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10900k-april

Intel Core i9-10900K testing with a Gigabyte Z490 AORUS MASTER (F20d BIOS) and Gigabyte Intel UHD 630 CML GT2 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

4 had the most wins, coming in first place for 62% of the tests.

Based on the geometric mean of all complete results, the fastest (2) was 1.019x the speed of the slowest (4). 3 was 0.999x the speed of 2, 1 was 1x the speed of 3, 1a was 0.992x the speed of 1, 4 was 0.991x the speed of 1a.

Test Systems:

1

1a

2

3

4

Processor: Intel Core i9-10900K @ 5.30GHz (10 Cores / 20 Threads), Motherboard: Gigabyte Z490 AORUS MASTER (F20d BIOS), Chipset: Intel Comet Lake PCH, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: Gigabyte Intel UHD 630 CML GT2 3GB (1200MHz), Audio: Realtek ALC1220, Monitor: LG Ultra HD, Network: Intel Device 15f3 + Intel Wi-Fi 6 AX201

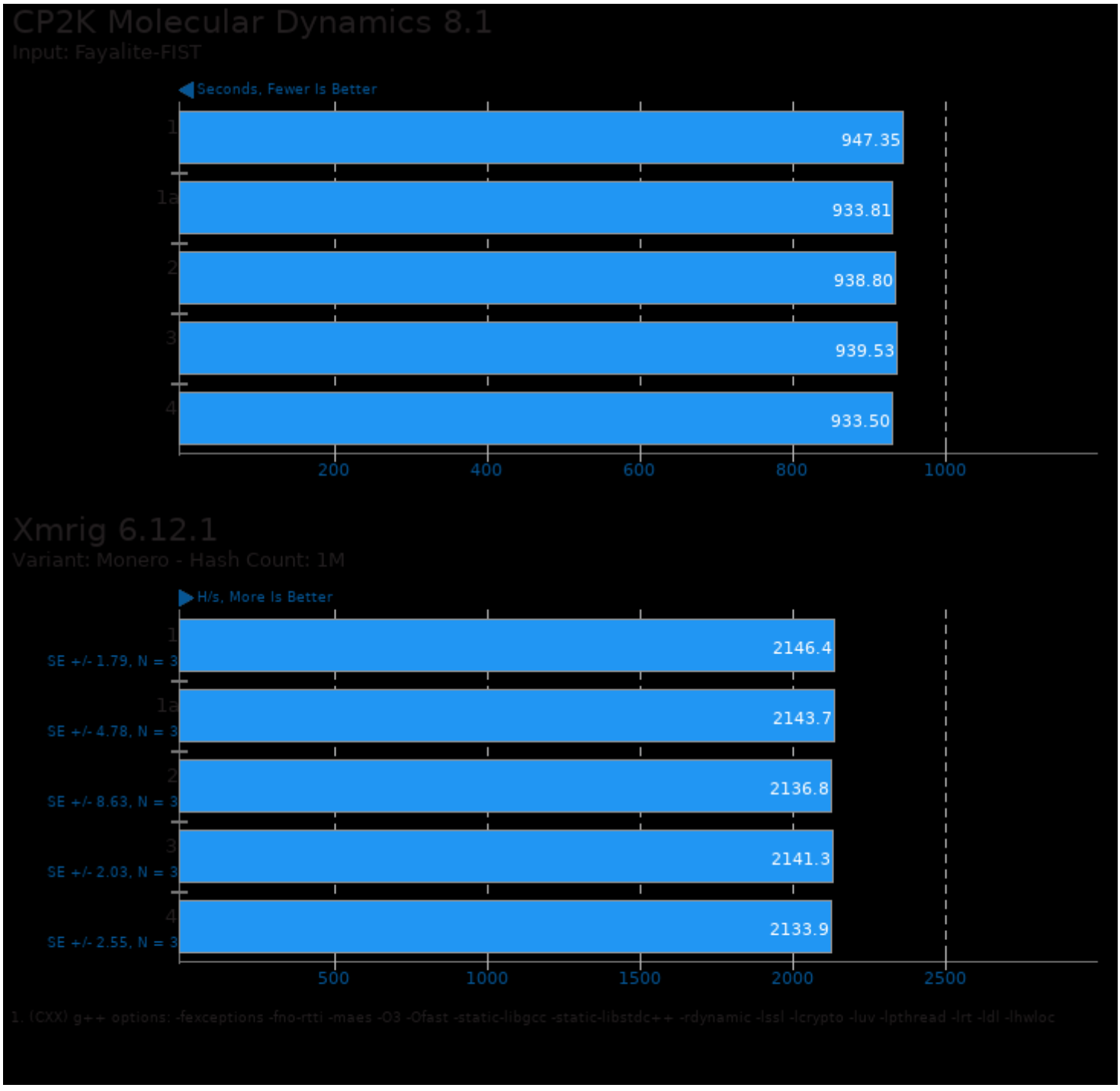
OS: Ubuntu 20.04, Kernel: 5.9.0-050900daily20201012-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.0.8, OpenCL: OpenCL 2.1, Vulkan: 1.2.131, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 3840x2160

