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7600K February 2021

Intel Core i5-7600K testing with a Gigabyte Z270M-D3H-CF (F8d BIOS) and Gigabyte Intel HD 630 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 52% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.002x the speed of the slowest (3). 2 was 0.999x the speed of 1 and 3 was 0.999x the speed of 2.

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

JPEG XL (Input: PNG - Encode Speed: 8) at 1.016x
JPEG XL Decoding (CPU Threads: All) at 1.015x
JPEG XL (Input: JPEG - Encode Speed: 7) at 1.014x
GROMACS (Input: water_GMX50_bare) at 1.013x
Ngspice (Circuit: C7552) at 1.012x
Ngspice (Circuit: C2670) at 1.011x
JPEG XL Decoding (CPU Threads: 1) at 1.009x
Chaos Group V-RAY (Mode: CPU) at 1.007x
JPEG XL (Input: JPEG - Encode Speed: 5) at 1.005x

Gcrypt Library at 1.005x.

Test Systems:

1

2

3

Processor: Intel Core i5-7600K @ 4.20GHz (4 Cores), Motherboard: Gigabyte Z270M-D3H-CF (F8d BIOS), Chipset: Intel Xeon E3-1200 v6/7th + Z270, Memory: 8GB, Disk: 250GB Samsung SSD 850, Graphics: Gigabyte Intel HD 630 3GB (1150MHz), Audio: Realtek ALC892, Monitor: DELL S2409W, Network: Intel I219-V

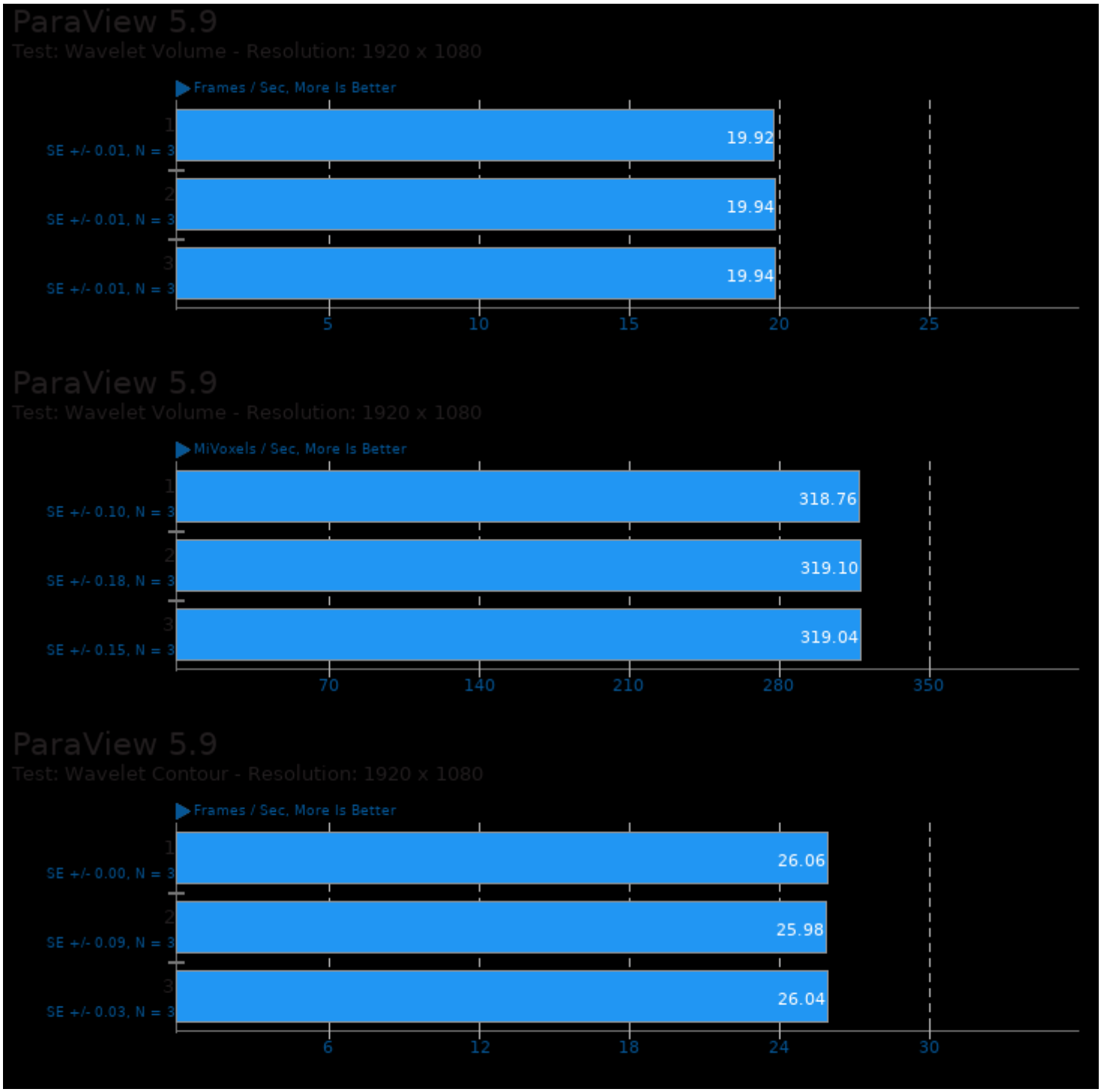
OS: Ubuntu 20.04, Kernel: 5.9.0-050900rc7daily20200928-generic (x86_64) 20200927, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.0.8, Vulkan: 1.2.131, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1080

