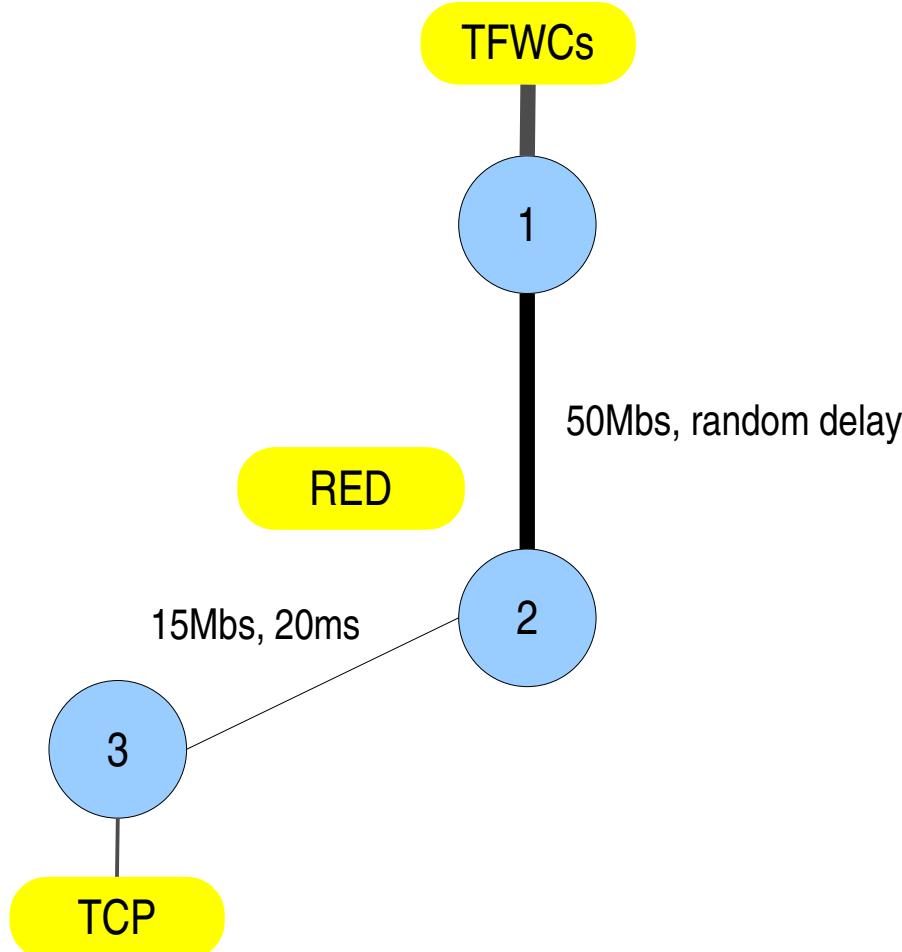


TFWCs w/ reverse TCP Sack

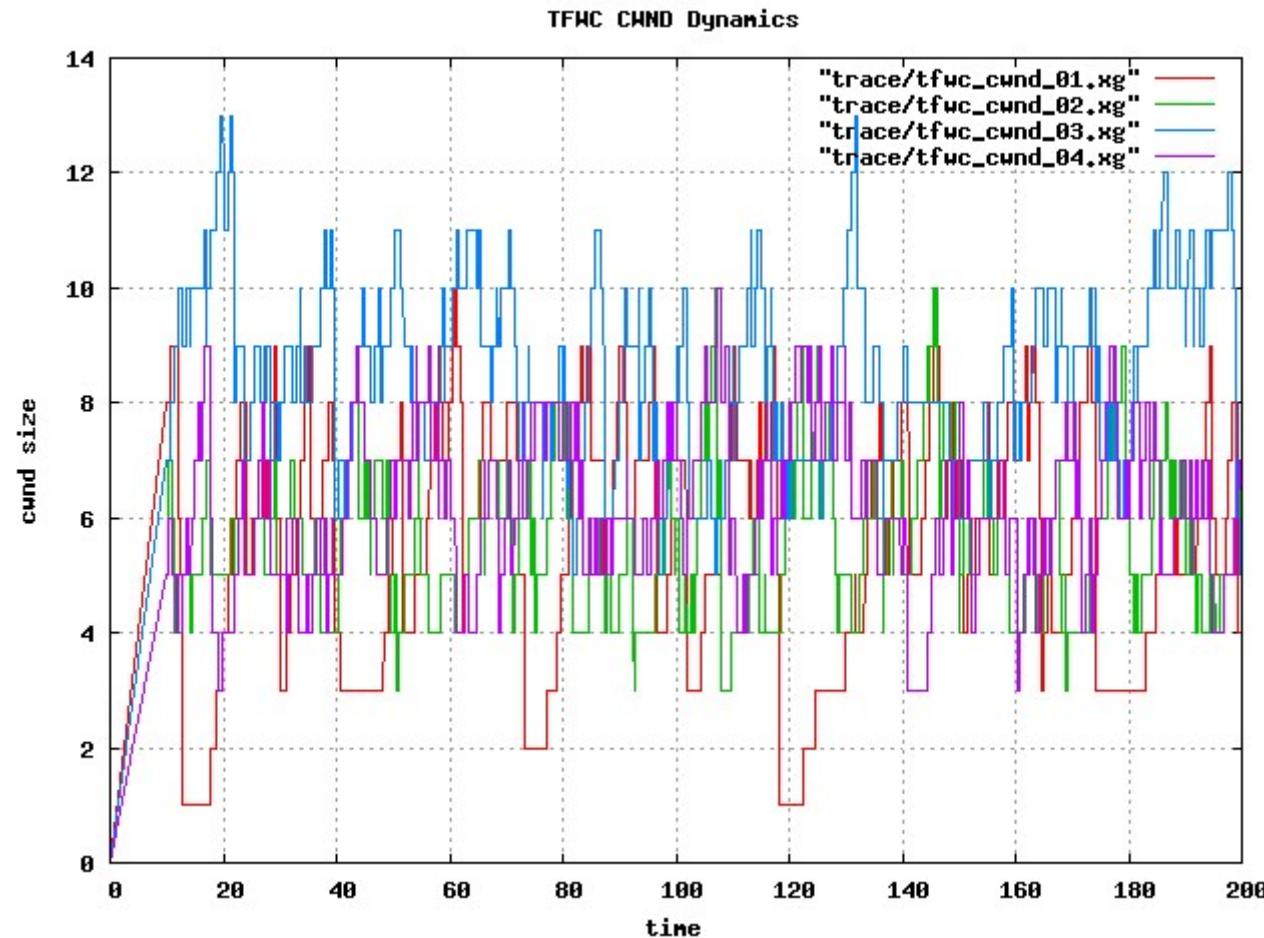


- Random FTP start time: 1s ~ 5s
- Random Access Link Delay: 2ms ~ 5ms
- e2e RTT = 44ms ~ 50ms
- Delay x Bandwidth = $20\text{ms} \times 15\text{Mb/s} = 300 \text{ Kbits}$
- 1 packet = 1000 bytes = 8000 bits
- Delay x BW = 37.5 packets

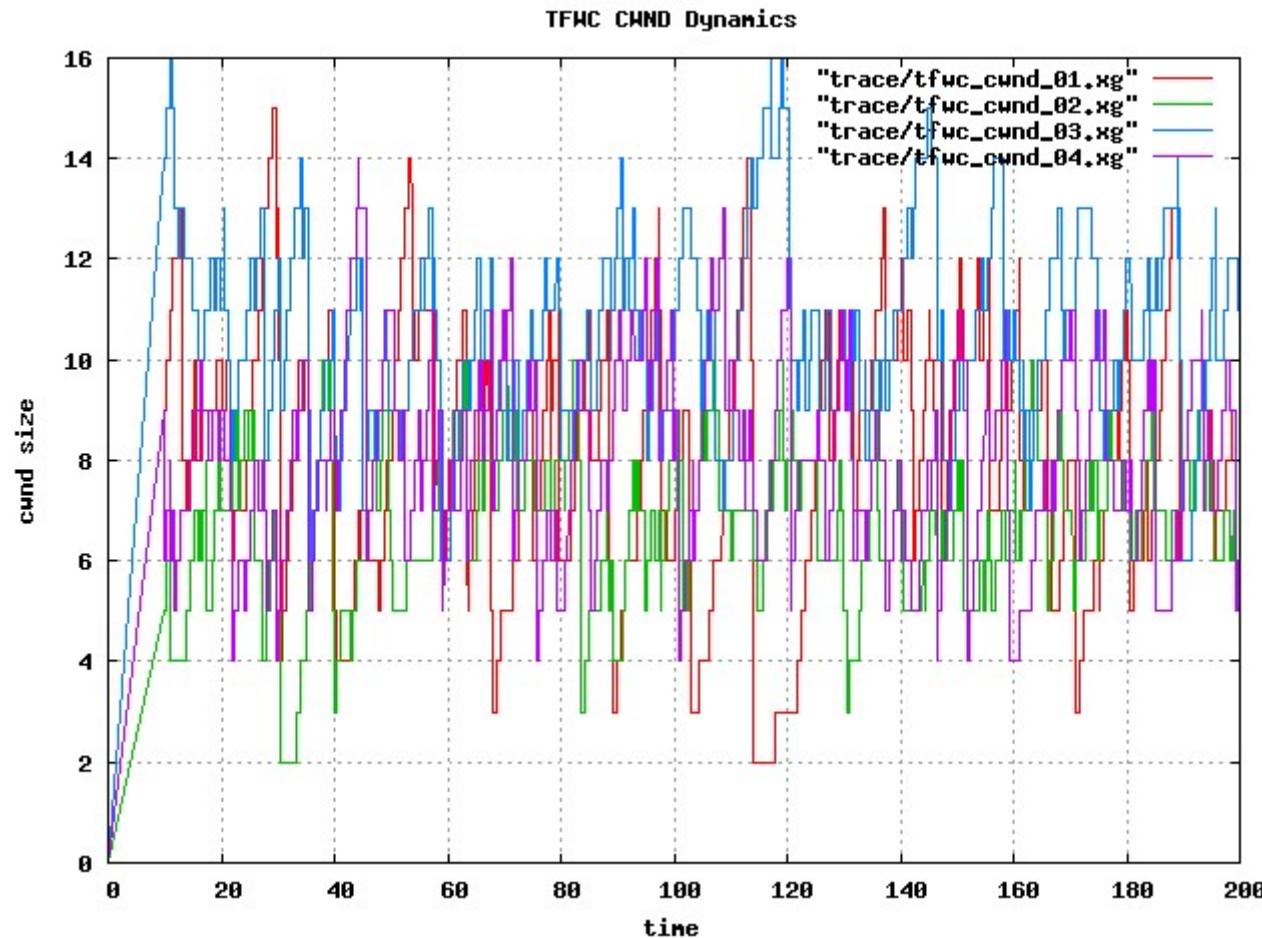
4 TFWC w/ 4 reverse TCP
Varying Bottleneck (RED) Queue Size (10 ~ 75)
Simulation Time = 200
Random Seed Number = 177

Phase Break = On
Probability = 10%

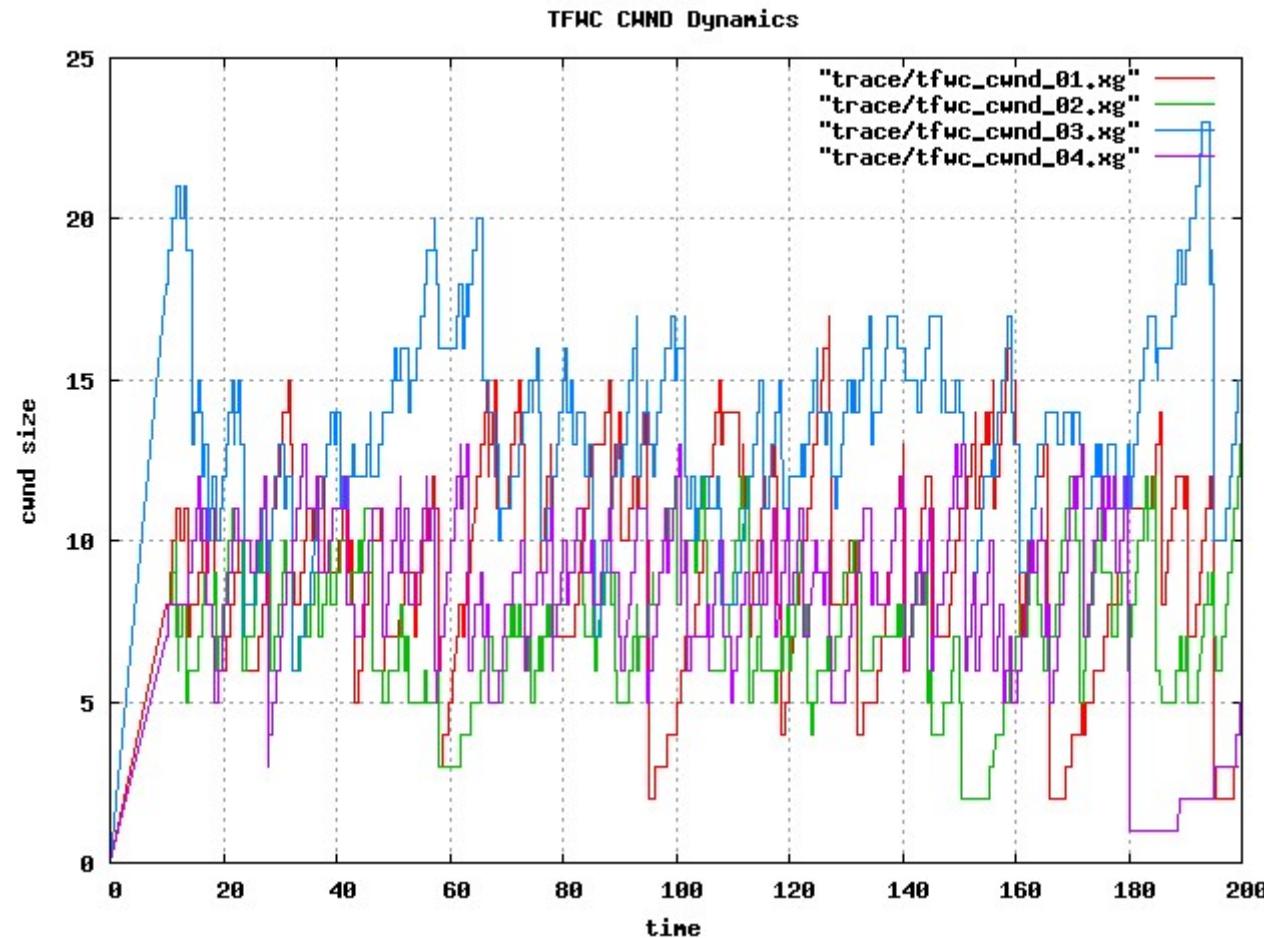
cwnd (q=10, 4TFWC)



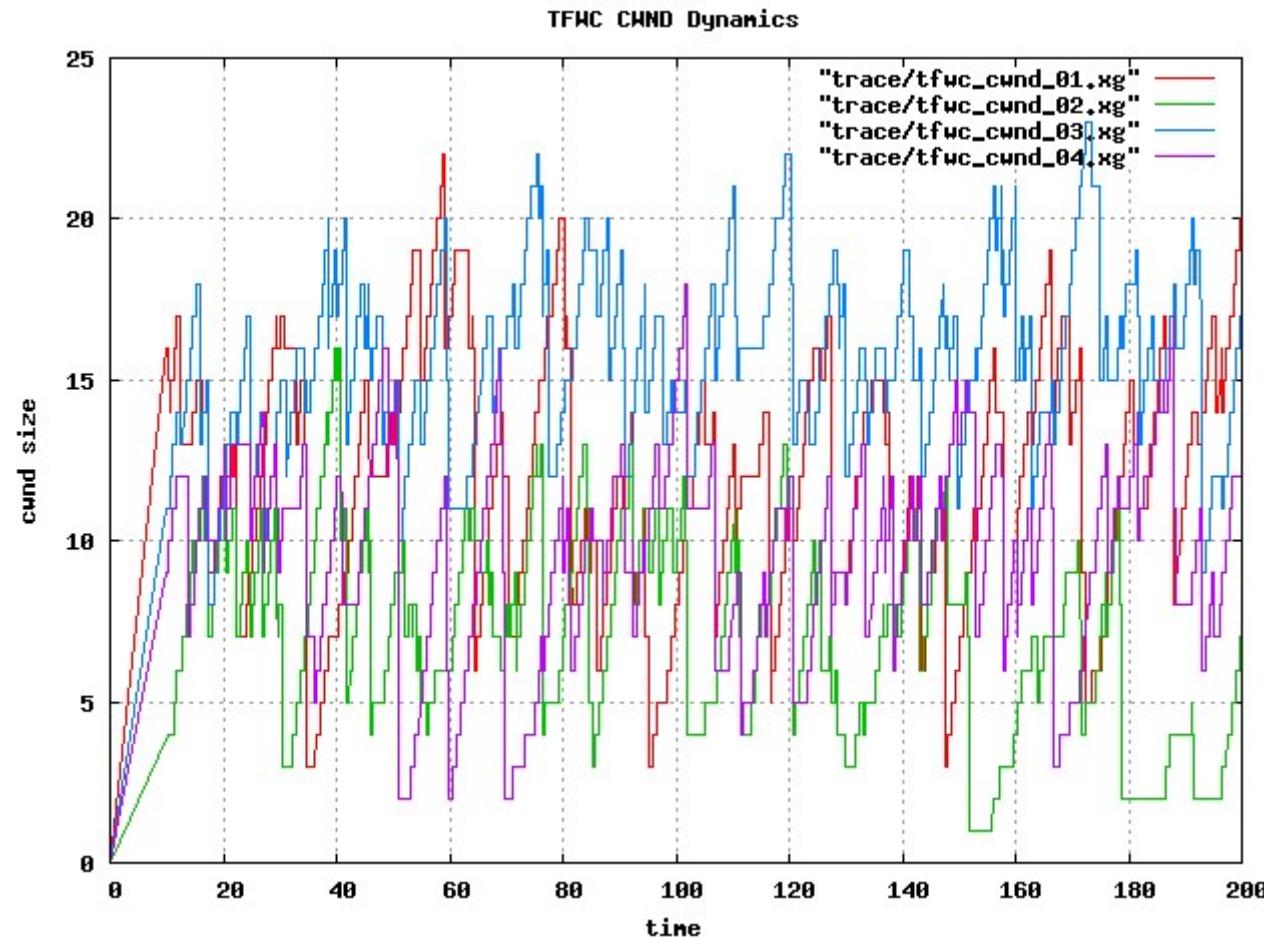
cwnd (q=15, 4TFWC)



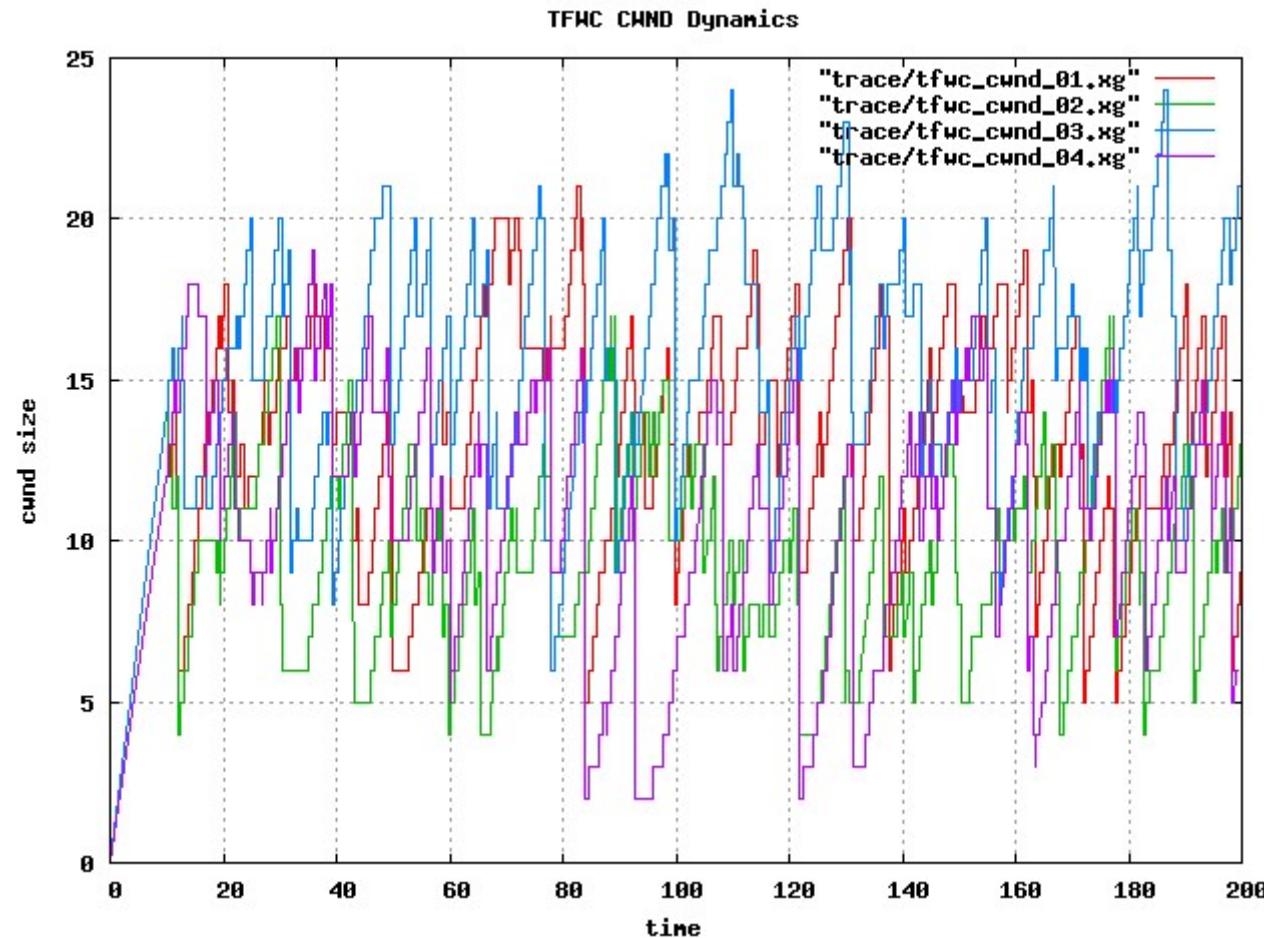
cwnd (q=20, 4TFWC)



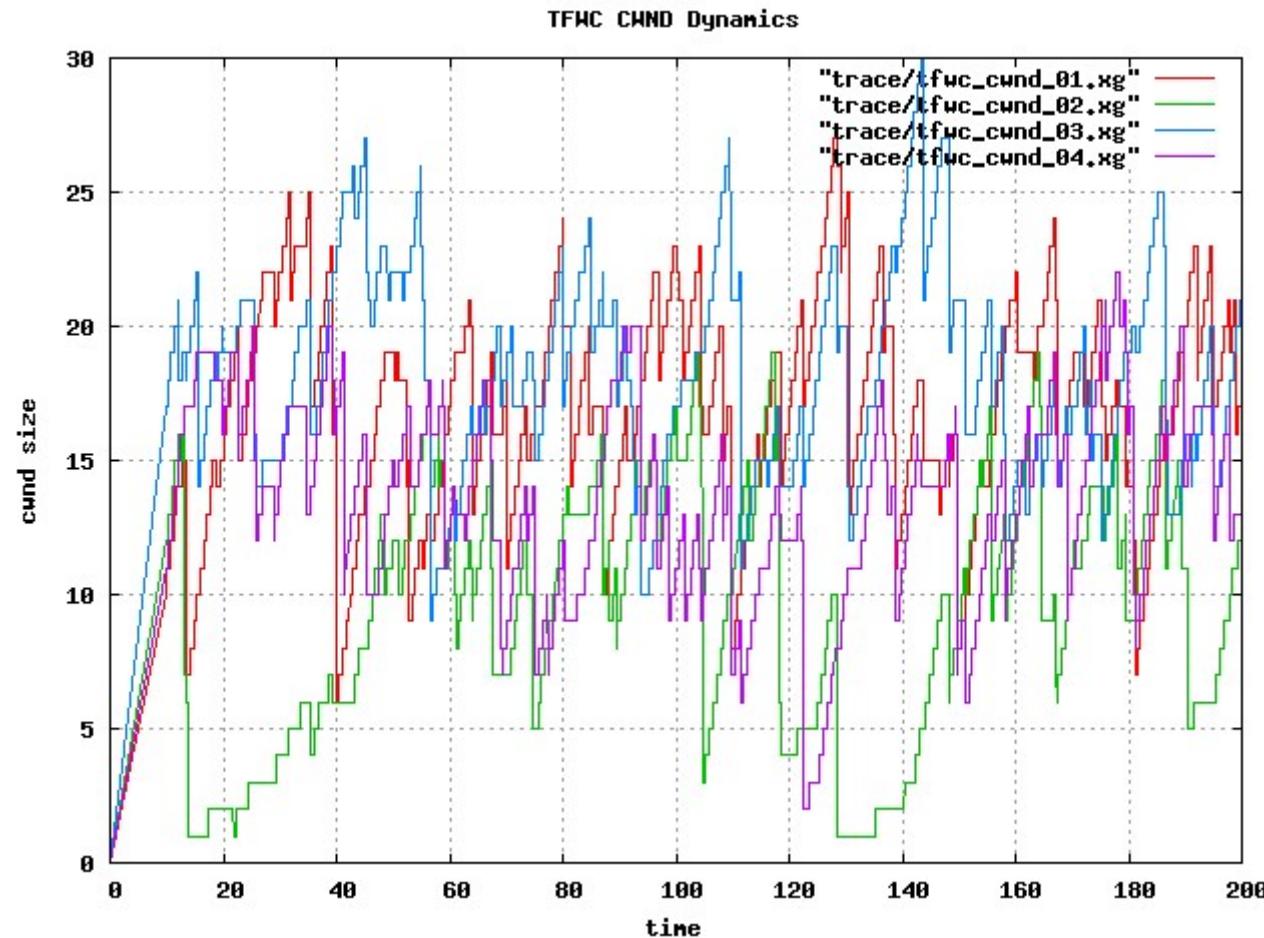
cwnd (q=25, 4TFWC)



