README

Group Member

Bo Zheng bz30

Zijie Song zs22

Yao Li yl185

Protocol： UDP

Algorithm

Use sliding window (size 8) to transport data packet.

Resend the same data packet when it exceeds time out (1000μs).

Update sliding windows in receiver when receive data each time and return ACK number.

Use check sum algorithm to guarantee correct transport.

Package format

Send Header Packet (10 Bytes)

0 seq num 2	2 check sum 4	4 packet num 6	6 file size 8	8 file path 10

Send Packet (8192 Bytes)

0 seq num 2	2 check sum 4	4 data length 6	6 data 8192

Last send Packet (Depends on the remaining data length)

0 seq num 2	2 check sum 4	4 data length 6	6 data 6 + data length

Recv(ACK) Packet (4 Bytes)

0 ack num 2	2 check sum 4

Usage

Receiver

Information

hostname: jade.clear.rice.edu

ip address: 128.42.124.177

port: 18123

Command

g++ -std=c++11 -o recvfile PacketRecvHandler.h PacketRecvHandler.cpp recvfile.cpp helper.h
helper.cpp

./recvfile -p 18123

Sender
Information
hostname: cai.cs.rice.edu
port: 18123

Command
/usr/bin/netsim --delay 20 --drop 20 --reorder 20 --mangle 20 --duplicate 20
g++ -std=c++11 -o sendfile sendfile.cpp PacketSendHandler.cpp PacketSendHandler.h
helper.h helper.cpp
./sendfile -r 128.42.124.177:18123 -f ./30Mb

Result
File size: 32550507 Bytes / 32.6 MB

Delay(%)	Drop(%)	Reorder(%)	Mangle(%)	Duplicate(%)	Time Used(s)	Memory Used(MB)
0	0	0	0	0	1.6	1.6
10	10	10	10	10	2.9	1.6
20	20	20	20	20	4.5	1.6
50	50	50	50	50	9.6	1.6
80	80	80	80	80	35.1	1.6