NETWORKS LAB ENDSEM

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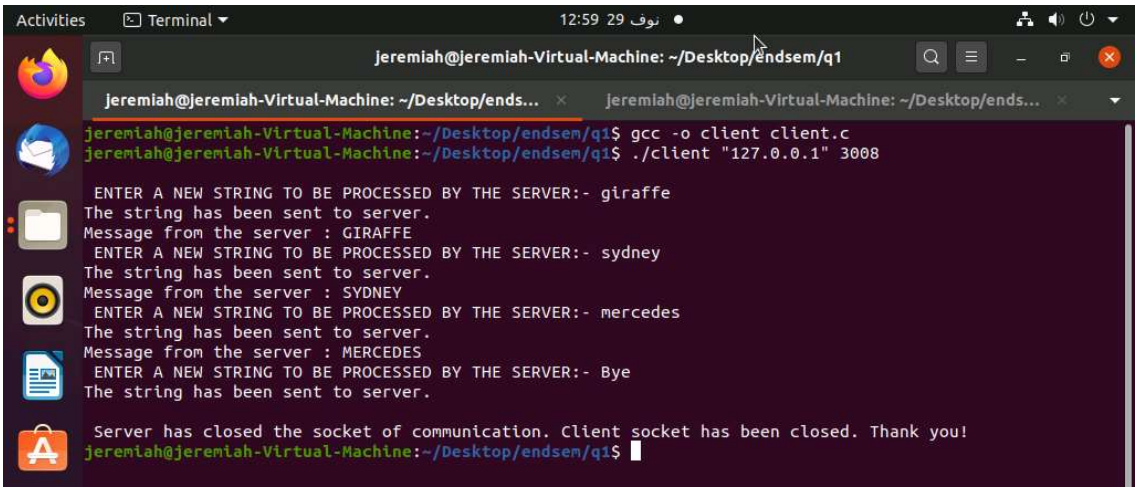
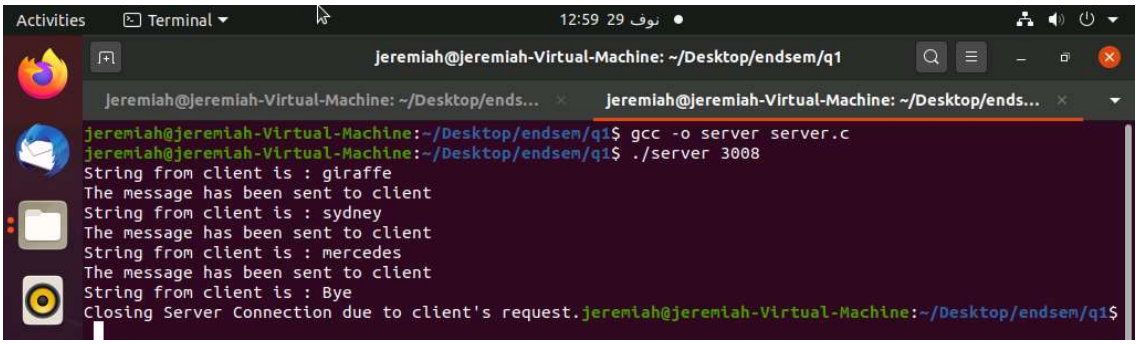
Q1)

