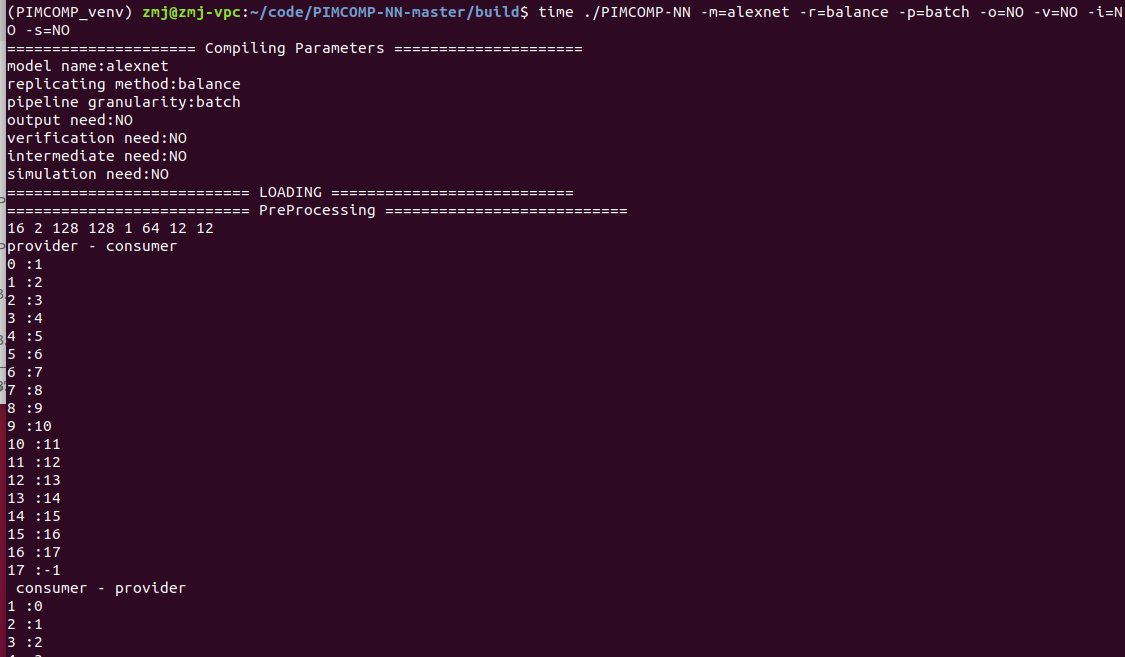
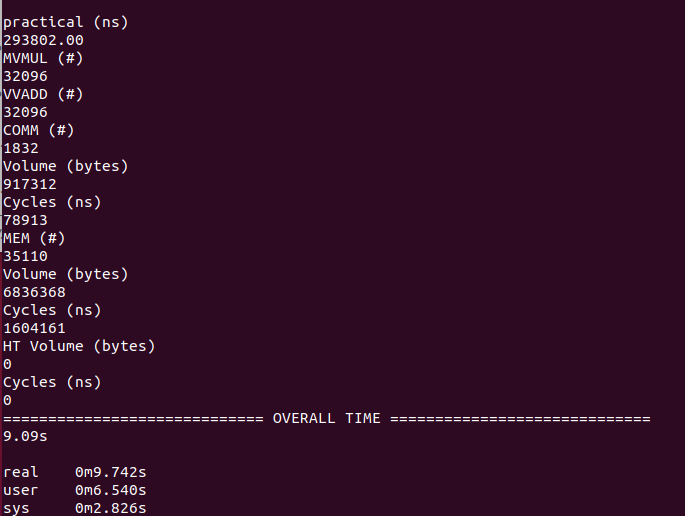
# 前端

（项目里已有该模型的json文件，所以不需运行前端来生成json文件）

# 后端

## LL





(PIMCOMP\_venv) zmj@zmj-vpc:~/code/PIMCOMP-NN-master/build$ time ./PIMCOMP-NN -m=alexnet -r=balance -p=batch -o=NO -v=NO -i=NO -s=NO

===================== Compiling Parameters =====================

model name:alexnet

replicating method:balance

pipeline granularity:batch

output need:NO

verification need:NO

intermediate need:NO

simulation need:NO

=========================== LOADING ===========================

=========================== PreProcessing ===========================

16 2 128 128 1 64 12 12

provider - consumer

0 :1

1 :2

2 :3

3 :4

4 :5

5 :6

6 :7

7 :8

8 :9

9 :10

10 :11

11 :12

12 :13

13 :14

14 :15

15 :16

16 :17

17 :-1

consumer - provider

1 :0

2 :1

3 :2

4 :3

5 :4

6 :5

7 :6

8 :7

9 :8

10 :9

11 :10

12 :11

13 :12

14 :13

15 :14

16 :15

17 :16

=========================== MODEL INFO ===========================

#Nodes in total: 18

1

input: 294kB

output: 546.75kB

Weight Matrix:363 × 96

min crossbar:1

4

input: 126.75kB

output: 338kB

Weight Matrix:2400 × 256

min crossbar:2

7

input: 72kB

output: 108kB

Weight Matrix:2304 × 384

min crossbar:3

8

input: 108kB

output: 108kB

Weight Matrix:3456 × 384

min crossbar:3

9

input: 108kB

output: 72kB

Weight Matrix:3456 × 256

min crossbar:2

12

output: 0.0078125MB

Weight Matrix:9216 × 4096

min crossbar:32

14

output: 0.0078125MB

Weight Matrix:4096 × 4096

min crossbar:32

16

output: 0.00190735MB

Weight Matrix:4096 × 1000

min crossbar:8

FC Weight: 111.812MB

Sum Weight: 118.957MB

FC Ratio: 93.994%

Output Sum:1.1628MB

Minimum Crossbar Num in One Core:32

=========================== REPLICATING ===========================

node:1 replication\_num:139

node:4 replication\_num:34

node:7 replication\_num:8

node:8 replication\_num:7

node:9 replication\_num:7

node:12 replication\_num:1

node:14 replication\_num:1

node:16 replication\_num:1

=========================== PARTITIONING ===========================

#RRAMs needed: 6670

#ArrayGroups needed: 1721

RRAMs Usage: 72.3741%

Replication Check Pass!

============================= MAPPING =============================

0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 32 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64

split AG num: 0

Mapping Check Pass!

========================= BATCH PIPELINE SCHEDULING =========================

------------- INSTRUCTION GENERATION -------------

effective\_instruction\_group\_num:21

------------- MEMORY ALLOCATION -------------

------------- DATA RELOAD -------------

Reload Input Stage

Store Output Stage

=========================== OPTIMIZATION ===========================

============================= PLACING =============================

============================= EVALUATING =============================

instruction\_group\_num:21

0 MVMUL:1344 MEM:1643 LATENCY: 293526.0 COMM\_SYN:0.05% COMM\_TRANS:0.14% MVMUL:281400.00 MVMUL:95.87% VEC:0.21% MEM:9375.00 MEM:3.19% ratio:99.47% COMM Volume:3.94kB MEM Volume:234.31kB

1 MVMUL:1344 MEM:1763 LATENCY: 293802.0 COMM\_SYN:0.06% COMM\_TRANS:0.23% MVMUL:281400.00 MVMUL:95.78% VEC:0.21% MEM:9371.00 MEM:3.19% ratio:99.48% COMM Volume:7.88kB MEM Volume:248.00kB

2 MVMUL:1344 MEM:1694 LATENCY: 293739.0 COMM\_SYN:0.07% COMM\_TRANS:0.09% MVMUL:281400.00 MVMUL:95.80% VEC:0.00% MEM:10236.00 MEM:3.48% ratio:99.45% COMM Volume:3.94kB MEM Volume:239.38kB

3 MVMUL:1344 MEM:1647 LATENCY: 293592.0 COMM\_SYN:0.03% COMM\_TRANS:0.14% MVMUL:281400.00 MVMUL:95.85% VEC:0.21% MEM:9504.00 MEM:3.24% ratio:99.47% COMM Volume:3.94kB MEM Volume:234.81kB

4 MVMUL:1344 MEM:1763 LATENCY: 293686.0 COMM\_SYN:0.07% COMM\_TRANS:0.20% MVMUL:281400.00 MVMUL:95.82% VEC:0.21% MEM:9333.00 MEM:3.18% ratio:99.48% COMM Volume:7.88kB MEM Volume:248.00kB

5 MVMUL:1344 MEM:1689 LATENCY: 293623.0 COMM\_SYN:0.07% COMM\_TRANS:0.06% MVMUL:281400.00 MVMUL:95.84% VEC:0.00% MEM:10224.00 MEM:3.48% ratio:99.45% COMM Volume:3.94kB MEM Volume:238.75kB

6 MVMUL:984 MEM:1113 LATENCY: 224280.0 COMM\_SYN:0.00% COMM\_TRANS:0.22% MVMUL:209400.00 MVMUL:93.37% VEC:0.71% MEM:9217.00 MEM:4.11% ratio:98.41% COMM Volume:10.00kB MEM Volume:177.12kB

7 MVMUL:640 MEM:590 LATENCY: 218619.0 COMM\_SYN:29.97% COMM\_TRANS:0.41% MVMUL:140000.00 MVMUL:64.04% VEC:0.73% MEM:7386.00 MEM:3.38% ratio:98.53% COMM Volume:20.00kB MEM Volume:132.25kB

8 MVMUL:640 MEM:740 LATENCY: 218547.0 COMM\_SYN:29.67% COMM\_TRANS:0.37% MVMUL:140000.00 MVMUL:64.06% VEC:0.73% MEM:8107.00 MEM:3.71% ratio:98.53% COMM Volume:20.00kB MEM Volume:173.44kB

9 MVMUL:640 MEM:731 LATENCY: 218566.0 COMM\_SYN:28.59% COMM\_TRANS:0.38% MVMUL:140000.00 MVMUL:64.05% VEC:0.73% MEM:10350.00 MEM:4.74% ratio:98.48% COMM Volume:20.00kB MEM Volume:160.62kB

