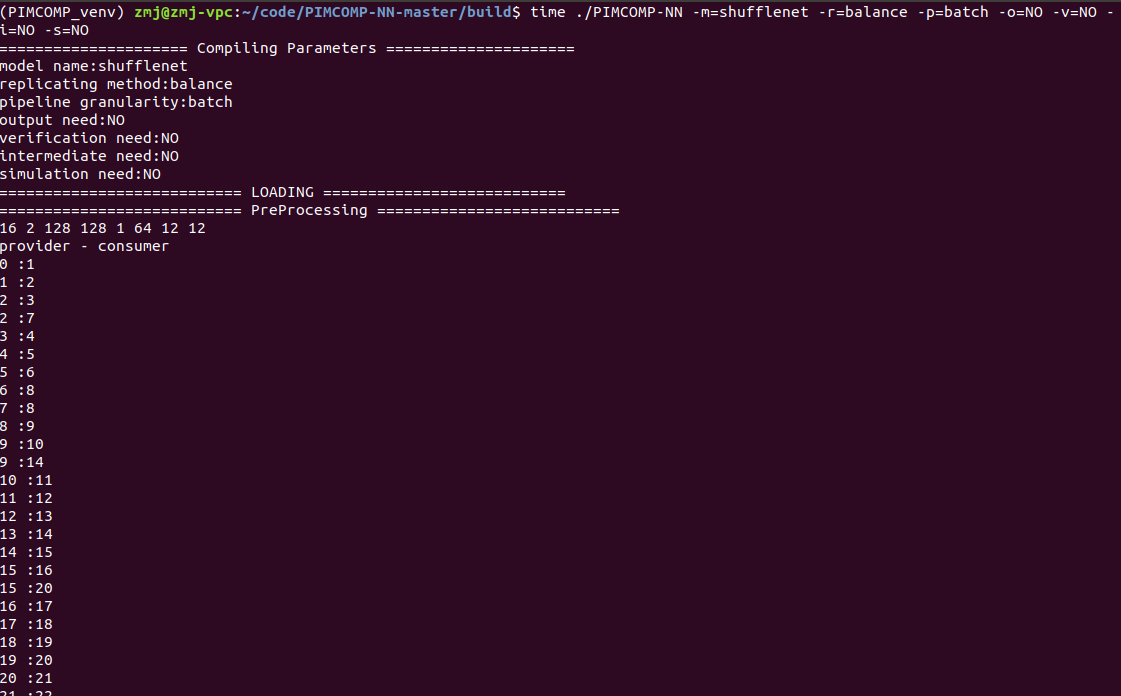
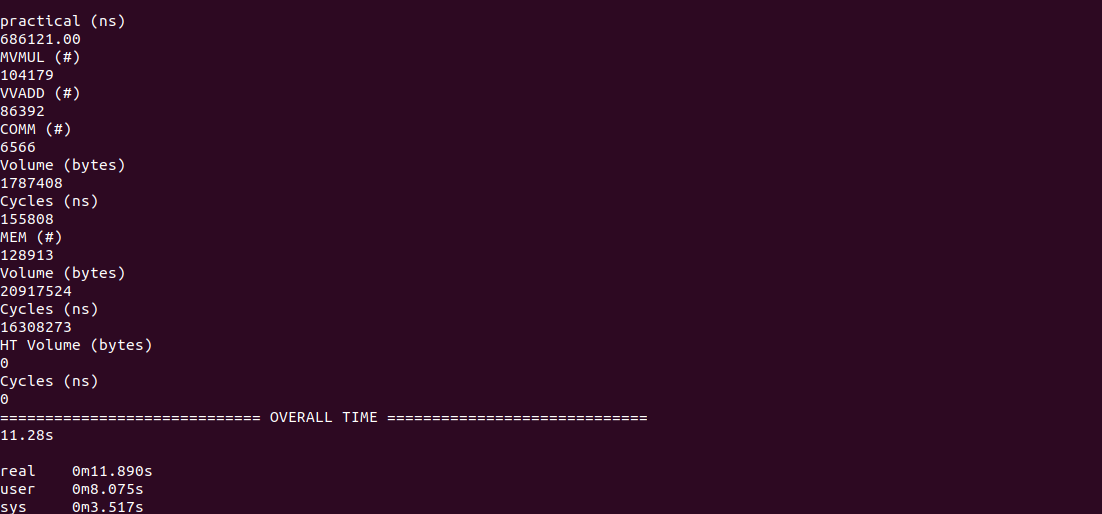
# 前端

（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=shufflenet -r=balance -p=batch -o=NO -v=NO -i=NO -s=NO

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

model name:shufflenet

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

2 :7

3 :4

4 :5

5 :6

6 :8

7 :8

8 :9

9 :10

9 :14

10 :11

11 :12

12 :13

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99 :100

100 :101

101 :102

102 :103

103 :104

104 :105

105 :-1

consumer - provider

1 :0

2 :1

3 :2

4 :3

5 :4

6 :5

7 :2

8 :6

8 :7

9 :8

10 :9

11 :10

12 :11

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100 :95

100 :99

101 :100

102 :101

103 :102

104 :103

105 :104

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

#Nodes in total: 106

1

input: 294kB

output: 588kB

Weight Matrix:27 × 24

min crossbar:1

3

input: 147kB

output: 686kB

Weight Matrix:24 × 112

min crossbar:1

5

input: 686kB

output: 171.5kB

Weight Matrix:1008 × 112

min crossbar:1

6

input: 171.5kB

output: 171.5kB

Weight Matrix:112 × 112

min crossbar:1

10

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

12

input: 208.25kB

output: 208.25kB

Weight Matrix:1224 × 136

min crossbar:2

13

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

16

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

18

input: 208.25kB

output: 208.25kB

Weight Matrix:1224 × 136

min crossbar:2

19

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

22

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

24

input: 208.25kB

output: 208.25kB

Weight Matrix:1224 × 136

min crossbar:2

25

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

28

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

30

input: 208.25kB

output: 52.0625kB

Weight Matrix:1224 × 136

min crossbar:2

31

input: 52.0625kB

output: 52.0625kB

Weight Matrix:136 × 136

min crossbar:2

35

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

37

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

38

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

41

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

43

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

44

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

47

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

49

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

50

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

53

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

55

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

56

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

59

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

61

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

62

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

65

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

67

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

68

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

71

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

73

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

74

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

77

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

79

input: 104.125kB

output: 26.0312kB

Weight Matrix:2448 × 272

min crossbar:3

80

input: 26.0312kB

output: 26.0312kB

Weight Matrix:272 × 272

min crossbar:3

84

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

86

input: 52.0625kB

output: 52.0625kB

Weight Matrix:4896 × 544

min crossbar:5

87

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

90

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

92

input: 52.0625kB

output: 52.0625kB

Weight Matrix:4896 × 544

min crossbar:5

93

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

96

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

98

input: 52.0625kB

output: 52.0625kB

Weight Matrix:4896 × 544

min crossbar:5

99

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

104

output: 0.00190735MB

Weight Matrix:544 × 1000

min crossbar:8

FC Weight: 1.0376MB

Sum Weight: 33.8804MB

FC Ratio: 3.06253%

Output Sum:6.46187MB

Minimum Crossbar Num in One Core:8

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

node:1 replication\_num:262

node:3 replication\_num:66

node:5 replication\_num:16

node:6 replication\_num:17

node:10 replication\_num:16

node:12 replication\_num:17

node:13 replication\_num:16

node:16 replication\_num:17

node:18 replication\_num:17

node:19 replication\_num:17

node:22 replication\_num:17

node:24 replication\_num:16

node:25 replication\_num:17

node:28 replication\_num:17

node:30 replication\_num:4

node:31 replication\_num:4

node:35 replication\_num:5

node:37 replication\_num:4

node:38 replication\_num:5

node:41 replication\_num:4

node:43 replication\_num:4

node:44 replication\_num:4

node:47 replication\_num:4

node:49 replication\_num:5

node:50 replication\_num:5

node:53 replication\_num:5

node:55 replication\_num:5

node:56 replication\_num:5

node:59 replication\_num:5

node:61 replication\_num:4

node:62 replication\_num:5

node:65 replication\_num:5

node:67 replication\_num:5

node:68 replication\_num:4

node:71 replication\_num:5

node:73 replication\_num:5

node:74 replication\_num:5

node:77 replication\_num:4

node:79 replication\_num:1

node:80 replication\_num:1

node:84 replication\_num:2

node:86 replication\_num:2

node:87 replication\_num:2

node:90 replication\_num:2

node:92 replication\_num:2

node:93 replication\_num:2

node:96 replication\_num:2

node:98 replication\_num:2

node:99 replication\_num:2

node:104 replication\_num:1

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

#RRAMs needed: 6166

#ArrayGroups needed: 2427

RRAMs Usage: 66.9054%

Replication Check Pass!

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

0 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 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 1 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 64 64 64 64 64 64

split AG num: 0

Mapping Check Pass!

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

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

effective\_instruction\_group\_num:49

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

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

Reload Input Stage

Store Output Stage

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

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

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

instruction\_group\_num:49

0 MVMUL:3065 MEM:4034 LATENCY: 671234.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:641800.00 MVMUL:95.61% VEC:0.00% MEM:28288.00 MEM:4.21% ratio:99.83% COMM Volume:0.00kB MEM Volume:264.72kB

1 MVMUL:3065 MEM:4050 LATENCY: 671291.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:641800.00 MVMUL:95.61% VEC:0.00% MEM:28331.00 MEM:4.22% ratio:99.83% COMM Volume:0.00kB MEM Volume:266.72kB

2 MVMUL:3065 MEM:4051 LATENCY: 671348.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:641800.00 MVMUL:95.60% VEC:0.00% MEM:28390.00 MEM:4.23% ratio:99.83% COMM Volume:0.00kB MEM Volume:266.84kB

3 MVMUL:3065 MEM:4047 LATENCY: 671405.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:641800.00 MVMUL:95.59% VEC:0.00% MEM:28445.00 MEM:4.24% ratio:99.83% COMM Volume:0.00kB MEM Volume:266.34kB

4 MVMUL:3040 MEM:4564 LATENCY: 666340.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:636800.00 MVMUL:95.57% VEC:0.00% MEM:27406.00 MEM:4.11% ratio:99.68% COMM Volume:0.00kB MEM Volume:806.49kB

5 MVMUL:3124 MEM:4233 LATENCY: 683736.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:654200.00 MVMUL:95.68% VEC:0.00% MEM:27380.00 MEM:4.00% ratio:99.68% COMM Volume:0.00kB MEM Volume:863.34kB

6 MVMUL:3136 MEM:4270 LATENCY: 686121.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:656600.00 MVMUL:95.70% VEC:0.00% MEM:27561.00 MEM:4.02% ratio:99.71% COMM Volume:0.00kB MEM Volume:884.19kB

7 MVMUL:2107 MEM:3526 LATENCY: 507546.0 COMM\_SYN:0.00% COMM\_TRANS:0.11% MVMUL:450800.00 MVMUL:88.82% VEC:0.48% MEM:51303.00 MEM:10.11% ratio:99.52% COMM Volume:13.02kB MEM Volume:761.97kB

8 MVMUL:1521 MEM:1961 LATENCY: 507422.0 COMM\_SYN:22.31% COMM\_TRANS:0.26% MVMUL:334152.00 MVMUL:65.85% VEC:0.45% MEM:53792.00 MEM:10.60% ratio:99.48% COMM Volume:25.23kB MEM Volume:415.42kB

9 MVMUL:1482 MEM:1906 LATENCY: 491367.0 COMM\_SYN:21.69% COMM\_TRANS:0.28% MVMUL:325344.00 MVMUL:66.21% VEC:0.47% MEM:55707.00 MEM:11.34% ratio:99.99% COMM Volume:24.44kB MEM Volume:406.59kB

10 MVMUL:1482 MEM:1861 LATENCY: 491486.0 COMM\_SYN:18.89% COMM\_TRANS:0.26% MVMUL:325275.00 MVMUL:66.18% VEC:0.47% MEM:67384.00 MEM:13.71% ratio:99.51% COMM Volume:24.44kB MEM Volume:397.92kB

11 MVMUL:1482 MEM:1906 LATENCY: 491534.0 COMM\_SYN:17.10% COMM\_TRANS:0.24% MVMUL:324600.00 MVMUL:66.04% VEC:0.47% MEM:77043.00 MEM:15.67% ratio:99.52% COMM Volume:24.44kB MEM Volume:401.66kB

12 MVMUL:1482 MEM:1905 LATENCY: 491592.0 COMM\_SYN:16.19% COMM\_TRANS:0.21% MVMUL:325028.00 MVMUL:66.12% VEC:0.47% MEM:81248.00 MEM:16.53% ratio:99.52% COMM Volume:24.44kB MEM Volume:399.48kB