Client side :-



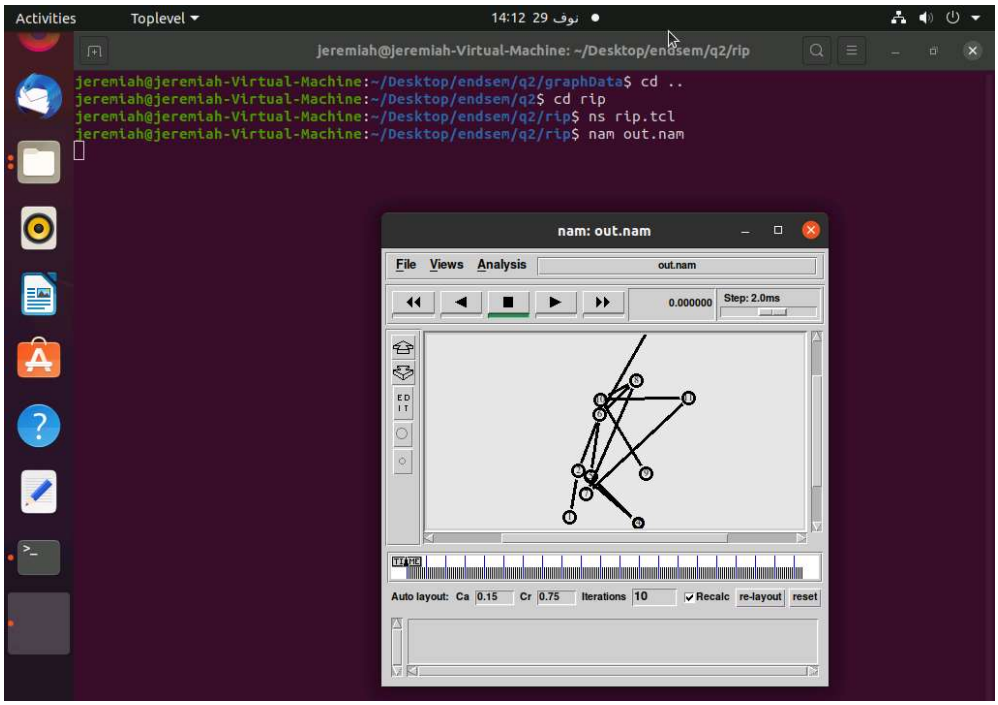
Server side :-



Q2)

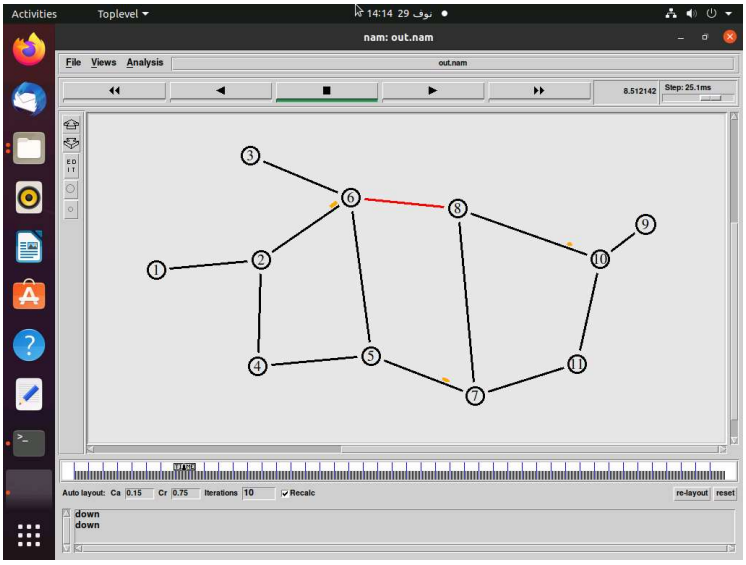
Command Line Sample (Running rip for example):-

