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5800x may

AMD Ryzen 7 5800X 8-Core testing with a ASRock X570 Pro4 (P3.90 BIOS) and Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 45% of the tests.

Based on the geometric mean of all complete results, the fastest (2) was 1.002x the speed of the slowest (3). 1 was 0.998x the speed of 2 and 3 was 1x the speed of 1.

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

libgav1 (Video Input: Chimera 1080p 10-bit) at 1.062x
vkpeak (fp32-scalar) at 1.061x
AOM AV1 (Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p) at 1.04x
VOSK Speech Recognition Toolkit at 1.039x
PJSIP (Method: OPTIONS, Stateful) at 1.03x
Chia Blockchain VDF (Test: Square Plain C++) at 1.026x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p) at 1.02x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K) at 1.019x
vkpeak (int32-scalar) at 1.018x

libgav1 (Video Input: Summer Nature 4K) at 1.016x.

Test Systems:

1

2

3

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASRock X570 Pro4 (P3.90 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 1000GB Sabrent Rocket 4.0 1TB, Graphics: Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 8GB (1560/2100MHz), Audio: AMD Ellesmere HDMI Audio, Monitor: G237HL, Network: Intel I211

OS: Ubuntu 20.10, Kernel: 5.12.0-rc5-nopsf (x86_64) 20210403, Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.2.6 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, 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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/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: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Python Notes: Python 3.8.6
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: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	1	2	3
vkpeak - fp32-scalar (GFLOPS)	6055	6336	6425
Normalized	94.24%	98.61%	100%
vkpeak - fp32-vec4 (GFLOPS)	5766	5767	5771
Normalized	99.9%	99.92%	100%
vkpeak - fp64-scalar (GFLOPS)	298.17	298.17	298.13
Normalized	100%	100%	99.99%
vkpeak - fp64-vec4 (GFLOPS)	297.02	297.02	296.99
Normalized	100%	100%	99.99%
vkpeak - int32-scalar (GIOPS)	1385	1392	1411
Normalized	98.19%	98.64%	100%
vkpeak - int32-vec4 (GIOPS)	1376	1389	1398
Normalized	98.46%	99.39%	100%

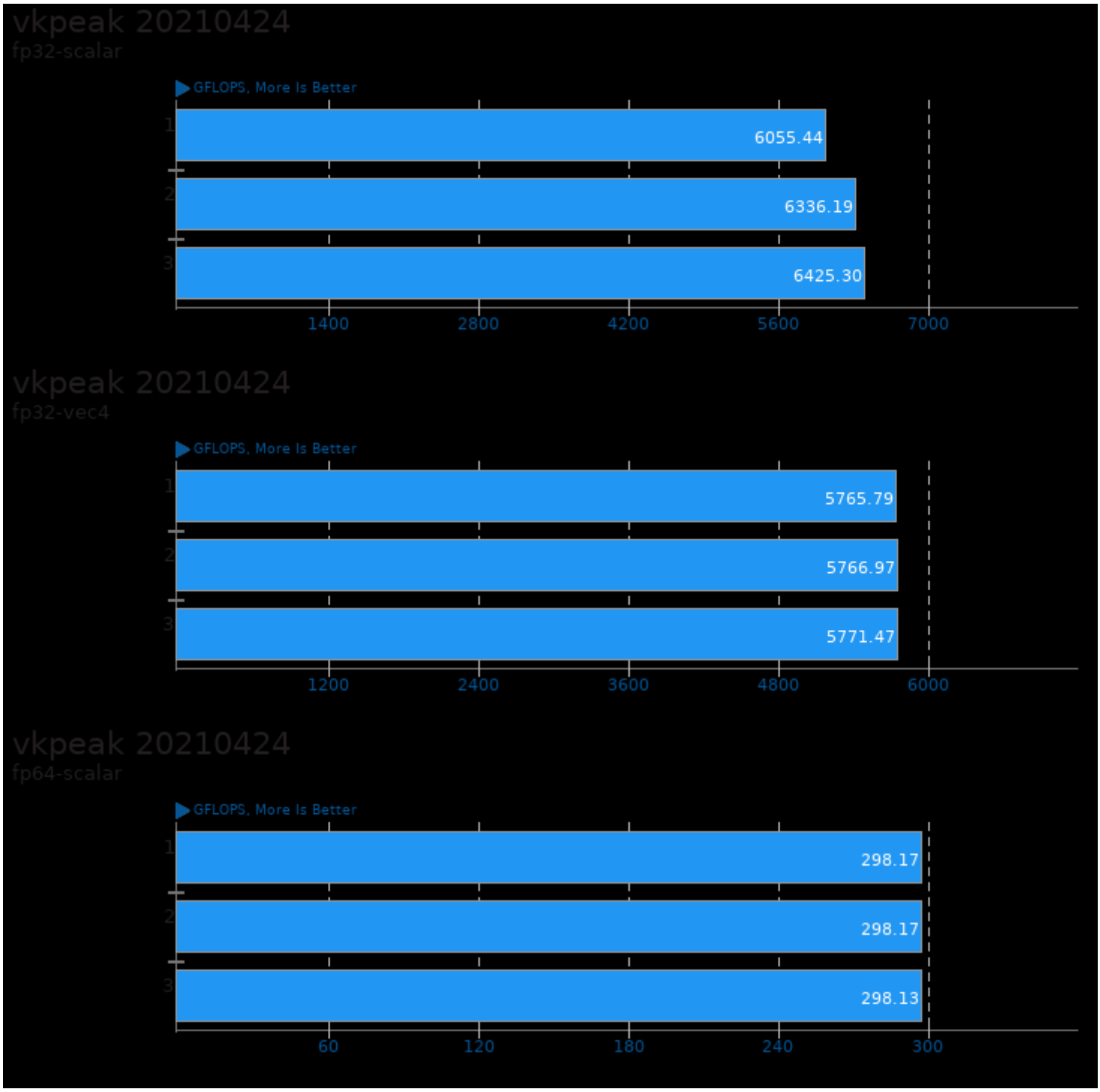
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yquake2 - OpenGL 1.x - 1920 x 1080 (FPS)	887.6	882.7	887.6
Normalized	100%	99.45%	100%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	993.7	993.7	993.7
yquake2 - Software CPU - 1920 x 1080 (FPS)	181	180	181.1
Normalized	99.94%	99.39%	100%
Timed MrBayes Analysis - P.P.A (sec)	86.625	86.59	87.021
Normalized	99.96%	100%	99.5%
Timed HMMer Search - P.D.S (sec)	90.288	91.036	91.35
Normalized	100%	99.18%	98.84%
libgav1 - Chimera 1080p (FPS)	256.5	255.81	254.83
Normalized	100%	99.73%	99.35%
libgav1 - Summer Nature 4K (FPS)	97.99	97.93	96.43
Normalized	100%	99.94%	98.41%
libgav1 - S.N.1 (FPS)	365.91	363.51	363.83
Normalized	100%	99.34%	99.43%
libgav1 - C.1.1.b (FPS)	78.56	75.83	73.95
Normalized	100%	96.52%	94.13%
Chia Blockchain VDF - Square Plain C++	208100	213500	210900
Normalized	97.47%	100%	98.78%
Chia Blockchain VDF - S.A.O (IPS)	228700	228300	226700
Normalized	100%	99.83%	99.13%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.16	0.16	0.16
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	4.55	4.57	4.56
Normalized	99.56%	100%	99.78%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	17.4	17.61	17.48
Normalized	98.81%	100%	99.26%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	9.07	9.07	9.12
Normalized	99.45%	99.45%	100%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	54.61	54.96	54.68
Normalized	99.36%	100%	99.49%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	74.13	75.56	74.74
Normalized	98.11%	100%	98.91%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.49	0.49	0.49
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	8.25	8.19	8.28
Normalized	99.64%	98.91%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	31.95	31.71	31.63
Normalized	100%	99.25%	99%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	26.78	26.95	26.88
Normalized	99.37%	100%	99.74%