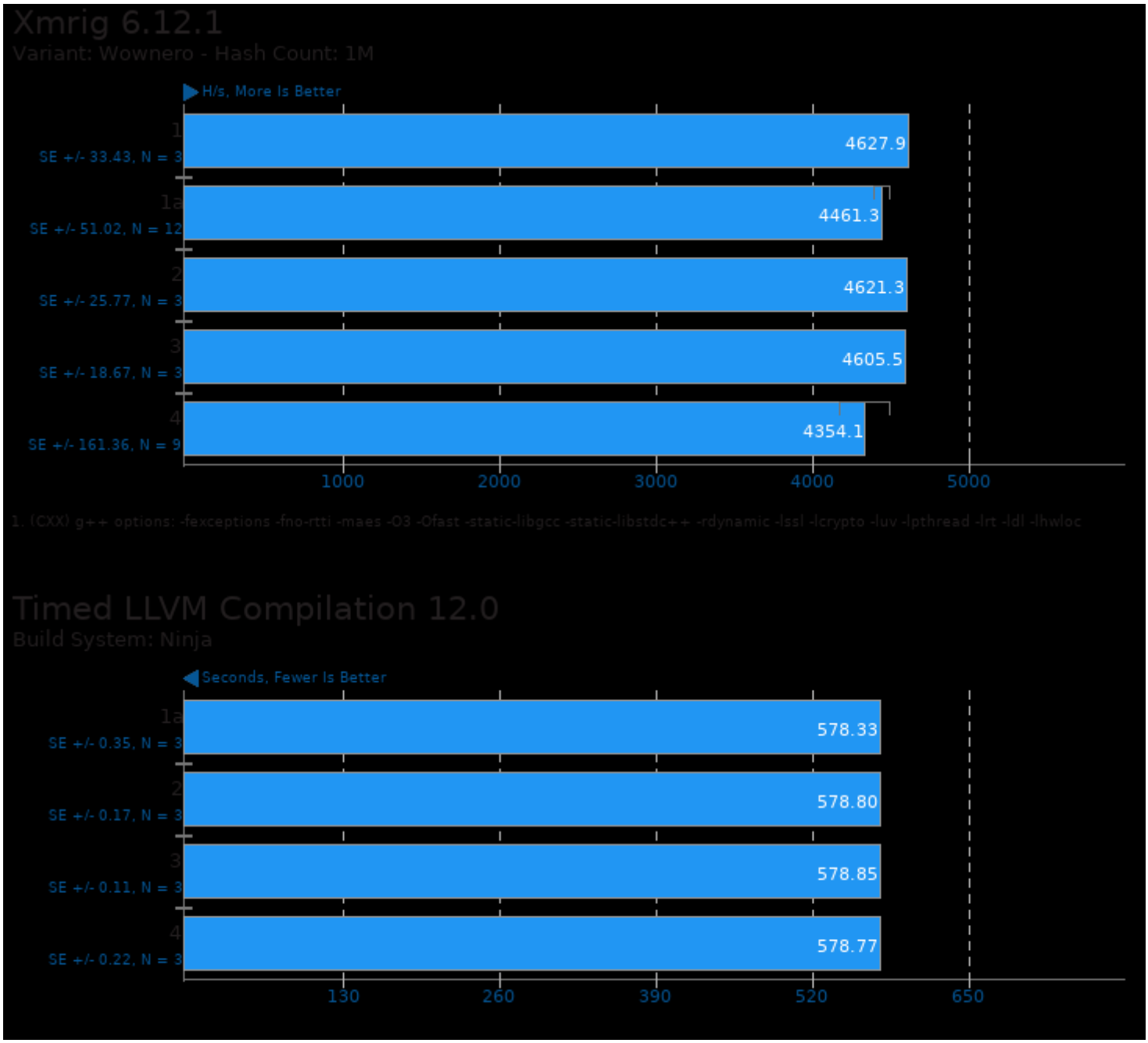
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --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 - CPU Microcode: 0xe2
Python Notes: Python 3.8.5
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: Not affected

	1	1a	2	3	4
CP2K Molecular Dynamics - Fayalite-FIST (sec)	**947.347**	933.806	938.797	939.529	**933.501**
Normalized	98.54%	99.97%	99.44%	99.36%	100%
Xmrig - Monero - 1M (H/s)	**2146**	2144	2137	2141	**2134**
Normalized	100%	99.87%	99.55%	99.76%	99.42%
Standard Deviation	0.1%	0.4%	0.7%	0.2%	0.2%
Xmrig - Wownero - 1M (H/s)	**4628**	4461	4621	4606	**4354**
Normalized	100%	96.4%	99.86%	99.52%	94.08%
Standard Deviation	1.3%	4%	1%	0.7%	11.1%
Timed LLVM Compilation - Ninja (sec)		**578.331**	578.802	**578.846**	578.771
Normalized		100%	99.92%	99.91%	99.92%
Standard Deviation		0.1%	0%	0%	0.1%
Timed LLVM Compilation - Unix Makefiles (sec)		**606.541**	**601.419**	604.211	601.761
Normalized		99.16%	100%	99.54%	99.94%
Standard Deviation		1.1%	1.2%	2.3%	1.7%
Helsing - 12 digit (sec)		**4.359**	3.835	**3.829**	4.08
Normalized		87.84%	99.84%	100%	93.85%
Helsing - 14 digit (sec)		**383.197**	383.174	382.479	**382.324**
Normalized		99.77%	99.78%	99.96%	100%
SecureMark - SecureMark-TLS (marks)		301767	**301561**	304811	**308073**
Normalized		97.95%	97.89%	98.94%	100%

