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8100 jan

Intel Core i3-8100 testing with a ASRock Z370M-ITX/ac (P4.10 BIOS) and Intel UHD 630 CFL GT2 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 80% of the tests.

Test Systems:

A

B

C

D

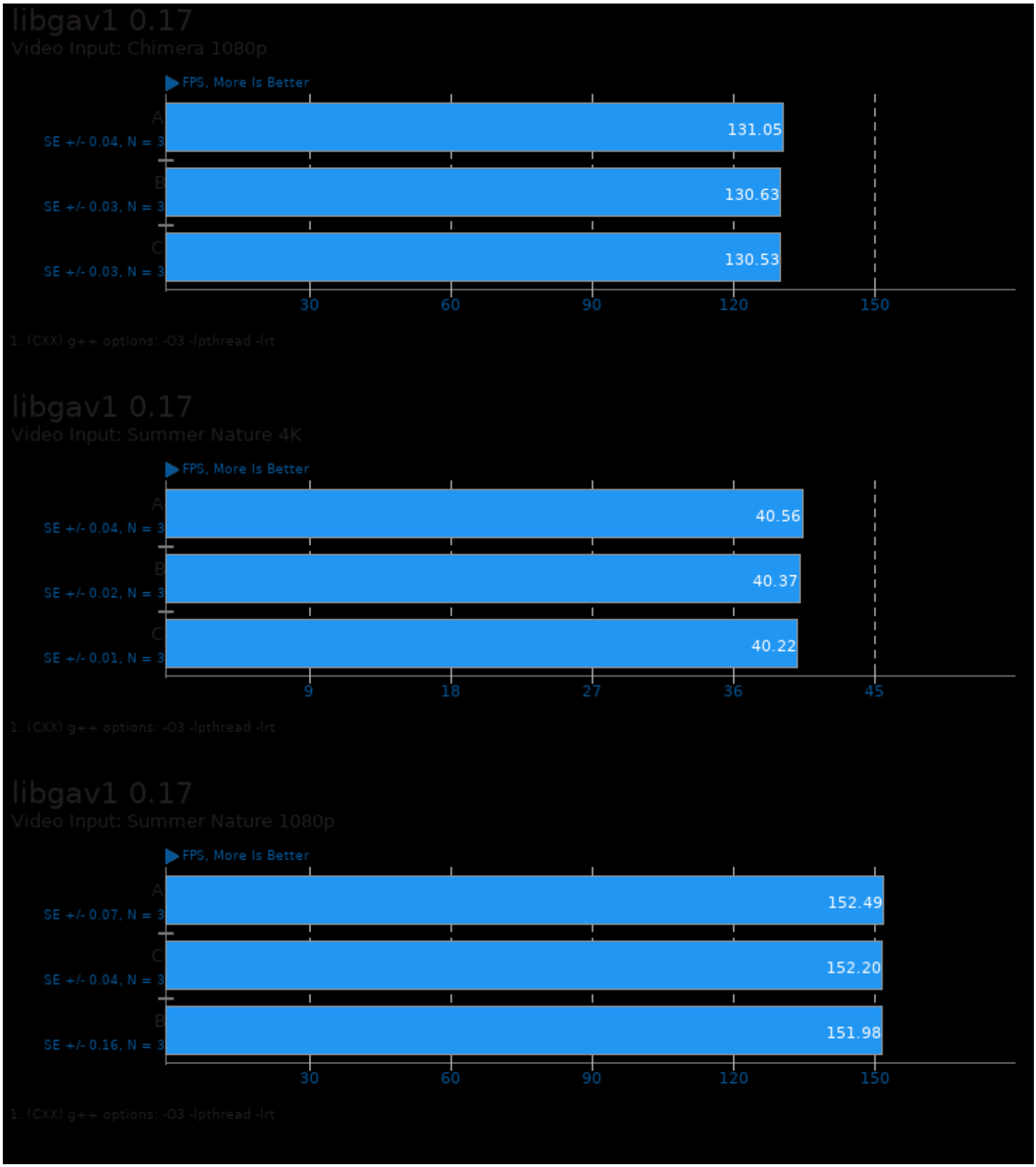
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Processor: Intel Core i3-8100 @ 3.60GHz (4 Cores), Motherboard: ASRock Z370M-ITX/ac (P4.10 BIOS), Chipset: Intel 8th Gen Core 4-core Desktop, Memory: 8GB, Disk: 60GB DREVO X1 SSD, Graphics: Intel UHD 630 CFL GT2 3GB (1100MHz), Audio: Realtek ALC892, Monitor: VA2431, Network: Intel I219-V + Intel I211 + Intel Dual Band-AC 3168NGW

