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MBP: Baseline (lite)

Intel Core i7-8559U testing with an Apple MacBook Pro (13-inch, 2018, Four Thunderbolt 3 Ports) and Intel Iris Plus 655 on macOS via the Phoronix Test Suite.

Automated Executive Summary

Core i7-8559U: macOS 12.0.1 had the most wins, coming in first place for 95% of the tests.

Based on the geometric mean of all complete results, the fastest (Core i7-8559U: macOS 12.0.1) was 1.023x the speed of the slowest (Core i7-8559U: macOS 12.4).

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

SQLite Speedtest (Timed Time - Size 1,000) at 1.147x
Timed ImageMagick Compilation (Time To Compile) at 1.105x
PyBench (Total For Average Test Times) at 1.044x
Zstd Compression (Compression Level: 8, Long Mode - Compression Speed) at 1.038x
Timed FFmpeg Compilation (Time To Compile) at 1.035x
Zstd Compression (Compression Level: 3 - Compression Speed) at 1.03x
Zstd Compression (Compression Level: 19, Long Mode - Compression Speed) at 1.03x
Zstd Compression (Compression Level: 19 - Compression Speed) at 1.026x
Timed LLVM Compilation (Build System: Unix Makefiles) at 1.026x

Zstd Compression (Compression Level: 8 - Compression Speed) at 1.018x.

Test Systems:

Core i7-8559U: macOS 12.0.1

Processor: Intel Core i7-8559U @ 2.70GHz (4 Cores / 8 Threads), Motherboard: Apple MacBook Pro (1715.40.15.0.0 BIOS), Memory: 2 x 8 GB LPDDR3-2133MHz, Disk: 459GB, Graphics: Intel Iris Plus 655 2GB, Monitor: Color LCD

OS: macOS 12.0.1, Kernel: 21.1.0 (x86_64), Compiler: GCC 12.0.5 + Clang 12.0.5 + Xcode 13.1, File-System: APFS, Screen Resolution: 2560x1600

Environment Notes: XPC_FLAGS=0x0
Processor Notes: CPU Microcode: 234
Python Notes: Python 2.7.18 + Python 3.9.7

Core i7-8559U: macOS 12.4

Processor: Intel Core i7-8559U @ 2.70GHz (4 Cores / 8 Threads), Motherboard: Apple MacBook Pro (1731.120.10.0.0 BIOS), Memory: 2 x 8 GB LPDDR3-2133MHz, Disk: 459GB, Graphics: Intel Iris Plus 655 2GB, Monitor: Color LCD

OS: macOS 12.4, Kernel: 21.5.0 (x86_64), OpenCL: OpenCL 1.2 (Apr 19 2022 18:44:25), Compiler: GCC 12.0.5 + Clang 12.0.5 + Xcode 13.4.1, File-System: APFS, Screen Resolution: 2560x1600

Environment Notes: XPC_FLAGS=0x0
Processor Notes: CPU Microcode: 240
Python Notes: Python 3.9.13

	Core i7-8559U: macOS 12.0.1	Core i7-8559U: macOS 12.4
WebP Image Encode - Default (Encode Time - sec)		1.581
Standard Deviation		0.9%
WebP Image Encode - Quality 100 (Encode Time - sec)		2.635
Standard Deviation		1.2%
WebP Image Encode - Q.1.L (Encode Time - sec)		19.605
Standard Deviation		0.5%
WebP Image Encode - Q.1.H.C (Encode Time - sec)		6.998
Standard Deviation		0.7%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)		51.258
Standard Deviation		0.5%
simdjson - Kostya (GB/s)		2.16
Standard Deviation		0.3%
simdjson - TopTweet (GB/s)		4.87
Standard Deviation		0.2%

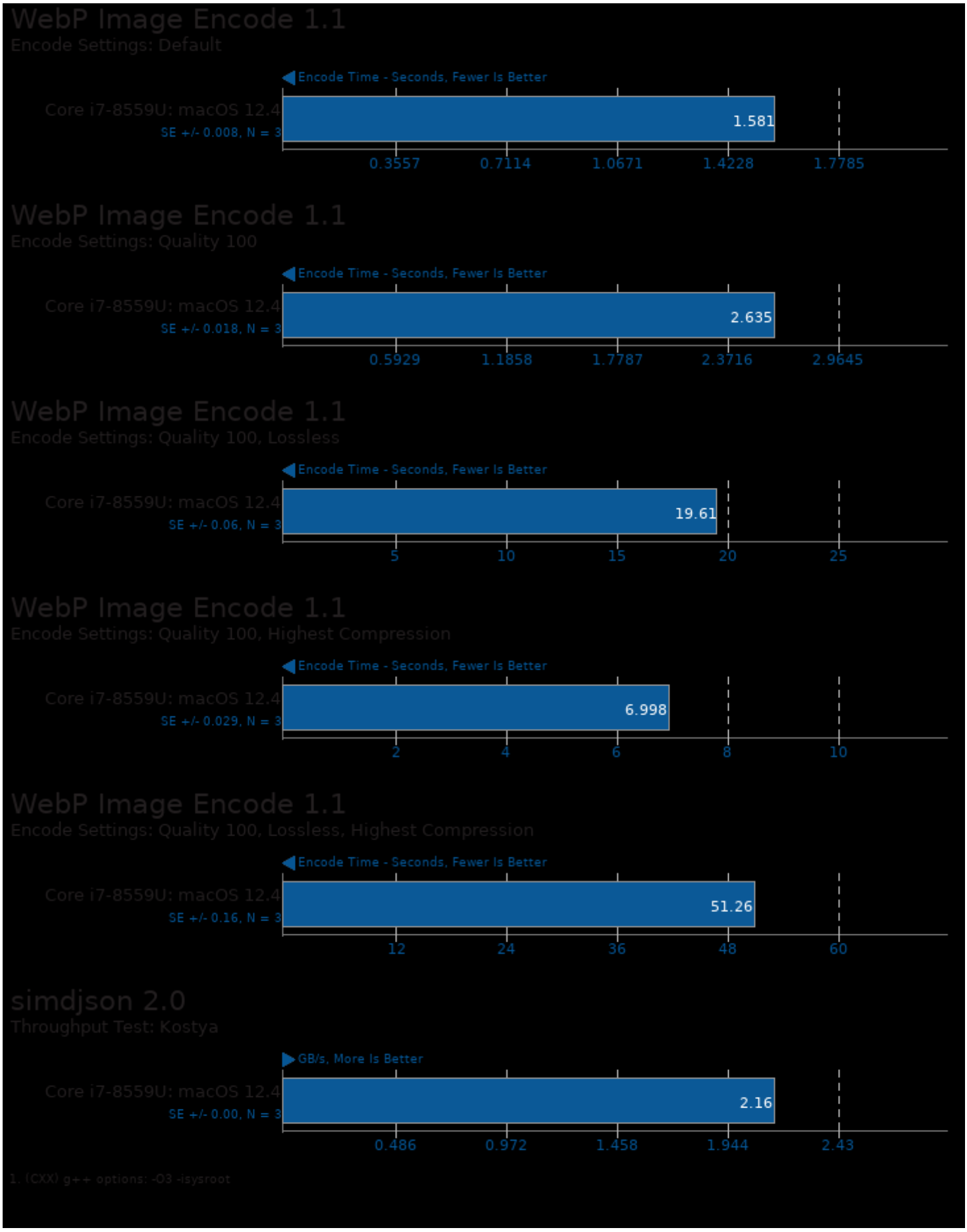
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simdjson - LargeRand (GB/s)		0.69
Standard Deviation		0%
simdjson - PartialTweets (GB/s)		4.17
Standard Deviation		0%
simdjson - DistinctUserID (GB/s)		4.83
Standard Deviation		0.3%
Zstd Compression - 3 - Compression Speed (MB/s)	**1459**	**1416**
Normalized	100%	97.05%
Standard Deviation	3.1%	0.5%
Zstd Compression - 3 - D.S (MB/s)	**3031**	**2990**
Normalized	100%	98.63%
Standard Deviation	2.6%	0.9%
Zstd Compression - 8 - Compression Speed (MB/s)	**409.4**	**402.0**
Normalized	100%	98.19%
Standard Deviation	0.4%	0.8%
Zstd Compression - 8 - D.S (MB/s)	**3070**	**3049**
Normalized	100%	99.33%
Standard Deviation	0.2%	0.7%
Zstd Compression - 19 - Compression Speed (MB/s)	**15.7**	**15.3**
Normalized	100%	97.45%
Standard Deviation	2.2%	1.3%
Zstd Compression - 19 - D.S (MB/s)	**2569**	**2525**
Normalized	100%	98.28%
Standard Deviation	0.5%	0.5%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	**964.0**	**959.7**
Normalized	100%	99.55%
Standard Deviation	0.2%	0.4%
Zstd Compression - 3, Long Mode - D.S (MB/s)		3158
Standard Deviation		0.5%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**422.0**	**406.4**
Normalized	100%	96.3%
Standard Deviation	0.1%	1%
Zstd Compression - 8, Long Mode - D.S (MB/s)	**3257**	**3234**
Normalized	100%	99.27%
Standard Deviation	0.8%	0.9%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**13.6**	**13.2**
Normalized	100%	97.06%
Standard Deviation	2.2%	2.4%
Zstd Compression - 19, Long Mode - D.S (MB/s)	**2643**	**2616**
Normalized	100%	99%
Standard Deviation	0.5%	0.7%
GraphicsMagick - Swirl (Iterations/min)		47
Standard Deviation		1.2%
GraphicsMagick - Rotate (Iterations/min)		667
Standard Deviation		1%
GraphicsMagick - Sharpen (Iterations/min)		14
Standard Deviation		0%
GraphicsMagick - Enhanced (Iterations/min)		21
Standard Deviation		0%
GraphicsMagick - Resizing (Iterations/min)		106
Standard Deviation		3.7%