13 MVMUL:1469 MEM:1849 LATENCY: 505566.0 COMM\_SYN:17.94% COMM\_TRANS:0.22% MVMUL:323252.00 MVMUL:63.94% VEC:0.48% MEM:88088.00 MEM:17.42% ratio:100.00% COMM Volume:25.23kB MEM Volume:398.64kB

14 MVMUL:1543 MEM:2313 LATENCY: 505688.0 COMM\_SYN:13.65% COMM\_TRANS:0.21% MVMUL:338150.00 MVMUL:66.87% VEC:0.45% MEM:92585.00 MEM:18.31% ratio:99.49% COMM Volume:25.23kB MEM Volume:493.55kB

15 MVMUL:1481 MEM:2057 LATENCY: 492439.0 COMM\_SYN:13.63% COMM\_TRANS:0.21% MVMUL:324555.00 MVMUL:65.91% VEC:0.48% MEM:94970.00 MEM:19.29% ratio:99.50% COMM Volume:24.70kB MEM Volume:433.92kB

16 MVMUL:1485 MEM:1867 LATENCY: 492384.0 COMM\_SYN:11.42% COMM\_TRANS:0.23% MVMUL:325200.00 MVMUL:66.05% VEC:0.47% MEM:105164.00 MEM:21.36% ratio:99.52% COMM Volume:24.70kB MEM Volume:399.30kB

17 MVMUL:1482 MEM:1887 LATENCY: 491801.0 COMM\_SYN:11.45% COMM\_TRANS:0.23% MVMUL:325800.00 MVMUL:66.25% VEC:0.47% MEM:106232.00 MEM:21.60% ratio:99.99% COMM Volume:24.44kB MEM Volume:401.64kB

18 MVMUL:1482 MEM:1873 LATENCY: 491843.0 COMM\_SYN:9.60% COMM\_TRANS:0.27% MVMUL:327603.00 MVMUL:66.61% VEC:0.47% MEM:110902.00 MEM:22.55% ratio:99.49% COMM Volume:24.44kB MEM Volume:400.92kB

19 MVMUL:1482 MEM:1906 LATENCY: 491885.0 COMM\_SYN:7.27% COMM\_TRANS:0.28% MVMUL:324600.00 MVMUL:65.99% VEC:0.47% MEM:125490.00 MEM:25.51% ratio:99.52% COMM Volume:24.44kB MEM Volume:401.81kB

20 MVMUL:1445 MEM:1778 LATENCY: 488075.0 COMM\_SYN:7.72% COMM\_TRANS:0.21% MVMUL:316989.00 MVMUL:64.95% VEC:0.46% MEM:127815.00 MEM:26.19% ratio:99.53% COMM Volume:24.17kB MEM Volume:374.34kB

21 MVMUL:1473 MEM:2134 LATENCY: 489292.0 COMM\_SYN:7.21% COMM\_TRANS:0.20% MVMUL:329400.00 MVMUL:67.32% VEC:0.47% MEM:120684.00 MEM:24.67% ratio:99.87% COMM Volume:24.17kB MEM Volume:459.61kB

22 MVMUL:1476 MEM:2214 LATENCY: 489316.0 COMM\_SYN:5.35% COMM\_TRANS:0.21% MVMUL:323400.00 MVMUL:66.09% VEC:0.47% MEM:133898.00 MEM:27.36% ratio:99.49% COMM Volume:24.44kB MEM Volume:472.67kB

23 MVMUL:1547 MEM:1933 LATENCY: 509668.0 COMM\_SYN:4.45% COMM\_TRANS:0.24% MVMUL:338800.00 MVMUL:66.47% VEC:0.48% MEM:142000.00 MEM:27.86% ratio:99.50% COMM Volume:25.23kB MEM Volume:411.00kB

24 MVMUL:1568 MEM:2020 LATENCY: 510708.0 COMM\_SYN:3.20% COMM\_TRANS:0.25% MVMUL:343000.00 MVMUL:67.16% VEC:0.48% MEM:145168.00 MEM:28.42% ratio:99.52% COMM Volume:26.03kB MEM Volume:423.61kB

25 MVMUL:1568 MEM:1971 LATENCY: 510771.0 COMM\_SYN:3.47% COMM\_TRANS:0.27% MVMUL:343600.00 MVMUL:67.27% VEC:0.48% MEM:143132.00 MEM:28.02% ratio:99.51% COMM Volume:26.03kB MEM Volume:421.88kB

26 MVMUL:1568 MEM:2014 LATENCY: 510915.0 COMM\_SYN:3.09% COMM\_TRANS:0.29% MVMUL:344886.00 MVMUL:67.50% VEC:0.48% MEM:146328.00 MEM:28.64% ratio:100.00% COMM Volume:26.03kB MEM Volume:429.56kB

27 MVMUL:1568 MEM:1894 LATENCY: 510906.0 COMM\_SYN:1.82% COMM\_TRANS:0.25% MVMUL:343000.00 MVMUL:67.14% VEC:0.48% MEM:152463.00 MEM:29.84% ratio:99.52% COMM Volume:26.03kB MEM Volume:405.86kB

28 MVMUL:1497 MEM:2147 LATENCY: 510841.0 COMM\_SYN:3.68% COMM\_TRANS:0.32% MVMUL:328800.00 MVMUL:64.36% VEC:0.45% MEM:159114.00 MEM:31.15% ratio:99.97% COMM Volume:25.23kB MEM Volume:454.55kB

29 MVMUL:1476 MEM:2214 LATENCY: 491388.0 COMM\_SYN:1.56% COMM\_TRANS:0.35% MVMUL:323640.00 MVMUL:65.86% VEC:0.47% MEM:153589.00 MEM:31.26% ratio:99.49% COMM Volume:24.44kB MEM Volume:472.67kB

30 MVMUL:1535 MEM:2040 LATENCY: 507869.0 COMM\_SYN:1.15% COMM\_TRANS:0.22% MVMUL:336699.00 MVMUL:66.30% VEC:0.48% MEM:161675.00 MEM:31.83% ratio:99.98% COMM Volume:25.23kB MEM Volume:433.22kB

31 MVMUL:1443 MEM:1895 LATENCY: 507829.0 COMM\_SYN:2.31% COMM\_TRANS:0.11% MVMUL:320400.00 MVMUL:63.09% VEC:0.00% MEM:167275.00 MEM:32.94% ratio:98.45% COMM Volume:13.02kB MEM Volume:410.39kB

32 MVMUL:909 MEM:1047 LATENCY: 470589.0 COMM\_SYN:7.18% COMM\_TRANS:0.31% MVMUL:212400.00 MVMUL:45.13% VEC:0.94% MEM:213921.00 MEM:45.46% ratio:99.02% COMM Volume:26.03kB MEM Volume:290.62kB

33 MVMUL:1029 MEM:1133 LATENCY: 470692.0 COMM\_SYN:0.87% COMM\_TRANS:0.54% MVMUL:237000.00 MVMUL:50.35% VEC:0.94% MEM:218031.00 MEM:46.32% ratio:99.02% COMM Volume:52.06kB MEM Volume:271.09kB

34 MVMUL:1029 MEM:1128 LATENCY: 470714.0 COMM\_SYN:2.48% COMM\_TRANS:0.52% MVMUL:235800.00 MVMUL:50.09% VEC:0.94% MEM:211865.00 MEM:45.01% ratio:99.04% COMM Volume:52.06kB MEM Volume:269.59kB

35 MVMUL:1029 MEM:1129 LATENCY: 470736.0 COMM\_SYN:3.72% COMM\_TRANS:0.56% MVMUL:236400.00 MVMUL:50.22% VEC:0.94% MEM:205163.00 MEM:43.58% ratio:99.02% COMM Volume:52.06kB MEM Volume:270.00kB

36 MVMUL:902 MEM:1018 LATENCY: 470637.0 COMM\_SYN:6.70% COMM\_TRANS:0.52% MVMUL:210400.00 MVMUL:44.71% VEC:0.75% MEM:221503.00 MEM:47.06% ratio:99.74% COMM Volume:46.75kB MEM Volume:278.62kB

37 MVMUL:1009 MEM:1191 LATENCY: 470971.0 COMM\_SYN:2.27% COMM\_TRANS:0.47% MVMUL:231800.00 MVMUL:49.22% VEC:0.94% MEM:217412.00 MEM:46.16% ratio:99.06% COMM Volume:46.75kB MEM Volume:328.50kB

38 MVMUL:1029 MEM:1129 LATENCY: 471017.0 COMM\_SYN:2.12% COMM\_TRANS:0.51% MVMUL:236655.00 MVMUL:50.24% VEC:0.94% MEM:213059.00 MEM:45.23% ratio:99.04% COMM Volume:52.06kB MEM Volume:269.97kB

39 MVMUL:1029 MEM:1128 LATENCY: 472533.0 COMM\_SYN:7.17% COMM\_TRANS:0.56% MVMUL:236400.00 MVMUL:50.03% VEC:0.93% MEM:190619.00 MEM:40.34% ratio:99.03% COMM Volume:52.06kB MEM Volume:269.50kB

40 MVMUL:1029 MEM:1133 LATENCY: 473143.0 COMM\_SYN:2.65% COMM\_TRANS:0.52% MVMUL:238200.00 MVMUL:50.34% VEC:0.93% MEM:210690.00 MEM:44.53% ratio:98.97% COMM Volume:52.06kB MEM Volume:271.09kB

41 MVMUL:1029 MEM:1141 LATENCY: 473468.0 COMM\_SYN:1.14% COMM\_TRANS:0.47% MVMUL:237000.00 MVMUL:50.06% VEC:0.93% MEM:219960.00 MEM:46.46% ratio:99.05% COMM Volume:52.06kB MEM Volume:310.34kB

42 MVMUL:957 MEM:1123 LATENCY: 473378.0 COMM\_SYN:2.95% COMM\_TRANS:0.47% MVMUL:222000.00 MVMUL:46.90% VEC:0.76% MEM:225974.00 MEM:47.74% ratio:98.82% COMM Volume:47.28kB MEM Volume:309.53kB

43 MVMUL:840 MEM:926 LATENCY: 410022.0 COMM\_SYN:1.21% COMM\_TRANS:0.60% MVMUL:192600.00 MVMUL:46.97% VEC:0.88% MEM:202793.00 MEM:49.46% ratio:99.12% COMM Volume:42.50kB MEM Volume:221.12kB

44 MVMUL:840 MEM:921 LATENCY: 410013.0 COMM\_SYN:2.77% COMM\_TRANS:0.55% MVMUL:192624.00 MVMUL:46.98% VEC:0.88% MEM:196577.00 MEM:47.94% ratio:99.12% COMM Volume:42.50kB MEM Volume:220.34kB

45 MVMUL:840 MEM:921 LATENCY: 410004.0 COMM\_SYN:1.21% COMM\_TRANS:0.46% MVMUL:192600.00 MVMUL:46.98% VEC:0.88% MEM:203241.00 MEM:49.57% ratio:99.10% COMM Volume:42.50kB MEM Volume:220.06kB

46 MVMUL:792 MEM:866 LATENCY: 405417.0 COMM\_SYN:2.67% COMM\_TRANS:0.45% MVMUL:184525.00 MVMUL:45.51% VEC:0.80% MEM:201290.00 MEM:49.65% ratio:99.08% COMM Volume:40.38kB MEM Volume:206.41kB

47 MVMUL:798 MEM:907 LATENCY: 401942.0 COMM\_SYN:4.42% COMM\_TRANS:0.44% MVMUL:184800.00 MVMUL:45.98% VEC:0.87% MEM:193756.00 MEM:48.20% ratio:99.91% COMM Volume:39.84kB MEM Volume:254.75kB

48 MVMUL:826 MEM:1002 LATENCY: 409303.0 COMM\_SYN:1.75% COMM\_TRANS:0.51% MVMUL:190400.00 MVMUL:46.52% VEC:0.88% MEM:202211.00 MEM:49.40% ratio:99.05% COMM Volume:41.97kB MEM Volume:287.34kB

49 MVMUL:840 MEM:888 LATENCY: 409995.0 COMM\_SYN:2.67% COMM\_TRANS:0.50% MVMUL:200400.00 MVMUL:48.88% VEC:0.88% MEM:187970.00 MEM:45.85% ratio:98.78% COMM Volume:42.50kB MEM Volume:213.38kB

50 MVMUL:840 MEM:918 LATENCY: 409986.0 COMM\_SYN:2.02% COMM\_TRANS:0.51% MVMUL:194400.00 MVMUL:47.42% VEC:0.88% MEM:198028.00 MEM:48.30% ratio:99.12% COMM Volume:42.50kB MEM Volume:219.59kB

51 MVMUL:840 MEM:955 LATENCY: 409977.0 COMM\_SYN:0.17% COMM\_TRANS:0.55% MVMUL:192600.00 MVMUL:46.98% VEC:0.88% MEM:207099.00 MEM:50.51% ratio:99.09% COMM Volume:42.50kB MEM Volume:220.75kB

