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new stuff

AMD Ryzen Threadripper 3990X 64-Core testing with a Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS) and AMD Radeon RX 5700 8GB on Ubuntu 23.04 via the Phoronix Test Suite.

Automated Executive Summary

b had the most wins, coming in first place for 39% of the tests.

Based on the geometric mean of all complete results, the fastest (b) was 1.007x the speed of the slowest (a). c was 0.996x the speed of b and a was 0.997x the speed of c.

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

AOM AV1 (Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p) at 1.079x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p) at 1.047x
AOM AV1 (Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p) at 1.032x
AOM AV1 (Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p) at 1.028x
AOM AV1 (Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K) at 1.026x
AOM AV1 (Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K) at 1.024x
AOM AV1 (Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p) at 1.018x
AOM AV1 (Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K) at 1.013x
AOM AV1 (Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K) at 1.012x

GravityMark (Resolution: 3840 x 2160 - Renderer: OpenGL) at 1.009x.

Test Systems:

a

b

c

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS), Chipset: AMD Starship/Matisse, Memory: 128GB, Disk: Samsung SSD 970 EVO Plus 500GB + 257GB Flash Drive, Graphics: AMD Radeon RX 5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 23.04, Kernel: 6.2.0-060200rc7daily20230206-generic (x86_64), Desktop: GNOME Shell 43.2, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.2.5 (LLVM 15.0.6 DRM 3.49), Compiler: GCC 12.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-cet --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-multilib --enable-nls --enable-objc-gc=auto --enable-offload-defaulted --enable-offload-targets=nvptx-none=/build/gcc-12-AKimc9/gcc-12-12.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-12-AKimc9/gcc-12-12.2.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8301055
Graphics Notes: BAR1 / Visible vRAM Size: 256 MB - vBIOS Version: 113-D1820201-101
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Mitigation of untrained return thunk; SMT enabled with STIBP protection + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines IBPB: conditional STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

	a	b	c
GravityMark - 1920 x 1080 - OpenGL (FPS)	**102.0**	101.9	**101.5**
Normalized	100%	99.9%	99.51%
Standard Deviation	0.1%		
GravityMark - 1920 x 1080 - Vulkan (FPS)	**100.6**	**100.8**	**100.6**
Normalized	99.8%	100%	99.8%
Standard Deviation	0.3%		
GravityMark - 1920 x 1200 - OpenGL (FPS)	**101.6**	**101.6**	**102.2**
Normalized	99.41%	99.41%	100%
Standard Deviation	0.1%		
GravityMark - 1920 x 1200 - Vulkan (FPS)	**100.5**	**100.1**	100.3
Normalized	100%	99.6%	99.8%
Standard Deviation	0.3%		