10 MVMUL:640 MEM:741 LATENCY: 218586.0 COMM\_SYN:27.92% COMM\_TRANS:0.38% MVMUL:140075.00 MVMUL:64.08% VEC:0.73% MEM:11866.00 MEM:5.43% ratio:98.54% COMM Volume:20.00kB MEM Volume:164.25kB

11 MVMUL:640 MEM:758 LATENCY: 218606.0 COMM\_SYN:26.93% COMM\_TRANS:0.38% MVMUL:140724.00 MVMUL:64.37% VEC:0.73% MEM:13361.00 MEM:6.11% ratio:98.53% COMM Volume:20.00kB MEM Volume:174.50kB

12 MVMUL:640 MEM:720 LATENCY: 218618.0 COMM\_SYN:25.66% COMM\_TRANS:0.38% MVMUL:140000.00 MVMUL:64.04% VEC:0.73% MEM:16894.00 MEM:7.73% ratio:98.54% COMM Volume:20.00kB MEM Volume:161.31kB

13 MVMUL:640 MEM:749 LATENCY: 218646.0 COMM\_SYN:24.12% COMM\_TRANS:0.37% MVMUL:140000.00 MVMUL:64.03% VEC:0.73% MEM:20285.00 MEM:9.28% ratio:98.53% COMM Volume:20.00kB MEM Volume:166.62kB

14 MVMUL:640 MEM:753 LATENCY: 218666.0 COMM\_SYN:22.89% COMM\_TRANS:0.38% MVMUL:140000.00 MVMUL:64.02% VEC:0.73% MEM:22973.00 MEM:10.51% ratio:98.53% COMM Volume:20.00kB MEM Volume:172.94kB

15 MVMUL:640 MEM:709 LATENCY: 218678.0 COMM\_SYN:22.91% COMM\_TRANS:0.38% MVMUL:140090.00 MVMUL:64.06% VEC:0.73% MEM:22844.00 MEM:10.45% ratio:98.54% COMM Volume:20.00kB MEM Volume:159.19kB

16 MVMUL:640 MEM:760 LATENCY: 218706.0 COMM\_SYN:21.41% COMM\_TRANS:0.52% MVMUL:141200.00 MVMUL:64.56% VEC:0.73% MEM:24737.00 MEM:11.31% ratio:98.54% COMM Volume:20.00kB MEM Volume:166.81kB

17 MVMUL:640 MEM:733 LATENCY: 218726.0 COMM\_SYN:20.30% COMM\_TRANS:0.51% MVMUL:140000.00 MVMUL:64.01% VEC:0.73% MEM:28413.00 MEM:12.99% ratio:98.54% COMM Volume:20.00kB MEM Volume:169.19kB

18 MVMUL:640 MEM:708 LATENCY: 218558.0 COMM\_SYN:18.76% COMM\_TRANS:0.18% MVMUL:141200.00 MVMUL:64.61% VEC:0.00% MEM:32766.00 MEM:14.99% ratio:98.54% COMM Volume:10.00kB MEM Volume:157.69kB

19 MVMUL:640 MEM:762 LATENCY: 166790.0 COMM\_SYN:5.88% COMM\_TRANS:0.29% MVMUL:140246.00 MVMUL:84.09% VEC:0.96% MEM:11451.00 MEM:6.87% ratio:98.08% COMM Volume:10.00kB MEM Volume:168.56kB

20 MVMUL:640 MEM:731 LATENCY: 167004.0 COMM\_SYN:3.50% COMM\_TRANS:1.38% MVMUL:140000.00 MVMUL:83.83% VEC:0.96% MEM:14048.00 MEM:8.41% ratio:98.08% COMM Volume:20.00kB MEM Volume:168.69kB

21 MVMUL:640 MEM:756 LATENCY: 167119.0 COMM\_SYN:3.06% COMM\_TRANS:1.35% MVMUL:140000.00 MVMUL:83.77% VEC:0.96% MEM:14932.00 MEM:8.93% ratio:98.08% COMM Volume:20.00kB MEM Volume:175.31kB

22 MVMUL:640 MEM:734 LATENCY: 167287.0 COMM\_SYN:4.06% COMM\_TRANS:0.49% MVMUL:141130.00 MVMUL:84.36% VEC:0.96% MEM:13653.00 MEM:8.16% ratio:98.04% COMM Volume:20.00kB MEM Volume:161.81kB

23 MVMUL:640 MEM:739 LATENCY: 167409.0 COMM\_SYN:2.47% COMM\_TRANS:0.66% MVMUL:140697.00 MVMUL:84.04% VEC:0.96% MEM:16641.00 MEM:9.94% ratio:98.07% COMM Volume:20.00kB MEM Volume:165.75kB

24 MVMUL:640 MEM:709 LATENCY: 167400.0 COMM\_SYN:2.01% COMM\_TRANS:0.75% MVMUL:140000.00 MVMUL:83.63% VEC:0.96% MEM:17981.00 MEM:10.74% ratio:98.09% COMM Volume:20.00kB MEM Volume:168.69kB

25 MVMUL:640 MEM:671 LATENCY: 167390.0 COMM\_SYN:0.58% COMM\_TRANS:0.56% MVMUL:140600.00 MVMUL:84.00% VEC:0.96% MEM:19987.00 MEM:11.94% ratio:98.03% COMM Volume:20.00kB MEM Volume:147.44kB

26 MVMUL:492 MEM:286 LATENCY: 167221.0 COMM\_SYN:18.84% COMM\_TRANS:0.56% MVMUL:113128.00 MVMUL:67.65% VEC:1.29% MEM:14562.00 MEM:8.71% ratio:97.06% COMM Volume:23.50kB MEM Volume:76.44kB

27 MVMUL:378 MEM:377 LATENCY: 152819.0 COMM\_SYN:20.85% COMM\_TRANS:0.73% MVMUL:86400.00 MVMUL:56.54% VEC:1.41% MEM:26938.00 MEM:17.63% ratio:97.16% COMM Volume:27.00kB MEM Volume:103.75kB

28 MVMUL:378 MEM:375 LATENCY: 152849.0 COMM\_SYN:19.72% COMM\_TRANS:0.73% MVMUL:86400.00 MVMUL:56.53% VEC:1.41% MEM:28719.00 MEM:18.79% ratio:97.17% COMM Volume:27.00kB MEM Volume:103.25kB

29 MVMUL:378 MEM:377 LATENCY: 152879.0 COMM\_SYN:19.37% COMM\_TRANS:0.92% MVMUL:86400.00 MVMUL:56.52% VEC:1.41% MEM:28961.00 MEM:18.94% ratio:97.16% COMM Volume:27.00kB MEM Volume:103.75kB

30 MVMUL:378 MEM:375 LATENCY: 152639.0 COMM\_SYN:17.90% COMM\_TRANS:0.57% MVMUL:87694.00 MVMUL:57.45% VEC:0.00% MEM:32441.00 MEM:21.25% ratio:97.17% COMM Volume:13.50kB MEM Volume:103.25kB

31 MVMUL:378 MEM:343 LATENCY: 120126.0 COMM\_SYN:5.95% COMM\_TRANS:0.66% MVMUL:86400.00 MVMUL:71.92% VEC:1.80% MEM:19276.00 MEM:16.05% ratio:96.38% COMM Volume:13.50kB MEM Volume:104.25kB

32 MVMUL:378 MEM:355 LATENCY: 120198.0 COMM\_SYN:3.99% COMM\_TRANS:1.73% MVMUL:86400.00 MVMUL:71.88% VEC:1.80% MEM:20444.00 MEM:17.01% ratio:96.41% COMM Volume:27.00kB MEM Volume:98.25kB

33 MVMUL:405 MEM:237 LATENCY: 138811.0 COMM\_SYN:10.98% COMM\_TRANS:1.38% MVMUL:93600.00 MVMUL:67.43% VEC:1.82% MEM:20480.00 MEM:14.75% ratio:96.36% COMM Volume:29.25kB MEM Volume:70.75kB

34 MVMUL:441 MEM:439 LATENCY: 138991.0 COMM\_SYN:3.49% COMM\_TRANS:1.89% MVMUL:100800.00 MVMUL:72.52% VEC:3.63% MEM:20615.00 MEM:14.83% ratio:96.36% COMM Volume:47.25kB MEM Volume:120.75kB

35 MVMUL:441 MEM:418 LATENCY: 138589.0 COMM\_SYN:9.30% COMM\_TRANS:0.47% MVMUL:100800.00 MVMUL:72.73% VEC:0.00% MEM:21735.00 MEM:15.68% ratio:98.18% COMM Volume:15.75kB MEM Volume:105.00kB

36 MVMUL:441 MEM:433 LATENCY: 139021.0 COMM\_SYN:5.62% COMM\_TRANS:1.53% MVMUL:102000.00 MVMUL:73.37% VEC:1.81% MEM:19256.00 MEM:13.85% ratio:96.19% COMM Volume:31.50kB MEM Volume:119.25kB

37 MVMUL:441 MEM:439 LATENCY: 139088.0 COMM\_SYN:4.78% COMM\_TRANS:1.29% MVMUL:102000.00 MVMUL:73.33% VEC:1.81% MEM:20824.00 MEM:14.97% ratio:96.19% COMM Volume:31.50kB MEM Volume:120.75kB

38 MVMUL:441 MEM:442 LATENCY: 139118.0 COMM\_SYN:0.91% COMM\_TRANS:1.19% MVMUL:100942.00 MVMUL:72.56% VEC:1.81% MEM:27700.00 MEM:19.91% ratio:96.38% COMM Volume:31.50kB MEM Volume:121.50kB

39 MVMUL:441 MEM:421 LATENCY: 138866.0 COMM\_SYN:2.91% COMM\_TRANS:0.47% MVMUL:101400.00 MVMUL:73.02% VEC:0.00% MEM:30125.00 MEM:21.69% ratio:98.09% COMM Volume:15.75kB MEM Volume:105.75kB

