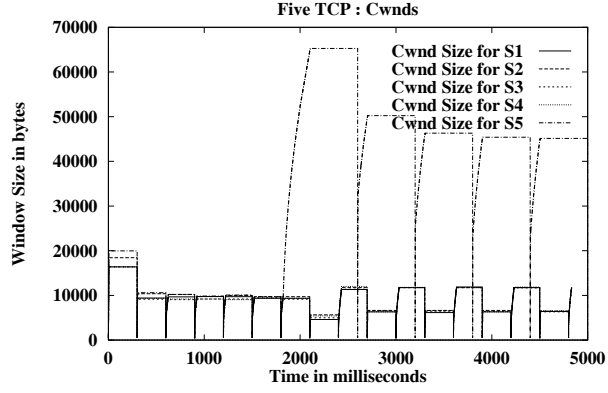
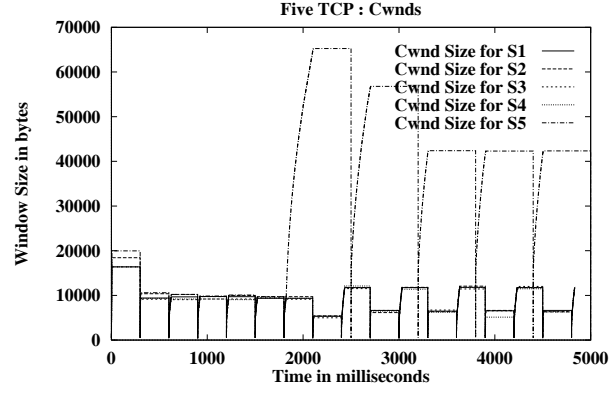


five-tpc/option.u=513/option.b=8487/option.t.u=6/w_...
 time_int=1000.0/w_...
 RCR: 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 1

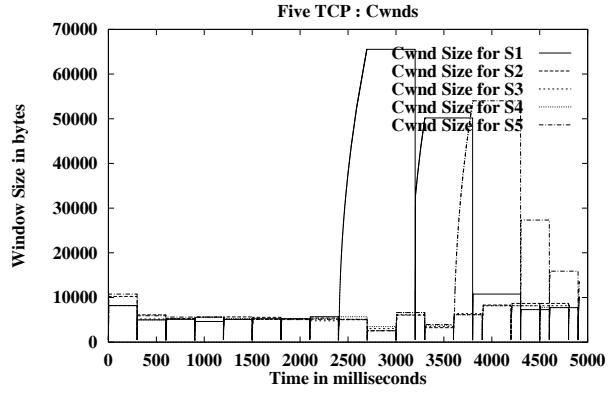


(a) Buffer = 1000 cells, RCV_WND=64 Kb

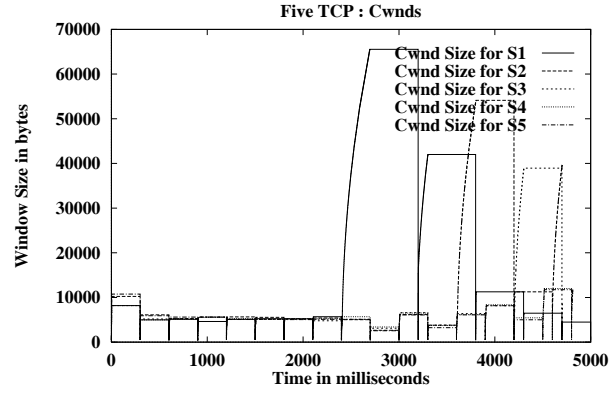


(b) Buffer = 1000 cells, RCV_WND=32 Kb

five-tpc/option.u=513/option.b=8487/option.t.u=6/w_...
 time_int=1000.0/w_...
 RCR: 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 3