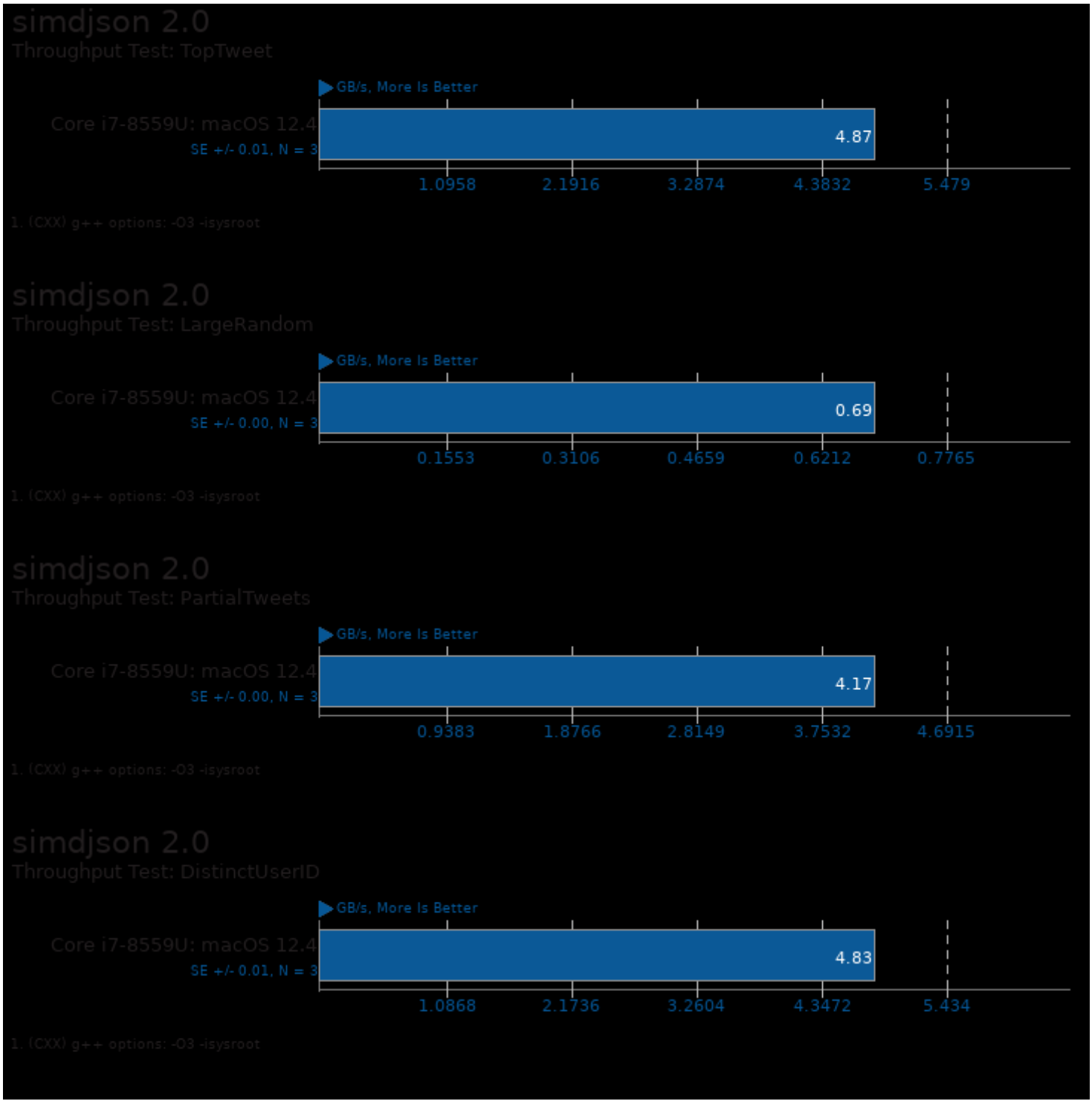
MBP: Baseline (lite)

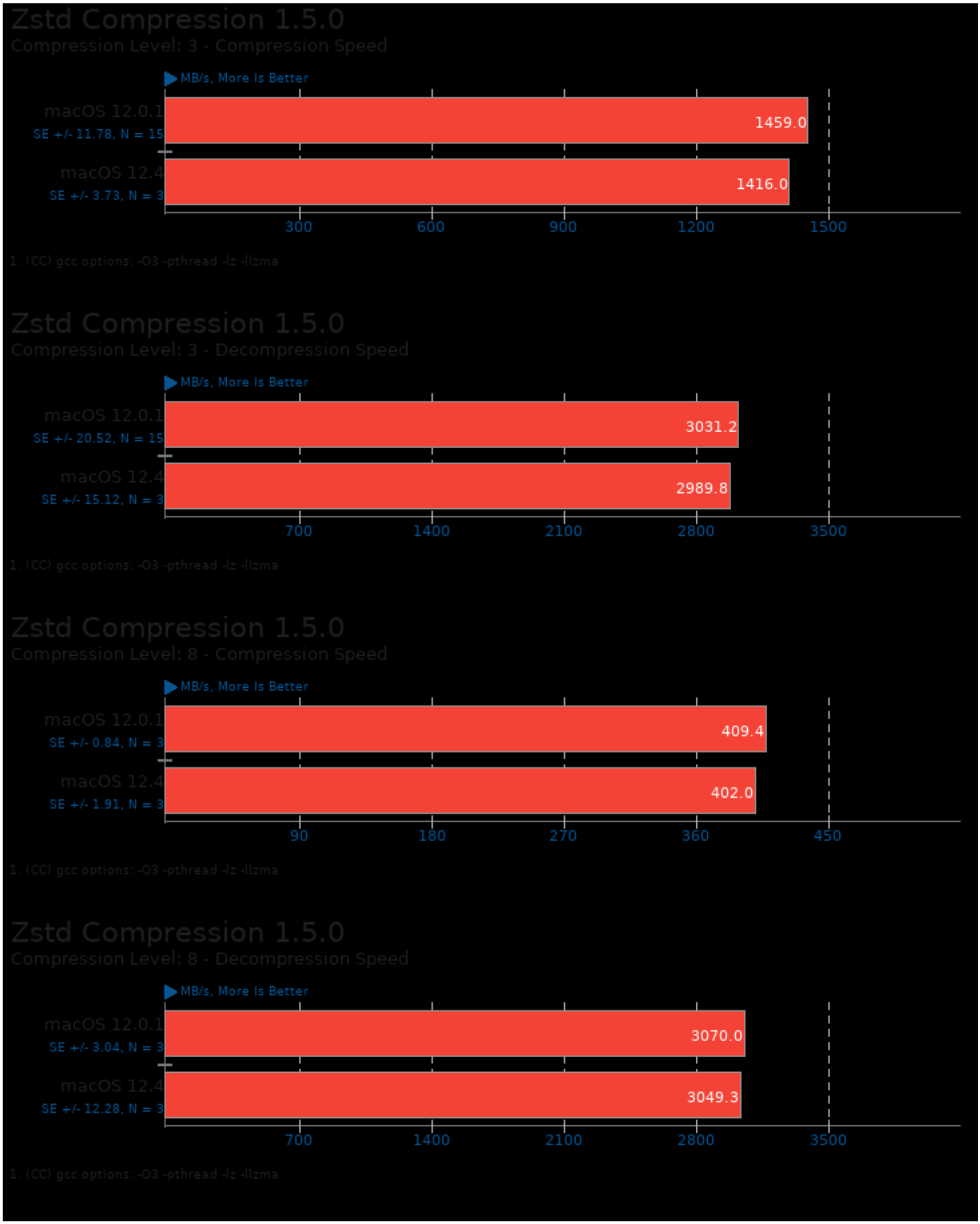
GraphicsMagick - Noise-Gaussian (Iterations/min)		29
Standard Deviation		0%
GraphicsMagick - HWB Color Space (Iterations/min)		188
Standard Deviation		0.3%
Timed FFmpeg Compilation - Time To Compile (sec)	**163.963**	**169.620**
Normalized	100%	96.66%
Standard Deviation	0.3%	2.4%
Timed ImageMagick Compilation - Time To Compile	**59.002**	**65.203**
Normalized	100%	90.49%
Standard Deviation	1.1%	2.2%
Timed LLVM Compilation - Ninja (sec)	**1809**	**1840**
Normalized	100%	98.28%
Standard Deviation	0.8%	0.1%
Timed LLVM Compilation - Unix Makefiles (sec)	**1862**	**1910**
Normalized	100%	97.49%
Standard Deviation	0.2%	1.8%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	**91.708**	**105.148**
Normalized	100%	87.22%
Standard Deviation	0.5%	2.1%
PyBench - T.F.A.T.T (Milliseconds)	**1366**	**1309**
Normalized	95.83%	100%
Standard Deviation	0.8%	1.3%
Maxon Cinebench - Multi-Core (Score)		1511
Standard Deviation		2.4%
Maxon Cinebench - Single-Core (Score)		358.84
Standard Deviation		0.7%
Maxon Cinebench - Multi-Core (Score)		4200
Standard Deviation		0.3%
Maxon Cinebench - Single-Core (Score)		1113
Standard Deviation		0.7%
Git - T.T.C.C.G.C (sec)	**70.002**	**70.724**
Normalized	100%	98.98%
Standard Deviation	0.7%	0.3%
simdjson - Kostya (GB/s)	**2.17**	**2.14**
Normalized	100%	98.62%
Standard Deviation	3%	0.5%
simdjson - LargeRand (GB/s)	0.68	0.68
Standard Deviation	0.8%	0.8%
simdjson - PartialTweets (GB/s)	4.03	4.03
Standard Deviation	0.1%	0.2%
simdjson - DistinctUserID (GB/s)	4.85	4.85
Standard Deviation	0.2%	0.1%

