

Output_gbn

EVENT time: 6.965711, type: 1, fromlayer5 entity: 0

A receives Pkt1 from layer5
Output to layer3

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :aaaaaaaaaaaaaaaaaaaaa

next_seqnum now is: 1

check data: Message data is :aaaaaaaaaaaaaaaaaaaaa

check data: Payload content is:aaaaaaaaaaaaaaaaaaaaa

-Packet sent.

check data: Payload content is:aaaaaaaaaaaaaaaaaaaaa

EVENT time: 12.374607, type: 2, fromlayer3 entity: 1

B receives Pkt1 from layer3
Output to layer5
Send ACK to A
Packet corrupted

-B_input(pkt);

-Receive packet..

check data: Payload content is:aaaaaaaaaaaaaaaaaaaaa

-Receiver receives packet successfully with seqnum 1.

-Send the packet to layer file with payload content.

check data: Payload content is:aaaaaaaaaaaaaaaaaaaaa

-Receiver side send acked number by packet back to sender. acknum: 1.

TOLAYER3: packet being corrupted

EVENT time: 17.132755, type: 2, fromlayer3 entity: 0

A received ack1 from packet
Although packet is corrupted
Acknum is not corrupted
Move base to 2

-A_input(pkt);

-Sender side received acked packet.

-Acked num received: 1, sender no longer waiting for acknum.

=====Ack number: 1=====

PKT1 ACKED

EVENT time: 19.661861, type: 1, fromlayer5 entity: 0

A receives Pkt2 from layer5
Output to layer3

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :bbbbbbbbbbbbbbbbbbbbb

But this packet corrupted

next_seqnum now is: 2

check data: Message data is :bbbbbbbbbbbbbbbbbbbbb

check data: Payload content is:bbbbbbbbbbbbbbbbbbbbb

TOLAYER3: packet being corrupted

-Packet sent.

check data: Payload content is:bbbbbbbbbbbbbbbbbbbbb

EVENT time: 27.956409, type: 2, fromlayer3 entity: 1

B receives Pkt2 from layer3
Packet corrupted, give up

-B_input(pkt);

-Receive packet.

check data: Payload content is:bbbbbbbbbbbbbbbbbbbb

-Checksum corrupted. Current checksum: 1001961, packet checksum: 1964.

EVENT time: 35.720585, type: 1, fromlayer5 entity: 0

A receives Pkt2 from layer5

-A_output(mst);

Output to layer3

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :cccccccccccccccccccc

Also added to window

next_seqnum now is: 3

check data: Message data is :cccccccccccccccccccc

check data: Payload content is:cccccccccccccccccccc

-Packet sent.

check data: Payload content is:cccccccccccccccccccc

EVENT time: 39.661861, type: 0, timerinterrupt entity: 2

Arrives TIMER_INTERRUPT event with packet: 2

Check whether time is valid, start time: 19.661861, current time: 39.661861.

-A_timerinterrupt();

Pkt2 timeout, resend all pkt in window to B

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 2:

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 2, acknum: 2

-Resend packet with seqnum: 3, acknum: 3

EVENT time: 40.340492, type: 2, fromlayer3 entity: 1

-B_input(pkt);

B receives pkt3, but there is a gap

-Receive packet.

Add pkt3 to buffer, send ack1

check data: Payload content is:cccccccccccccccccccc

pkt is lost

-Expected seqnum is 2. need resends ack, Current seqnum: 3.

TOLAYER3: packet being lost

-Receiver side send acked number by packet back to sender. acknum: 1.

EVENT time: 41.495186, type: 2, fromlayer3 entity: 1

B receives Pkt2 from layer3

-B_input(pkt);

Output to layer5

-Receive packet.

Send ACK2 to A

check data: Payload content is:bbbbbbbbbbbbbbbbbbbb

-Receiver receives packet successfully with seqnum 2.

-Send the packet to layer file with payload content.

check data: Payload content is:bbbbbbbbbbbbbbbbbbbb

-Receiver side send acked number by packet back to sender. acknum: 2.

EVENT time: 47.664803, type: 2, fromlayer3 entity: 1

B receives Pkt2 from layer3

-B_input(pkt);

Output to layer5

-Receive packet.

Send ACK3 to A

check data: Payload content is:cccccccccccccccccccc

-Receiver receives packet successfully with seqnum 3.

-Send the packet to layer file with payload content.
check data: Payload content is:cccccccccccccccccc
-Receiver side send acked number by packet back to sender. acknum: 3.

EVENT time: 49.012402, type: 2, fromlayer3 entity: 0

-A_input(pkt);
-Sender side received acked packet.
-Acked num received: 2, sender no longer waiting for acknum.

A received ack2 from packet
Move base to 3

=====Ack number: 2=====

PKT2 ACKED

EVENT time: 51.947098, type: 1, fromlayer5 entity: 0

-A_output(mst);
-Sender gets message from layer5, sender outputs packet to layer3(network).

A receives Pkt4 from layer5
Output to layer3

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :dddddddddddddddddd

Also added to window

next_seqnum now is: 4

check data: Message data is :dddddddddddddddddd

check data: Payload content is:dddddddddddddddddd

-Packet sent.

check data: Payload content is:dddddddddddddddddd

EVENT time: 52.428940, type: 1, fromlayer5 entity: 0

A receives Pkt5 from layer5
Output to layer3

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :eeeeeeeeeeeeeeeeee

Also added to window

next_seqnum now is: 5

check data: Message data is :eeeeeeeeeeeeeeeeee

check data: Payload content is:eeeeeeeeeeeeeeeeee

TOLAYER3: packet being lost

Packet is lost

-Packet sent.

check data: Payload content is:eeeeeeeeeeeeeeeeee

EVENT time: 55.887165, type: 2, fromlayer3 entity: 0

-A_input(pkt);
-Sender side received acked packet.
-Acked num received: 3, sender no longer waiting for acknum.

A received ack3 from packet
Move base to 4

=====Ack number: 3=====

PKT3 ACKED

EVENT time: 57.898891, type: 2, fromlayer3 entity: 1

-B_input(pkt);
-Receive packet.

B receives Pkt4 from layer3
Output to layer5

check data: Payload content is:dddddddddddddddddd

Also added to window

-Receiver receives packet successfully with seqnum 4.

-Send the packet to layer file with payload content.
check data: Payload content is:dddddddddddddddddd
-Receiver side send acked number by packet back to sender. acknum: 4.

EVENT time: 64.579292, type: 2, fromlayer3 entity: 0

-A_input(pkt);
-Sender side received acked packet.
-Acked num received: 4, sender no longer waiting for acknum.

A received ack4 from packet
Move base to 5

=====Ack number: 4=====

PKT4 ACKED

EVENT time: 72.377777, type: 1, fromlayer5 entity: 0

-A_output(mst);
-Sender gets message from layer5, sender outputs packet to layer3(network).
-Initial state: seqnum is 0, acknum is 0

A receives Pkt6 from layer5
Output to layer3

check data: Message data is :ffffffffffffffff

Also added to window

next_seqnum now is: 6

check data: Message data is :ffffffffffffffff

check data: Payload content is:ffffffffffffffff

-Packet sent.

check data: Payload content is:ffffffffffffffff

EVENT time: 72.428940, type: 0, timerinterrupt entity: 5

Arrives TIMER_INTERRUPT event with packet: 5

Check whether time is valid, start time: 52.428940, current time: 72.428940.

