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BigTest-1

AMD FX-6300 Six-Core testing with a ASUS M5A97 R2.0 (2603 BIOS) and Gigabyte AMD Radeon RX 460/560D / Pro 450/455/460/555/555X/560/560X 2GB on Arch rolling via the Phoronix Test Suite.

Automated Executive Summary

2080 had the most wins, coming in first place for 90% of the tests.

Based on the geometric mean of all complete results, the fastest (2080) was 1.017x the speed of the slowest (2133).

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

Zstd Compression (Compression Level: 19 - Compression Speed) at 1.05x
VP9 libvpx Encoding (Speed: Speed 5 - Input: Bosphorus 1080p) at 1.031x
Tinymembench (Standard Memcpy) at 1.028x
Darktable (Test: Masskrug - Acceleration: CPU-only) at 1.026x
Stockfish (Total Time) at 1.025x
Himeno Benchmark (Poisson Pressure Solver) at 1.023x
GNU Octave Benchmark at 1.023x
CacheBench (Test: Write) at 1.023x
GIMP (Test: auto-levels) at 1.021x
Darktable (Test: Boat - Acceleration: CPU-only) at 1.015x.

Test Systems:

2080

2133

Processor: AMD FX-6300 Six-Core (3 Cores / 6 Threads), Motherboard: ASUS M5A97 R2.0 (2603 BIOS), Chipset: AMD RD9x0/RX980, Memory: 8GB, Disk: 128GB TS128GSSD370S, Graphics: Gigabyte AMD Radeon RX 460/560D / Pro 450/455/460/555/555X/560/560X 2GB (1212/1750MHz), Audio: Realtek ALC887-VD, Network: Realtek RTL8111/8168/8411

OS: Arch rolling, Kernel: 5.14.12-zen1-1-zen (x86_64), Display Server: X Server 1.20.13, OpenGL: 4.6 Mesa 21.2.3 (LLVM 12.0.1), OpenCL: OpenCL 1.1 Mesa 21.2.3, Vulkan: 1.2.182, Compiler: GCC 11.1.0 + Open64 PARSE ERROR: Argument:-dumpversion Couldn t find match for argumentBrief USAGE: opencc [--noflush] [-i] [-o] [-c] [--] [--version] [-h]For complete USAGE and HELP type: opencc--help + Clang 12.0.1, File-System: ext4, Screen Resolution: 1280x1024

Kernel Notes: drm_kms_helper.edid_firmware=edid/edid.bin amdgpu.ppfeaturemask=0xffffffff - Transparent Huge Pages: always
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: CPU Microcode: 0x6000852
Python Notes: Python 3.9.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

	2080	2133
Stream - Copy (MB/s)	**19779**	**18168**
Normalized	100%	91.85%
Standard Deviation	2.4%	7.1%
Stream - Scale (MB/s)	**10994**	**10355**
Normalized	100%	94.19%
Standard Deviation	1.8%	6.6%
Stream - Triad (MB/s)	**12218**	**11250**
Normalized	100%	92.08%
Standard Deviation	1.6%	8.9%
Stream - Add (MB/s)	**12214**	**11230**
Normalized	100%	91.94%
Standard Deviation	1.5%	8.9%
Tinymembench - Standard Memcpy (MB/s)	**7260**	**7063**
Normalized	100%	97.28%
Standard Deviation	0.1%	0.1%
Tinymembench - Standard Memset (MB/s)	**7320**	**7338**
Normalized	99.75%	100%
Standard Deviation	0.2%	0.1%
CacheBench - Read (MB/s)	**1408**	**1401**
Normalized	100%	99.55%
Standard Deviation	0%	0%
CacheBench - Write (MB/s)	**10622**	**10864**

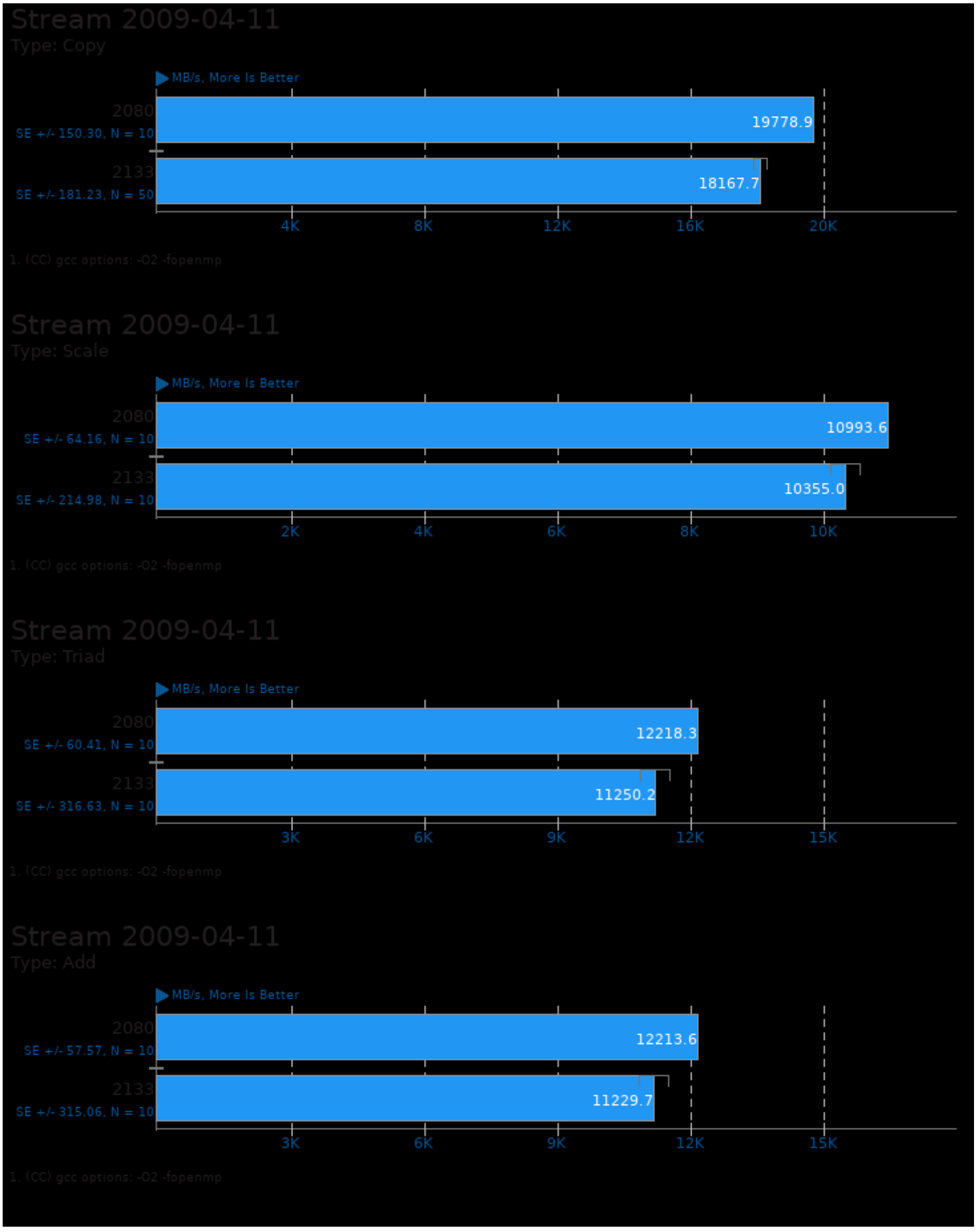
BigTest-1

Normalized	97.78%	100%
Standard Deviation	5.6%	0.3%
LZ4 Compression - 9 - Compression Speed (MB/s)	**33.77**	**33.36**
Normalized	100%	98.79%
Standard Deviation	0.1%	1.8%
LZ4 Compression - 9 - D.S (MB/s)	**4393**	**4399**
Normalized	99.86%	100%
Standard Deviation	0.1%	0.1%
Zstd Compression - 19 - Compression Speed (MB/s)	**16.8**	**16.0**
Normalized	100%	95.24%
Standard Deviation	0.9%	0.4%
Zstd Compression - 19 - D.S (MB/s)	**1791**	**1773**
Normalized	100%	98.97%
Standard Deviation	0.1%	0.1%
LibRaw - P.P.B (Mpix/sec)	**15.08**	**14.93**
Normalized	100%	99.01%
Standard Deviation	0.1%	0.1%
GraphicsMagick - Sharpen (Iterations/min)	39	39
Standard Deviation	0%	0%
GraphicsMagick - Resizing (Iterations/min)	**334**	**332**
Normalized	100%	99.4%
Standard Deviation	0.2%	0.2%
dav1d - S.N.1 (FPS)	**199.63**	**196.81**
Normalized	100%	98.59%
Standard Deviation	0.3%	0.2%
VP9 libvpx Encoding - Speed 5 - Bosphorus 1080p	**12.40**	**12.03**
Normalized	100%	97.02%
Standard Deviation	2.2%	2.3%
x264 - H.2.V.E (FPS)	**29.51**	**29.28**
Normalized	100%	99.22%
Standard Deviation	2.3%	1.8%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	**102568**	**101898**
Normalized	100%	99.35%
Standard Deviation	0%	0.1%
Himeno Benchmark - P.P.S (MFLOPS)	**1899**	**1856**
Normalized	100%	97.72%
Standard Deviation	2.5%	1%
7-Zip Compression - C.S.T (MIPS)	**19346**	**19174**
Normalized	100%	99.11%
Standard Deviation	0.6%	1%
Stockfish - Total Time (Nodes/s)	**7286133**	**7106692**
Normalized	100%	97.54%
Standard Deviation	2.4%	2%
Timed FFmpeg Compilation - Time To Compile (sec)	**198.701**	**199.838**
Normalized	100%	99.43%
Standard Deviation	0.4%	0.6%
FLAC Audio Encoding - WAV To FLAC (sec)	**35.260**	**35.465**
Normalized	100%	99.42%
Standard Deviation	0.3%	0.2%
LAME MP3 Encoding - WAV To MP3 (sec)	**12.981**	**13.050**
Normalized	100%	99.47%
Standard Deviation	0.4%	0.3%
Google SynthMark - VoiceMark_100 (Voices)	**430.073**	**428.075**
Normalized	100%	99.54%
Standard Deviation	0%	0%