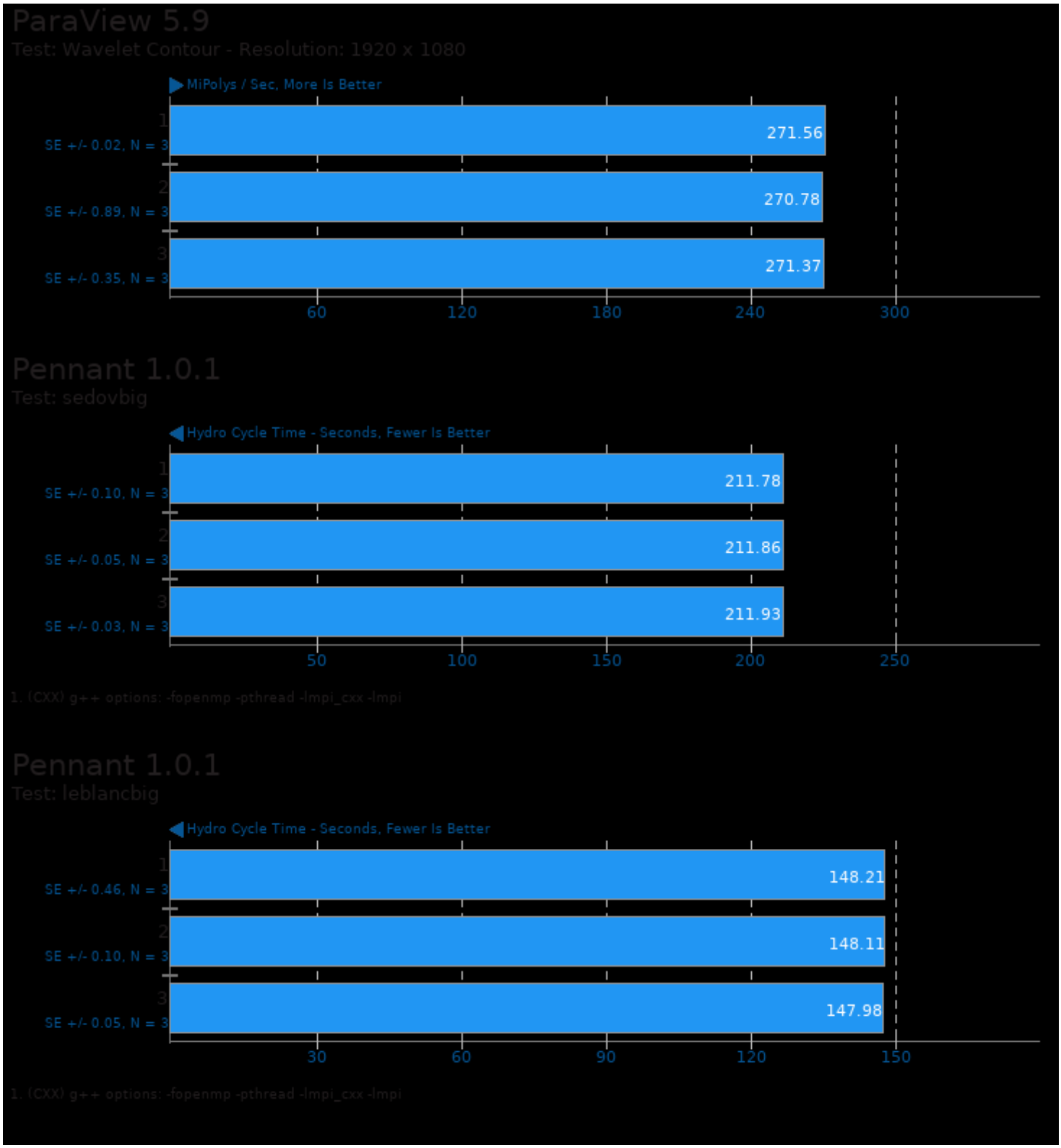
Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --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 - CPU Microcode: 0xde - Thermald 1.9.1
Python Notes: Python 2.7.18rc1 + Python 3.8.5
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: Mitigation of Clear buffers; SMT disabled

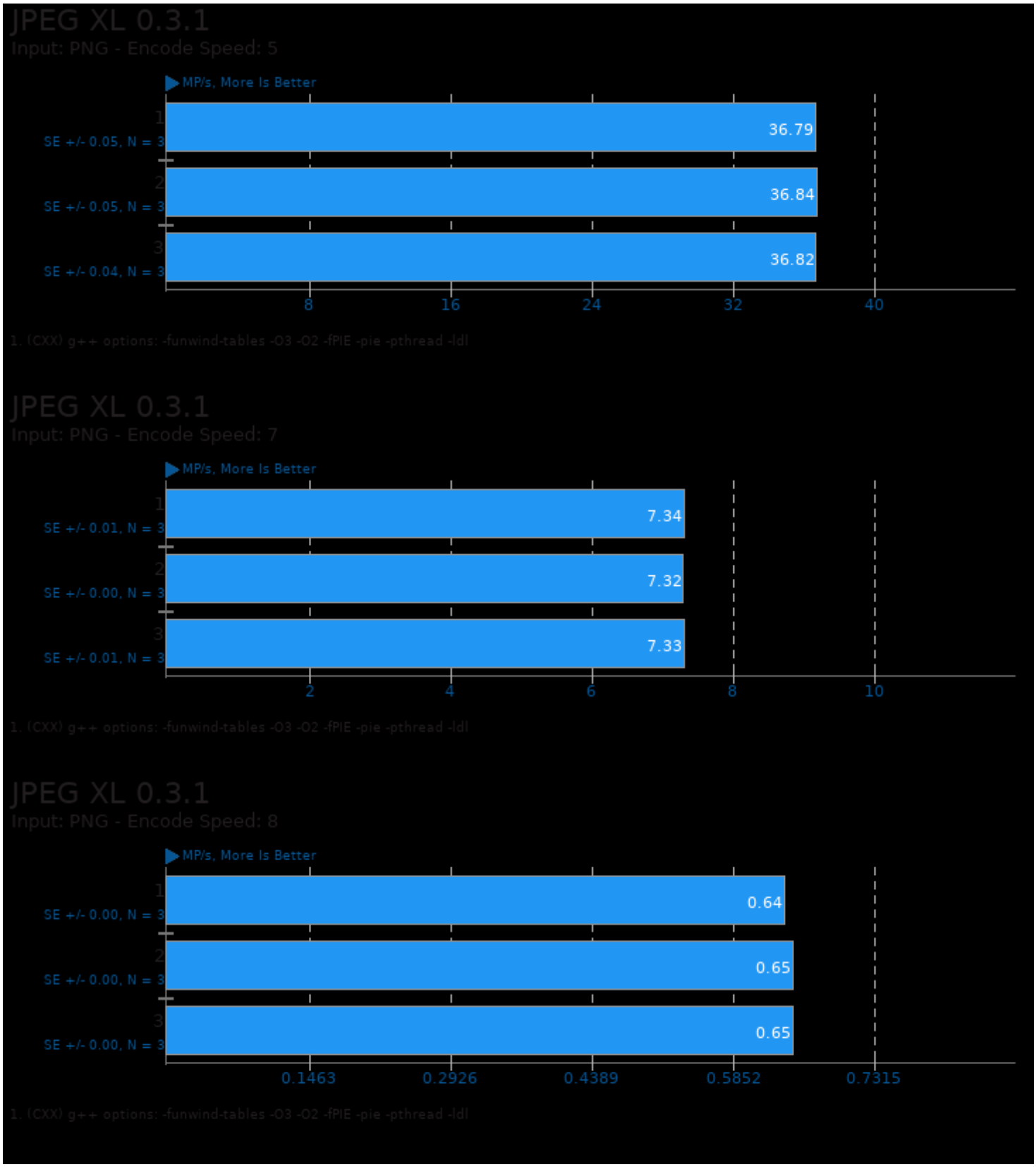
	1	2	3
ParaView - Wavelet Volume - 1920 x 1080 (Frames / Sec)	**19.92**	**19.94**	**19.94**
Normalized	99.9%	100%	100%
Standard Deviation	0.1%	0.1%	0.1%
ParaView - Wavelet Volume - 1920 x 1080 (MiVoxels / Sec)	**318.761**	**319.098**	319.040
Normalized	99.89%	100%	99.98%
Standard Deviation	0.1%	0.1%	0.1%
ParaView - Wavelet Contour - 1920 x 1080 (Frames / Sec)	**26.06**	**25.98**	26.04
Normalized	100%	99.69%	99.92%
Standard Deviation	0%	0.6%	0.2%

