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7F52 Fri

AMD EPYC 7F52 16-Core testing with a Supermicro H11DSi-NT v2.00 (2.1 BIOS) and llvmpipe on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 57% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.005x the speed of the slowest (3). 2 was 0.997x the speed of 1 and 3 was 0.998x the speed of 2.

Test Systems:

1

2

3

Processor: AMD EPYC 7F52 16-Core @ 3.50GHz (16 Cores / 32 Threads), Motherboard: Supermicro H11DSi-NT v2.00 (2.1 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 280GB INTEL SSDPE21D280GA, Graphics: llvmpipe, Monitor: VE228

OS: Ubuntu 20.04, Kernel: 5.10.3-051003-generic (x86_64), Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, OpenGL: 3.3 Mesa 20.0.4 (LLVM 9.0.1 128 bits), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

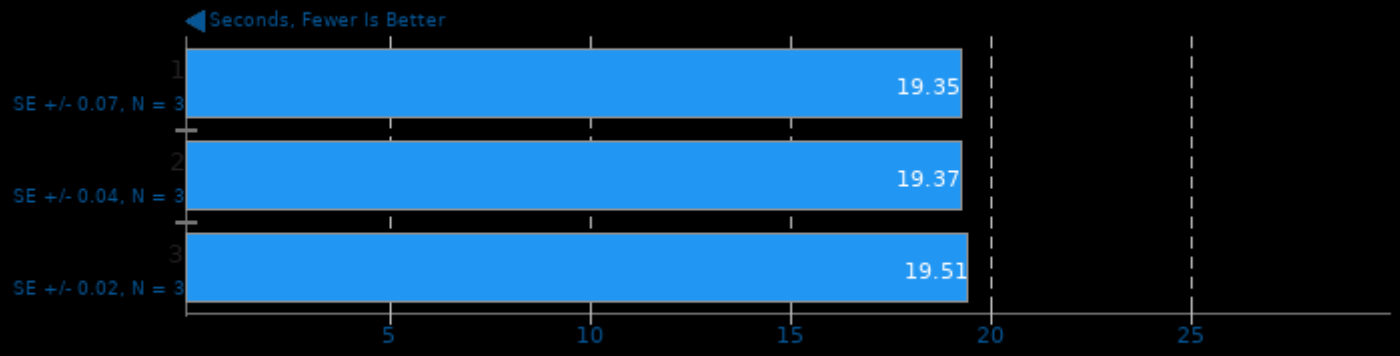
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8301034
Python Notes: Python 2.7.18rc1 + Python 3.8.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3
CloverLeaf - L.E.H (sec)	**19.35**	19.37	**19.51**
Normalized	100%	99.9%	99.18%
Standard Deviation	0.6%	0.3%	0.2%
Quantum ESPRESSO - AUSURF112 (sec)	**1208**	**1214**	1210
Normalized	100%	99.49%	99.82%
Standard Deviation	0.8%	0%	0.5%
RELION - Basic - CPU (sec)	**763.866**	**764.341**	
Normalized	100%	99.94%	
Standard Deviation	0.6%	0.2%	
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	**11.384**	**11.808**	
Normalized	96.41%	100%	
Standard Deviation	9.3%	4.4%	
rav1e - 1 (FPS)	**0.391**	**0.392**	
Normalized	99.74%	100%	
Standard Deviation	1.1%	0.1%	
rav1e - 5 (FPS)	**1.130**	**1.128**	
Normalized	100%	99.82%	
Standard Deviation	0.2%	0.3%	
rav1e - 6 (FPS)	**1.505**	**1.496**	
Normalized	100%	99.4%	
Standard Deviation	0.5%	0.4%	
rav1e - 10 (FPS)	**3.248**	**3.225**	
Normalized	100%	99.29%	
Standard Deviation	0.3%	0.3%	
Timed Godot Game Engine Compilation - Time To Compile (sec)	**84.312**	**84.222**	
Normalized	99.89%	100%	
Standard Deviation	0.4%	0%	
Mobile Neural Network - SqueezeNetV1.0	**9.556**	**9.440**	
Normalized	98.79%	100%	

