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Xeon E3-1270 v5

Intel Xeon E3-1270 v5 testing with a ASUS E3 PRO GAMING V5 (2606 BIOS) and ASUS NVIDIA NV84 256MB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

E3-1270 v5 had the most wins, coming in first place for 64% of the tests.

Based on the geometric mean of all complete results, the fastest (Intel E3-1270 v5) was 1.004x the speed of the slowest (Intel Xeom E3-1270 v5). E3-1270 v5 was 0.999x the speed of Intel E3-1270 v5 and Intel Xeom E3-1270 v5 was 0.998x the speed of E3-1270 v5.

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

Redis (Test: LPOP) at 1.584x
Redis (Test: GET) at 1.054x
Node.js V8 Web Tooling Benchmark at 1.022x
simdjson (Throughput Test: Kostya) at 1.02x
LULESH at 1.02x
NCNN (Target: CPU - Model: vgg16) at 1.018x
Redis (Test: SET) at 1.016x
rav1e (Speed: 6) at 1.015x

rav1e (Speed: 1) at 1.014x
Redis (Test: SADD) at 1.014x.

Test Systems:

E3-1270 v5

Intel E3-1270 v5

Intel Xeom E3-1270 v5

Processor: Intel Xeon E3-1270 v5 @ 4.00GHz (4 Cores / 8 Threads), Motherboard: ASUS E3 PRO GAMING V5 (2606 BIOS), Chipset: Intel Xeon E3-1200 v5/E3-1500, Memory: 8GB, Disk: 256GB Samsung SSD 850, Graphics: ASUS NVIDIA NV84 256MB, Audio: Realtek ALC1150, Monitor: DELL S2409W, Network: Intel I219-LM

OS: Ubuntu 20.10, Kernel: 5.8.0-33-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 3.3 Mesa 20.2.1, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/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: 0xdc - Thermald 2.3
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + l1tf: Mitigation of PTE Inversion + mds: Mitigation of Clear buffers; SMT vulnerable + 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: conditional RSB filling + srbds: Mitigation of Microcode + tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable

	E3-1270 v5	Intel E3-1270 v5	Intel Xeom E3-1270
Timed HMMer Search - P.D.S (sec)	**119.069**	119.099	**119.113**
Normalized	100%	99.97%	99.96%
Standard Deviation	0.2%	0.2%	0.1%
Incompact3D - Cylinder (sec)	717.224487	**717.439494**	**717.162008**
Normalized	99.99%	99.96%	100%
Standard Deviation	0.4%	0.1%	0.1%
LULESH (z/s)	713.91083	**714.74725**	**700.70997**
Normalized	99.88%	100%	98.04%
Standard Deviation	4.2%	0.1%	0.8%
WebP Image Encode - Default (Encode Time - sec)	**1.644**	**1.647**	1.645
Normalized	100%	99.82%	99.94%
Standard Deviation	0.1%	0.1%	0.1%

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WebP Image Encode - Quality 100 (Encode Time - sec)	**2.608**	2.612	**2.616**
Normalized	100%	99.85%	99.69%
Standard Deviation	0.2%	0.1%	0.3%
WebP Image Encode - Q.1.L (Encode Time - sec)	**18.956**	18.984	**19.088**
Normalized	100%	99.85%	99.31%
Standard Deviation	0.1%	0.1%	0.2%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	8.004	**8.013**	**7.986**
Normalized	99.78%	99.66%	100%
Standard Deviation	0.3%	0.3%	0.5%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)	**50.763**	50.858	**51.283**
Normalized	100%	99.81%	98.99%
Standard Deviation	0.4%	0.3%	0.1%
simdjson - Kostya (GB/s)	**0.49**	**0.50**	**0.49**
Normalized	98%	100%	98%
Standard Deviation	0%	1.2%	1.2%
simdjson - LargeRand (GB/s)	0.38	0.38	0.38
Standard Deviation	0%	0%	0%
simdjson - PartialTweets (GB/s)	0.62	0.62	0.62
Standard Deviation	0%	0%	0%
simdjson - DistinctUserID (GB/s)	0.63	0.63	0.63
Standard Deviation	0%	0%	0%
LibRaw - P.P.B (Mpix/sec)	**25.51**	25.48	**25.46**
Normalized	100%	99.88%	99.8%
Standard Deviation	0.1%	0.2%	0.1%
rav1e - 1 (FPS)	**0.353**	**0.358**	**0.358**
Normalized	98.6%	100%	100%
Standard Deviation	1.6%	1%	0.5%
rav1e - 5 (FPS)	**1.002**	1.000	**0.995**
Normalized	100%	99.8%	99.3%
Standard Deviation	1.6%	0.4%	2.4%
rav1e - 6 (FPS)	1.298	**1.309**	**1.290**
Normalized	99.16%	100%	98.55%
Standard Deviation	2.5%	0.5%	2.4%
rav1e - 10 (FPS)	2.687	**2.670**	**2.699**
Normalized	99.56%	98.93%	100%
Standard Deviation	2.4%	2.4%	1.8%
VP9 libvpx Encoding - Speed 0 (FPS)	**6.36**	**6.34**	
Normalized	100%	99.69%	
Standard Deviation	0.3%	0.1%	
VP9 libvpx Encoding - Speed 5 (FPS)	**22.80**	**22.75**	
Normalized	100%	99.78%	
Standard Deviation	0.4%	0.5%	
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	**151551**	**152098**	
Normalized	99.64%	100%	
Standard Deviation	1.1%	1.3%	
Himeno Benchmark - P.P.S (MFLOPS)	**3183**	**3182**	
Normalized	100%	99.96%	
Standard Deviation	0.2%	0.3%	
Build2 - Time To Compile (sec)	**338.030**	**338.422**	

Normalized	100%	99.88%
Standard Deviation	0.6%	0.7%
Numpy Benchmark (Score)	**313.03**	**309.14**
Normalized	100%	98.76%
Standard Deviation	0.2%	0.3%
Timed Eigen Compilation - Time To Compile (sec)	**88.019**	**88.214**
Normalized	100%	99.78%
Standard Deviation	0.2%	0%
Monkey Audio Encoding - WAV To APE (sec)	**12.514**	**12.560**
Normalized	100%	99.63%
Standard Deviation	0.9%	0.6%
LAME MP3 Encoding - WAV To MP3 (sec)	**9.438**	**9.428**
Normalized	99.89%	100%
Standard Deviation	0.1%	0.1%
Opus Codec Encoding - WAV To Opus Encode (sec)	**9.464**	**9.446**
Normalized	99.81%	100%
Standard Deviation	0.7%	0.3%
eSpeak-NG Speech Engine - T.T.S.S (sec)	**30.280**	**30.191**
Normalized	99.71%	100%
Standard Deviation	2.1%	0.6%
Node.js V8 Web Tooling Benchmark (runs/s)	**10.53**	**10.30**
Normalized	100%	97.82%
Standard Deviation	2.1%	1.5%
Cryptsetup - PBKDF2-sha512 (Iterations/sec)	**1616510**	**1612393**
Normalized	100%	99.75%
Standard Deviation	0.1%	0.5%
Cryptsetup - PBKDF2-whirlpool	**679131**	**679132**
Normalized	100%	100%
Standard Deviation	0.2%	0.3%
Cryptsetup - A.X.2.E (MiB/s)	**2093**	**2093**
Normalized	99.97%	100%
Standard Deviation	0.1%	0.1%
Cryptsetup - A.X.2.D (MiB/s)	**2102**	**2099**
Normalized	100%	99.85%
Standard Deviation	0.2%	0.1%
Cryptsetup - S.X.2.E (MiB/s)	**722.1**	**721.5**
Normalized	100%	99.92%
Standard Deviation	0.1%	0.1%
Cryptsetup - S.X.2.D (MiB/s)	**736.9**	**736.0**
Normalized	100%	99.88%
Standard Deviation	0.1%	0.1%
Cryptsetup - T.X.2.E (MiB/s)	**399.4**	**400.1**
Normalized	99.83%	100%
Standard Deviation	0.1%	0%
Cryptsetup - T.X.2.D (MiB/s)	**403.6**	**403.8**
Normalized	99.95%	100%
Standard Deviation	0.1%	0.1%
Cryptsetup - A.X.5.E (MiB/s)	**1879**	**1879**
Normalized	100%	99.98%
Standard Deviation	0.1%	0.1%
Cryptsetup - A.X.5.D (MiB/s)	**1879**	**1878**
Normalized	100%	99.95%
Standard Deviation	0%	0.1%

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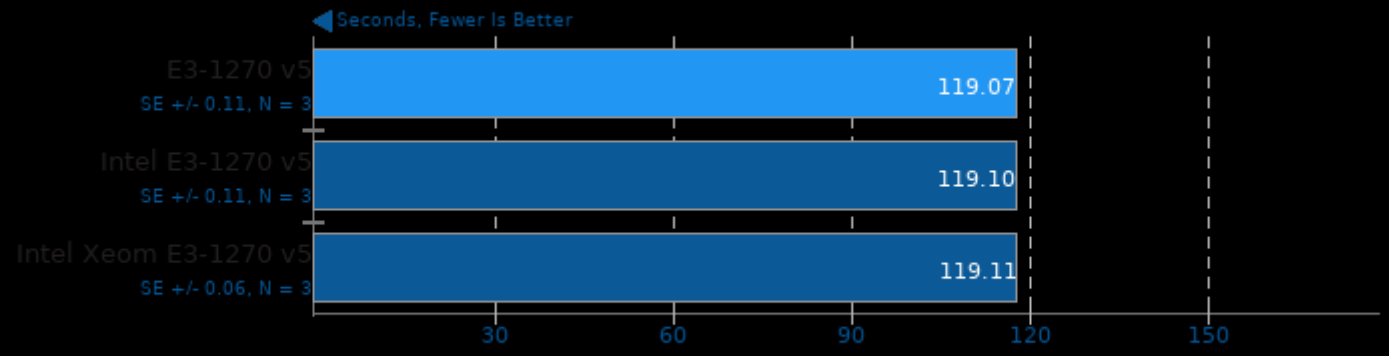
Cryptsetup - S.X.5.E (MiB/s)	**722.4**	**721.4**
Normalized	100%	99.86%
Standard Deviation	0.2%	0.1%
Cryptsetup - S.X.5.D (MiB/s)	**736.6**	**735.8**
Normalized	100%	99.89%
Standard Deviation	0.1%	0.1%
Cryptsetup - T.X.5.E (MiB/s)	**400.5**	**399.9**
Normalized	100%	99.85%
Standard Deviation	0.1%	0.1%
Cryptsetup - T.X.5.D (MiB/s)	**403.9**	**403.7**
Normalized	100%	99.95%
Standard Deviation	0.2%	0.1%
KeyDB (Ops/sec)	**390807**	**389015**
Normalized	100%	99.54%
Standard Deviation	1.6%	1.8%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	**71.227**	**71.885**
Normalized	100%	99.08%
Standard Deviation	0.2%	0.3%
Darktable - Boat - CPU-only (sec)	**24.912**	**24.979**
Normalized	100%	99.73%
Standard Deviation	0.1%	0.2%
Darktable - Masskrug - CPU-only (sec)	**17.640**	**17.664**
Normalized	100%	99.86%
Standard Deviation	0.3%	0.2%
Darktable - Server Rack - CPU-only (sec)	0.303	0.303
Standard Deviation	0.8%	0.4%
Darktable - Server Room - CPU-only (sec)	**16.331**	**16.376**
Normalized	100%	99.73%
Standard Deviation	0.1%	0.2%
GIMP - resize (sec)	**10.121**	**10.117**
Normalized	99.96%	100%
Standard Deviation	1.9%	1.6%
GIMP - rotate (sec)	**13.206**	**13.274**
Normalized	100%	99.49%
Standard Deviation	0.1%	0.1%
GIMP - auto-levels (sec)	**13.955**	**13.985**
Normalized	100%	99.79%
Standard Deviation	0.3%	0.4%
GIMP - unsharp-mask (sec)	**16.478**	**16.581**
Normalized	100%	99.38%
Standard Deviation	0.2%	0.2%
Redis - LPOP (Reqs/sec)	**2474738**	**1562349**
Normalized	100%	63.13%
Standard Deviation	2.5%	1.9%
Redis - SADD (Reqs/sec)	**1968166**	**1995091**
Normalized	98.65%	100%
Standard Deviation	2.5%	0.8%
Redis - LPUSH (Reqs/sec)	**1553842**	**1554867**
Normalized	99.93%	100%
Standard Deviation	0.3%	1.3%
Redis - GET (Reqs/sec)	**2333326**	**2213002**
Normalized	100%	94.84%
Standard Deviation	1.1%	2.4%
Redis - SET (Reqs/sec)	**1727820**	**1755141**