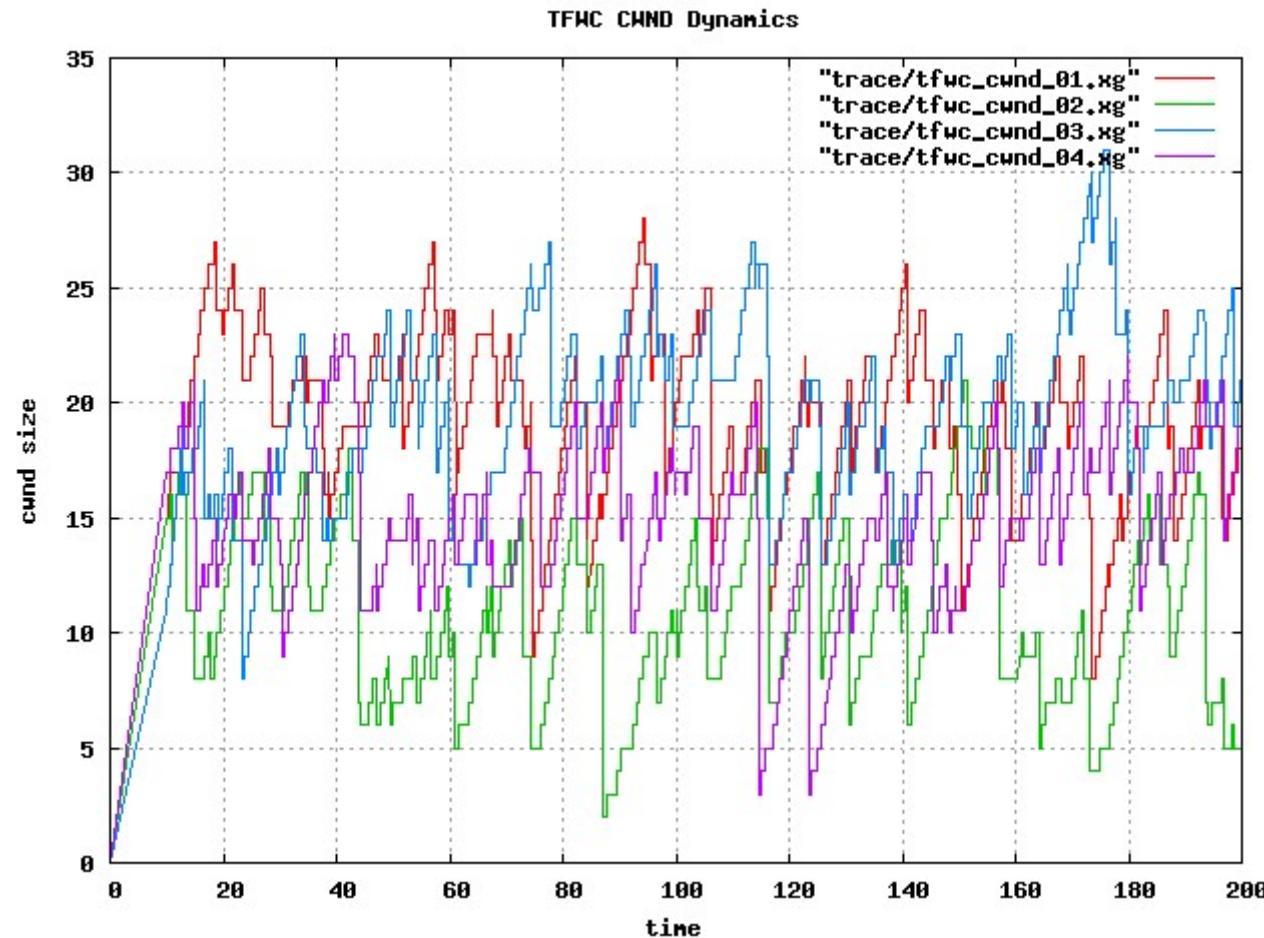
cwnd (q=30, 4TFWC)



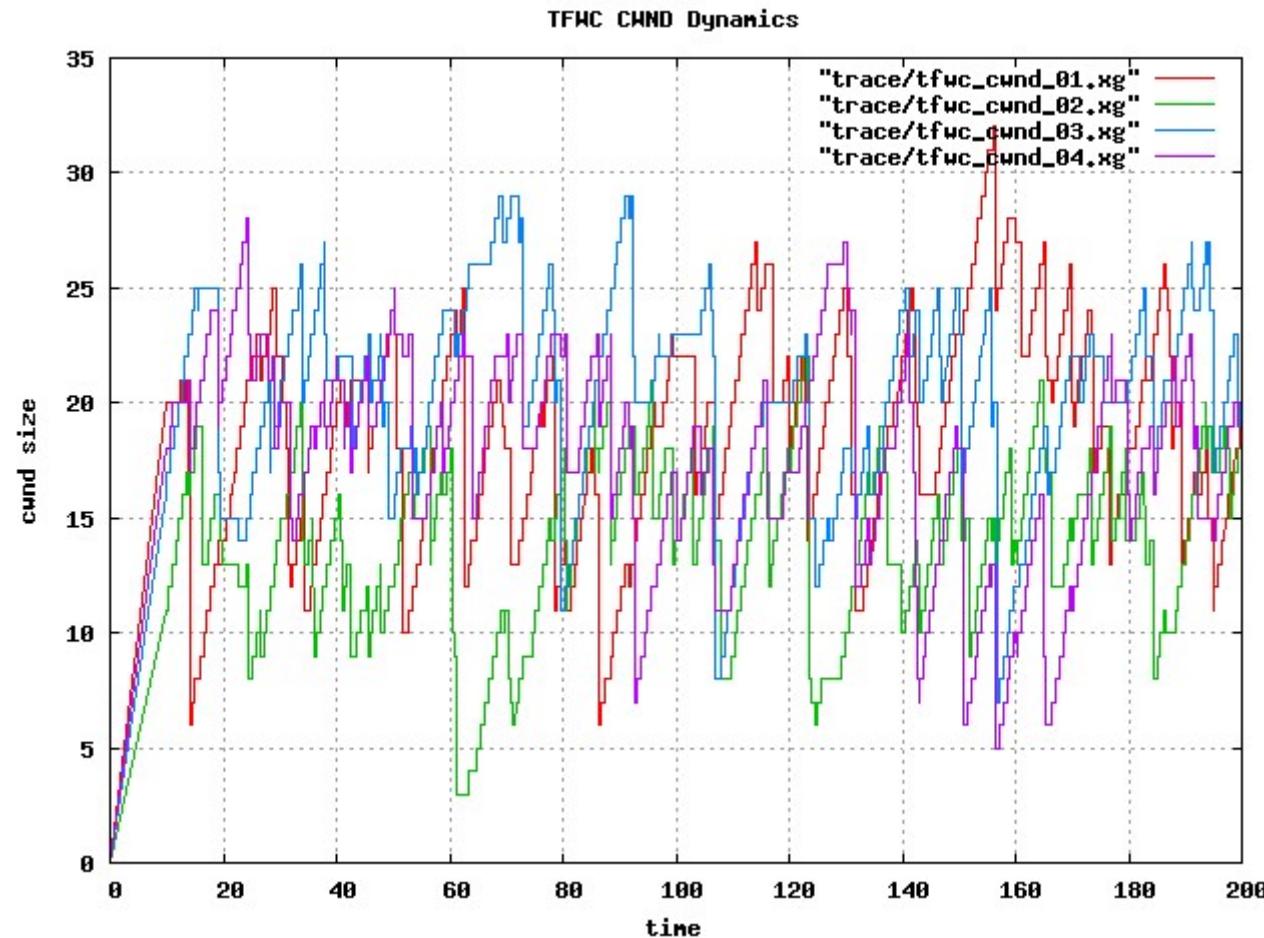
cwnd (q=35, 4TFWC)



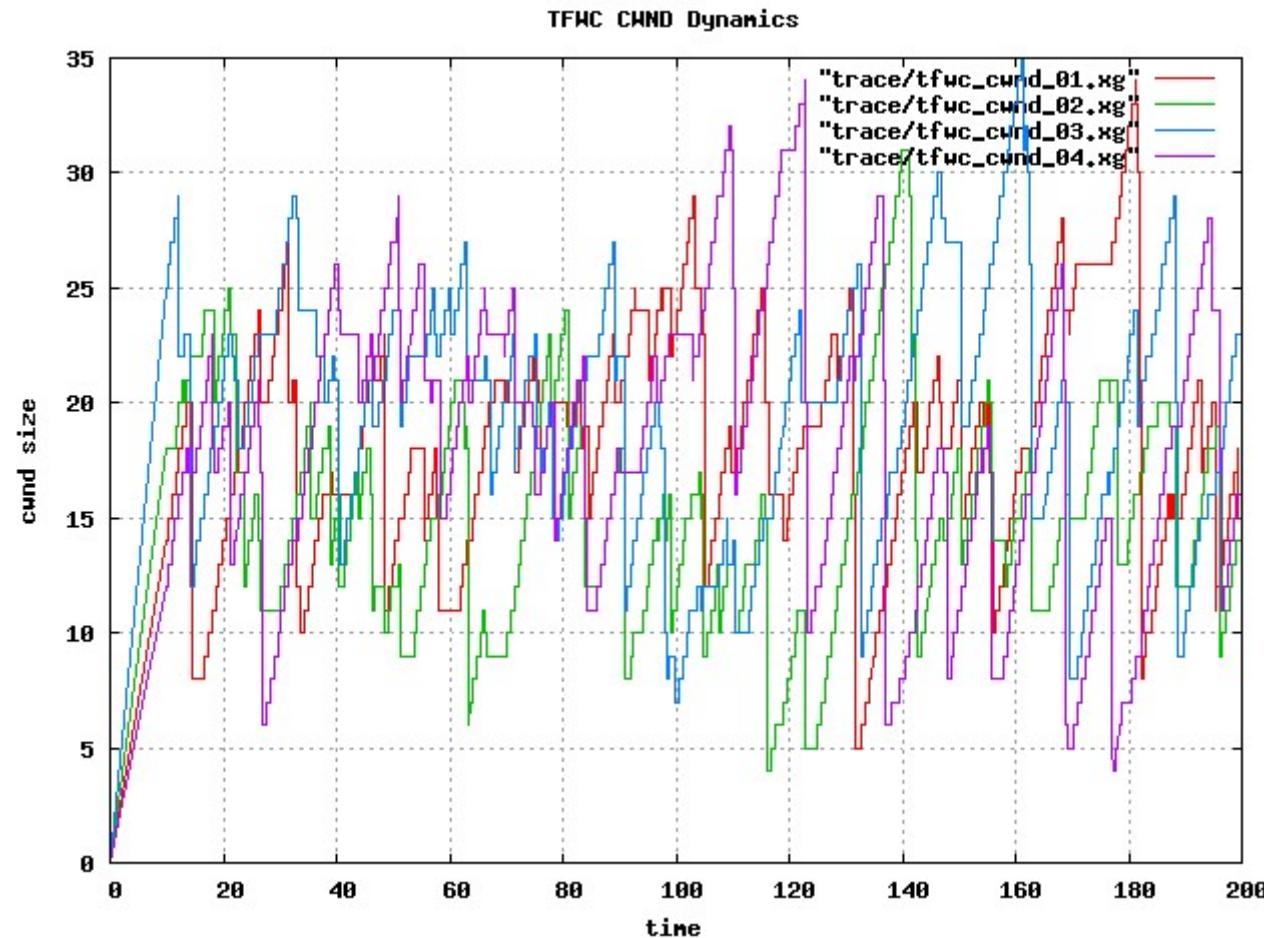
cwnd (q=40, 4TFWC)



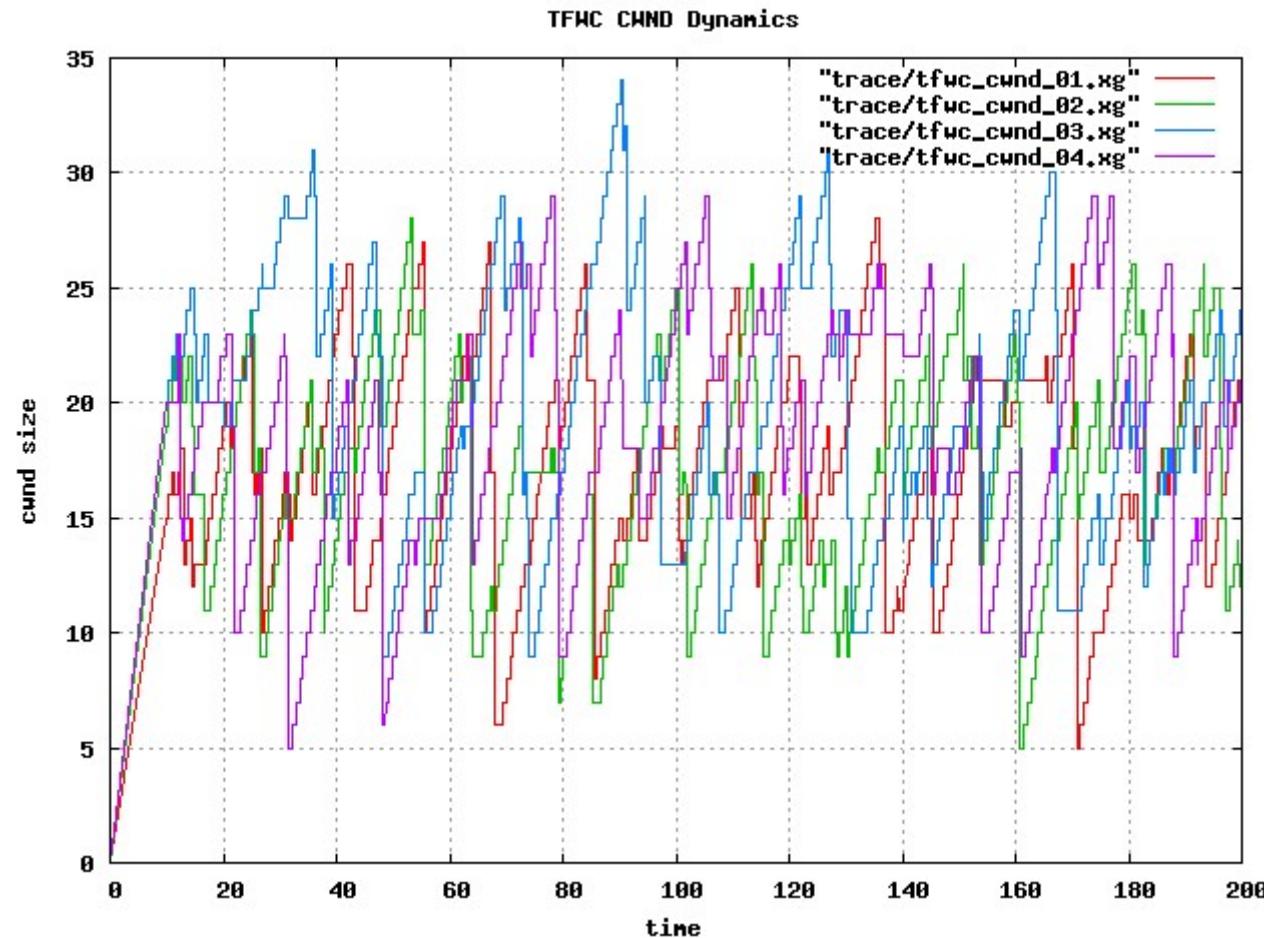
cwnd (q=45, 4TFWC)



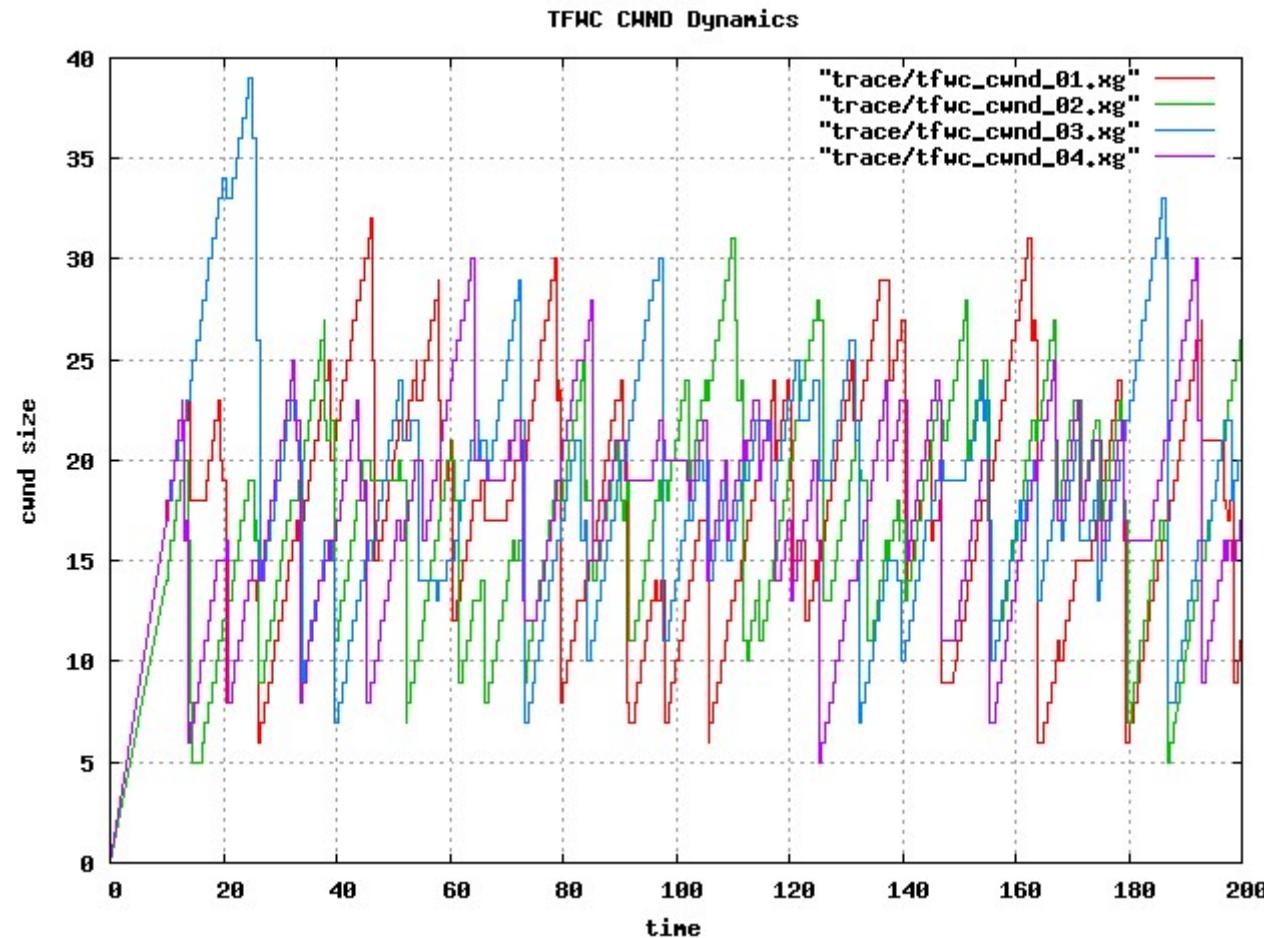
cwnd (q=50, 4TFWC)



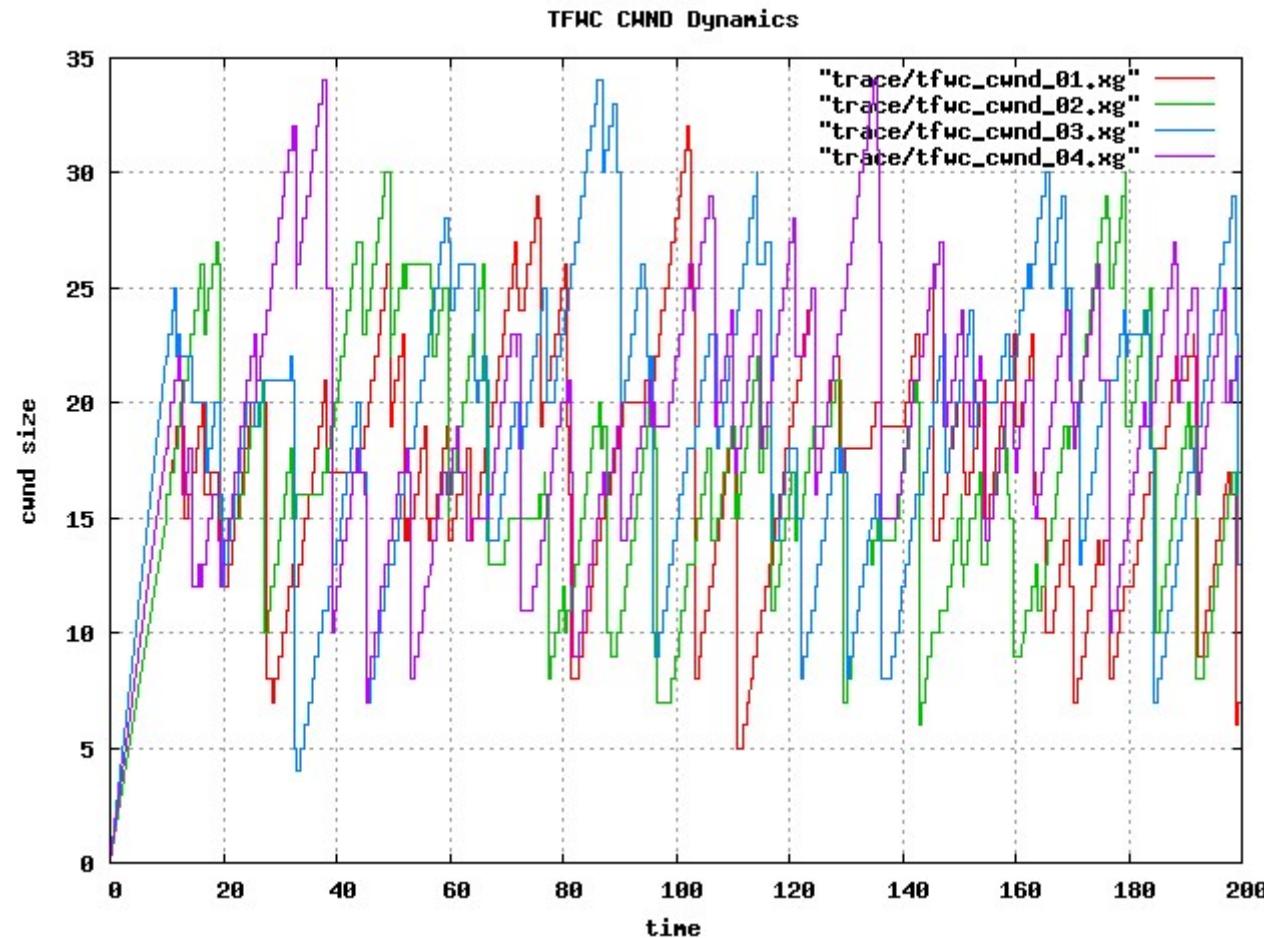
cwnd (q=55, 4TFWC)



