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3950X mid jan

AMD Ryzen 9 3950X 16-Core testing with a ASUS ROG CROSSHAIR VII HERO (WI-FI) (3103 BIOS) and Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 4GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

B 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 1.012x the speed of the slowest (C). D was 1x the speed of B, A was 0.993x the speed of D, C was 0.995x the speed of A.

Test Systems:

A

B

C

D

Processor: AMD Ryzen 9 3950X 16-Core @ 3.50GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VII HERO (WI-FI) (3103 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 250GB, Graphics: Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 4GB (1260/1750MHz), Audio: AMD Ellesmere HDMI Audio, Monitor: VA2431, Network: Intel I211 + Realtek RTL8822BE 802.11a/b/g/n/ac

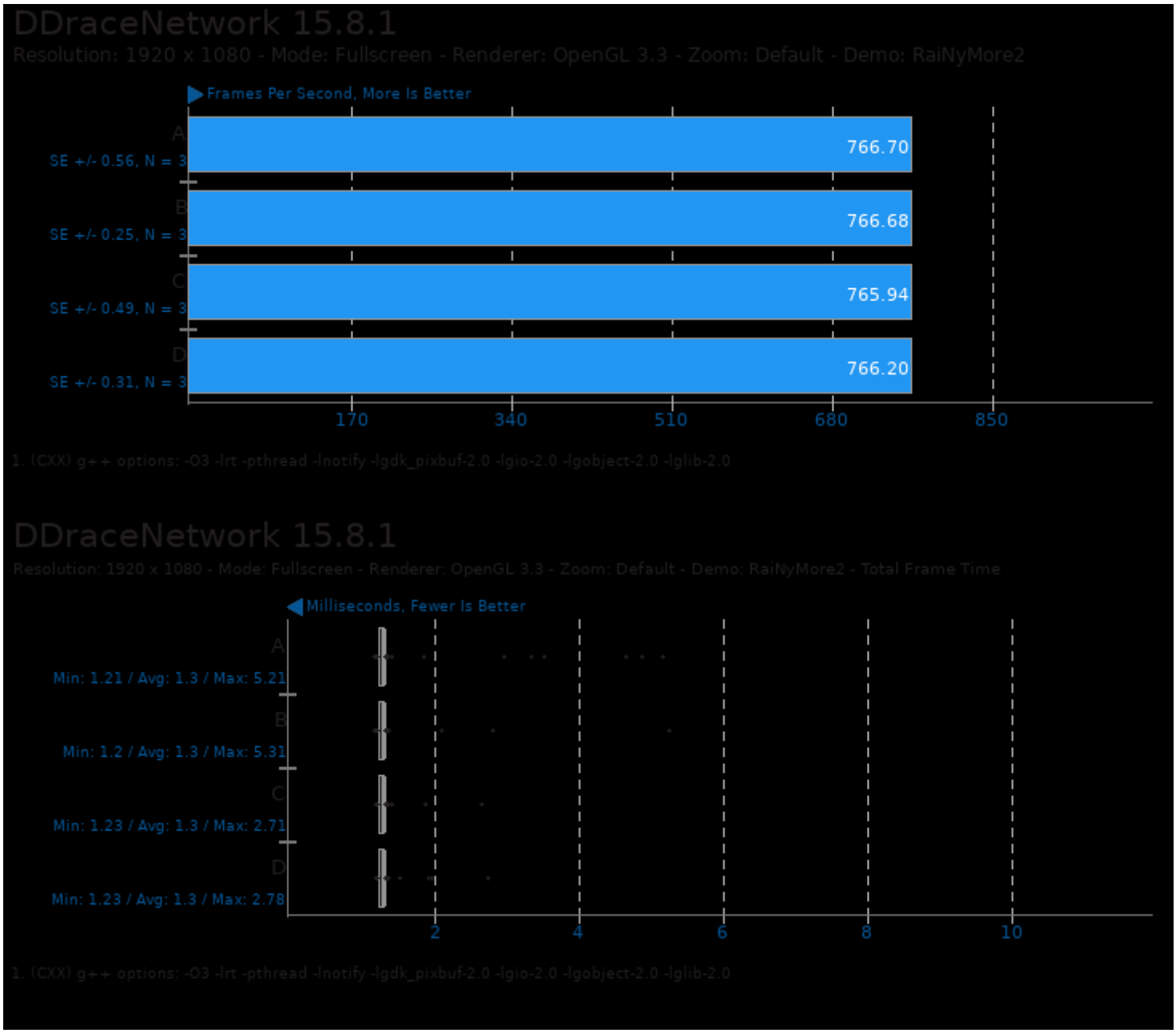
OS: Ubuntu 20.04, Kernel: 5.11.0-43-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.13, OpenGL: 4.6 Mesa 20.0.8 (LLVM 10.0.0), Vulkan: 1.2.128, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/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-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 ondemand (Boost: Enabled) - CPU Microcode: 0x8701021
Graphics Notes: GLAMOR - BAR1 / Visible vRAM Size: 256 MB
Python Notes: Python 2.7.18 + Python 3.8.10
Security Notes: itlb_multihit: Not affected + 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 Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