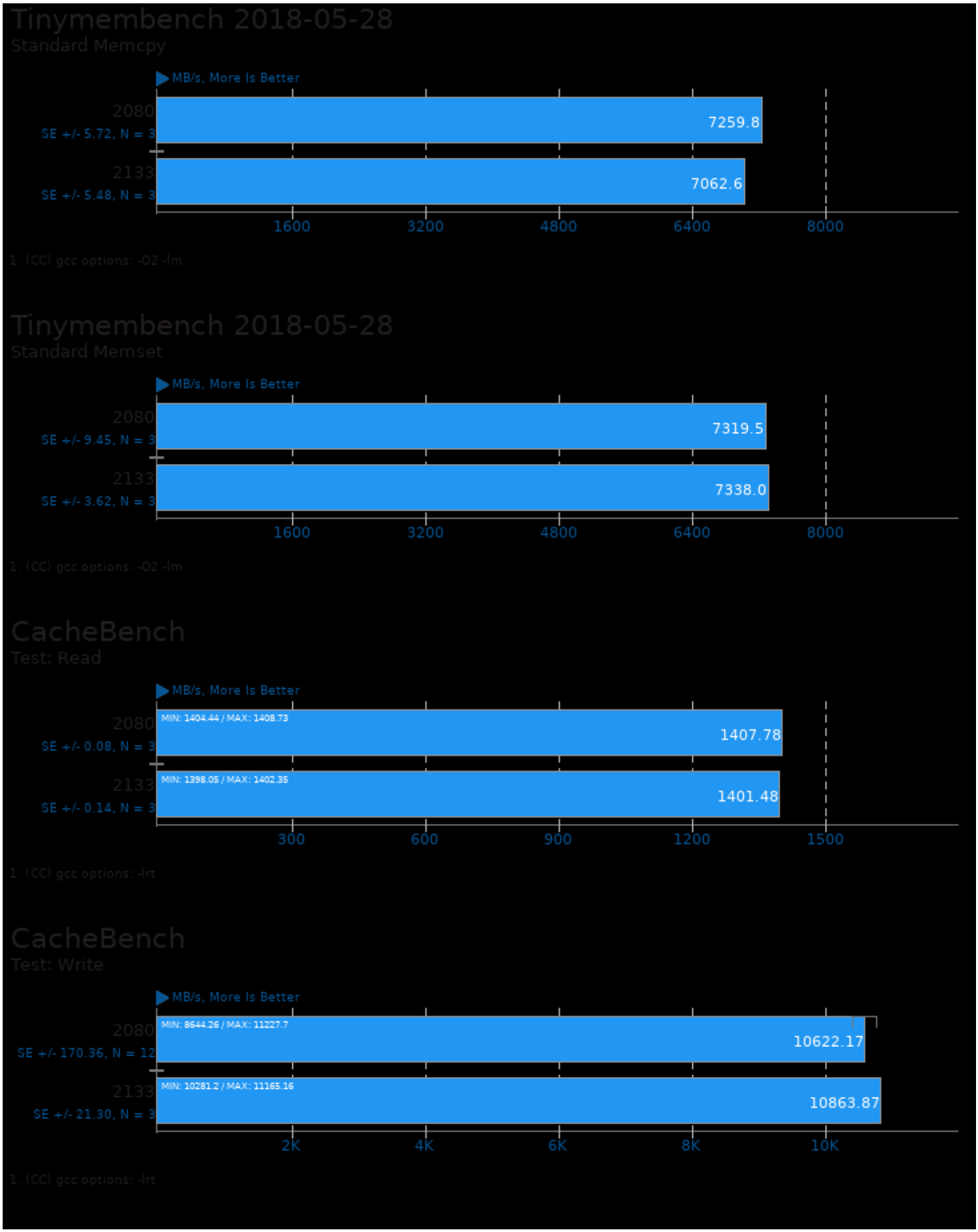
BigTest-1

Darktable - Boat - CPU-only (sec)	**18.886**	**19.172**
Normalized	100%	98.51%
Standard Deviation	0.9%	0.9%
Darktable - Masskrug - CPU-only (sec)	**17.103**	**17.555**
Normalized	100%	97.43%
Standard Deviation	0.4%	0.2%
Darktable - Server Room - CPU-only (sec)	**14.702**	**14.801**
Normalized	100%	99.33%
Standard Deviation	0.8%	0.5%
GIMP - resize (sec)	**17.296**	**17.495**
Normalized	100%	98.86%
Standard Deviation	2.4%	1.1%
GIMP - rotate (sec)	**19.506**	**19.750**
Normalized	100%	98.76%
Standard Deviation	0.2%	0.2%
GIMP - auto-levels (sec)	**21.056**	**21.507**
Normalized	100%	97.9%
Standard Deviation	0.1%	1.5%
GIMP - unsharp-mask (sec)	**23.855**	**24.151**
Normalized	100%	98.77%
Standard Deviation	0.2%	0%
LibreOffice - 2.D.T.P (sec)	**12.856**	**12.959**
Normalized	100%	99.21%
Standard Deviation	4.5%	4%
OCRMyPDF - P.6.P.P.D (sec)	**89.134**	**90.258**
Normalized	100%	98.75%
Standard Deviation	0.9%	0.6%
GNU Octave Benchmark (sec)	**13.003**	**13.303**
Normalized	100%	97.74%
Standard Deviation	0.9%	0.5%
ctx_clock - C.S.T (Clocks)	**900**	**898**
Normalized	99.78%	100%
Standard Deviation	0.3%	0.1%
IndigoBench - CPU - Bedroom (M samples/s)	**0.428**	**0.423**
Normalized	100%	98.83%
Standard Deviation	0.4%	0.5%
PyBench - T.F.A.T.T (Milliseconds)	**1798**	**1799**
Normalized	100%	99.94%
Standard Deviation	0.2%	0.4%
PHPBench - P.B.S (Score)	**475618**	**471771**
Normalized	100%	99.19%
Standard Deviation	0.7%	0.6%
Selenium - ARES-6 - Firefox (ms)	**68.48**	**69.00**
Normalized	100%	99.25%
Standard Deviation	0.5%	0.4%
Selenium - Speedometer - Firefox (Runs/min)	**84.84**	**83.81**
Normalized	100%	98.79%
Standard Deviation	0.1%	0.3%

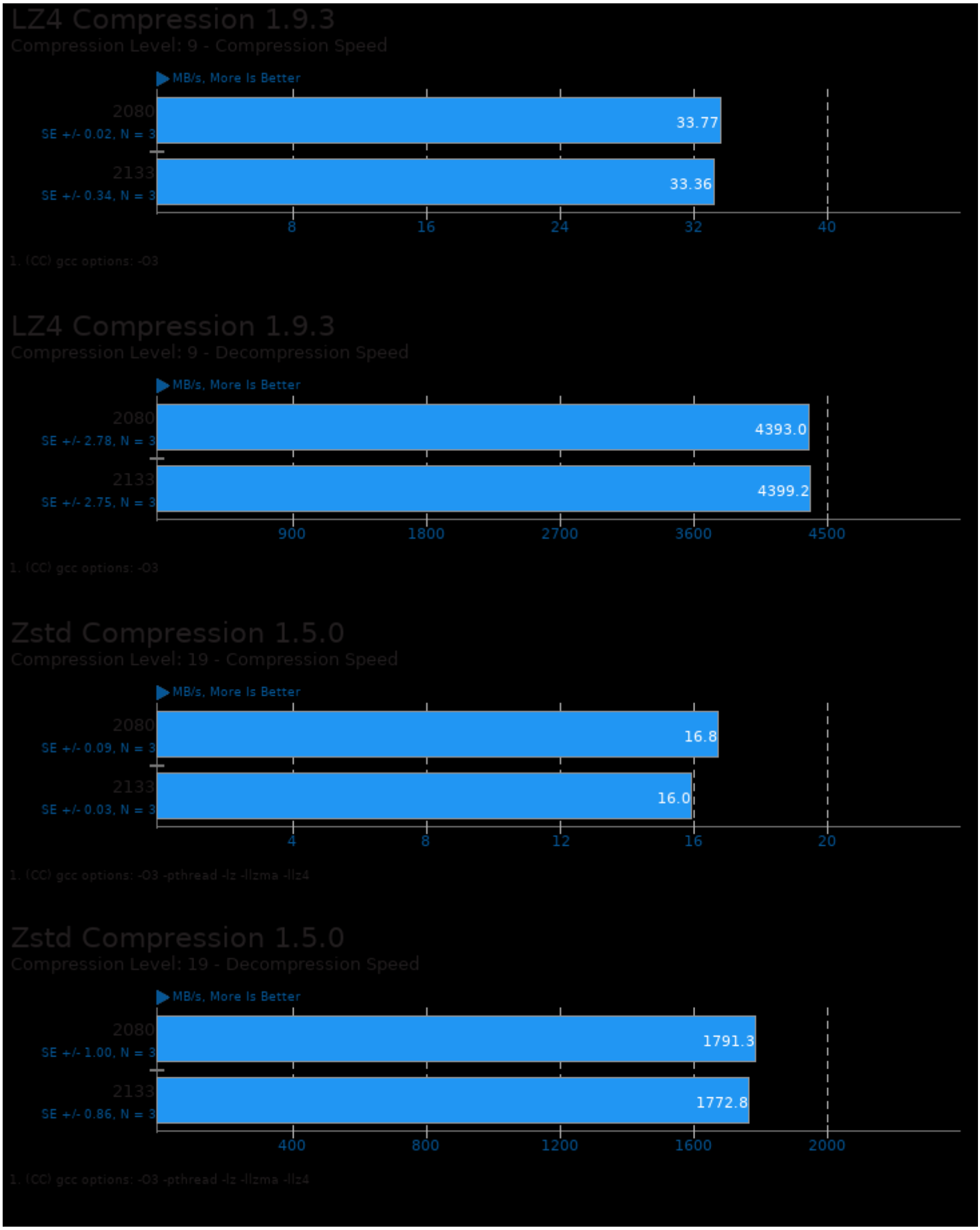
BigTest-1


Stream 2009-04-11
Type: Copy
MB/s, More Is Better
2080
SE +/- 150.30, N = 10
19778.9
2133
SE +/- 181.23, N = 50
18167.7
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2 -fopenmp
Stream 2009-04-11
Type: Scale
MB/s, More Is Better
2080
SE +/- 64.16, N = 10
10993.6
2133
SE +/- 214.98, N = 10
10355.0
2K
4K
6K
8K
10K
1. (CC) gcc options: -O2 -fopenmp
Stream 2009-04-11
Type: Triad
MB/s, More Is Better
2080
SE +/- 60.41, N = 10
12218.3
2133
SE +/- 316.63, N = 10
11250.2
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -fopenmp
Stream 2009-04-11
Type: Add
MB/s, More Is Better
2080
SE +/- 57.57, N = 10
12213.6
2133
SE +/- 315.06, N = 10
11229.7
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -fopenmp

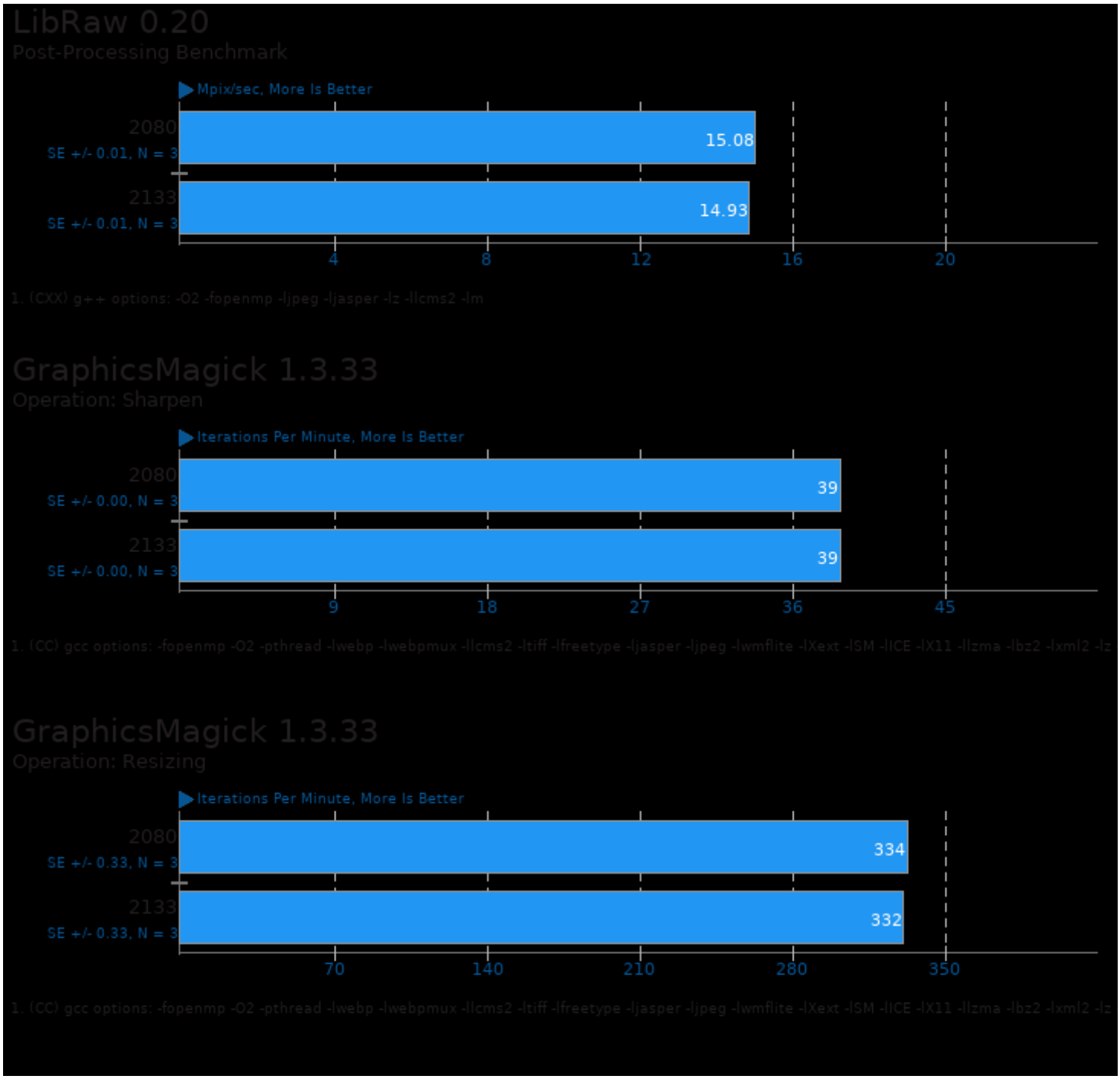
BigTest-1


Tinymembench 2018-05-28
Standard Memcpy
MB/s, More Is Better
2080
SE +/- 5.72, N = 3
7259.8
2133
SE +/- 5.48, N = 3
7062.6
1600
3200
4800
6400
8000
1. (CC) gcc options: -O2 -lm
Tinymembench 2018-05-28
Standard Memset
MB/s, More Is Better
2080
SE +/- 9.45, N = 3
7319.5
2133
SE +/- 3.62, N = 3
7338.0
1600
3200
4800
6400
8000
1. (CC) gcc options: -O2 -lm
CacheBench
Test: Read
MB/s, More Is Better
2080
MIN: 1404.44 / MAX: 1408.73
SE +/- 0.08, N = 3
1407.78
2133
MIN: 1398.05 / MAX: 1402.35
SE +/- 0.14, N = 3
1401.48
300
600
900
1200
1500
1. (CC) gcc options: -lrt
CacheBench
Test: Write
MB/s, More Is Better
2080
MIN: 8644.26 / MAX: 11227.7
SE +/- 170.36, N = 12
10622.17
2133
MIN: 10281.2 / MAX: 11165.16
SE +/- 21.30, N = 3
10863.87
2K
4K
6K
8K
10K
1. (CC) gcc options: -lrt

