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sifive riscv hifive unmatched

SiFive RISC-V testing with a SiFive HiFive Unmatched A00 and Sapphire AMD Radeon HD 6770 on Ubuntu 21.04 via the Phoronix Test Suite.

Test Systems:

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Processor: SiFive RISC-V (4 Cores), Motherboard: SiFive HiFive Unmatched A00, Memory: 16GB, Disk: 1000GB Samsung SSD 980 1TB + 32GB SC32G, Graphics: Sapphire AMD Radeon HD 6770, Audio: AMD Juniper HDMI Audio, Monitor: LG Ultra HD

OS: Ubuntu 21.04, Kernel: 5.11.0-1018-generic (riscv64), Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=riscv64-linux-gnu --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-libsanitizer --disable-multilib --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=riscv64-linux-gnu --program-prefix=riscv64-linux-gnu- --target=riscv64-linux-gnu --with-abi=lp64d --with-arch=rv64imafdc --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v

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	1
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	13057
Standard Deviation	0%
OpenSSL - SHA256 (byte/s)	68265560
Standard Deviation	0.5%
OpenSSL - RSA4096 (sign/s)	27.2
Standard Deviation	0%
OpenSSL - RSA4096 (verify/s)	1992
Standard Deviation	0%
Stress-NG - MMAP (Bogo Ops/s)	1.42
Stress-NG - NUMA (Bogo Ops/s)	14.39
Stress-NG - MEMFD (Bogo Ops/s)	6.79
Stress-NG - Atomic (Bogo Ops/s)	46773
Stress-NG - Crypto (Bogo Ops/s)	75.23
Stress-NG - Malloc (Bogo Ops/s)	1425948
Stress-NG - Forking (Bogo Ops/s)	2374
Stress-NG - IO_uring (Bogo Ops/s)	3757
Stress-NG - SENDFILE (Bogo Ops/s)	5487
Stress-NG - CPU Cache (Bogo Ops/s)	12.63
Stress-NG - CPU Stress (Bogo Ops/s)	169.7
Stress-NG - Semaphores (Bogo Ops/s)	109975
Stress-NG - Matrix Math (Bogo Ops/s)	519.47
Stress-NG - Vector Math (Bogo Ops/s)	368.71
Stress-NG - Memory Copying (Bogo Ops/s)	30.37
Stress-NG - Socket Activity (Bogo Ops/s)	171.81
Stress-NG - Context Switching (Bogo Ops/s)	99627
Stress-NG - G.C.S.F (Bogo Ops/s)	14646
Stress-NG - G.Q.D.S (Bogo Ops/s)	4.83
Stress-NG - S.V.M.P (Bogo Ops/s)	282387
Monkey Audio Encoding - WAV To APE (sec)	514.968
Standard Deviation	0.1%
FLAC Audio Encoding - WAV To FLAC (sec)	438.161
Standard Deviation	0%
WavPack Audio Encoding - WAV To WavPack (sec)	848.583
Standard Deviation	0.9%
Smallpt - G.I.R.1.S (sec)	583.070
Standard Deviation	0.3%
eSpeak-NG Speech Engine - T.T.S.S (sec)	391.968
Standard Deviation	0.9%
RNNoise (sec)	215.579
Standard Deviation	0.2%
Google SynthMark - VoiceMark_100 (Voices)	53.0431
Standard Deviation	0.3%
SecureMark - SecureMark-TLS (marks)	16630
Standard Deviation	0.6%
Dolfyn - C.F.D (sec)	659.114
Standard Deviation	0.6%
FFTE - N.2.3.C.F.R (MFLOPS)	841.95
Standard Deviation	1%
WebP Image Encode - Default (Encode Time - sec)	39.801
Standard Deviation	0.5%

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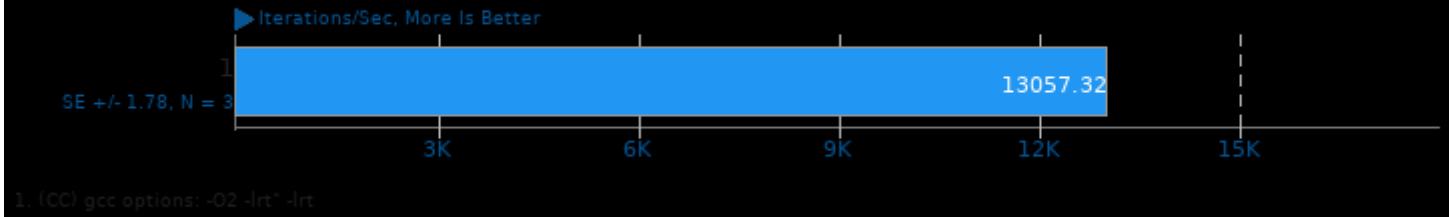
WebP Image Encode - Quality 100 (Encode Time - sec)	51.587
Standard Deviation	1.1%
WebP Image Encode - Q.1.L (Encode Time - sec)	253.827
Standard Deviation	0.3%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	94.028
Standard Deviation	0.1%
LZ4 Compression - 1 - Compression Speed (MB/s)	109.27
Standard Deviation	0.4%
LZ4 Compression - 1 - D.S (MB/s)	112.6
Standard Deviation	0.1%
LZ4 Compression - 3 - Compression Speed (MB/s)	3.19
Standard Deviation	0.4%
LZ4 Compression - 3 - D.S (MB/s)	112.2
Standard Deviation	0.1%
LZ4 Compression - 9 - Compression Speed (MB/s)	3.12
Standard Deviation	1.1%
LZ4 Compression - 9 - D.S (MB/s)	112.3
Standard Deviation	0.1%
Zstd Compression - 3 - Compression Speed (MB/s)	37.5
Standard Deviation	1.8%
Zstd Compression - 3 - D.S (MB/s)	77.2
Standard Deviation	0.4%
Zstd Compression - 8 - Compression Speed (MB/s)	8.15
Standard Deviation	1.8%
Zstd Compression - 8 - D.S (MB/s)	78.9
Standard Deviation	0.6%
Zstd Compression - 19 - Compression Speed (MB/s)	1.14
Standard Deviation	2.3%
Zstd Compression - 19 - D.S (MB/s)	71.1
Standard Deviation	1%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	0.91
Standard Deviation	0.6%
Zstd Compression - 19, Long Mode - D.S (MB/s)	72.8
Standard Deviation	1%
GraphicsMagick - Swirl (Iterations/min)	8
GraphicsMagick - Rotate (Iterations/min)	24
GraphicsMagick - Sharpen (Iterations/min)	7
GraphicsMagick - Enhanced (Iterations/min)	3
GraphicsMagick - Resizing (Iterations/min)	21
GraphicsMagick - Noise-Gaussian (Iterations/min)	6
GraphicsMagick - HWB Color Space (Iterations/min)	20
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	0.16
Standard Deviation	0%
7-Zip Compression - C.S.T (MIPS)	1403
Standard Deviation	1%
libavif avifenc - 6 (sec)	454.321
Standard Deviation	138%
Gzip Compression - L.S.T.A.T.t.g (sec)	454.113
Standard Deviation	1.1%
OCRMyPDF - P.6.P.P.D (sec)	1193
Standard Deviation	0.3%
GNU Octave Benchmark (sec)	269.978

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Standard Deviation	0.2%
TNN - CPU - DenseNet (ms)	129571
Standard Deviation	0%
PyBench - T.F.A.T.T (Milliseconds)	24990
Standard Deviation	1.5%
PyPerformance - go (Milliseconds)	9.25
PHPBench - P.B.S (Score)	32826
Standard Deviation	2.1%
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	2115
Standard Deviation	0.1%