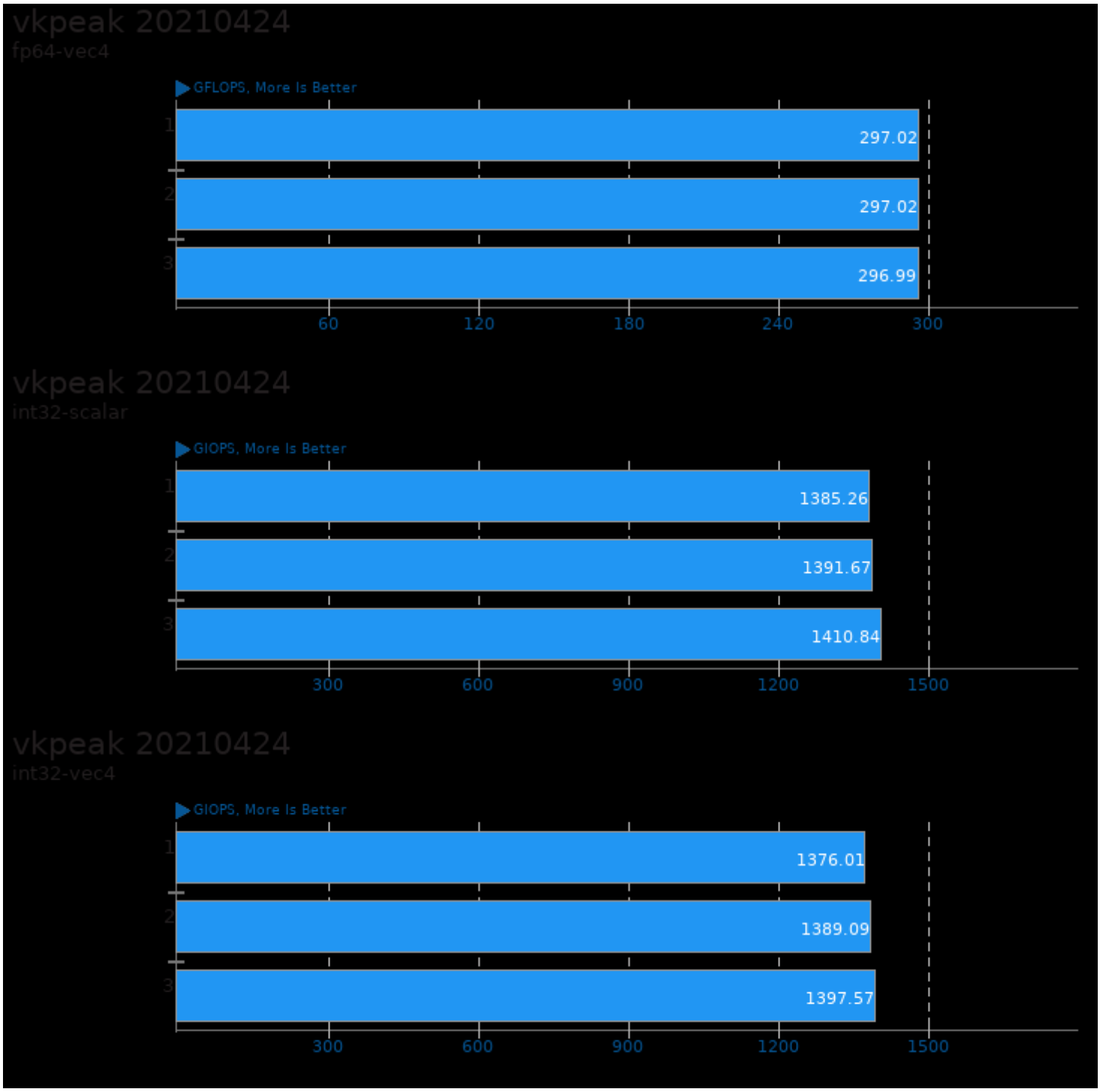
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AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	160.58	**158.7**	**165.11**
Normalized	97.26%	96.12%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**201.31**	200.98	**197.28**
Normalized	100%	99.84%	98%
PJSIP - INVITE (Responses/sec)	**5681**	**5696**	5686
Normalized	99.74%	100%	99.82%
PJSIP - OPTIONS, Stateful (Responses/sec)	8114	**8263**	**8019**
Normalized	98.2%	100%	97.05%
PJSIP - OPTIONS, Stateless (Responses/sec)	84495	**84374**	**84746**
Normalized	99.7%	99.56%	100%
Helsing - 12 digit (sec)	**5.339**	5.352	**5.365**
Normalized	100%	99.76%	99.52%
Helsing - 14 digit (sec)	**532.798**	**537.696**	533.013
Normalized	100%	99.09%	99.96%
VOSK Speech Recognition Toolkit (sec)	14.757	**14.414**	**14.969**
Normalized	97.68%	100%	96.29%

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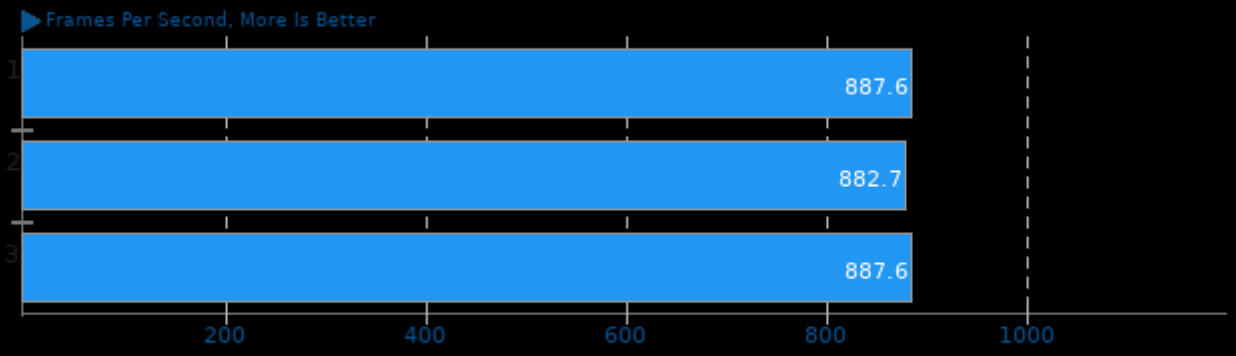

vkpeak 20210424
fp32-scalar
GFLOPS, More Is Better
1
6055.44
2
6336.19
3
6425.30
1400
2800
4200
5600
7000
vkpeak 20210424
fp32-vec4
GFLOPS, More Is Better
1
5765.79
2
5766.97
3
5771.47
1200
2400
3600
4800
6000
vkpeak 20210424
fp64-scalar
GFLOPS, More Is Better
1
298.17
2
298.17
3
298.13
60
120
180
240
300

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vkpeak 20210424
fp64-vec4
GFLOPS, More Is Better
1
297.02
2
297.02
3
296.99
60
120
180
240
300
vkpeak 20210424
int32-scalar
GIOPS, More Is Better
1
1385.26
2
1391.67
3
1410.84
300
600
900
1200
1500
vkpeak 20210424
int32-vec4
GIOPS, More Is Better
1
1376.01
2
1389.09
3
1397.57
300
600
900
1200
1500

yquake2 7.45

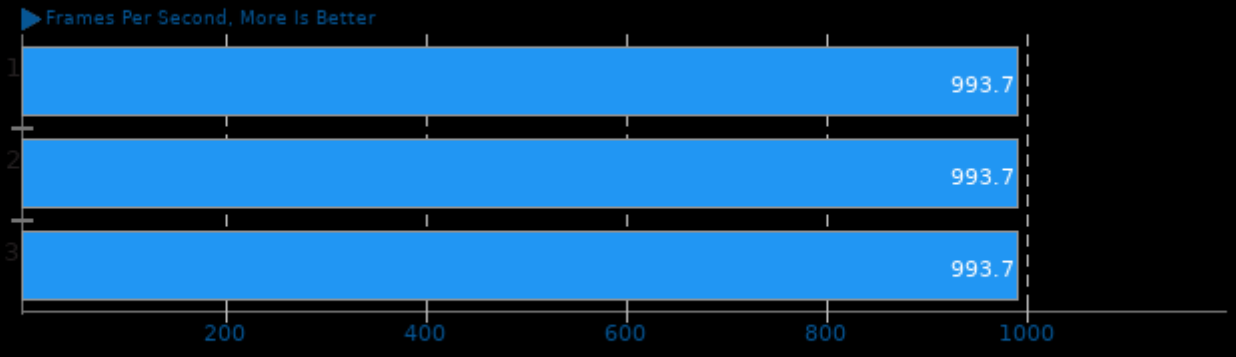
Renderer: OpenGL 1.x - Resolution: 1920 x 1080



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

yquake2 7.45

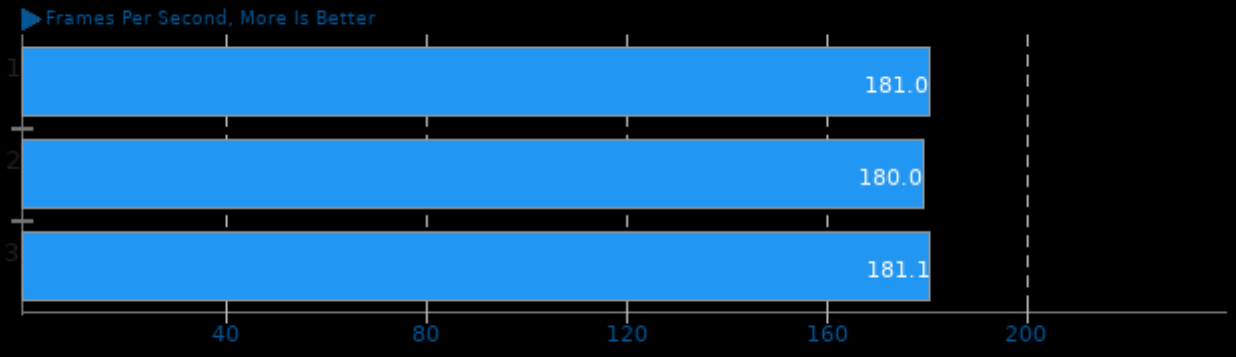
Renderer: OpenGL 3.x - Resolution: 1920 x 1080



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

yquake2 7.45

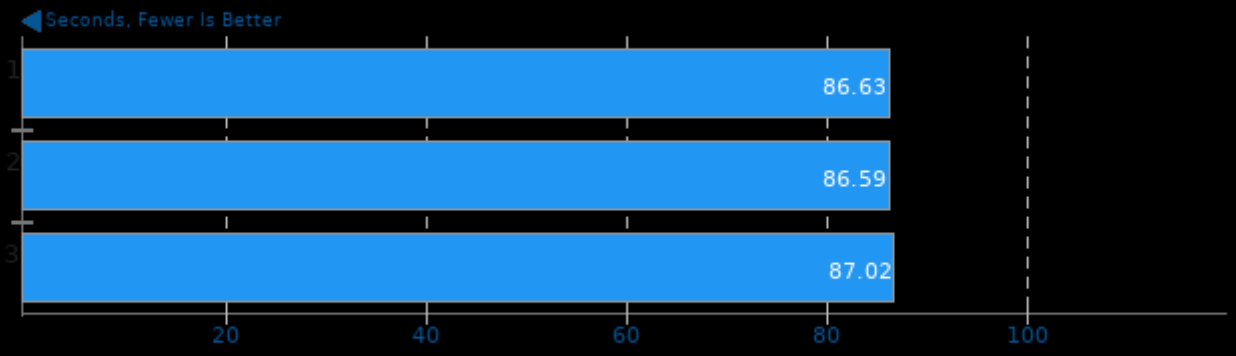
Renderer: Software CPU - Resolution: 1920 x 1080