BigTest-1


LZ4 Compression 1.9.3
Compression Level: 9 - Compression Speed
MB/s, More Is Better
2080
SE +/- 0.02, N = 3
33.77
2133
SE +/- 0.34, N = 3
33.36
8
16
24
32
40
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 9 - Decompression Speed
MB/s, More Is Better
2080
SE +/- 2.78, N = 3
4393.0
2133
SE +/- 2.75, N = 3
4399.2
900
1800
2700
3600
4500
1. (CC) gcc options: -O3
Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
2080
SE +/- 0.09, N = 3
16.8
2133
SE +/- 0.03, N = 3
16.0
4
8
12
16
20
1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4
Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
2080
SE +/- 1.00, N = 3
1791.3
2133
SE +/- 0.86, N = 3
1772.8
400
800
1200
1600
2000
1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

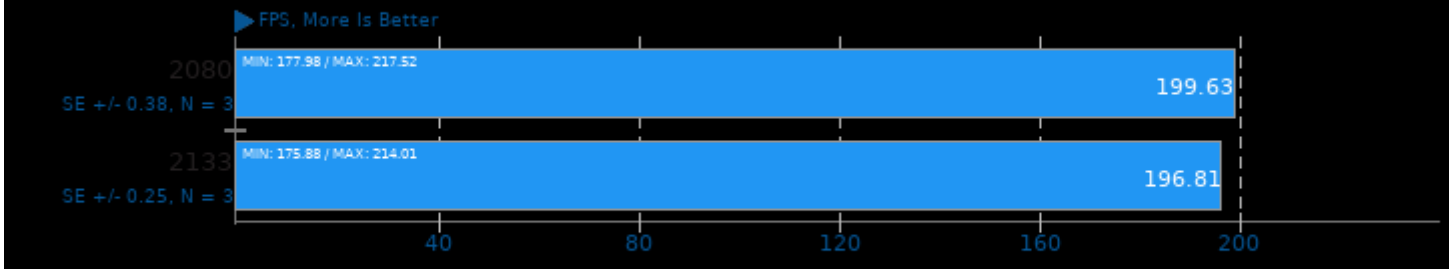
BigTest-1


LibRaw 0.20
Post-Processing Benchmark
Mpix/sec, More Is Better
2080
SE +/- 0.01, N = 3
15.08
2133
SE +/- 0.01, N = 3
14.93
4
8
12
16
20
1. (CXX) g++ options: -O2 -fopenmp -ljpeg -ljasper -lz -llcms2 -lm
GraphicsMagick 1.3.33
Operation: Sharpen
Iterations Per Minute, More Is Better
2080
SE +/- 0.00, N = 3
39
2133
SE +/- 0.00, N = 3
39
9
18
27
36
45
1. (CC) gcc options: -fopenmp -O2 -pthread -lwebp -lwebpmux -llcms2 -ltiff -lfreetype -ljasper -ljpeg -lwmflite -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz
GraphicsMagick 1.3.33
Operation: Resizing
Iterations Per Minute, More Is Better
2080
SE +/- 0.33, N = 3
334
2133
SE +/- 0.33, N = 3
332
70
140
210
280
350
1. (CC) gcc options: -fopenmp -O2 -pthread -lwebp -lwebpmux -llcms2 -ltiff -lfreetype -ljasper -ljpeg -lwmflite -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz

BigTest-1

dav1d 0.9.2

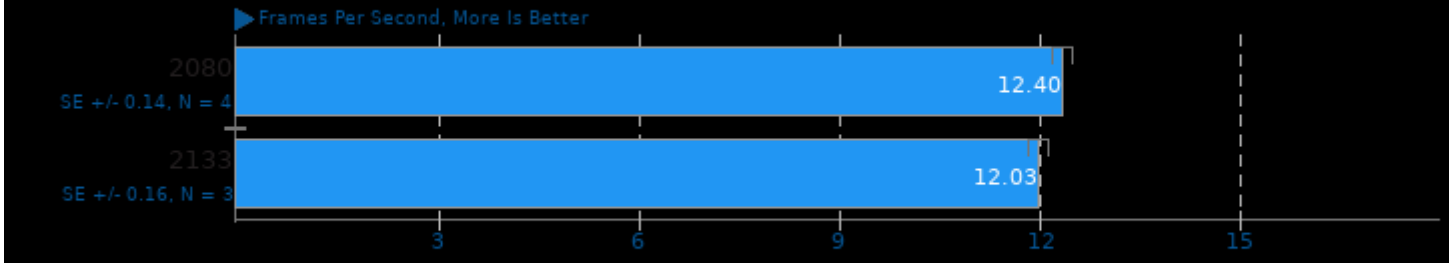
Video Input: Summer Nature 1080p



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

VP9 libvpx Encoding 1.10.0

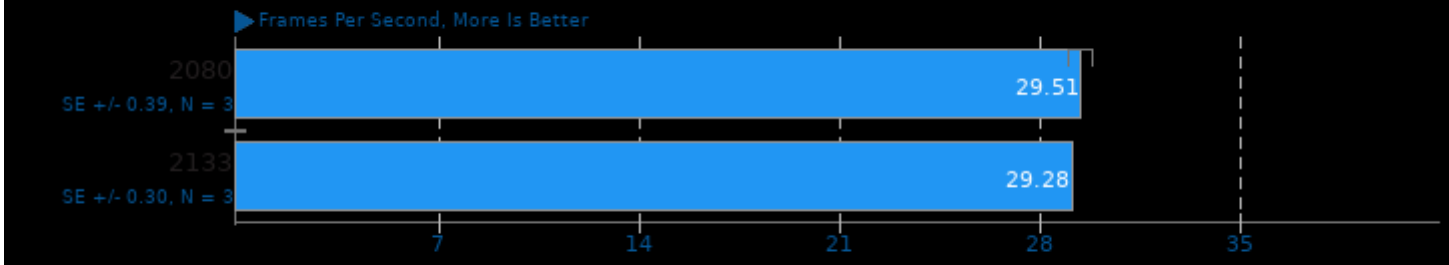
Speed: Speed 5 - Input: Bosphorus 1080p



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=gnu++11

x264 2019-12-17

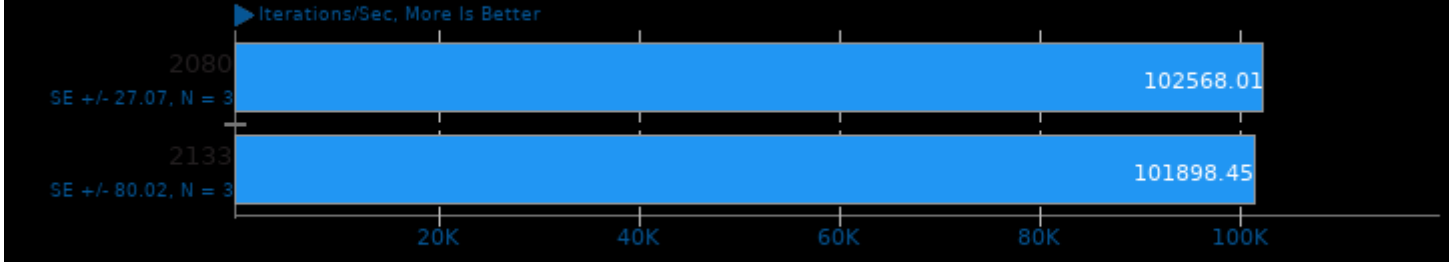
H.264 Video Encoding



1. (CC) gcc options: -ldl -llsmash -lavformat -lavcodec -lavutil -lswscale -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree

Coremark 1.0

CoreMark Size 666 - Iterations Per Second

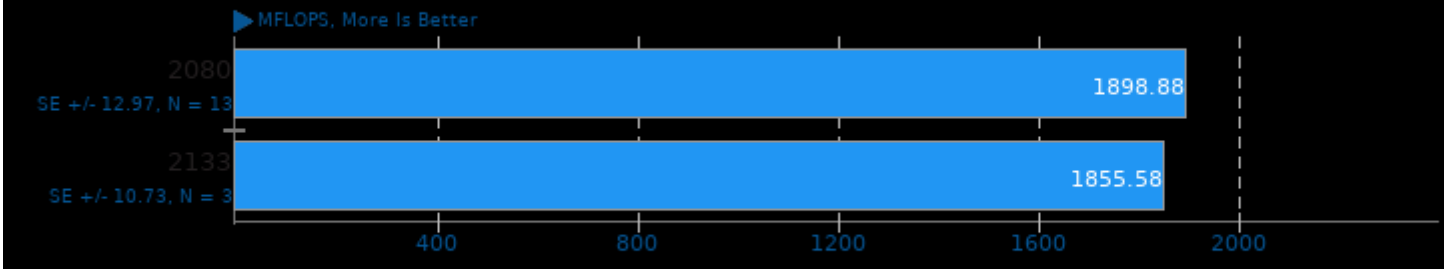


1. (CC) gcc options: -O2 -lrt" -lrt

BigTest-1

Himeno Benchmark 3.0

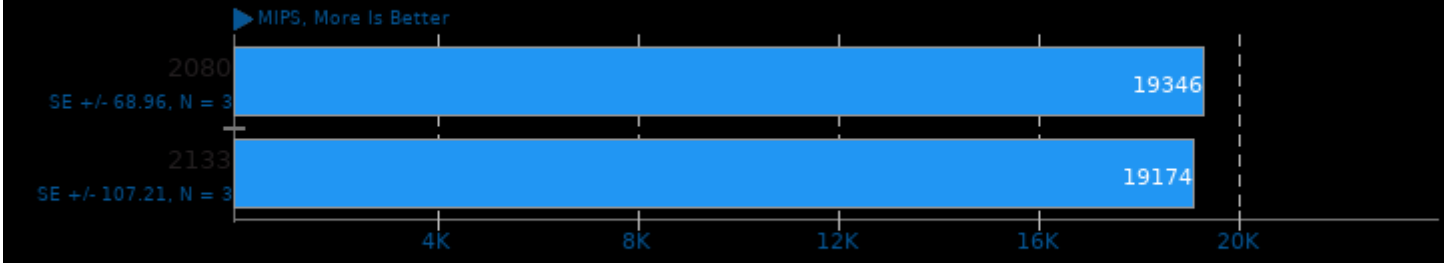
Poisson Pressure Solver



1. (CC) gcc options: -O3

7-Zip Compression 16.02

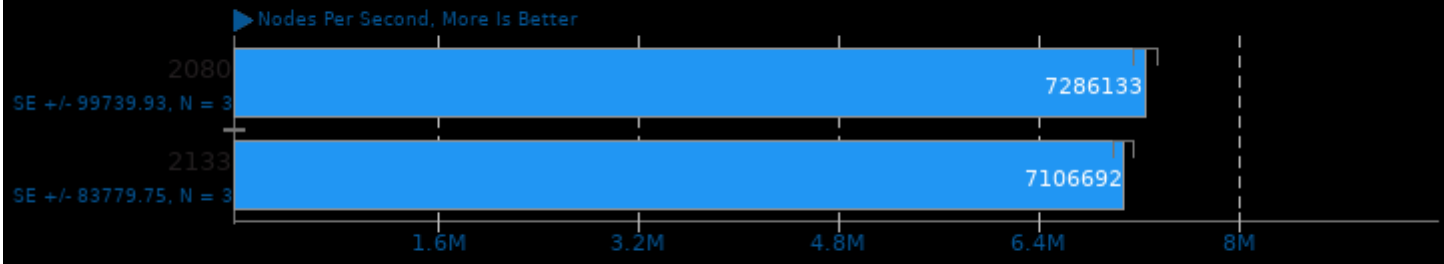
Compress Speed Test



1. (CXX) g++ options: -pipe -lpthread

Stockfish 13

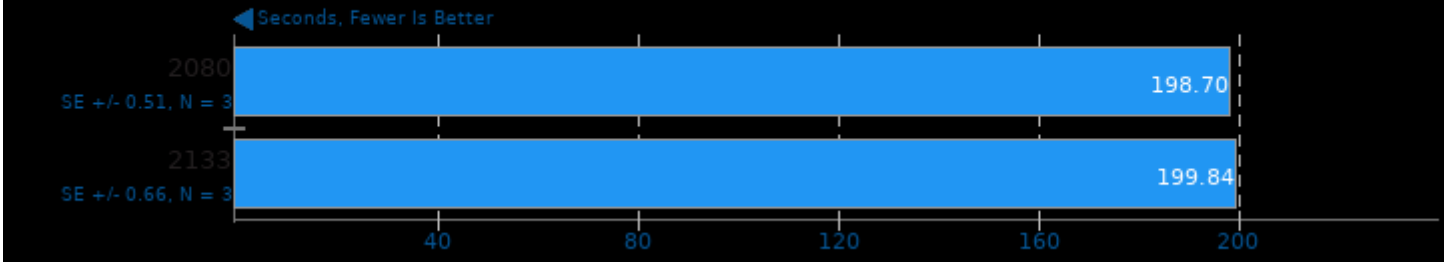
Total Time



1. (CXX) g++ options: -lgcov -m64 -lpthread -fno-exceptions -std=c++17 -fprofile-use -fno-peel-loops -fno-tracer -pedantic -O3 -msse -msse3 -mpopcnt -

Timed FFmpeg Compilation 4.4

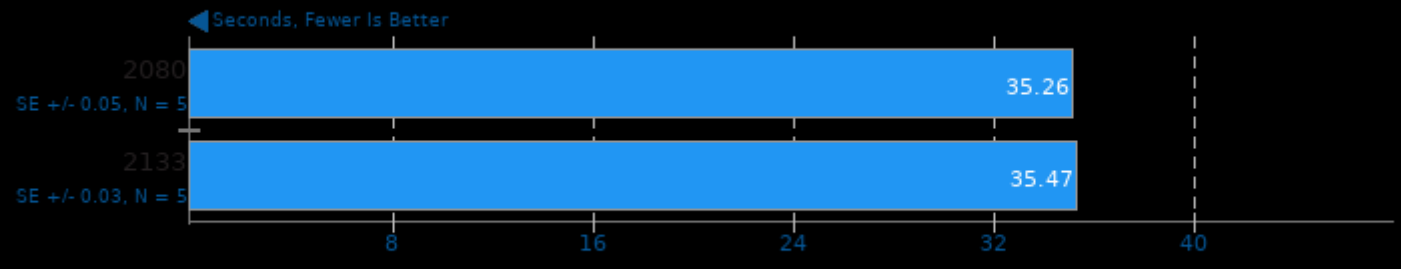
Time To Compile



BigTest-1

FLAC Audio Encoding 1.3.3

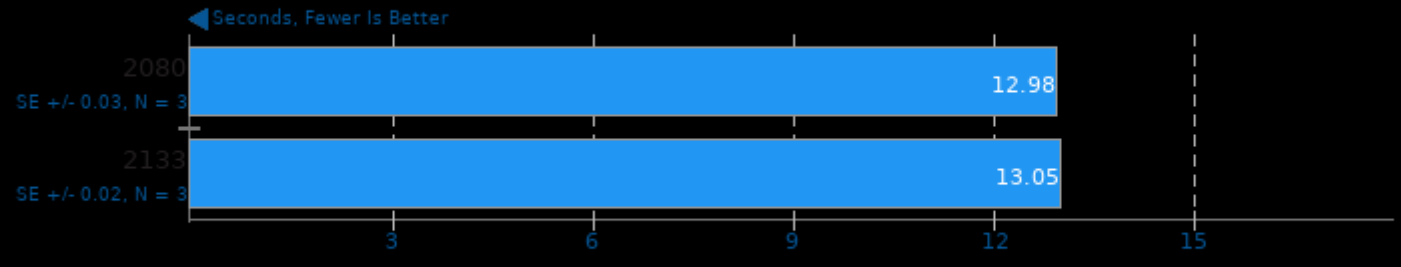
WAV To FLAC



1. (CXX) g++ options: -fvisibility=hidden -logg -lm

LAME MP3 Encoding 3.100

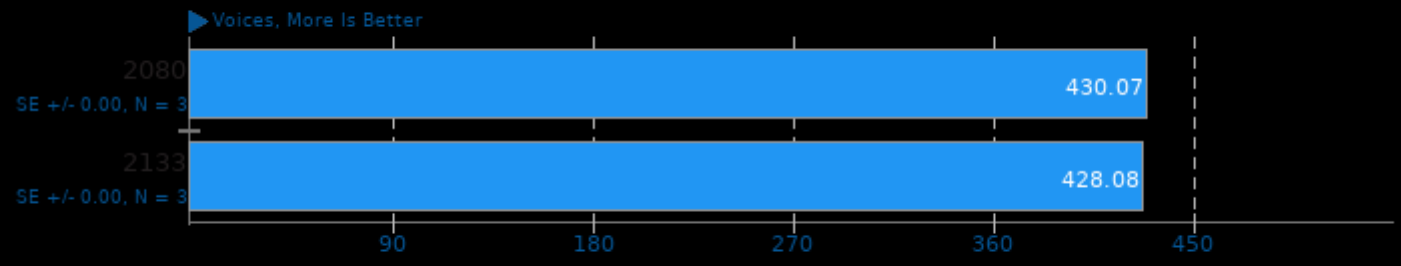
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lncurses -lm

Google SynthMark 20201109

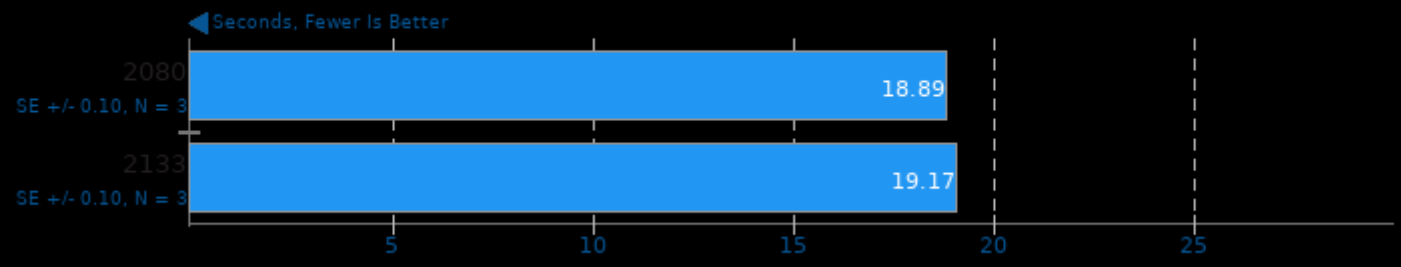
Test: VoiceMark_100



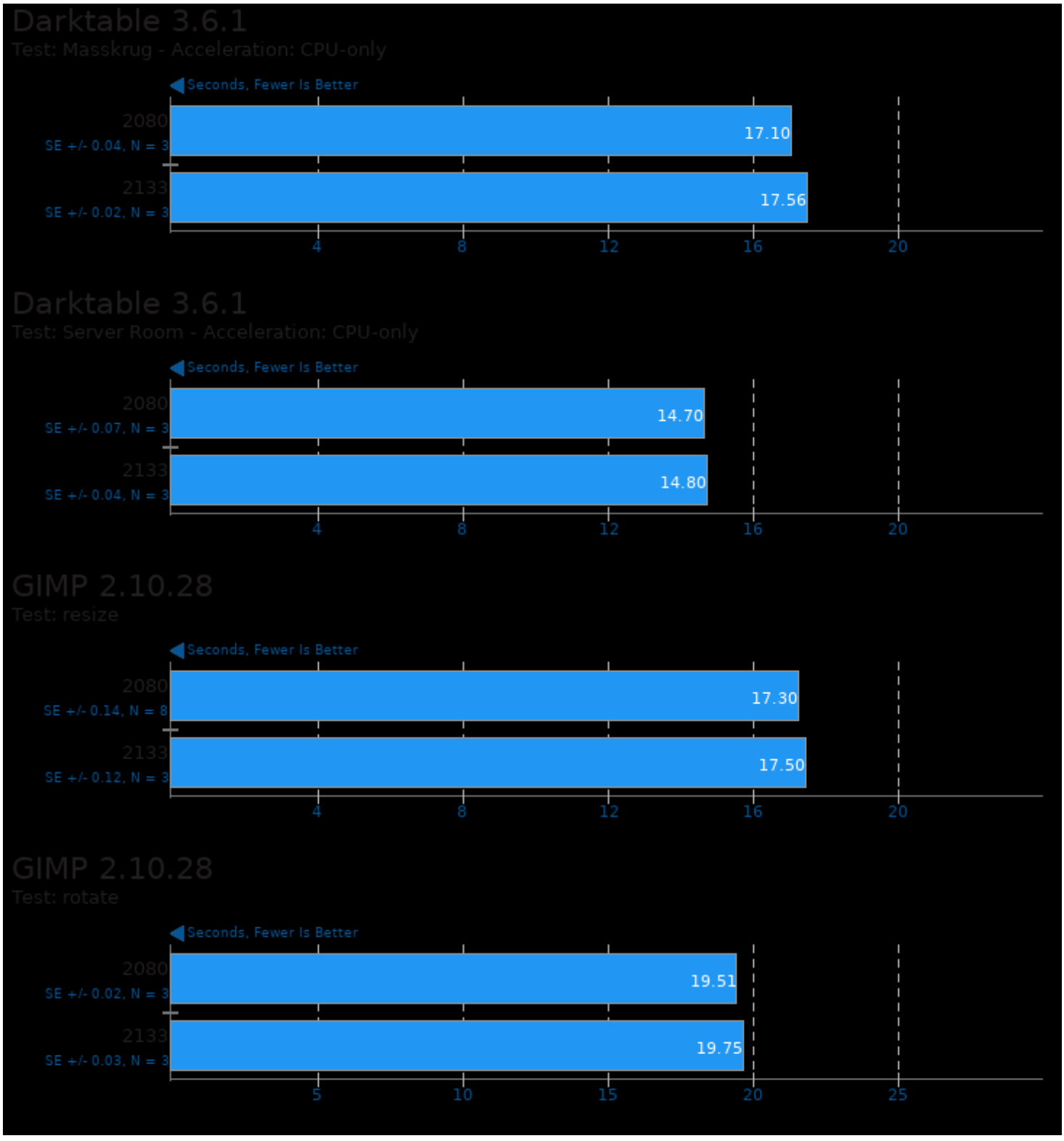
1. (CXX) g++ options: -lm -lpthread -std=c++11 -Ofast