Normalized	98.44%	100%
Standard Deviation	4.5%	1.7%
NCNN - CPU - mobilenet (ms)	**30.95**	**31.07**
Normalized	100%	99.61%
Standard Deviation	0.3%	0.3%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	**7.91**	**8.00**
Normalized	100%	98.88%
Standard Deviation	0.9%	1.8%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	**6.62**	**6.65**
Normalized	100%	99.55%
Standard Deviation	1%	2%
NCNN - CPU - shufflenet-v2 (ms)	9.12	9.12
Standard Deviation	0.9%	1%
NCNN - CPU - mnasnet (ms)	**6.35**	**6.33**
Normalized	99.69%	100%
Standard Deviation	0.2%	0.2%
NCNN - CPU - efficientnet-b0 (ms)	**10.41**	**10.49**
Normalized	100%	99.24%
Standard Deviation	0.2%	0.7%
NCNN - CPU - blazeface (ms)	**2.51**	**2.52**
Normalized	100%	99.6%
Standard Deviation	0.2%	1.6%
NCNN - CPU - googlenet (ms)	**21.86**	**21.94**
Normalized	100%	99.64%
Standard Deviation	0.3%	0.2%
NCNN - CPU - vgg16 (ms)	**98.70**	**96.93**
Normalized	98.21%	100%
Standard Deviation	0.2%	0.1%
NCNN - CPU - resnet18 (ms)	**24.71**	**24.75**
Normalized	100%	99.84%
Standard Deviation	0.2%	0.3%
NCNN - CPU - alexnet (ms)	**22.92**	**22.87**
Normalized	99.78%	100%
Standard Deviation	0.3%	0.1%
NCNN - CPU - resnet50 (ms)	**50.40**	**50.65**
Normalized	100%	99.51%
Standard Deviation	0.4%	0.2%
NCNN - CPU - yolov4-tiny (ms)	**41.05**	**41.43**
Normalized	100%	99.08%
Standard Deviation	0.1%	0%
NCNN - CPU - squeezenet_ssd (ms)	**30.38**	**30.43**
Normalized	100%	99.84%
Standard Deviation	0.2%	0.1%
NCNN - CPU - regnety_400m (ms)	**16.95**	**16.86**
Normalized	99.47%	100%
Standard Deviation	0.1%	0.5%
Hierarchical INTegration - FLOAT (QUIPs)	**376886865**	**378559854**
Normalized	99.56%	100%
Standard Deviation	0.4%	0.1%
PHPBench - P.B.S (Score)	**666317**	**669904**
Normalized	99.46%	100%
Standard Deviation	0.7%	0.2%
WavPack Audio Encoding - WAV To WavPack (sec)	**16.466**	**16.441**
Normalized	99.85%	100%

Standard Deviation	0.5%	0.1%
Scikit-Learn (sec)	**155.577**	**155.223**
Normalized	99.77%	100%
Standard Deviation	0.3%	0.2%
InfluxDB - 4 - 10000 - 2,5000,1 - 10000	1020869	
Standard Deviation	0.2%	
InfluxDB - 64 - 10000 - 2,5000,1 - 10000 (val/sec)	1041882	
Standard Deviation	0.3%	
InfluxDB - 1024 - 10000 - 2,5000,1 - 10000 (val/sec)	1053623	
Standard Deviation	0.2%	