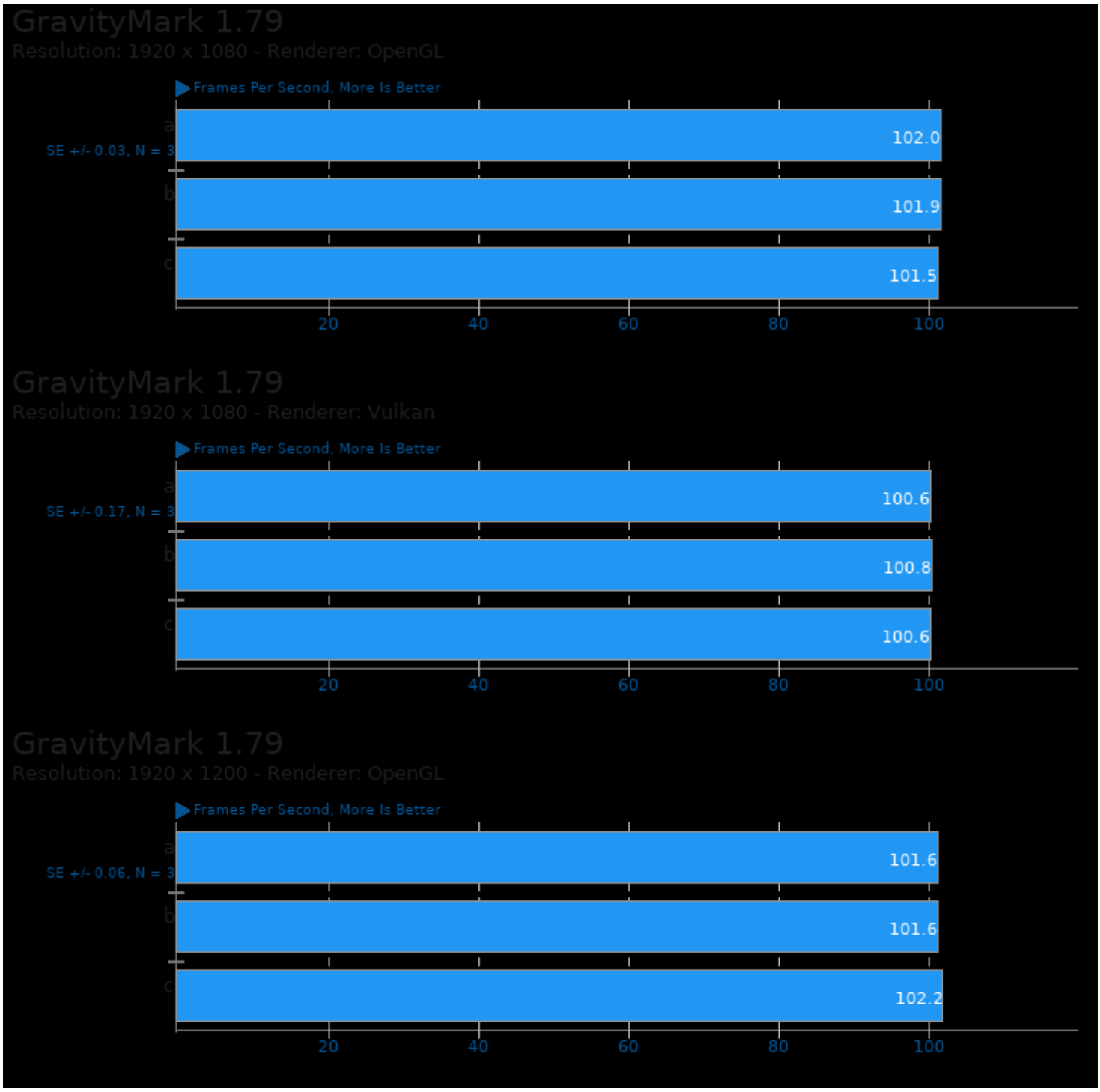
new stuff

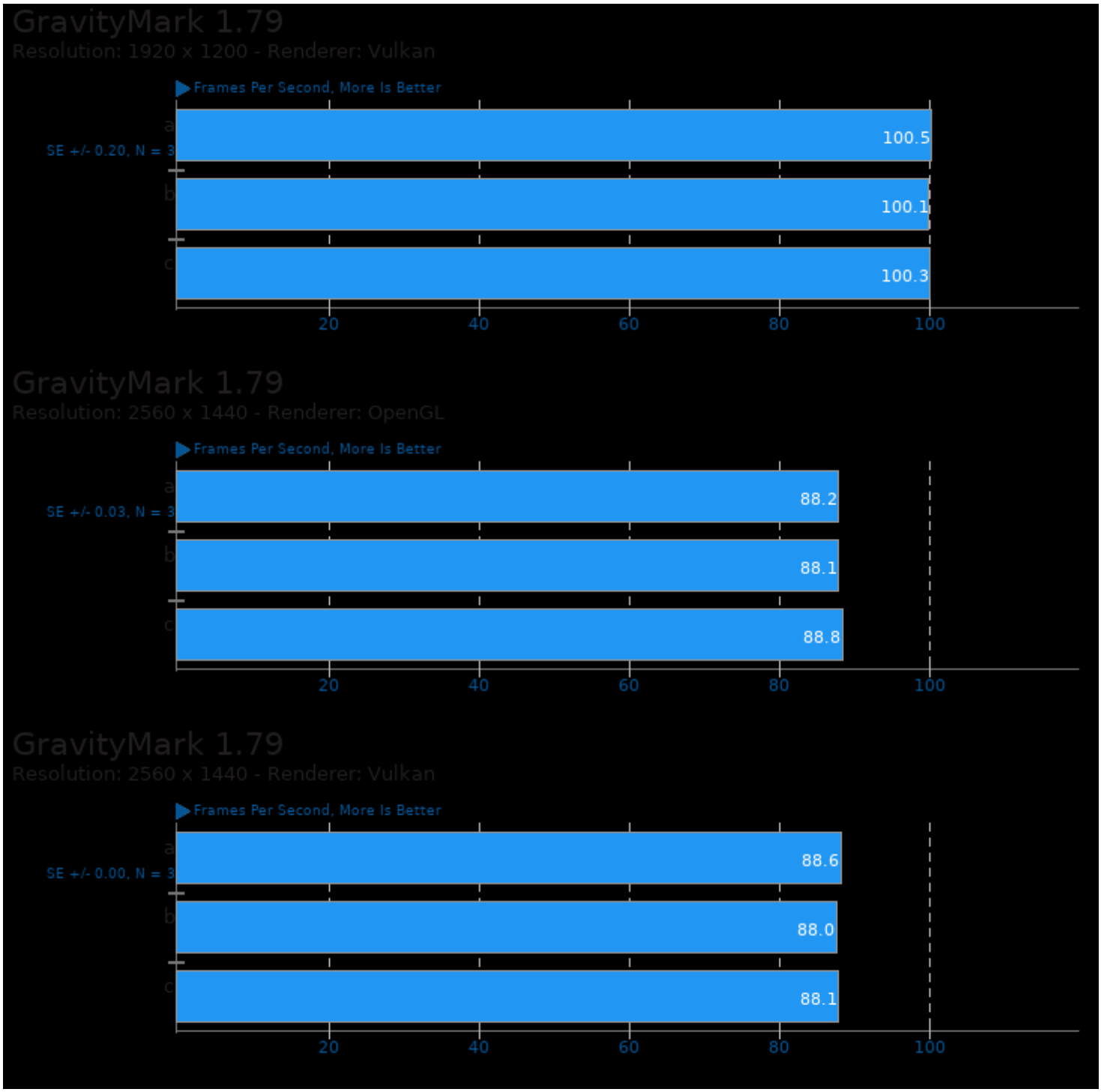
GravityMark - 2560 x 1440 - OpenGL (FPS)	88.2	**88.1**	**88.8**
Normalized	99.32%	99.21%	100%
Standard Deviation	0.1%		
GravityMark - 2560 x 1440 - Vulkan (FPS)	**88.6**	**88**	88.1
Normalized	100%	99.32%	99.44%
Standard Deviation	0%		
GravityMark - 3840 x 2160 - OpenGL (FPS)	**64.1**	**64.1**	**64.7**
Normalized	99.07%	99.07%	100%
Standard Deviation	0.1%		
GravityMark - 3840 x 2160 - Vulkan (FPS)	65.0	**65.5**	**64.9**
Normalized	99.24%	100%	99.08%
Standard Deviation	0.6%		
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.41	0.41	0.41
Standard Deviation	0%		
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**8.98**	**9.03**	**8.98**
Normalized	99.45%	100%	99.45%
Standard Deviation	0.3%		
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	48.15	**48.58**	**47.95**
Normalized	99.11%	100%	98.7%
Standard Deviation	1.2%		
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	15.54	**15.49**	**15.67**
Normalized	99.17%	98.85%	100%
Standard Deviation	1.2%		
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	**41.80**	**42.13**	41.88
Normalized	99.22%	100%	99.41%
Standard Deviation	0.9%		
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**48.81**	**49.97**	48.99
Normalized	97.68%	100%	98.04%
Standard Deviation	0.7%		
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	**48.96**	49.88	**50.25**
Normalized	97.43%	99.26%	100%
Standard Deviation	1.9%		
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	**1.08**	**1.07**	**1.08**
Normalized	100%	99.07%	100%
Standard Deviation	0.5%		
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**15.71**	15.68	**15.6**
Normalized	100%	99.81%	99.3%
Standard Deviation	0.8%		
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**96.70**	**98.4**	96.78
Normalized	98.27%	100%	98.35%
Standard Deviation	1.4%		

