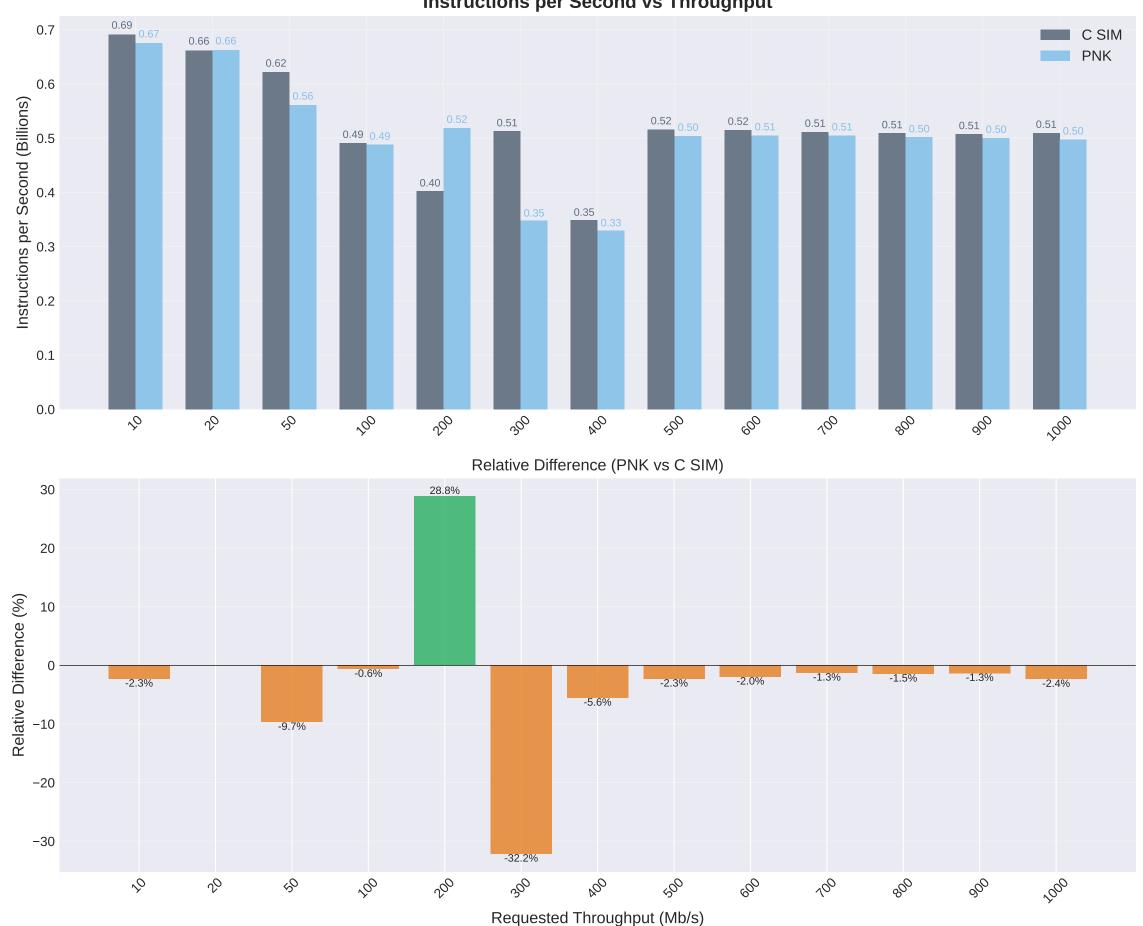
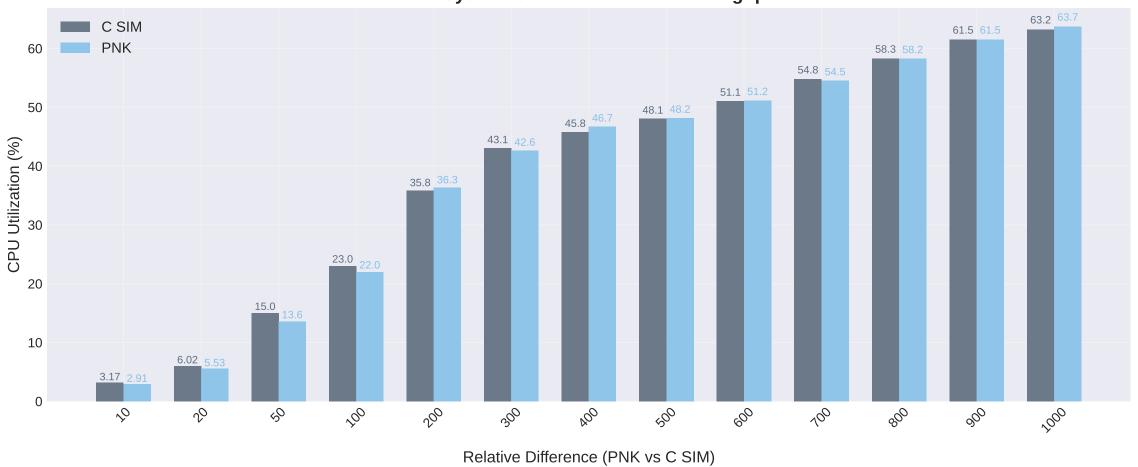
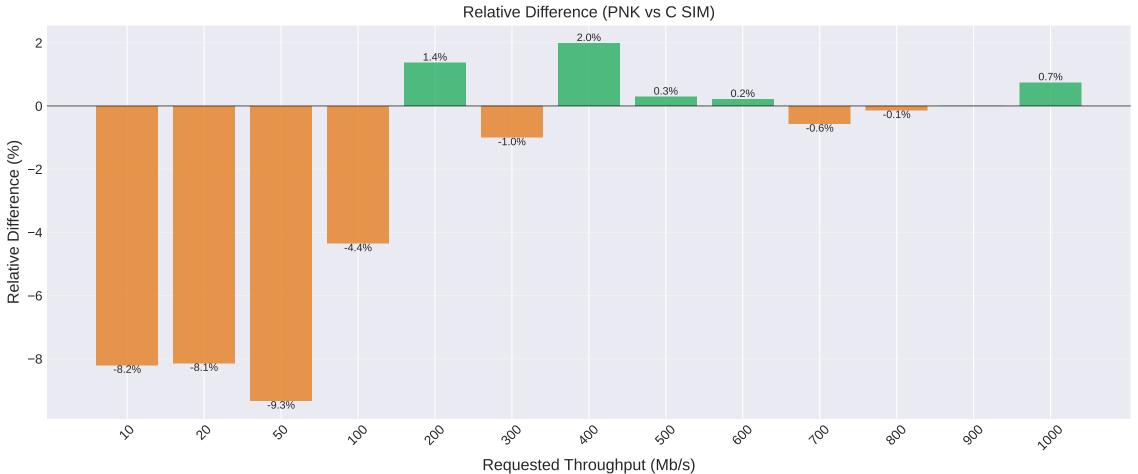
**Instructions per Second vs Throughput** 



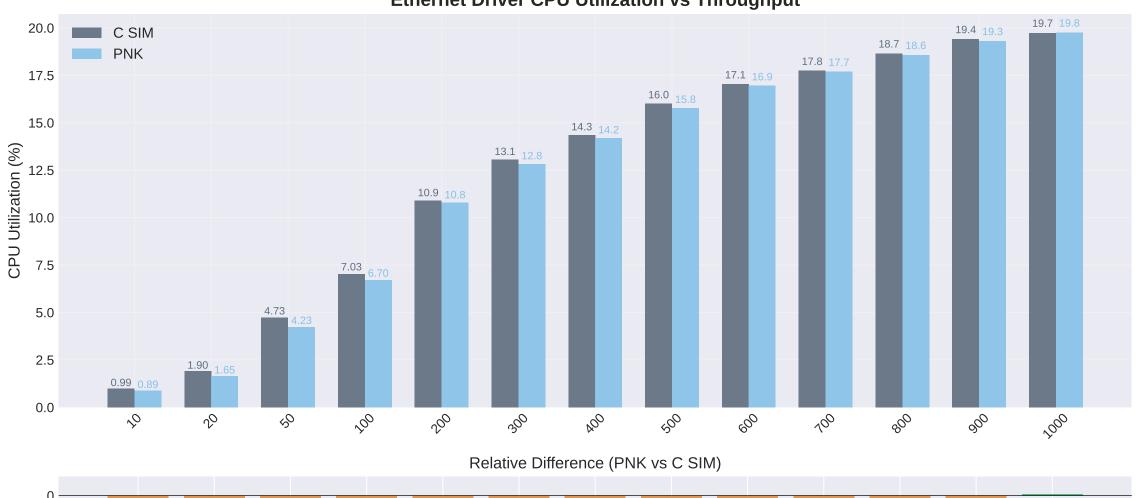
**Received Throughput vs Requested with CPU Utilization Overlay** 1000 C SIM Recv Throughput 956.9957.0 100 PNK Recv Throughput C SIM CPU Util 900.0900.0 PNK CPU Util 800.0800.0 800 80 700.0700.0 Received Throughput (Mb/s) 63.7% 61.5% 600.0600.0 600 CPU Utilization (%) 58.2% 54.5% 51.2% 500.0500.0 48.2% 46:3% 42:6% 400.0400.0 400 300.0300.0 200.0200.0 200 20 100.0100.0 50.0 50.0 20.0 20 0 900 NOO 400 700 200 300 600 100 900 2000 30 20 50

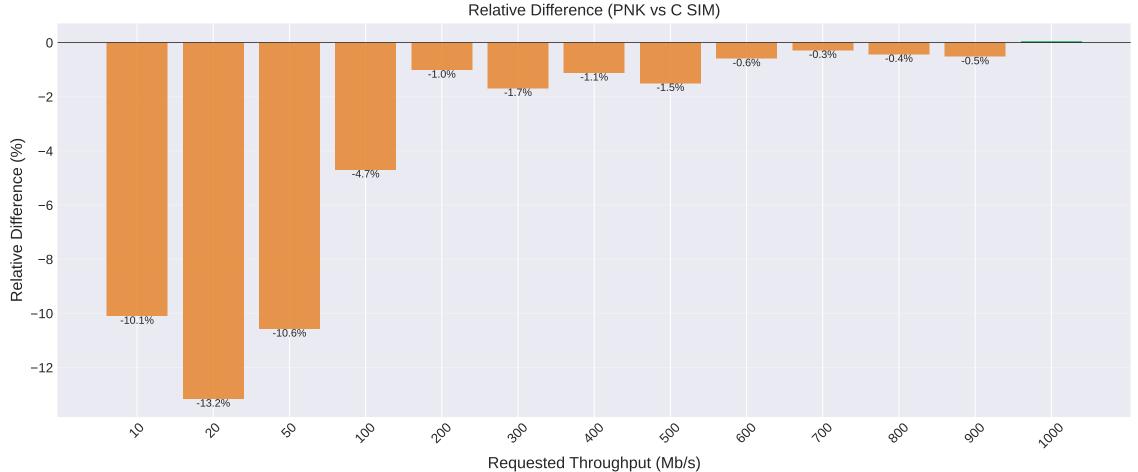
**Total System CPU Utilization vs Throughput** 

