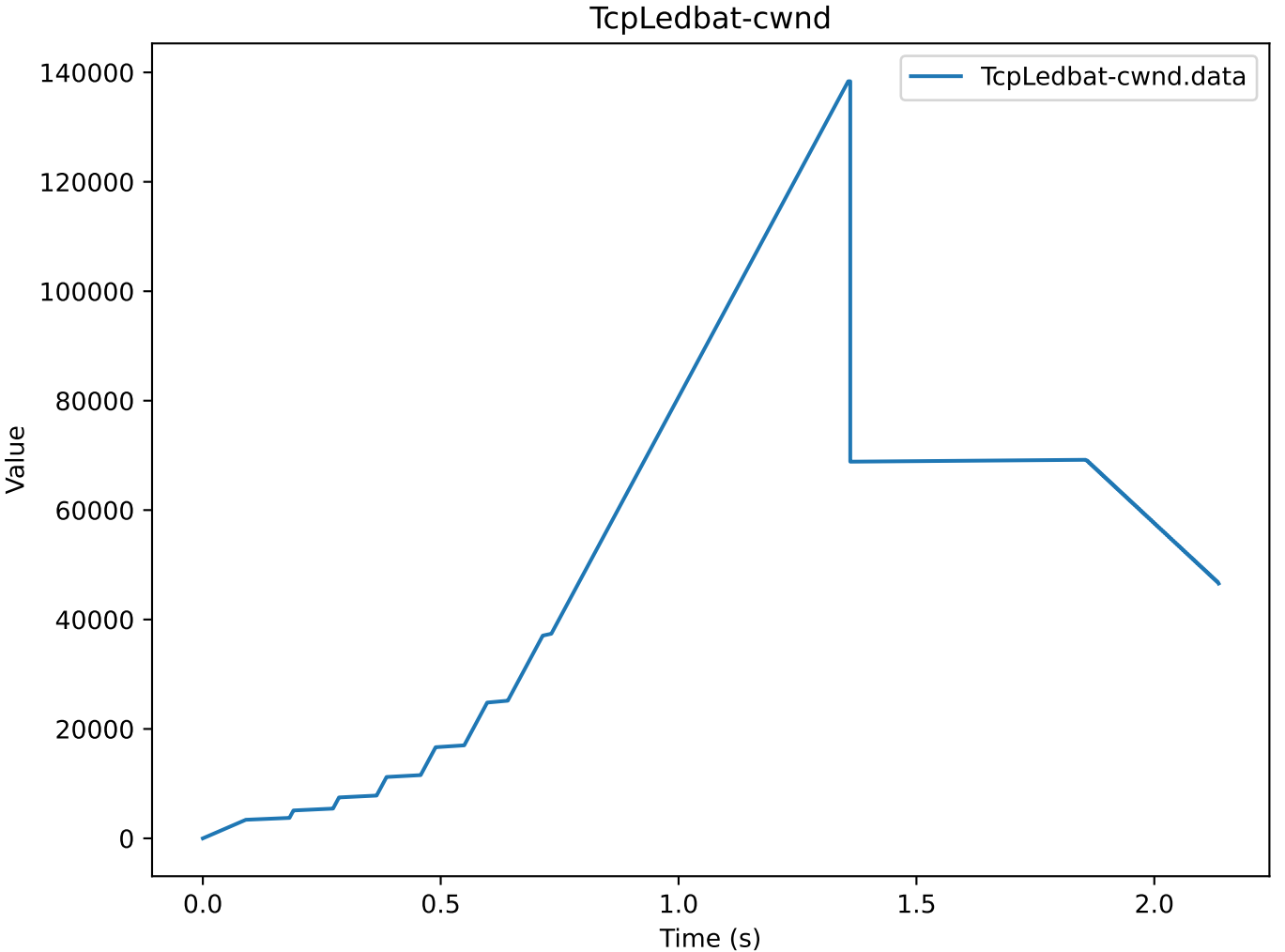
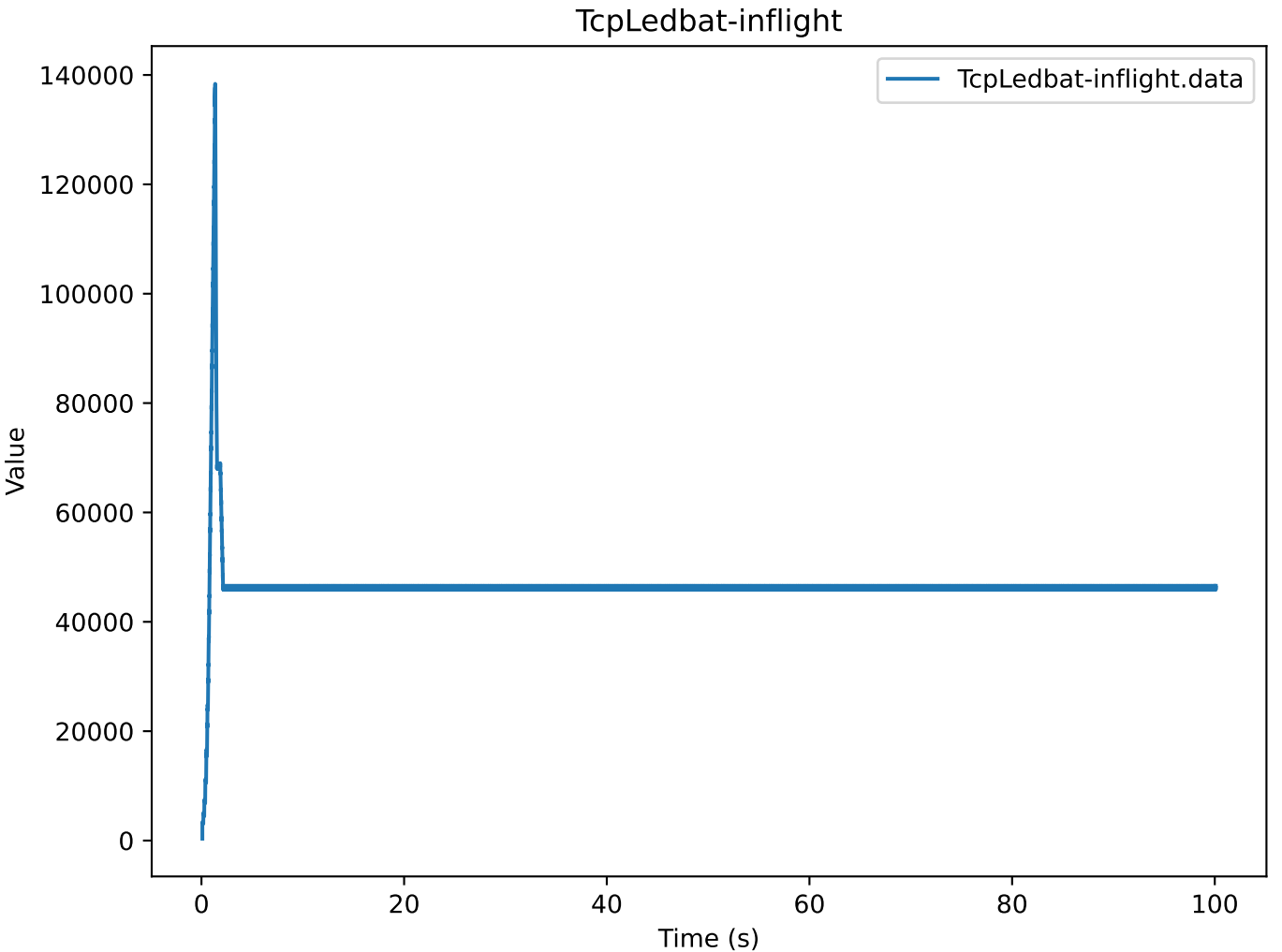
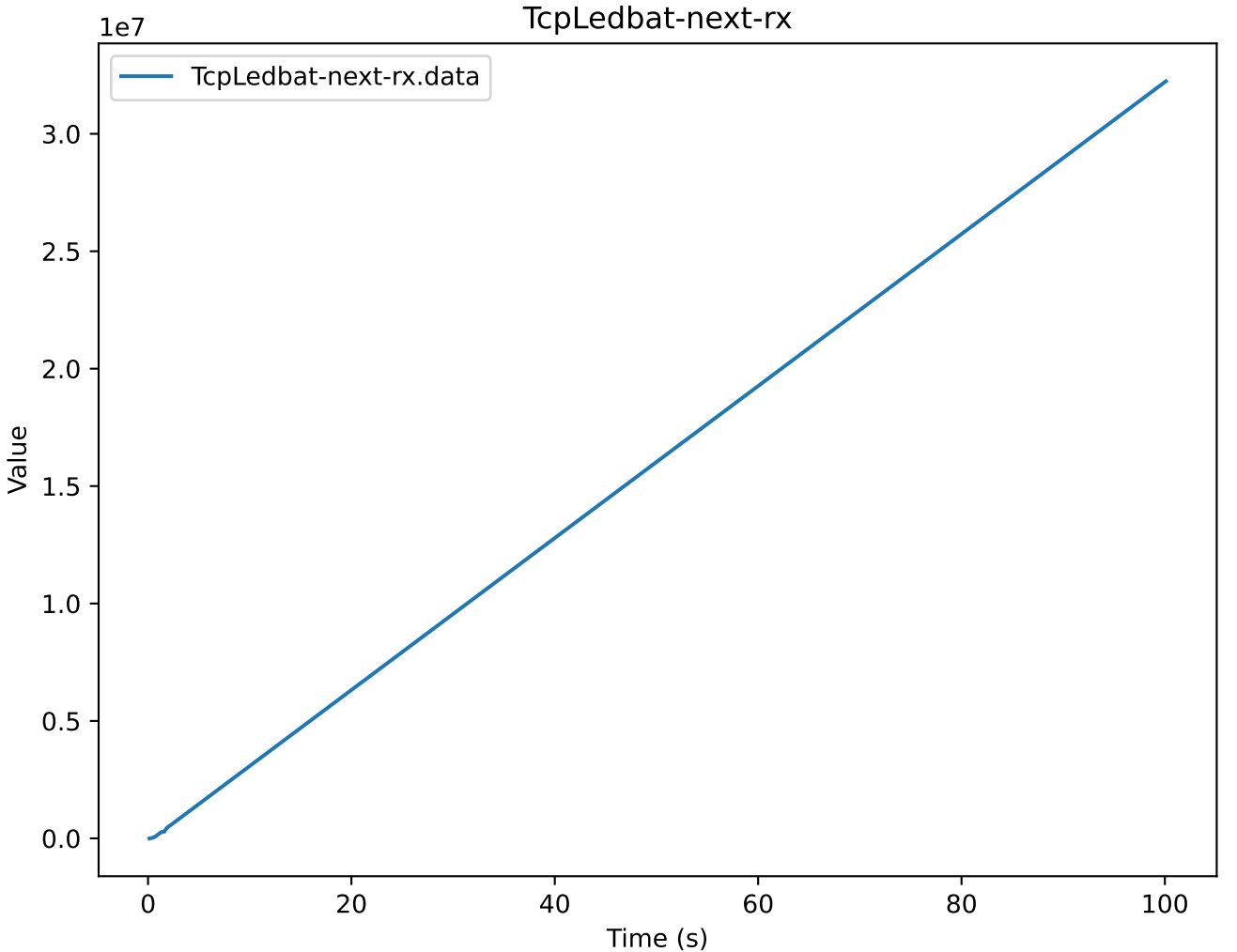
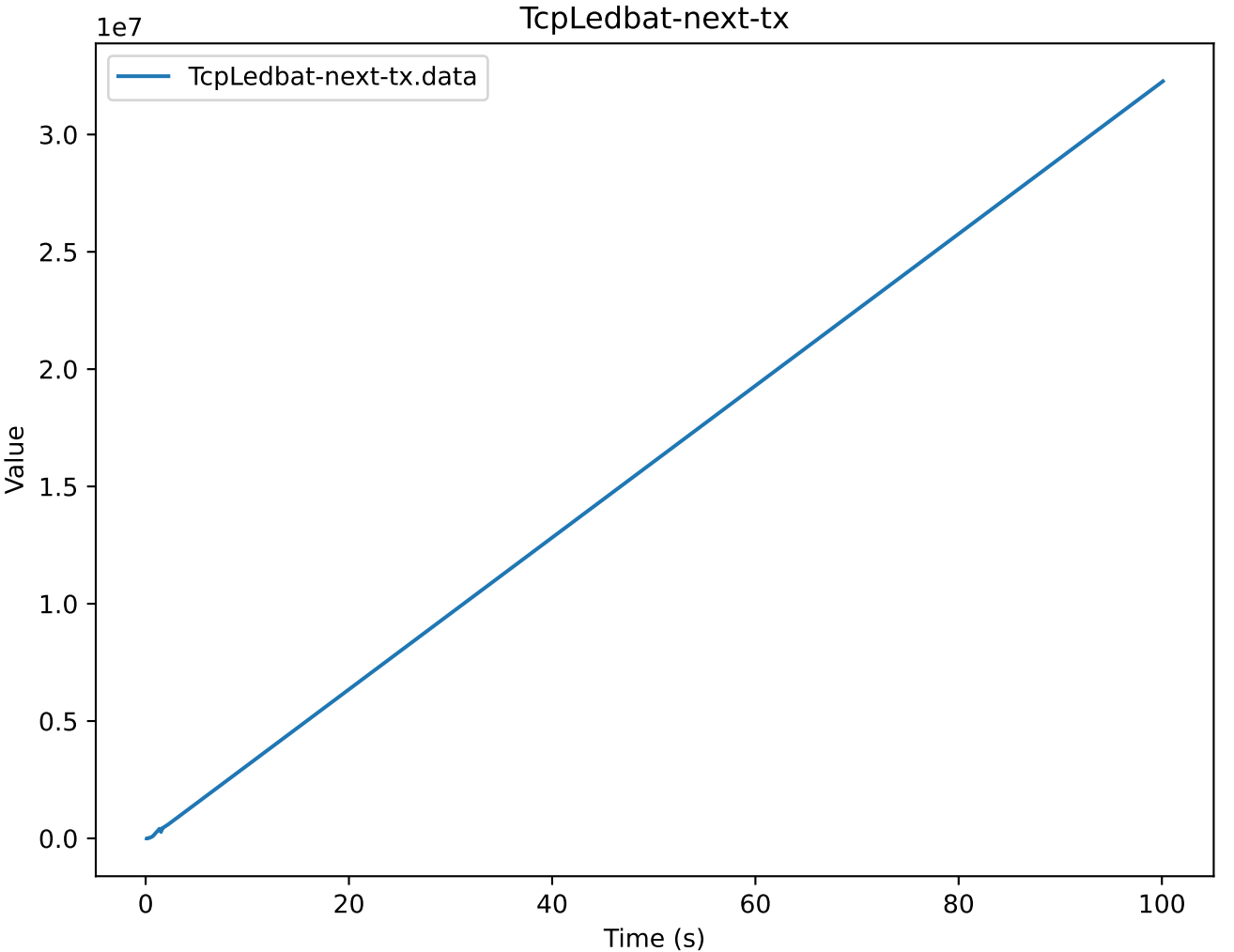
TcpLedBat

