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1235 may

Intel Xeon E3-1235L v5 testing with a ASRockRack C236M WS (P2.60 BIOS) and Intel HD 530 SKL GT2 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 43% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.001x the speed of the slowest (1). 2 was 1x the speed of 3 and 1 was 0.999x the speed of 2.

The results with the greatest spread from best to worst included:

yquake2 (Renderer: Software CPU - Resolution: 1920 x 1080) at 1.018x
QMCPACK (Input: simple-H2O) at 1.017x
libgav1 (Video Input: Chimera 1080p) at 1.015x
yquake2 (Renderer: OpenGL 3.x - Resolution: 1920 x 1080) at 1.013x
VOSK Speech Recognition Toolkit at 1.013x
Chia Blockchain VDF (Test: Square Assembly Optimized) at 1.011x
AOM AV1 (Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p) at 1.01x
AOM AV1 (Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p) at 1.009x
yquake2 (Renderer: OpenGL 1.x - Resolution: 1920 x 1080) at 1.008x

AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K) at 1.008x.

Test Systems:

1

2

3

Processor: Intel Xeon E3-1235L v5 @ 3.00GHz (4 Cores), Motherboard: ASRockRack C236M WS (P2.60 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8GB, Disk: Samsung SSD 960 EVO 500GB, Graphics: Intel HD 530 SKL GT2 3GB (1000MHz), Audio: Realtek ALC1150, Monitor: DELL S2409W, Network: Intel I219-LM + Intel I210

OS: Ubuntu 20.04, Kernel: 5.8.0-050800-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.0.8, OpenCL: OpenCL 2.1, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
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=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr,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: intel_pstate powersave - CPU Microcode: 0xe2 - Thermald 1.9.1
Python Notes: Python 3.8.5
Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Mitigation of Clear buffers; SMT disabled

	1	2	3
Helsing - 14 digit (sec)	**2294**	**2285**	2286
Normalized	99.64%	100%	99.98%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**1.25**	**1.25**	**1.24**
Normalized	100%	100%	99.2%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.05	0.05	0.05
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	2.32	2.32	2.32
libgav1 - C.1.1.b (FPS)	**26.3**	**26.34**	**26.34**
Normalized	99.85%	100%	100%
vkpeak - int16-vec4 (GIOPS)	**120.79**	**120.78**	**120.79**
Normalized	100%	99.99%	100%
vkpeak - int16-scalar (GIOPS)	**119.68**	**119.67**	**119.68**

Normalized	100%	99.99%	100%
vkpeak - int32-vec4 (GIOPS)	118.29	118.3	118.29
Normalized	99.99%	100%	99.99%
vkpeak - int32-scalar (GIOPS)	109.8	109.79	109.8
Normalized	100%	99.99%	100%
vkpeak - fp64-vec4 (GFLOPS)	79.8	79.8	79.81
Normalized	99.99%	99.99%	100%
vkpeak - fp64-scalar (GFLOPS)	83.21	83.21	83.21
vkpeak - fp16-vec4 (GFLOPS)	685.39	685.4	685.41
Normalized	100%	100%	100%
vkpeak - fp16-scalar (GFLOPS)	368.7	368.65	368.68
Normalized	100%	99.99%	99.99%
vkpeak - fp32-vec4 (GFLOPS)	279.13	279.12	279.12
Normalized	100%	100%	100%
vkpeak - fp32-scalar (GFLOPS)	222.24	222.22	222.23
Normalized	100%	99.99%	100%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	2.81	2.82	2.83
Normalized	99.29%	99.65%	100%
Timed MrBayes Analysis - P.P.A (sec)	192.211	193.012	191.729
Normalized	99.75%	99.34%	100%
Timed HMMer Search - P.D.S (sec)	187.266	187.099	187.02
Normalized	99.87%	99.96%	100%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.14	0.14	0.14
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	4.6	4.61	4.59
Normalized	99.78%	100%	99.57%
libgav1 - Summer Nature 4K (FPS)	30.76	30.92	30.94
Normalized	99.42%	99.94%	100%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	7.44	7.42	7.43
Normalized	100%	99.73%	99.87%
libgav1 - Chimera 1080p (FPS)	98.23	99.3	99.67
Normalized	98.56%	99.63%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	8.69	8.66	8.74
Normalized	99.43%	99.08%	100%
Chia Blockchain VDF - Square Plain C++	92300	92100	92300
Normalized	100%	99.78%	100%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	15.1	15.08	15.09
Normalized	100%	99.87%	99.93%
QMCPACK - simple-H2O (Execution Time - sec)	41.28	41.991	41.414
Normalized	100%	98.31%	99.68%
Chia Blockchain VDF - S.A.O (IPS)	137300	137400	135900
Normalized	99.93%	100%	98.91%
libgav1 - S.N.1 (FPS)	116.32	116.7	116.87
Normalized	99.53%	99.85%	100%

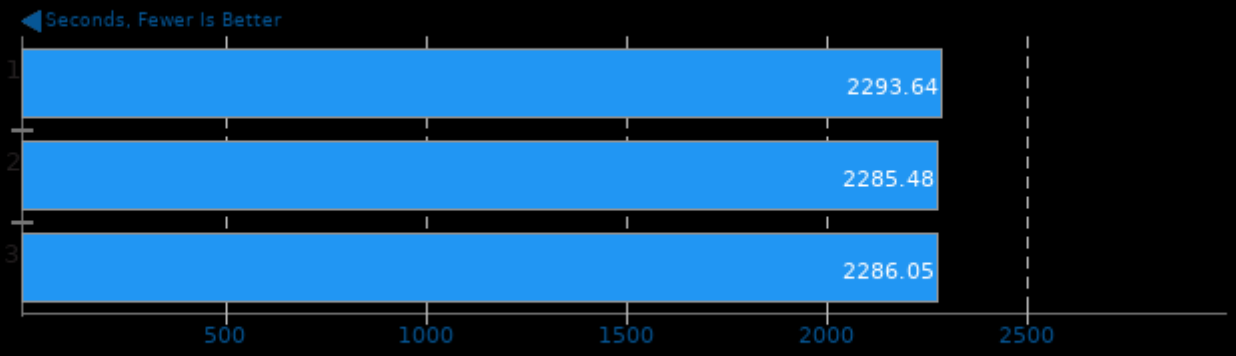
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AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**22.09**	22.17	**22.27**
Normalized	99.19%	99.55%	100%
VOSK Speech Recognition Toolkit (sec)	26.666	**26.433**	**26.773**
Normalized	99.13%	100%	98.73%
Helsing - 12 digit (sec)	**22.018**	**21.976**	22.009
Normalized	99.81%	100%	99.85%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**52**	52.48	**52.5**
Normalized	99.05%	99.96%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**64.7**	**65.06**	**65.06**
Normalized	99.45%	100%	100%
yquake2 - Software CPU - 1920 x 1080 (FPS)	73.6	**74**	**72.7**
Normalized	99.46%	100%	98.24%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	**266.7**	269.9	**270.3**
Normalized	98.67%	99.85%	100%
yquake2 - OpenGL 1.x - 1920 x 1080 (FPS)	**304.7**	**302.2**	304.3
Normalized	100%	99.18%	99.87%

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Helsing 1.0-beta

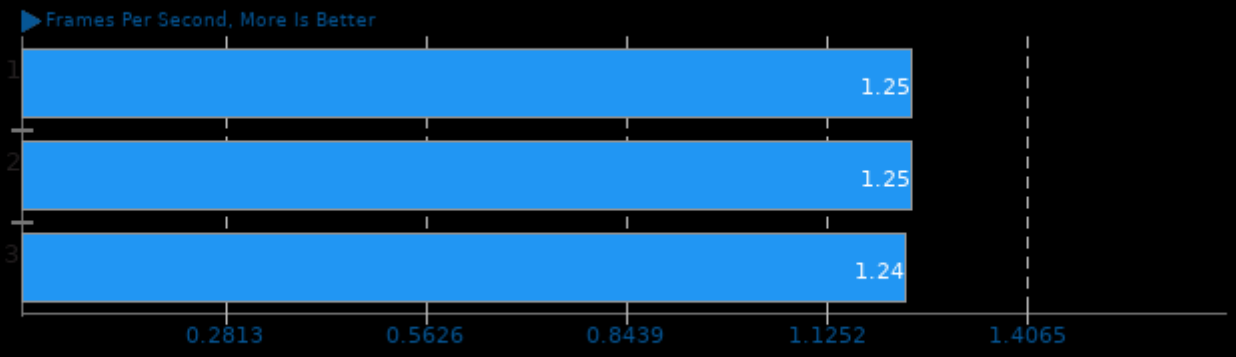
Digit Range: 14 digit



1. (CC) gcc options: -O2 -pthread

AOM AV1 3.1

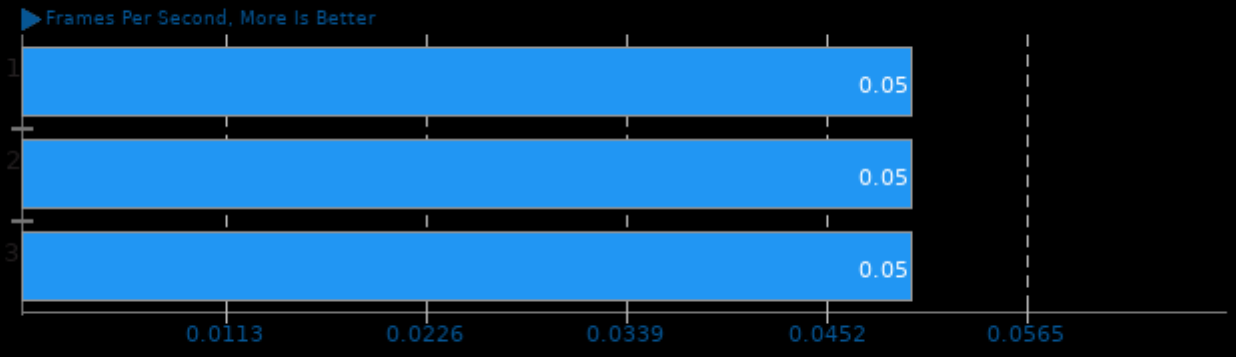
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.1

