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**EXPERIMENTS**

* **Note:** I turn this lab in late but I am using the **5 late-day extension rule** for this one so please don’t deduct my grade. If you are not aware of this rule, please refer to it here under the section “Turning In Projects”: <http://none.cs.umass.edu/~dganesan/courses/spring13/syllabus.html> Thank you for grading my project.
* **Experiment 1:** one buy request and one sell request run sequentially.
* In local machine:

+ The processing time of buying and selling requests in server is approximately 2 milliseconds in total.

+ The end-to-end latency of buy and sell requests are 5 milliseconds in total.

* In Amazon EC2:

+ The processing time of buy and sell requests in server is 1 millisecond in total.

+ The end-to-end latency of buy and sell requests are 87 milliseconds (total).

* **Experiment 2:** ten sell requests and then ten buy requests
* In local machine:

+ The processing time of buy and sell requests in server is 6 milliseconds in total

+ The end-to-end latency of buy and sell requests is 44 milliseconds in total.

* In Amazon EC2:

+ The processing time of buy and sell requests in server is 1 millisecond in total.

+ The end-to-end latency of buy and sell requests is 954 milliseconds in total.

* **Experiment 3:** fifty sell requests and then fifty buy requests:
* In local machine:

+ The processing time of buy and sell request in server is 11 milliseconds in total.

+ The end-to-end latency of buy and sell requests is 175 milliseconds in total.

* In Amazon EC2:

+ The processing time of buy and sell request in server is 4 milliseconds in total.

+ The end-to-end latency of buy and sell requests is 7175 milliseconds in total.

* **Experiment 4:** hundred sell requests and then hundred buy requests:
* In local machine:

+ The processing time of buy and sell requests in server is 18 milliseconds in total.

+ The end-to-end latency of buy and sell requests is 235 milliseconds in total.

* In Amazon EC2:

+ The processing time of buy and sell requests in sever is 8 milliseconds in total.

+ The end-to-end latency of buy and sell request is 12014 milliseconds in total.

* How latency changes as the workload is scaled: as we can observe from the numbers and figures above, as the workload on server is scaled up, the network latency plays a significant role in delaying the processing time. The more the workload, the less actual processing time in server is compared to the network latency. When we get to the last experiment with 200 requests, the processing time is 8 milliseconds compared to 12014 milliseconds of the end-to-end latency, which means that the actual time for computing only accounts for 0.06% the processing time. Therefore, the conclusion is that using cloud computing, we have to suffer from a large cost of network latency as the workload is scaled up.