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

Timed MrBayes Analysis 3.2.7

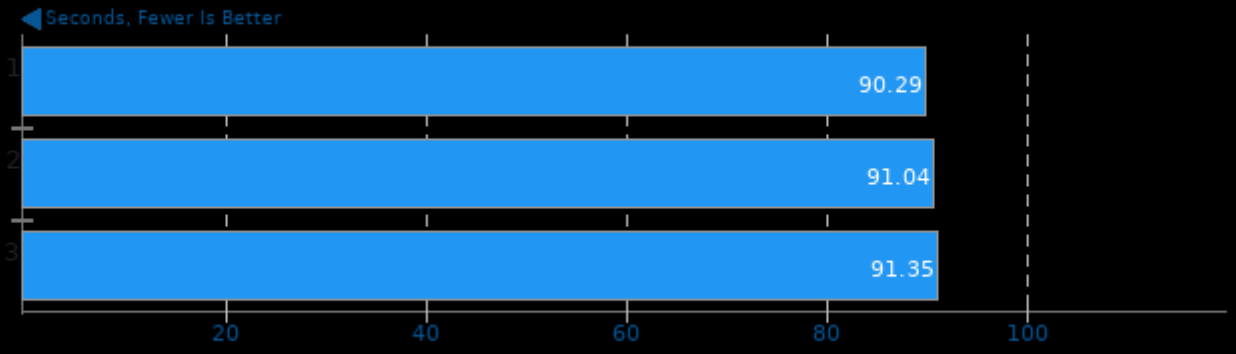
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -msha -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx

Timed HMMer Search 3.3.2

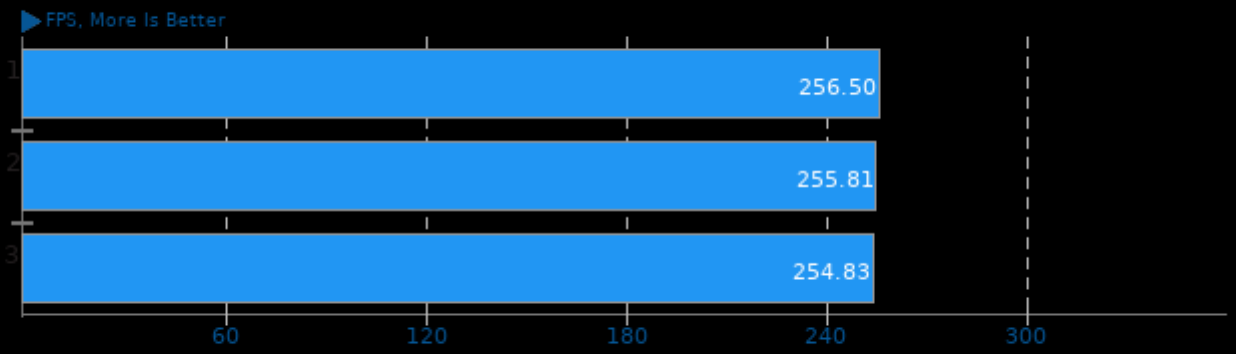
Pfam Database Search



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

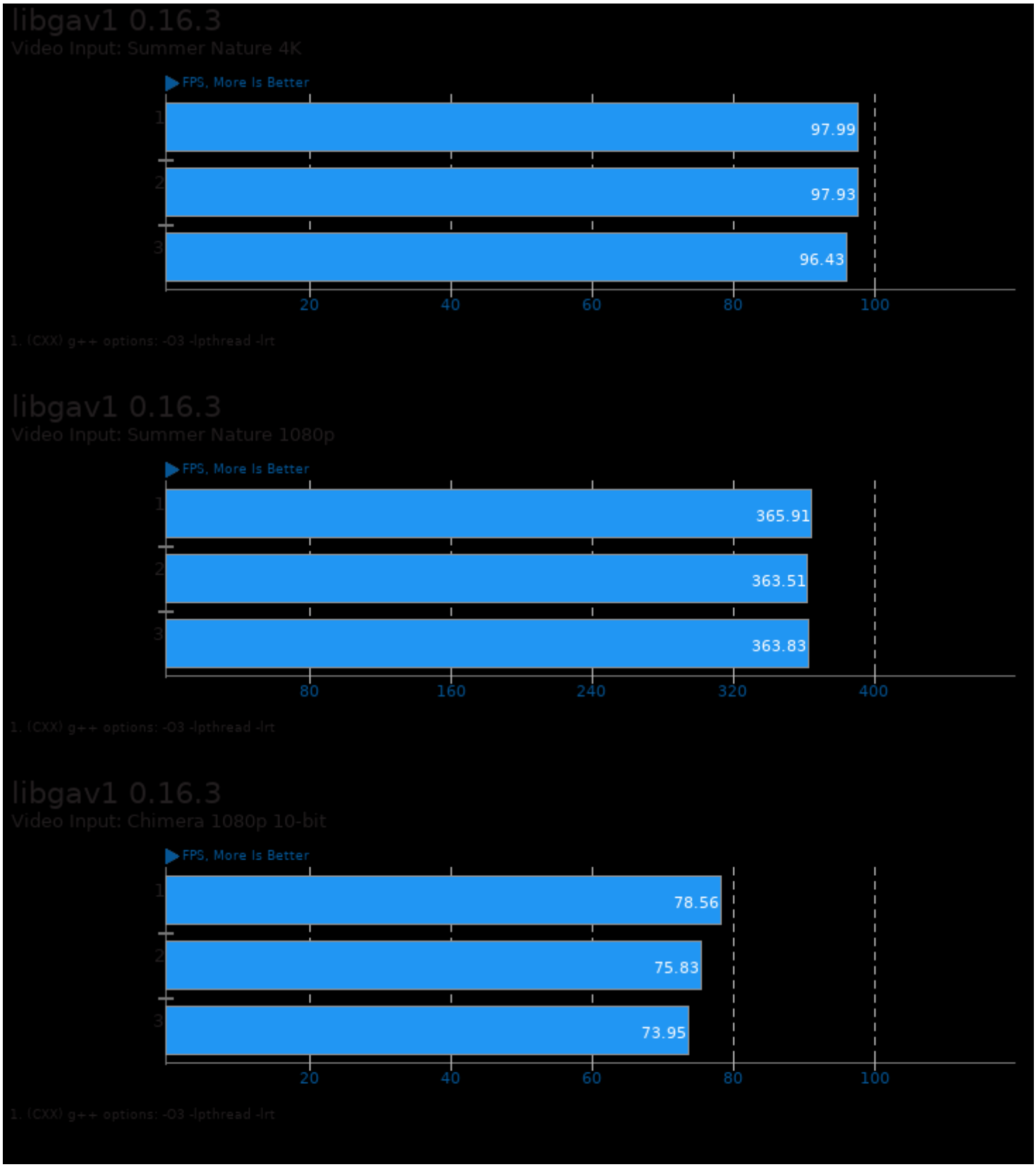
libgav1 0.16.3

Video Input: Chimera 1080p



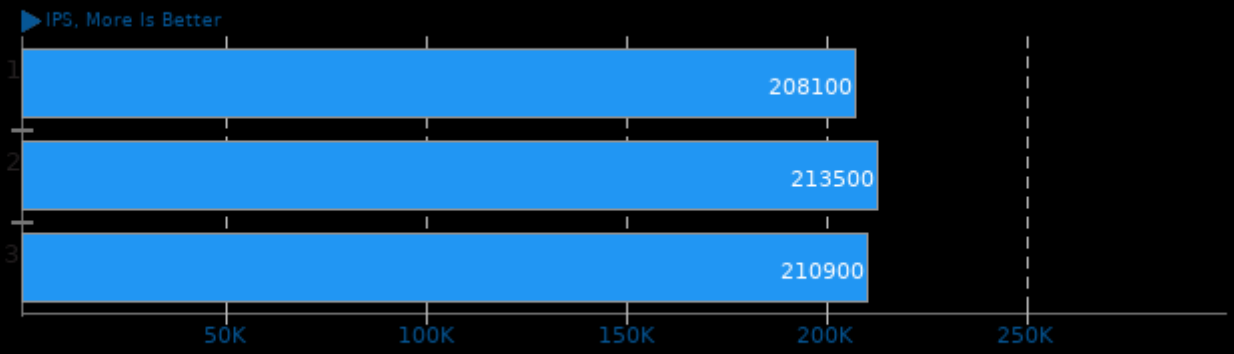
1. (CXX) g++ options: -O3 -lpthread -lrt

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libgav1 0.16.3
Video Input: Summer Nature 4K
FPS, More Is Better
1
2
3
97.99
97.93
96.43
20
40
60
80
100
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.16.3
Video Input: Summer Nature 1080p
FPS, More Is Better
1
2
3
365.91
363.51
363.83
80
160
240
320
400
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.16.3
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
1
2
3
78.56
75.83
73.95
20
40
60
80
100
1. (CXX) g++ options: -O3 -lpthread -lrt