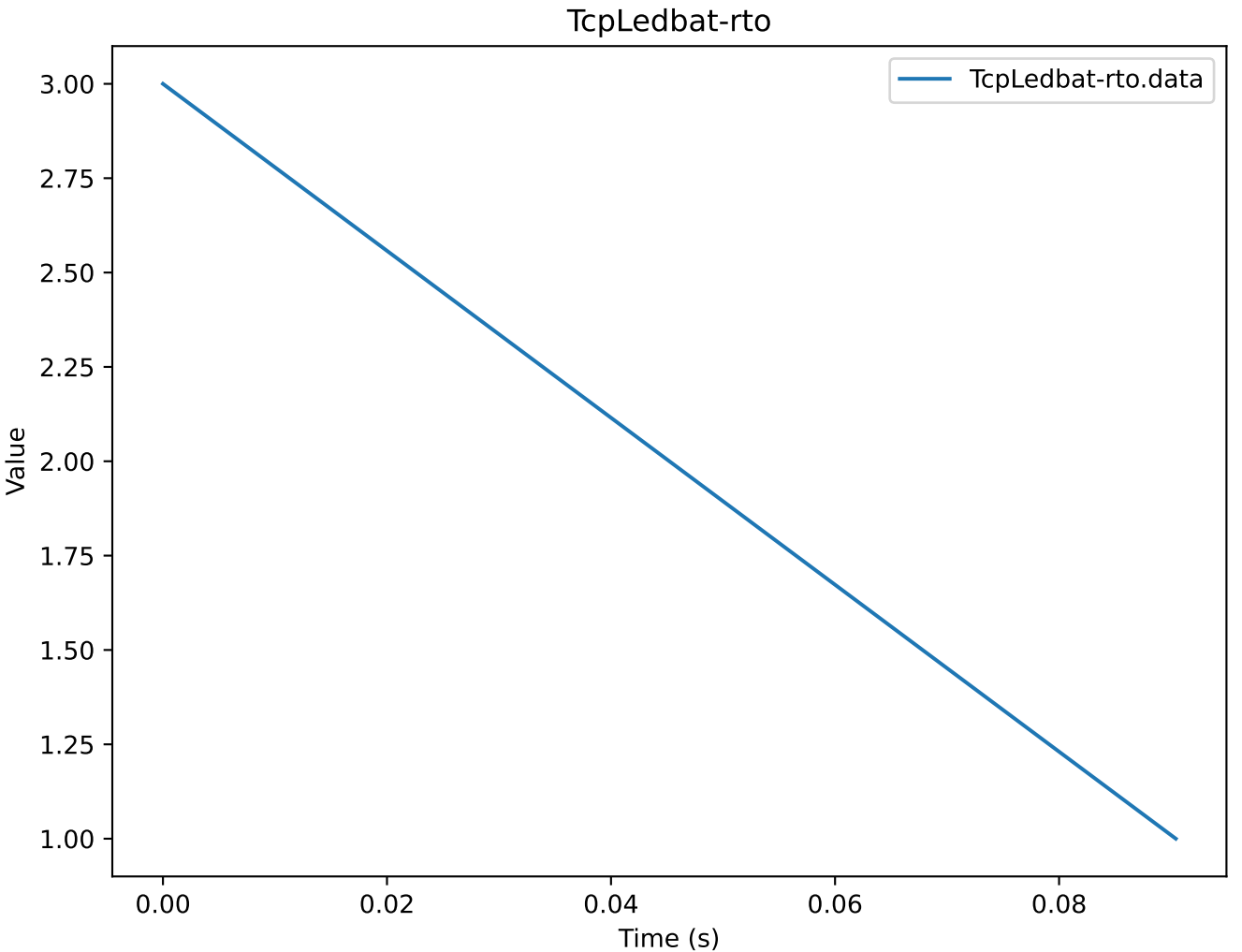
Congestion Window: Starts with a slow start, then after encountering congestion, goes to Congestion Avoidance state and the congestion window is stabilized in order to reduce delay down to a target value at max.
Round Trip Time: Stabilized with the congestion window.
Retransmission Timeout: Reduces quickly and stablizes.
Inflight: Stabilized with the congestion window.
Next Transmission Sequence Number: Linear, with a little bump in the beginning.
Next Reception Sequence Number: Same as transmission.
Slow Start Threshold: Fixed after Stabilized Congestion Window.

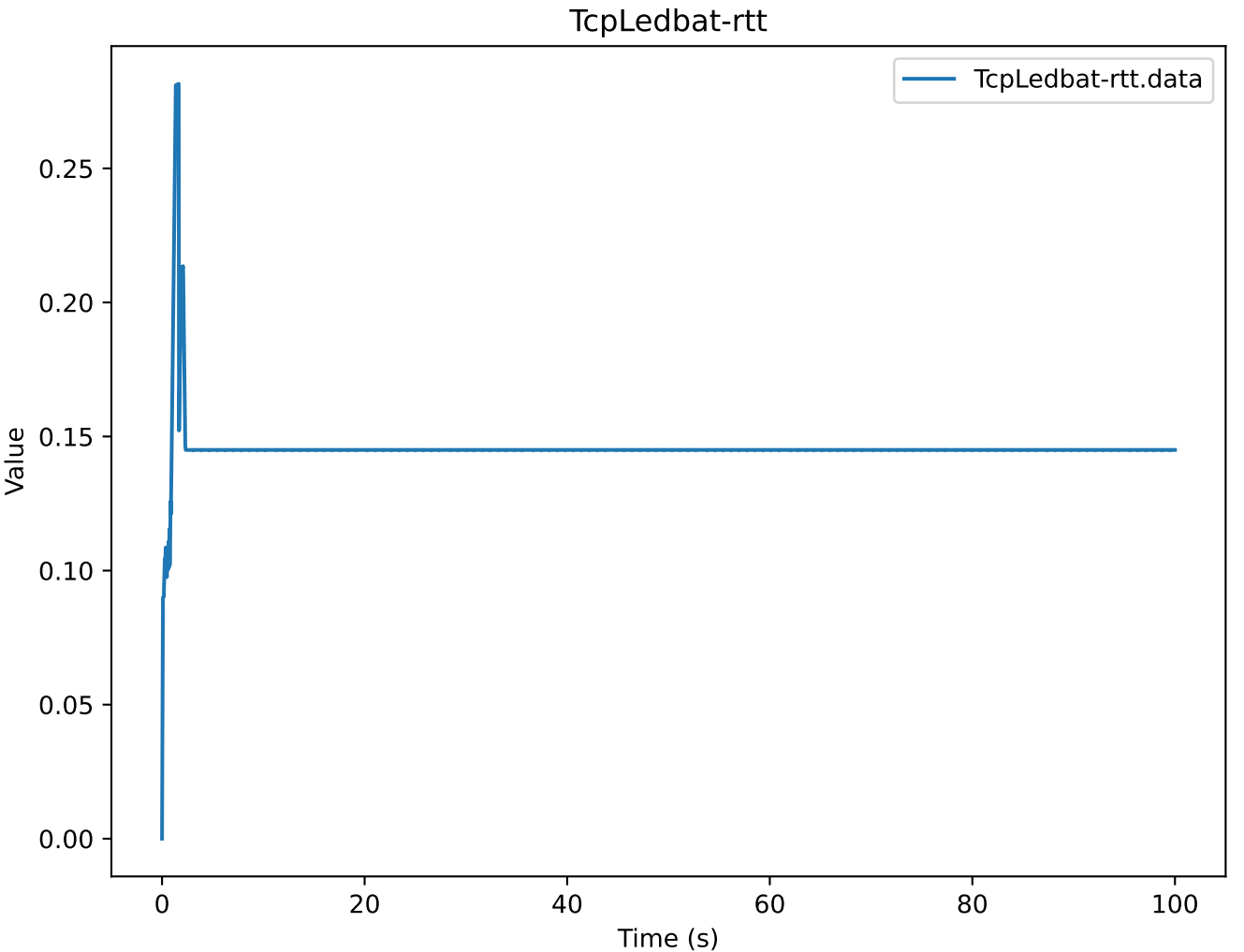

TcpLedbat-cwnd
TcpLedbat-cwnd.data
140000
120000
100000
80000
60000
40000
20000
0
Value
0.0
0.5
1.0
1.5
2.0
Time (s)

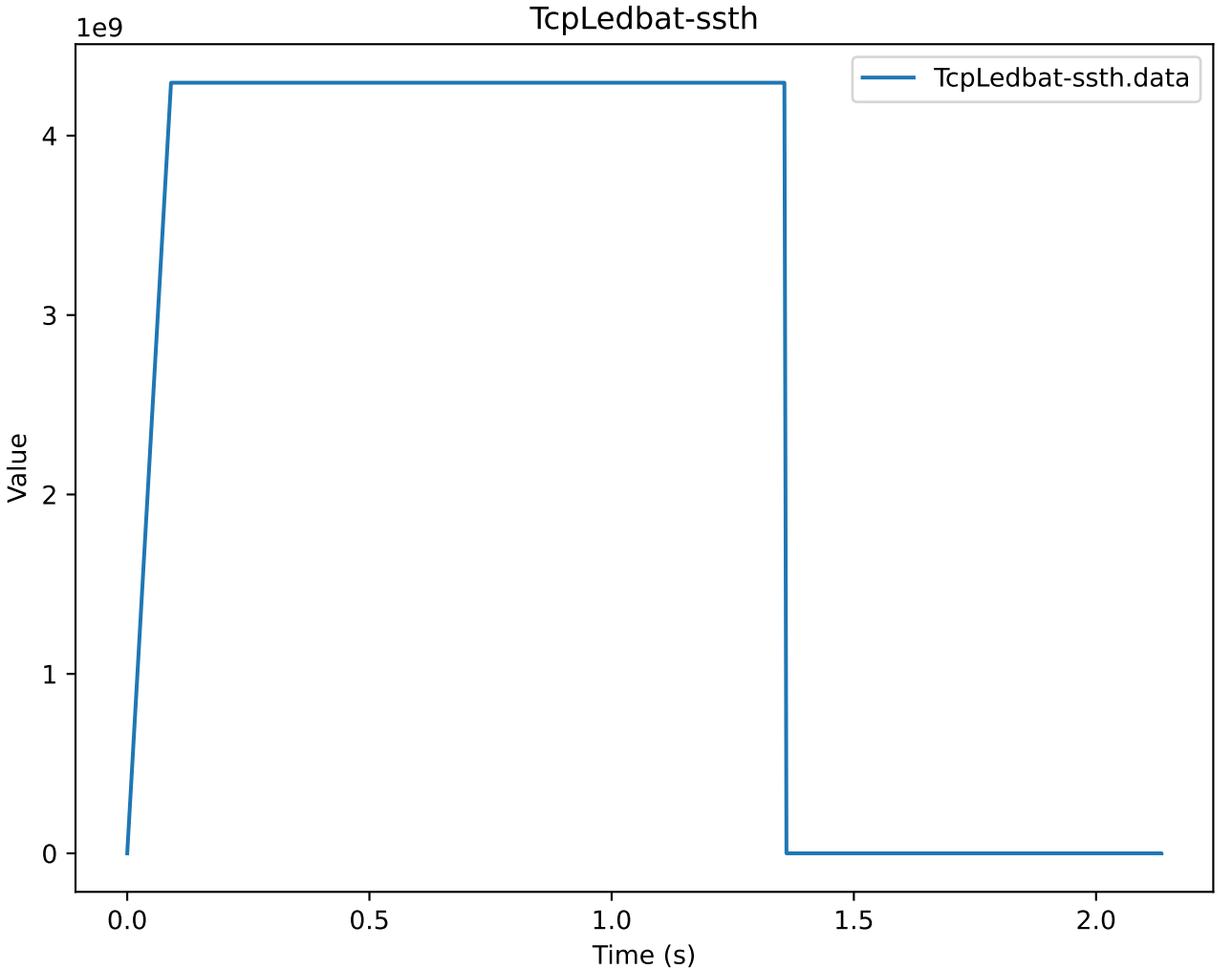

TcpLedbat-inflight
TcpLedbat-inflight.data
140000
120000
100000
80000
60000
40000
20000
0
Value
0
20
40
60
80
100
Time (s)


TcpLedbat-next-rx
1e7
TcpLedbat-next-rx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)


TcpLedbat-next-tx
1e7
TcpLedbat-next-tx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)