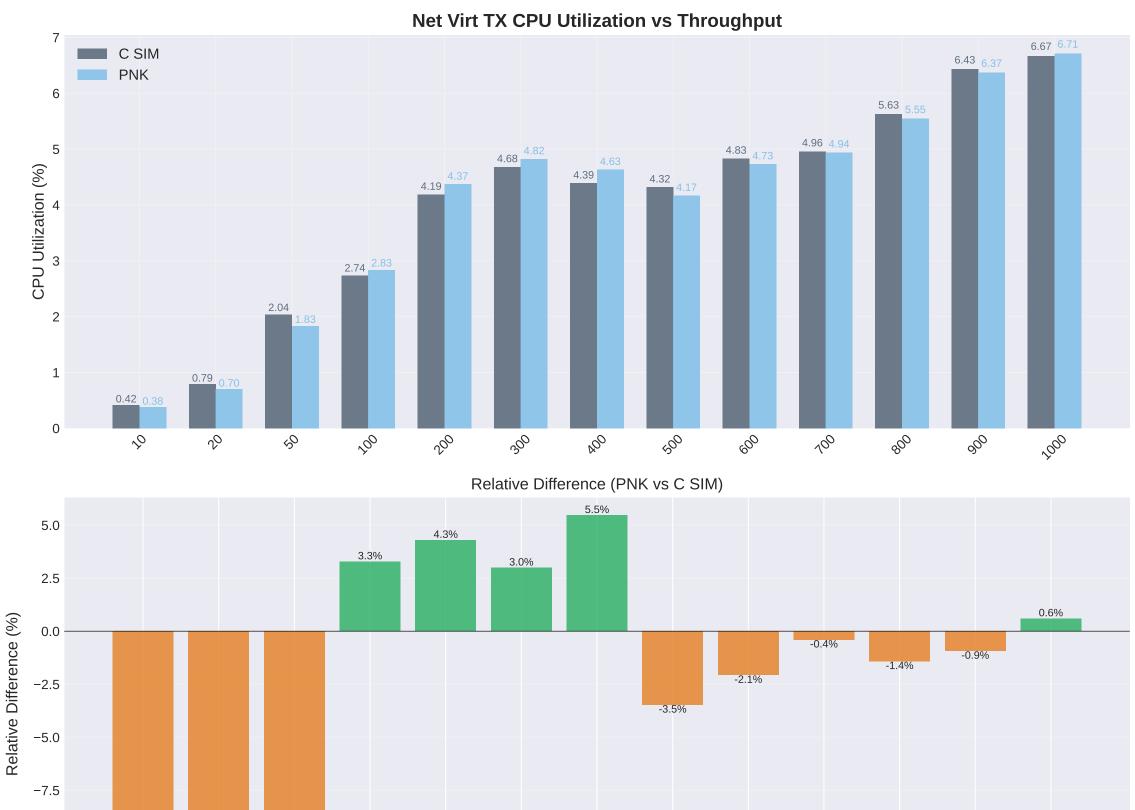




**Ethernet Driver CPU Utilization vs Throughput** 

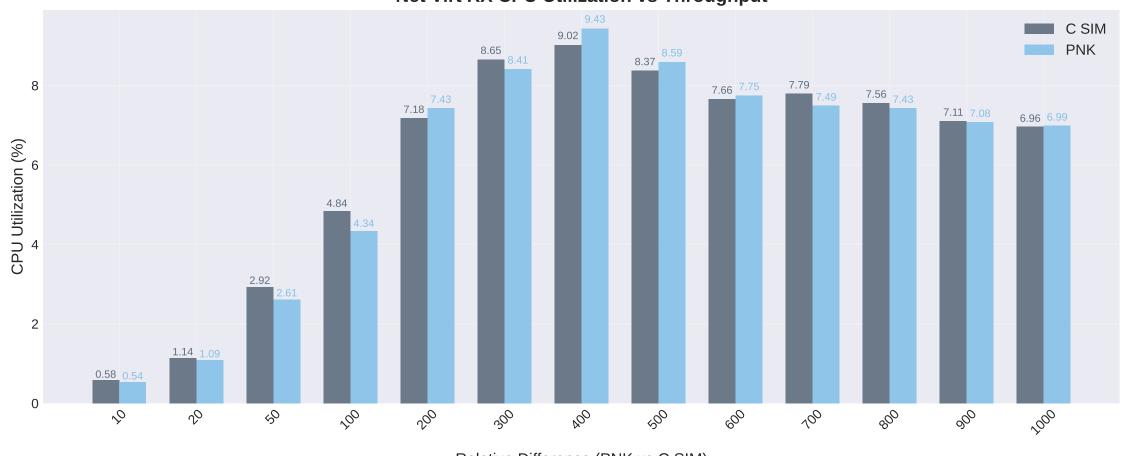


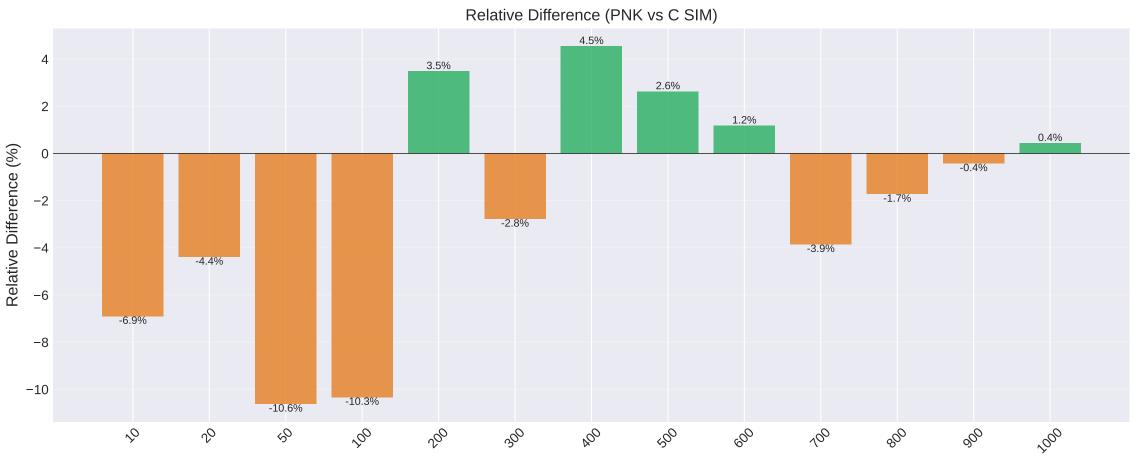




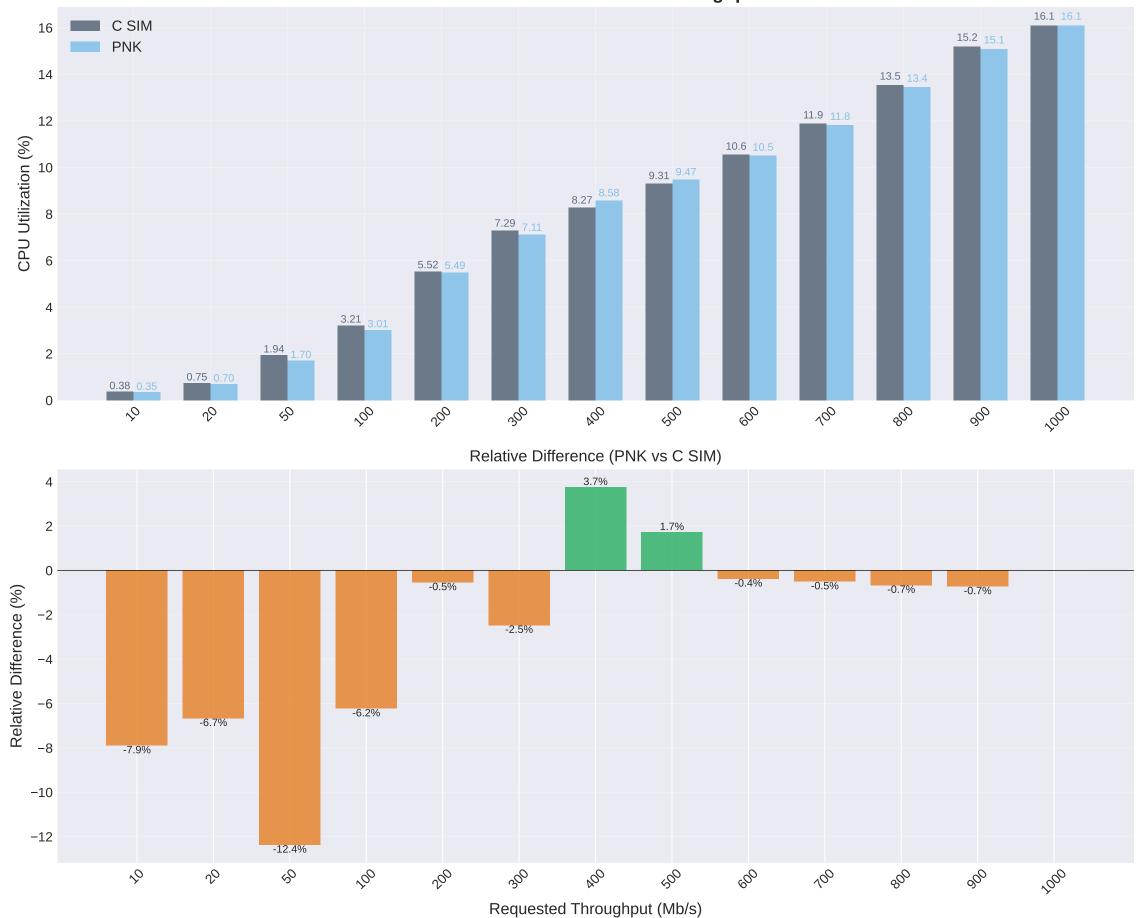
-9.5% -10.0 -10.3% -11.4% 20 100 200 300 NOO 500 700 900 30 50 Requested Throughput (Mb/s)

**Net Virt RX CPU Utilization vs Throughput** 

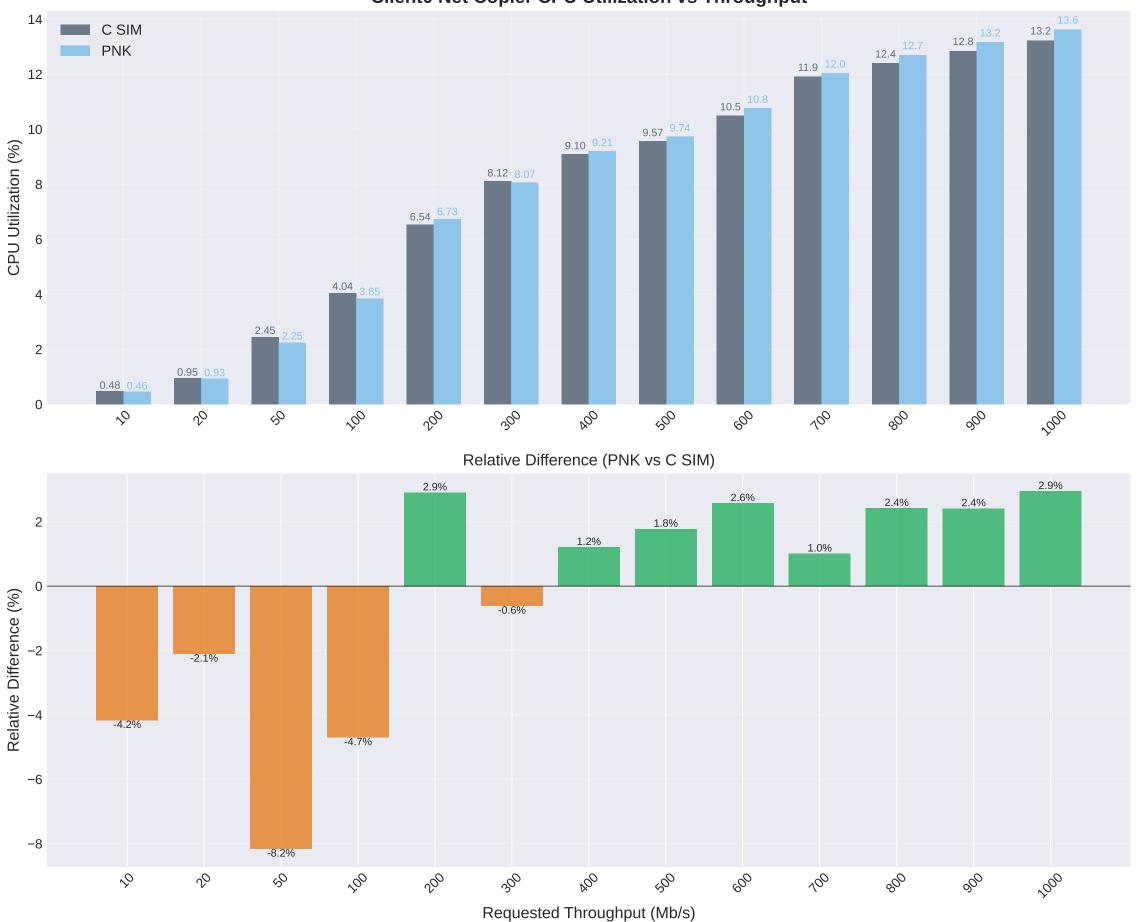




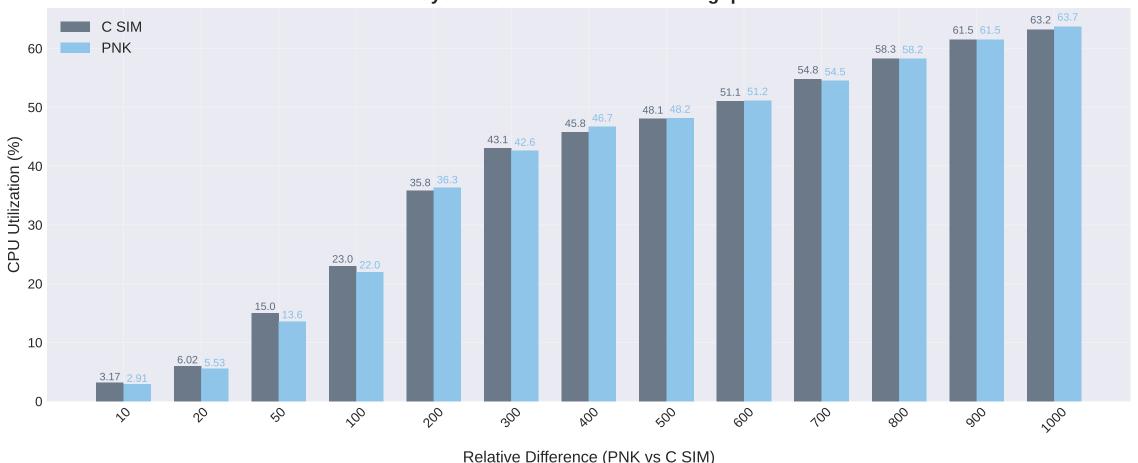
**Client0 CPU Utilization vs Throughput** 