Timed HMMer Search 3.3.1

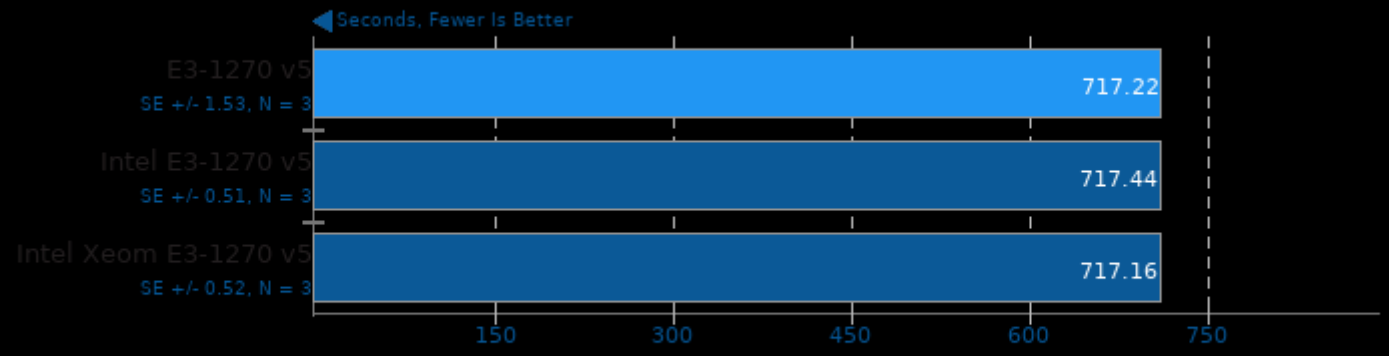
Pfam Database Search



1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm

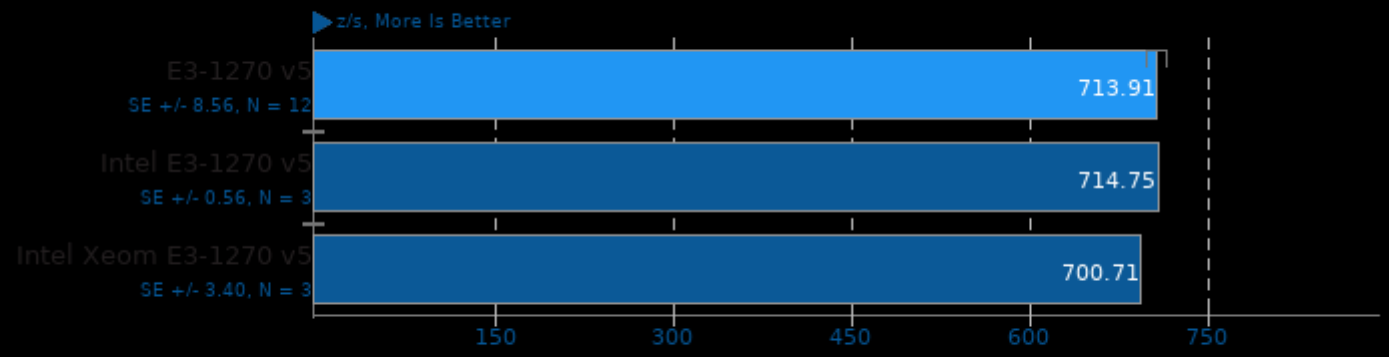
Incompact3D 2020-09-17

Input: Cylinder

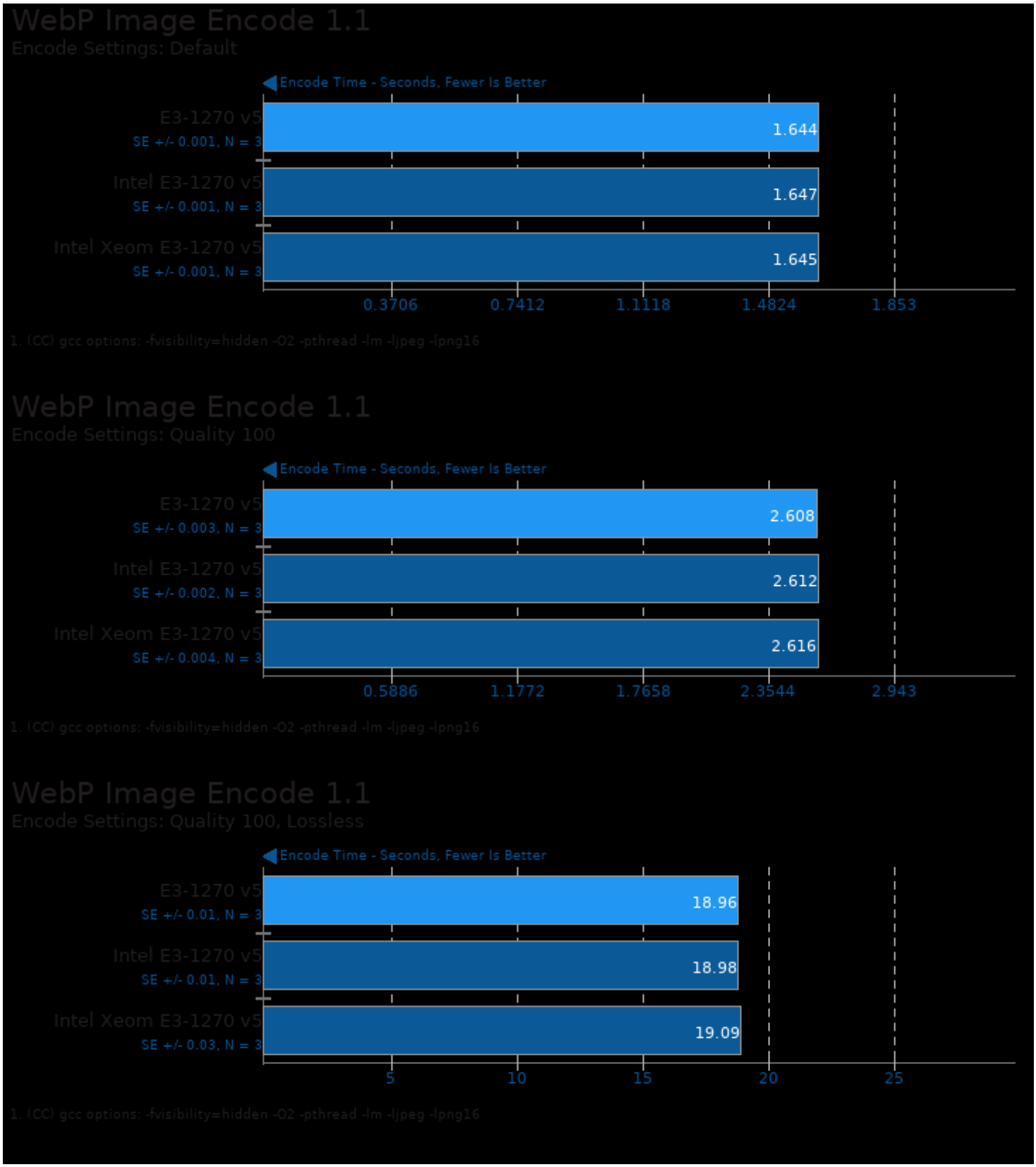


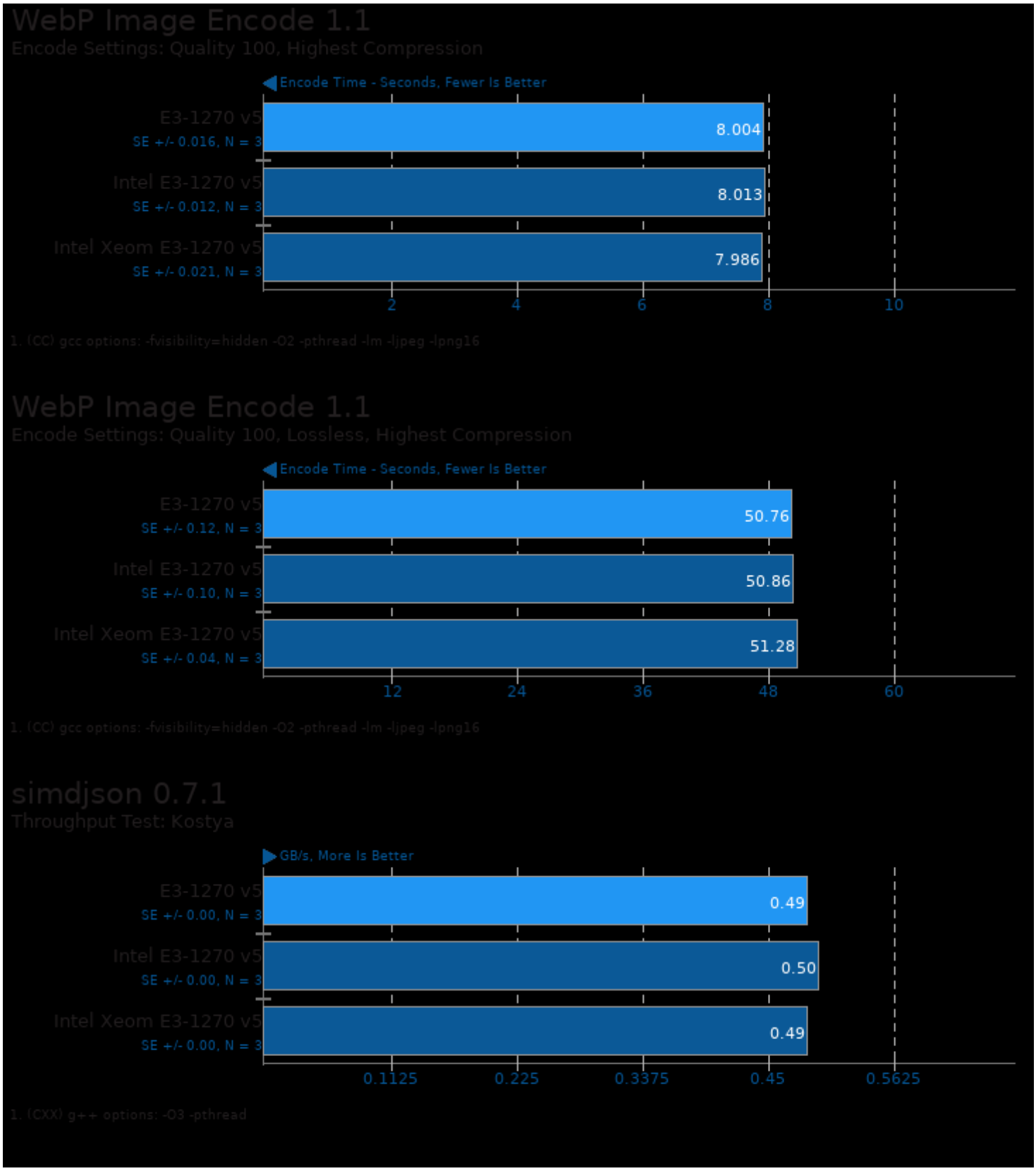
1. (F9X) gfortran options: -cpp -funroll-loops -floop-optimize -fcray-pointer -fbacktrace -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal

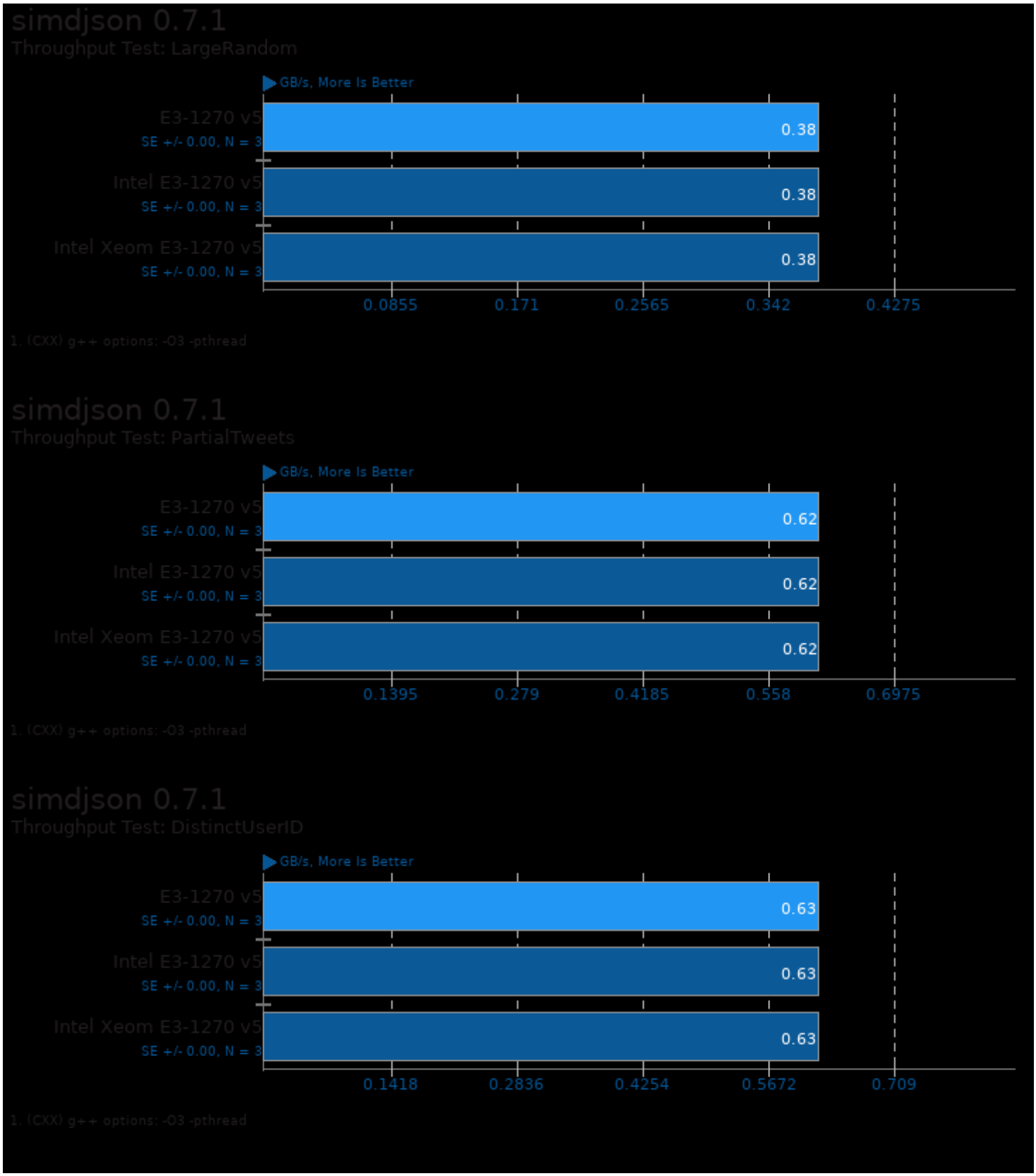
LULESH 2.0.3

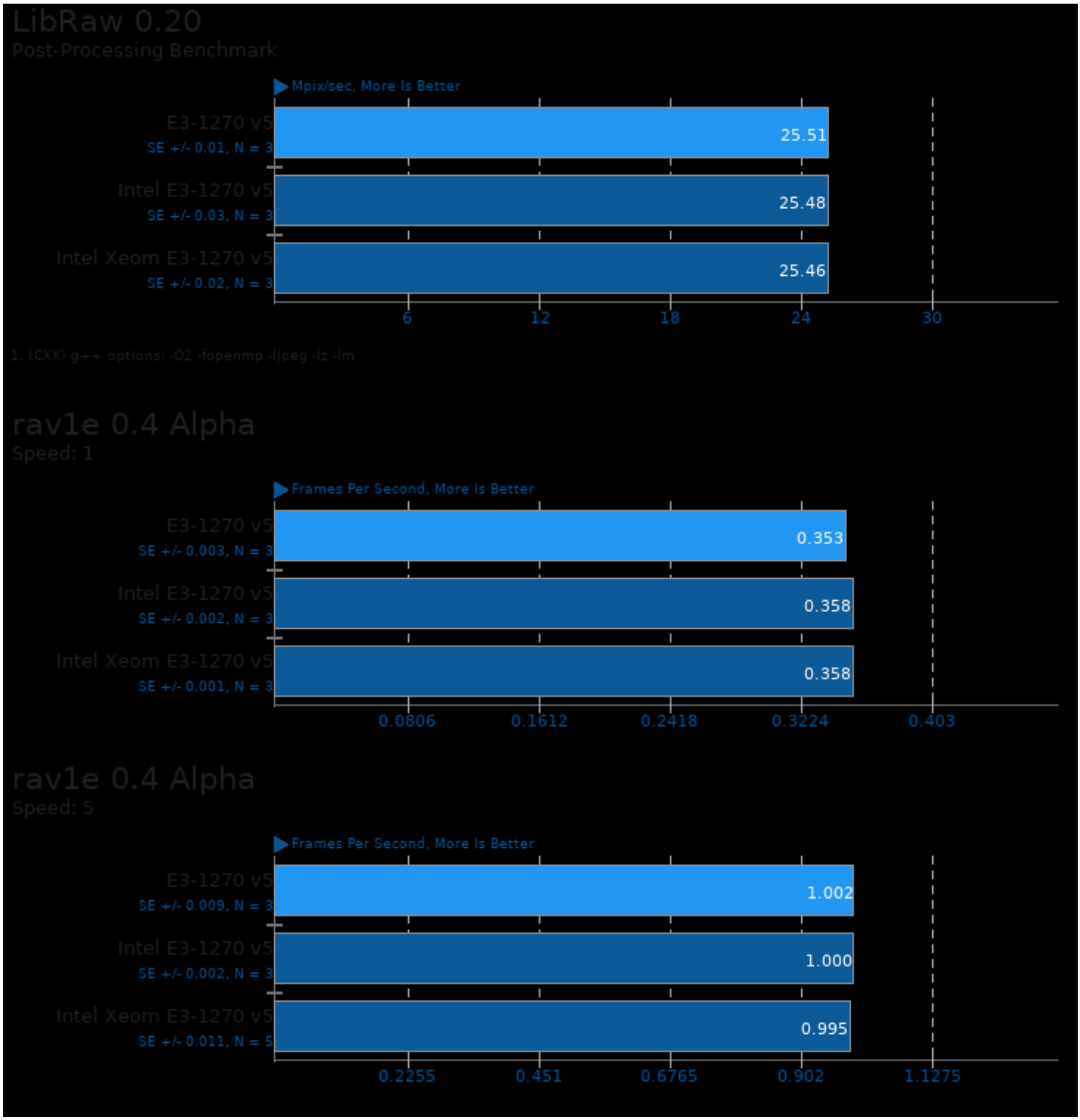


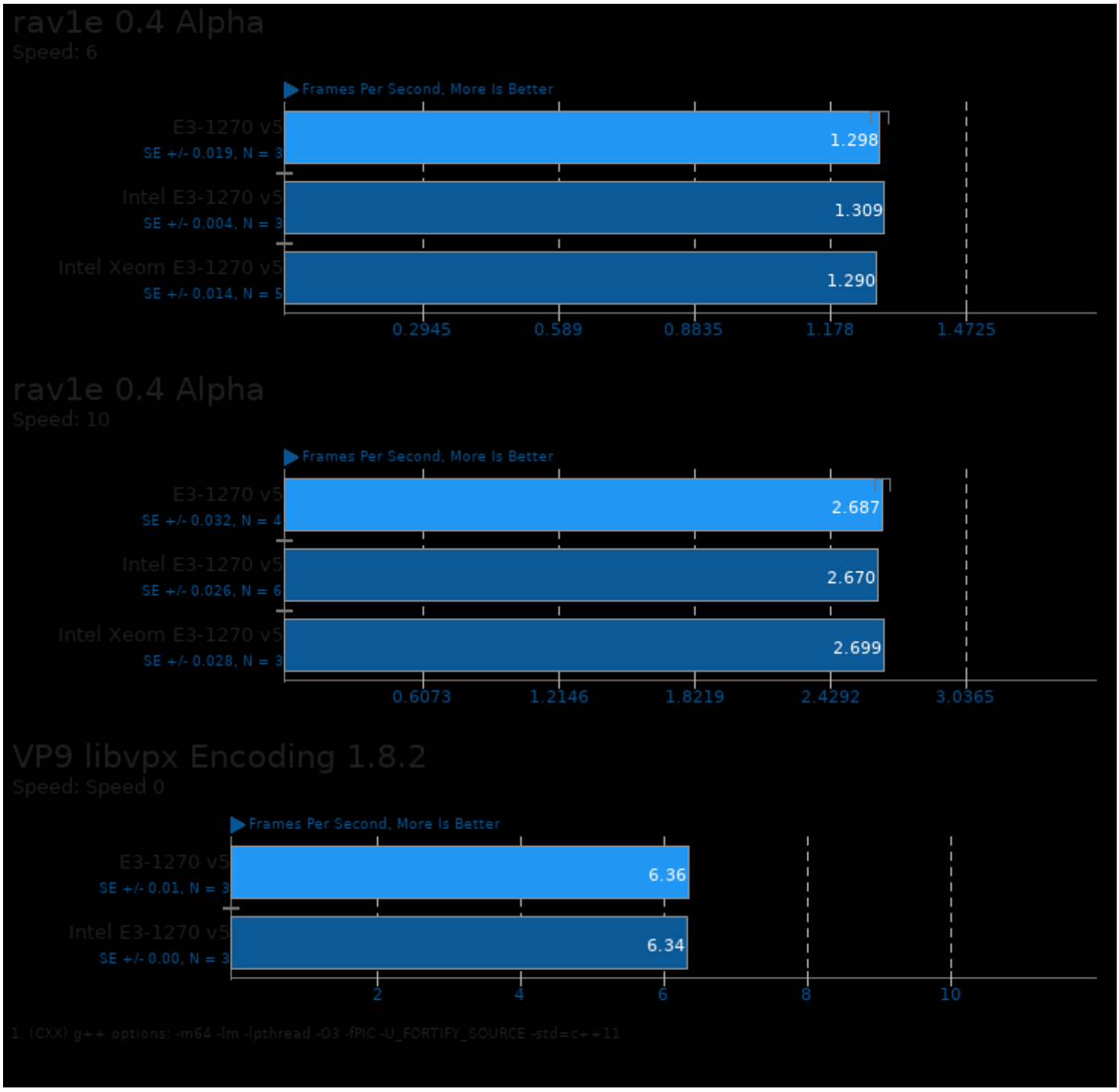
1. (CXX) g++ options: -O3 -fopenmp -lm -pthread -lmpi_cxx -lmpi


WebP Image Encode 1.1
Encode Settings: Default
Encode Time - Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.001, N = 3
1.644
Intel E3-1270 v5
SE +/- 0.001, N = 3
1.647
Intel Xeom E3-1270 v5
SE +/- 0.001, N = 3
1.645
0.3706
0.7412
1.1118
1.4824
1.853
1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16
WebP Image Encode 1.1
Encode Settings: Quality 100
Encode Time - Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.003, N = 3
2.608
Intel E3-1270 v5
SE +/- 0.002, N = 3
2.612
Intel Xeom E3-1270 v5
SE +/- 0.004, N = 3
2.616
0.5886
1.1772
1.7658
2.3544
2.943
1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16
WebP Image Encode 1.1
Encode Settings: Quality 100, Lossless
Encode Time - Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.01, N = 3
18.96
Intel E3-1270 v5
SE +/- 0.01, N = 3
18.98
Intel Xeom E3-1270 v5
SE +/- 0.03, N = 3
19.09
5
10
15
20
25
1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16


WebP Image Encode 1.1
Encode Settings: Quality 100, Highest Compression
Encode Time - Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.016, N = 3
8.004
Intel E3-1270 v5
SE +/- 0.012, N = 3
8.013
Intel Xeom E3-1270 v5
SE +/- 0.021, N = 3
7.986
2
4
6
8
10
1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16
WebP Image Encode 1.1
Encode Settings: Quality 100, Lossless, Highest Compression
Encode Time - Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.12, N = 3
50.76
Intel E3-1270 v5
SE +/- 0.10, N = 3
50.86
Intel Xeom E3-1270 v5
SE +/- 0.04, N = 3
51.28
12
24
36
48
60
1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16
simdjson 0.7.1
Throughput Test: Kostya
GB/s, More Is Better
E3-1270 v5
SE +/- 0.00, N = 3
0.49
Intel E3-1270 v5
SE +/- 0.00, N = 3
0.50
Intel Xeom E3-1270 v5
SE +/- 0.00, N = 3
0.49
0.1125
0.225
0.3375
0.45
0.5625
1. (CXX) g++ options: -O3 -pthread

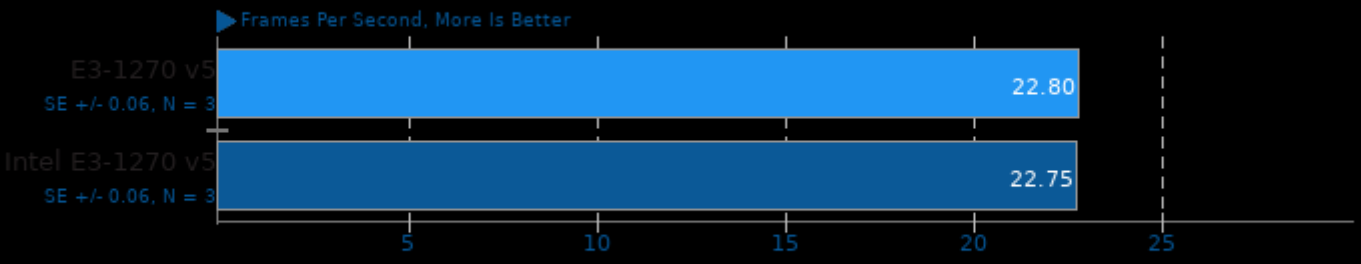

simdjson 0.7.1
Throughput Test: LargeRandom
GB/s, More Is Better
E3-1270 v5
SE +/- 0.00, N = 3
0.38
Intel E3-1270 v5
SE +/- 0.00, N = 3
0.38
Intel Xeom E3-1270 v5
SE +/- 0.00, N = 3
0.38
0.0855
0.171
0.2565
0.342
0.4275
1. (CXX) g++ options: -O3 -pthread
simdjson 0.7.1
Throughput Test: PartialTweets
GB/s, More Is Better
E3-1270 v5
SE +/- 0.00, N = 3
0.62
Intel E3-1270 v5
SE +/- 0.00, N = 3
0.62
Intel Xeom E3-1270 v5
SE +/- 0.00, N = 3
0.62
0.1395
0.279
0.4185
0.558
0.6975
1. (CXX) g++ options: -O3 -pthread
simdjson 0.7.1
Throughput Test: DistinctUserID
GB/s, More Is Better
E3-1270 v5
SE +/- 0.00, N = 3
0.63
Intel E3-1270 v5
SE +/- 0.00, N = 3
0.63
Intel Xeom E3-1270 v5
SE +/- 0.00, N = 3
0.63
0.1418
0.2836
0.4254
0.5672
0.709
1. (CXX) g++ options: -O3 -pthread


LibRaw 0.20
Post-Processing Benchmark
Mpix/sec, More Is Better
E3-1270 v5
SE +/- 0.01, N = 3
25.51
Intel E3-1270 v5
SE +/- 0.03, N = 3
25.48
Intel Xeom E3-1270 v5
SE +/- 0.02, N = 3
25.46
6
12
18
24
30
1. (CXX) g++ options: -O2 -fopenmp -ljpeg -lz -lm
rav1e 0.4 Alpha
Speed: 1
Frames Per Second, More Is Better
E3-1270 v5
SE +/- 0.003, N = 3
0.353
Intel E3-1270 v5
SE +/- 0.002, N = 3
0.358
Intel Xeom E3-1270 v5
SE +/- 0.001, N = 3
0.358
0.0806
0.1612
0.2418
0.3224
0.403
rav1e 0.4 Alpha
Speed: 5
Frames Per Second, More Is Better
E3-1270 v5
SE +/- 0.009, N = 3
1.002
Intel E3-1270 v5
SE +/- 0.002, N = 3
1.000
Intel Xeom E3-1270 v5
SE +/- 0.011, N = 5
0.995
0.2255
0.451
0.6765
0.902
1.1275


rav1e 0.4 Alpha
Speed: 6
Frames Per Second, More Is Better
E3-1270 v5
SE +/- 0.019, N = 3
1.298
Intel E3-1270 v5
SE +/- 0.004, N = 3
1.309
Intel Xeom E3-1270 v5
SE +/- 0.014, N = 5
1.290
0.2945
0.589
0.8835
1.178
1.4725
rav1e 0.4 Alpha
Speed: 10
Frames Per Second, More Is Better
E3-1270 v5
SE +/- 0.032, N = 4
2.687
Intel E3-1270 v5
SE +/- 0.026, N = 6
2.670
Intel Xeom E3-1270 v5
SE +/- 0.028, N = 3
2.699
0.6073
1.2146
1.8219
2.4292
3.0365
VP9 libvpx Encoding 1.8.2
Speed: Speed 0
Frames Per Second, More Is Better
E3-1270 v5
SE +/- 0.01, N = 3
6.36
Intel E3-1270 v5
SE +/- 0.00, N = 3
6.34
2
4
6
8
10
1: (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=c++11