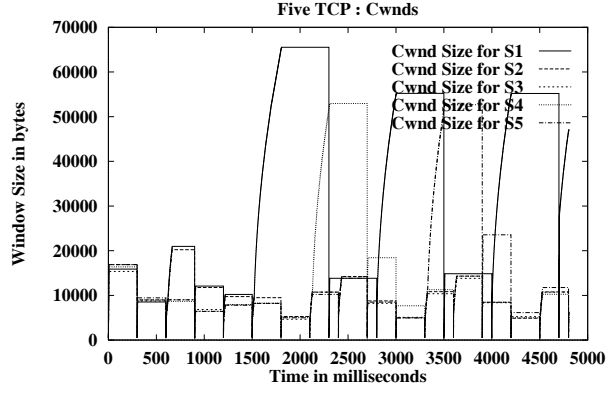
(c) Buffer = 500 cells, RCV_WND=64 Kb



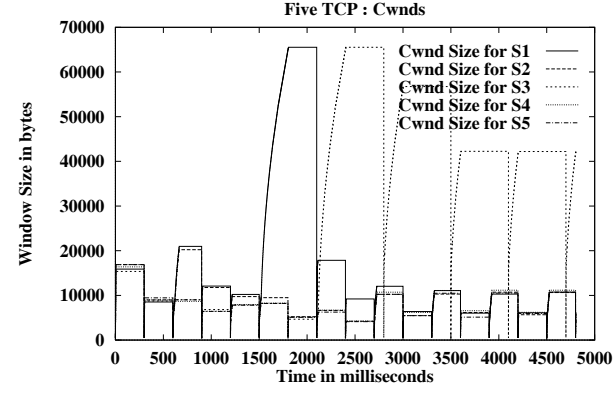
(d) Buffer = 500 cells, RCV_WND=32 Kb

Figure 1: Five TCP sources, UBR, LAN

five-ecp/option.u=769/option.b=8487/option.t.u=6/w_..._size.u=1000/granularity.a=100/wnd_scale_factor.a=0/rcv_win.a=65535/epd_thresh.a=900/dist.a=1/stoptime.u=4999000/ontime.u=10000/...
time_int=1000.0/sw_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0 / Date:04/09/96
RCR: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 1

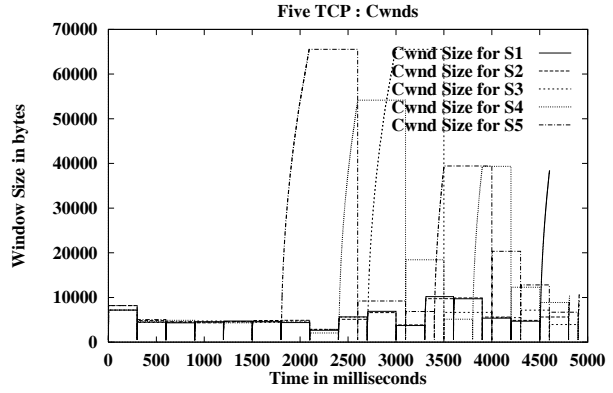


(a) Buffer = 1000 cells, RCV_WND=64 Kb

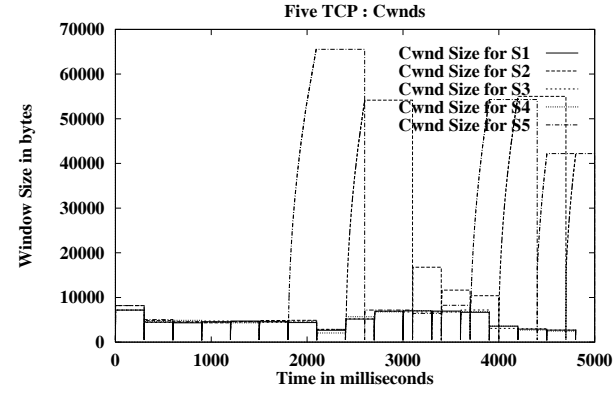


(b) Buffer = 1000 cells, RCV_WND=32 Kb

five-ecp/option.u=769/option.b=8487/option.t.u=6/w_..._size.u=500/granularity.a=100/wnd_scale_factor.a=0/rcv_win.a=65535/epd_thresh.a=400/dist.a=1/stoptime.u=4999000/ontime.u=10000/...
time_int=1000.0/sw_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0 / Date:04/09/96
RCR: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 6



