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4500u mid

AMD Ryzen 5 4500U testing with a LENOVO LNVNB161216 (EECN20WW BIOS) and AMD Renoir 512MB on Ubuntu 21.10 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 40% of the tests.

Based on the geometric mean of all complete results, the fastest (B) was 1.023x the speed of the slowest (C). A was 0.995x the speed of B, D was 0.987x the speed of A, C was 0.996x the speed of D.

Test Systems:

A

B

C

D

Processor: AMD Ryzen 5 4500U @ 2.38GHz (6 Cores), Motherboard: LENOVO LNVNB161216 (EECN20WW BIOS), Chipset: AMD Renoir/Cezanne, Memory: 16GB, Disk: 256GB SK hynix HFM256GDHTNI-87A0B, Graphics: AMD Renoir 512MB (1500/400MHz), Audio: AMD Renoir Radeon HD Audio, Network: Realtek RTL8822CE 802.11ac PCIe

OS: Ubuntu 21.10, Kernel: 5.16.0-051600rc8daily20220108-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.0-devel (git-9cb9101 2022-01-08 impish-oibaf-ppa) (LLVM 13.0.0 DRM 3.44), Vulkan: 1.2.199, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --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-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/gcc-11-11.2.0/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-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: acpi-cpufreq schedutil (Boost: Enabled) - Platform Profile: balanced - CPU Microcode: 0x8600102 - ACPI Profile: balanced
Graphics Notes: BAR1 / Visible vRAM Size: 512 MB
Python Notes: Python 3.9.7
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

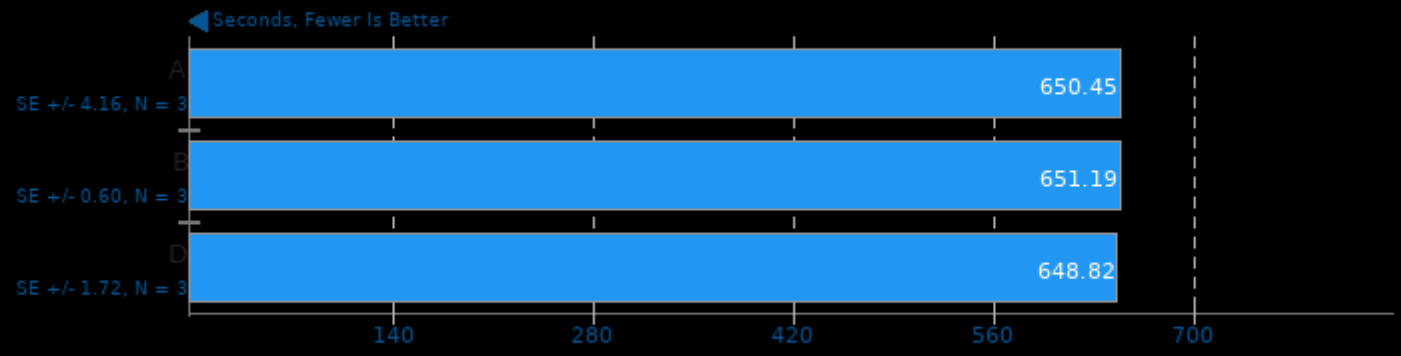
	A	B	C	D
GPAW - Carbon Nanotube (sec)	650.447	**651.190**		**648.817**
Normalized	99.75%	99.64%		100%
Standard Deviation	1.1%	0.2%		0.5%
libgav1 - C.1.1.b (FPS)	26.16	26.10	**26.09**	**26.39**
Normalized	99.13%	98.9%	98.86%	100%
Standard Deviation	1.2%	2.5%	2.3%	0.7%
libgav1 - Chimera 1080p (FPS)	**73.58**	70.22	69.85	**69.76**
Normalized	100%	95.43%	94.93%	94.81%
Standard Deviation	11.2%	1.1%	1.6%	1.8%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	**328.77**	**358.98**	343.32	352.27
Normalized	91.58%	100%	95.64%	98.13%
Standard Deviation	12.4%	2.3%	6.6%	0.3%
libgav1 - Summer Nature 4K (FPS)	**38.15**	38.04	38.13	**37.6**
Normalized	100%	99.71%	99.95%	98.56%
Standard Deviation	0.1%	0.4%	0.1%	0.7%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	636.30	**636.80**	**594.24**	607.86
Normalized	99.92%	100%	93.32%	95.46%
Standard Deviation	1.1%	2.3%	0.9%	1.1%
QMCPACK - simple-H2O (Execution Time - sec)	31.915	**31.249**	**34.051**	33.648
Normalized	97.91%	100%	91.77%	92.87%
Standard Deviation	0.9%	1.5%	0.6%	0.8%