Darktable 3.6.1

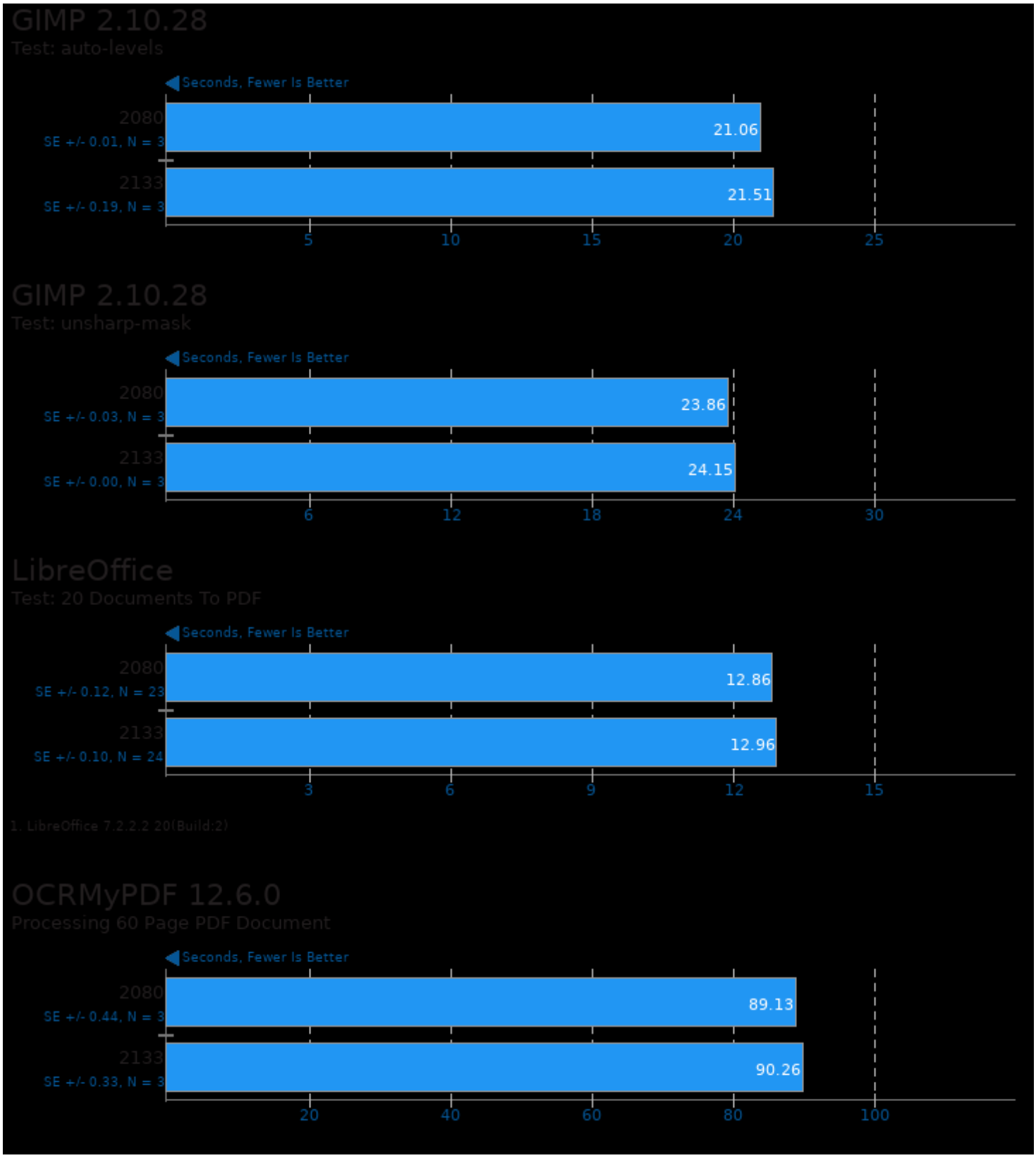
Test: Boat - Acceleration: CPU-only



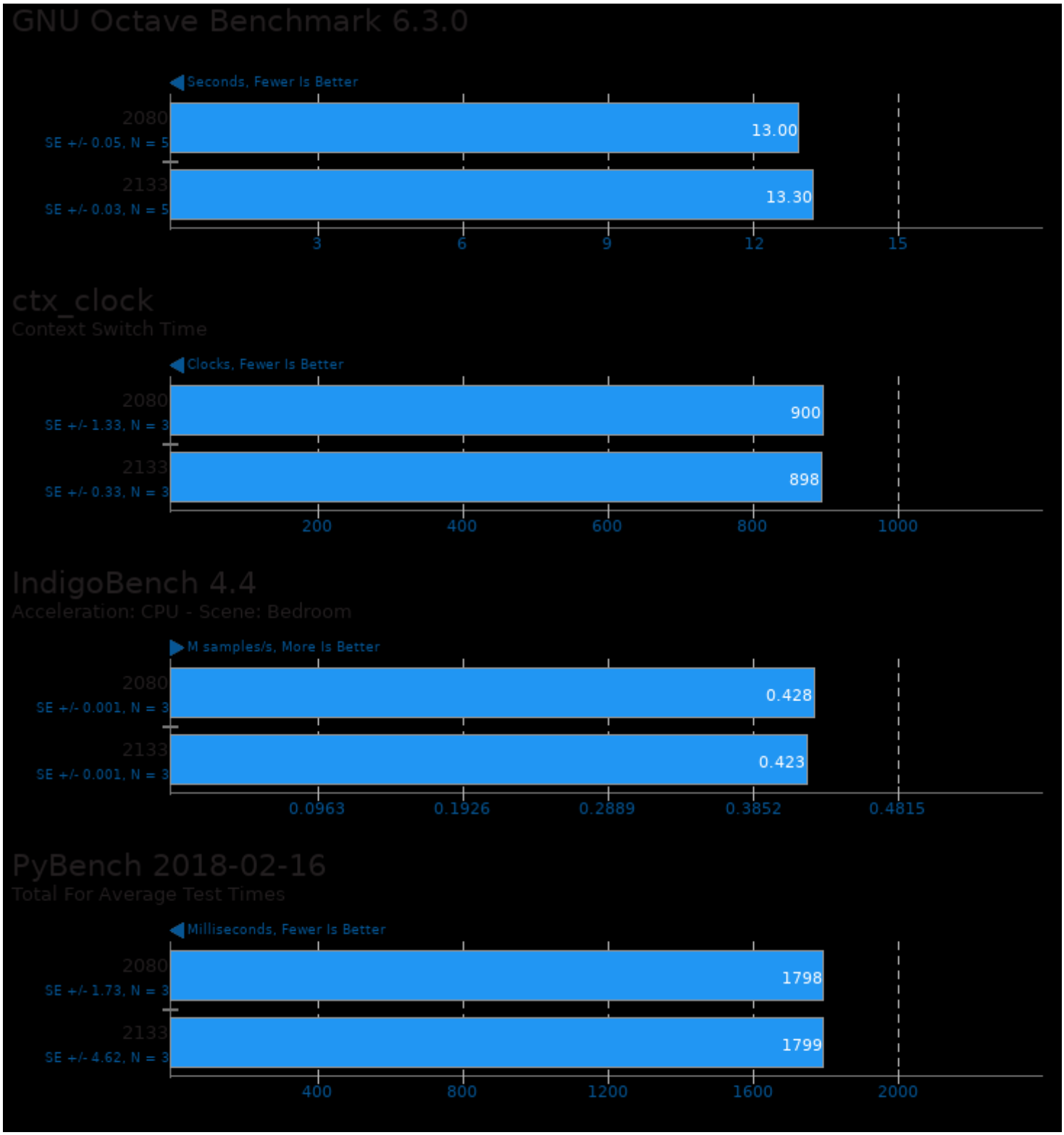
BigTest-1


Darktable 3.6.1
Test: Masskrug - Acceleration: CPU-only
Seconds, Fewer Is Better
2080
SE +/- 0.04, N = 3
17.10
2133
SE +/- 0.02, N = 3
17.56
4
8
12
16
20
Darktable 3.6.1
Test: Server Room - Acceleration: CPU-only
Seconds, Fewer Is Better
2080
SE +/- 0.07, N = 3
14.70
2133
SE +/- 0.04, N = 3
14.80
4
8
12
16
20
GIMP 2.10.28
Test: resize
Seconds, Fewer Is Better
2080
SE +/- 0.14, N = 8
17.30
2133
SE +/- 0.12, N = 3
17.50
4
8
12
16
20
GIMP 2.10.28
Test: rotate
Seconds, Fewer Is Better
2080
SE +/- 0.02, N = 3
19.51
2133
SE +/- 0.03, N = 3
19.75
5
10
15
20
25

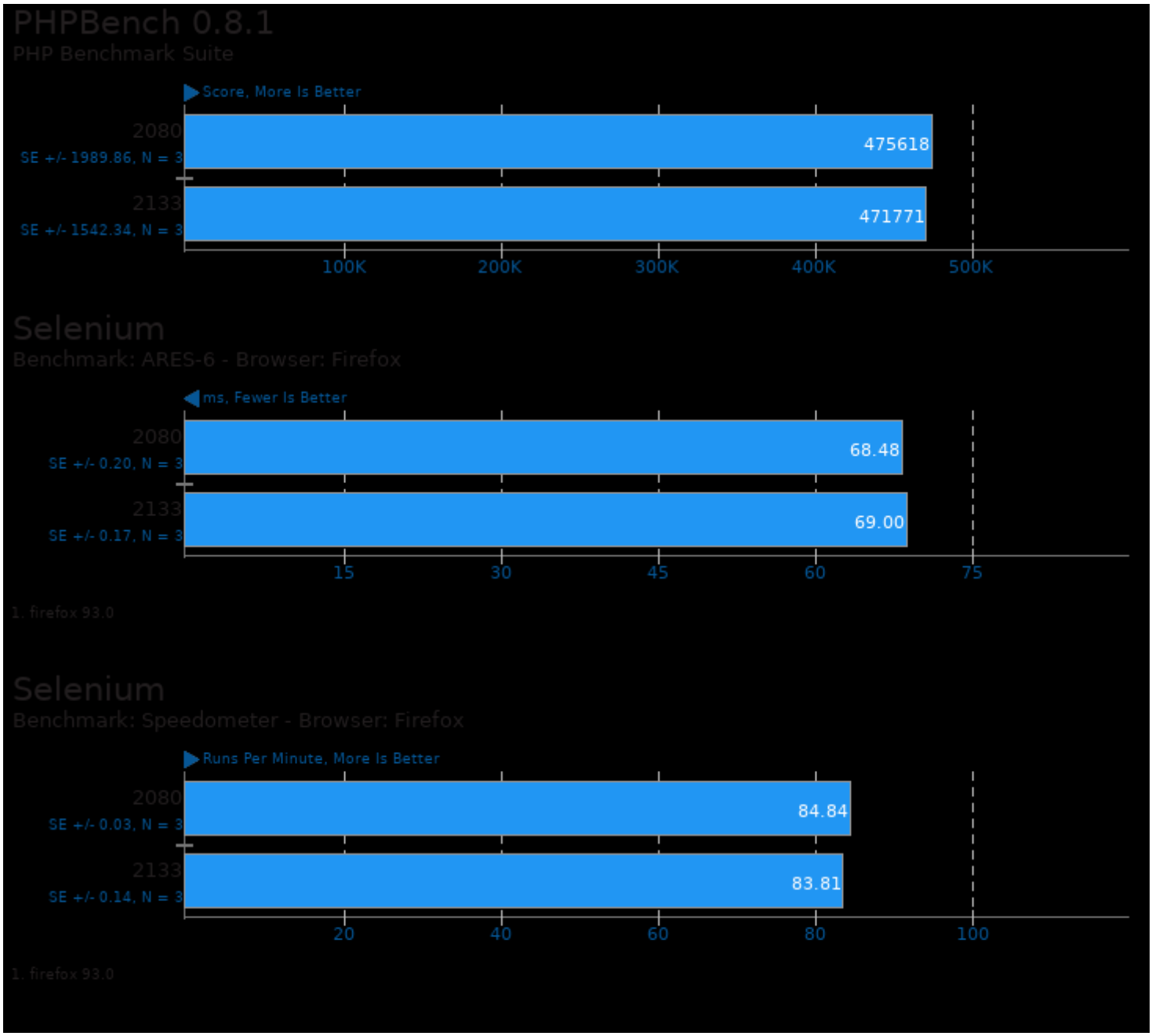
BigTest-1


GIMP 2.10.28
Test: auto-levels
Seconds, Fewer Is Better
2080
SE +/- 0.01, N = 3
21.06
2133
SE +/- 0.19, N = 3
21.51
5
10
15
20
25
GIMP 2.10.28
Test: unsharp-mask
Seconds, Fewer Is Better
2080
SE +/- 0.03, N = 3
23.86
2133
SE +/- 0.00, N = 3
24.15
6
12
18
24
30
LibreOffice
Test: 20 Documents To PDF
Seconds, Fewer Is Better
2080
SE +/- 0.12, N = 23
12.86
2133
SE +/- 0.10, N = 24
12.96
3
6
9
12
15
1. LibreOffice 7.2.2.2 20(Build:2)
OCRMyPDF 12.6.0
Processing 60 Page PDF Document
Seconds, Fewer Is Better
2080
SE +/- 0.44, N = 3
89.13
2133
SE +/- 0.33, N = 3
90.26
20
40
60
80
100