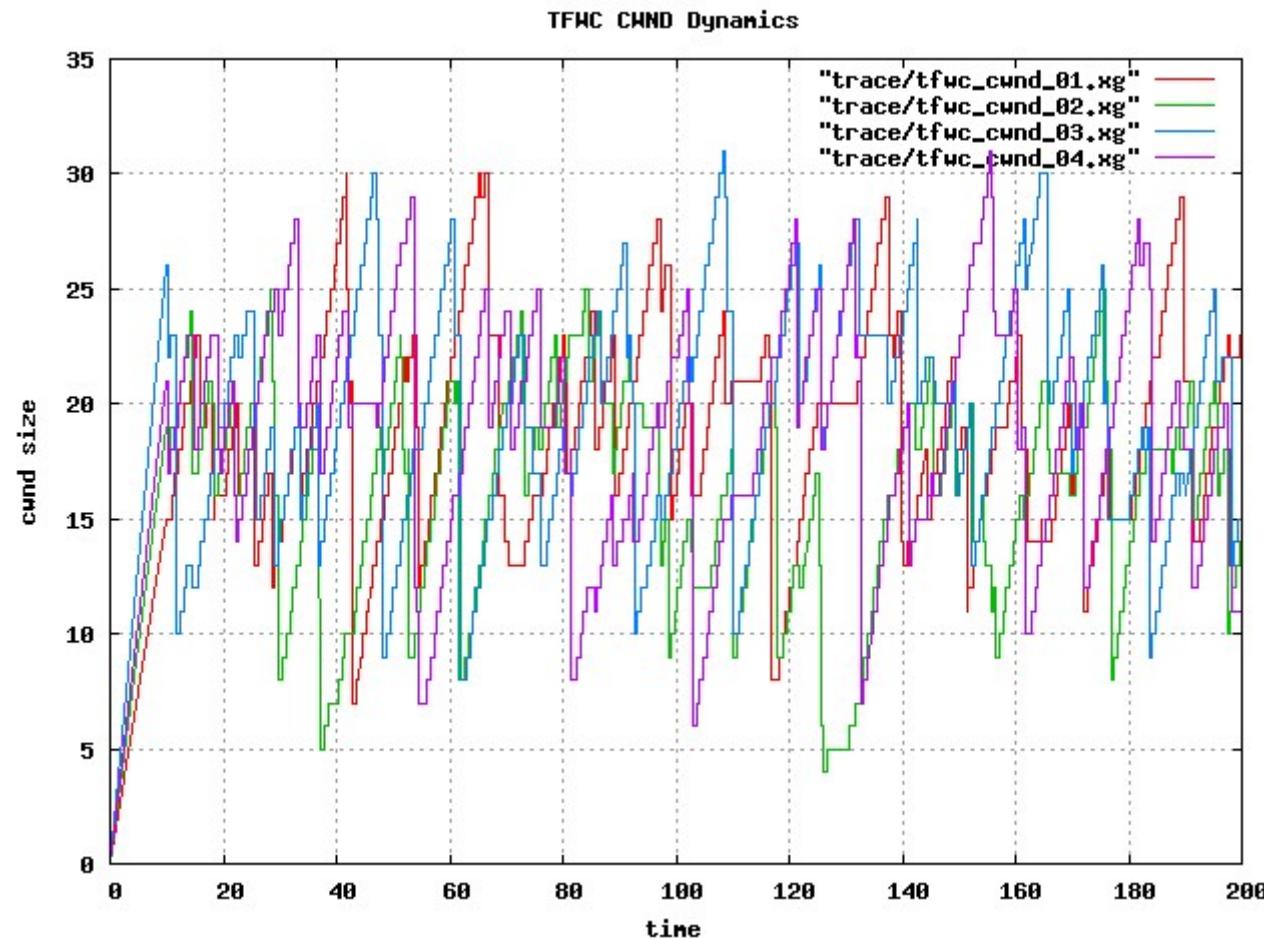
cwnd (q=60, 4TFWC)



cwnd (q=65, 4TFWC)



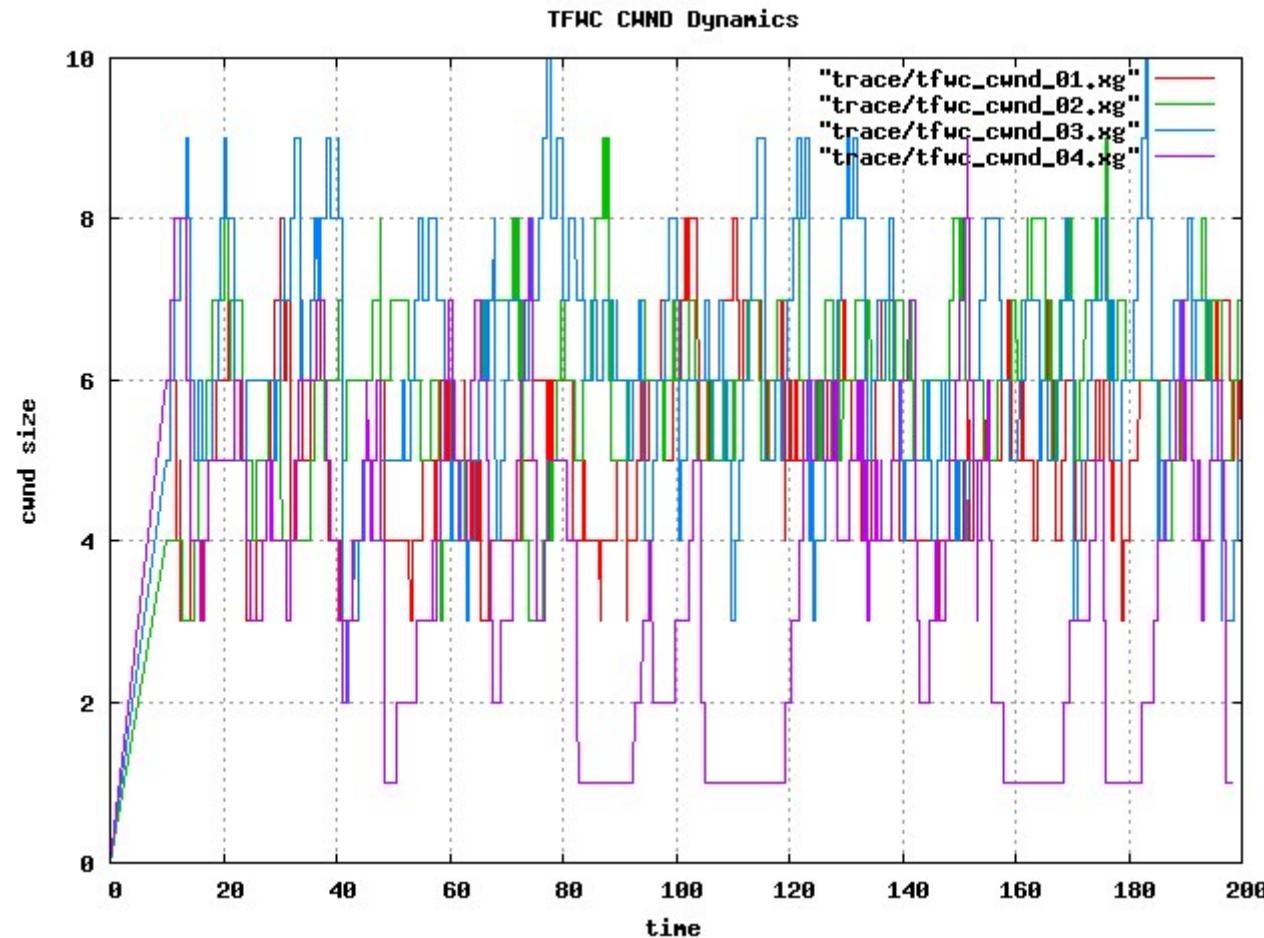
cwnd (q=70, 4TFWC)



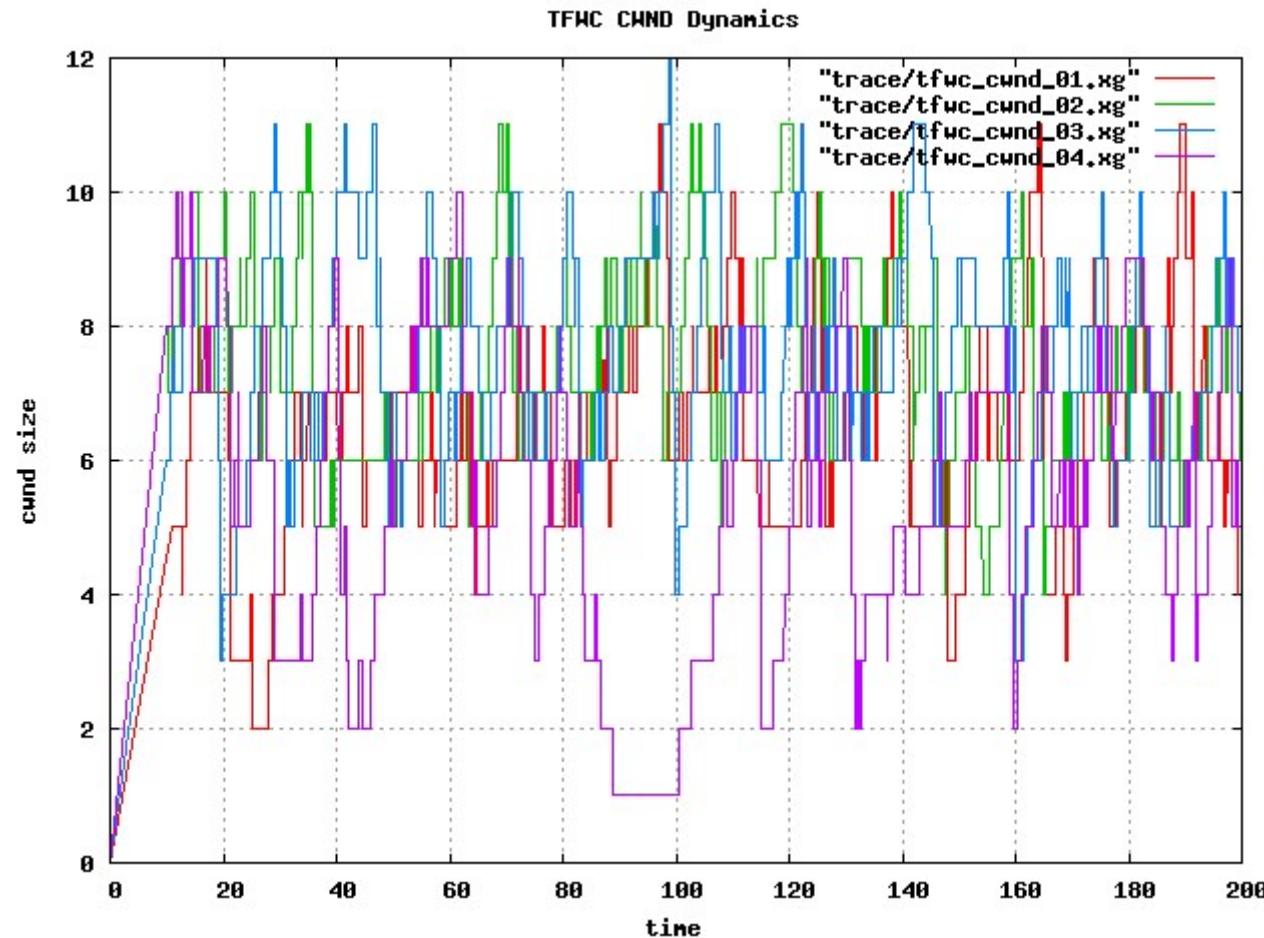
8 TFWC w/ 8 reverse TCP
Varying Bottleneck (RED) Queue Size (10 ~ 75)
Simulation Time = 200
Random Seed Number = 177

Phase Break = On
Probability = 10%

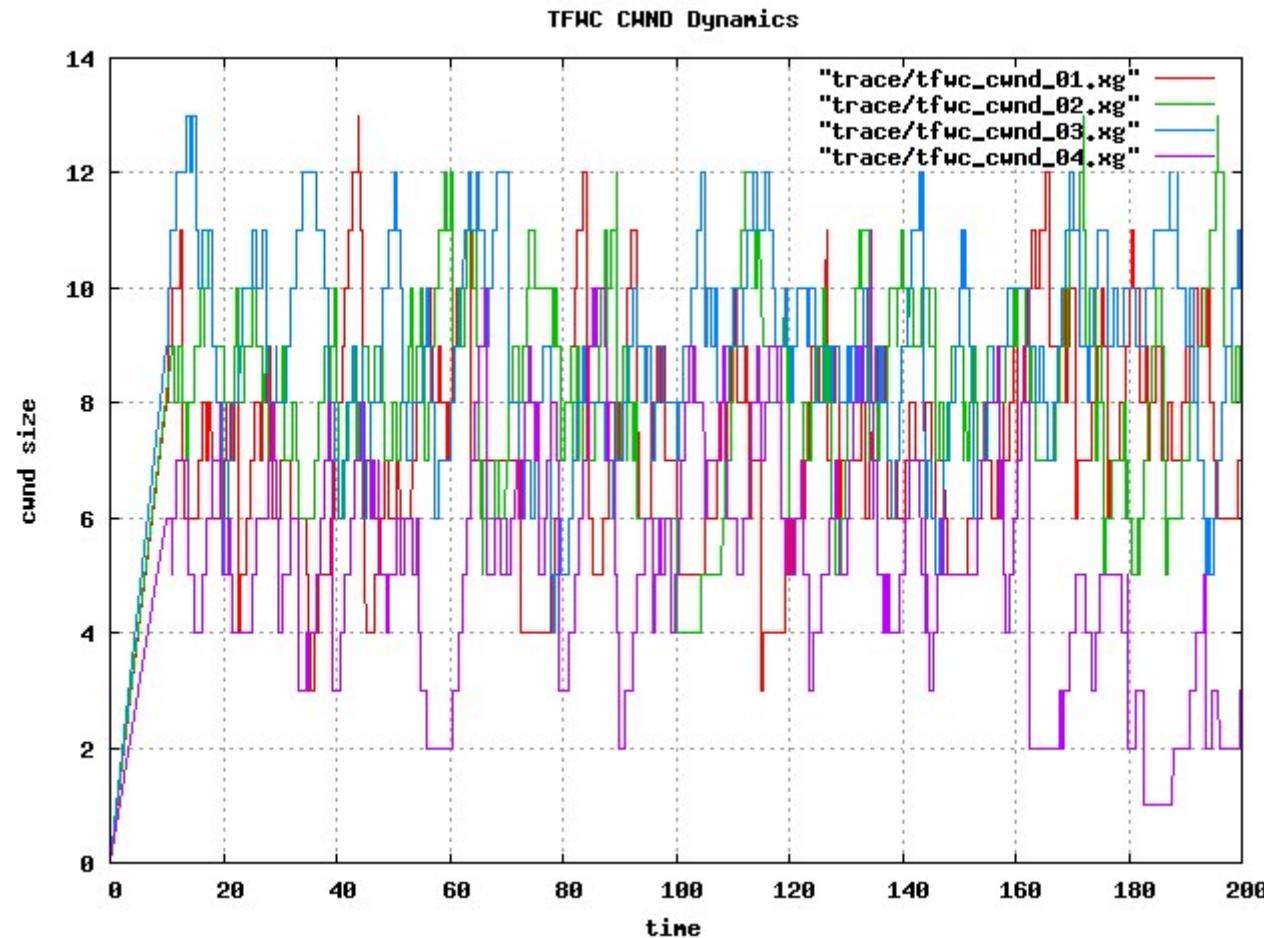
cwnd (q=10, 8TFWC)



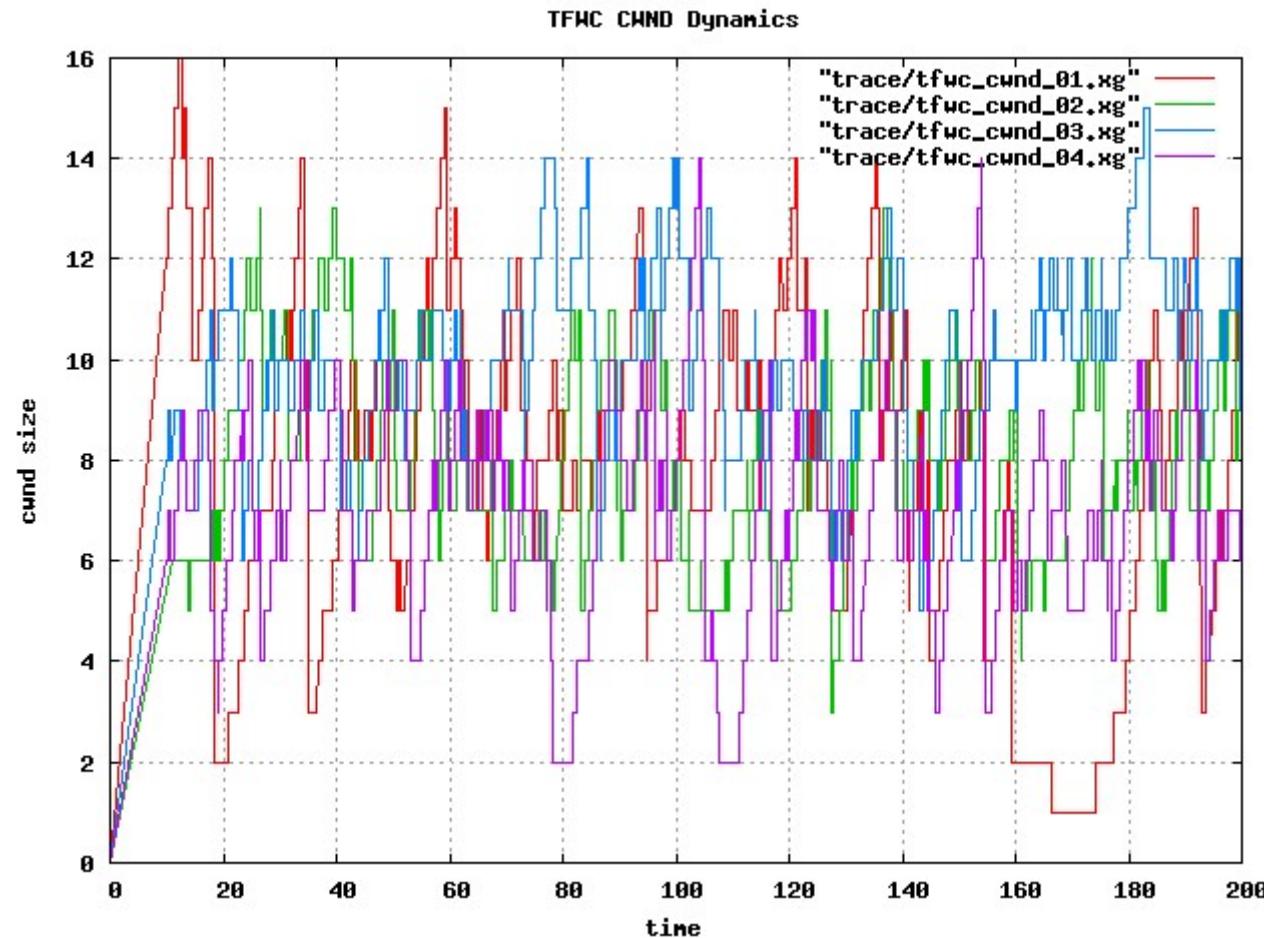
cwnd (q=15, 8TFWC)



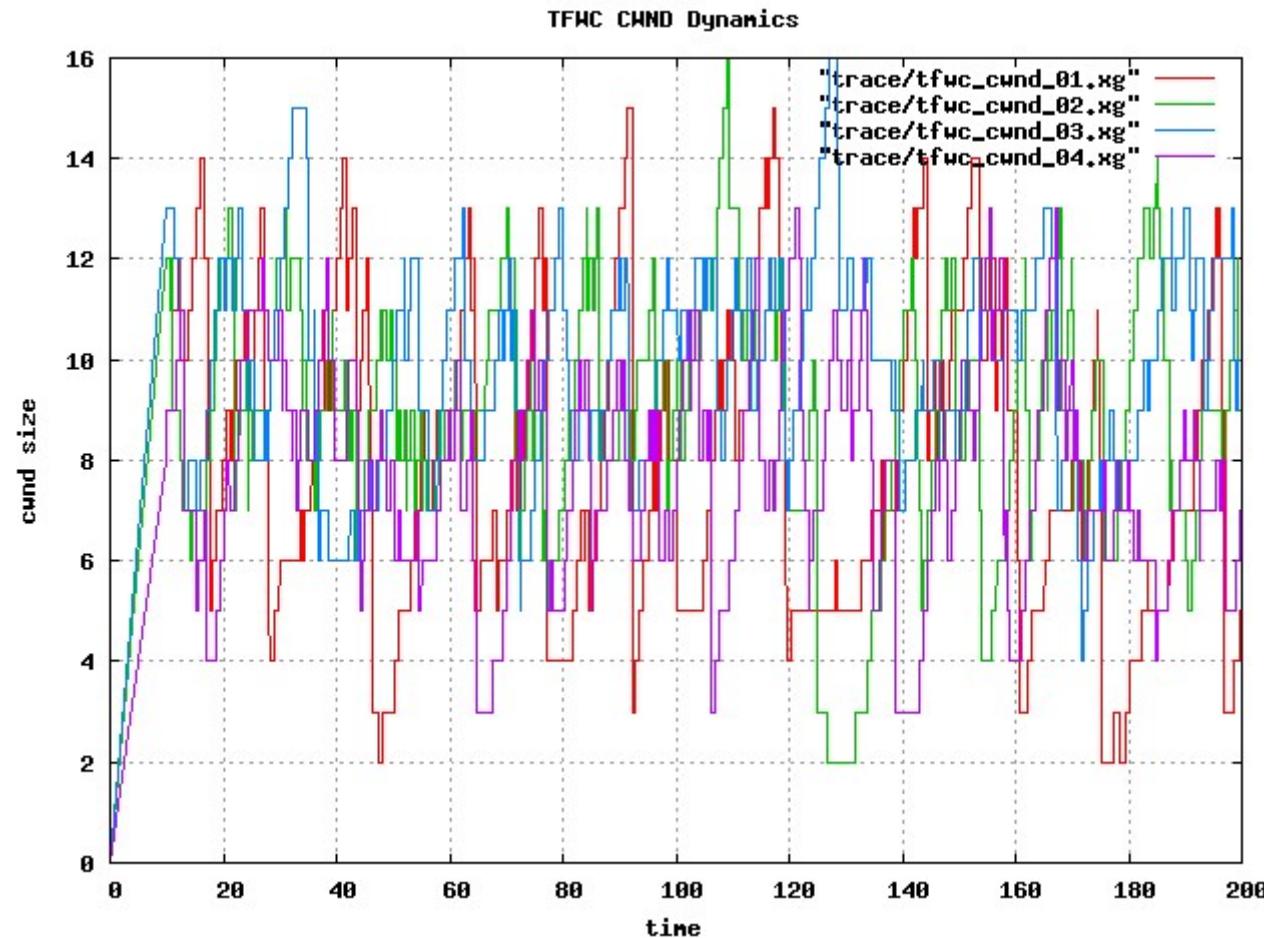
cwnd (q=20, 8TFWC)



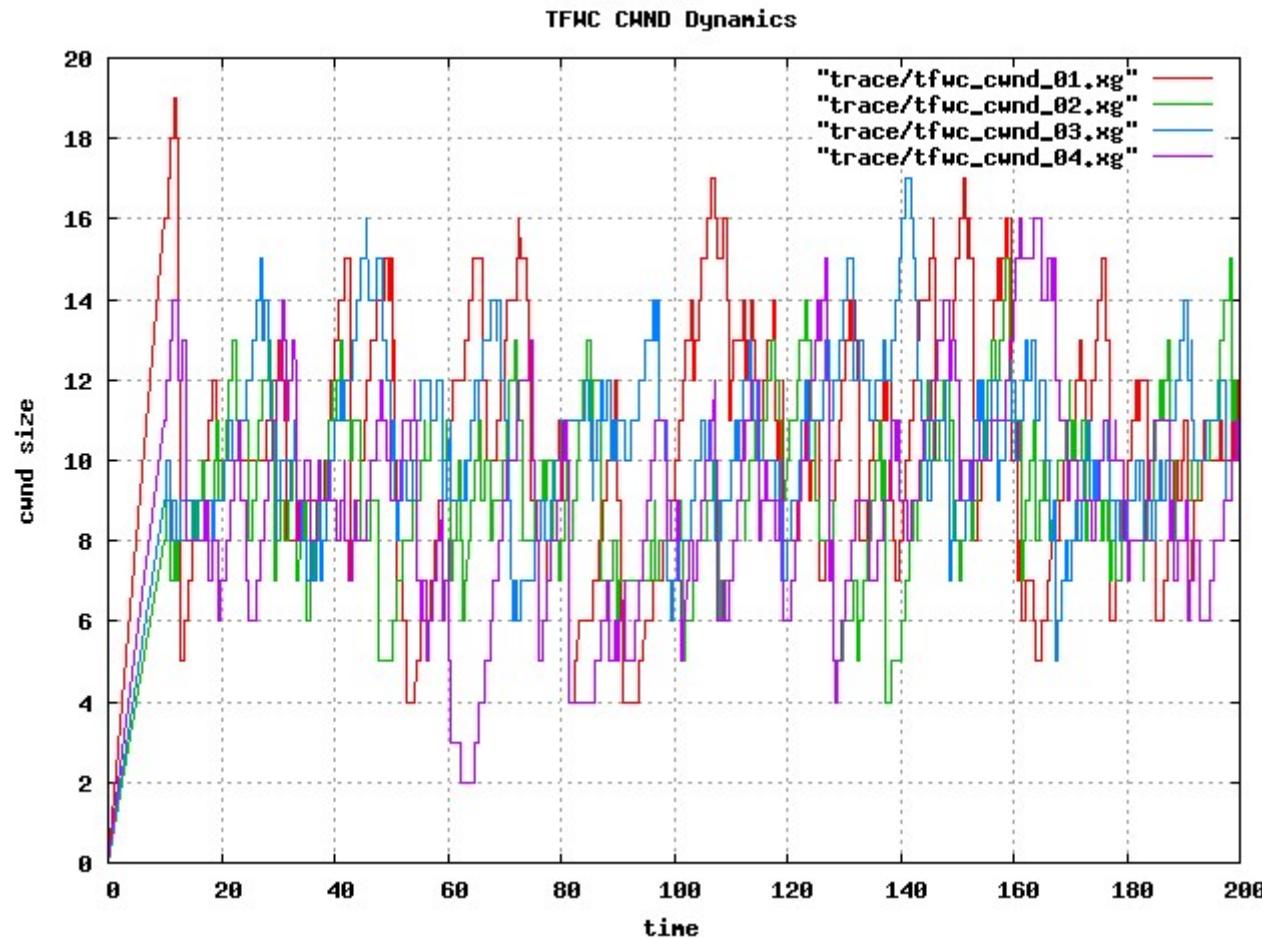
cwnd (q=25, 8TFWC)