OS: Ubuntu 20.04, Kernel: 5.11.0-41-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.0.8, Vulkan: 1.2.131, 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: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xea - Thermald 1.9.1
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + 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 generic retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Not affected

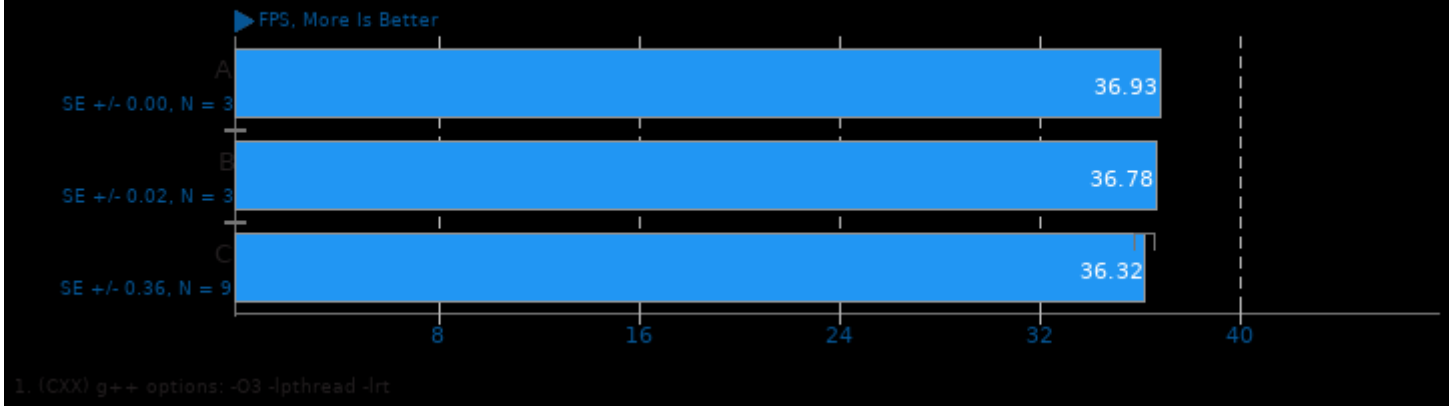
	A	B	C	D
libgav1 - Chimera 1080p (FPS)	**131.05**	130.63	**130.53**	
Normalized	100%	99.68%	99.6%	
Standard Deviation	0.1%	0%	0%	
libgav1 - Summer Nature 4K (FPS)	**40.56**	40.37	**40.22**	
Normalized	100%	99.53%	99.16%	
Standard Deviation	0.2%	0.1%	0.1%	
libgav1 - S.N.1 (FPS)	**152.49**	**151.98**	152.20	
Normalized	100%	99.67%	99.81%	
Standard Deviation	0.1%	0.2%	0%	
libgav1 - C.1.1.b (FPS)	**36.93**	36.78	**36.32**	
Normalized	100%	99.59%	98.35%	
Standard Deviation	0%	0.1%	3%	
Timed Linux Kernel Compilation - defconfig (sec)	**286.034**	286.339	**287.143**	
Normalized	100%	99.89%	99.61%	
Standard Deviation	0.3%	0.1%	0.1%	
Tachyon - Total Time (sec)	**482.6892**	478.6814	**477.8594**	
Normalized	99%	99.83%	100%	
Standard Deviation	2.4%	0.2%	0.1%	
ASTC Encoder - Medium (sec)	**7.9871**	7.9892	**8.0331**	
Normalized	100%	99.97%	99.43%	
Standard Deviation	1.7%	0.4%	0.2%	
ASTC Encoder - Thorough (sec)	20.1810	**20.1726**	**20.2922**	
Normalized	99.96%	100%	99.41%	
Standard Deviation	0.1%	0.1%	0.4%	
Google Draco - Lion (ms)	**5780**	**5823**	5814	
Normalized	100%	99.26%	99.42%	
Standard Deviation	0.1%		0%	
Google Draco - Church Facade (ms)	**8471**	8475	**8508**	
Normalized	100%	99.95%	99.57%	
Standard Deviation	0.1%	0.1%	0.3%	