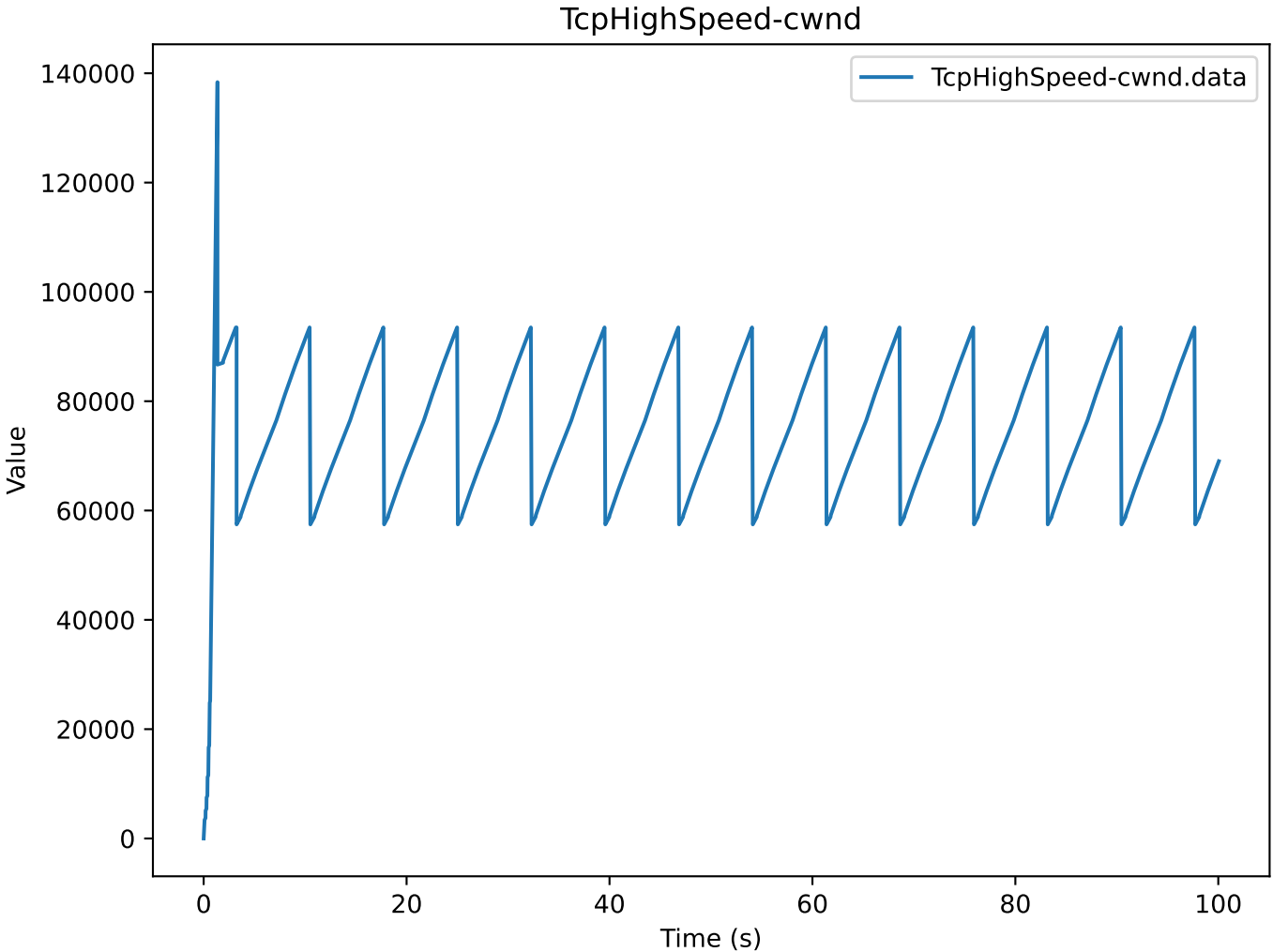

TcpLedbat-rto
TcpLedbat-rto.data
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
Value
0.00
0.02
0.04
0.06
0.08
Time (s)

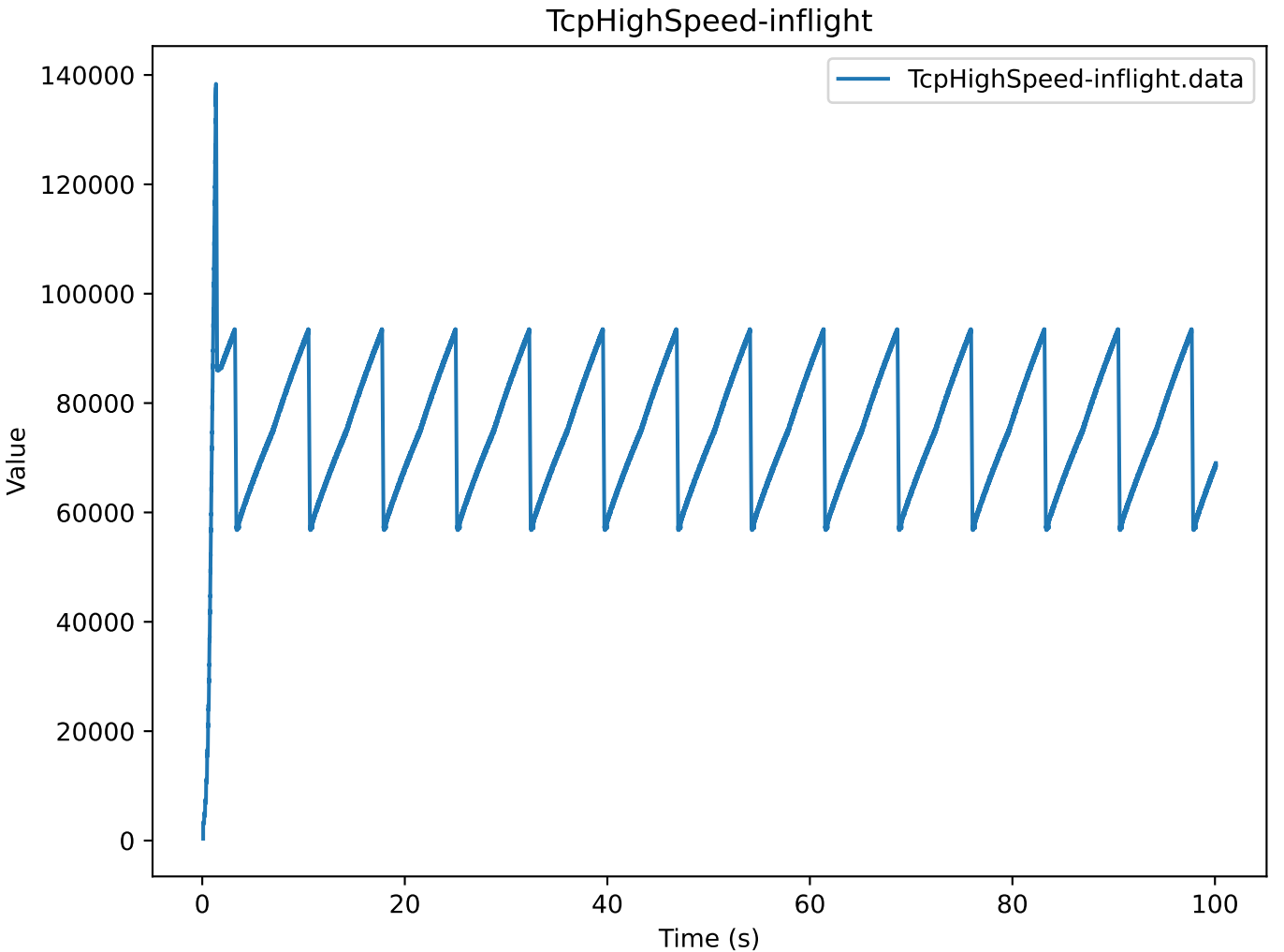

TcpLedbat-rtt
TcpLedbat-rtt.data
0.25
0.20
0.15
0.10
0.05
0.00
Value
0
20
40
60
80
100
Time (s)

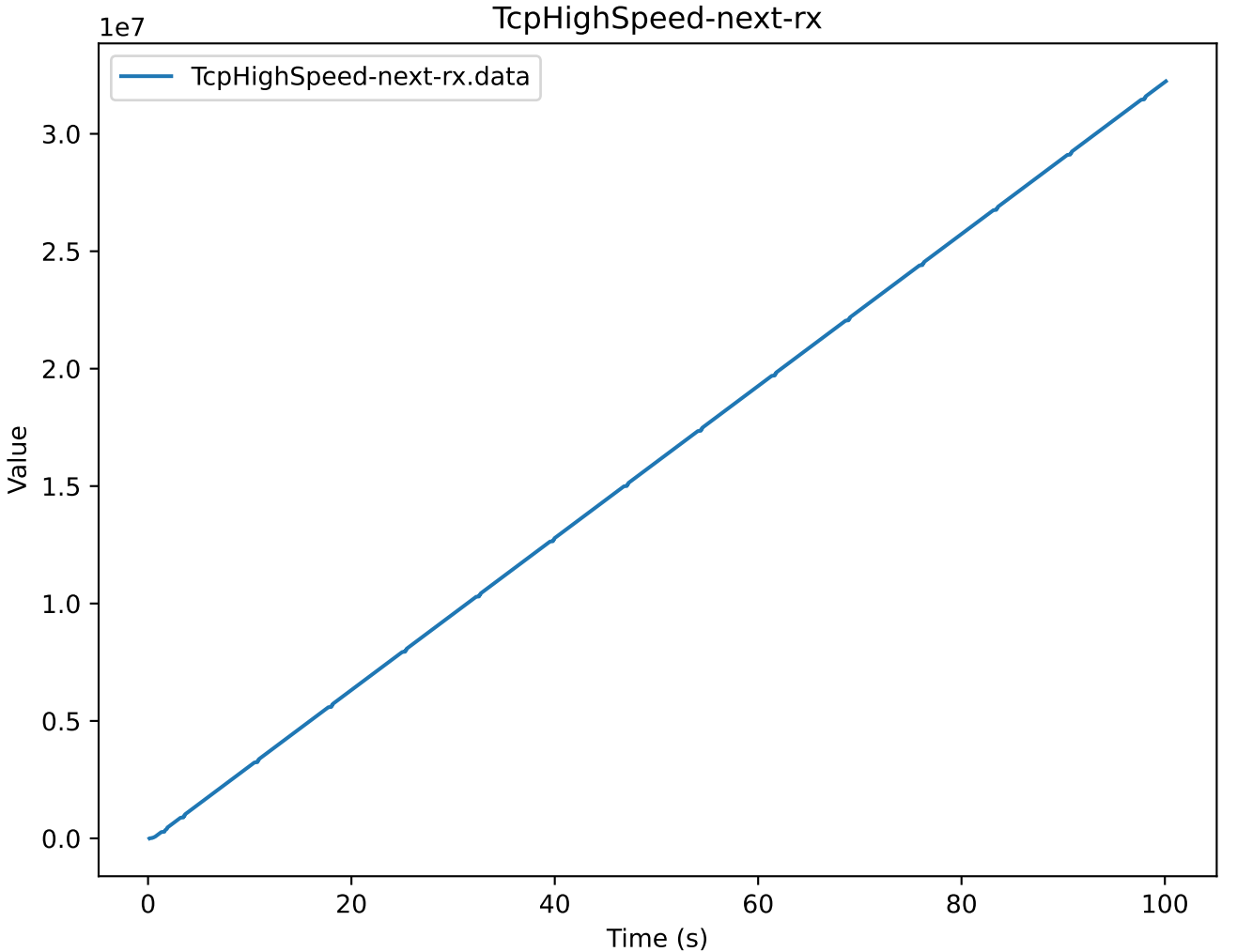

TcpLedbat-ssth
1e9
TcpLedbat-ssth.data
4
3
2
1
0
Value
0.0
0.5
1.0
1.5
2.0
Time (s)