Coremark 1.0

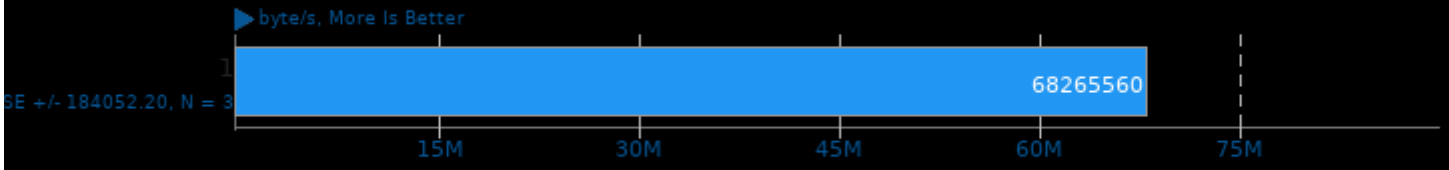
CoreMark Size 666 - Iterations Per Second



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

OpenSSL 3.0

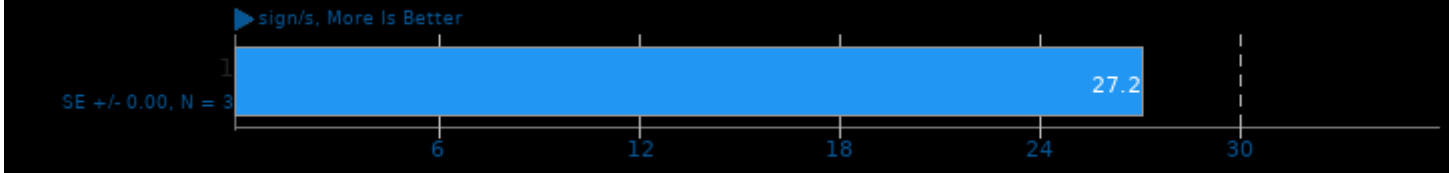
Algorithm: SHA256



1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

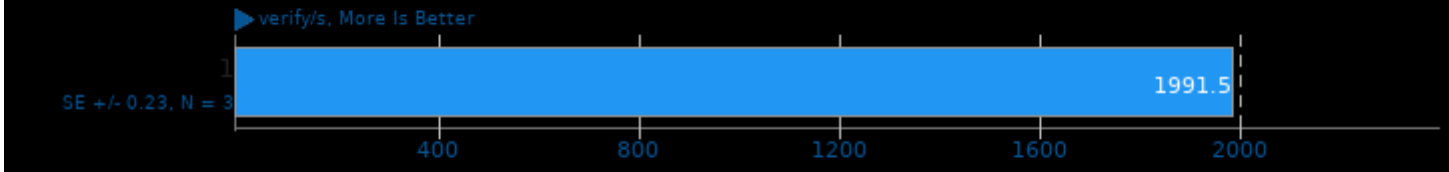
Algorithm: RSA4096



1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

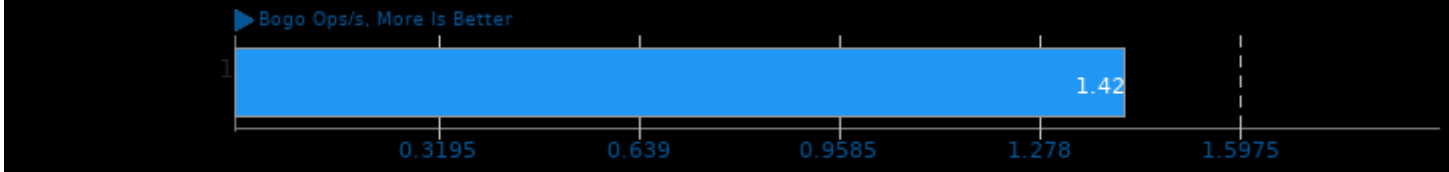
Algorithm: RSA4096



1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

Stress-NG 0.13.02

Test: MMAP

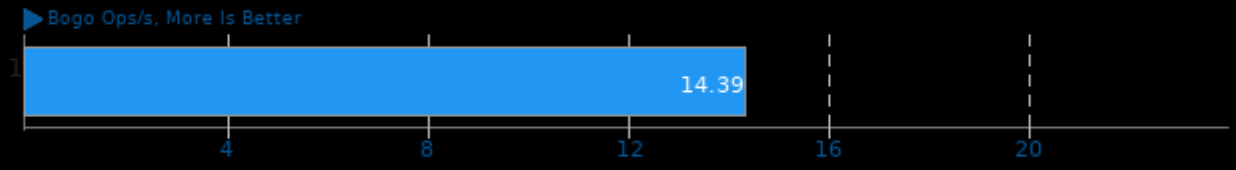


1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

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Stress-NG 0.13.02

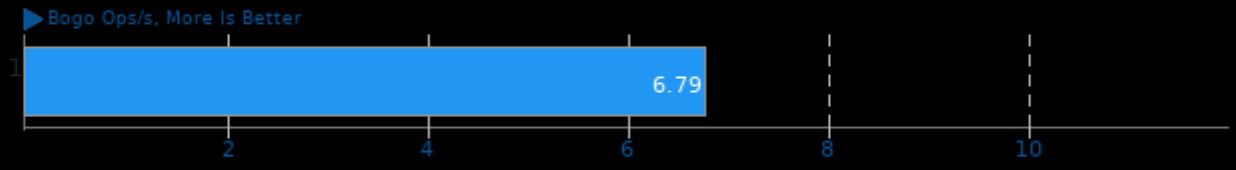
Test: NUMA



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

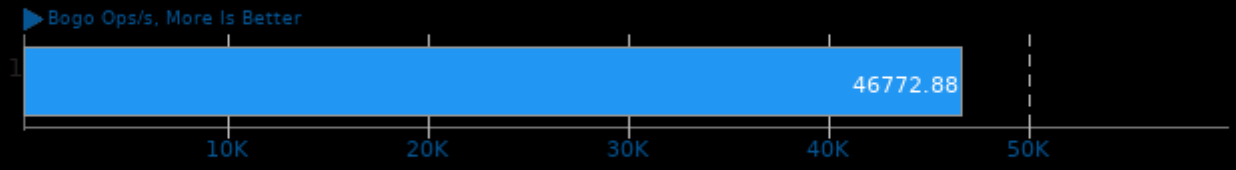
Test: MEMFD



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

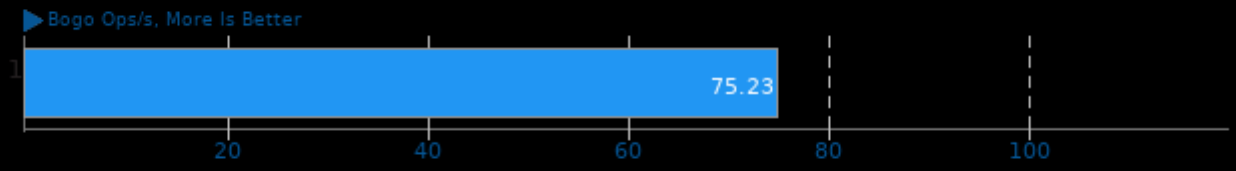
Test: Atomic



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

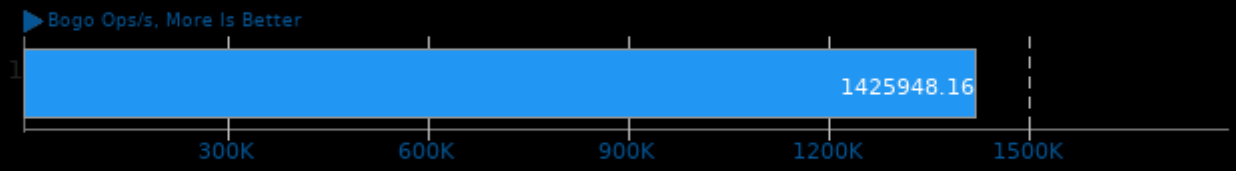
