CS 677 Lab 2 : Sample Output

This is output of a run with 7 peers. Topology is unique since we are bully algorithm which requires each peer to know all the other peers ,which makes it a fully connected graph like topology.

Output:

```
Peer  2 : Started the election
Peer  1 : Started the election
Dear buyers and sellers, My ID is  7 and I am the new coordinator

Peer  1 : Election Won Msg Received
Peer  2 : Election Won Msg Received
Peer  3 : Election Won Msg Received
Peer  4 : Election Won Msg Received
Peer  5 : Election Won Msg Received
Peer  6 : Election Won Msg Received

Peer  1 : Requesting  Fish
Peer  1  : Bought  Fish  from peer:  4
Peer  3 : Requesting  Salt
Peer  3  : Bought  Salt  from peer:  6
Peer  5 : Requesting  Boar
Peer  5  : Bought  Boar  from peer:  2
Peer  1 : Requesting  Salt
Peer  1  : Bought  Salt  from peer:  6
Peer  3 : Requesting  Boar
Peer  3  : Bought  Boar  from peer:  2
Peer  5 : Requesting  Fish
Peer  5  : Bought  Fish  from peer:  4
Peer  5 : Started the election

Dear buyers and sellers, My ID is  6 and I am the new coordinator
Peer  2 : Election Won Msg Received
Peer  1 : Election Won Msg Received
Peer  3 : Election Won Msg Received
Peer  4 : Election Won Msg Received
Peer  5 : Election Won Msg Received
Peer  7 : Election Won Msg Received

Peer  1 : Requesting  Boar
Peer  1  : Bought  Boar  from peer:  2
Peer  3 : Requesting  Fish
Peer  3  : Bought  Fish  from peer:  4
Peer  5 : Requesting  Salt
Peer  5  : Bought  Salt  from peer:  2
```

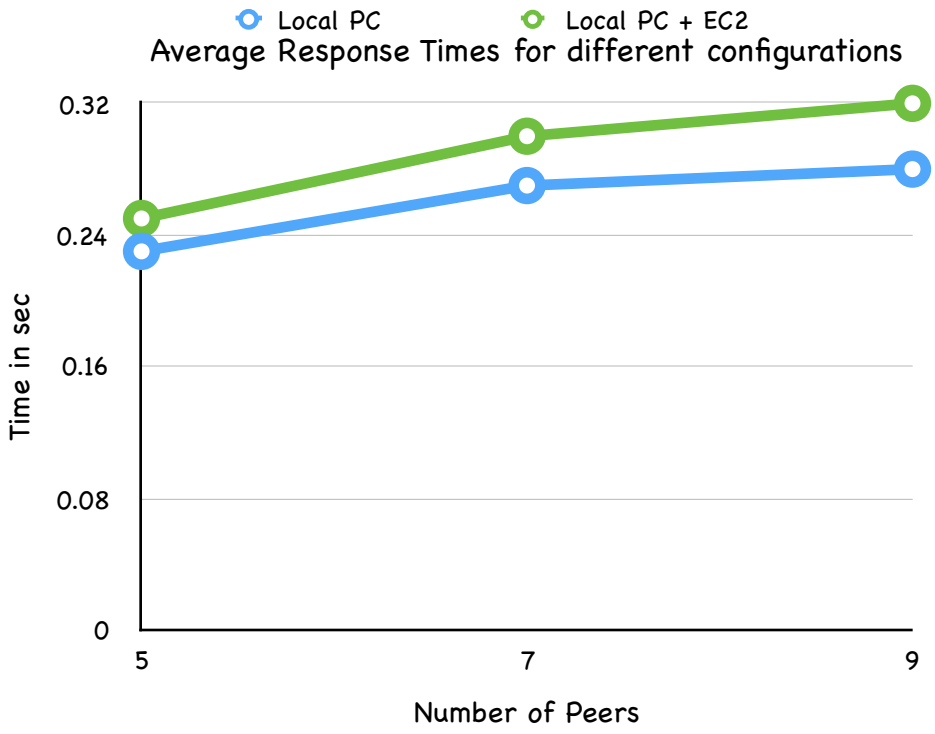
Note: If we run twice the same program with same configuration, output can be different as a seller when it finishes it inventory it pickups a random good and registers it, this randomness can change the output.

Evaluation Results:

We introduced delays in the election process,(when each peer receives a “I won” message, they wait for a brief time of 2 sec for that message to propagate to other peers and for peers to drop out of election) these delays add up to 10 sec for entire election process to complete and start trading.

Average response time is time taken between the client request and trader reply.

Following graph shows the latencies that we got for different configurations(number of peers):(Leader Election times are not taken into account, which typically takes around 10 sec)



Compared last lab, these response are a huge improvement, as the each request goes to the trader and he directly replies and there are no in-between peers involved. In case some of the peers hosted on EC2, we have seen increase of around 10% response time only.

Note: 1) Delays in Leader election algorithms are chosen such that consistency will be achieved even if the code is deployed in slower network conditions and for inter PC nodes. (i.e. Time for leader election does not change much with network conditions or any parameters.)

2) When some peers are on local pc and some on EC2, then in that case, we are not writing to log, as sharing the log between EC2 and local PC is difficult.