Chia Blockchain VDF 1.0.1

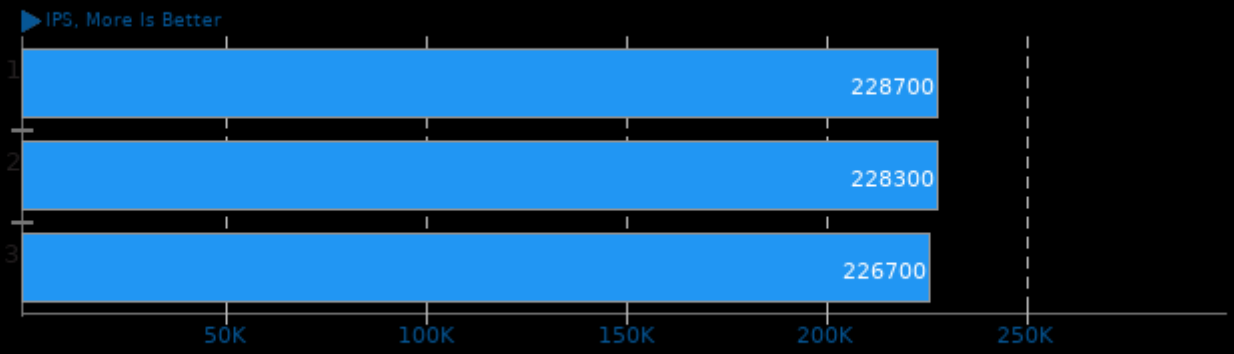
Test: Square Plain C++



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

Chia Blockchain VDF 1.0.1

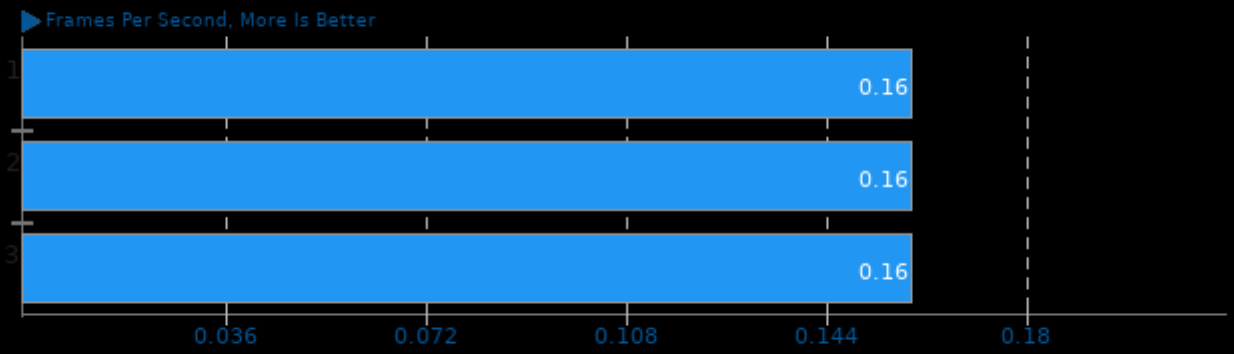
Test: Square Assembly Optimized



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

AOM AV1 3.1

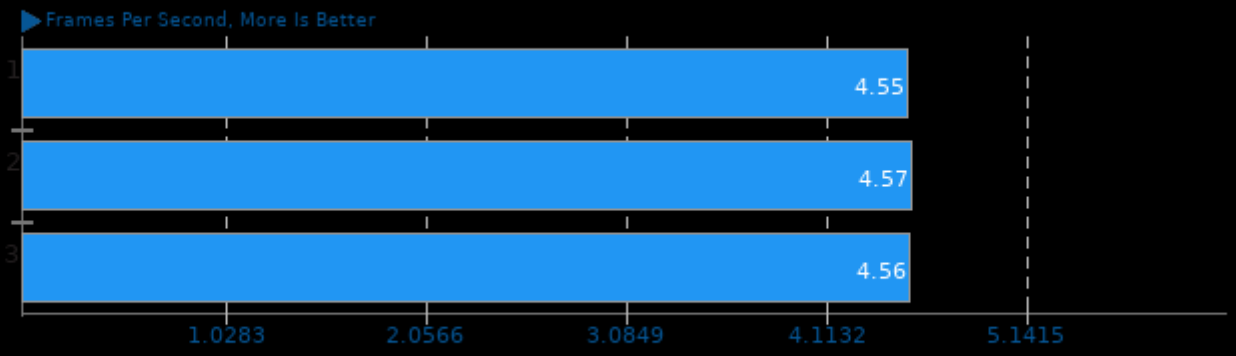
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K



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

AOM AV1 3.1

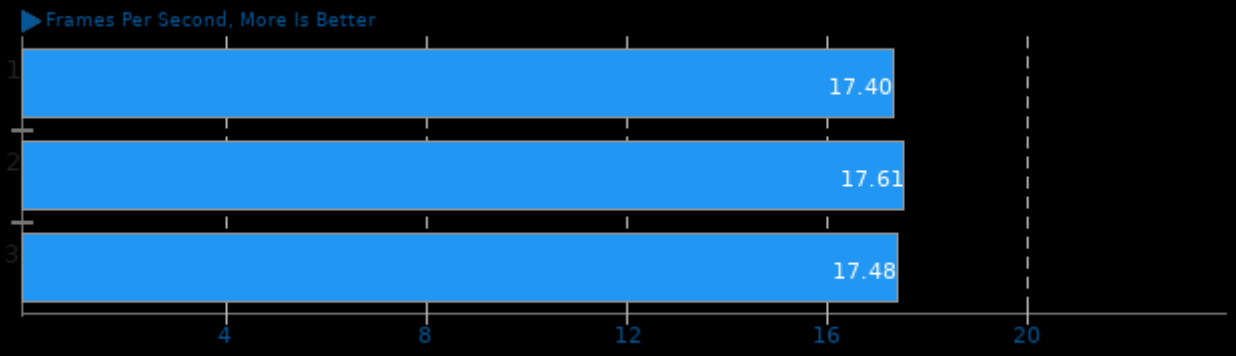
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K



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

AOM AV1 3.1

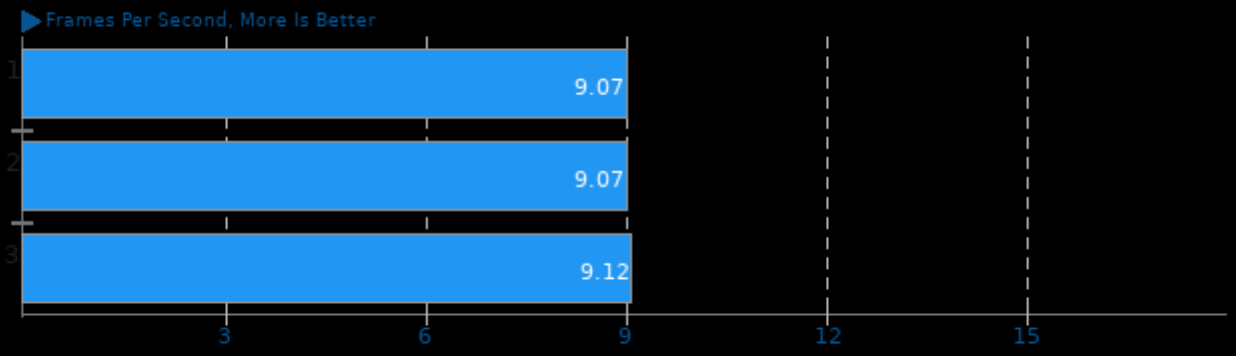
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K



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

AOM AV1 3.1

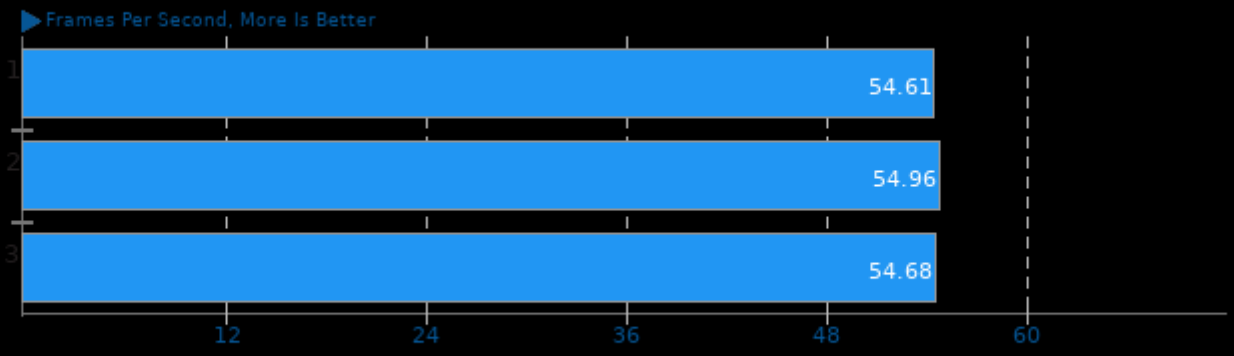
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K



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

AOM AV1 3.1

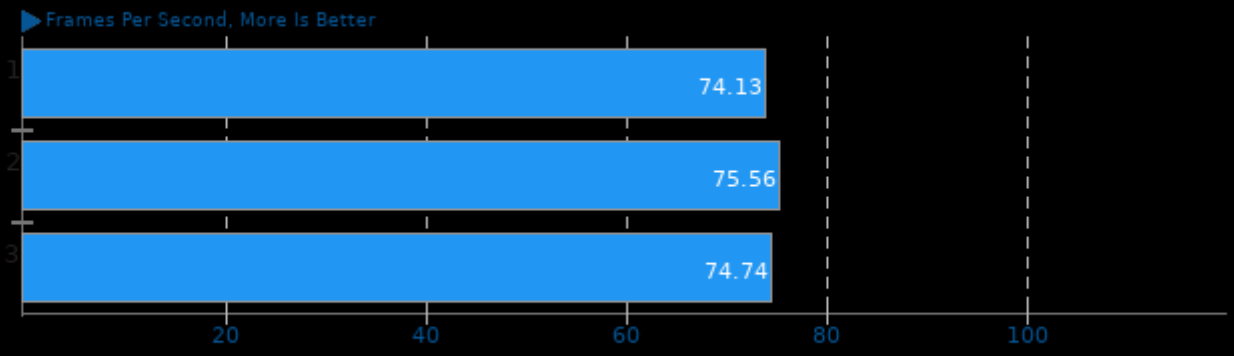
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K



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

AOM AV1 3.1

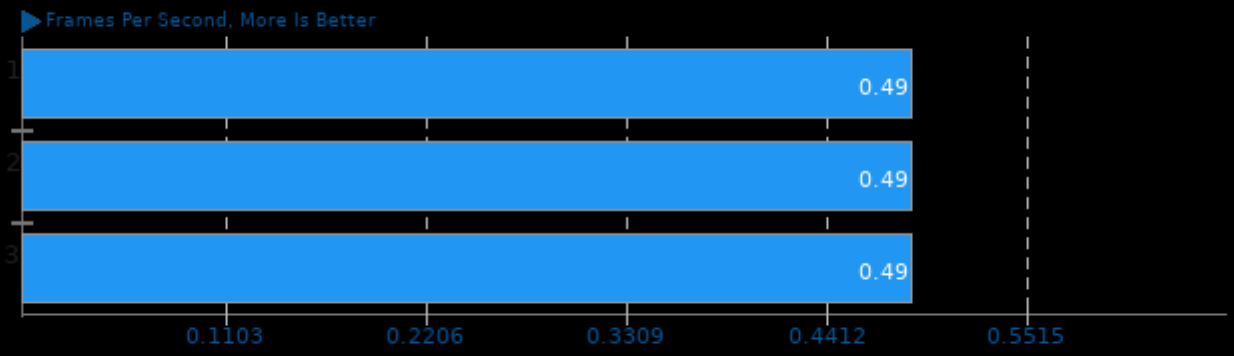
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K