S

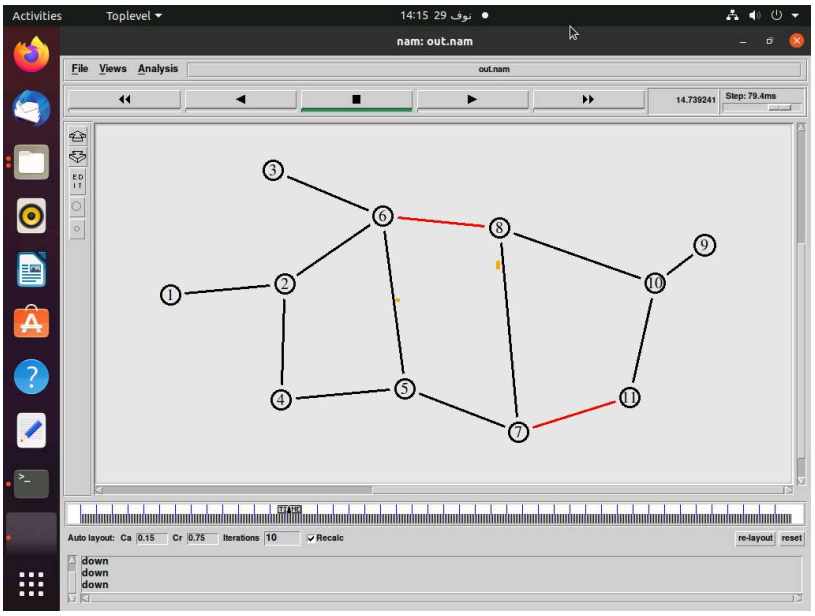


Some simulation snippets:-

Do note: Green -> Tcp , Orange -> Udp

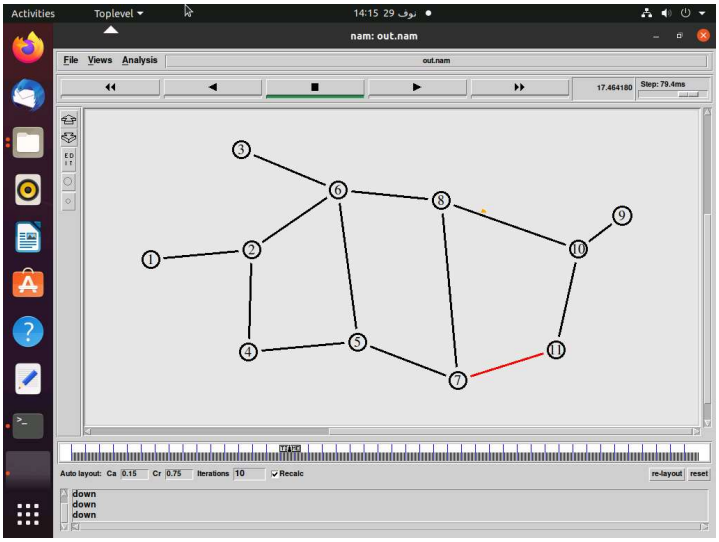


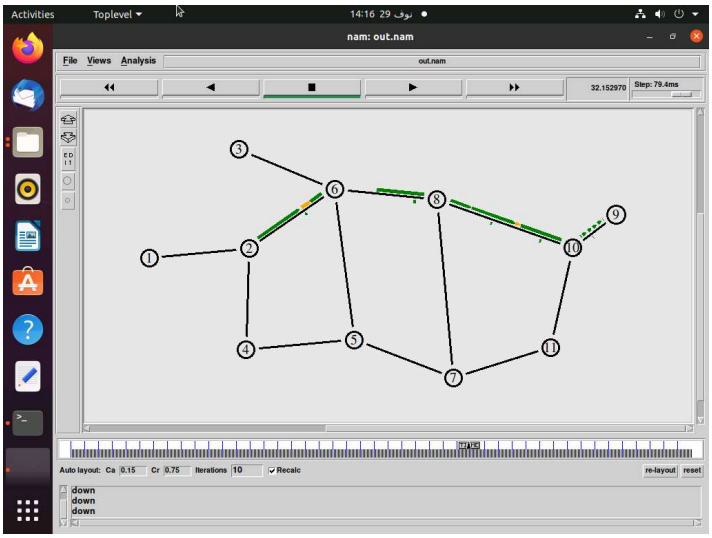
After 8s. Link bw 6 and 8 is down. Rerouting is done



