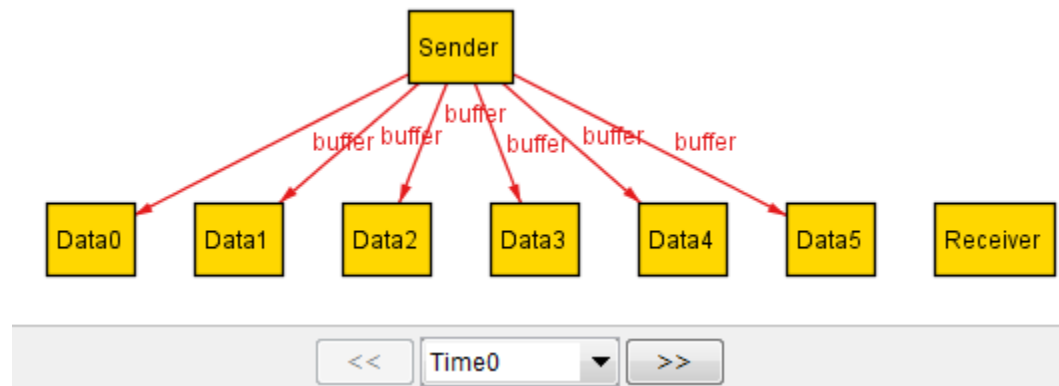
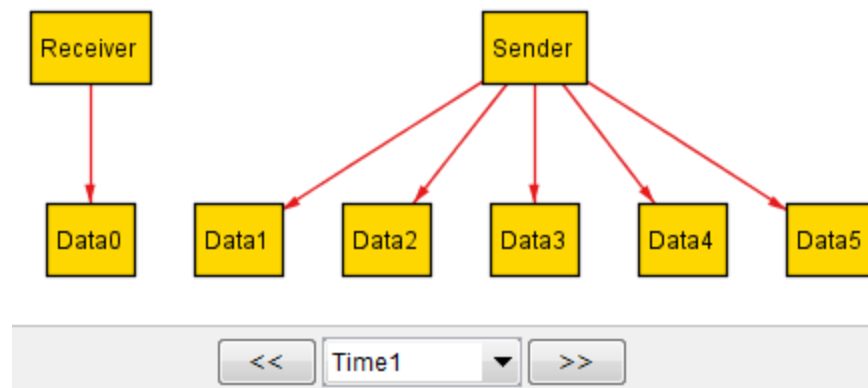


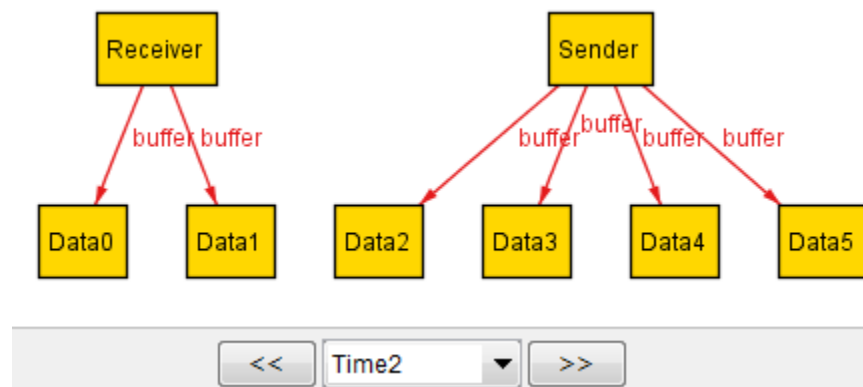
Time 0 (Sender has all the data packets, Receiver has none):