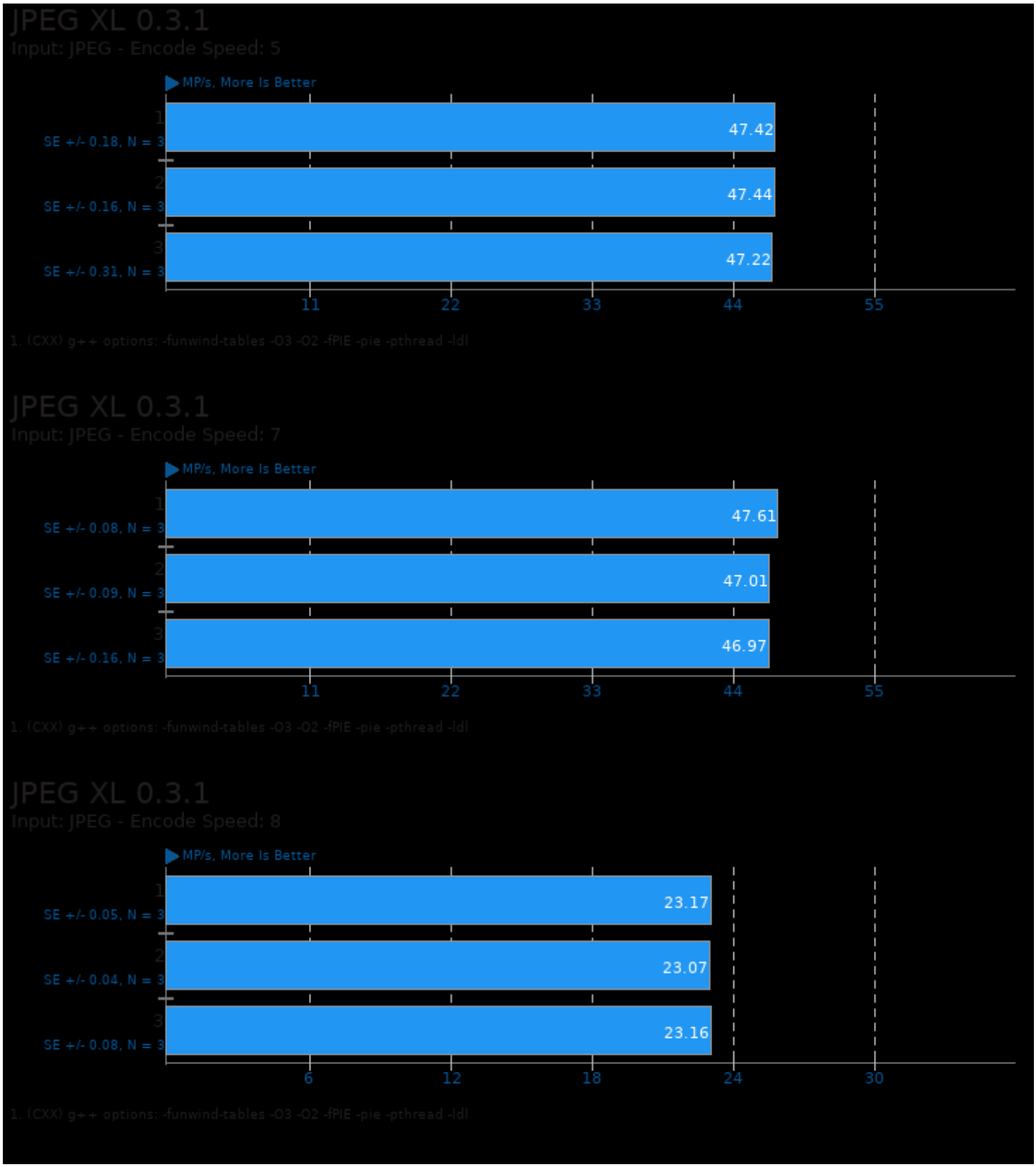
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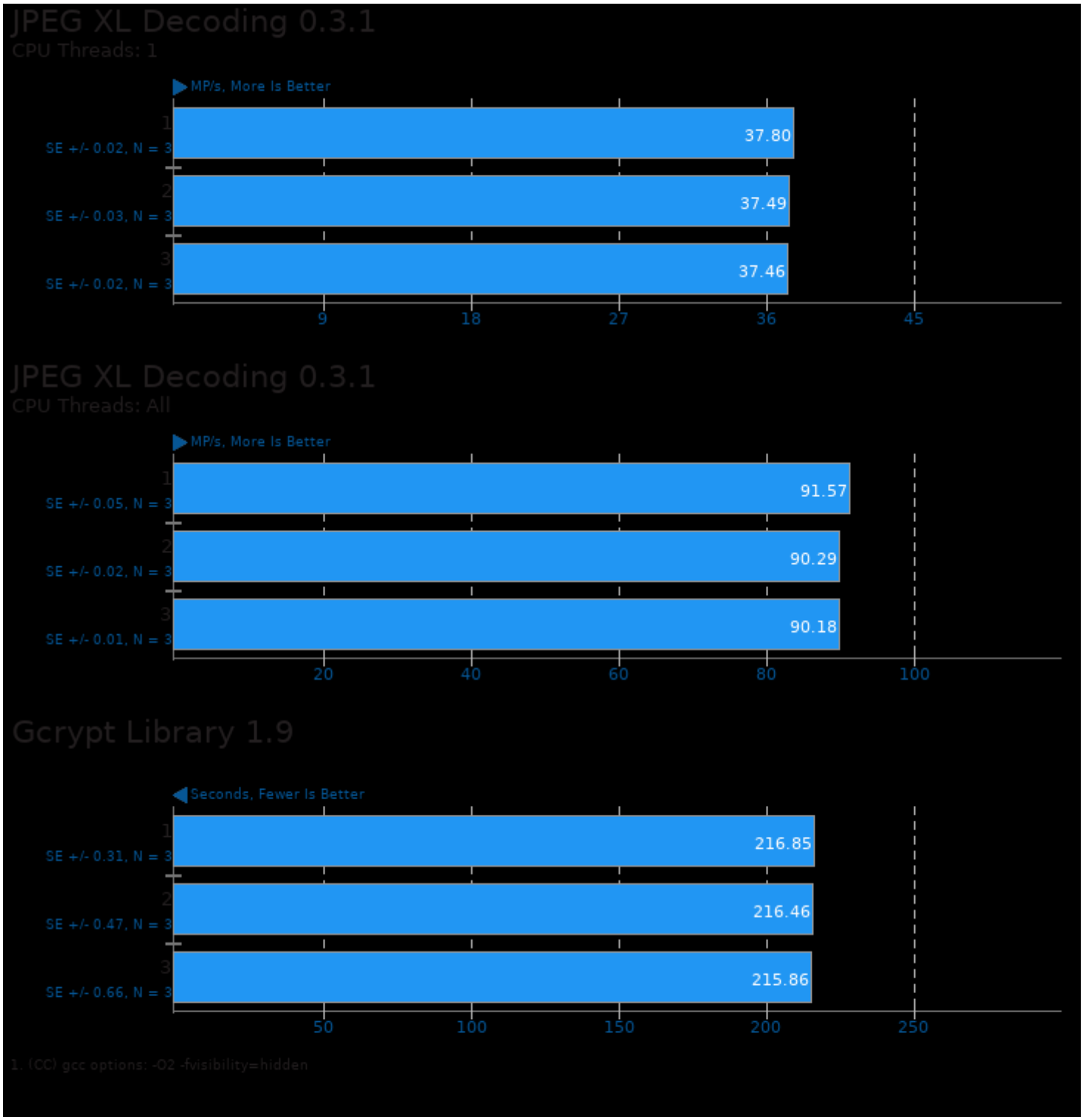
ParaView - Wavelet Contour - 1920 x 1080 (MiPolys / Sec)	**271.564**	**270.780**	271.366
Normalized	100%	99.71%	99.93%
Standard Deviation	0%	0.6%	0.2%
Pennant - sedovbig (Hydro Cycle Time - sec)	**211.7826**	211.8641	**211.9336**
Normalized	100%	99.96%	99.93%
Standard Deviation	0.1%	0%	0%
Pennant - leblancbig (Hydro Cycle Time -	**148.2093**	148.1131	**147.9772**
Normalized	99.84%	99.91%	100%
Standard Deviation	0.5%	0.1%	0.1%
JPEG XL - PNG - 5 (MP/s)	**36.79**	**36.84**	36.82
Normalized	99.86%	100%	99.95%
Standard Deviation	0.3%	0.2%	0.2%
JPEG XL - PNG - 7 (MP/s)	**7.34**	**7.32**	7.33
Normalized	100%	99.73%	99.86%
Standard Deviation	0.3%	0.1%	0.2%
JPEG XL - PNG - 8 (MP/s)	**0.64**	**0.65**	**0.65**
Normalized	98.46%	100%	100%
Standard Deviation	0.9%	0%	0%
JPEG XL - JPEG - 5 (MP/s)	47.42	**47.44**	**47.22**
Normalized	99.96%	100%	99.54%
Standard Deviation	0.7%	0.6%	1.1%
JPEG XL - JPEG - 7 (MP/s)	**47.61**	47.01	**46.97**
Normalized	100%	98.74%	98.66%
Standard Deviation	0.3%	0.3%	0.6%
JPEG XL - JPEG - 8 (MP/s)	**23.17**	**23.07**	23.16
Normalized	100%	99.57%	99.96%
Standard Deviation	0.4%	0.3%	0.6%
JPEG XL Decoding - 1 (MP/s)	**37.80**	37.49	**37.46**
Normalized	100%	99.18%	99.1%
Standard Deviation	0.1%	0.1%	0.1%
JPEG XL Decoding - All (MP/s)	**91.57**	90.29	**90.18**
Normalized	100%	98.6%	98.48%
Standard Deviation	0.1%	0%	0%
Gcrypt Library (sec)	**216.854**	216.463	**215.864**
Normalized	99.54%	99.72%	100%
Standard Deviation	0.2%	0.4%	0.5%
Ngspice - C2670 (sec)	**151.722**	150.802	**150.050**
Normalized	98.9%	99.5%	100%
Standard Deviation	1.4%	0.7%	0.1%
Ngspice - C7552 (sec)	171.499	**169.910**	**172.014**
Normalized	99.07%	100%	98.78%
Standard Deviation	0.6%	0.1%	0.3%
GROMACS - water_GMX50_bare (Ns/Day)	**0.401**	0.400	**0.396**
Normalized	100%	99.75%	98.75%
Standard Deviation	0.2%	0.3%	0.5%
Chaos Group V-RAY - CPU (vsamples)	**3303**	**3281**	3289
Normalized	100%	99.33%	99.58%
Standard Deviation	0.7%	0.3%	0.6%


