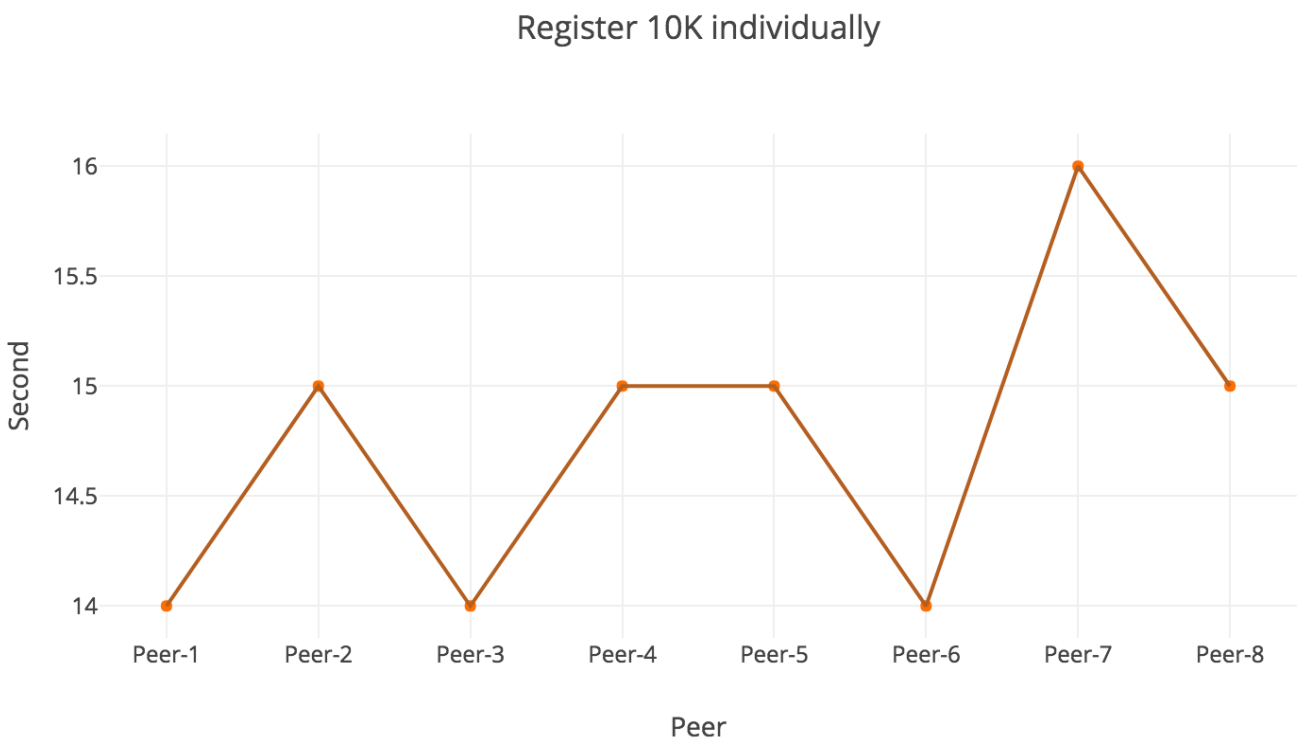
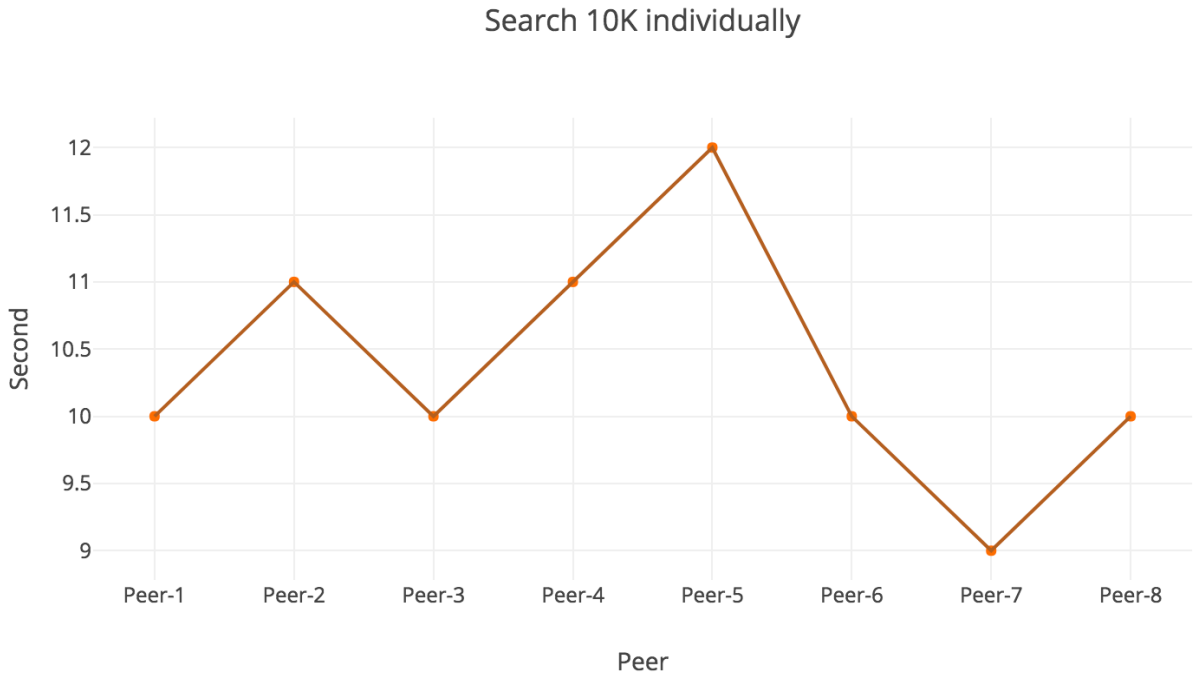