-A_timerinterrupt();
-Time interrupts, resend current packet in sender's side.

Pkt5 timeout, resend all pkt in window

Total number of packet in window is 2:

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 5, acknum: 5

-Resend packet with seqnum: 6, acknum: 6

TOLAYER3: packet being corrupted

Resent pkt6 corrupted

EVENT time: 75.660782, type: 2, fromlayer3 entity: 1

B receives Pkt6 from layer3
Output to layer5

-B_input(pkt);

-Receive packet.

check data: Payload content is:ffffffffffffffff

-Expected seqnum is 5. need resends ack, Current seqnum: 6.

-Receiver side send acked number by packet back to sender. acknum: 4.

EVENT time: 78.066048, type: 2, fromlayer3 entity: 1

B receives Pkt6 from layer3
Output to layer5

-B_input(pkt);

-Receive packet.

check data: Payload content is:eeeeeeeeeeeeeeee

But packet is corrupted

-Receiver receives packet successfully with seqnum 5.

-Send the packet to layer file with payload content.

check data: Payload content is:eeeeeeeeeeeeeeeeeeee

-Receiver side send acked number by packet back to sender. acknum: 5.

TOLAYER3: packet being lost

EVENT time: 79.277992, type: 1, fromlayer5 entity: 0

A receives Pkt7 from layer5

-A_output(mst);

Output to layer3

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :gggggggggggggggggggggg

Also added to window

next_seqnum now is: 7

check data: Message data is :gggggggggggggggggggggg

check data: Payload content is:gggggggggggggggggggggg

TOLAYER3: packet being corrupted

But the packet is corrupted

-Packet sent.

check data: Payload content is:gggggggggggggggggggggg

EVENT time: 82.967735, type: 2, fromlayer3 entity: 0

-A_input(pkt);

A receives the duplicate ack, ignored.

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 5, packet acknum: 4.

EVENT time: 85.080170, type: 2, fromlayer3 entity: 1

-B_input(pkt);

B receives the corrupted pkt, ignored

-Receive packet.

check data: Payload content is:Zfffffffffffffffffff

-Checksum corrupted. Current checksum: 2040, packet checksum: 2052.

EVENT time: 91.373550, type: 2, fromlayer3 entity: 1

-B_input(pkt);

B receives the corrupted pkt, ignored

-Receive packet.

check data: Payload content is:Zgggggggggggggggggggggg

-Checksum corrupted. Current checksum: 2061, packet checksum: 2074.

EVENT time: 92.428940, type: 0, timerinterrupt entity: 5

Arrives TIMER_INTERRUPT event with packet: 0

Pkt5 timeout, resends all pkt in window

Check whether time is valid, start time: 72.428940, current time: 92.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 3:

-Resend packet with seqnum: 5, acknum: 5

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 6, acknum: 6

TOLAYER3: packet being lost

Resent pkt6 is lost

-Resend packet with seqnum: 7, acknum: 7

TOLAYER3: packet being corrupted

Resent pkt7 is corrupted

EVENT time: 96.131798, type: 2, fromlayer3 entity: 1

-B_input(pkt);

B receives pkt5, send ack5 to A

-Receive packet.

check data: Payload content is:eeeeeeeeeeeeeeeeeeee

-Expected seqnum is 6. need resends ack, Current seqnum: 5.

-Receiver side send acked number by packet back to sender. acknum: 5.

EVENT time: 97.895416, type: 2, fromlayer3 entity: 1

-B_input(pkt);

B receives corrupted pkt, ignored

-Receive packet.

check data: Payload content is:ggggggggggggggggggggg

-Checksum corrupted. Current checksum: 1002066, packet checksum: 2074.

EVENT time: 98.546013, type: 1, fromlayer5 entity: 0

A receives Pkt8 from layer5

-A_output(mst);

Output to layer3

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :hhhhhhhhhhhhhhhhhhhh

Also added to window

next_seqnum now is: 8

check data: Message data is :hhhhhhhhhhhhhhhhhhhh

check data: Payload content is:hhhhhhhhhhhhhhhhhhhh

-Packet sent.

check data: Payload content is:hhhhhhhhhhhhhhhhhhhh

EVENT time: 100.514809, type: 2, fromlayer3 entity: 0

-A_input(pkt);

A receives ack5, move base to 6

-Sender side received acked packet.

-Acked num received: 5, sender no longer waiting for acknum.

=====Ack number: 5=====

PKT5 ACKED

EVENT time: 100.773239, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:hhhhhhhhhhhhhhhhhhhh

-Expected seqnum is 6. need resends ack, Current seqnum: 8.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 5.

EVENT time: 104.807388, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 6, packet acknum: 999999.

EVENT time: 112.294502, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :iiiiiiiiiiiiiiii

next_seqnum now is: 9

check data: Message data is :iiiiiiiiiiiiiiii

check data: Payload content is:iiiiiiiiiiiiiiii

-Packet sent.

check data: Payload content is:iiiiiiiiiiiiiiii

EVENT time: 112.428940, type: 0, timerinterrupt entity: 7

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 92.428940, current time: 112.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 4:

-Resend packet with seqnum: 6, acknum: 6

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 7, acknum: 7

-Resend packet with seqnum: 8, acknum: 8

-Resend packet with seqnum: 9, acknum: 9

EVENT time: 114.388321, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :jjjjjjjjjjjjjjjj

Pkt 10 is lost

next_seqnum now is: 10

check data: Message data is :jjjjjjjjjjjjjjjj

check data: Payload content is:jjjjjjjjjjjjjjjj

TOLAYER3: packet being lost

-Packet sent.

check data: Payload content is:jjjjjjjjjjjjjjjj

EVENT time: 117.964310, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:iiiiiiiiiiiiiiii

-Expected seqnum is 6. need resends ack, Current seqnum: 9.

TOLAYER3: packet being lost

-Receiver side send acked number by packet back to sender. acknum: 5.

EVENT time: 118.727043, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0
check data: Message data is :kkkkkkkkkkkkkkkkkkkk
next_seqnum now is: 11
check data: Message data is :kkkkkkkkkkkkkkkkkkkk
check data: Payload content is:kkkkkkkkkkkkkkkkkkkk
TOLAYER3: packet being corrupted
-Packet sent.
check data: Payload content is:kkkkkkkkkkkkkkkkkkkk

EVENT time: 126.205933, type: 2, fromlayer3 entity: 1
-B_input(pkt);
-Receive packet.
check data: Payload content is:ffffffffffffffffffff
-Receiver receives packet successfully with seqnum 6.
-Send the packet to layer file with payload content.
check data: Payload content is:ffffffffffffffffffff
-Receiver side send acked number by packet back to sender. acknum: 6.

EVENT time: 128.214996, type: 2, fromlayer3 entity: 1
-B_input(pkt);
-Receive packet.
check data: Payload content is:gggggggggggggggggggggg
-Receiver receives packet successfully with seqnum 7.
-Send the packet to layer file with payload content.
check data: Payload content is:gggggggggggggggggggggg
-Receiver side send acked number by packet back to sender. acknum: 7.

EVENT time: 130.381088, type: 2, fromlayer3 entity: 0
-A_input(pkt);
-Sender side received acked packet.
-Acked num received: 6, sender no longer waiting for acknum.