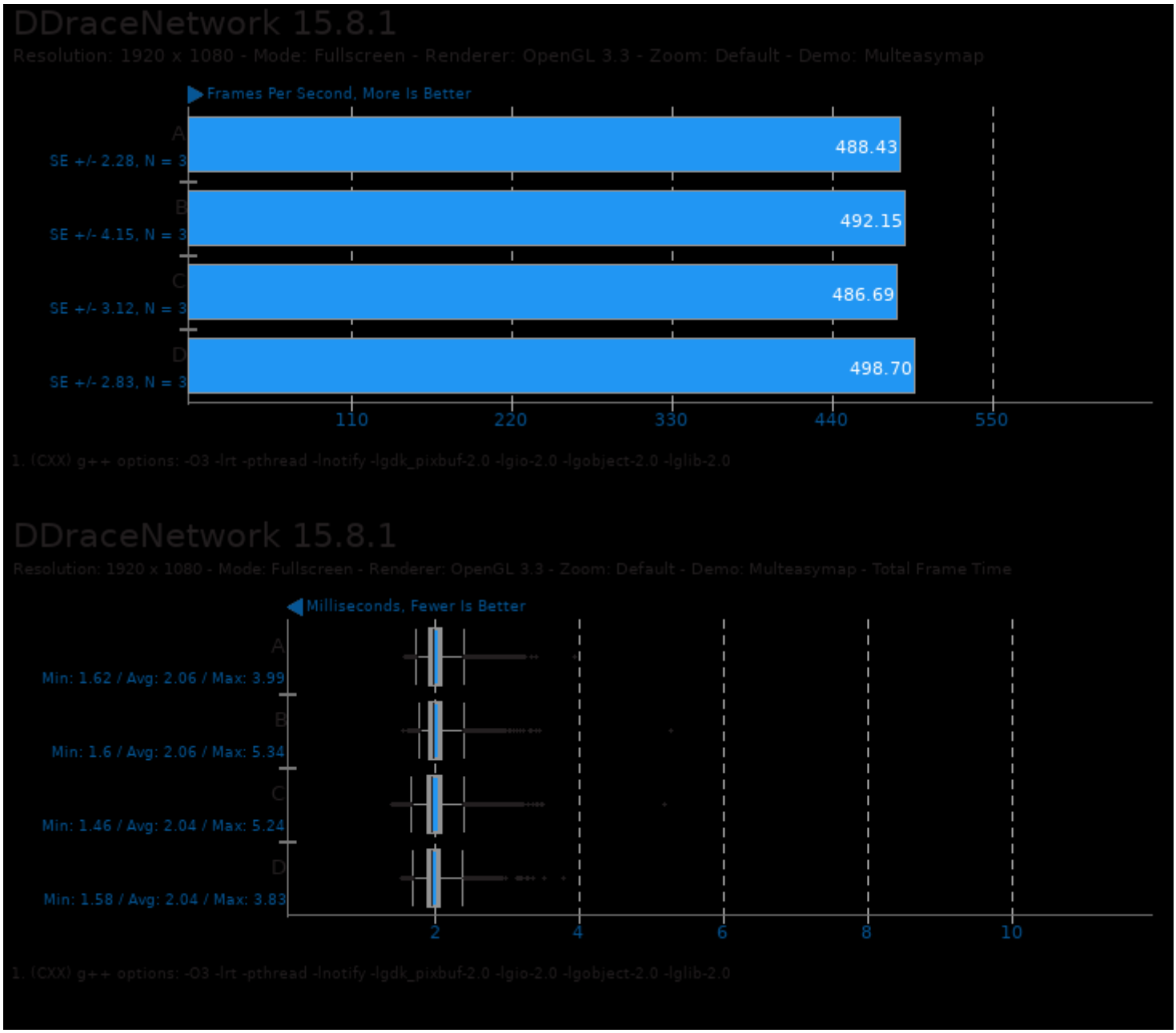
	A	B	C	D
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	**766.70**	766.68	**765.94**	766.20
Normalized	100%	100%	99.9%	99.93%
Standard Deviation	0.1%	0.1%	0.1%	0.1%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)	488.43	492.15	**486.69**	**498.70**
Normalized	97.94%	98.69%	97.59%	100%
Standard Deviation	0.8%	1.5%	1.1%	1%
Google Draco - Lion (ms)	4647	4636	**4805**	**4600**
Normalized	98.99%	99.22%	95.73%	100%
Standard Deviation	0.7%	1.3%	0.6%	0.9%
Google Draco - Church Facade (ms)	7101	**7037**	**7395**	7056
Normalized	99.1%	100%	95.16%	99.73%
Standard Deviation	1.4%	0.9%	0.3%	0.7%
GPAW - Carbon Nanotube (sec)	**321.365**	320.307	**319.757**	
Normalized	99.5%	99.83%	100%	
Standard Deviation	0.3%	0.1%	0.1%	
libgav1 - Chimera 1080p (FPS)	**145.92**	146.36	146.13	**146.61**
Normalized	99.53%	99.83%	99.67%	100%
Standard Deviation	0.3%	0.1%	0.3%	0%
libgav1 - Summer Nature 4K (FPS)	**62.60**	**63.50**	**63.50**	63.14
Normalized	98.58%	100%	100%	99.43%
Standard Deviation	0.2%	0.1%	0.1%	0.2%
libgav1 - S.N.1 (FPS)	**195.89**	197.89	**197.96**	197.73