BigTest-1

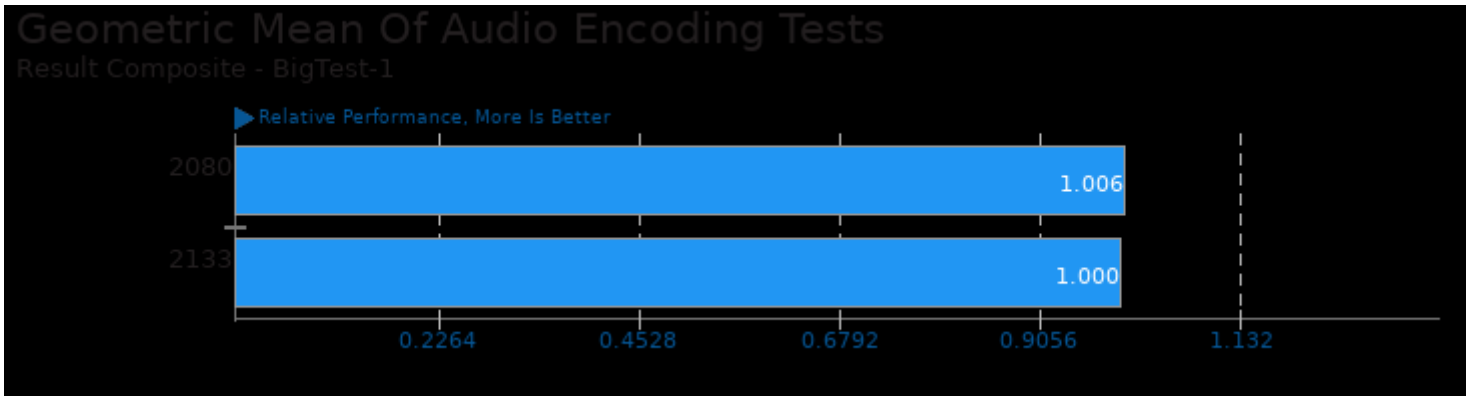

GNU Octave Benchmark 6.3.0
Seconds, Fewer Is Better
2080
SE +/- 0.05, N = 5
13.00
2133
SE +/- 0.03, N = 5
13.30
3
6
9
12
15
ctx_clock
Context Switch Time
Clocks, Fewer Is Better
2080
SE +/- 1.33, N = 3
900
2133
SE +/- 0.33, N = 3
898
200
400
600
800
1000
IndigoBench 4.4
Acceleration: CPU - Scene: Bedroom
M samples/s, More Is Better
2080
SE +/- 0.001, N = 3
0.428
2133
SE +/- 0.001, N = 3
0.423
0.0963
0.1926
0.2889
0.3852
0.4815
PyBench 2018-02-16
Total For Average Test Times
Milliseconds, Fewer Is Better
2080
SE +/- 1.73, N = 3
1798
2133
SE +/- 4.62, N = 3
1799
400
800
1200
1600
2000

BigTest-1


PHPBench 0.8.1
PHP Benchmark Suite
Score, More Is Better
2080
SE +/- 1989.86, N = 3
475618
2133
SE +/- 1542.34, N = 3
471771
100K
200K
300K
400K
500K
Selenium
Benchmark: ARES-6 - Browser: Firefox
ms, Fewer Is Better
2080
SE +/- 0.20, N = 3
68.48
2133
SE +/- 0.17, N = 3
69.00
15
30
45
60
75
1. firefox 93.0
Selenium
Benchmark: Speedometer - Browser: Firefox
Runs Per Minute, More Is Better
2080
SE +/- 0.03, N = 3
84.84
2133
SE +/- 0.14, N = 3
83.81
20
40
60
80
100
1. firefox 93.0

BigTest-1

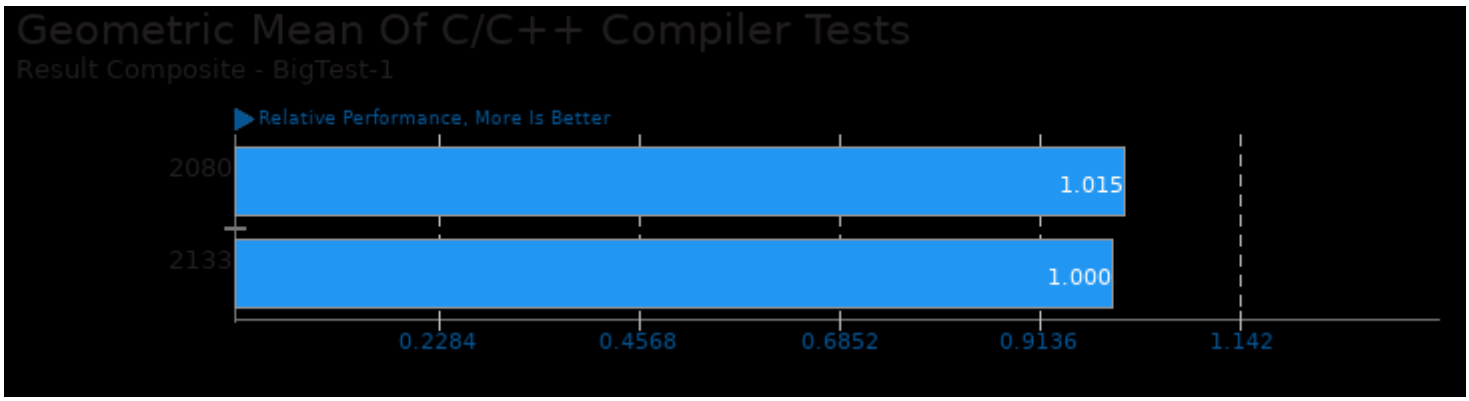
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac

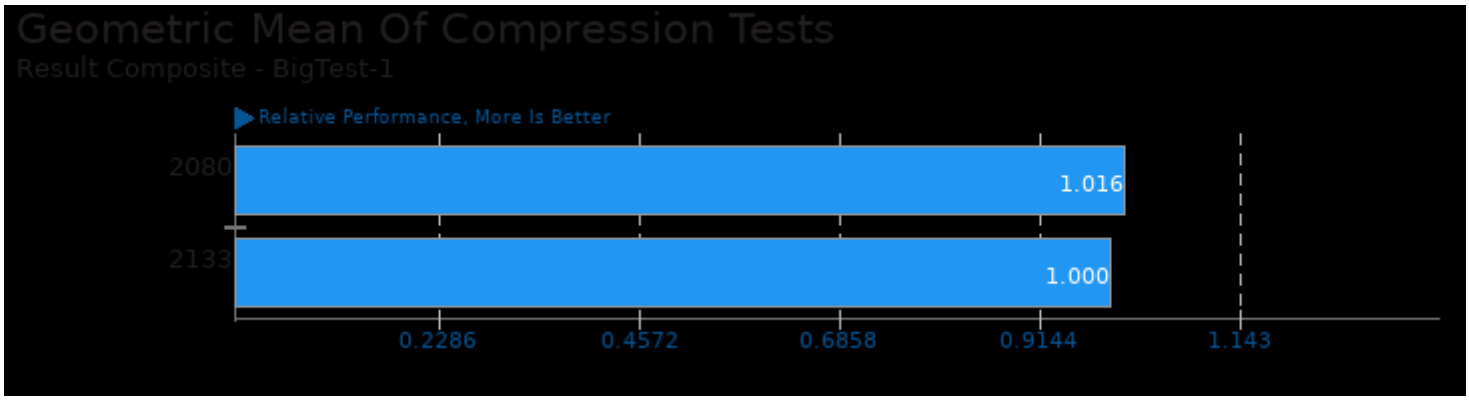


Geometric mean based upon tests: system/selenium



Geometric mean based upon tests: pts/vpxenc, pts/graphics-magick, pts/himeno, pts/stockfish, pts/compress-7zip, pts/encode-mp3, pts/encode-flac, pts/dav1d, pts/x264, pts/compress-zstd and pts/build-ffmpeg

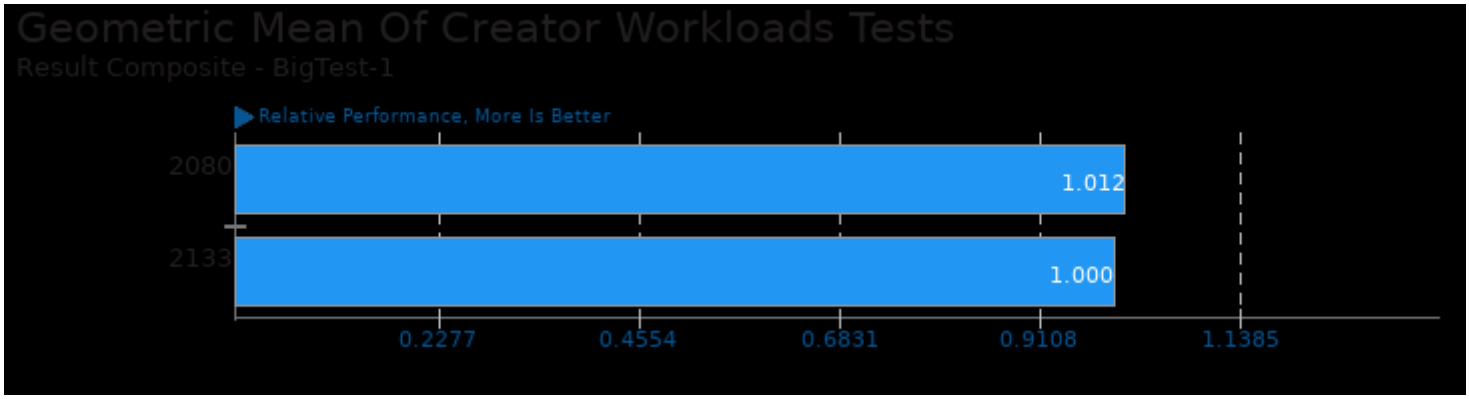
BigTest-1



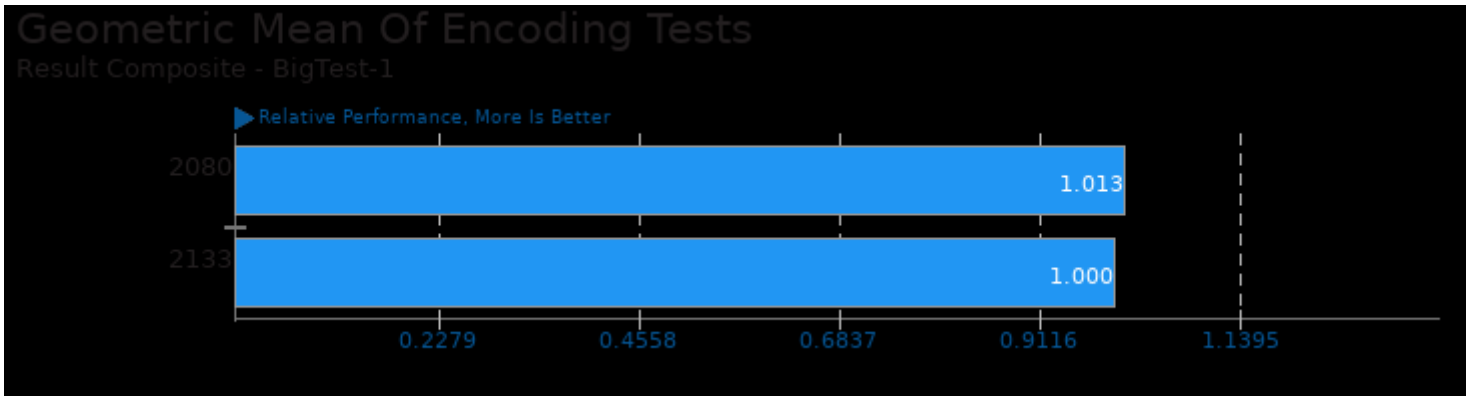
Geometric mean based upon tests: pts/compress-7zip, pts/compress-zstd and pts/compress-lz4