=====Ack number: 6=====

EVENT time: 132.428940, type: 0, timerinterrupt entity: 9
Arrives TIMER_INTERRUPT event with packet: 0
Check whether time is valid, start time: 112.428940, current time: 132.428940.
-A_timerinterrupt(); Pkt7 is timeout, resend all pkt in window
-Time interrupts, resend current packet in sender's side.
Total number of packet in window is 5:
-Resend packet with seqnum: 7, acknum: 7
-Resend packet with seqnum: 8, acknum: 8
-Resend packet with seqnum: 9, acknum: 9
-Resend packet with seqnum: 10, acknum: 10
TOLAYER3: packet being corrupted
-Resend packet with seqnum: 11, acknum: 11

EVENT time: 152.428940, type: 0, timerinterrupt entity: 11

Arrives TIMER_INTERRUPT event with packet: 0
Check whether time is valid, start time: 132.428940, current time: 152.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 4:

-Resend packet with seqnum: 9, acknum: 9

-Resend packet with seqnum: 10, acknum: 10 Resend pkt10

-Resend packet with seqnum: 11, acknum: 11

TOLAYER3: packet being lost

-Resend packet with seqnum: 12, acknum: 12 Resend pkt12

EVENT time: 153.211761, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-Acked num received: 9, sender no longer waiting for acknum.

=====Ack number: 9=====

EVENT time: 153.295013, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:kkkkkkkkkkkkkkkkkkkk

-Checksum corrupted. Current checksum: 1002150, packet checksum: 2162.

EVENT time: 155.064957, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:gggggggggggggggggggggg

-Expected seqnum is 10. need resends ack, Current seqnum: 7.

-Receiver side send acked number by packet back to sender. acknum: 9.

EVENT time: 155.499466, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :mmmmmmmmmmmmmmmmmmmmmmmmmmmm

next_seqnum now is: 13

check data: Message data is :mmmmmmmmmmmmmmmmmmmmmmmmmmmm

check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmmmm

TOLAYER3: packet being corrupted

-Packet sent.

check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmmmm

EVENT time: 158.326584, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:hhhhhhhhhhhhhhhhhhhh

-Expected seqnum is 10. need resends ack, Current seqnum: 8.

-Receiver side send acked number by packet back to sender. acknum: 9.

EVENT time: 158.554230, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 10, packet acknum: 9.

EVENT time: 160.359589, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 10, packet acknum: 9.

EVENT time: 165.981293, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:iiiiiiiiiiiiiiii

-Expected seqnum is 10. need resends ack, Current seqnum: 9.

-Receiver side send acked number by packet back to sender. acknum: 9.

EVENT time: 172.166046, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :nnnnnnnnnnnnnnnnnnnn

next_seqnum now is: 14

check data: Message data is :nnnnnnnnnnnnnnnnnnnn

check data: Payload content is:nnnnnnnnnnnnnnnnnnnn

TOLAYER3: packet being corrupted

-Packet sent.

check data: Payload content is:nnnnnnnnnnnnnnnnnnnn

EVENT time: 172.395645, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zjjjjjjjjjjjjjjjjjj

-Checksum corrupted. Current checksum: 2124, packet checksum: 2140.

EVENT time: 172.428940, type: 0, timerinterrupt entity: 12

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 152.428940, current time: 172.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 5:

-Resend packet with seqnum: 10, acknum: 10

Resend pkt10

-Resend packet with seqnum: 11, acknum: 11

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 12, acknum: 12

Resend pkt12, but lost

TOLAYER3: packet being lost

-Resend packet with seqnum: 13, acknum: 13

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 14, acknum: 14

EVENT time: 173.758224, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 10, packet acknum: 9.

EVENT time: 177.222839, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :oooooooooooooooooooo

next_seqnum now is: 15

check data: Message data is :oooooooooooooooooooo

check data: Payload content is:oooooooooooooooooooo

TOLAYER3: packet being corrupted

-Packet sent.

check data: Payload content is:oooooooooooooooooooo

EVENT time: 180.754410, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :pppppppppppppppppppppp

next_seqnum now is: 16

check data: Message data is :pppppppppppppppppppppp

check data: Payload content is:pppppppppppppppppppppp

-Packet sent.

check data: Payload content is:pppppppppppppppppppppp

EVENT time: 181.890335, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:kkkkkkkkkkkkkkkkkkkk

-Expected seqnum is 10. need resends ack, Current seqnum: 11.

-Receiver side send acked number by packet back to sender. acknum: 9.

EVENT time: 186.763901, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 10, packet acknum: 9.

EVENT time: 191.465485, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:iiiiiiiiiiiiiiii

-Expected seqnum is 10. need resends ack, Current seqnum: 9.

-Receiver side send acked number by packet back to sender. acknum: 9.

EVENT time: 192.428940, type: 0, timerinterrupt entity: 14

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 172.428940, current time: 192.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 7:

-Resend packet with seqnum: 10, acknum: 10

Resend pkt10,12

-Resend packet with seqnum: 11, acknum: 11

-Resend packet with seqnum: 12, acknum: 12

-Resend packet with seqnum: 13, acknum: 13

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 14, acknum: 14

-Resend packet with seqnum: 15, acknum: 15

-Resend packet with seqnum: 16, acknum: 16

EVENT time: 196.764832, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :qqqqqqqqqqqqqqqqqqqq

next_seqnum now is: 17

check data: Message data is :qqqqqqqqqqqqqqqqqqqq

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

TOLAYER3: packet being corrupted

-Packet sent.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

EVENT time: 196.909500, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:jjjjjjjjjjjjjjjjjjjj

B receives pkt10, and send ack10

-Receiver receives packet successfully with seqnum 10.

-Send the packet to layer file with payload content.

check data: Payload content is:jjjjjjjjjjjjjjjjjj

-Receiver side send acked number by packet back to sender. acknum: 10.

EVENT time: 197.182617, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 10, packet acknum: 9.

EVENT time: 203.607956, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:llllllllllllllllll

B receives pkt10, and send ack10

-Expected seqnum is 11. need resends ack, Current seqnum: 12.

TOLAYER3: packet being lost

-Receiver side send acked number by packet back to sender. acknum: 10.

EVENT time: 204.218399, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

A receives ack 10, move base to 11

-Acked num received: 10, sender no longer waiting for acknum.

=====Ack number: 10=====

Pkt10 acked

EVENT time: 204.343460, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :rrrrrrrrrrrrrrrrrr

next_seqnum now is: 18

check data: Message data is :rrrrrrrrrrrrrrrrrr

check data: Payload content is:rrrrrrrrrrrrrrrrrr

-Packet sent.

check data: Payload content is:rrrrrrrrrrrrrrrrrr

EVENT time: 212.255325, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 2

check data: Message data is :ssssssssssssssssss

next_seqnum now is: 19

-Sender side is full with next_seqnum: 19, base: 11.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 0.

-Added to buffer, now the number of messages in buffer is:1

```
-Added to buffer. now the number of messages in buffer is:3
```

EVENT time: 216.900543, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Znnnnnnnnnnnnnnnnnnnn

-Checksum corrupted. Current checksum: 2208, packet checksum: 2228.

EVENT time: 221.052826, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:jjjjjjjjjjjjjjjjjjjj

-Expected seqnum is 11. need resends ack, Current seqnum: 10.

-Receiver side send acked number by packet back to sender. acknum: 10.

EVENT time: 229.183548, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:kkkkkkkkkkkkkkkkkkkk

-Receiver receives packet successfully with seqnum 11.

