



Vidyavardhini's College of Engineering & Technology

Department of Information Technology

Experiment No. 5

Aim: To implement number of nodes and physical layer configuration using NS2.

Apparatus (software): System with Ubuntu, NS2, NAM

Procedure:

1. Create a Simulator Object.
2. Open the nam trace file.
3. Define a 'finish' procedure.
4. Close the Trace file.
5. Execute nam on the Trace file.
6. Create two nodes.
7. Create a duplex link between the nodes.
8. Create agents for sending and receiving data and attach them to appropriate nodes.
9. Create traffic source and attach them to appropriate agent.
10. Program when to send data and when to stop sending data.
11. Call the finish procedure and run the simulation.
12. Observe the output and save the same.

Program:

```
set ns [new Simulator]
set nf [open out.nam w]
$ns namtrace-all $nf

proc finish {} {
    global ns nf
    $ns flush-trace
    close $nf
    exec nam out.nam &
    exit 0
}

#Create two nodes and a duplex link between them
set n0 [$ns node]
set n1 [$ns node]
$ns duplex-link $n0 $n1 1Mb 10ms DropTail

#Create a UDP agent and attach it to node n0
set udp0 [new Agent/UDP]
$ns attach-agent $n0 $udp0

# Create a CBR traffic source and attach it to udp0
set cbr0 [new Application/Traffic/CBR]
$cbr0 set packetSize_ 500
```



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```
$cbr0 set interval_ 0.005
$cbr0 attach-agent $udp0
#Create a Null agent and attach it to node n1
set null0 [new Agent/Null]
$ns attach-agent $n1 $null0

$ns connect $udp0 $null0

$ns at 0.5 "$cbr0 start"
$ns at 4.5 "$cbr0 stop"

$ns at 5.0 "finish"
$ns run
```

Conclusion:

Q. In NS2, how data is sent?

Ans.- In NS2, data is always sent from one 'agent' to another.

Q. In this program, what type of agent is used to send the data and receive the data?

Ans.- In this program, 'UDP' agent is used to send the data and 'Null' agent is used to receive the data.

Q. In this program, what type of traffic source is used to generate the data?

Ans.- In this program, 'Constant Bit Rate (CBR)' traffic source is used to generate the data.