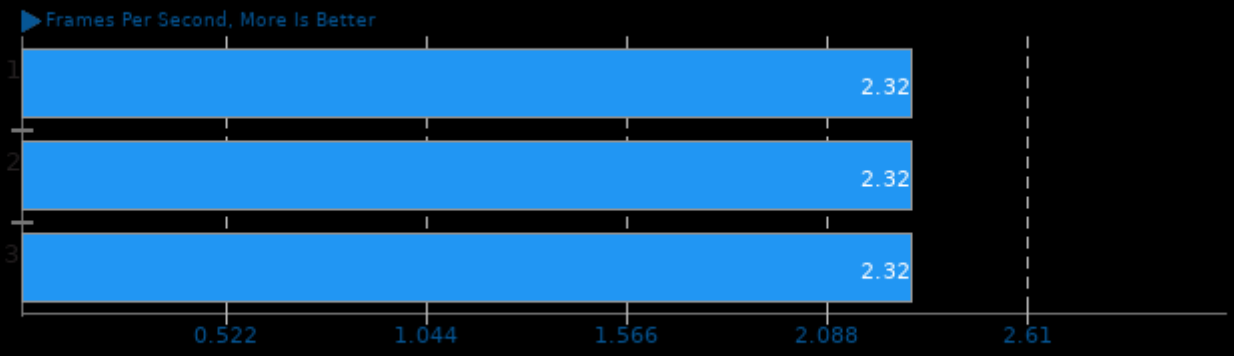
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.1

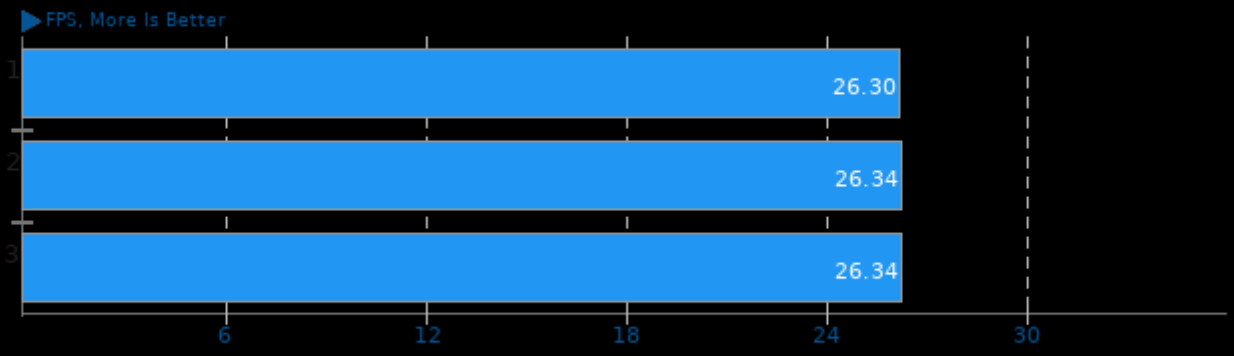
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

libgav1 0.16.3

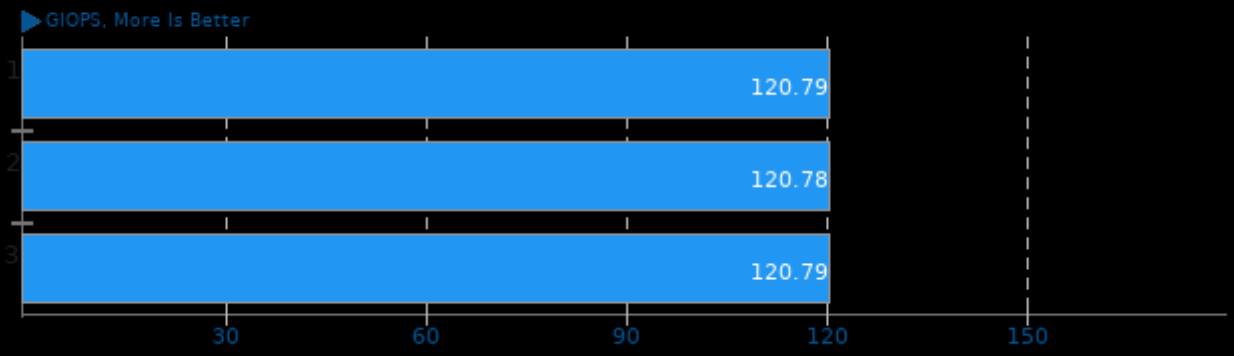
Video Input: Chimera 1080p 10-bit



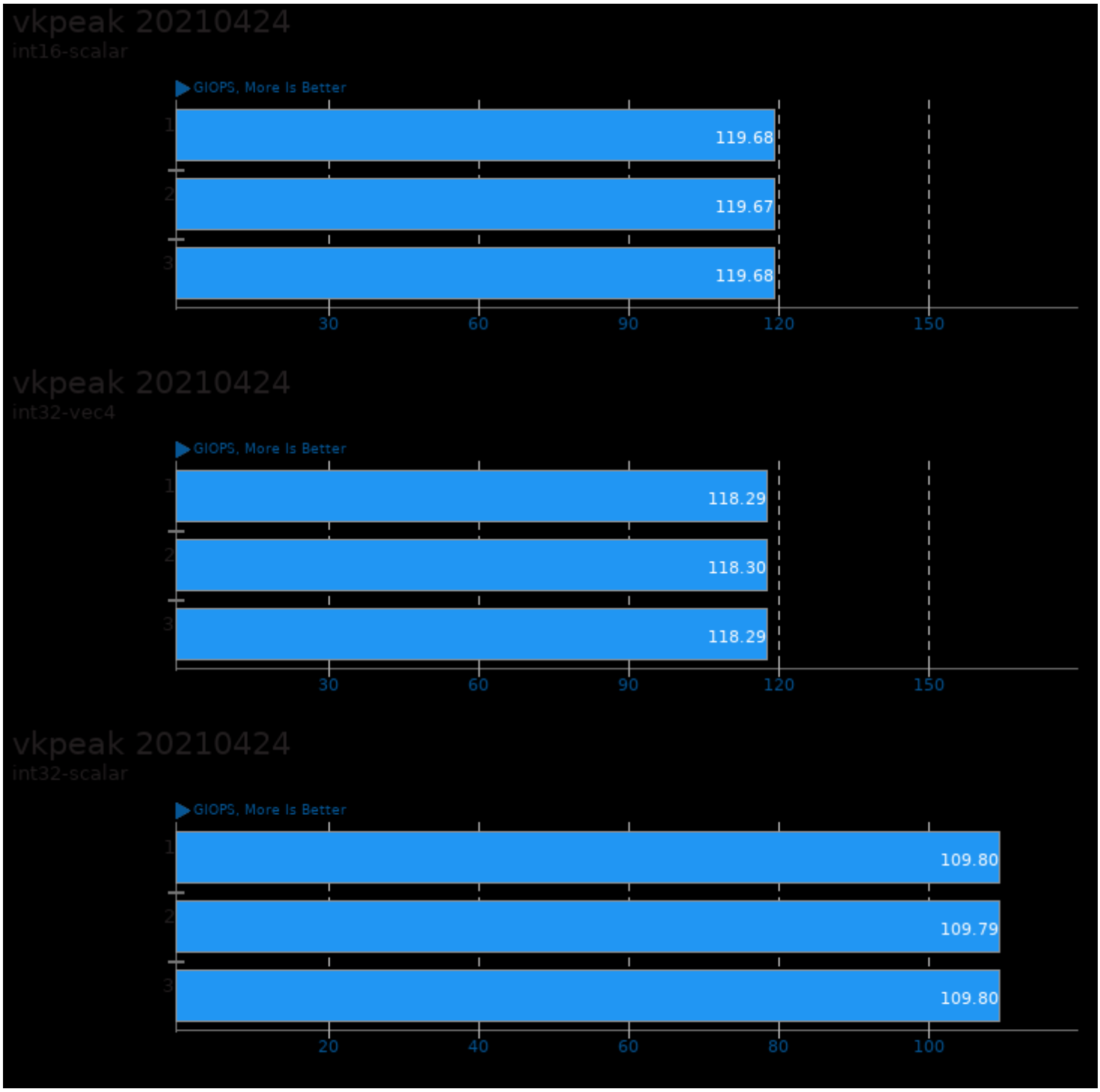
1. (CXX) g++ options: -O3 -lpthread -lrt