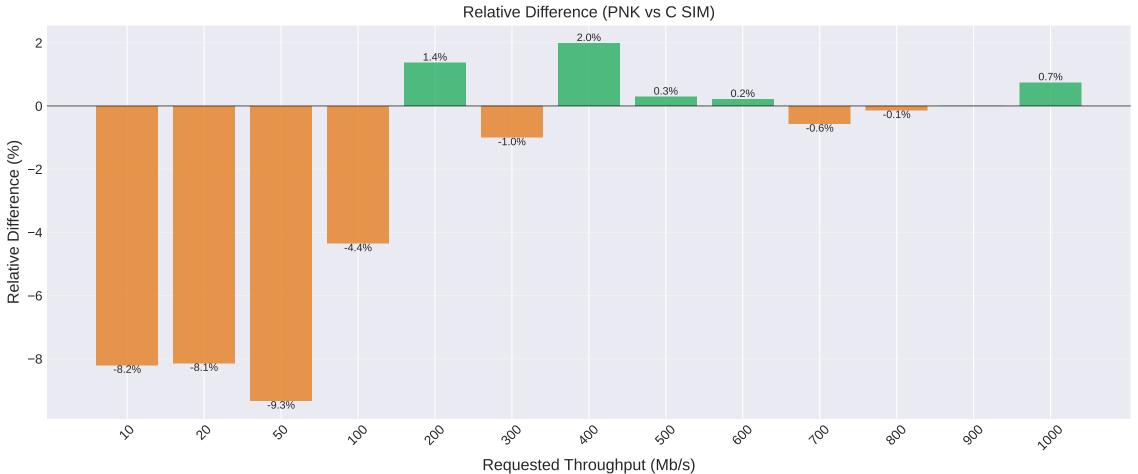


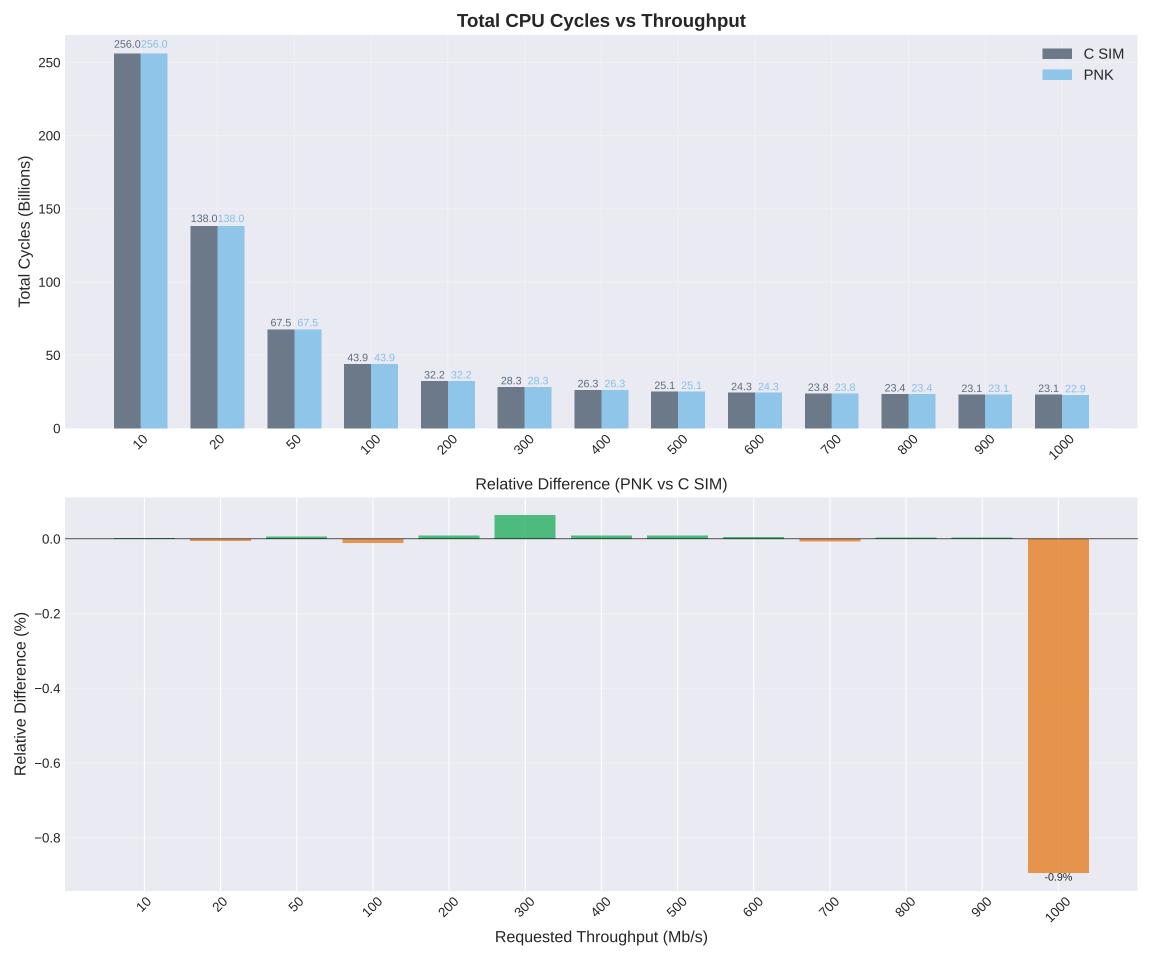
**Client0 Net Copier CPU Utilization vs Throughput** 



**System CPU Utilization vs Throughput** 

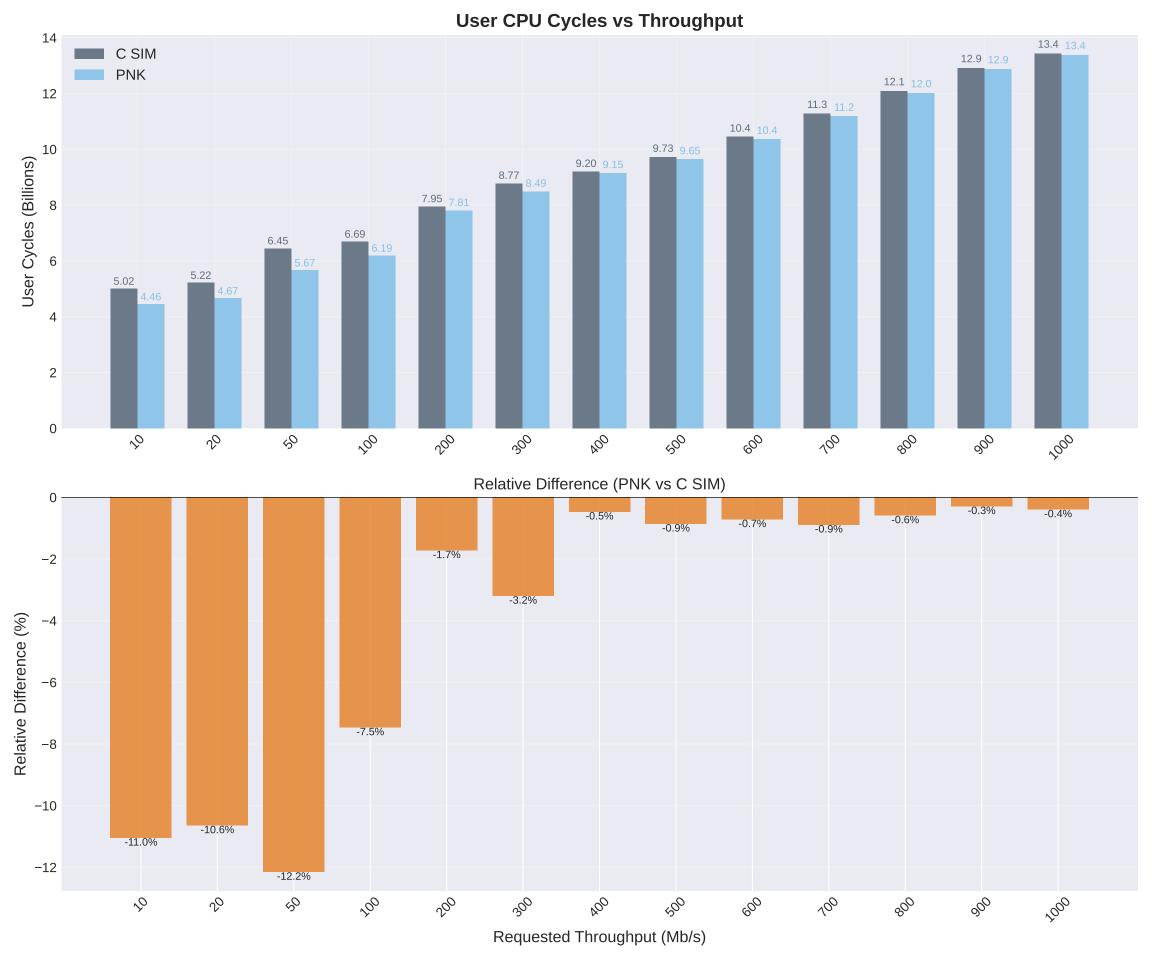


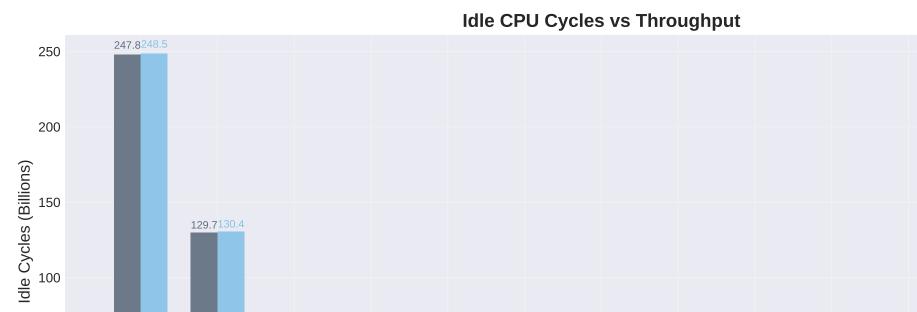




**Kernel CPU Cycles vs Throughput** 3.5 C SIM 3.19 PNK 3.14 3.09 3.06 2.96 2.93 2.94 3.0 2.68 2.46 Kernel Cycles (Billions) 2.38 2.34 2.22 1.96 1.86 1.66 1.69 1.44 1.17 1.21 1.06 1.09 1.0 0.5 0.0 300 700 200 NOO 400 600 700 900 900 2000 30 20 80 Relative Difference (PNK vs C SIM) 10.5% 10.0 9.2% 7.5 5.5% 5.5% Relative Difference (%) 5.0 4.4% 3.6% 3.3% 2.9% 2.5 1.6% 0.1% 0.0 -2.5 -3.2% -3.4% -5.0 -6.7% -7.5 \$0 20 SO 200 200 300 NOO 400 600 100 900 900

Requested Throughput (Mb/s)