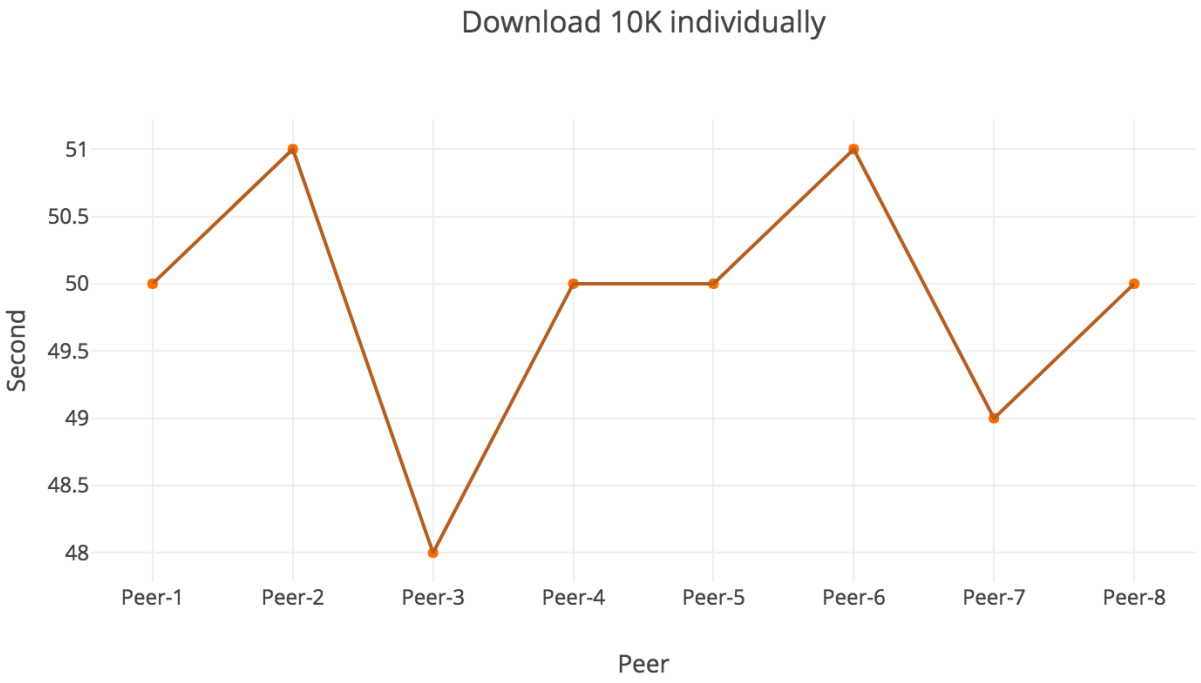
Performance Evaluation