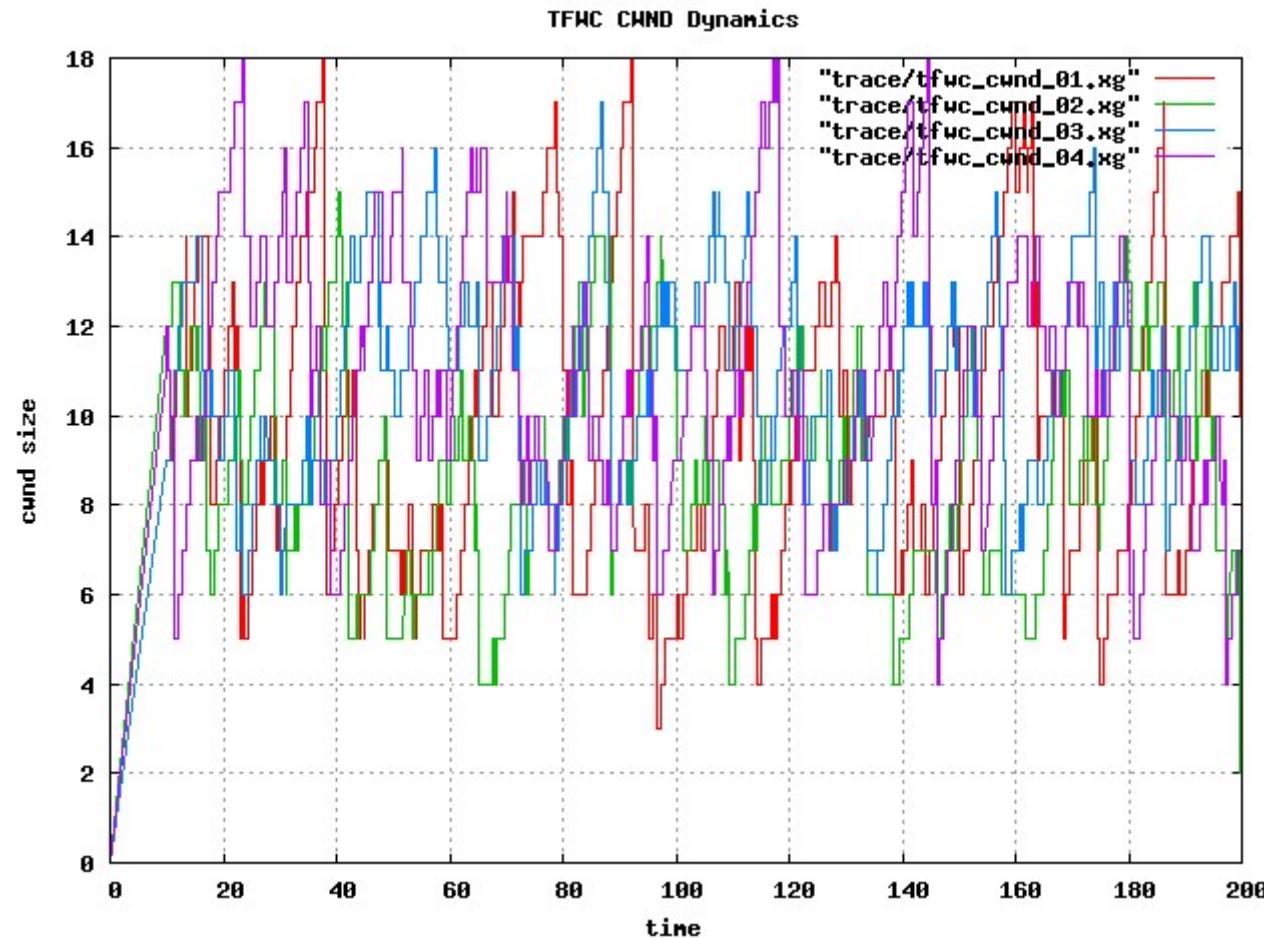
cwnd (q=30, 8TFWC)



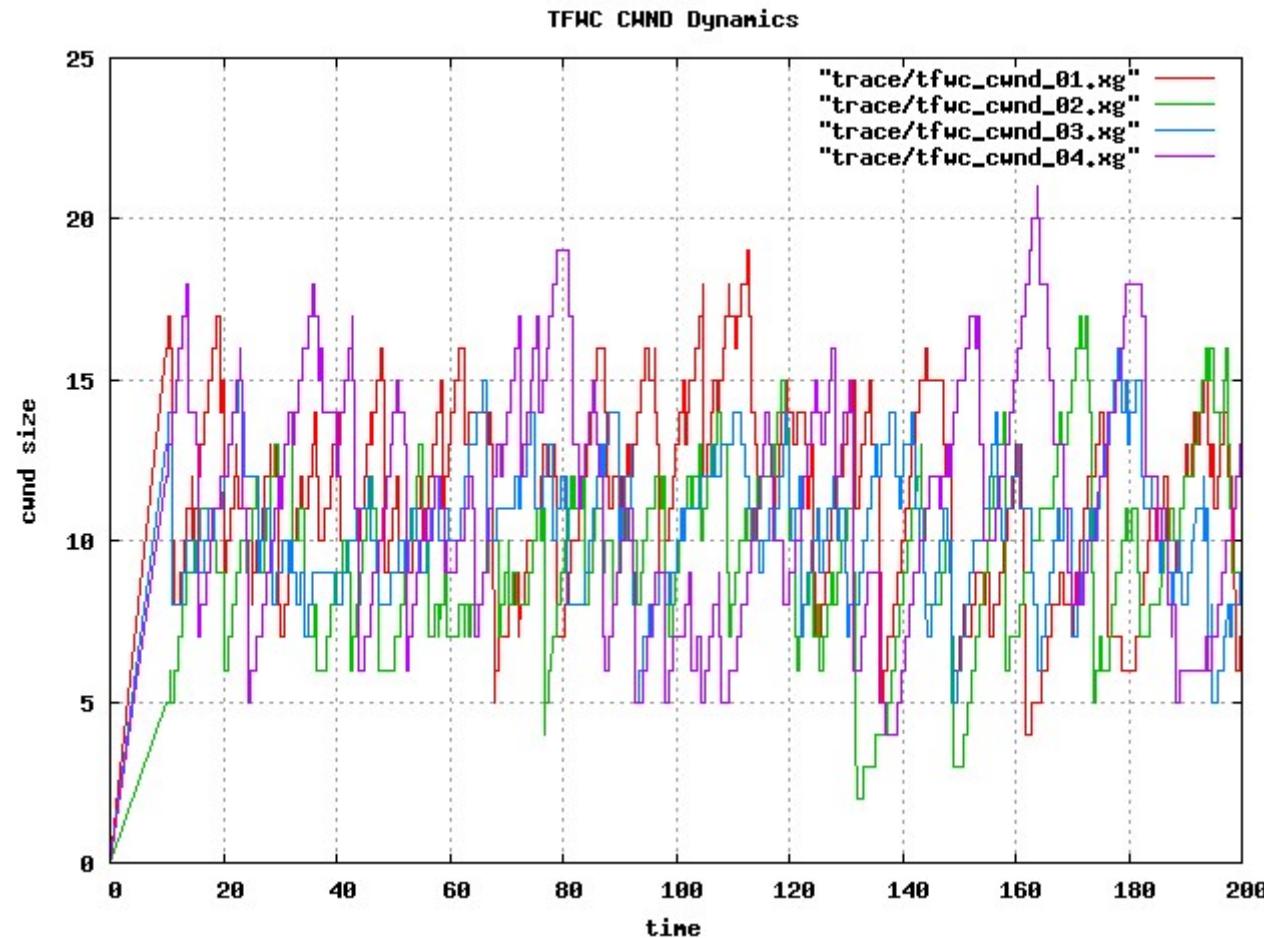
cwnd (q=35, 8TFWC)



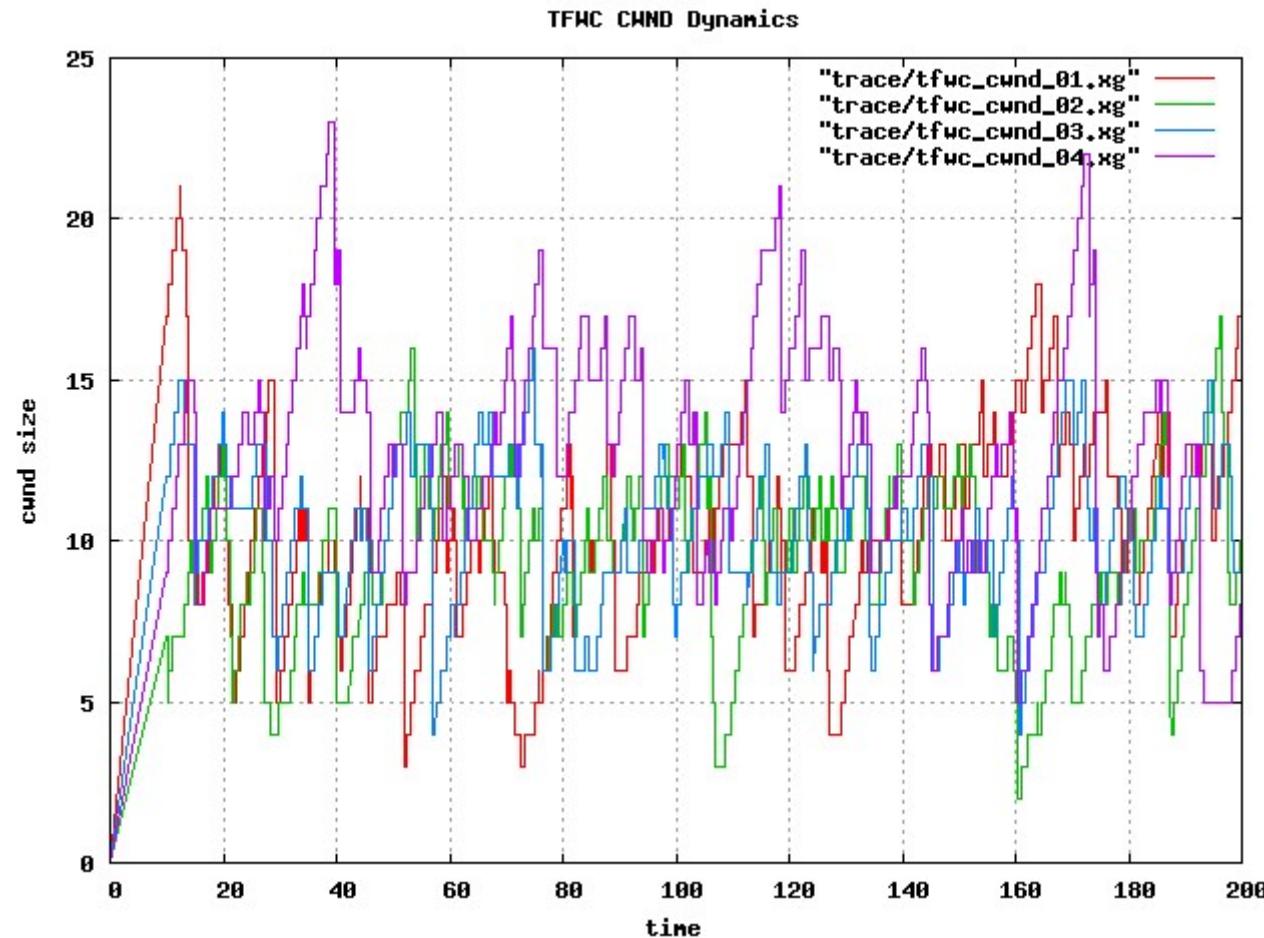
cwnd (q=40, 8TFWC)



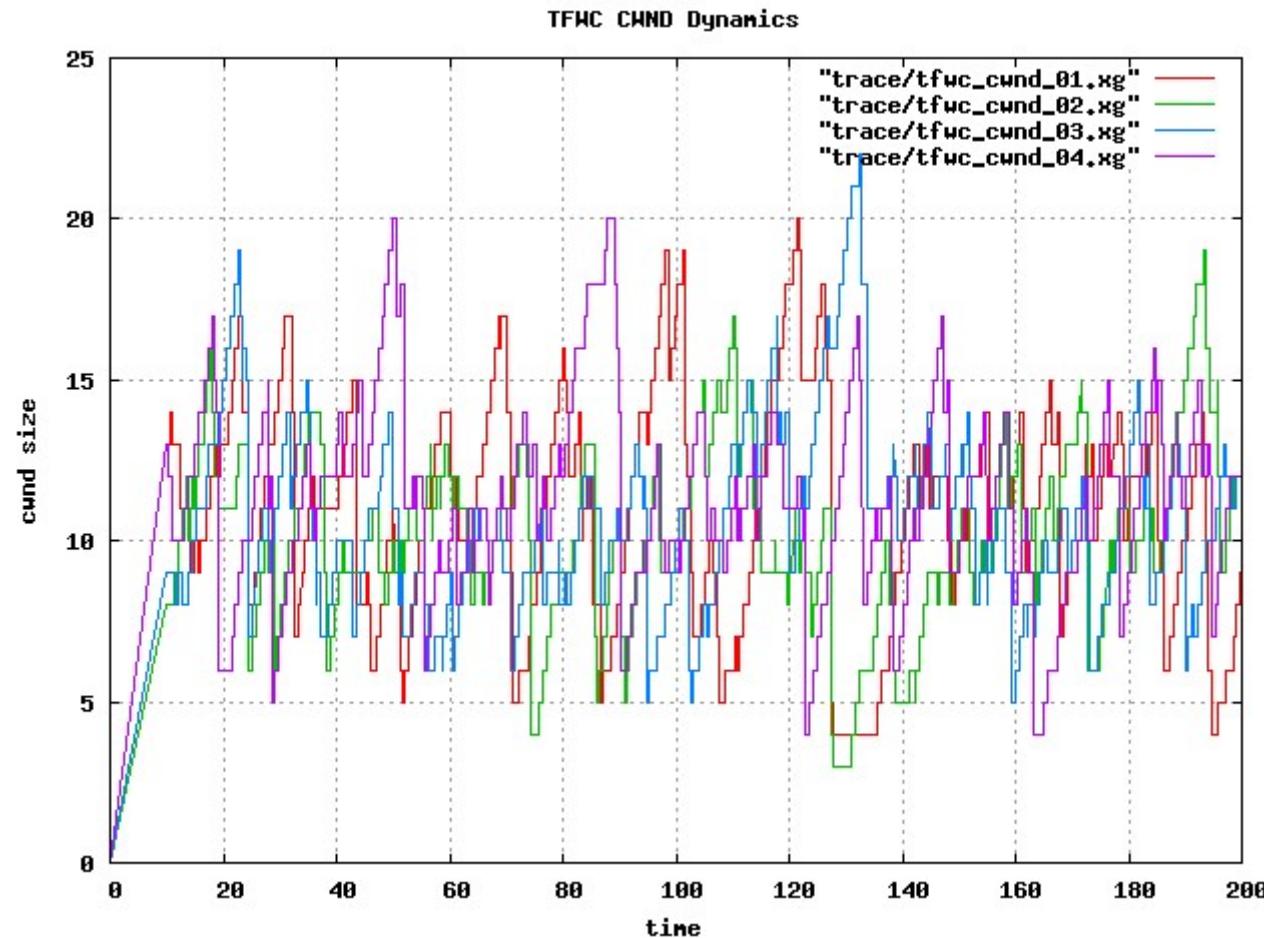
cwnd (q=45, 8TFWC)



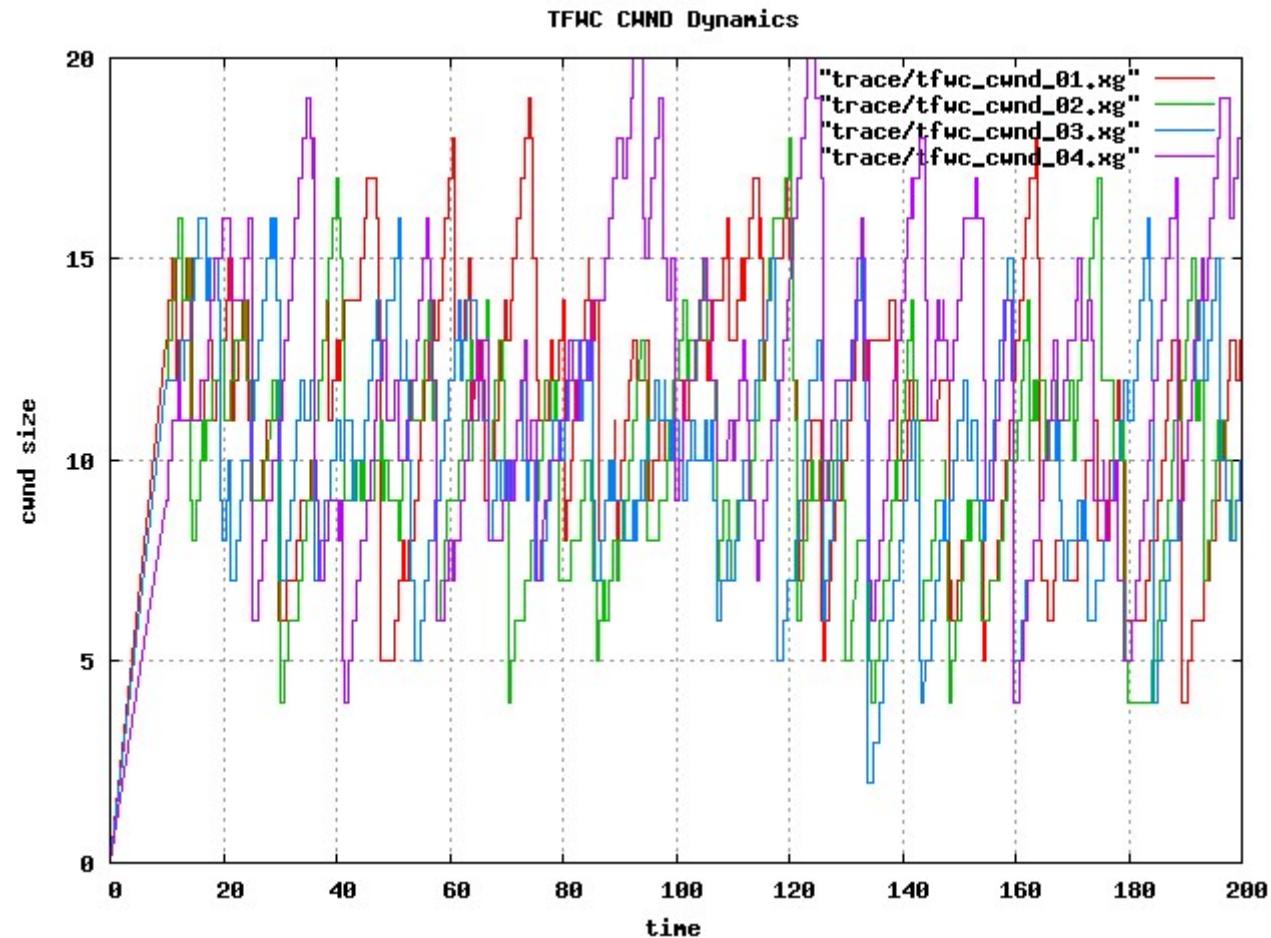
cwnd (q=50, 8TFWC)



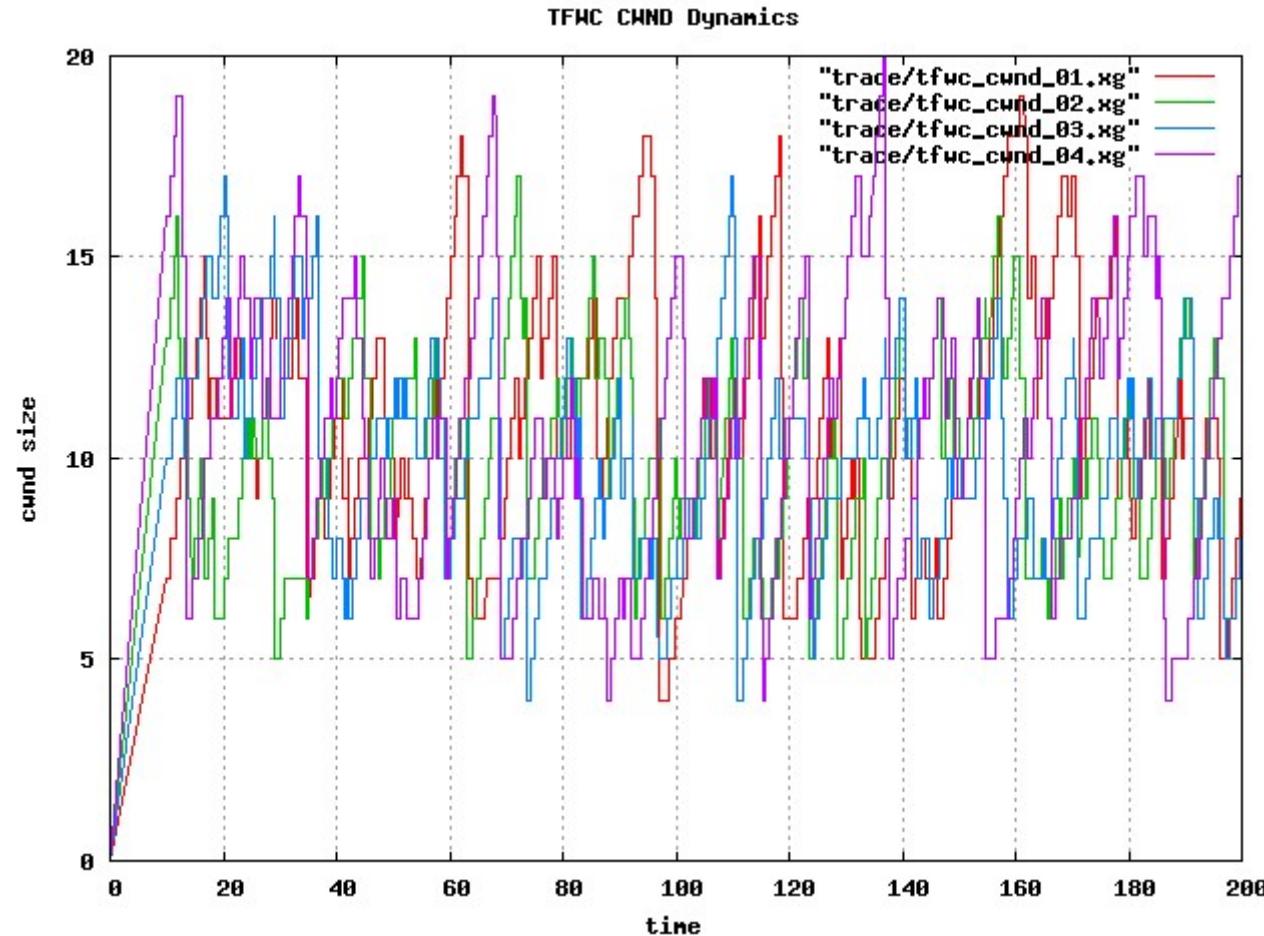
cwnd (q=55, 8TFWC)



