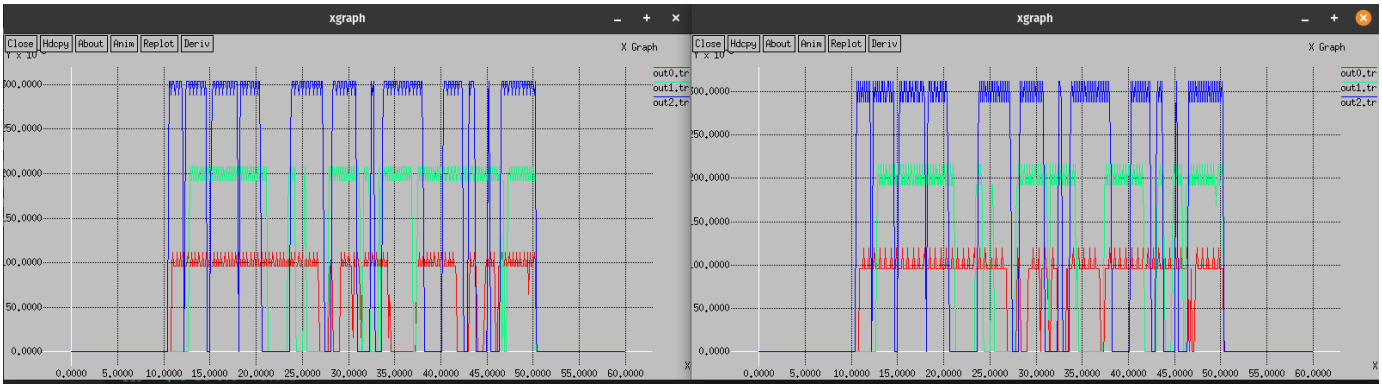
LAB 7

Exercise 1:

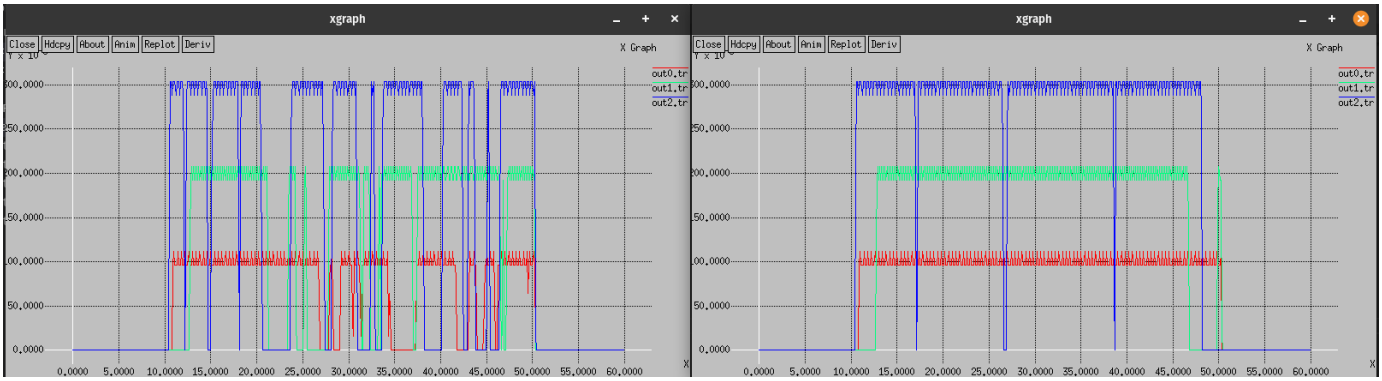
Q: What is the kind of link between n0-n3 (or n1-n3)? What other kind of links are possible?

A: Duplex Link. simplex-link and duplex-intserv-link. Refer: https://www.isi.edu/nsnam/ns/doc/node63.html

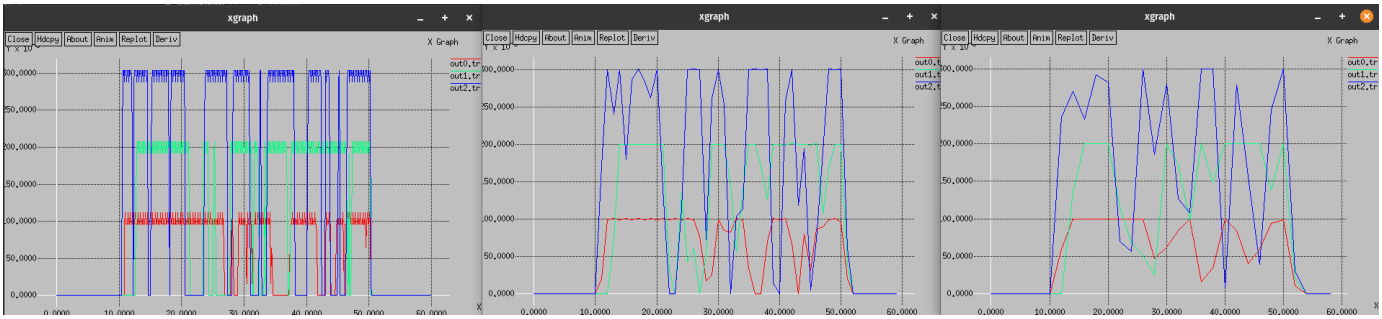
200 vs 300 Packet size



2s vs 8s Burst Time



Time = .1s , 1.0s , 2.0s



Q: What is the purpose of creating traffic sinks

A: Data sources and sinks are tools to provide directionality to flows. A data source generates a traffic flow, and a data sink terminates a traffic flow.

Q: The number of 'receive' (r) events between node 0 and node 3.

```
grep ^r outall.tr | grep -c "0 3 exp"
```

Q: The number of events apart from ‘receive’ events between node 1 and node 3.

```
grep -v ^r outall.tr | grep -c "1 3 exp"
```

Q: The number of “added to queue” events originating from node 3. How many of such events were to a node apart from node 4?

```
grep ^+ outall.tr | grep -c "3 . exp"
```

```
grep ^+ outall.tr | grep -c "3 [^4] exp"
```

Exercise 2

Q: Find out the number of UDP packets dropped with respect to time.

```
grep ^d outall.tr | grep -c "cbr"
```

Q: Plot the variation in latency of packets (i.e., jitter) received at node n3 with respect to time for TCP flow.

```
awk -f jitter.awk outall.tr > jitter_res.tr
```

```
xgraph jitter_res.tr
```

Jitter graph for 0.8mbps and 16.mbps CBR traffic