1)10k operations from all 8 peers individually.

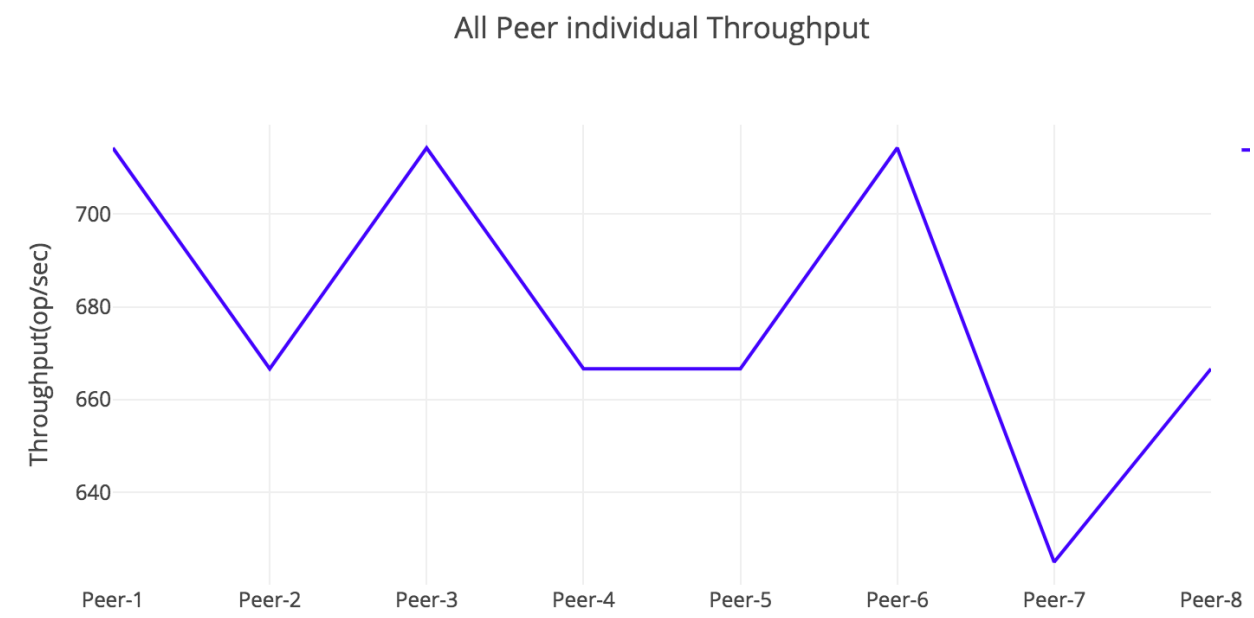




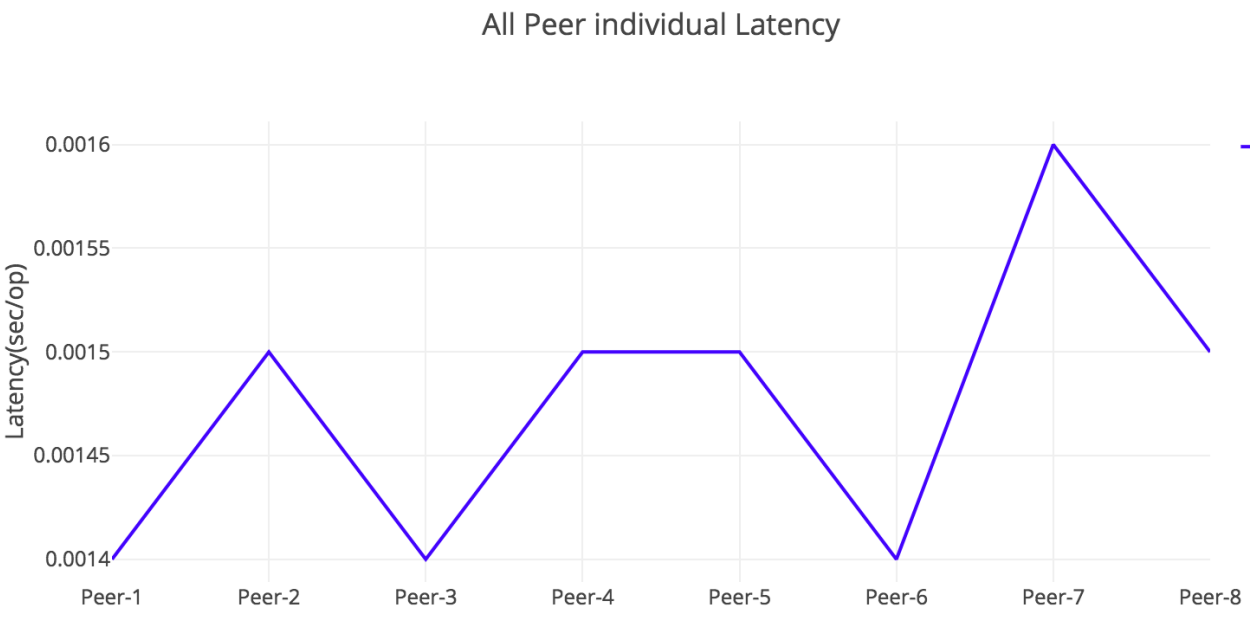


—>Here for download operation 1KB documents are utilized. Here, normal time for register operation is 2ms for each operation and for search operation is 1.4 ms for every operation. Contrast with perfect 1 ms for each operation in centralized framework, decentralized framework for set number of hubs is taking all the more preparing time as calculation of hashvalue and adding substance to numerous server builds time over-head. Additionally, download time does not shift amongst brought together and decentralized framework as there is no distinction in structural execution of the two frameworks. Unequivocal thing improved the situation to help this information is that, for each peer encounter is improved the situation various circumstances and the result does not shift by much each time.

