

Comp9331:ASSIGNMENT1

Q1:

Implemented:

1: 3-Way Handshake:

Sender send a SYN package and receiver send SYN and ACK package back ,then Sender send ACK back which means connection has already established

2: 4 segment close

Sender send FIN1 and get the ACK ,then, send FIN2 to close the connection.

When the Sender received the last ACK the connection closed

3:Timer : the timer record each segment time ,and also control the retransmission

4: Ack check : when each segment sent, the receiver send an ACK back to ensure the order of each segment

5: retransmit data: then drop the data , the new thread will retransmit the data to sender

6:constant timeout: constant timeout to control the packet loss.

7:PLD module : use random to control which packet will be lost.

8: MWS and MSS : control that unacknowledged byte is less than MWS

Not implemented :

1: fast retransmit data : can not figure the 3 duplicated ACK in a new thread, with the some coding problem.in this problem ,I only use timeout retransmit data .

Q2 :

STP header contains :

1: sequence number: control the sequence number of each segment

2: ack number: control the acknowledged number of each segment

3: SYN_flag : 1 means SYN segment 0 means nothing

4: ACK_flag: 1 means ACK segment 0 means nothing

5: FIN_flag : 1 means FIN segment 0 means nothing

6: Drop_flag : controlled by PLD, 1 means dropped ,0 means nothing

7: status flag : 1 means handshake 2 means data transmit 3 means close connection

8 : data : controlled by MWS and MSS

total segment TYPE:

"127 151 0001 1 "data information""

Q3: pdrop = 0.1

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snd 0.014 D 754 50 200
rcv 0.015 A 200 0 804
snd 0.015 D 804 50 200
rcv 0.016 A 200 0 854
snd 0.016 D 854 50 200
rcv 0.017 A 200 0 904
snd 0.017 D 904 50 200
rcv 0.018 A 200 0 954
drop 0.018 D 954 50 200
rcv 0.019 A 200 0 954
snd 0.122 D 954 50 200
rcv 0.125 A 200 0 1004
drop 0.131 D 1004 50 200
rcv 0.133 A 200 0 1004
snd 0.237 D 1004 50 200
rcv 0.239 A 200 0 1054
snd 0.248 D 1054 50 200
rcv 0.251 A 200 0 1104
snd 0.251 D 1104 50 200
rcv 0.252 A 200 0 1154
drop 0.253 D 1154 50 200
rcv 0.254 A 200 0 1154
snd 0.355 D 1154 50 200
rcv 0.358 A 200 0 1204
snd 0.367 D 1204 50 200
rcv 0.37 A 200 0 1254
snd 0.37 D 1254 50 200
rcv 0.371 A 200 0 1304
drop 0.371 D 1304 50 200
rcv 0.376 A 200 0 1304
snd 0.48 D 1304 50 200
rcv 0.483 A 200 0 1354
snd 0.487 D 1354 50 200
rcv 0.491 A 200 0 1404
drop 0.491 D 1404 50 200
rcv 0.492 A 200 0 1404
snd 0.597 D 1404 50 200
rcv 0.599 A 200 0 1454
snd 0.606 D 1454 50 200
rcv 0.609 A 200 0 1504
snd 0.609 D 1504 50 200
rcv 0.61 A 200 0 1554
snd 0.61 D 1554 50 200
rcv 0.611 A 200 0 1604
snd 0.612 D 1604 50 200
rcv 0.612 A 200 0 1654
snd 0.613 D 1654 50 200
rcv 0.613 A 200 0 1704
snd 0.614 D 1704 42 200
rcv 0.615 A 200 0 1746
snd 0.615 F 1746 0 200
rcv 0.616 FA 200 0 1747
snd 0.616 A 1747 0 201
Amount of Data Transferred: 1592
Number of Data Segments sent 36
Amount of drop: 5
Amount of Retransmitted: 5

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pdrop = 0.3 :

```

drop 0.617 D 1154 50 146
rcv 0.621 A 146 0 1154
snd 0.722 D 1154 50 146
rcv 0.725 A 146 0 1204
snd 0.737 D 1204 50 146
rcv 0.739 A 146 0 1254
snd 0.74 D 1254 50 146
rcv 0.741 A 146 0 1304
drop 0.741 D 1304 50 146
rcv 0.742 A 146 0 1304
snd 0.848 D 1304 50 146
rcv 0.851 A 146 0 1354
snd 0.854 D 1354 50 146
rcv 0.856 A 146 0 1404
drop 0.857 D 1404 50 146
rcv 0.864 A 146 0 1404
snd 0.965 D 1404 50 146
rcv 0.968 A 146 0 1454
drop 0.977 D 1454 50 146
rcv 0.979 A 146 0 1454
snd 1.082 D 1454 50 146
rcv 1.085 A 146 0 1504
snd 1.094 D 1504 50 146
rcv 1.096 A 146 0 1554
snd 1.097 D 1554 50 146
rcv 1.098 A 146 0 1604
snd 1.098 D 1604 50 146
rcv 1.099 A 146 0 1654
snd 1.099 D 1654 50 146
rcv 1.1 A 146 0 1704
snd 1.1 D 1704 42 146
rcv 1.101 A 146 0 1746
snd 1.102 F 1746 0 146
rcv 1.102 FA 146 0 1747
snd 1.103 A 1747 0 147
Amount of Data Transferred: 1592
Number of Data Segments sent 36
Amount of drop: 9
Amount of Retransmitted: 9

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Less than 100ms will cause the timeout problem very often so I think the 100ms will be an good advice.

Due to the answer of segments sent is wrong . I can not solve the Q3b..

Q3(b)