Standard Deviation	1.5%	0.5%
Mobile Neural Network - resnet-v2-50 (ms)	**28.404**	**28.275**
Normalized	99.55%	100%
Standard Deviation	0.4%	0.1%
Mobile Neural Network - MobileNetV2_224	**5.408**	**5.427**
Normalized	100%	99.65%
Standard Deviation	0.9%	1.9%
Mobile Neural Network - mobilenet-v1-1.0	**3.657**	**3.631**
Normalized	99.29%	100%
Standard Deviation	0.9%	0.2%
Mobile Neural Network - inception-v3 (ms)	**37.541**	**37.850**
Normalized	100%	99.18%
Standard Deviation	2.6%	0.2%

CloverLeaf

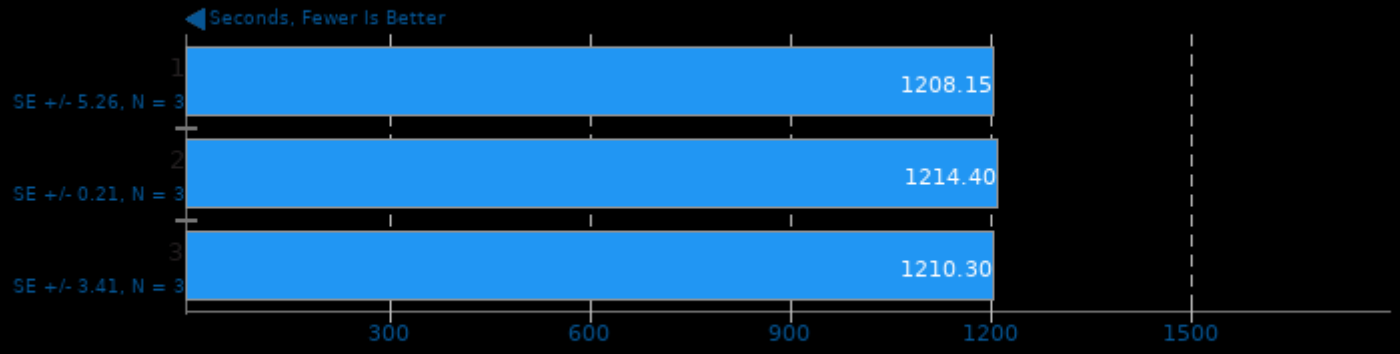
Lagrangian-Eulerian Hydrodynamics



1. (F9X) gfortran options: -O3 -march=native -funroll-loops -fopenmp

Quantum ESPRESSO 6.7

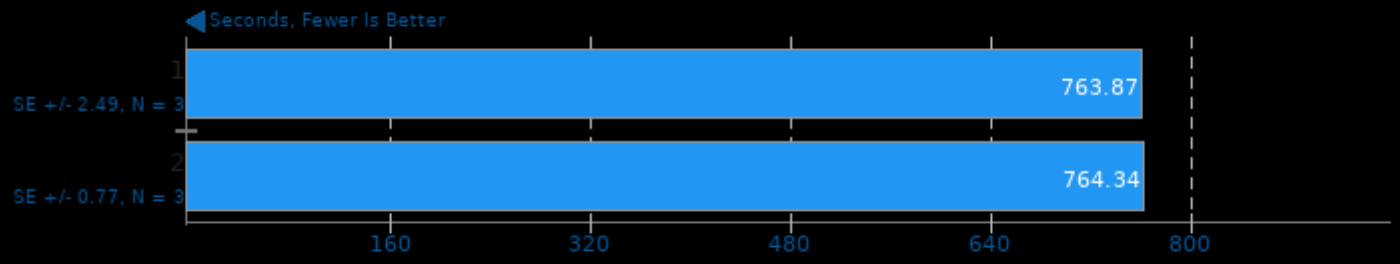
Input: AUSURF112



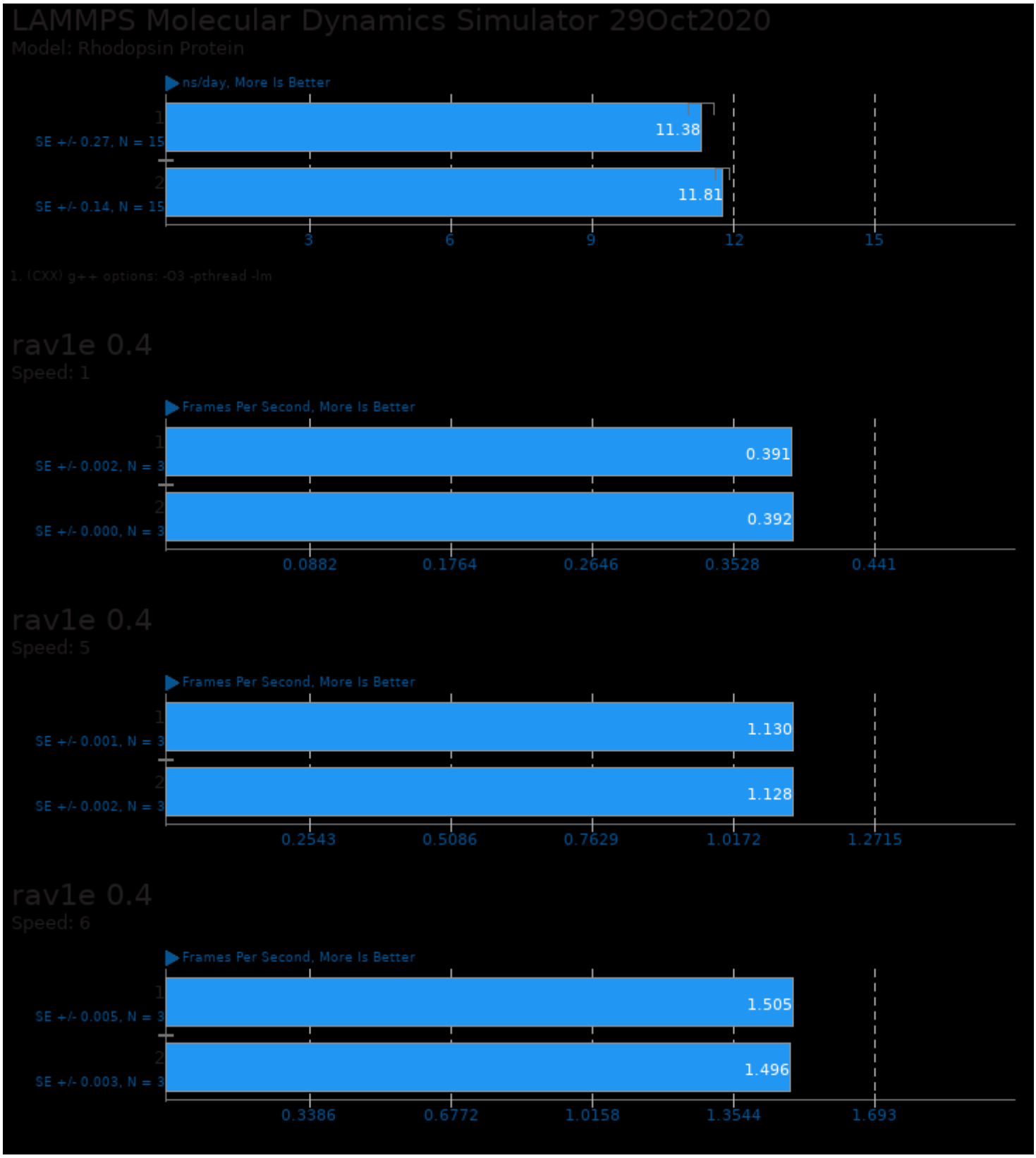
1. (F9X) gfortran options: -lopenblas -lFoX_dom -lFoX_sax -lFoX_wxml -lFoX_common -lFoX_utils -lFoX_fsys -lfftw3 -pthread -lmpi_usempif08 -lmpi_mpifh -