20.7 20.5

16.1 16.2

14.2 14.0

13.0 13.0

11.9 11.9

10.8 10.8

9.75 9.77

8.87 8.87

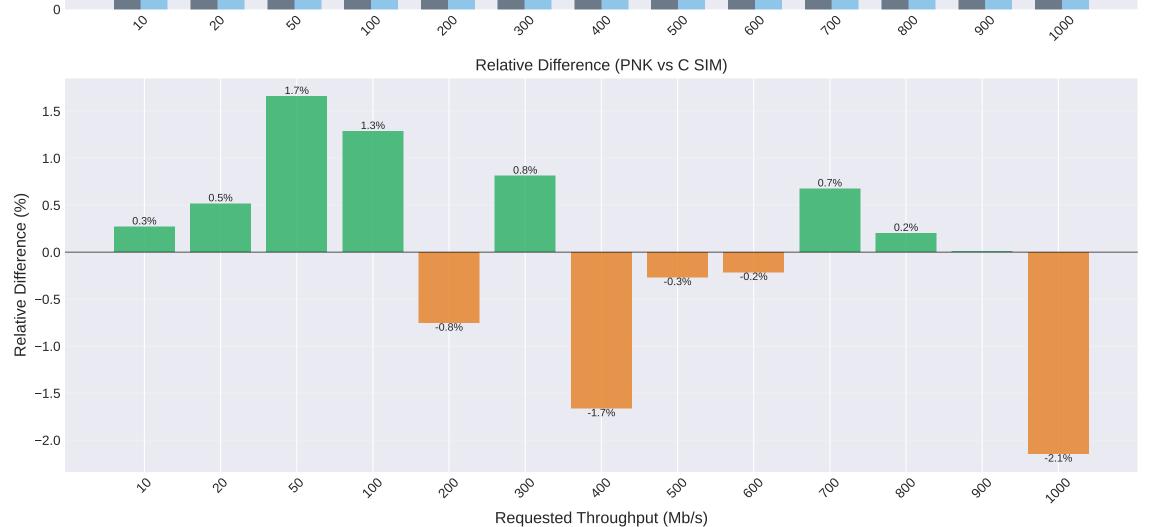
8.49 8.30

129.7130.4

50

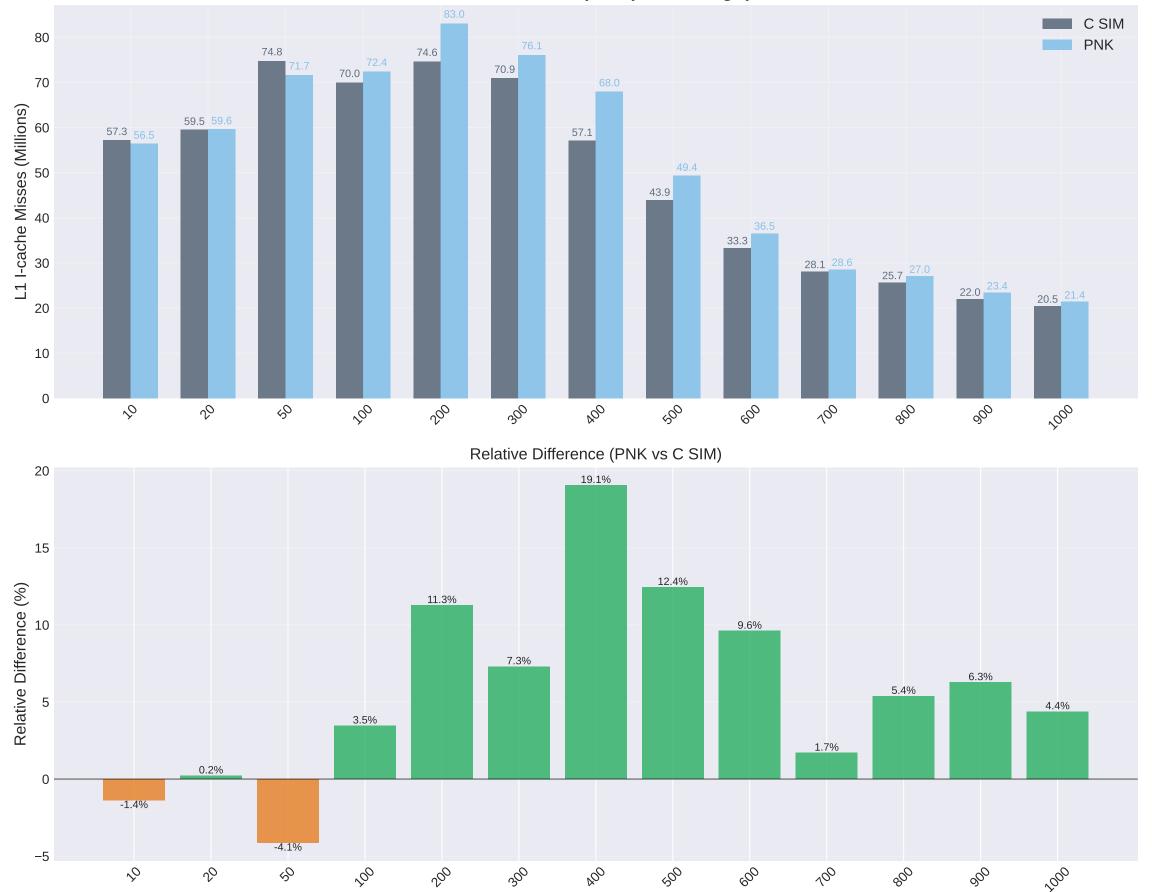
57.4 58.4

33.8 34.3

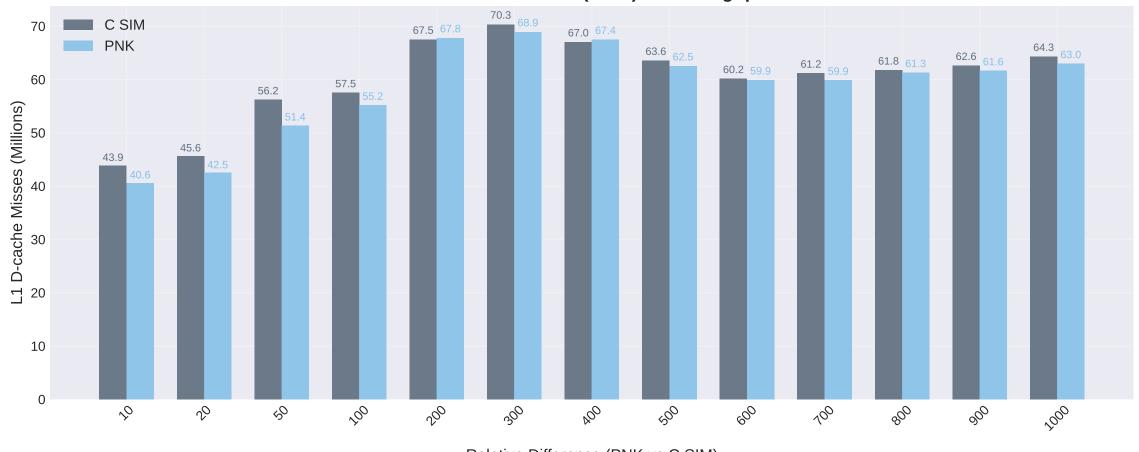


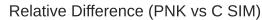
C SIM PNK

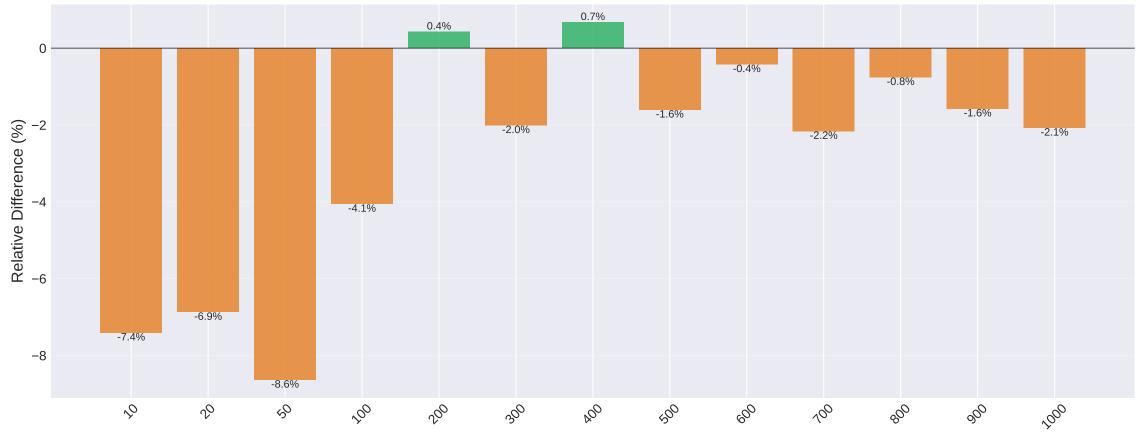
L1 I-cache Misses (Total) vs Throughput



## L1 D-cache Misses (Total) vs Throughput

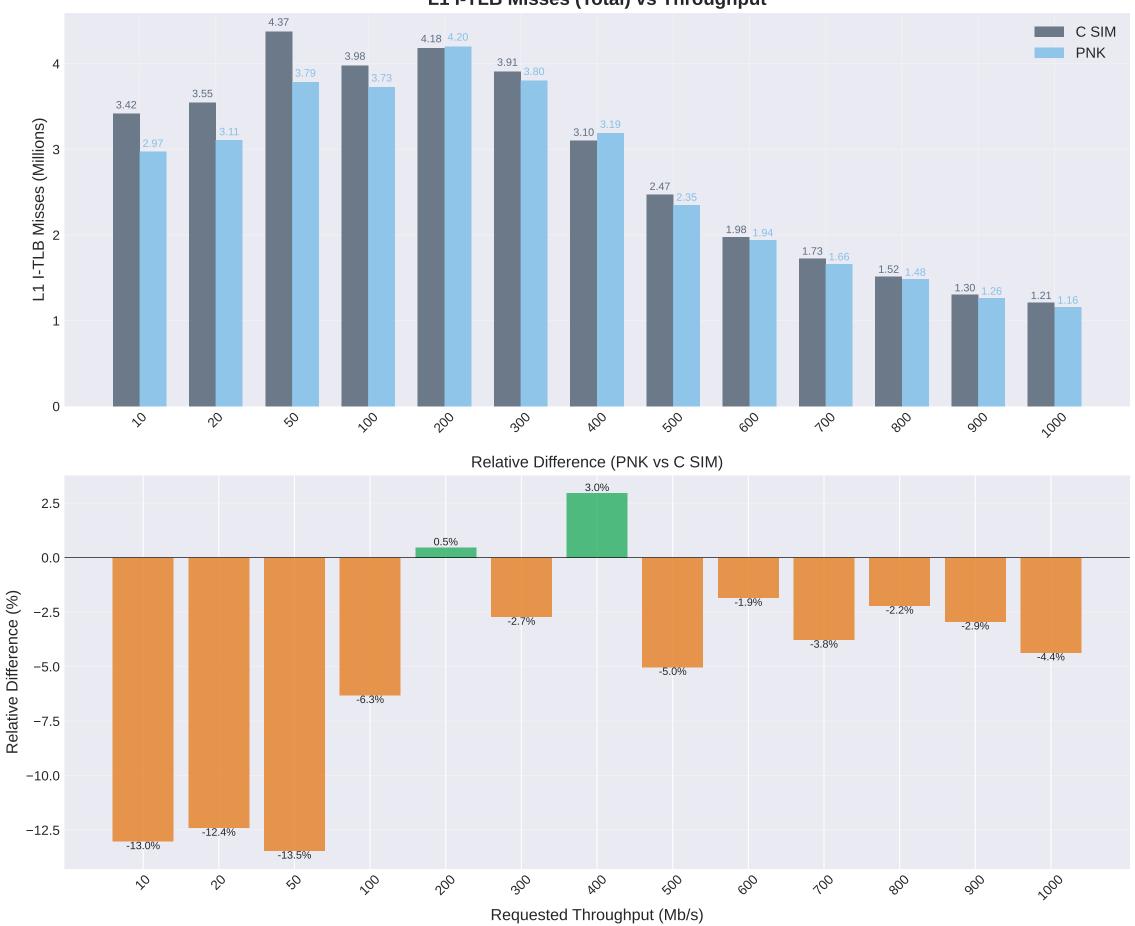




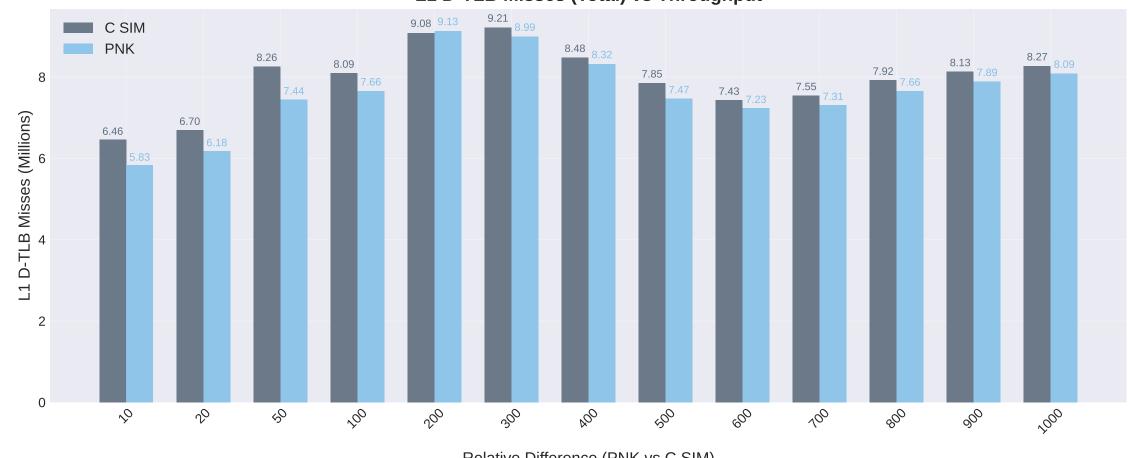


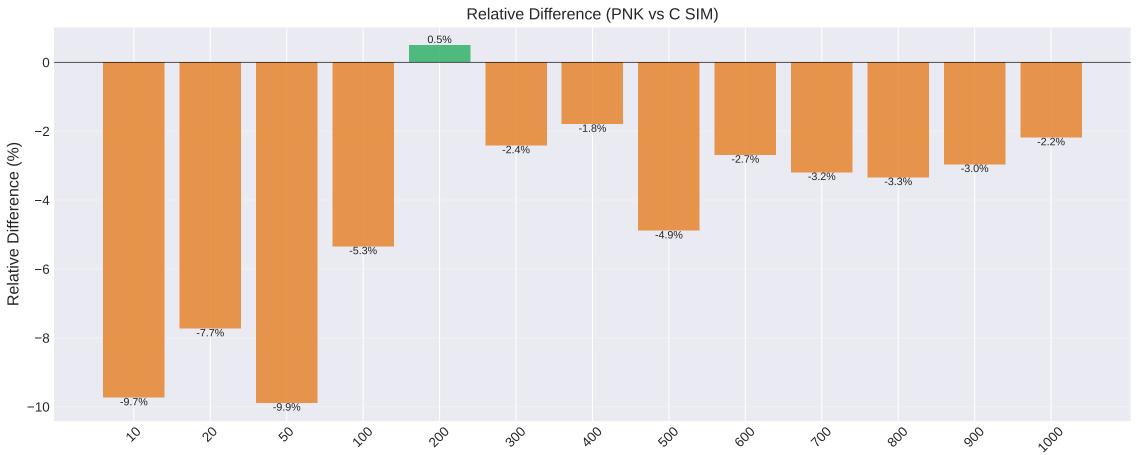
Requested Throughput (Mb/s)