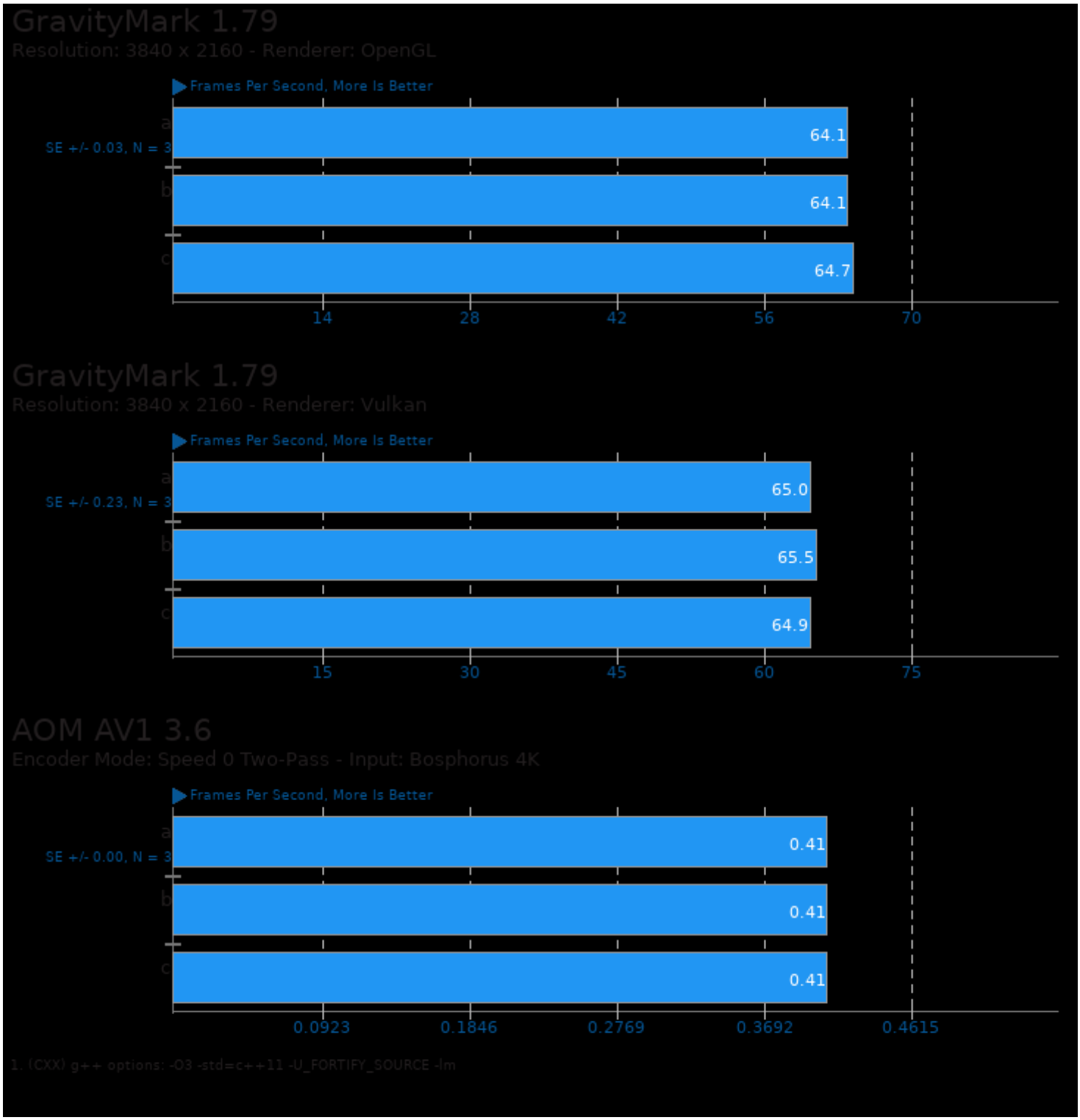
new stuff

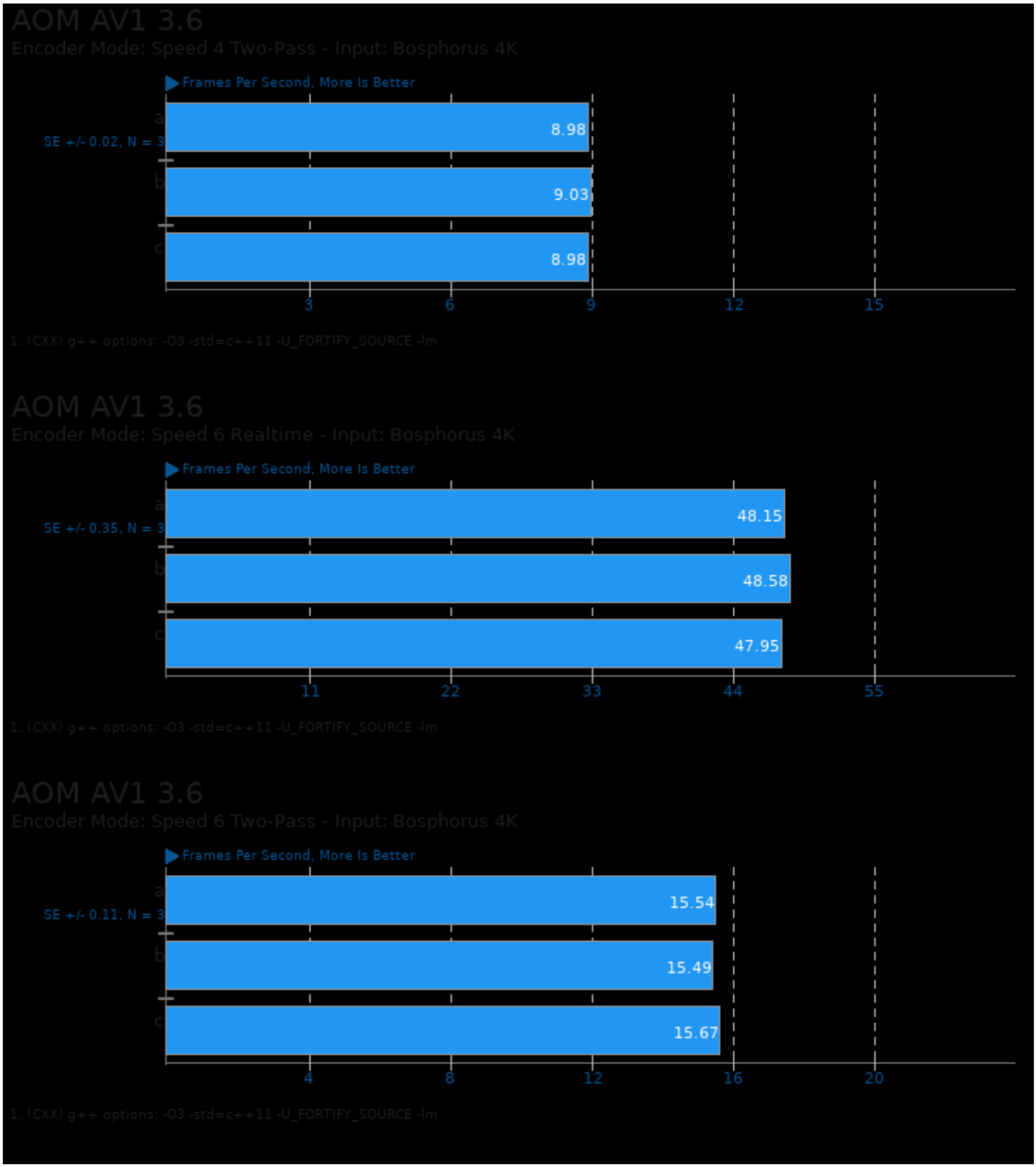
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**36.52**	37.31	**37.7**
Normalized	96.87%	98.97%	100%
Standard Deviation	2.1%		
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	92.94	**92.1**	**94.68**
Normalized	98.16%	97.28%	100%
Standard Deviation	1.9%		
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**100.90**	**105.68**	102.85
Normalized	95.48%	100%	97.32%
Standard Deviation	2.9%		
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	102.83	**107.05**	**99.19**
Normalized	96.06%	100%	92.66%
Standard Deviation	2.2%		
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	**3.713**	3.722	**3.725**
Normalized	99.68%	99.92%	100%
Standard Deviation	0.2%		