52 MVMUL:808 MEM:882 LATENCY: 406634.0 COMM\_SYN:2.65% COMM\_TRANS:0.47% MVMUL:188000.00 MVMUL:46.23% VEC:0.80% MEM:198993.00 MEM:48.94% ratio:99.09% COMM Volume:40.38kB MEM Volume:210.28kB

53 MVMUL:786 MEM:814 LATENCY: 401986.0 COMM\_SYN:0.08% COMM\_TRANS:0.20% MVMUL:181241.00 MVMUL:45.09% VEC:0.00% MEM:216009.00 MEM:53.74% ratio:99.10% COMM Volume:19.12kB MEM Volume:214.00kB

54 MVMUL:822 MEM:1096 LATENCY: 409312.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:188400.00 MVMUL:46.03% VEC:0.00% MEM:213712.00 MEM:52.21% ratio:98.24% COMM Volume:0.00kB MEM Volume:316.62kB

55 MVMUL:1029 MEM:1129 LATENCY: 475268.0 COMM\_SYN:3.45% COMM\_TRANS:0.27% MVMUL:242400.00 MVMUL:51.00% VEC:0.93% MEM:209662.00 MEM:44.11% ratio:99.77% COMM Volume:26.03kB MEM Volume:284.25kB

56 MVMUL:1029 MEM:1079 LATENCY: 475349.0 COMM\_SYN:1.98% COMM\_TRANS:0.58% MVMUL:238800.00 MVMUL:50.24% VEC:0.93% MEM:214953.00 MEM:45.22% ratio:98.94% COMM Volume:52.06kB MEM Volume:259.03kB

57 MVMUL:1029 MEM:1133 LATENCY: 475371.0 COMM\_SYN:0.24% COMM\_TRANS:0.55% MVMUL:235800.00 MVMUL:49.60% VEC:0.93% MEM:226934.00 MEM:47.74% ratio:99.05% COMM Volume:52.06kB MEM Volume:270.94kB

58 MVMUL:992 MEM:1022 LATENCY: 475272.0 COMM\_SYN:2.12% COMM\_TRANS:0.44% MVMUL:228039.00 MVMUL:47.98% VEC:0.74% MEM:230668.00 MEM:48.53% ratio:99.81% COMM Volume:46.75kB MEM Volume:250.25kB

59 MVMUL:822 MEM:1096 LATENCY: 409339.0 COMM\_SYN:1.46% COMM\_TRANS:0.49% MVMUL:189000.00 MVMUL:46.17% VEC:0.86% MEM:205052.00 MEM:50.09% ratio:99.08% COMM Volume:41.44kB MEM Volume:316.72kB

60 MVMUL:835 MEM:874 LATENCY: 409348.0 COMM\_SYN:0.83% COMM\_TRANS:0.52% MVMUL:191000.00 MVMUL:46.66% VEC:0.88% MEM:205601.00 MEM:50.23% ratio:99.12% COMM Volume:41.97kB MEM Volume:216.16kB

61 MVMUL:840 MEM:924 LATENCY: 410763.0 COMM\_SYN:1.74% COMM\_TRANS:0.63% MVMUL:192000.00 MVMUL:46.74% VEC:0.88% MEM:201825.00 MEM:49.13% ratio:99.12% COMM Volume:42.50kB MEM Volume:220.97kB

62 MVMUL:840 MEM:918 LATENCY: 413773.0 COMM\_SYN:2.54% COMM\_TRANS:0.61% MVMUL:195000.00 MVMUL:47.13% VEC:0.87% MEM:198059.00 MEM:47.87% ratio:99.01% COMM Volume:42.50kB MEM Volume:219.59kB

63 MVMUL:840 MEM:918 LATENCY: 413795.0 COMM\_SYN:0.46% COMM\_TRANS:0.49% MVMUL:195600.00 MVMUL:47.27% VEC:0.87% MEM:206574.00 MEM:49.92% ratio:99.01% COMM Volume:42.50kB MEM Volume:219.59kB

64 MVMUL:760 MEM:725 LATENCY: 413696.0 COMM\_SYN:5.61% COMM\_TRANS:0.24% MVMUL:177800.00 MVMUL:42.98% VEC:0.00% MEM:208329.00 MEM:50.36% ratio:99.18% COMM Volume:21.25kB MEM Volume:171.06kB

65 MVMUL:942 MEM:1256 LATENCY: 461678.0 COMM\_SYN:0.00% COMM\_TRANS:0.00% MVMUL:217800.00 MVMUL:47.18% VEC:0.00% MEM:235868.00 MEM:51.09% ratio:98.27% COMM Volume:0.00kB MEM Volume:362.97kB

66 MVMUL:834 MEM:912 LATENCY: 418151.0 COMM\_SYN:1.33% COMM\_TRANS:0.21% MVMUL:191350.00 MVMUL:45.76% VEC:0.86% MEM:213141.00 MEM:50.97% ratio:99.14% COMM Volume:21.25kB MEM Volume:236.62kB

67 MVMUL:840 MEM:924 LATENCY: 418303.0 COMM\_SYN:2.26% COMM\_TRANS:0.87% MVMUL:192600.00 MVMUL:46.04% VEC:0.86% MEM:205318.00 MEM:49.08% ratio:99.12% COMM Volume:42.50kB MEM Volume:220.97kB

68 MVMUL:840 MEM:921 LATENCY: 418294.0 COMM\_SYN:0.80% COMM\_TRANS:0.92% MVMUL:193191.00 MVMUL:46.19% VEC:0.86% MEM:210614.00 MEM:50.35% ratio:99.12% COMM Volume:42.50kB MEM Volume:220.34kB

69 MVMUL:840 MEM:918 LATENCY: 418285.0 COMM\_SYN:1.16% COMM\_TRANS:0.63% MVMUL:194400.00 MVMUL:46.48% VEC:0.86% MEM:208807.00 MEM:49.92% ratio:99.05% COMM Volume:42.50kB MEM Volume:219.59kB

70 MVMUL:764 MEM:742 LATENCY: 414568.0 COMM\_SYN:4.55% COMM\_TRANS:0.58% MVMUL:178600.00 MVMUL:43.08% VEC:0.78% MEM:207581.00 MEM:50.07% ratio:99.06% COMM Volume:40.38kB MEM Volume:177.91kB

71 MVMUL:869 MEM:1147 LATENCY: 475594.0 COMM\_SYN:9.22% COMM\_TRANS:0.41% MVMUL:213400.00 MVMUL:44.87% VEC:0.93% MEM:202997.00 MEM:42.68% ratio:98.11% COMM Volume:45.16kB MEM Volume:336.12kB

72 MVMUL:1029 MEM:1185 LATENCY: 475535.0 COMM\_SYN:0.25% COMM\_TRANS:0.48% MVMUL:236427.00 MVMUL:49.72% VEC:0.93% MEM:226419.00 MEM:47.61% ratio:98.99% COMM Volume:52.06kB MEM Volume:300.56kB

73 MVMUL:614 MEM:712 LATENCY: 475427.0 COMM\_SYN:16.31% COMM\_TRANS:0.52% MVMUL:152204.00 MVMUL:32.01% VEC:0.86% MEM:228449.00 MEM:48.05% ratio:97.75% COMM Volume:51.53kB MEM Volume:215.09kB

74 MVMUL:297 MEM:247 LATENCY: 263507.0 COMM\_SYN:17.59% COMM\_TRANS:2.07% MVMUL:75000.00 MVMUL:28.46% VEC:4.84% MEM:119515.00 MEM:45.36% ratio:98.32% COMM Volume:105.19kB MEM Volume:78.62kB

75 MVMUL:300 MEM:269 LATENCY: 261105.0 COMM\_SYN:16.01% COMM\_TRANS:0.53% MVMUL:81600.00 MVMUL:31.25% VEC:0.00% MEM:130236.00 MEM:49.88% ratio:97.67% COMM Volume:26.56kB MEM Volume:63.62kB

76 MVMUL:300 MEM:297 LATENCY: 263107.0 COMM\_SYN:15.03% COMM\_TRANS:0.65% MVMUL:75600.00 MVMUL:28.73% VEC:0.00% MEM:141958.00 MEM:53.95% ratio:98.37% COMM Volume:26.56kB MEM Volume:68.00kB

77 MVMUL:294 MEM:291 LATENCY: 263320.0 COMM\_SYN:15.99% COMM\_TRANS:1.64% MVMUL:74400.00 MVMUL:28.25% VEC:4.65% MEM:125835.00 MEM:47.79% ratio:98.32% COMM Volume:103.06kB MEM Volume:89.31kB

78 MVMUL:288 MEM:281 LATENCY: 250541.0 COMM\_SYN:18.50% COMM\_TRANS:0.43% MVMUL:72600.00 MVMUL:28.98% VEC:0.00% MEM:126272.00 MEM:50.40% ratio:98.30% COMM Volume:25.50kB MEM Volume:65.88kB

79 MVMUL:288 MEM:253 LATENCY: 250754.0 COMM\_SYN:19.95% COMM\_TRANS:0.44% MVMUL:72000.00 MVMUL:28.71% VEC:0.00% MEM:123543.00 MEM:49.27% ratio:98.37% COMM Volume:25.50kB MEM Volume:58.06kB

80 MVMUL:291 MEM:238 LATENCY: 262805.0 COMM\_SYN:22.70% COMM\_TRANS:0.82% MVMUL:76200.00 MVMUL:28.99% VEC:1.62% MEM:115373.00 MEM:43.90% ratio:98.03% COMM Volume:52.06kB MEM Volume:78.00kB

81 MVMUL:295 MEM:344 LATENCY: 262635.0 COMM\_SYN:16.92% COMM\_TRANS:0.41% MVMUL:74000.00 MVMUL:28.18% VEC:0.00% MEM:134616.00 MEM:51.26% ratio:96.76% COMM Volume:26.56kB MEM Volume:116.50kB

82 MVMUL:295 MEM:283 LATENCY: 264140.0 COMM\_SYN:6.78% COMM\_TRANS:1.23% MVMUL:74000.00 MVMUL:28.02% VEC:4.83% MEM:151970.00 MEM:57.53% ratio:98.39% COMM Volume:79.69kB MEM Volume:107.31kB

83 MVMUL:300 MEM:255 LATENCY: 263527.0 COMM\_SYN:2.78% COMM\_TRANS:0.42% MVMUL:79800.00 MVMUL:30.28% VEC:0.00% MEM:169570.00 MEM:64.35% ratio:97.83% COMM Volume:26.56kB MEM Volume:59.88kB

84 MVMUL:300 MEM:297 LATENCY: 263740.0 COMM\_SYN:1.57% COMM\_TRANS:0.41% MVMUL:76355.00 MVMUL:28.95% VEC:0.00% MEM:177740.00 MEM:67.39% ratio:98.32% COMM Volume:26.56kB MEM Volume:68.00kB

85 MVMUL:296 MEM:293 LATENCY: 263953.0 COMM\_SYN:4.18% COMM\_TRANS:1.61% MVMUL:74200.00 MVMUL:28.11% VEC:4.64% MEM:157983.00 MEM:59.85% ratio:98.39% COMM Volume:103.06kB MEM Volume:90.00kB

86 MVMUL:288 MEM:284 LATENCY: 249215.0 COMM\_SYN:5.58% COMM\_TRANS:0.41% MVMUL:72600.00 MVMUL:29.13% VEC:0.00% MEM:157597.00 MEM:63.24% ratio:98.36% COMM Volume:25.50kB MEM Volume:66.44kB

87 MVMUL:288 MEM:266 LATENCY: 249428.0 COMM\_SYN:4.60% COMM\_TRANS:0.43% MVMUL:75000.00 MVMUL:30.07% VEC:0.00% MEM:157473.00 MEM:63.13% ratio:98.23% COMM Volume:25.50kB MEM Volume:61.56kB

88 MVMUL:289 MEM:220 LATENCY: 262848.0 COMM\_SYN:13.63% COMM\_TRANS:0.83% MVMUL:77000.00 MVMUL:29.29% VEC:1.62% MEM:142654.00 MEM:54.27% ratio:99.65% COMM Volume:52.06kB MEM Volume:73.25kB

89 MVMUL:295 MEM:344 LATENCY: 263061.0 COMM\_SYN:5.91% COMM\_TRANS:0.83% MVMUL:74600.00 MVMUL:28.36% VEC:1.62% MEM:157822.00 MEM:59.99% ratio:96.70% COMM Volume:53.12kB MEM Volume:119.62kB

90 MVMUL:295 MEM:297 LATENCY: 264396.0 COMM\_SYN:7.98% COMM\_TRANS:1.65% MVMUL:74600.00 MVMUL:28.22% VEC:4.82% MEM:147332.00 MEM:55.72% ratio:98.39% COMM Volume:106.25kB MEM Volume:107.69kB