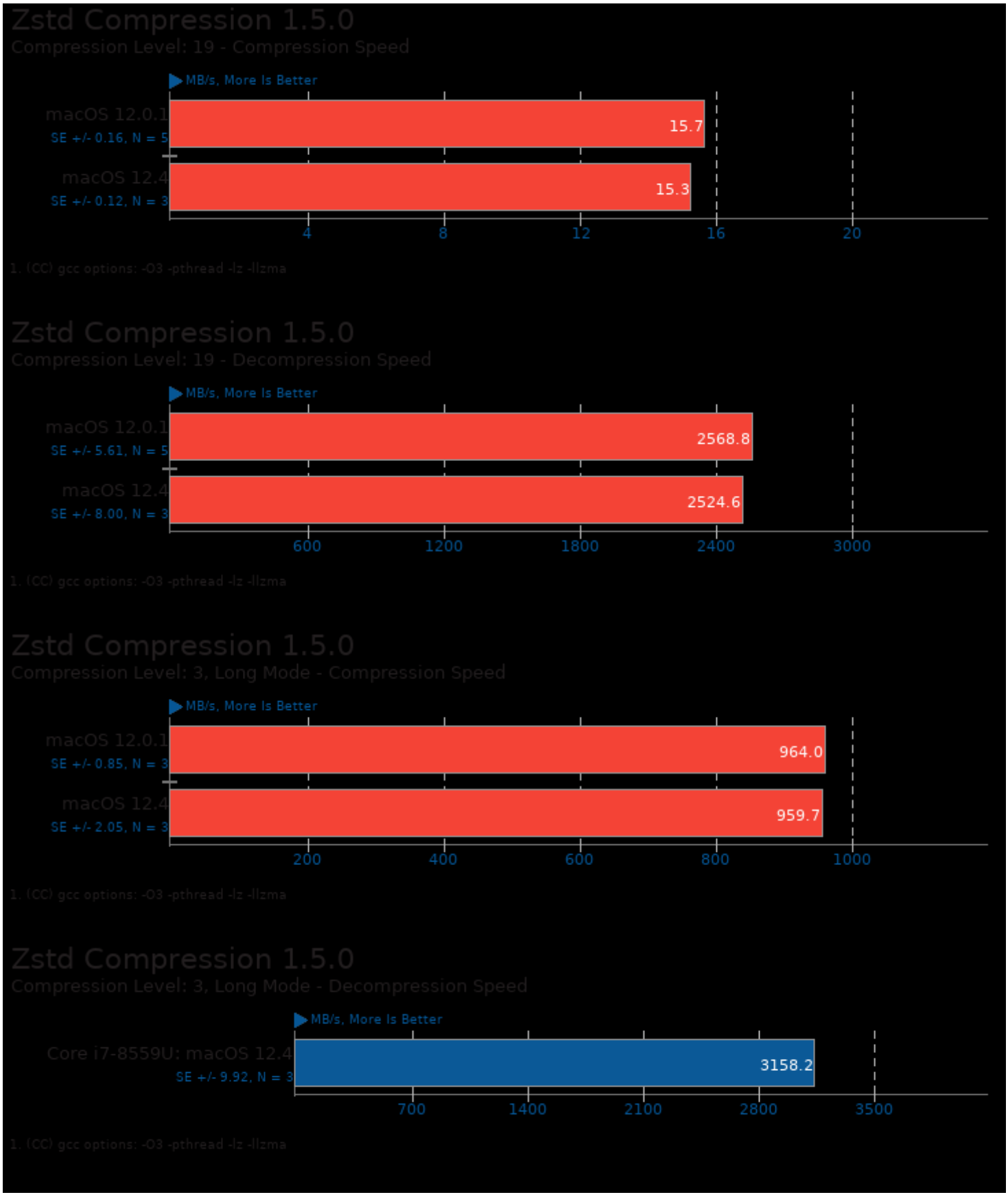
MBP: Baseline (lite)

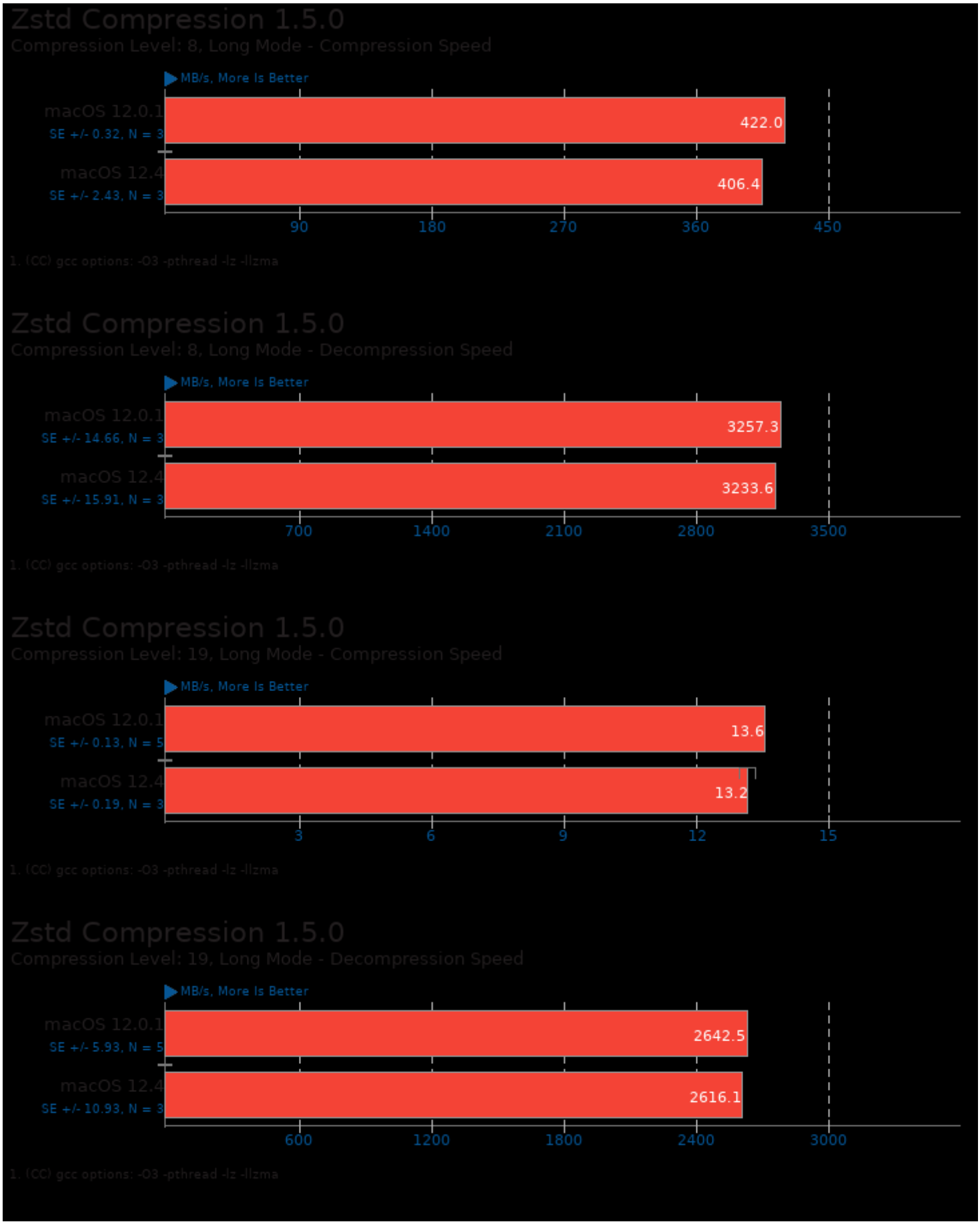


MBP: Baseline (lite)