40 MVMUL:441 MEM:433 LATENCY: 206104.0 COMM\_SYN:39.56% COMM\_TRANS:0.45% MVMUL:101400.00 MVMUL:49.20% VEC:1.22% MEM:14541.00 MEM:7.06% ratio:97.49% COMM Volume:15.75kB MEM Volume:119.25kB

41 MVMUL:396 MEM:397 LATENCY: 205852.0 COMM\_SYN:42.48% COMM\_TRANS:0.88% MVMUL:91800.00 MVMUL:44.60% VEC:1.05% MEM:17951.00 MEM:8.72% ratio:97.73% COMM Volume:29.25kB MEM Volume:108.75kB

42 MVMUL:510 MEM:299 LATENCY: 217790.0 COMM\_SYN:37.32% COMM\_TRANS:0.87% MVMUL:114600.00 MVMUL:52.62% VEC:0.77% MEM:14942.00 MEM:6.86% ratio:98.45% COMM Volume:24.00kB MEM Volume:80.75kB

43 MVMUL:672 MEM:656 LATENCY: 217972.0 COMM\_SYN:22.88% COMM\_TRANS:0.66% MVMUL:147000.00 MVMUL:67.44% VEC:0.77% MEM:14636.00 MEM:6.71% ratio:98.46% COMM Volume:21.00kB MEM Volume:169.50kB

44 MVMUL:672 MEM:654 LATENCY: 218131.0 COMM\_SYN:22.98% COMM\_TRANS:0.39% MVMUL:147000.00 MVMUL:67.39% VEC:0.77% MEM:15101.00 MEM:6.92% ratio:98.45% COMM Volume:21.00kB MEM Volume:169.00kB

45 MVMUL:672 MEM:634 LATENCY: 218287.0 COMM\_SYN:23.40% COMM\_TRANS:0.48% MVMUL:147600.00 MVMUL:67.62% VEC:0.77% MEM:13434.00 MEM:6.15% ratio:98.41% COMM Volume:21.00kB MEM Volume:169.25kB

46 MVMUL:672 MEM:647 LATENCY: 218299.0 COMM\_SYN:22.67% COMM\_TRANS:0.48% MVMUL:147000.00 MVMUL:67.34% VEC:0.77% MEM:15705.00 MEM:7.19% ratio:98.45% COMM Volume:21.00kB MEM Volume:167.25kB

47 MVMUL:636 MEM:615 LATENCY: 218131.0 COMM\_SYN:25.42% COMM\_TRANS:0.36% MVMUL:139800.00 MVMUL:64.09% VEC:0.66% MEM:17522.00 MEM:8.03% ratio:98.56% COMM Volume:19.50kB MEM Volume:158.50kB

48 MVMUL:271 MEM:157 LATENCY: 195701.0 COMM\_SYN:29.21% COMM\_TRANS:6.07% MVMUL:65000.00 MVMUL:33.21% VEC:23.55% MEM:11659.00 MEM:5.96% ratio:98.00% COMM Volume:297.00kB MEM Volume:55.00kB

49 MVMUL:2 MEM:3 LATENCY: 12690.0 COMM\_SYN:34.55% COMM\_TRANS:2.52% MVMUL:1000.00 MVMUL:7.88% VEC:0.00% MEM:5706.00 MEM:44.96% ratio:89.91% COMM Volume:8.00kB MEM Volume:8.50kB

50 MVMUL:2 MEM:3 LATENCY: 14290.0 COMM\_SYN:40.92% COMM\_TRANS:2.24% MVMUL:1000.00 MVMUL:7.00% VEC:0.00% MEM:5842.00 MEM:40.88% ratio:91.04% COMM Volume:8.00kB MEM Volume:8.50kB

51 MVMUL:2 MEM:3 LATENCY: 15890.0 COMM\_SYN:46.02% COMM\_TRANS:2.01% MVMUL:1000.00 MVMUL:6.29% VEC:0.00% MEM:5978.00 MEM:37.62% ratio:91.94% COMM Volume:8.00kB MEM Volume:8.50kB

52 MVMUL:2 MEM:3 LATENCY: 17490.0 COMM\_SYN:50.18% COMM\_TRANS:1.83% MVMUL:1000.00 MVMUL:5.72% VEC:0.00% MEM:6114.00 MEM:34.96% ratio:92.68% COMM Volume:8.00kB MEM Volume:8.50kB

53 MVMUL:2 MEM:3 LATENCY: 19090.0 COMM\_SYN:53.64% COMM\_TRANS:1.68% MVMUL:1000.00 MVMUL:5.24% VEC:0.00% MEM:6250.00 MEM:32.74% ratio:93.29% COMM Volume:8.00kB MEM Volume:8.50kB

54 MVMUL:2 MEM:3 LATENCY: 20690.0 COMM\_SYN:56.57% COMM\_TRANS:1.55% MVMUL:1000.00 MVMUL:4.83% VEC:0.00% MEM:6386.00 MEM:30.87% ratio:93.81% COMM Volume:8.00kB MEM Volume:8.50kB

55 MVMUL:2 MEM:3 LATENCY: 22290.0 COMM\_SYN:59.08% COMM\_TRANS:1.44% MVMUL:1000.00 MVMUL:4.49% VEC:0.00% MEM:6522.00 MEM:29.26% ratio:94.26% COMM Volume:8.00kB MEM Volume:8.50kB

56 MVMUL:2 MEM:3 LATENCY: 23890.0 COMM\_SYN:61.25% COMM\_TRANS:1.34% MVMUL:1000.00 MVMUL:4.19% VEC:0.00% MEM:6658.00 MEM:27.87% ratio:94.64% COMM Volume:8.00kB MEM Volume:8.50kB

57 MVMUL:2 MEM:3 LATENCY: 25490.0 COMM\_SYN:63.15% COMM\_TRANS:1.26% MVMUL:1000.00 MVMUL:3.92% VEC:0.00% MEM:6794.00 MEM:26.65% ratio:94.98% COMM Volume:8.00kB MEM Volume:8.50kB

58 MVMUL:2 MEM:3 LATENCY: 27090.0 COMM\_SYN:64.82% COMM\_TRANS:1.18% MVMUL:1000.00 MVMUL:3.69% VEC:0.00% MEM:6930.00 MEM:25.58% ratio:95.28% COMM Volume:8.00kB MEM Volume:8.50kB

59 MVMUL:2 MEM:3 LATENCY: 28690.0 COMM\_SYN:66.31% COMM\_TRANS:1.12% MVMUL:1000.00 MVMUL:3.49% VEC:0.00% MEM:7066.00 MEM:24.63% ratio:95.54% COMM Volume:8.00kB MEM Volume:8.50kB

60 MVMUL:2 MEM:3 LATENCY: 30290.0 COMM\_SYN:67.64% COMM\_TRANS:1.06% MVMUL:1000.00 MVMUL:3.30% VEC:0.00% MEM:7202.00 MEM:23.78% ratio:95.77% COMM Volume:8.00kB MEM Volume:8.50kB

61 MVMUL:2 MEM:3 LATENCY: 31890.0 COMM\_SYN:68.84% COMM\_TRANS:1.00% MVMUL:1000.00 MVMUL:3.14% VEC:0.00% MEM:7338.00 MEM:23.01% ratio:95.99% COMM Volume:8.00kB MEM Volume:8.50kB

62 MVMUL:2 MEM:3 LATENCY: 33490.0 COMM\_SYN:69.92% COMM\_TRANS:0.96% MVMUL:1000.00 MVMUL:2.99% VEC:0.00% MEM:7474.00 MEM:22.32% ratio:96.18% COMM Volume:8.00kB MEM Volume:8.50kB

63 MVMUL:2 MEM:3 LATENCY: 35090.0 COMM\_SYN:70.90% COMM\_TRANS:0.91% MVMUL:1000.00 MVMUL:2.85% VEC:0.00% MEM:7610.00 MEM:21.69% ratio:96.35% COMM Volume:8.00kB MEM Volume:8.50kB

64 MVMUL:2 MEM:3 LATENCY: 36690.0 COMM\_SYN:71.80% COMM\_TRANS:0.87% MVMUL:1000.00 MVMUL:2.73% VEC:0.00% MEM:7746.00 MEM:21.11% ratio:96.51% COMM Volume:8.00kB MEM Volume:8.50kB

65 MVMUL:2 MEM:3 LATENCY: 38290.0 COMM\_SYN:72.62% COMM\_TRANS:0.84% MVMUL:1000.00 MVMUL:2.61% VEC:0.00% MEM:7882.00 MEM:20.59% ratio:96.66% COMM Volume:8.00kB MEM Volume:8.50kB

66 MVMUL:2 MEM:3 LATENCY: 39890.0 COMM\_SYN:73.38% COMM\_TRANS:0.80% MVMUL:1000.00 MVMUL:2.51% VEC:0.00% MEM:8018.00 MEM:20.10% ratio:96.79% COMM Volume:8.00kB MEM Volume:8.50kB

67 MVMUL:2 MEM:3 LATENCY: 41490.0 COMM\_SYN:74.08% COMM\_TRANS:0.77% MVMUL:1000.00 MVMUL:2.41% VEC:0.00% MEM:8154.00 MEM:19.65% ratio:96.91% COMM Volume:8.00kB MEM Volume:8.50kB

68 MVMUL:2 MEM:3 LATENCY: 43090.0 COMM\_SYN:74.73% COMM\_TRANS:0.74% MVMUL:1000.00 MVMUL:2.32% VEC:0.00% MEM:8290.00 MEM:19.24% ratio:97.03% COMM Volume:8.00kB MEM Volume:8.50kB

69 MVMUL:2 MEM:3 LATENCY: 44690.0 COMM\_SYN:75.33% COMM\_TRANS:0.72% MVMUL:1000.00 MVMUL:2.24% VEC:0.00% MEM:8426.00 MEM:18.85% ratio:97.14% COMM Volume:8.00kB MEM Volume:8.50kB

70 MVMUL:2 MEM:3 LATENCY: 46290.0 COMM\_SYN:75.89% COMM\_TRANS:0.69% MVMUL:1000.00 MVMUL:2.16% VEC:0.00% MEM:8562.00 MEM:18.50% ratio:97.23% COMM Volume:8.00kB MEM Volume:8.50kB