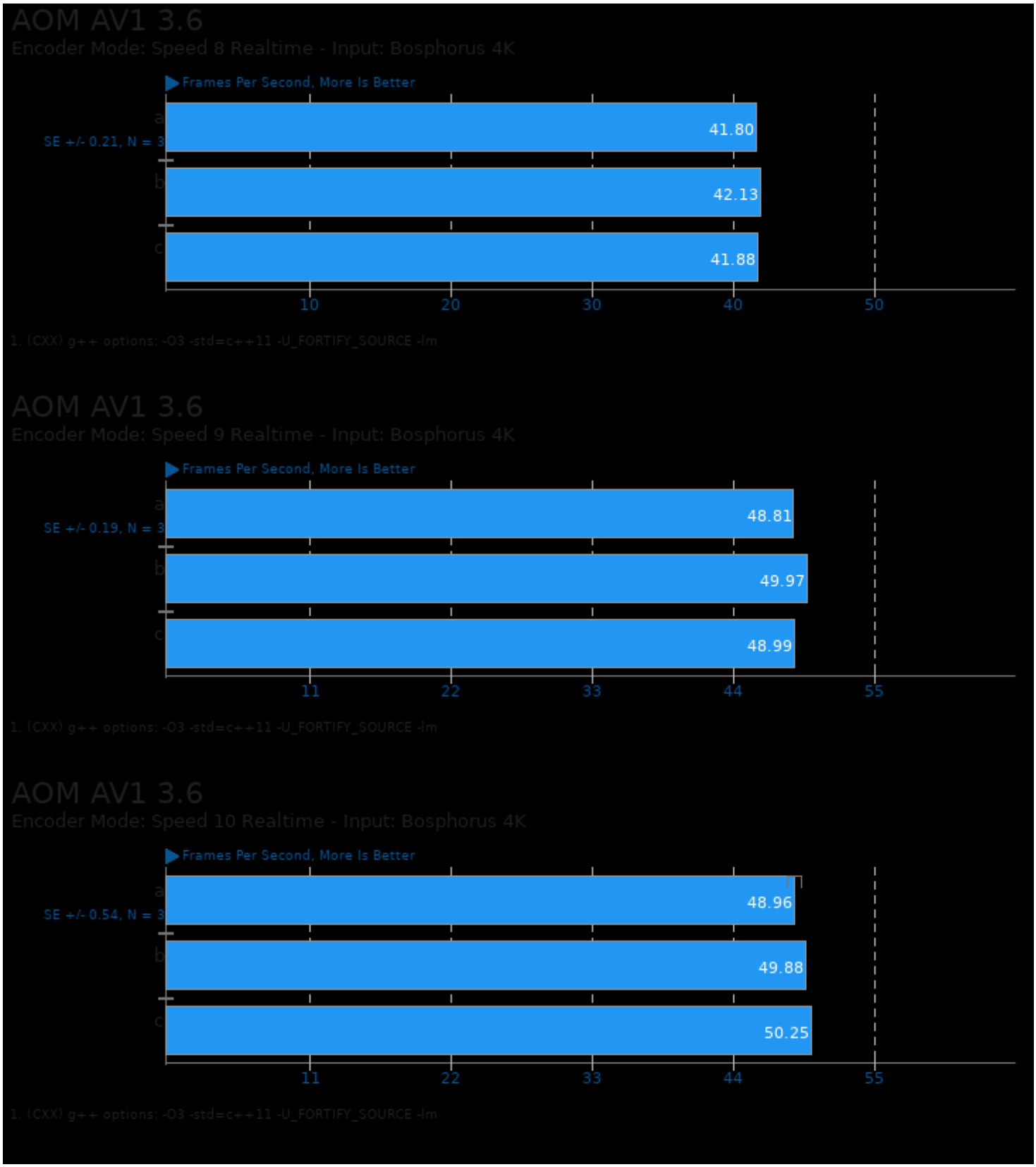
new stuff

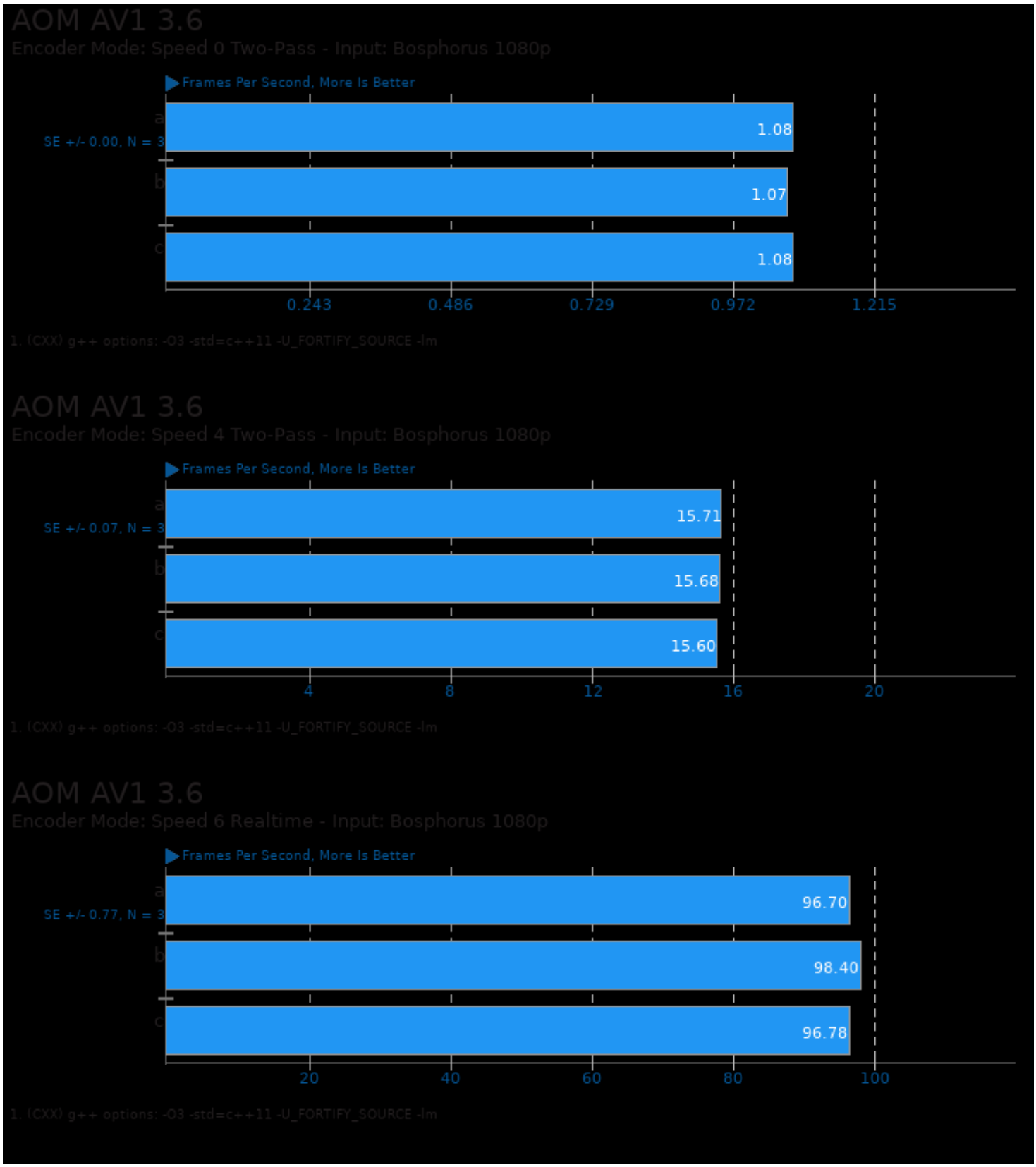

GravityMark 1.79
Resolution: 1920 x 1080 - Renderer: OpenGL
Frames Per Second, More Is Better
SE +/- 0.03, N = 3
a
b
c
102.0
101.9
101.5
20
40
60
80
100
GravityMark 1.79
Resolution: 1920 x 1080 - Renderer: Vulkan
Frames Per Second, More Is Better
SE +/- 0.17, N = 3
a
b
c
100.6
100.8
100.6
20
40
60
80
100
GravityMark 1.79
Resolution: 1920 x 1200 - Renderer: OpenGL
Frames Per Second, More Is Better
SE +/- 0.06, N = 3
a
b
c
101.6
101.6
102.2
20
40
60
80
100