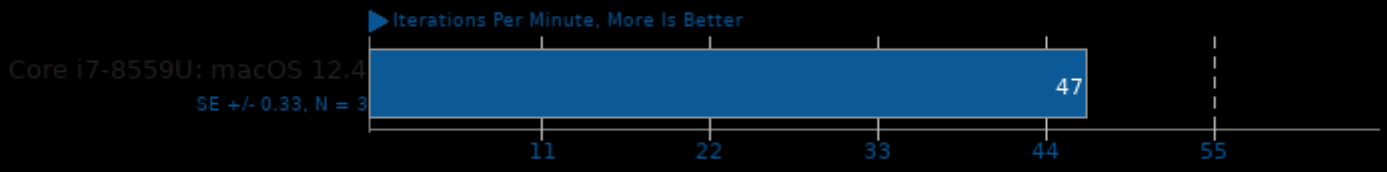

Zstd Compression 1.5.0
Compression Level: 3 - Compression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 11.78, N = 15
1459.0
macOS 12.4
SE +/- 3.73, N = 3
1416.0
300
600
900
1200
1500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 20.52, N = 15
3031.2
macOS 12.4
SE +/- 15.12, N = 3
2989.8
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8 - Compression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 0.84, N = 3
409.4
macOS 12.4
SE +/- 1.91, N = 3
402.0
90
180
270
360
450
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 3.04, N = 3
3070.0
macOS 12.4
SE +/- 12.28, N = 3
3049.3
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 0.16, N = 5
15.7
macOS 12.4
SE +/- 0.12, N = 3
15.3
4
8
12
16
20
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 5.61, N = 5
2568.8
macOS 12.4
SE +/- 8.00, N = 3
2524.6
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 0.85, N = 3
964.0
macOS 12.4
SE +/- 2.05, N = 3
959.7
200
400
600
800
1000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
Core i7-8559U: macOS 12.4
SE +/- 9.92, N = 3
3158.2
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 0.32, N = 3
422.0
macOS 12.4
SE +/- 2.43, N = 3
406.4
90
180
270
360
450
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 14.66, N = 3
3257.3
macOS 12.4
SE +/- 15.91, N = 3
3233.6
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 0.13, N = 5
13.6
macOS 12.4
SE +/- 0.19, N = 3
13.2
3
6
9
12
15
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
macOS 12.0.1
SE +/- 5.93, N = 5
2642.5
macOS 12.4
SE +/- 10.93, N = 3
2616.1
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma

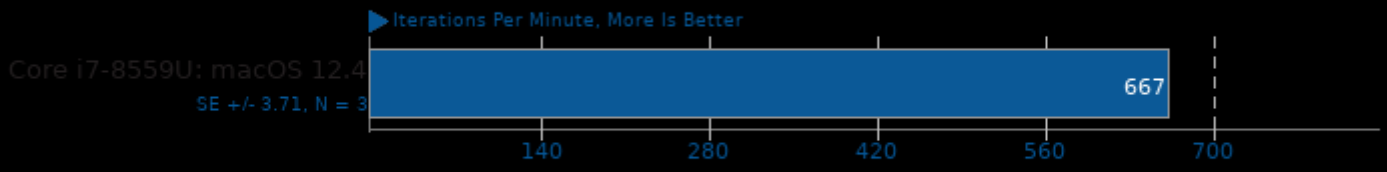
MBP: Baseline (lite)

GraphicsMagick 1.3.33
Operation: Swirl



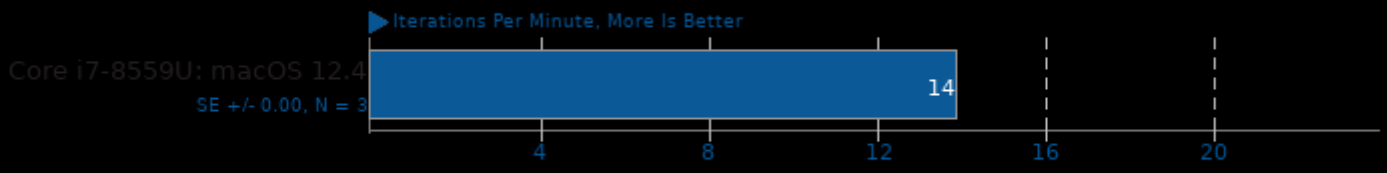
1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

GraphicsMagick 1.3.33
Operation: Rotate



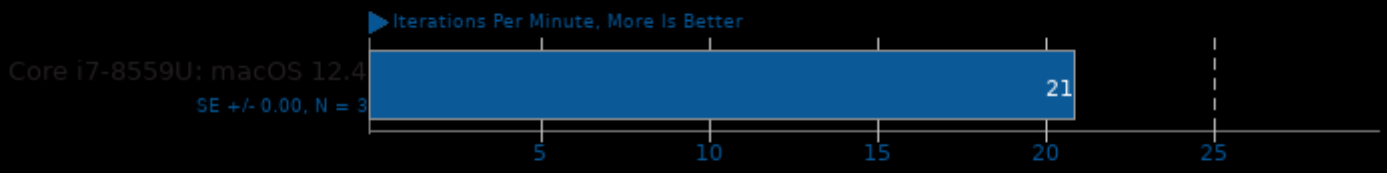
1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

GraphicsMagick 1.3.33
Operation: Sharpen



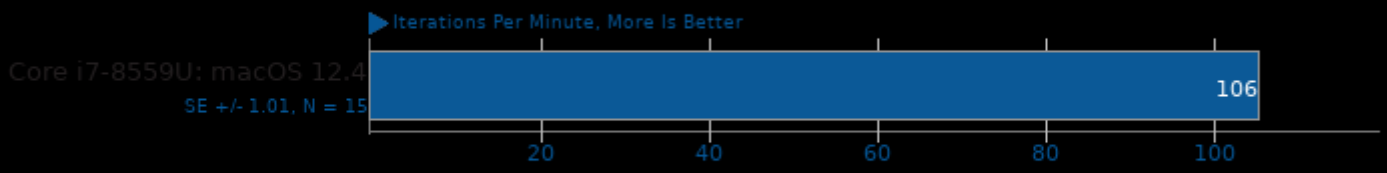
1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

GraphicsMagick 1.3.33
Operation: Enhanced



1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

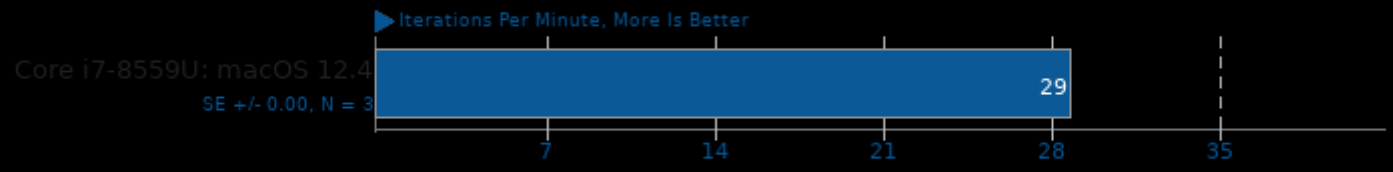
GraphicsMagick 1.3.33
Operation: Resizing