ParaView 5.9
Test: Wavelet Volume - Resolution: 1920 x 1080
Frames / Sec, More Is Better
1
SE +/- 0.01, N = 3
19.92
2
SE +/- 0.01, N = 3
19.94
3
SE +/- 0.01, N = 3
19.94
5
10
15
20
25
ParaView 5.9
Test: Wavelet Volume - Resolution: 1920 x 1080
MiVoxels / Sec, More Is Better
1
SE +/- 0.10, N = 3
318.76
2
SE +/- 0.18, N = 3
319.10
3
SE +/- 0.15, N = 3
319.04
70
140
210
280
350
ParaView 5.9
Test: Wavelet Contour - Resolution: 1920 x 1080
Frames / Sec, More Is Better
1
SE +/- 0.00, N = 3
26.06
2
SE +/- 0.09, N = 3
25.98
3
SE +/- 0.03, N = 3
26.04
6
12
18
24
30


ParaView 5.9
Test: Wavelet Contour - Resolution: 1920 x 1080
MiPolys / Sec, More Is Better
1
SE +/- 0.02, N = 3
271.56
2
SE +/- 0.89, N = 3
270.78
3
SE +/- 0.35, N = 3
271.37
60
120
180
240
300
Pennant 1.0.1
Test: sedovbig
Hydro Cycle Time - Seconds, Fewer Is Better
1
SE +/- 0.10, N = 3
211.78
2
SE +/- 0.05, N = 3
211.86
3
SE +/- 0.03, N = 3
211.93
50
100
150
200
250
1. (CXX) g++ options: -fopenmp -pthread -lmpi_cxx -lmpi
Pennant 1.0.1
Test: leblancbig
Hydro Cycle Time - Seconds, Fewer Is Better
1
SE +/- 0.46, N = 3
148.21
2
SE +/- 0.10, N = 3
148.11
3
SE +/- 0.05, N = 3
147.98
30
60
90
120
150
1. (CXX) g++ options: -fopenmp -pthread -lmpi_cxx -lmpi

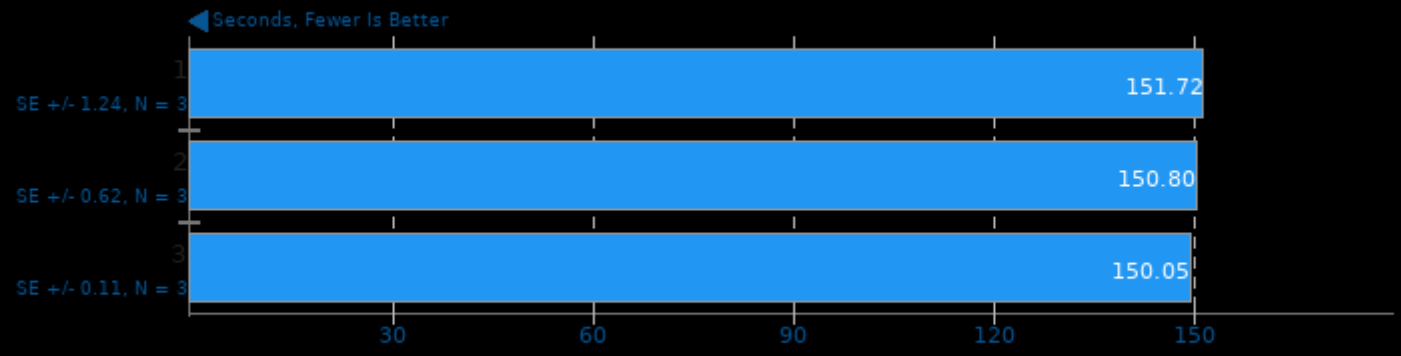

JPEG XL 0.3.1
Input: PNG - Encode Speed: 5
MP/s, More Is Better
1
SE +/- 0.05, N = 3
36.79
2
SE +/- 0.05, N = 3
36.84
3
SE +/- 0.04, N = 3
36.82
8
16
24
32
40
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
JPEG XL 0.3.1
Input: PNG - Encode Speed: 7
MP/s, More Is Better
1
SE +/- 0.01, N = 3
7.34
2
SE +/- 0.00, N = 3
7.32
3
SE +/- 0.01, N = 3
7.33
2
4
6
8
10
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
JPEG XL 0.3.1
Input: PNG - Encode Speed: 8
MP/s, More Is Better
1
SE +/- 0.00, N = 3
0.64
2
SE +/- 0.00, N = 3
0.65
3
SE +/- 0.00, N = 3
0.65
0.1463
0.2926
0.4389
0.5852
0.7315
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl