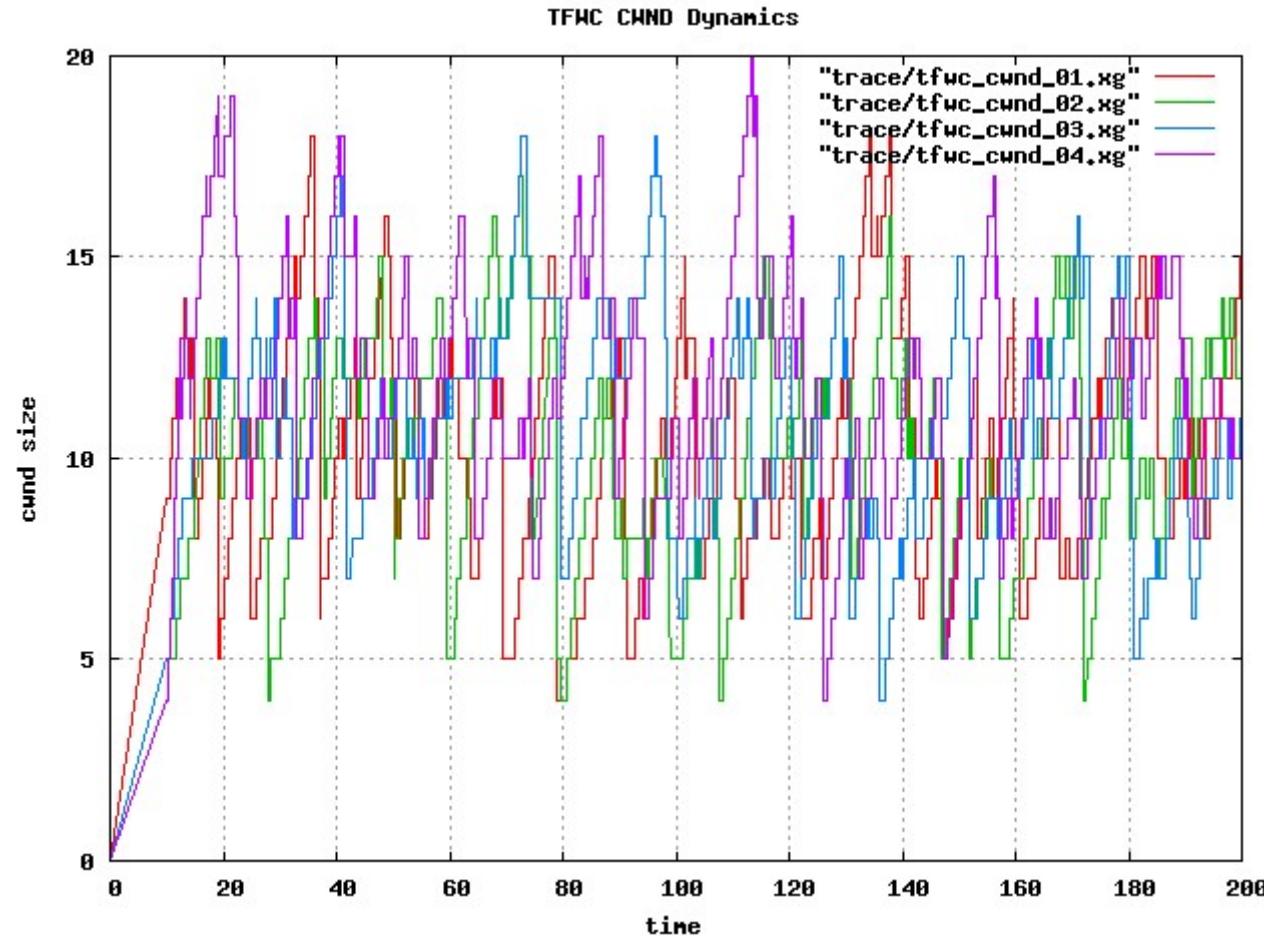
cwnd (q=60, 8TFWC)



cwnd (q=65, 8TFWC)



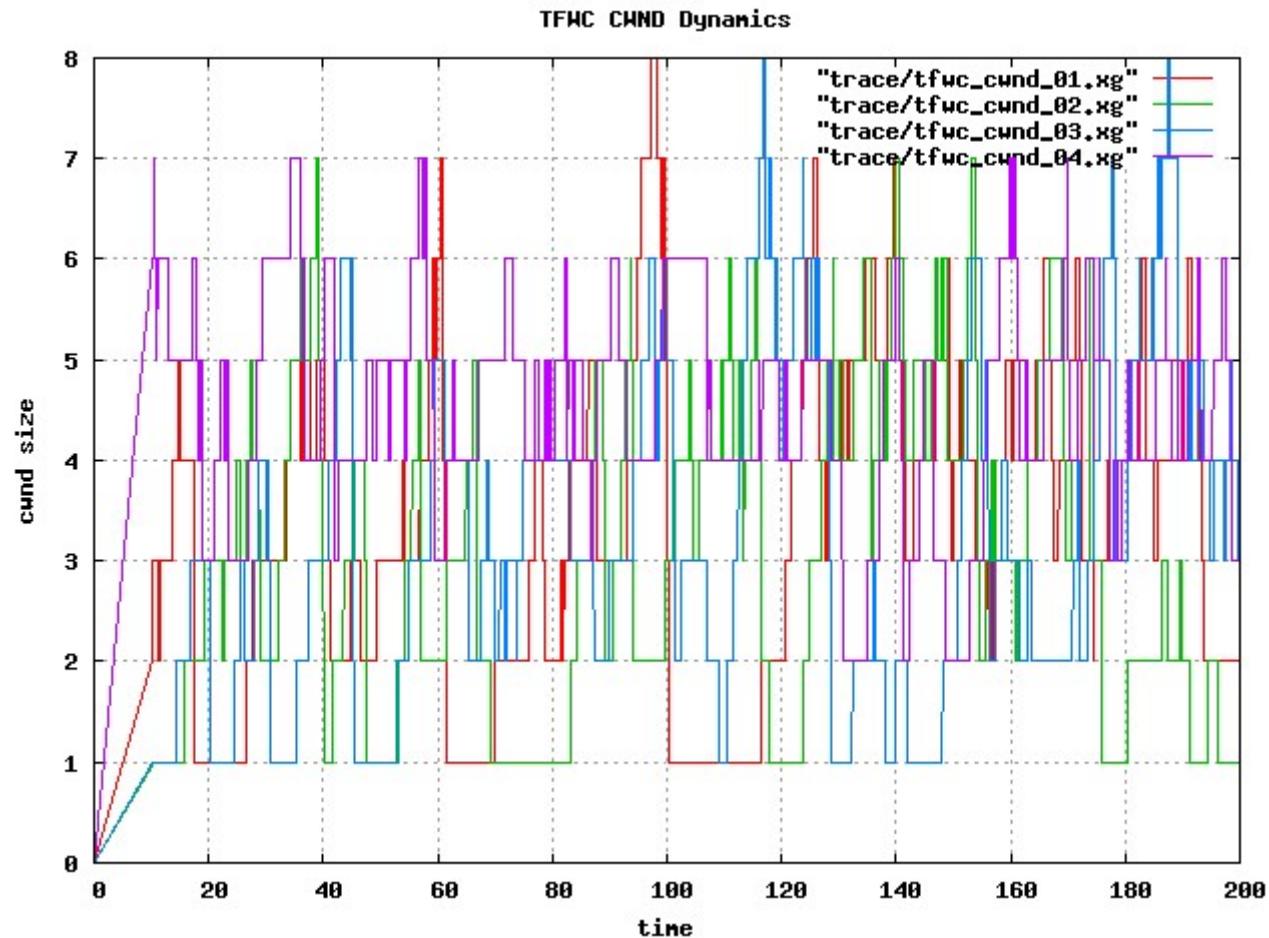
cwnd (q=70, 8TFWC)



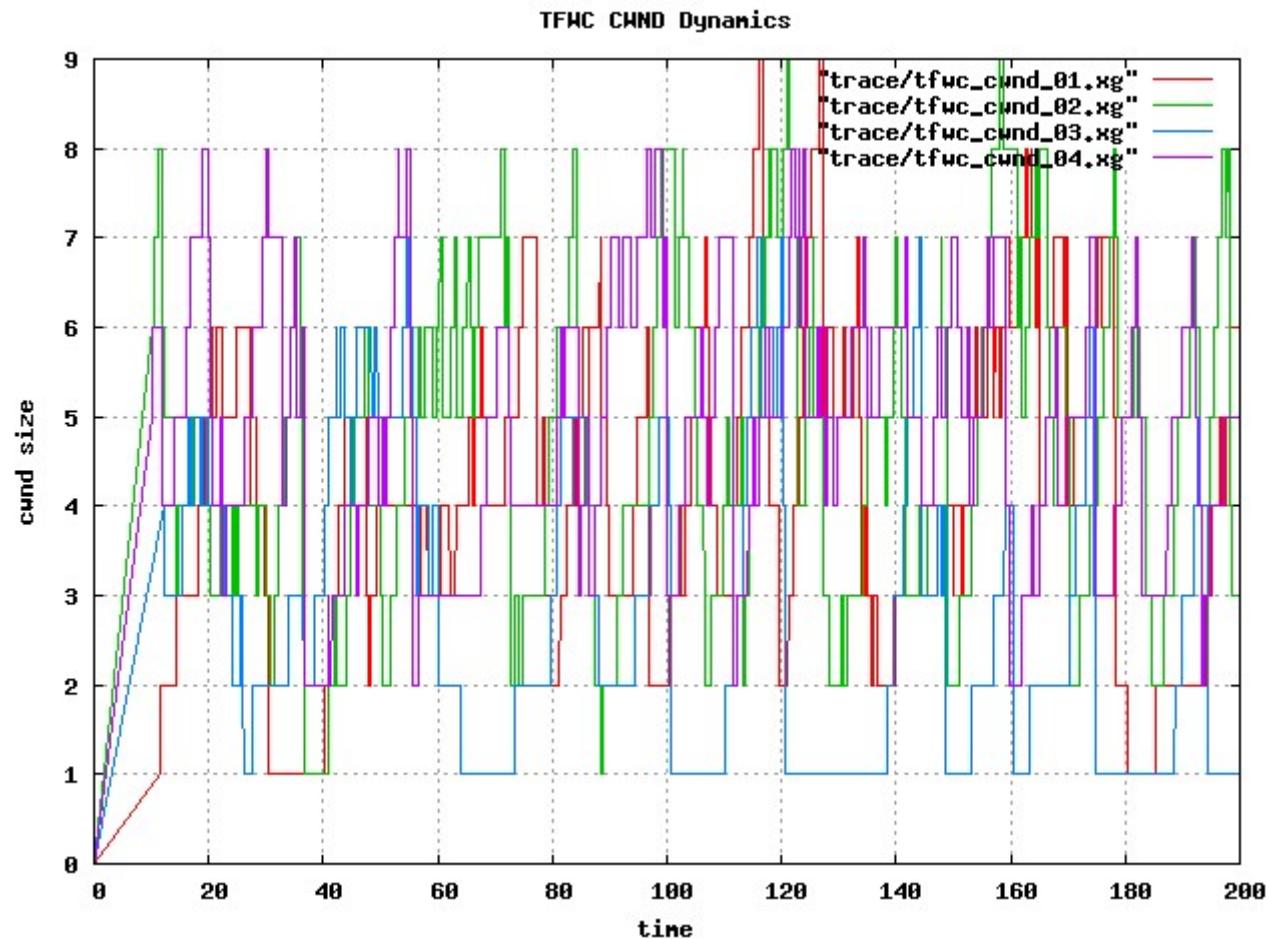
16TFWC w/ 16 reverse TCP
Varying Bottleneck (RED) Queue Size (10 ~ 75)
Simulation Time = 200
Random Seed Number = 177

Phase Break = On
Probability = 10%

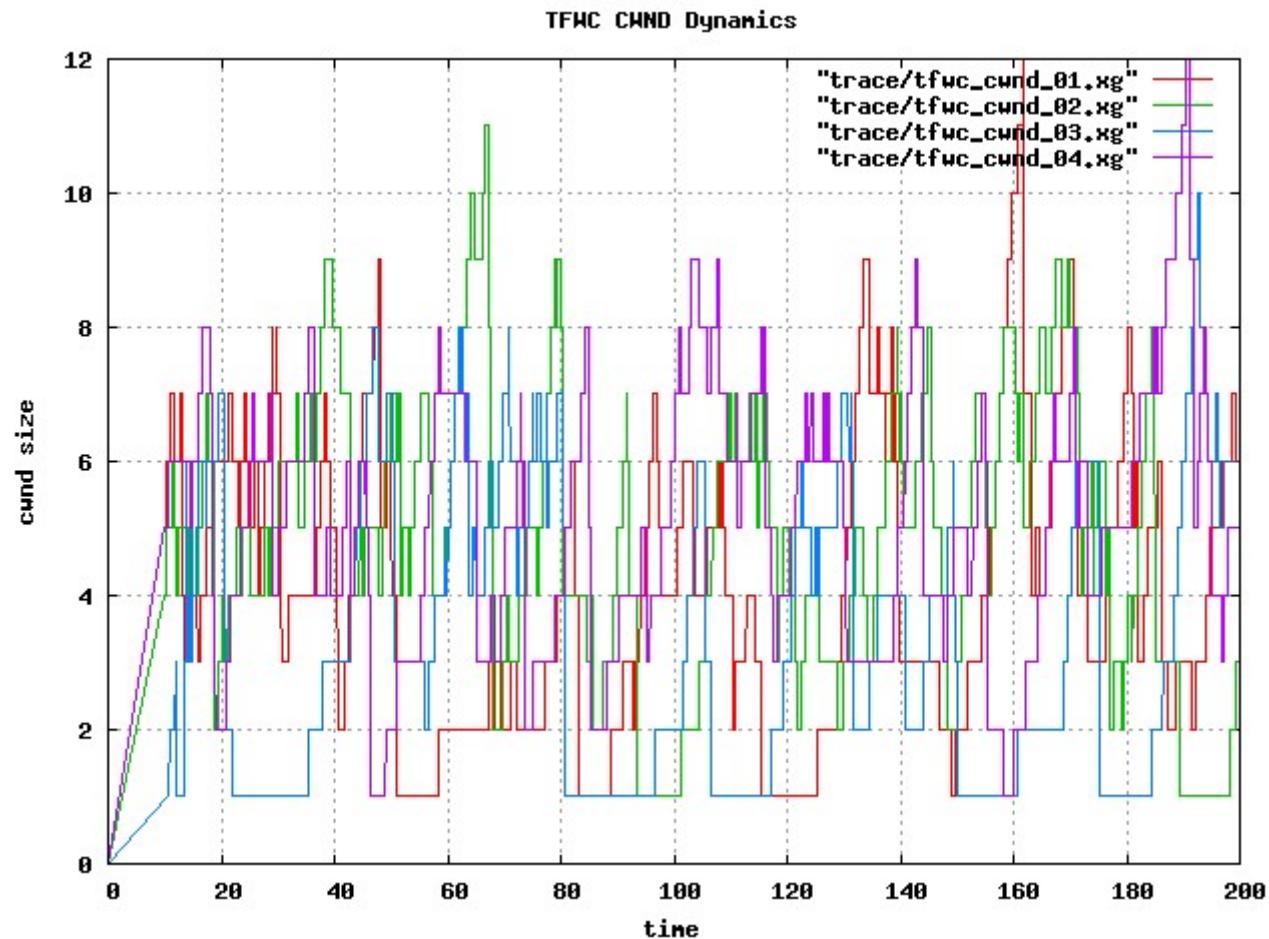
cwnd (q=10, 16TFWC)



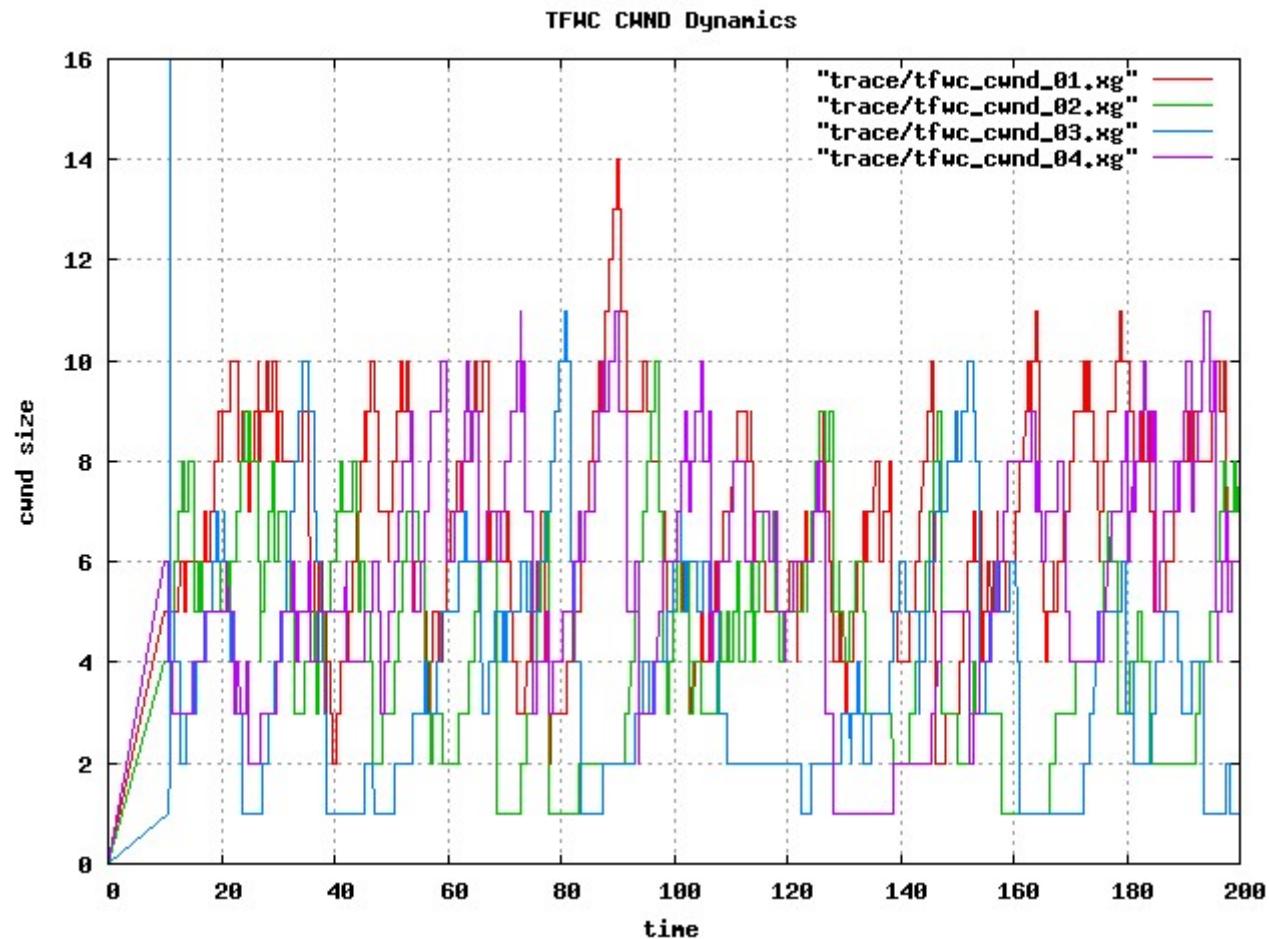
cwnd (q=15, 16TFWC)



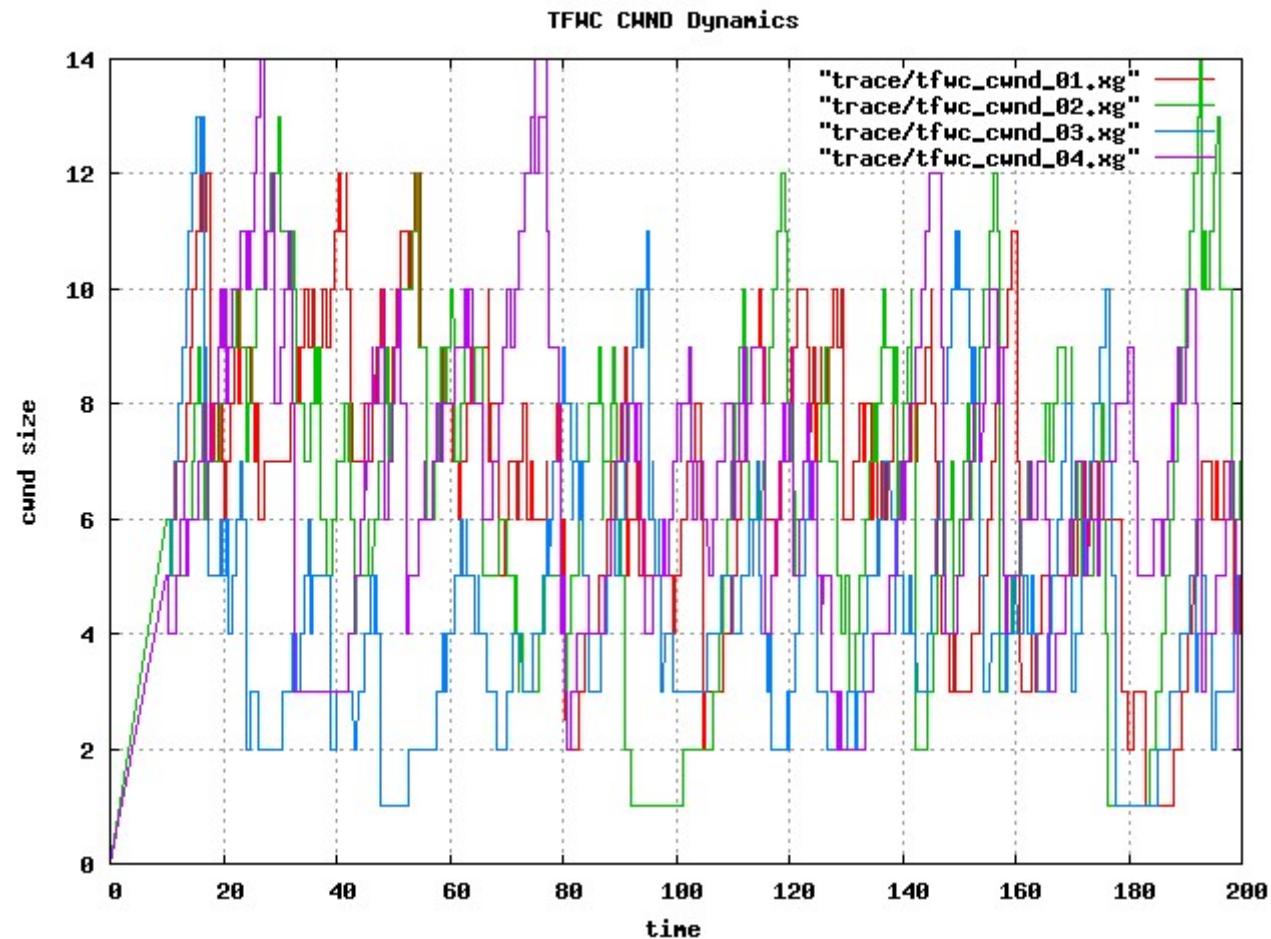
cwnd (q=20, 16TFWC)



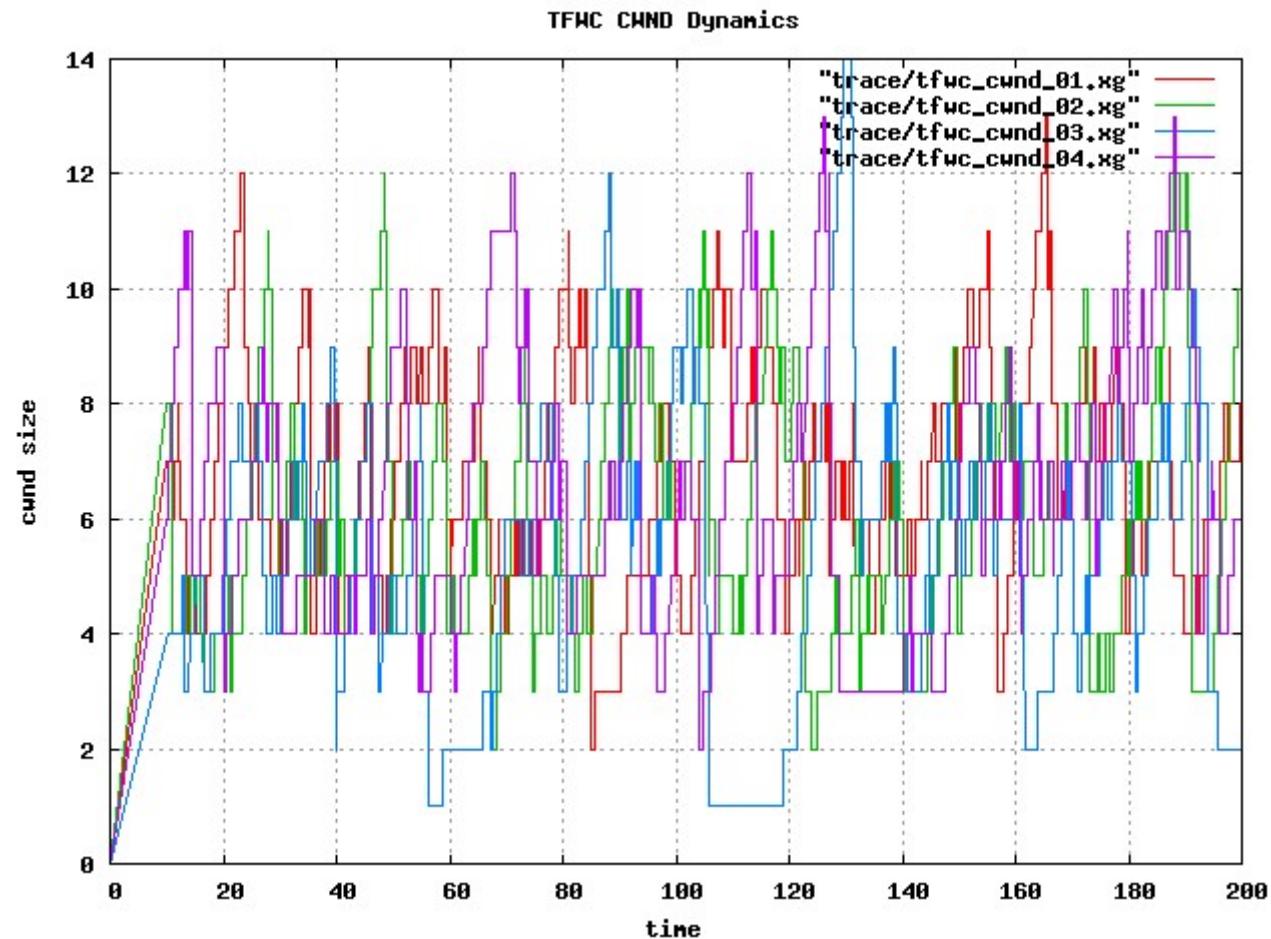
cwnd (q=25, 16TFWC)