Test: Crypto



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

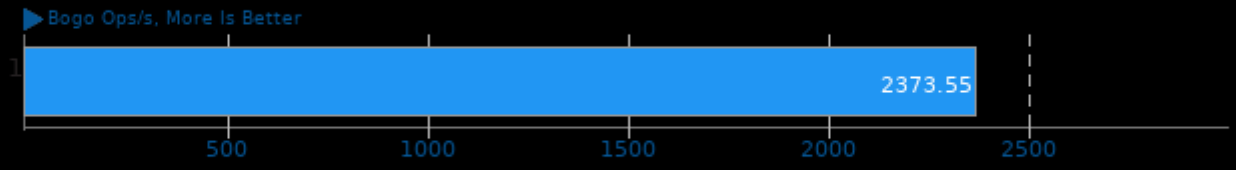
Test: Malloc



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

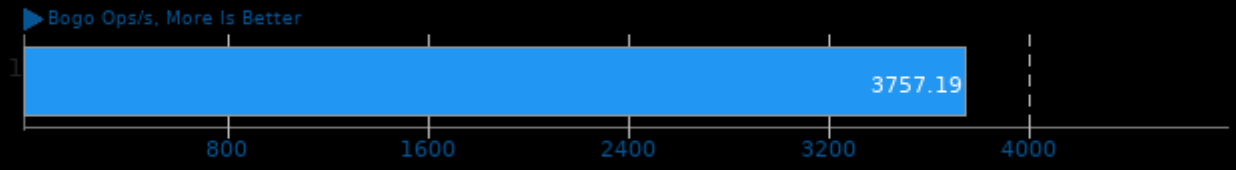
Test: Forking



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

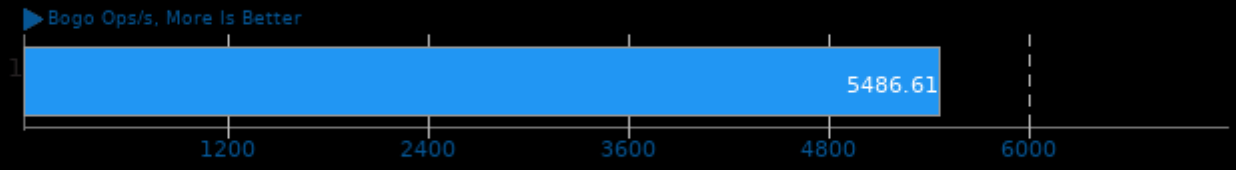
Test: IO_uring



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

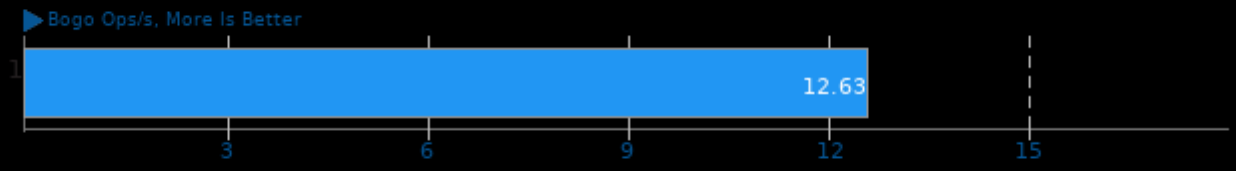
Test: SENDFILE



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

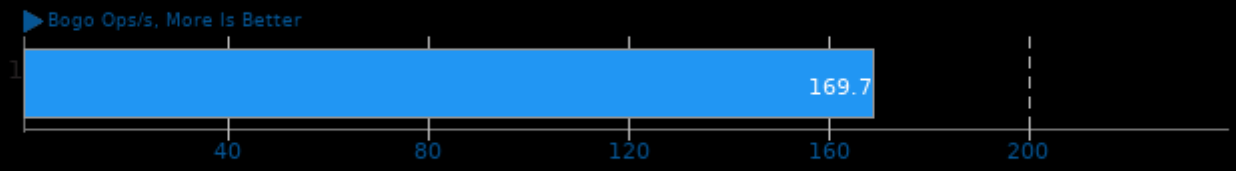
Test: CPU Cache



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

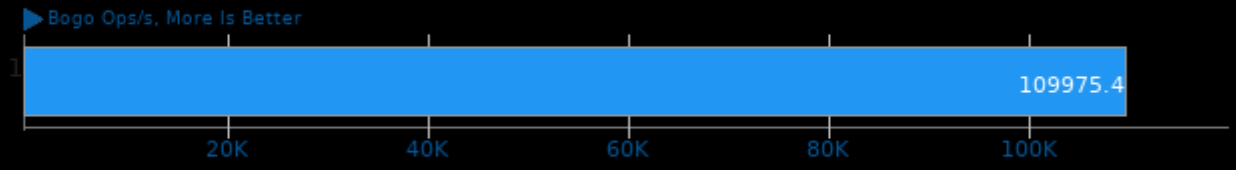
Test: CPU Stress



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

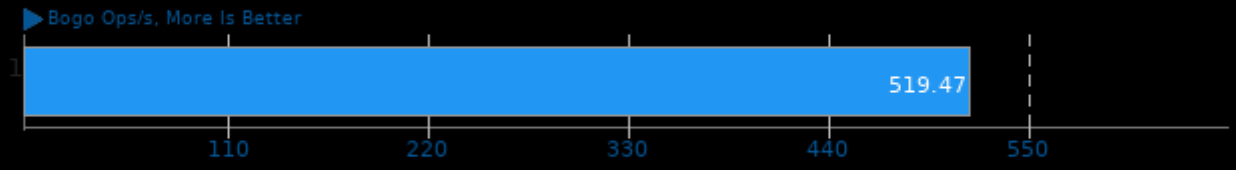
Test: Semaphores



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

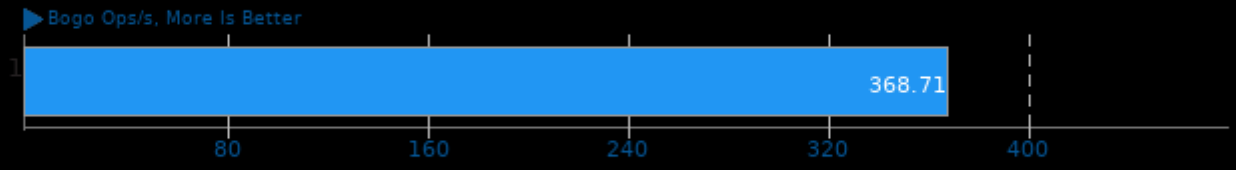
Test: Matrix Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

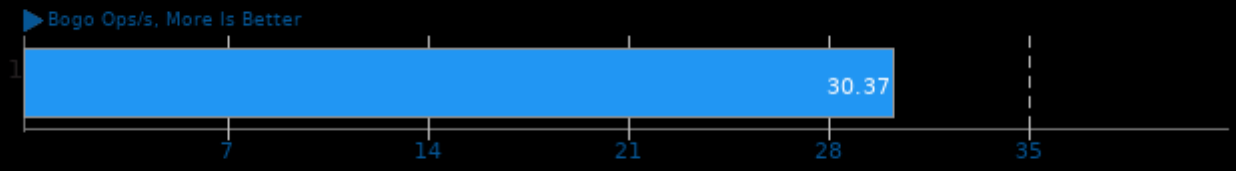
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