JPEG XL 0.3.1
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
1
SE +/- 0.18, N = 3
47.42
2
SE +/- 0.16, N = 3
47.44
3
SE +/- 0.31, N = 3
47.22
11
22
33
44
55
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
JPEG XL 0.3.1
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
1
SE +/- 0.08, N = 3
47.61
2
SE +/- 0.09, N = 3
47.01
3
SE +/- 0.16, N = 3
46.97
11
22
33
44
55
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl
JPEG XL 0.3.1
Input: JPEG - Encode Speed: 8
MP/s, More Is Better
1
SE +/- 0.05, N = 3
23.17
2
SE +/- 0.04, N = 3
23.07
3
SE +/- 0.08, N = 3
23.16
6
12
18
24
30
1. (CXX) g++ options: -funwind-tables -O3 -O2 -fPIE -pie -pthread -ldl


JPEG XL Decoding 0.3.1
CPU Threads: 1
MP/s, More Is Better
1
SE +/- 0.02, N = 3
37.80
2
SE +/- 0.03, N = 3
37.49
3
SE +/- 0.02, N = 3
37.46
9
18
27
36
45
JPEG XL Decoding 0.3.1
CPU Threads: All
MP/s, More Is Better
1
SE +/- 0.05, N = 3
91.57
2
SE +/- 0.02, N = 3
90.29
3
SE +/- 0.01, N = 3
90.18
20
40
60
80
100
Gcrypt Library 1.9
Seconds, Fewer Is Better
1
SE +/- 0.31, N = 3
216.85
2
SE +/- 0.47, N = 3
216.46
3
SE +/- 0.66, N = 3
215.86
50
100
150
200
250
1. (CC) gcc options: -O2 -fvisibility=hidden

Ngspice 34

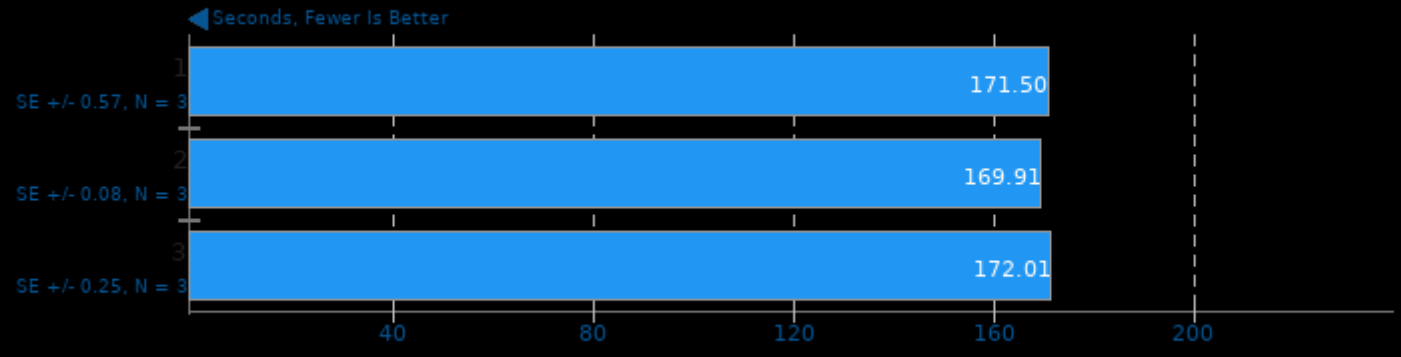
Circuit: C2670



1. (CC) gcc options: -O0 -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lSM -lICE

Ngspice 34

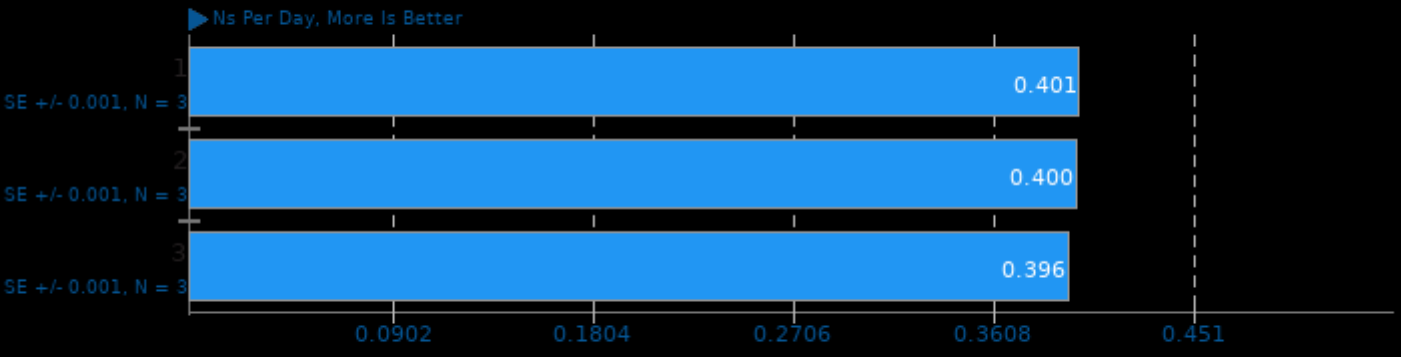
Circuit: C7552



1. (CC) gcc options: -O0 -fopenmp -lm -lstdc++ -lfftw3 -lXaw -lXmu -lXt -lXext -lX11 -lSM -lICE