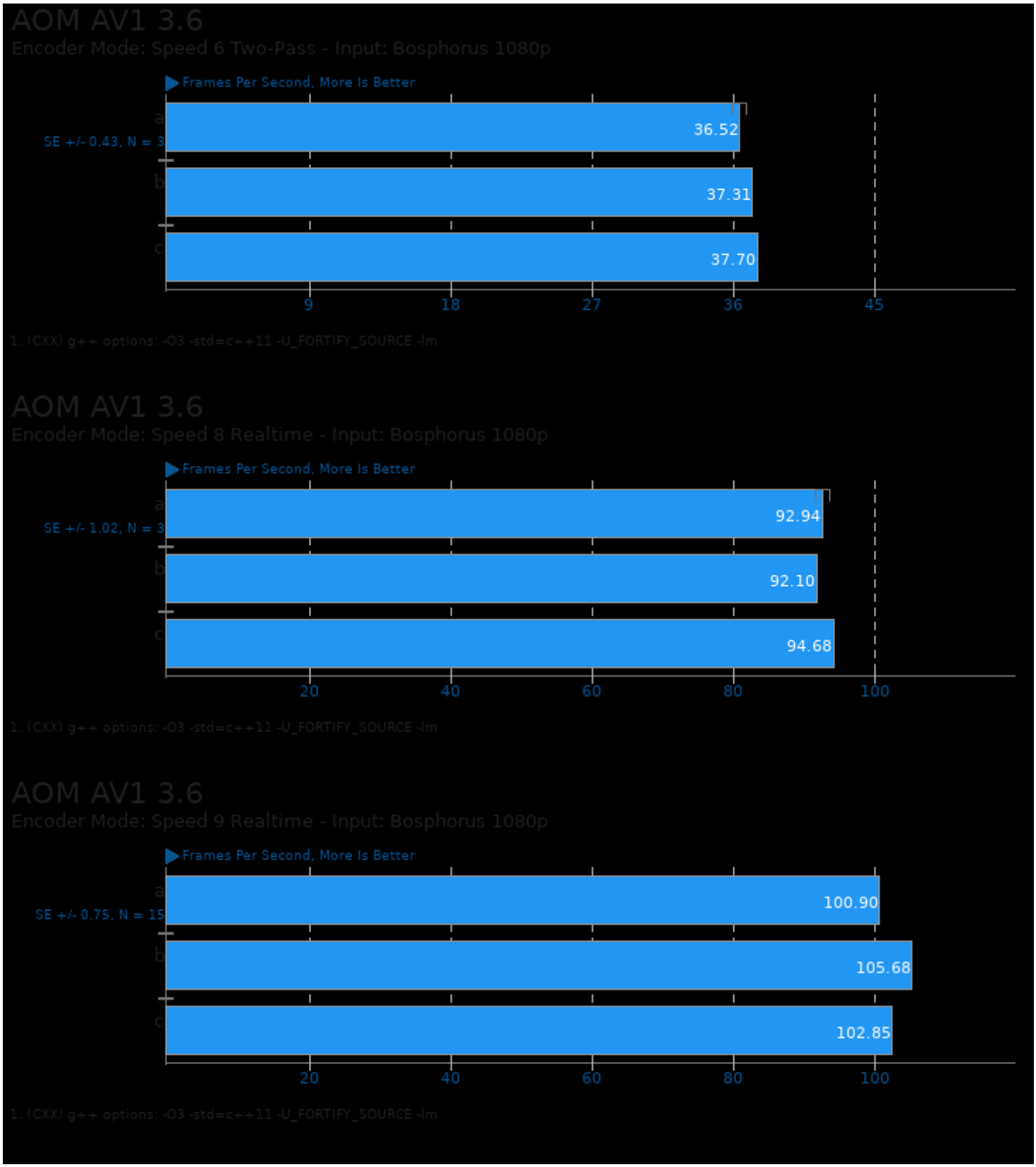

GravityMark 1.79
Resolution: 1920 x 1200 - Renderer: Vulkan
Frames Per Second, More Is Better
SE +/- 0.20, N = 3
a
b
c
100.5
100.1
100.3
20
40
60
80
100
GravityMark 1.79
Resolution: 2560 x 1440 - Renderer: OpenGL
Frames Per Second, More Is Better
SE +/- 0.03, N = 3
a
b
c
88.2
88.1
88.8
20
40
60
80
100
GravityMark 1.79
Resolution: 2560 x 1440 - Renderer: Vulkan
Frames Per Second, More Is Better
SE +/- 0.00, N = 3
a
b
c
88.6
88.0
88.1
20
40
60
80
100