1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

GraphicsMagick 1.3.33

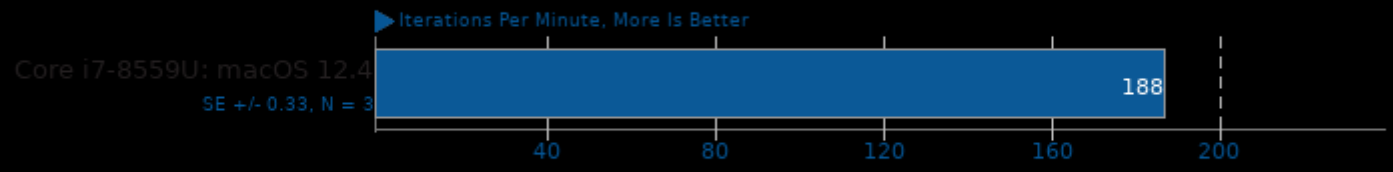
Operation: Noise-Gaussian



1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

GraphicsMagick 1.3.33

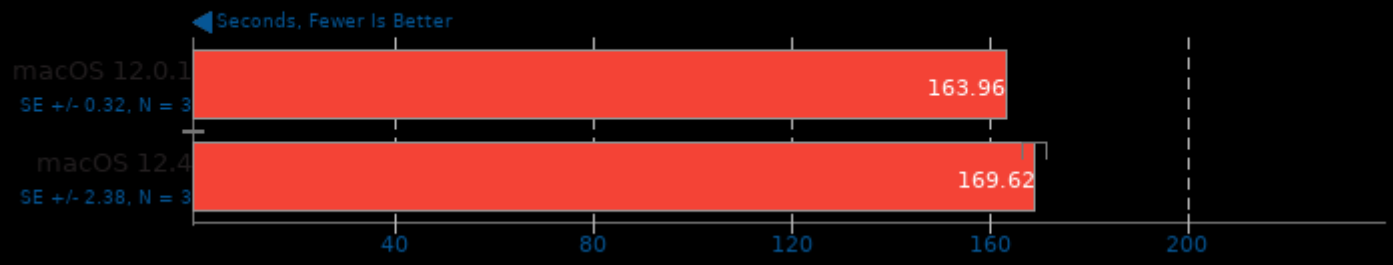
Operation: HWB Color Space



1. (CC) gcc options: -O2 -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lX11 -llzma -lbz2 -lxml2 -lz -lzstd -lm -lpthread