After 12s, link 7-11 is down as well

After 16s, link bw 6-8 is restored

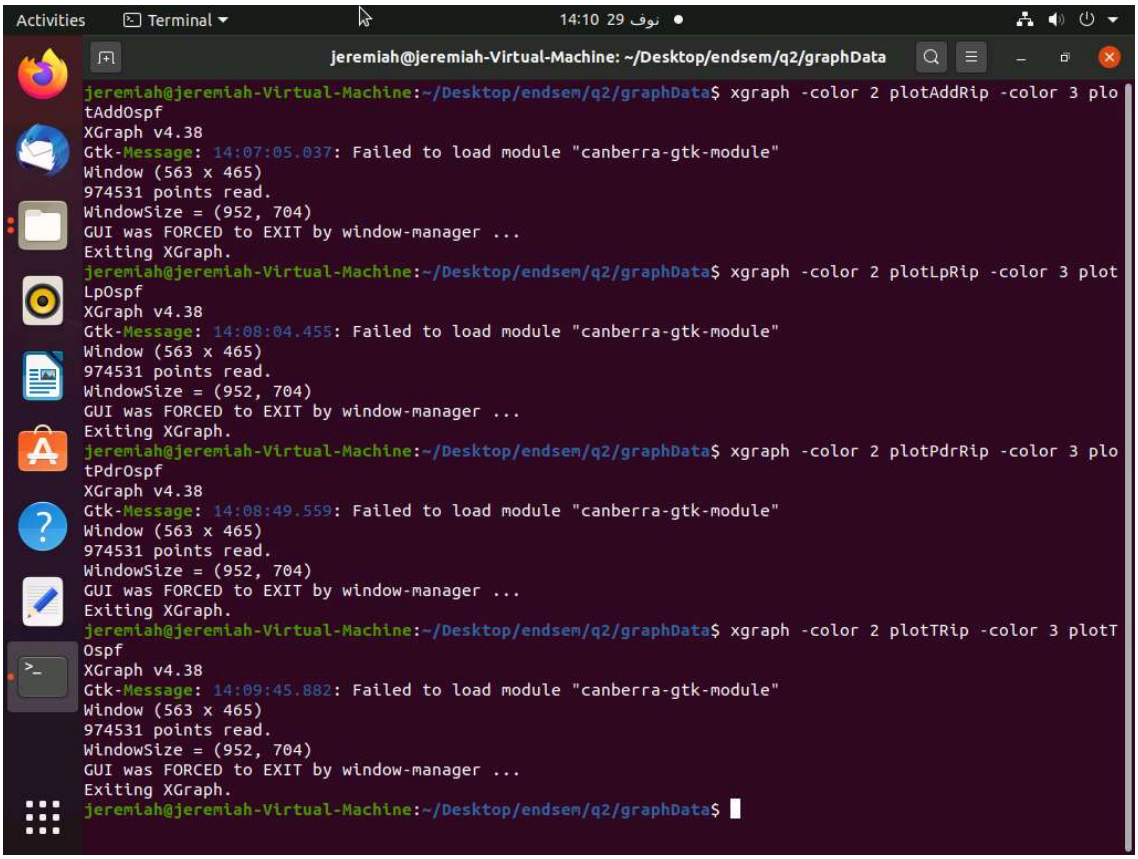




After 30s, Tcp begins to transmit (green) and also at 24s, link bw 7&11 is restored as well.