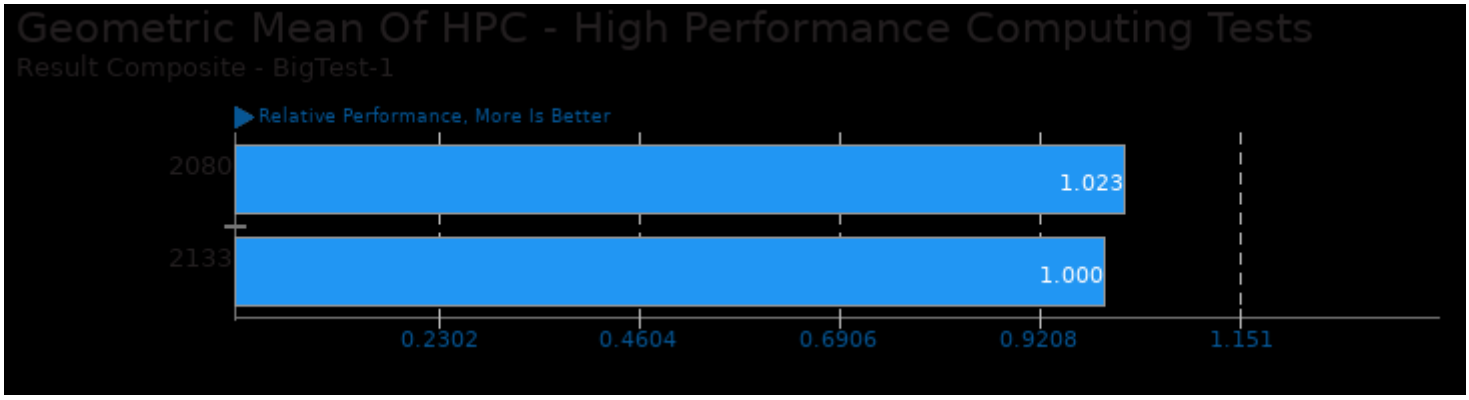
Geometric mean based upon tests: pts/cachebench, pts/compress-7zip, pts/compress-zstd, pts/ctx-clock, pts/dav1d, pts/vpxenc, pts/x264, pts/encode-flac, pts/encode-mp3, pts/graphics-magick, pts/himeno, pts/phpbench, pts/stockfish, pts/stream, pts/tinymembench, system/darktable and system/octave-benchmark



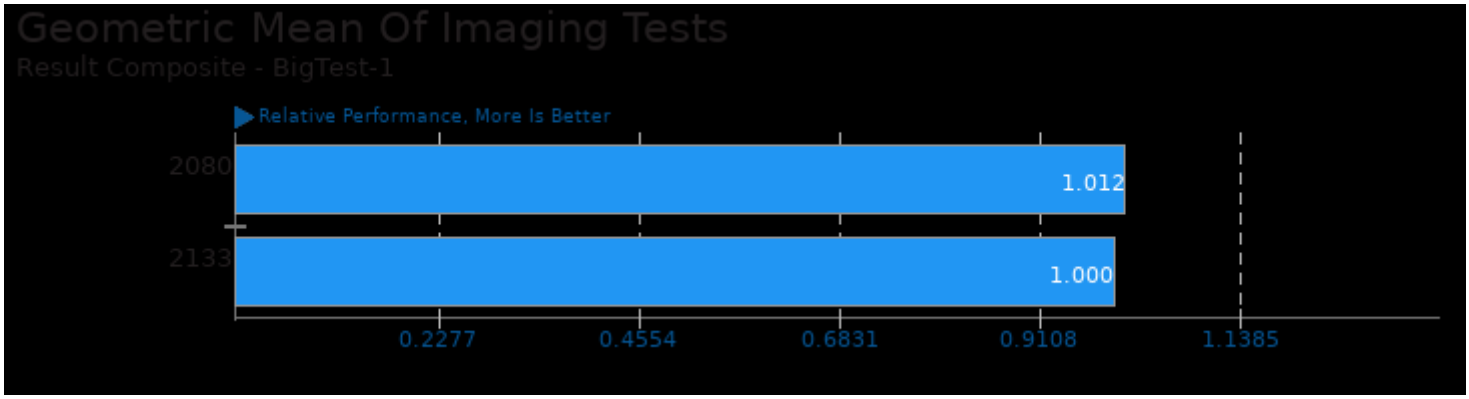
Geometric mean based upon tests: pts/indigobench, system/ocrmypdf, pts/x264, pts/vpxenc, pts/dav1d, pts/encode-mp3, pts/encode-flac, pts/graphics-magick, pts/libraw, system/gimp, system/darktable and pts/synthmark



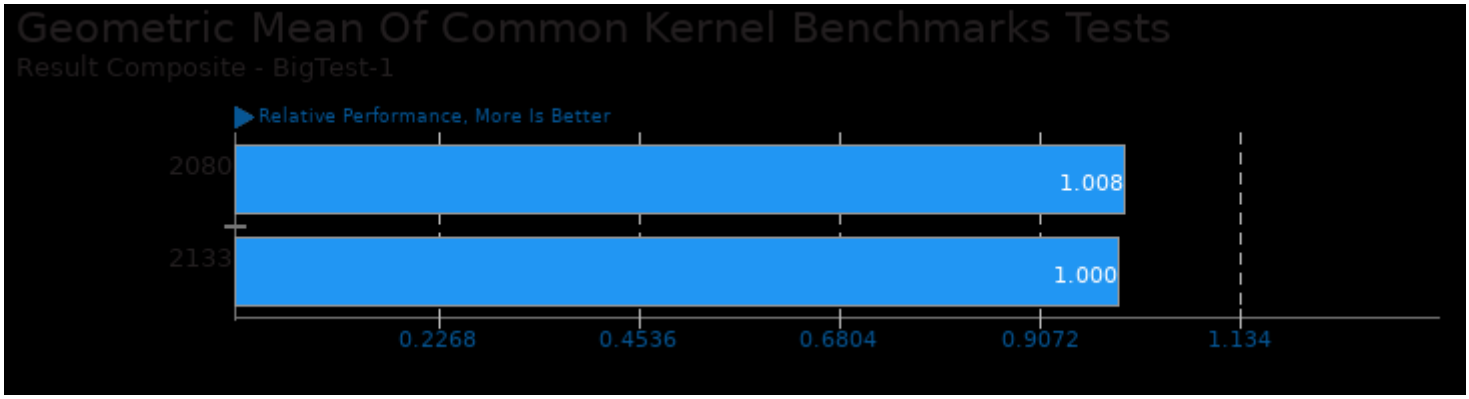
Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/x264, pts/vpxenc and pts/dav1d



Geometric mean based upon tests: system/octave-benchmark and pts/himeno

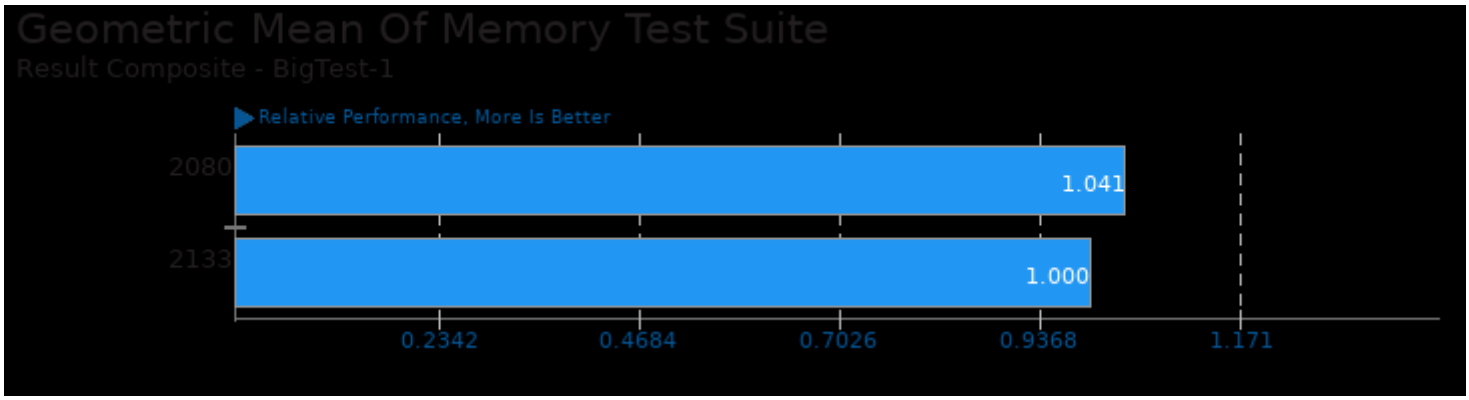


Geometric mean based upon tests: pts/graphics-magick, pts/libraw, system/gimp and system/darktable

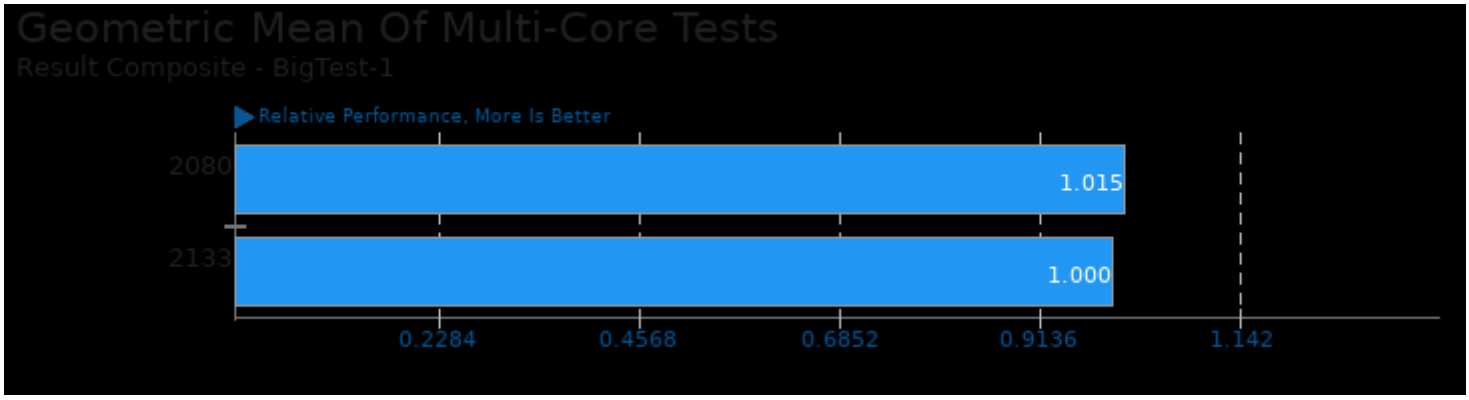


Geometric mean based upon tests: pts/tinymembench and pts/ctx-clock

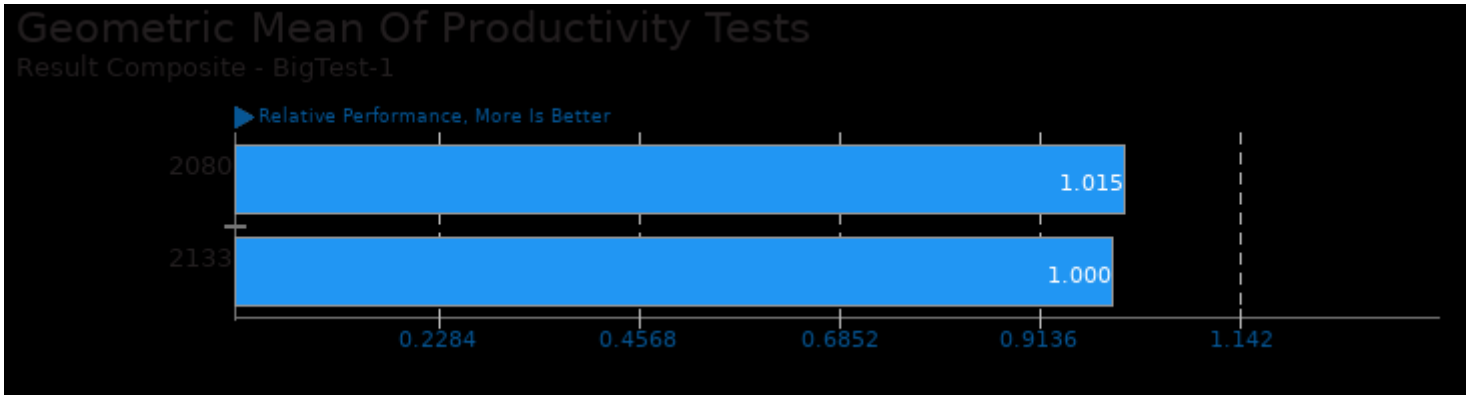
BigTest-1



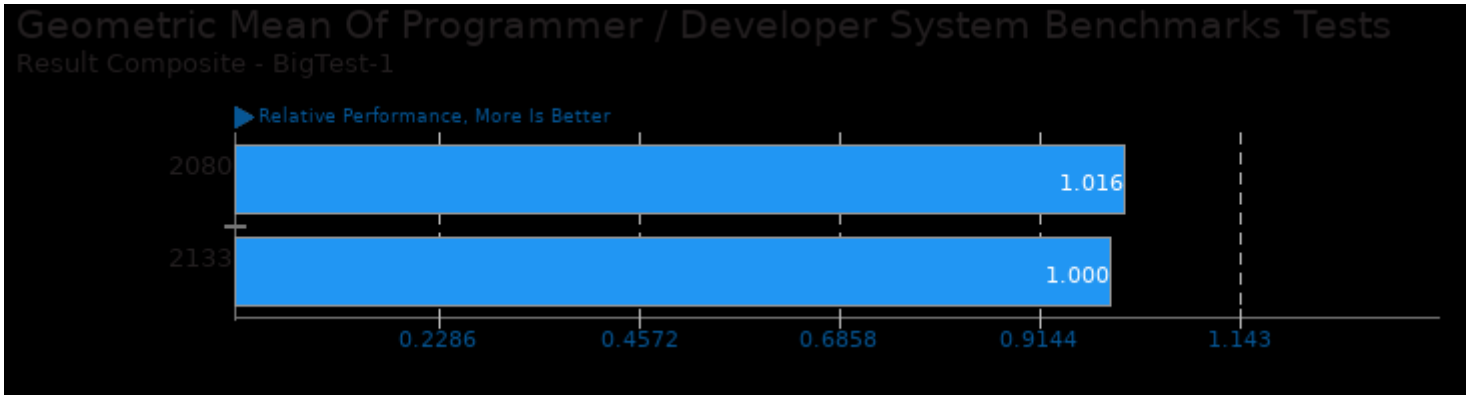
Geometric mean based upon tests: pts/stream, pts/cachebench and pts/tinymembench