VP9 libvpx Encoding 1.8.2

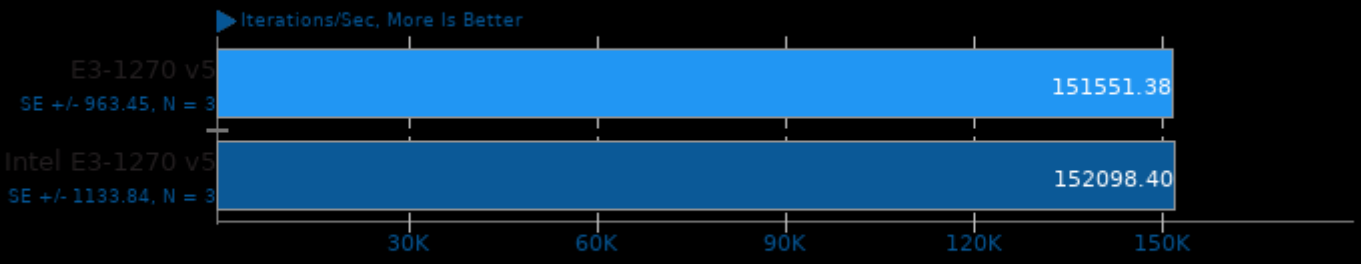
Speed: Speed 5



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=c++11

Coremark 1.0

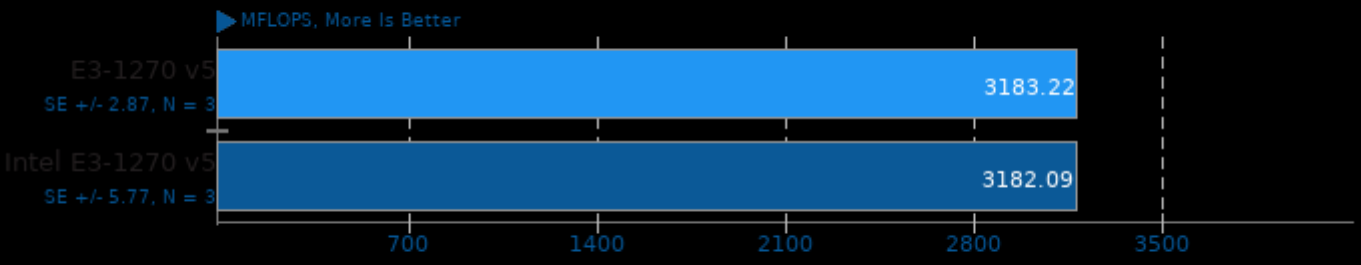
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -lrt -lrt

Himeno Benchmark 3.0

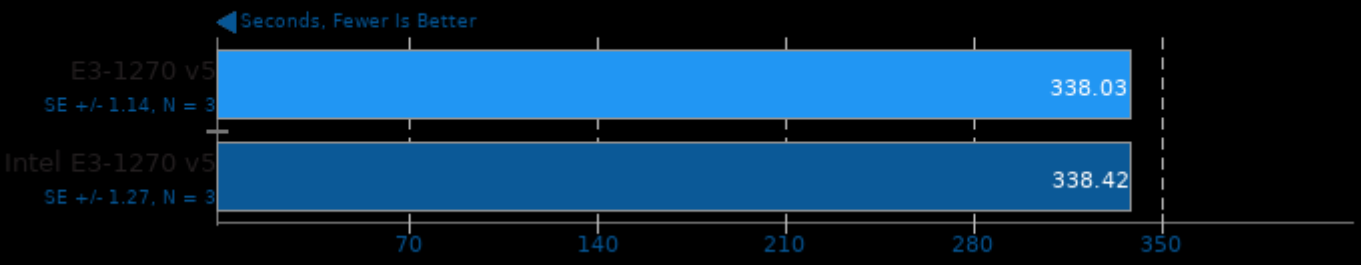
Poisson Pressure Solver



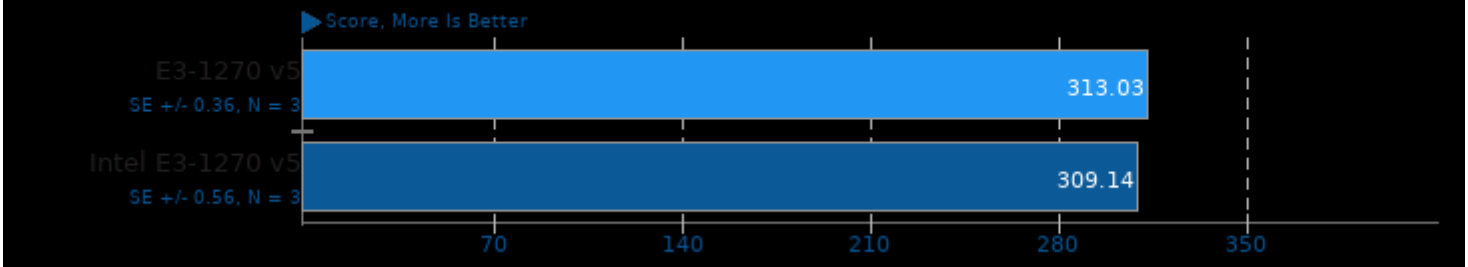
1. (CC) gcc options: -O3 -mavx2

Build2 0.13

Time To Compile

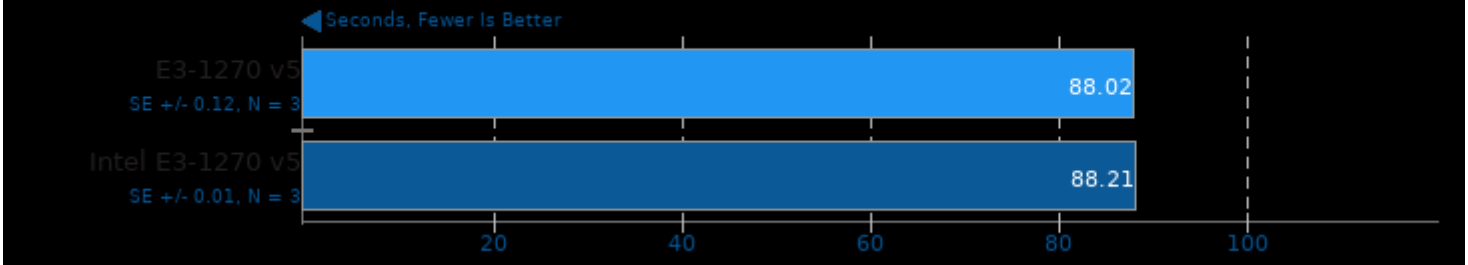


Numpy Benchmark



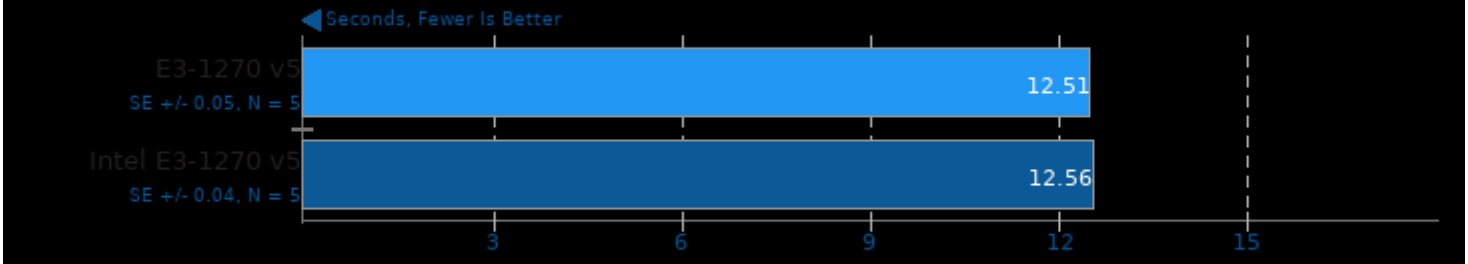
Timed Eigen Compilation 3.3.9

Time To Compile



Monkey Audio Encoding 3.99.6

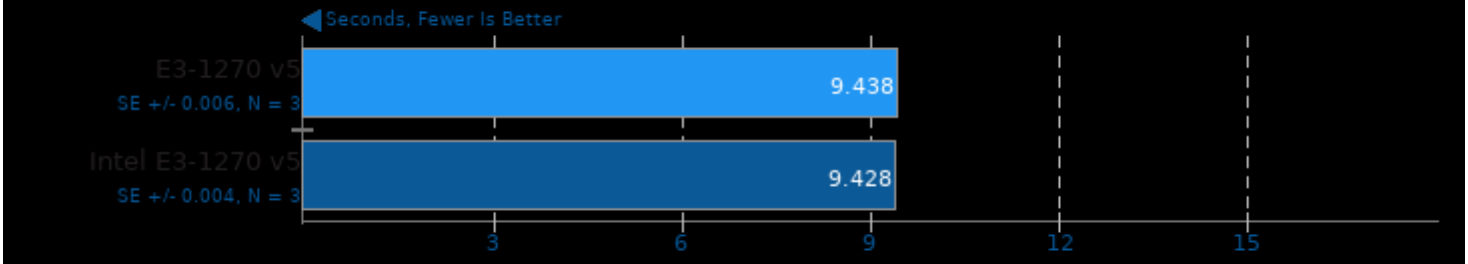
WAV To APE



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

LAME MP3 Encoding 3.100

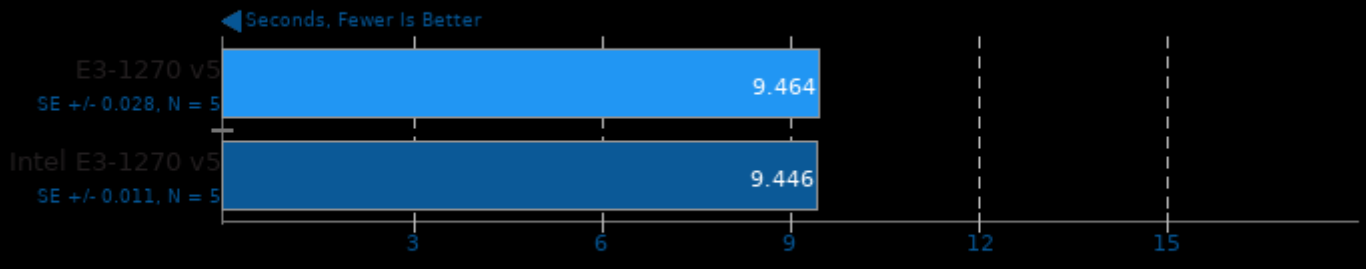
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