91 MVMUL:300 MEM:241 LATENCY: 263753.0 COMM\_SYN:11.26% COMM\_TRANS:0.42% MVMUL:78600.00 MVMUL:29.80% VEC:0.00% MEM:148958.00 MEM:56.48% ratio:97.96% COMM Volume:26.56kB MEM Volume:56.38kB

92 MVMUL:300 MEM:297 LATENCY: 263996.0 COMM\_SYN:6.77% COMM\_TRANS:0.42% MVMUL:75600.00 MVMUL:28.64% VEC:0.00% MEM:164993.00 MEM:62.50% ratio:98.33% COMM Volume:26.56kB MEM Volume:68.50kB

93 MVMUL:298 MEM:301 LATENCY: 264209.0 COMM\_SYN:9.53% COMM\_TRANS:1.97% MVMUL:75200.00 MVMUL:28.46% VEC:6.18% MEM:137858.00 MEM:52.18% ratio:98.32% COMM Volume:128.56kB MEM Volume:91.50kB

94 MVMUL:288 MEM:284 LATENCY: 253379.0 COMM\_SYN:8.61% COMM\_TRANS:0.41% MVMUL:73743.00 MVMUL:29.10% VEC:0.00% MEM:152340.00 MEM:60.12% ratio:98.24% COMM Volume:25.50kB MEM Volume:66.44kB

95 MVMUL:288 MEM:278 LATENCY: 253592.0 COMM\_SYN:10.32% COMM\_TRANS:0.41% MVMUL:73365.00 MVMUL:28.93% VEC:0.00% MEM:148562.00 MEM:58.58% ratio:98.25% COMM Volume:25.50kB MEM Volume:64.56kB

96 MVMUL:288 MEM:186 LATENCY: 253805.0 COMM\_SYN:28.59% COMM\_TRANS:0.41% MVMUL:73200.00 MVMUL:28.84% VEC:0.00% MEM:102606.00 MEM:40.43% ratio:98.26% COMM Volume:25.50kB MEM Volume:46.25kB

97 MVMUL:270 MEM:311 LATENCY: 262419.0 COMM\_SYN:14.15% COMM\_TRANS:0.42% MVMUL:74546.00 MVMUL:28.41% VEC:0.12% MEM:144657.00 MEM:55.12% ratio:98.22% COMM Volume:27.45kB MEM Volume:112.97kB

98 MVMUL:4 MEM:5 LATENCY: 12196.0 COMM\_SYN:24.48% COMM\_TRANS:0.65% MVMUL:1400.00 MVMUL:11.48% VEC:0.00% MEM:7412.00 MEM:60.77% ratio:97.38% COMM Volume:1.95kB MEM Volume:2.77kB

99 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

100 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

101 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

102 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

103 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

104 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

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

117 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

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

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

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

132 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

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

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

139 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

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)

686121.00

MVMUL (#)

104179

VVADD (#)

86392

COMM (#)

6566

Volume (bytes)

1787408

Cycles (ns)

155808

MEM (#)

128913

Volume (bytes)

20917524

Cycles (ns)

16308273

HT Volume (bytes)

0

Cycles (ns)

0

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

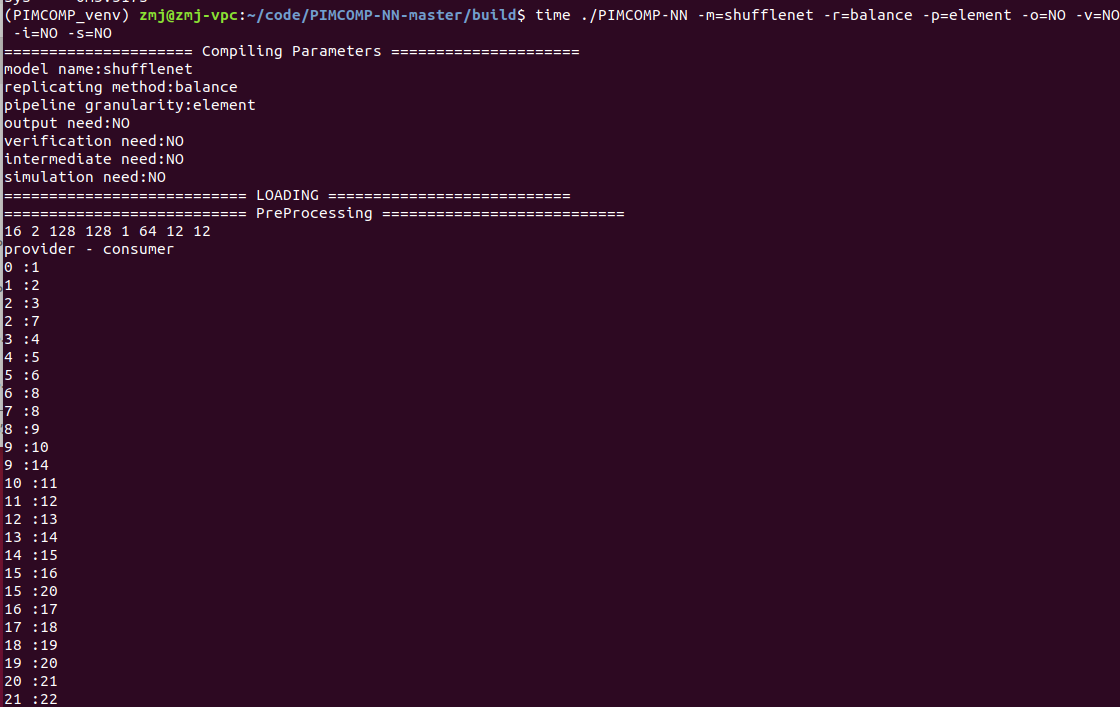
11.28s

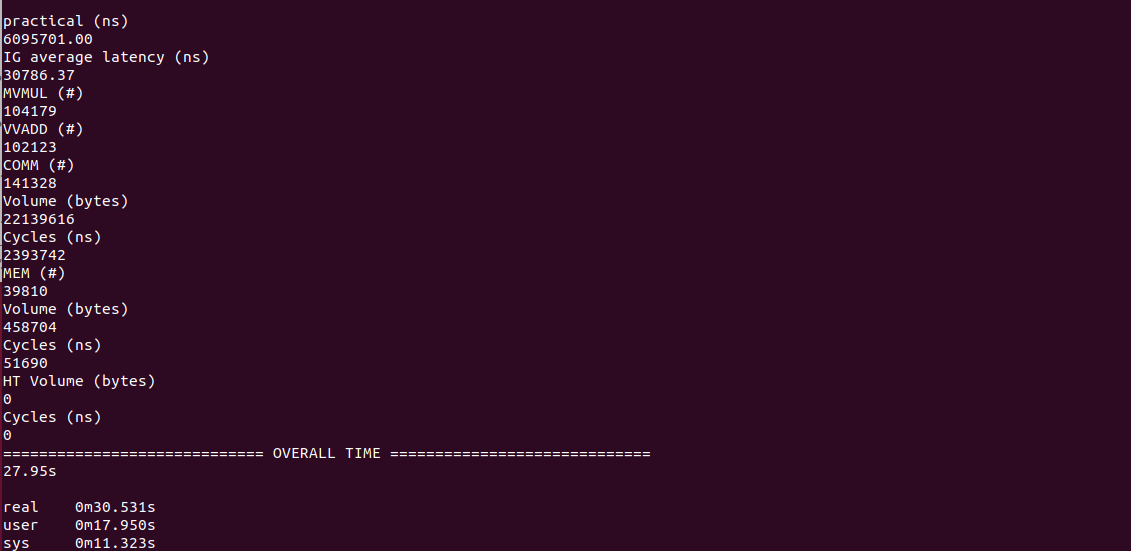
real 0m11.890s

user 0m8.075s

sys 0m3.517s

## HT





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

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

model name:shufflenet

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

2 :7

3 :4

4 :5

5 :6

6 :8

7 :8

8 :9

9 :10

9 :14

10 :11

11 :12

12 :13

13 :14

14 :15

15 :16

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95 :96

95 :100

96 :97

97 :98

98 :99

99 :100

100 :101

101 :102

102 :103

103 :104

104 :105

105 :-1

consumer - provider

1 :0

2 :1

3 :2

4 :3

5 :4

6 :5

7 :2

8 :6

8 :7

9 :8

10 :9

11 :10

12 :11

13 :12

14 :9

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100 :95

100 :99

101 :100

102 :101

103 :102

104 :103

105 :104

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

#Nodes in total: 106

1

input: 294kB

output: 588kB

Weight Matrix:27 × 24

min crossbar:1

3

input: 147kB

output: 686kB

Weight Matrix:24 × 112

min crossbar:1

5

input: 686kB

output: 171.5kB

Weight Matrix:1008 × 112

min crossbar:1

6

input: 171.5kB

output: 171.5kB

Weight Matrix:112 × 112

min crossbar:1

10

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

12

input: 208.25kB

output: 208.25kB

Weight Matrix:1224 × 136

min crossbar:2

13

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

16

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

18

input: 208.25kB

output: 208.25kB

Weight Matrix:1224 × 136

min crossbar:2

19

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

22

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

24

input: 208.25kB

output: 208.25kB

Weight Matrix:1224 × 136

min crossbar:2

25

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

28

input: 208.25kB

output: 208.25kB

Weight Matrix:136 × 136

min crossbar:2

30

input: 208.25kB

output: 52.0625kB

Weight Matrix:1224 × 136

min crossbar:2

31

input: 52.0625kB

output: 52.0625kB

Weight Matrix:136 × 136

min crossbar:2

35

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

37

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

38

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

41

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

43

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

44

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

47

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

49

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

50

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

53

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

55

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

56

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

59

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

61

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

62

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

65

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

67

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

68

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

71

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

73

input: 104.125kB

output: 104.125kB

Weight Matrix:2448 × 272

min crossbar:3

74

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

77

input: 104.125kB

output: 104.125kB

Weight Matrix:272 × 272

min crossbar:3

79

input: 104.125kB

output: 26.0312kB

Weight Matrix:2448 × 272

min crossbar:3

80

input: 26.0312kB

output: 26.0312kB

Weight Matrix:272 × 272

min crossbar:3

84

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

86

input: 52.0625kB

output: 52.0625kB

Weight Matrix:4896 × 544

min crossbar:5

87

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

90

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

92

input: 52.0625kB

output: 52.0625kB

Weight Matrix:4896 × 544

min crossbar:5

93

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

96

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

98

input: 52.0625kB

output: 52.0625kB

Weight Matrix:4896 × 544

min crossbar:5

99

input: 52.0625kB

output: 52.0625kB

Weight Matrix:544 × 544

min crossbar:5

104

output: 0.00190735MB

Weight Matrix:544 × 1000

min crossbar:8

FC Weight: 1.0376MB

Sum Weight: 33.8804MB

FC Ratio: 3.06253%

Output Sum:6.46187MB

Minimum Crossbar Num in One Core:8

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

node:1 replication\_num:262

node:3 replication\_num:66

node:5 replication\_num:16

node:6 replication\_num:17

node:10 replication\_num:16

node:12 replication\_num:17

node:13 replication\_num:16

node:16 replication\_num:17

node:18 replication\_num:17

node:19 replication\_num:17

node:22 replication\_num:17

node:24 replication\_num:16

node:25 replication\_num:17

node:28 replication\_num:17

node:30 replication\_num:4

node:31 replication\_num:4

node:35 replication\_num:5

node:37 replication\_num:4

node:38 replication\_num:5

node:41 replication\_num:4

node:43 replication\_num:4

node:44 replication\_num:4

node:47 replication\_num:4

node:49 replication\_num:5

node:50 replication\_num:5

node:53 replication\_num:5

node:55 replication\_num:5

node:56 replication\_num:5

node:59 replication\_num:5

node:61 replication\_num:4

node:62 replication\_num:5

node:65 replication\_num:5

node:67 replication\_num:5

node:68 replication\_num:4

node:71 replication\_num:5

node:73 replication\_num:5

node:74 replication\_num:5

node:77 replication\_num:4

node:79 replication\_num:1

node:80 replication\_num:1

node:84 replication\_num:2

node:86 replication\_num:2

node:87 replication\_num:2

node:90 replication\_num:2

node:92 replication\_num:2

node:93 replication\_num:2

node:96 replication\_num:2

node:98 replication\_num:2

node:99 replication\_num:2

node:104 replication\_num:1

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

#RRAMs needed: 6166

#ArrayGroups needed: 2427

RRAMs Usage: 66.9054%

Replication Check Pass!