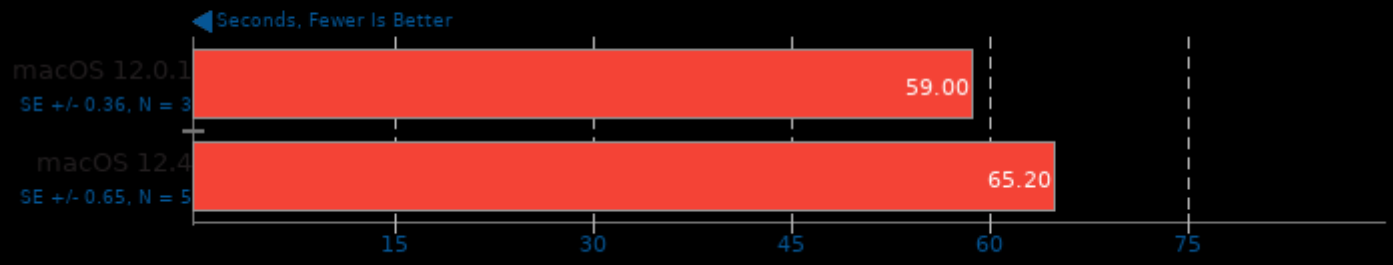
Timed FFmpeg Compilation 4.4

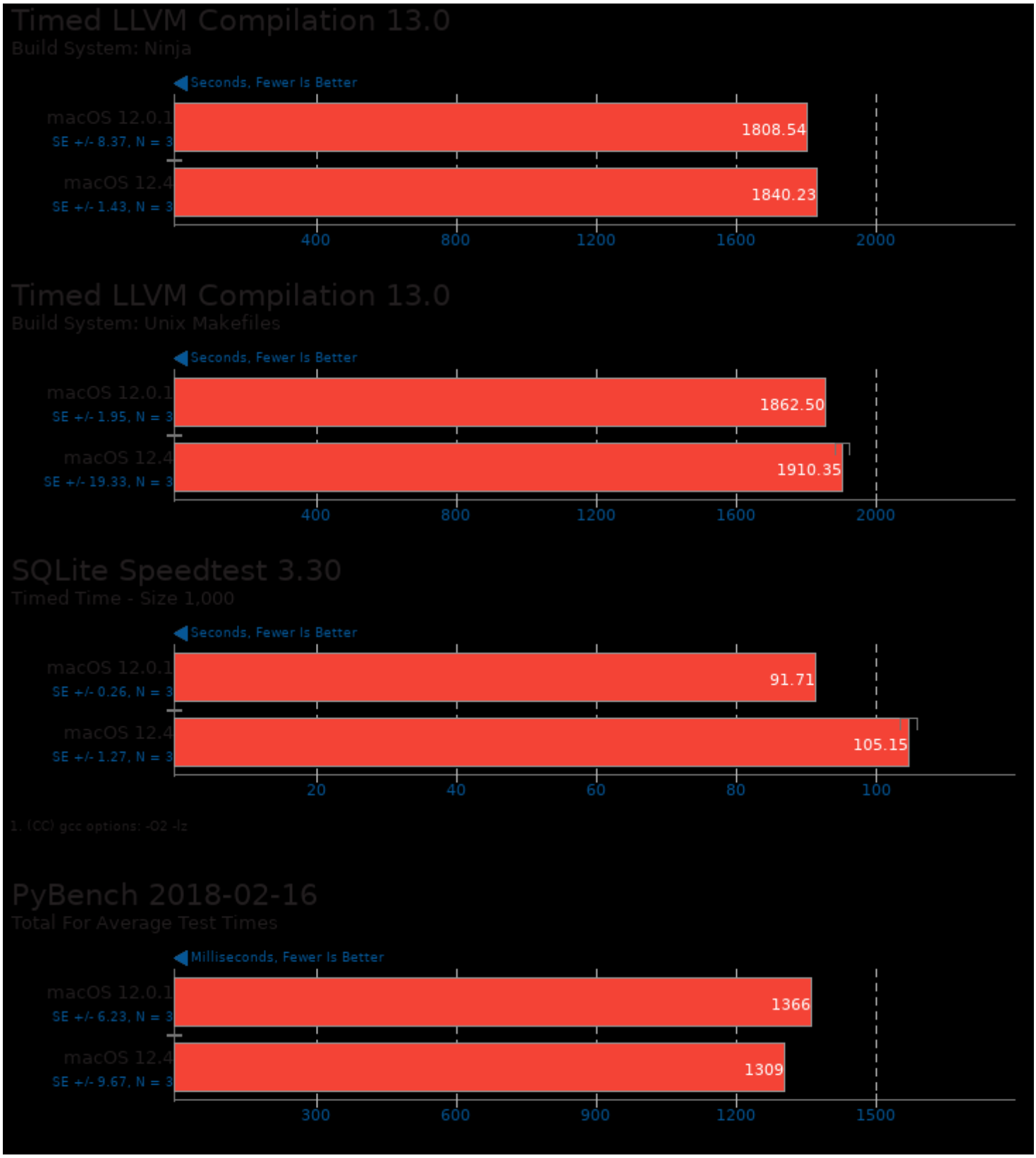
Time To Compile



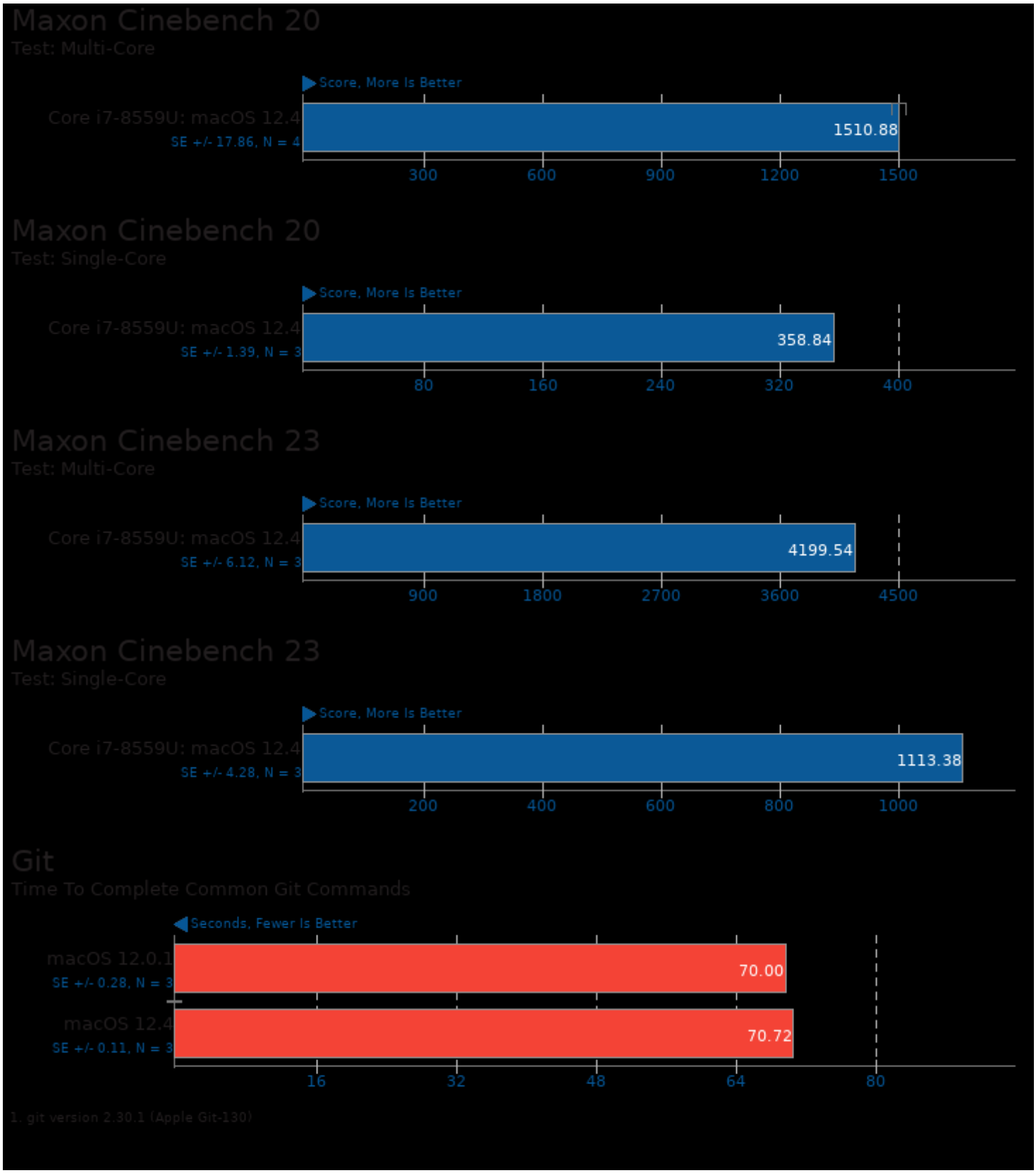
Timed ImageMagick Compilation 6.9.0

Time To Compile

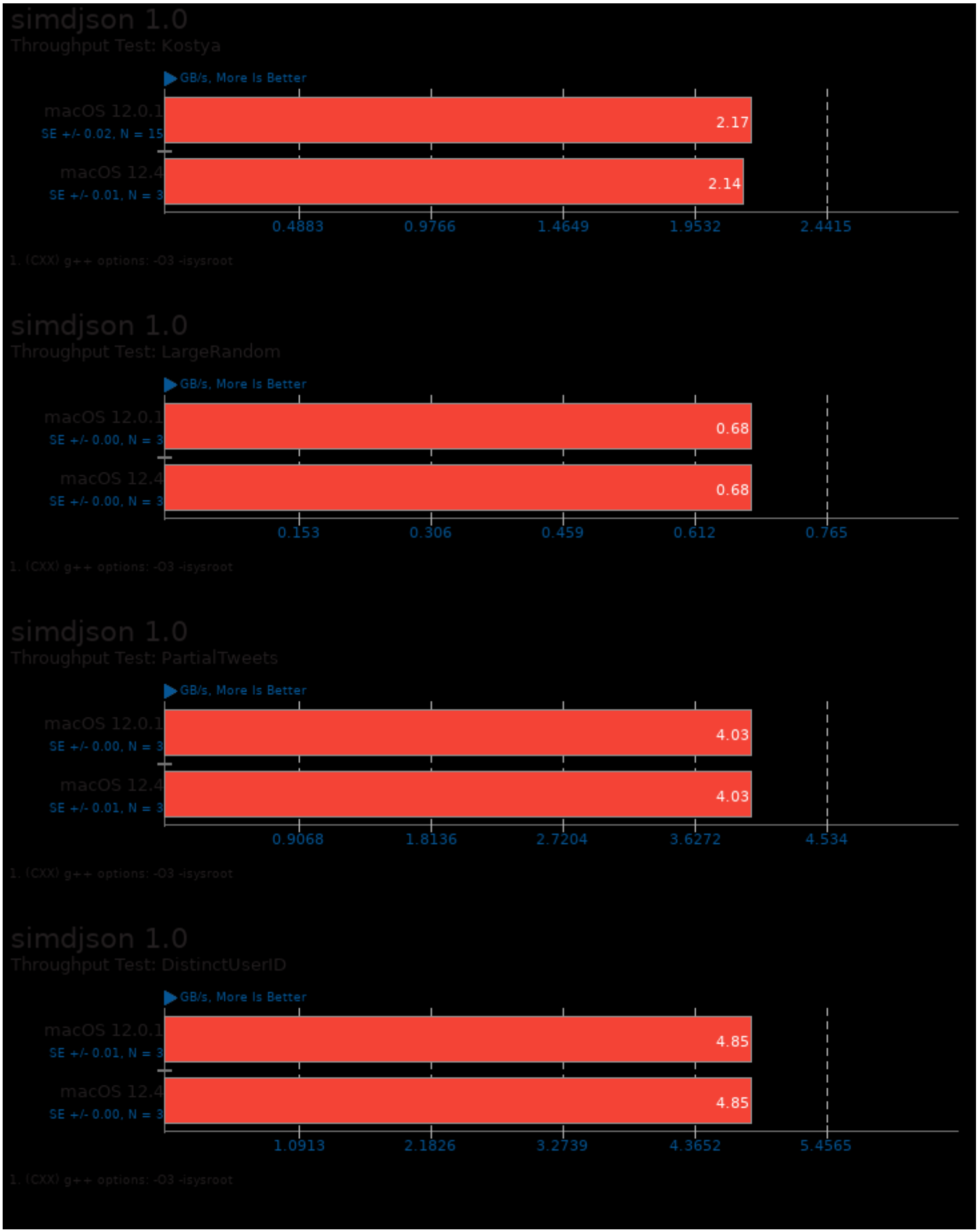



Timed LLVM Compilation 13.0
Build System: Ninja
Seconds, Fewer Is Better
macOS 12.0.1
SE +/- 8.37, N = 3
1808.54
macOS 12.4
SE +/- 1.43, N = 3
1840.23
400
800
1200
1600
2000
Timed LLVM Compilation 13.0
Build System: Unix Makefiles
Seconds, Fewer Is Better
macOS 12.0.1
SE +/- 1.95, N = 3
1862.50
macOS 12.4
SE +/- 19.33, N = 3
1910.35
400
800
1200
1600
2000
SQLite Speedtest 3.30
Timed Time - Size 1,000
Seconds, Fewer Is Better
macOS 12.0.1
SE +/- 0.26, N = 3
91.71
macOS 12.4
SE +/- 1.27, N = 3
105.15
20
40
60
80
100
1. (CC) gcc options: -O2 -lz
PyBench 2018-02-16
Total For Average Test Times
Milliseconds, Fewer Is Better
macOS 12.0.1
SE +/- 6.23, N = 3
1366
macOS 12.4
SE +/- 9.67, N = 3
1309
300
600
900
1200
1500

MBP: Baseline (lite)

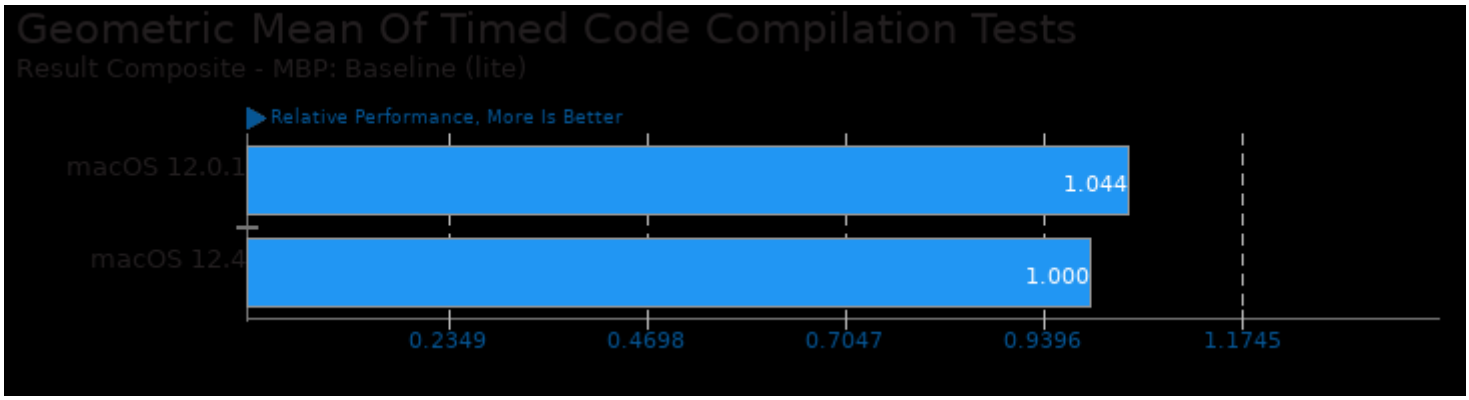


MBP: Baseline (lite)