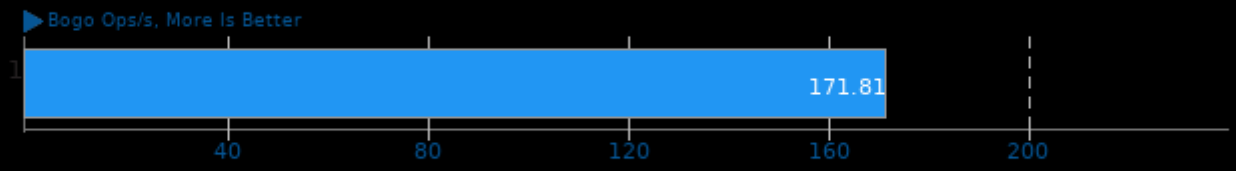
Test: Memory Copying



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

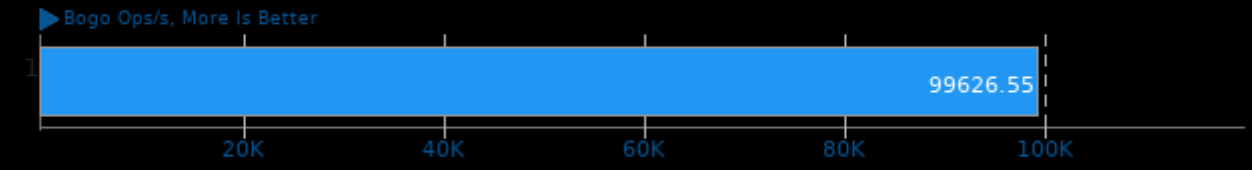
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

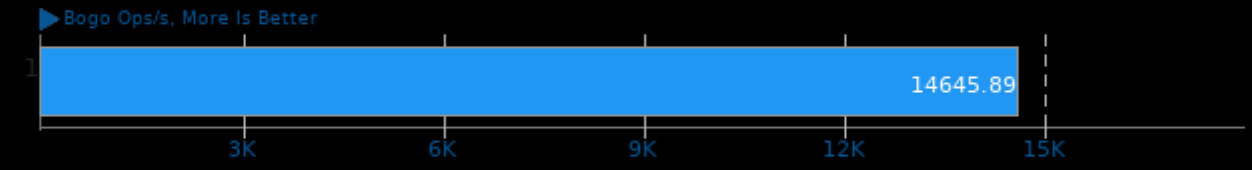
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

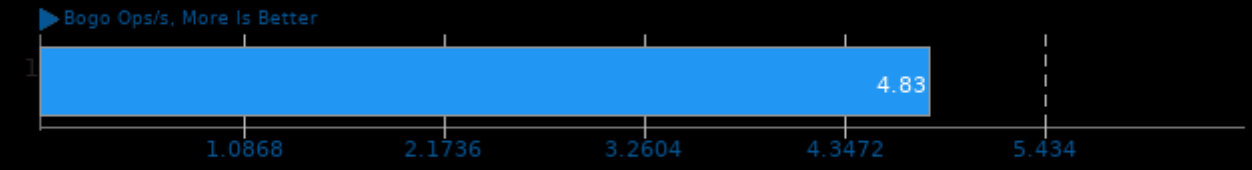
Test: Glibc C String Functions



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

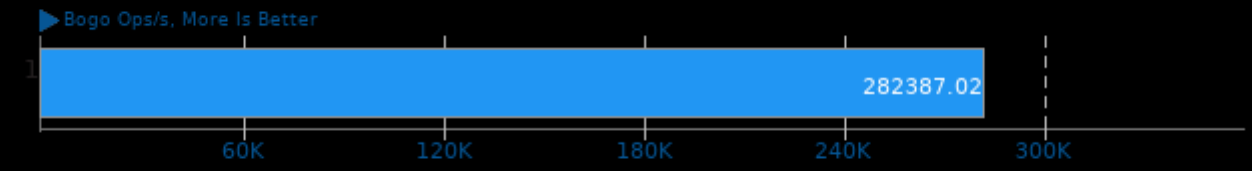
Test: Glibc Qsort Data Sorting



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

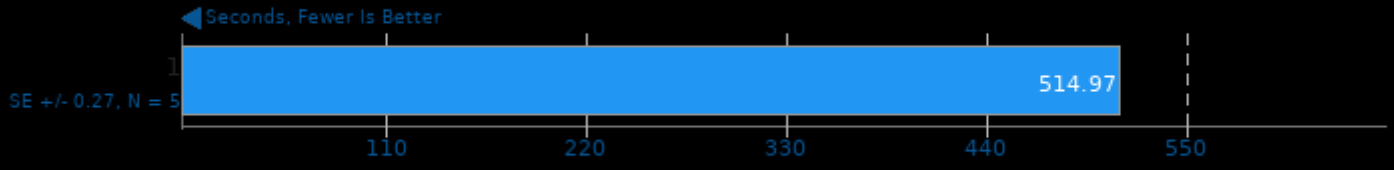
Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Monkey Audio Encoding 3.99.6