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

0 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 0 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 1 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 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\_POOL core:2

node:4 operation:OP\_SHUFFLE core:4

node:7 operation:OP\_POOL core:7

node:8 operation:OP\_CONCAT core:8

node:9 operation:OP\_RELU core:9

node:11 operation:OP\_SHUFFLE core:11

node:14 operation:OP\_ELTWISE core:14

node:15 operation:OP\_RELU core:15

node:17 operation:OP\_SHUFFLE core:17

node:20 operation:OP\_ELTWISE core:20

node:21 operation:OP\_RELU core:21

node:23 operation:OP\_SHUFFLE core:23

node:26 operation:OP\_ELTWISE core:26

node:27 operation:OP\_RELU core:27

node:29 operation:OP\_SHUFFLE core:29

node:32 operation:OP\_POOL core:32

node:33 operation:OP\_CONCAT core:33

node:34 operation:OP\_RELU core:34

node:36 operation:OP\_SHUFFLE core:36

node:39 operation:OP\_ELTWISE core:39

node:40 operation:OP\_RELU core:40

node:42 operation:OP\_SHUFFLE core:42

node:45 operation:OP\_ELTWISE core:45

node:46 operation:OP\_RELU core:46

node:48 operation:OP\_SHUFFLE core:48

node:51 operation:OP\_ELTWISE core:51

node:52 operation:OP\_RELU core:52

node:54 operation:OP\_SHUFFLE core:54

node:57 operation:OP\_ELTWISE core:57

node:58 operation:OP\_RELU core:58

node:60 operation:OP\_SHUFFLE core:60

node:63 operation:OP\_ELTWISE core:63

node:64 operation:OP\_RELU core:64

node:66 operation:OP\_SHUFFLE core:66

node:69 operation:OP\_ELTWISE core:69

node:70 operation:OP\_RELU core:70

node:72 operation:OP\_SHUFFLE core:72

node:75 operation:OP\_ELTWISE core:75

node:76 operation:OP\_RELU core:76

node:78 operation:OP\_SHUFFLE core:78

node:81 operation:OP\_POOL core:81

node:82 operation:OP\_CONCAT core:82

node:83 operation:OP\_RELU core:83

node:85 operation:OP\_SHUFFLE core:85

node:88 operation:OP\_ELTWISE core:88

node:89 operation:OP\_RELU core:89

node:91 operation:OP\_SHUFFLE core:91

node:94 operation:OP\_ELTWISE core:94

node:95 operation:OP\_RELU core:95

node:97 operation:OP\_SHUFFLE core:97

node:100 operation:OP\_ELTWISE core:100

node:101 operation:OP\_RELU core:101

node:102 operation:OP\_POOL core:102

node:103 operation:OP\_RESHAPE core:103

node:105 operation:OP\_SOFTMAX core:105

Element Pipeline Instruction Group Index: 0

max\_memory\_core\_index:2 18.7031 kB

Element Pipeline Instruction Group Index: 1

max\_memory\_core\_index:2 25.7344 kB

Element Pipeline Instruction Group Index: 2

max\_memory\_core\_index:4 30.0195 kB

Element Pipeline Instruction Group Index: 3

max\_memory\_core\_index:4 30.5977 kB

Element Pipeline Instruction Group Index: 4

max\_memory\_core\_index:4 31.6602 kB

Element Pipeline Instruction Group Index: 5

max\_memory\_core\_index:5 46.6875 kB

Element Pipeline Instruction Group Index: 6

max\_memory\_core\_index:6 52.7188 kB

Element Pipeline Instruction Group Index: 7

max\_memory\_core\_index:6 52.9375 kB

Element Pipeline Instruction Group Index: 8

max\_memory\_core\_index:6 53.1562 kB

Element Pipeline Instruction Group Index: 9

max\_memory\_core\_index:6 54.0312 kB

Element Pipeline Instruction Group Index: 10

max\_memory\_core\_index:6 53.1562 kB

Element Pipeline Instruction Group Index: 11

max\_memory\_core\_index:6 54.9062 kB

Element Pipeline Instruction Group Index: 12

max\_memory\_core\_index:6 53.5938 kB

Element Pipeline Instruction Group Index: 13

max\_memory\_core\_index:6 53.375 kB

Element Pipeline Instruction Group Index: 14

max\_memory\_core\_index:6 54.0312 kB

Element Pipeline Instruction Group Index: 15

max\_memory\_core\_index:6 54.4688 kB

Element Pipeline Instruction Group Index: 16

max\_memory\_core\_index:6 56.6562 kB

Element Pipeline Instruction Group Index: 17

max\_memory\_core\_index:6 55.3438 kB

Element Pipeline Instruction Group Index: 18

max\_memory\_core\_index:6 55.5625 kB

Element Pipeline Instruction Group Index: 19

max\_memory\_core\_index:6 54.6875 kB

Element Pipeline Instruction Group Index: 20

max\_memory\_core\_index:6 54.6875 kB

Element Pipeline Instruction Group Index: 21

max\_memory\_core\_index:6 56.6562 kB

Element Pipeline Instruction Group Index: 22

max\_memory\_core\_index:20 58.4062 kB

Element Pipeline Instruction Group Index: 23

max\_memory\_core\_index:20 60 kB

Element Pipeline Instruction Group Index: 24

max\_memory\_core\_index:20 60.7969 kB

Element Pipeline Instruction Group Index: 25

max\_memory\_core\_index:20 61.0625 kB

Element Pipeline Instruction Group Index: 26

max\_memory\_core\_index:20 61.0625 kB

Element Pipeline Instruction Group Index: 27

max\_memory\_core\_index:20 60.7969 kB

Element Pipeline Instruction Group Index: 28

max\_memory\_core\_index:20 60.5312 kB

Element Pipeline Instruction Group Index: 29

max\_memory\_core\_index:20 60.2656 kB

Element Pipeline Instruction Group Index: 30

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 31

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 32

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 33

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 34

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 35

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 36

max\_memory\_core\_index:6 60.1562 kB

Element Pipeline Instruction Group Index: 37

max\_memory\_core\_index:6 61.0312 kB

Element Pipeline Instruction Group Index: 38

max\_memory\_core\_index:6 61.0312 kB

Element Pipeline Instruction Group Index: 39

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 40

max\_memory\_core\_index:20 60 kB

Element Pipeline Instruction Group Index: 41

max\_memory\_core\_index:20 60.7969 kB

Element Pipeline Instruction Group Index: 42

max\_memory\_core\_index:6 61.9062 kB

Element Pipeline Instruction Group Index: 43

max\_memory\_core\_index:6 62.3438 kB

Element Pipeline Instruction Group Index: 44

max\_memory\_core\_index:6 61.0312 kB

Element Pipeline Instruction Group Index: 45

max\_memory\_core\_index:6 62.125 kB

Element Pipeline Instruction Group Index: 46

max\_memory\_core\_index:20 60.2656 kB

Element Pipeline Instruction Group Index: 47

max\_memory\_core\_index:6 62.125 kB

Element Pipeline Instruction Group Index: 48

max\_memory\_core\_index:6 61.4688 kB

Element Pipeline Instruction Group Index: 49

max\_memory\_core\_index:6 62.3438 kB

Element Pipeline Instruction Group Index: 50

max\_memory\_core\_index:6 61.25 kB

Element Pipeline Instruction Group Index: 51

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 52

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 53

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 54

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 55

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 56

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 57

max\_memory\_core\_index:20 60 kB

Element Pipeline Instruction Group Index: 58

max\_memory\_core\_index:20 60.7969 kB

Element Pipeline Instruction Group Index: 59

max\_memory\_core\_index:20 61.3281 kB

Element Pipeline Instruction Group Index: 60

max\_memory\_core\_index:20 61.0625 kB

Element Pipeline Instruction Group Index: 61

max\_memory\_core\_index:20 60.5312 kB

Element Pipeline Instruction Group Index: 62

max\_memory\_core\_index:20 60.2656 kB

Element Pipeline Instruction Group Index: 63

max\_memory\_core\_index:20 60 kB

Element Pipeline Instruction Group Index: 64

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 65

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 66

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 67

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 68

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 69

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 70

max\_memory\_core\_index:26 59.8906 kB

Element Pipeline Instruction Group Index: 71

max\_memory\_core\_index:26 60.1562 kB

Element Pipeline Instruction Group Index: 72

max\_memory\_core\_index:26 59.625 kB

Element Pipeline Instruction Group Index: 73

max\_memory\_core\_index:26 54.3125 kB

Element Pipeline Instruction Group Index: 74

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 75

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 76

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 77

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 78

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 79

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 80

max\_memory\_core\_index:51 52.3125 kB

Element Pipeline Instruction Group Index: 81

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 82

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 83

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 84

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 85

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 86

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 87

max\_memory\_core\_index:39 51.7812 kB

Element Pipeline Instruction Group Index: 88

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 89

max\_memory\_core\_index:57 53.375 kB

Element Pipeline Instruction Group Index: 90

max\_memory\_core\_index:51 52.3125 kB

Element Pipeline Instruction Group Index: 91

max\_memory\_core\_index:57 52.3125 kB

Element Pipeline Instruction Group Index: 92

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 93

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 94

max\_memory\_core\_index:51 52.3125 kB

Element Pipeline Instruction Group Index: 95

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 96

max\_memory\_core\_index:57 53.375 kB

Element Pipeline Instruction Group Index: 97

max\_memory\_core\_index:57 51.7812 kB

Element Pipeline Instruction Group Index: 98

max\_memory\_core\_index:57 52.3125 kB

Element Pipeline Instruction Group Index: 99

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 100

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 101

max\_memory\_core\_index:57 52.3125 kB

Element Pipeline Instruction Group Index: 102

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 103

max\_memory\_core\_index:57 53.375 kB

Element Pipeline Instruction Group Index: 104

max\_memory\_core\_index:51 52.8438 kB

Element Pipeline Instruction Group Index: 105

max\_memory\_core\_index:57 52.3125 kB

Element Pipeline Instruction Group Index: 106

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 107

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 108

max\_memory\_core\_index:57 52.3125 kB

Element Pipeline Instruction Group Index: 109

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 110

max\_memory\_core\_index:57 53.375 kB

Element Pipeline Instruction Group Index: 111

max\_memory\_core\_index:57 51.7812 kB

Element Pipeline Instruction Group Index: 112

max\_memory\_core\_index:57 52.3125 kB

Element Pipeline Instruction Group Index: 113

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 114

max\_memory\_core\_index:57 53.9062 kB

Element Pipeline Instruction Group Index: 115

max\_memory\_core\_index:57 53.9062 kB

Element Pipeline Instruction Group Index: 116

max\_memory\_core\_index:57 54.4375 kB

Element Pipeline Instruction Group Index: 117

max\_memory\_core\_index:57 52.8438 kB

Element Pipeline Instruction Group Index: 118

max\_memory\_core\_index:57 50.1875 kB

Element Pipeline Instruction Group Index: 119

max\_memory\_core\_index:63 50.1875 kB

Element Pipeline Instruction Group Index: 120

max\_memory\_core\_index:63 50.1875 kB