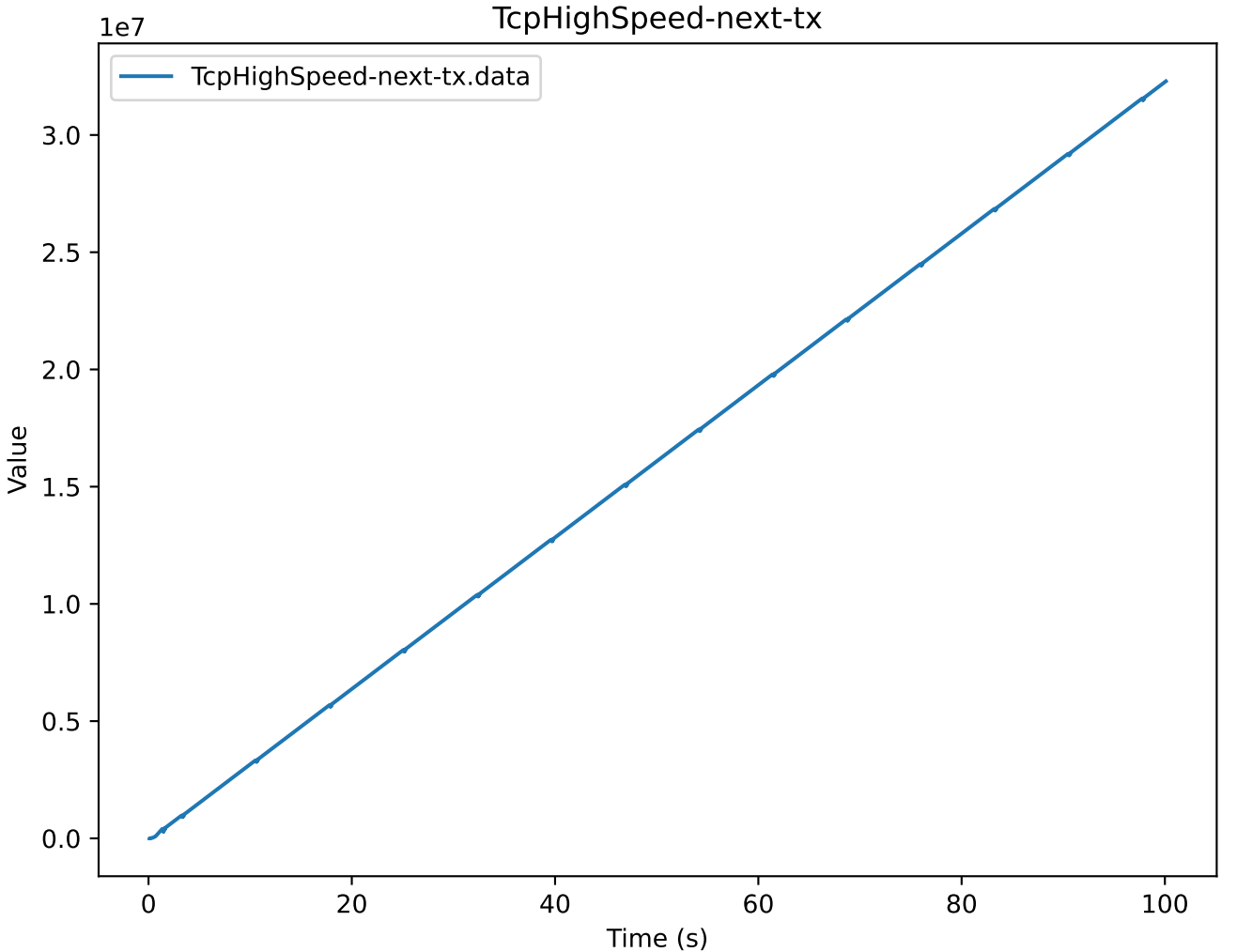
TcpHighSpeed

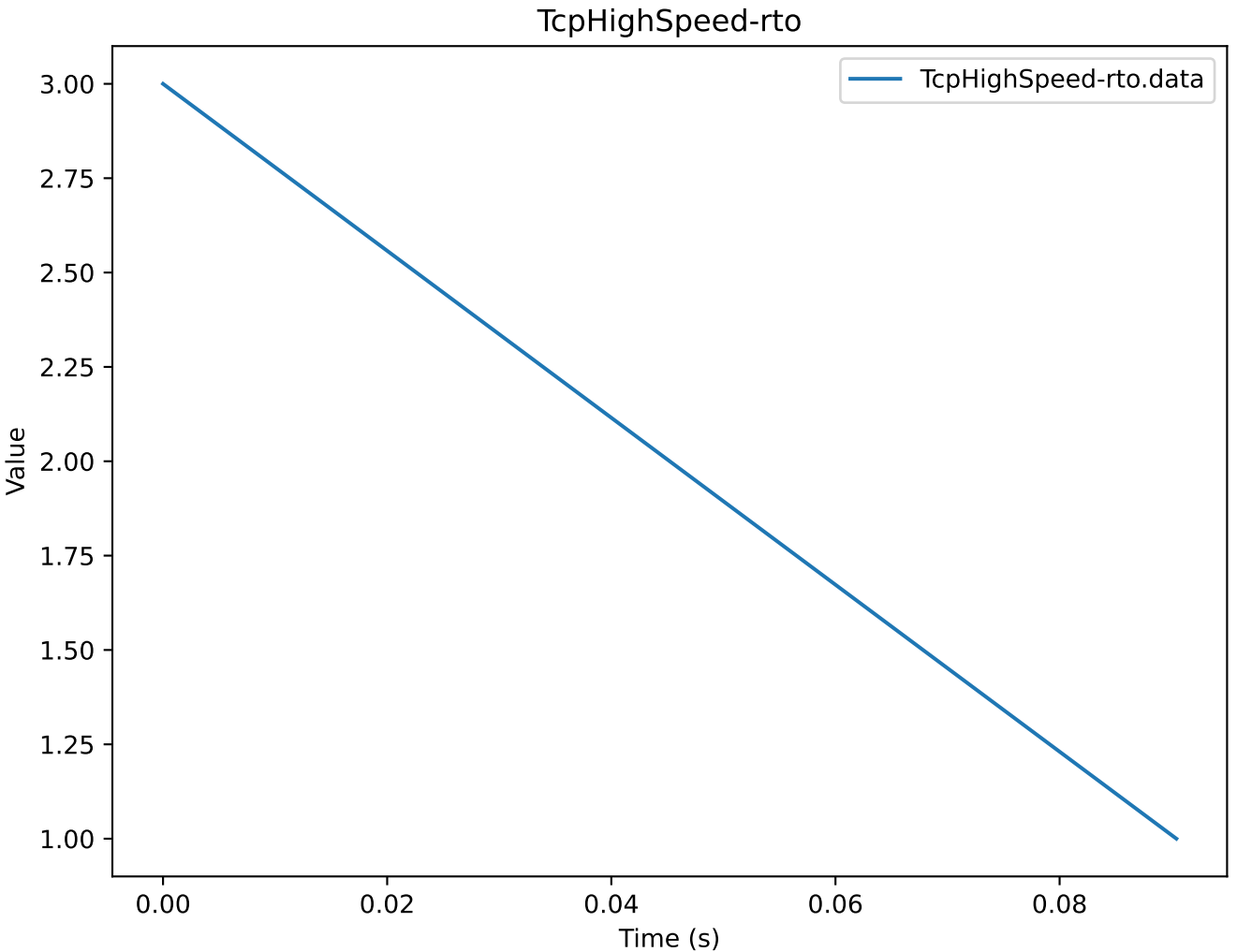
Congestion Window: Oscillates between when congested and to a threshold.
Round Trip Time: Oscillates with congestion window.
Retransmission Timeout: Oscillates with congestion window.
Inflight: Oscillates with congestion window
Next Transmission Sequence Number: Linear, with a little bump when congested.
Next Reception Sequence Number: Same as transmission.
Slow Start Threshold: Fixed after Stabilized Congestion Window.

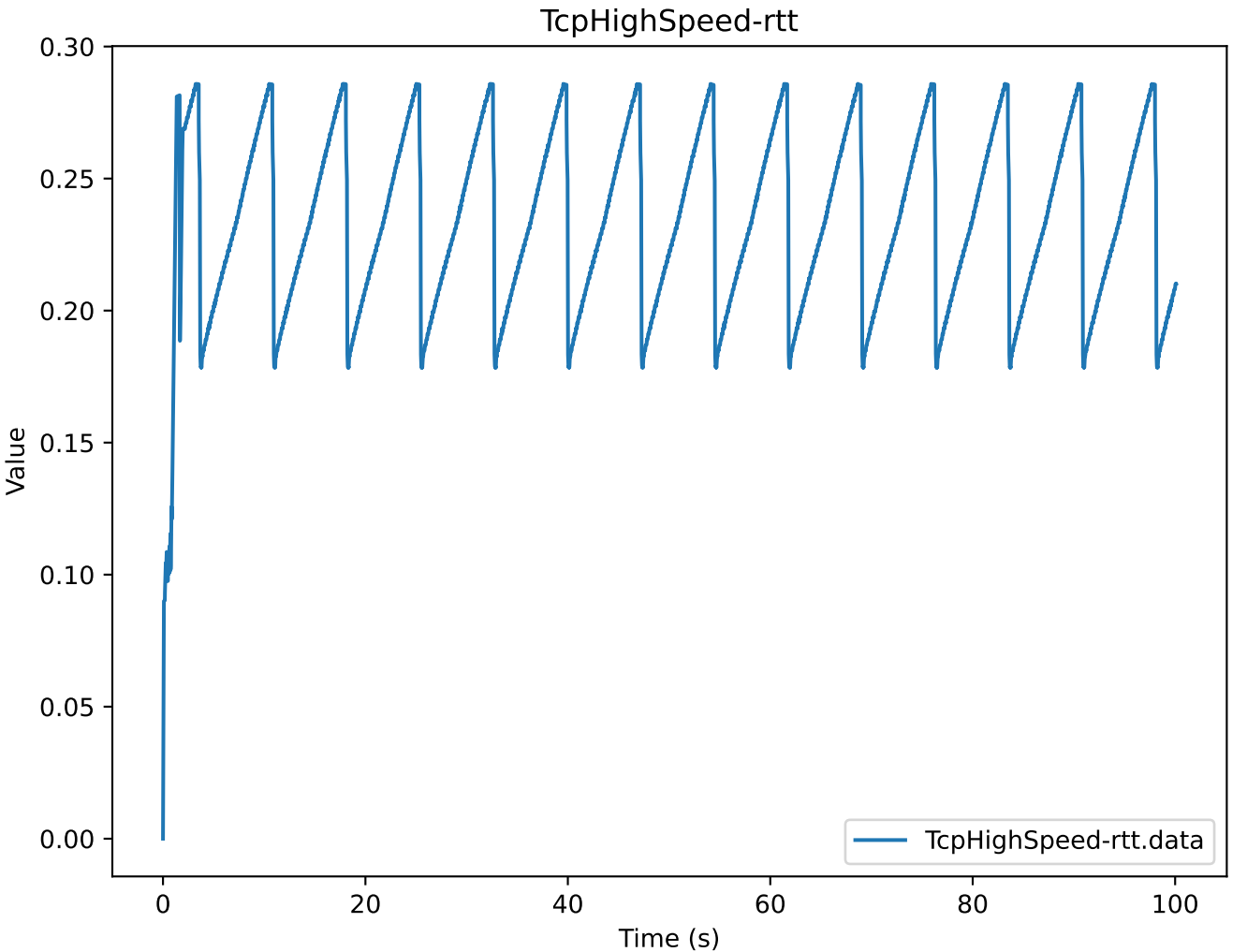

TcpHighSpeed-cwnd
TcpHighSpeed-cwnd.data
140000
120000
100000
80000
60000
40000
20000
0
Value
0
20
40
60
80
100
Time (s)

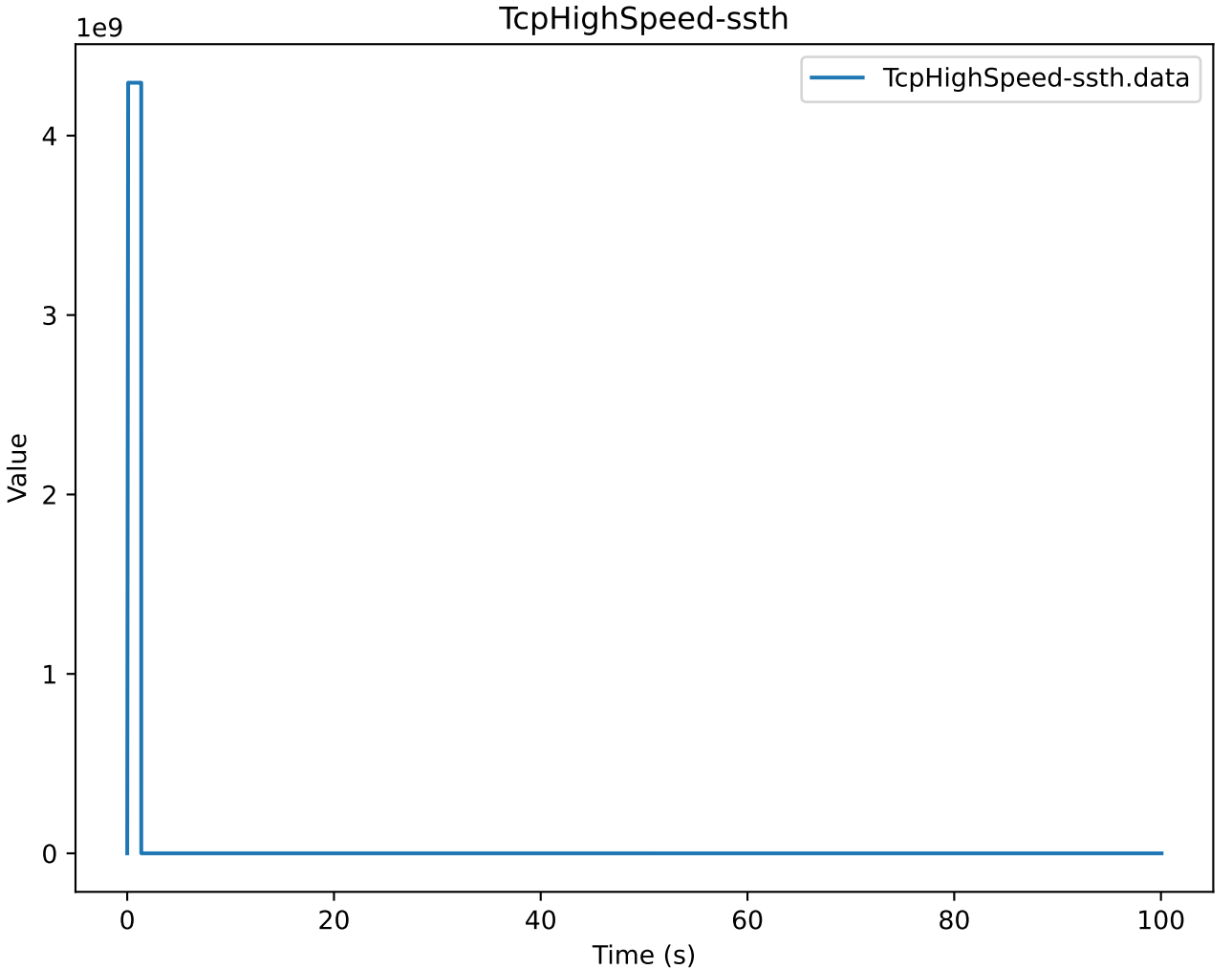

TcpHighSpeed-inflight
TcpHighSpeed-inflight.data
140000
120000
100000
80000
60000
40000
20000
0
Value
0
20
40
60
80
100
Time (s)


TcpHighSpeed-next-rx
1e7
TcpHighSpeed-next-rx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)


TcpHighSpeed-next-tx
1e7
TcpHighSpeed-next-tx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)