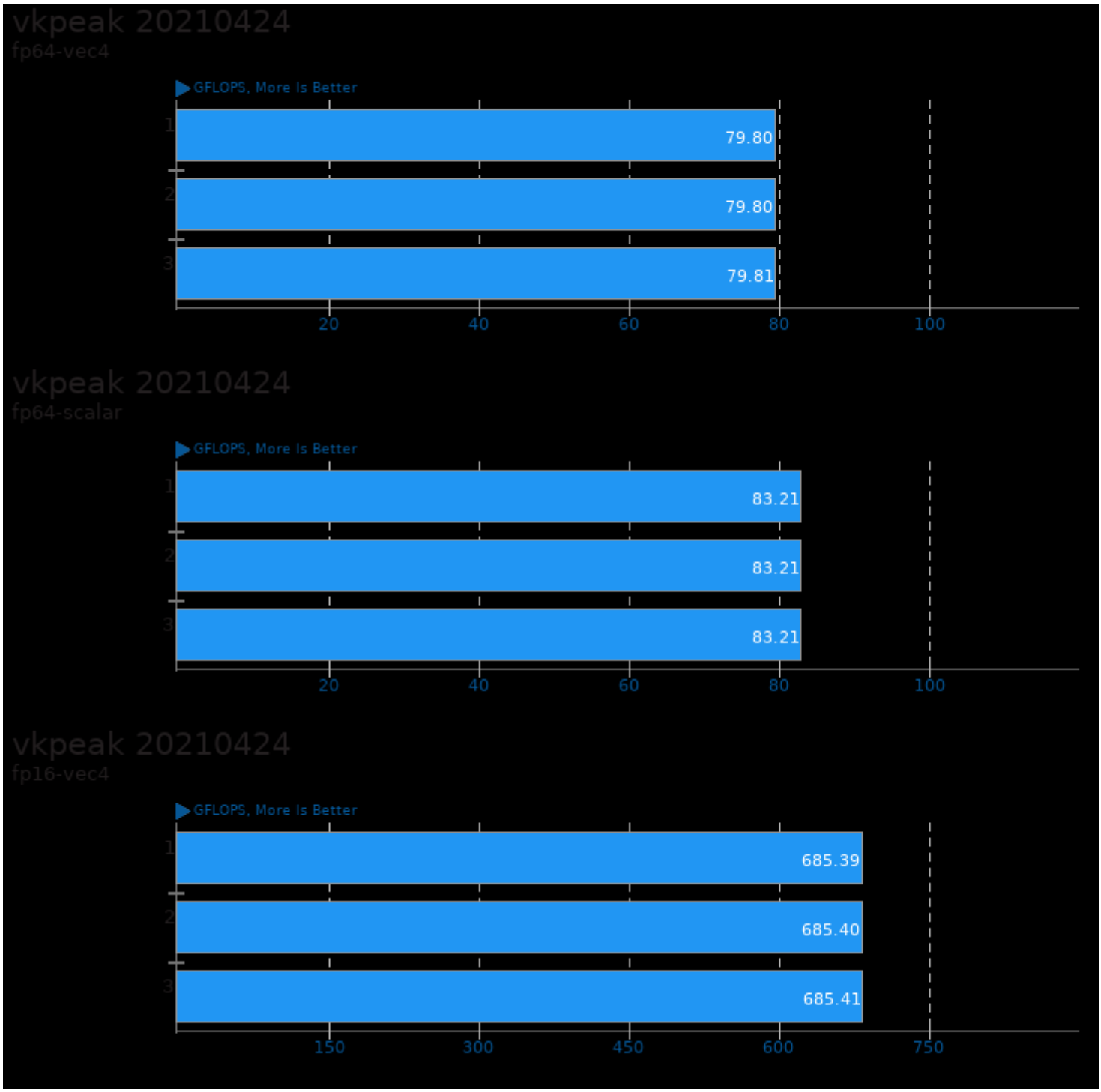
vkpeak 20210424

int16-vec4

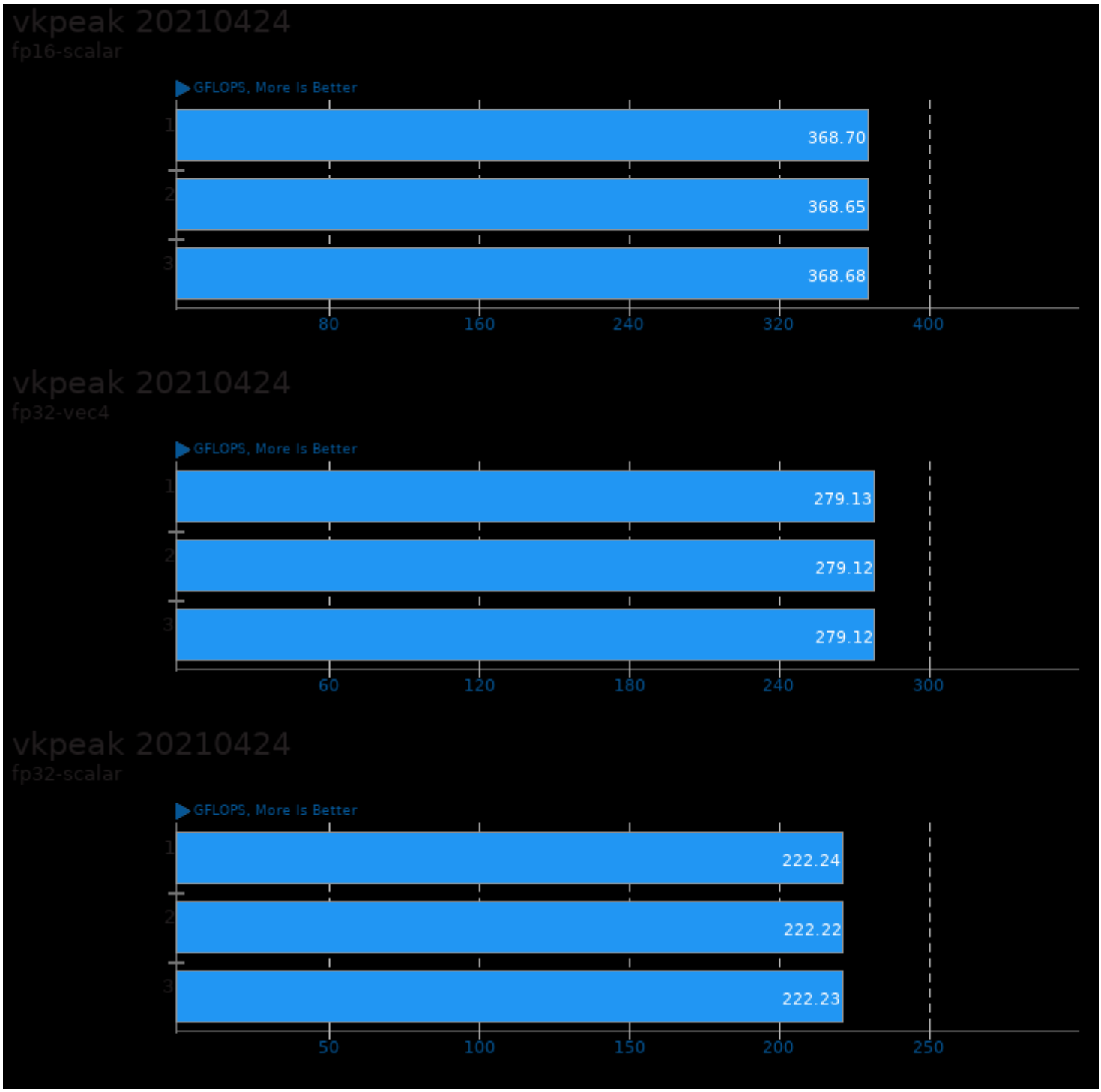


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vkpeak 20210424
int16-scalar
GIOPS, More Is Better
1
2
3
119.68
119.67
119.68
30
60
90
120
150
vkpeak 20210424
int32-vec4
GIOPS, More Is Better
1
2
3
118.29
118.30
118.29
30
60
90
120
150
vkpeak 20210424
int32-scalar
GIOPS, More Is Better
1
2
3
109.80
109.79
109.80
20
40
60
80
100

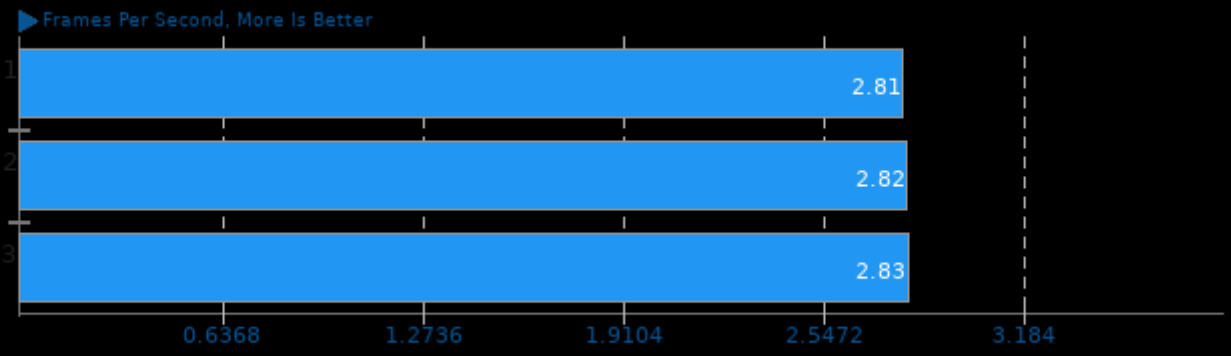

vkpeak 20210424
fp64-vec4
GFLOPS, More Is Better
1
79.80
2
79.80
3
79.81
20
40
60
80
100
vkpeak 20210424
fp64-scalar
GFLOPS, More Is Better
1
83.21
2
83.21
3
83.21
20
40
60
80
100
vkpeak 20210424
fp16-vec4
GFLOPS, More Is Better
1
685.39
2
685.40
3
685.41
150
300
450
600
750

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vkpeak 20210424
fp16-scalar
GFLOPS, More Is Better
1
368.70
2
368.65
3
368.68
80
160
240
320
400
vkpeak 20210424
fp32-vec4
GFLOPS, More Is Better
1
279.13
2
279.12
3
279.12
60
120
180
240
300
vkpeak 20210424
fp32-scalar
GFLOPS, More Is Better
1
222.24
2
222.22
3
222.23
50
100
150
200
250

AOM AV1 3.1

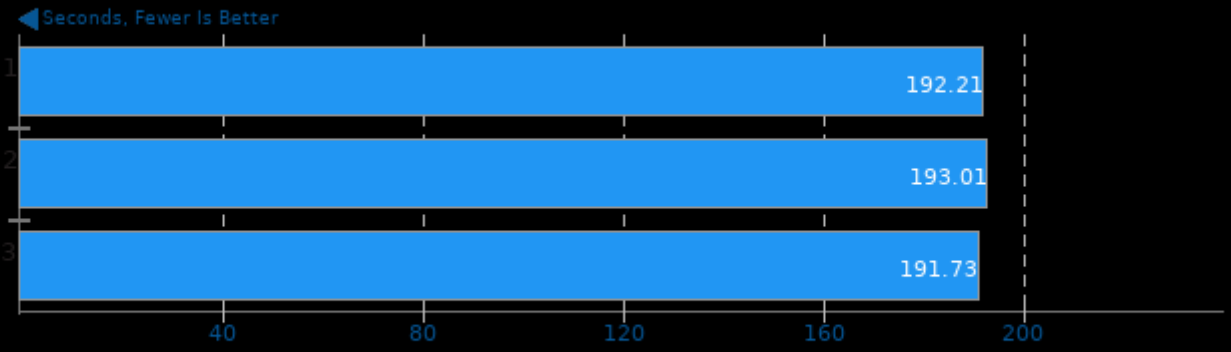
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