-Send the packet to layer file with payload content.

check data: Payload content is:kkkkkkkkkkkkkkkkkkkk

-Receiver side send acked number by packet back to sender. acknum: 11.

EVENT time: 230.968124, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 11, packet acknum: 10.

EVENT time: 232.428940, type: 0, timerinterrupt entity: 18

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 212.428940, current time: 232.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 11, acknum: 11

TOLAYER3: packet being lost

-Resend packet with seqnum: 12, acknum: 12

Resend pkt12, but corrupted

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 13, acknum: 13

-Resend packet with seqnum: 14, acknum: 14

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 15, acknum: 15

-Resend packet with seqnum: 16, acknum: 16

-Resend packet with seqnum: 17, acknum: 17

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 18, acknum: 18

EVENT time: 232.948853, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-Acked num received: 11, sender no longer waiting for acknum.

-There are/is some message in buffer, move the first one to window.

check data: Message data is :ssssssssssssssssssss

check data: Payload content is:ssssssssssssssssssss

check data: Payload content is:ssssssssssssssssssss

-First message in buffer moved, now number of message in buffer is : 2

=====Ack number: 11=====

EVENT time: 234.210510, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :vvvvvvvvvvvvvvvvvvvv

next_seqnum now is: 20

-Sender side is full with next_seqnum: 20, base: 12.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 2.

-Added to buffer, now the number of messages in buffer is:3

EVENT time: 235.834137, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :wwwwwwwwwwwwwwwwwwww

next_seqnum now is: 20

-Sender side is full with next_seqnum: 20, base: 12.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 3.

-Added to buffer, now the number of messages in buffer is:4

EVENT time: 238.270569, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zmmmmmmmmmmmmmmmmmmmm

-Checksum corrupted. Current checksum: 2187, packet checksum: 2206.

EVENT time: 241.976395, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:nnnnnnnnnnnnnnnnnnnn

-Expected seqnum is 12. need resends ack, Current seqnum: 14.

-Receiver side send acked number by packet back to sender. acknum: 11.

EVENT time: 244.071045, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :xxxxxxxxxxxxxxxxxxxxxx

next_seqnum now is: 20

-Sender side is full with next_seqnum: 20, base: 12.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 4.

-Added to buffer, now the number of messages in buffer is:5

EVENT time: 248.208618, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :yyyyyyyyyyyyyyyyyyyyyy

next_seqnum now is: 20

-Sender side is full with next_seqnum: 20, base: 12.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 5.

-Added to buffer, now the number of messages in buffer is:6

EVENT time: 248.495102, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :zzzzzzzzzzzzzzzzzzzz

next_seqnum now is: 20

-Sender side is full with next_seqnum: 20, base: 12.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 6.

-Added to buffer, now the number of messages in buffer is:7

EVENT time: 250.501175, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zooooooooooooooooooooo

-Checksum corrupted. Current checksum: 2229, packet checksum: 2250.

EVENT time: 250.681015, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 12, packet acknum: 11.

EVENT time: 252.428940, type: 0, timerinterrupt entity: 18
Arrives TIMER_INTERRUPT event with packet: 0
Check whether time is valid, start time: 232.428940, current time: 252.428940.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 12, acknum: 12

Resend pkt12, but lost

TOLAYER3: packet being lost

-Resend packet with seqnum: 13, acknum: 13

-Resend packet with seqnum: 14, acknum: 14

TOLAYER3: packet being lost

-Resend packet with seqnum: 15, acknum: 15

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 16, acknum: 16

-Resend packet with seqnum: 17, acknum: 17

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 18, acknum: 18

-Resend packet with seqnum: 19, acknum: 19

EVENT time: 253.155823, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:pppppppppppppppppppppp

-Expected seqnum is 12. need resends ack, Current seqnum: 16.

-Receiver side send acked number by packet back to sender. acknum: 11.

EVENT time: 254.609283, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 12, packet acknum: 11.

EVENT time: 255.807556, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:jjjjjjjjjjjjjjjjjjjj

-Expected seqnum is 12. need resends ack, Current seqnum: 10.

-Receiver side send acked number by packet back to sender. acknum: 11.

EVENT time: 262.625366, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:kkkkkkkkkkkkkkkkkkkk

-Expected seqnum is 12. need resends ack, Current seqnum: 11.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 11.

EVENT time: 263.128845, type: 2, fromlayer3 entity: 0

```
-A_input(pkt);
```

-Sender side received acked packet.

- acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 12, packet acknum: 11.

EVENT time: 263.550934, type: 1, fromlayer5 entity: 0

```
-A_output(mst);
```

- Sender gets message from layer5, sender outputs packet to layer3(network).

- Initial state: seqnum is 0, acknum is 0

```
check data: Message data is :aaaaaaaaaaaaaaaaaaaaaa
```

next_seqnum now is: 20

-Sender side is full with next_seqnum: 20, base: 12.

- Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 7.

-Added to buffer, now the number of messages in buffer is:8

EVENT time: 265.045776, type: 2, fromlayer3 entity: 1

```
-B_input(pkt);
```

- Receive packet.

```
check data: Payload content is:|||||
```

-Receiver receives packet successfully with seqnum 12.

- Send the packet to layer file with payload content.

```
check data: Payload content is:|||||
```

-Receiver side send acked number by packet back to sender. acknum: 12.

EVENT time: 270.114594, type: 2, fromlayer3 entity: 0

```
-A input(pkt);
```

-Sender side received acked packet.

- acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 12, packet acknum: 11.

EVENT time: 271.915771, type: 2, fromlayer3 entity: 1

```
-B_input(pkt);
```

- Receive packet.

check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmm

-Receiver receives packet successfully with seqnum 13.

- Send the packet to layer file with payload content.

```
check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmmmmmm
```

-Receiver side send acked number by packet back to sender. acknum: 13.

EVENT time: 272.428955, type: 0, timerinterrupt entity: 19

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 252.428955, current time: 272.428955.

-A_timerinterrupt();
 -Time interrupts, resend current packet in sender's side.
 Total number of packet in window is 8:
 -Resend packet with seqnum: 12, acknum: 12
 -Resend packet with seqnum: 13, acknum: 13
 -Resend packet with seqnum: 14, acknum: 14
 -Resend packet with seqnum: 15, acknum: 15
 TOLAYER3: packet being lost
 -Resend packet with seqnum: 16, acknum: 16
 -Resend packet with seqnum: 17, acknum: 17
 -Resend packet with seqnum: 18, acknum: 18
 Warning: unable to cancel your timer. It wasn't running.
 -Resend packet with seqnum: 19, acknum: 19

Resend pkt12

EVENT time: 275.360718, type: 1, fromlayer5 entity: 0
 -A_output(mst);
 -Sender gets message from layer5, sender outputs packet to layer3(network).
 -Initial state: seqnum is 0, acknum is 0
 check data: Message data is :bbbbbbbbbbbbbbbbbbbb
 next_seqnum now is: 20
 -Sender side is full with next_seqnum: 20, base: 12.
 -Check number of package in buffer, put this message into buffer if buffer is not full.
 -Current number of message in buffer: 8.
 -Added to buffer, now the number of messages in buffer is:9

EVENT time: 277.458679, type: 2, fromlayer3 entity: 0
 -A_input(pkt);
 -Sender side received acked packet. Receive ack 12, move base to 13
 -Acked num received: 12, sender no longer waiting for acknum.
 -There are/is some message in buffer, move the first one to window.
 check data: Message data is :tttttttttttttttttt
 check data: Payload content is:tttttttttttttttttt
 TOLAYER3: packet being corrupted
 check data: Payload content is:tttttttttttttttttt
 -First message in buffer moved, now number of message in buffer is : 8

=====Ack number: 12===== Pkt12 acked

EVENT time: 279.633698, type: 2, fromlayer3 entity: 1
 -B_input(pkt);
 -Receive packet.
 check data: Payload content is:nnnnnnnnnnnnnnnnnnnn
 -Receiver receives packet successfully with seqnum 14.
 -Send the packet to layer file with payload content.
 check data: Payload content is:nnnnnnnnnnnnnnnnnnnn
 -Receiver side send acked number by packet back to sender. acknum: 14.