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Normalized	98.95%	99.96%	100%	99.88%
Standard Deviation	0.4%	0.3%	0.2%	0.3%
libgav1 - C.1.1.b (FPS)	**51.36**	**51.71**	51.57	51.53
Normalized	99.32%	100%	99.73%	99.65%
Standard Deviation	0.2%	0.1%	0.1%	0.1%
QMCPACK - simple-H2O (Execution Time - sec)	**27.072**	**26.663**	26.898	27.021
Normalized	98.49%	100%	99.13%	98.68%
Standard Deviation	1.3%	0.5%	0.3%	0.9%

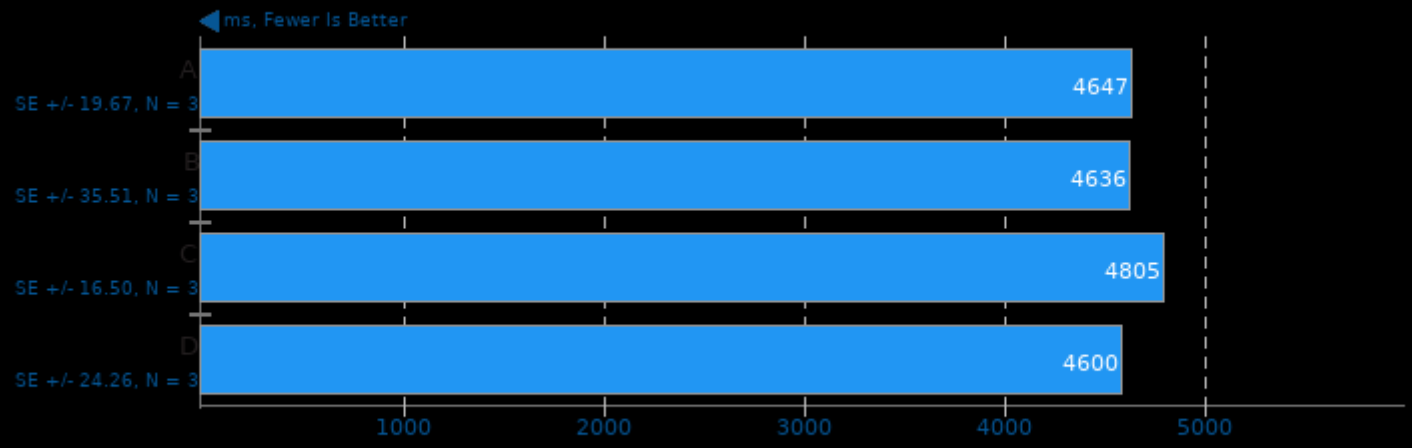

DDraceNetwork 15.8.1
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2
Frames Per Second, More Is Better
A
SE +/- 0.56, N = 3
766.70
B
SE +/- 0.25, N = 3
766.68
C
SE +/- 0.49, N = 3
765.94
D
SE +/- 0.31, N = 3
766.20
170
340
510
680
850
1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0
DDraceNetwork 15.8.1
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time
Milliseconds, Fewer Is Better
A
Min: 1.21 / Avg: 1.3 / Max: 5.21
B
Min: 1.2 / Avg: 1.3 / Max: 5.31
C
Min: 1.23 / Avg: 1.3 / Max: 2.71
D
Min: 1.23 / Avg: 1.3 / Max: 2.78
2
4
6
8
10
1. (CXX) g++ options: -O3 -lrt -pthread -lnotify -lgdk_pixbuf-2.0 -lgio-2.0 -lgobject-2.0 -lglib-2.0

