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sat

Intel Core i9-10980XE testing with a ASRock X299 Steel Legend (P1.30 BIOS) and NVIDIA NV132 11GB on Ubuntu 21.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 38% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.017x the speed of the slowest (3). 2 was 0.989x the speed of 1 and 3 was 0.994x the speed of 2.

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

Redis Memtier / Redis Benchmark (Test: GET) at 2.027x
Redis Memtier / Redis Benchmark (Test: MIX) at 1.724x
Zstd Compression (Compression Level: 19, Long Mode - Compression Speed) at 1.272x
OpenCV (Test: DNN - Deep Neural Network) at 1.165x
Zstd Compression (Compression Level: 8, Long Mode - Compression Speed) at 1.133x
OpenCV (Test: Features 2D) at 1.131x
NAS Parallel Benchmarks (Test / Class: CG.C) at 1.075x
Redis Memtier / Redis Benchmark (Test: SET) at 1.065x
Zstd Compression (Compression Level: 19 - Compression Speed) at 1.056x

NAS Parallel Benchmarks (Test / Class: EP.C) at 1.054x.

Test Systems:

1

2

3

Processor: Intel Core i9-10980XE @ 4.80GHz (18 Cores / 36 Threads), Motherboard: ASRock X299 Steel Legend (P1.30 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 32GB, Disk: Samsung SSD 970 PRO 512GB, Graphics: NVIDIA NV132 11GB, Audio: Realtek ALC1220, Monitor: ASUS VP28U, Network: Intel I219-V + Intel I211

OS: Ubuntu 21.04, Kernel: 5.11.0-31-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server 1.20.11 + Wayland, Display Driver: nouveau, OpenGL: 4.3 Mesa 21.0.1, Vulkan: 1.0.2, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 2560x1600

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_cpufreq schedutil - CPU Microcode: 0x5003102
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of TSX disabled

	1	2	3
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.13	0.13	0.13
Standard Deviation		0%	
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	2.88	2.88	2.88
Standard Deviation		0.4%	
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**4.03**	**4.11**	4.09
Normalized	98.05%	100%	99.51%
Standard Deviation		1.7%	
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	**4.89**	**4.95**	4.92
Normalized	98.79%	100%	99.39%
Standard Deviation		0.6%	

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AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**16.15**	**16.21**	16.18
Normalized	99.63%	100%	99.81%
Standard Deviation		0.1%	
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**21.83**	**21.86**	**21.83**
Normalized	99.86%	100%	99.86%
Standard Deviation		0.2%	
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	**24.32**	24.51	**24.62**
Normalized	98.78%	99.55%	100%
Standard Deviation		0.5%	
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	0.28	0.28	0.28
Standard Deviation		0%	
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	4.59	**4.60**	**4.58**
Normalized	99.78%	100%	99.57%
Standard Deviation		0.3%	
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**4.53**	4.50	**4.49**
Normalized	100%	99.34%	99.12%
Standard Deviation		0.3%	
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**9.72**	**9.72**	**9.69**
Normalized	100%	100%	99.69%
Standard Deviation		0.3%	
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**39.83**	**39.54**	39.6
Normalized	100%	99.27%	99.42%
Standard Deviation		0.4%	
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	48.31	**48.34**	**48.23**
Normalized	99.94%	100%	99.77%
Standard Deviation		0.3%	
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	**52.96**	52.81	**52.27**
Normalized	100%	99.72%	98.7%
Standard Deviation		0.5%	
Kvazaar - Bosphorus 4K - Slow (FPS)	**9.04**	**9.12**	9.09
Normalized	99.12%	100%	99.67%
Standard Deviation		0.2%	
Kvazaar - Bosphorus 4K - Medium (FPS)	**9.26**	**9.28**	**9.28**
Normalized	99.78%	100%	100%
Standard Deviation		0.2%	
Kvazaar - Bosphorus 1080p - Slow (FPS)	**18.06**	**17.97**	18.05
Normalized	100%	99.5%	99.94%
Standard Deviation		0.2%	
Kvazaar - Bosphorus 1080p - Medium (FPS)	**18.65**	**18.59**	18.62
Normalized	100%	99.68%	99.84%
Standard Deviation		1.3%	
Kvazaar - Bosphorus 4K - Very Fast (FPS)	**16.52**	16.38	**16.33**
Normalized	100%	99.15%	98.85%
Standard Deviation		1%	

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Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	**30.84**	30.65	**30.44**
Normalized	100%	99.38%	98.7%
Standard Deviation		0.9%	
Kvazaar - Bosphorus 1080p - Very Fast (FPS)	**32.43**	32.56	**32.68**
Normalized	99.24%	99.63%	100%
Standard Deviation		0.6%	
Kvazaar - Bosphorus 1080p - Ultra Fast	**59.89**	59.06	**58.84**
Normalized	100%	98.61%	98.25%
Standard Deviation		0.4%	
NAS Parallel Benchmarks - BT.C (Mop/s)	**42538**	**43576**	43503
Normalized	97.62%	100%	99.83%
Standard Deviation		0.1%	
NAS Parallel Benchmarks - CG.C (Mop/s)	**10799**	**11608**	11584
Normalized	93.04%	100%	99.8%
Standard Deviation		0.2%	
NAS Parallel Benchmarks - EP.C (Mop/s)	**2170**	**2286**	2237
Normalized	94.92%	100%	97.87%
Standard Deviation		3.7%	
NAS Parallel Benchmarks - EP.D (Mop/s)	**2361**	**2332**	2346
Normalized	100%	98.79%	99.38%
Standard Deviation		1.5%	
NAS Parallel Benchmarks - FT.C (Mop/s)	**21860**	**22023**	21991
Normalized	99.26%	100%	99.85%
Standard Deviation		0.5%	
NAS Parallel Benchmarks - IS.D (Mop/s)	**1075**	**1079**	1078
Normalized	99.66%	100%	99.94%
Standard Deviation		0.2%	
NAS Parallel Benchmarks - LU.C (Mop/s)	**44484**	45032	**45146**
Normalized	98.54%	99.75%	100%
Standard Deviation		0.4%	
NAS Parallel Benchmarks - MG.C (Mop/s)	**17265**	**17915**	17904
Normalized	96.37%	100%	99.94%
Standard Deviation		0%	
NAS Parallel Benchmarks - SP.B (Mop/s)	**11813**	**11978**	11878
Normalized	98.62%	100%	99.16%
Standard Deviation		0.3%	
NAS Parallel Benchmarks - SP.C (Mop/s)	**9101**	**9400**	9357
Normalized	96.82%	100%	99.54%
Standard Deviation		0.1%	
Nginx - Long Connection - 100 (Reqs/sec)	215968	**213978**	**220569**
Normalized	97.91%	97.01%	100%
Standard Deviation		1.9%	
Nginx - Long Connection - 500 (Reqs/sec)	**235569**	236699	**238843**
Normalized	98.63%	99.1%	100%
Standard Deviation		1.1%	
Nginx - Long Connection - 1000 (Reqs/sec)	**235739**	234100	**233211**
Normalized	100%	99.3%	98.93%
Standard Deviation		0.9%	
Nginx - Short Connection - 100 (Reqs/sec)	152889	**152357**	**152985**
Normalized	99.94%	99.59%	100%
Standard Deviation		0.4%	
Nginx - Short Connection - 500 (Reqs/sec)	**184431**	**184124**	184320
Normalized	100%	99.83%	99.94%
Standard Deviation		0.2%	
Nginx - Short Connection - 1000 (Reqs/sec)	**184078**	183750	**183567**

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Normalized	100%	99.82%	99.72%
Standard Deviation		0.3%	
OpenCV - Features 2D (ms)	**165500**	169299	**187147**
Normalized	100%	97.76%	88.43%
Standard Deviation		4.9%	
OpenCV - Object Detection (ms)	**154469**	154144	**148342**
Normalized	96.03%	96.24%	100%
Standard Deviation		2.4%	
OpenCV - DNN - D.N.N (ms)	**39851**	**34204**	35713
Normalized	85.83%	100%	95.77%
Standard Deviation		5.2%	
OpenSSL (sign/s)	5195	**5188**	**5205**
Normalized	99.82%	99.69%	100%
Standard Deviation		0.8%	
OpenSSL (verify/s)	**339576**	**339871**	339636
Normalized	99.91%	100%	99.93%
Standard Deviation		0.1%	
Redis Memtier / Redis Benchmark - L.a.L.l (Reqs/sec)	**1514466**	1510208	**1504896**
Normalized	100%	99.72%	99.37%
Standard Deviation		0.2%	
Redis Memtier / Redis Benchmark - L.a.L.l (Reqs/sec)	**1466507**	**1449465**	1463272
Normalized	100%	98.84%	99.78%
Standard Deviation		1.4%	
Redis Memtier / Redis Benchmark - GET (Operations/sec)	**1153767**	575950	**569190**
Normalized	100%	49.92%	49.33%
Standard Deviation		2.4%	
Redis Memtier / Redis Benchmark - MIX (Operations/sec)	**1054094**	617806	**611515**
Normalized	100%	58.61%	58.01%
Standard Deviation		1.4%	
Redis Memtier / Redis Benchmark - SET (Operations/sec)	**758662**	729671	**712311**
Normalized	100%	96.18%	93.89%
Standard Deviation		1%	
Zstd Compression - 3 - Compression Speed (MB/s)	**3268**	3387	**3410**
Normalized	95.82%	99.31%	100%
Standard Deviation		0.5%	
Zstd Compression - 3 - D.S (MB/s)	**3052**	3107	**3108**
Normalized	98.2%	99.95%	100%
Standard Deviation		0.1%	
Zstd Compression - 8 - Compression Speed (MB/s)	**551.9**	555.2	**568.7**
Normalized	97.05%	97.63%	100%
Standard Deviation		0.4%	
Zstd Compression - 8 - D.S (MB/s)	**3085**	3105	**3111**
Normalized	99.18%	99.83%	100%
Standard Deviation		0%	
Zstd Compression - 19 - Compression Speed (MB/s)	**53.2**	**56.2**	**56.2**
Normalized	94.66%	100%	100%