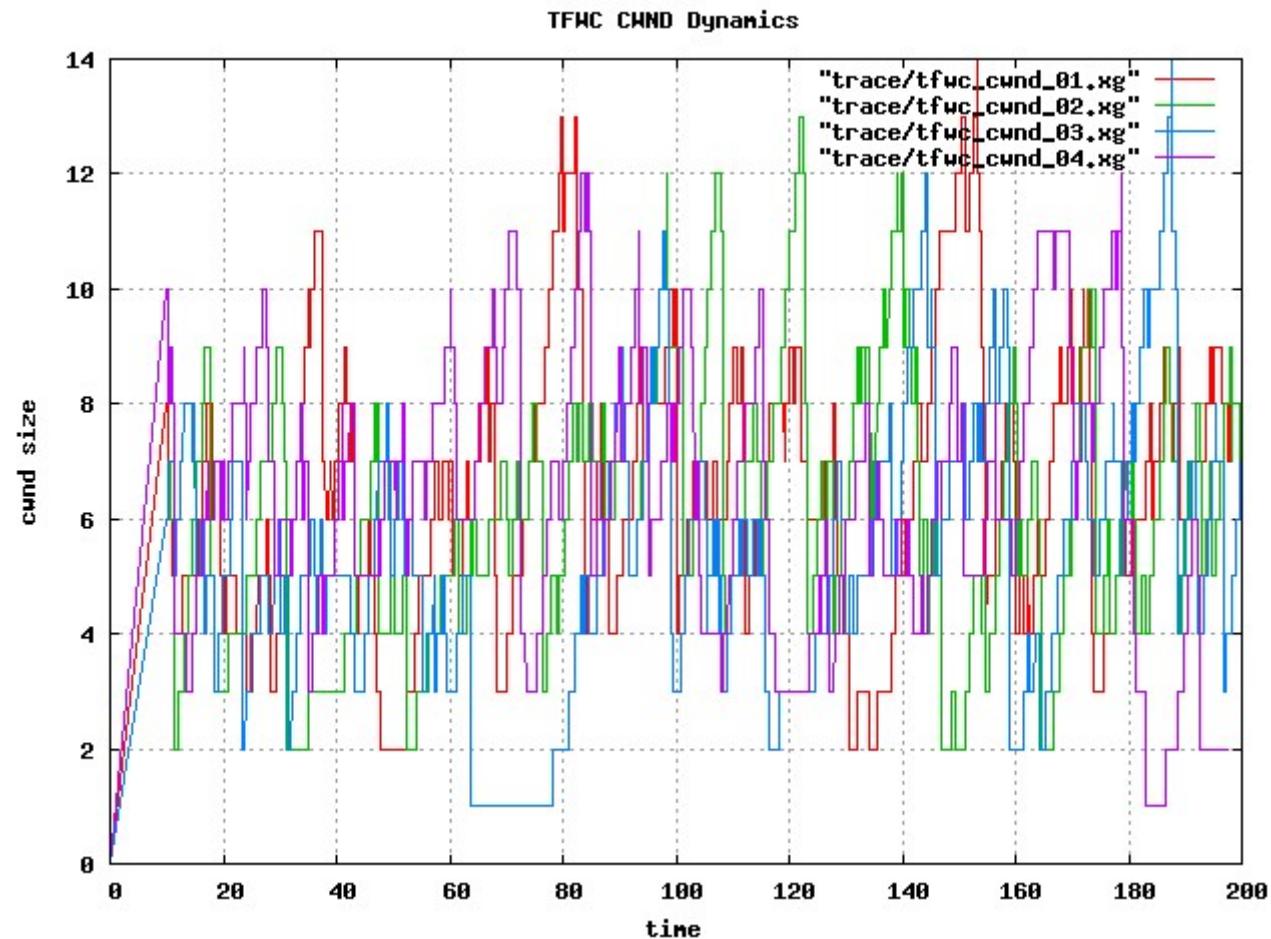
cwnd (q=30, 16TFWC)



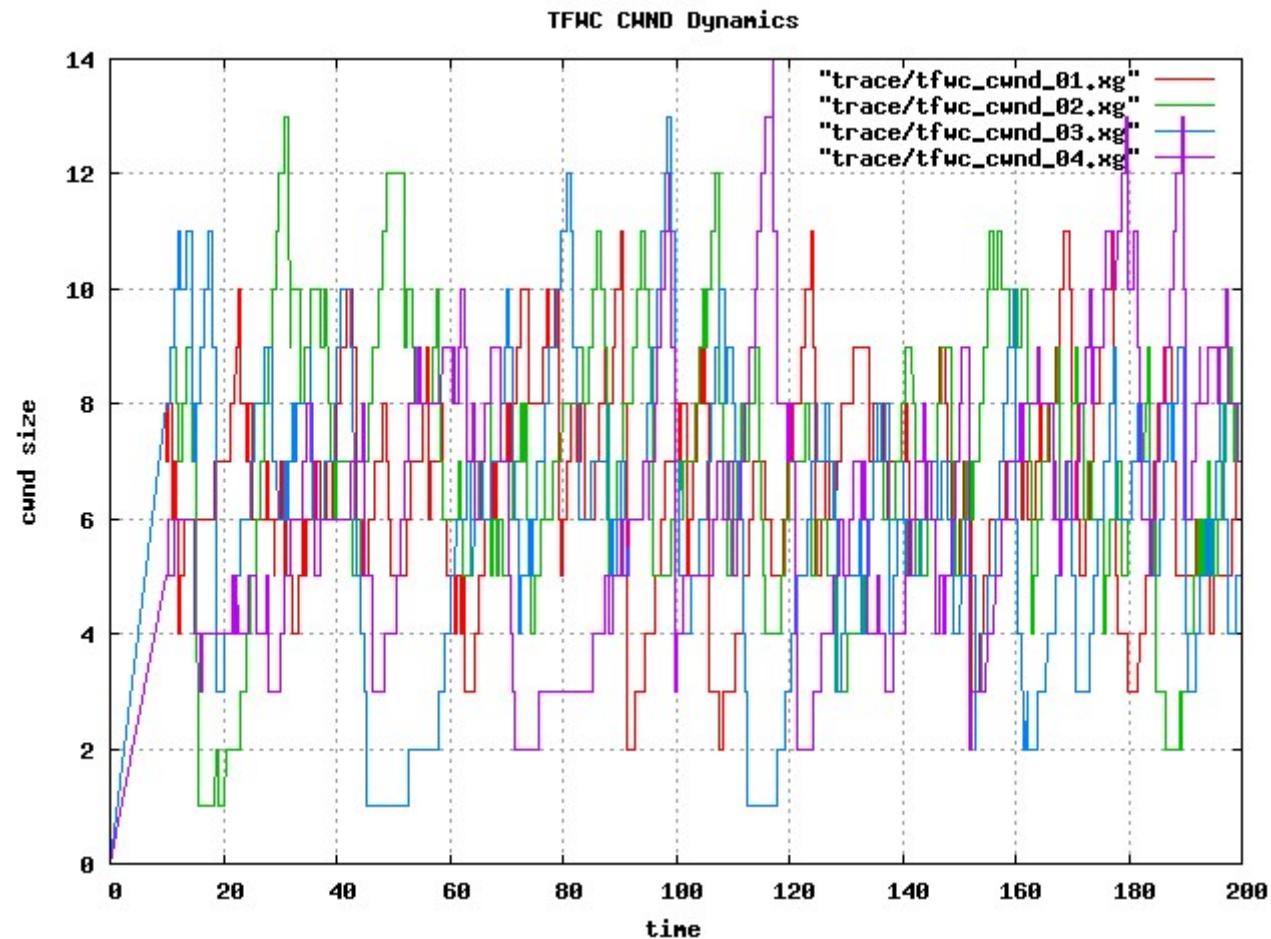
cwnd (q=35, 16TFWC)



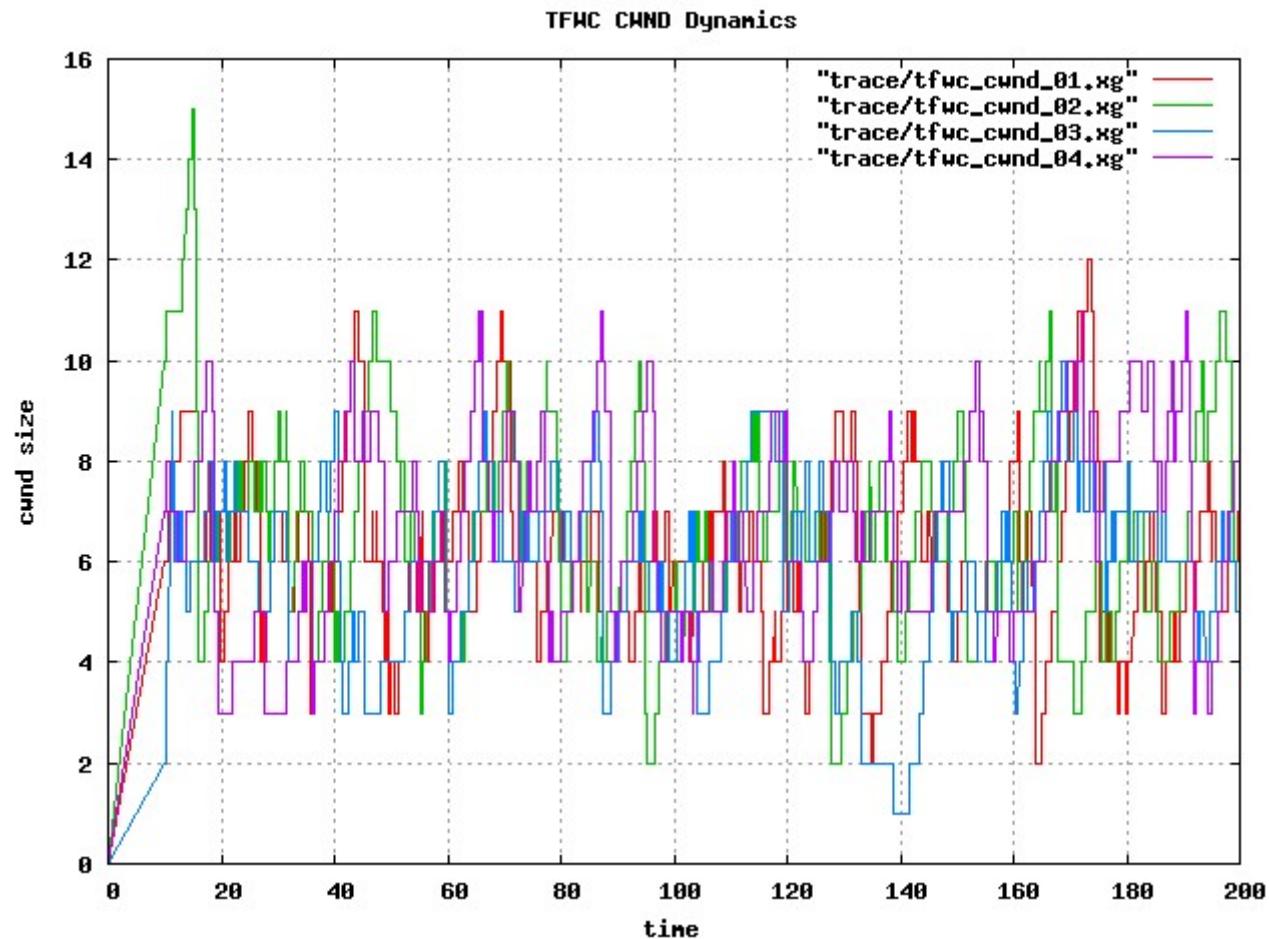
cwnd (q=40, 16TFWC)



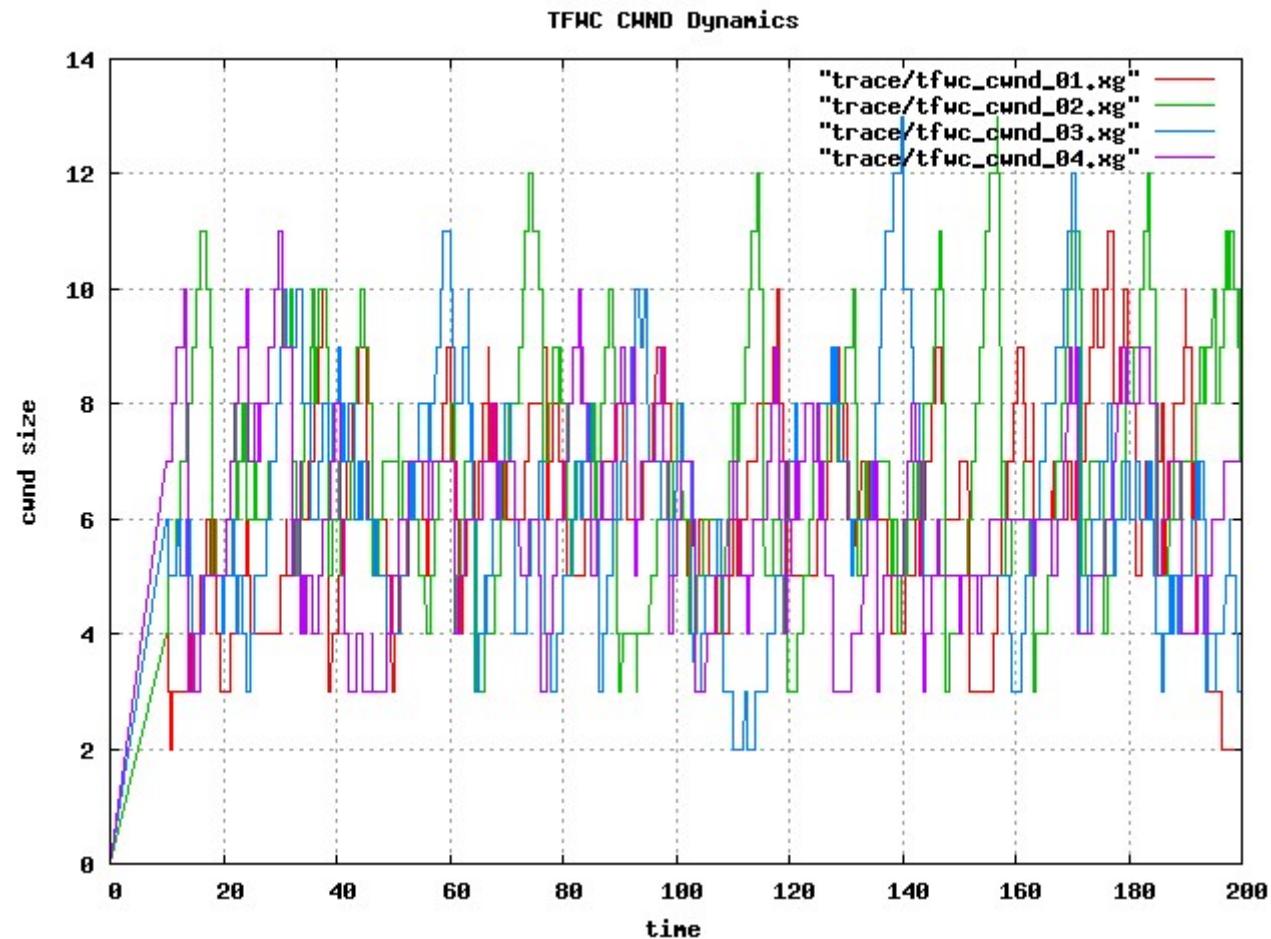
cwnd (q=45, 16TFWC)



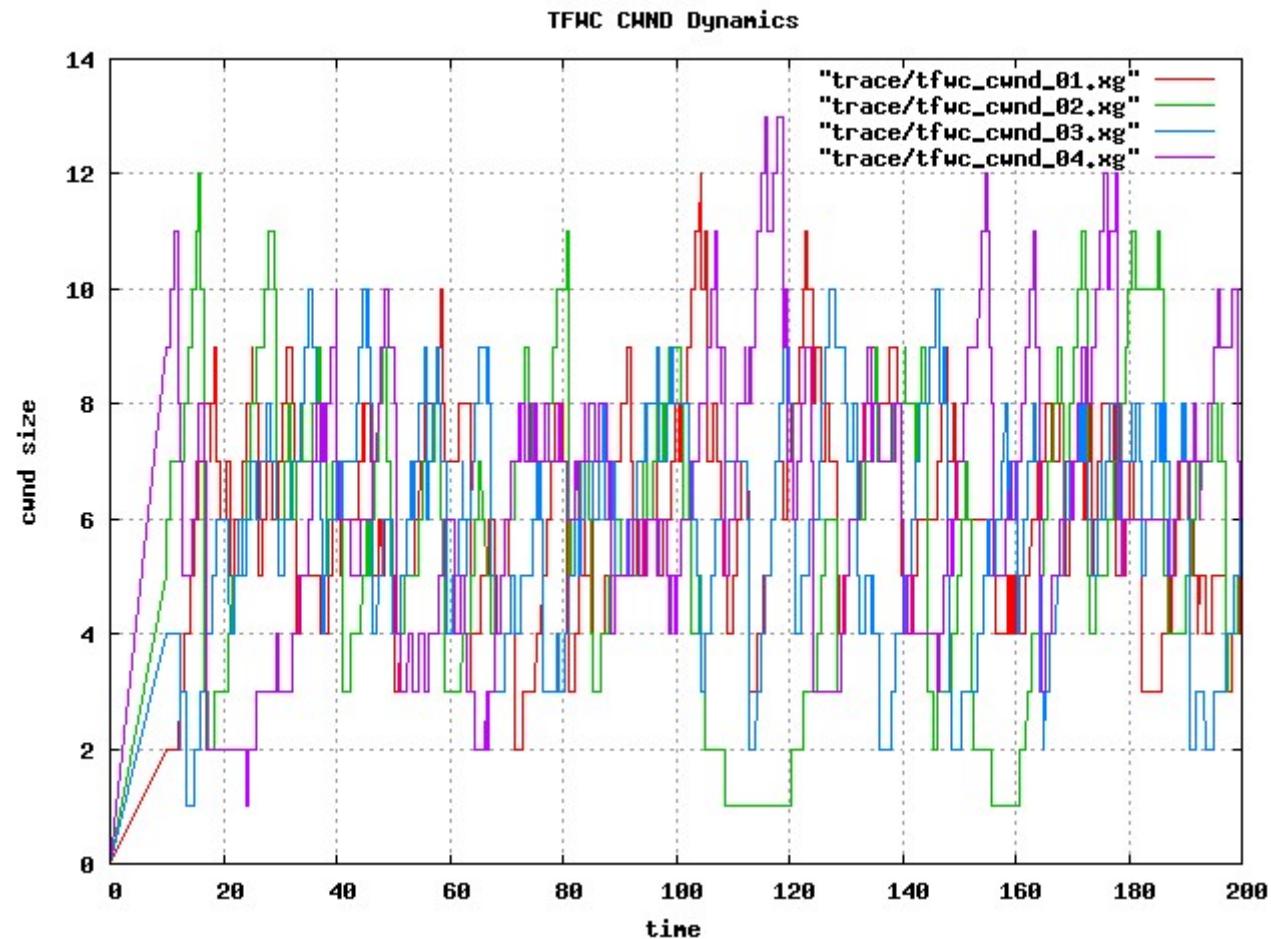
cwnd (q=50, 16TFWC)



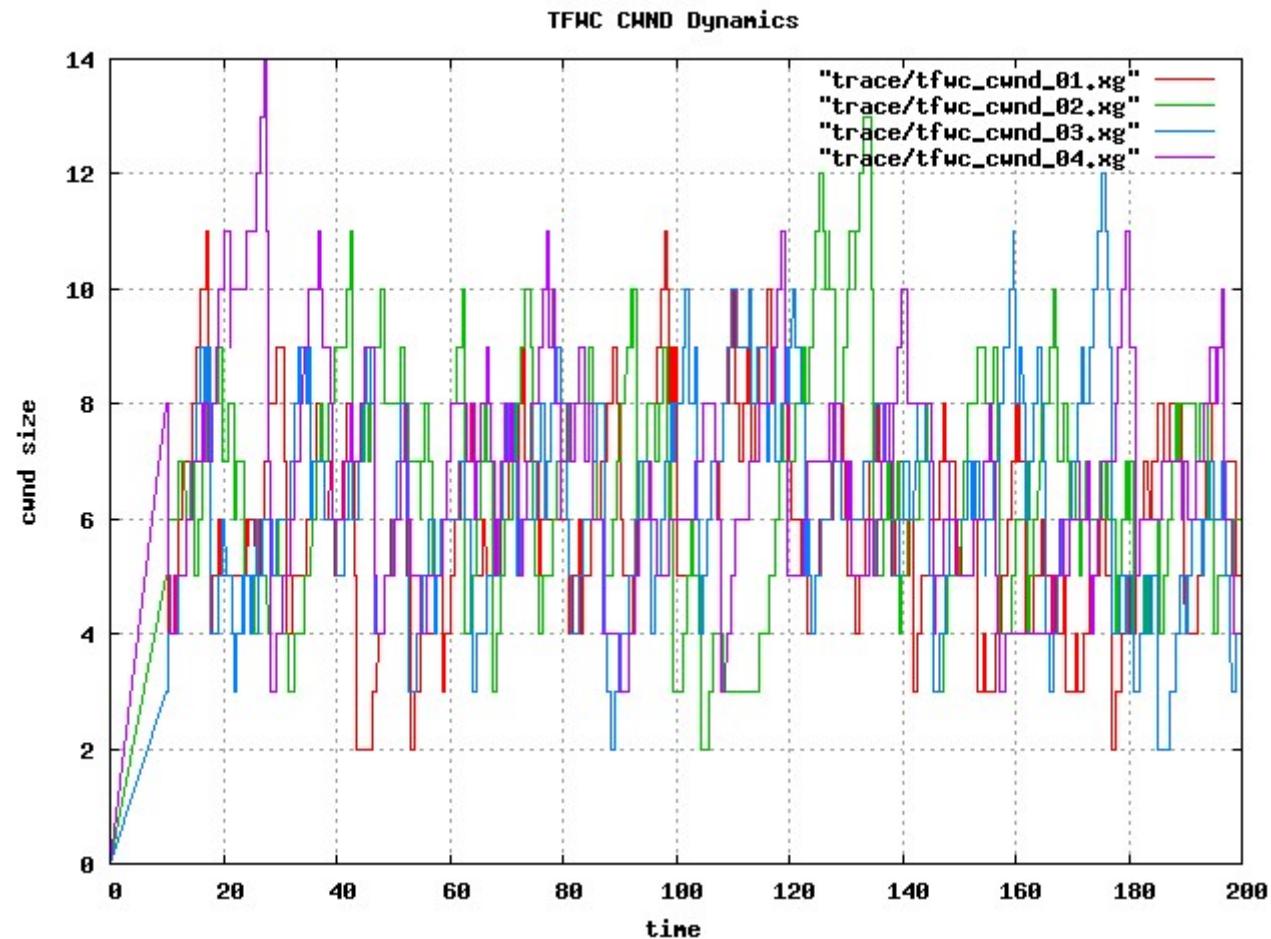
cwnd (q=55, 16TFWC)



