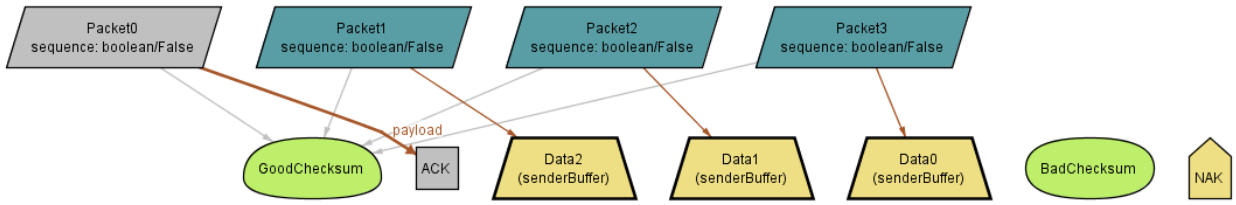
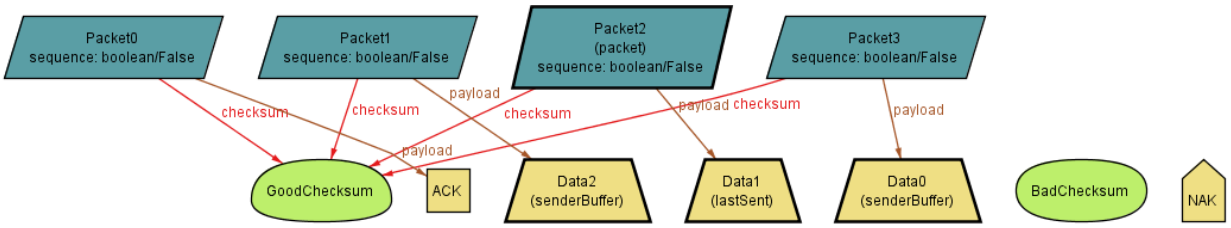
TEAM POTATO
Milestone 3

In this milestone, we were asked to model RDT2.2, which specifies that there is a sequence number attached to each data transfer specifying whether or not the data is a retransfer. If the data is retransferred, we are guaranteed that the transfer will be a success. Following is the trace where there are no failures. Then we will show a trace with one failure, but ultimate success.