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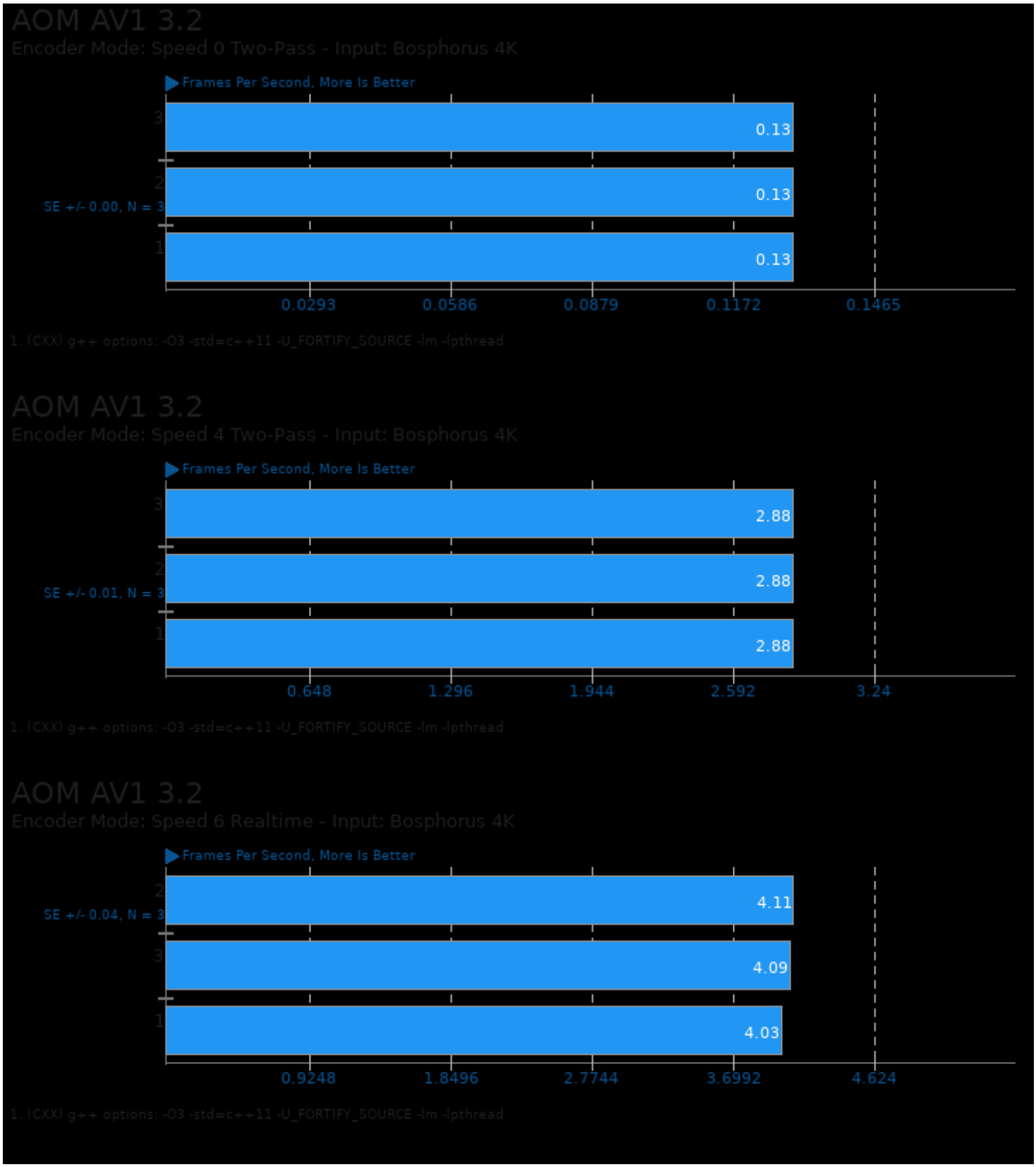
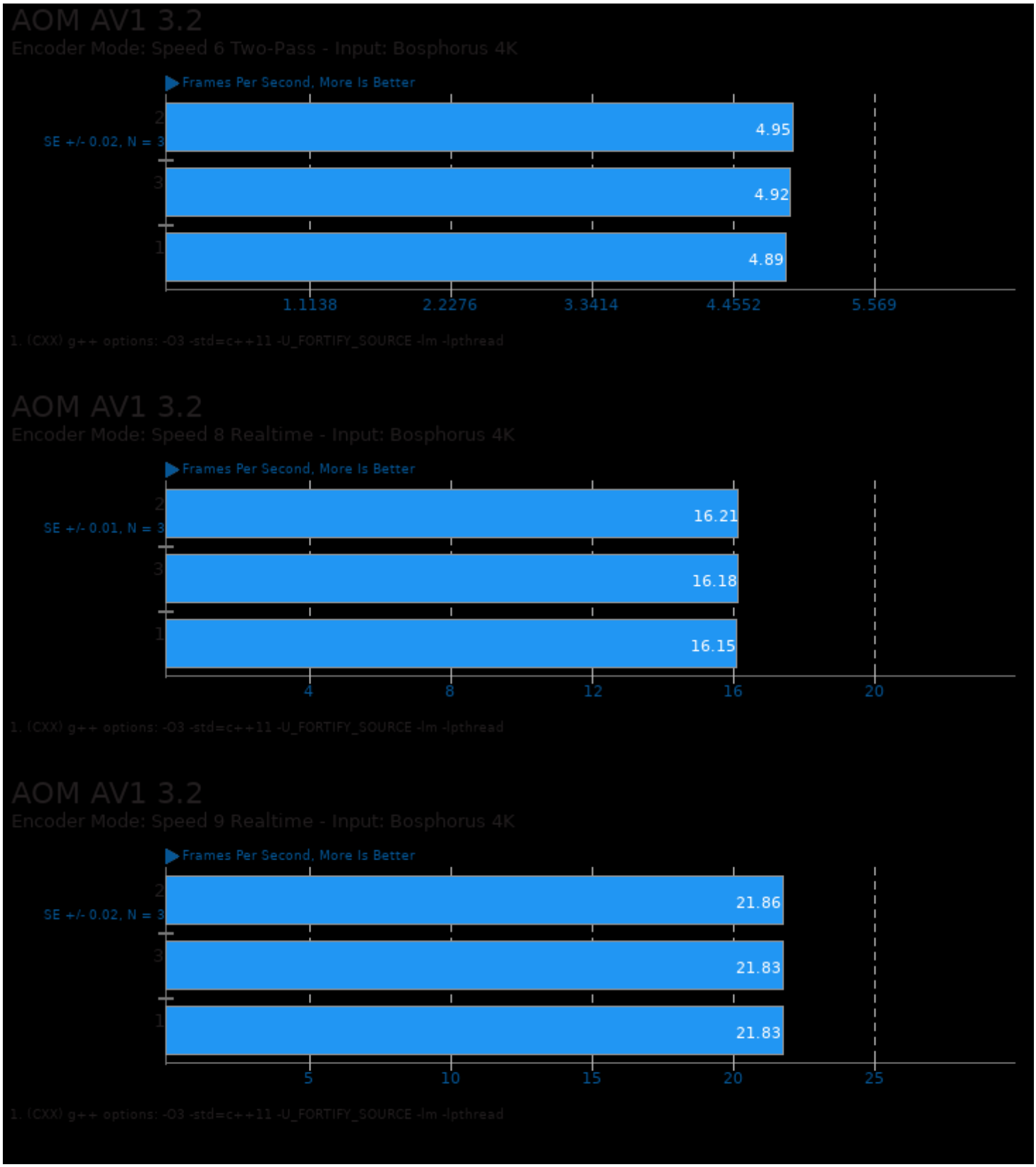
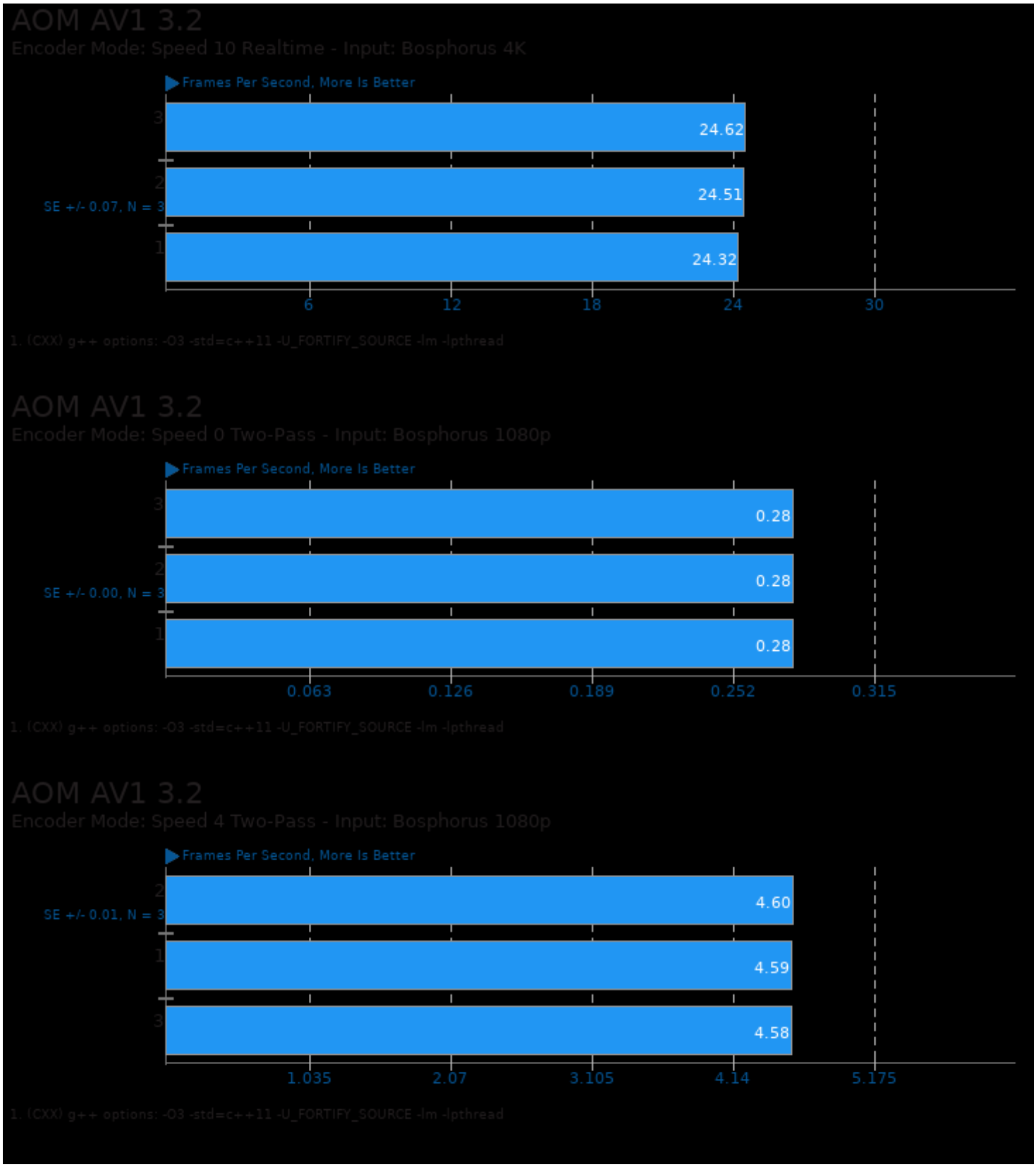
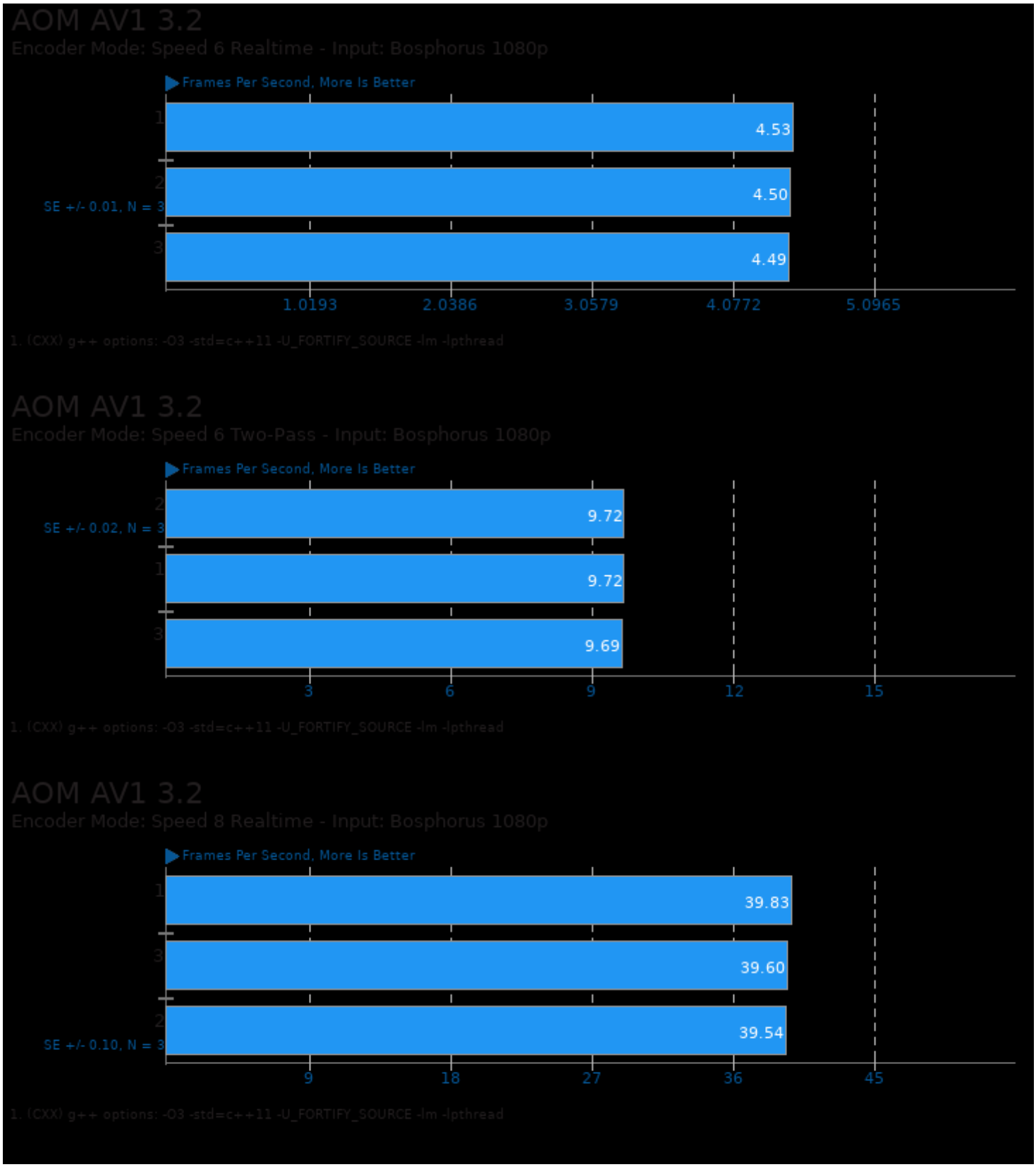
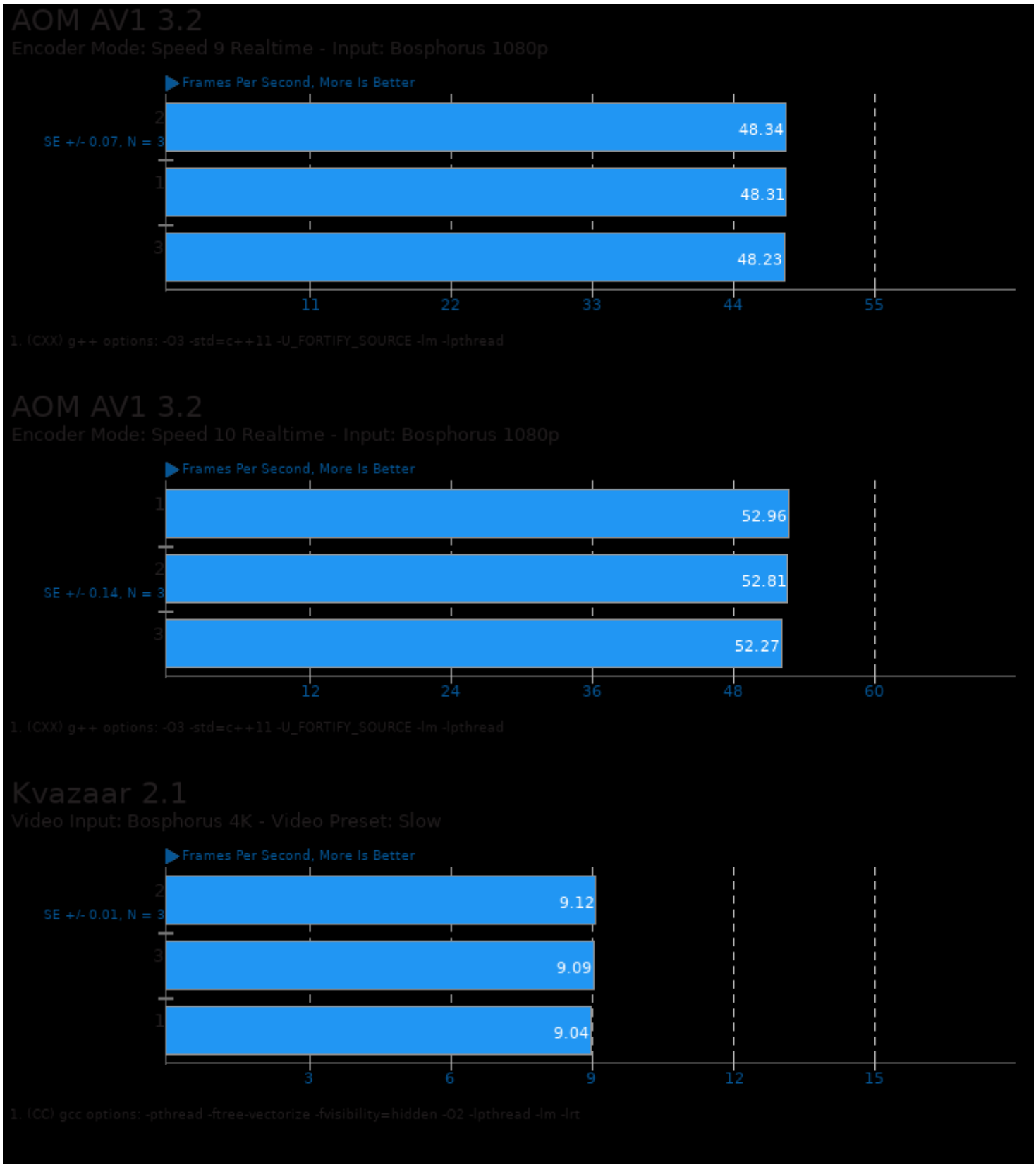
Standard Deviation		2.4%	
Zstd Compression - 19 - D.S (MB/s)	**2676**	2706	**2718**
Normalized	98.45%	99.56%	100%
Standard Deviation		0.7%	
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	**120.5**	119.3	**117.5**
Normalized	100%	99%	97.51%
Standard Deviation		1%	
Zstd Compression - 3, Long Mode - D.S	**3281**	3300	**3314**
Normalized	98.99%	99.58%	100%
Standard Deviation		0.6%	
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**135.1**	146.6	**153.1**
Normalized	88.24%	95.75%	100%
Standard Deviation		2.3%	
Zstd Compression - 8, Long Mode - D.S	**3244**	3286	**3303**
Normalized	98.22%	99.49%	100%
Standard Deviation		0.7%	
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	38.7	**38.8**	**30.5**
Normalized	99.74%	100%	78.61%
Standard Deviation		0.1%	
Zstd Compression - 19, Long Mode - D.S (MB/s)	**2698**	2720	**2733**
Normalized	98.71%	99.53%	100%
Standard Deviation		0.6%	