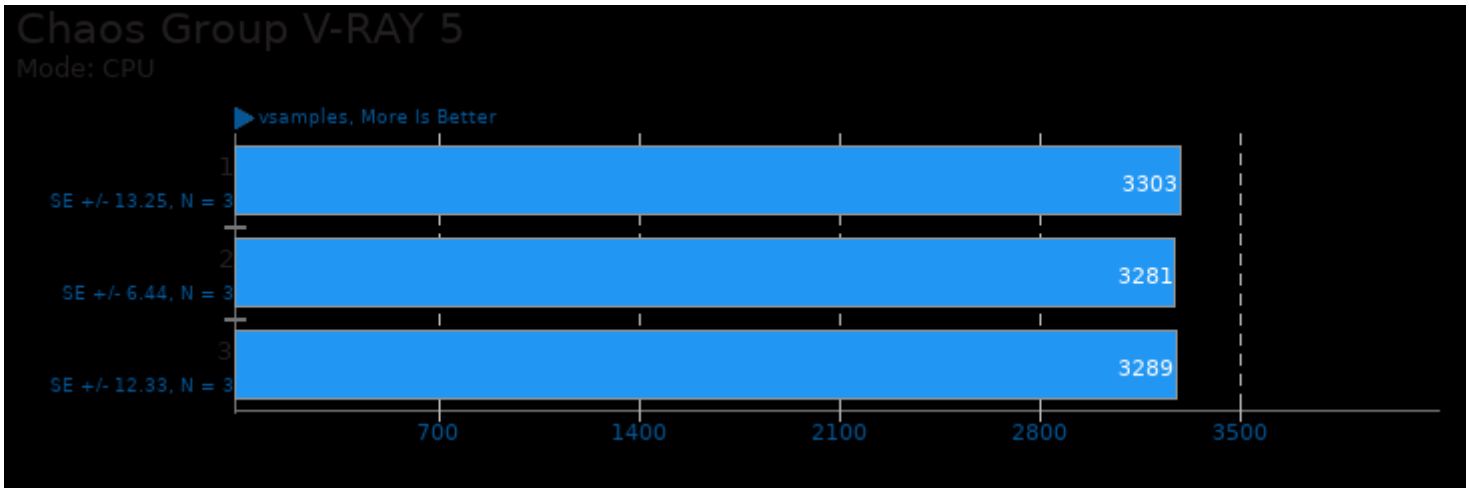
GROMACS 2021

Input: water_GMX50_bare

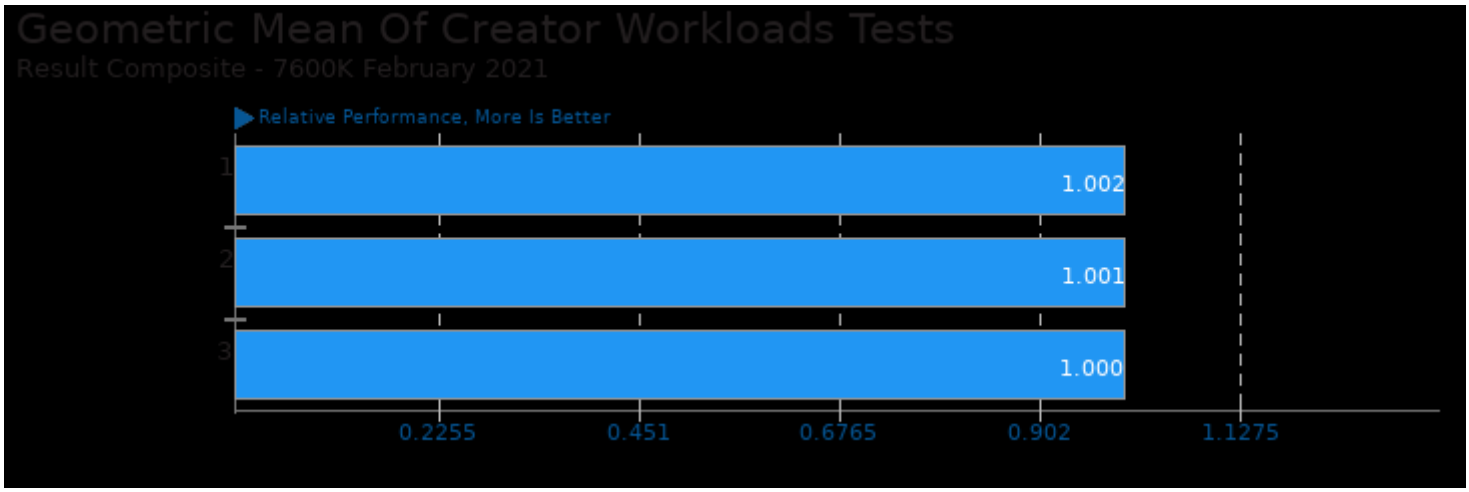


1. (CXX) g++ options: -O3 -pthread

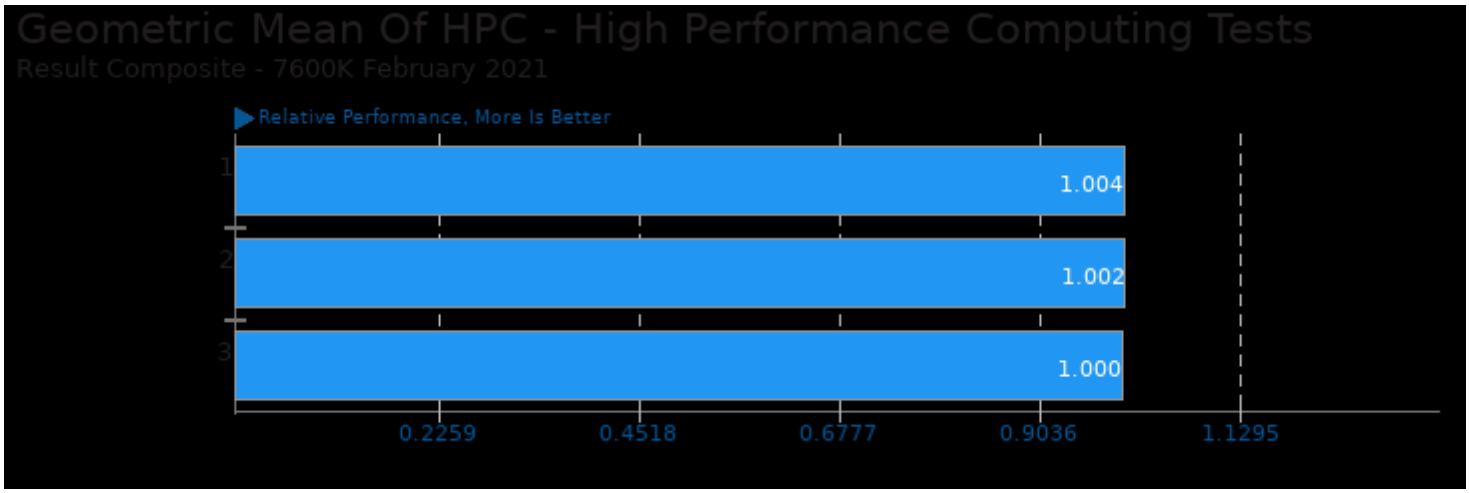
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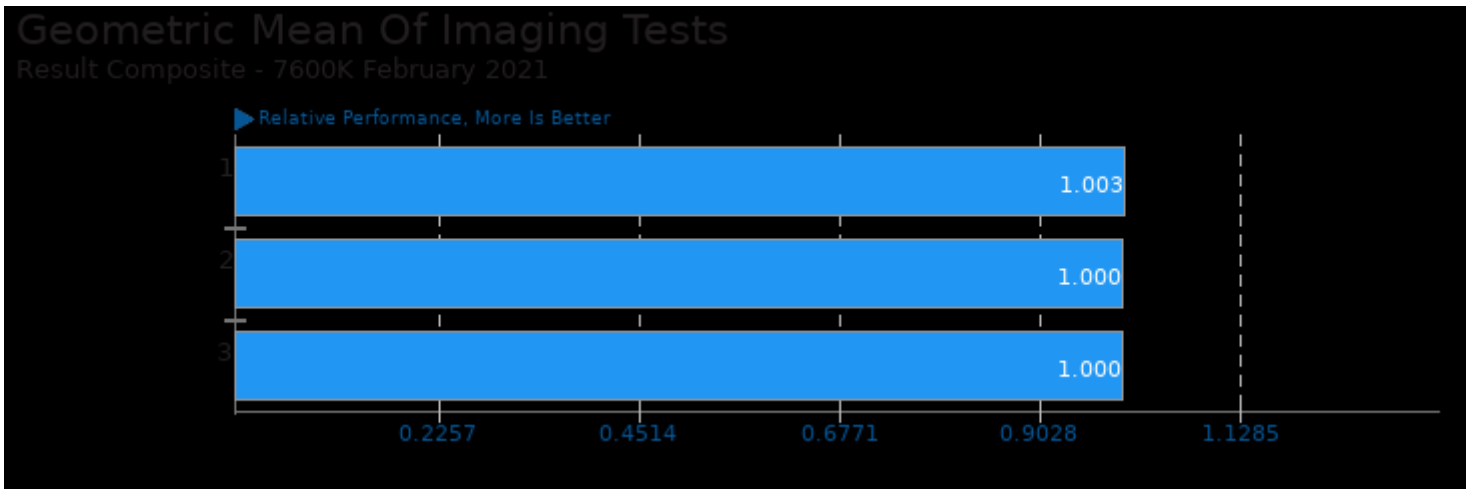
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/v-ray, pts/jpegxl, pts/jpegxl-decode and pts/ngspice