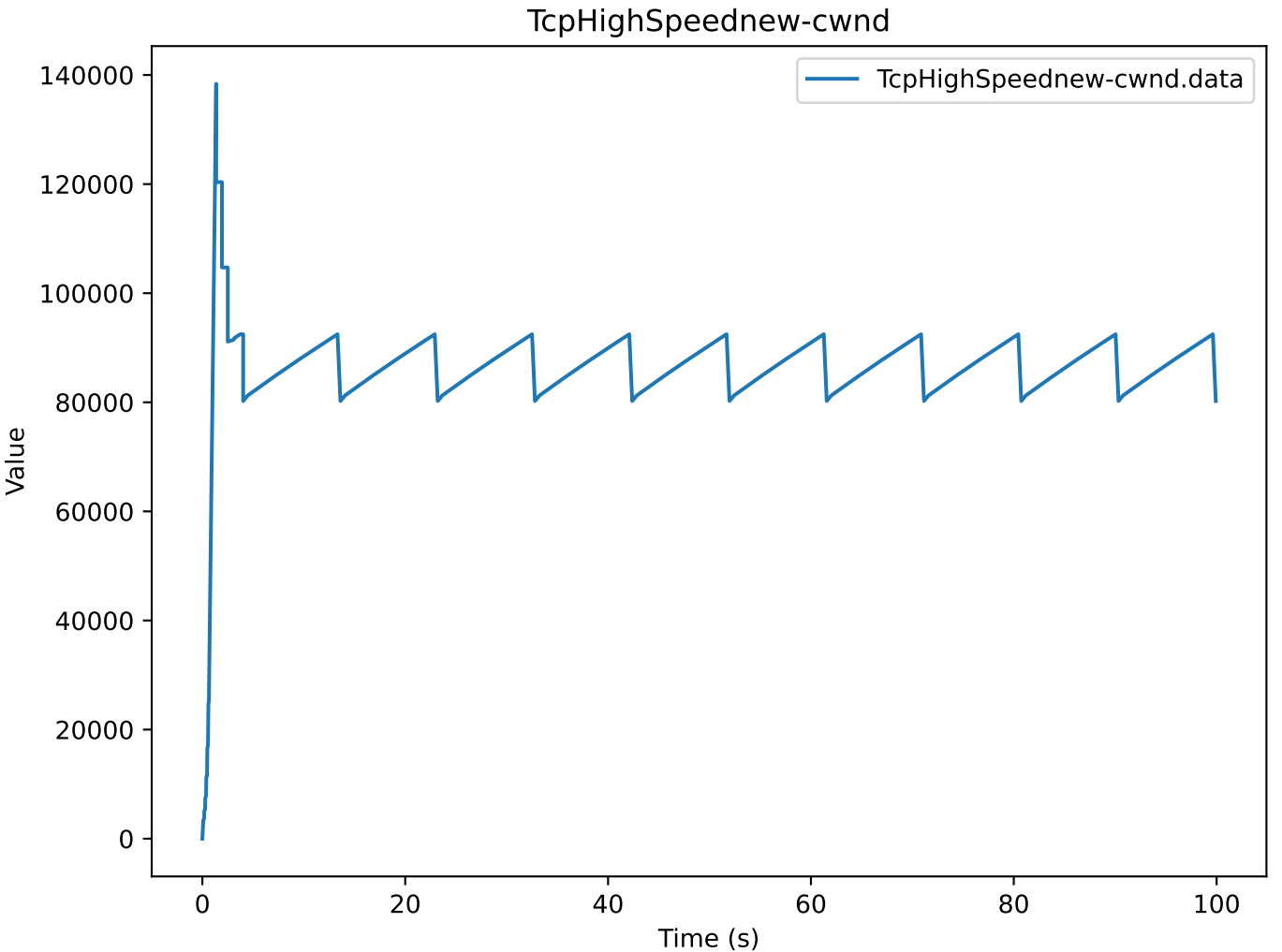

TcpHighSpeed-rto
TcpHighSpeed-rto.data
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
Value
0.00
0.02
0.04
0.06
0.08
Time (s)

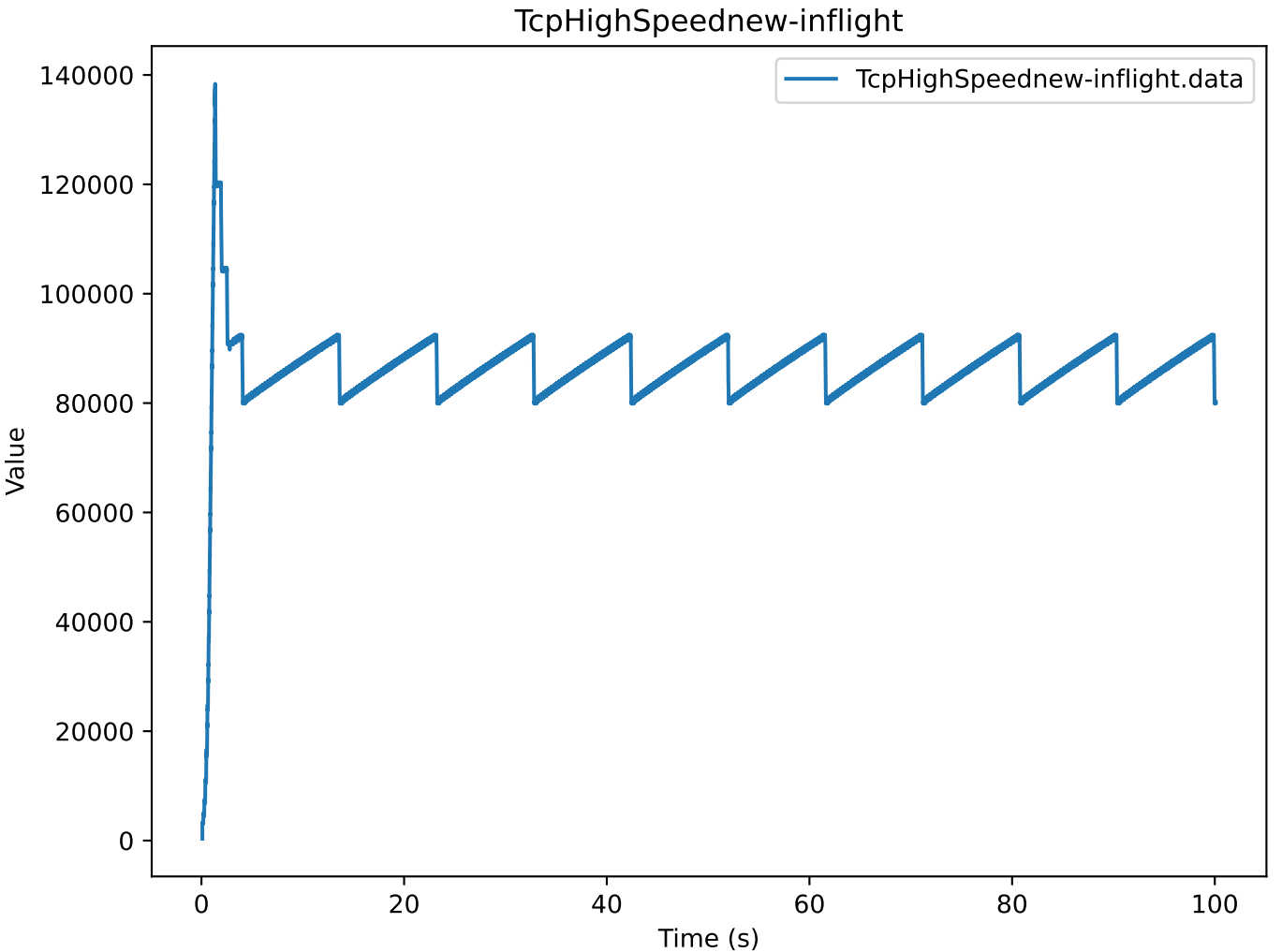

TcpHighSpeed-rtt
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Value
0
20
40
60
80
100
Time (s)
TcpHighSpeed-rtt.data

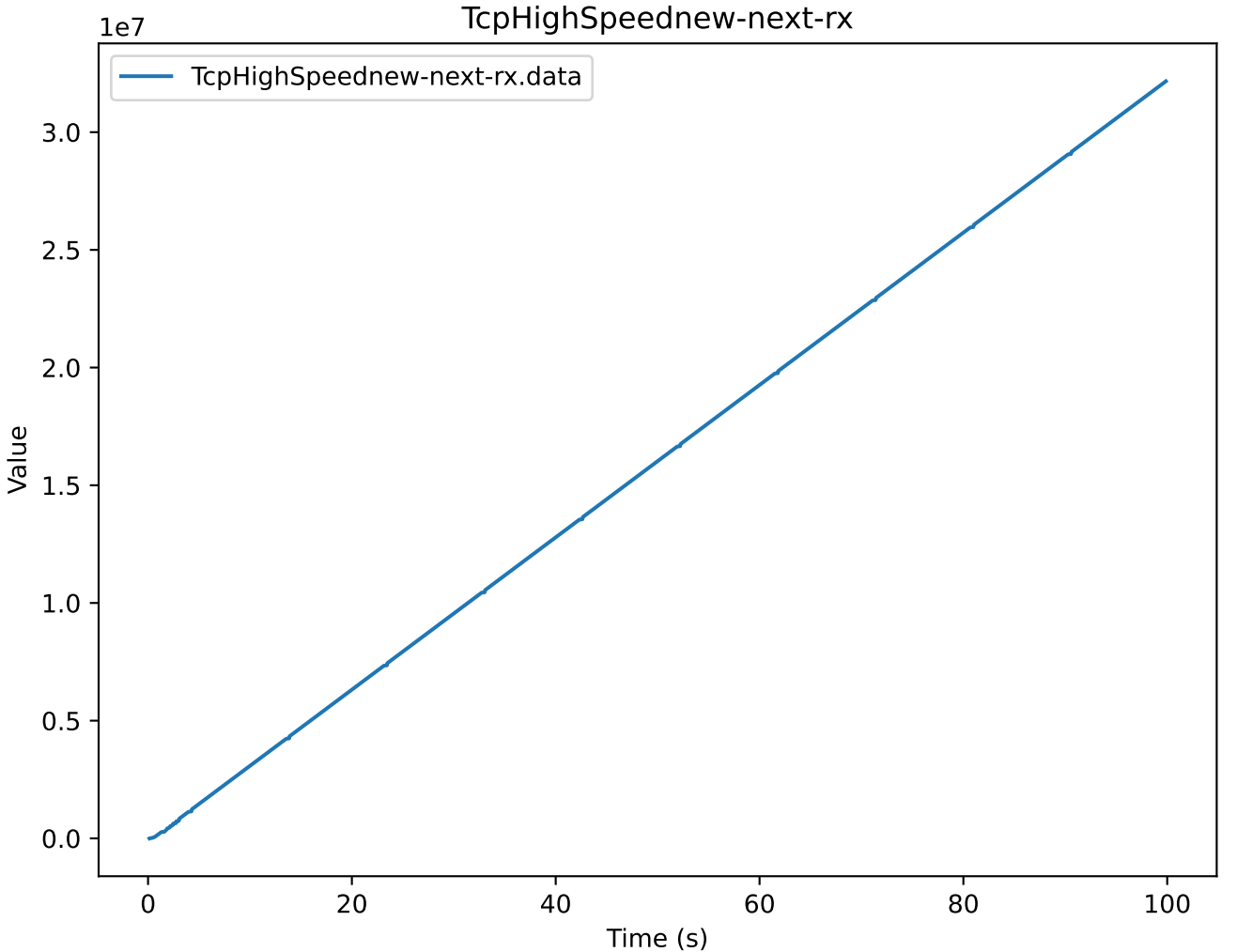

TcpHighSpeed-ssth
1e9
TcpHighSpeed-ssth.data
Value
Time (s)
0
1
2
3
4
0
20
40
60
80
100

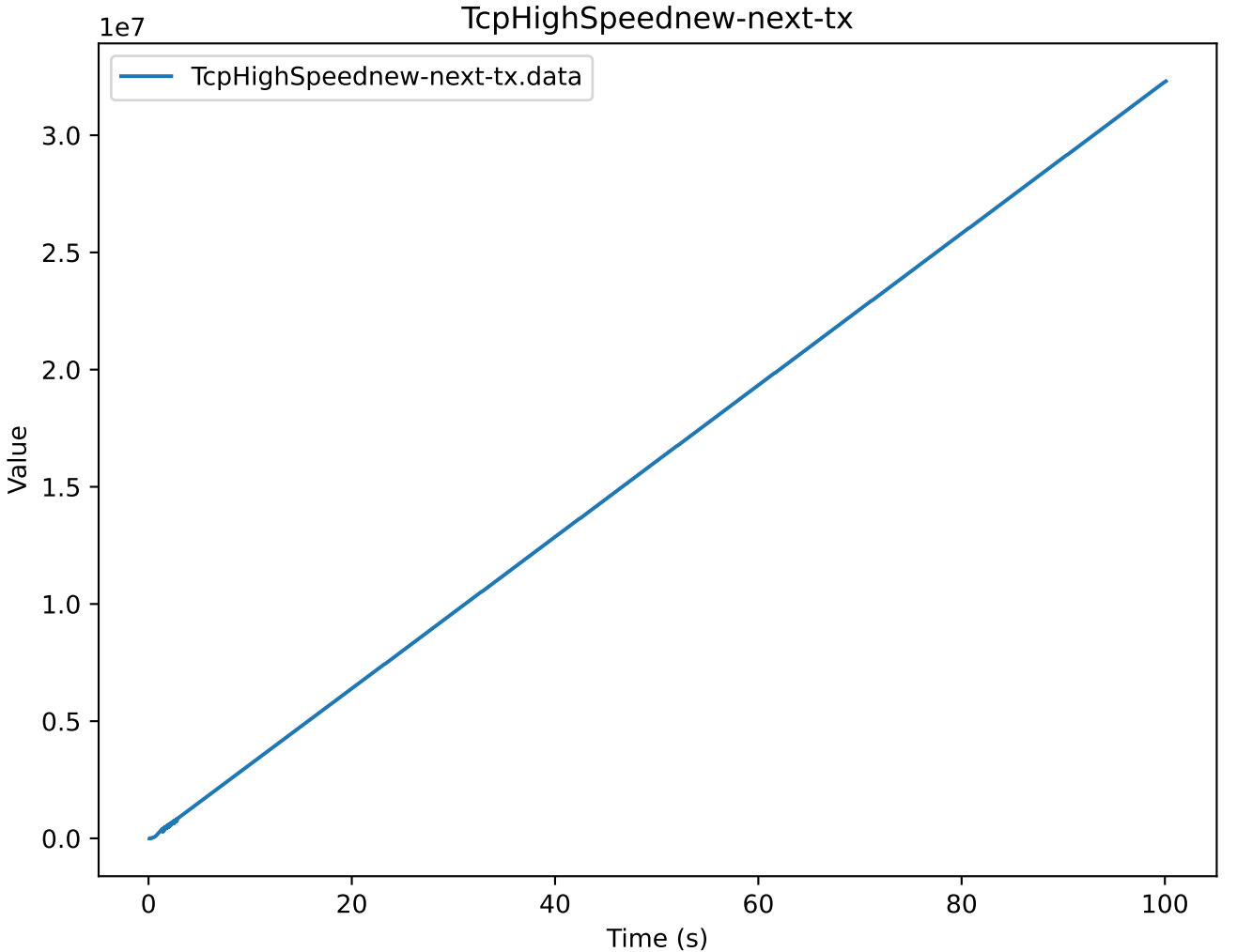
TcpHighSpeed (new)