Graphs:-

Commands Screenshot:-

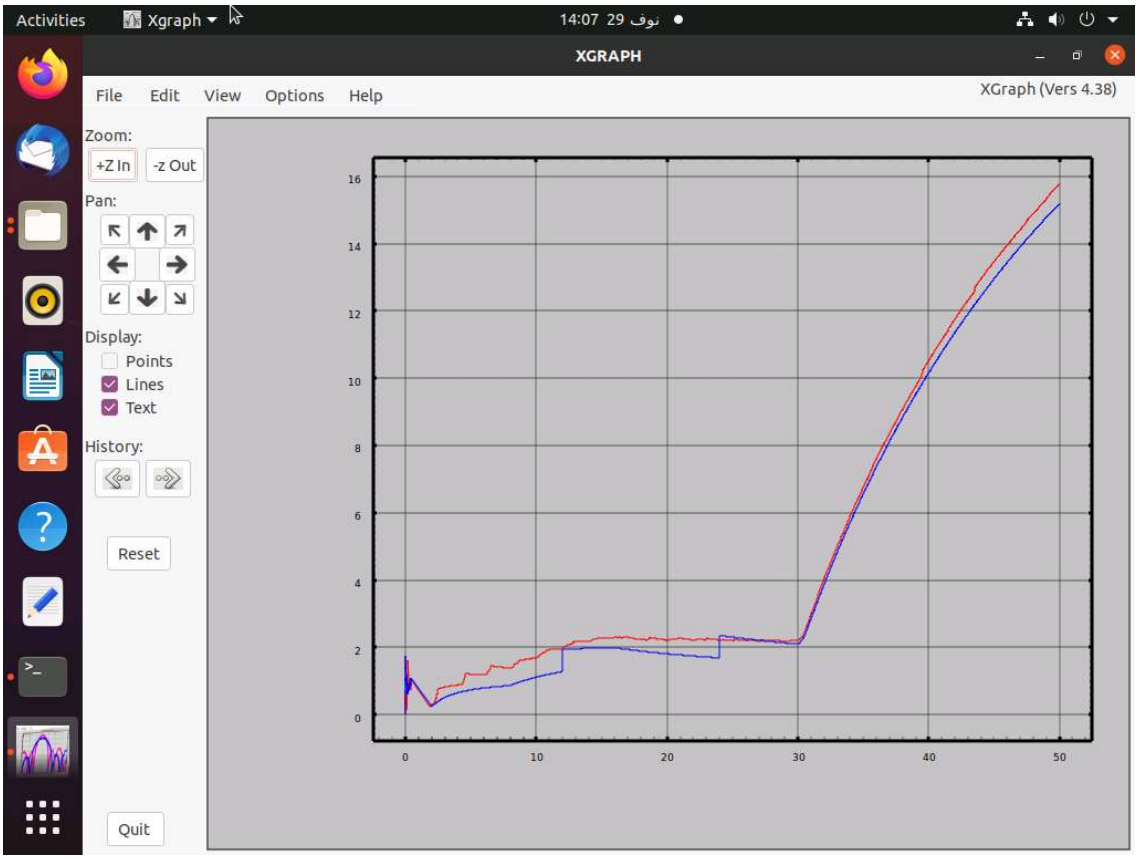


Do note:

Blue -> ospf

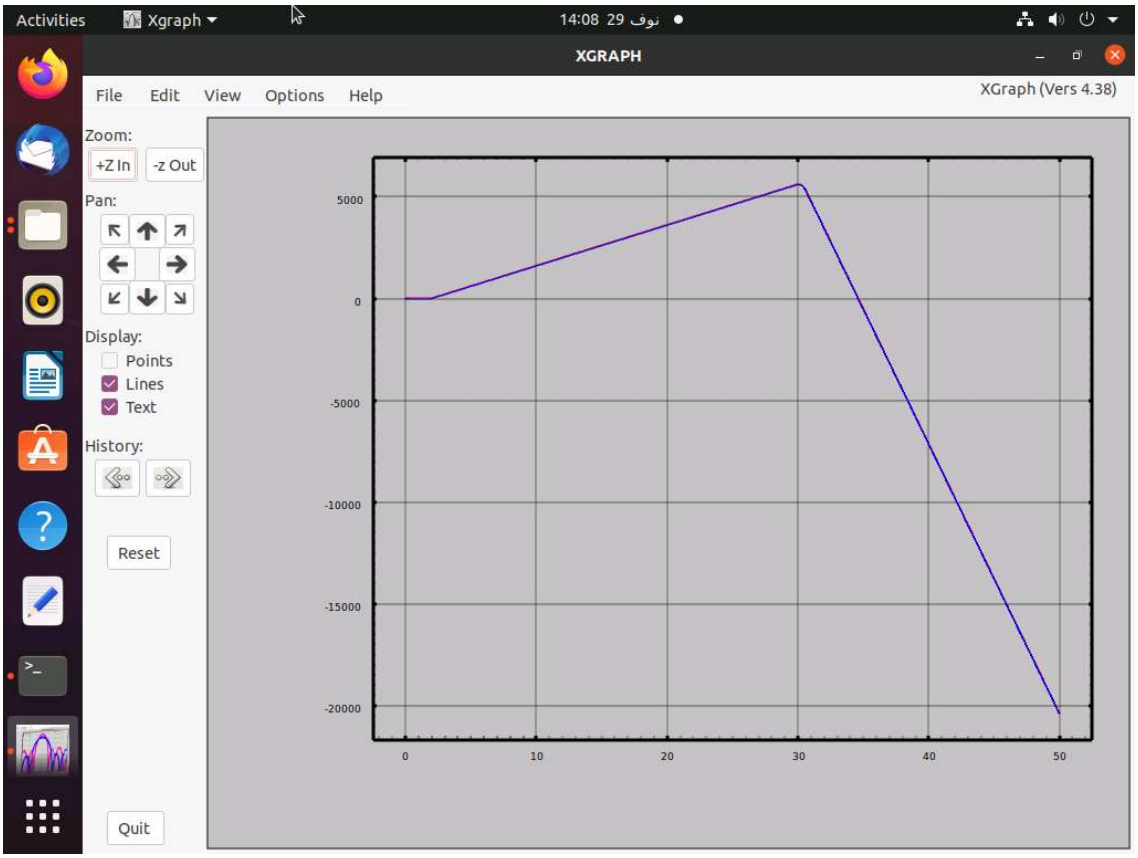
Red -> rip

Average Delivery Delay:-



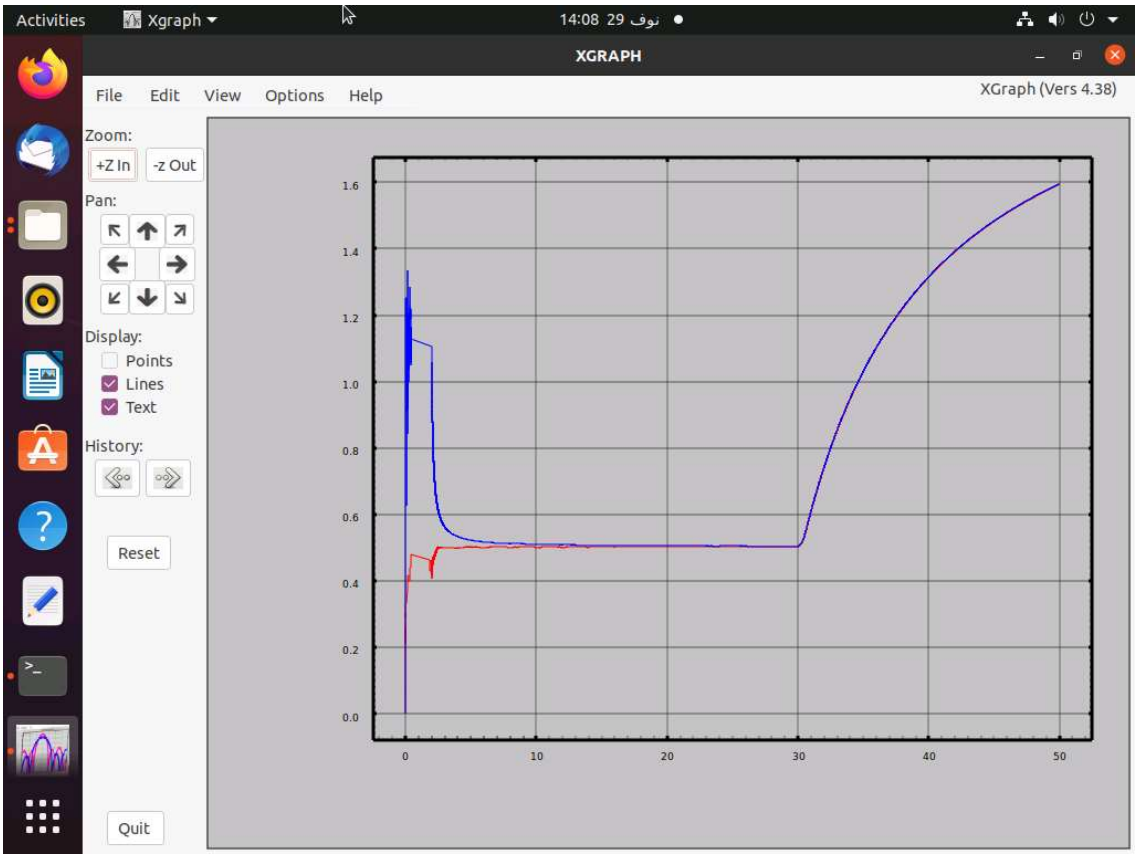
Here we can see that in intial stages, rip underperforms ospf and for a while at the middle, they converge. However from t =35s onwards, they diverge and ospf again beats rip.