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libgav1 - S.N.1 (FPS)	**127.35**	126.77	126.80	**124.75**
Normalized	100%	99.54%	99.57%	97.96%
Standard Deviation	2.4%	0.5%	1.2%	0.5%
Google Draco - Church Facade (ms)	9268	**9299**	**9299**	**9254**
Normalized	99.85%	99.52%	99.52%	100%
Standard Deviation	0.1%	0.4%	0.2%	0.1%
Google Draco - Lion (ms)	**6124**	6142	6135	**6166**
Normalized	100%	99.71%	99.82%	99.32%
Standard Deviation	0.1%	0.4%	0.4%	0.6%

GPAW 22.1

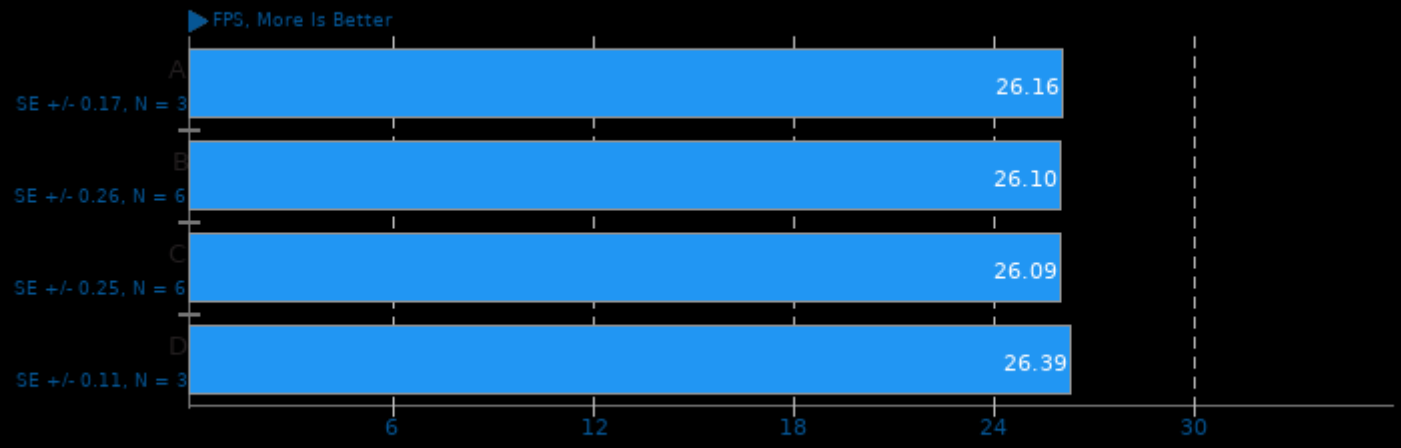
Input: Carbon Nanotube



1. (CC) gcc options: -shared -fwrapv -O2 -lxc -lblas -lmpi

libgav1 0.17

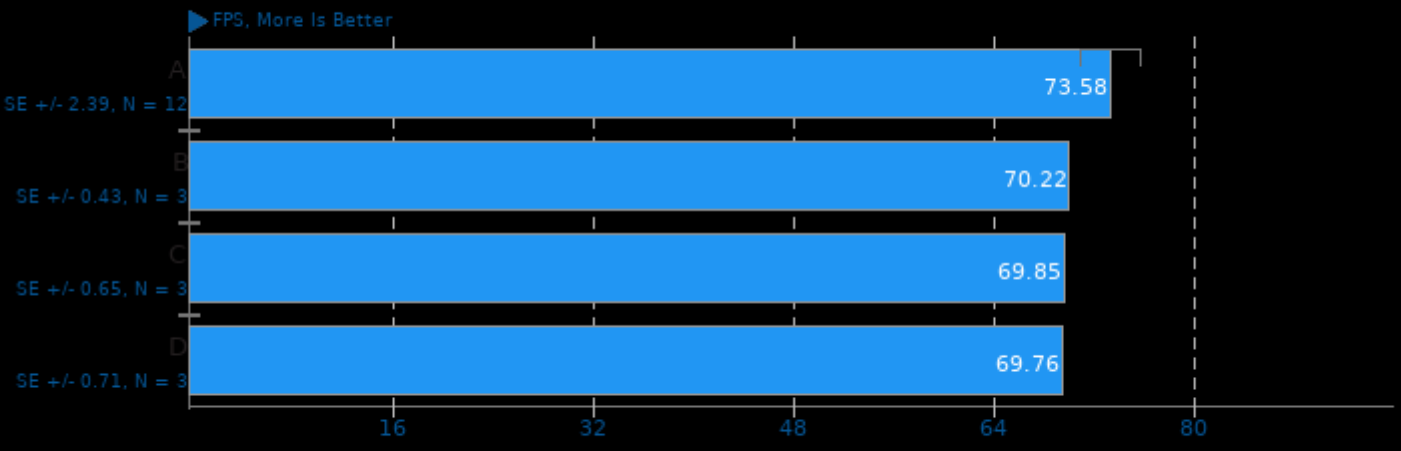
Video Input: Chimera 1080p 10-bit



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

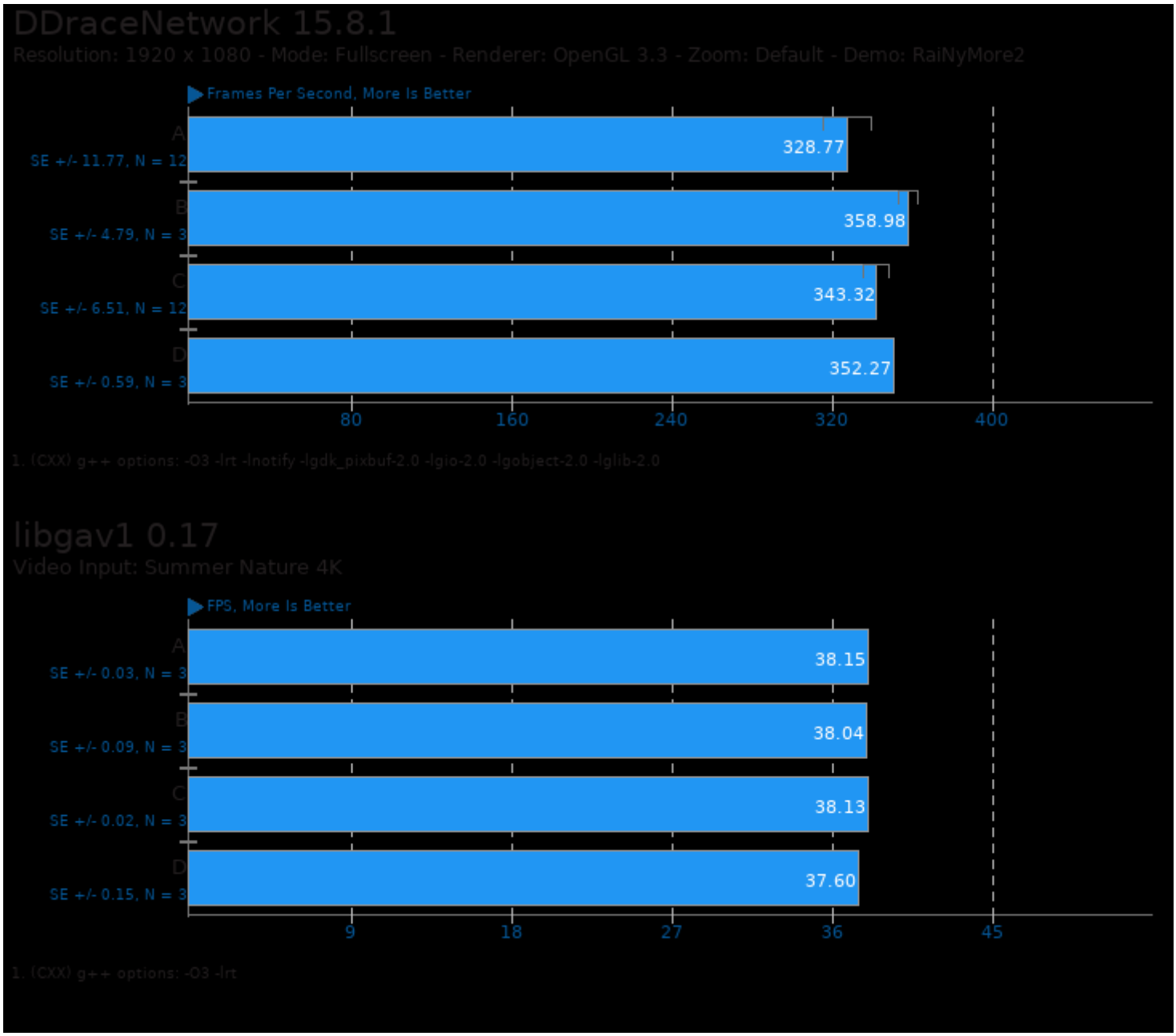