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Standard Deviation	0%	0.1%	1.8%	1.9%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	**236.087376**	236.096986	239.793062	**243.080534**
Normalized	97.12%	97.13%	98.65%	100%
Standard Deviation	1%	0.2%	1.5%	0.6%
KTX-Software toktx - UASTC 3 (sec)	**10.117**	10.084	**10.082**	10.094
Normalized	99.65%	99.98%	100%	99.88%
Standard Deviation	0.6%	0.2%	0.3%	0.7%
KTX-Software toktx - Zstd Compression 9 (sec)	2.347	2.337	**2.374**	**2.304**
Normalized	98.17%	98.59%	97.05%	100%
Standard Deviation	1.1%	0.7%	0.3%	1.8%
KTX-Software toktx - Z.C.1 (sec)	**15.126**	15.069	14.972	**14.731**
Normalized	97.39%	97.76%	98.39%	100%
Standard Deviation	0.2%	0.1%	1.7%	0.4%
KTX-Software toktx - U.3.Z.C.1 (sec)	14.474	**14.478**	14.428	**14.326**
Normalized	98.98%	98.95%	99.29%	100%
Standard Deviation	0.5%	0.1%	0.7%	0.2%
KTX-Software toktx - U.4.Z.C.1 (sec)	261.911	261.902	**261.948**	**261.859**
Normalized	99.98%	99.98%	99.97%	100%
Standard Deviation	0%	0%	0%	0%
Google Draco - Lion (ms)	4247	**4301**	4220	**4130**
Normalized	97.25%	96.02%	97.87%	100%
Standard Deviation	1.4%	2.6%	1.4%	1%
Google Draco - Church Facade (ms)	6469	**6494**	6395	**6324**
Normalized	97.76%	97.38%	98.89%	100%
Standard Deviation	0.9%	0.4%	0.2%	0.7%

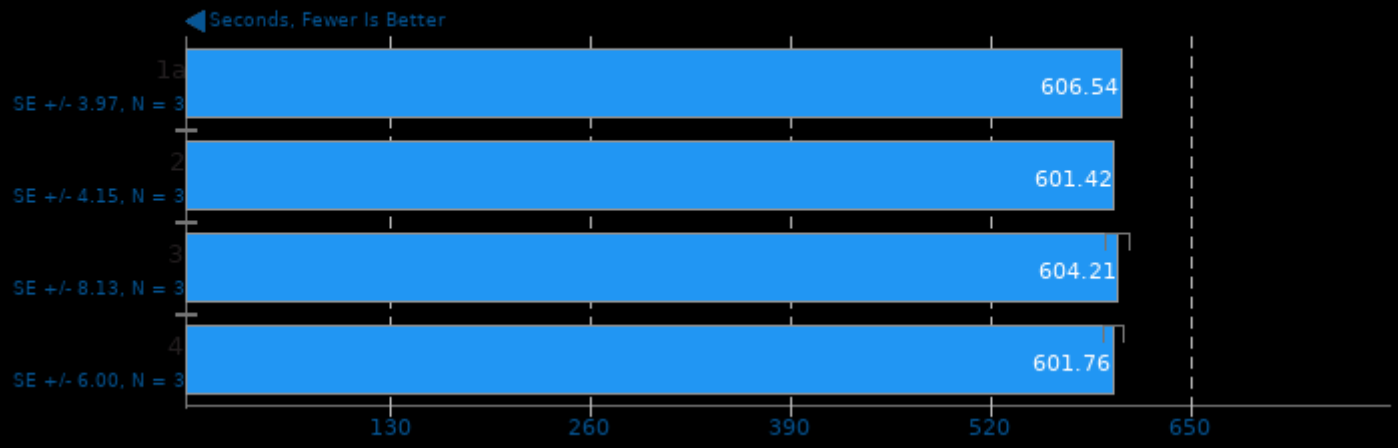

CP2K Molecular Dynamics 8.1
Input: Fayalite-FIST
Seconds, Fewer Is Better
1
947.35
1a
933.81
2
938.80
3
939.53
4
933.50
200
400
600
800
1000
Xmrig 6.12.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
1
SE +/- 1.79, N = 3
2146.4
1a
SE +/- 4.78, N = 3
2143.7
2
SE +/- 8.63, N = 3
2136.8
3
SE +/- 2.03, N = 3
2141.3
4
SE +/- 2.55, N = 3
2133.9
500
1000
1500
2000
2500
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc


Xmrig 6.12.1
Variant: Wownero - Hash Count: 1M
H/s, More Is Better
1
SE +/- 33.43, N = 3
4627.9
1a
SE +/- 51.02, N = 12
4461.3
2
SE +/- 25.77, N = 3
4621.3
3
SE +/- 18.67, N = 3
4605.5
4
SE +/- 161.36, N = 9
4354.1
1000
2000
3000
4000
5000
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

Timed LLVM Compilation 12.0
Build System: Ninja
Seconds, Fewer Is Better
1a
SE +/- 0.35, N = 3
578.33
2
SE +/- 0.17, N = 3
578.80
3
SE +/- 0.11, N = 3
578.85
4
SE +/- 0.22, N = 3
578.77
130
260
390
520
650