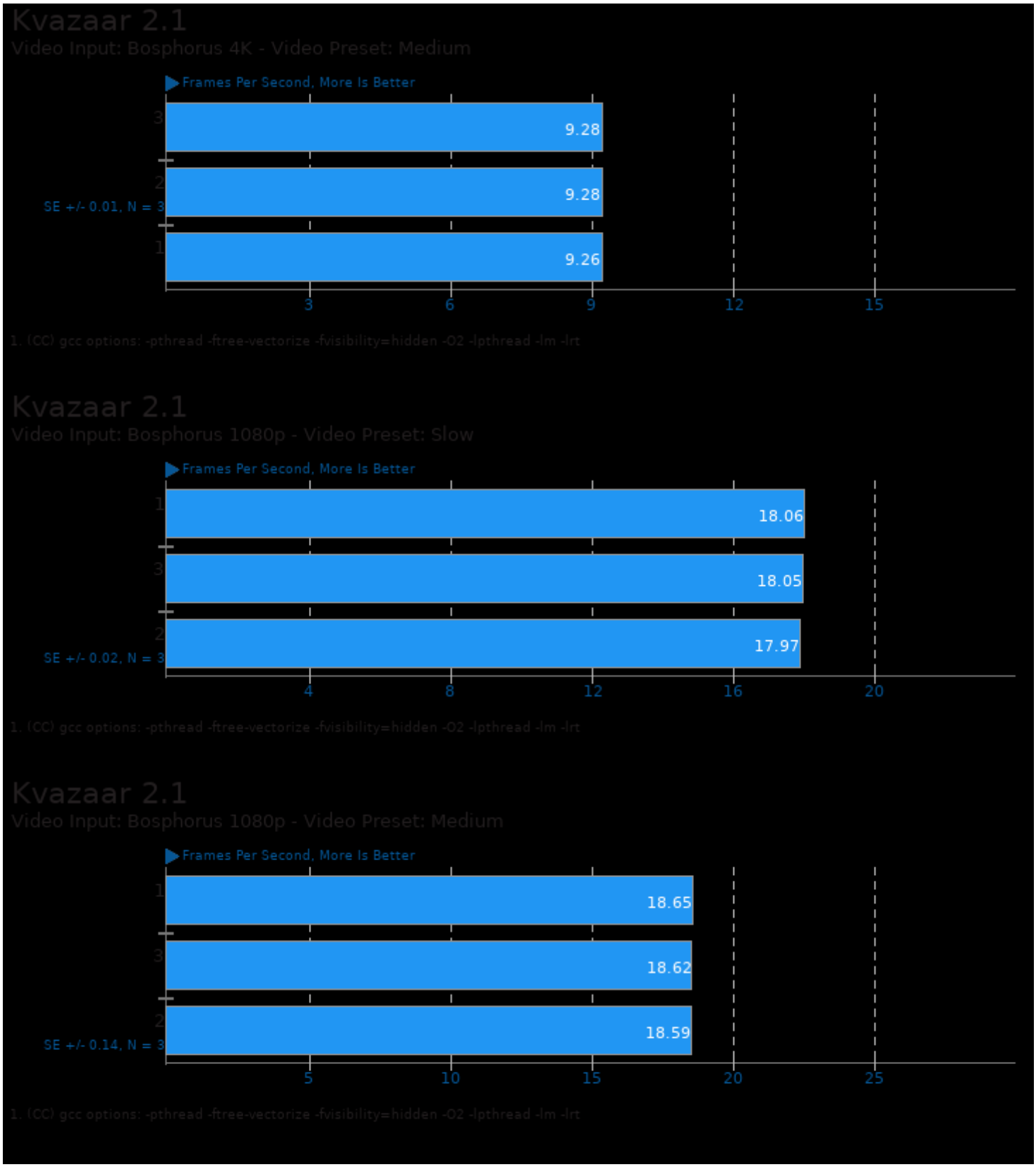

AOM AV1 3.2
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.00, N = 3
0.13
0.13
0.13
0.0293
0.0586
0.0879
0.1172
0.1465
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.01, N = 3
2.88
2.88
2.88
0.648
1.296
1.944
2.592
3.24
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.04, N = 3
4.11
4.09
4.03
0.9248
1.8496
2.7744
3.6992
4.624
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

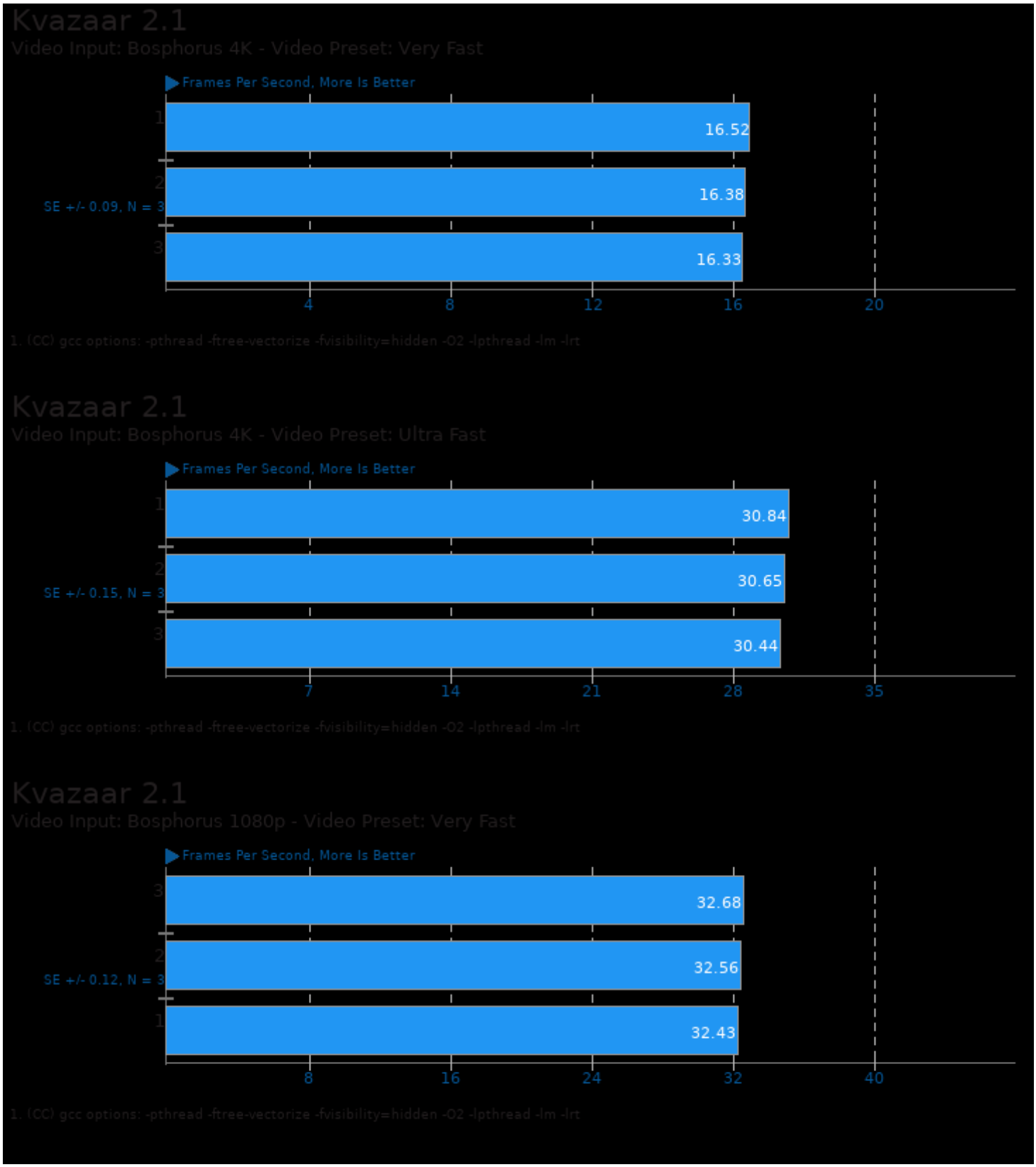

AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.02, N = 3
2
3
1
4.95
4.92
4.89
1.1138
2.2276
3.3414
4.4552
5.569
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.01, N = 3
2
3
1
16.21
16.18
16.15
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.02, N = 3
2
3
1
21.86
21.83
21.83
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

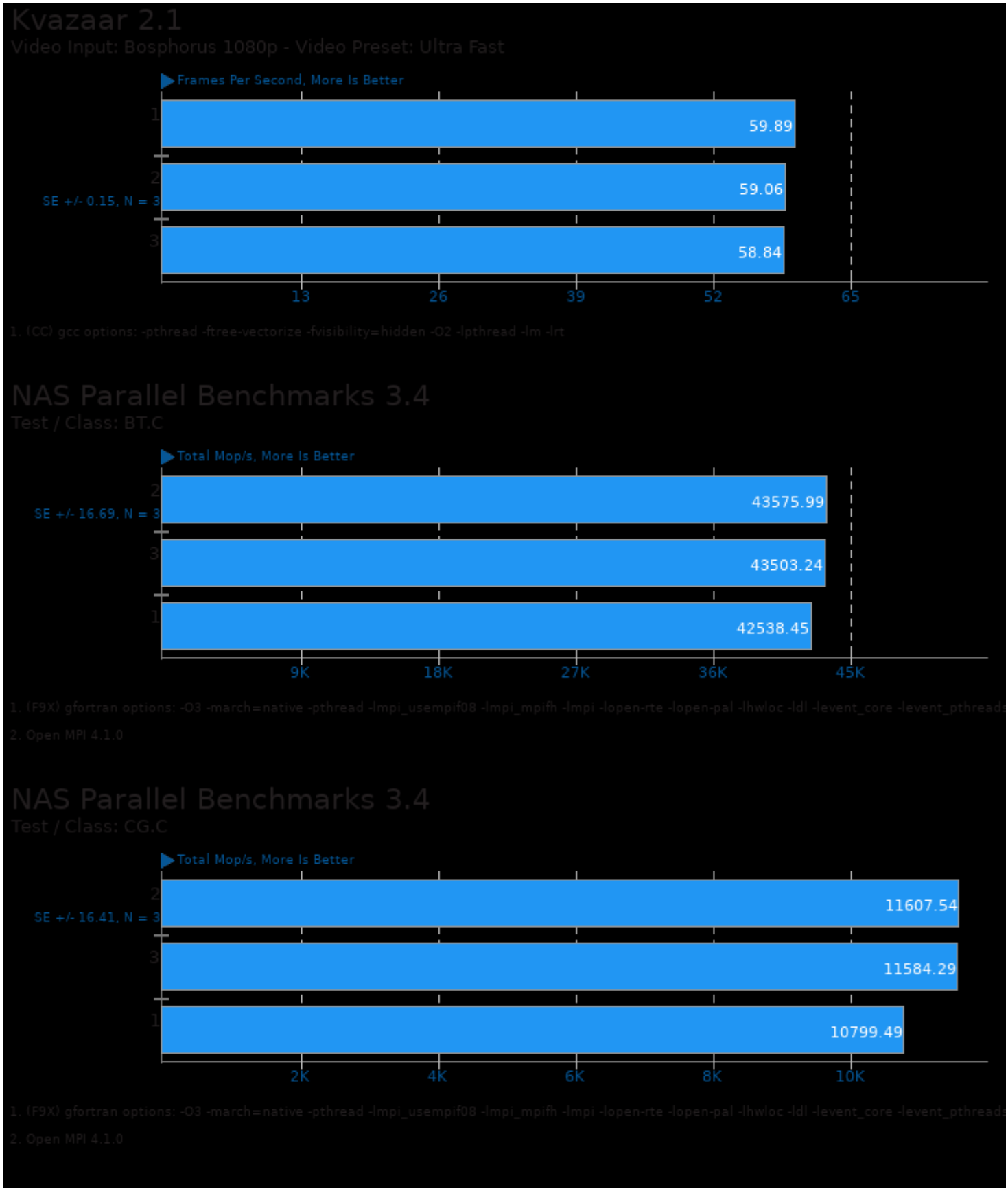

AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.07, N = 3
24.62
24.51
24.32
6
12
18
24
30
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.00, N = 3
0.28
0.28
0.28
0.063
0.126
0.189
0.252
0.315
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.01, N = 3
4.60
4.59
4.58
1.035
2.07
3.105
4.14
5.175
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