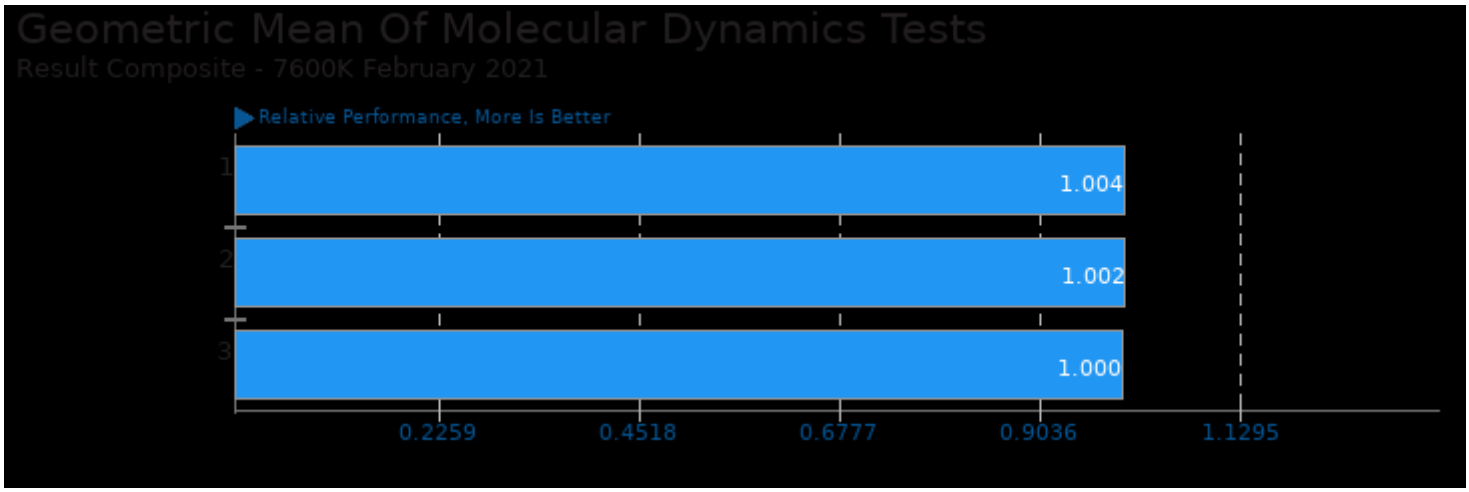


Geometric mean based upon tests: pts/gromacs and pts/pennant

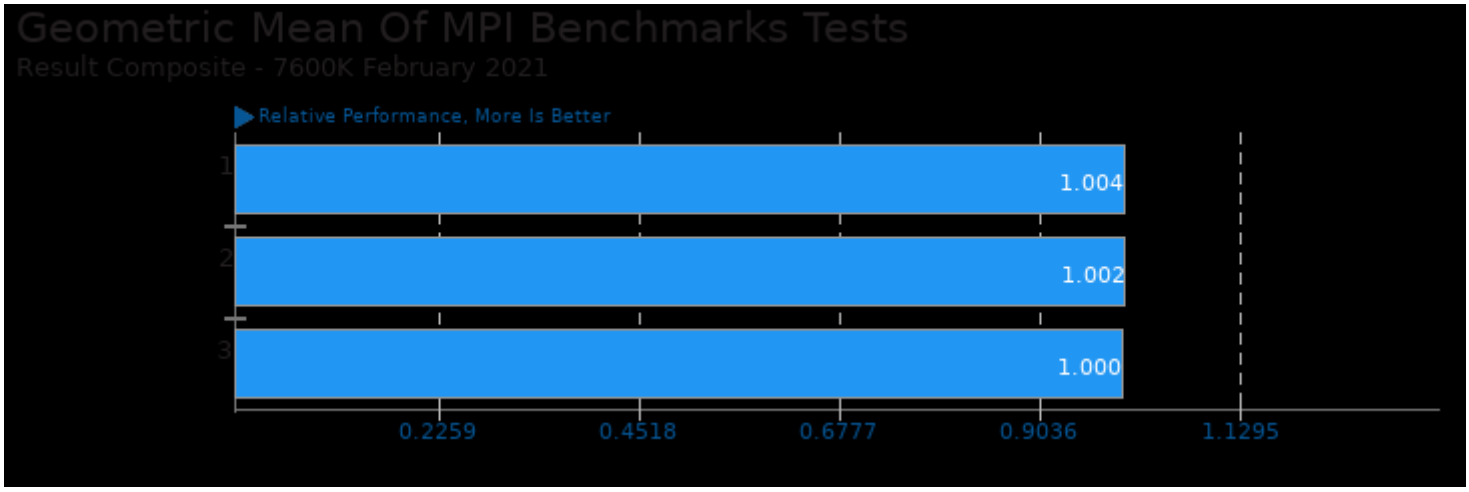


Geometric mean based upon tests: pts/jpegxl and pts/jpegxl-decode

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Geometric mean based upon tests: pts/gromacs and pts/pennant