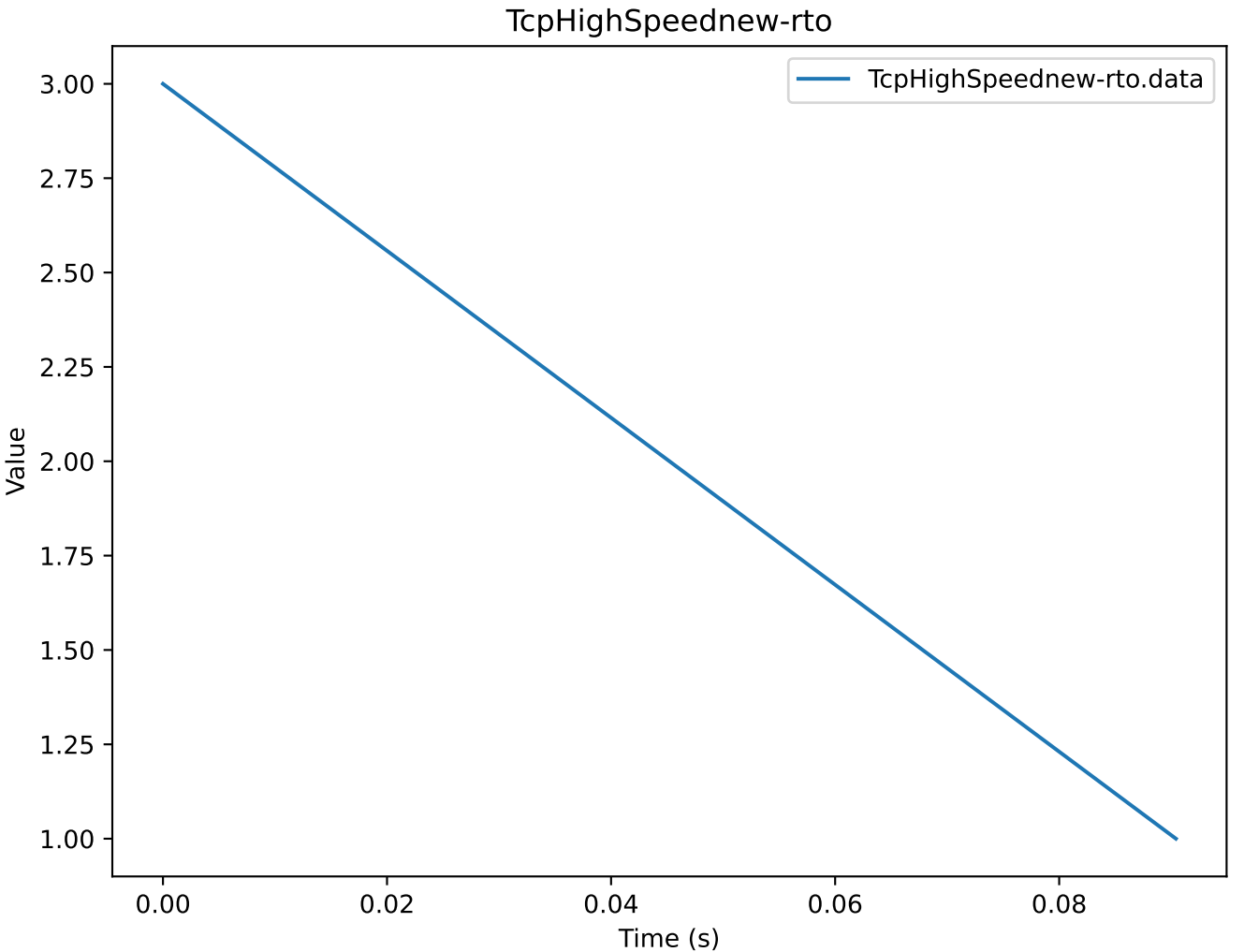
Same as TcpHighSpeed, the with less steep graph ensuring lower frequency of drop with higher congestion window.

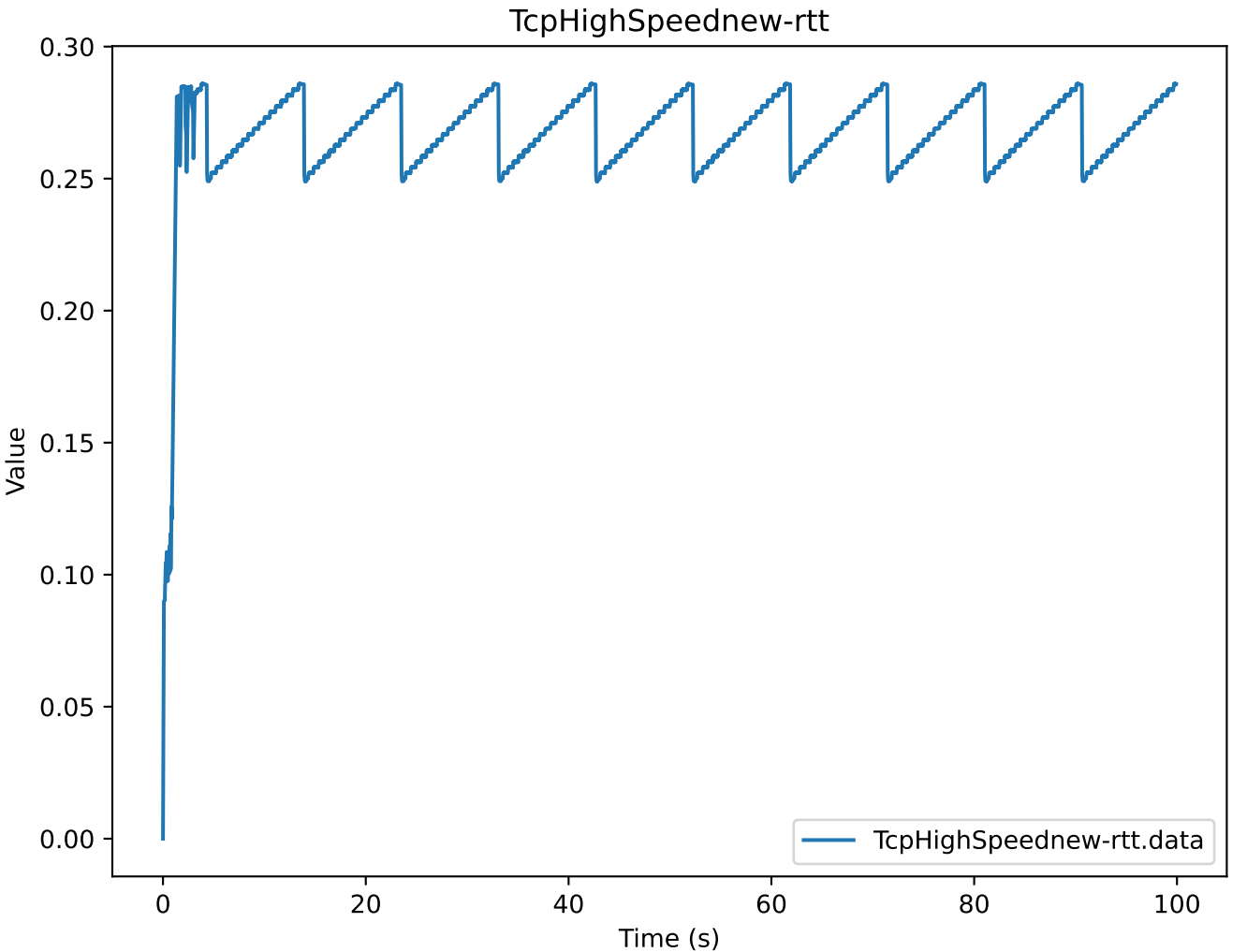

TcpHighSpeednew-cwnd
TcpHighSpeednew-cwnd.data
140000
120000
100000
80000
60000
40000
20000
0
Value
0
20
40
60
80
100
Time (s)

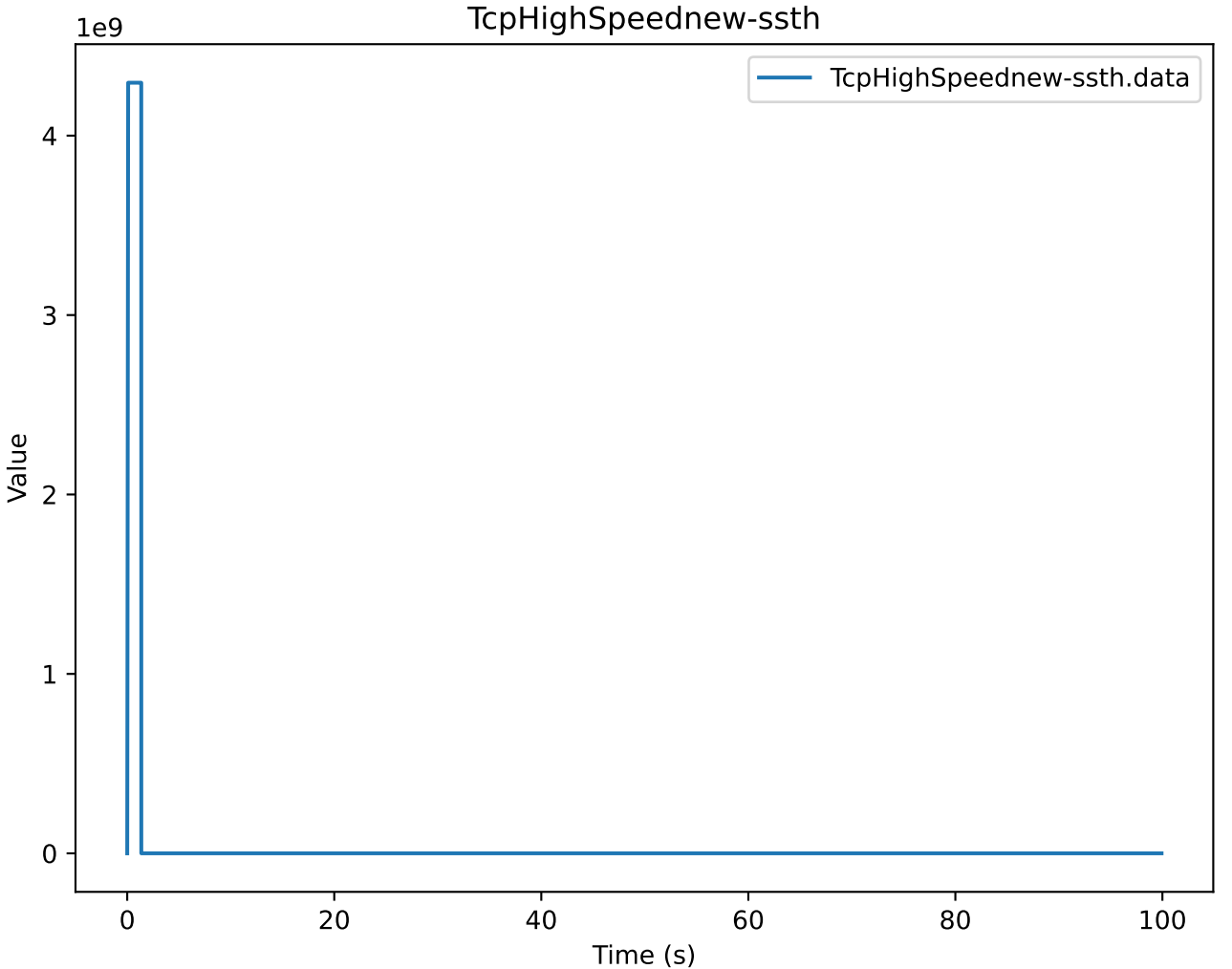

TcpHighSpeednew-inflight
TcpHighSpeednew-inflight.data
Value
Time (s)
0
20000
40000
60000
80000
100000
120000
140000
0
20
40
60
80
100