TOLAYER3: packet being corrupted

EVENT time: 282.562347, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:oooooooooooooooooooo

-Receiver receives packet successfully with seqnum 15.

-Send the packet to layer file with payload content.

check data: Payload content is:oooooooooooooooooooo

-Receiver side send acked number by packet back to sender. acknum: 15.

EVENT time: 287.001465, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:pppppppppppppppppppp

-Receiver receives packet successfully with seqnum 16.

-Send the packet to layer file with payload content.

check data: Payload content is:pppppppppppppppppppp

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 287.431549, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-Acked num received: 13, sender no longer waiting for acknum.

-There are/is some message in buffer, move the first one to window.

check data: Message data is :uuuuuuuuuuuuuuuuuuuuuu

check data: Payload content is:uuuuuuuuuuuuuuuuuuuuuu

TOLAYER3: packet being corrupted

check data: Payload content is:uuuuuuuuuuuuuuuuuuuuuu

-First message in buffer moved, now number of message in buffer is : 7

=====Ack number: 13=====

EVENT time: 288.237213, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :cccccccccccccccccccc

next_seqnum now is: 22

-Sender side is full with next_seqnum: 22, base: 14.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 7.

-Added to buffer, now the number of messages in buffer is:8

EVENT time: 290.918365, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

-Checksum corrupted. Current checksum: 1002276, packet checksum: 2294.

EVENT time: 291.643463, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-Acked num received: 14, sender no longer waiting for acknum.

-There are/is some message in buffer, move the first one to window.

check data: Message data is :vvvvvvvvvvvvvvvvvvvv

check data: Payload content is:vvvvvvvvvvvvvvvvvvvv

check data: Payload content is:vvvvvvvvvvvvvvvvvvvv

-First message in buffer moved, now number of message in buffer is : 7

=====Ack number: 14=====

EVENT time: 292.428955, type: 0, timerinterrupt entity: 19

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 272.428955, current time: 292.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 15, acknum: 15

-Resend packet with seqnum: 16, acknum: 16

-Resend packet with seqnum: 17, acknum: 17

-Resend packet with seqnum: 18, acknum: 18

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 19, acknum: 19

-Resend packet with seqnum: 20, acknum: 20

TOLAYER3: packet being lost

-Resend packet with seqnum: 21, acknum: 21

-Resend packet with seqnum: 22, acknum: 22

EVENT time: 295.290192, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :dddddddddddddddddd

next_seqnum now is: 23

-Sender side is full with next_seqnum: 23, base: 15.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 7.

-Added to buffer, now the number of messages in buffer is:8

EVENT time: 297.768768, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.
-Acked num received: 15, sender no longer waiting for acknum.
-There are/is some message in buffer, move the first one to window.
check data: Message data is :wwwwwwwwwwwwwwwwwwwwwwww
check data: Payload content is:wwwwwwwwwwwwwwwwwwwwwwww
check data: Payload content is:wwwwwwwwwwwwwwwwwwwwwwww
-First message in buffer moved, now number of message in buffer is : 7

=====Ack number: 15=====

EVENT time: 298.147339, type: 2, fromlayer3 entity: 1
-B_input(pkt);
-Receive packet.
check data: Payload content is:rrrrrrrrrrrrrrrrrr
-Expected seqnum is 17. need resends ack, Current seqnum: 18.
TOLAYER3: packet being corrupted
-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 301.457458, type: 2, fromlayer3 entity: 0
-A_input(pkt);
-Sender side received acked packet.
-Acked num received: 16, sender no longer waiting for acknum.
-There are/is some message in buffer, move the first one to window.
check data: Message data is :xxxxxxxxxxxxxxxxxxxxxx
check data: Payload content is:xxxxxxxxxxxxxxxxxxxxxx
TOLAYER3: packet being corrupted
check data: Payload content is:xxxxxxxxxxxxxxxxxxxxxx
-First message in buffer moved, now number of message in buffer is : 6

=====Ack number: 16=====

EVENT time: 303.429474, type: 2, fromlayer3 entity: 1
-B_input(pkt);
-Receive packet.
check data: Payload content is:kkkkkkkkkkkkkkkkkkkk
-Expected seqnum is 17. need resends ack, Current seqnum: 11.
-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 304.340790, type: 2, fromlayer3 entity: 0
-A_input(pkt);
-Sender side received acked packet.
-acked num is not consistent with sender's current seqnum, ignored.
-Sender's seqnum: 17, packet acknum: 16.

EVENT time: 309.226166, type: 2, fromlayer3 entity: 0
-A_input(pkt);

- Sender side received acked packet.
- acked num is not consistent with sender's current seqnum, ignored.
- Sender's seqnum: 17, packet acknum: 16.

EVENT time: 312.428955, type: 0, timerinterrupt entity: 22

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 292.428955, current time: 312.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 17, acknum: 17

TOLAYER3: packet being lost

-Resend packet with seqnum: 18, acknum: 18

-Resend packet with seqnum: 19, acknum: 19

-Resend packet with seqnum: 20, acknum: 20

TOLAYER3: packet being lost

-Resend packet with seqnum: 21, acknum: 21

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 22, acknum: 22

TOLAYER3: packet being lost

-Resend packet with seqnum: 23, acknum: 23

-Resend packet with seqnum: 24, acknum: 24

EVENT time: 312.779419, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:ZIIIIIIIIIIIIIIIIIIII

-Checksum corrupted. Current checksum: 2166, packet checksum: 2184.

EVENT time: 314.469269, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmmmmmm

-Expected seqnum is 17. need resends ack, Current seqnum: 13.

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 314.599091, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :eeeeeeeeeeeeeeeeeeeeee

next_seqnum now is: 25

-Sender side is full with next_seqnum: 25, base: 17.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 6.

-Added to buffer, now the number of messages in buffer is:7

EVENT time: 322.348511, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 17, packet acknum: 16.

EVENT time: 324.262268, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:nnnnnnnnnnnnnnnnnnnnnn

-Expected seqnum is 17. need resends ack, Current seqnum: 14.

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 330.753021, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:oooooooooooooooooooo

-Expected seqnum is 17. need resends ack, Current seqnum: 15.

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 330.815979, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :ffffffffffffffffffff

next_seqnum now is: 25

-Sender side is full with next_seqnum: 25, base: 17.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 7.

-Added to buffer, now the number of messages in buffer is:8

EVENT time: 330.845093, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 17, packet acknum: 16.