libgav1 0.17

Video Input: Chimera 1080p

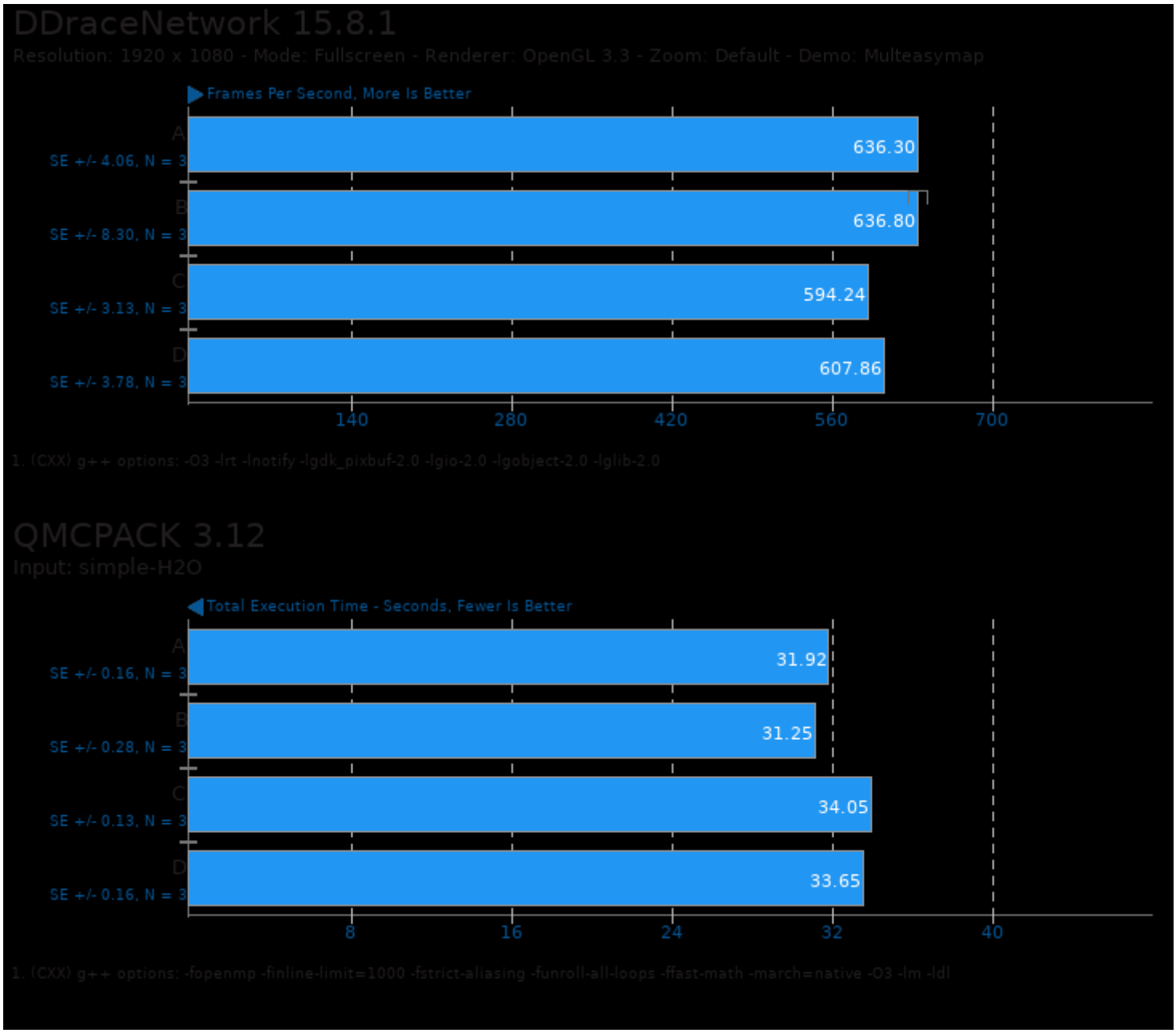


1. (CXX) g++ options: -O3 -lrt

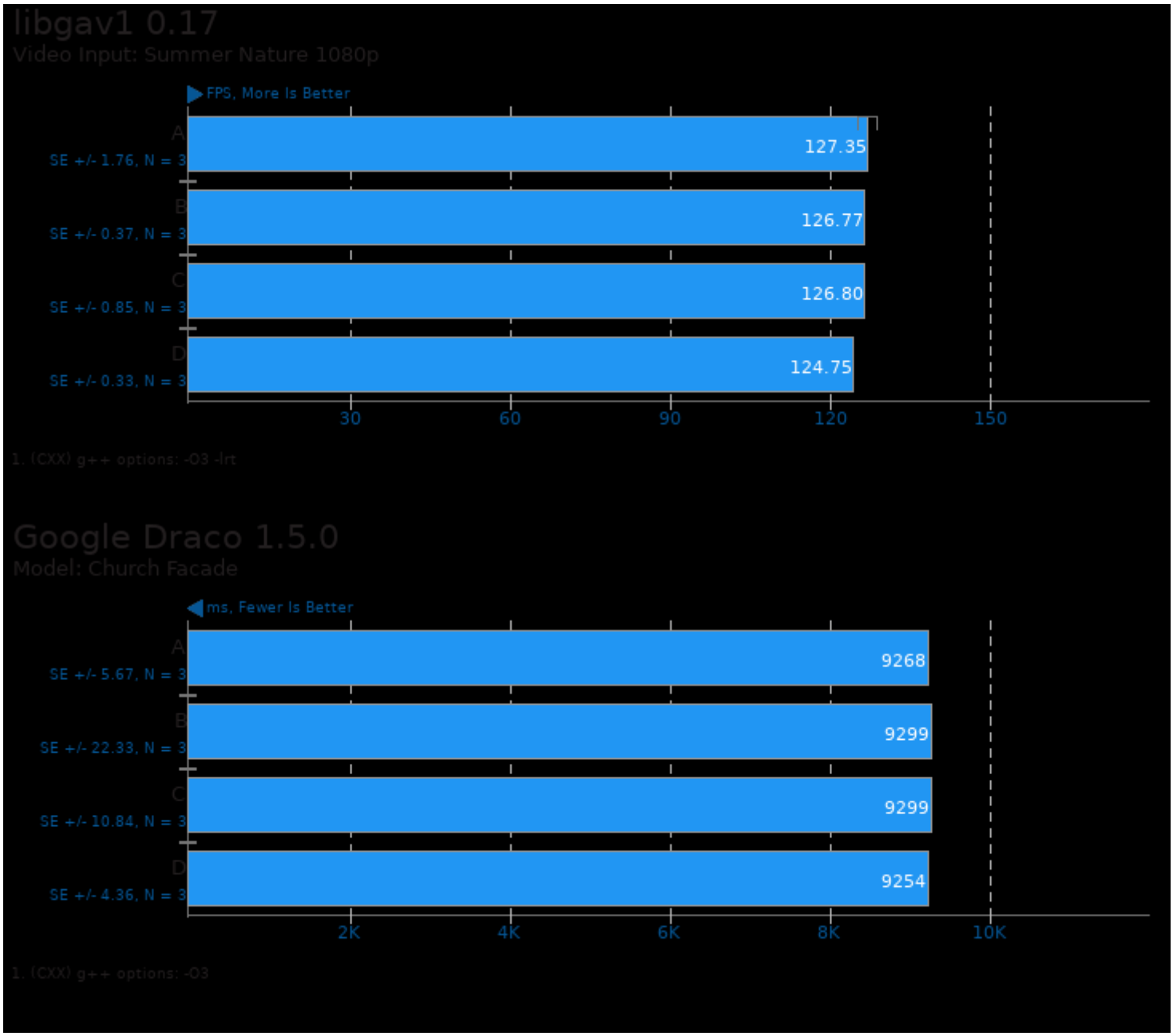
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DDraceNetwork 15.8.1
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2
Frames Per Second, More Is Better
A
SE +/- 11.77, N = 12
328.77
B
SE +/- 4.79, N = 3
358.98
C
SE +/- 6.51, N = 12
343.32
D
SE +/- 0.59, N = 3
352.27
80
160
240
320
400
1. (CXX) g++ options: -O3 -lrt -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0
libgav1 0.17
Video Input: Summer Nature 4K
FPS, More Is Better
A
SE +/- 0.03, N = 3
38.15
B
SE +/- 0.09, N = 3
38.04
C
SE +/- 0.02, N = 3
38.13
D
SE +/- 0.15, N = 3
37.60
9
18
27
36
45
1. (CXX) g++ options: -O3 -lrt