Lost Packets



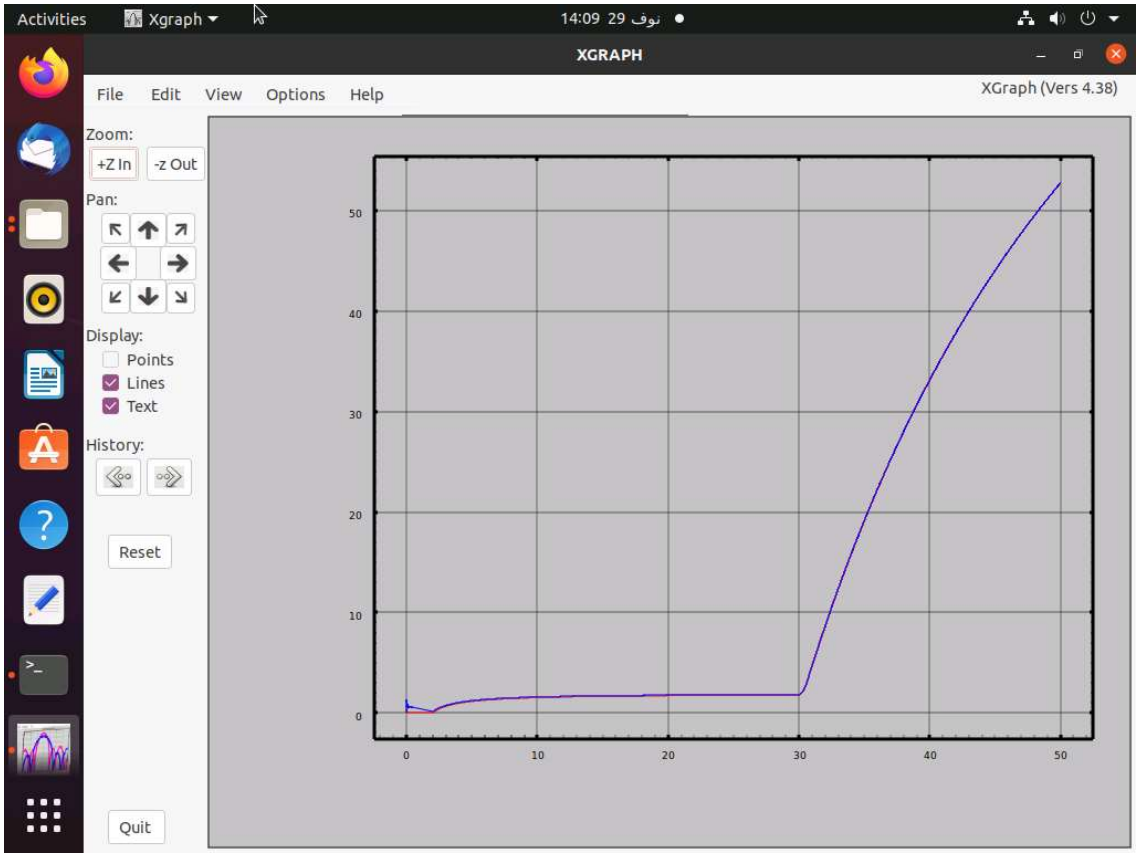
Here they converge throughput, indicating probably that packet loss for both ospf and rip are independent on the routing algorithm used and could be based more on tcp and udp connection choice.

Packet Delivery Ratio:-



Here there is a stark difference in PDR. Ospf has a higher pdr is the beginning, meaning its routing performs better and quicker. However they converge quickly soon at 9s.

Throughput:-



Once again, they converge here as well as in the case of dropped packets, implying that throughput is possibly dependent more on parameters such as bandwidth, connection choice, topology and less on routing style.