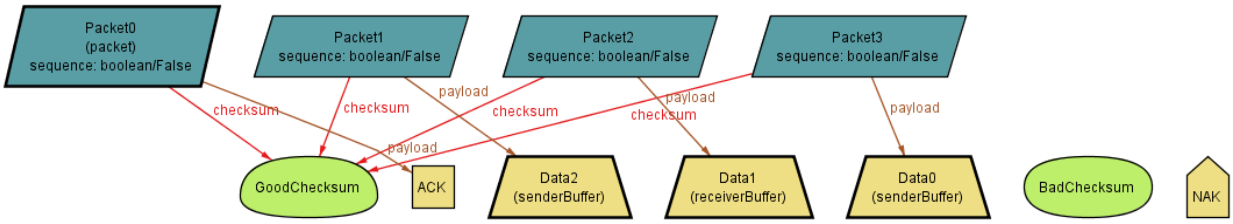
State 0



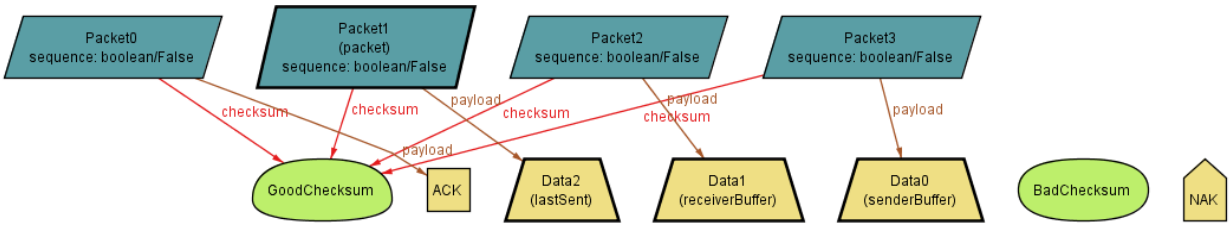
State 1



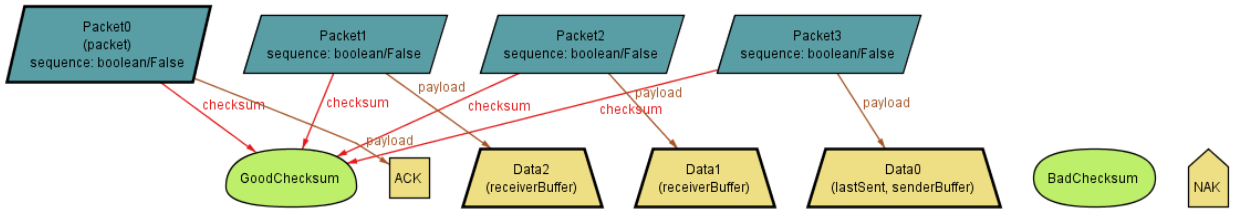
State 2



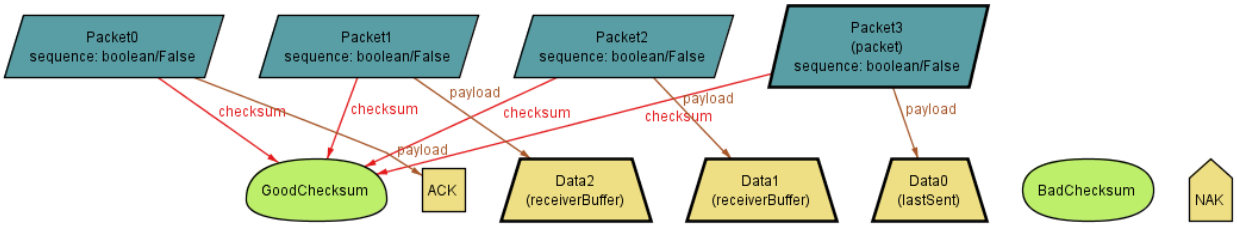
State 3



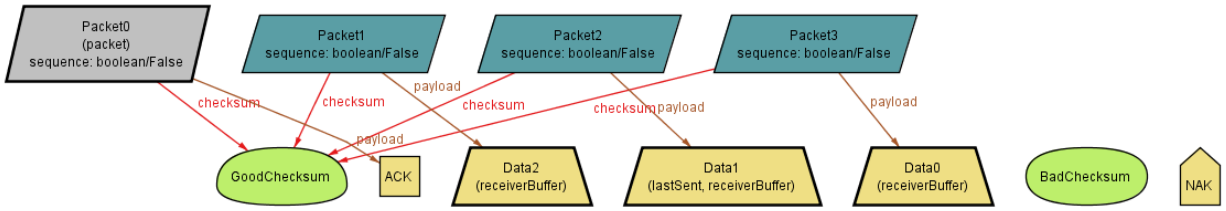
State 4



State 5



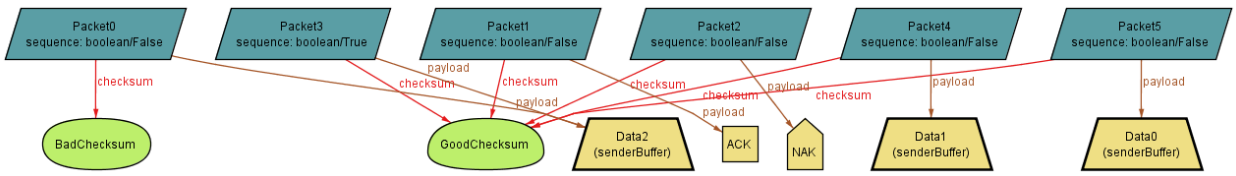
State 6



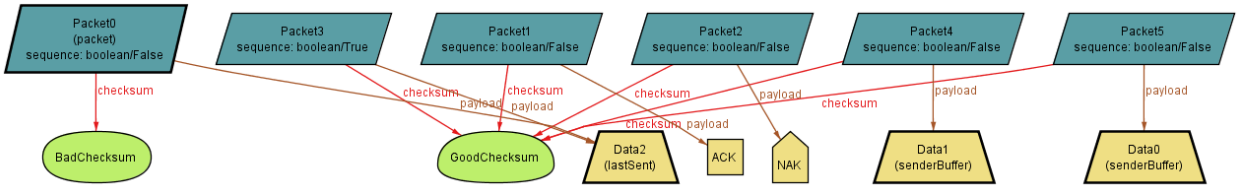
State	Send Buffer	Receiver Buffer	Packet in Channel
0	0, 1, 2	-	-
1	0, 2	-	P2 -> Data1, GoodCs, Seq = false
2	0, 2	1	P0 -> ACK, GoodCs, Seq = false
3	0	1	P1 -> Data2, GoodCs, Seq = false
4	0	1, 2	P0 -> ACK, GoodCs, Seq = false
5	-	1, 2	P3 -> Data0, GoodCs, Seq = false
6	-	0,1,2	P0 -> ACK, GoodCs, Seq = false

Now we move on to the trace where the data is successfully transferred but has one failure to transfer involved.