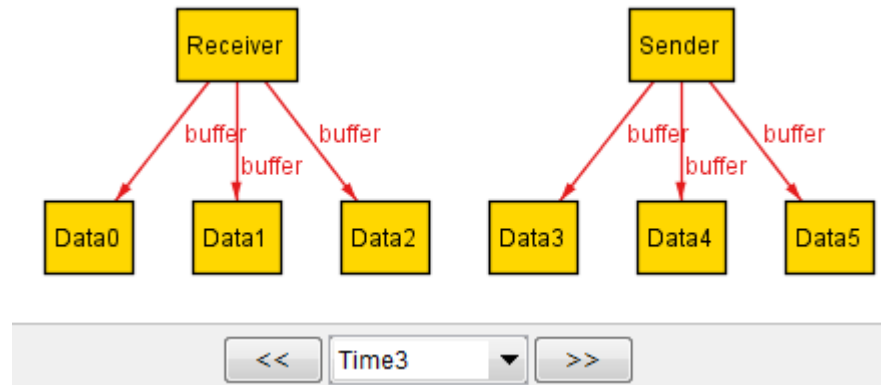
Time 1 (Sender has sent one more data packet, Receiver has received it):



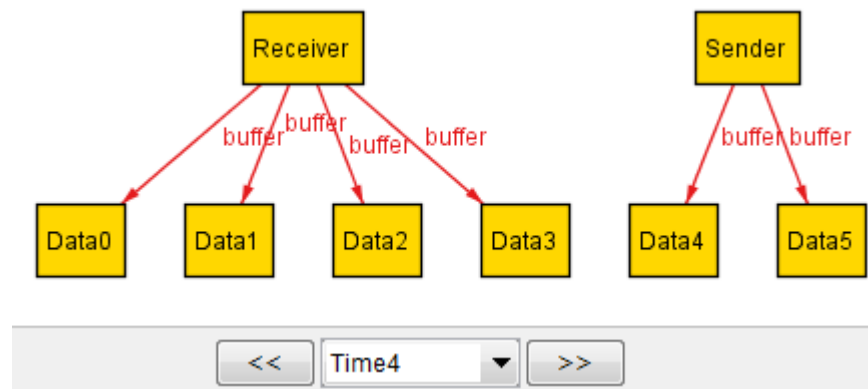
Time 2 (Sender has sent one more data packet, Receiver has received it):



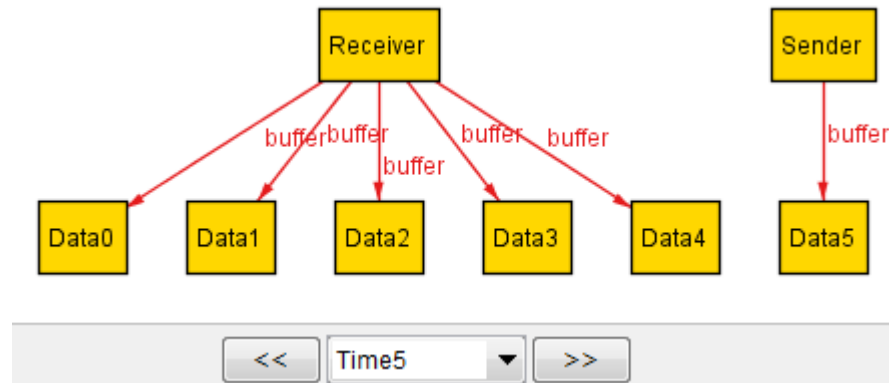
Time 3 (Sender has sent one more data packet, Receiver has received it):



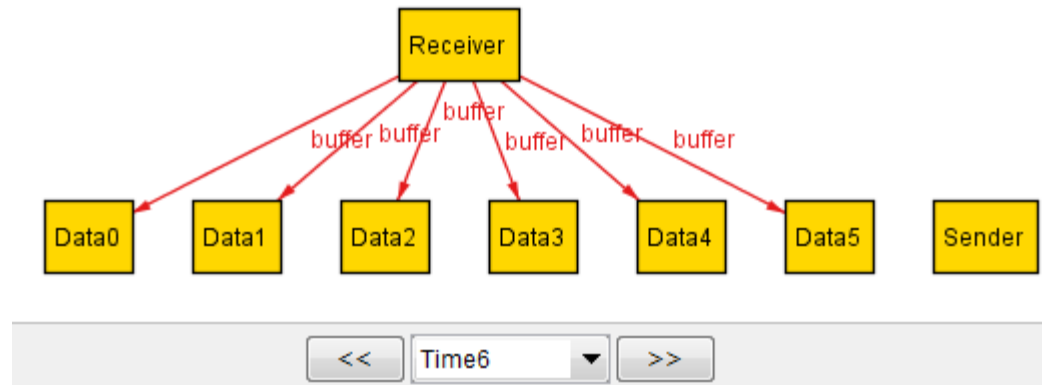
Time 4 (Sender has sent one more data packet, Receiver has received it):