Timed MrBayes Analysis 3.2.7

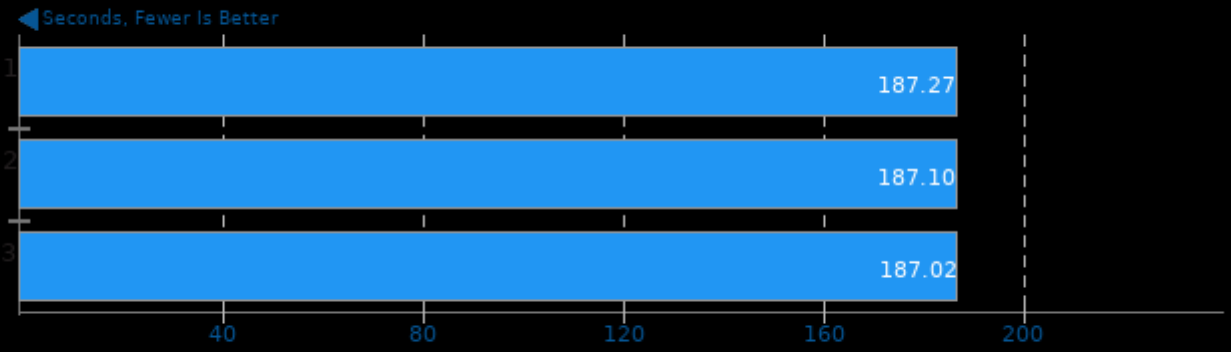
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx -mmpx -mabm

Timed HMMer Search 3.3.2

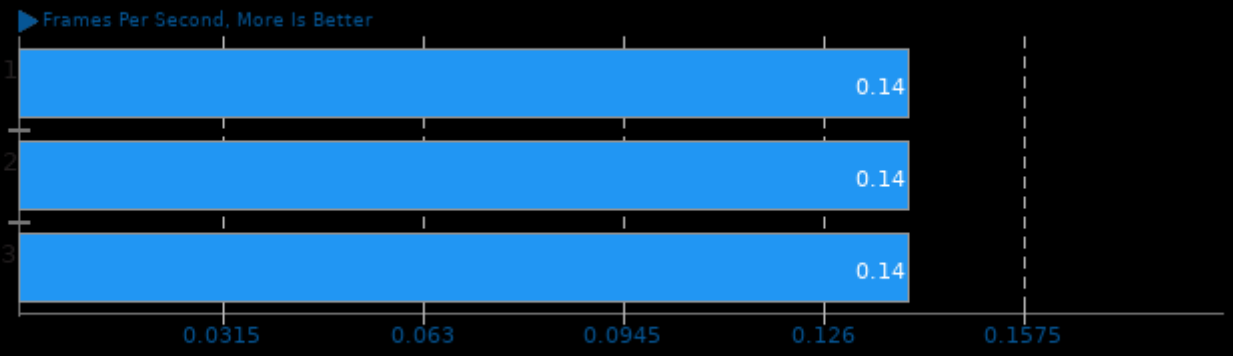
Pfam Database Search



1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm -lmpi

AOM AV1 3.1

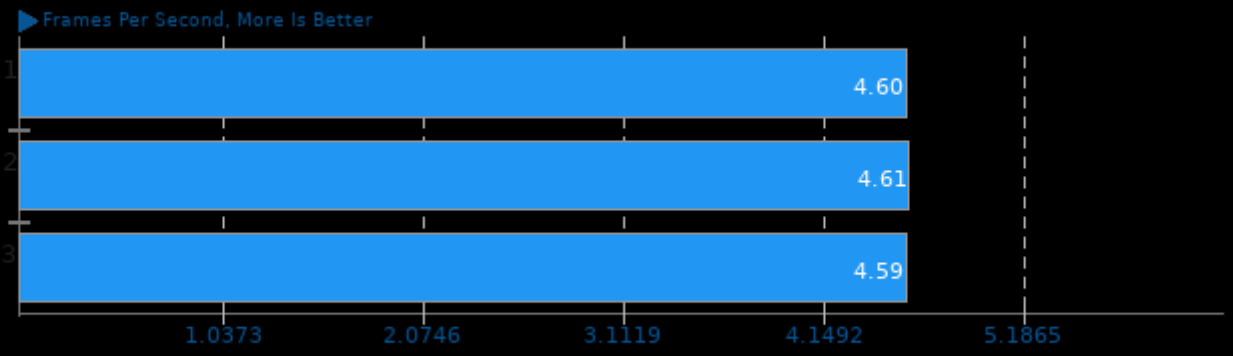
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.1

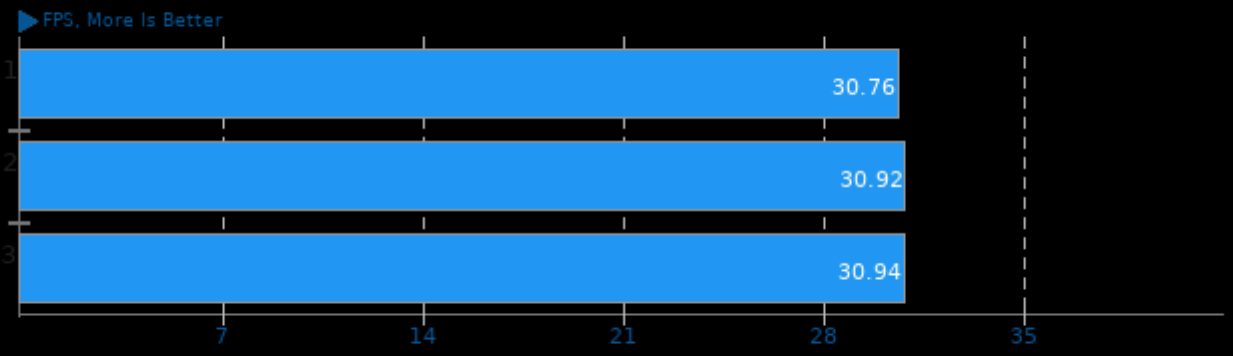
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

libgav1 0.16.3

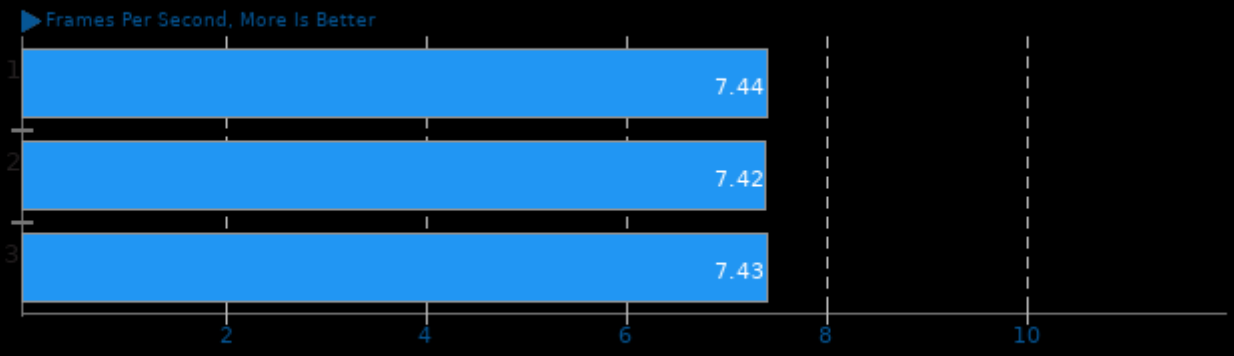
Video Input: Summer Nature 4K



1. (CXX) g++ options: -O3 -lpthread -lrt

AOM AV1 3.1

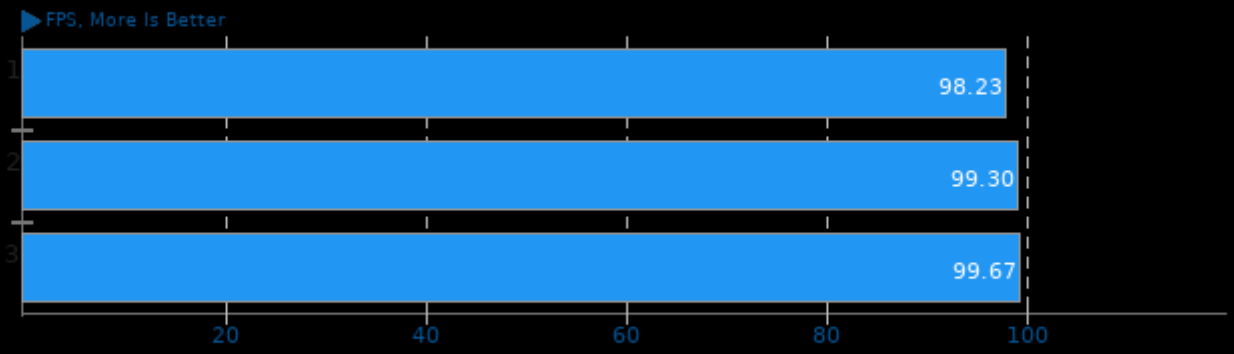
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

libgav1 0.16.3

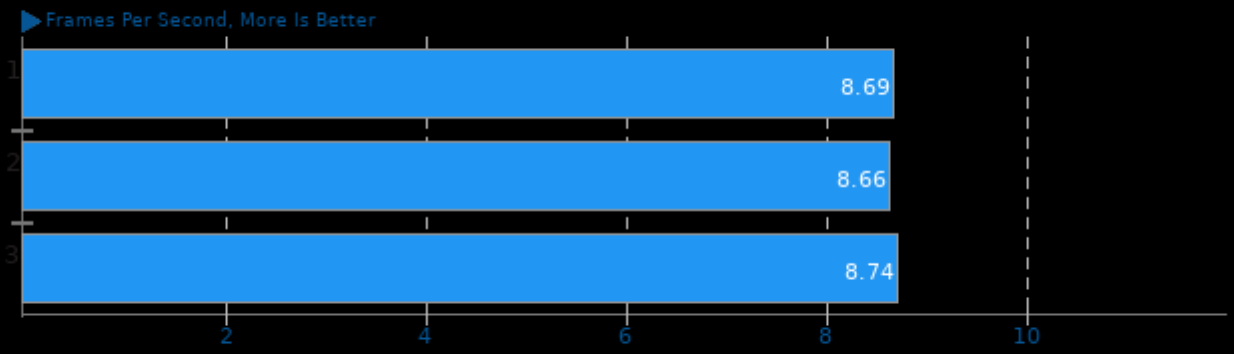
Video Input: Chimera 1080p



1. (CXX) g++ options: -O3 -lpthread -lrt

AOM AV1 3.1

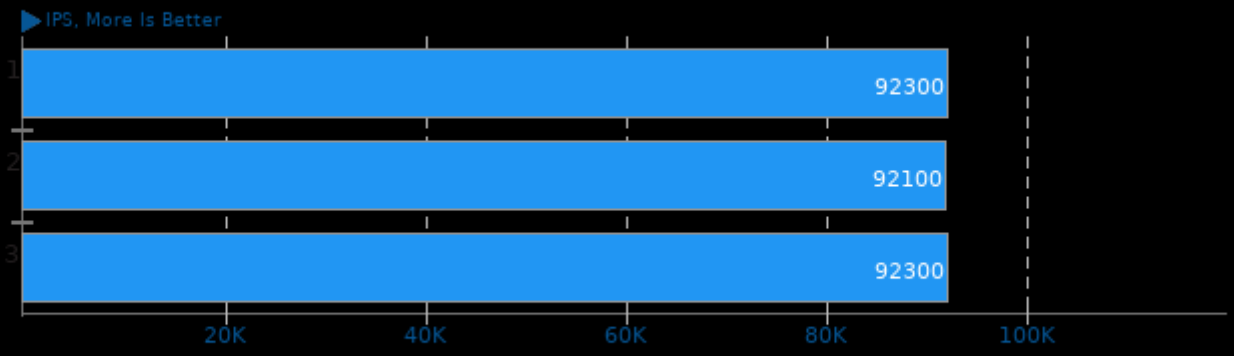
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