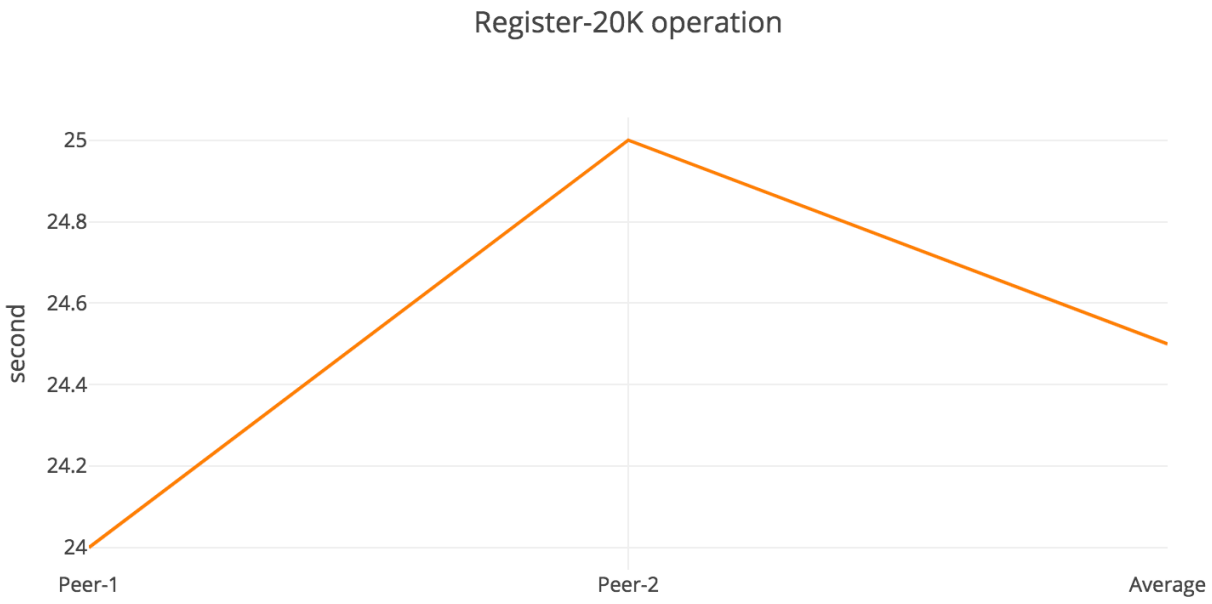
2)Throughput for individual all peer

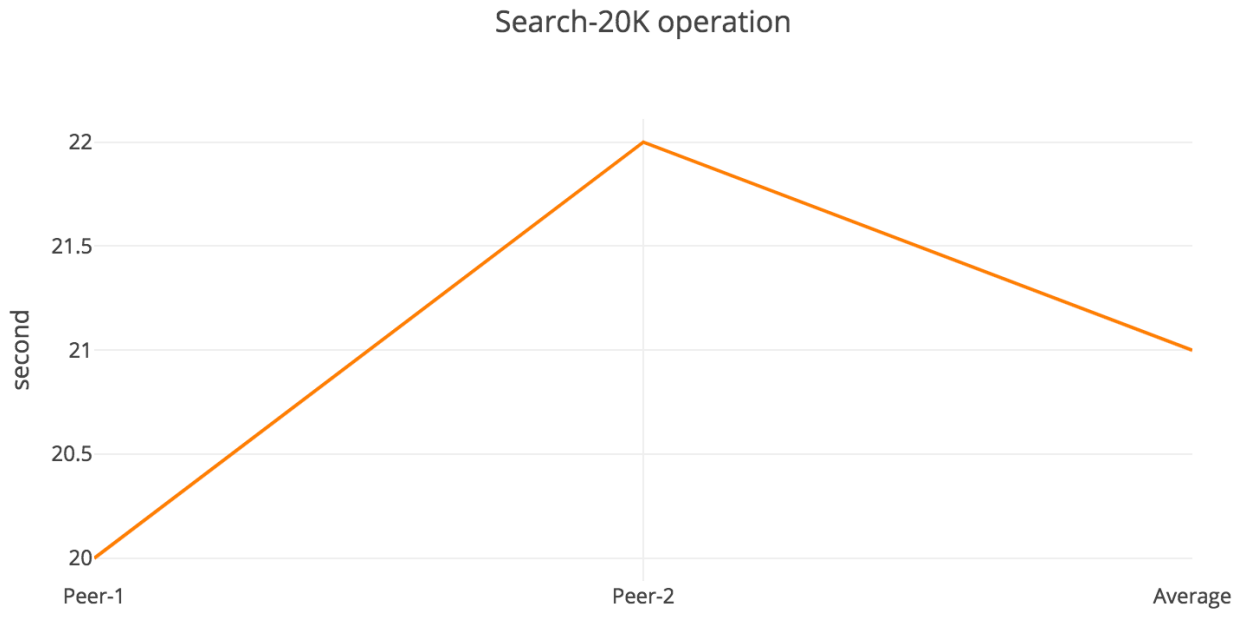


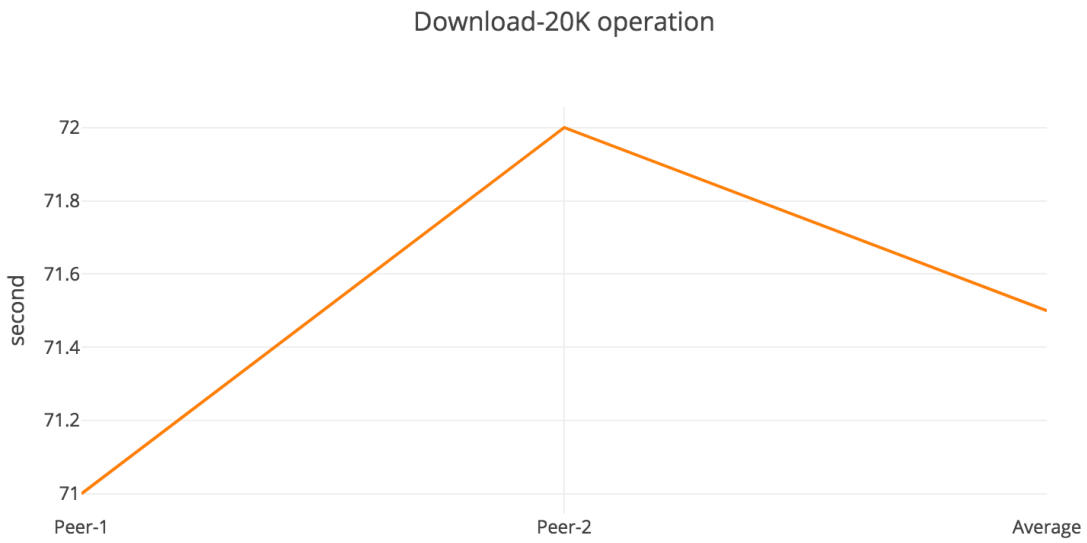
3)Latency for individual all peer



4)Peer3 serving 20K request concurrently from Peer1 and Peer2