Opus Codec Encoding 1.3.1

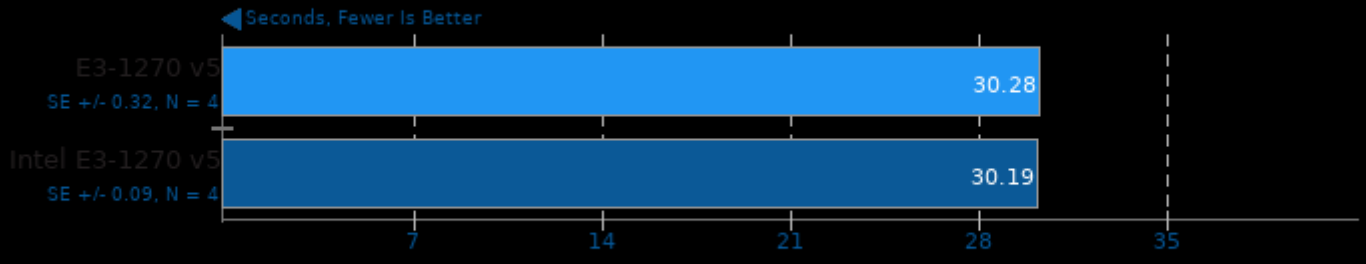
WAV To Opus Encode



1. (CXX) g++ options: -fvisibility=hidden -logg -lm

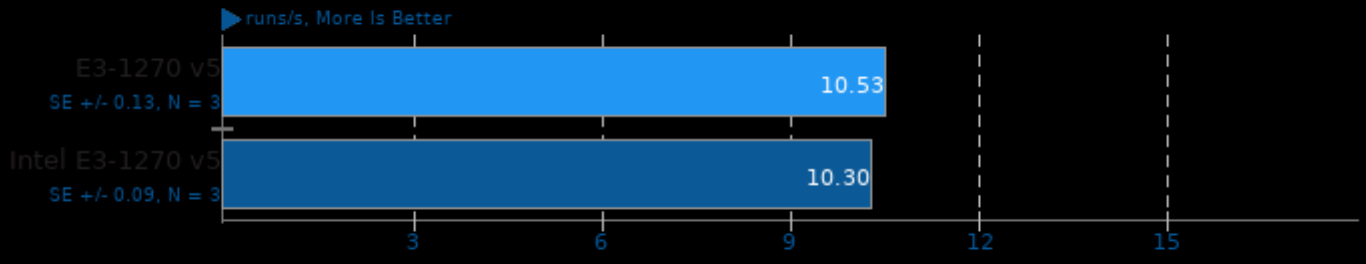
eSpeak-NG Speech Engine 20200907

Text-To-Speech Synthesis



1. (CC) gcc options: -O2 -std=c99

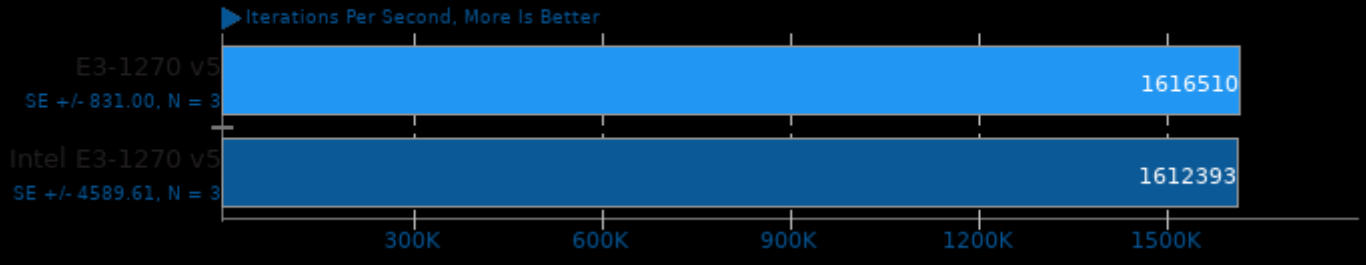
Node.js V8 Web Tooling Benchmark

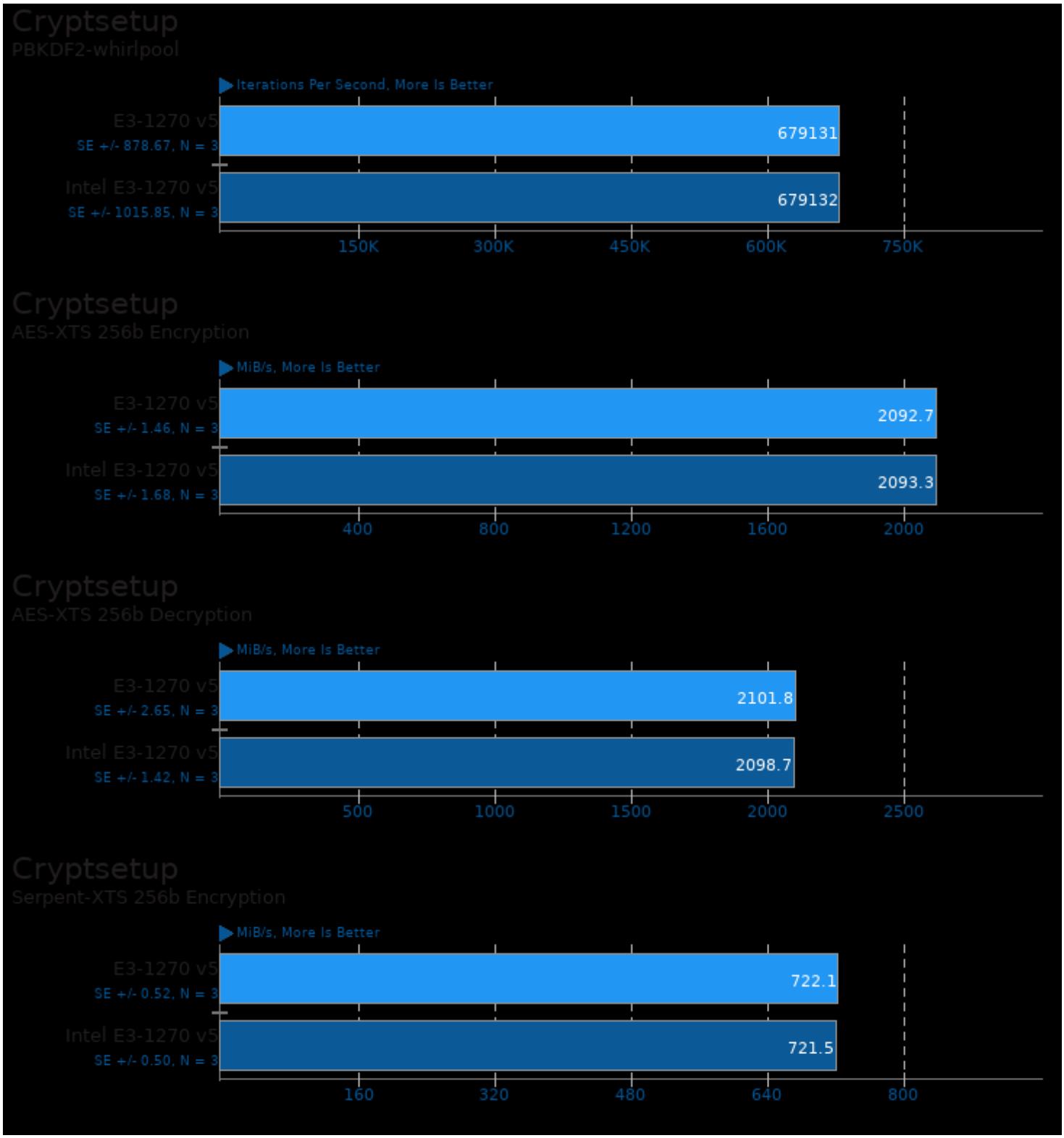


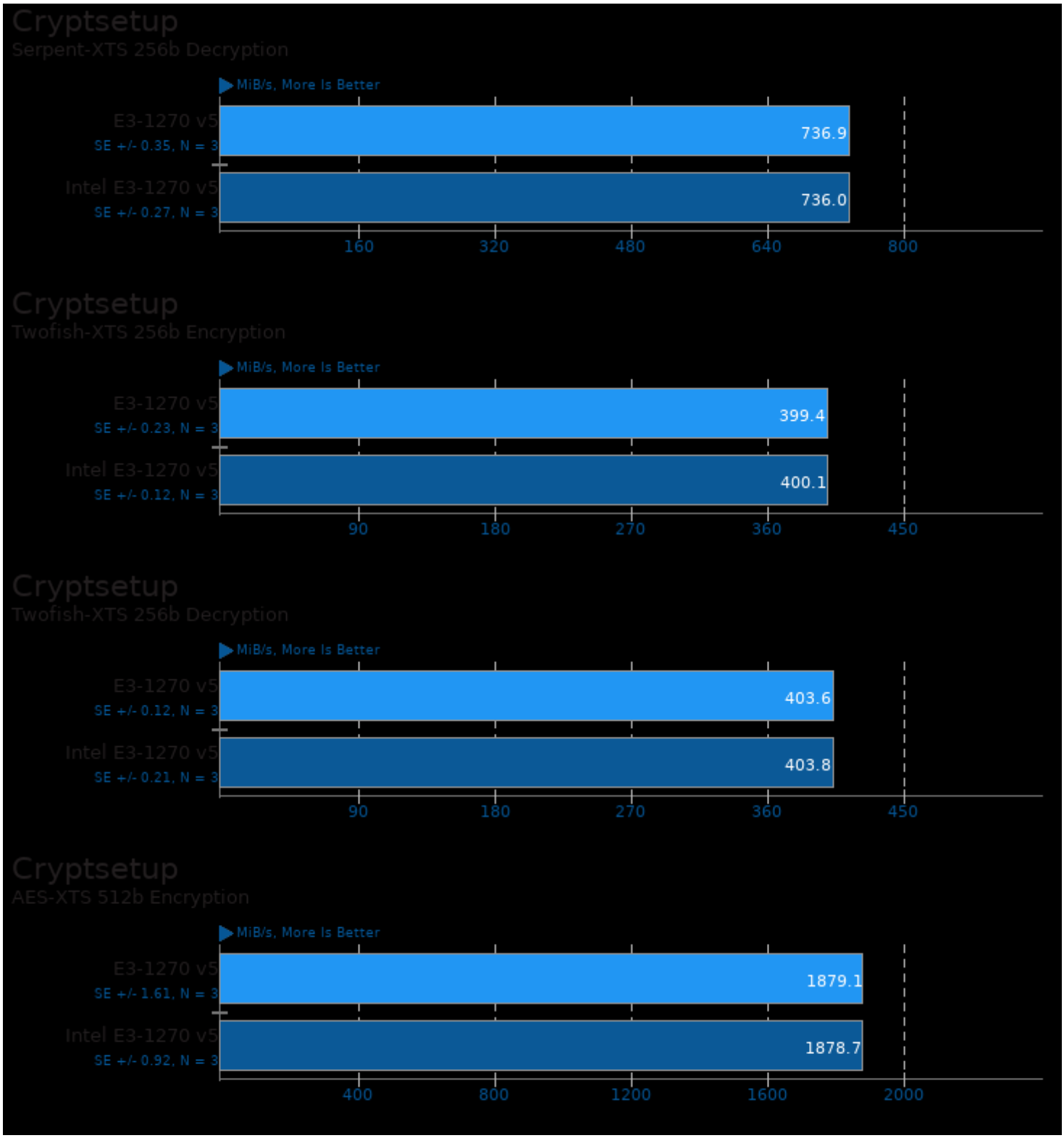
1. Nodejs v12.18.2

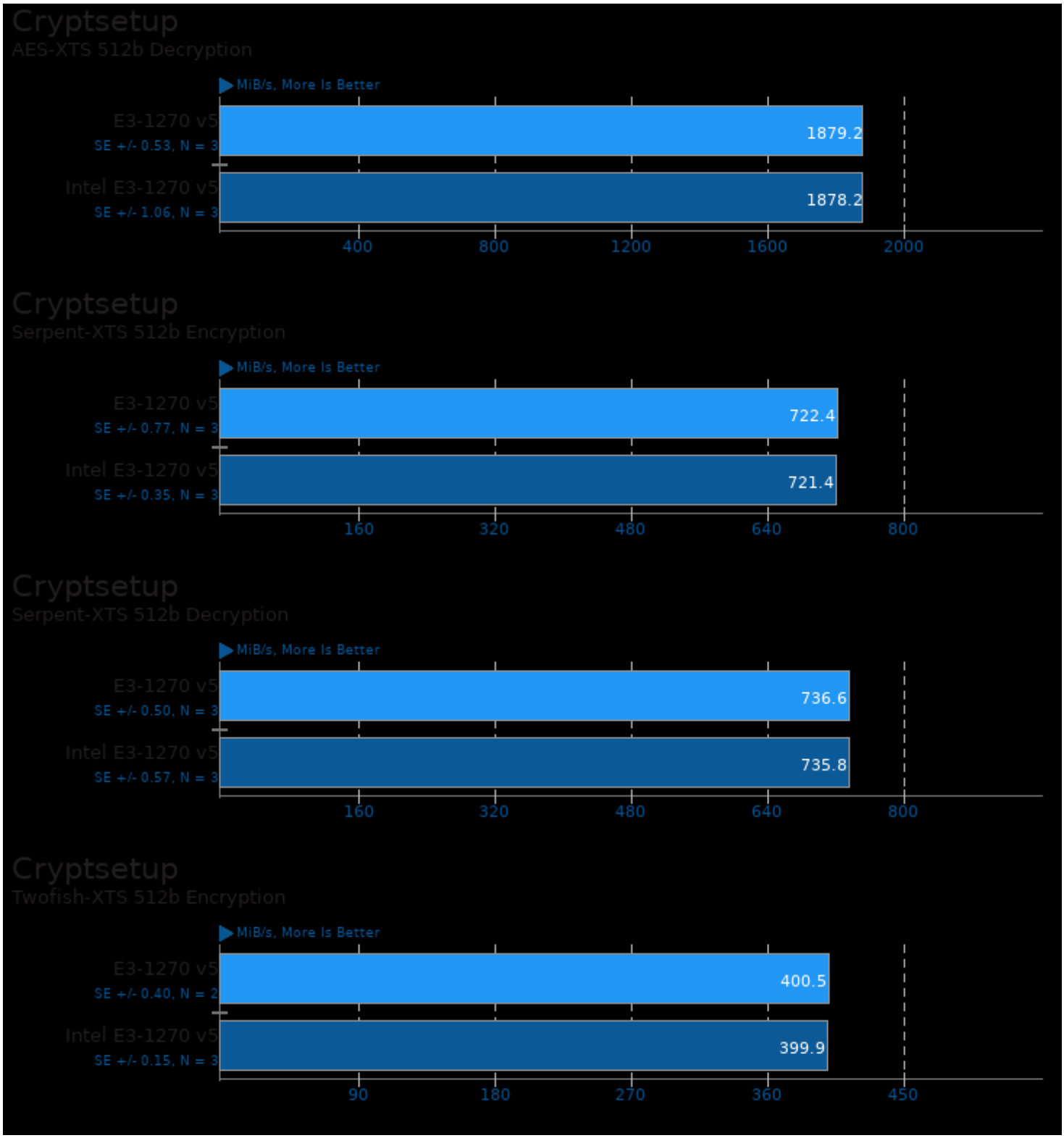
Cryptsetup

PBKDF2-sha512



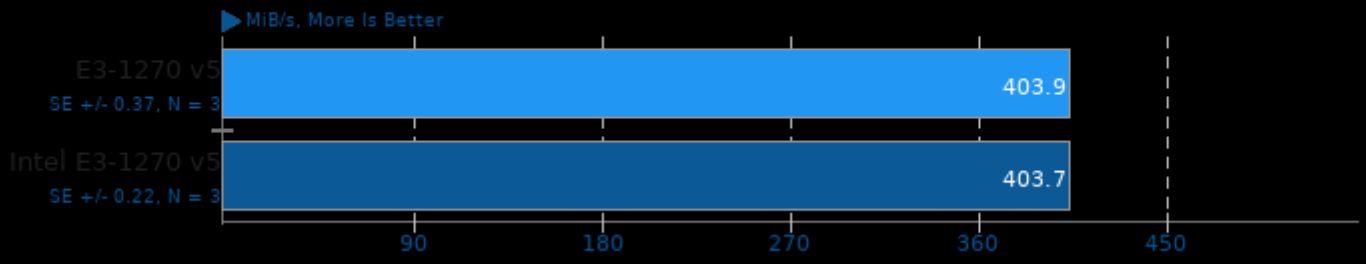

Cryptsetup
PBKDF2-whirlpool
Iterations Per Second, More Is Better
E3-1270 v5
SE +/- 878.67, N = 3
679131
Intel E3-1270 v5
SE +/- 1015.85, N = 3
679132
150K
300K
450K
600K
750K
Cryptsetup
AES-XTS 256b Encryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 1.46, N = 3
2092.7
Intel E3-1270 v5
SE +/- 1.68, N = 3
2093.3
400
800
1200
1600
2000
Cryptsetup
AES-XTS 256b Decryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 2.65, N = 3
2101.8
Intel E3-1270 v5
SE +/- 1.42, N = 3
2098.7
500
1000
1500
2000
2500
Cryptsetup
Serpent-XTS 256b Encryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.52, N = 3
722.1
Intel E3-1270 v5
SE +/- 0.50, N = 3
721.5
160
320
480
640
800


Cryptsetup