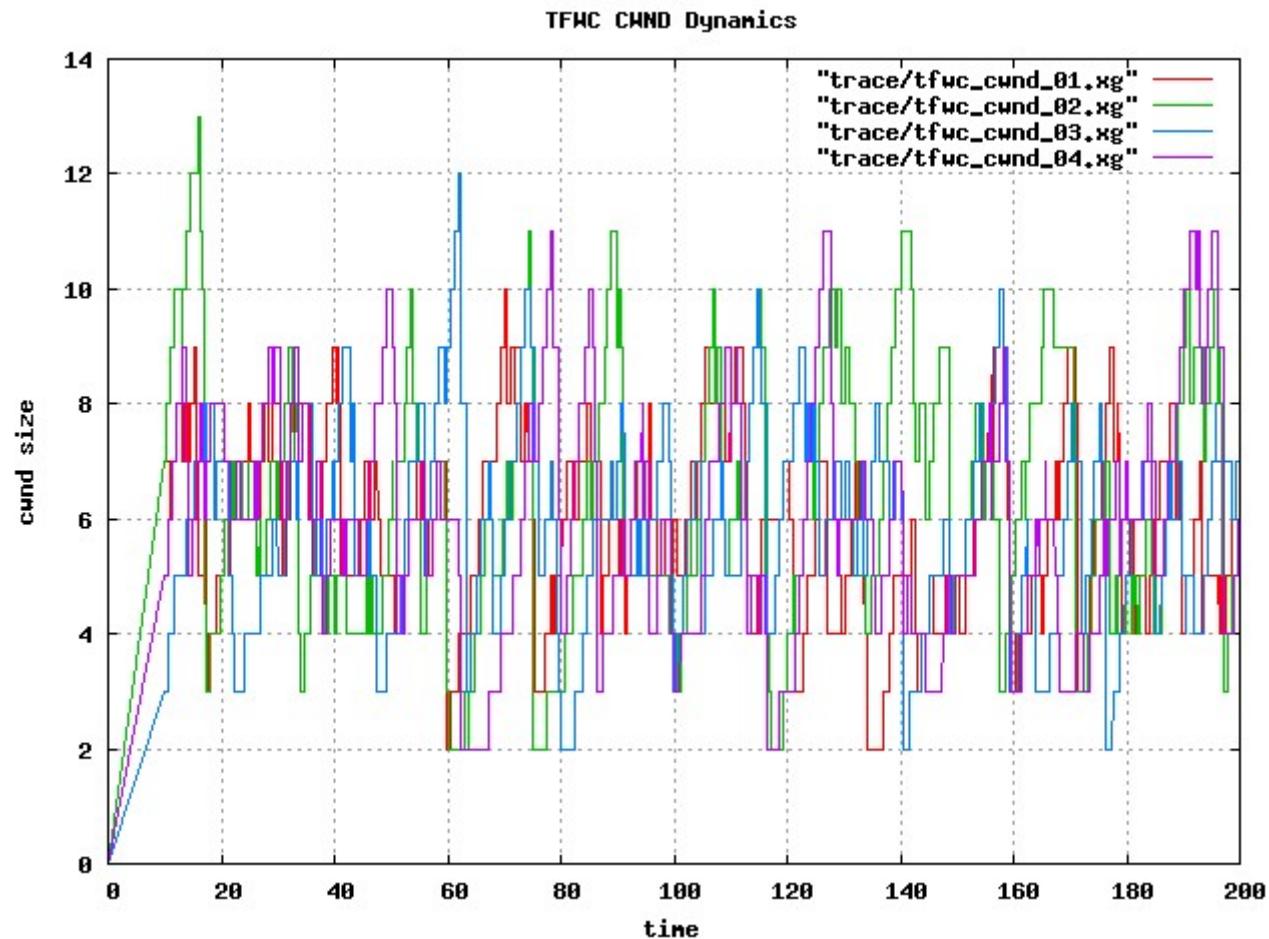
cwnd (q=60, 16TFWC)



cwnd (q=65, 16TFWC)



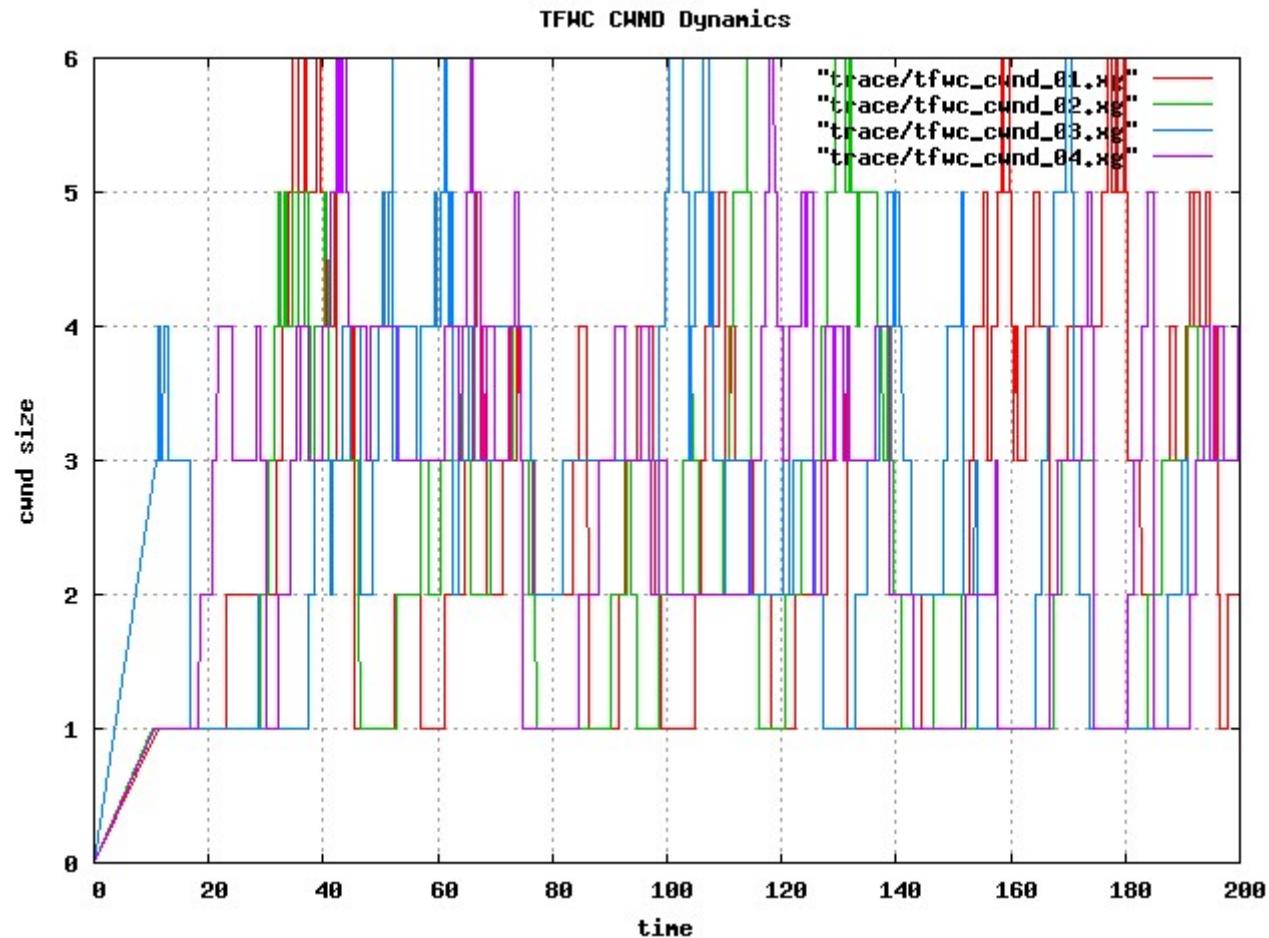
cwnd (q=70, 16TFWC)



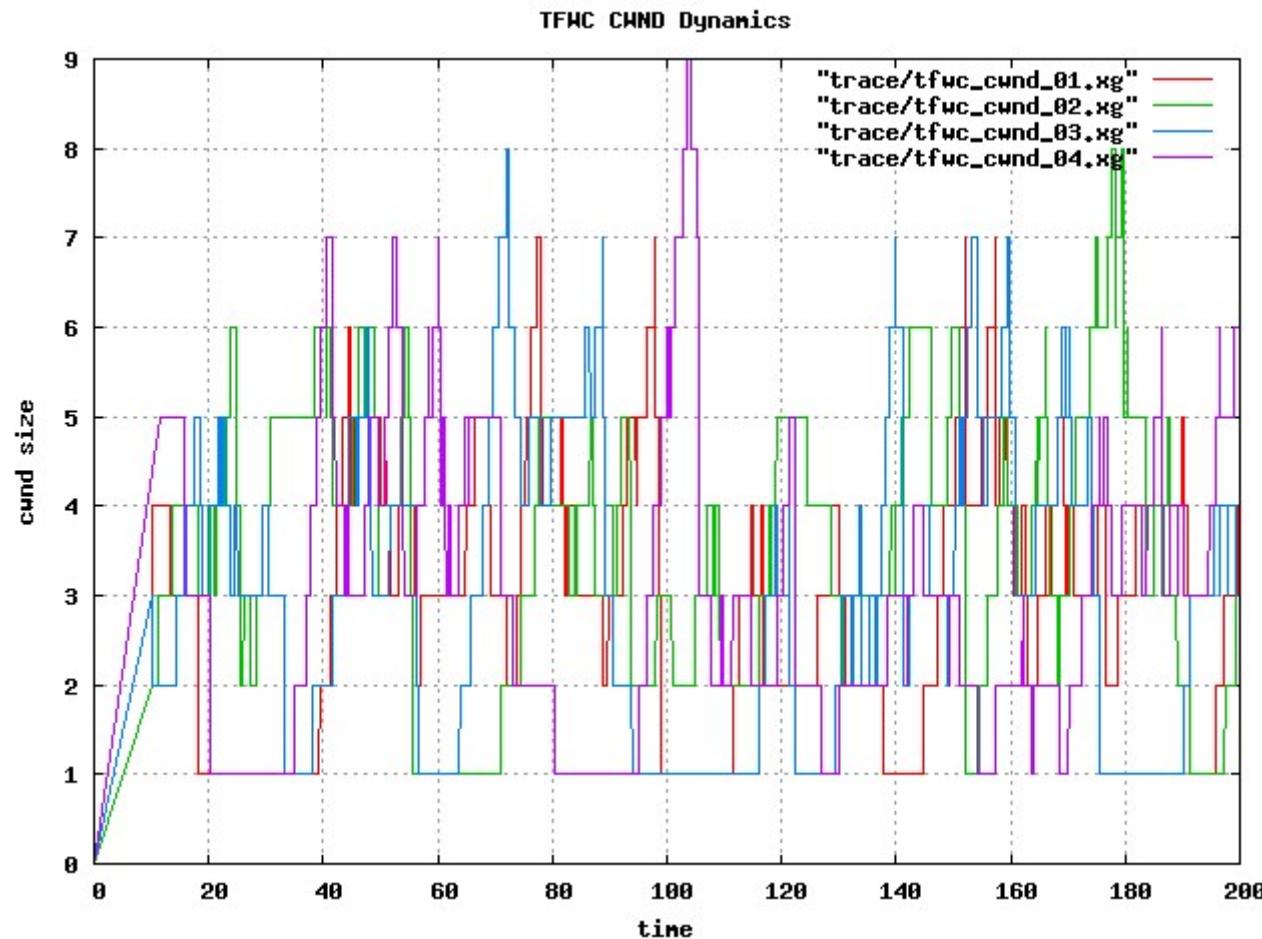
32TFWC w/ 32 reverse TCP
Varying Bottleneck (RED) Queue Size (10 ~ 75)
Simulation Time = 200
Random Seed Number = 177

Phase Break = On
Probability = 10%

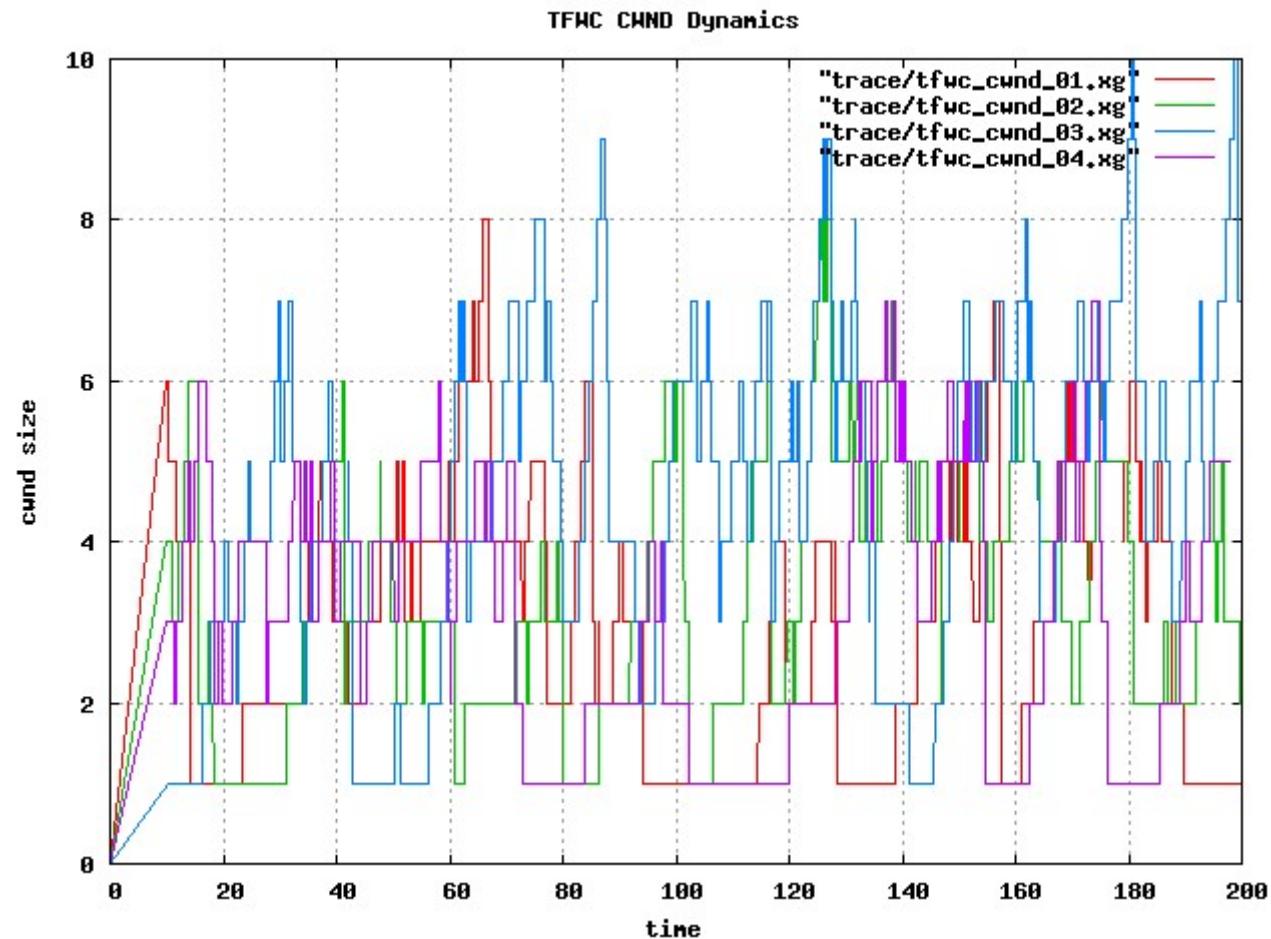
cwnd (q=10, 32TFWC)



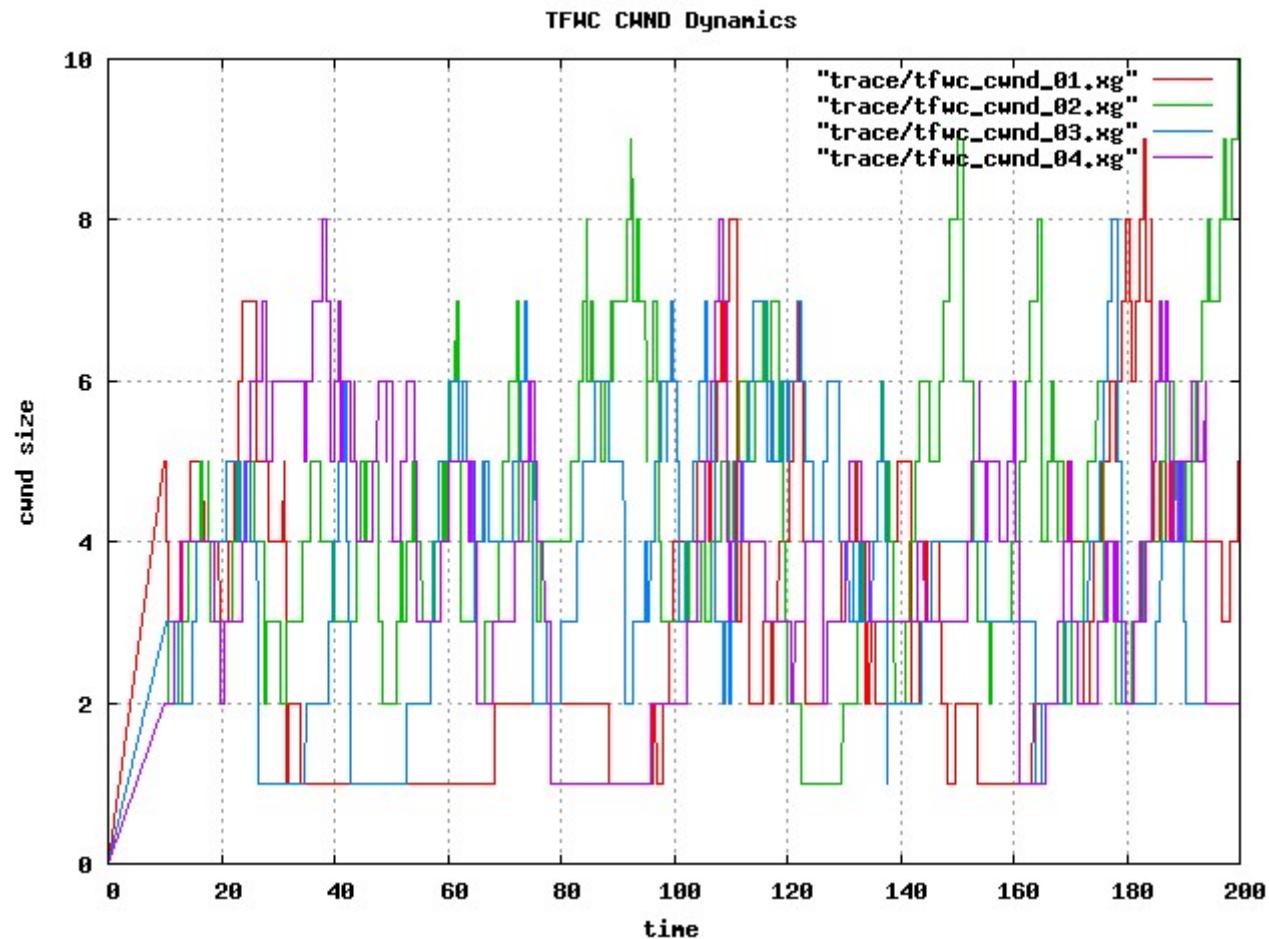
cwnd (q=15, 32TFWC)



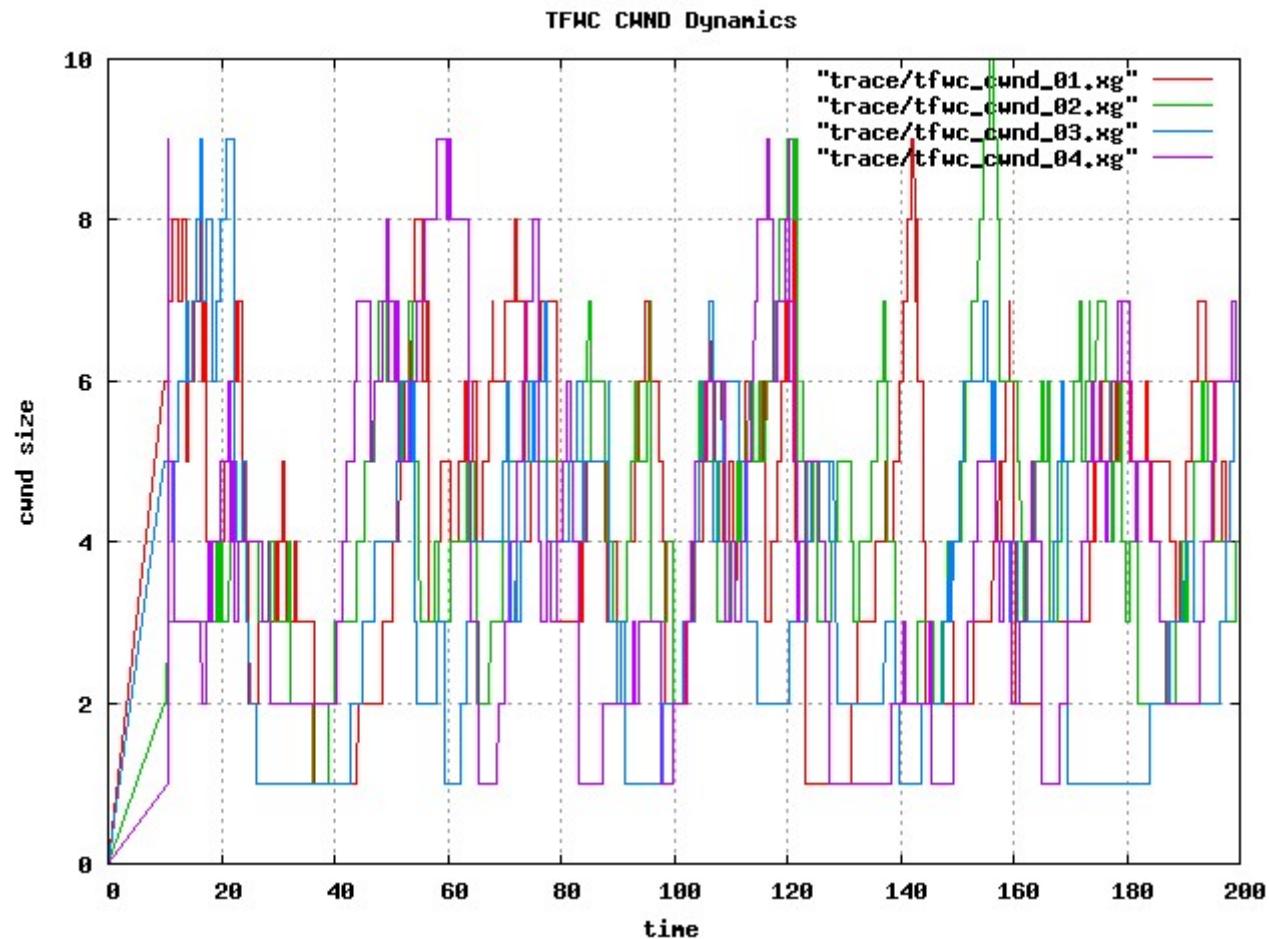
cwnd (q=20, 32TFWC)



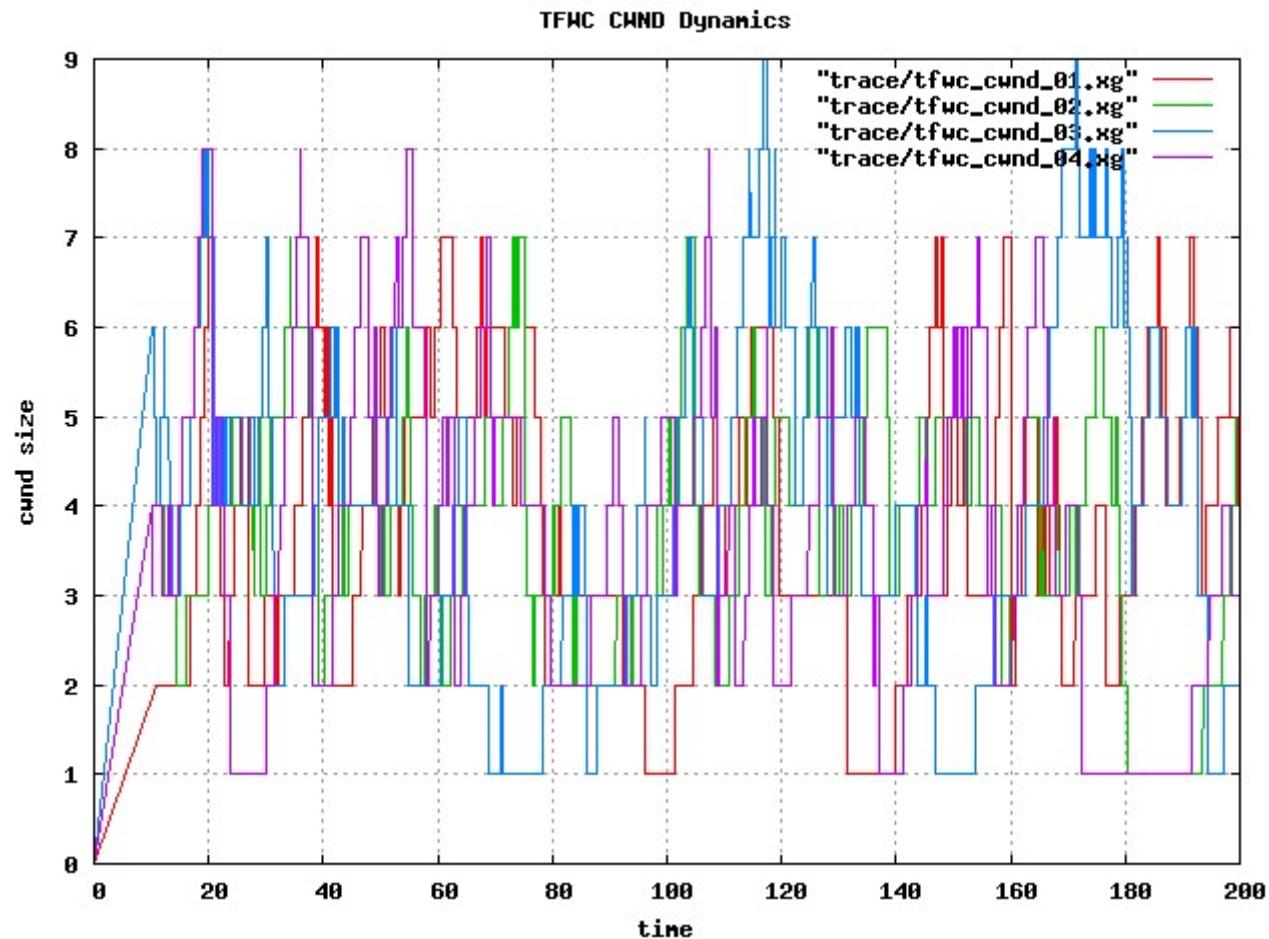
cwnd (q=25, 32TFWC)