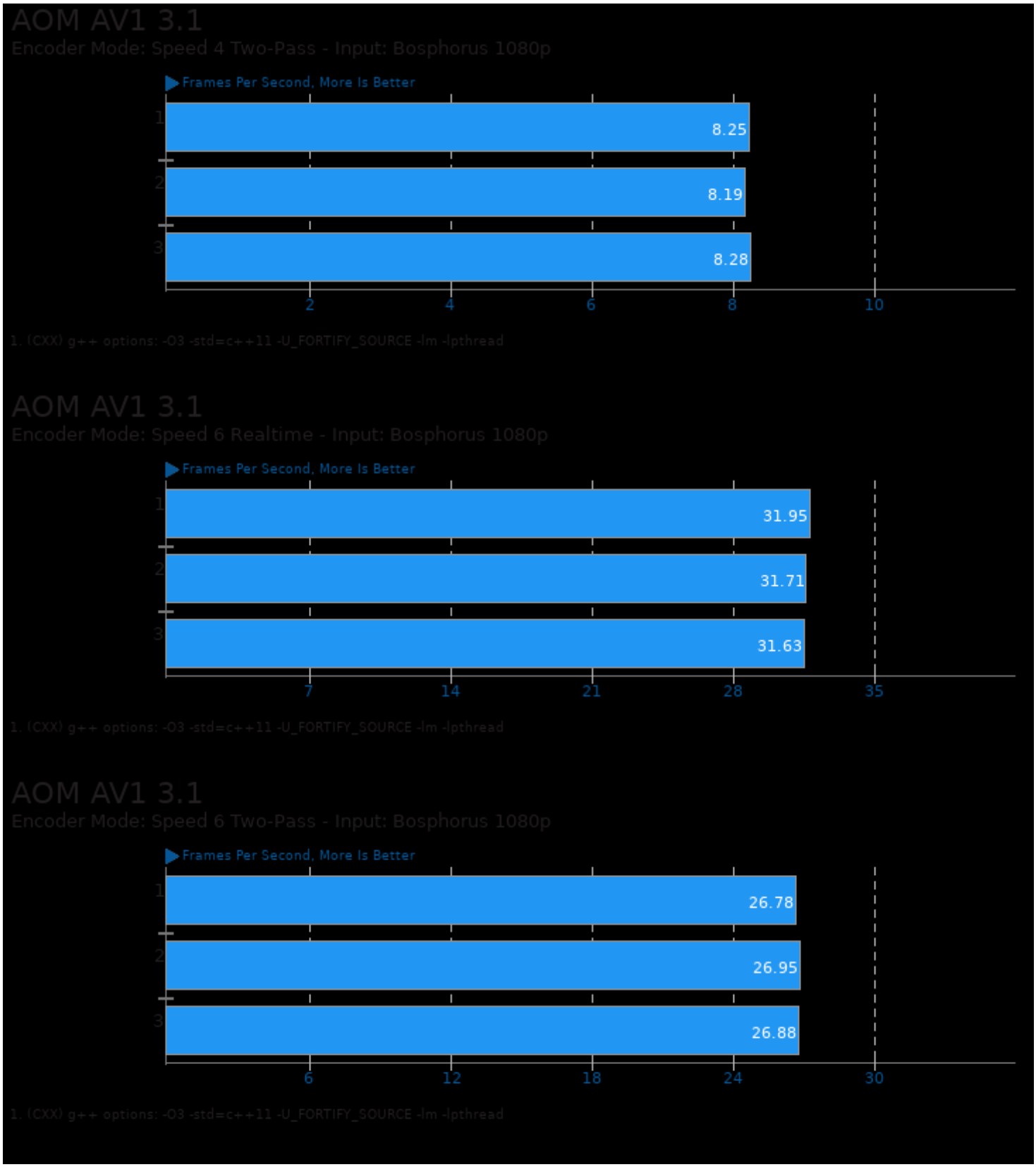
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.1

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



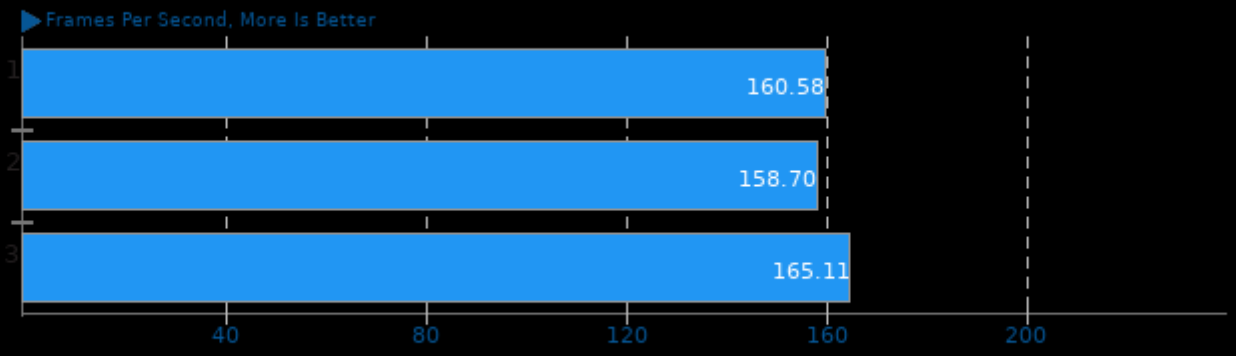
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.1
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
8.25
8.19
8.28
2
4
6
8
10
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.1
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
31.95
31.71
31.63
7
14
21
28
35
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 1080p
Frames Per Second, More Is Better
1
2
3
26.78
26.95
26.88
6
12
18
24
30
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

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AOM AV1 3.1

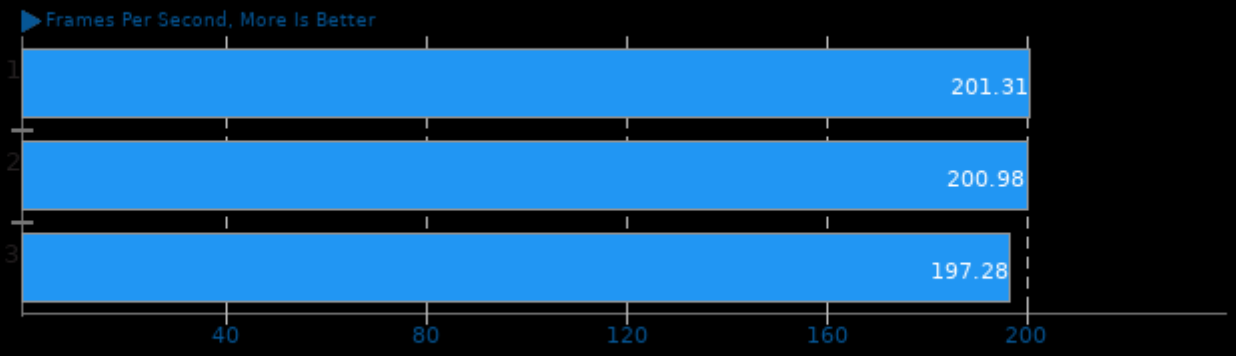
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p



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

AOM AV1 3.1

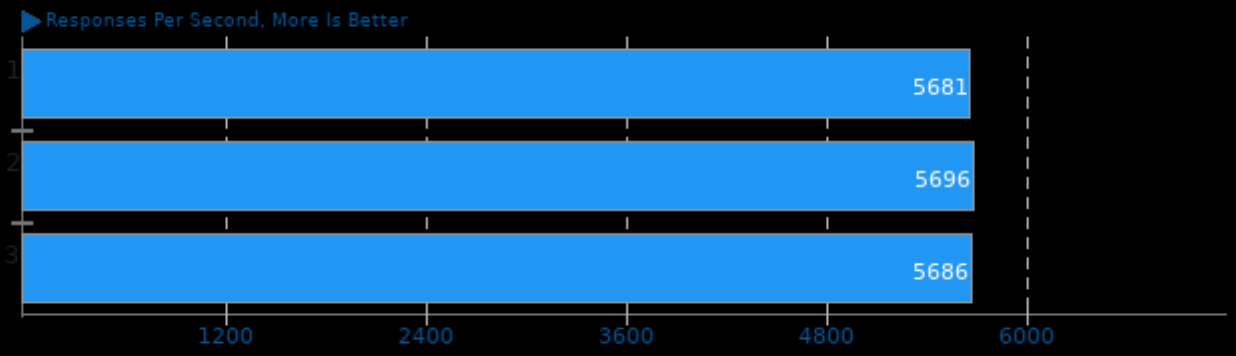
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p



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

PJSIP 2.11

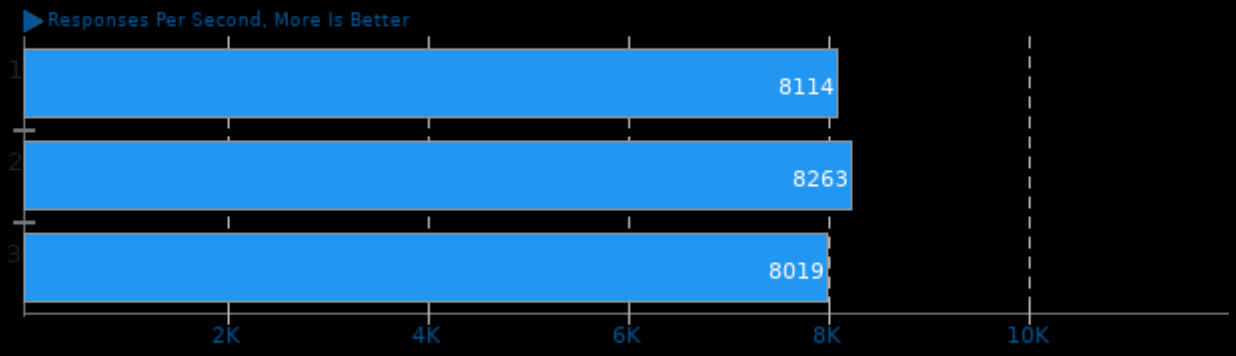
Method: INVITE



1. (CC) gcc options: -lSDL2 -lstdc++ -lopus -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2