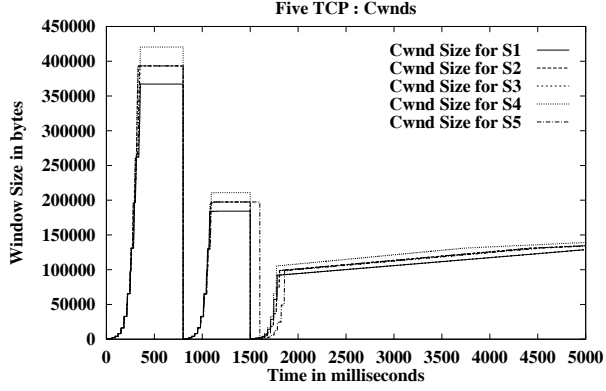
(c) Buffer = 500 cells, RCV_WND=64 Kb



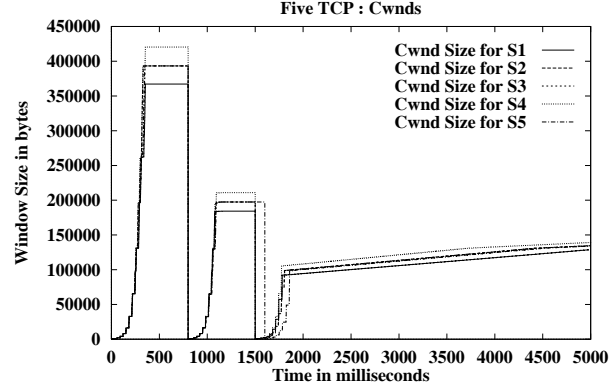
(d) Buffer = 500 cells, RCV_WND=32 Kb

Figure 2: Five TCP sources, UBR+EPD

Five-tcp(option.u.3=769?option.b.u.3=12000?option.u.3=12000/granularity.u.3=100/wd_scale_factor.u.3=5/rcv_win.u.3=18750/epd_thresh.u.3=35900/dist.u.3=1000/stoptime.u.3=4999000/time.u.3=10000/rtt.u.3=600000/vbr.u.3=124.41
 time_int=1000.0/w_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0 / Date:04/12/96
 ICR: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 4

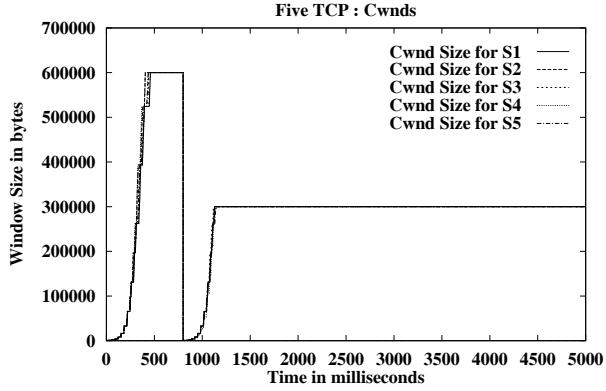


(a) Buffer = 12000 cells = 1
 RTT,RCV_WND=600000 Kb = 1 RTT

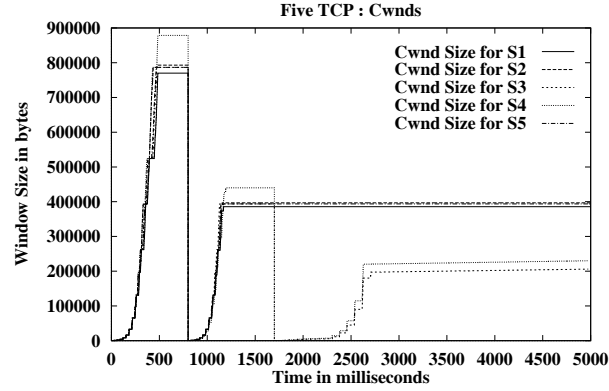


(b) Buffer = 12000 cells = 1
 RTT,RCV_WND=1800000 Kb = 3 RTT

Five-tcp(option.u.3=513?option.b.u.3=8487?option.u.3=6/w_size.u.3=56000/granularity.u.3=100/wd_scale_factor.u.3=5/rcv_win.u.3=18750/epd_thresh.u.3=35900/dist.u.3=1000/stoptime.u.3=4999000/time.u.3=10000/rtt.u.3=600000/vbr.u.3=124.41
 time_int=1000.0/w_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0 / Date:04/12/96
 ICR: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 2



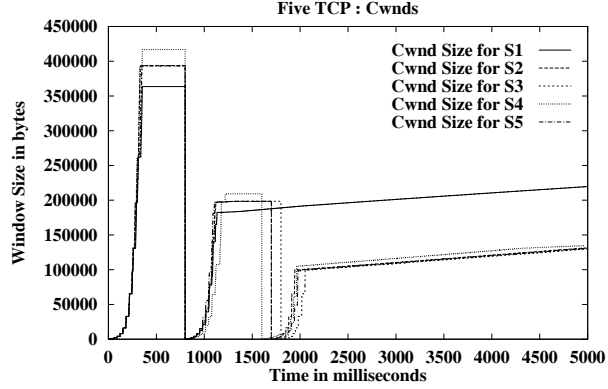
(c) Buffer = 36000 cells = 3
 RTT,RCV_WND=600000 Kb = 1 RTT