71 MVMUL:2 MEM:3 LATENCY: 47890.0 COMM\_SYN:76.41% COMM\_TRANS:0.67% MVMUL:1000.00 MVMUL:2.09% VEC:0.00% MEM:8698.00 MEM:18.16% ratio:97.33% COMM Volume:8.00kB MEM Volume:8.50kB

72 MVMUL:2 MEM:3 LATENCY: 49490.0 COMM\_SYN:76.90% COMM\_TRANS:0.65% MVMUL:1000.00 MVMUL:2.02% VEC:0.00% MEM:8834.00 MEM:17.85% ratio:97.41% COMM Volume:8.00kB MEM Volume:8.50kB

73 MVMUL:2 MEM:3 LATENCY: 51090.0 COMM\_SYN:77.31% COMM\_TRANS:0.63% MVMUL:1000.00 MVMUL:1.96% VEC:0.00% MEM:8994.00 MEM:17.60% ratio:97.49% COMM Volume:8.00kB MEM Volume:8.50kB

74 MVMUL:2 MEM:3 LATENCY: 52690.0 COMM\_SYN:77.74% COMM\_TRANS:0.61% MVMUL:1000.00 MVMUL:1.90% VEC:0.00% MEM:9130.00 MEM:17.33% ratio:97.57% COMM Volume:8.00kB MEM Volume:8.50kB

75 MVMUL:2 MEM:3 LATENCY: 54290.0 COMM\_SYN:78.14% COMM\_TRANS:0.59% MVMUL:1000.00 MVMUL:1.84% VEC:0.00% MEM:9266.00 MEM:17.07% ratio:97.64% COMM Volume:8.00kB MEM Volume:8.50kB

76 MVMUL:2 MEM:3 LATENCY: 55890.0 COMM\_SYN:78.50% COMM\_TRANS:0.57% MVMUL:1000.00 MVMUL:1.79% VEC:0.00% MEM:9418.00 MEM:16.85% ratio:97.71% COMM Volume:8.00kB MEM Volume:8.50kB

77 MVMUL:2 MEM:3 LATENCY: 57490.0 COMM\_SYN:78.86% COMM\_TRANS:0.56% MVMUL:1000.00 MVMUL:1.74% VEC:0.00% MEM:9554.00 MEM:16.62% ratio:97.77% COMM Volume:8.00kB MEM Volume:8.50kB

78 MVMUL:2 MEM:3 LATENCY: 59090.0 COMM\_SYN:79.20% COMM\_TRANS:0.54% MVMUL:1000.00 MVMUL:1.69% VEC:0.00% MEM:9690.00 MEM:16.40% ratio:97.83% COMM Volume:8.00kB MEM Volume:8.50kB

79 MVMUL:2 MEM:3 LATENCY: 60690.0 COMM\_SYN:79.51% COMM\_TRANS:0.53% MVMUL:1000.00 MVMUL:1.65% VEC:0.00% MEM:9838.00 MEM:16.21% ratio:97.89% COMM Volume:8.00kB MEM Volume:8.50kB

80 MVMUL:2 MEM:3 LATENCY: 62290.0 COMM\_SYN:79.81% COMM\_TRANS:0.51% MVMUL:1000.00 MVMUL:1.61% VEC:0.00% MEM:9974.00 MEM:16.01% ratio:97.95% COMM Volume:8.00kB MEM Volume:8.50kB

81 MVMUL:2 MEM:3 LATENCY: 63890.0 COMM\_SYN:80.11% COMM\_TRANS:0.50% MVMUL:1000.00 MVMUL:1.57% VEC:0.00% MEM:10110.00 MEM:15.82% ratio:98.00% COMM Volume:8.00kB MEM Volume:8.50kB

82 MVMUL:2 MEM:3 LATENCY: 65490.0 COMM\_SYN:80.38% COMM\_TRANS:0.49% MVMUL:1000.00 MVMUL:1.53% VEC:0.00% MEM:10246.00 MEM:15.65% ratio:98.05% COMM Volume:8.00kB MEM Volume:8.50kB

83 MVMUL:2 MEM:3 LATENCY: 67090.0 COMM\_SYN:80.65% COMM\_TRANS:0.48% MVMUL:1000.00 MVMUL:1.49% VEC:0.00% MEM:10382.00 MEM:15.47% ratio:98.09% COMM Volume:8.00kB MEM Volume:8.50kB

84 MVMUL:2 MEM:5 LATENCY: 95698.0 COMM\_SYN:57.89% COMM\_TRANS:5.68% MVMUL:1000.00 MVMUL:1.04% VEC:21.40% MEM:10815.00 MEM:11.30% ratio:97.32% COMM Volume:136.00kB MEM Volume:24.50kB

85 MVMUL:2 MEM:3 LATENCY: 69010.0 COMM\_SYN:80.55% COMM\_TRANS:0.46% MVMUL:1000.00 MVMUL:1.45% VEC:0.00% MEM:10823.00 MEM:15.68% ratio:98.15% COMM Volume:8.00kB MEM Volume:8.50kB

86 MVMUL:2 MEM:3 LATENCY: 70610.0 COMM\_SYN:80.80% COMM\_TRANS:0.45% MVMUL:1000.00 MVMUL:1.42% VEC:0.00% MEM:10959.00 MEM:15.52% ratio:98.19% COMM Volume:8.00kB MEM Volume:8.50kB

87 MVMUL:2 MEM:3 LATENCY: 72210.0 COMM\_SYN:81.03% COMM\_TRANS:0.44% MVMUL:1000.00 MVMUL:1.38% VEC:0.00% MEM:11095.00 MEM:15.36% ratio:98.23% COMM Volume:8.00kB MEM Volume:8.50kB

88 MVMUL:2 MEM:3 LATENCY: 73810.0 COMM\_SYN:81.26% COMM\_TRANS:0.43% MVMUL:1000.00 MVMUL:1.35% VEC:0.00% MEM:11231.00 MEM:15.22% ratio:98.27% COMM Volume:8.00kB MEM Volume:8.50kB

89 MVMUL:2 MEM:3 LATENCY: 75410.0 COMM\_SYN:81.48% COMM\_TRANS:0.42% MVMUL:1000.00 MVMUL:1.33% VEC:0.00% MEM:11367.00 MEM:15.07% ratio:98.30% COMM Volume:8.00kB MEM Volume:8.50kB

90 MVMUL:2 MEM:3 LATENCY: 77010.0 COMM\_SYN:81.69% COMM\_TRANS:0.42% MVMUL:1000.00 MVMUL:1.30% VEC:0.00% MEM:11503.00 MEM:14.94% ratio:98.34% COMM Volume:8.00kB MEM Volume:8.50kB

91 MVMUL:2 MEM:3 LATENCY: 78610.0 COMM\_SYN:81.89% COMM\_TRANS:0.41% MVMUL:1000.00 MVMUL:1.27% VEC:0.00% MEM:11639.00 MEM:14.81% ratio:98.37% COMM Volume:8.00kB MEM Volume:8.50kB

92 MVMUL:2 MEM:3 LATENCY: 80210.0 COMM\_SYN:82.08% COMM\_TRANS:0.40% MVMUL:1000.00 MVMUL:1.25% VEC:0.00% MEM:11775.00 MEM:14.68% ratio:98.40% COMM Volume:8.00kB MEM Volume:8.50kB

93 MVMUL:2 MEM:3 LATENCY: 81810.0 COMM\_SYN:82.26% COMM\_TRANS:0.39% MVMUL:1000.00 MVMUL:1.22% VEC:0.00% MEM:11911.00 MEM:14.56% ratio:98.44% COMM Volume:8.00kB MEM Volume:8.50kB

94 MVMUL:2 MEM:3 LATENCY: 83410.0 COMM\_SYN:82.44% COMM\_TRANS:0.38% MVMUL:1000.00 MVMUL:1.20% VEC:0.00% MEM:12047.00 MEM:14.44% ratio:98.47% COMM Volume:8.00kB MEM Volume:8.50kB

95 MVMUL:2 MEM:3 LATENCY: 85010.0 COMM\_SYN:82.61% COMM\_TRANS:0.38% MVMUL:1000.00 MVMUL:1.18% VEC:0.00% MEM:12183.00 MEM:14.33% ratio:98.49% COMM Volume:8.00kB MEM Volume:8.50kB

96 MVMUL:2 MEM:3 LATENCY: 86610.0 COMM\_SYN:82.77% COMM\_TRANS:0.37% MVMUL:1000.00 MVMUL:1.15% VEC:0.00% MEM:12319.00 MEM:14.22% ratio:98.52% COMM Volume:8.00kB MEM Volume:8.50kB

97 MVMUL:2 MEM:3 LATENCY: 88210.0 COMM\_SYN:82.93% COMM\_TRANS:0.36% MVMUL:1000.00 MVMUL:1.13% VEC:0.00% MEM:12455.00 MEM:14.12% ratio:98.55% COMM Volume:8.00kB MEM Volume:8.50kB

98 MVMUL:2 MEM:3 LATENCY: 89810.0 COMM\_SYN:83.09% COMM\_TRANS:0.36% MVMUL:1000.00 MVMUL:1.11% VEC:0.00% MEM:12591.00 MEM:14.02% ratio:98.57% COMM Volume:8.00kB MEM Volume:8.50kB

99 MVMUL:2 MEM:3 LATENCY: 91410.0 COMM\_SYN:83.23% COMM\_TRANS:0.35% MVMUL:1000.00 MVMUL:1.09% VEC:0.00% MEM:12727.00 MEM:13.92% ratio:98.60% COMM Volume:8.00kB MEM Volume:8.50kB

100 MVMUL:5 MEM:8 LATENCY: 94638.0 COMM\_SYN:82.29% COMM\_TRANS:0.67% MVMUL:1600.00 MVMUL:1.69% VEC:1.35% MEM:12927.00 MEM:13.66% ratio:99.66% COMM Volume:15.81kB MEM Volume:13.16kB