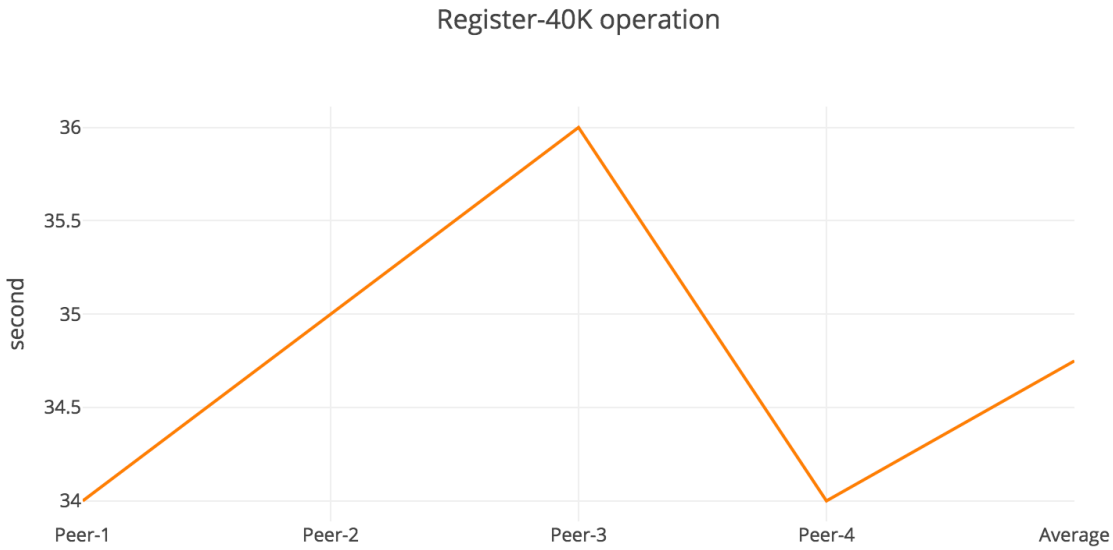


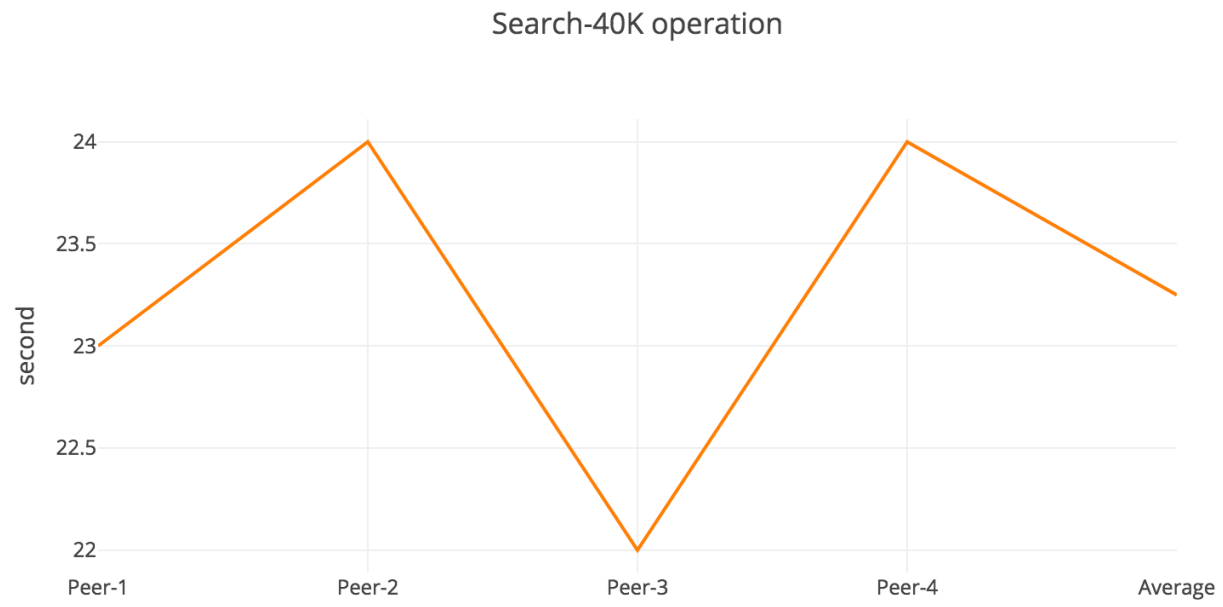


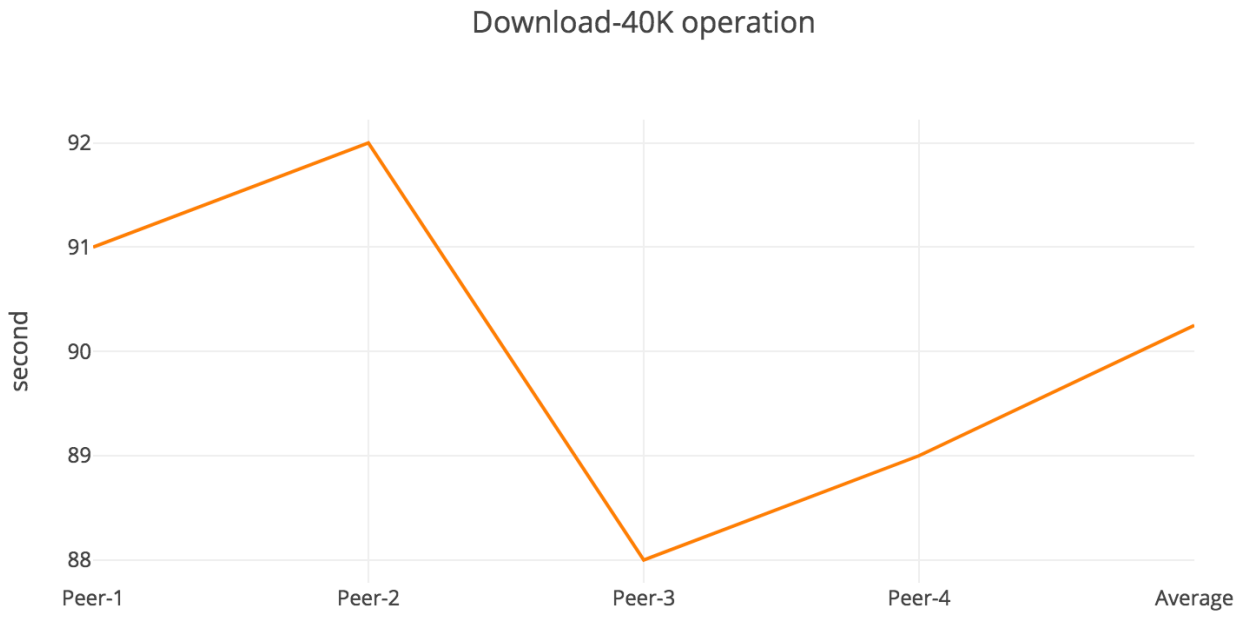


—>Here for download operation 1KB files are used. Here, average time for 20K register operation is 25.5 seconds. The time taken is little more compare to 10K is more as one peer serves two peer simultaneously. To verify data, for each peer experience is done for multiple times and the outcome does not vary by much each time.