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Google Draco 1.5.0

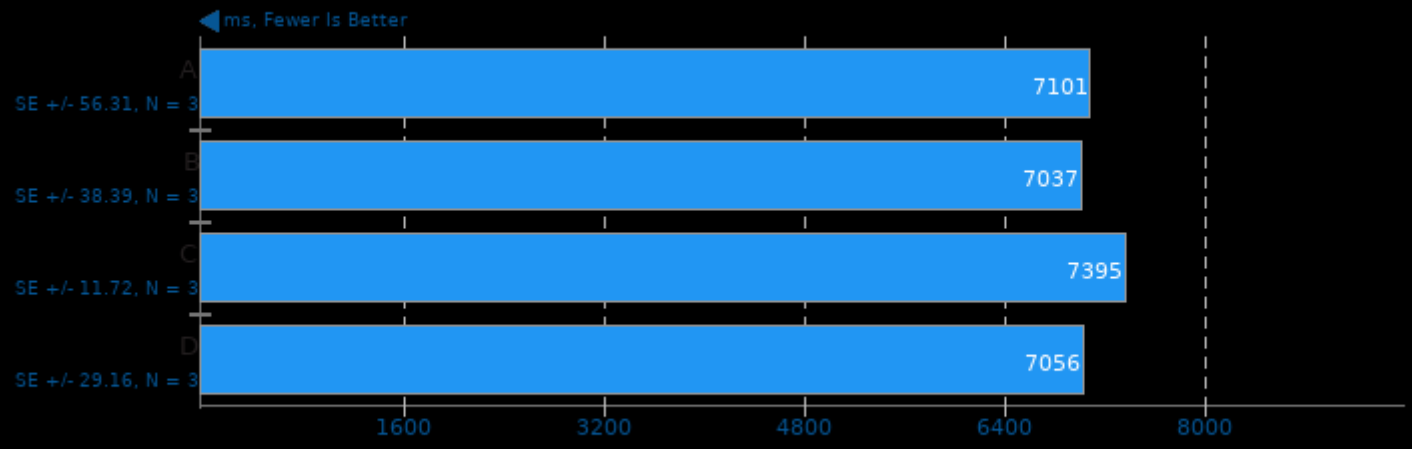
Model: Lion