PJSIP 2.11

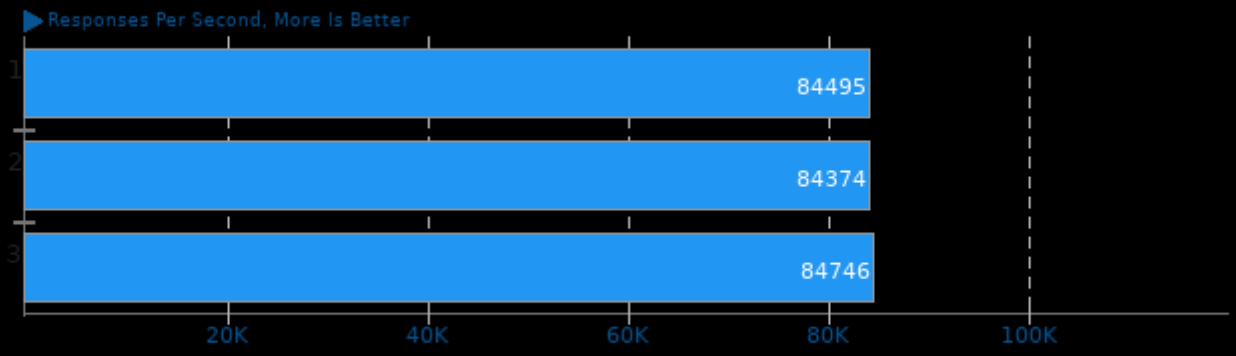
Method: OPTIONS, Stateful



1. (CC) gcc options: -lSDL2 -lstdc++ -lopus -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2

PJSIP 2.11

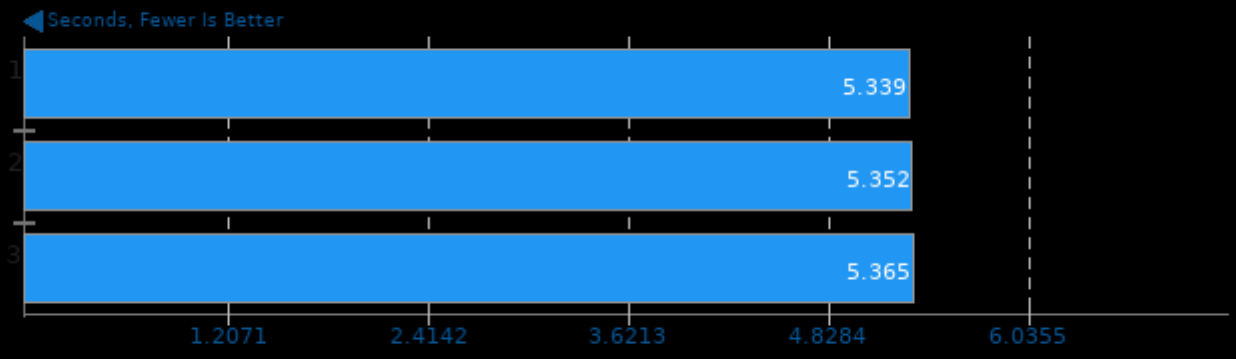
Method: OPTIONS, Stateless



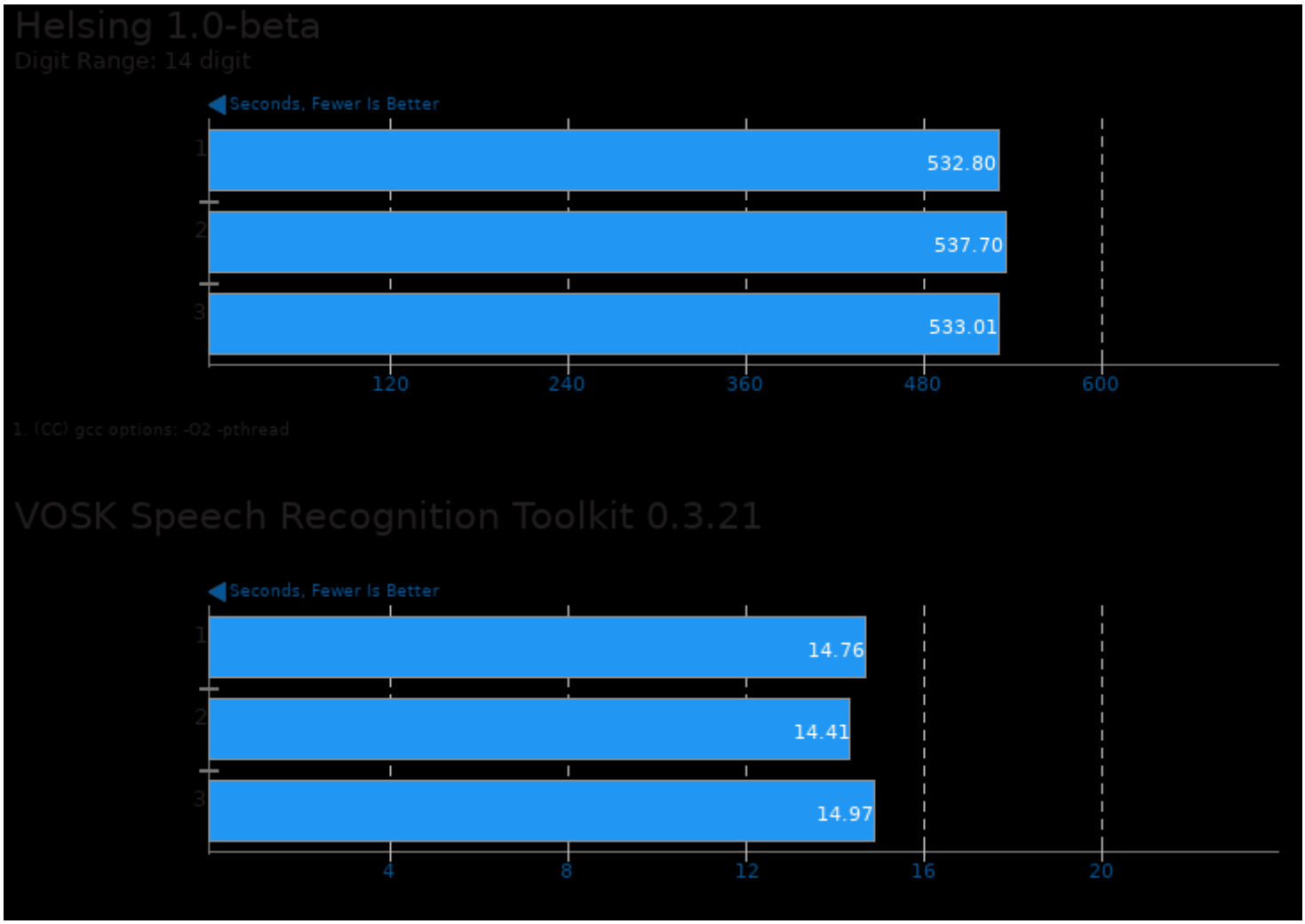
1. (CC) gcc options: -lSDL2 -lstdc++ -lopus -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2

Helsing 1.0-beta

Digit Range: 12 digit

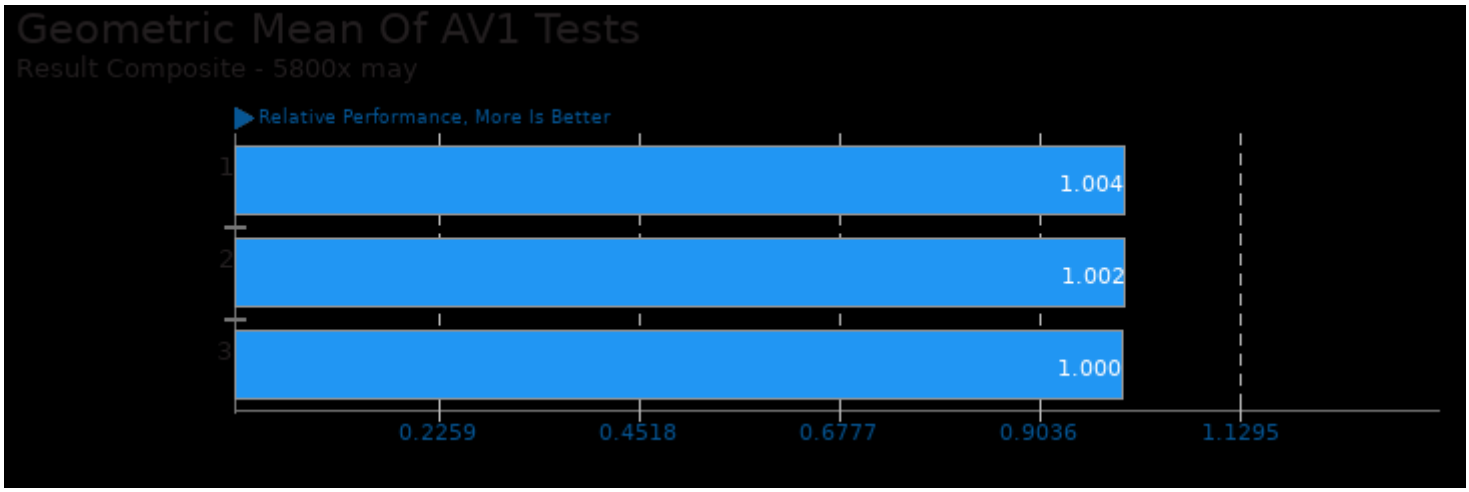


1. (CC) gcc options: -O2 -pthread


Helsing 1.0-beta
Digit Range: 14 digit
Seconds, Fewer Is Better
1
2
3
532.80
537.70
533.01
120
240
360
480
600
1. (CC) gcc options: -O2 -pthread
VOSK Speech Recognition Toolkit 0.3.21
Seconds, Fewer Is Better
1
2
3
14.76
14.41
14.97
4
8
12
16
20