WAV To APE

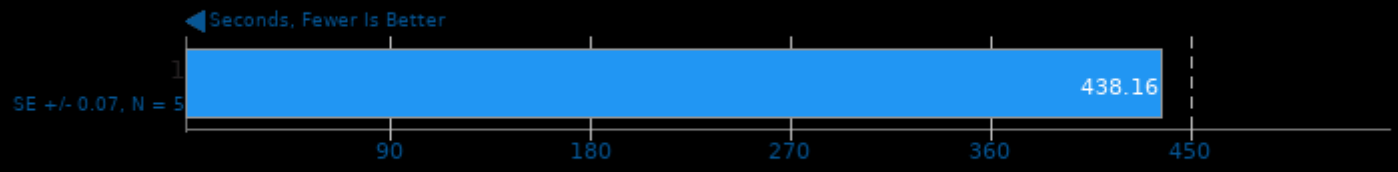


1. (CXX) g++ options: -O3 -pedantic -rdynamic -lrt -latomic

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FLAC Audio Encoding 1.3.2

WAV To FLAC



1. (CXX) g++ options: -O2 -fvisibility=hidden -logg -lm

WavPack Audio Encoding 5.3

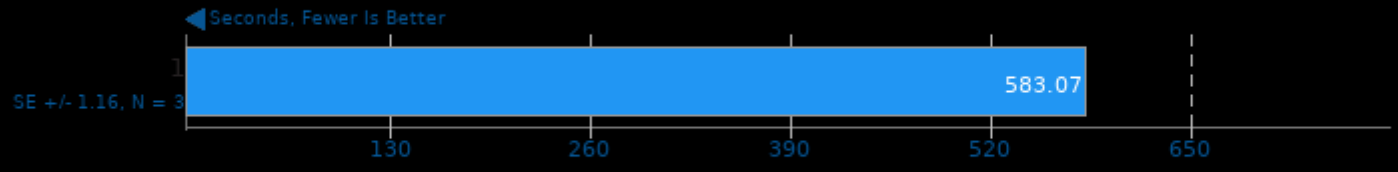
WAV To WavPack



1. (CXX) g++ options: -rdynamic -latomic

Smallpt 1.0

Global Illumination Renderer; 128 Samples



1. (CXX) g++ options: -fopenmp -O3

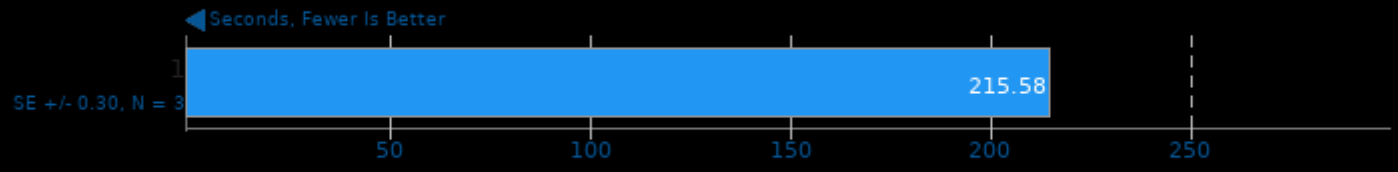
eSpeak-NG Speech Engine 20200907

Text-To-Speech Synthesis



1. (CC) gcc options: -O2 -std=c99

RNNoise 2020-06-28



1. (CC) gcc options: -O2 -pedantic -fvisibility=hidden

Google SynthMark 20201109

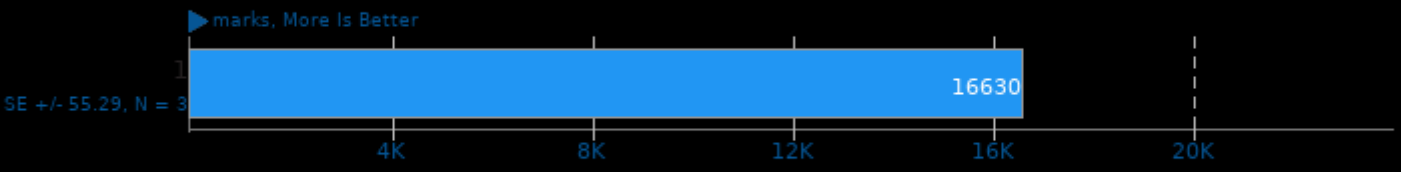
Test: VoiceMark_100



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

SecureMark 1.0.4

Benchmark: SecureMark-TLS



1. (CC) gcc options: -pedantic -O3 -latomic

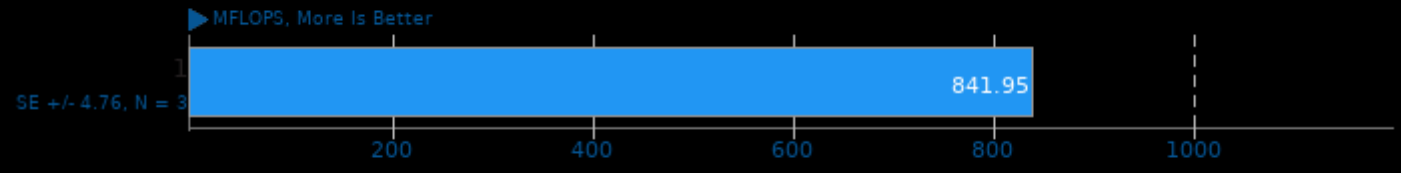
Dolfyn 0.527

Computational Fluid Dynamics



FFTE 7.0

N=256, 3D Complex FFT Routine



1. (F9X) gfortran options: -O3 -fomit-frame-pointer -fopenmp

WebP Image Encode 1.1

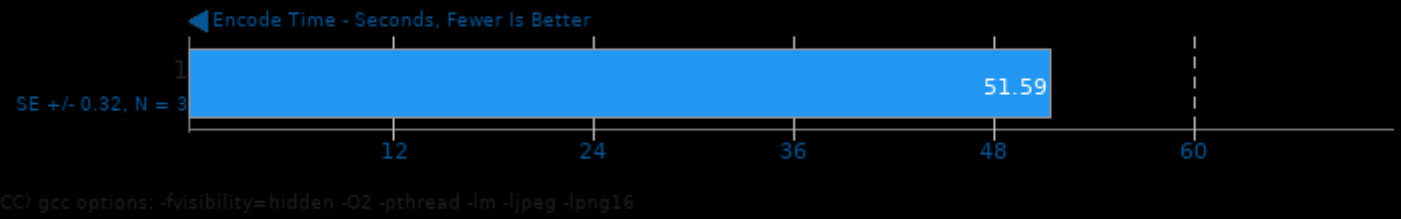
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16

WebP Image Encode 1.1

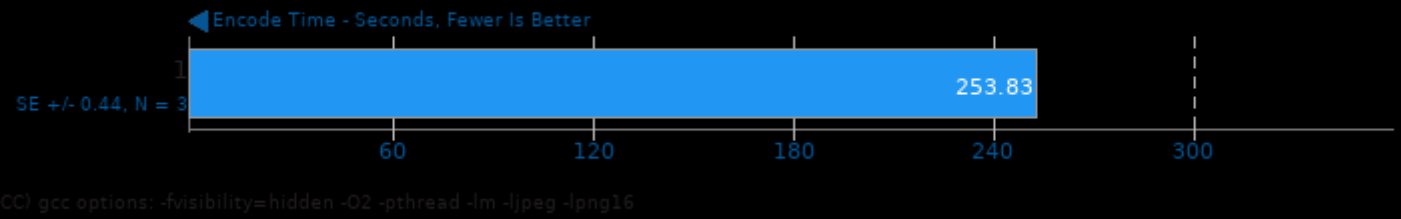
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16

WebP Image Encode 1.1

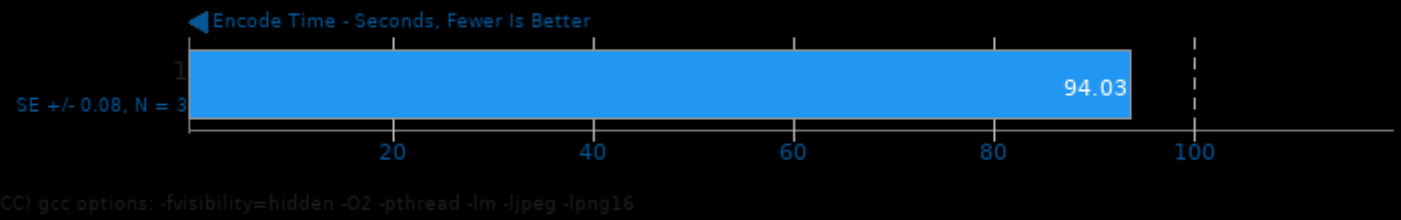
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16

WebP Image Encode 1.1

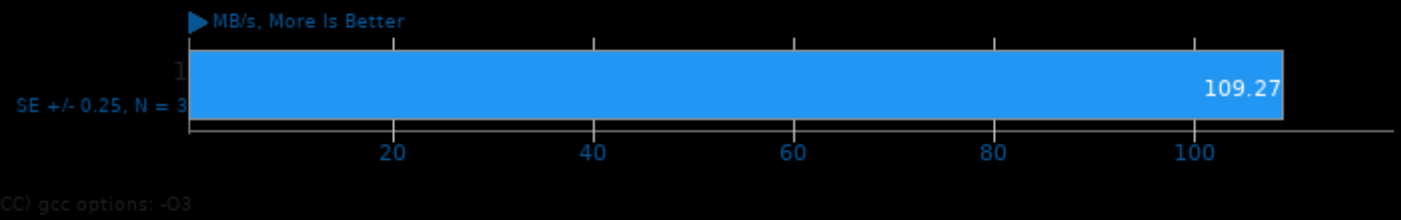
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16