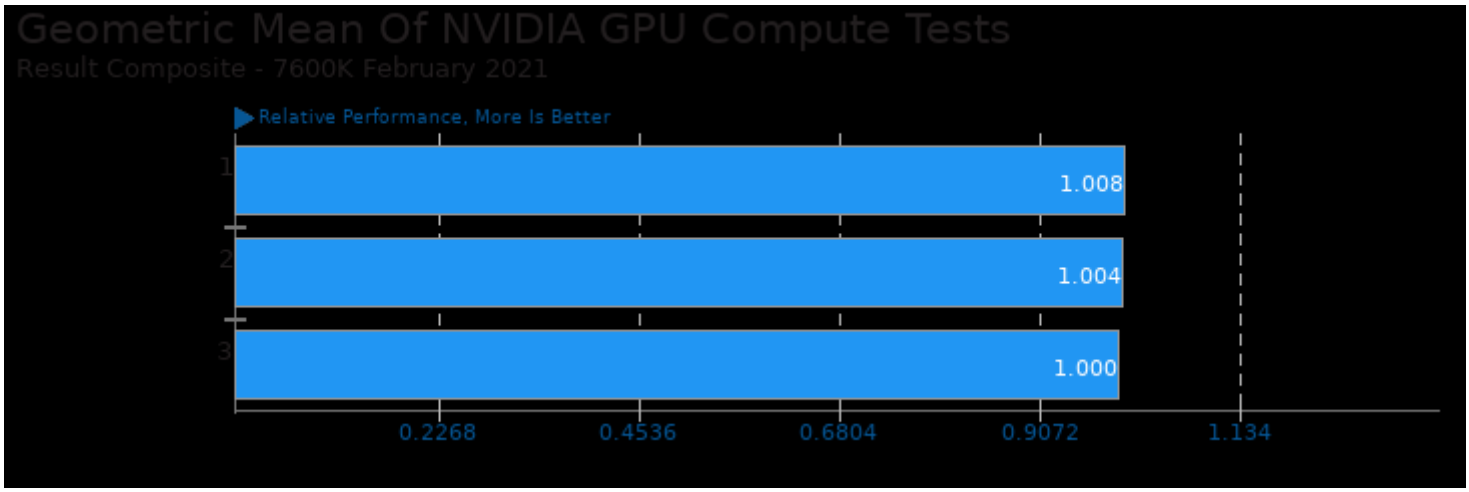


Geometric mean based upon tests: pts/gromacs and pts/pennant

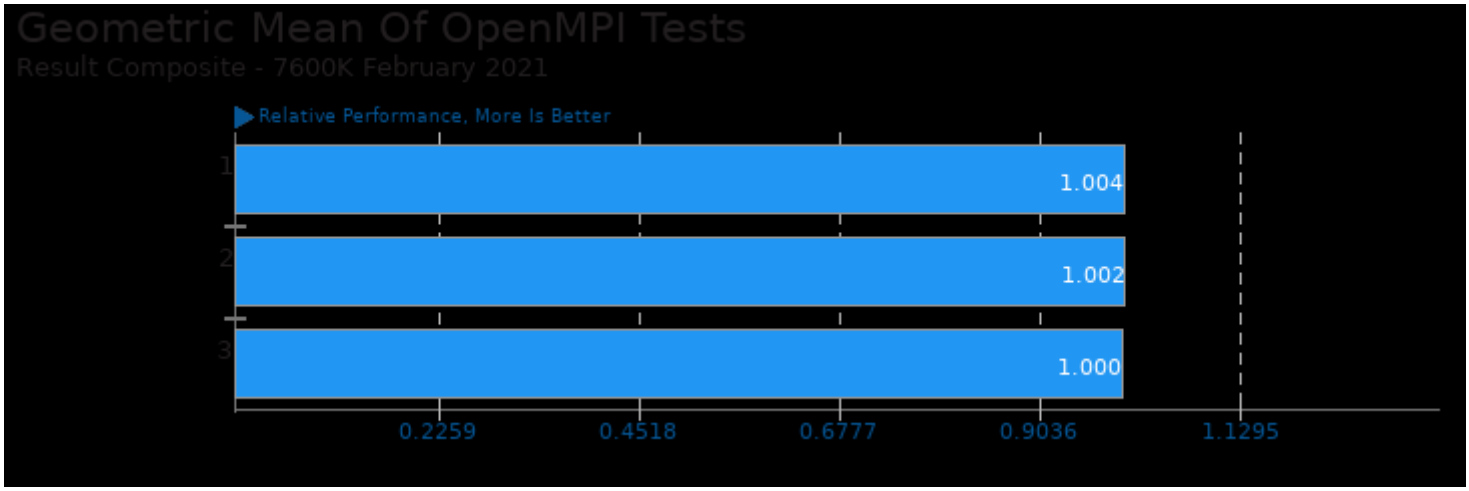


Geometric mean based upon tests: pts/pennant, pts/gromacs and pts/v-ray

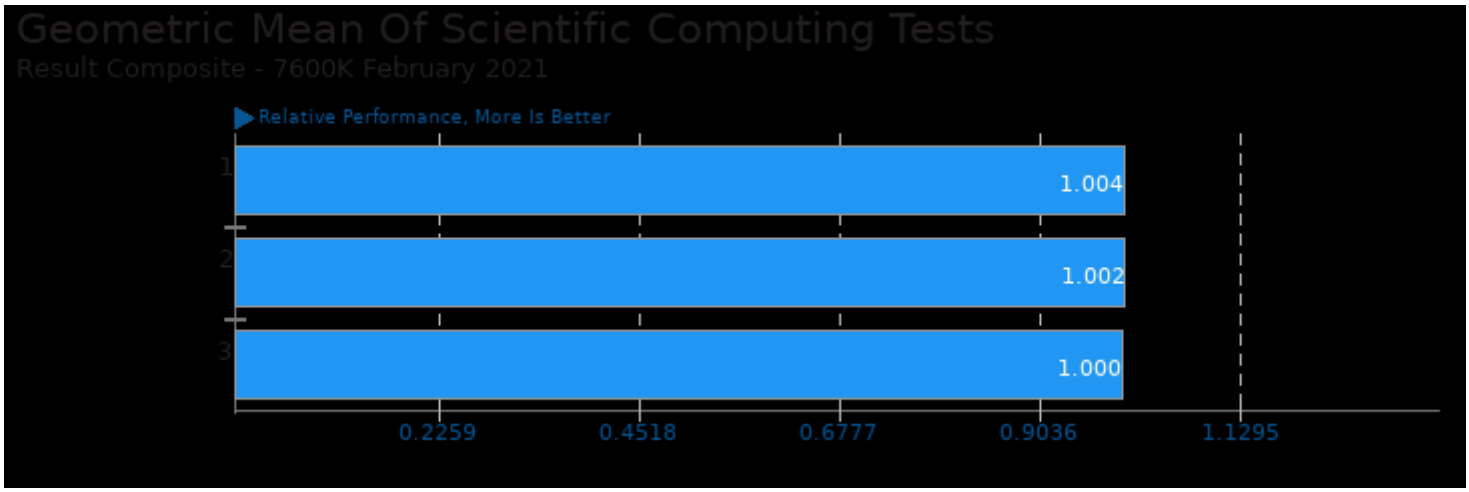
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Geometric mean based upon tests: pts/gromacs and pts/v-ray



Geometric mean based upon tests: pts/pennant and pts/gromacs



Geometric mean based upon tests: pts/gromacs and pts/pennant

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 07:51.