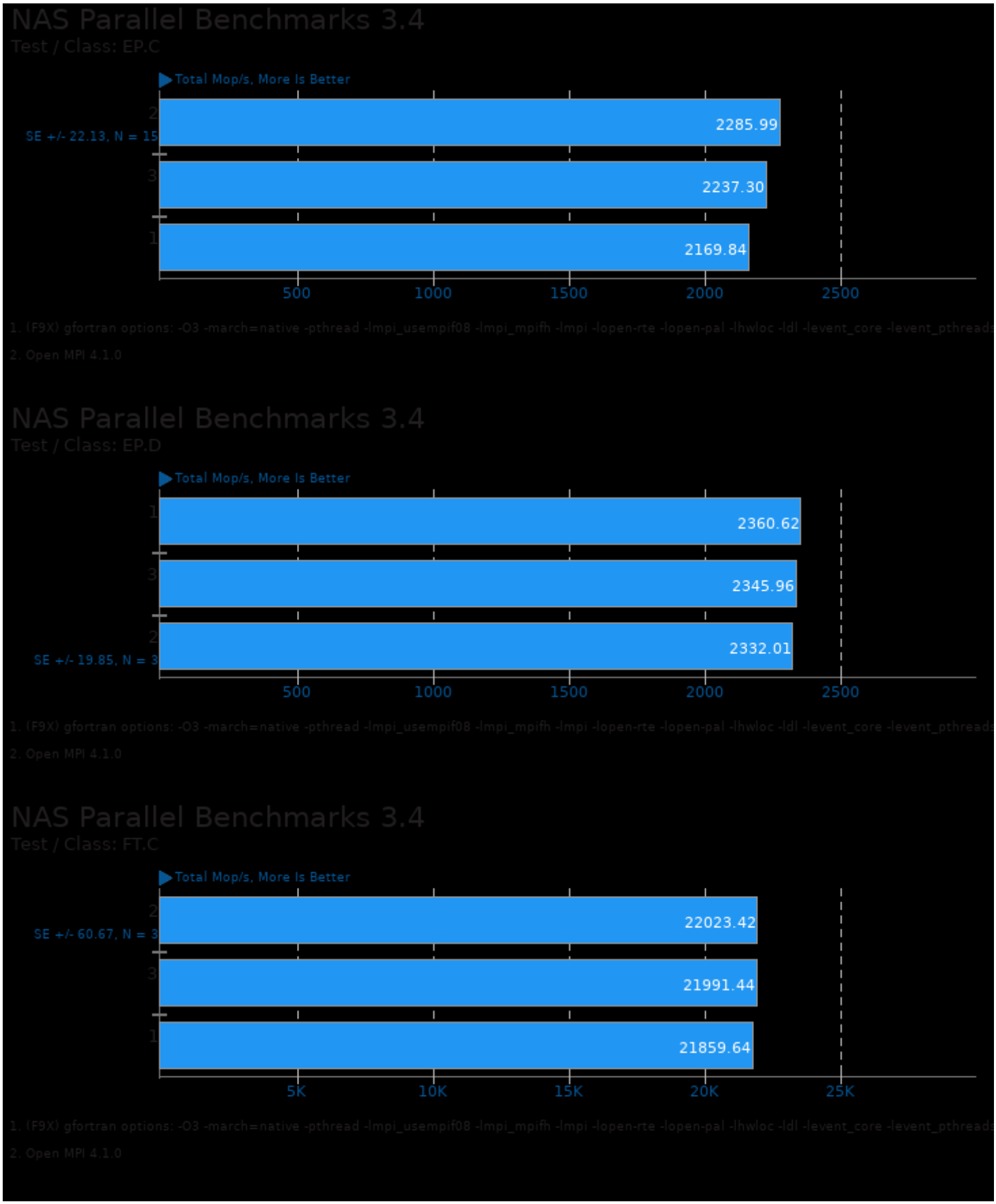

AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4.53
4.50
4.49
SE +/- 0.01, N = 3
1.0193
2.0386
3.0579
4.0772
5.0965
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
2
1
3
9.72
9.72
9.69
SE +/- 0.02, N = 3
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
3
2
39.83
39.60
39.54
SE +/- 0.10, N = 3
9
18
27
36
45
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

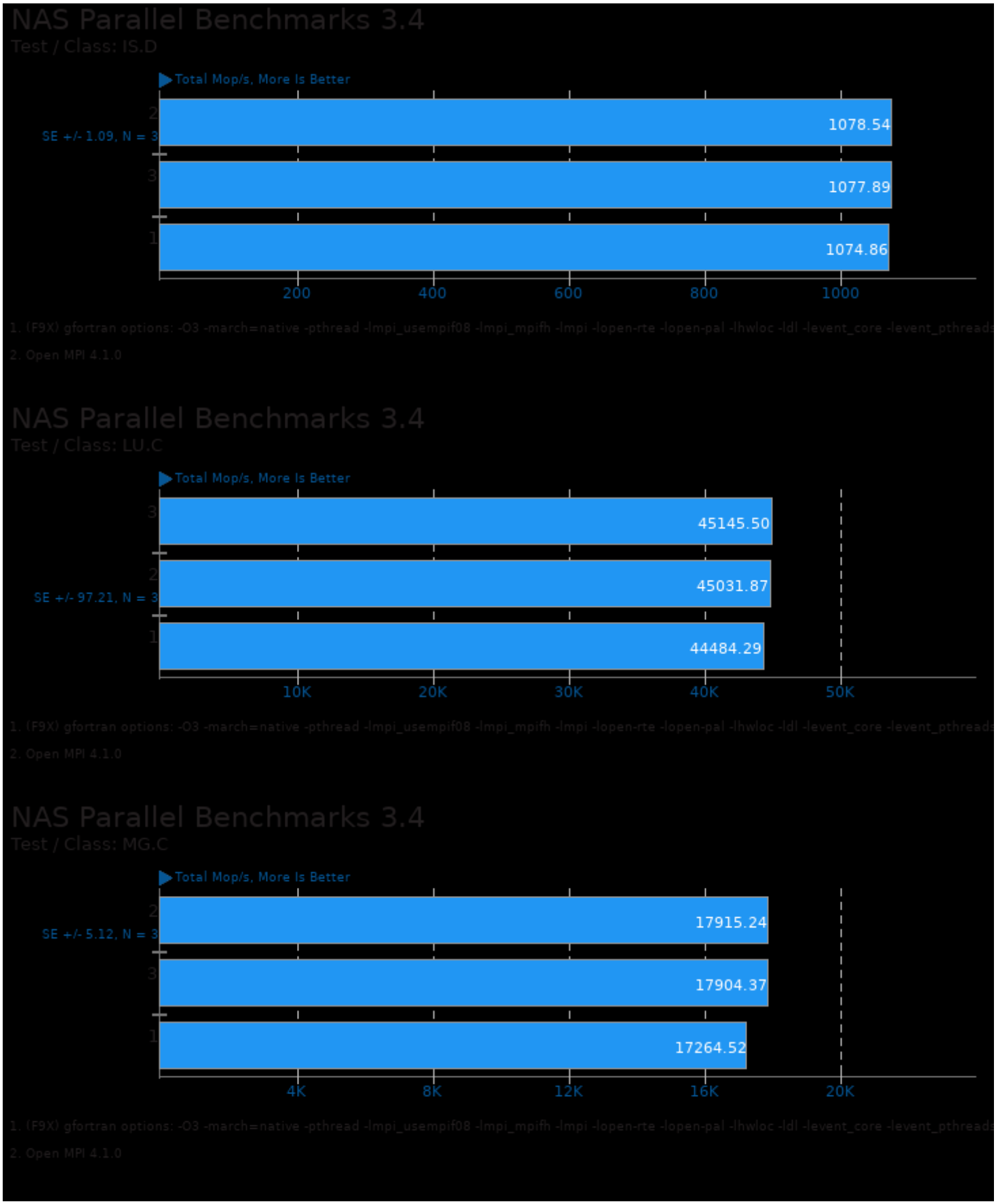

AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.07, N = 3
2
48.34
1
48.31
3
48.23
11
22
33
44
55
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.14, N = 3
1
52.96
2
52.81
3
52.27
12
24
36
48
60
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Slow
Frames Per Second, More Is Better
SE +/- 0.01, N = 3
2
9.12
3
9.09
1
9.04
3
6
9
12
15
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt


Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Medium
Frames Per Second, More Is Better
3
9.28
2
9.28
SE +/- 0.01, N = 3
1
9.26
3
6
9
12
15
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Slow
Frames Per Second, More Is Better
1
18.06
3
18.05
2
17.97
SE +/- 0.02, N = 3
4
8
12
16
20
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Medium
Frames Per Second, More Is Better
1
18.65
3
18.62
2
18.59
SE +/- 0.14, N = 3
5
10
15
20
25
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt


Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Very Fast
Frames Per Second, More Is Better
16.52
16.38
16.33
SE +/- 0.09, N = 3
4
8
12
16
20
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Ultra Fast
Frames Per Second, More Is Better
30.84
30.65
30.44
SE +/- 0.15, N = 3
7
14
21
28
35
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Very Fast
Frames Per Second, More Is Better
32.68
32.56
32.43
SE +/- 0.12, N = 3
8
16
24
32
40
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

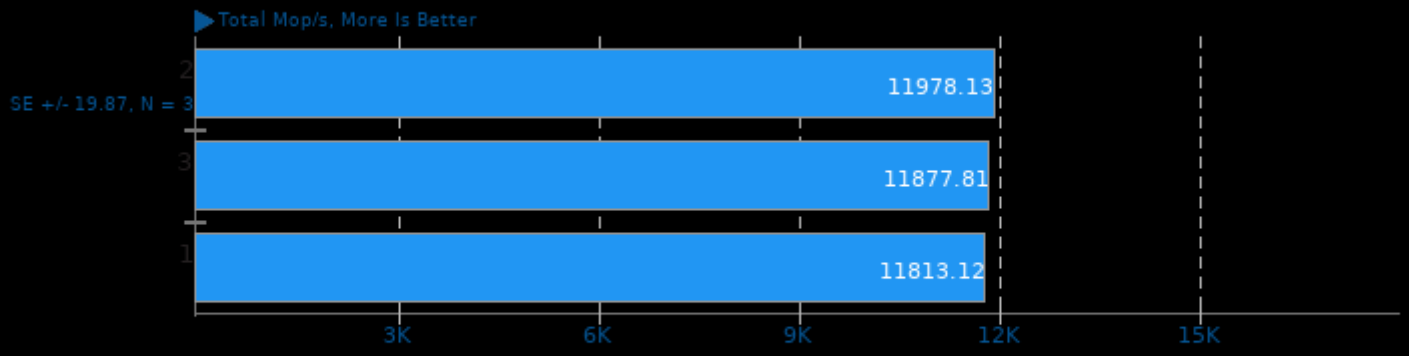

Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast
Frames Per Second, More Is Better
1
2
3
SE +/- 0.15, N = 3
59.89
59.06
58.84
13
26
39
52
65
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
NAS Parallel Benchmarks 3.4
Test / Class: BT.C
Total Mop/s, More Is Better
2
3
1
SE +/- 16.69, N = 3
43575.99
43503.24
42538.45
9K
18K
27K
36K
45K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: CG.C
Total Mop/s, More Is Better
2
3
1
SE +/- 16.41, N = 3
11607.54
11584.29
10799.49
2K
4K
6K
8K
10K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0


NAS Parallel Benchmarks 3.4
Test / Class: EP.C
Total Mop/s, More Is Better
2285.99
2237.30
2169.84
SE +/- 22.13, N = 15
500
1000
1500
2000
2500
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: EP.D
Total Mop/s, More Is Better
2360.62
2345.96
2332.01
SE +/- 19.85, N = 3
500
1000
1500
2000
2500
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: FT.C
Total Mop/s, More Is Better
22023.42
21991.44
21859.64
SE +/- 60.67, N = 3
5K
10K
15K
20K
25K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0