L1 I-TLB Misses (Total) vs Throughput

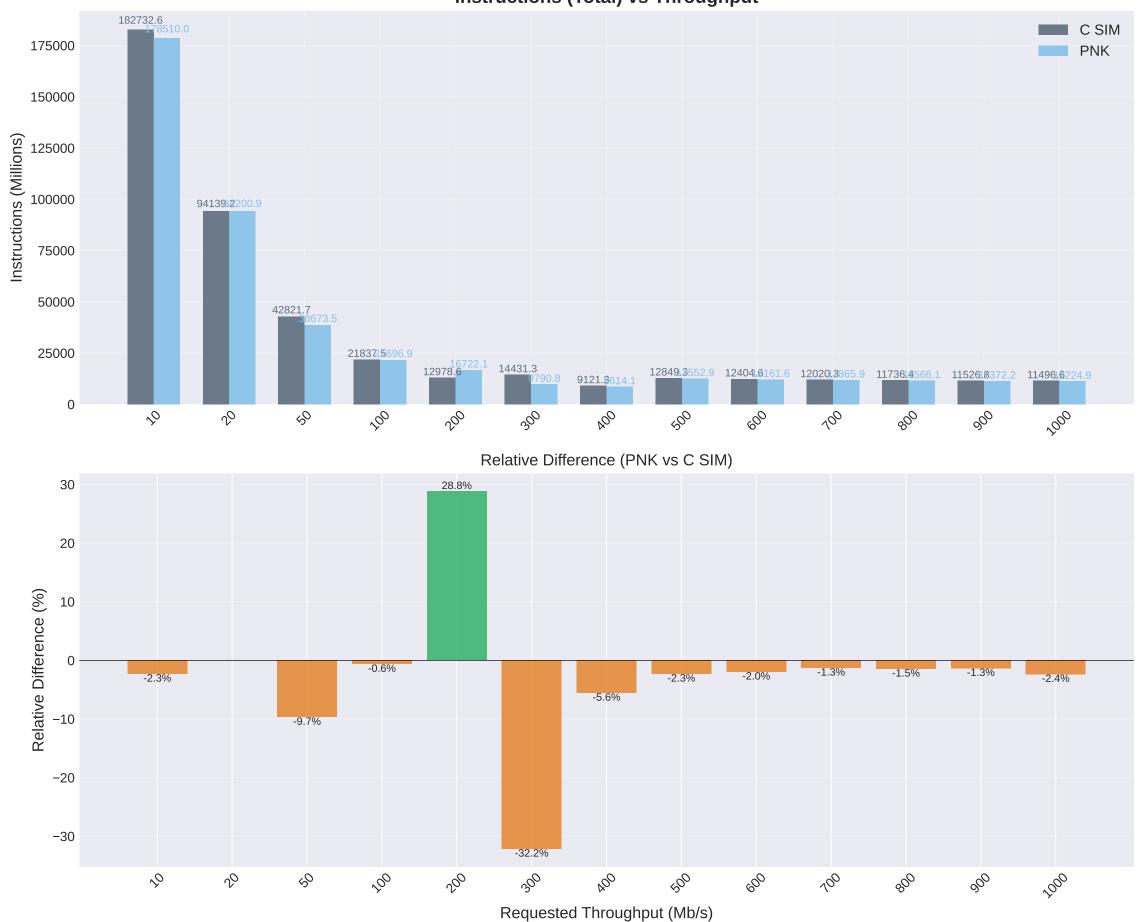


L1 D-TLB Misses (Total) vs Throughput

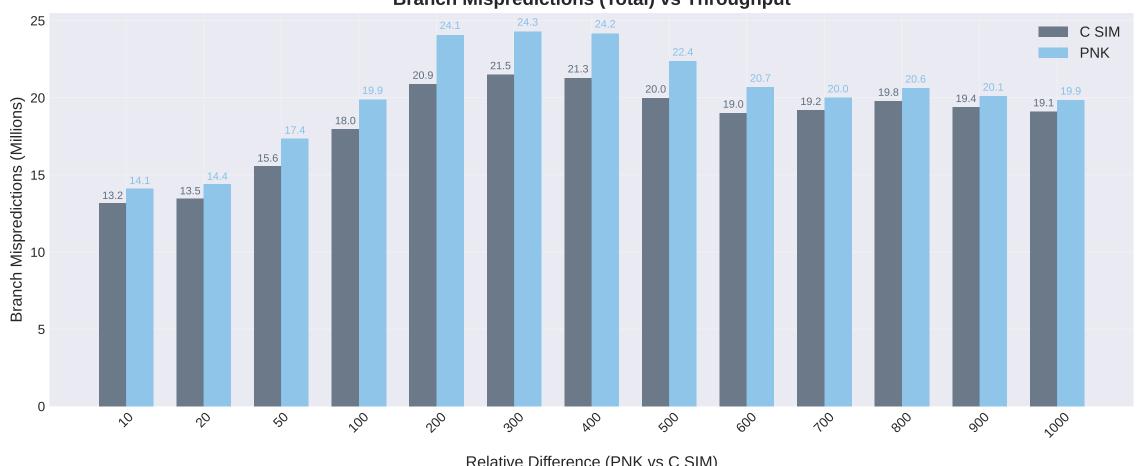


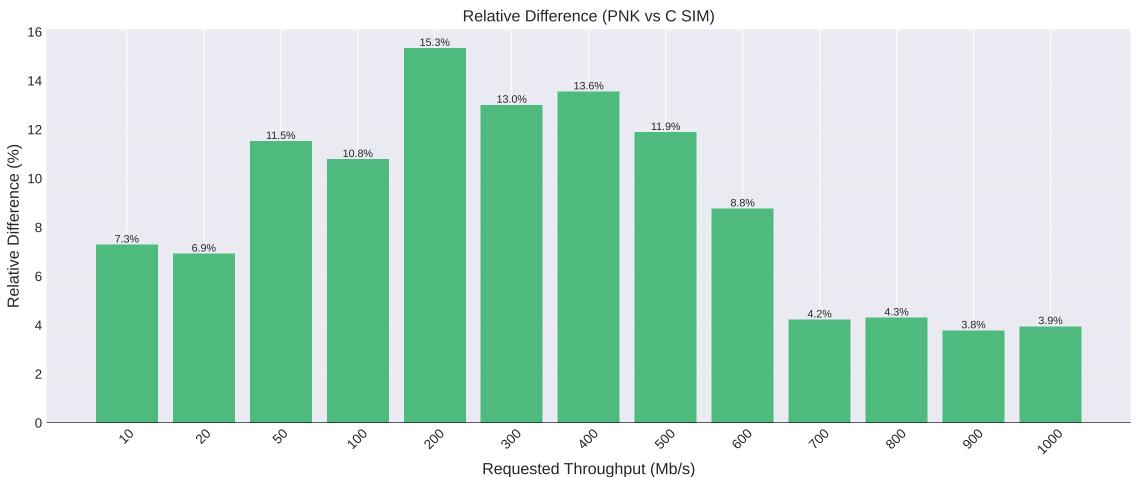


Instructions (Total) vs Throughput

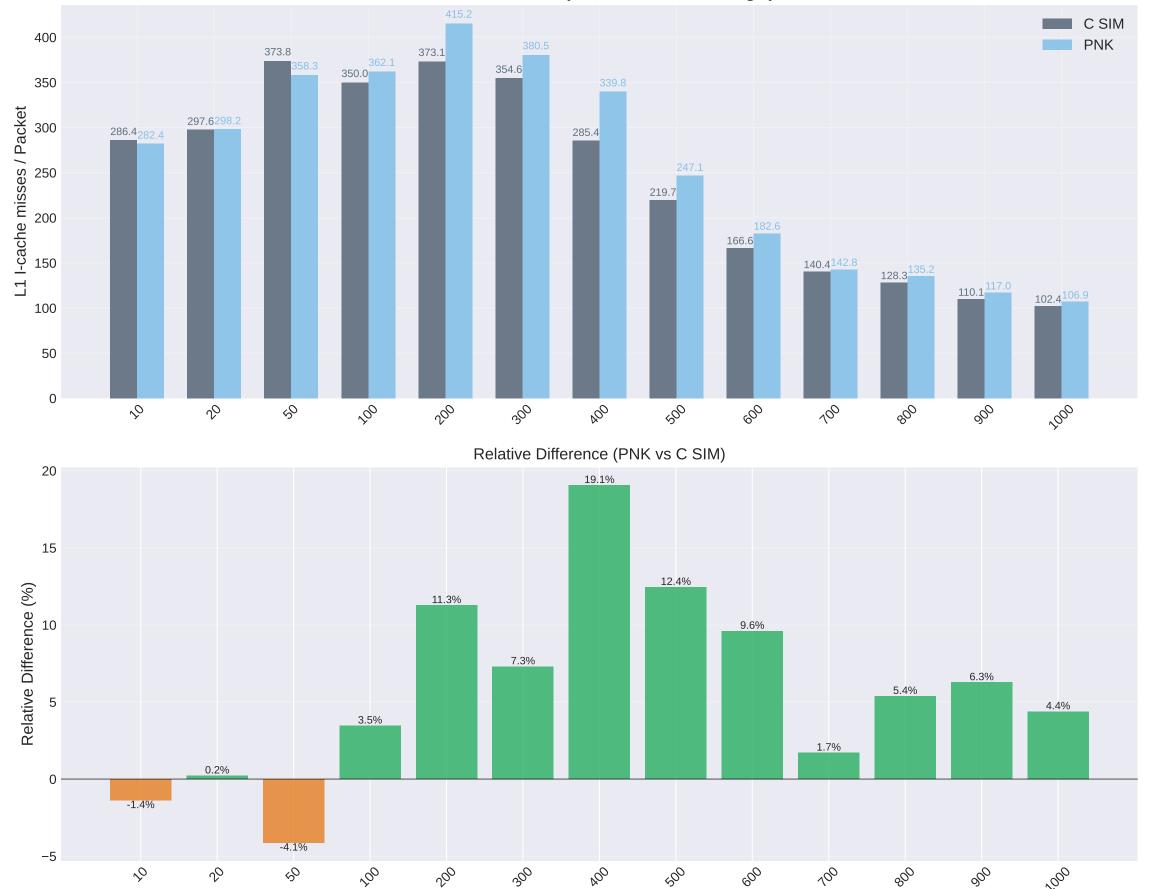


**Branch Mispredictions (Total) vs Throughput** 

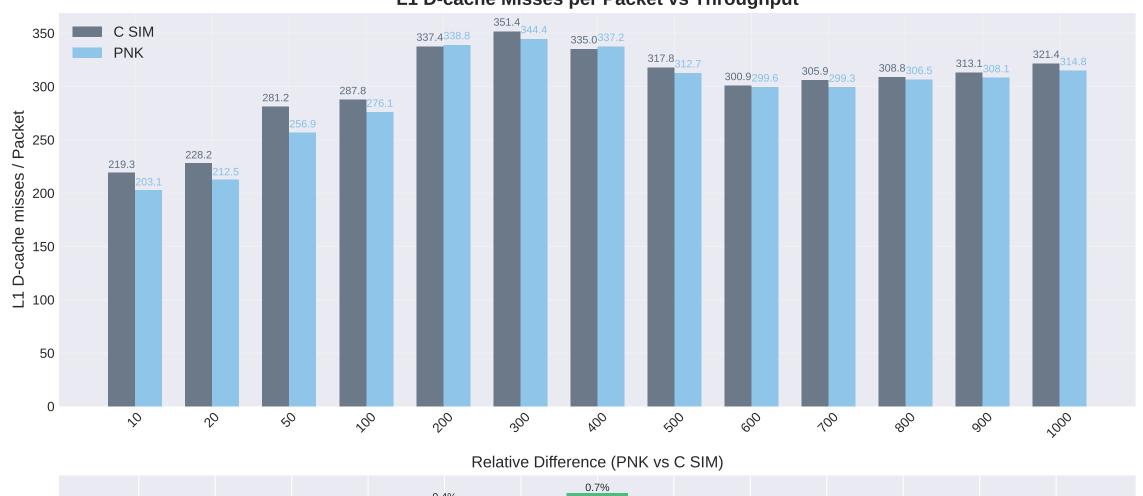


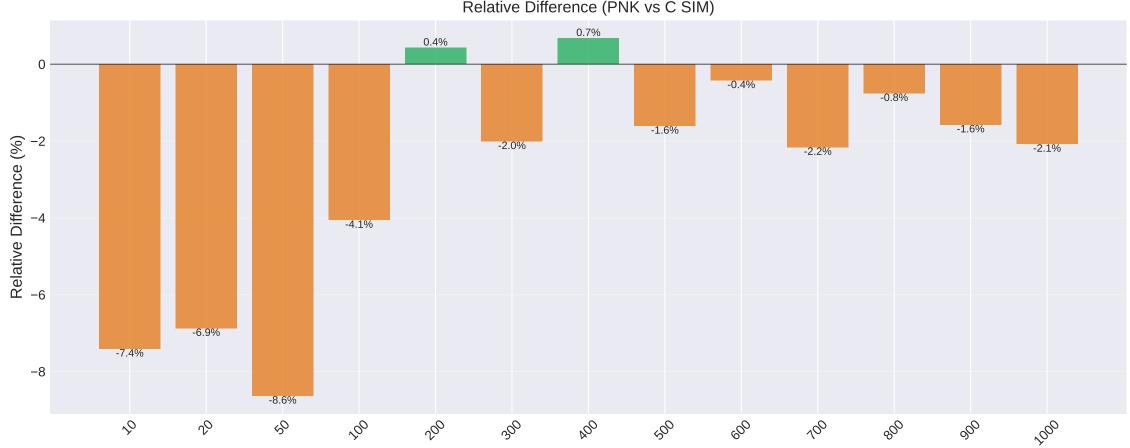


**L1** I-cache Misses per Packet vs Throughput

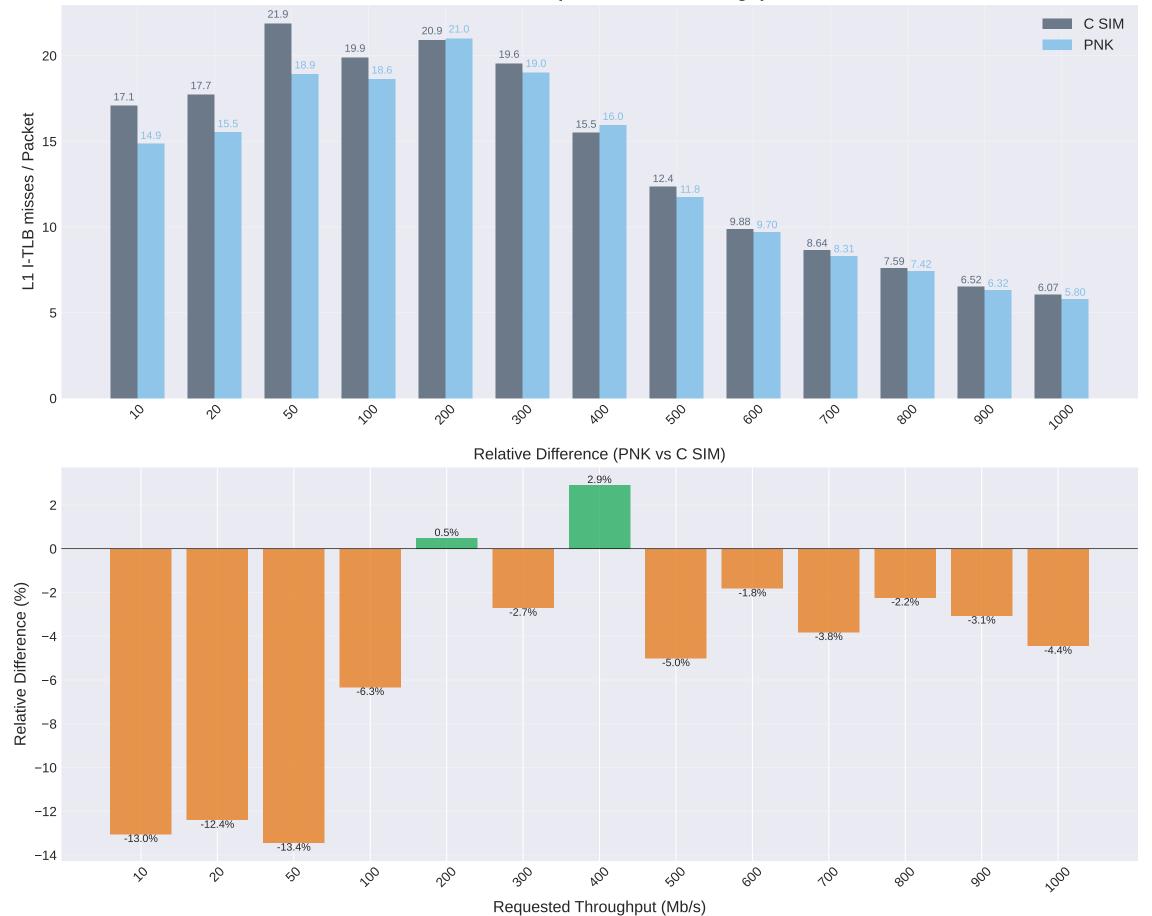


**L1 D-cache Misses per Packet vs Throughput** 

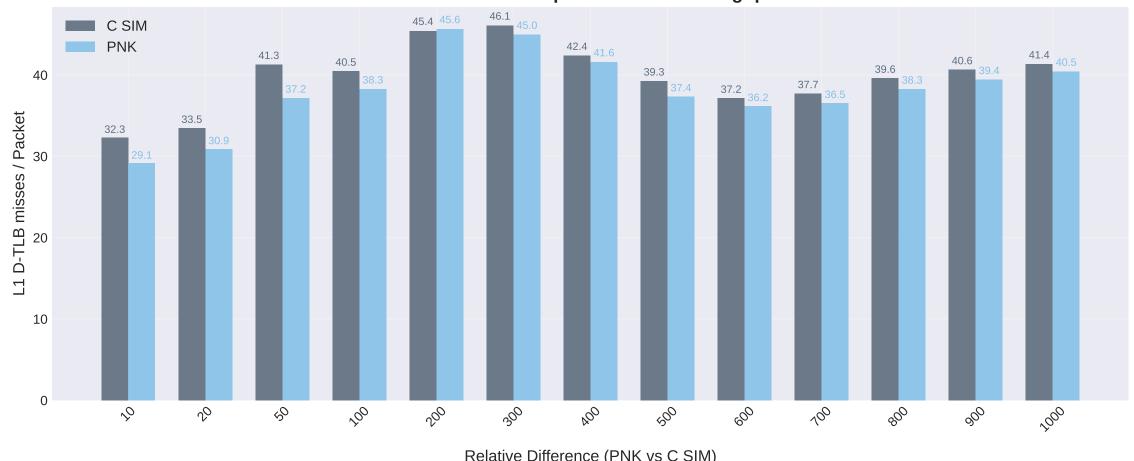


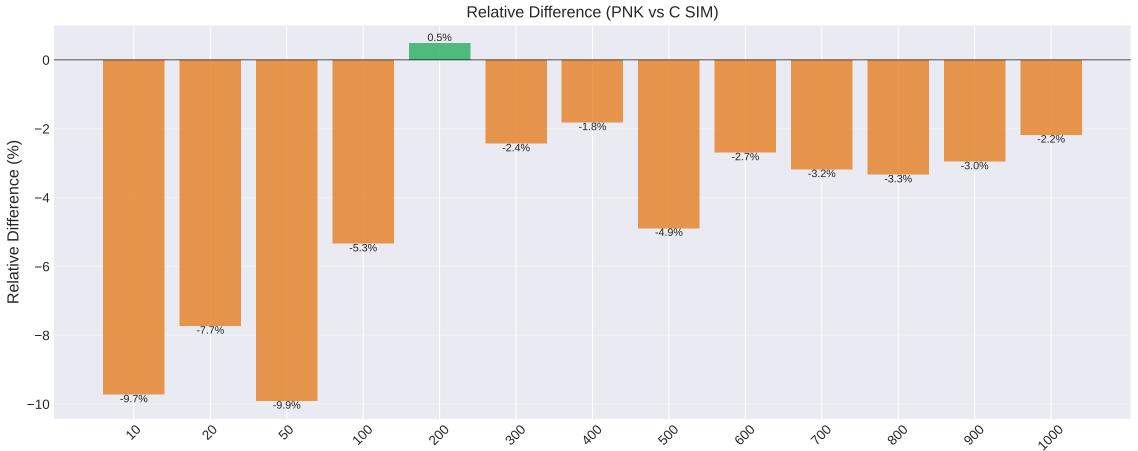


**L1 I-TLB Misses per Packet vs Throughput** 



**L1 D-TLB Misses per Packet vs Throughput** 





**Instructions per Packet vs Throughput** 913663.0 C SIM PNK 800000 instructions / Packet 600000 4706967.0004.0 400000 214108.0 200000 10918700484.0 64893.0 7<u>21</u>56.0  $6\underline{4246}\underline{0764.0} \quad 6\underline{2023}\underline{0808.0} \quad 6\underline{01015}\underline{0329.0} \quad 5\underline{8682}\underline{0830.0} \quad 5763\underline{4}\underline{0861.0} \quad 5748\underline{20124.0}$ 53.0 4560619070.0 0 2000 700 200 300 NOO 400 600 100 900 900 \$ 20 50 Relative Difference (PNK vs C SIM) 30 28.8% 20 Relative Difference (%) 10 -0.6% -1.3% -1.5% -1.3% -2.3% -5.6% -9.7% -20 -30 -32.2%

Requested Throughput (Mb/s)