EVENT time: 332.428955, type: 0, timerinterrupt entity: 24

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 312.428955, current time: 332.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 17, acknum: 17

-Resend packet with seqnum: 18, acknum: 18

- Resend packet with seqnum: 19, acknum: 19
- Resend packet with seqnum: 20, acknum: 20
- Resend packet with seqnum: 21, acknum: 21
 - TOLAYER3: packet being corrupted
- Resend packet with seqnum: 22, acknum: 22
- Resend packet with seqnum: 23, acknum: 23
 - TOLAYER3: packet being corrupted

Warning: unable to cancel your timer. It wasn't running.

- Resend packet with seqnum: 24, acknum: 24

EVENT time: 334.510101, type: 2, fromlayer3 entity: 0

- A_input(pkt);
- Sender side received acked packet.
- acked num is not consistent with sender's current seqnum, ignored.
- Sender's seqnum: 17, packet acknum: 16.

EVENT time: 338.832550, type: 2, fromlayer3 entity: 1

- B_input(pkt);
- Receive packet.
- check data: Payload content is:pppppppppppppppppppppp
- Expected seqnum is 17. need resends ack, Current seqnum: 16.
- Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 341.679810, type: 2, fromlayer3 entity: 0

- A_input(pkt);
- Sender side received acked packet.
- acked num is not consistent with sender's current seqnum, ignored.
- Sender's seqnum: 17, packet acknum: 16.

EVENT time: 343.978058, type: 2, fromlayer3 entity: 1

- B_input(pkt);
- Receive packet.
- check data: Payload content is:rrrrrrrrrrrrrrrrrrrr
- Expected seqnum is 17. need resends ack, Current seqnum: 18.
- Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 347.768158, type: 2, fromlayer3 entity: 0

- A_input(pkt);
- Sender side received acked packet.
- acked num is not consistent with sender's current seqnum, ignored.
- Sender's seqnum: 17, packet acknum: 16.

EVENT time: 350.259918, type: 1, fromlayer5 entity: 0

- A_output(mst);
- Sender gets message from layer5, sender outputs packet to layer3(network).
- Initial state: seqnum is 0, acknum is 0

check data: Message data is :gggggggggggggggggggggg

next_seqnum now is: 25

-Sender side is full with next_seqnum: 25, base: 17.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 8.

-Added to buffer, now the number of messages in buffer is:9

EVENT time: 352.428955, type: 0, timerinterrupt entity: 24

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 332.428955, current time: 352.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 17, acknum: 17

TOLAYER3: packet being lost

-Resend packet with seqnum: 18, acknum: 18

TOLAYER3: packet being lost

-Resend packet with seqnum: 19, acknum: 19

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

-Resend packet with seqnum: 22, acknum: 22

TOLAYER3: packet being lost

-Resend packet with seqnum: 23, acknum: 23

TOLAYER3: packet being corrupted

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 24, acknum: 24

TOLAYER3: packet being corrupted

EVENT time: 353.304474, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:||||||||||||||||

-Checksum corrupted. Current checksum: 1002171, packet checksum: 2184.

EVENT time: 359.407043, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmmmmmm

-Expected seqnum is 17. need resends ack, Current seqnum: 13.

TOLAYER3: packet being lost

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 361.697113, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Znnnnnnnnnnnnnnnnnnnn

-Checksum corrupted. Current checksum: 2208, packet checksum: 2228.

EVENT time: 363.300842, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:oooooooooooooooooooo

-Expected seqnum is 17. need resends ack, Current seqnum: 15.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 364.731506, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :hhhhhhhhhhhhhhhhhhhh

next_seqnum now is: 25

-Sender side is full with next_seqnum: 25, base: 17.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 9.

-Added to buffer, now the number of messages in buffer is:10

EVENT time: 370.477753, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 17, packet acknum: 16.

EVENT time: 371.266235, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:pppppppppppppppppppp

-Expected seqnum is 17. need resends ack, Current seqnum: 16.

-Receiver side send acked number by packet back to sender. acknum: 16.

EVENT time: 372.428955, type: 0, timerinterrupt entity: 24

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 352.428955, current time: 372.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 17, acknum: 17

-Resend packet with seqnum: 18, acknum: 18

TOLAYER3: packet being lost

-Resend packet with seqnum: 19, acknum: 19

-Resend packet with seqnum: 20, acknum: 20

TOLAYER3: packet being lost

-Resend packet with seqnum: 21, acknum: 21

-Resend packet with seqnum: 22, acknum: 22

-Resend packet with seqnum: 23, acknum: 23

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 24, acknum: 24

TOLAYER3: packet being corrupted

EVENT time: 373.732941, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :iiiiiiiiiiiiiiii

next_seqnum now is: 25

-Sender side is full with next_seqnum: 25, base: 17.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 10.

-Added to buffer, now the number of messages in buffer is:11

EVENT time: 375.424377, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

-Receiver receives packet successfully with seqnum 17.

-Send the packet to layer file with payload content.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

-Receiver side send acked number by packet back to sender. acknum: 17.

EVENT time: 379.785431, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:rrrrrrrrrrrrrrrrrrrr

-Receiver receives packet successfully with seqnum 18.

-Send the packet to layer file with payload content.

check data: Payload content is:rrrrrrrrrrrrrrrrrrrr

-Receiver side send acked number by packet back to sender. acknum: 18.

EVENT time: 380.147552, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 17, packet acknum: 16.

EVENT time: 380.970337, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:aaaaaaaaaaaaaaaaaaaaaa

-First message in buffer moved, now number of message in buffer is : 8

=====Ack number: 19=====

EVENT time: 391.706299, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :jjjjjjjjjjjjjjjjjj

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 8.

-Added to buffer, now the number of messages in buffer is:9

EVENT time: 391.855835, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zooooooooooooooooooooo

-Checksum corrupted. Current checksum: 2229, packet checksum: 2250.

EVENT time: 392.428955, type: 0, timerinterrupt entity: 24

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 372.428955, current time: 392.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being lost

-Resend packet with seqnum: 22, acknum: 22

-Resend packet with seqnum: 23, acknum: 23

TOLAYER3: packet being corrupted

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25

TOLAYER3: packet being lost

-Resend packet with seqnum: 26, acknum: 26

-Resend packet with seqnum: 27, acknum: 27

EVENT time: 393.082733, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:pppppppppppppppppppppp

-Expected seqnum is 20. need resends ack, Current seqnum: 16.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 394.478485, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 999999.

EVENT time: 395.989349, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :kkkkkkkkkkkkkkkkkkkk

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 9.

-Added to buffer, now the number of messages in buffer is:10

EVENT time: 396.705750, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

-Expected seqnum is 20. need resends ack, Current seqnum: 17.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 400.907898, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 402.511505, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :llllllllllllllllllll

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 10.

-Added to buffer, now the number of messages in buffer is:11

EVENT time: 403.615021, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:rrrrrrrrrrrrrrrrrrrr

-Expected seqnum is 20. need resends ack, Current seqnum: 18.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 407.143860, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 412.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 392.428955, current time: 412.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 22, acknum: 22

-Resend packet with seqnum: 23, acknum: 23

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 26, acknum: 26

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 27, acknum: 27

TOLAYER3: packet being lost

EVENT time: 412.915894, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:ssssssssssssssssssss

-Expected seqnum is 20. need resends ack, Current seqnum: 19.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 415.632690, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 420.197906, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:|||||

-Expected seqnum is 20. need resends ack, Current seqnum: 12.

