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**EXPERIMENT 10**

**PROBLEM DEFINITION:**

Network consists of 3 nodes (Client1, Router1 and Endserver1). The duplex link between Client1 and Router1 has 2 Mbps of bandwidth and 100 ms of delay. The duplex link between Router1 and Endserver1 has 200Kbps of bandwidth and 100 ms of delay. Each link between nodes uses a Drop Tail queue.

**Code:**

#-------Event scheduler object creation--------#

set ns [new Simulator]

#----------creating nam objects----------------#

set nf [open tcp1.nam w]

$ns namtrace-all $nf

#open the trace file

set nt [open tcp1.tr w]

$ns trace-all $nt

set proto rlm

$ns color 1 blue

$ns color 2 yellow

$ns color 3 red

#---------- creating client- router- end server node----------------#

set Client1 [$ns node]

set Router1 [$ns node]

set Endserver1 [$ns node]

#---creating duplex link---------#

$ns duplex-link $Client1 $Router1 2Mb 100ms DropTail

$ns duplex-link $Router1 $Endserver1 200Kb 100ms DropTail

#----------------creating orientation------------------#

$ns duplex-link-op $Client1 $Router1 orient right

$ns duplex-link-op $Router1 $Endserver1 orient right

#------------Labelling----------------#

$ns at 0.0 "$Client1 label Client1"

$ns at 0.0 "$Router1 label Router1"

$ns at 0.0 "$Endserver1 label Endserver1"

#-----------Configuring nodes------------#

$Endserver1 shape hexagon

$Router1 shape square

#----------------Establishing queues---------#

#$ns duplex-link-op $Client1 $Router1 queuePos 0.1

#$ns duplex-link-op $Router1 $Endserver1 queuePos 0.5

#---------finish procedure--------#

proc finish {} {

global ns nf nt

$ns flush-trace

close $nf

close $nt

puts "running nam..."

exec nam tcp1.nam &

exit 0

}

#Calling finish procedure

$ns at 6.0 "finish"

$ns run

**Output:**