Element Pipeline Instruction Group Index: 121

max\_memory\_core\_index:63 52.8438 kB

Element Pipeline Instruction Group Index: 122

max\_memory\_core\_index:63 52.8438 kB

Element Pipeline Instruction Group Index: 123

max\_memory\_core\_index:63 52.8438 kB

Element Pipeline Instruction Group Index: 124

max\_memory\_core\_index:63 52.8438 kB

Element Pipeline Instruction Group Index: 125

max\_memory\_core\_index:63 51.7812 kB

Element Pipeline Instruction Group Index: 126

max\_memory\_core\_index:63 51.7812 kB

Element Pipeline Instruction Group Index: 127

max\_memory\_core\_index:69 49.6562 kB

Element Pipeline Instruction Group Index: 128

max\_memory\_core\_index:69 49.125 kB

Element Pipeline Instruction Group Index: 129

max\_memory\_core\_index:69 50.1875 kB

Element Pipeline Instruction Group Index: 130

max\_memory\_core\_index:69 49.6562 kB

Element Pipeline Instruction Group Index: 131

max\_memory\_core\_index:69 49.125 kB

Element Pipeline Instruction Group Index: 132

max\_memory\_core\_index:69 51.25 kB

Element Pipeline Instruction Group Index: 133

max\_memory\_core\_index:69 50.7188 kB

Element Pipeline Instruction Group Index: 134

max\_memory\_core\_index:69 50.1875 kB

Element Pipeline Instruction Group Index: 135

max\_memory\_core\_index:75 49.2188 kB

Element Pipeline Instruction Group Index: 136

max\_memory\_core\_index:75 48.6875 kB

Element Pipeline Instruction Group Index: 137

max\_memory\_core\_index:69 49.125 kB

Element Pipeline Instruction Group Index: 138

max\_memory\_core\_index:75 48.1562 kB

Element Pipeline Instruction Group Index: 139

max\_memory\_core\_index:75 49.2188 kB

Element Pipeline Instruction Group Index: 140

max\_memory\_core\_index:75 48.1562 kB

Element Pipeline Instruction Group Index: 141

max\_memory\_core\_index:75 49.2188 kB

Element Pipeline Instruction Group Index: 142

max\_memory\_core\_index:75 48.1562 kB

Element Pipeline Instruction Group Index: 143

max\_memory\_core\_index:75 49.75 kB

Element Pipeline Instruction Group Index: 144

max\_memory\_core\_index:75 47.0938 kB

Element Pipeline Instruction Group Index: 145

max\_memory\_core\_index:75 49.2188 kB

Element Pipeline Instruction Group Index: 146

max\_memory\_core\_index:75 47.0938 kB

Element Pipeline Instruction Group Index: 147

max\_memory\_core\_index:75 44.9688 kB

Element Pipeline Instruction Group Index: 148

max\_memory\_core\_index:75 43.9062 kB

Element Pipeline Instruction Group Index: 149

max\_memory\_core\_index:75 42.8438 kB

Element Pipeline Instruction Group Index: 150

max\_memory\_core\_index:75 40.1875 kB

Element Pipeline Instruction Group Index: 151

max\_memory\_core\_index:75 38.5938 kB

Element Pipeline Instruction Group Index: 152

max\_memory\_core\_index:82 35.75 kB

Element Pipeline Instruction Group Index: 153

max\_memory\_core\_index:72 35.9375 kB

Element Pipeline Instruction Group Index: 154

max\_memory\_core\_index:72 36.4688 kB

Element Pipeline Instruction Group Index: 155

max\_memory\_core\_index:82 35.75 kB

Element Pipeline Instruction Group Index: 156

max\_memory\_core\_index:82 37.3438 kB

Element Pipeline Instruction Group Index: 157

max\_memory\_core\_index:94 43.375 kB

Element Pipeline Instruction Group Index: 158

max\_memory\_core\_index:94 44.4375 kB

Element Pipeline Instruction Group Index: 159

max\_memory\_core\_index:94 45.5 kB

Element Pipeline Instruction Group Index: 160

max\_memory\_core\_index:94 45.5 kB

Element Pipeline Instruction Group Index: 161

max\_memory\_core\_index:94 47.625 kB

Element Pipeline Instruction Group Index: 162

max\_memory\_core\_index:94 46.5625 kB

Element Pipeline Instruction Group Index: 163

max\_memory\_core\_index:94 45.5 kB

Element Pipeline Instruction Group Index: 164

max\_memory\_core\_index:94 49.75 kB

Element Pipeline Instruction Group Index: 165

max\_memory\_core\_index:94 48.6875 kB

Element Pipeline Instruction Group Index: 166

max\_memory\_core\_index:94 47.625 kB

Element Pipeline Instruction Group Index: 167

max\_memory\_core\_index:94 45.5 kB

Element Pipeline Instruction Group Index: 168

max\_memory\_core\_index:94 47.625 kB

Element Pipeline Instruction Group Index: 169

max\_memory\_core\_index:94 46.5625 kB

Element Pipeline Instruction Group Index: 170

max\_memory\_core\_index:94 46.5625 kB

Element Pipeline Instruction Group Index: 171

max\_memory\_core\_index:94 48.6875 kB

Element Pipeline Instruction Group Index: 172

max\_memory\_core\_index:94 51.875 kB

Element Pipeline Instruction Group Index: 173

max\_memory\_core\_index:94 51.875 kB

Element Pipeline Instruction Group Index: 174

max\_memory\_core\_index:94 49.75 kB

Element Pipeline Instruction Group Index: 175

max\_memory\_core\_index:94 51.875 kB

Element Pipeline Instruction Group Index: 176

max\_memory\_core\_index:94 50.8125 kB

Element Pipeline Instruction Group Index: 177

max\_memory\_core\_index:94 48.6875 kB

Element Pipeline Instruction Group Index: 178

max\_memory\_core\_index:94 47.625 kB

Element Pipeline Instruction Group Index: 179

max\_memory\_core\_index:94 45.5 kB

Element Pipeline Instruction Group Index: 180

max\_memory\_core\_index:94 43.375 kB

Element Pipeline Instruction Group Index: 181

max\_memory\_core\_index:94 41.25 kB

Element Pipeline Instruction Group Index: 182

max\_memory\_core\_index:94 39.125 kB

Element Pipeline Instruction Group Index: 183

max\_memory\_core\_index:94 35.9375 kB

Element Pipeline Instruction Group Index: 184

max\_memory\_core\_index:90 33.4375 kB

Element Pipeline Instruction Group Index: 185

max\_memory\_core\_index:102 31.875 kB

Element Pipeline Instruction Group Index: 186

max\_memory\_core\_index:102 34 kB

Element Pipeline Instruction Group Index: 187

max\_memory\_core\_index:102 36.125 kB

Element Pipeline Instruction Group Index: 188

max\_memory\_core\_index:102 38.25 kB

Element Pipeline Instruction Group Index: 189

max\_memory\_core\_index:102 40.375 kB

Element Pipeline Instruction Group Index: 190

max\_memory\_core\_index:102 42.5 kB

Element Pipeline Instruction Group Index: 191

max\_memory\_core\_index:102 44.625 kB

Element Pipeline Instruction Group Index: 192

max\_memory\_core\_index:102 46.75 kB

Element Pipeline Instruction Group Index: 193

max\_memory\_core\_index:102 48.875 kB

Element Pipeline Instruction Group Index: 194

max\_memory\_core\_index:102 51 kB

Element Pipeline Instruction Group Index: 195

max\_memory\_core\_index:102 52.0625 kB

Element Pipeline Instruction Group Index: 196

max\_memory\_core\_index:6 29.75 kB

Element Pipeline Instruction Group Index: 197

max\_memory\_core\_index:0 0 kB

[effective\_instruction\_group\_num]:198

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

Node Expected Index Num

1: 12544 12544 12544

2: 3136 3136 3136

3: 3136 3136 3136

4: 3136 3136 3136

5: 784 784 784

6: 784 784 784

7: 784 784 784

8: 784 784 784

9: 784 784 784

10: 784 784 784

11: 784 784 784

12: 784 784 784

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30: 196 196 196

31: 196 196 196

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91: 49 49 49

92: 49 49 49

93: 49 49 49

94: 49 49 49

95: 49 49 49

96: 49 49 49

97: 49 49 49

98: 49 49 49

99: 49 49 49

100: 49 49 49

101: 49 49 49

102: 1 1 1

104: 1 1 1

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

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

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

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

instruction\_group\_num:198

0 MVMUL:3072 MEM:10819 LATENCY: 2087315.0 COMM\_SYN:68.67% COMM\_TRANS:0.44% MVMUL:643200.00 MVMUL:30.81% VEC:0.00% MEM:97.00 MEM:0.00% ratio:99.93% COMM Volume:144.00kB MEM Volume:108.12kB

1 MVMUL:3072 MEM:9407 LATENCY: 2087443.0 COMM\_SYN:68.80% COMM\_TRANS:0.29% MVMUL:643200.00 MVMUL:30.81% VEC:0.00% MEM:486.00 MEM:0.02% ratio:99.93% COMM Volume:144.00kB MEM Volume:108.30kB

2 MVMUL:3072 MEM:9359 LATENCY: 2189685.0 COMM\_SYN:56.11% COMM\_TRANS:1.97% MVMUL:643200.00 MVMUL:29.37% VEC:12.44% MEM:916.00 MEM:0.04% ratio:99.93% COMM Volume:738.00kB MEM Volume:108.87kB

3 MVMUL:3046 MEM:9281 LATENCY: 2087775.0 COMM\_SYN:69.00% COMM\_TRANS:0.30% MVMUL:638000.00 MVMUL:30.56% VEC:0.00% MEM:1424.00 MEM:0.07% ratio:99.93% COMM Volume:142.78kB MEM Volume:107.98kB

4 MVMUL:3042 MEM:941 LATENCY: 2343606.0 COMM\_SYN:37.35% COMM\_TRANS:3.16% MVMUL:639000.00 MVMUL:27.27% VEC:32.09% MEM:508.00 MEM:0.02% ratio:99.89% COMM Volume:1169.41kB MEM Volume:10.77kB

5 MVMUL:3120 MEM:0 LATENCY: 2467617.0 COMM\_SYN:71.95% COMM\_TRANS:1.43% MVMUL:654600.00 MVMUL:26.53% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.91% COMM Volume:575.66kB MEM Volume:0.00kB

6 MVMUL:3136 MEM:0 LATENCY: 2528942.0 COMM\_SYN:72.68% COMM\_TRANS:1.21% MVMUL:657200.00 MVMUL:25.99% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.88% COMM Volume:533.75kB MEM Volume:0.00kB

7 MVMUL:2107 MEM:0 LATENCY: 2750882.0 COMM\_SYN:80.89% COMM\_TRANS:2.07% MVMUL:453200.00 MVMUL:16.47% VEC:2.51% MEM:0.00 MEM:0.00% ratio:101.94% COMM Volume:885.17kB MEM Volume:0.00kB

8 MVMUL:1530 MEM:0 LATENCY: 2989191.0 COMM\_SYN:85.62% COMM\_TRANS:1.33% MVMUL:367200.00 MVMUL:12.28% VEC:0.66% MEM:0.00 MEM:0.00% ratio:99.89% COMM Volume:780.67kB MEM Volume:0.00kB

9 MVMUL:1473 MEM:0 LATENCY: 2982332.0 COMM\_SYN:85.53% COMM\_TRANS:1.31% MVMUL:352200.00 MVMUL:11.81% VEC:1.39% MEM:0.00 MEM:0.00% ratio:100.04% COMM Volume:891.17kB MEM Volume:0.00kB

10 MVMUL:1472 MEM:0 LATENCY: 2989213.0 COMM\_SYN:87.58% COMM\_TRANS:0.38% MVMUL:351400.00 MVMUL:11.76% VEC:0.08% MEM:0.00 MEM:0.00% ratio:99.79% COMM Volume:240.66kB MEM Volume:0.00kB

11 MVMUL:1472 MEM:0 LATENCY: 2989246.0 COMM\_SYN:85.15% COMM\_TRANS:1.99% MVMUL:351400.00 MVMUL:11.76% VEC:7.67% MEM:0.00 MEM:0.00% ratio:106.57% COMM Volume:1088.27kB MEM Volume:0.00kB

12 MVMUL:1472 MEM:0 LATENCY: 2989279.0 COMM\_SYN:87.53% COMM\_TRANS:0.44% MVMUL:351400.00 MVMUL:11.76% VEC:0.08% MEM:0.00 MEM:0.00% ratio:99.81% COMM Volume:230.03kB MEM Volume:0.00kB

13 MVMUL:1499 MEM:0 LATENCY: 3044425.0 COMM\_SYN:87.55% COMM\_TRANS:0.53% MVMUL:356800.00 MVMUL:11.72% VEC:0.10% MEM:0.00 MEM:0.00% ratio:99.90% COMM Volume:318.22kB MEM Volume:0.00kB

14 MVMUL:1545 MEM:0 LATENCY: 3320930.0 COMM\_SYN:86.68% COMM\_TRANS:1.56% MVMUL:370200.00 MVMUL:11.15% VEC:3.05% MEM:0.00 MEM:0.00% ratio:102.44% COMM Volume:786.25kB MEM Volume:0.00kB

15 MVMUL:1479 MEM:0 LATENCY: 3509427.0 COMM\_SYN:86.94% COMM\_TRANS:1.35% MVMUL:355200.00 MVMUL:10.12% VEC:1.56% MEM:0.00 MEM:0.00% ratio:99.97% COMM Volume:745.34kB MEM Volume:0.00kB

16 MVMUL:1485 MEM:0 LATENCY: 3509438.0 COMM\_SYN:89.32% COMM\_TRANS:0.32% MVMUL:355200.00 MVMUL:10.12% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.82% COMM Volume:240.92kB MEM Volume:0.00kB

17 MVMUL:1472 MEM:0 LATENCY: 3509460.0 COMM\_SYN:82.09% COMM\_TRANS:1.57% MVMUL:351400.00 MVMUL:10.01% VEC:6.56% MEM:0.00 MEM:0.00% ratio:100.23% COMM Volume:1088.80kB MEM Volume:0.00kB

18 MVMUL:1472 MEM:0 LATENCY: 3509493.0 COMM\_SYN:89.39% COMM\_TRANS:0.36% MVMUL:351400.00 MVMUL:10.01% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.83% COMM Volume:238.27kB MEM Volume:0.00kB

19 MVMUL:1472 MEM:0 LATENCY: 3509526.0 COMM\_SYN:89.41% COMM\_TRANS:0.40% MVMUL:351400.00 MVMUL:10.01% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.89% COMM Volume:227.64kB MEM Volume:0.00kB

20 MVMUL:1472 MEM:0 LATENCY: 3618214.0 COMM\_SYN:86.52% COMM\_TRANS:1.14% MVMUL:351400.00 MVMUL:9.71% VEC:2.47% MEM:0.00 MEM:0.00% ratio:99.84% COMM Volume:864.61kB MEM Volume:0.00kB