LZ4 Compression 1.9.3

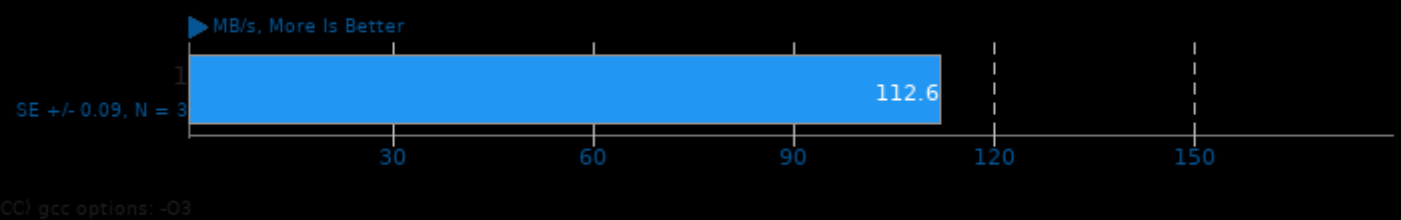
Compression Level: 1 - Compression Speed



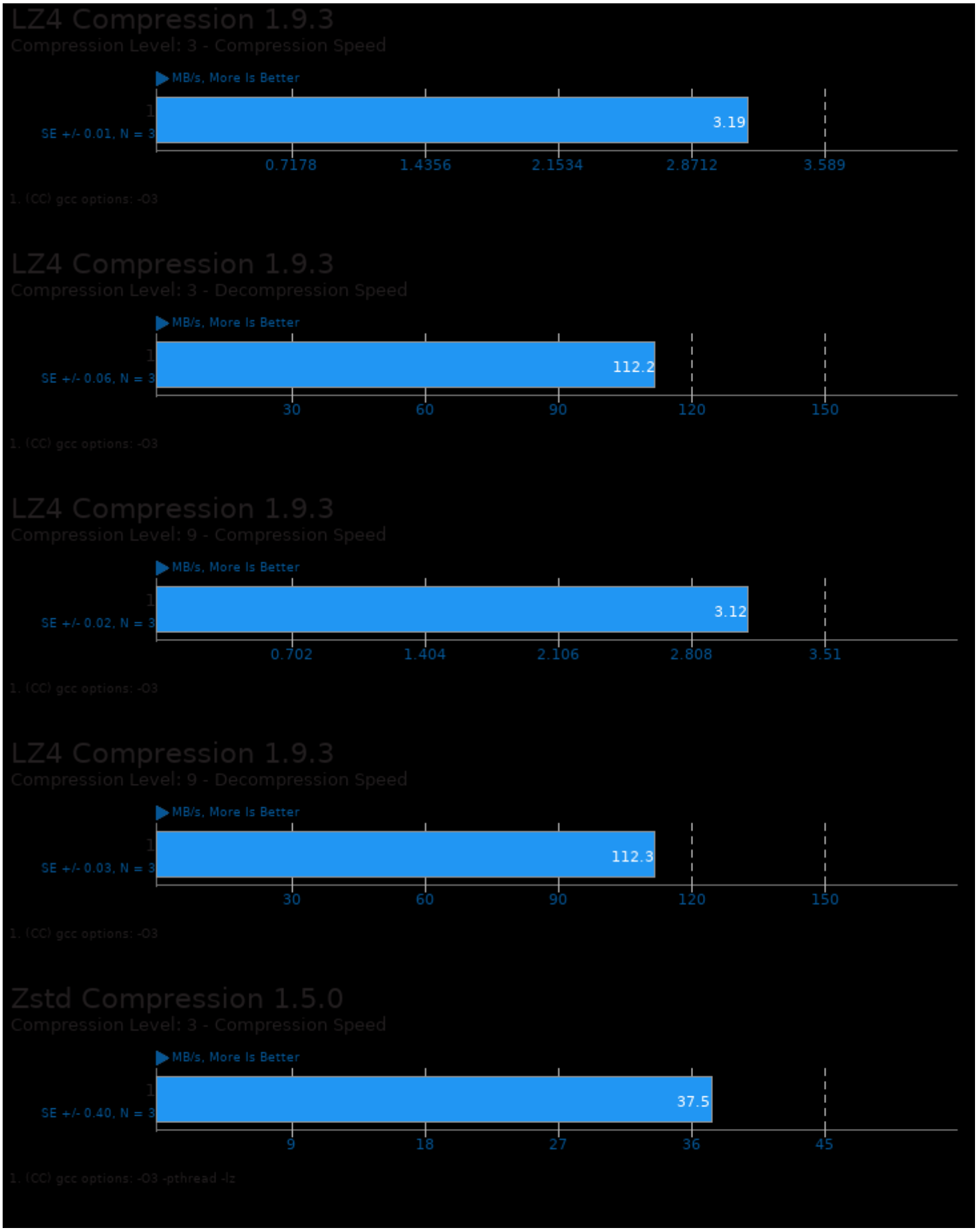
1. (CC) gcc options: -O3

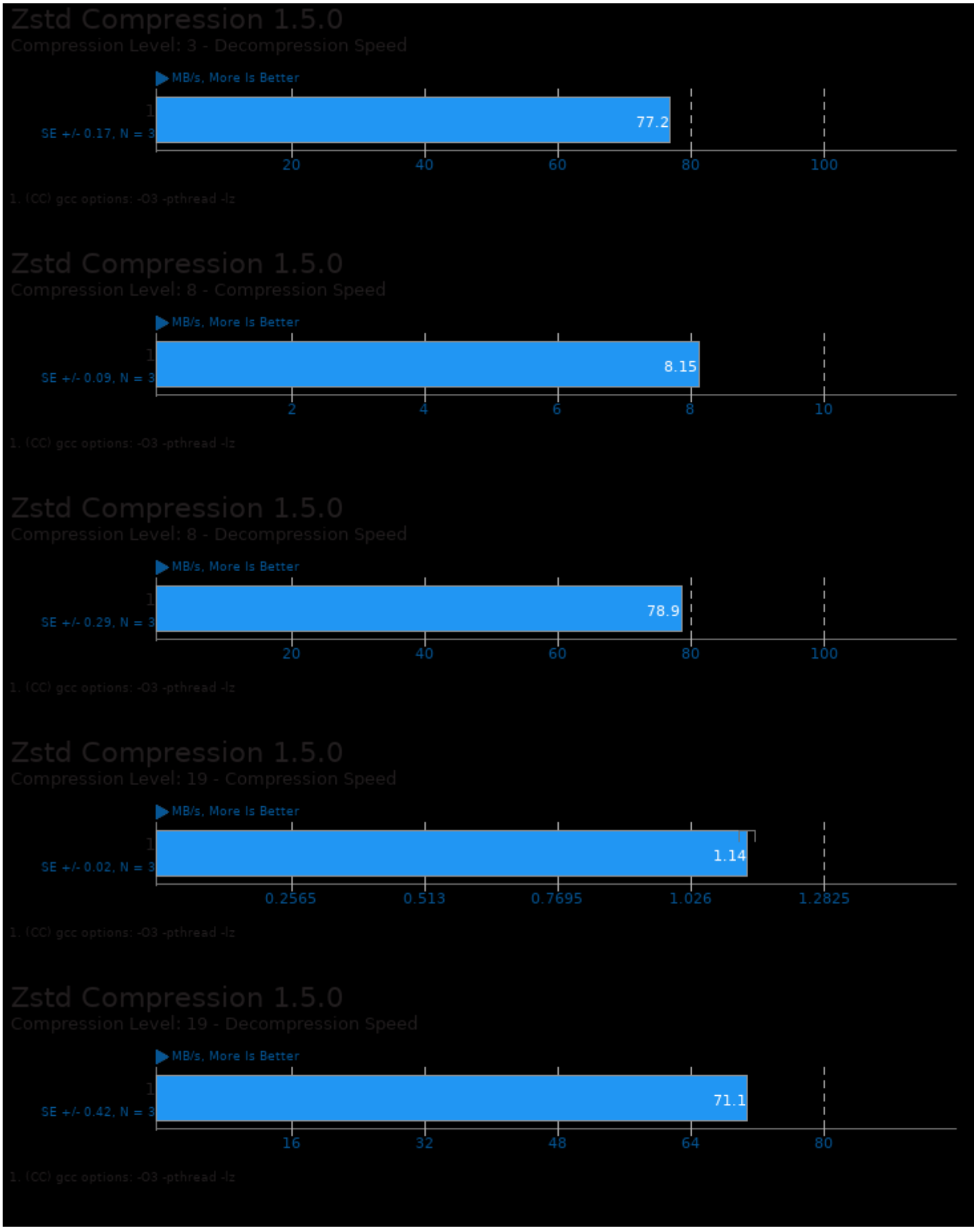
LZ4 Compression 1.9.3

Compression Level: 1 - Decompression Speed



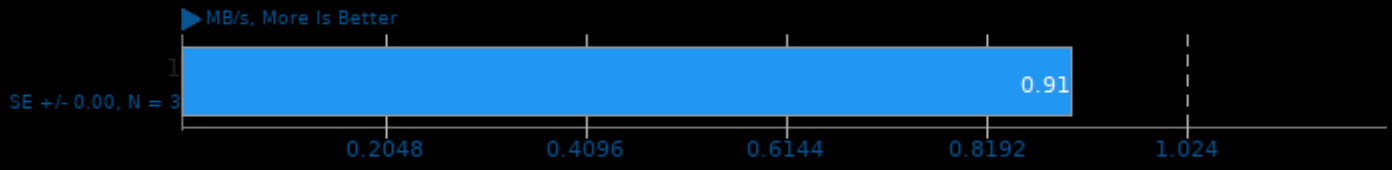
1. (CC) gcc options: -O3


LZ4 Compression 1.9.3
Compression Level: 3 - Compression Speed
MB/s, More Is Better
1
3.19
SE +/- 0.01, N = 3
0.7178
1.4356
2.1534
2.8712
3.589
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
1
112.2
SE +/- 0.06, N = 3
30
60
90
120
150
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 9 - Compression Speed
MB/s, More Is Better
1
3.12
SE +/- 0.02, N = 3
0.702
1.404
2.106
2.808
3.51
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 9 - Decompression Speed
MB/s, More Is Better
1
112.3
SE +/- 0.03, N = 3
30
60
90
120
150
1. (CC) gcc options: -O3
Zstd Compression 1.5.0
Compression Level: 3 - Compression Speed
MB/s, More Is Better
1
37.5
SE +/- 0.40, N = 3
9
18
27
36
45
1. (CC) gcc options: -O3 -pthread -lz


Zstd Compression 1.5.0
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
1
77.2
SE +/- 0.17, N = 3
20
40
60
80
100
1. (CC) gcc options: -O3 -pthread -lz
Zstd Compression 1.5.0
Compression Level: 8 - Compression Speed