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

Google Draco 1.5.0

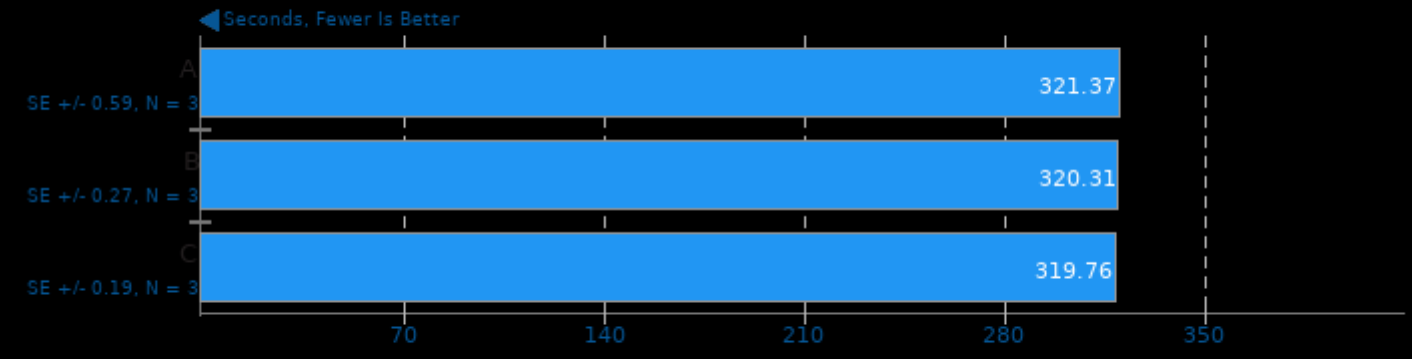
Model: Church Facade