NAS Parallel Benchmarks 3.4
Test / Class: IS.D
Total Mop/s, More Is Better
SE +/- 1.09, N = 3
2
3
1
1078.54
1077.89
1074.86
200
400
600
800
1000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: LU.C
Total Mop/s, More Is Better
SE +/- 97.21, N = 3
3
2
1
45145.50
45031.87
44484.29
10K
20K
30K
40K
50K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: MG.C
Total Mop/s, More Is Better
SE +/- 5.12, N = 3
2
3
1
17915.24
17904.37
17264.52
4K
8K
12K
16K
20K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: SP.B

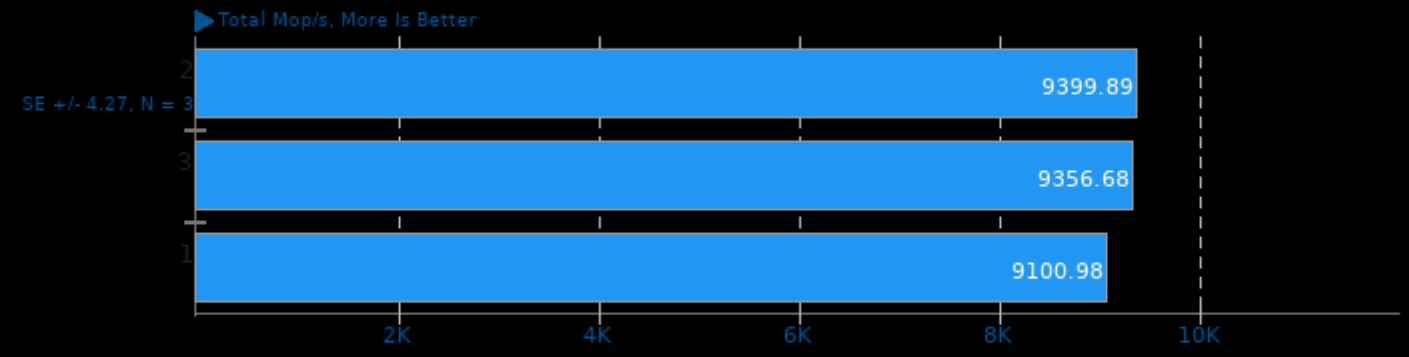


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

NAS Parallel Benchmarks 3.4

Test / Class: SP.C

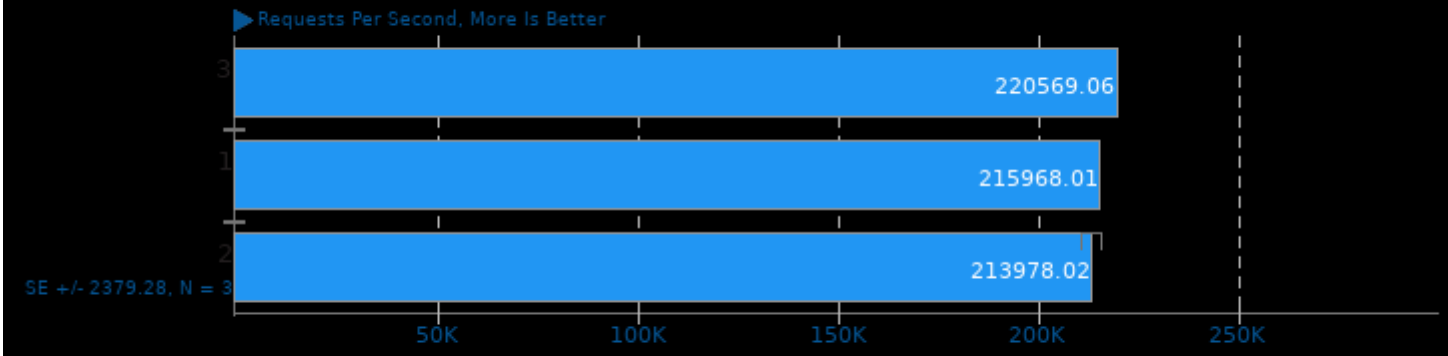


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads

2. Open MPI 4.1.0

Nginx

Test: Long Connection - Connections: 100

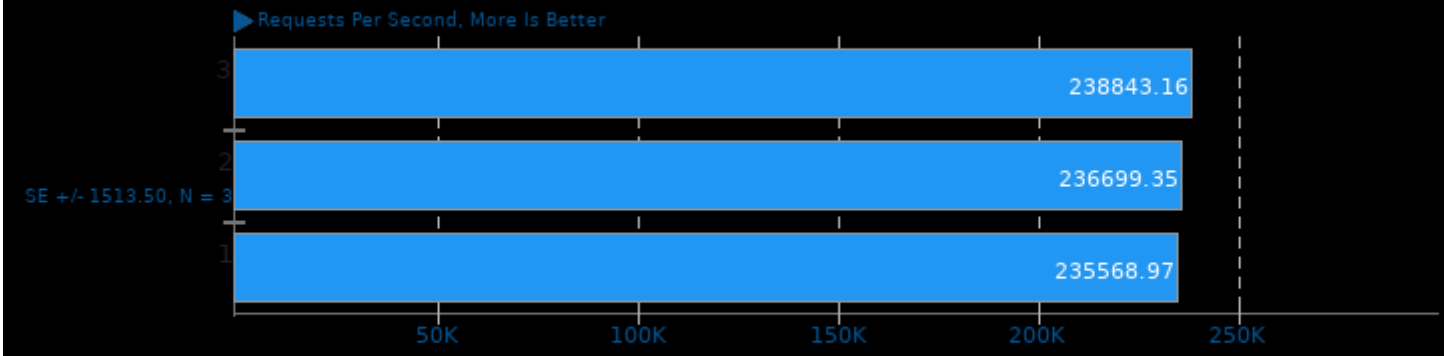


1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2

2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

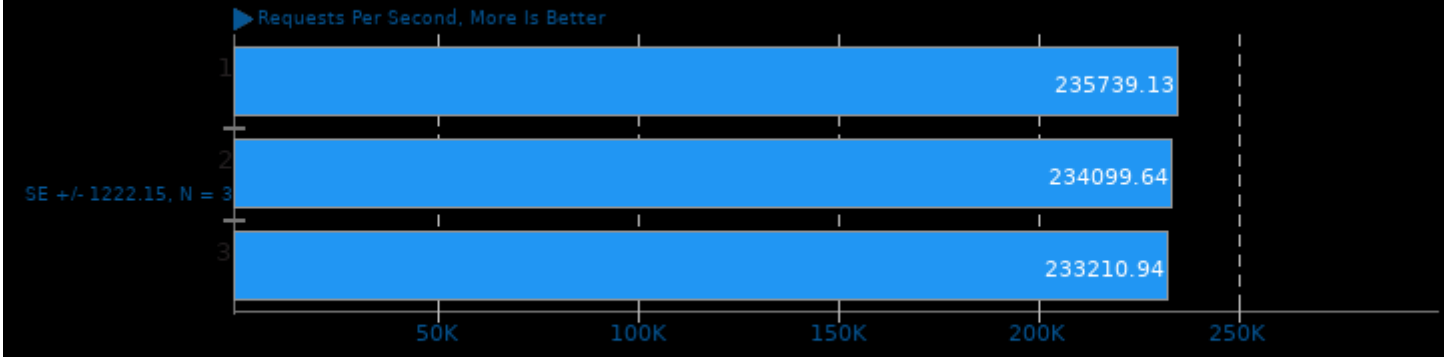
Test: Long Connection - Connections: 500



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

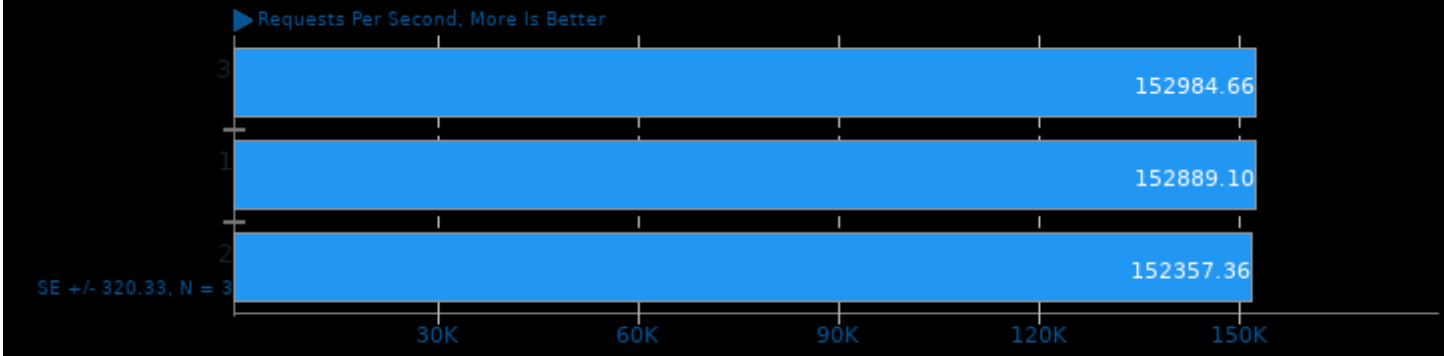
Test: Long Connection - Connections: 1000



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

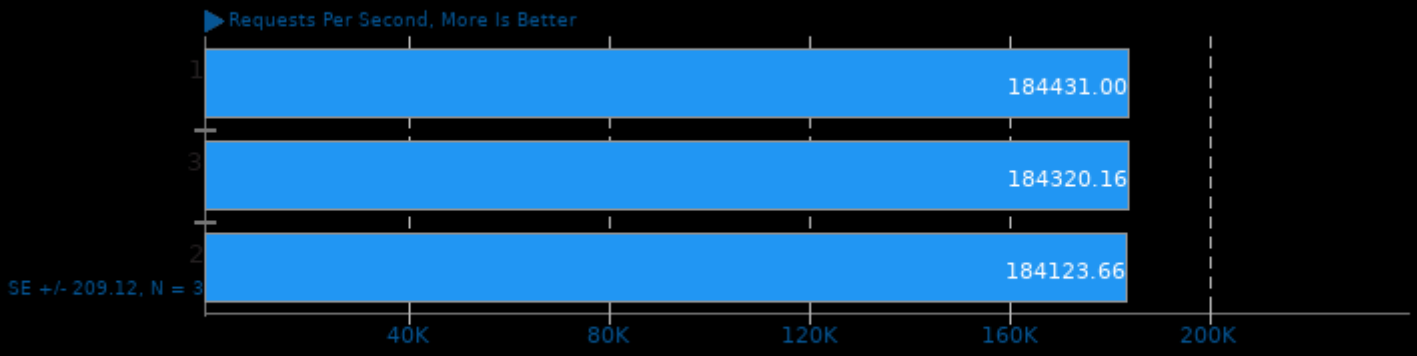
Test: Short Connection - Connections: 100



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

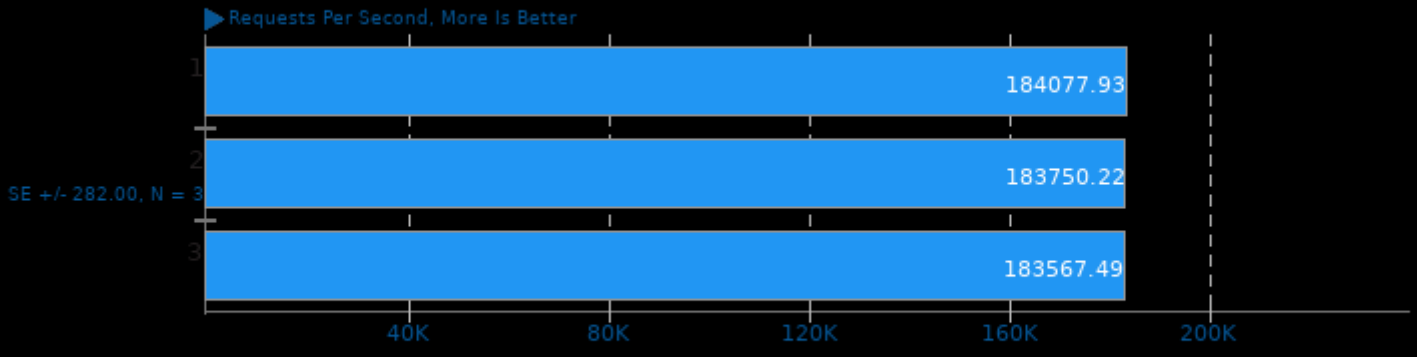
Test: Short Connection - Connections: 500



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

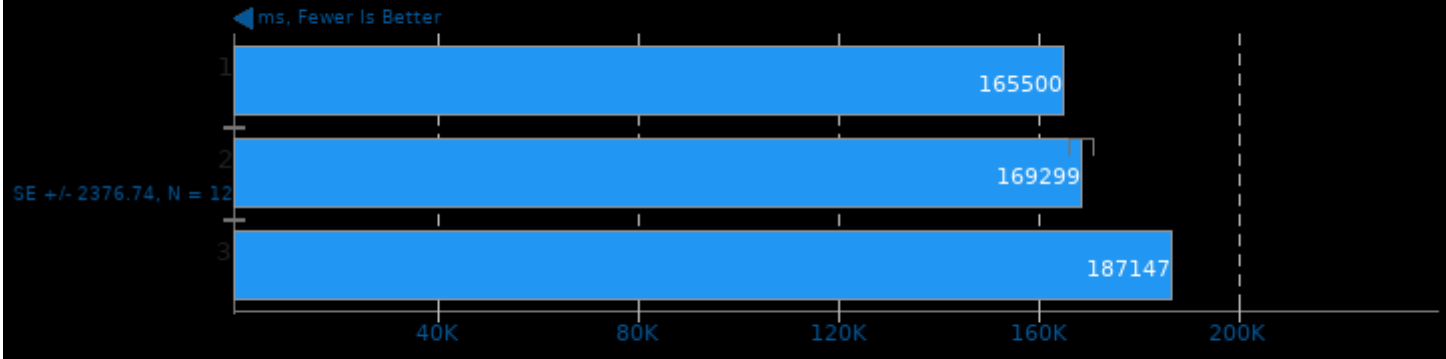
Test: Short Connection - Connections: 1000