101 MVMUL:8 MEM:9 LATENCY: 93089.0 COMM\_SYN:83.30% COMM\_TRANS:0.08% MVMUL:2200.00 MVMUL:2.36% VEC:0.00% MEM:12947.00 MEM:13.91% ratio:99.66% COMM Volume:1.95kB MEM Volume:3.95kB

102 MVMUL:8 MEM:9 LATENCY: 93488.0 COMM\_SYN:83.30% COMM\_TRANS:0.08% MVMUL:2200.00 MVMUL:2.35% VEC:0.00% MEM:13011.00 MEM:13.92% ratio:99.66% COMM Volume:1.95kB MEM Volume:3.95kB

103 MVMUL:8 MEM:9 LATENCY: 93887.0 COMM\_SYN:83.31% COMM\_TRANS:0.08% MVMUL:2200.00 MVMUL:2.34% VEC:0.00% MEM:13075.00 MEM:13.93% ratio:99.66% COMM Volume:1.95kB MEM Volume:3.95kB

104 MVMUL:4 MEM:5 LATENCY: 94286.0 COMM\_SYN:84.16% COMM\_TRANS:0.08% MVMUL:1400.00 MVMUL:1.48% VEC:0.00% MEM:13139.00 MEM:13.94% ratio:99.66% COMM Volume:1.95kB MEM Volume:2.95kB

105 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

106 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

107 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

108 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

109 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

110 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

111 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

112 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

113 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

114 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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118 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

119 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

120 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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122 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

123 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

124 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

125 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

126 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

127 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

128 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

129 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

130 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

131 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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133 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

134 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

135 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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137 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

138 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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140 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

141 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

142 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

143 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

practical (ns)

293802.00

MVMUL (#)

32096

VVADD (#)

32096

COMM (#)

1832

Volume (bytes)

917312

Cycles (ns)

78913

MEM (#)

35110

Volume (bytes)

6836368

Cycles (ns)

1604161

HT Volume (bytes)

0

Cycles (ns)

0

============================= OVERALL TIME =============================

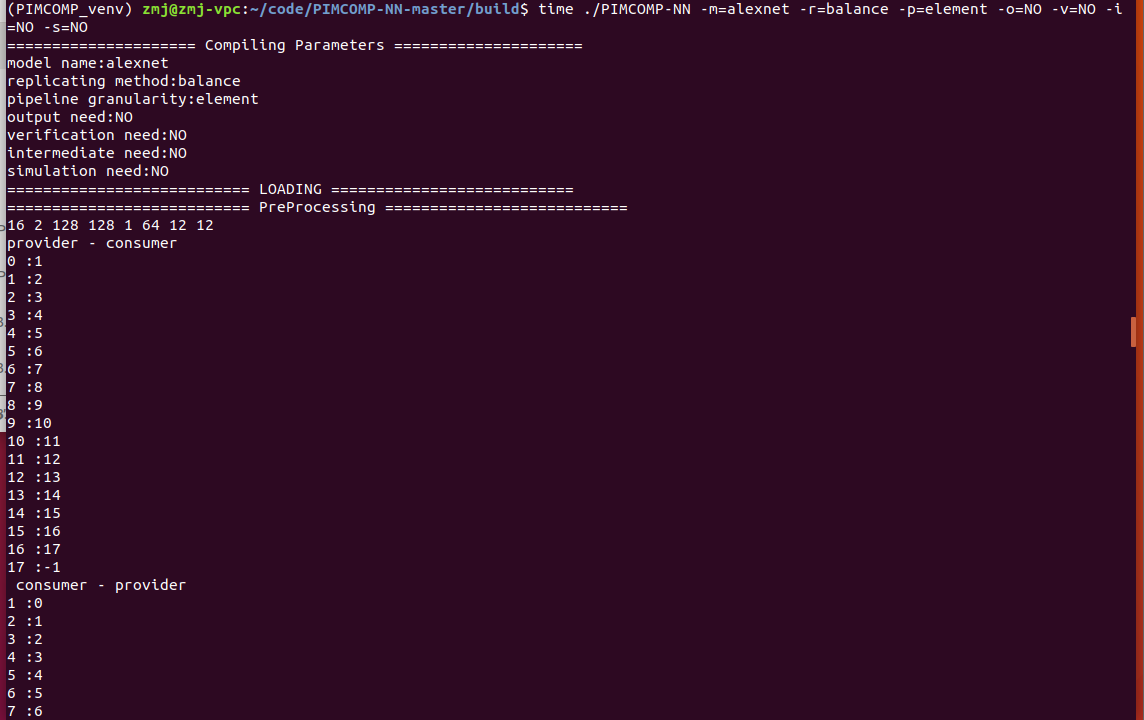
9.09s

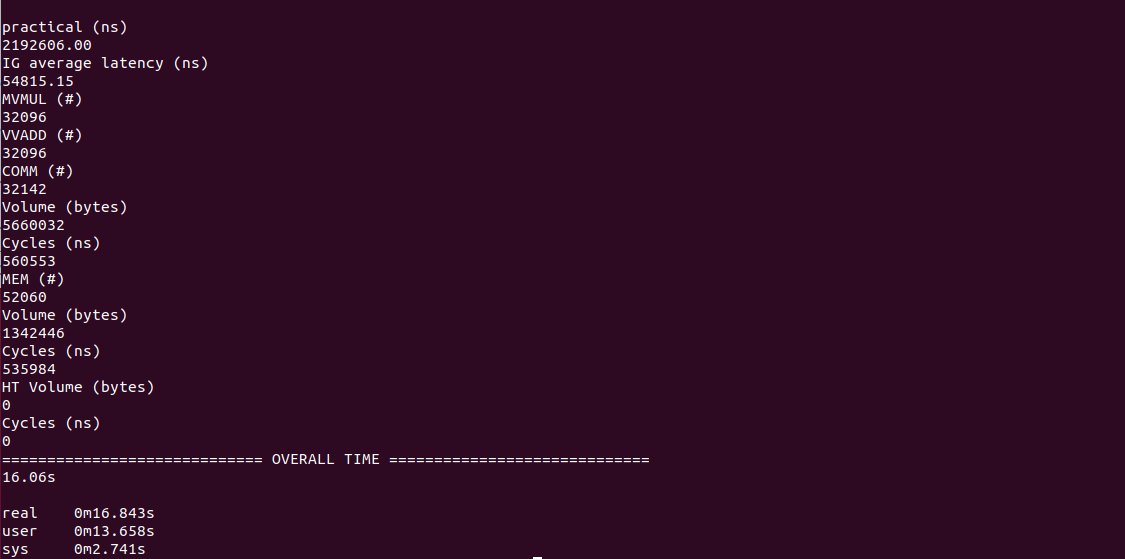
real 0m9.742s

user 0m6.540s

sys 0m2.826s

## HT





(PIMCOMP\_venv) zmj@zmj-vpc:~/code/PIMCOMP-NN-master/build$ time ./PIMCOMP-NN -m=alexnet -r=balance -p=element -o=NO -v=NO -i=NO -s=NO

===================== Compiling Parameters =====================

model name:alexnet

replicating method:balance

pipeline granularity:element

output need:NO

verification need:NO

intermediate need:NO

simulation need:NO

=========================== LOADING ===========================

=========================== PreProcessing ===========================

16 2 128 128 1 64 12 12

provider - consumer

0 :1

1 :2

2 :3

3 :4

4 :5

5 :6

6 :7

7 :8

8 :9

9 :10

10 :11

11 :12

12 :13

13 :14

14 :15

15 :16

16 :17

17 :-1

consumer - provider

1 :0

2 :1

3 :2

4 :3

5 :4

6 :5

7 :6

8 :7

9 :8

10 :9

11 :10

12 :11

13 :12

14 :13

15 :14

16 :15

17 :16

=========================== MODEL INFO ===========================

#Nodes in total: 18

1

input: 294kB

output: 546.75kB

Weight Matrix:363 × 96

min crossbar:1

4

input: 126.75kB

output: 338kB

Weight Matrix:2400 × 256

min crossbar:2

7

input: 72kB

output: 108kB

Weight Matrix:2304 × 384

min crossbar:3

8

input: 108kB

output: 108kB

Weight Matrix:3456 × 384

min crossbar:3

9

input: 108kB

output: 72kB

Weight Matrix:3456 × 256

min crossbar:2

12

output: 0.0078125MB

Weight Matrix:9216 × 4096

min crossbar:32

14

output: 0.0078125MB

Weight Matrix:4096 × 4096

min crossbar:32

16

output: 0.00190735MB

Weight Matrix:4096 × 1000

min crossbar:8

FC Weight: 111.812MB

Sum Weight: 118.957MB

FC Ratio: 93.994%

Output Sum:1.1628MB

Minimum Crossbar Num in One Core:32

=========================== REPLICATING ===========================

node:1 replication\_num:139

node:4 replication\_num:34

node:7 replication\_num:8

node:8 replication\_num:7

node:9 replication\_num:7

node:12 replication\_num:1

node:14 replication\_num:1

node:16 replication\_num:1

=========================== PARTITIONING ===========================

#RRAMs needed: 6670

#ArrayGroups needed: 1721

RRAMs Usage: 72.3741%

Replication Check Pass!

============================= MAPPING =============================

0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 0 0 0 0 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 32 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64

split AG num: 0

Mapping Check Pass!