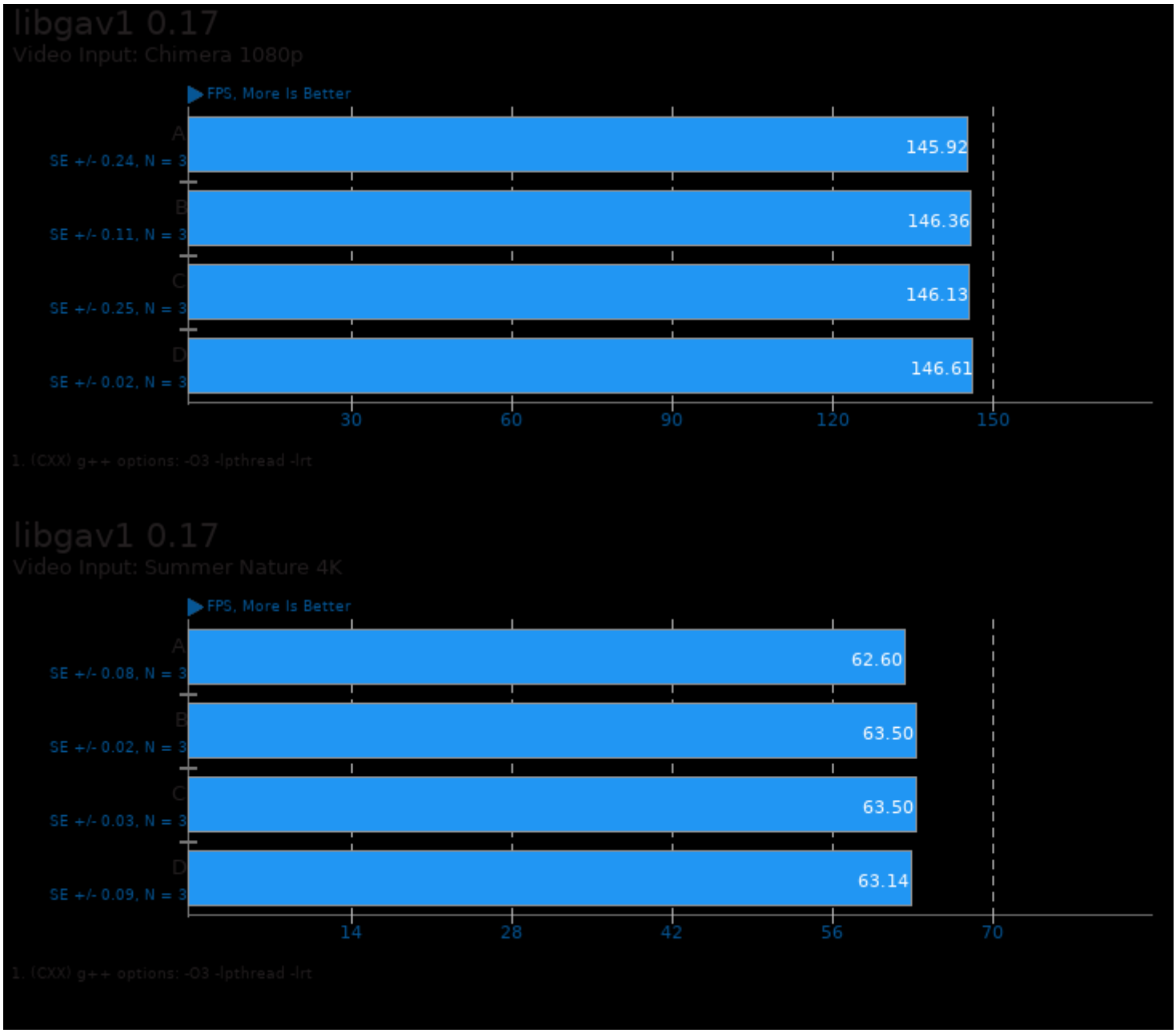
1. (CXX) g++ options: -O3

GPAW 22.1

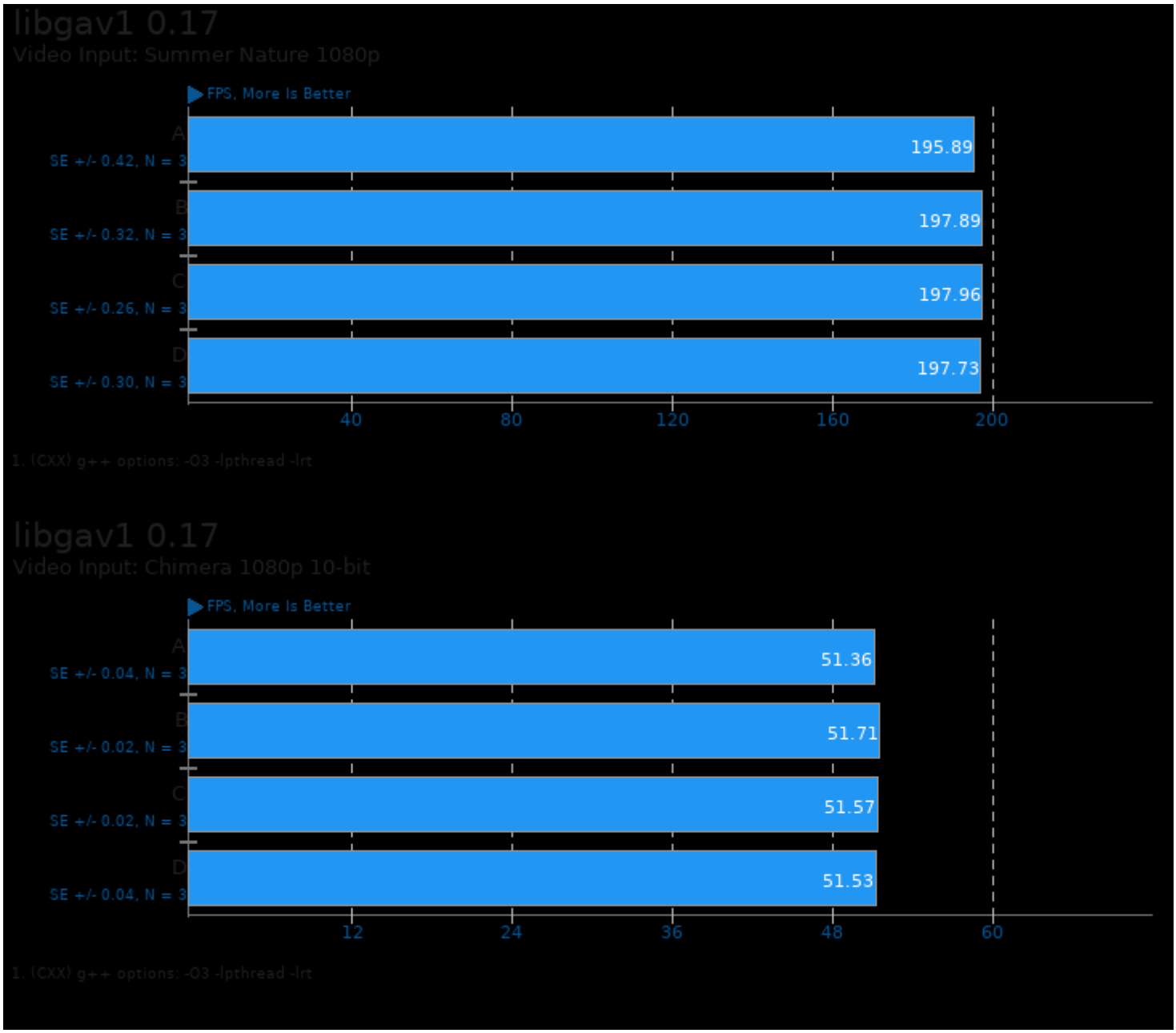