RELION 3.1.1

Test: Basic - Device: CPU

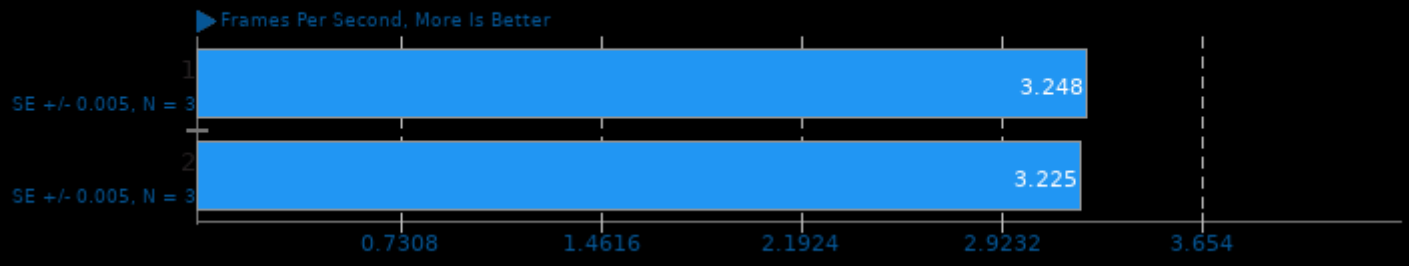


1. (CXX) g++ options: -fopenmp -std=c++0x -O3 -rdynamic -ldl -ltiff -lfftw3f -lfftw3 -lpng -pthread -lmpi_cxx -lmpi


LAMMPS Molecular Dynamics Simulator 29Oct2020
Model: Rhodopsin Protein
ns/day, More Is Better
1
SE +/- 0.27, N = 15
11.38
2
SE +/- 0.14, N = 15
11.81
3
6
9
12
15
1. (CXX) g++ options: -O3 -pthread -lm
rav1e 0.4
Speed: 1
Frames Per Second, More Is Better
1
SE +/- 0.002, N = 3
0.391
2
SE +/- 0.000, N = 3
0.392
0.0882
0.1764
0.2646
0.3528
0.441
rav1e 0.4
Speed: 5
Frames Per Second, More Is Better
1
SE +/- 0.001, N = 3
1.130
2
SE +/- 0.002, N = 3
1.128
0.2543
0.5086
0.7629
1.0172
1.2715
rav1e 0.4
Speed: 6
Frames Per Second, More Is Better
1
SE +/- 0.005, N = 3
1.505
2
SE +/- 0.003, N = 3
1.496
0.3386
0.6772
1.0158
1.3544
1.693

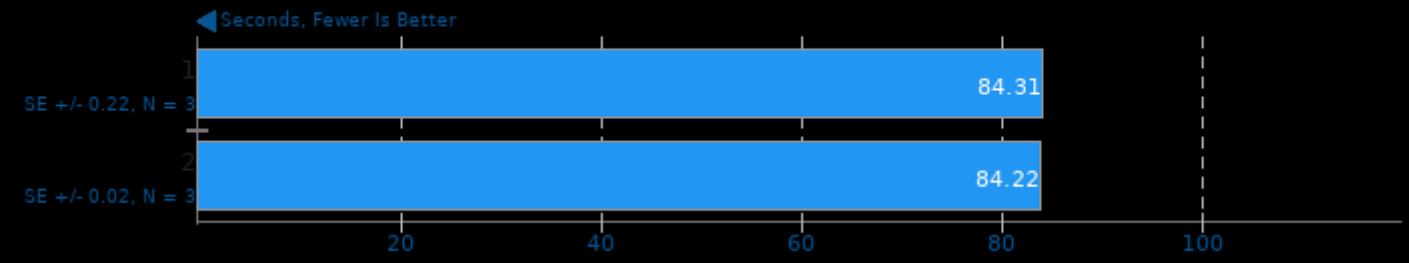
rav1e 0.4

Speed: 10



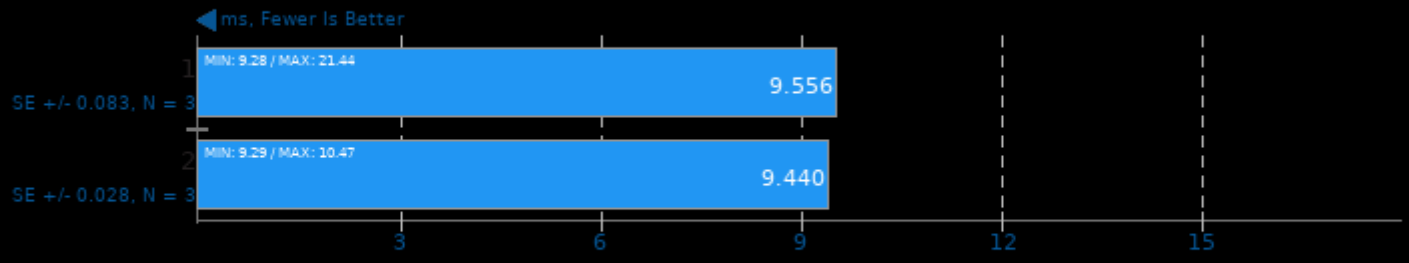
Timed Godot Game Engine Compilation 3.2.3