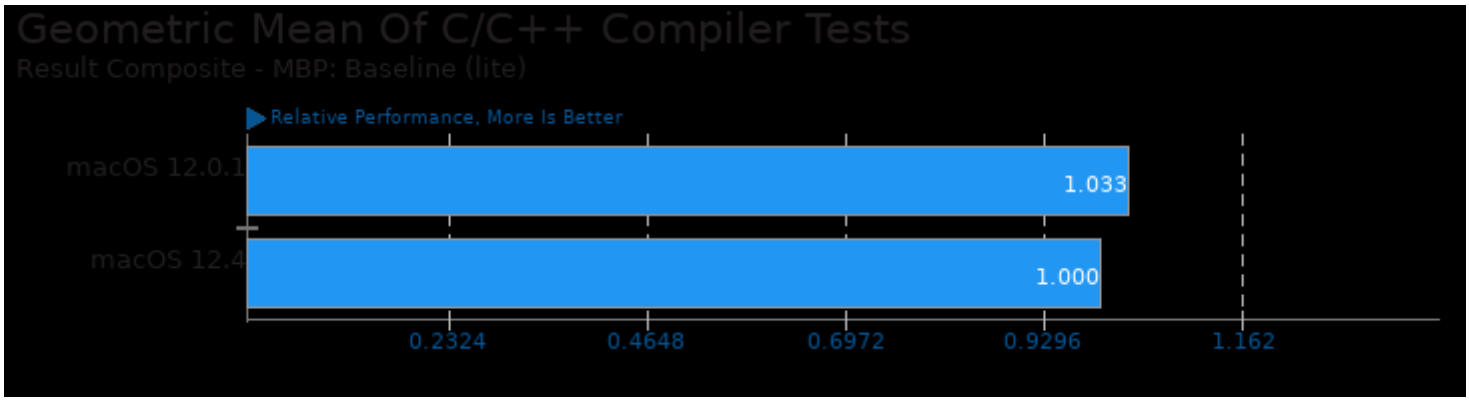


MBP: Baseline (lite)

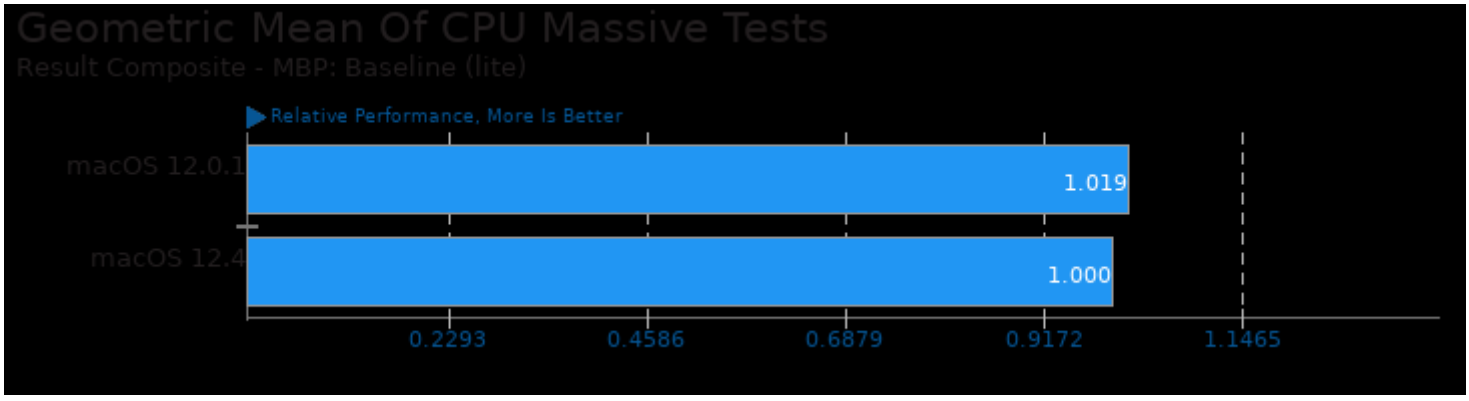
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/build-imagemagick, pts/build-llvm and pts/build-ffmpeg

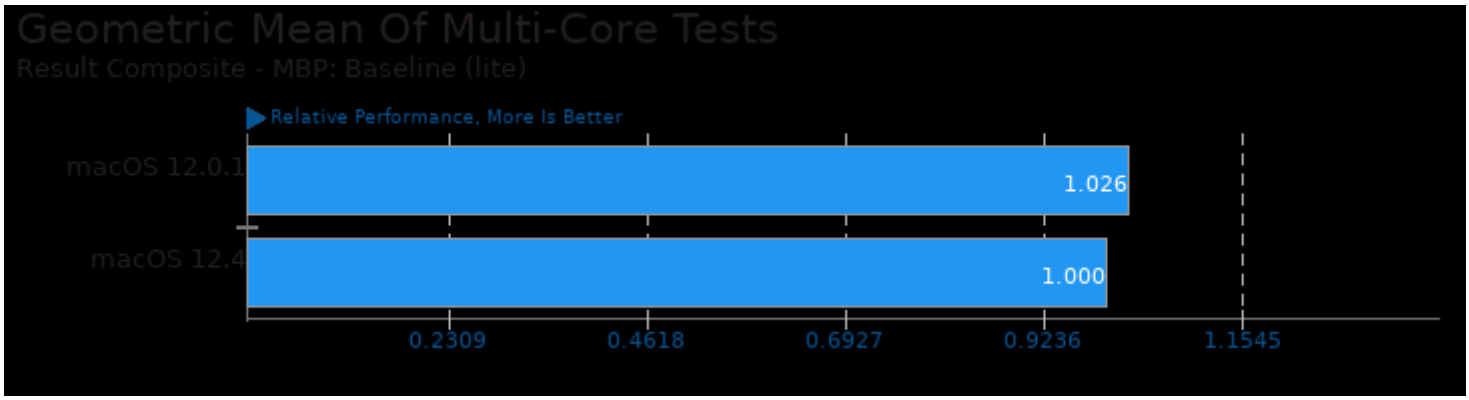


Geometric mean based upon tests: pts/graphics-magick, pts/build-imagemagick, pts/build-llvm, pts/sqlite-speedtest, pts/compress-zstd and pts/build-ffmpeg

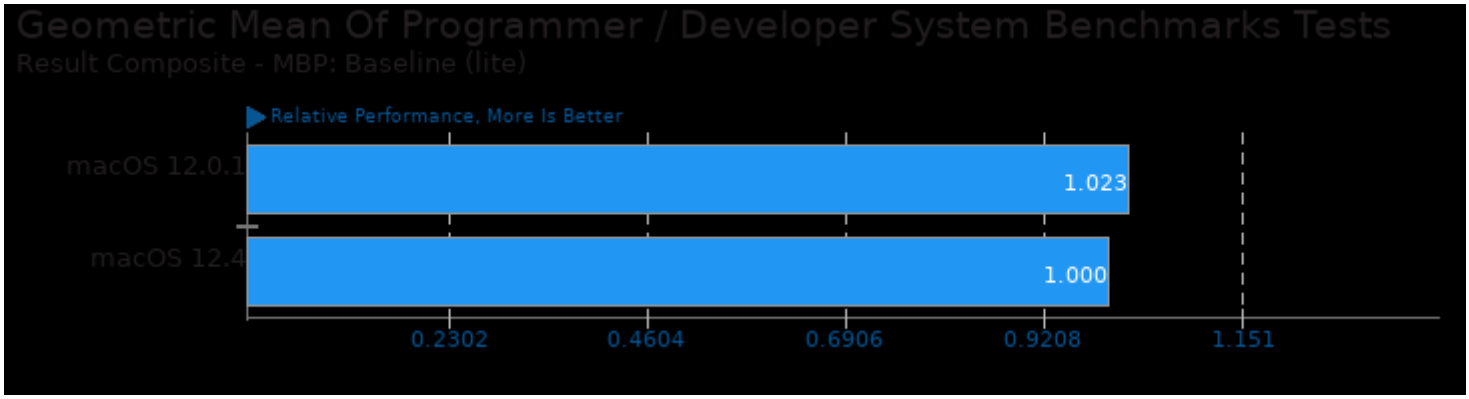


Geometric mean based upon tests: pts/build-llvm, pts/compress-zstd and pts/graphics-magick