Input: Carbon Nanotube



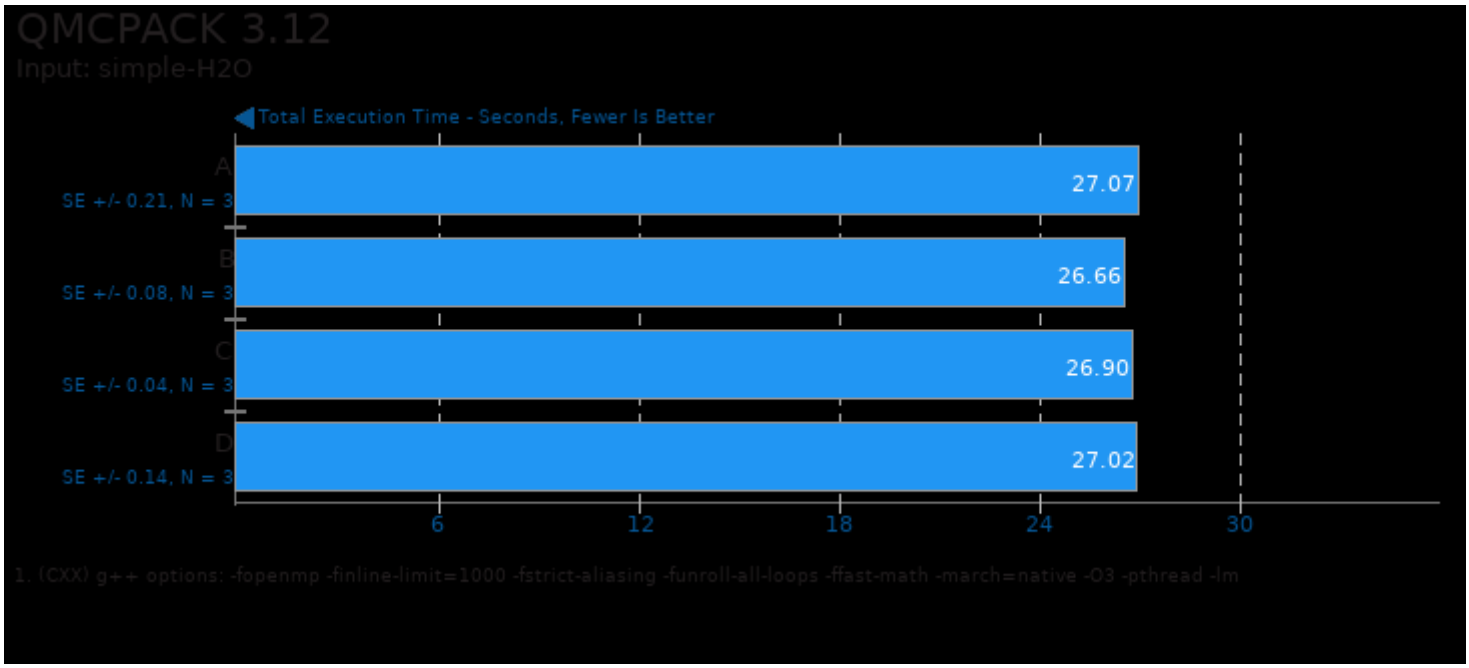
1. (CC) gcc options: -pthread -shared -fwrapv -O2 -lxc -lblas -lmpi