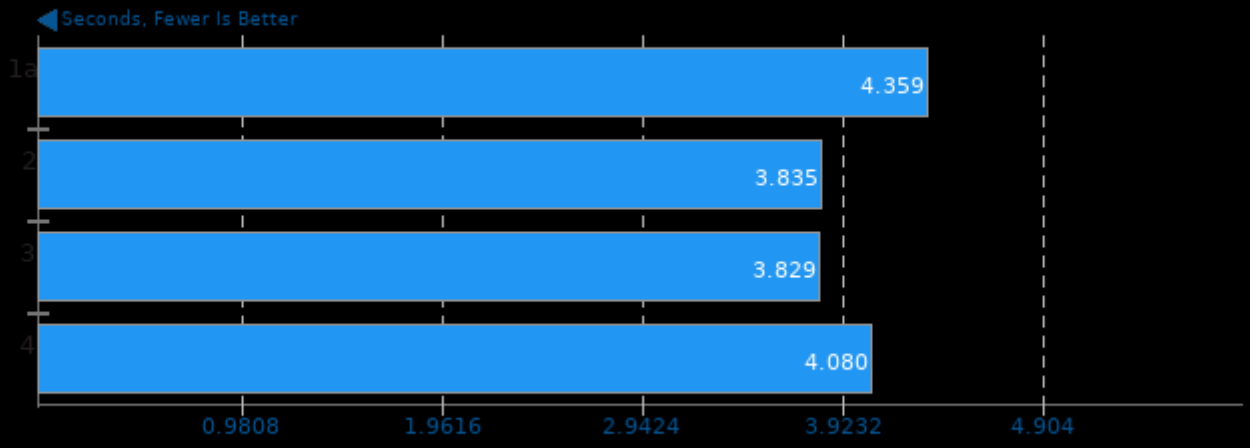
Timed LLVM Compilation 12.0

Build System: Unix Makefiles



Helsing 1.0-beta

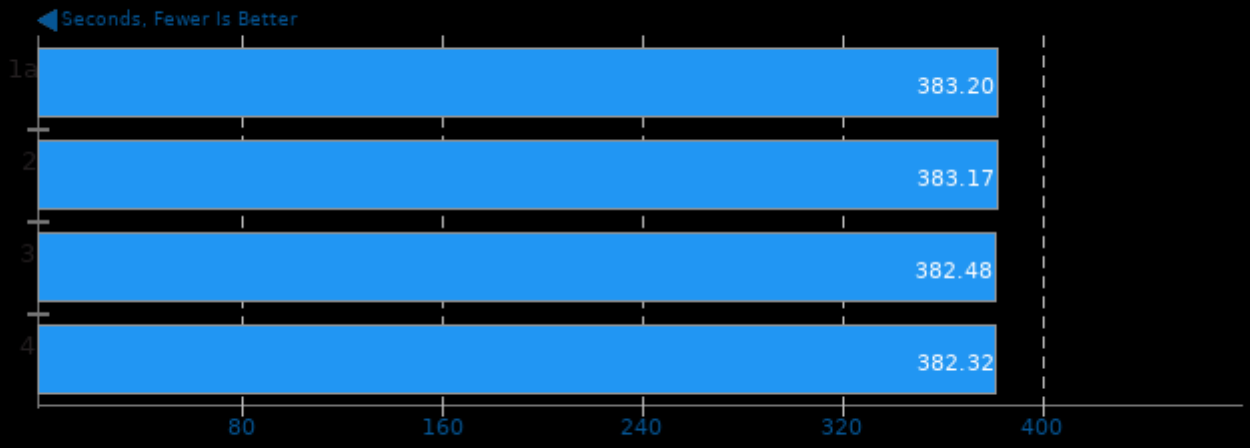
Digit Range: 12 digit



1. (CC) gcc options: -O2 -pthread -lcrypto

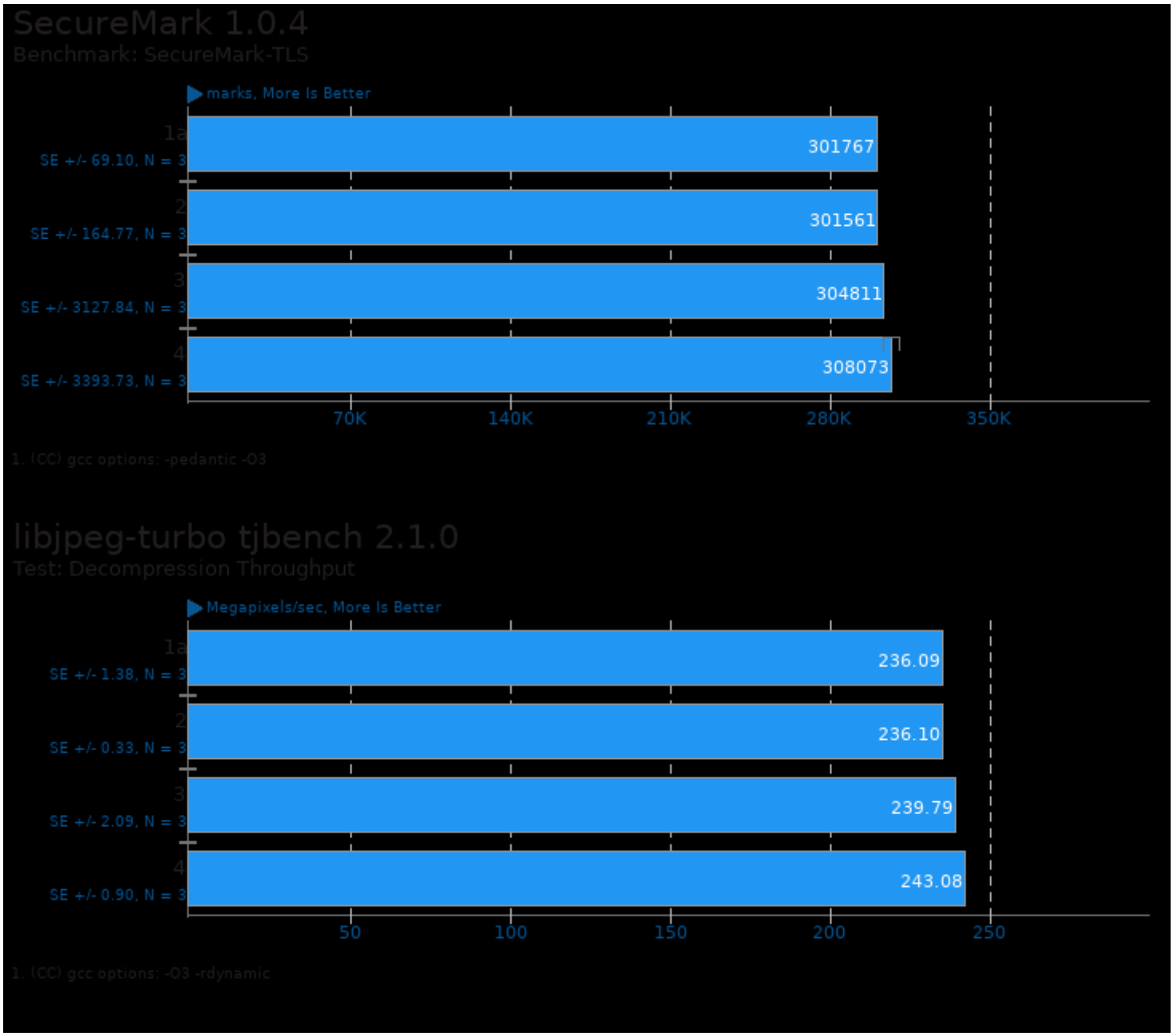
Helsing 1.0-beta

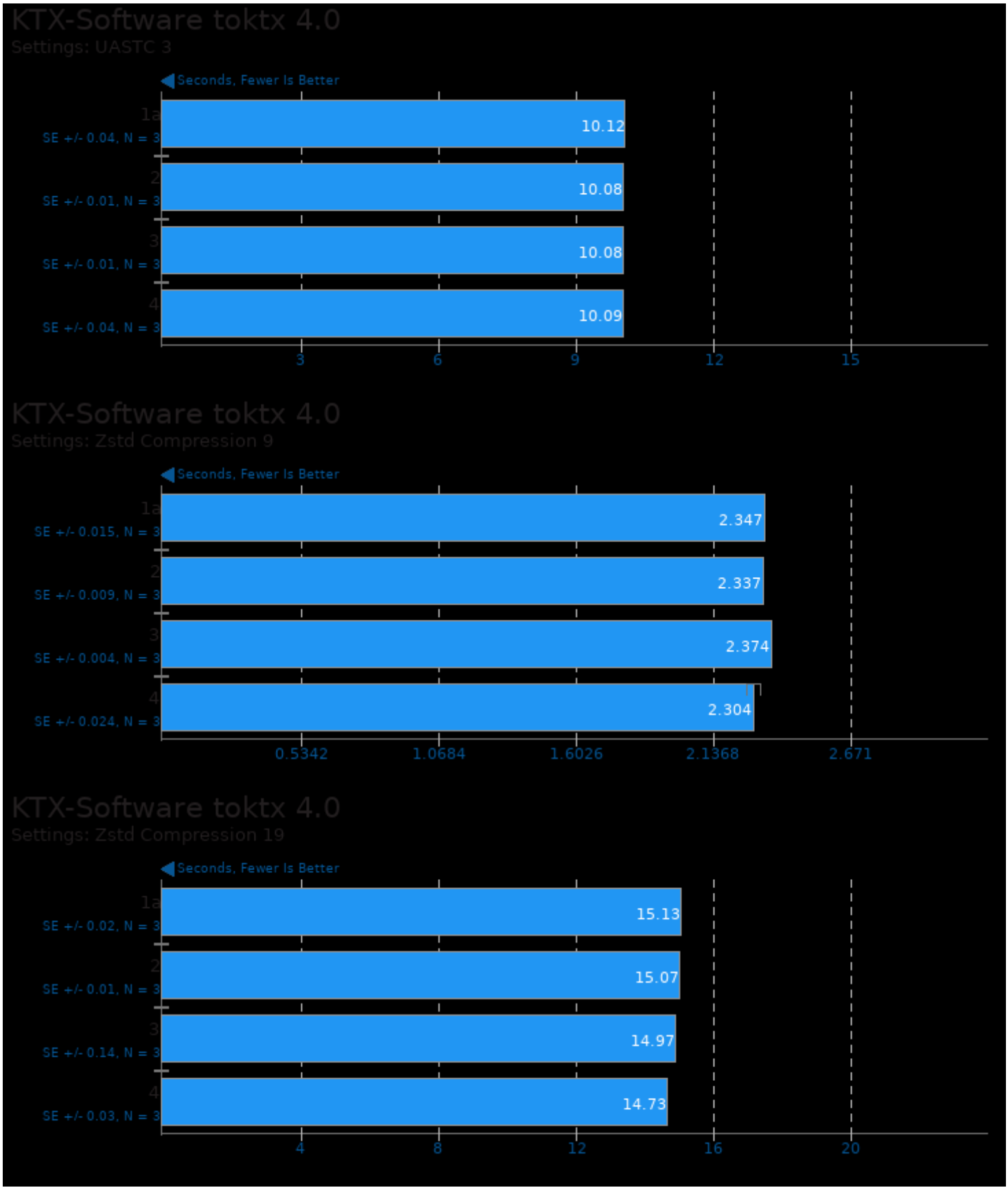
Digit Range: 14 digit