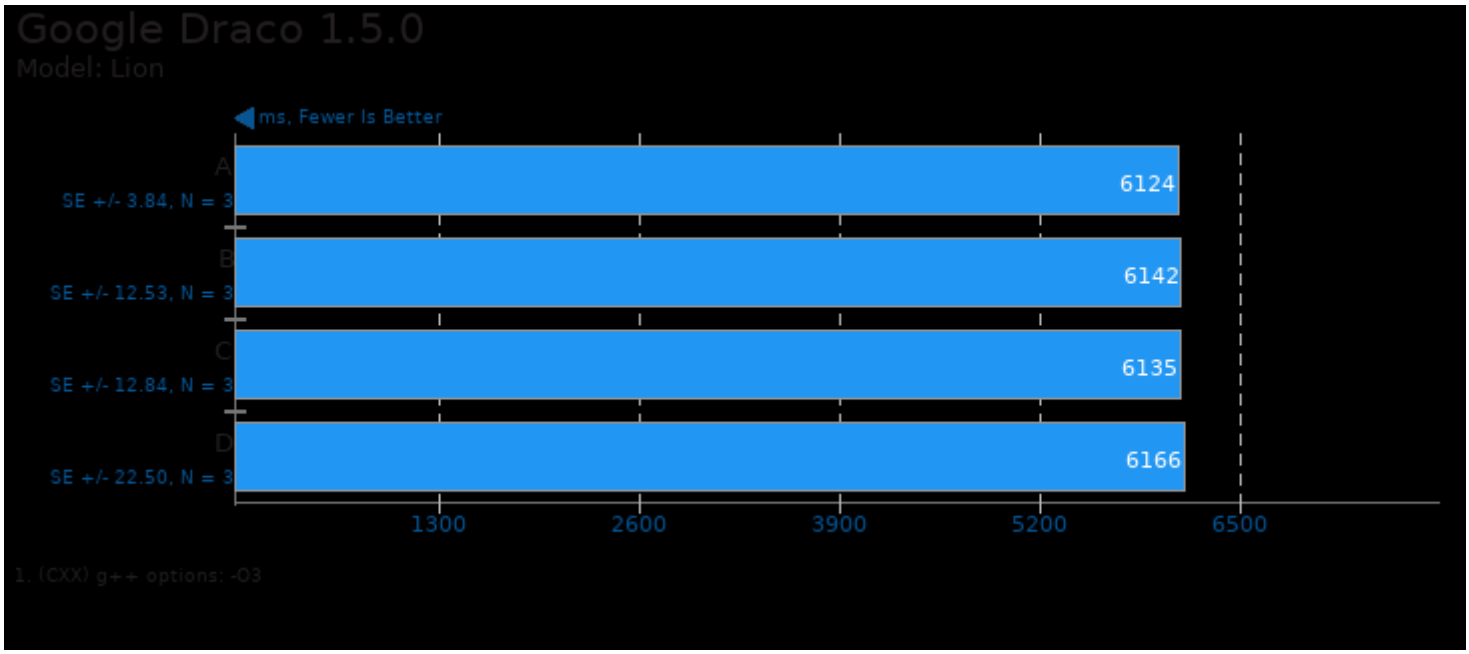
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DDraceNetwork 15.8.1
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap
Frames Per Second, More Is Better
A
SE +/- 4.06, N = 3
636.30
B
SE +/- 8.30, N = 3
636.80
C
SE +/- 3.13, N = 3
594.24
D
SE +/- 3.78, N = 3
607.86
140
280
420
560
700
1. (CXX) g++ options: -O3 -lrt -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0
QMCPACK 3.12
Input: simple-H2O
Total Execution Time - Seconds, Fewer Is Better
A
SE +/- 0.16, N = 3
31.92
B
SE +/- 0.28, N = 3
31.25
C
SE +/- 0.13, N = 3
34.05
D
SE +/- 0.16, N = 3
33.65
8
16
24
32
40
1. (CXX) g++ options: -fopenmp -finline-limit=1000 -fstrict-aliasing -funroll-all-loops -ffast-math -march=native -O3 -lm -ldl