21 MVMUL:1476 MEM:0 LATENCY: 3693428.0 COMM\_SYN:86.87% COMM\_TRANS:2.34% MVMUL:352800.00 MVMUL:9.55% VEC:1.12% MEM:0.00 MEM:0.00% ratio:99.89% COMM Volume:1063.30kB MEM Volume:0.00kB

22 MVMUL:1476 MEM:0 LATENCY: 3737733.0 COMM\_SYN:89.40% COMM\_TRANS:1.74% MVMUL:354000.00 MVMUL:9.47% VEC:0.06% MEM:0.00 MEM:0.00% ratio:100.67% COMM Volume:428.72kB MEM Volume:0.00kB

23 MVMUL:1547 MEM:0 LATENCY: 3851219.0 COMM\_SYN:88.22% COMM\_TRANS:1.64% MVMUL:368200.00 MVMUL:9.56% VEC:6.02% MEM:0.00 MEM:0.00% ratio:105.44% COMM Volume:1064.89kB MEM Volume:0.00kB

24 MVMUL:1568 MEM:0 LATENCY: 3888122.0 COMM\_SYN:89.80% COMM\_TRANS:0.37% MVMUL:373000.00 MVMUL:9.59% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.83% COMM Volume:245.70kB MEM Volume:0.00kB

25 MVMUL:1568 MEM:0 LATENCY: 3888155.0 COMM\_SYN:89.90% COMM\_TRANS:0.40% MVMUL:372400.00 MVMUL:9.58% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.95% COMM Volume:244.91kB MEM Volume:0.00kB

26 MVMUL:1568 MEM:0 LATENCY: 3935352.0 COMM\_SYN:86.13% COMM\_TRANS:2.15% MVMUL:372400.00 MVMUL:9.46% VEC:2.27% MEM:0.00 MEM:0.00% ratio:100.02% COMM Volume:868.86kB MEM Volume:0.00kB

27 MVMUL:1568 MEM:0 LATENCY: 3982809.0 COMM\_SYN:87.77% COMM\_TRANS:1.67% MVMUL:372400.00 MVMUL:9.35% VEC:1.05% MEM:0.00 MEM:0.00% ratio:99.84% COMM Volume:879.22kB MEM Volume:0.00kB

28 MVMUL:1497 MEM:0 LATENCY: 3903635.0 COMM\_SYN:90.11% COMM\_TRANS:0.53% MVMUL:358800.00 MVMUL:9.19% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.89% COMM Volume:427.92kB MEM Volume:0.00kB

29 MVMUL:1476 MEM:0 LATENCY: 4024129.0 COMM\_SYN:84.23% COMM\_TRANS:1.25% MVMUL:354000.00 MVMUL:8.80% VEC:5.66% MEM:0.00 MEM:0.00% ratio:99.93% COMM Volume:671.50kB MEM Volume:0.00kB

30 MVMUL:1535 MEM:0 LATENCY: 4114513.0 COMM\_SYN:90.33% COMM\_TRANS:0.69% MVMUL:366400.00 MVMUL:8.91% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.99% COMM Volume:362.58kB MEM Volume:0.00kB

31 MVMUL:1443 MEM:0 LATENCY: 4256486.0 COMM\_SYN:90.82% COMM\_TRANS:0.66% MVMUL:349800.00 MVMUL:8.22% VEC:0.03% MEM:0.00 MEM:0.00% ratio:99.72% COMM Volume:311.58kB MEM Volume:0.00kB

32 MVMUL:909 MEM:0 LATENCY: 4404157.0 COMM\_SYN:93.94% COMM\_TRANS:0.71% MVMUL:214800.00 MVMUL:4.88% VEC:1.93% MEM:0.00 MEM:0.00% ratio:101.46% COMM Volume:579.59kB MEM Volume:0.00kB

33 MVMUL:1029 MEM:0 LATENCY: 4404179.0 COMM\_SYN:92.80% COMM\_TRANS:0.86% MVMUL:264600.00 MVMUL:6.01% VEC:0.30% MEM:0.00 MEM:0.00% ratio:99.96% COMM Volume:395.78kB MEM Volume:0.00kB

34 MVMUL:1029 MEM:0 LATENCY: 4408667.0 COMM\_SYN:92.72% COMM\_TRANS:0.99% MVMUL:264600.00 MVMUL:6.00% VEC:0.50% MEM:0.00 MEM:0.00% ratio:100.20% COMM Volume:499.91kB MEM Volume:0.00kB

35 MVMUL:1029 MEM:0 LATENCY: 4430213.0 COMM\_SYN:93.39% COMM\_TRANS:0.46% MVMUL:264600.00 MVMUL:5.97% VEC:0.10% MEM:0.00 MEM:0.00% ratio:99.91% COMM Volume:187.00kB MEM Volume:0.00kB

36 MVMUL:902 MEM:0 LATENCY: 4470997.0 COMM\_SYN:92.78% COMM\_TRANS:1.38% MVMUL:239800.00 MVMUL:5.36% VEC:2.59% MEM:0.00 MEM:0.00% ratio:102.12% COMM Volume:767.66kB MEM Volume:0.00kB

37 MVMUL:1009 MEM:0 LATENCY: 4655005.0 COMM\_SYN:93.15% COMM\_TRANS:1.01% MVMUL:258200.00 MVMUL:5.55% VEC:0.09% MEM:0.00 MEM:0.00% ratio:99.80% COMM Volume:371.88kB MEM Volume:0.00kB

38 MVMUL:1029 MEM:0 LATENCY: 4655027.0 COMM\_SYN:93.79% COMM\_TRANS:0.25% MVMUL:264600.00 MVMUL:5.68% VEC:0.09% MEM:0.00 MEM:0.00% ratio:99.82% COMM Volume:182.22kB MEM Volume:0.00kB

39 MVMUL:1029 MEM:0 LATENCY: 4655049.0 COMM\_SYN:93.05% COMM\_TRANS:0.89% MVMUL:264600.00 MVMUL:5.68% VEC:0.95% MEM:0.00 MEM:0.00% ratio:100.57% COMM Volume:494.59kB MEM Volume:0.00kB

40 MVMUL:1029 MEM:0 LATENCY: 4659715.0 COMM\_SYN:93.07% COMM\_TRANS:0.90% MVMUL:264600.00 MVMUL:5.68% VEC:0.47% MEM:0.00 MEM:0.00% ratio:100.12% COMM Volume:520.62kB MEM Volume:0.00kB

41 MVMUL:1029 MEM:0 LATENCY: 4678451.0 COMM\_SYN:93.56% COMM\_TRANS:0.48% MVMUL:264600.00 MVMUL:5.66% VEC:0.09% MEM:0.00 MEM:0.00% ratio:99.79% COMM Volume:356.47kB MEM Volume:0.00kB

42 MVMUL:957 MEM:0 LATENCY: 4833506.0 COMM\_SYN:90.68% COMM\_TRANS:1.67% MVMUL:253200.00 MVMUL:5.24% VEC:2.28% MEM:0.00 MEM:0.00% ratio:99.87% COMM Volume:961.56kB MEM Volume:0.00kB

43 MVMUL:831 MEM:0 LATENCY: 4812797.0 COMM\_SYN:95.11% COMM\_TRANS:0.27% MVMUL:213600.00 MVMUL:4.44% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.89% COMM Volume:165.22kB MEM Volume:0.00kB

44 MVMUL:819 MEM:0 LATENCY: 4833528.0 COMM\_SYN:95.27% COMM\_TRANS:0.21% MVMUL:210600.00 MVMUL:4.36% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.90% COMM Volume:163.09kB MEM Volume:0.00kB

45 MVMUL:819 MEM:0 LATENCY: 4833550.0 COMM\_SYN:94.31% COMM\_TRANS:0.93% MVMUL:210600.00 MVMUL:4.36% VEC:0.89% MEM:0.00 MEM:0.00% ratio:100.49% COMM Volume:476.00kB MEM Volume:0.00kB

46 MVMUL:819 MEM:0 LATENCY: 4837416.0 COMM\_SYN:94.81% COMM\_TRANS:0.55% MVMUL:210600.00 MVMUL:4.35% VEC:0.44% MEM:0.00 MEM:0.00% ratio:100.16% COMM Volume:497.25kB MEM Volume:0.00kB

47 MVMUL:822 MEM:0 LATENCY: 4859883.0 COMM\_SYN:94.91% COMM\_TRANS:0.46% MVMUL:217200.00 MVMUL:4.47% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.92% COMM Volume:324.06kB MEM Volume:0.00kB

48 MVMUL:826 MEM:0 LATENCY: 5039981.0 COMM\_SYN:93.75% COMM\_TRANS:1.28% MVMUL:221000.00 MVMUL:4.38% VEC:2.19% MEM:0.00 MEM:0.00% ratio:101.60% COMM Volume:991.84kB MEM Volume:0.00kB

49 MVMUL:835 MEM:0 LATENCY: 5016507.0 COMM\_SYN:95.33% COMM\_TRANS:0.20% MVMUL:214400.00 MVMUL:4.27% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.87% COMM Volume:165.22kB MEM Volume:0.00kB

50 MVMUL:819 MEM:0 LATENCY: 5040003.0 COMM\_SYN:95.33% COMM\_TRANS:0.27% MVMUL:210600.00 MVMUL:4.18% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.85% COMM Volume:164.16kB MEM Volume:0.00kB

51 MVMUL:819 MEM:0 LATENCY: 5047583.0 COMM\_SYN:94.94% COMM\_TRANS:0.63% MVMUL:210600.00 MVMUL:4.17% VEC:0.85% MEM:0.00 MEM:0.00% ratio:100.59% COMM Volume:476.00kB MEM Volume:0.00kB

52 MVMUL:819 MEM:0 LATENCY: 5047627.0 COMM\_SYN:95.03% COMM\_TRANS:0.51% MVMUL:210600.00 MVMUL:4.17% VEC:0.42% MEM:0.00 MEM:0.00% ratio:100.14% COMM Volume:477.06kB MEM Volume:0.00kB

53 MVMUL:822 MEM:0 LATENCY: 5082392.0 COMM\_SYN:95.05% COMM\_TRANS:0.54% MVMUL:216600.00 MVMUL:4.26% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.85% COMM Volume:224.19kB MEM Volume:0.00kB

54 MVMUL:822 MEM:0 LATENCY: 5159046.0 COMM\_SYN:94.71% COMM\_TRANS:1.07% MVMUL:194400.00 MVMUL:3.77% VEC:2.07% MEM:0.00 MEM:0.00% ratio:101.61% COMM Volume:920.12kB MEM Volume:0.00kB

55 MVMUL:1029 MEM:0 LATENCY: 5298810.0 COMM\_SYN:95.20% COMM\_TRANS:0.26% MVMUL:235200.00 MVMUL:4.44% VEC:0.08% MEM:0.00 MEM:0.00% ratio:99.98% COMM Volume:192.31kB MEM Volume:0.00kB

56 MVMUL:1029 MEM:0 LATENCY: 5298832.0 COMM\_SYN:94.46% COMM\_TRANS:0.40% MVMUL:264600.00 MVMUL:4.99% VEC:0.08% MEM:0.00 MEM:0.00% ratio:99.93% COMM Volume:187.53kB MEM Volume:0.00kB

57 MVMUL:1029 MEM:0 LATENCY: 5314504.0 COMM\_SYN:94.09% COMM\_TRANS:0.64% MVMUL:264600.00 MVMUL:4.98% VEC:0.83% MEM:0.00 MEM:0.00% ratio:100.54% COMM Volume:499.91kB MEM Volume:0.00kB

58 MVMUL:992 MEM:0 LATENCY: 5355528.0 COMM\_SYN:94.06% COMM\_TRANS:0.91% MVMUL:257800.00 MVMUL:4.81% VEC:0.39% MEM:0.00 MEM:0.00% ratio:100.19% COMM Volume:546.66kB MEM Volume:0.00kB

59 MVMUL:822 MEM:0 LATENCY: 5419777.0 COMM\_SYN:95.12% COMM\_TRANS:0.67% MVMUL:219600.00 MVMUL:4.05% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.90% COMM Volume:353.28kB MEM Volume:0.00kB

60 MVMUL:835 MEM:0 LATENCY: 5530345.0 COMM\_SYN:94.38% COMM\_TRANS:1.03% MVMUL:221600.00 MVMUL:4.01% VEC:1.99% MEM:0.00 MEM:0.00% ratio:101.41% COMM Volume:744.28kB MEM Volume:0.00kB

61 MVMUL:823 MEM:0 LATENCY: 5499303.0 COMM\_SYN:95.79% COMM\_TRANS:0.15% MVMUL:212000.00 MVMUL:3.86% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.86% COMM Volume:162.03kB MEM Volume:0.00kB

62 MVMUL:819 MEM:0 LATENCY: 5495415.0 COMM\_SYN:95.79% COMM\_TRANS:0.18% MVMUL:210600.00 MVMUL:3.83% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.86% COMM Volume:159.91kB MEM Volume:0.00kB