Serpent-XTS 256b Decryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.35, N = 3
736.9
Intel E3-1270 v5
SE +/- 0.27, N = 3
736.0
160
320
480
640
800
Cryptsetup
Twofish-XTS 256b Encryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.23, N = 3
399.4
Intel E3-1270 v5
SE +/- 0.12, N = 3
400.1
90
180
270
360
450
Cryptsetup
Twofish-XTS 256b Decryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.12, N = 3
403.6
Intel E3-1270 v5
SE +/- 0.21, N = 3
403.8
90
180
270
360
450
Cryptsetup
AES-XTS 512b Encryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 1.61, N = 3
1879.1
Intel E3-1270 v5
SE +/- 0.92, N = 3
1878.7
400
800
1200
1600
2000

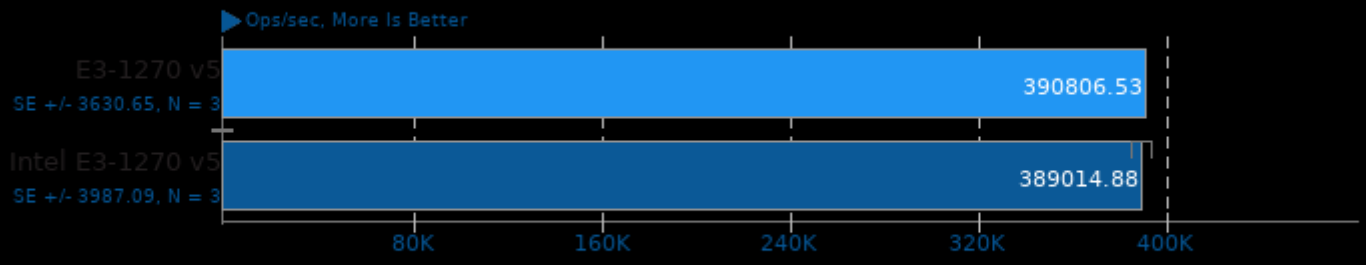

Cryptsetup
AES-XTS 512b Decryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.53, N = 3
1879.2
Intel E3-1270 v5
SE +/- 1.06, N = 3
1878.2
400
800
1200
1600
2000
Cryptsetup
Serpent-XTS 512b Encryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.77, N = 3
722.4
Intel E3-1270 v5
SE +/- 0.35, N = 3
721.4
160
320
480
640
800
Cryptsetup
Serpent-XTS 512b Decryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.50, N = 3
736.6
Intel E3-1270 v5
SE +/- 0.57, N = 3
735.8
160
320
480
640
800
Cryptsetup
Twofish-XTS 512b Encryption
MiB/s, More Is Better
E3-1270 v5
SE +/- 0.40, N = 2
400.5
Intel E3-1270 v5
SE +/- 0.15, N = 3
399.9
90
180
270
360
450