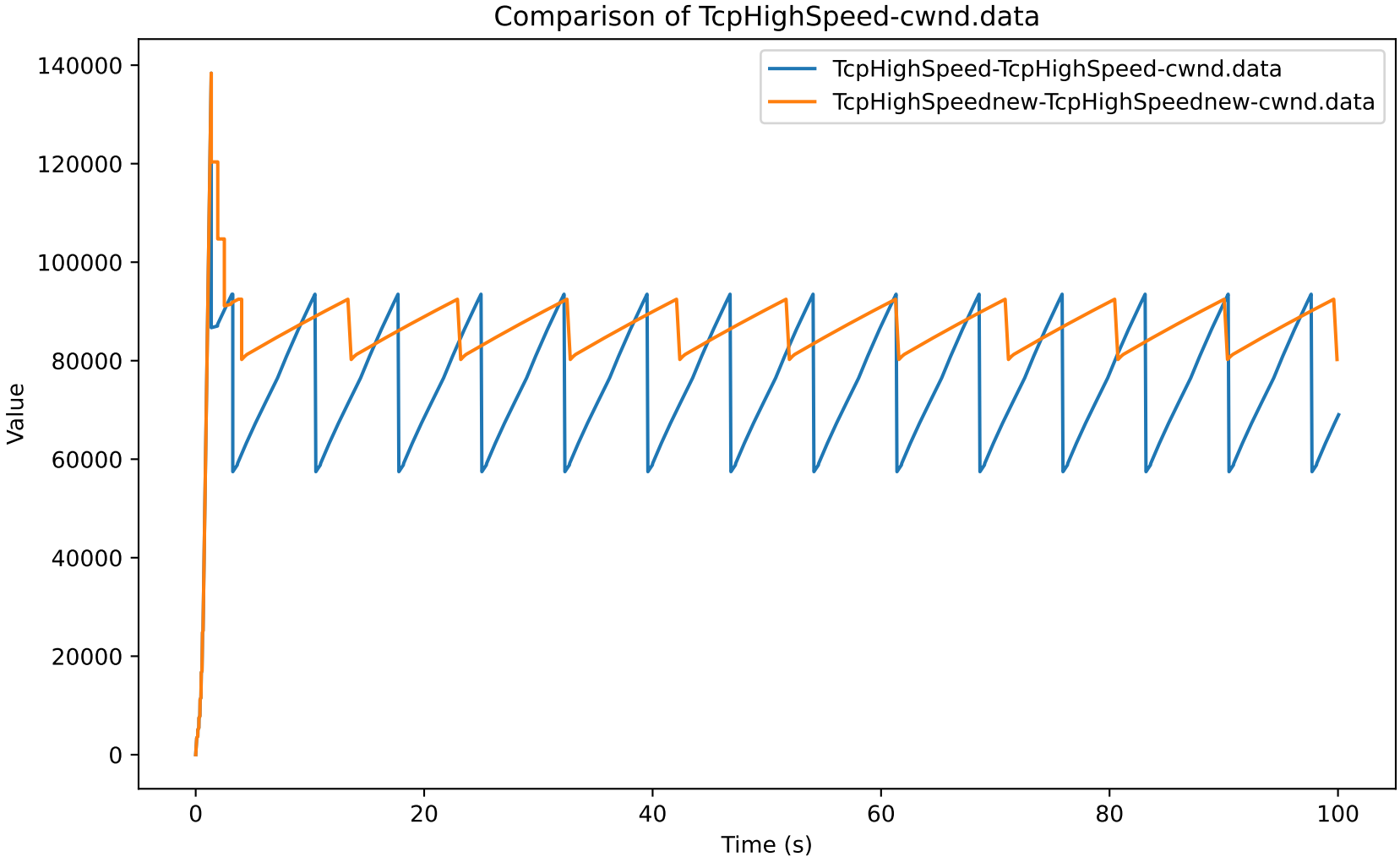

TcpHighSpeednew-next-rx
1e7
TcpHighSpeednew-next-rx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)

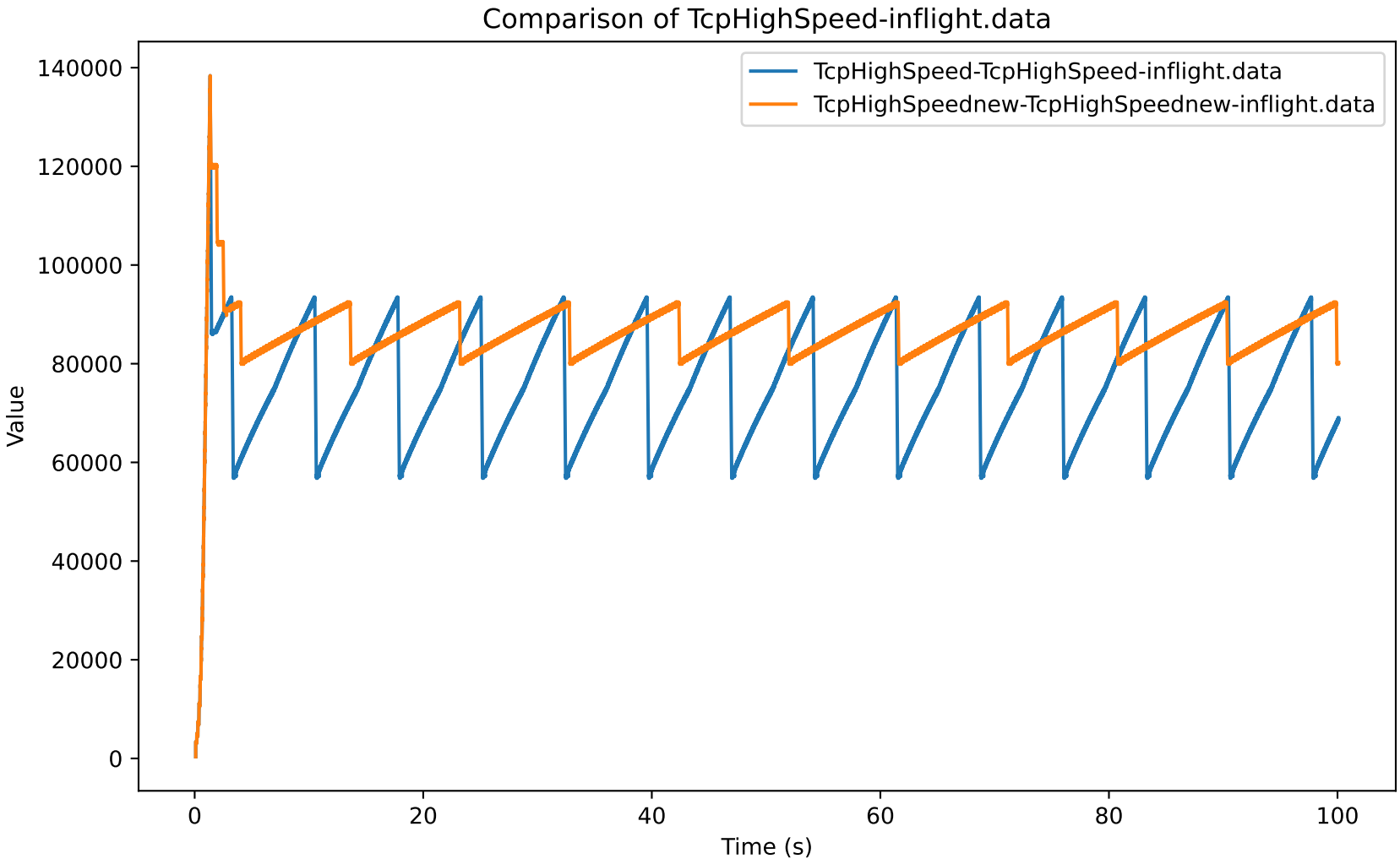

TcpHighSpeednew-next-tx
1e7
TcpHighSpeednew-next-tx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)

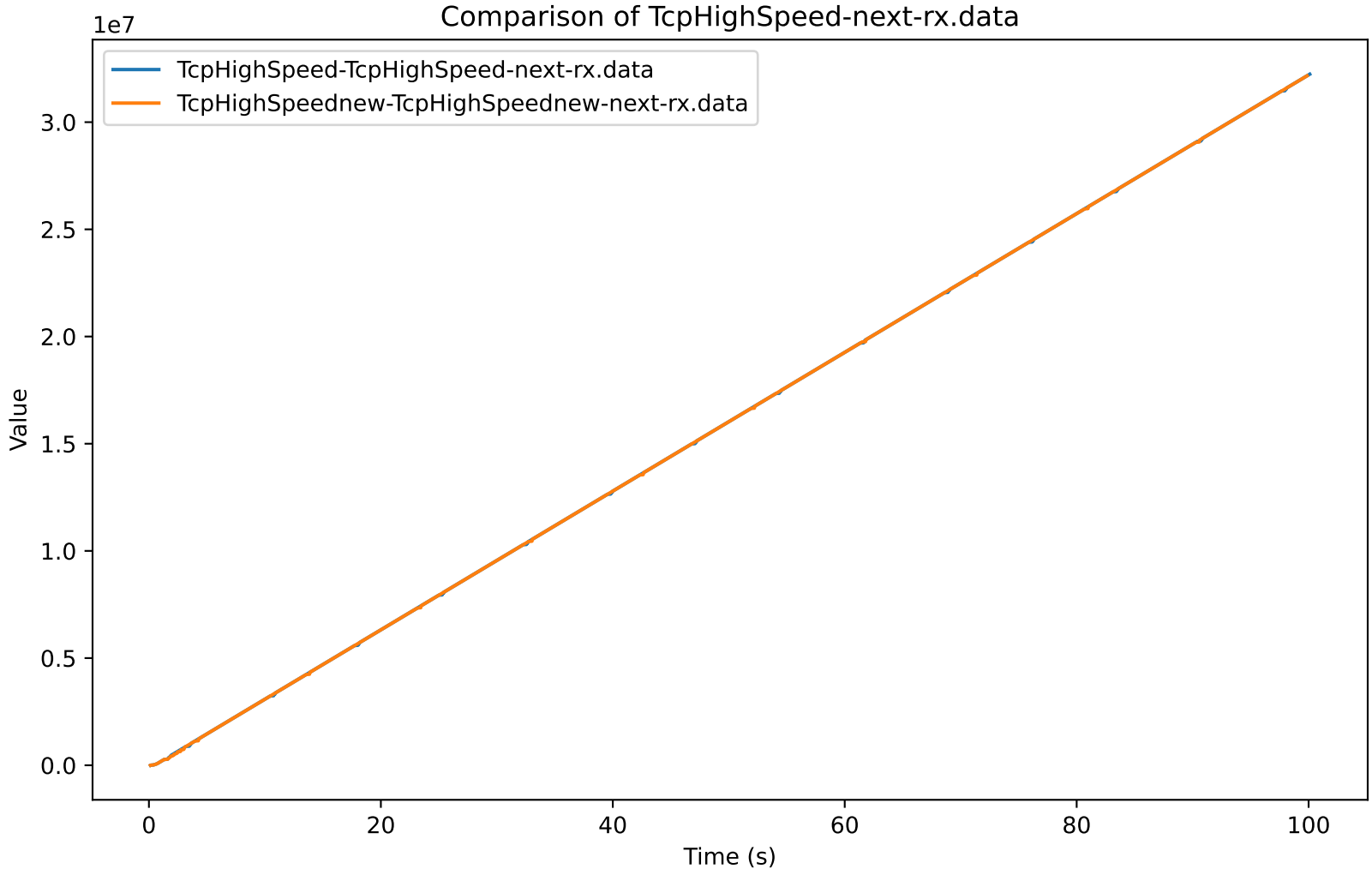

TcpHighSpeednew-rto
TcpHighSpeednew-rto.data
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
Value
0.00
0.02
0.04
0.06
0.08
Time (s)

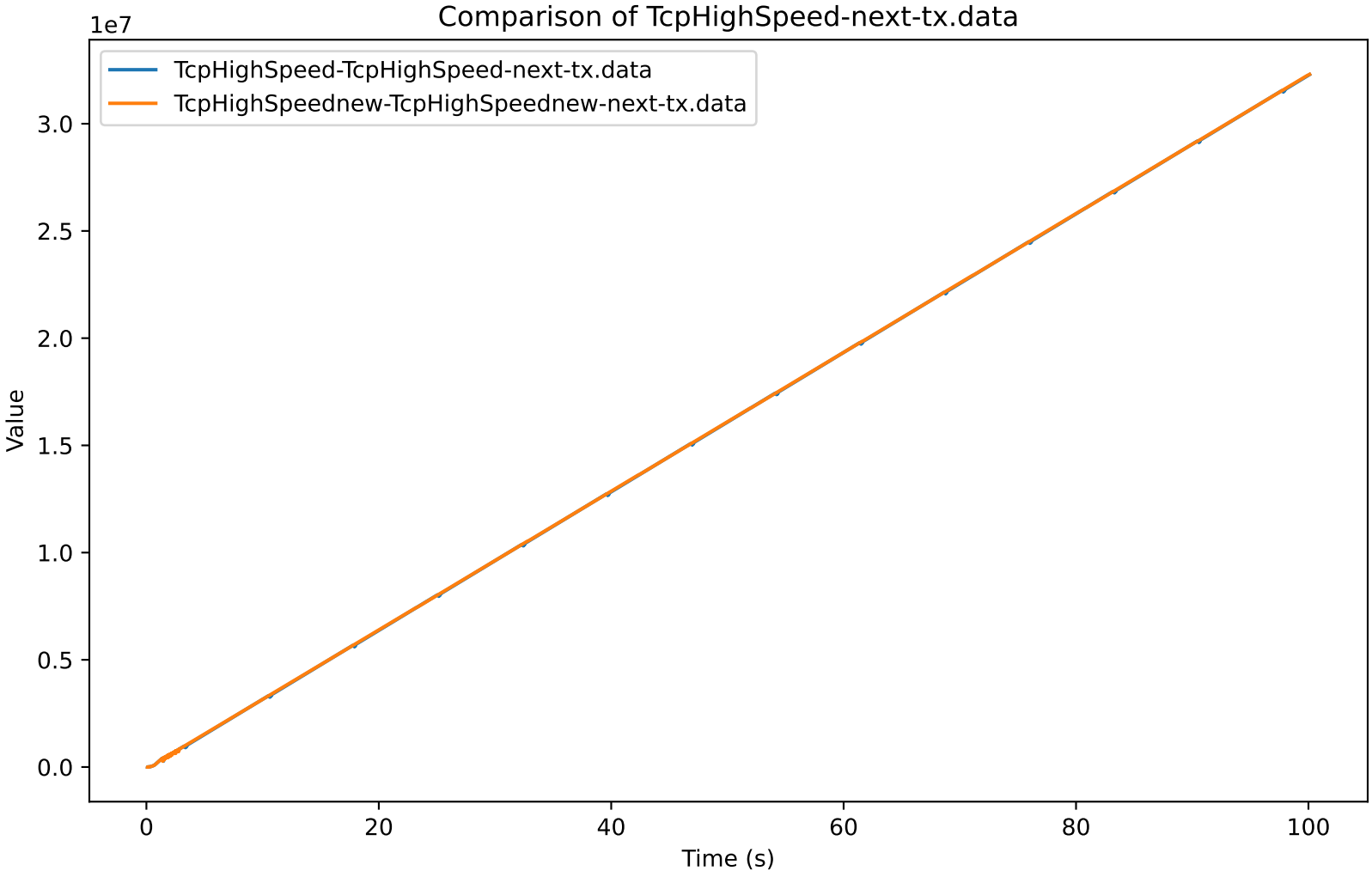

TcpHighSpeednew-rtt
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Value
0
20
40
60
80
100
Time (s)
TcpHighSpeednew-rtt.data