NO

400

600

700

\$

20

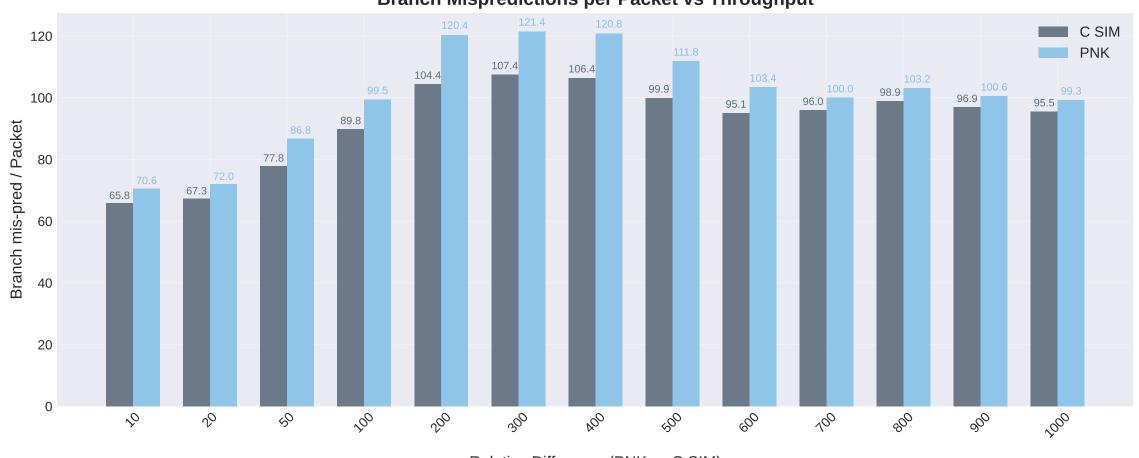
50

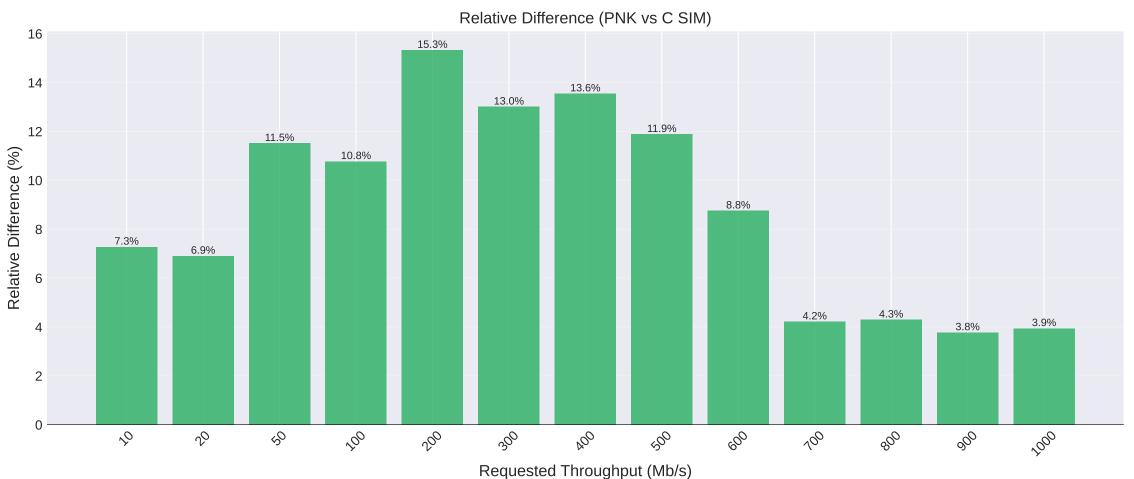
200

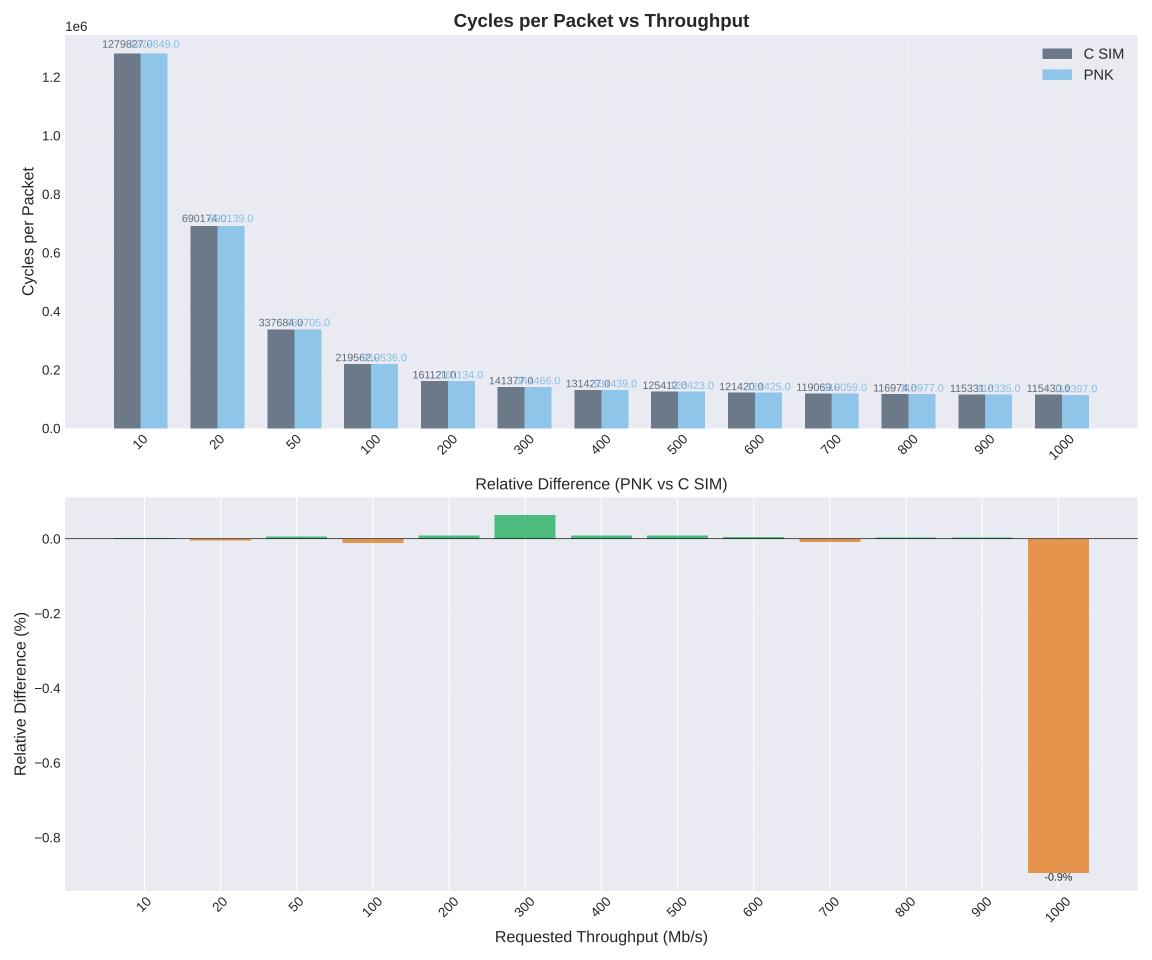
200

300

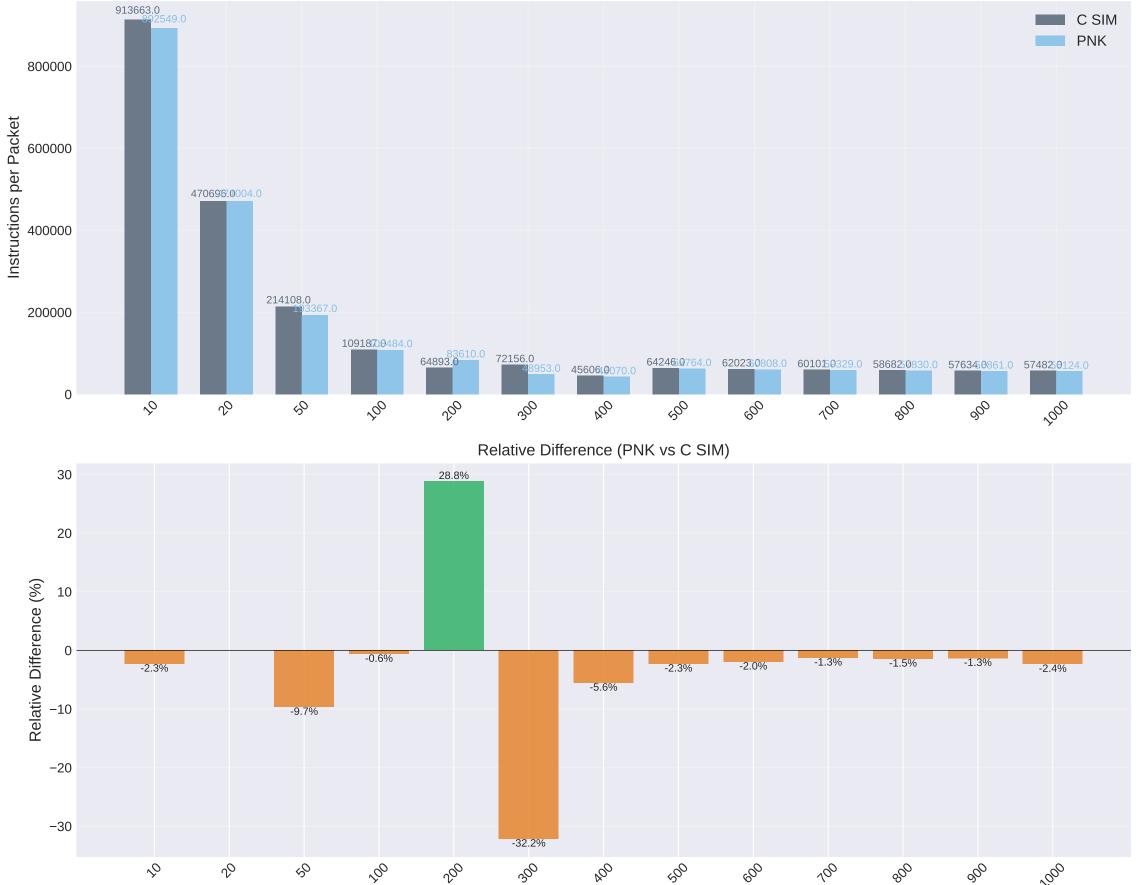
**Branch Mispredictions per Packet vs Throughput** 