1. (CC) gcc options: -O2 -pthread -lcrypto

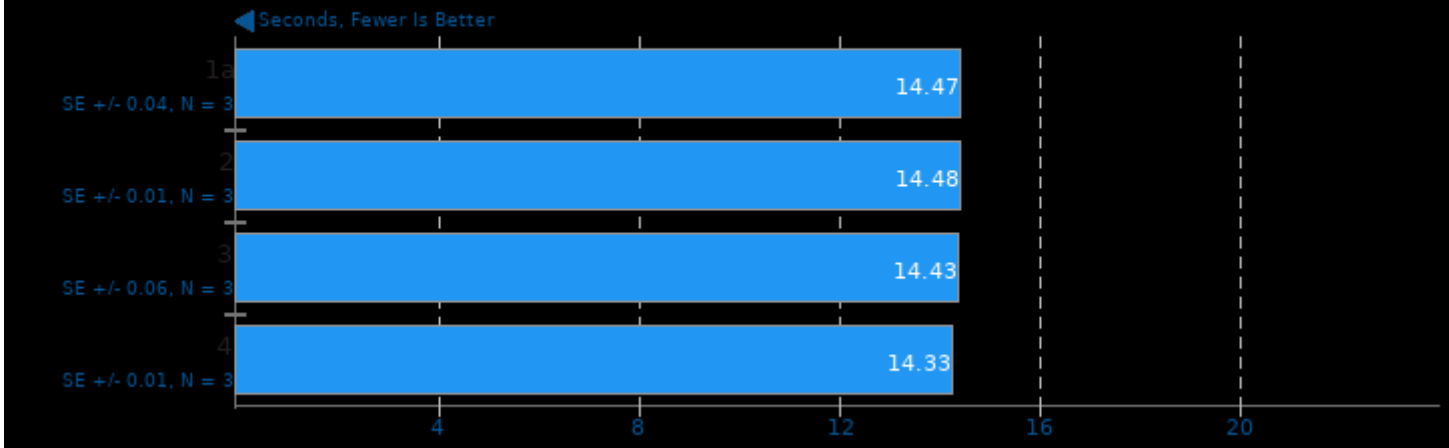
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KTX-Software toktx 4.0
Settings: UASTC 3
Seconds, Fewer Is Better
1a
SE +/- 0.04, N = 3
10.12
2
SE +/- 0.01, N = 3
10.08
3
SE +/- 0.01, N = 3
10.08
4
SE +/- 0.04, N = 3
10.09
3
6
9
12
15
KTX-Software toktx 4.0
Settings: Zstd Compression 9
Seconds, Fewer Is Better
1a
SE +/- 0.015, N = 3
2.347
2
SE +/- 0.009, N = 3
2.337
3
SE +/- 0.004, N = 3
2.374
4
SE +/- 0.024, N = 3
2.304
0.5342
1.0684
1.6026
2.1368
2.671
KTX-Software toktx 4.0
Settings: Zstd Compression 19
Seconds, Fewer Is Better
1a
SE +/- 0.02, N = 3
15.13
2
SE +/- 0.01, N = 3
15.07
3
SE +/- 0.14, N = 3
14.97
4
SE +/- 0.03, N = 3
14.73
4
8
12
16
20