5800x may

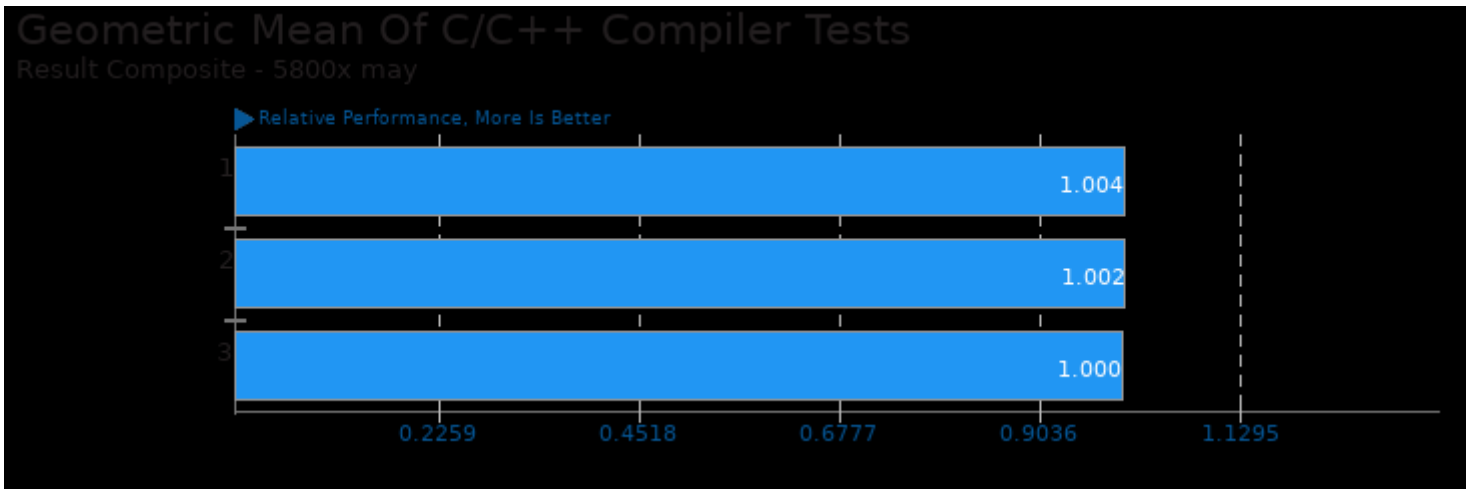
These geometric means are based upon test groupings / test suites for this result file.



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



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



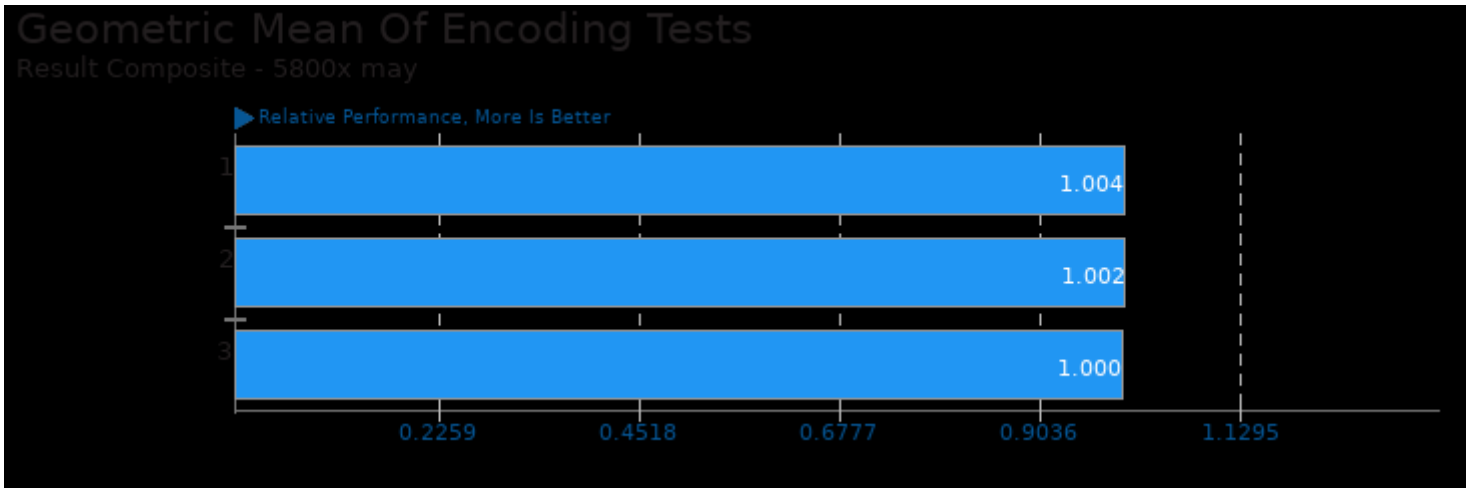
Geometric mean based upon tests: pts/hmmer, pts/mrbayes, pts/libgav1 and pts/aom-av1