Chia Blockchain VDF 1.0.1

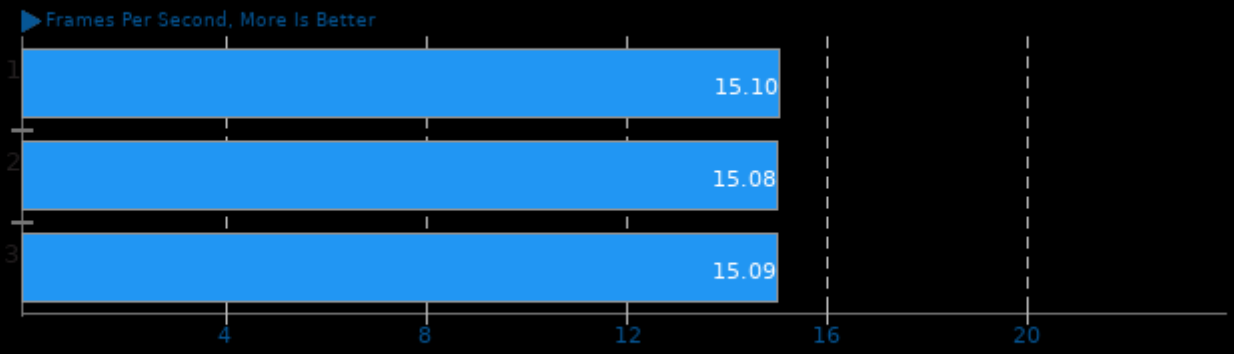
Test: Square Plain C++



1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

AOM AV1 3.1

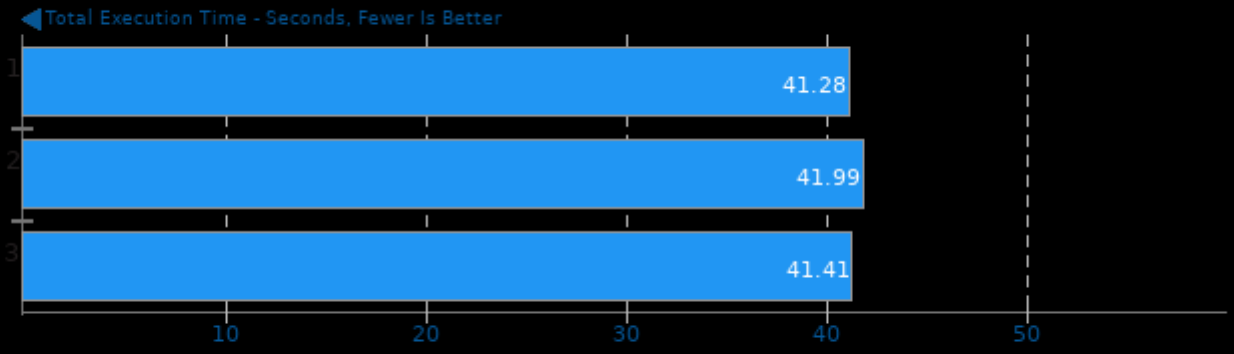
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

QMCPACK 3.11

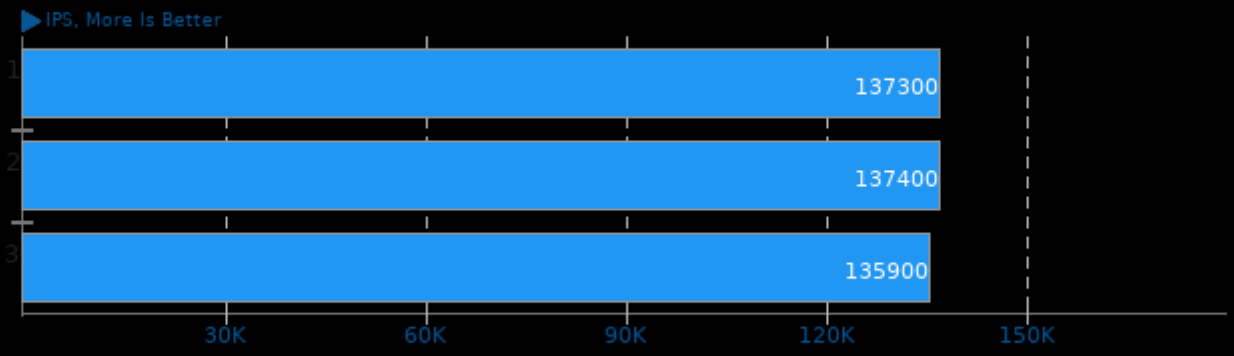
Input: simple-H2O



1. (CXX) g++ options: -fopenmp -finline-limit=1000 -fstrict-aliasing -funroll-all-loops -march=native -O3 -fomit-frame-pointer -ffast-math -pthread -lm

