

q) Simulate an Ethernet LAN carrying in nodes at multiple buffer nodes E, plot Congestion windows for different source / destination

task 7.tcl

set ns [new Simulator]

set tf [open lab7.tcl w]

\$ns trace-all \$tf

set nf [open lab7.nam w]

\$ns namtrace-all \$nf

set no [\$ns node]

\$no color "magenta"

\$no label "SRC1"

set n1[\$ns node]

set n2[\$ns node]

\$n2 color "magenta"

\$n2 label "SRC2"

set n3[\$ns node]

\$n3 color "blue"

\$n3 label "DEST2"

set n4[\$ns node]

set n5[\$ns node]

\$n5 color "blue"

\$n5 label "DEST1"

\$n6 make-lrn "\$no \$n1 \$n2 \$n3 \$n4"

100Mb 100ms LL Queue/DropTail Model

\$no duplex-link \$n4 \$n5 1Mb 1ms DropTail

set tcp0 [new Agent/TCP]

\$ns attach-agent \$no \$tcp0

set ftp0 [new Application/FTP]

\$ftp0 attach-agent \$tcp0

\$ftp0 set packetSize - 500

\$ftp0 set interval - 0.0001

set sinks [new Agent/TCP sink]

ing n nodes &
plot congestion
distination

lab 7. tel

\$no attach-agent \$ns \$ranks
\$no connect \$tip0 \$ranks
set tip0 [new Agent/TCP]
\$no attach-agent \$ns \$ranks
\$no connect \$tip0 \$ranks
set tip2 [new Agent/TCP]
\$no attach-agent \$ns \$tip2
set ftp2 [new Application/FTP]
\$ftp2 attach-agent \$tip2
\$ftp2 set packetSize 600
\$ftp2 set interval 0.001
set sink3 [new Agent/TCP Sink]
\$no connect-agent \$ns \$sink3
\$ns connect \$tip2 \$sink3
set file1 [open file1.tr w]
\$tip0 attach \$file1
set file2 [open file2.tr w]
\$tip2 attach \$file2

\$tip0 trace cwnd

\$tip2 trace cwnd

proc finish {g}

global no nf tf

\$no flush-tree

close \$tf

close \$nf

exec num lab7.num &

exit 0

3

\$ns at 0.1 "\$ftp0 start"

\$ns at 5 "\$ftp0 stop"

\$ns at 7 "\$ftp0 start"

\$ns at 0.2 "\$ftp2 start"

\$no at 8 " \$ftp 2 stop"

\$no at 14 " \$ftp 0 stop"

\$no at 10 " \$ftp 2 start"

\$no at 15 " \$ftp 2 stop"

\$no at 16 " finish"

\$no-run

awk file lab7.awk

BEGIN {

}

if (\$C == "Cwind")

printf("%.\.f%.\.f|m", \$1, \$2);

}

END {

}

56. \$ns at 7 "\$f1p0 start"
 57. \$ns at 8 "\$f1p2 start"
 58. \$ns at 8 "\$f1p2 stop"
 59. \$ns at 14 "\$f1p0 start"
 60. \$ns at 10 "\$f1p2 start"
 61. \$ns at 15 "\$f1p2 stop"
 62. \$ns at 16 "finish"
 63. \$ns run

awk file

```
BEGIN {  
}
```

```
{ if ($6 == "wind")
```

```
  pf("of|t|of|t|n", $1, $7);
```

```
END {  
}
```

```
y.
```

~~of~~



SRC1
①

SRC2
②

DEST2
③

awk of

awk -f lab1.awk file1.txt b1
awk -f lab2.awk file2.txt b2

draw graph.

DEST1 > xgraph b1 b2
④
⑤