

Network Lab – CS2307

IMPLEMENTATION OF MAC PROTOCOL

Write ns2 program to implement a MAC Protocol

1. Create Simulator object
2. Define different colors for data flows (for NAM)
3. Open the Trace files
4. Open the NAM trace file
5. Define a 'finish' procedure
6. Create six nodes
7. Create links between the nodes
 - a. 0 → 2 2Mb 10 ms duplex link
 - b. 1 → 2 2Mb 10 ms duplex link
 - c. 2 → 3 0.3Mb 100ms simplex link
 - d. 3 → 2 0.3Mb 100ms simplex link
8. Set 802.3 LAN with 3, 4, and 5 nodes

```
set lan [$ns newLan "$n3 $n4 $n5" 0.5Mb 40ms LL Queue/DropTail MAC/802_3 Channel]
```

Or

```
set lan [$ns newLan "$n3 $n4 $n5" 0.5Mb 40ms LL Queue/DropTail MAC/Csma/Cd Channel]
```

9. Align it properly (align only nodes 0,1,2,3) Don't Align 3,4,5 as LAN itself align for these nodes
10. Set Queue Size of link (n2-n3) to 10 (or) 5
11. Setup a TCP connection over 0 and 4 and its flow id, window size, packet size
12. Setup a FTP over TCP connection
13. Setup a UDP connection over 1 and 5. Set the flow id
14. Setup a CBR over UDP connection with type, packet size, rate, random fields
15. Start and stop the cbr and ftp accordingly
16. Finish the simulation