libgav1 0.17
Video Input: Chimera 1080p
FPS, More Is Better
A
SE +/- 0.24, N = 3
145.92
B
SE +/- 0.11, N = 3
146.36
C
SE +/- 0.25, N = 3
146.13
D
SE +/- 0.02, N = 3
146.61
30
60
90
120
150
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.17
Video Input: Summer Nature 4K
FPS, More Is Better
A
SE +/- 0.08, N = 3
62.60
B
SE +/- 0.02, N = 3
63.50
C
SE +/- 0.03, N = 3
63.50
D
SE +/- 0.09, N = 3
63.14
14
28
42
56
70
1. (CXX) g++ options: -O3 -lpthread -lrt

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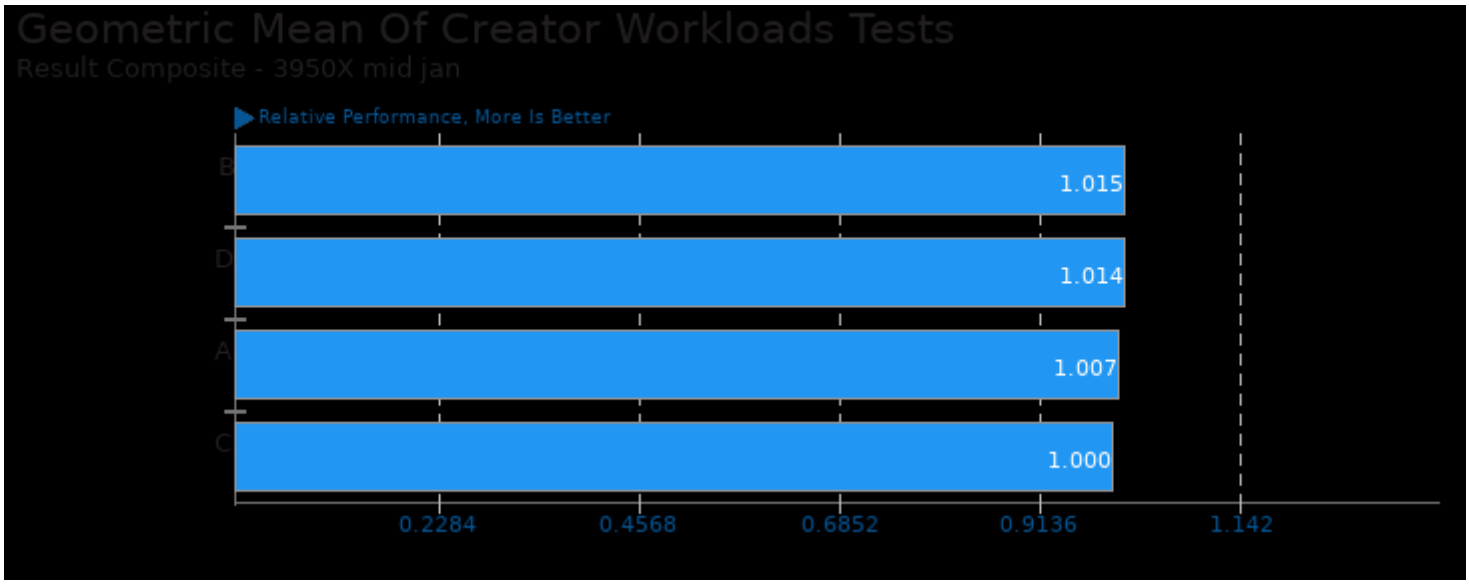


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These geometric means are based upon test groupings / test suites for this result file.



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 10:30.