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

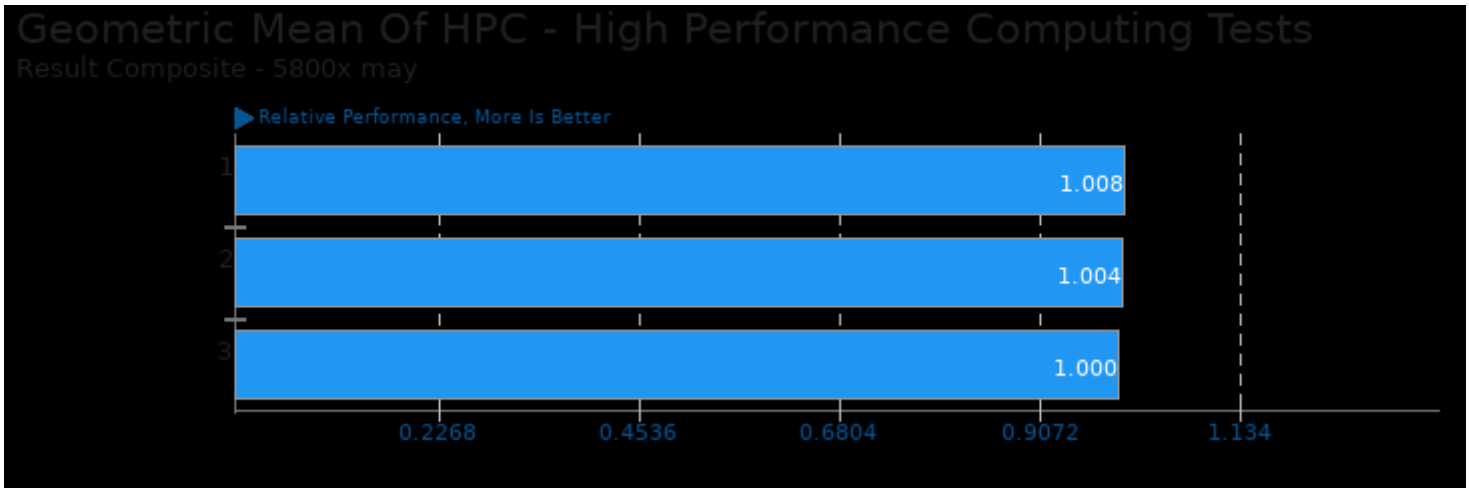


Geometric mean based upon tests: pts/aom-av1, pts/libgav1 and pts/vosk



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

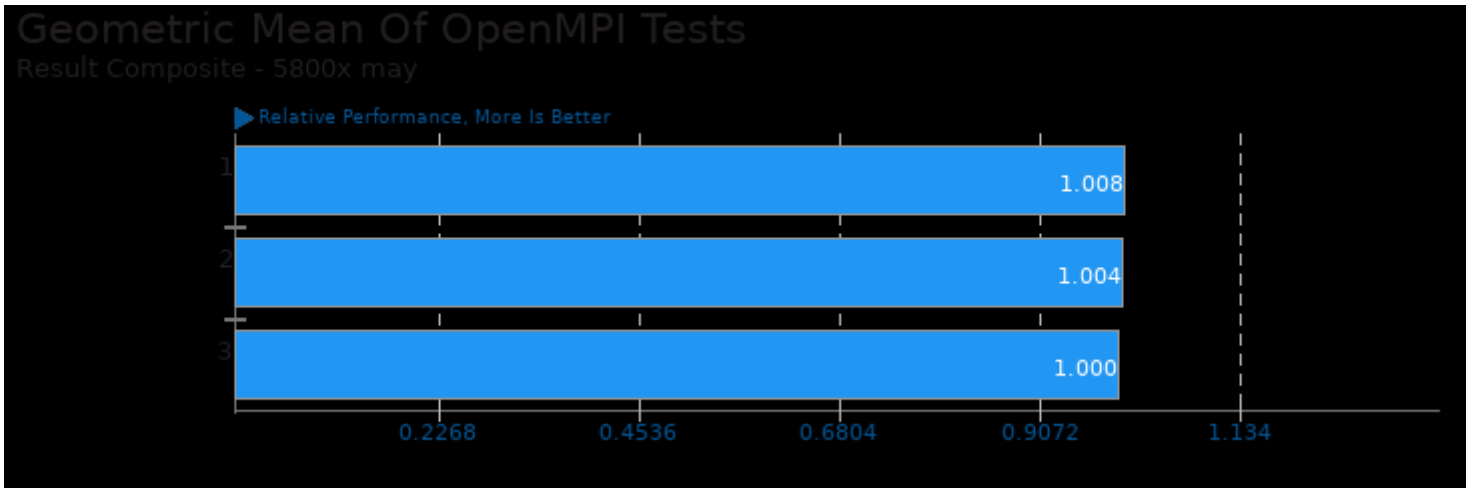
5800x may



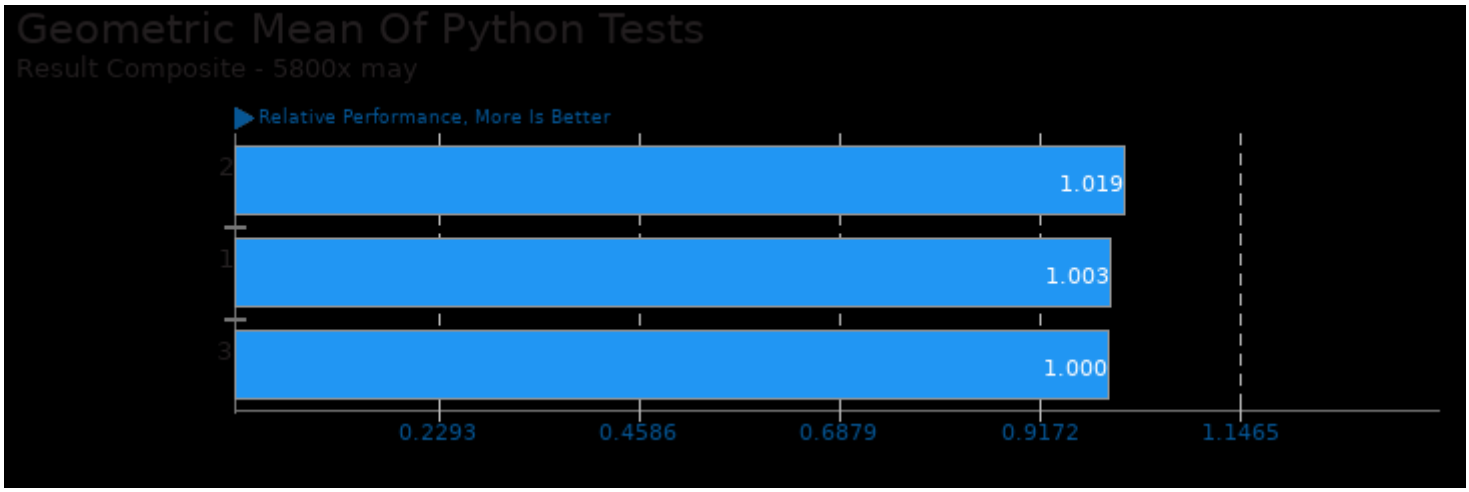
Geometric mean based upon tests: pts/mrbayes and pts/hmmer



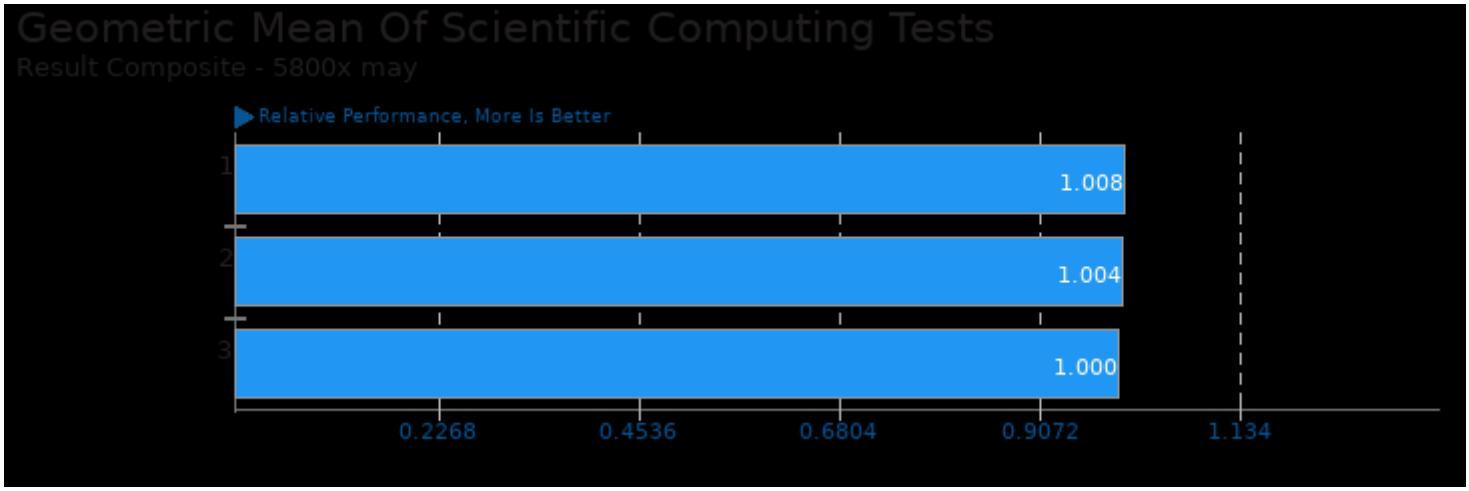
Geometric mean based upon tests: pts/aom-av1 and pts/libgav1



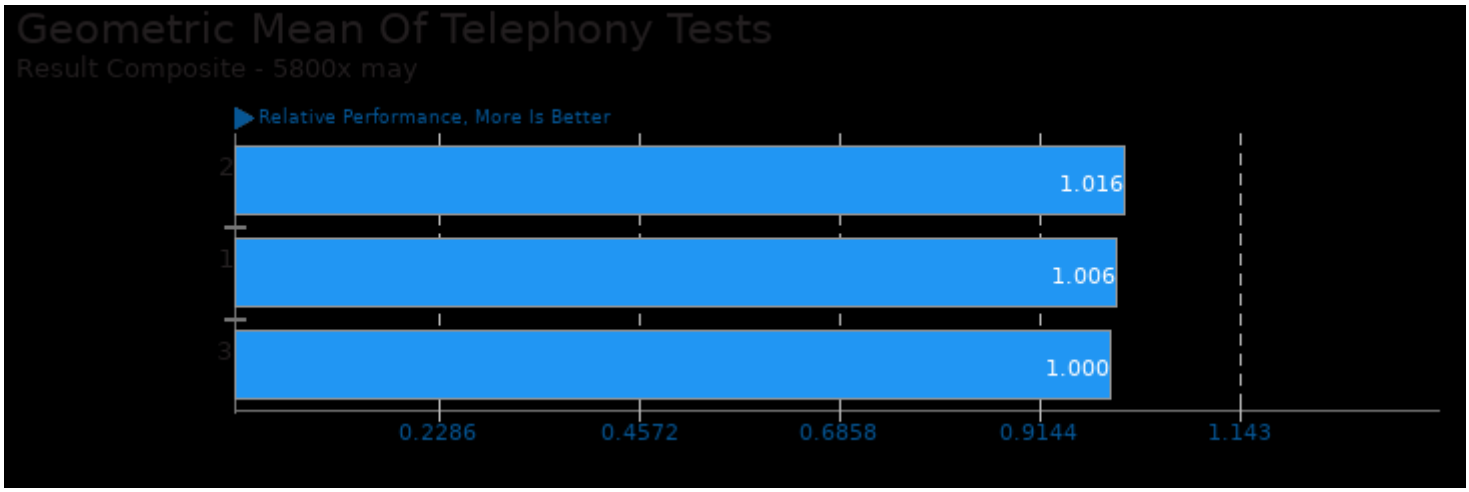
Geometric mean based upon tests: pts/mrbayes and pts/hmmer



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

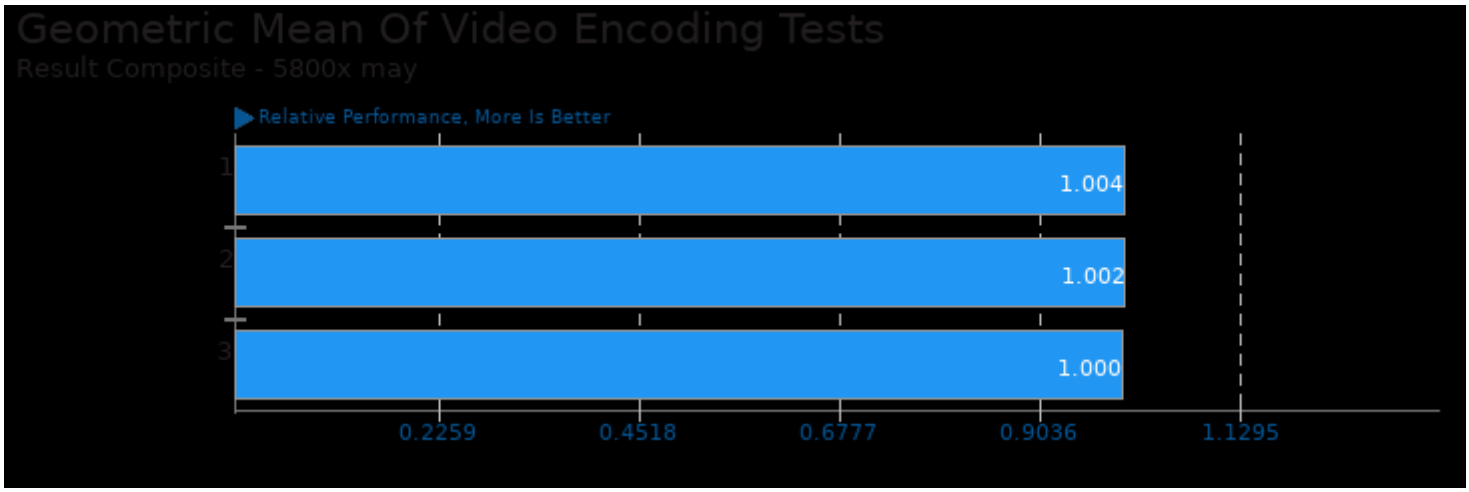


Geometric mean based upon tests: pts/mrbayes and pts/hmmer



Geometric mean based upon tests: pts/pjsip and pts/vosk

5800x may



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 11:59.