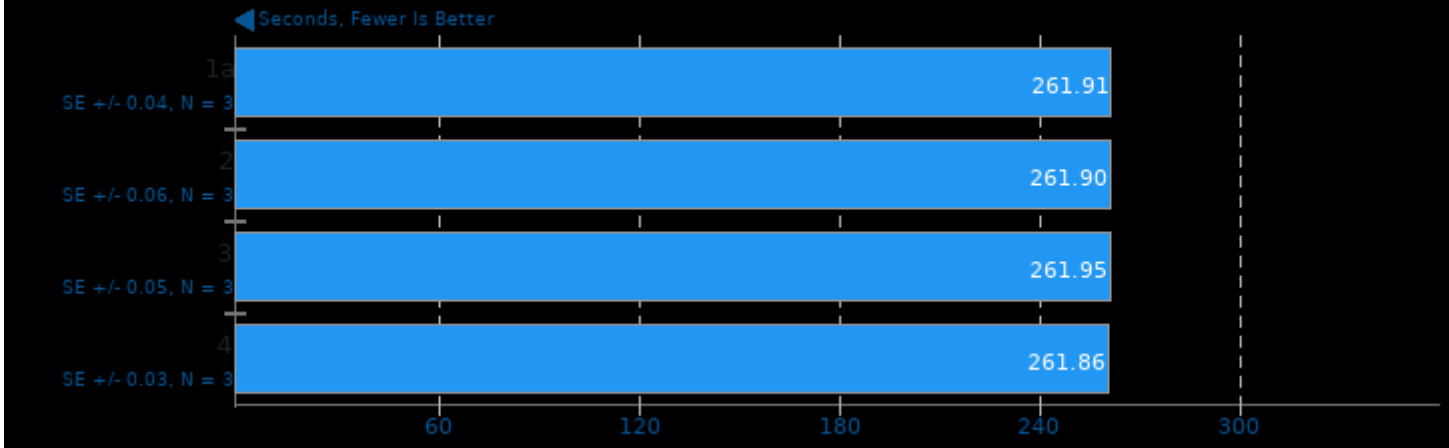
KTX-Software toktx 4.0

Settings: UASTC 3 + Zstd Compression 19



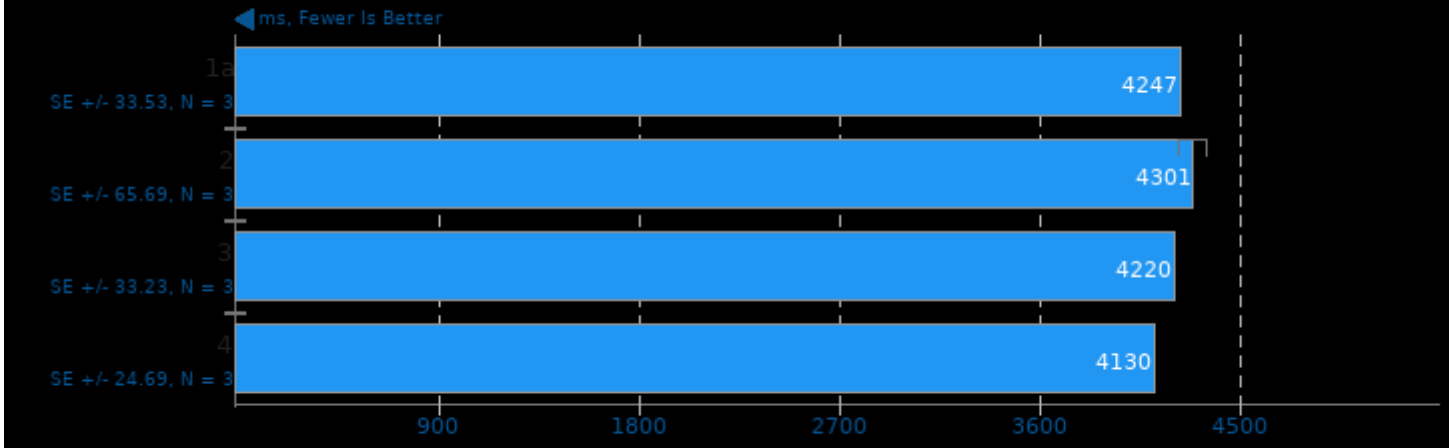
KTX-Software toktx 4.0

Settings: UASTC 4 + Zstd Compression 19

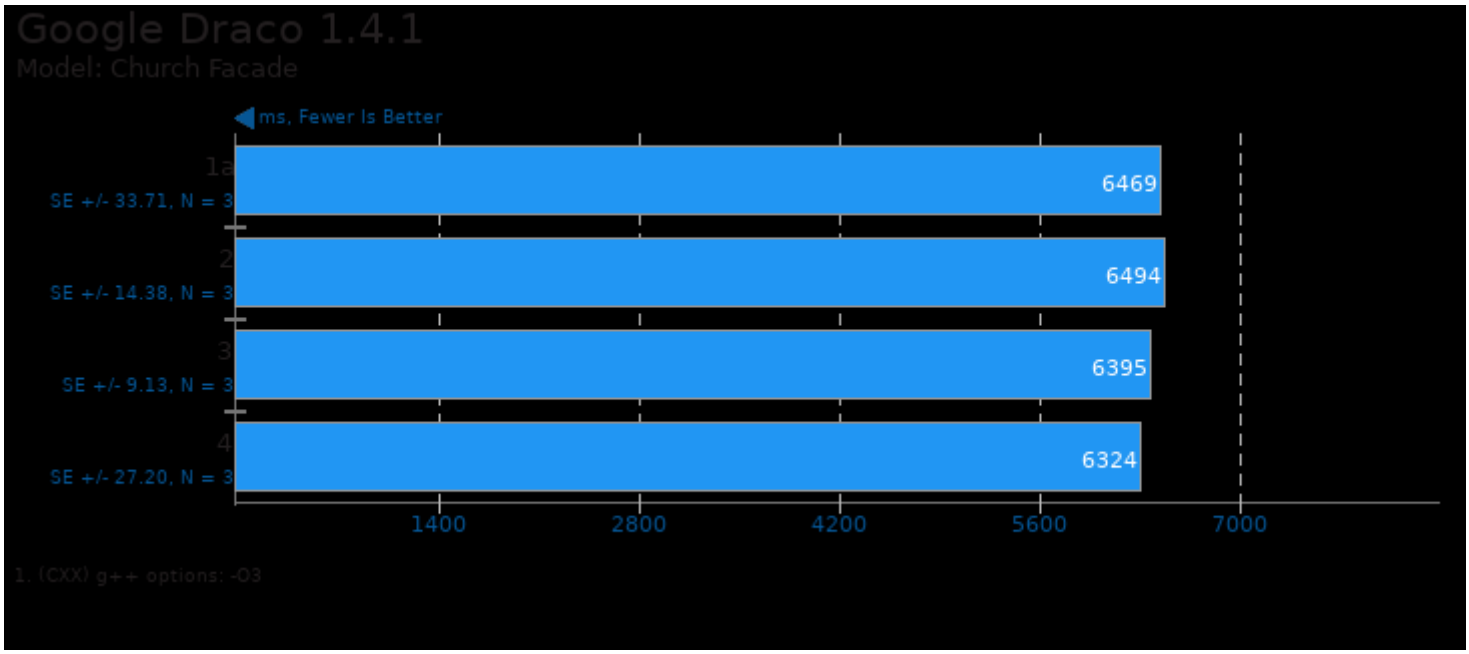


Google Draco 1.4.1

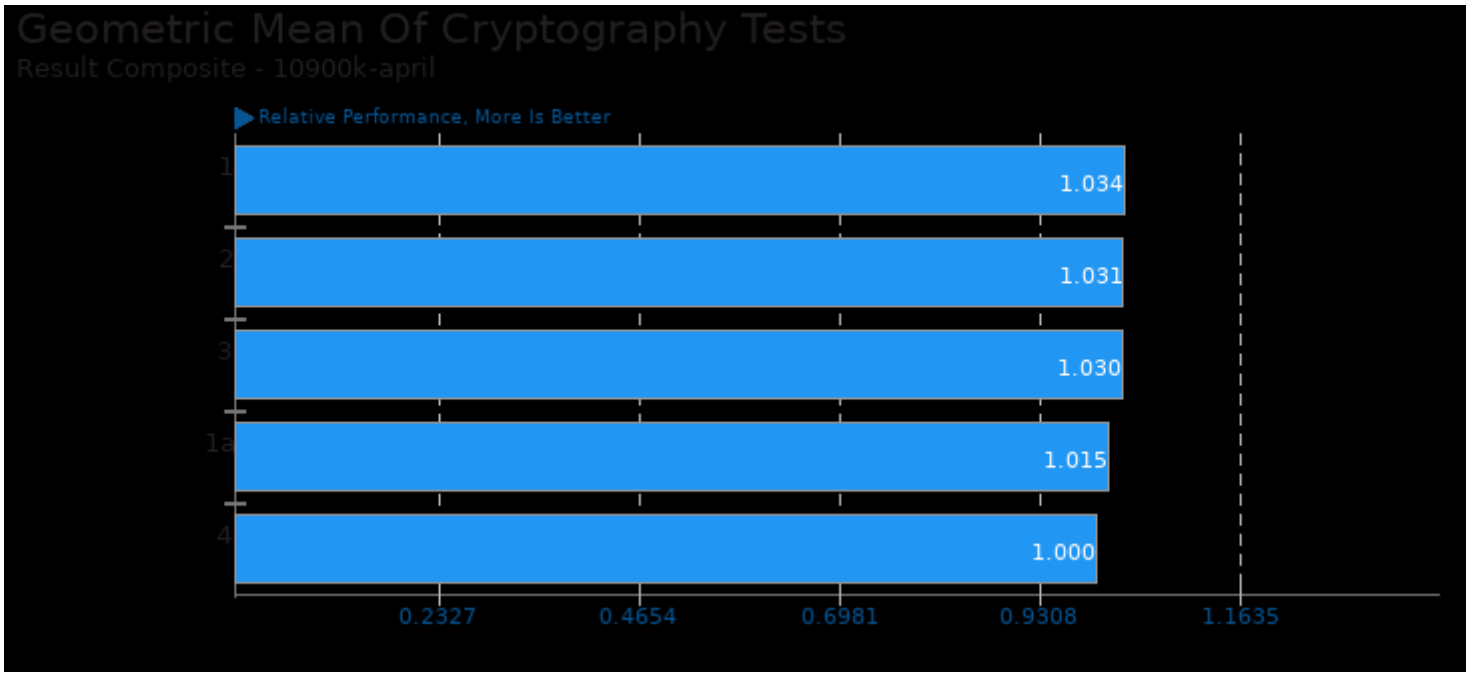
Model: Lion



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


Google Draco 1.4.1
Model: Church Facade
ms, Fewer Is Better
1a
SE +/- 33.71, N = 3
6469
2
SE +/- 14.38, N = 3
6494
3
SE +/- 9.13, N = 3
6395
4
SE +/- 27.20, N = 3
6324
1400
2800
4200
5600
7000
1. (CXX) g++ options: -O3

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



Geometric mean based upon tests: pts/securemark and pts/xmrig

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:25.