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

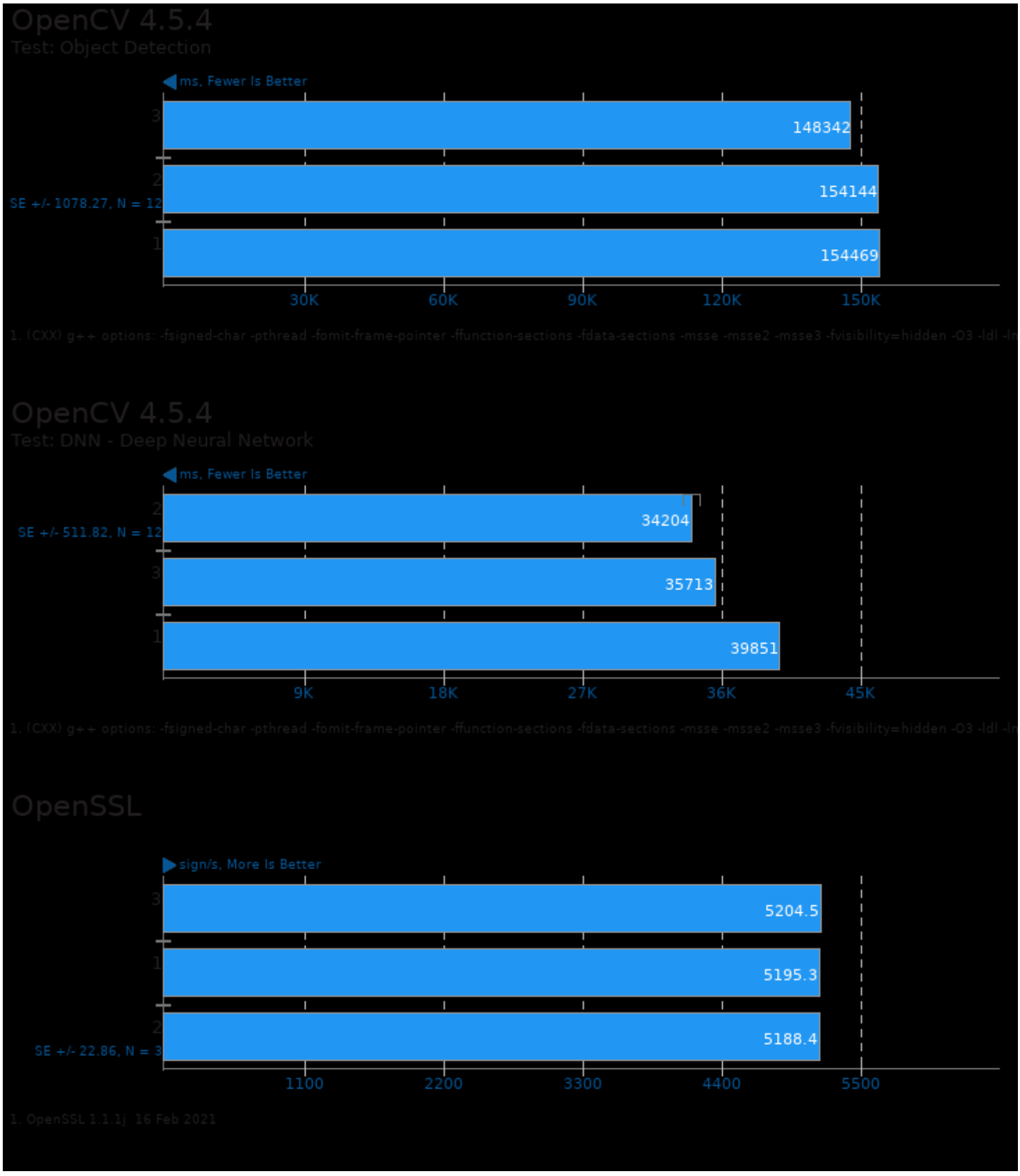
OpenCV 4.5.4

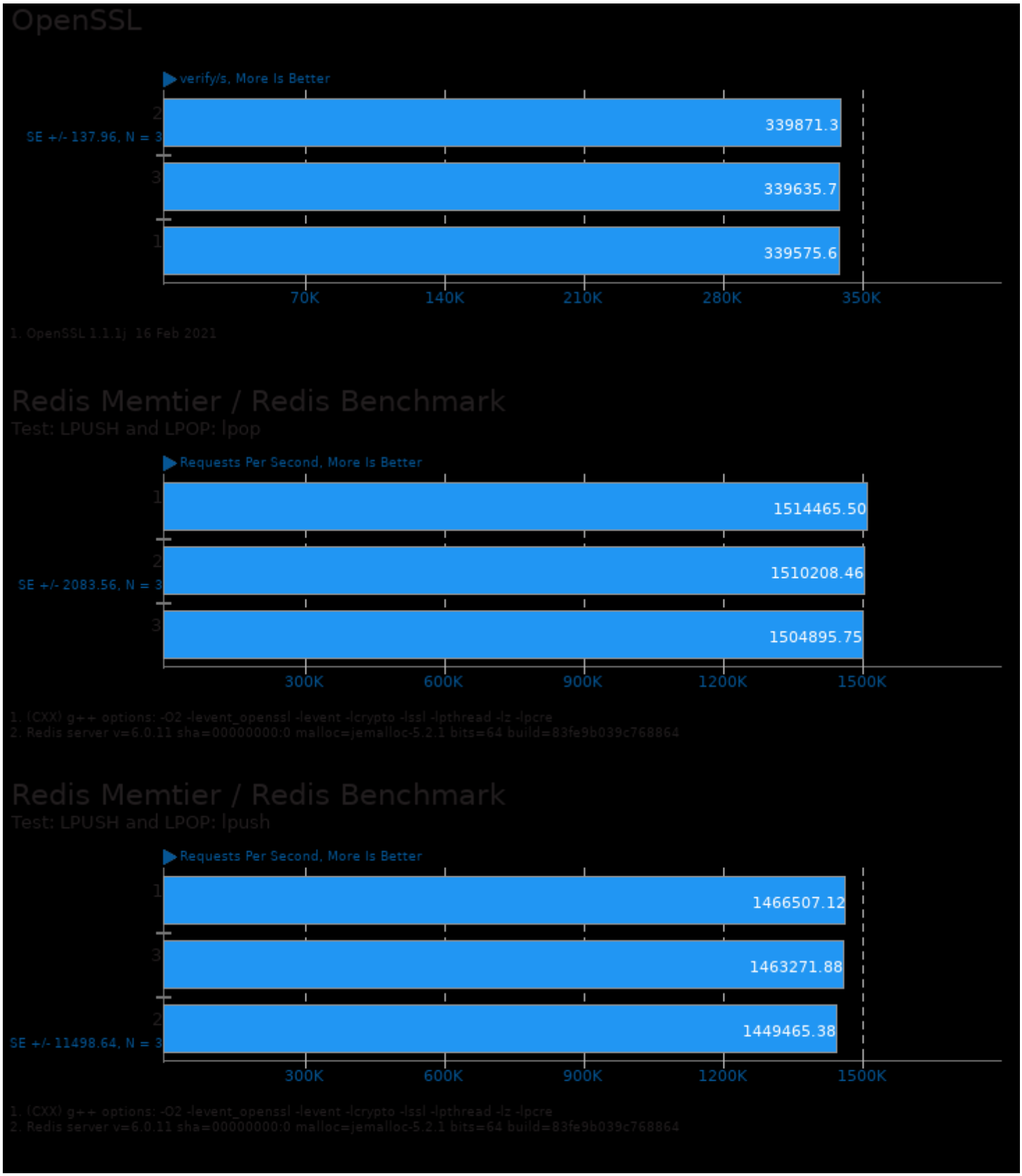
Test: Features 2D

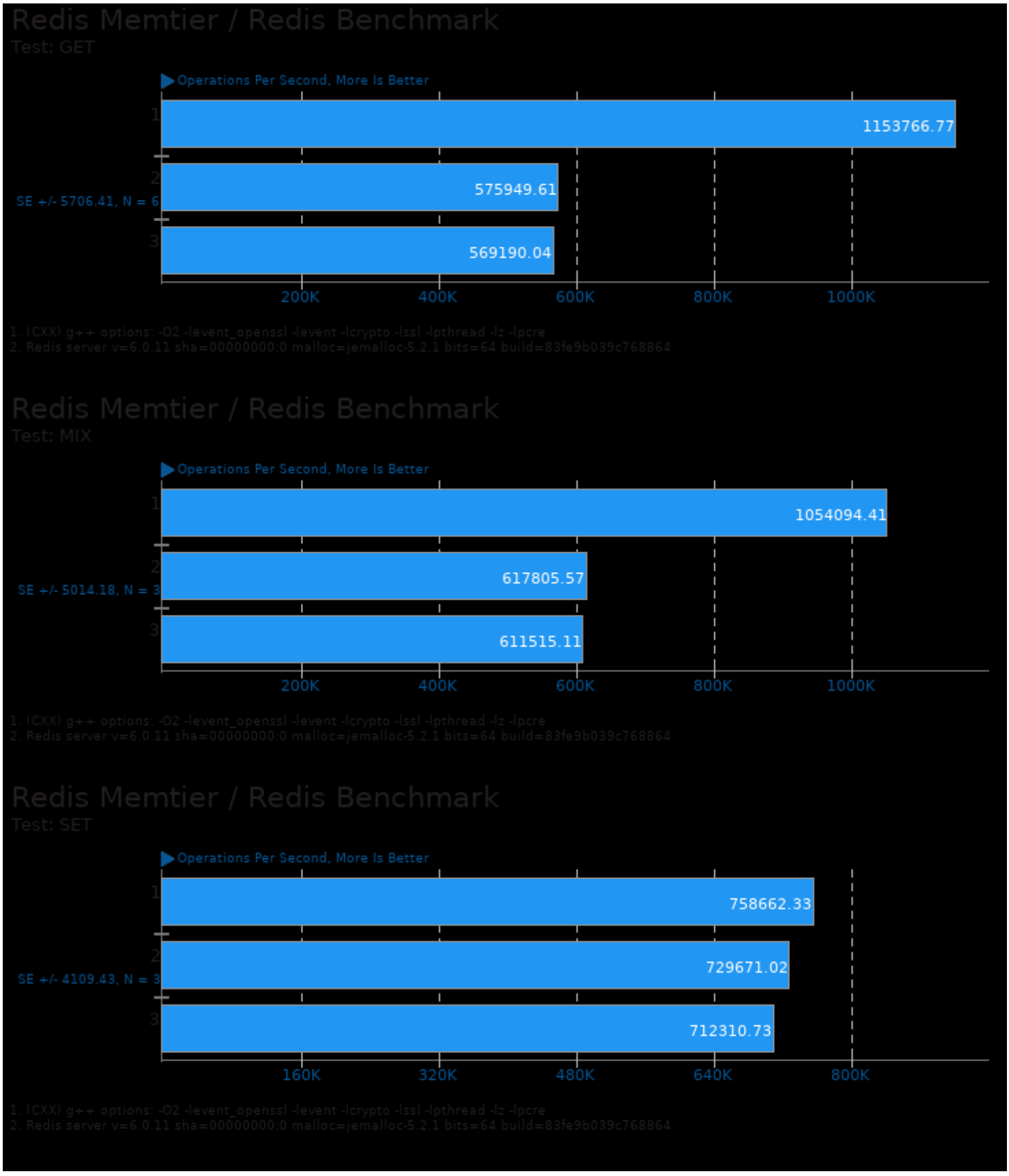


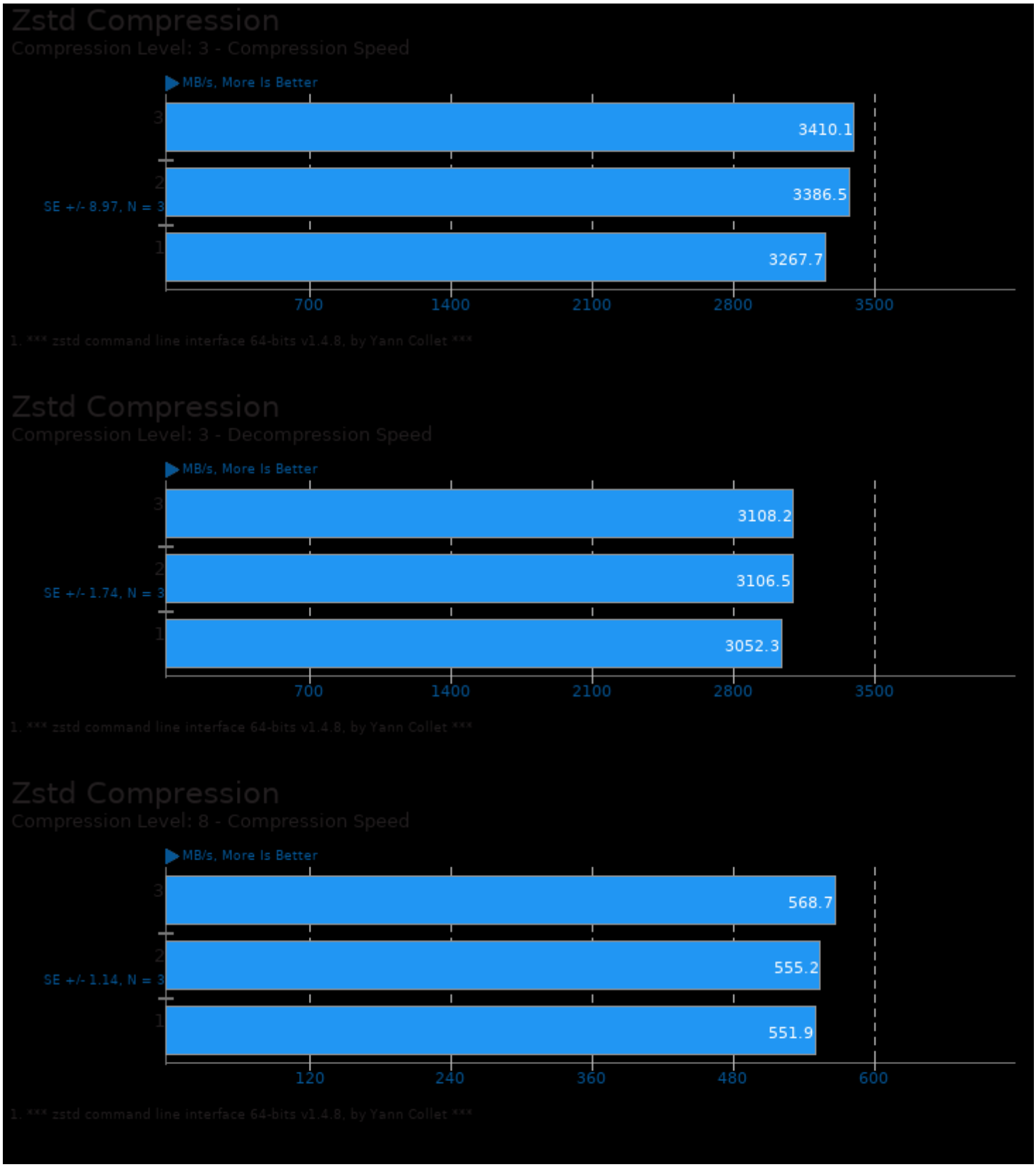
1. (CXX) g++ options: -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3 -ldl -lp

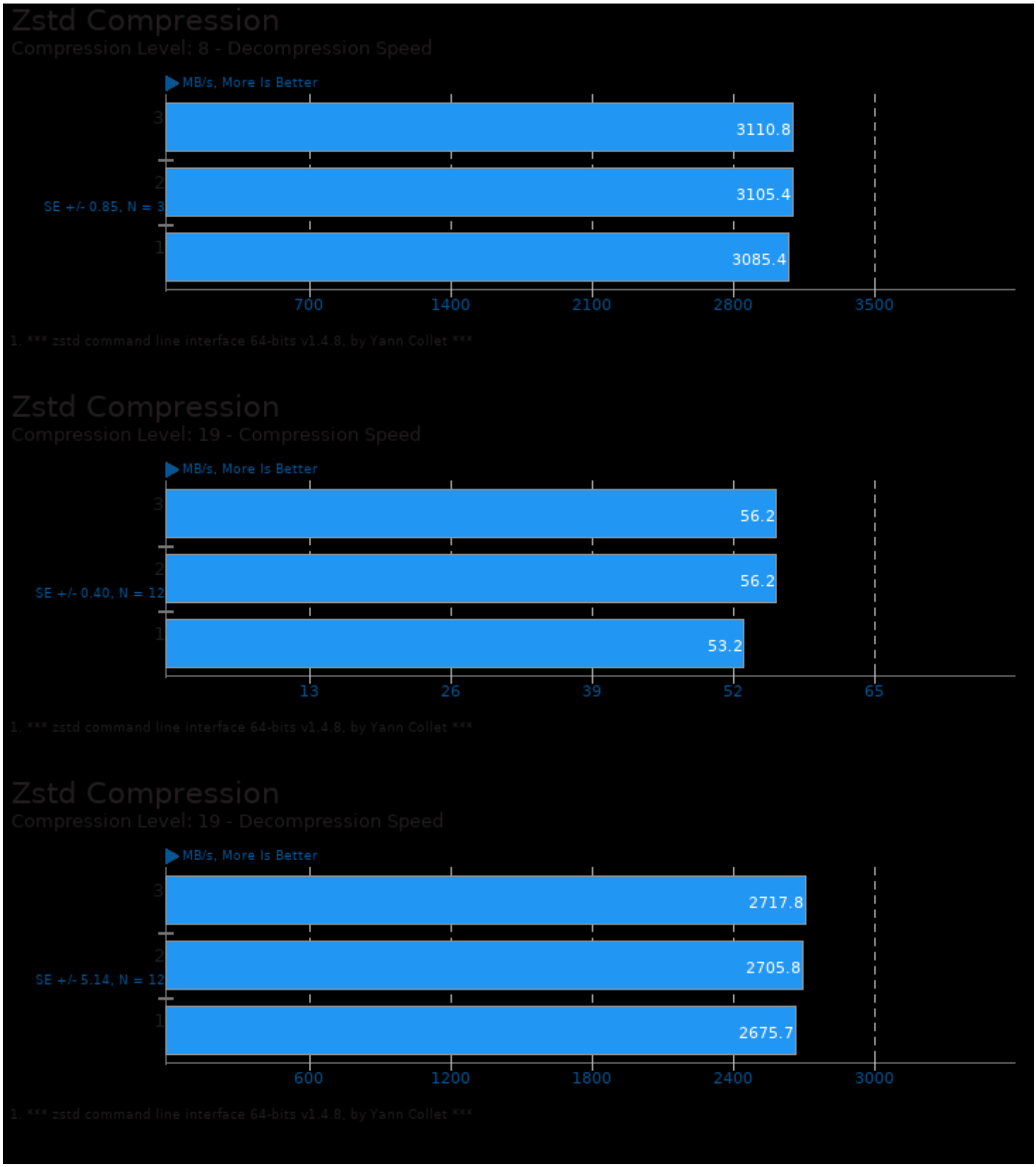
sat

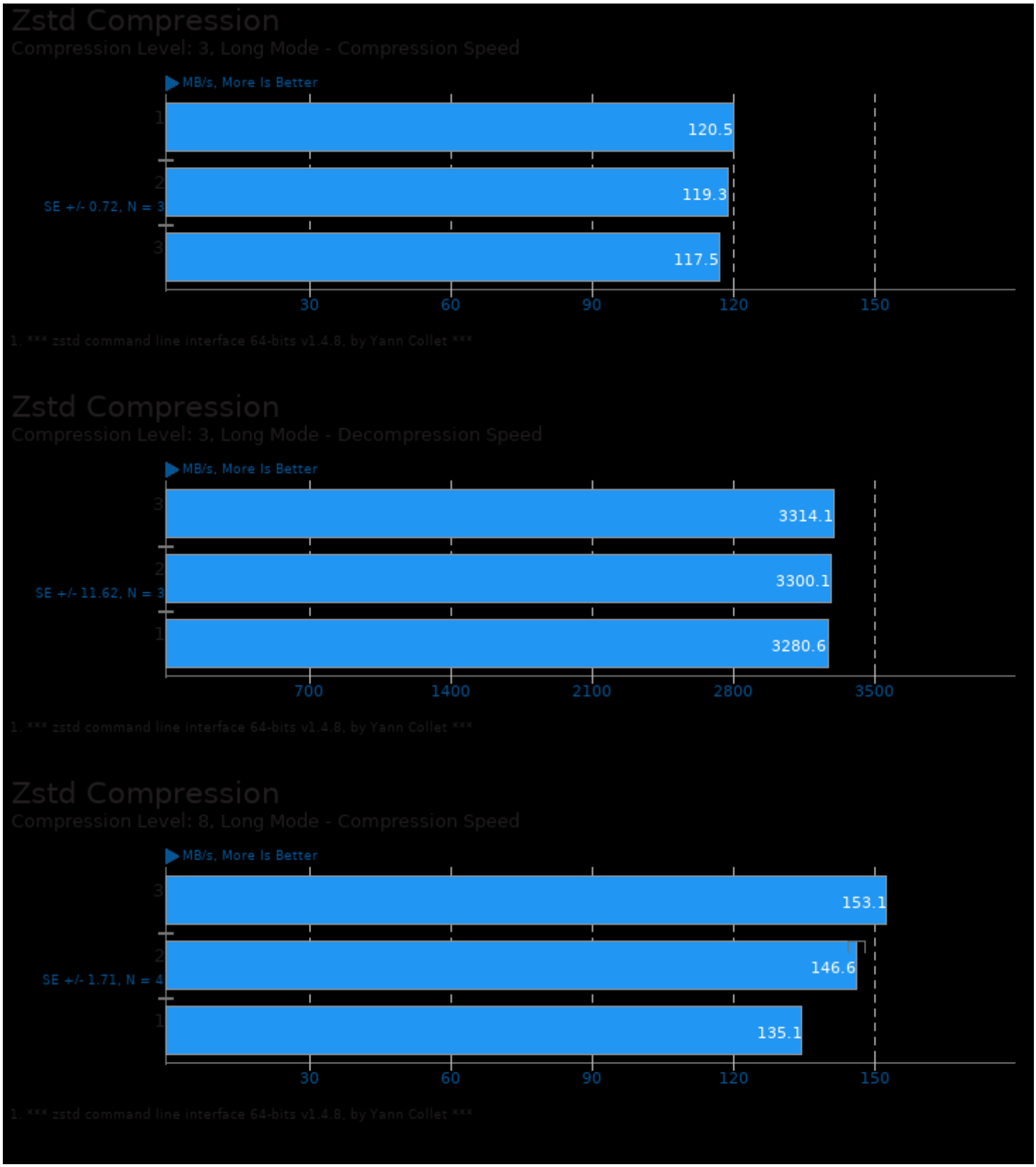

OpenCV 4.5.4
Test: Object Detection
ms, Fewer Is Better
148342
154144
154469
SE +/- 1078.27, N = 12
30K
60K
90K
120K
150K
1. (CXX) g++ options: -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3 -ldl
OpenCV 4.5.4
Test: DNN - Deep Neural Network
ms, Fewer Is Better
34204
35713
39851
SE +/- 511.82, N = 12
9K
18K
27K
36K
45K
1. (CXX) g++ options: -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3 -ldl
OpenSSL
