set ns [ new Simulator]

set ntrace [open prog2.tr w]

$ns trace-all $ntrace

set namfile [open prog2.nam w]

$ns namtrace-all $namfile

proc Finish {} {

global ns ntrace namfile

$ns flush-trace close $ntrace close $namfile

exec nam prog2.nam &

exec echo "The number of TCP packets sent are" & exec grep "^+" prog2.tr | cut -d " " -f 5 | grep -c "tcp" & exec echo "The number of UDP packets sent are" & exec grep "^+" prog2.tr | cut -d " " -f 5 | grep -c "cbr" &

exit 0

}

set n0 [$ns node] set n1 [$ns node] set n2 [$ns node] set n3 [$ns node]

$ns duplex-link $n0 $n2 2Mb 10ms DropTail

$ns duplex-link $n1 $n2 2Mb 10ms DropTail

$ns duplex-link $n2 $n3 2Mb 20ms DropTail

$ns duplex-link-op $n0 $n2 orient right-down

$ns duplex-link-op $n1 $n2 orient right-up

$ns duplex-link-op $n2 $n3 orient right

$n0 label "TCP Source"

$n1 label "UDP Source"

$n3 label "Destination"

$n0 color blue

$n1 color orange

$n3 color red

set tcp0 [new Agent/TCP]

$ns attach-agent $n0 $tcp0

set sink0 [new Agent/TCPSink]

$ns attach-agent $n3 $sink0

$ns connect $tcp0 $sink0 set udp0 [new Agent/UDP]

$ns attach-agent $n1 $udp0 set null0 [new Agent/Null]

$ns attach-agent $n3 $null0

$ns connect $udp0 $null0

set ftp0 [new Application/FTP]

$ftp0 set type\_ FTP

$ftp0 attach-agent $tcp0

set cbr0 [new Application/Traffic/CBR]

$cbr0 set type\_ CBR

$cbr0 set packetSize\_ 1000

$cbr0 set rate\_ 0.01Mb

$cbr0 set random\_ false

$cbr0 attach-agent $udp0

$ns color 1 magenta

$ns color 2 green

$tcp0 set class\_ 1

$udp0 set class\_ 2

$ns at 0.1 "$cbr0 start"

$ns at 1.5 "$ftp0 start"

$ns at 1.0 "$cbr0 stop"

$ns at 2.5 "$ftp0 stop"

$ns at 5.0 "Finish"

$ns run