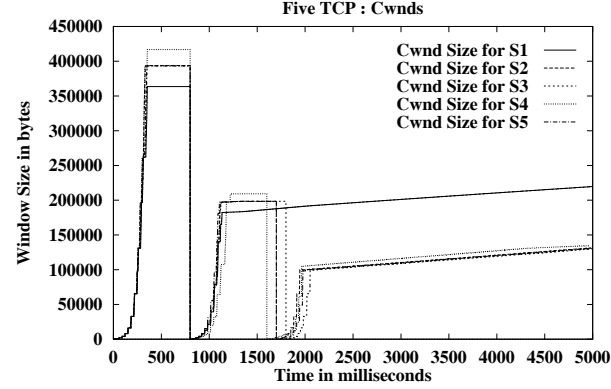
(d) Buffer = 36000 cells = 3
 RTT,RCV_WND=1800000 Kb = 3 RTT

Figure 3: Five TCP sources, UBR, WAN

Five-tcp?option.a.3=769?option.b.a=8487?option.c.a=6?w_qsiz.e.u.3=12000/granularity.a=100/wd_scale_factor.a.3=5/rcv_win.u.3=18750/epd_thresh.u.3=119000/dist.u=1000/stoptime.u=4990000/time.u.3=769?option.d.a.46?w_qsiz.e.u.3=12000/granularity.a=100/wd_scale_factor.a.3=5/rcv_win.u.3=56250/epd_thresh.u.3=119000/dist.u=1000/stoptime.u=10000/offtime.u=10000/vbrate.u=124.41
time_int=1000.0/w_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/Date:04/12/96
ICR: 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 3

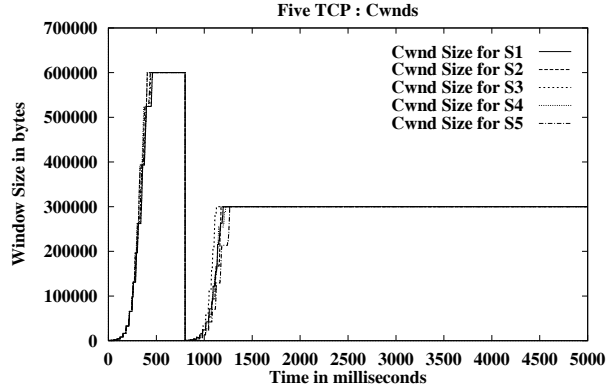


(a) Buffer = 12000 cells = 1 RTT, RCV_WND=600000 Kb = 1 RTT

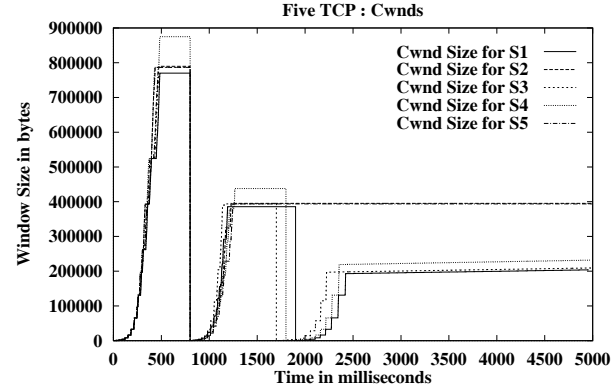


(b) Buffer = 12000 cells = 1 RTT, RCV_WND=1800000 Kb = 3 RTT

Five-tcp?option.a.3=769?option.b.a=8487?option.c.a=6?w_qsiz.e.u.3=36000/granularity.a=100/wd_scale_factor.a.3=5/rcv_win.u.3=18750/epd_thresh.u.3=139000/dist.u=1000/stoptime.u=4990000/time.u.3=769?option.d.a.46?w_qsiz.e.u.3=36000/granularity.a=100/wd_scale_factor.a.3=5/rcv_win.u.3=56250/epd_thresh.u.3=139000/dist.u=1000/stoptime.u=10000/offtime.u=10000/vbrate.u=124.41
time_int=1000.0/w_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/Date:04/12/96
ICR: 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 5



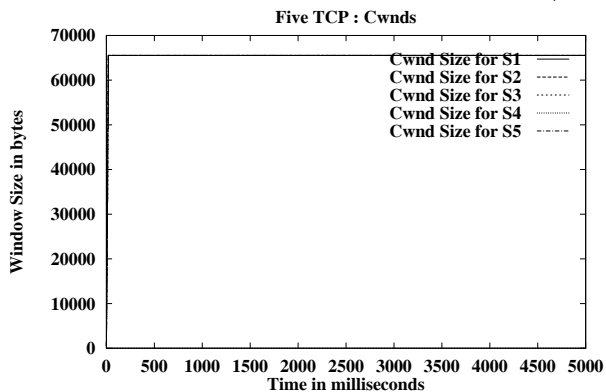
(c) Buffer = 36000 cells = 3 RTT, RCV_WND=600000 Kb = 1 RTT