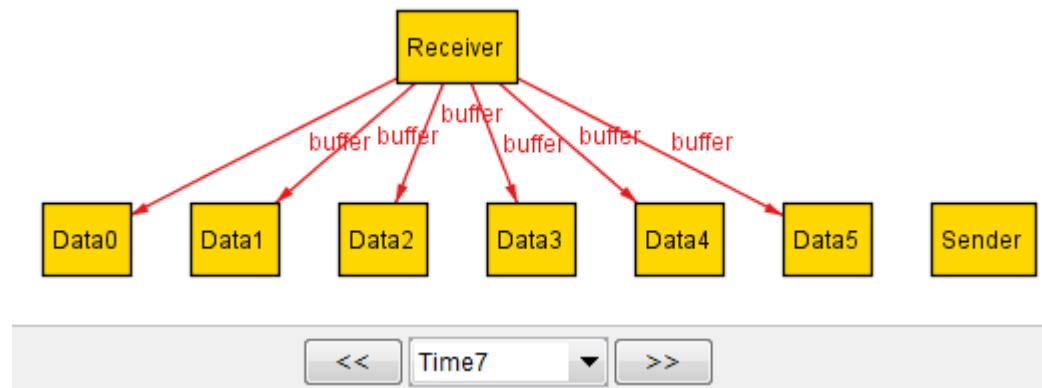
Time 5 (Sender has sent one more data packet, Receiver has received it):



Time 6 (Sender has now sent all the data packets, Receiver has them all now):



Time 7 and higher (Sender has sent all the data packets, so nothing else happens!):



```
pred init[s, r: Computer, t: Time]{
  s.buffer.t = Data
  no r.buffer.t
}

pred success[s, r: Computer, t: Time]{
  no s.buffer.t
  r.buffer.t = Data
}

pred Transition[s, r: Computer, t, t': Time]{
  one d: s.buffer.t | d + r.buffer.t = r.buffer.t' and s.buffer.t' = s.buffer.t
}

fact Trace{
  init[Sender, Receiver, first]
  all t: Time - last | let t' = t.next | Transition[Sender, Receiver, t, t'] or
  (success[Sender, Receiver, t'] and success[Sender, Receiver, t])
}

pred ShowTrace{}

run ShowTrace for exactly 6 Data, 30 Time

pred unsuccessful[] {
  not success[Sender, Receiver, last]
}

run unsuccessful for exactly 10 Data, 30 Time
```

For more information, please visit <http://alloy.wisc.edu/alloy4/>

Warning: Alloy4 defaults to SAT4J since it is pure Java and very reliable.
For faster performance, go to Options menu and try another solver like MiniSat.
If these native solvers fail on your computer, remember to change back to SAT4J.

Executing "Run ShowTrace for exactly 10 Data, 30 Time"
Solver=sat4j Bitwidth=0 MaxSeq=0 SkolemDepth=1 Symmetry=20
6959 vars. 600 primary vars. 24953 clauses. 281ms.
Instance found. Predicate is consistent. 156ms.

Executing "Run ShowTrace for exactly 6 Data, 30 Time"
Solver=sat4j Bitwidth=0 MaxSeq=0 SkolemDepth=1 Symmetry=20
4131 vars. 360 primary vars. 12025 clauses. 47ms.
Instance found. Predicate is consistent. 46ms.

Executing "Run unsuccessful for exactly 10 Data, 30 Time"
Solver=sat4j Bitwidth=0 MaxSeq=0 SkolemDepth=1 Symmetry=20
6959 vars. 600 primary vars. 24957 clauses. 63ms.
No instance found. Predicate may be inconsistent. 124ms.

Able to show an instance for the first part. Not able to show any counter examples for the second one (as expected with our strict assumptions for this Milestone).