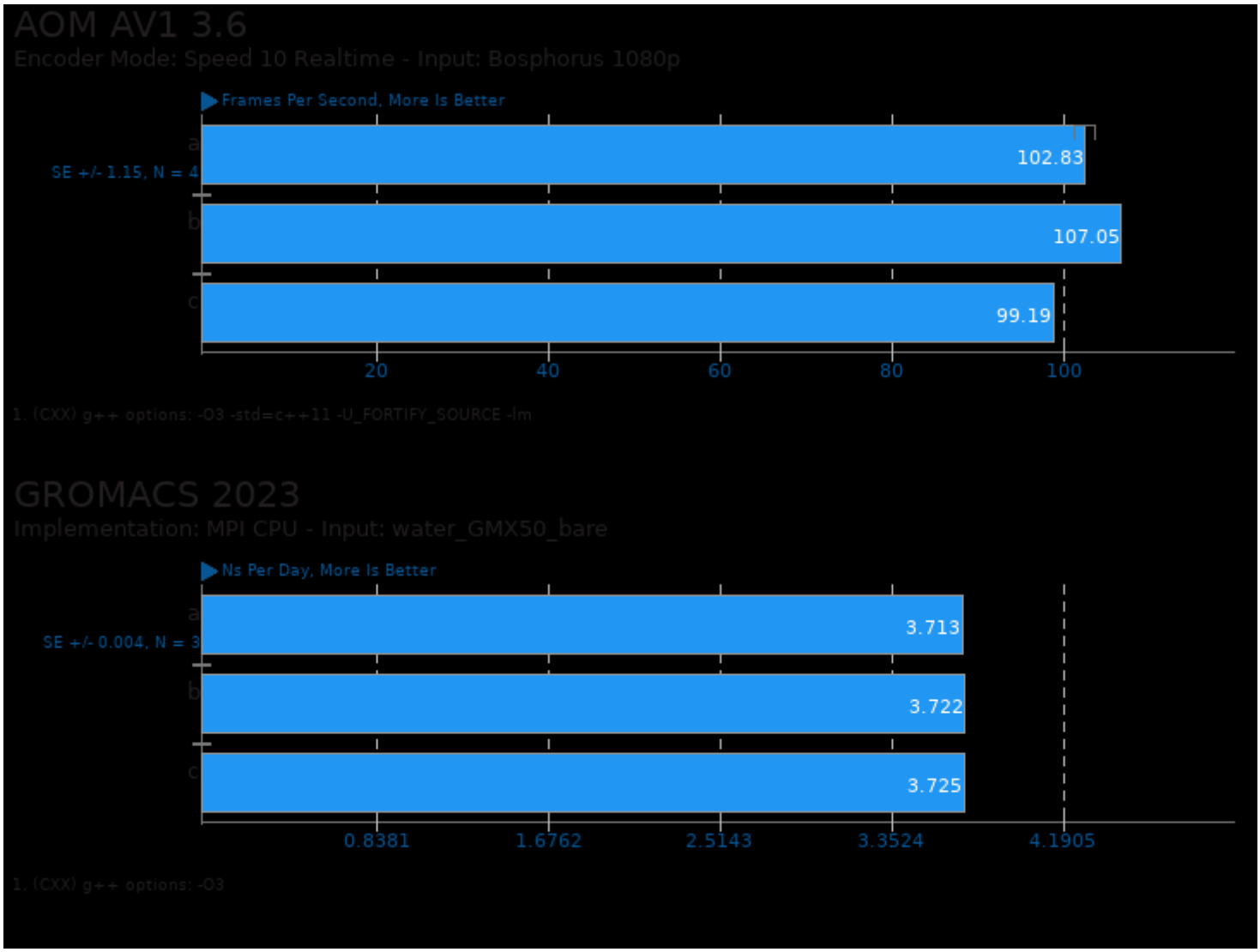

GravityMark 1.79
Resolution: 3840 x 2160 - Renderer: OpenGL
Frames Per Second, More Is Better
SE +/- 0.03, N = 3
a
b
c
64.1
64.1
64.7
14
28
42
56
70
GravityMark 1.79
Resolution: 3840 x 2160 - Renderer: Vulkan
Frames Per Second, More Is Better
SE +/- 0.23, N = 3
a
b
c
65.0
65.5
64.9
15
30
45
60
75
AOM AV1 3.6
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.00, N = 3
a
b
c
0.41
0.41
0.41
0.0923
0.1846
0.2769
0.3692
0.4615
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm


AOM AV1 3.6
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.02, N = 3
a
8.98
b
9.03
c
8.98
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.35, N = 3
a
48.15
b
48.58
c
47.95
11
22
33
44
55
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.11, N = 3
a
15.54
b
15.49
c
15.67
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm


AOM AV1 3.6
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.21, N = 3
a
41.80
b
42.13
c
41.88
10
20
30
40
50
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.19, N = 3
a
48.81
b
49.97
c
48.99
11
22
33
44
55
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
SE +/- 0.54, N = 3
a
48.96
b
49.88
c
50.25
11
22
33
44
55
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm

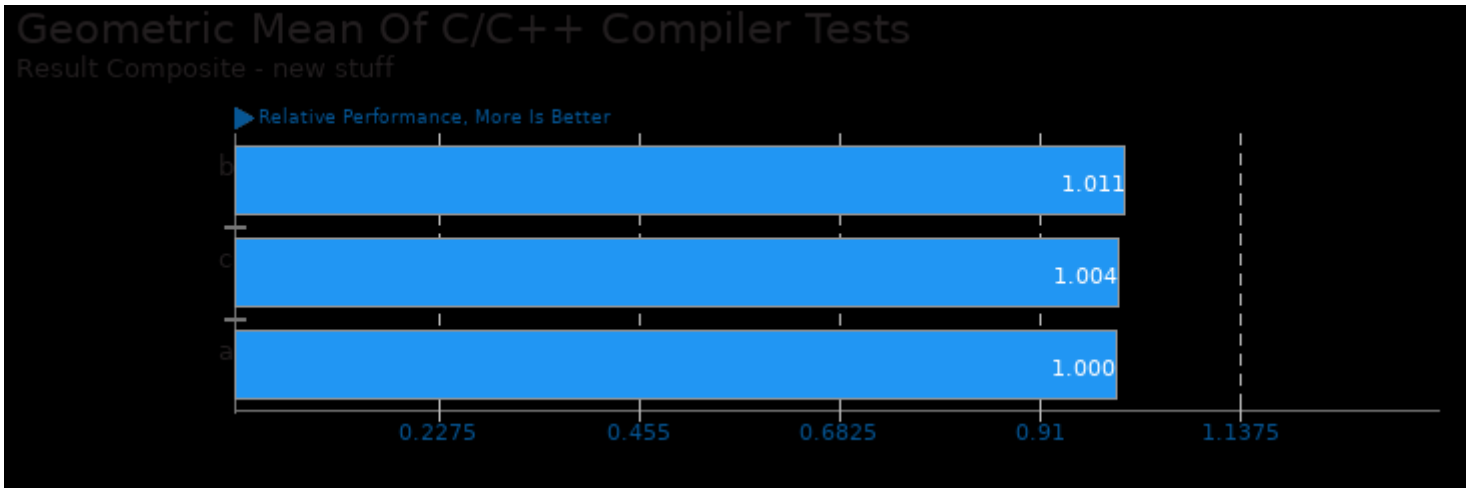

AOM AV1 3.6
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.00, N = 3
a
1.08
b
1.07
c
1.08
0.243
0.486
0.729
0.972
1.215
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.07, N = 3
a
15.71
b
15.68
c
15.60
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.77, N = 3
a
96.70
b
98.40
c
96.78
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm


AOM AV1 3.6
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.43, N = 3
a
36.52
b
37.31
c
37.70
9
18
27
36
45
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 1.02, N = 3
a
92.94
b
92.10
c
94.68
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
AOM AV1 3.6
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 0.75, N = 15
a
100.90
b
105.68
c
102.85
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm


AOM AV1 3.6
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
SE +/- 1.15, N = 4
a
b
c
102.83
107.05
99.19
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm
GROMACS 2023
Implementation: MPI CPU - Input: water_GMX50_bare
Ns Per Day, More Is Better
SE +/- 0.004, N = 3
a
b
c
3.713
3.722
3.725
0.8381
1.6762
2.5143
3.3524
4.1905
1. (CXX) g++ options: -O3

new stuff

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



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



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 07:45.