63 MVMUL:819 MEM:0 LATENCY: 5495437.0 COMM\_SYN:95.12% COMM\_TRANS:0.77% MVMUL:210600.00 MVMUL:3.83% VEC:0.78% MEM:0.00 MEM:0.00% ratio:100.51% COMM Volume:472.28kB MEM Volume:0.00kB

64 MVMUL:819 MEM:0 LATENCY: 5497215.0 COMM\_SYN:95.28% COMM\_TRANS:0.58% MVMUL:210600.00 MVMUL:3.83% VEC:0.32% MEM:0.00 MEM:0.00% ratio:100.01% COMM Volume:472.81kB MEM Volume:0.00kB

65 MVMUL:942 MEM:0 LATENCY: 5628005.0 COMM\_SYN:95.30% COMM\_TRANS:0.61% MVMUL:219600.00 MVMUL:3.90% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.82% COMM Volume:333.62kB MEM Volume:0.00kB

66 MVMUL:834 MEM:0 LATENCY: 5733022.0 COMM\_SYN:94.98% COMM\_TRANS:1.02% MVMUL:199200.00 MVMUL:3.47% VEC:1.92% MEM:0.00 MEM:0.00% ratio:101.40% COMM Volume:820.25kB MEM Volume:0.00kB

67 MVMUL:824 MEM:0 LATENCY: 5718846.0 COMM\_SYN:95.90% COMM\_TRANS:0.20% MVMUL:212200.00 MVMUL:3.71% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.87% COMM Volume:162.03kB MEM Volume:0.00kB

68 MVMUL:819 MEM:0 LATENCY: 5733044.0 COMM\_SYN:96.00% COMM\_TRANS:0.18% MVMUL:210600.00 MVMUL:3.67% VEC:0.06% MEM:0.00 MEM:0.00% ratio:99.91% COMM Volume:161.50kB MEM Volume:0.00kB

69 MVMUL:819 MEM:0 LATENCY: 5733066.0 COMM\_SYN:95.44% COMM\_TRANS:0.55% MVMUL:210600.00 MVMUL:3.67% VEC:0.75% MEM:0.00 MEM:0.00% ratio:100.42% COMM Volume:472.28kB MEM Volume:0.00kB

70 MVMUL:819 MEM:0 LATENCY: 5733088.0 COMM\_SYN:95.51% COMM\_TRANS:0.57% MVMUL:210600.00 MVMUL:3.67% VEC:0.37% MEM:0.00 MEM:0.00% ratio:100.13% COMM Volume:472.81kB MEM Volume:0.00kB

71 MVMUL:872 MEM:0 LATENCY: 5791826.0 COMM\_SYN:95.23% COMM\_TRANS:0.57% MVMUL:229600.00 MVMUL:3.96% VEC:0.08% MEM:0.00 MEM:0.00% ratio:99.85% COMM Volume:377.19kB MEM Volume:0.00kB

72 MVMUL:1029 MEM:0 LATENCY: 5829620.0 COMM\_SYN:92.24% COMM\_TRANS:1.18% MVMUL:267600.00 MVMUL:4.59% VEC:1.90% MEM:0.00 MEM:0.00% ratio:99.91% COMM Volume:923.84kB MEM Volume:0.00kB

73 MVMUL:614 MEM:0 LATENCY: 5851941.0 COMM\_SYN:95.86% COMM\_TRANS:0.56% MVMUL:183400.00 MVMUL:3.13% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.62% COMM Volume:259.78kB MEM Volume:0.00kB

74 MVMUL:297 MEM:0 LATENCY: 5897734.0 COMM\_SYN:97.92% COMM\_TRANS:0.20% MVMUL:88800.00 MVMUL:1.51% VEC:0.22% MEM:0.00 MEM:0.00% ratio:99.85% COMM Volume:228.44kB MEM Volume:0.00kB

75 MVMUL:300 MEM:0 LATENCY: 5895228.0 COMM\_SYN:97.55% COMM\_TRANS:0.63% MVMUL:75000.00 MVMUL:1.27% VEC:0.67% MEM:0.00 MEM:0.00% ratio:100.12% COMM Volume:387.81kB MEM Volume:0.00kB

76 MVMUL:300 MEM:0 LATENCY: 5895441.0 COMM\_SYN:97.98% COMM\_TRANS:0.45% MVMUL:75000.00 MVMUL:1.27% VEC:0.30% MEM:0.00 MEM:0.00% ratio:100.01% COMM Volume:417.03kB MEM Volume:0.00kB

77 MVMUL:294 MEM:0 LATENCY: 5895654.0 COMM\_SYN:97.99% COMM\_TRANS:0.16% MVMUL:88200.00 MVMUL:1.50% VEC:0.21% MEM:0.00 MEM:0.00% ratio:99.85% COMM Volume:179.56kB MEM Volume:0.00kB

78 MVMUL:288 MEM:0 LATENCY: 5888989.0 COMM\_SYN:96.94% COMM\_TRANS:0.50% MVMUL:72000.00 MVMUL:1.22% VEC:1.81% MEM:0.00 MEM:0.00% ratio:100.48% COMM Volume:332.56kB MEM Volume:0.00kB

79 MVMUL:288 MEM:0 LATENCY: 5889202.0 COMM\_SYN:98.64% COMM\_TRANS:0.06% MVMUL:72000.00 MVMUL:1.22% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.92% COMM Volume:76.50kB MEM Volume:0.00kB

80 MVMUL:291 MEM:0 LATENCY: 5903737.0 COMM\_SYN:98.19% COMM\_TRANS:0.11% MVMUL:87600.00 MVMUL:1.48% VEC:0.07% MEM:0.00 MEM:0.00% ratio:99.86% COMM Volume:146.62kB MEM Volume:0.00kB

81 MVMUL:295 MEM:0 LATENCY: 5931954.0 COMM\_SYN:97.58% COMM\_TRANS:0.33% MVMUL:93800.00 MVMUL:1.58% VEC:0.59% MEM:0.00 MEM:0.00% ratio:100.08% COMM Volume:287.41kB MEM Volume:0.00kB

82 MVMUL:295 MEM:0 LATENCY: 5992090.0 COMM\_SYN:97.70% COMM\_TRANS:0.50% MVMUL:83000.00 MVMUL:1.39% VEC:0.28% MEM:0.00 MEM:0.00% ratio:99.87% COMM Volume:329.38kB MEM Volume:0.00kB

83 MVMUL:300 MEM:0 LATENCY: 5981519.0 COMM\_SYN:98.29% COMM\_TRANS:0.27% MVMUL:75000.00 MVMUL:1.25% VEC:0.14% MEM:0.00 MEM:0.00% ratio:99.96% COMM Volume:260.31kB MEM Volume:0.00kB

84 MVMUL:300 MEM:0 LATENCY: 5981736.0 COMM\_SYN:98.60% COMM\_TRANS:0.07% MVMUL:75000.00 MVMUL:1.25% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.92% COMM Volume:78.62kB MEM Volume:0.00kB

85 MVMUL:296 MEM:0 LATENCY: 5981949.0 COMM\_SYN:96.99% COMM\_TRANS:0.71% MVMUL:88600.00 MVMUL:1.48% VEC:1.10% MEM:0.00 MEM:0.00% ratio:100.27% COMM Volume:565.25kB MEM Volume:0.00kB

86 MVMUL:288 MEM:0 LATENCY: 5970239.0 COMM\_SYN:98.66% COMM\_TRANS:0.06% MVMUL:72000.00 MVMUL:1.21% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.92% COMM Volume:73.31kB MEM Volume:0.00kB

87 MVMUL:288 MEM:0 LATENCY: 5970493.0 COMM\_SYN:98.66% COMM\_TRANS:0.05% MVMUL:72000.00 MVMUL:1.21% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.92% COMM Volume:77.56kB MEM Volume:0.00kB

88 MVMUL:289 MEM:0 LATENCY: 6011862.0 COMM\_SYN:97.93% COMM\_TRANS:0.29% MVMUL:87200.00 MVMUL:1.45% VEC:0.38% MEM:0.00 MEM:0.00% ratio:100.06% COMM Volume:306.00kB MEM Volume:0.00kB

89 MVMUL:295 MEM:0 LATENCY: 6040892.0 COMM\_SYN:97.71% COMM\_TRANS:0.35% MVMUL:95600.00 MVMUL:1.58% VEC:0.21% MEM:0.00 MEM:0.00% ratio:99.85% COMM Volume:340.00kB MEM Volume:0.00kB

90 MVMUL:295 MEM:0 LATENCY: 6082382.0 COMM\_SYN:97.80% COMM\_TRANS:0.18% MVMUL:96800.00 MVMUL:1.59% VEC:0.21% MEM:0.00 MEM:0.00% ratio:99.78% COMM Volume:251.81kB MEM Volume:0.00kB

91 MVMUL:300 MEM:0 LATENCY: 6081136.0 COMM\_SYN:97.51% COMM\_TRANS:0.54% MVMUL:75000.00 MVMUL:1.23% VEC:0.88% MEM:0.00 MEM:0.00% ratio:100.16% COMM Volume:457.94kB MEM Volume:0.00kB

92 MVMUL:300 MEM:0 LATENCY: 6081349.0 COMM\_SYN:98.64% COMM\_TRANS:0.05% MVMUL:75000.00 MVMUL:1.23% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.92% COMM Volume:75.44kB MEM Volume:0.00kB

93 MVMUL:298 MEM:0 LATENCY: 6082169.0 COMM\_SYN:97.99% COMM\_TRANS:0.14% MVMUL:89000.00 MVMUL:1.46% VEC:0.27% MEM:0.00 MEM:0.00% ratio:99.86% COMM Volume:201.88kB MEM Volume:0.00kB

94 MVMUL:288 MEM:0 LATENCY: 6075874.0 COMM\_SYN:98.38% COMM\_TRANS:0.18% MVMUL:72000.00 MVMUL:1.19% VEC:0.31% MEM:0.00 MEM:0.00% ratio:100.06% COMM Volume:229.50kB MEM Volume:0.00kB

95 MVMUL:288 MEM:0 LATENCY: 6076087.0 COMM\_SYN:98.47% COMM\_TRANS:0.21% MVMUL:72000.00 MVMUL:1.18% VEC:0.14% MEM:0.00 MEM:0.00% ratio:100.00% COMM Volume:260.31kB MEM Volume:0.00kB

96 MVMUL:288 MEM:0 LATENCY: 6076300.0 COMM\_SYN:98.68% COMM\_TRANS:0.06% MVMUL:72000.00 MVMUL:1.18% VEC:0.00% MEM:0.00 MEM:0.00% ratio:99.93% COMM Volume:70.12kB MEM Volume:0.00kB

97 MVMUL:270 MEM:2 LATENCY: 6095701.0 COMM\_SYN:97.33% COMM\_TRANS:0.40% MVMUL:87600.00 MVMUL:1.44% VEC:0.91% MEM:344.00 MEM:0.01% ratio:100.07% COMM Volume:511.95kB MEM Volume:3.91kB

98 MVMUL:4 MEM:1 LATENCY: 6095349.0 COMM\_SYN:99.96% COMM\_TRANS:0.00% MVMUL:1400.00 MVMUL:0.02% VEC:0.00% MEM:459.00 MEM:0.01% ratio:99.99% COMM Volume:3.02kB MEM Volume:1.95kB

99 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

100 MVMUL:0 MEM:0 LATENCY: 6084856.0 COMM\_SYN:99.59% COMM\_TRANS:0.11% MVMUL:0.00 MVMUL:0.00% VEC:0.31% MEM:0.00 MEM:0.00% ratio:100.00% COMM Volume:156.19kB MEM Volume:0.00kB

101 MVMUL:0 MEM:0 LATENCY: 6085155.0 COMM\_SYN:99.79% COMM\_TRANS:0.07% MVMUL:0.00 MVMUL:0.00% VEC:0.14% MEM:0.00 MEM:0.00% ratio:100.00% COMM Volume:104.12kB MEM Volume:0.00kB

102 MVMUL:0 MEM:0 LATENCY: 6093530.0 COMM\_SYN:99.83% COMM\_TRANS:0.04% MVMUL:0.00 MVMUL:0.00% VEC:0.14% MEM:0.00 MEM:0.00% ratio:100.00% COMM Volume:54.19kB MEM Volume:0.00kB

103 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

104 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

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

117 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

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

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

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

132 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

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

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

139 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

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)

6095701.00

IG average latency (ns)

30786.37

MVMUL (#)

104179

VVADD (#)

102123

COMM (#)

141328

Volume (bytes)

22139616

Cycles (ns)

2393742

MEM (#)

39810

Volume (bytes)

458704

Cycles (ns)

51690

HT Volume (bytes)

0

Cycles (ns)

0

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

27.95s

real 0m30.531s

user 0m17.950s

sys 0m11.323s