Chia Blockchain VDF 1.0.1

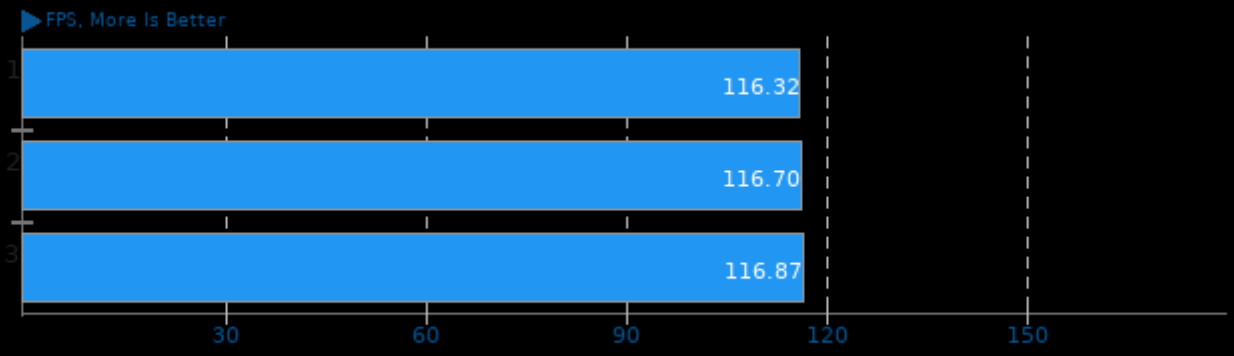
Test: Square Assembly Optimized



1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

libgav1 0.16.3

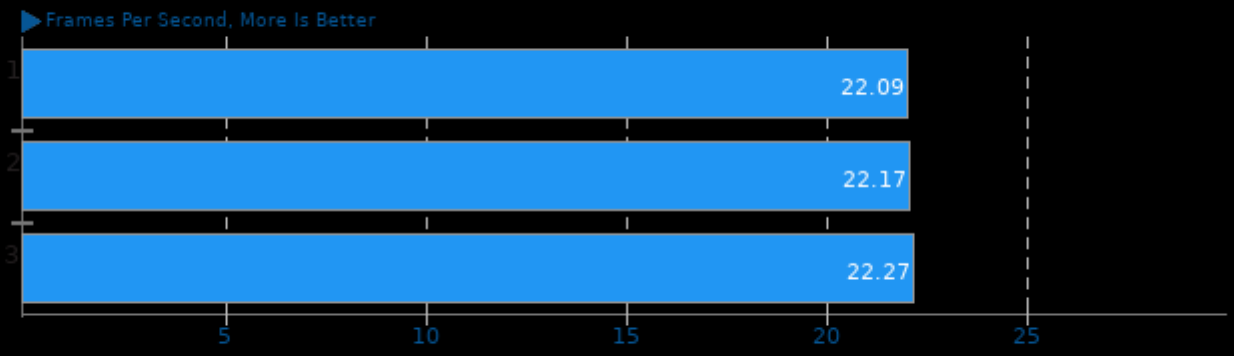
Video Input: Summer Nature 1080p



1. (CXX) g++ options: -O3 -lpthread -lrt

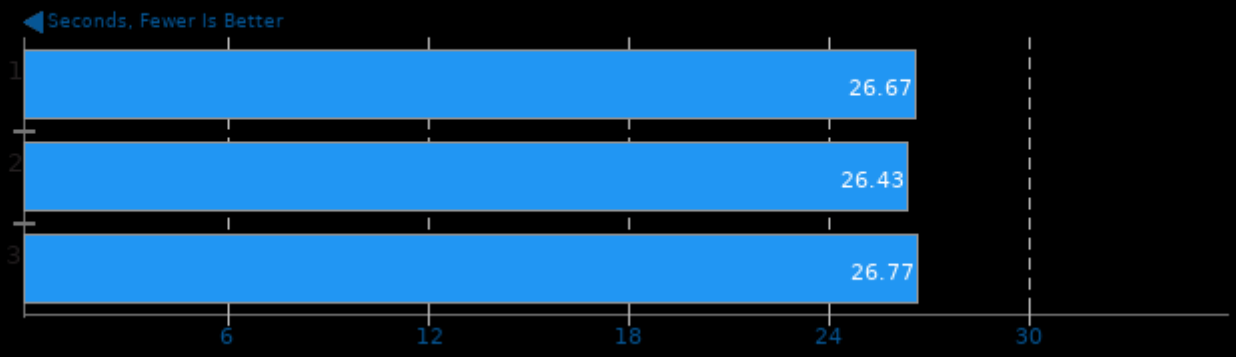
AOM AV1 3.1

Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K



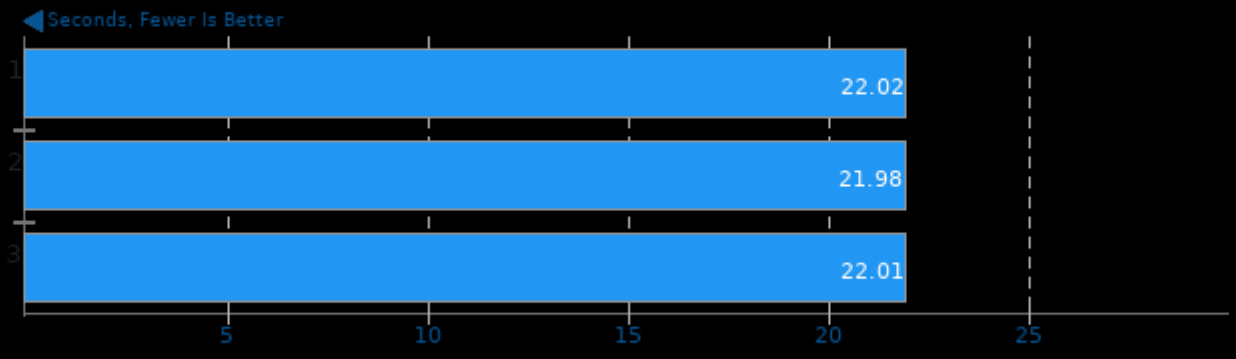
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

VOSK Speech Recognition Toolkit 0.3.21



Helsing 1.0-beta

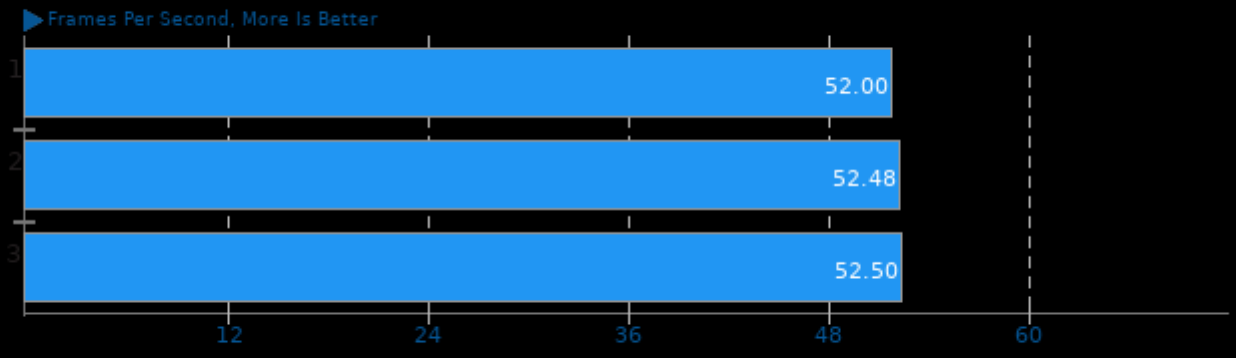
Digit Range: 12 digit



1. (CC) gcc options: -O2 -pthread

AOM AV1 3.1

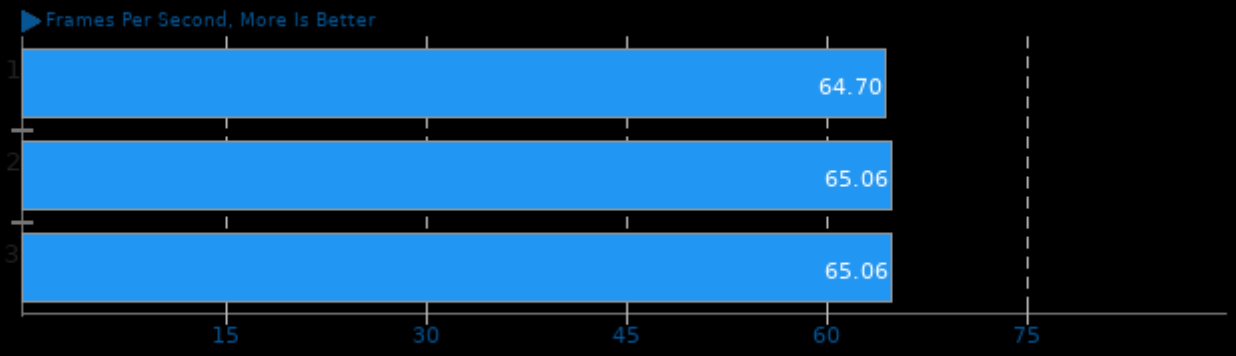
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.1

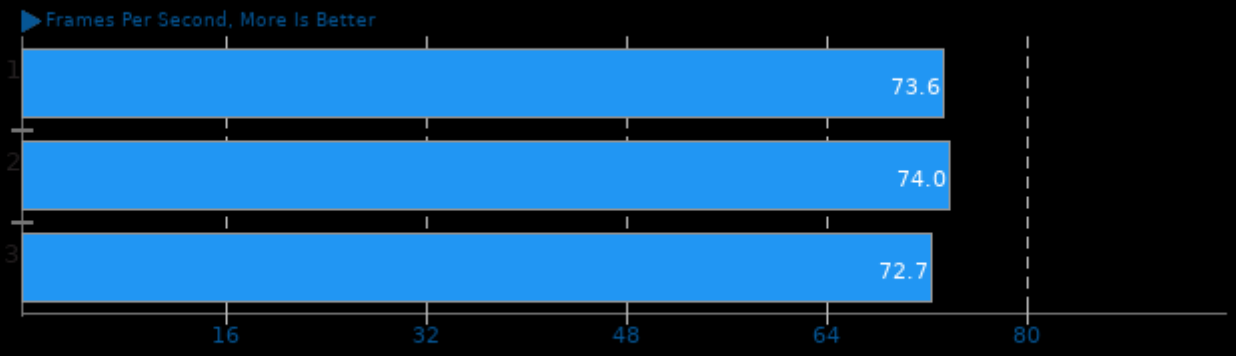
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

yquake2 7.45

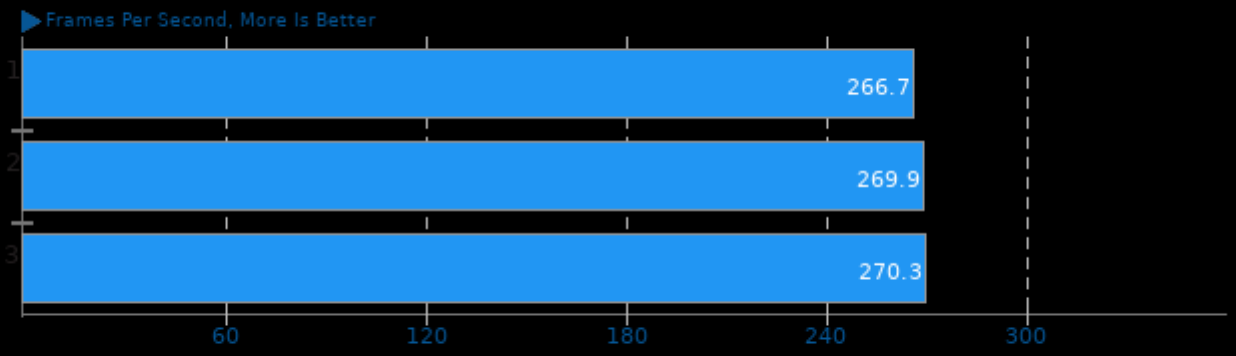
Renderer: Software CPU - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