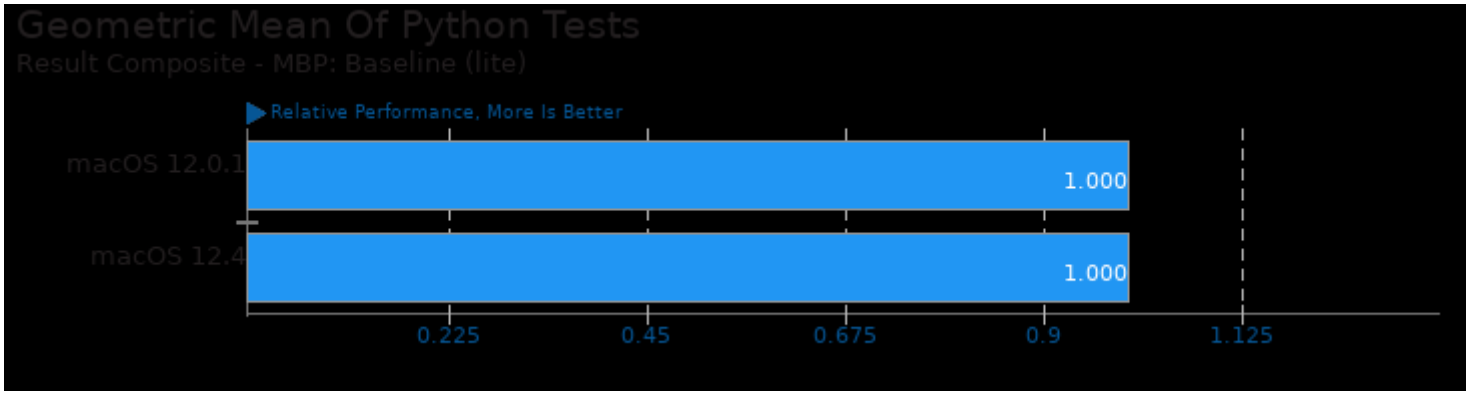
MBP: Baseline (lite)



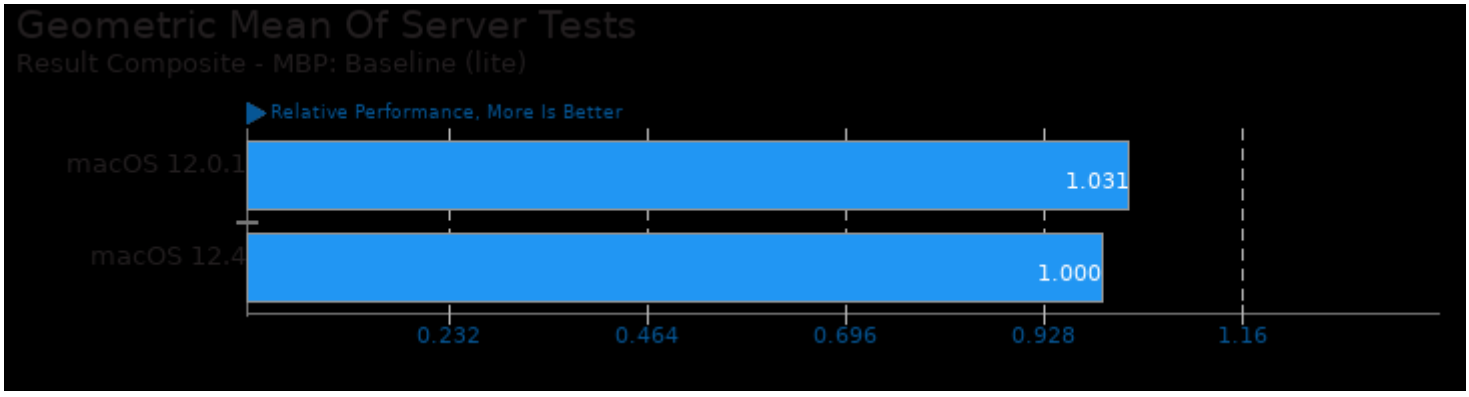
Geometric mean based upon tests: pts/graphics-magick, pts/compress-zstd, pts/build-imagemagick, pts/build-llvm, pts/build-ffmpeg and pts/cinebench



Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/git, pts/compress-zstd, pts/pybench, pts/build-imagemagick, pts/build-llvm and pts/build-ffmpeg

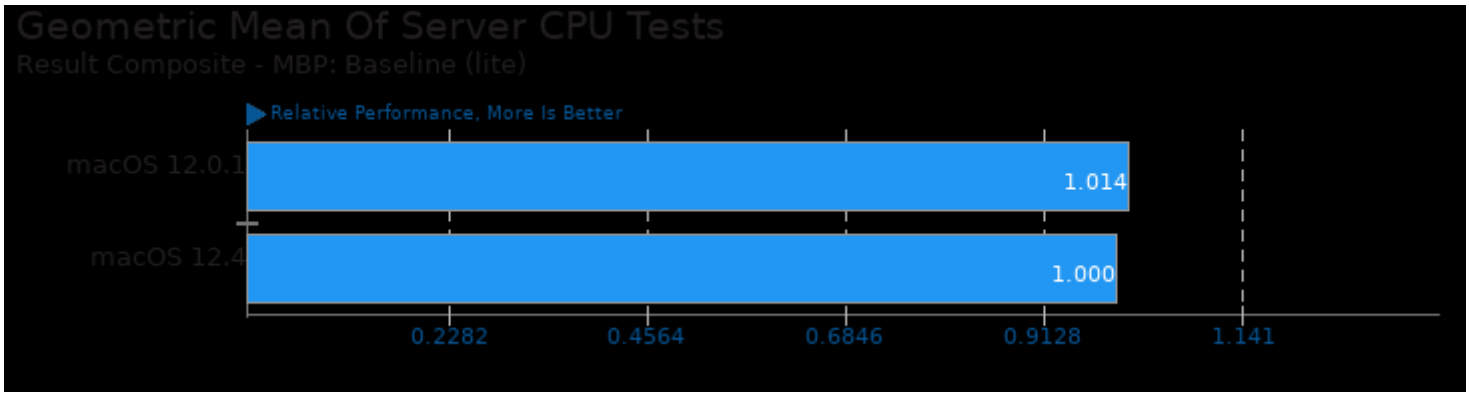


Geometric mean based upon tests: pts/build-llvm and pts/pybench

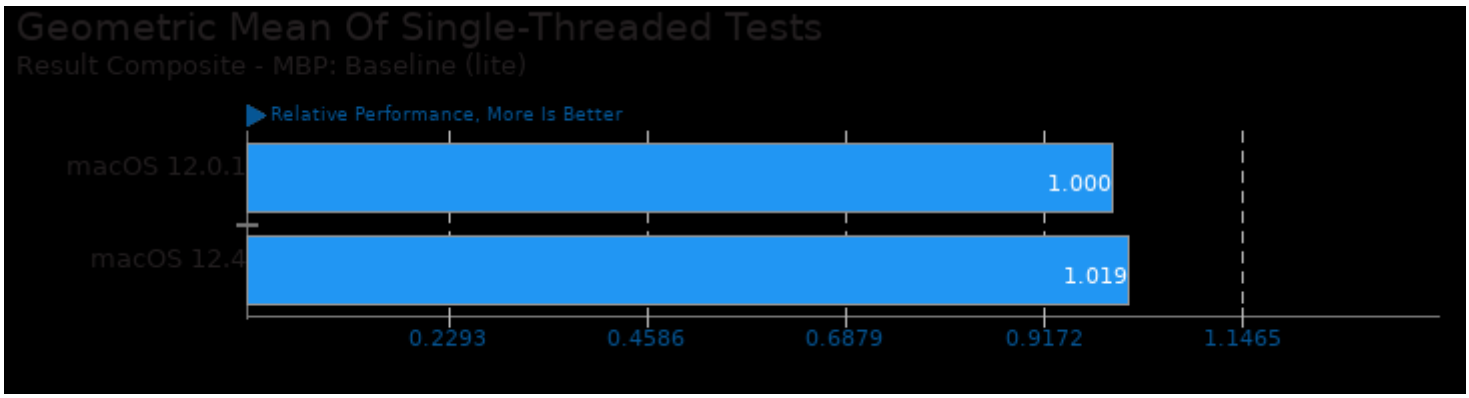


MBP: Baseline (lite)

Geometric mean based upon tests: pts/simdjson and pts/sqlite-speedtest



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



Geometric mean based upon tests: pts/pybench and pts/git

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:53.