========================= ELEMENT PIPELINE SCHEDULING =========================

node:0 operation:OP\_INPUT core:0

node:2 operation:OP\_LRN core:2

node:3 operation:OP\_POOL core:3

node:5 operation:OP\_LRN core:5

node:6 operation:OP\_POOL core:6

node:10 operation:OP\_POOL core:10

node:11 operation:OP\_RESHAPE core:11

node:13 operation:OP\_DROPOUT core:13

node:15 operation:OP\_DROPOUT core:15

node:17 operation:OP\_SOFTMAX core:17

Element Pipeline Instruction Group Index: 0

max\_memory\_core\_index:3 55.1816 kB

Element Pipeline Instruction Group Index: 1

max\_memory\_core\_index:3 69.8711 kB

Element Pipeline Instruction Group Index: 2

max\_memory\_core\_index:3 67.5566 kB

Element Pipeline Instruction Group Index: 3

max\_memory\_core\_index:3 73.6211 kB

Element Pipeline Instruction Group Index: 4

max\_memory\_core\_index:3 74.5586 kB

Element Pipeline Instruction Group Index: 5

max\_memory\_core\_index:3 68.8691 kB

Element Pipeline Instruction Group Index: 6

max\_memory\_core\_index:6 78.8613 kB

Element Pipeline Instruction Group Index: 7

max\_memory\_core\_index:3 78.6191 kB

Element Pipeline Instruction Group Index: 8

max\_memory\_core\_index:3 73.4336 kB

Element Pipeline Instruction Group Index: 9

max\_memory\_core\_index:6 83.1113 kB

Element Pipeline Instruction Group Index: 10

max\_memory\_core\_index:3 77.1836 kB

Element Pipeline Instruction Group Index: 11

max\_memory\_core\_index:3 77.3711 kB

Element Pipeline Instruction Group Index: 12

max\_memory\_core\_index:6 84.1113 kB

Element Pipeline Instruction Group Index: 13

max\_memory\_core\_index:3 75.8711 kB

Element Pipeline Instruction Group Index: 14

max\_memory\_core\_index:3 82.1816 kB

Element Pipeline Instruction Group Index: 15

max\_memory\_core\_index:6 81.0488 kB

Element Pipeline Instruction Group Index: 16

max\_memory\_core\_index:3 74.6816 kB

Element Pipeline Instruction Group Index: 17

max\_memory\_core\_index:6 84.6113 kB

Element Pipeline Instruction Group Index: 18

max\_memory\_core\_index:6 82.2363 kB

Element Pipeline Instruction Group Index: 19

max\_memory\_core\_index:6 78.1738 kB

Element Pipeline Instruction Group Index: 20

max\_memory\_core\_index:6 87.2363 kB

Element Pipeline Instruction Group Index: 21

max\_memory\_core\_index:6 80.4238 kB

Element Pipeline Instruction Group Index: 22

max\_memory\_core\_index:6 73.6738 kB

Element Pipeline Instruction Group Index: 23

max\_memory\_core\_index:6 78.9238 kB

Element Pipeline Instruction Group Index: 24

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 25

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 26

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 27

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 28

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 29

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 30

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 31

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 32

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 33

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 34

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 35

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 36

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 37

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 38

max\_memory\_core\_index:6 51.4238 kB

Element Pipeline Instruction Group Index: 39

max\_memory\_core\_index:6 25.5 kB

[effective\_instruction\_group\_num]:40

================= Check Result =================

Node Expected Index Num

1: 2916 2916 2916

3: 676 676 676

4: 676 676 676

6: 144 144 144

7: 144 144 144

8: 144 144 144

9: 144 144 144

10: 36 36 36

12: 1 1 1

14: 1 1 1

16: 1 1 1

----------------- PASS -----------------

=========================== OPTIMIZATION ===========================

============================= PLACING =============================

============================= EVALUATING =============================

instruction\_group\_num:40

0 MVMUL:1344 MEM:7911 LATENCY: 1574752.0 COMM\_SYN:79.81% COMM\_TRANS:2.16% MVMUL:281400.00 MVMUL:17.87% VEC:0.04% MEM:105.00 MEM:0.01% ratio:99.89% COMM Volume:90.56kB MEM Volume:128.07kB

1 MVMUL:1344 MEM:8056 LATENCY: 1574920.0 COMM\_SYN:80.25% COMM\_TRANS:0.25% MVMUL:294000.00 MVMUL:18.67% VEC:0.04% MEM:361.00 MEM:0.02% ratio:99.23% COMM Volume:90.56kB MEM Volume:128.54kB

2 MVMUL:1344 MEM:7937 LATENCY: 1575088.0 COMM\_SYN:80.32% COMM\_TRANS:0.23% MVMUL:294000.00 MVMUL:18.67% VEC:0.00% MEM:1393.00 MEM:0.09% ratio:99.31% COMM Volume:86.62kB MEM Volume:128.89kB

3 MVMUL:1344 MEM:7942 LATENCY: 1651348.0 COMM\_SYN:63.19% COMM\_TRANS:8.53% MVMUL:281400.00 MVMUL:17.04% VEC:10.97% MEM:2688.00 MEM:0.16% ratio:99.89% COMM Volume:2162.25kB MEM Volume:129.26kB

4 MVMUL:1344 MEM:7902 LATENCY: 1575608.0 COMM\_SYN:79.85% COMM\_TRANS:0.26% MVMUL:294000.00 MVMUL:18.66% VEC:0.04% MEM:2958.00 MEM:0.19% ratio:99.00% COMM Volume:90.56kB MEM Volume:128.12kB

5 MVMUL:1344 MEM:7869 LATENCY: 1575776.0 COMM\_SYN:80.01% COMM\_TRANS:0.25% MVMUL:294000.00 MVMUL:18.66% VEC:0.00% MEM:6826.00 MEM:0.43% ratio:99.35% COMM Volume:86.62kB MEM Volume:128.13kB

6 MVMUL:984 MEM:4338 LATENCY: 1817164.0 COMM\_SYN:79.78% COMM\_TRANS:2.61% MVMUL:211200.00 MVMUL:11.62% VEC:5.52% MEM:4513.00 MEM:0.25% ratio:99.78% COMM Volume:852.69kB MEM Volume:71.20kB

7 MVMUL:640 MEM:1 LATENCY: 1778598.0 COMM\_SYN:89.41% COMM\_TRANS:1.60% MVMUL:152000.00 MVMUL:8.55% VEC:0.09% MEM:1010.00 MEM:0.06% ratio:99.71% COMM Volume:120.81kB MEM Volume:0.50kB

8 MVMUL:640 MEM:1 LATENCY: 1778638.0 COMM\_SYN:90.73% COMM\_TRANS:0.28% MVMUL:152000.00 MVMUL:8.55% VEC:0.09% MEM:1053.00 MEM:0.06% ratio:99.71% COMM Volume:120.06kB MEM Volume:0.50kB

9 MVMUL:640 MEM:1 LATENCY: 1778658.0 COMM\_SYN:90.74% COMM\_TRANS:0.27% MVMUL:152000.00 MVMUL:8.55% VEC:0.09% MEM:1061.00 MEM:0.06% ratio:99.71% COMM Volume:113.62kB MEM Volume:0.50kB

10 MVMUL:640 MEM:1 LATENCY: 2105578.0 COMM\_SYN:90.92% COMM\_TRANS:0.46% MVMUL:152000.00 MVMUL:7.22% VEC:1.11% MEM:1069.00 MEM:0.05% ratio:99.75% COMM Volume:228.81kB MEM Volume:0.50kB

11 MVMUL:640 MEM:1 LATENCY: 1778878.0 COMM\_SYN:90.65% COMM\_TRANS:0.36% MVMUL:152000.00 MVMUL:8.54% VEC:0.09% MEM:1083.00 MEM:0.06% ratio:99.71% COMM Volume:120.44kB MEM Volume:0.50kB

12 MVMUL:640 MEM:1 LATENCY: 1778898.0 COMM\_SYN:90.74% COMM\_TRANS:0.27% MVMUL:152000.00 MVMUL:8.54% VEC:0.09% MEM:1091.00 MEM:0.06% ratio:99.71% COMM Volume:114.38kB MEM Volume:0.50kB

13 MVMUL:640 MEM:1 LATENCY: 1778938.0 COMM\_SYN:90.72% COMM\_TRANS:0.29% MVMUL:152000.00 MVMUL:8.54% VEC:0.09% MEM:1099.00 MEM:0.06% ratio:99.71% COMM Volume:123.62kB MEM Volume:0.50kB

14 MVMUL:640 MEM:1 LATENCY: 1778978.0 COMM\_SYN:90.73% COMM\_TRANS:0.28% MVMUL:152000.00 MVMUL:8.54% VEC:0.09% MEM:1107.00 MEM:0.06% ratio:99.71% COMM Volume:119.12kB MEM Volume:0.50kB

15 MVMUL:640 MEM:1 LATENCY: 1778998.0 COMM\_SYN:90.71% COMM\_TRANS:0.30% MVMUL:152000.00 MVMUL:8.54% VEC:0.09% MEM:1115.00 MEM:0.06% ratio:99.71% COMM Volume:110.25kB MEM Volume:0.50kB

16 MVMUL:640 MEM:1 LATENCY: 1798824.0 COMM\_SYN:90.85% COMM\_TRANS:0.41% MVMUL:152000.00 MVMUL:8.45% VEC:0.09% MEM:1123.00 MEM:0.06% ratio:99.86% COMM Volume:122.31kB MEM Volume:0.50kB

17 MVMUL:640 MEM:1 LATENCY: 1800644.0 COMM\_SYN:90.75% COMM\_TRANS:0.44% MVMUL:152000.00 MVMUL:8.44% VEC:0.09% MEM:1131.00 MEM:0.06% ratio:99.79% COMM Volume:116.31kB MEM Volume:0.50kB

18 MVMUL:640 MEM:1 LATENCY: 1800664.0 COMM\_SYN:90.96% COMM\_TRANS:0.24% MVMUL:152000.00 MVMUL:8.44% VEC:0.00% MEM:1139.00 MEM:0.06% ratio:99.71% COMM Volume:104.00kB MEM Volume:0.50kB

19 MVMUL:640 MEM:1 LATENCY: 1800704.0 COMM\_SYN:91.61% COMM\_TRANS:0.27% MVMUL:140000.00 MVMUL:7.77% VEC:0.09% MEM:1147.00 MEM:0.06% ratio:99.80% COMM Volume:114.56kB MEM Volume:0.50kB

20 MVMUL:640 MEM:1 LATENCY: 1802864.0 COMM\_SYN:90.84% COMM\_TRANS:0.28% MVMUL:152000.00 MVMUL:8.43% VEC:0.09% MEM:1185.00 MEM:0.07% ratio:99.71% COMM Volume:121.56kB MEM Volume:0.50kB

