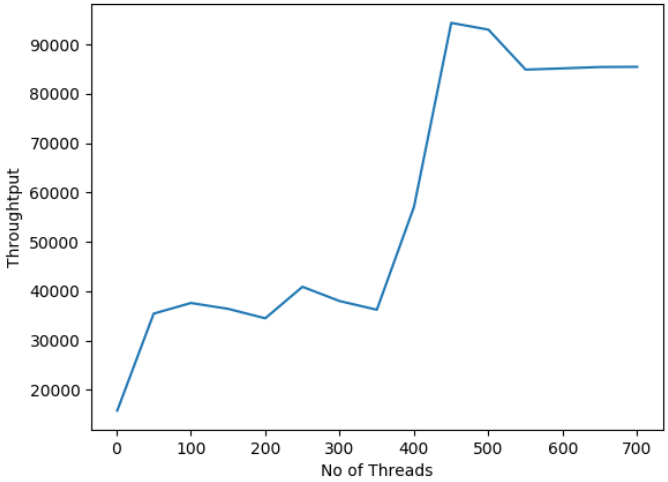
1 Description of Test Setup

The testing of server is performed by uniformly increasing number of threads at client and observing Average Response Time and Throughput. Key Value server spawns 1000 Threads and server is pinned to one core using Taskset command.

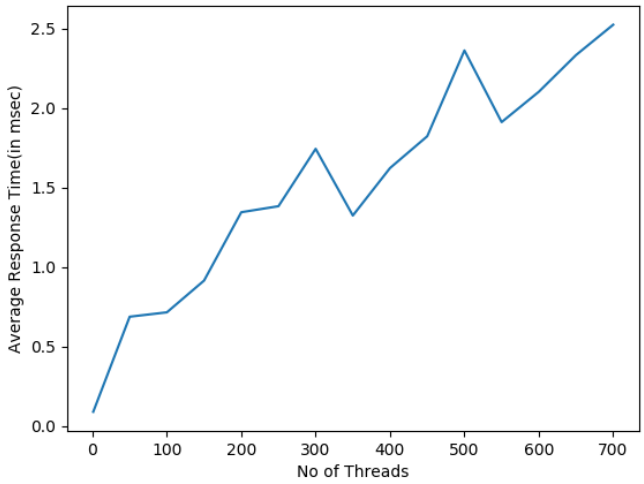
2 Description of your workload

There is a String array of 6 commands.A Thread running on client randomly selects one command from the String array. if command is connect or disconnect it is executed by the thread. If command is create and update, thread generate a random key and appends a fixed message "hello" to the command and executes it. If command is read and delete, thread generate a random key and appends it to command and executes it.

3 Plot of Throughput



4 Plot of Average Response Time



5 Description of the bottleneck resource

Server was pinned on one core and it is utilized to 100%. On increasing number of threads at client there was an increase in throughput and Average response time. This behaviour stopped at a point. Now we have decrease in throughput and Average response time increase. Increasing the number of threads and we get throughput decreasing,The server processes requests to a limit. Once that limit is hit we will not get increasing throughput, when we increase number of threads. This is the bottleneck for server.