Time To Compile



Mobile Neural Network 1.1.1

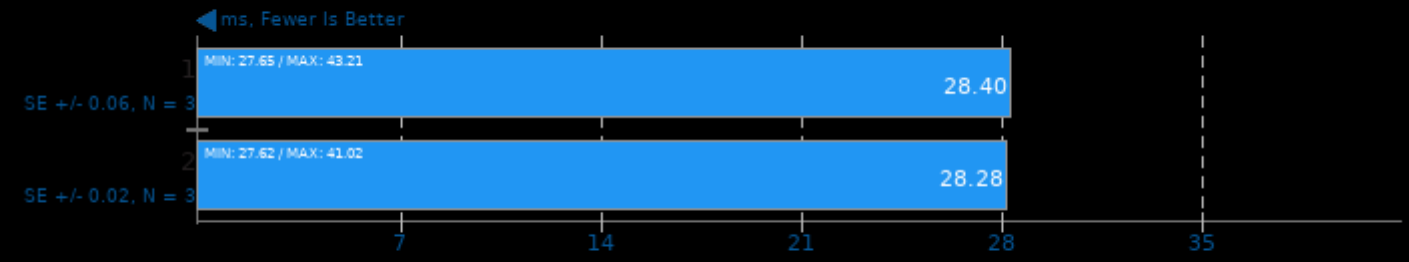
Model: SqueezeNetV1.0



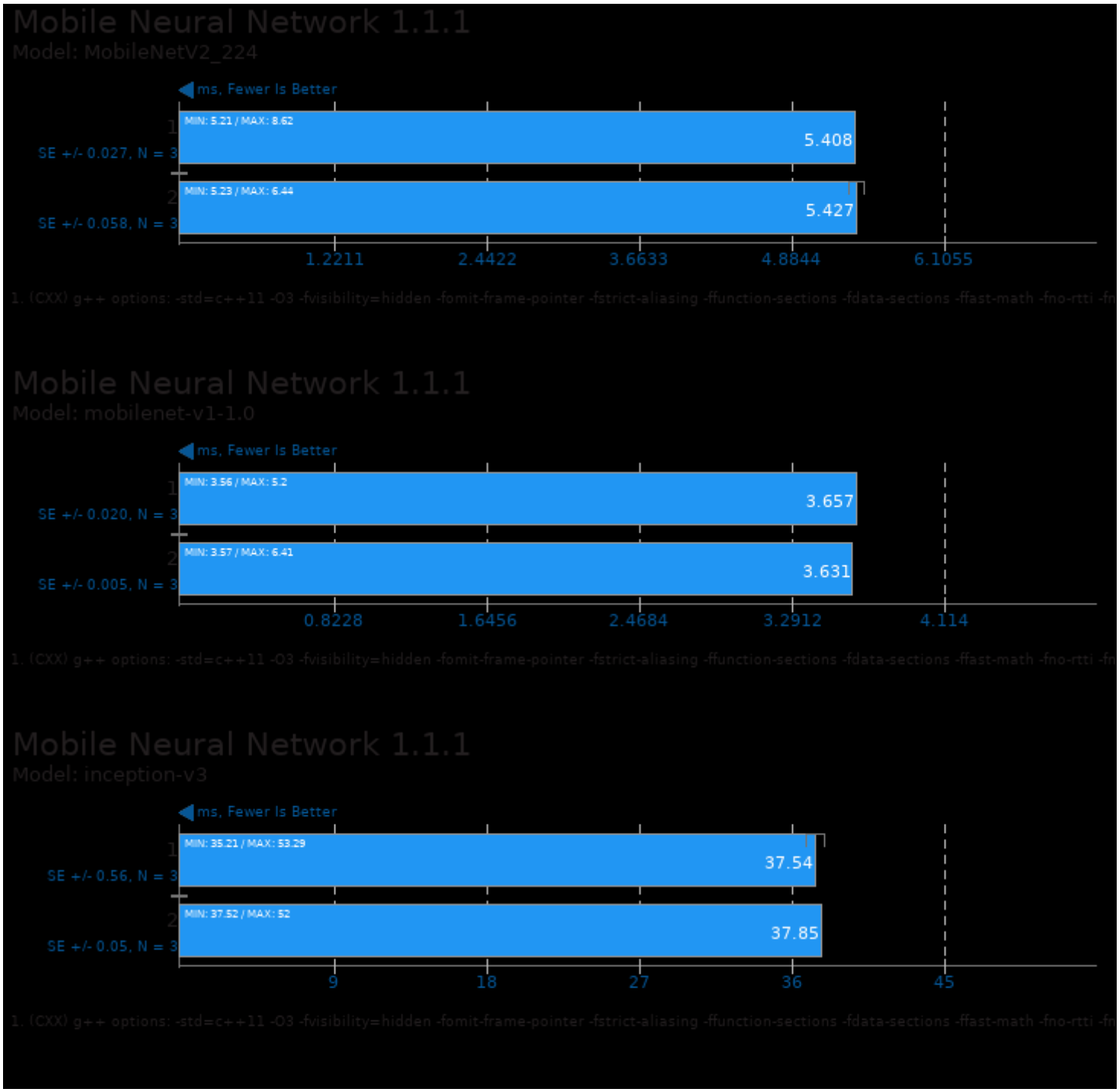
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -f