TOLAYER3: packet being lost

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 422.402863, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :mmmmmmmmmmmmmmmmmmmmmmmmmmmm

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 11.

-Added to buffer, now the number of messages in buffer is:12

EVENT time: 426.568634, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:mmmmmmmmmmmmmmmmmmmmmmmmmmmm

-Expected seqnum is 20. need resends ack, Current seqnum: 13.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 429.463257, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 430.348663, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :nnnnnnnnnnnnnnnnnnnnnnnnnnnn

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 12.

-Added to buffer, now the number of messages in buffer is:13

EVENT time: 431.120483, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:nnnnnnnnnnnnnnnnnnnnnnnnnnnn

-Expected seqnum is 20. need resends ack, Current seqnum: 14.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 432.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 412.428955, current time: 432.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 22, acknum: 22

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 23, acknum: 23

TOLAYER3: packet being lost

-Resend packet with seqnum: 24, acknum: 24

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 25, acknum: 25

TOLAYER3: packet being lost

-Resend packet with seqnum: 26, acknum: 26

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 27, acknum: 27

TOLAYER3: packet being lost

EVENT time: 435.526794, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 436.025116, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:pppppppppppppppppppppp

-Expected seqnum is 20. need resends ack, Current seqnum: 16.

TOLAYER3: packet being lost

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 443.054962, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

-Expected seqnum is 20. need resends ack, Current seqnum: 17.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 444.742401, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :oooooooooooooooooooo

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 13.

-Added to buffer, now the number of messages in buffer is:14

EVENT time: 447.897888, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 448.136627, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :pppppppppppppppppppppp

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 14.

-Added to buffer, now the number of messages in buffer is:15

EVENT time: 449.880890, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:rrrrrrrrrrrrrrrrrrrr

-Expected seqnum is 20. need resends ack, Current seqnum: 18.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 452.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 432.428955, current time: 452.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

-Resend packet with seqnum: 22, acknum: 22

-Resend packet with seqnum: 23, acknum: 23

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25
-Resend packet with seqnum: 26, acknum: 26
Warning: unable to cancel your timer. It wasn't running.
-Resend packet with seqnum: 27, acknum: 27
TOLAYER3: packet being lost

EVENT time: 454.998749, type: 1, fromlayer5 entity: 0
-A_output(mst);
-Sender gets message from layer5, sender outputs packet to layer3(network).
-Initial state: seqnum is 0, acknum is 0
check data: Message data is :qqqqqqqqqqqqqqqqqqqq
next_seqnum now is: 28
-Sender side is full with next_seqnum: 28, base: 20.
-Check number of package in buffer, put this message into buffer if buffer is not full.
-Current number of message in buffer: 15.
-Added to buffer, now the number of messages in buffer is:16

EVENT time: 455.572083, type: 2, fromlayer3 entity: 1
-B_input(pkt);
-Receive packet.
check data: Payload content is:ssssssssssssssssssss
-Expected seqnum is 20. need resends ack, Current seqnum: 19.
-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 457.853241, type: 2, fromlayer3 entity: 0
-A_input(pkt);
-Sender side received acked packet.
-acked num is not consistent with sender's current seqnum, ignored.
-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 459.523407, type: 2, fromlayer3 entity: 0
-A_input(pkt);
-Sender side received acked packet.
-acked num is not consistent with sender's current seqnum, ignored.
-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 462.158356, type: 2, fromlayer3 entity: 1
-B_input(pkt);
-Receive packet.
check data: Payload content is:tttttttttttttttttt
-Checksum corrupted. Current checksum: 1002339, packet checksum: 2360.

EVENT time: 468.962311, type: 1, fromlayer5 entity: 0
-A_output(mst);
-Sender gets message from layer5, sender outputs packet to layer3(network).
-Initial state: seqnum is 0, acknum is 0

check data: Message data is :rrrrrrrrrrrrrrrrrrrr

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 16.

-Added to buffer, now the number of messages in buffer is:17

EVENT time: 470.518677, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :ssssssssssssssssssss

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 17.

-Added to buffer, now the number of messages in buffer is:18

EVENT time: 470.679901, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zuuuuuuuuuuuuuuuuuuuu

-Checksum corrupted. Current checksum: 2355, packet checksum: 2382.

EVENT time: 472.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 452.428955, current time: 472.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

TOLAYER3: packet being lost

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 22, acknum: 22

TOLAYER3: packet being lost

-Resend packet with seqnum: 23, acknum: 23

TOLAYER3: packet being lost

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25

TOLAYER3: packet being lost

-Resend packet with seqnum: 26, acknum: 26

TOLAYER3: packet being corrupted

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 27, acknum: 27

EVENT time: 473.588287, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:vvvvvvvvvvvvvvvvvvvv

-Expected seqnum is 20. need resends ack, Current seqnum: 22.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 477.283905, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 477.708740, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:oooooooooooooooooooo

-Expected seqnum is 20. need resends ack, Current seqnum: 15.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 482.405029, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:pppppppppppppppppppppp

-Expected seqnum is 20. need resends ack, Current seqnum: 16.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 484.865753, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 486.745453, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 488.419678, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :tttttttttttttttttt

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

- Check number of package in buffer, put this message into buffer if buffer is not full.
- Current number of message in buffer: 18.
- Added to buffer, now the number of messages in buffer is:19

EVENT time: 489.424072, type: 2, fromlayer3 entity: 1

- B_input(pkt);
- Receive packet.
- check data: Payload content is:qqqqqqqqqqqqqqqqqqqq
- Expected seqnum is 20. need resends ack, Current seqnum: 17.
TOLAYER3: packet being corrupted
- Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 492.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 472.428955, current time: 492.428955.

- A_timerinterrupt();
- Time interrupts, resend current packet in sender's side.
- Total number of packet in window is 8:
- Resend packet with seqnum: 20, acknum: 20
TOLAYER3: packet being corrupted
- Resend packet with seqnum: 21, acknum: 21
- Resend packet with seqnum: 22, acknum: 22
- Resend packet with seqnum: 23, acknum: 23
TOLAYER3: packet being corrupted
- Resend packet with seqnum: 24, acknum: 24
TOLAYER3: packet being lost
- Resend packet with seqnum: 25, acknum: 25
- Resend packet with seqnum: 26, acknum: 26
TOLAYER3: packet being lost
- Warning: unable to cancel your timer. It wasn't running.
- Resend packet with seqnum: 27, acknum: 27
TOLAYER3: packet being corrupted

EVENT time: 494.690186, type: 2, fromlayer3 entity: 1

- B_input(pkt);
- Receive packet.
- check data: Payload content is:rrrrrrrrrrrrrrrrrr
- Expected seqnum is 20. need resends ack, Current seqnum: 18.
- Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 496.568939, type: 2, fromlayer3 entity: 0

- A_input(pkt);
- Sender side received acked packet.
- acked num is not consistent with sender's current seqnum, ignored.
- Sender's seqnum: 20, packet acknum: 19.

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 492.428955, current time: 512.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being lost

-Resend packet with seqnum: 22, acknum: 22

-Resend packet with seqnum: 23, acknum: 23

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25

-Resend packet with seqnum: 26, acknum: 26

TOLAYER3: packet being lost

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 27, acknum: 27

EVENT time: 513.855164, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :vvvvvvvvvvvvvvvvvvvv

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 20.