sign/s, More Is Better
5204.5
5195.3
5188.4
SE +/- 22.86, N = 3
1100
2200
3300
4400
5500
1. OpenSSL 1.1.1j 16 Feb 2021

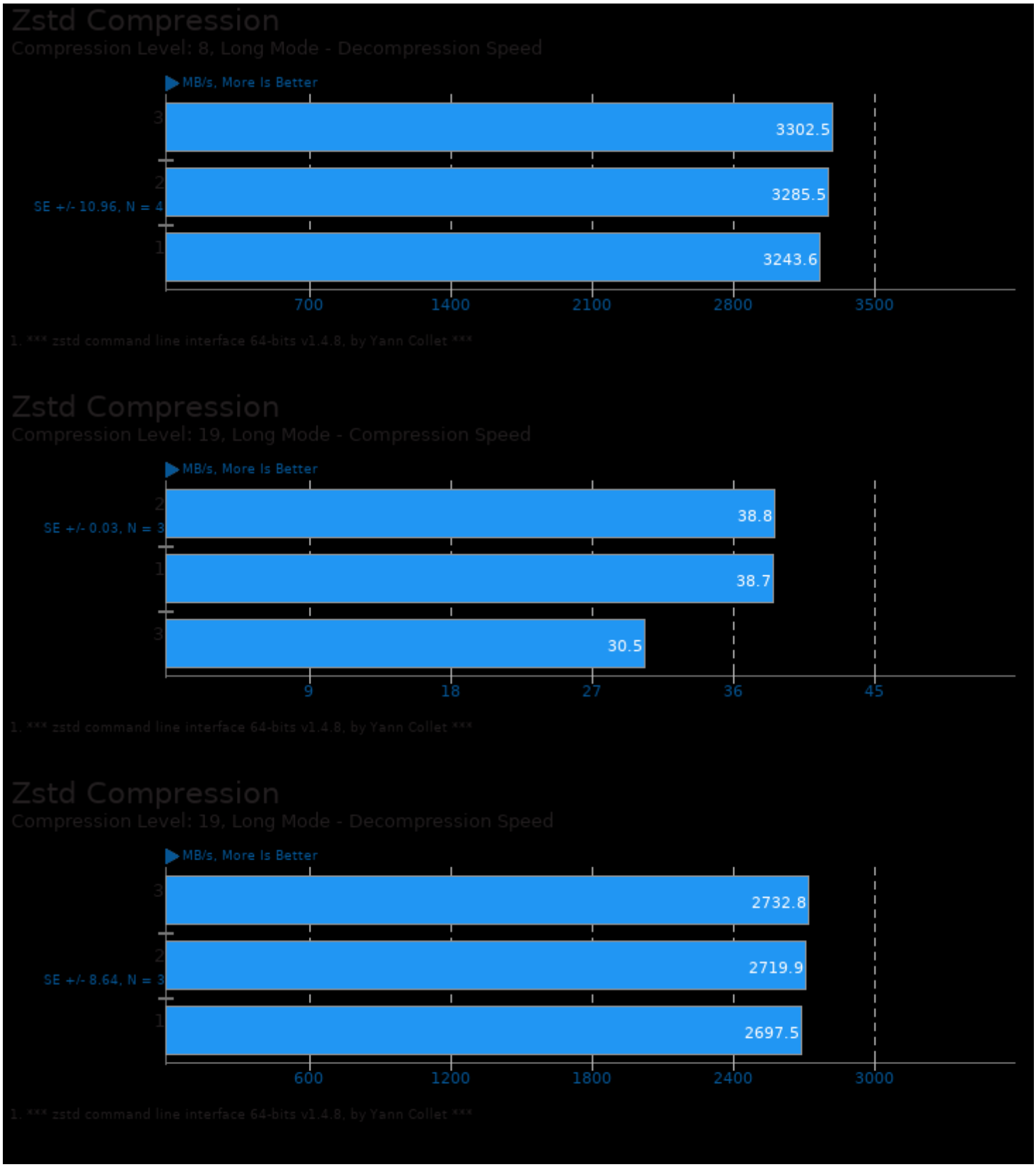

OpenSSL
verify/s, More Is Better
SE +/- 137.96, N = 3
339871.3
339635.7
339575.6
70K
140K
210K
280K
350K
1. OpenSSL 1.1.1j 16 Feb 2021
Redis Memtier / Redis Benchmark
Test: LPUSH and LPOP: lpop
Requests Per Second, More Is Better
SE +/- 2083.56, N = 3
1514465.50
1510208.46
1504895.75
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.11 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=83fe9b039c768864
Redis Memtier / Redis Benchmark
Test: LPUSH and LPOP: lpush
Requests Per Second, More Is Better
SE +/- 11498.64, N = 3
1466507.12
1463271.88
1449465.38
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.11 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=83fe9b039c768864