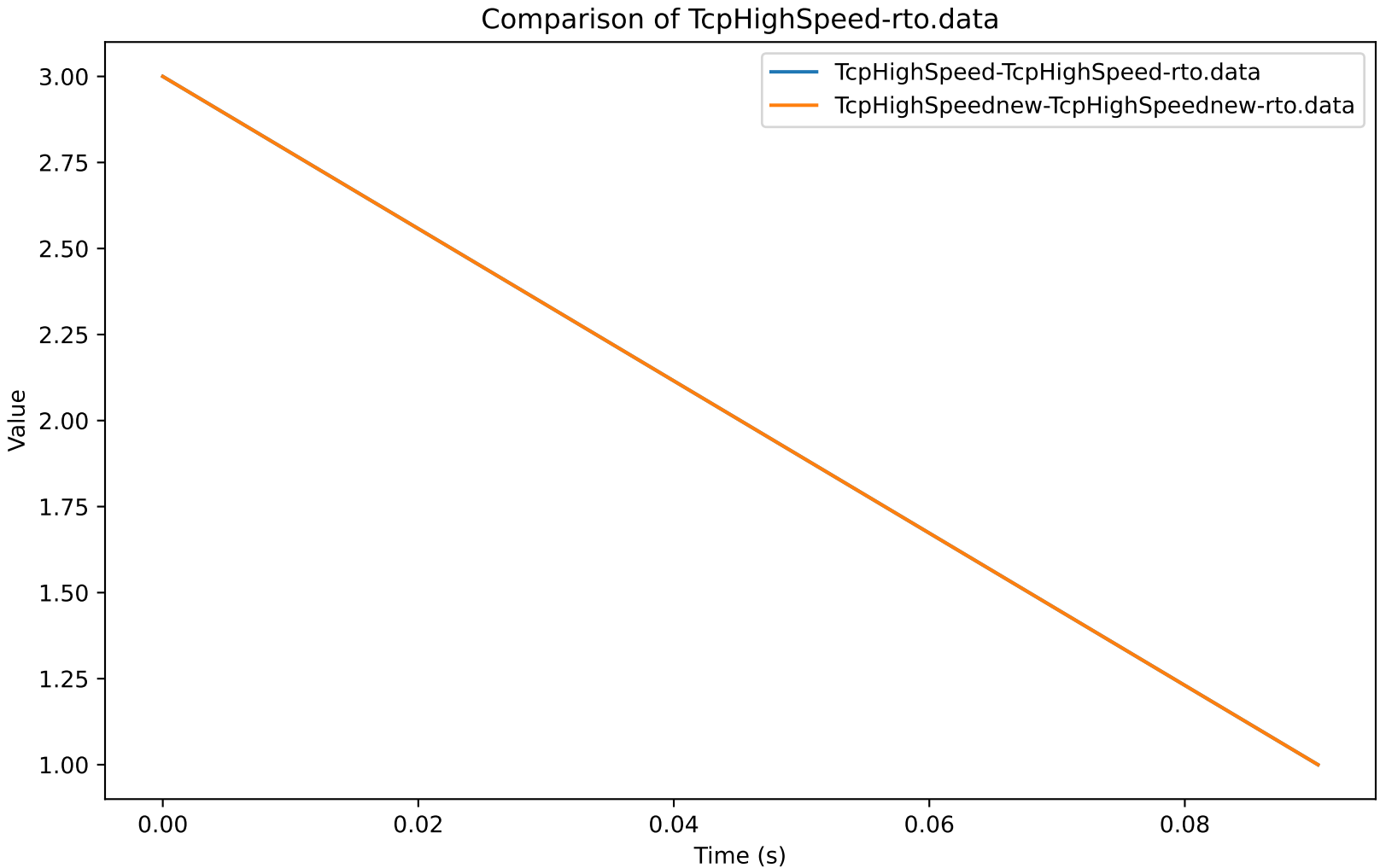

TcpHighSpeednew-ssth
1e9
TcpHighSpeednew-ssth.data
4
3
2
1
0
Value
0
20
40
60
80
100
Time (s)

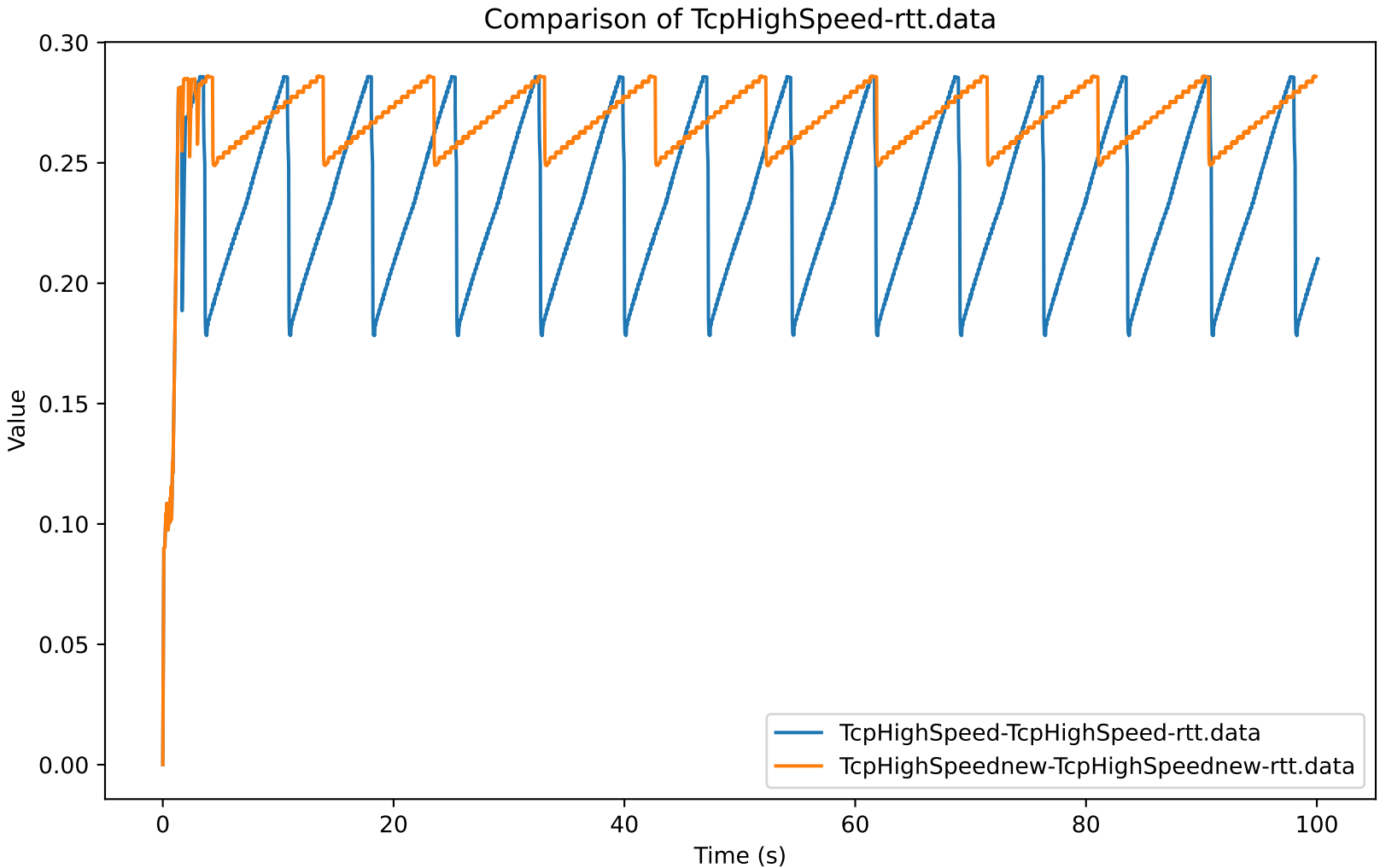

Comparison of TcpHighSpeed-cwnd.data
TcpHighSpeed-TcpHighSpeed-cwnd.data
TcpHighSpeednew-TcpHighSpeednew-cwnd.data
Value
Time (s)
0
20000
40000
60000
80000
100000
120000
140000
0
20
40
60
80
100

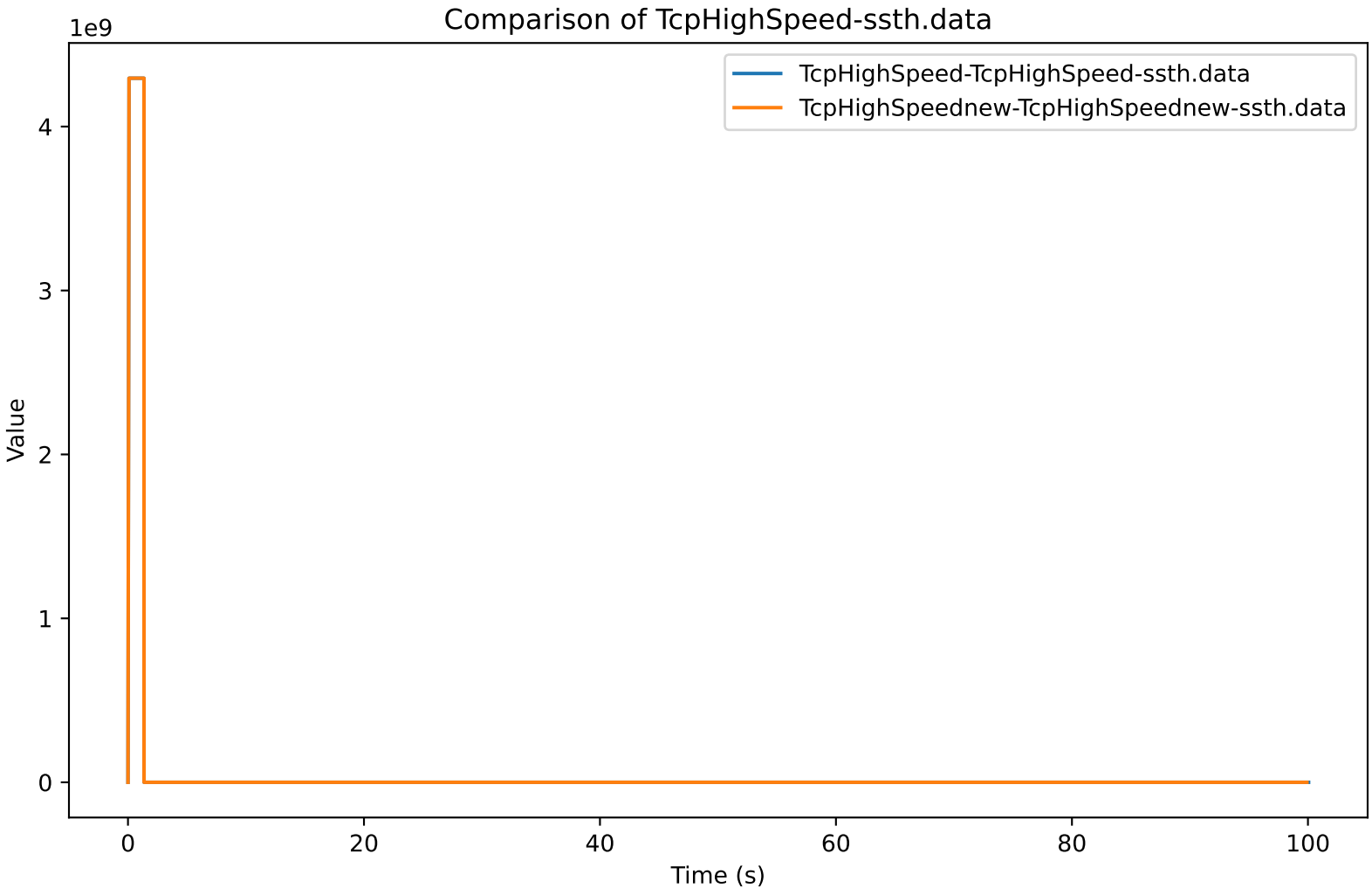

Comparison of TcpHighSpeed-inflight.data
TcpHighSpeed-TcpHighSpeed-inflight.data
TcpHighSpeednew-TcpHighSpeednew-inflight.data
Value
Time (s)
0
20000
40000
60000
80000
100000
120000
140000
0
20
40
60
80
100


Comparison of TcpHighSpeed-next-rx.data
1e7
TcpHighSpeed-TcpHighSpeed-next-rx.data
TcpHighSpeednew-TcpHighSpeednew-next-rx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)


Comparison of TcpHighSpeed-next-tx.data
1e7
TcpHighSpeed-TcpHighSpeed-next-tx.data
TcpHighSpeednew-TcpHighSpeednew-next-tx.data
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Value
0
20
40
60
80
100
Time (s)


Comparison of TcpHighSpeed-rto.data
TcpHighSpeed-TcpHighSpeed-rto.data
TcpHighSpeednew-TcpHighSpeednew-rto.data
Value
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
0.00
0.02
0.04
0.06
0.08
Time (s)


Comparison of TcpHighSpeed-rtt.data
0.30
0.25
0.20
0.15
0.10
0.05
0.00
Value
0
20
40
60
80
100
Time (s)
TcpHighSpeed-TcpHighSpeed-rtt.data
TcpHighSpeednew-TcpHighSpeednew-rtt.data


Comparison of TcpHighSpeed-ssth.data
1e9
TcpHighSpeed-TcpHighSpeed-ssth.data
TcpHighSpeednew-TcpHighSpeednew-ssth.data
Value
Time (s)
0
1
2
3
4
0
20
40
60
80
100