Geometric mean based upon tests: pts/stockfish, pts/coremark, pts/x264, pts/vpxenc, pts/dav1d, pts/graphics-magick, pts/compress-7zip, pts/compress-zstd, pts/build-ffmpeg and pts/indigobench

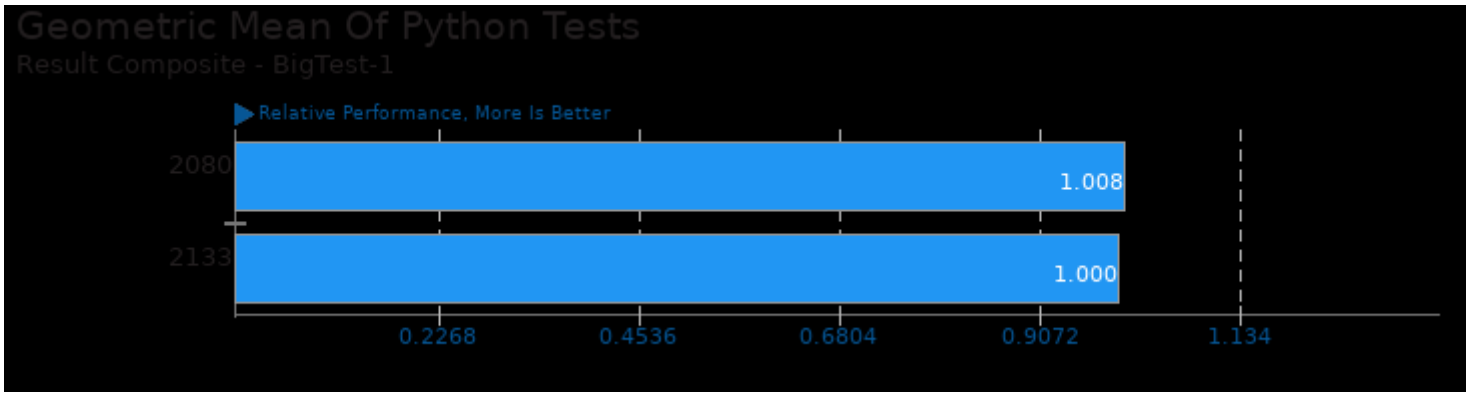


Geometric mean based upon tests: system/libreoffice, system/octave-benchmark and system/gimp

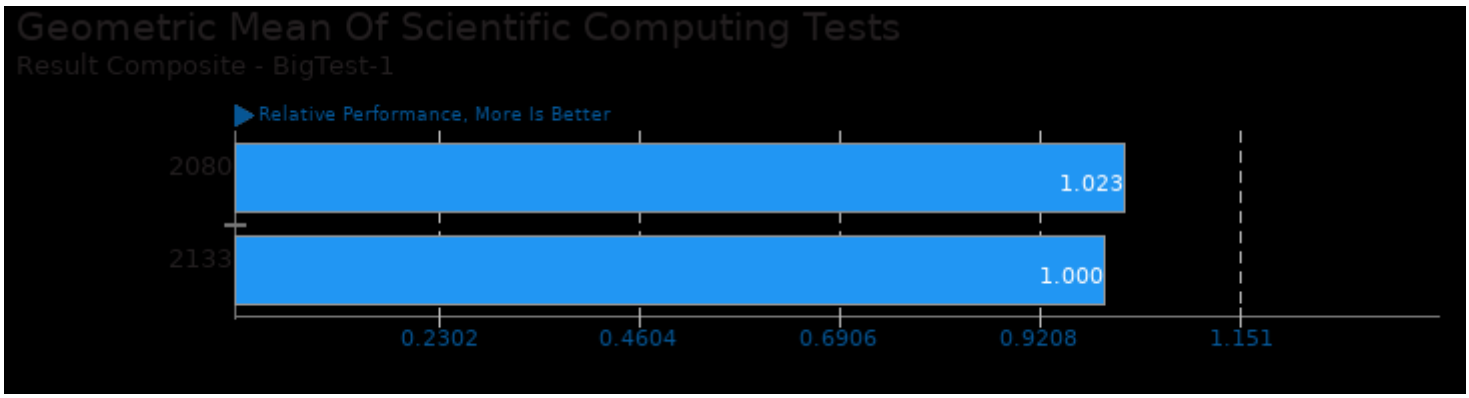


BigTest-1

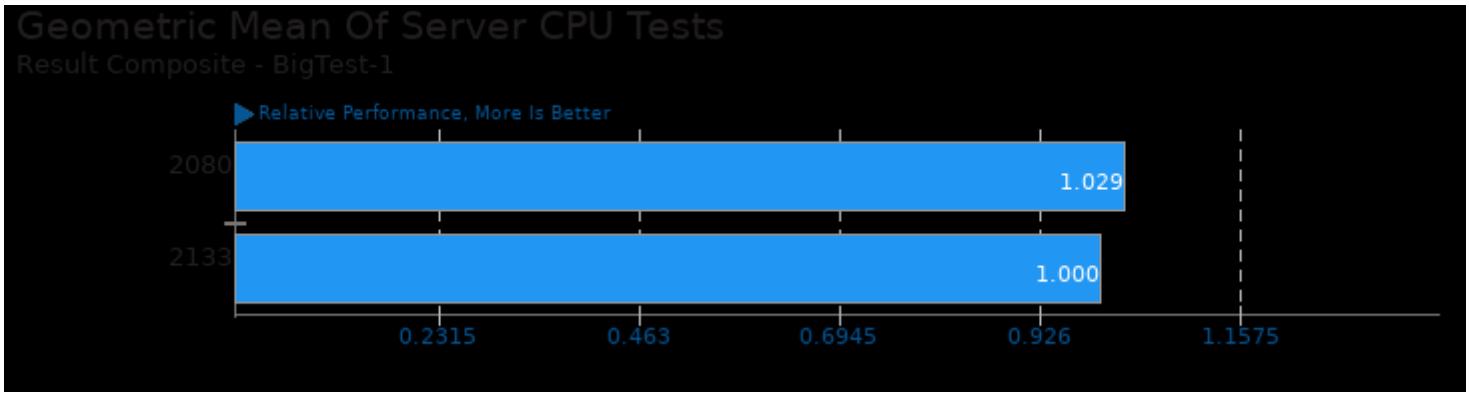
Geometric mean based upon tests: pts/compress-zstd, pts/pybench and pts/build-ffmpeg



Geometric mean based upon tests: system/ocrmypdf, pts/pybench and system/selenium

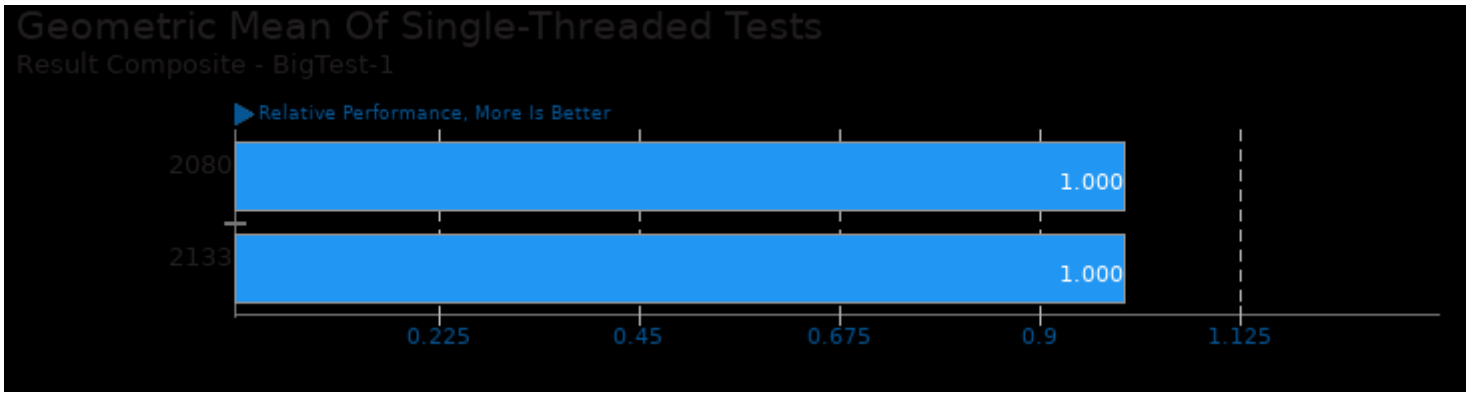


Geometric mean based upon tests: system/octave-benchmark and pts/himeno

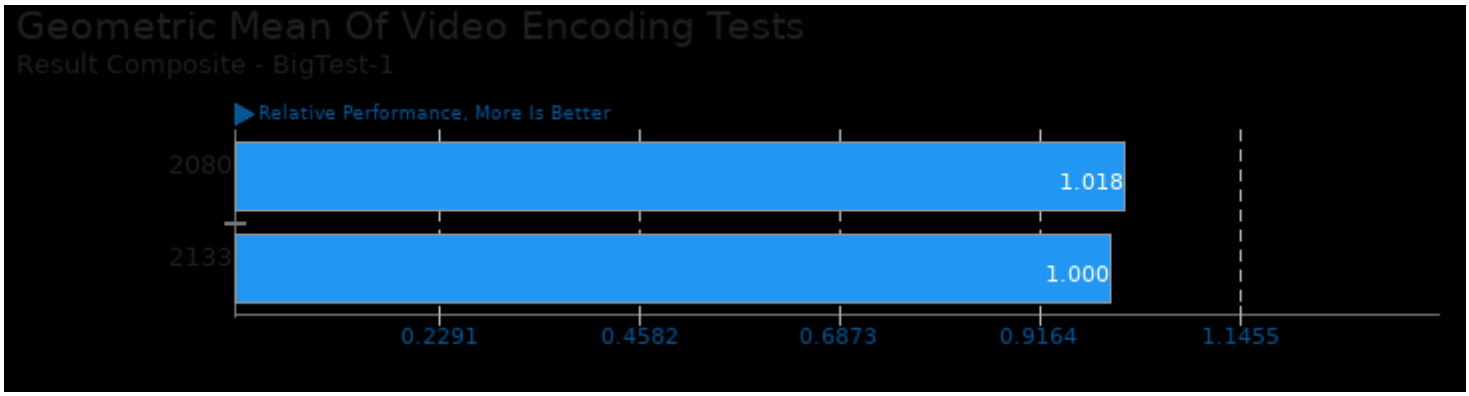


Geometric mean based upon tests: pts/x264, pts/dav1d, pts/himeno, pts/compress-7zip, pts/stockfish, pts/compress-zstd, system/gimp, pts/ctx-clock, pts/pybench, pts/phpbench and pts/stream

BigTest-1



Geometric mean based upon tests: pts/cachebench, pts/encode-flac, pts/encode-mp3, pts/pybench and pts/phpbench



Geometric mean based upon tests: pts/x264, pts/vpxenc and pts/dav1d

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:04.