Redis Memtier / Redis Benchmark
Test: GET
Operations Per Second, More Is Better
1153766.77
575949.61
569190.04
SE +/- 5706.41, N = 6
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.11 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=83fe9b039c768864
Redis Memtier / Redis Benchmark
Test: MIX
Operations Per Second, More Is Better
1054094.41
617805.57
611515.11
SE +/- 5014.18, N = 3
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.11 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=83fe9b039c768864
Redis Memtier / Redis Benchmark
Test: SET
Operations Per Second, More Is Better
758662.33
729671.02
712310.73
SE +/- 4109.43, N = 3
160K
320K
480K
640K
800K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.11 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=83fe9b039c768864


Zstd Compression
Compression Level: 3 - Compression Speed
MB/s, More Is Better
3410.1
3386.5
3267.7
SE +/- 8.97, N = 3
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
3108.2
3106.5
3052.3
SE +/- 1.74, N = 3
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 8 - Compression Speed
MB/s, More Is Better
568.7
555.2
551.9
SE +/- 1.14, N = 3
120
240
360
480
600
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

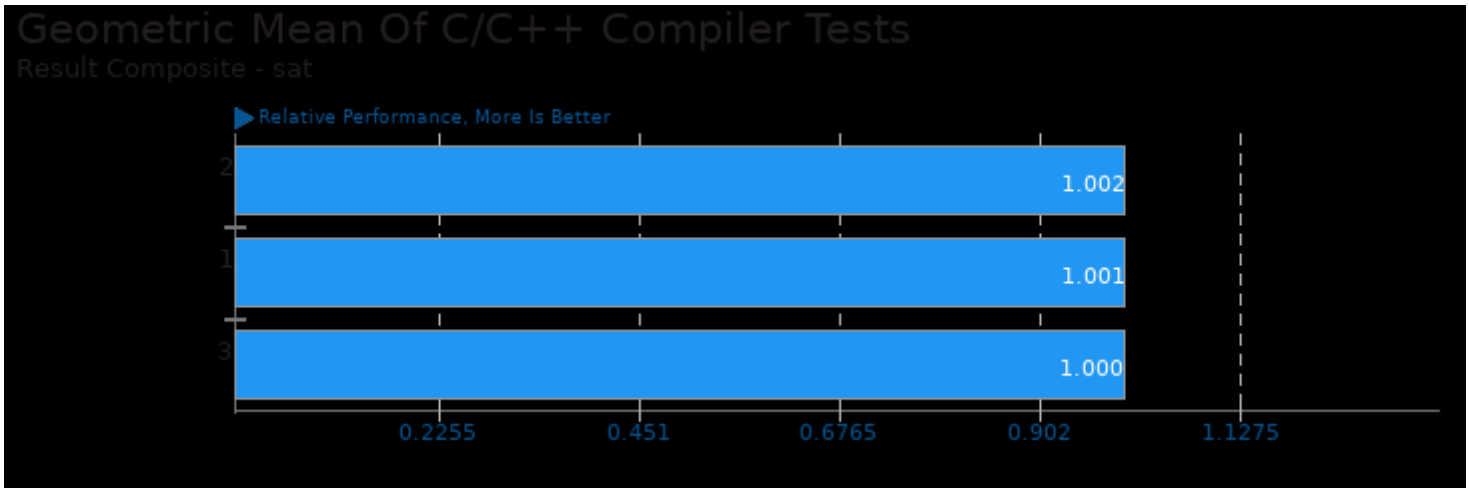

Zstd Compression
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
3110.8
3105.4
3085.4
SE +/- 0.85, N = 3
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19 - Compression Speed
MB/s, More Is Better
56.2
56.2
53.2
SE +/- 0.40, N = 12
13
26
39
52
65
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
2717.8
2705.8
2675.7
SE +/- 5.14, N = 12
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***


Zstd Compression
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
1
2
3
120.5
119.3
117.5
SE +/- 0.72, N = 3
30
60
90
120
150
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
3
2
1
3314.1
3300.1
3280.6
SE +/- 11.62, N = 3
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
3
2
1
153.1
146.6
135.1
SE +/- 1.71, N = 4
30
60
90
120
150
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***


Zstd Compression
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
3302.5
3285.5
3243.6
SE +/- 10.96, N = 4
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
38.8
38.7
30.5
SE +/- 0.03, N = 3
9
18
27
36
45
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***
Zstd Compression
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
2732.8
2719.9
2697.5
SE +/- 8.64, N = 3
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.8, by Yann Collet ***

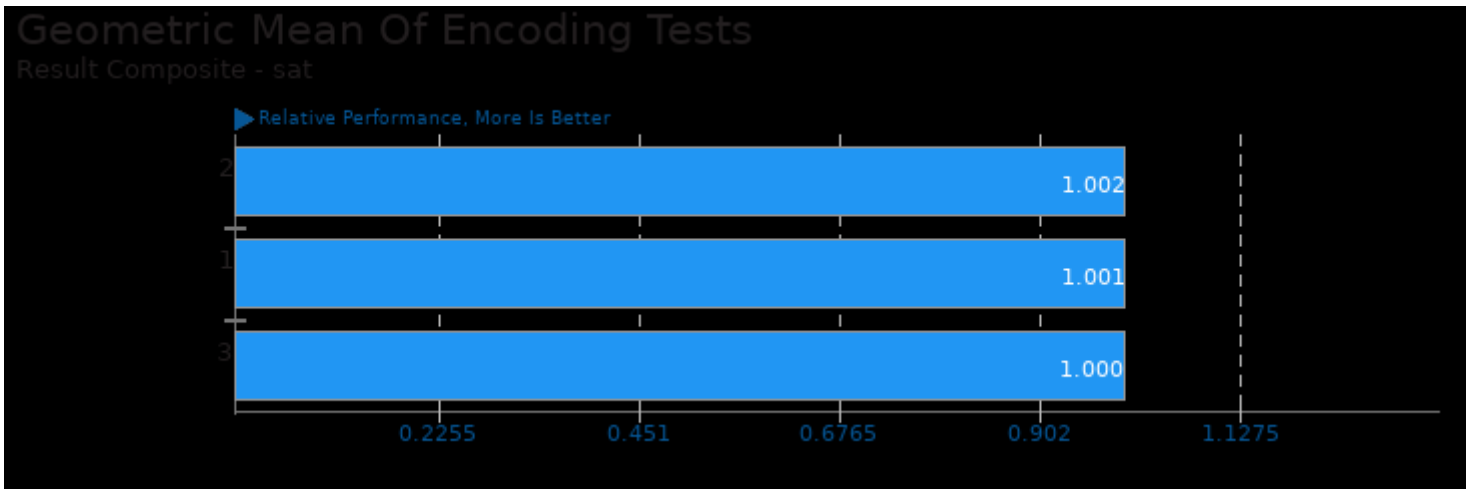
sat

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



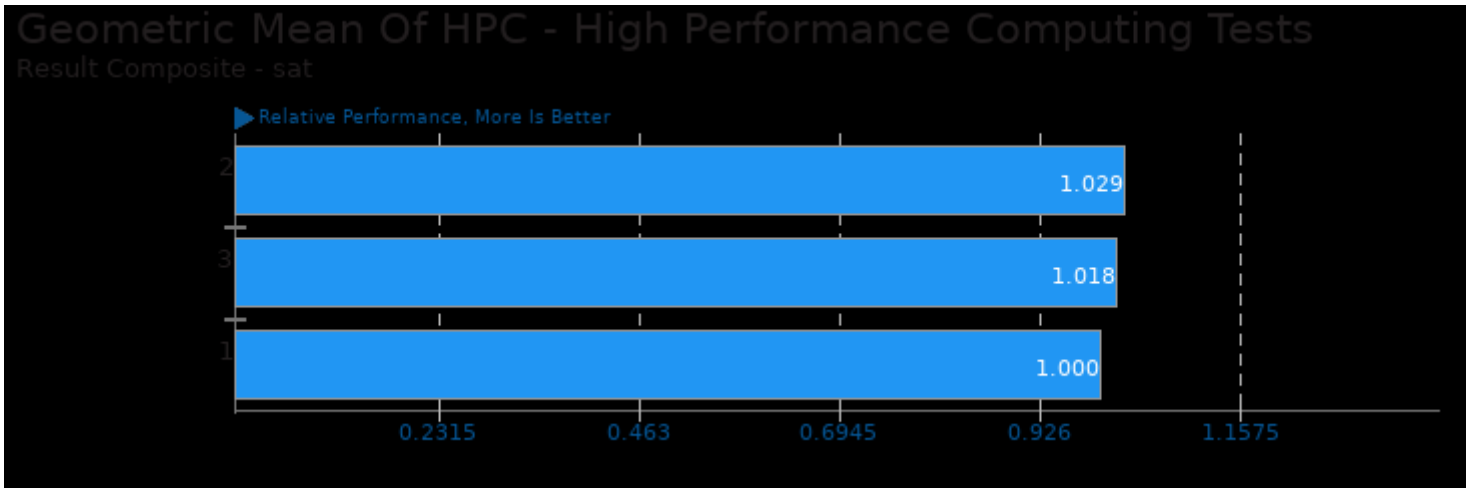
Geometric mean based upon tests: pts/kvazaar and pts/aom-av1

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



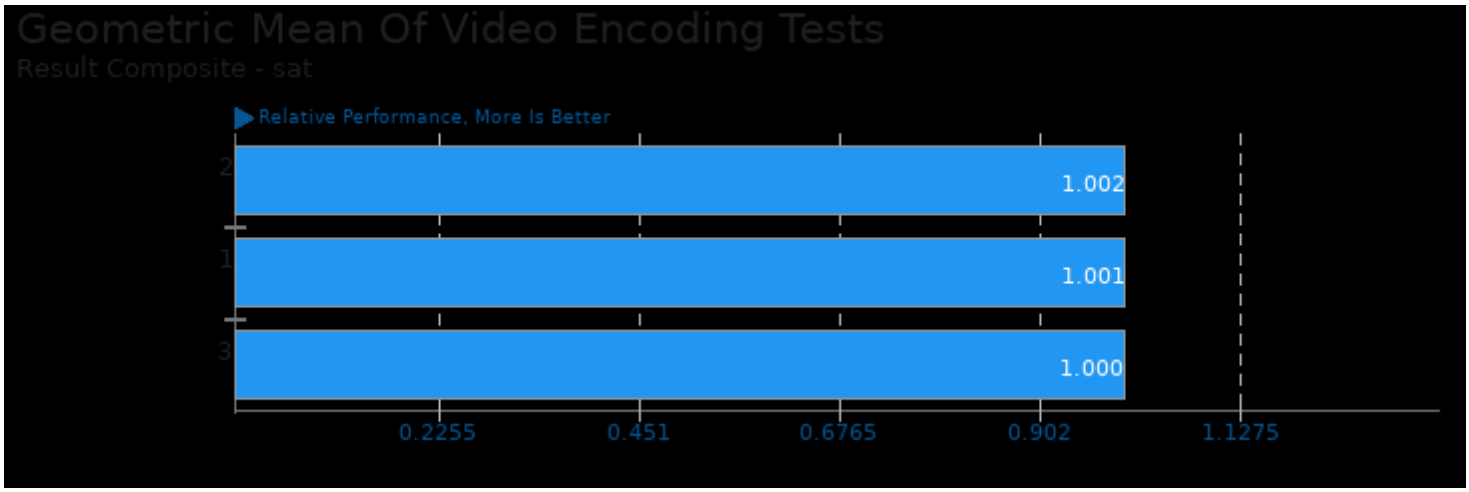
Geometric mean based upon tests: pts/kvazaar and pts/aom-av1

sat



Geometric mean based upon tests: pts/npb and pts/opencv

Geometric mean based upon tests: pts/kvazaar, pts/aom-av1 and pts/npb



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 11:52.