5)Peer5 serving 40K requests from Peer1, Peer2, Peer3 and Peer4 concurrently



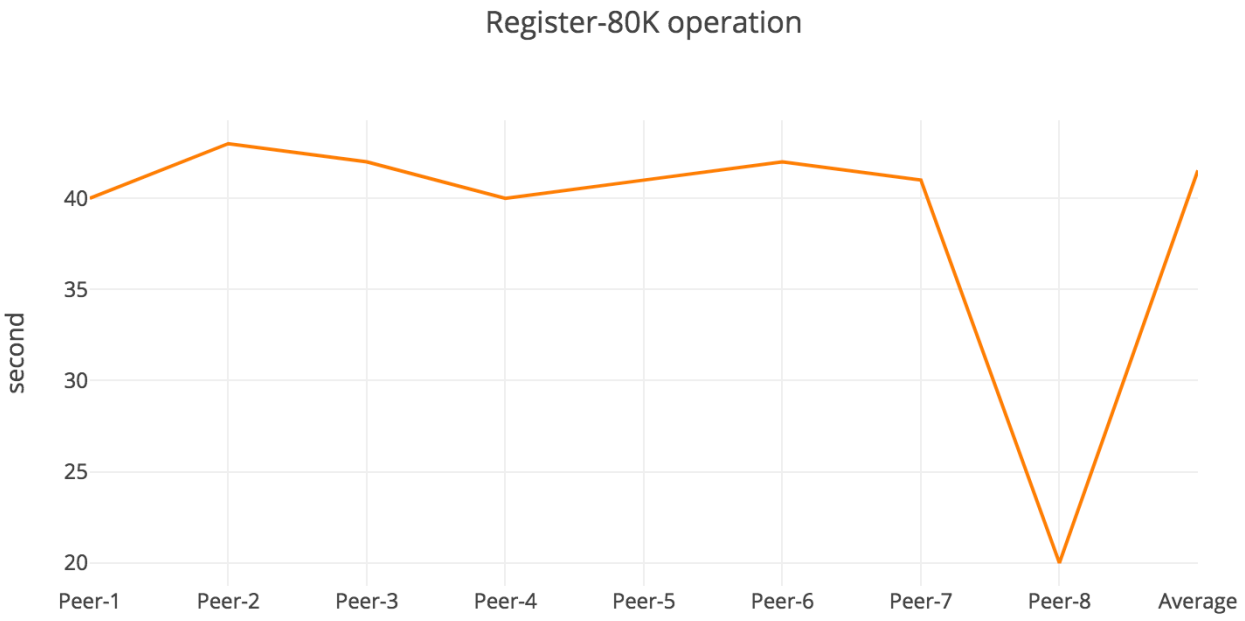


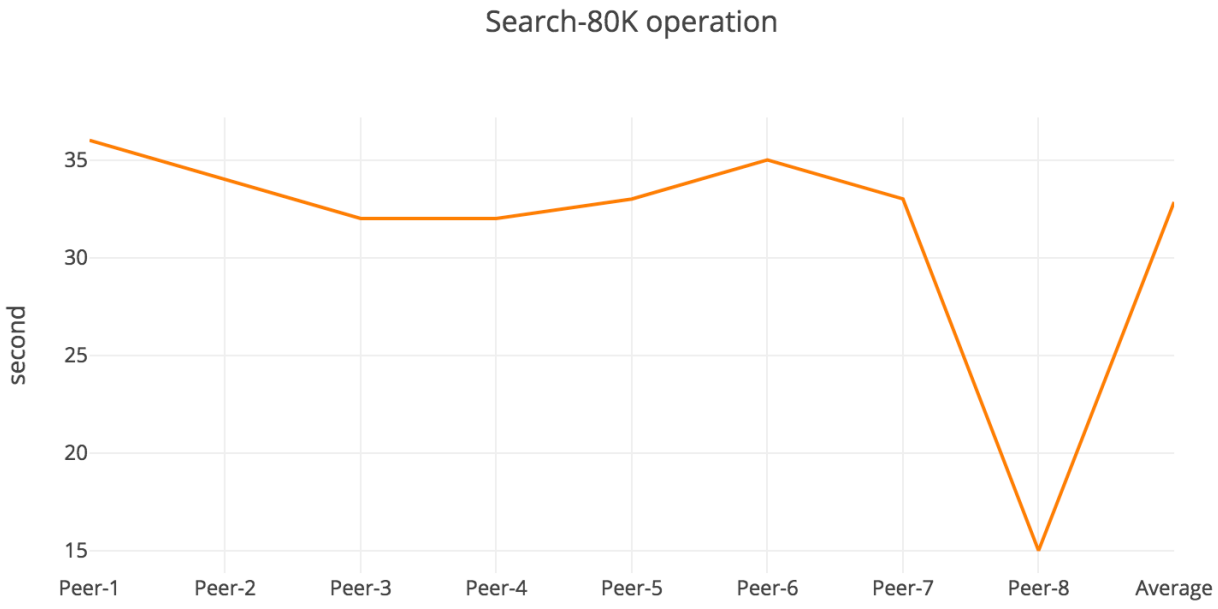


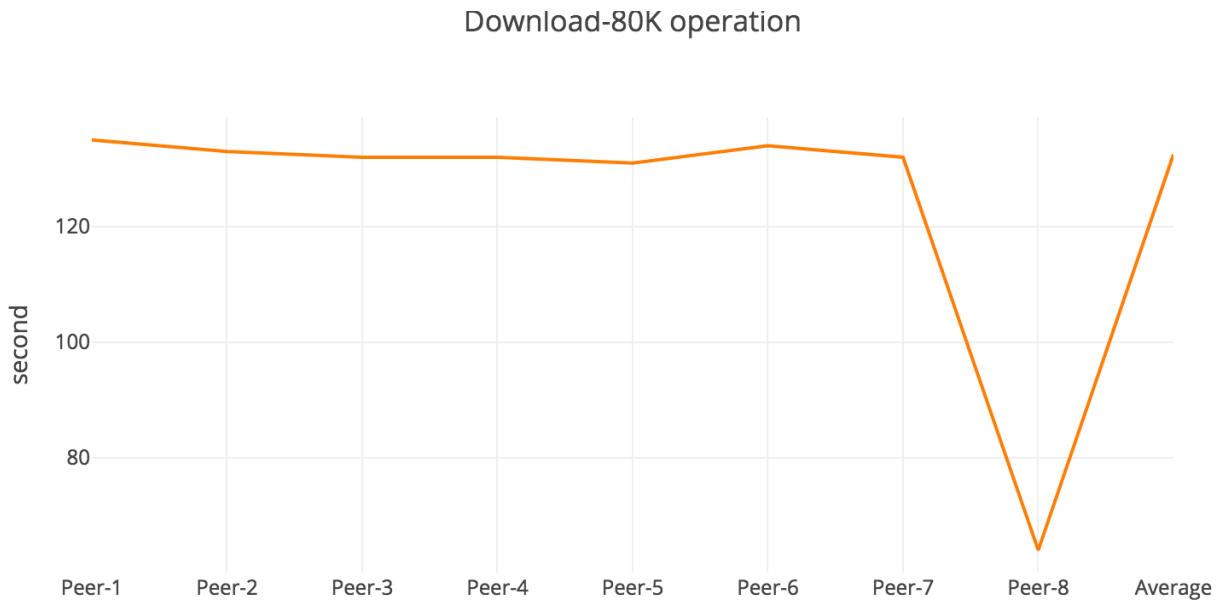
—>Here for download operation 1KB files are used. Here, average time for 40K register operation is 34.75 seconds. The time taken is

little more compare to 10K is more as one peer serves two peer simultaneously. To verify data, for each peer experience is done for multiple times and the outcome does not vary by much each time

6)Peer8 serving 70K operation from Peer 1 to 7 and also requesting 10K operation, in total 800K operations concurrently