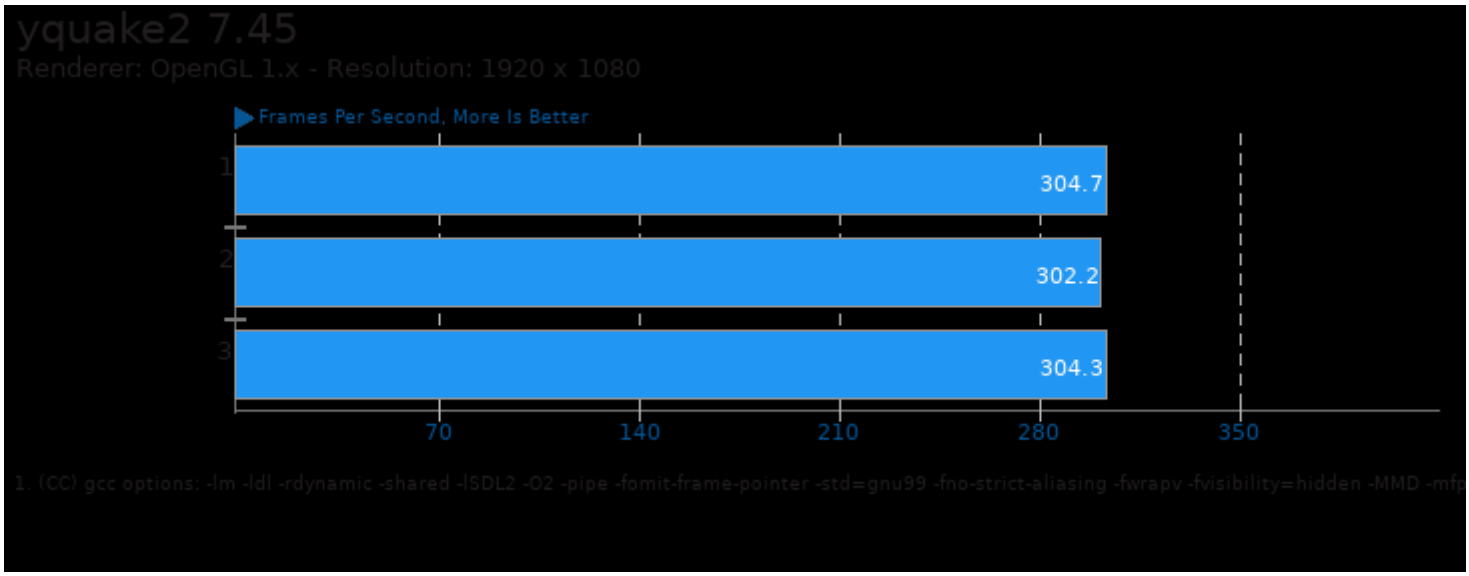
yquake2 7.45

Renderer: OpenGL 3.x - Resolution: 1920 x 1080



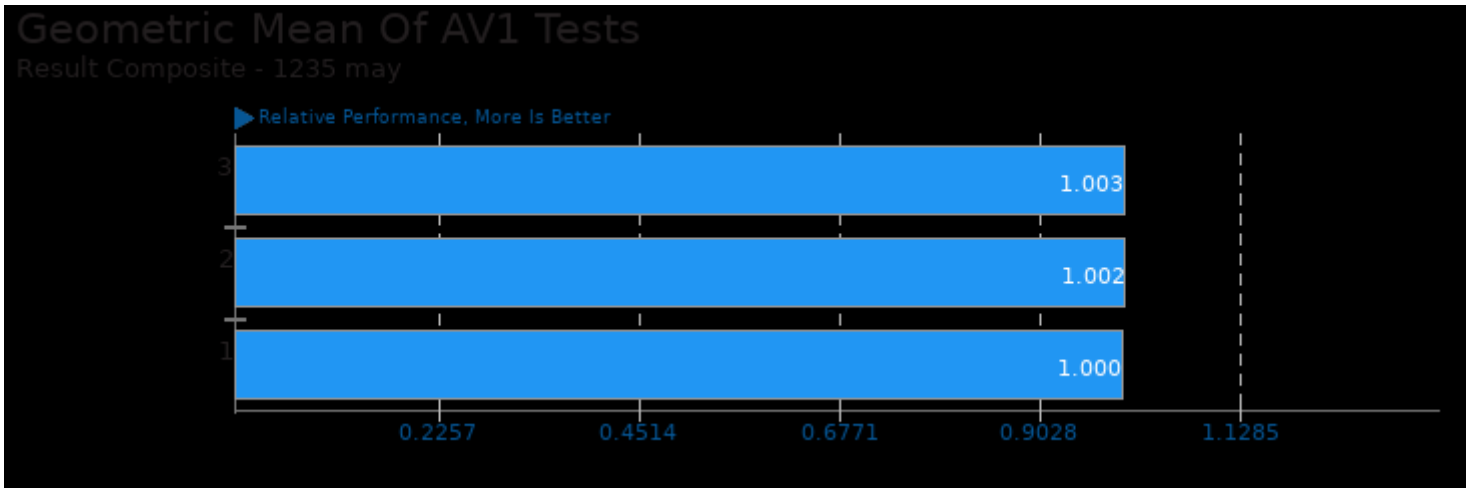
1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

1235 may


yquake2 7.45
Renderer: OpenGL 1.x - Resolution: 1920 x 1080
Frames Per Second, More Is Better
1
304.7
2
302.2
3
304.3
70
140
210
280
350
1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mf

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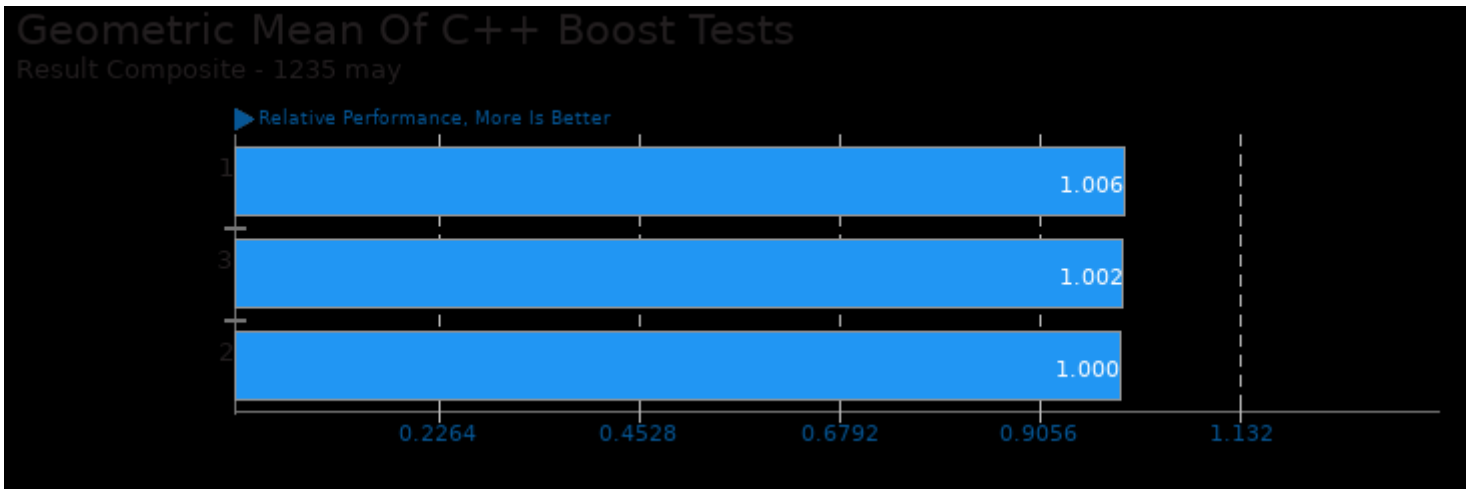
These geometric means are based upon test groupings / test suites for this result file.



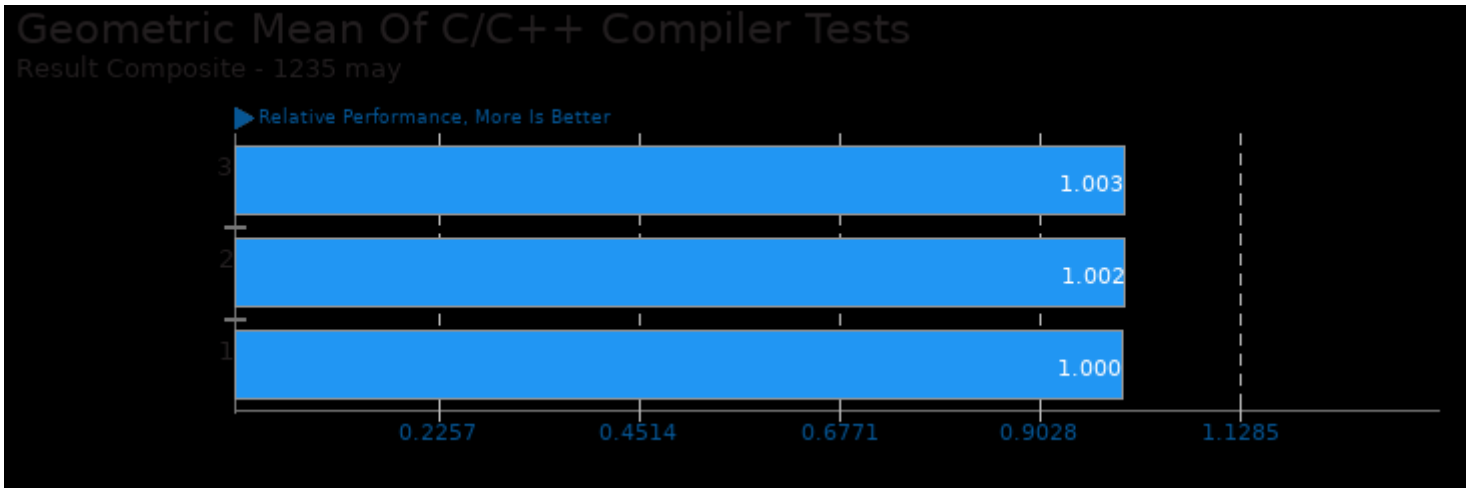
Geometric mean based upon tests: pts/aom-av1 and pts/libgav1



Geometric mean based upon tests: pts/mrbayes, pts/hmmer and pts/qmcpack



Geometric mean based upon tests: pts/chia-vdf and pts/qmcpack



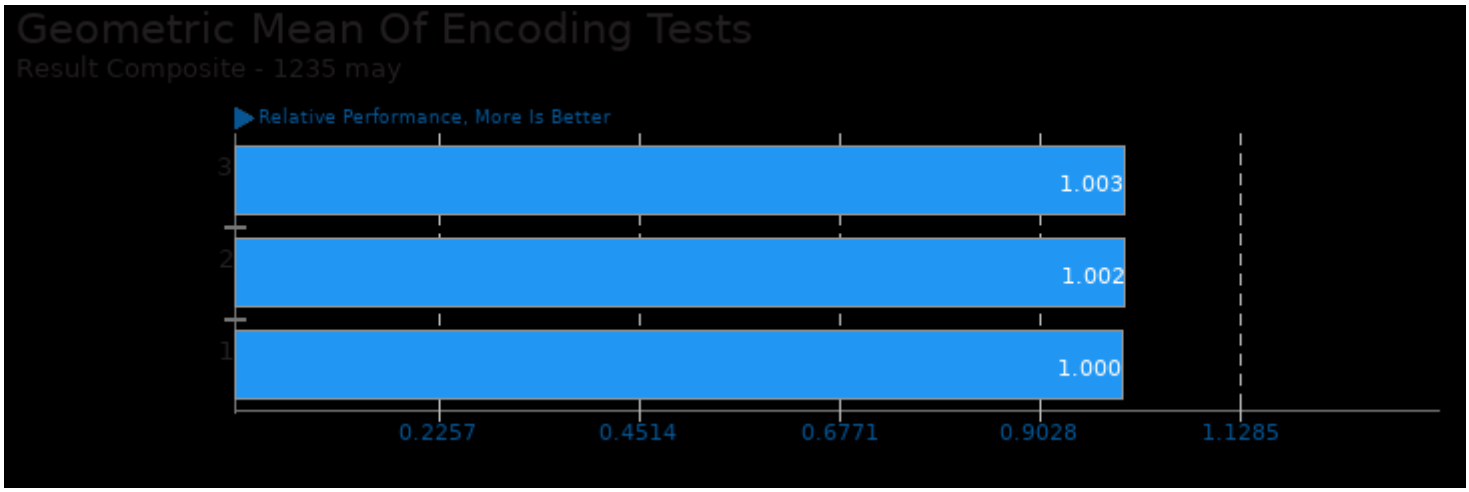
Geometric mean based upon tests: pts/hmmer, pts/mrbayes, pts/libgav1 and pts/aom-av1