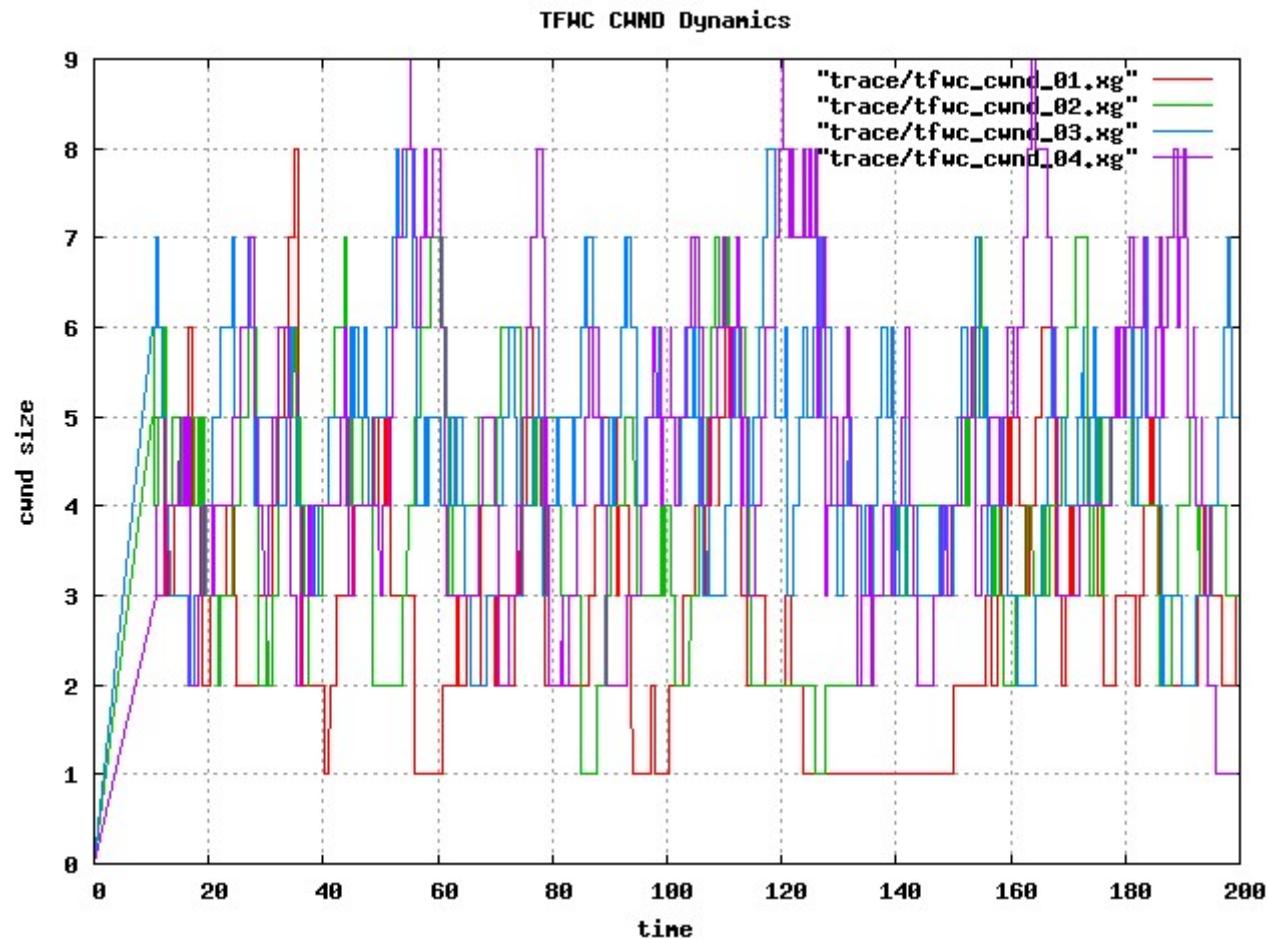
cwnd (q=30, 32TFWC)



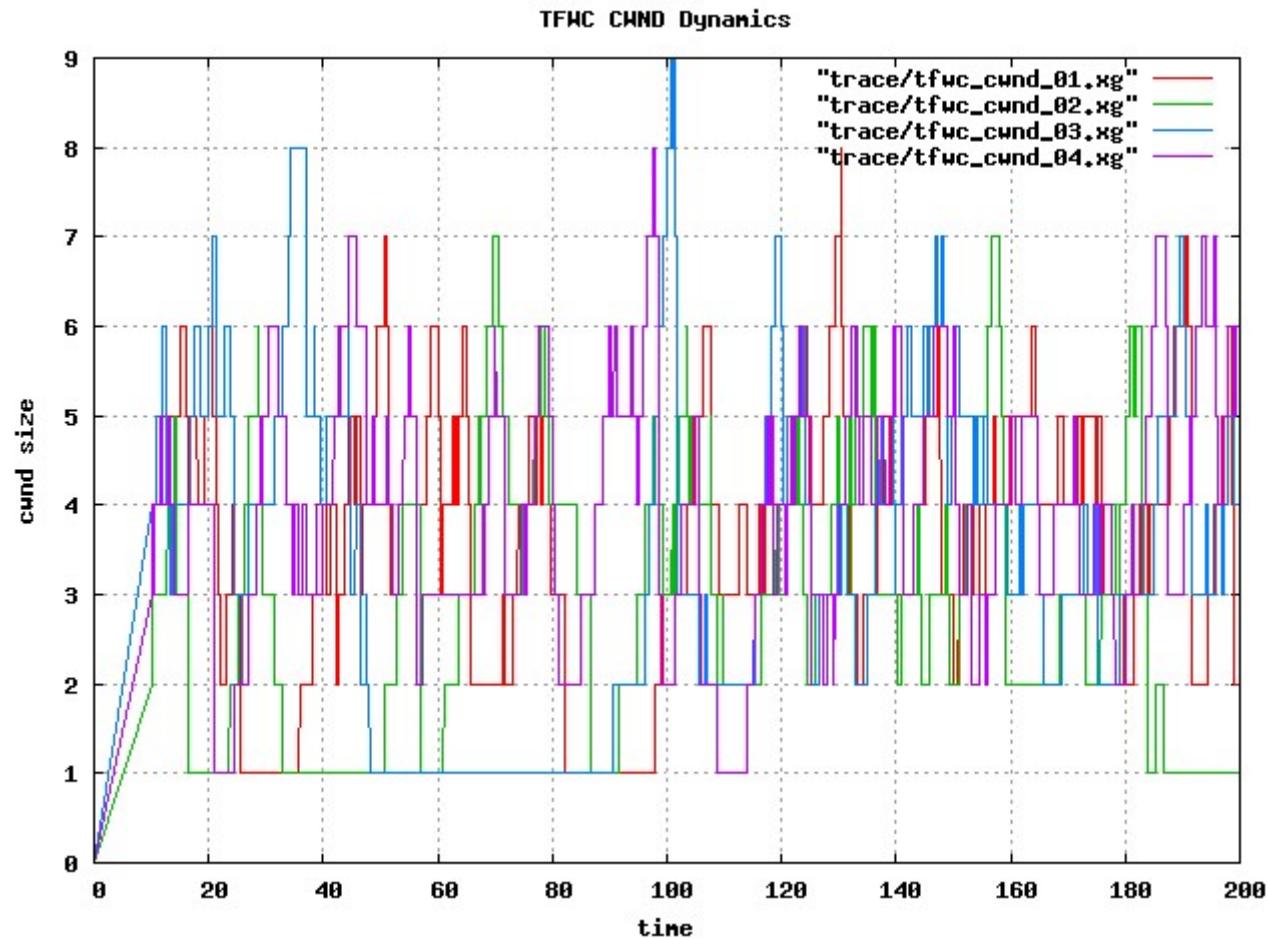
cwnd (q=35, 32TFWC)



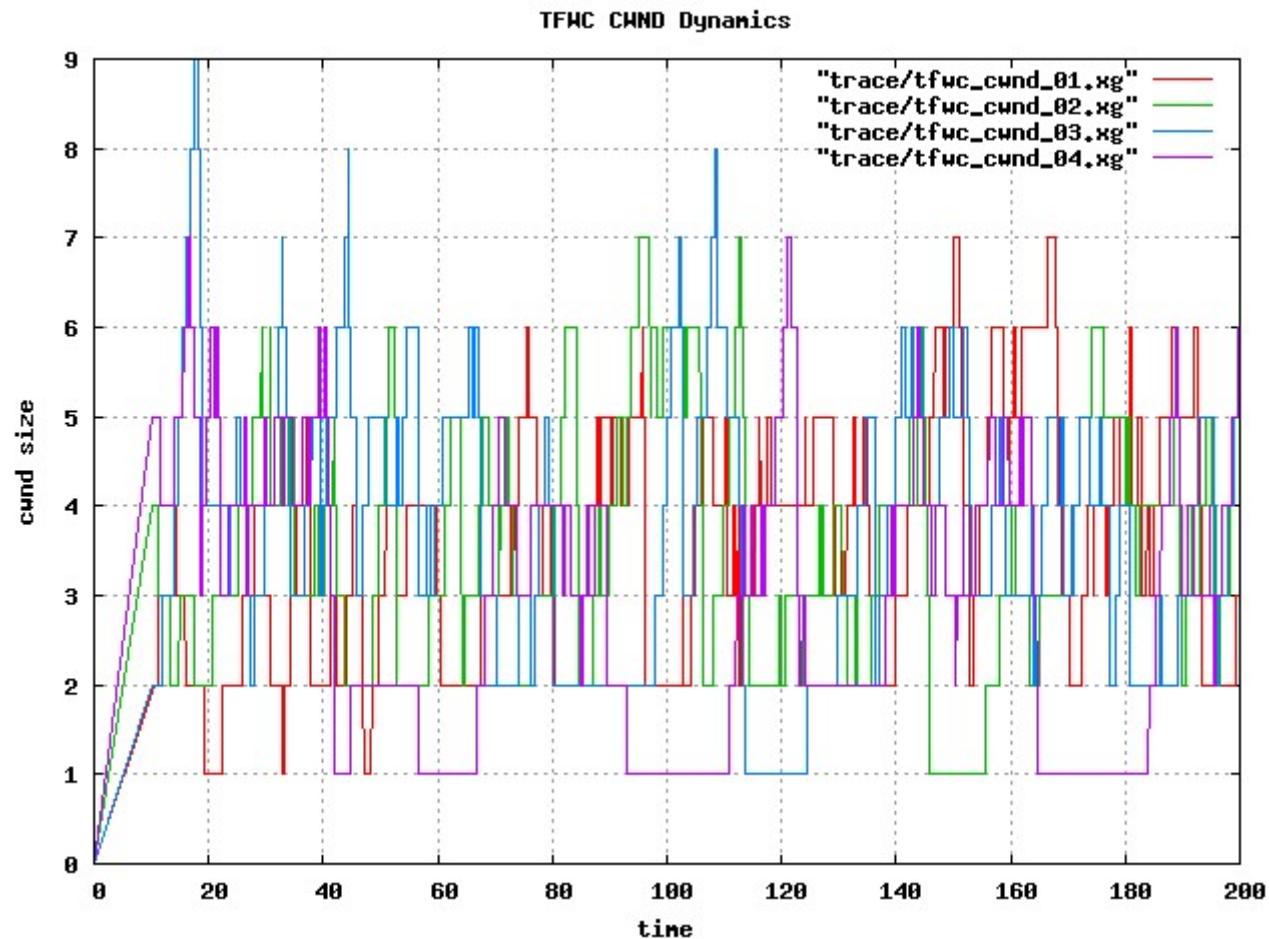
cwnd (q=40, 32TFWC)



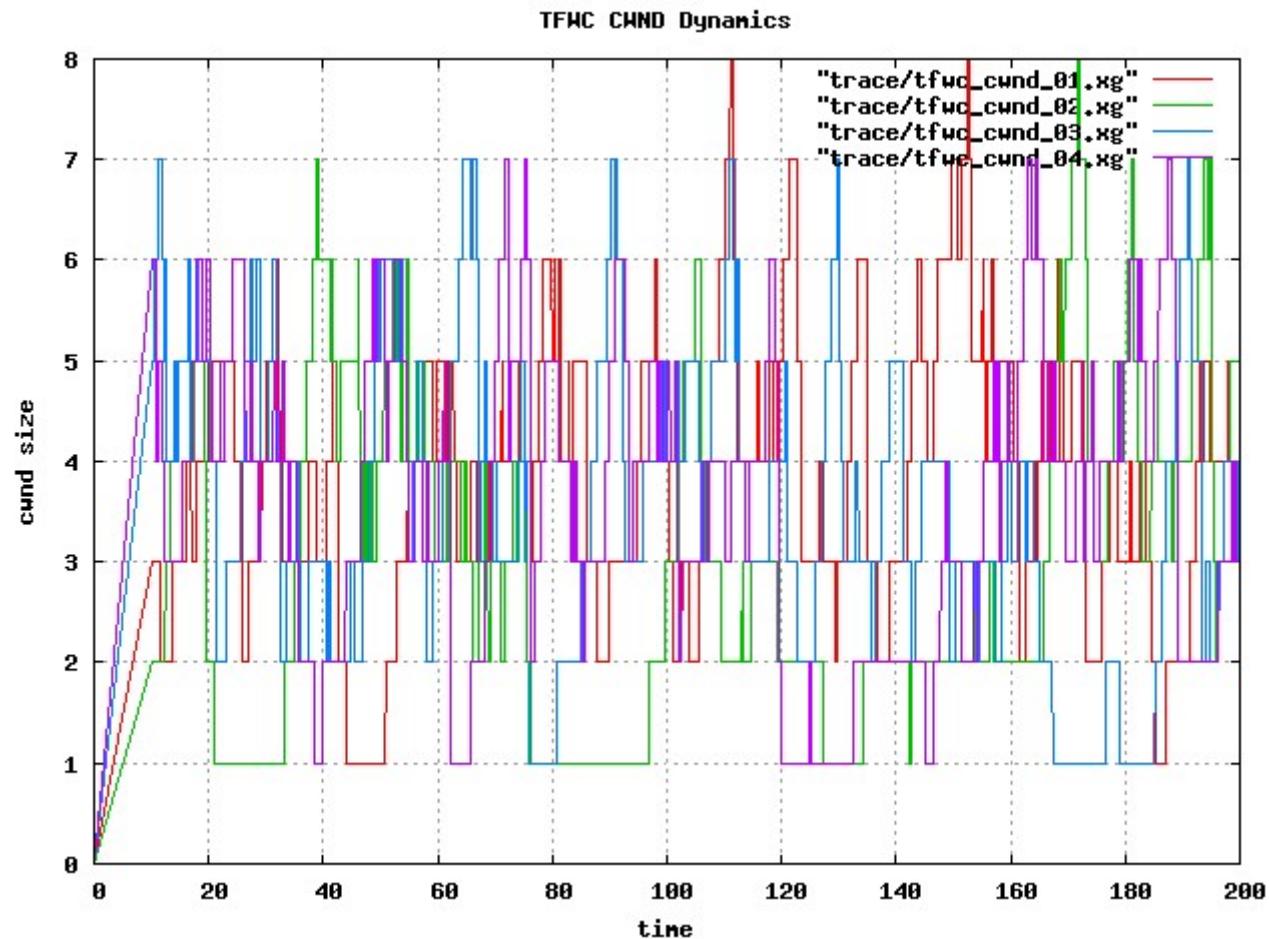
cwnd (q=45, 32TFWC)



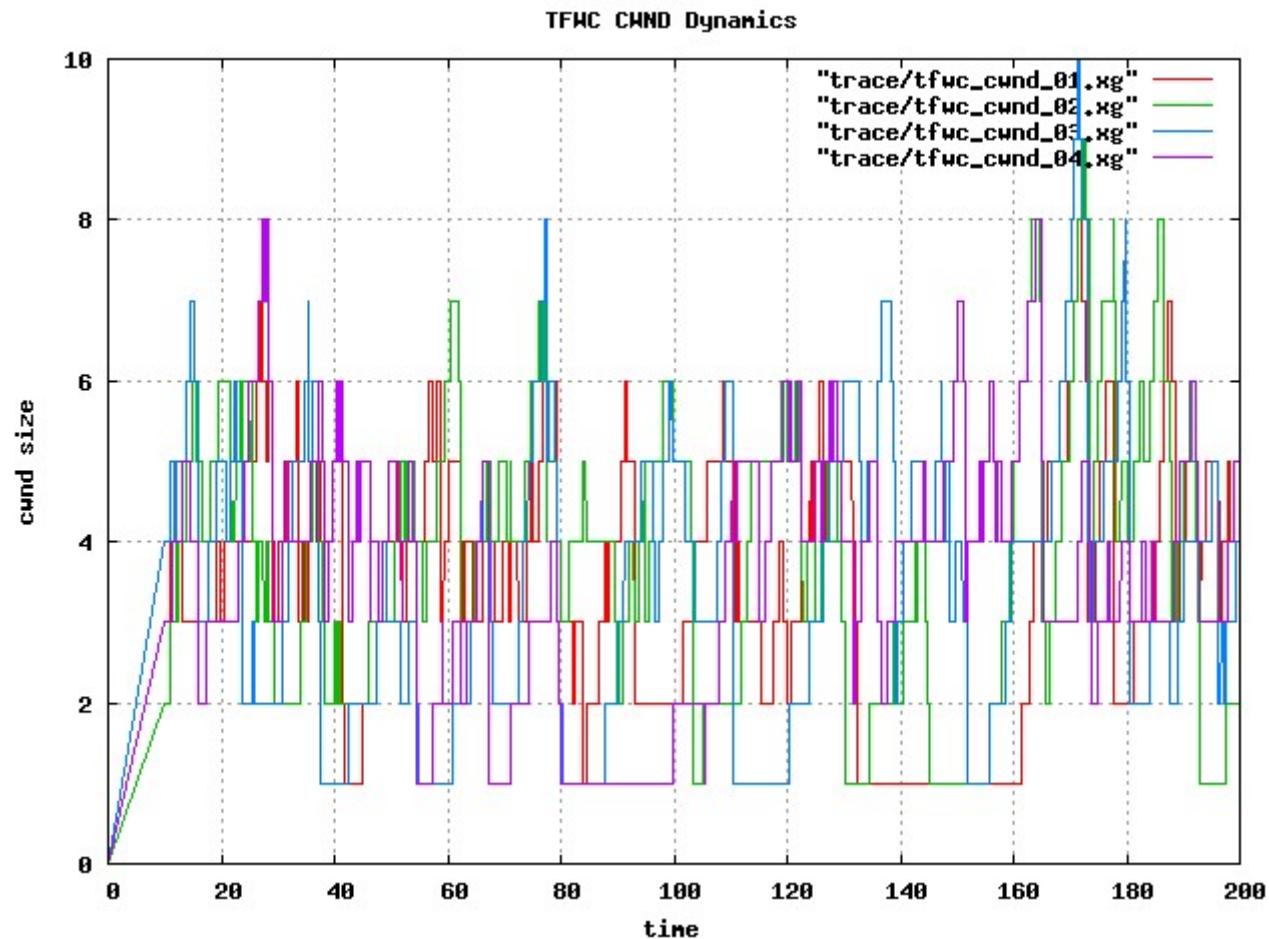
cwnd (q=50, 32TFWC)



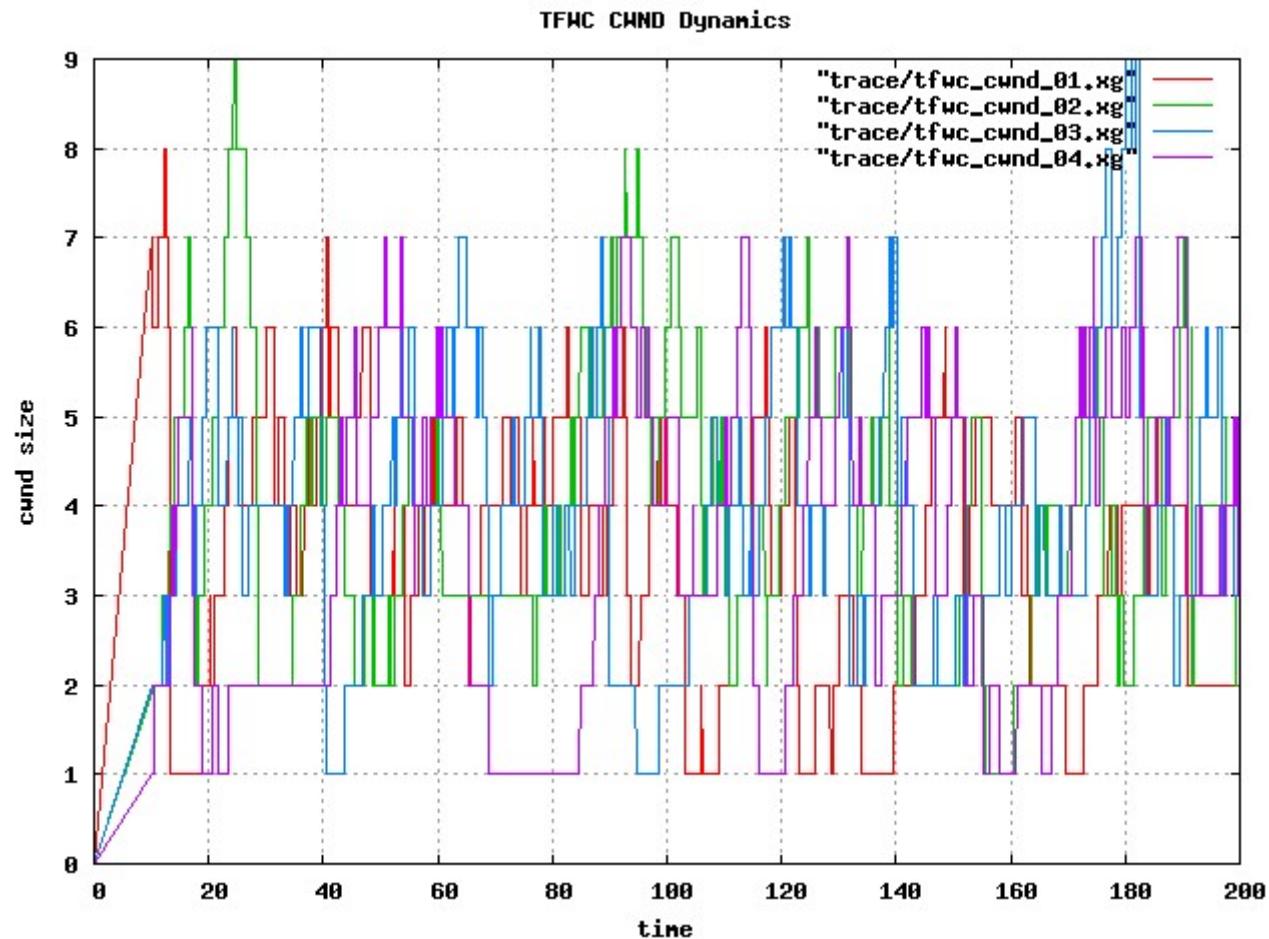
cwnd (q=55, 32TFWC)



cwnd (q=60, 32TFWC)



cwnd (q=65, 32TFWC)



cwnd (q=70, 32TFWC)