21 MVMUL:640 MEM:1 LATENCY: 1807678.0 COMM\_SYN:90.82% COMM\_TRANS:0.29% MVMUL:152600.00 MVMUL:8.44% VEC:0.09% MEM:1193.00 MEM:0.07% ratio:99.70% COMM Volume:123.25kB MEM Volume:0.50kB

22 MVMUL:640 MEM:1 LATENCY: 1811044.0 COMM\_SYN:90.91% COMM\_TRANS:0.25% MVMUL:152000.00 MVMUL:8.39% VEC:0.09% MEM:1201.00 MEM:0.07% ratio:99.71% COMM Volume:110.06kB MEM Volume:0.50kB

23 MVMUL:640 MEM:1 LATENCY: 1817164.0 COMM\_SYN:90.92% COMM\_TRANS:0.28% MVMUL:152000.00 MVMUL:8.36% VEC:0.09% MEM:1209.00 MEM:0.07% ratio:99.72% COMM Volume:120.25kB MEM Volume:0.50kB

24 MVMUL:619 MEM:1 LATENCY: 1816964.0 COMM\_SYN:91.19% COMM\_TRANS:0.28% MVMUL:147200.00 MVMUL:8.10% VEC:0.08% MEM:1217.00 MEM:0.07% ratio:99.72% COMM Volume:122.31kB MEM Volume:0.50kB

25 MVMUL:608 MEM:1 LATENCY: 1789844.0 COMM\_SYN:91.24% COMM\_TRANS:0.26% MVMUL:144400.00 MVMUL:8.07% VEC:0.08% MEM:1225.00 MEM:0.07% ratio:99.72% COMM Volume:112.69kB MEM Volume:0.50kB

26 MVMUL:545 MEM:2 LATENCY: 1898208.0 COMM\_SYN:91.26% COMM\_TRANS:1.16% MVMUL:133600.00 MVMUL:7.04% VEC:0.11% MEM:1245.00 MEM:0.07% ratio:99.64% COMM Volume:227.81kB MEM Volume:1.25kB

27 MVMUL:378 MEM:1 LATENCY: 1898898.0 COMM\_SYN:93.80% COMM\_TRANS:0.55% MVMUL:97200.00 MVMUL:5.12% VEC:0.11% MEM:1257.00 MEM:0.07% ratio:99.65% COMM Volume:188.25kB MEM Volume:0.75kB

28 MVMUL:378 MEM:1 LATENCY: 1898928.0 COMM\_SYN:93.81% COMM\_TRANS:0.54% MVMUL:97200.00 MVMUL:5.12% VEC:0.11% MEM:1315.00 MEM:0.07% ratio:99.65% COMM Volume:195.00kB MEM Volume:0.75kB

29 MVMUL:378 MEM:1 LATENCY: 1898838.0 COMM\_SYN:93.89% COMM\_TRANS:0.48% MVMUL:97200.00 MVMUL:5.12% VEC:0.11% MEM:1327.00 MEM:0.07% ratio:99.67% COMM Volume:179.75kB MEM Volume:0.75kB

30 MVMUL:378 MEM:1 LATENCY: 1898958.0 COMM\_SYN:94.05% COMM\_TRANS:0.41% MVMUL:97200.00 MVMUL:5.12% VEC:0.00% MEM:1339.00 MEM:0.07% ratio:99.65% COMM Volume:160.50kB MEM Volume:0.75kB

31 MVMUL:378 MEM:1 LATENCY: 1898748.0 COMM\_SYN:94.22% COMM\_TRANS:0.80% MVMUL:86400.00 MVMUL:4.55% VEC:0.11% MEM:1351.00 MEM:0.07% ratio:99.75% COMM Volume:279.00kB MEM Volume:0.75kB

32 MVMUL:378 MEM:1 LATENCY: 1898868.0 COMM\_SYN:93.82% COMM\_TRANS:0.53% MVMUL:97200.00 MVMUL:5.12% VEC:0.11% MEM:1363.00 MEM:0.07% ratio:99.65% COMM Volume:180.00kB MEM Volume:0.75kB

33 MVMUL:405 MEM:2 LATENCY: 2061008.0 COMM\_SYN:93.76% COMM\_TRANS:0.62% MVMUL:104400.00 MVMUL:5.07% VEC:0.12% MEM:1409.00 MEM:0.07% ratio:99.64% COMM Volume:215.00kB MEM Volume:1.50kB

34 MVMUL:441 MEM:1 LATENCY: 2058068.0 COMM\_SYN:93.10% COMM\_TRANS:0.70% MVMUL:113400.00 MVMUL:5.51% VEC:0.24% MEM:1444.00 MEM:0.07% ratio:99.63% COMM Volume:220.50kB MEM Volume:0.75kB

35 MVMUL:441 MEM:1 LATENCY: 2056648.0 COMM\_SYN:94.57% COMM\_TRANS:0.31% MVMUL:100800.00 MVMUL:4.90% VEC:0.00% MEM:1456.00 MEM:0.07% ratio:99.86% COMM Volume:115.50kB MEM Volume:0.75kB

36 MVMUL:441 MEM:1 LATENCY: 2061548.0 COMM\_SYN:93.34% COMM\_TRANS:0.59% MVMUL:113400.00 MVMUL:5.50% VEC:0.12% MEM:1468.00 MEM:0.07% ratio:99.63% COMM Volume:210.00kB MEM Volume:0.75kB

37 MVMUL:441 MEM:1 LATENCY: 2064698.0 COMM\_SYN:93.23% COMM\_TRANS:0.71% MVMUL:113400.00 MVMUL:5.49% VEC:0.12% MEM:1480.00 MEM:0.07% ratio:99.63% COMM Volume:216.00kB MEM Volume:0.75kB

38 MVMUL:435 MEM:1 LATENCY: 2064278.0 COMM\_SYN:93.50% COMM\_TRANS:0.54% MVMUL:111600.00 MVMUL:5.41% VEC:0.12% MEM:1492.00 MEM:0.07% ratio:99.64% COMM Volume:214.50kB MEM Volume:0.75kB

39 MVMUL:420 MEM:1 LATENCY: 2033878.0 COMM\_SYN:94.76% COMM\_TRANS:0.30% MVMUL:96000.00 MVMUL:4.72% VEC:0.00% MEM:1504.00 MEM:0.07% ratio:99.86% COMM Volume:99.75kB MEM Volume:0.75kB

40 MVMUL:420 MEM:1 LATENCY: 2053108.0 COMM\_SYN:94.35% COMM\_TRANS:0.54% MVMUL:96000.00 MVMUL:4.68% VEC:0.12% MEM:1516.00 MEM:0.07% ratio:99.75% COMM Volume:183.75kB MEM Volume:0.75kB

41 MVMUL:420 MEM:1 LATENCY: 2053138.0 COMM\_SYN:93.37% COMM\_TRANS:0.82% MVMUL:108000.00 MVMUL:5.26% VEC:0.12% MEM:1572.00 MEM:0.08% ratio:99.64% COMM Volume:222.00kB MEM Volume:0.75kB

42 MVMUL:534 MEM:2 LATENCY: 2088558.0 COMM\_SYN:92.38% COMM\_TRANS:0.88% MVMUL:131400.00 MVMUL:6.29% VEC:0.08% MEM:1592.00 MEM:0.08% ratio:99.71% COMM Volume:159.75kB MEM Volume:1.25kB

43 MVMUL:672 MEM:1 LATENCY: 2096578.0 COMM\_SYN:91.69% COMM\_TRANS:0.28% MVMUL:159600.00 MVMUL:7.61% VEC:0.08% MEM:1600.00 MEM:0.08% ratio:99.74% COMM Volume:135.00kB MEM Volume:0.50kB

44 MVMUL:672 MEM:1 LATENCY: 2098778.0 COMM\_SYN:91.68% COMM\_TRANS:0.30% MVMUL:159600.00 MVMUL:7.60% VEC:0.08% MEM:1608.00 MEM:0.08% ratio:99.74% COMM Volume:135.75kB MEM Volume:0.50kB

45 MVMUL:670 MEM:1 LATENCY: 2104778.0 COMM\_SYN:91.72% COMM\_TRANS:0.31% MVMUL:159200.00 MVMUL:7.56% VEC:0.08% MEM:1616.00 MEM:0.08% ratio:99.74% COMM Volume:141.50kB MEM Volume:0.50kB

46 MVMUL:640 MEM:1 LATENCY: 2091538.0 COMM\_SYN:92.01% COMM\_TRANS:0.32% MVMUL:152000.00 MVMUL:7.27% VEC:0.08% MEM:1624.00 MEM:0.08% ratio:99.75% COMM Volume:133.50kB MEM Volume:0.50kB

47 MVMUL:640 MEM:1 LATENCY: 2094638.0 COMM\_SYN:92.00% COMM\_TRANS:0.35% MVMUL:152000.00 MVMUL:7.26% VEC:0.08% MEM:1632.00 MEM:0.08% ratio:99.75% COMM Volume:129.75kB MEM Volume:0.50kB

48 MVMUL:301 MEM:2 LATENCY: 2160918.0 COMM\_SYN:93.23% COMM\_TRANS:0.97% MVMUL:72800.00 MVMUL:3.37% VEC:2.13% MEM:1865.00 MEM:0.09% ratio:99.79% COMM Volume:502.75kB MEM Volume:8.50kB

49 MVMUL:2 MEM:1 LATENCY: 2096898.0 COMM\_SYN:99.77% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:2025.00 MEM:0.10% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

50 MVMUL:2 MEM:1 LATENCY: 2098498.0 COMM\_SYN:99.77% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:2242.00 MEM:0.11% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

51 MVMUL:2 MEM:1 LATENCY: 2100098.0 COMM\_SYN:99.76% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:2400.00 MEM:0.11% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

52 MVMUL:2 MEM:1 LATENCY: 2101698.0 COMM\_SYN:99.75% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:2559.00 MEM:0.12% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