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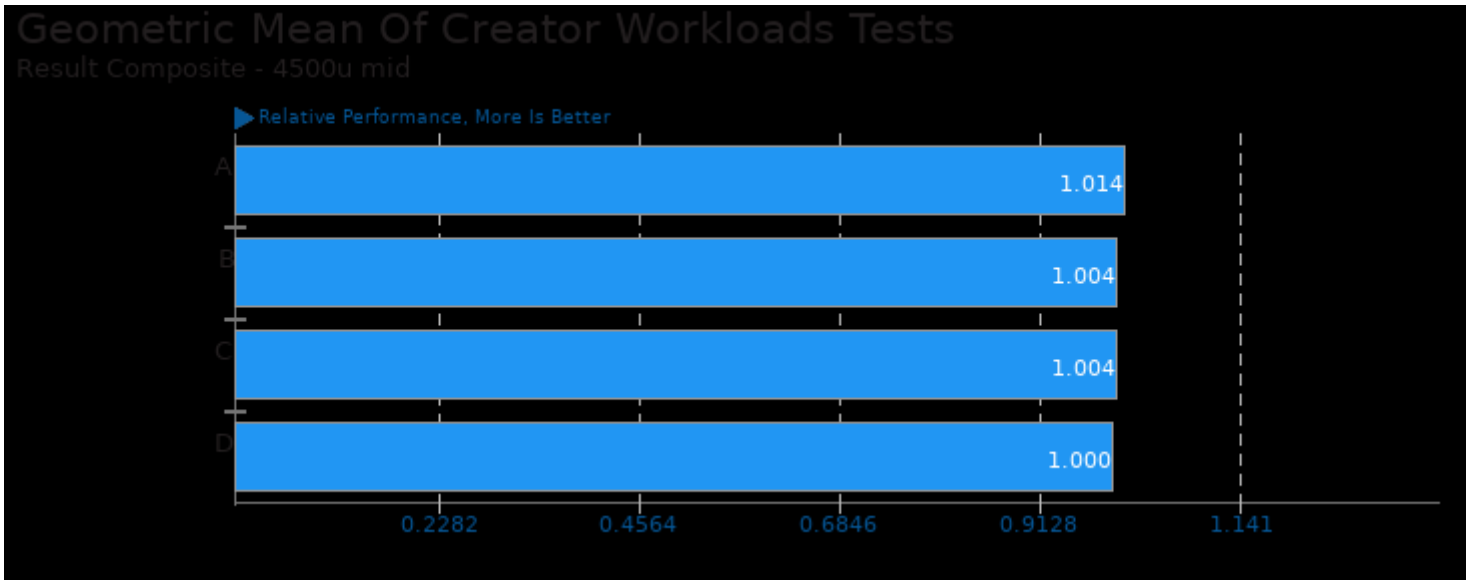

libgav1 0.17
Video Input: Summer Nature 1080p
FPS, More Is Better
A
SE +/- 1.76, N = 3
127.35
B
SE +/- 0.37, N = 3
126.77
C
SE +/- 0.85, N = 3
126.80
D
SE +/- 0.33, N = 3
124.75
30
60
90
120
150
1. (CXX) g++ options: -O3 -lrt
Google Draco 1.5.0
Model: Church Facade
ms, Fewer Is Better
A
SE +/- 5.67, N = 3
9268
B
SE +/- 22.33, N = 3
9299
C
SE +/- 10.84, N = 3
9299
D
SE +/- 4.36, N = 3
9254
2K
4K
6K
8K
10K
1. (CXX) g++ options: -O3

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Google Draco 1.5.0
Model: Lion
ms, Fewer Is Better
A
SE +/- 3.84, N = 3
6124
B
SE +/- 12.53, N = 3
6142
C
SE +/- 12.84, N = 3
6135
D
SE +/- 22.50, N = 3
6166
1300
2600
3900
5200
6500
1. (CXX) g++ options: -O3

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



Geometric mean based upon tests: pts/libgav1 and pts/draco

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 16:10.