MB/s, More Is Better
1
8.15
SE +/- 0.09, N = 3
2
4
6
8
10
1. (CC) gcc options: -O3 -pthread -lz
Zstd Compression 1.5.0
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
1
78.9
SE +/- 0.29, N = 3
20
40
60
80
100
1. (CC) gcc options: -O3 -pthread -lz
Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
1
1.14
SE +/- 0.02, N = 3
0.2565
0.513
0.7695
1.026
1.2825
1. (CC) gcc options: -O3 -pthread -lz
Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
1
71.1
SE +/- 0.42, N = 3
16
32
48
64
80
1. (CC) gcc options: -O3 -pthread -lz

Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz

Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz

GraphicsMagick 1.3.33

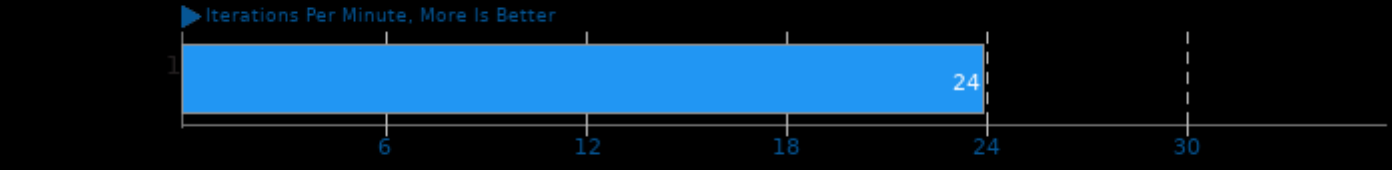
Operation: Swirl



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

Operation: Rotate



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

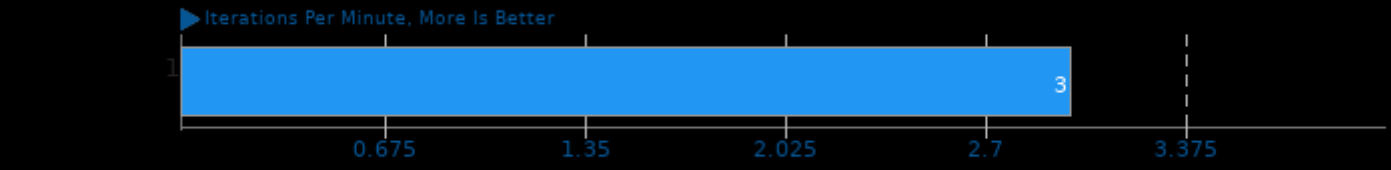
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

Operation: Enhanced



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

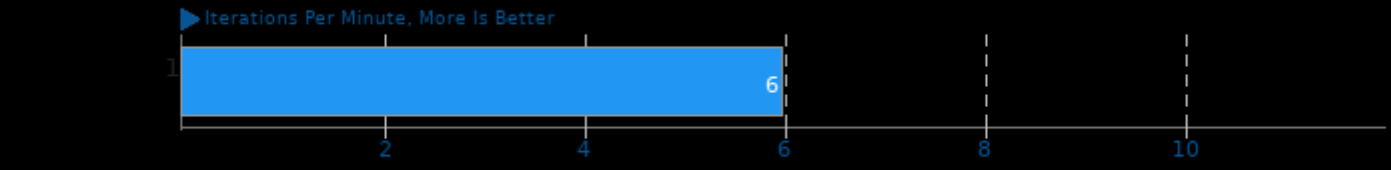
Operation: Resizing



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

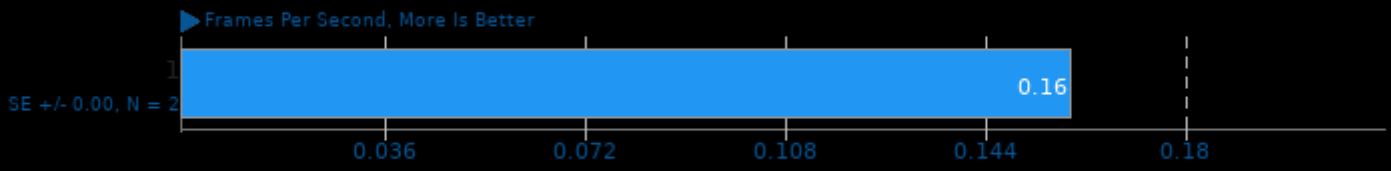
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lz -lm -lpthread