libgav1 0.17
Video Input: Chimera 1080p
FPS, More Is Better
A
SE +/- 0.04, N = 3
131.05
B
SE +/- 0.03, N = 3
130.63
C
SE +/- 0.03, N = 3
130.53
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 +/- 0.04, N = 3
40.56
B
SE +/- 0.02, N = 3
40.37
C
SE +/- 0.01, N = 3
40.22
9
18
27
36
45
1. (CXX) g++ options: -O3 -lpthread -lrt
libgav1 0.17
Video Input: Summer Nature 1080p
FPS, More Is Better
A
SE +/- 0.07, N = 3
152.49
C
SE +/- 0.04, N = 3
152.20
B
SE +/- 0.16, N = 3
151.98
30
60
90
120
150
1. (CXX) g++ options: -O3 -lpthread -lrt

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libgav1 0.17

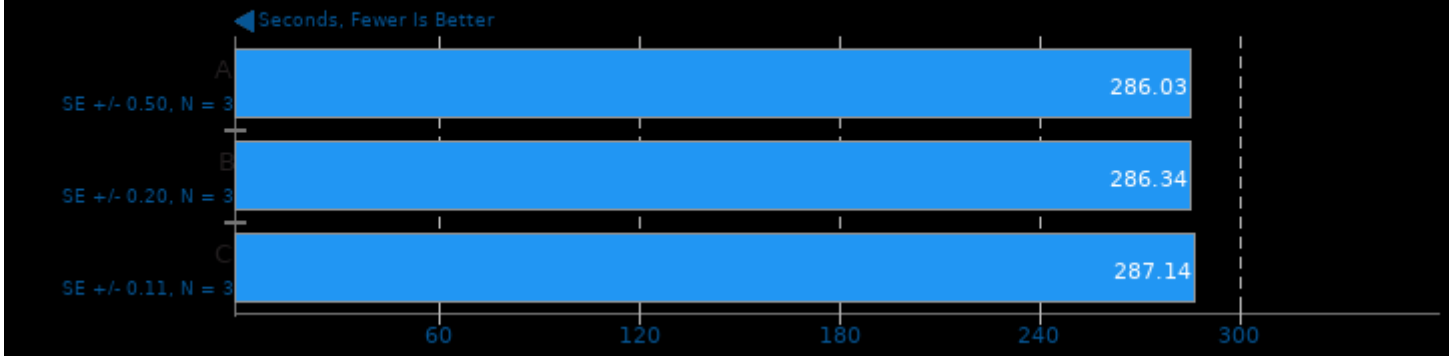
Video Input: Chimera 1080p 10-bit



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

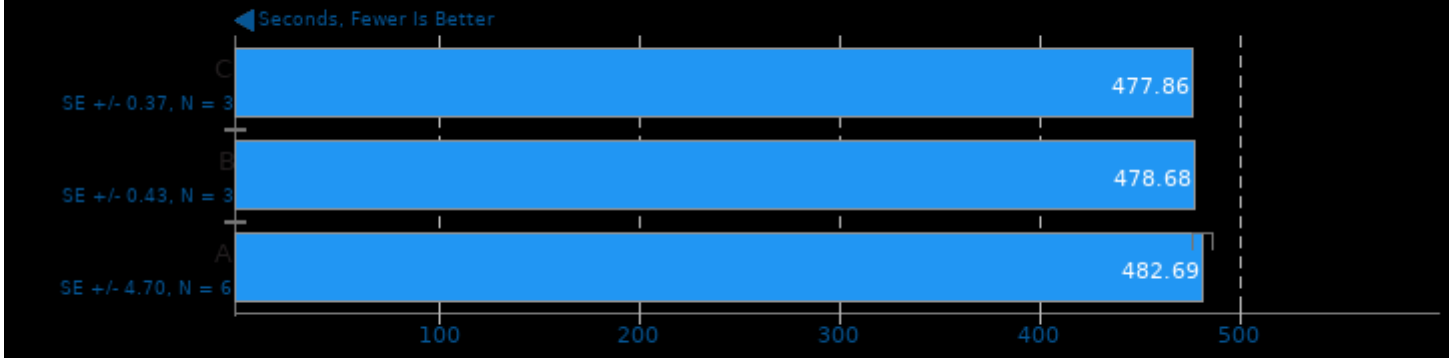
Timed Linux Kernel Compilation 5.16

Build: defconfig

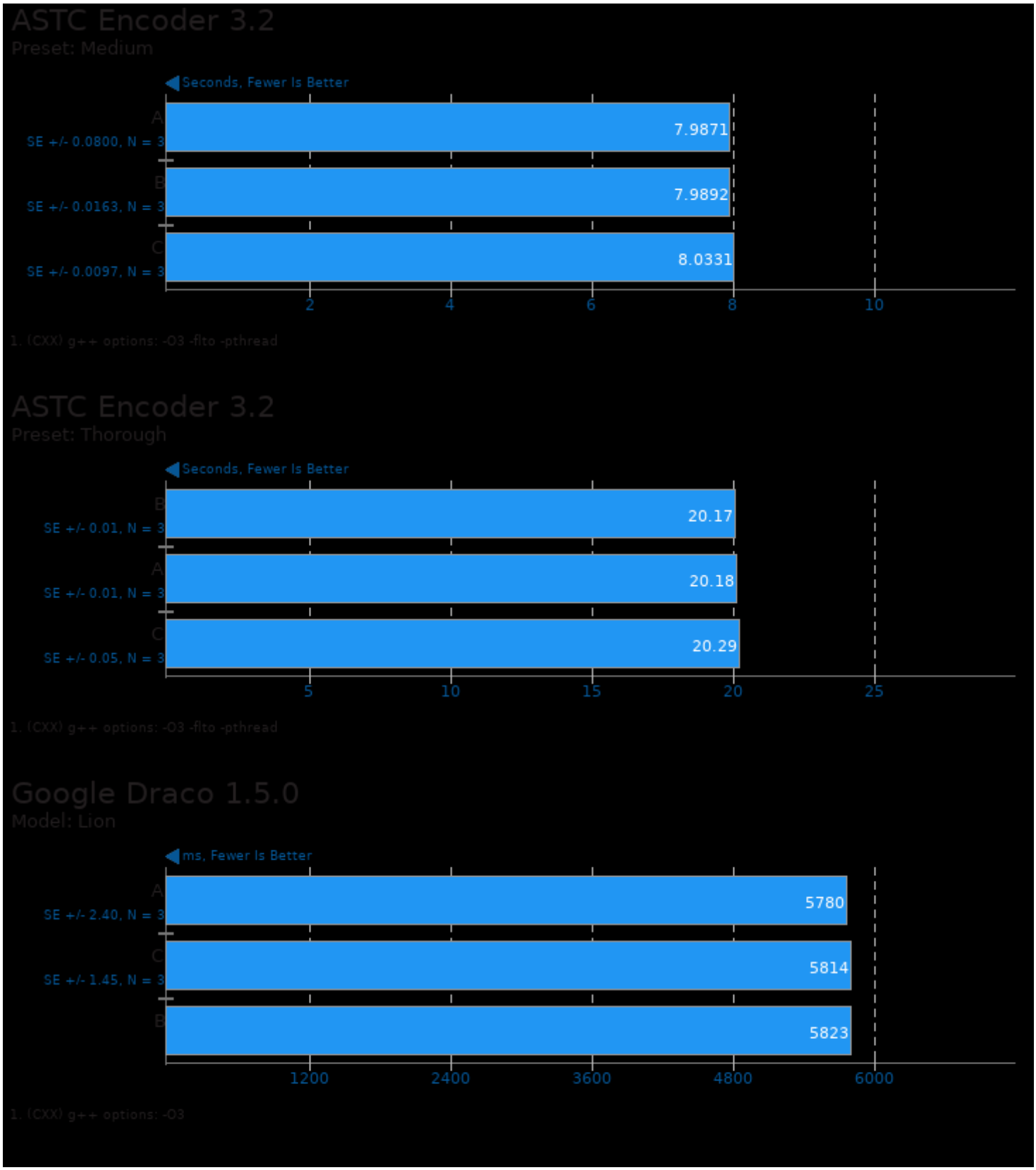


Tachyon 0.99.2

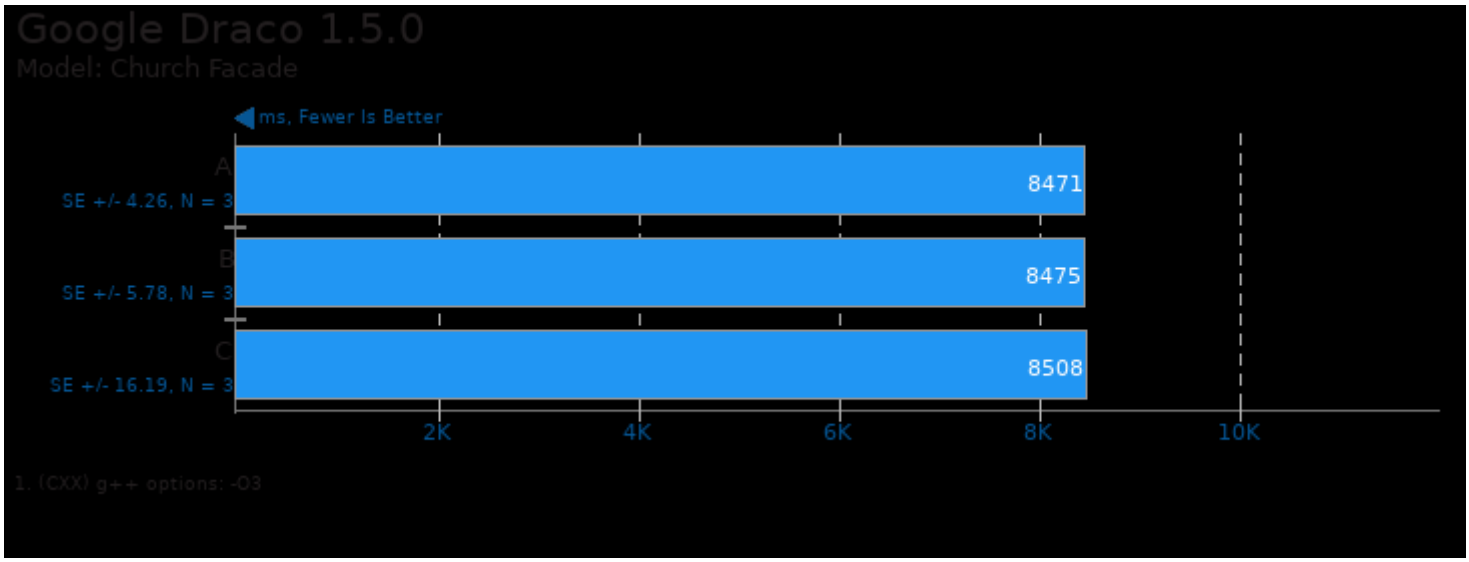
Total Time



1. (CC) gcc options: -m64 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread


ASTC Encoder 3.2
Preset: Medium
Seconds, Fewer Is Better
A
SE +/- 0.0800, N = 3
7.9871
B
SE +/- 0.0163, N = 3
7.9892
C
SE +/- 0.0097, N = 3
8.0331
2
4
6
8
10
1. (CXX) g++ options: -O3 -flto -pthread
ASTC Encoder 3.2
Preset: Thorough
Seconds, Fewer Is Better
B
SE +/- 0.01, N = 3
20.17
A
SE +/- 0.01, N = 3
20.18
C
SE +/- 0.05, N = 3
20.29
5
10
15
20
25
1. (CXX) g++ options: -O3 -flto -pthread
Google Draco 1.5.0
Model: Lion
ms, Fewer Is Better
A
SE +/- 2.40, N = 3
5780
C
SE +/- 1.45, N = 3
5814
B
5823
1200
2400
3600
4800
6000
1. (CXX) g++ options: -O3

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