-Added to buffer, now the number of messages in buffer is:21

EVENT time: 516.119934, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:wwwwwwwwwwwwwwwwww

-Expected seqnum is 20. need resends ack, Current seqnum: 23.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 519.080383, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 521.837158, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zxxxxxxxxxxxxxxxxxxx

-Checksum corrupted. Current checksum: 2418, packet checksum: 2448.

EVENT time: 522.436462, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :wwwwwwwwwwwwwww

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 21.

-Added to buffer, now the number of messages in buffer is:22

EVENT time: 523.253296, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 525.712036, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :xxxxxxxxxxxxxxxxxxxxxx

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 22.

-Added to buffer, now the number of messages in buffer is:23

EVENT time: 526.983032, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 527.782227, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:rrrrrrrrrrrrrrrrrr

-Expected seqnum is 20. need resends ack, Current seqnum: 18.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 532.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 512.428955, current time: 532.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

TOLAYER3: packet being lost

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being lost

-Resend packet with seqnum: 22, acknum: 22

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 23, acknum: 23

TOLAYER3: packet being lost

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25

-Resend packet with seqnum: 26, acknum: 26

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 27, acknum: 27

EVENT time: 532.703857, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:ssssssssssssssssssss

-Expected seqnum is 20. need resends ack, Current seqnum: 19.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 534.567322, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 536.766479, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:uuuuuuuuuuuuuuuuuuuuuu

-Expected seqnum is 20. need resends ack, Current seqnum: 21.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 537.875549, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :yyyyyyyyyyyyyyyyyyyy

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 23.

-Added to buffer, now the number of messages in buffer is:24

EVENT time: 540.507507, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:wwwwwwwwwwwwwwwwww

-Expected seqnum is 20. need resends ack, Current seqnum: 23.

TOLAYER3: packet being corrupted

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 542.282654, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 549.805115, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:xxxxxxxxxxxxxxxxxxxx

-Expected seqnum is 20. need resends ack, Current seqnum: 24.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 550.673706, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :zzzzzzzzzzzzzzzzzzzz

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 24.

-Added to buffer, now the number of messages in buffer is:25

EVENT time: 552.275085, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 552.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 532.428955, current time: 552.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

- Resend packet with seqnum: 21, acknum: 21
- Resend packet with seqnum: 22, acknum: 22
- Resend packet with seqnum: 23, acknum: 23
- Resend packet with seqnum: 24, acknum: 24
- Resend packet with seqnum: 25, acknum: 25
- TOLAYER3: packet being corrupted
- Resend packet with seqnum: 26, acknum: 26
- Warning: unable to cancel your timer. It wasn't running.
- Resend packet with seqnum: 27, acknum: 27

EVENT time: 555.872864, type: 2, fromlayer3 entity: 1

- B_input(pkt);
- Receive packet.

check data: Payload content is:qqqqqqqqqqqqqqqqqqqq

- Expected seqnum is 20. need resends ack, Current seqnum: 17.
- Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 557.873840, type: 1, fromlayer5 entity: 0

- A_output(mst);
- Sender gets message from layer5, sender outputs packet to layer3(network).
- Initial state: seqnum is 0, acknum is 0

check data: Message data is :aaaaaaaaaaaaaaaaaaaaa

next_seqnum now is: 28

- Sender side is full with next_seqnum: 28, base: 20.
- Check number of package in buffer, put this message into buffer if buffer is not full.
- Current number of message in buffer: 25.
- Added to buffer, now the number of messages in buffer is:26

EVENT time: 560.570618, type: 2, fromlayer3 entity: 0

- A_input(pkt);
- Sender side received acked packet.
- acked num is not consistent with sender's current seqnum, ignored.
- Sender's seqnum: 20, packet acknum: 999999.

EVENT time: 563.156616, type: 2, fromlayer3 entity: 1

- B_input(pkt);
- Receive packet.

check data: Payload content is:rrrrrrrrrrrrrrrrrr

- Expected seqnum is 20. need resends ack, Current seqnum: 18.
- TOLAYER3: packet being corrupted
- Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 564.126343, type: 1, fromlayer5 entity: 0

- A_output(mst);
- Sender gets message from layer5, sender outputs packet to layer3(network).
- Initial state: seqnum is 0, acknum is 0

check data: Message data is :bbbbbbbbbbbbbbbbbbbb

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 26.

-Added to buffer, now the number of messages in buffer is:27

EVENT time: 564.989075, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 568.786804, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 570.601868, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 571.626526, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:ssssssssssssssssssss

-Expected seqnum is 20. need resends ack, Current seqnum: 19.

-Receiver side send acked number by packet back to sender. acknum: 19.

EVENT time: 572.428955, type: 0, timerinterrupt entity: 27

Arrives TIMER_INTERRUPT event with packet: 0

Check whether time is valid, start time: 552.428955, current time: 572.428955.

-A_timerinterrupt();

-Time interrupts, resend current packet in sender's side.

Total number of packet in window is 8:

-Resend packet with seqnum: 20, acknum: 20

-Resend packet with seqnum: 21, acknum: 21

TOLAYER3: packet being corrupted

-Resend packet with seqnum: 22, acknum: 22

-Resend packet with seqnum: 23, acknum: 23

-Resend packet with seqnum: 24, acknum: 24

-Resend packet with seqnum: 25, acknum: 25

-Resend packet with seqnum: 26, acknum: 26

Warning: unable to cancel your timer. It wasn't running.

-Resend packet with seqnum: 27, acknum: 27

TOLAYER3: packet being lost

EVENT time: 575.168762, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-acked num is not consistent with sender's current seqnum, ignored.

-Sender's seqnum: 20, packet acknum: 19.

EVENT time: 576.811157, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:tttttttttttttttttt

-Receiver receives packet successfully with seqnum 20.

-Send the packet to layer file with payload content.

check data: Payload content is:tttttttttttttttttt

-Receiver side send acked number by packet back to sender. acknum: 20.

EVENT time: 581.172546, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:Zuuuuuuuuuuuuuuuuuuuu

-Checksum corrupted. Current checksum: 2355, packet checksum: 2382.

EVENT time: 582.150818, type: 1, fromlayer5 entity: 0

-A_output(mst);

-Sender gets message from layer5, sender outputs packet to layer3(network).

-Initial state: seqnum is 0, acknum is 0

check data: Message data is :cccccccccccccccccccc

next_seqnum now is: 28

-Sender side is full with next_seqnum: 28, base: 20.

-Check number of package in buffer, put this message into buffer if buffer is not full.

-Current number of message in buffer: 27.

-Added to buffer, now the number of messages in buffer is:28

EVENT time: 582.700317, type: 2, fromlayer3 entity: 1

-B_input(pkt);

-Receive packet.

check data: Payload content is:vvvvvvvvvvvvvvvvvvvv

-Expected seqnum is 21. need resends ack, Current seqnum: 22.

-Receiver side send acked number by packet back to sender. acknum: 20.

EVENT time: 583.836487, type: 2, fromlayer3 entity: 0

-A_input(pkt);

-Sender side received acked packet.

-Acked num received: 20, sender no longer waiting for acknum.
-There are/is some message in buffer, move the first one to window.
check data: Message data is :bbbbbbbbbbbbbbbbbbbb
check data: Payload content is:bbbbbbbbbbbbbbbbbbbb
check data: Payload content is:bbbbbbbbbbbbbbbbbbbb
-First message in buffer moved, now number of message in buffer is : 27

=====Ack number: 20=====