Mobile Neural Network 1.1.1

Model: resnet-v2-50

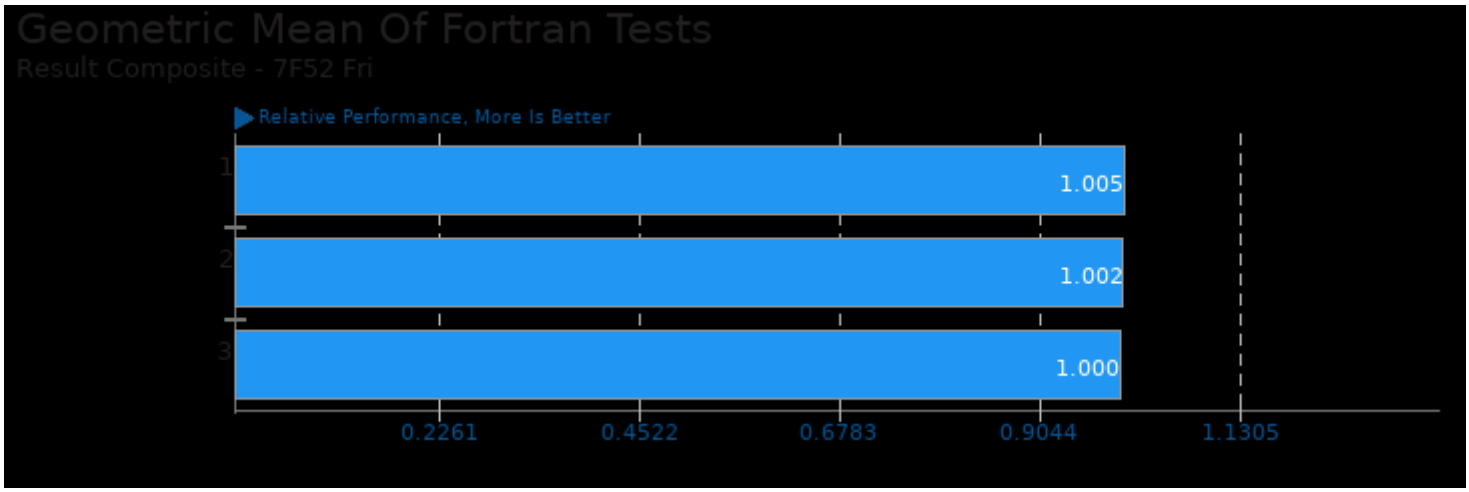


1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -f

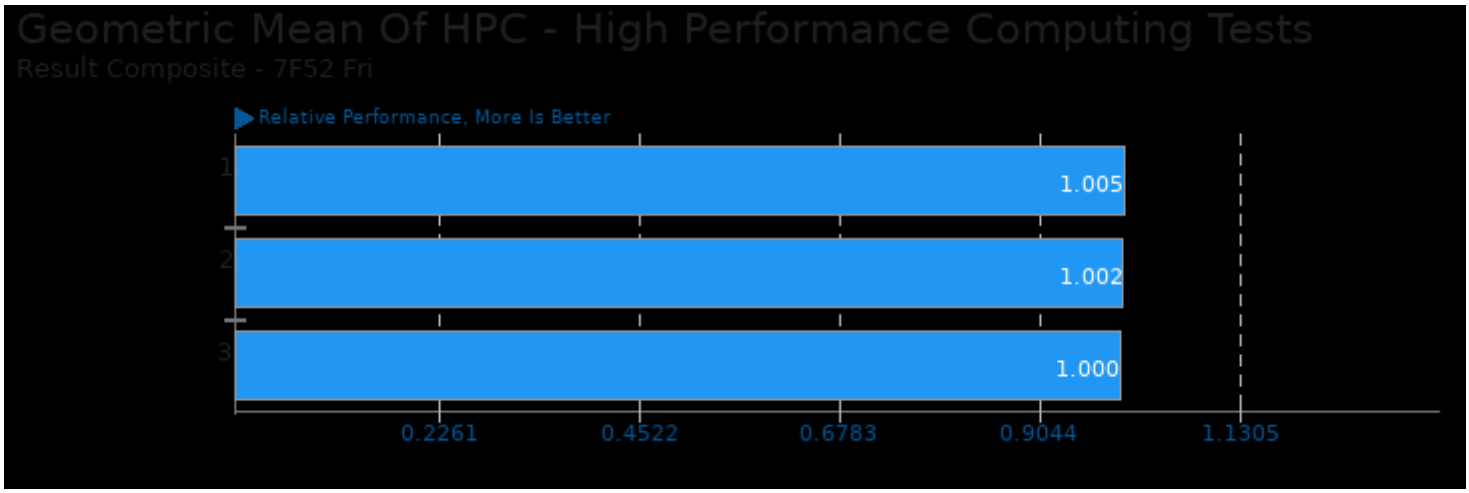

Mobile Neural Network 1.1.1
Model: MobileNetV2_224
ms, Fewer Is Better
MIN: 5.21 / MAX: 8.62
5.408
SE +/- 0.027, N = 3
MIN: 5.23 / MAX: 6.44
5.427
SE +/- 0.058, N = 3
1.2211
2.4422
3.6633
4.8844
6.1055
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.1.1
Model: mobilenet-v1-1.0
ms, Fewer Is Better
MIN: 3.56 / MAX: 5.2
3.657
SE +/- 0.020, N = 3
MIN: 3.57 / MAX: 6.41
3.631
SE +/- 0.005, N = 3
0.8228
1.6456
2.4684
3.2912
4.114
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 1.1.1
Model: inception-v3
ms, Fewer Is Better
MIN: 35.21 / MAX: 53.29
37.54
SE +/- 0.56, N = 3
MIN: 37.52 / MAX: 52
37.85
SE +/- 0.05, N = 3
9
18
27
36
45
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

