**Single Node Experiments**

**Miami u12-2.fascia**

app=sc-hsw-icc-no.bin ## run SubGraph2Vec on a haswell node compiled by Intel icc

graph\_file=/share/project/FG474/TrainingData/subgraph/Edge-Graph/miami.graph ## specify the input network

template\_file=/share/project/FG474/TrainingData/subgraph/template/u12-2.fascia ## specify the tree template

Itr=1 ## the number of iteration

tpproc=24 ## the number of threads per process

read\_binary=0 ## equals 1 if graph\_file is in binary format

writeBinary=0 ## set this value to 1 and the input text graph\_file is output in a binary file

prune=1 ## trigger the complexity reduction (default)

useSPMM=1 ## 0 for SpMV kernel and 1 for SpMM kernel (by default)

useCSC=1 ## choose the adjacency matrix format, 1 for CSC-Split and 0 for CSR

./$app ${graph\_file} ${template\_file} ${Itr} ${tpproc} ${read\_binary} ${writeBinary} ${prune} ${useSPMM}

Time for count per iter: 30.133157 seconds

spmv ratio 55.184655%

eMA ratio 40.927522%

Peak Mem Usage is : 18.353233 GB

SpMM time is : 14.874584 second; EMA time is: 12.322854

SpMM Memory bandwidth is : 66.326512 GBytes per second

FMA Memory bandwidth is : 73.071341 GBytes per second

Total Memory bandwidth is : 69.382518 GBytes per second

SpMM Throughput is : 7.803119 Gflops per second

FMA Throughput is : 12.178557 Gflops per second

Total Throughput is : 9.785581 Gflops per second

Final raw count is 7.289812e+23

Prob is 0.000054

Final count is 1.356920e+28

**Miami u13.fascia**

app=sc-hsw-icc-no.bin ## run SubGraph2Vec on a haswell node compiled by Intel icc

graph\_file=/share/project/FG474/TrainingData/subgraph/Edge-Graph/miami.graph ## specify the input network

template\_file=/share/project/FG474/TrainingData/subgraph/template/u13.fascia ## specify the tree template

Itr=1 ## the number of iteration

tpproc=24 ## the number of threads per process

read\_binary=0 ## equals 1 if graph\_file is in binary format

writeBinary=0 ## set this value to 1 and the input text graph\_file is output in a binary file

prune=1 ## trigger the complexity reduction (default)

useSPMM=1 ## 0 for SpMV kernel and 1 for SpMM kernel (by default)

useCSC=1 ## choose the adjacency matrix format, 1 for CSC-Split and 0 for CSR

./$app ${graph\_file} ${template\_file} ${Itr} ${tpproc} ${read\_binary} ${writeBinary} ${prune} ${useSPMM}

Time for count per iter: 70.846876 seconds

spmv ratio 40.958429%

eMA ratio 56.882288%

Peak Mem Usage is : 29.516407 GB

SpMM time is : 25.924869 second; EMA time is: 40.273397

SpMM Memory bandwidth is : 74.821167 GBytes per second

FMA Memory bandwidth is : 64.047427 GBytes per second

Total Memory bandwidth is : 68.266688 GBytes per second

SpMM Throughput is : 8.802490 Gflops per second

FMA Throughput is : 10.674571 Gflops per second

Total Throughput is : 9.941418 Gflops per second

Final raw count is 8.356090e+24

Prob is 0.000006

**Orkut 12-2.fascia**

app=sc-hsw-icc-no.bin ## run SubGraph2Vec on a haswell node compiled by Intel icc

graph\_file=/share/project/FG474/TrainingData/subgraph/Edge-Graph/orkut.graph ## specify the input network

template\_file=/share/project/FG474/TrainingData/subgraph/template/u12-2.fascia ## specify the tree template

Itr=1 ## the number of iteration

tpproc=24 ## the number of threads per process

read\_binary=0 ## equals 1 if graph\_file is in binary format

writeBinary=0 ## set this value to 1 and the input text graph\_file is output in a binary file

prune=1 ## trigger the complexity reduction (default)

useSPMM=1 ## 0 for SpMV kernel and 1 for SpMM kernel (by default)

useCSC=1 ## choose the adjacency matrix format, 1 for CSC-Split and 0 for CSR

./$app ${graph\_file} ${template\_file} ${Itr} ${tpproc} ${read\_binary} ${writeBinary} ${prune} ${useSPMM}

Time for count per iter: 51.078846 seconds

spmv ratio 60.290241%

eMA ratio 36.228203%

Peak Mem Usage is : 28.764664 GB

SpMM time is : 28.048170 second; EMA time is: 18.496150

SpMM Memory bandwidth is : 80.039105 GBytes per second

FMA Memory bandwidth is : 71.493800 GBytes per second

Total Memory bandwidth is : 76.643304 GBytes per second

SpMM Throughput is : 9.416365 Gflops per second

FMA Throughput is : 11.915633 Gflops per second

Total Throughput is : 10.409544 Gflops per second

Final raw count is 2.317370e+38

Prob is 0.000054

Final count is 4.313536e+42

**Orkut u13.fascia**

app=sc-hsw-icc-no.bin ## run SubGraph2Vec on a haswell node compiled by Intel icc

graph\_file=/share/project/FG474/TrainingData/subgraph/Edge-Graph/orkut.graph ## specify the input network

template\_file=/share/project/FG474/TrainingData/subgraph/template/u13.fascia ## specify the tree template

Itr=1 ## the number of iteration

tpproc=24 ## the number of threads per process

read\_binary=0 ## equals 1 if graph\_file is in binary format

writeBinary=0 ## set this value to 1 and the input text graph\_file is output in a binary file

prune=1 ## trigger the complexity reduction (default)

useSPMM=1 ## 0 for SpMV kernel and 1 for SpMM kernel (by default)

useCSC=1 ## choose the adjacency matrix format, 1 for CSC-Split and 0 for CSR

./$app ${graph\_file} ${template\_file} ${Itr} ${tpproc} ${read\_binary} ${writeBinary} ${prune} ${useSPMM}

Time for count per iter: 115.078222 seconds

spmv ratio 50.241429%

eMA ratio 47.751895%

Peak Mem Usage is : 45.145741 GB

SpMM time is : 52.653777 second; EMA time is: 54.929185

SpMM Memory bandwidth is : 83.827458 GBytes per second

FMA Memory bandwidth is : 68.961730 GBytes per second

Total Memory bandwidth is : 76.237387 GBytes per second

SpMM Throughput is : 9.862054 Gflops per second

FMA Throughput is : 11.493622 Gflops per second

Total Throughput is : 10.695092 Gflops per second

Final raw count is 2.303177e+37

Prob is 0.000006

Final count is 3.610536e+42