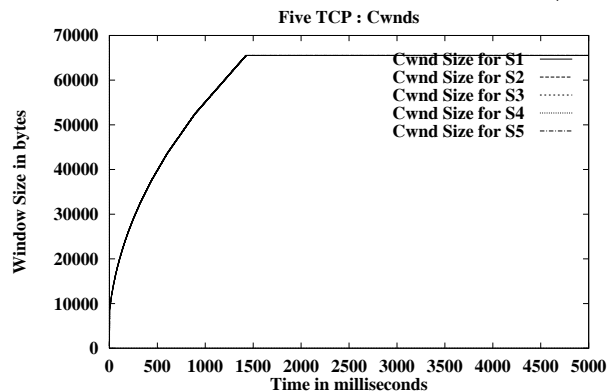
(d) Buffer = 36000 cells = 3 RTT, RCV_WND=1800000 Kb = 3 RTT

Figure 4: Five TCP sources, UBR+EPD, WAN

five-tcp?option.u=513?option.b.u=8487?option.a=6/sw._qsize.u=10000/granularity.u=100/wnd_scale_factor.u=0/rcv_win.u=65535/epd_thresh.u=11900/dist.u=1/stoptime.u=4999000/ontime.u=10000/rtt.u=10000/rttvar.u=10000/rttmin.u=1000/rttmax.u=10000/rxrate.u=124.41
time_int=1000.0/sw_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/ Date: 64/1/96
ICR: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 1

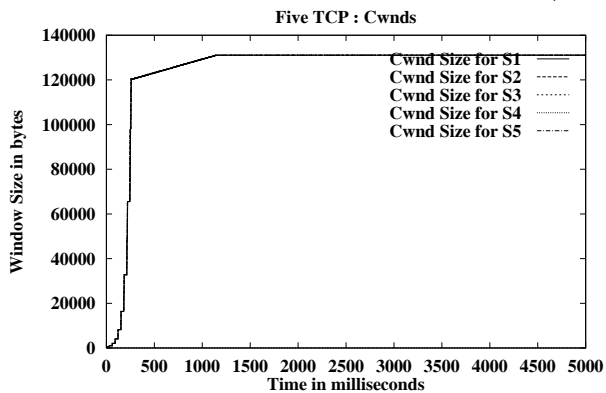


(a) LAN: Buffer = 10000 cells. RCV_WND = 64K

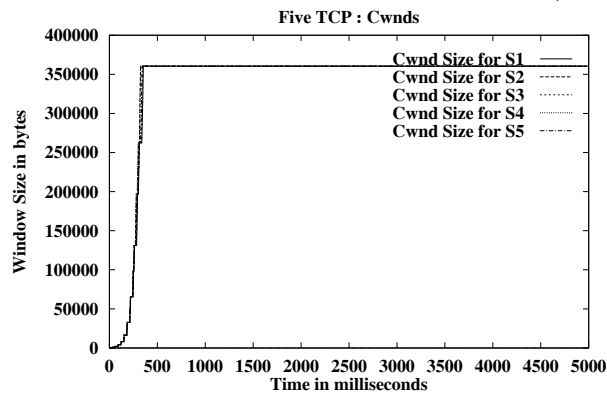


(b) LAN: Buffer = 5000 cells. RCV_WND = 8K

five-tcp?option.u=513?option.b.u=8487?option.a=6/sw._qsize.u=12000/granularity.u=100/wnd_scale_factor.u=1/rcv_win.u=60000/epd_thresh.u=0/dist.u=1000/stoptime.u=4999000/ontime.u=10000/rtt.u=10000/rttvar.u=10000/rttmin.u=1000/rttmax.u=10000/rxrate.u=124.41
time_int=1000.0/sw_int=100/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/junkparam=0/ Date: 64/1/296
ICR: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / XRM: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 / Graph: 1



(c) WAN: Buffer = 12000 cells. RCV_WND = 120000 Bytes



(d) WAN: Buffer = 36000 cells. RCV_WND = 360000 Bytes

Figure 5: Five TCP sources, UBR+EPD, Zero loss cases