53 MVMUL:2 MEM:1 LATENCY: 2103298.0 COMM\_SYN:99.74% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:2886.00 MEM:0.14% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

54 MVMUL:2 MEM:1 LATENCY: 2104918.0 COMM\_SYN:99.73% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3023.00 MEM:0.14% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

55 MVMUL:2 MEM:1 LATENCY: 2106518.0 COMM\_SYN:99.72% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3231.00 MEM:0.15% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

56 MVMUL:2 MEM:1 LATENCY: 2108118.0 COMM\_SYN:99.71% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3359.00 MEM:0.16% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

57 MVMUL:2 MEM:1 LATENCY: 2109718.0 COMM\_SYN:99.71% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3487.00 MEM:0.17% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

58 MVMUL:2 MEM:1 LATENCY: 2111318.0 COMM\_SYN:99.70% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3615.00 MEM:0.17% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

59 MVMUL:2 MEM:1 LATENCY: 2112918.0 COMM\_SYN:99.70% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3743.00 MEM:0.18% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

60 MVMUL:2 MEM:1 LATENCY: 2114518.0 COMM\_SYN:99.69% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3871.00 MEM:0.18% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

61 MVMUL:2 MEM:1 LATENCY: 2116118.0 COMM\_SYN:99.69% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:3999.00 MEM:0.19% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

62 MVMUL:2 MEM:1 LATENCY: 2117718.0 COMM\_SYN:99.68% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4127.00 MEM:0.19% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

63 MVMUL:2 MEM:1 LATENCY: 2119318.0 COMM\_SYN:99.67% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4255.00 MEM:0.20% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

64 MVMUL:2 MEM:1 LATENCY: 2120918.0 COMM\_SYN:99.67% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4383.00 MEM:0.21% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

65 MVMUL:2 MEM:1 LATENCY: 2122518.0 COMM\_SYN:99.66% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4511.00 MEM:0.21% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

66 MVMUL:2 MEM:1 LATENCY: 2124118.0 COMM\_SYN:99.66% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4639.00 MEM:0.22% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

67 MVMUL:2 MEM:1 LATENCY: 2125718.0 COMM\_SYN:99.65% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4767.00 MEM:0.22% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

68 MVMUL:2 MEM:1 LATENCY: 2127318.0 COMM\_SYN:99.64% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:4895.00 MEM:0.23% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

69 MVMUL:2 MEM:1 LATENCY: 2128918.0 COMM\_SYN:99.64% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5023.00 MEM:0.24% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

70 MVMUL:2 MEM:1 LATENCY: 2130518.0 COMM\_SYN:99.63% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5151.00 MEM:0.24% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

71 MVMUL:2 MEM:1 LATENCY: 2132118.0 COMM\_SYN:99.63% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5279.00 MEM:0.25% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

72 MVMUL:2 MEM:1 LATENCY: 2133718.0 COMM\_SYN:99.62% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5407.00 MEM:0.25% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

73 MVMUL:2 MEM:1 LATENCY: 2135318.0 COMM\_SYN:99.62% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5535.00 MEM:0.26% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

74 MVMUL:2 MEM:1 LATENCY: 2136918.0 COMM\_SYN:99.61% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5663.00 MEM:0.27% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

75 MVMUL:2 MEM:1 LATENCY: 2138518.0 COMM\_SYN:99.60% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5791.00 MEM:0.27% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

76 MVMUL:2 MEM:1 LATENCY: 2140118.0 COMM\_SYN:99.60% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:5919.00 MEM:0.28% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

77 MVMUL:2 MEM:1 LATENCY: 2141718.0 COMM\_SYN:99.59% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6047.00 MEM:0.28% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

78 MVMUL:2 MEM:1 LATENCY: 2143318.0 COMM\_SYN:99.59% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6175.00 MEM:0.29% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

79 MVMUL:2 MEM:1 LATENCY: 2144918.0 COMM\_SYN:99.58% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6303.00 MEM:0.29% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

80 MVMUL:2 MEM:1 LATENCY: 2146518.0 COMM\_SYN:99.58% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6431.00 MEM:0.30% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

81 MVMUL:2 MEM:1 LATENCY: 2148118.0 COMM\_SYN:99.57% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6559.00 MEM:0.31% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

82 MVMUL:2 MEM:1 LATENCY: 2149718.0 COMM\_SYN:99.57% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6687.00 MEM:0.31% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

83 MVMUL:2 MEM:1 LATENCY: 2151318.0 COMM\_SYN:99.56% COMM\_TRANS:0.02% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:6815.00 MEM:0.32% ratio:99.94% COMM Volume:9.00kB MEM Volume:8.00kB

84 MVMUL:2 MEM:2 LATENCY: 2189398.0 COMM\_SYN:98.10% COMM\_TRANS:0.45% MVMUL:1600.00 MVMUL:0.07% VEC:0.94% MEM:7071.00 MEM:0.32% ratio:99.88% COMM Volume:184.50kB MEM Volume:16.00kB

85 MVMUL:2 MEM:1 LATENCY: 2161238.0 COMM\_SYN:99.42% COMM\_TRANS:0.15% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7199.00 MEM:0.33% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

86 MVMUL:2 MEM:1 LATENCY: 2162838.0 COMM\_SYN:99.53% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7327.00 MEM:0.34% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

87 MVMUL:2 MEM:1 LATENCY: 2164438.0 COMM\_SYN:99.52% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7455.00 MEM:0.34% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

88 MVMUL:2 MEM:1 LATENCY: 2166038.0 COMM\_SYN:99.51% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7583.00 MEM:0.35% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

89 MVMUL:2 MEM:1 LATENCY: 2167638.0 COMM\_SYN:99.51% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7711.00 MEM:0.36% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

90 MVMUL:2 MEM:1 LATENCY: 2169238.0 COMM\_SYN:99.50% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7839.00 MEM:0.36% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

91 MVMUL:2 MEM:1 LATENCY: 2170838.0 COMM\_SYN:99.50% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:7967.00 MEM:0.37% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

92 MVMUL:2 MEM:1 LATENCY: 2172438.0 COMM\_SYN:99.49% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8095.00 MEM:0.37% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

93 MVMUL:2 MEM:1 LATENCY: 2174038.0 COMM\_SYN:99.49% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8223.00 MEM:0.38% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

94 MVMUL:2 MEM:1 LATENCY: 2175638.0 COMM\_SYN:99.48% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8351.00 MEM:0.38% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

95 MVMUL:2 MEM:1 LATENCY: 2177238.0 COMM\_SYN:99.48% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8479.00 MEM:0.39% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

96 MVMUL:2 MEM:1 LATENCY: 2178838.0 COMM\_SYN:99.47% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8607.00 MEM:0.40% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

97 MVMUL:2 MEM:1 LATENCY: 2180438.0 COMM\_SYN:99.46% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8735.00 MEM:0.40% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

98 MVMUL:2 MEM:1 LATENCY: 2182038.0 COMM\_SYN:99.46% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8863.00 MEM:0.41% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

99 MVMUL:2 MEM:1 LATENCY: 2183638.0 COMM\_SYN:99.45% COMM\_TRANS:0.03% MVMUL:1000.00 MVMUL:0.05% VEC:0.00% MEM:8991.00 MEM:0.41% ratio:99.94% COMM Volume:16.00kB MEM Volume:8.00kB

100 MVMUL:5 MEM:3 LATENCY: 2192606.0 COMM\_SYN:99.35% COMM\_TRANS:0.06% MVMUL:2200.00 MVMUL:0.10% VEC:0.06% MEM:9183.00 MEM:0.42% ratio:99.98% COMM Volume:31.81kB MEM Volume:11.91kB

101 MVMUL:8 MEM:1 LATENCY: 2191057.0 COMM\_SYN:99.45% COMM\_TRANS:0.02% MVMUL:2200.00 MVMUL:0.10% VEC:0.00% MEM:9183.00 MEM:0.42% ratio:99.98% COMM Volume:9.95kB MEM Volume:1.95kB

102 MVMUL:8 MEM:1 LATENCY: 2191456.0 COMM\_SYN:99.45% COMM\_TRANS:0.02% MVMUL:2200.00 MVMUL:0.10% VEC:0.00% MEM:9215.00 MEM:0.42% ratio:99.98% COMM Volume:9.95kB MEM Volume:1.95kB

103 MVMUL:8 MEM:1 LATENCY: 2191855.0 COMM\_SYN:99.44% COMM\_TRANS:0.02% MVMUL:2200.00 MVMUL:0.10% VEC:0.00% MEM:9247.00 MEM:0.42% ratio:99.98% COMM Volume:9.95kB MEM Volume:1.95kB

104 MVMUL:4 MEM:1 LATENCY: 2192254.0 COMM\_SYN:99.48% COMM\_TRANS:0.02% MVMUL:1400.00 MVMUL:0.06% VEC:0.00% MEM:9279.00 MEM:0.42% ratio:99.98% COMM Volume:9.95kB MEM Volume:1.95kB

105 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

106 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

107 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

108 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

109 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

110 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

111 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

112 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

113 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

114 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

115 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

116 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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119 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

120 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

121 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

122 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

123 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

124 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

125 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

126 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

127 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

128 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

129 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

130 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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135 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

136 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

137 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

138 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

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140 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

141 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

142 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

143 MVMUL:0 MEM:0 LATENCY: 0.0 COMM\_SYN:-nan% COMM\_TRANS:-nan% MVMUL:0.00 MVMUL:-nan% VEC:-nan% MEM:0.00 MEM:-nan% ratio:-nan% COMM Volume:0.00kB MEM Volume:0.00kB

practical (ns)

2192606.00

IG average latency (ns)

54815.15

MVMUL (#)

32096

VVADD (#)

32096

COMM (#)

32142

Volume (bytes)

5660032

Cycles (ns)

560553

MEM (#)

52060

Volume (bytes)

1342446

Cycles (ns)

535984

HT Volume (bytes)

0

Cycles (ns)

0

============================= OVERALL TIME =============================

16.06s

real 0m16.843s

user 0m13.658s

sys 0m2.741s