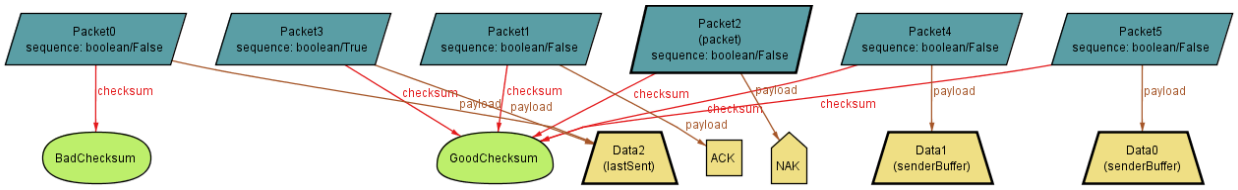
State 0



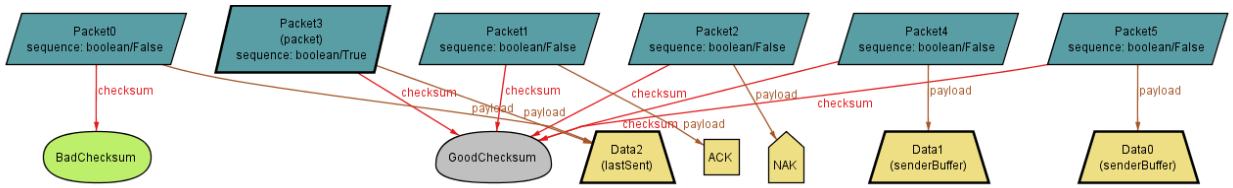
State 1



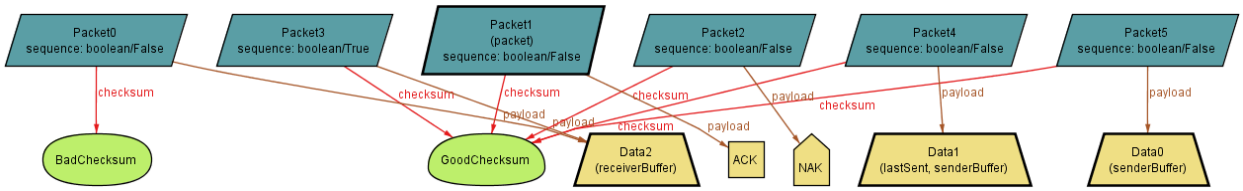
State 2



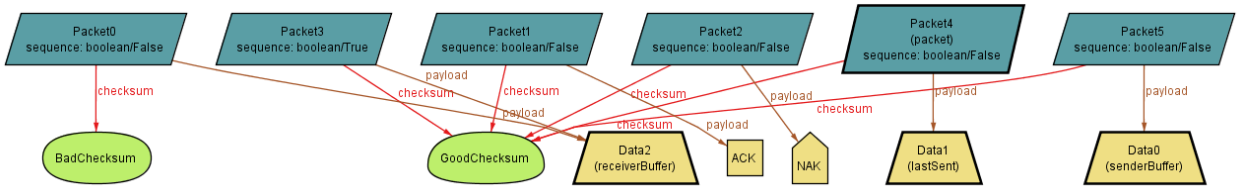
State 3



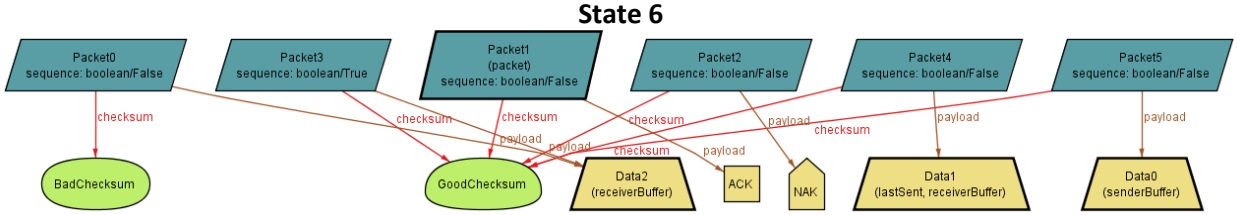
State 4



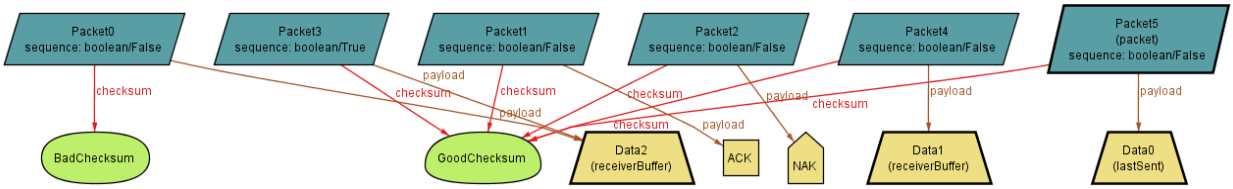
State 5



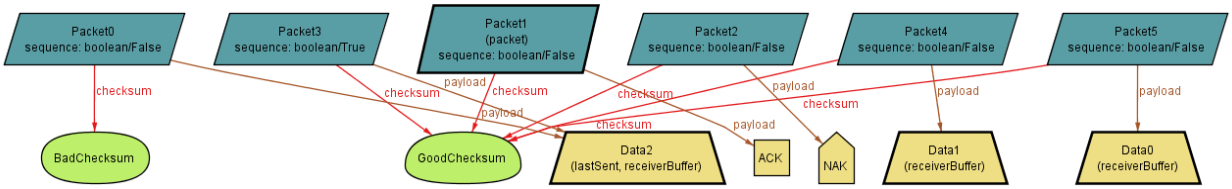
State 6



State 7



State 8



State	Send Buffer	Receiver Buffer	Packet in Channel
0	0, 1, 2	-	-
1	0, 1	-	P0 -> Data2, BadCs, Seq = false
2	0, 1	-	P2 -> NAK, GoodCs, Seq = false
3	0, 1	-	P3 -> Data2, GoodCs, Seq = true
4	0, 1	2	P1 -> ACK, GoodCs, Seq = false
5	0	2	P4 -> Data1, GoodCs, Seq = false
6	0	2, 1	P1 -> ACK, GoodCs, Seq = false
7	-	2, 1	P5 -> Data0, GoodCs, Seq = false
8	-	2, 1, 0	P1 -> ACK, GoodCs, Seq = false

With this model, if given enough states, the data will always be transferred because data is guaranteed to be transferred on the second attempt. However, if you don't give it enough states, it is possible that the data will not all be transferred if there are corrupted states.