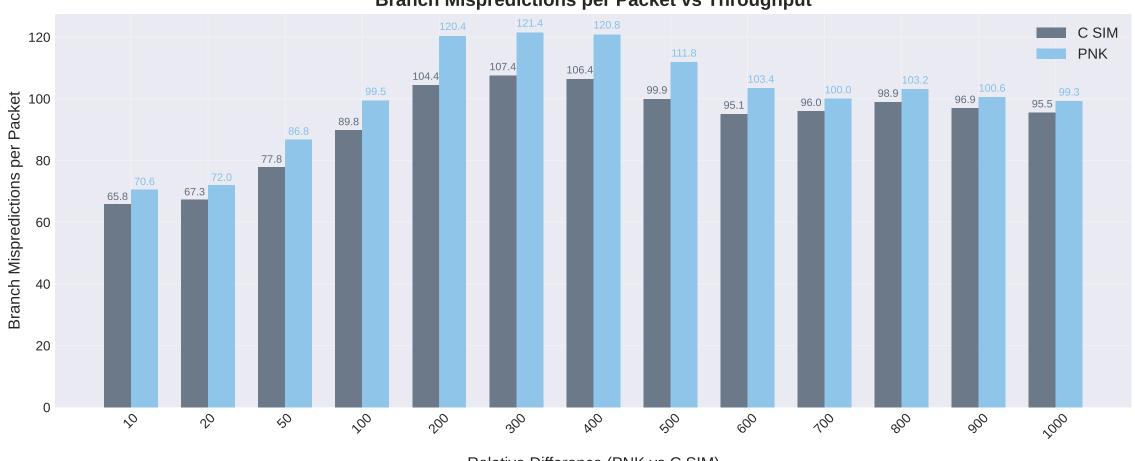


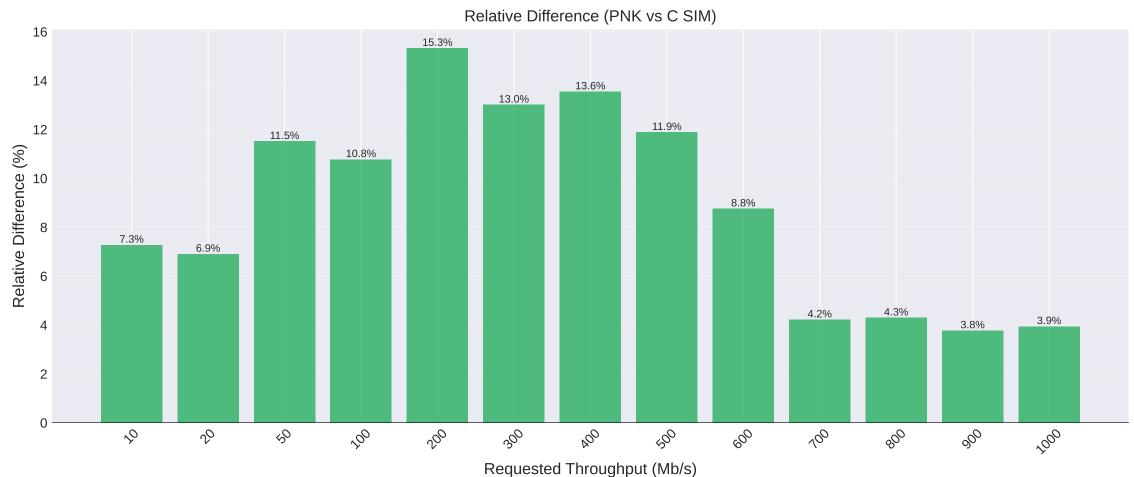


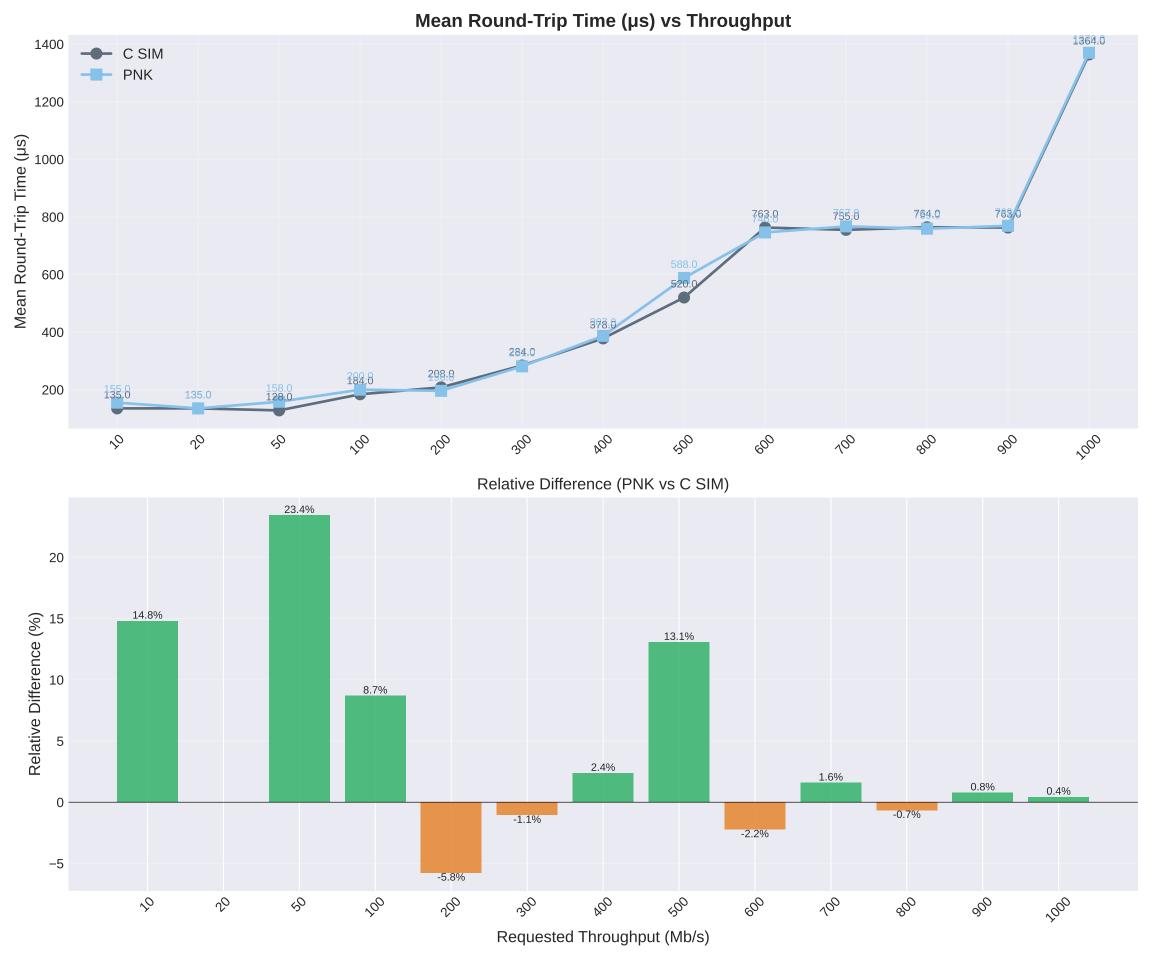


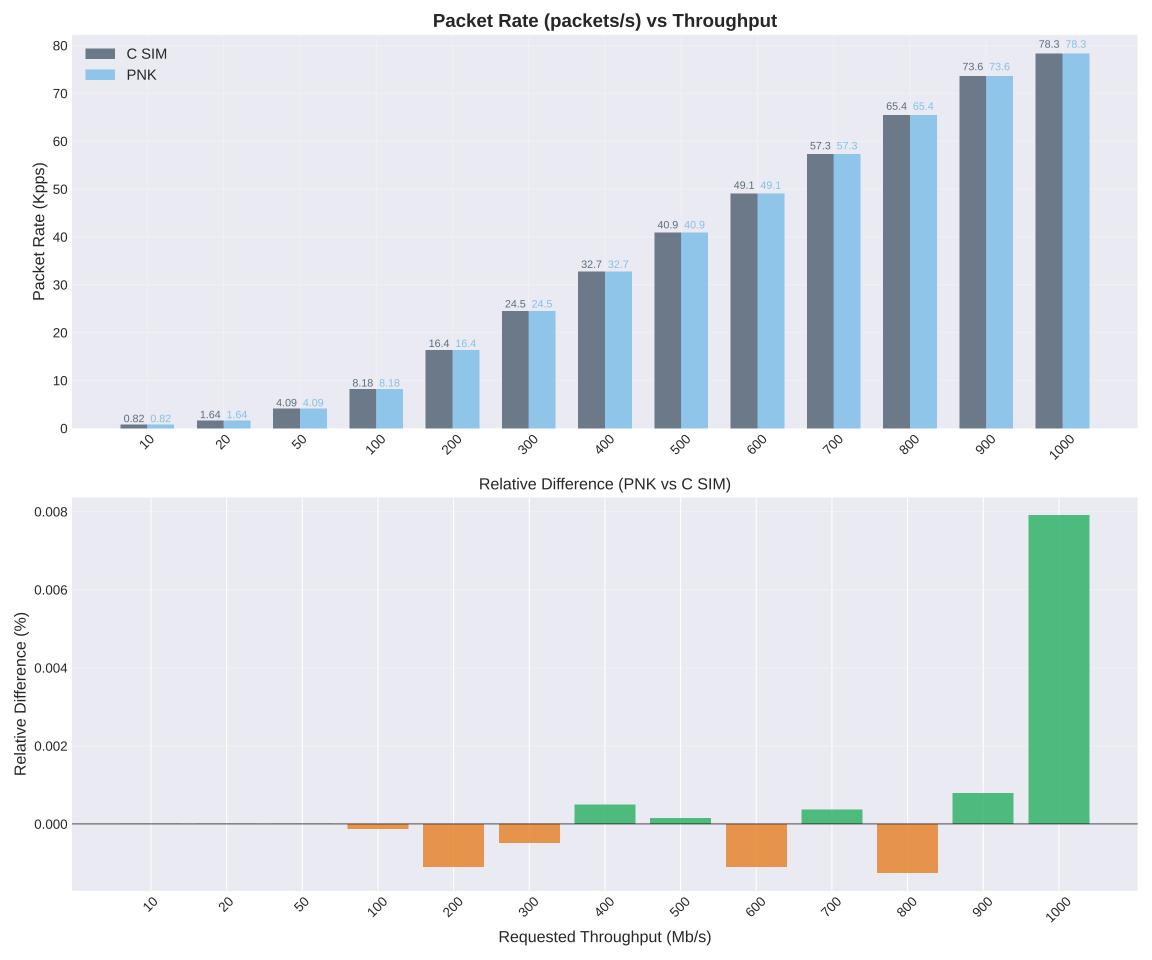


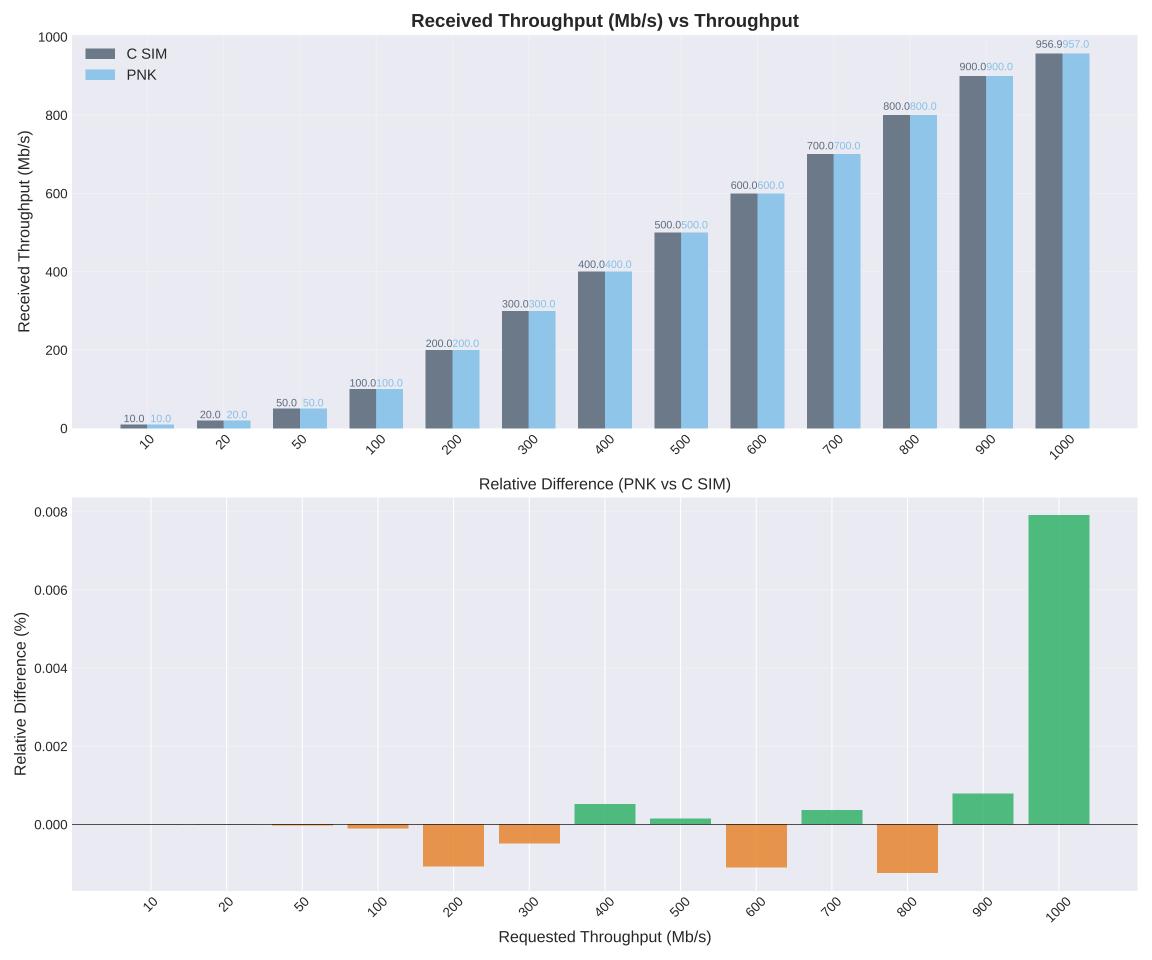
**Branch Mispredictions per Packet vs Throughput** 











Sent Throughput (Mb/s) vs Throughput 1000.0000.0 C SIM 1000 PNK 900.0900.0 800.0800.0 800 Sent Throughput (Mb/s) 700.0700.0 600.0600.0 600 500.0500.0 400.0400.0 400 300.0300.0 200.0200.0 200 100.0100.0 50.0 50.0 20.0 20.0 10.0 10.0 0 200 200 300 NOO 400 600 700 900 900 2000 \$0 20 60 Relative Difference (PNK vs C SIM) 0.00075 0.00050 Relative Difference (%)
-0.00000
-0.00025
-0.00050 -0.00075 -0.00100 200 200 300 NOO 400 600 \$ 20 SO 900 100