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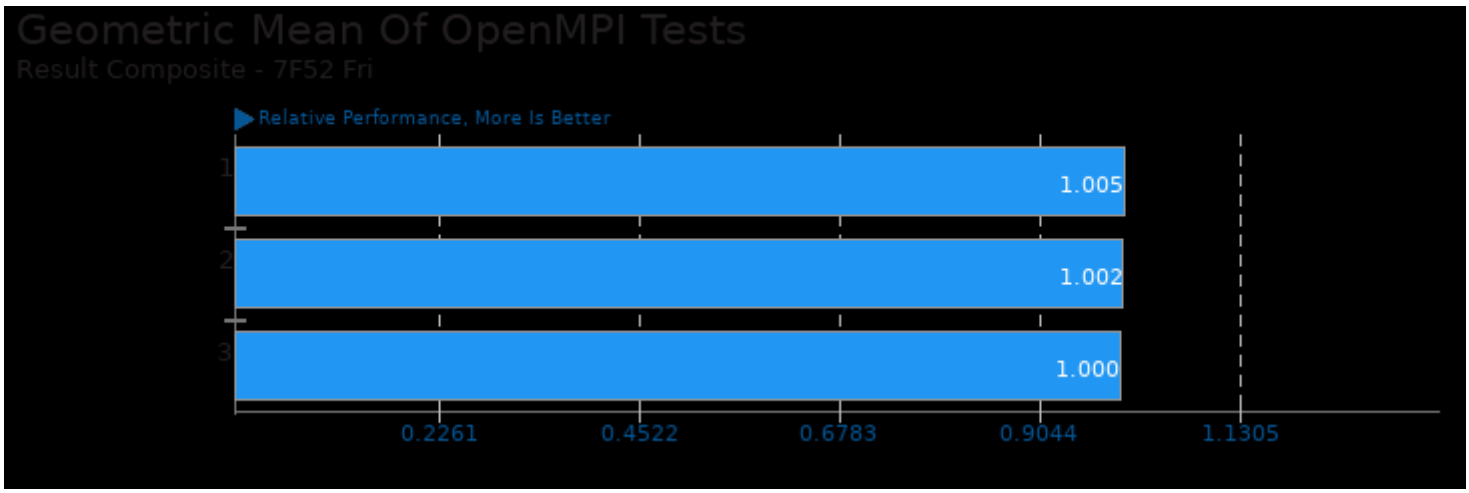
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/cloverleaf, pts/qe and pts/lammps

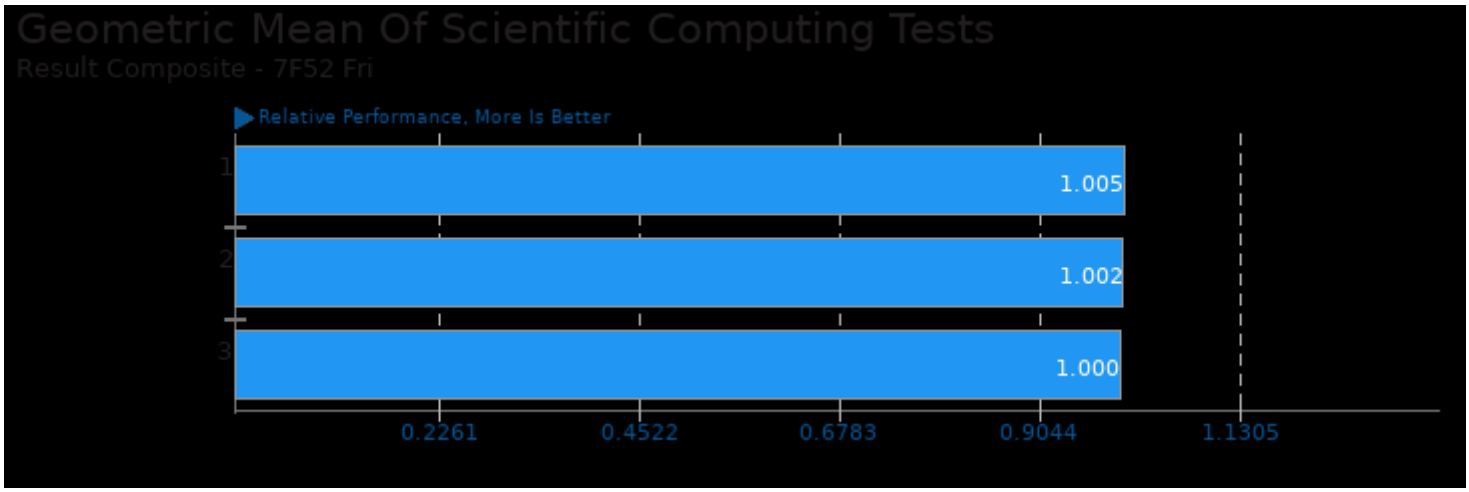


Geometric mean based upon tests: pts/qe, pts/cloverleaf, pts/lammps, pts/relion and pts/mnn



Geometric mean based upon tests: pts/cloverleaf, pts/qe, pts/relion and pts/lammps

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Geometric mean based upon tests: pts/cloverleaf, pts/lammps and pts/qe

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 01:18.