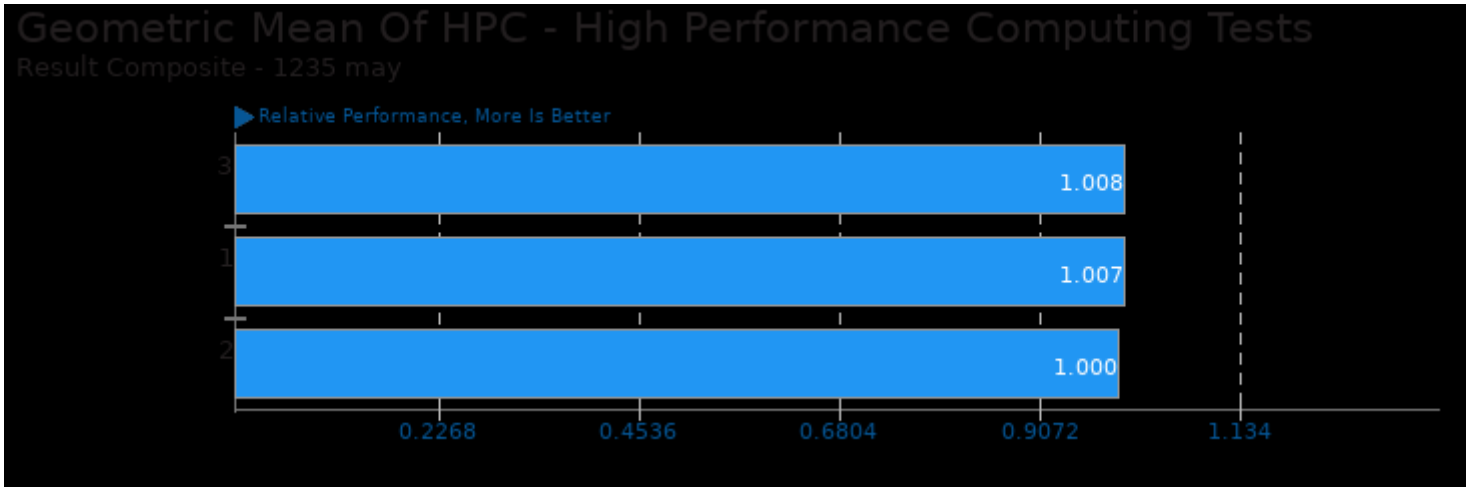
Geometric mean based upon tests: pts/hmmer and pts/mrbayes



Geometric mean based upon tests: pts/aom-av1, pts/libgav1 and pts/vosk



Geometric mean based upon tests: pts/aom-av1 and pts/libgav1



Geometric mean based upon tests: pts/mrbayes, pts/hmmer and pts/qmcpack

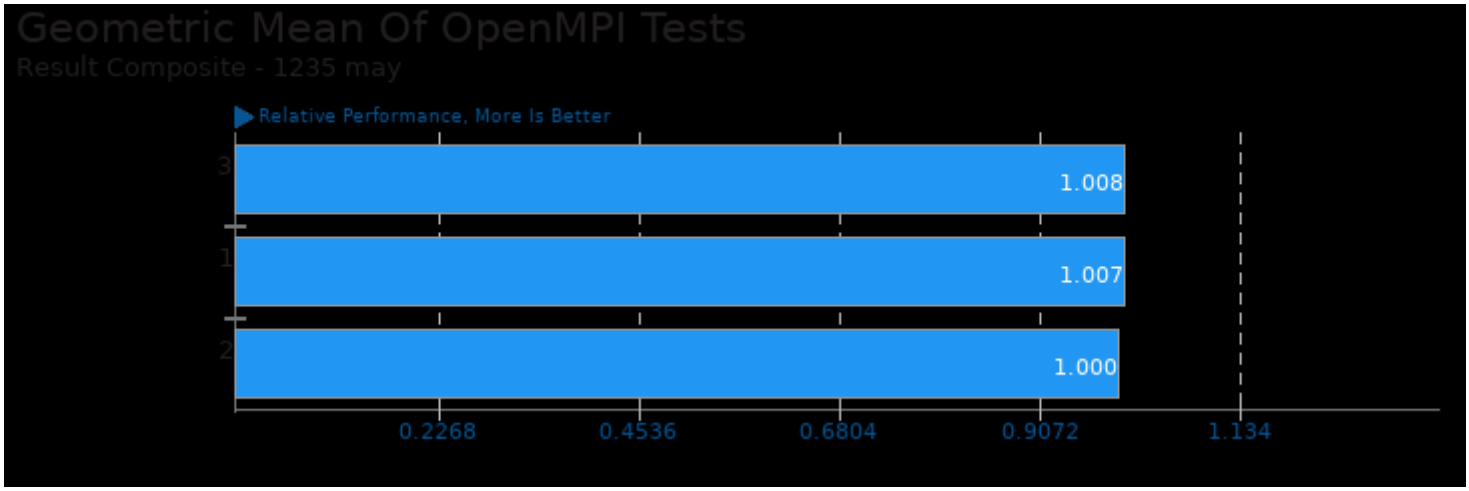


Geometric mean based upon tests: pts/qmcpack and pts/mrbayes

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Geometric mean based upon tests: pts/aom-av1 and pts/libgav1

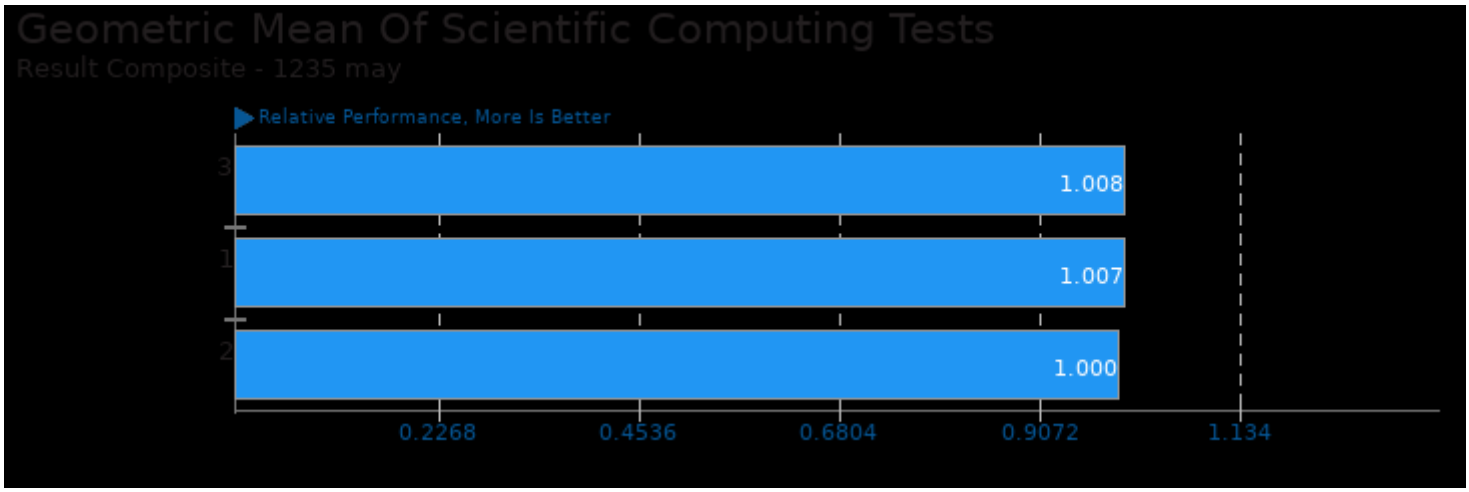


Geometric mean based upon tests: pts/mrbayes, pts/hmmer and pts/qmcpack

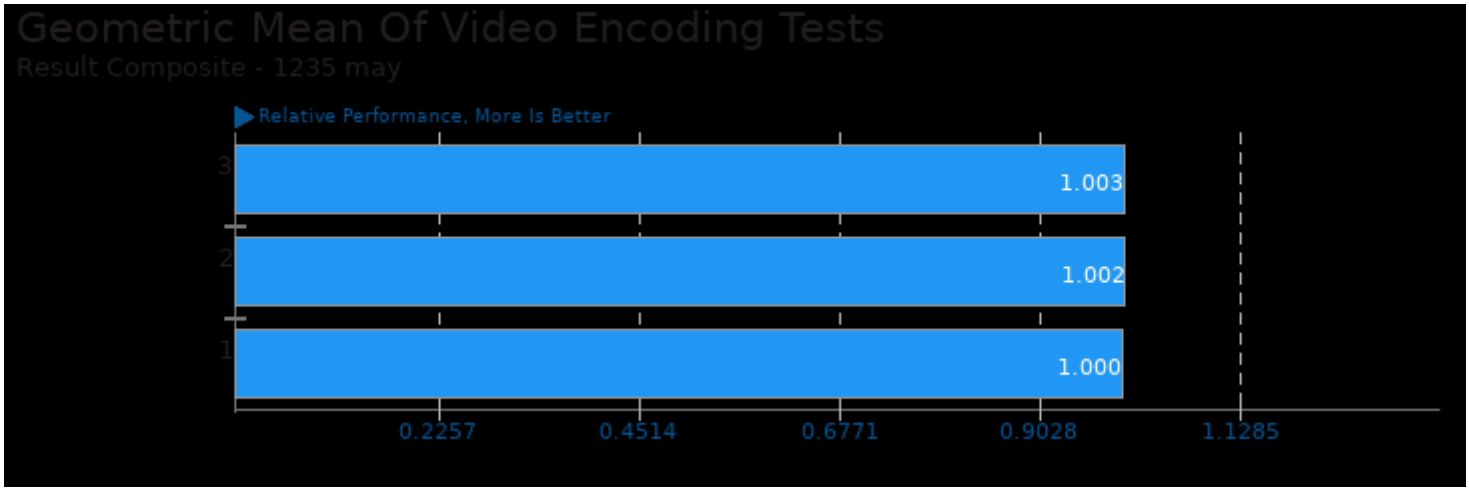


Geometric mean based upon tests: pts/chia-vdf and pts/vosk

1235 may



Geometric mean based upon tests: pts/mrbayes, pts/hmmer and pts/qmcpack



Geometric mean based upon tests: pts/aom-av1 and pts/libgav1

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 08:11.