// filename.tcl

#Create a ns simulator

set ns [new Simulator]

#Setup topography object

set topo [new Topography]

$topo load\_flatgrid 1500 1500

#Open the NS trace file

set tracefile [open p6.tr w]

$ns trace-all $tracefile

#Open the NAM trace file

set namfile [open p6.nam w]

$ns namtrace-all $namfile

$ns namtrace-all-wireless $namfile 1500 1500

#===================================

# Mobile node parameter setup

#===================================

$ns node-config -adhocRouting DSDV \

-llType LL \

-macType Mac/802\_11 \

-ifqType Queue/DropTail \

-ifqLen 20 \

-phyType Phy/WirelessPhy \

-channelType Channel/WirelessChannel \

-propType Propagation/TwoRayGround \

-antType Antenna/OmniAntenna \

-topoInstance $topo \

-agentTrace ON \

-routerTrace ON

#===================================

# Nodes Definition

#===================================

create-god 6

#Create 6 nodes

set n0 [$ns node]

$n0 set X\_ 630

$n0 set Y\_ 501

$n0 set Z\_ 0.0

$ns initial\_node\_pos $n0 20

set n1 [$ns node]

$n1 set X\_ 454

$n1 set Y\_ 340

$n1 set Z\_ 0.0

$ns initial\_node\_pos $n1 20

set n2 [$ns node]

$n2 set X\_ 785

$n2 set Y\_ 326

$n2 set Z\_ 0.0

$ns initial\_node\_pos $n2 20

set n3 [$ns node]

$n3 set X\_ 270

$n3 set Y\_ 190

$n3 set Z\_ 0.0

$ns initial\_node\_pos $n3 20

set n4 [$ns node]

$n4 set X\_ 539

$n4 set Y\_ 131

$n4 set Z\_ 0.0

$ns initial\_node\_pos $n4 20

set n5 [$ns node]

$n5 set X\_ 964

$n5 set Y\_ 177

$n5 set Z\_ 0.0

$ns initial\_node\_pos $n5 20

#===================================

# Agents Definition

#===================================

#Setup a UDP connection

set udp0 [new Agent/UDP]

$ns attach-agent $n0 $udp0

set null1 [new Agent/Null]

$ns attach-agent $n4 $null1

$ns connect $udp0 $null1

$udp0 set packetSize\_ 1500

#Setup a TCP connection

set tcp0 [new Agent/TCP]

$ns attach-agent $n3 $tcp0

set sink1 [new Agent/TCPSink]

$ns attach-agent $n5 $sink1

$ns connect $tcp0 $sink1

#===================================

# Applications Definition

#===================================

#Setup a CBR Application over UDP connection

set cbr0 [new Application/Traffic/CBR]

$cbr0 attach-agent $udp0

$cbr0 set packetSize\_ 1000

$cbr0 set rate\_ 1.0Mb

$cbr0 set random\_ null

#Setup a FTP Application over TCP connection

set ftp0 [new Application/FTP]

$ftp0 attach-agent $tcp0

#===================================

# Termination

#===================================

#Define a 'finish' procedure

proc finish {} {

global ns tracefile namfile

$ns flush-trace

close $tracefile

close $namfile

exec nam p6.nam &

exec echo "Number of packets dropped is : " &

exec grep -c "^D" p6.tr &

exit 0

}

$ns at 1.0 "$cbr0 start"

$ns at 2.0 "$ftp0 start"

$ns at 180.0 "$ftp0 stop"

$ns at 200.0 "$cbr0 stop"

$ns at 200.0 "finish"

$ns at 70 "$n4 setdest 100 60 20"

$ns at 100 "$n4 setdest 700 300 20"

$ns at 150 "$n4 setdest 900 200 20"

$ns run

// AWK file (filename.awk)

BEGIN{

count1=0

count2=0

pack1=0

pack2=0

time1=0

time2=0

}

{

if($1=="r" && $3=="\_1\_" && $4=="RTR")

{

count1++

pack1=pack1+$8

time1=$2

}

if($1=="r" && $3=="\_2\_" && $4=="RTR")

{

count2++

pack2=pack2+$8

time2=$2

}

}

END{

printf("The Throughput from n0 to n1: %f Mbps \n", ((count1\*pack1\*8)/(time1\*1000000)));

printf("The Throughput from n1 to n2: %f Mbps \n", ((count2\*pack2\*8)/(time2\*1000000)));

}