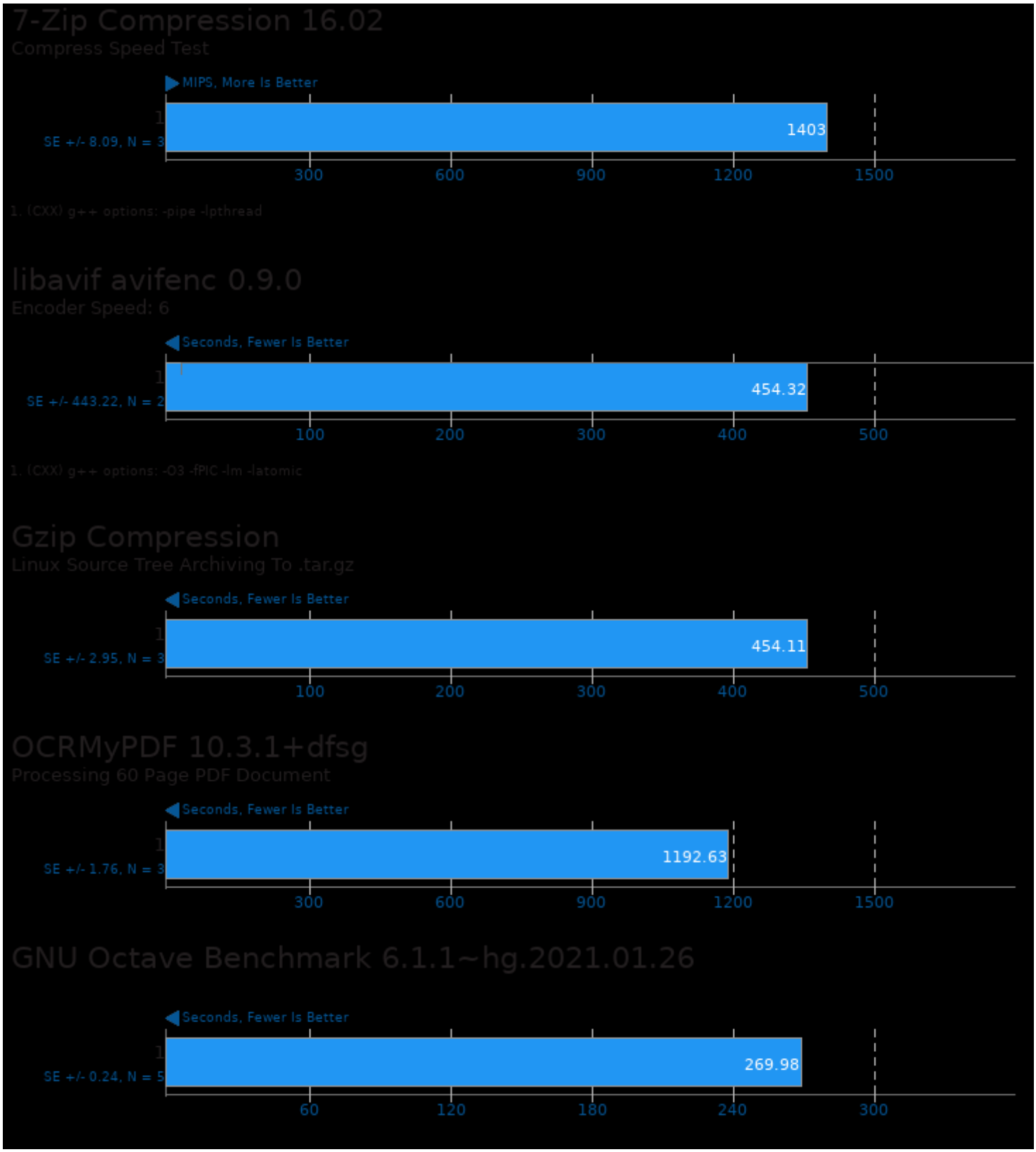
Kvazaar 2.0

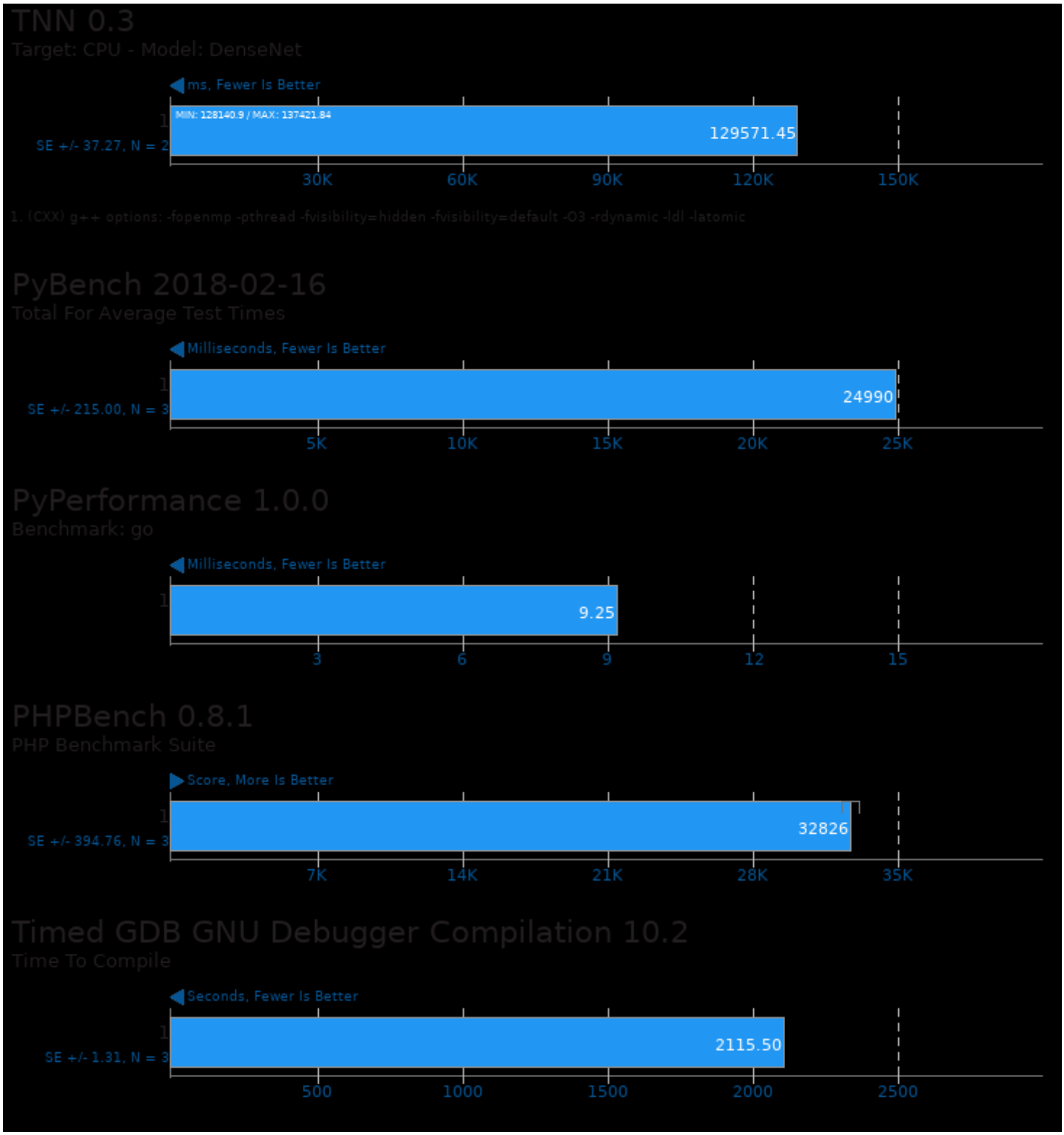
Video Input: Bosphorus 4K - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

sifive riscv hifive unmatched





This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:06.