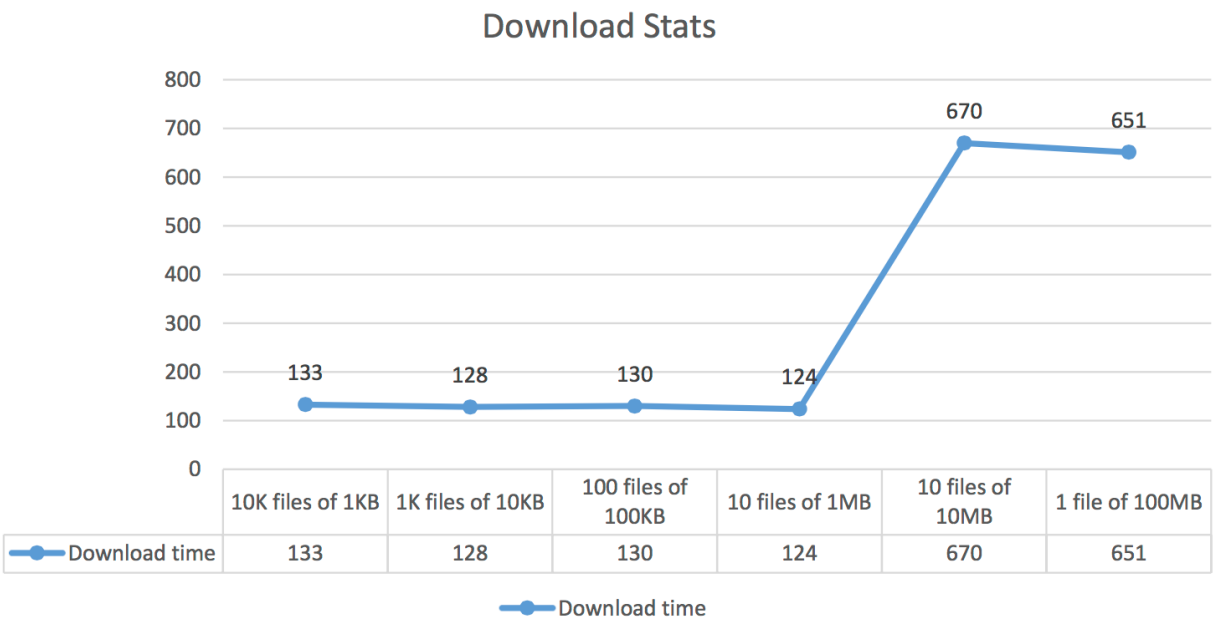




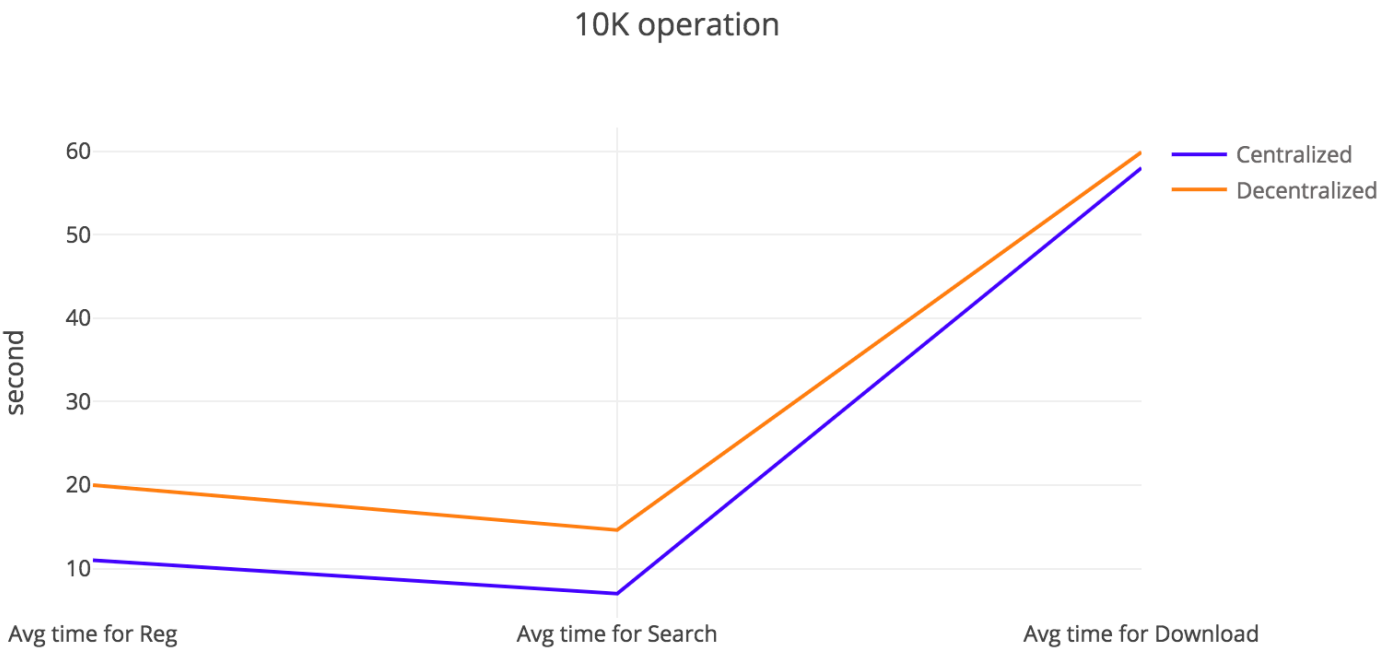


—>Here, average is of 7 peers only. Here all other peers downloads from peer 8. Peer 8 downloads from other peer thus download of peer 8 works as individual download of 10K operation. Here for download operation 1KB files are used. Here, average time for 80K operation is 41.57 seconds. The time taken is little more compare to 10K is more as one peer serves two peer simultaneously. To verify data, for each peer experience is done for multiple times and the outcome does not vary by much each time.

7)Download analysis for different file sizes.



8)Comparison of centralized and decentralized system for 10K operations from all 8 peers individually



—>Here Y axis shows the average time taken in seconds to complete 10K operations centralized and decentralized system. Here for download operation 1KB files are used.