Cryptsetup

Twofish-XTS 512b Decryption



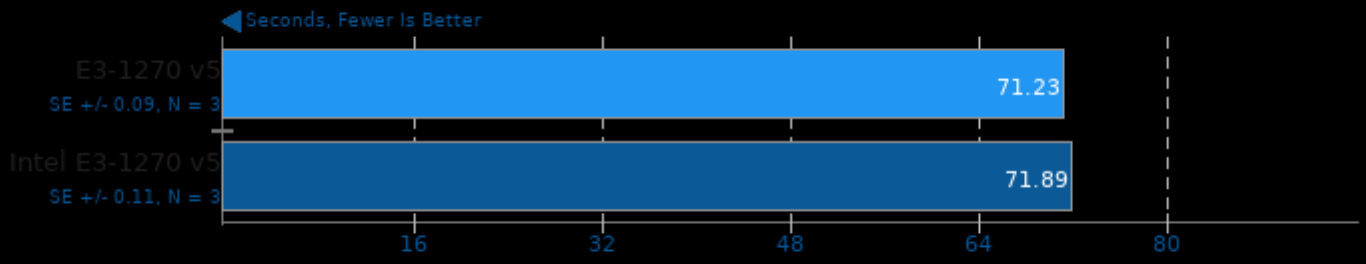
KeyDB 6.0.16



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

SQLite Speedtest 3.30

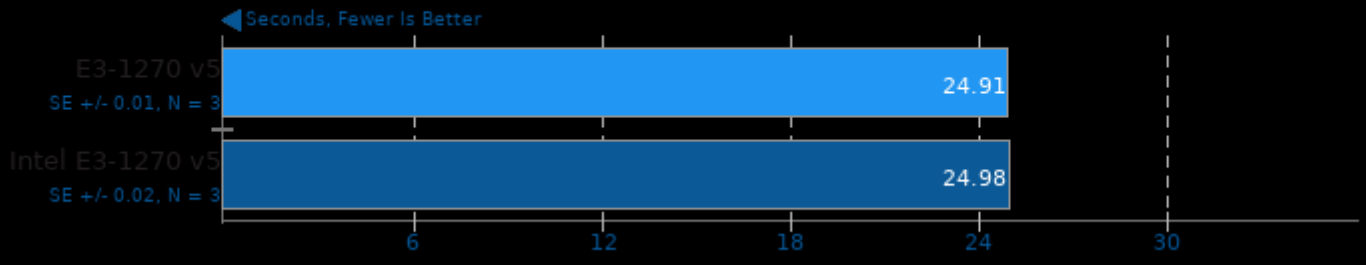
Timed Time - Size 1,000

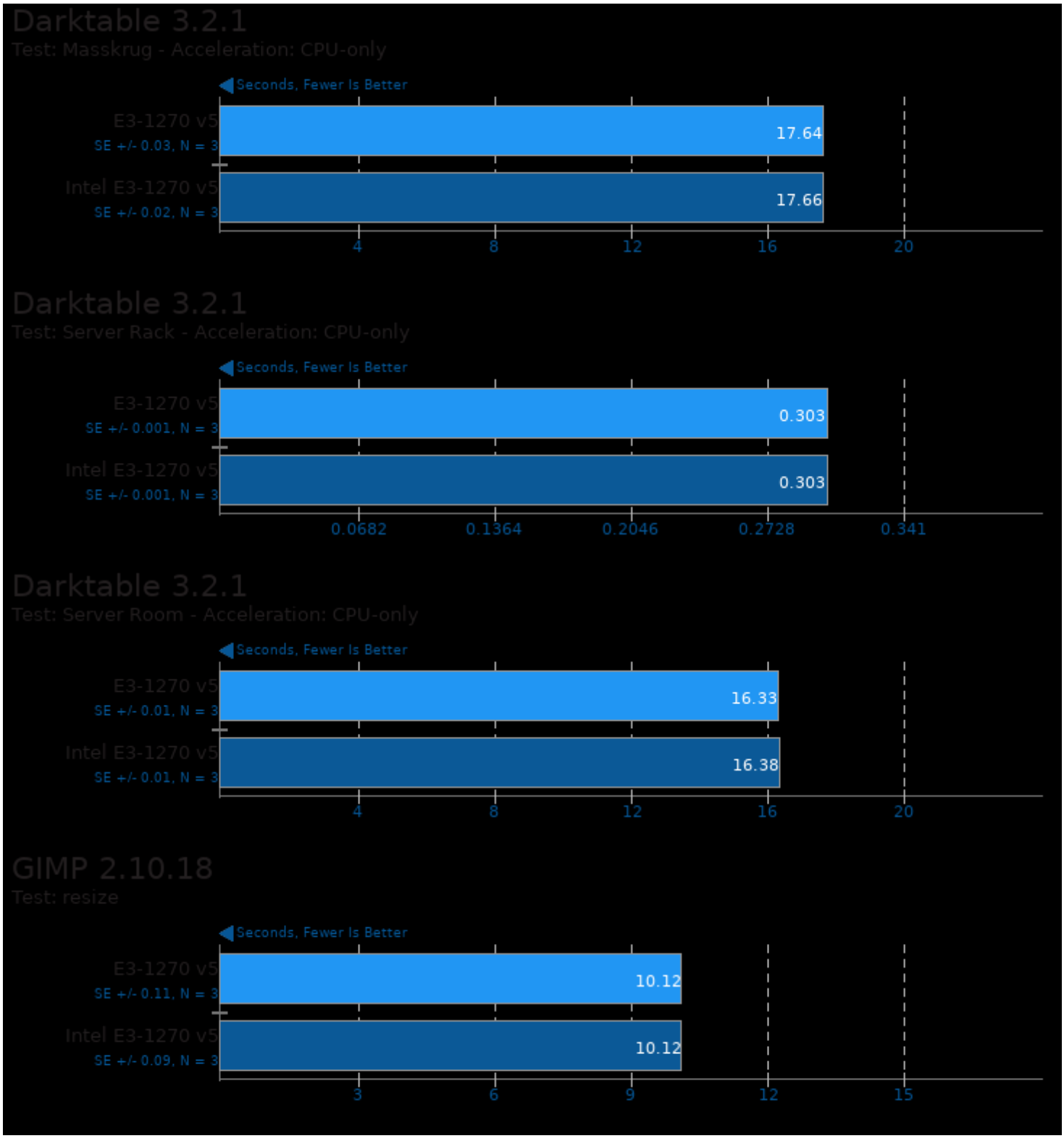


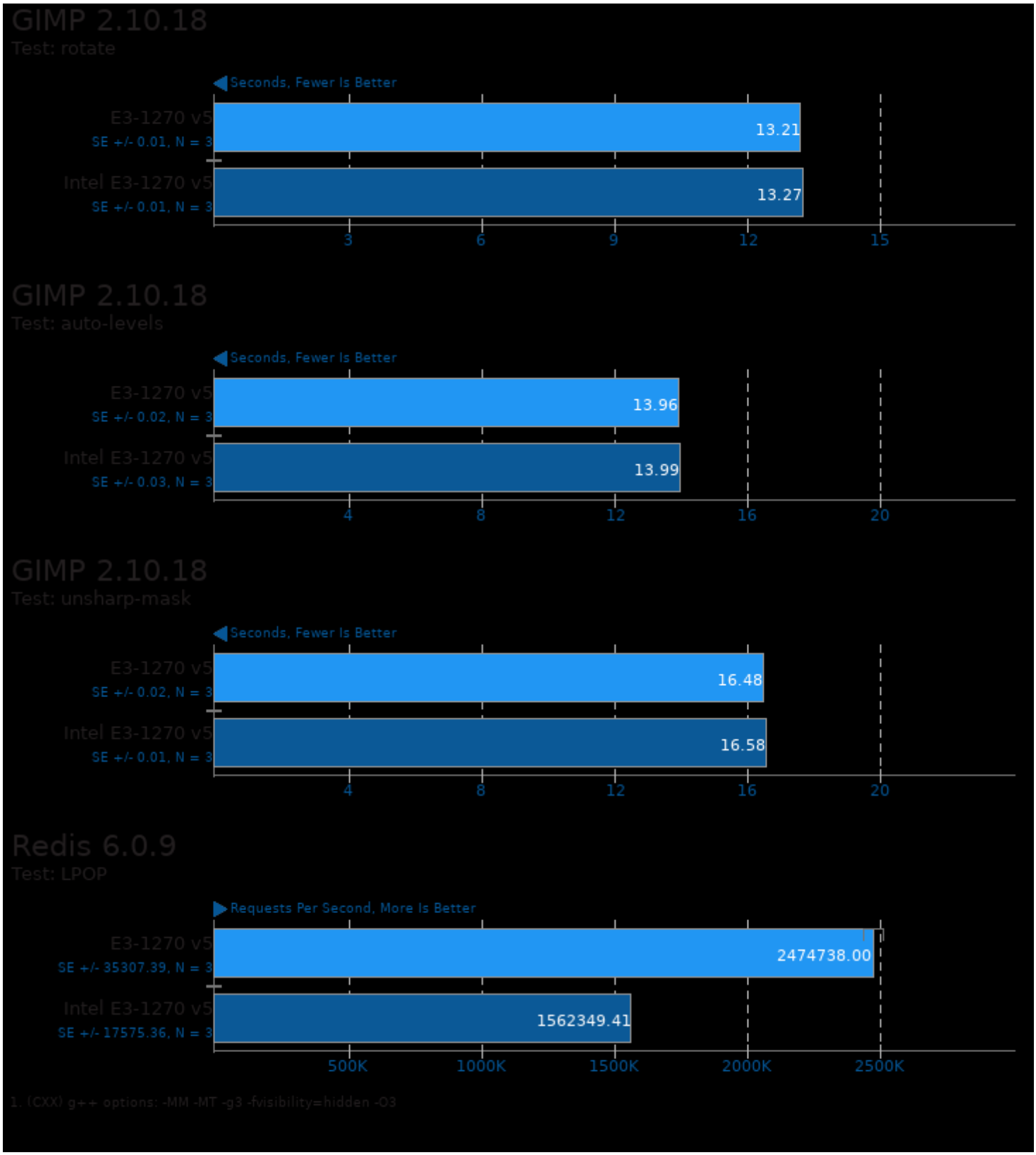
1. (CC) gcc options: -O2 -ldl -lz -lpthread

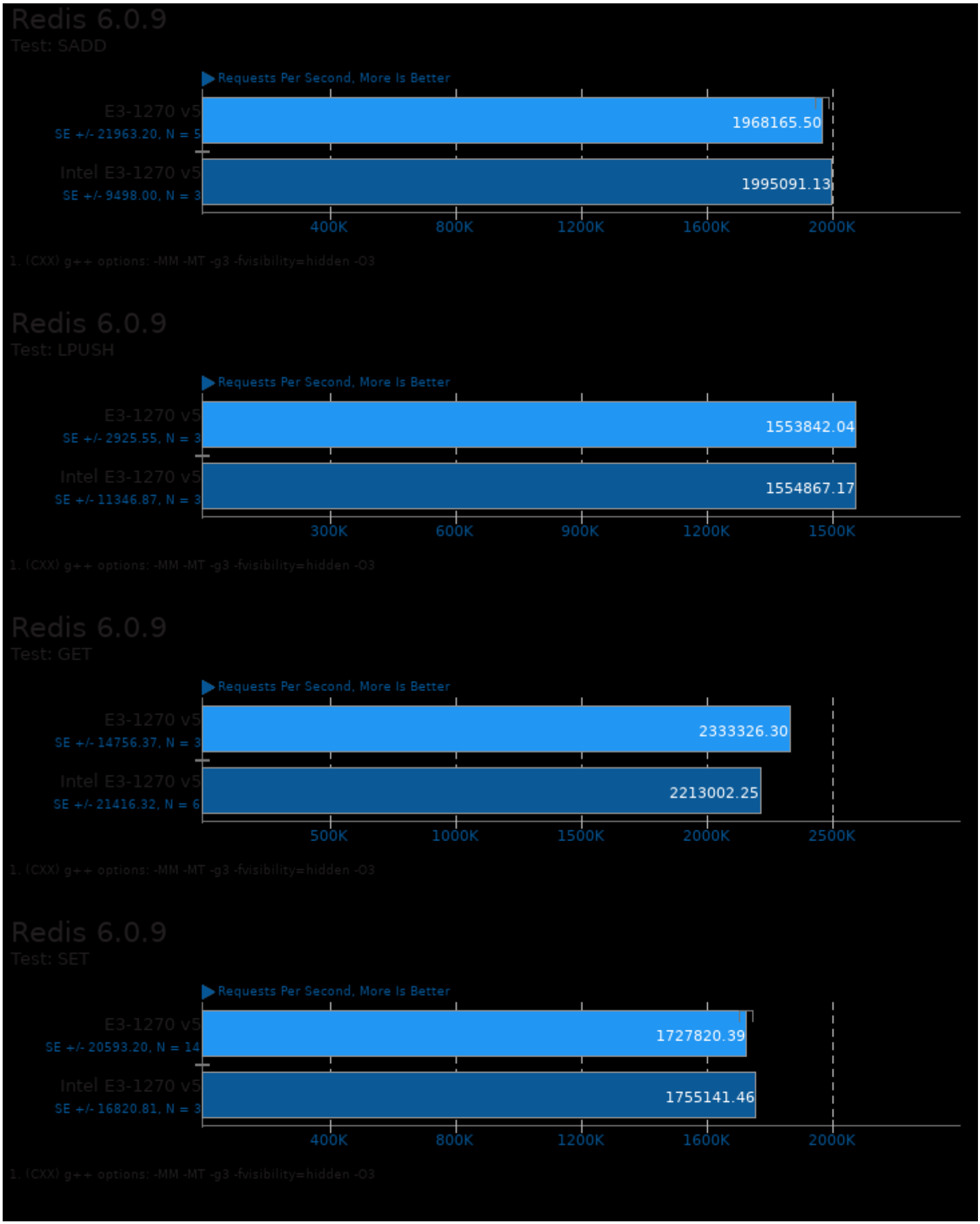
Darktable 3.2.1

Test: Boat - Acceleration: CPU-only



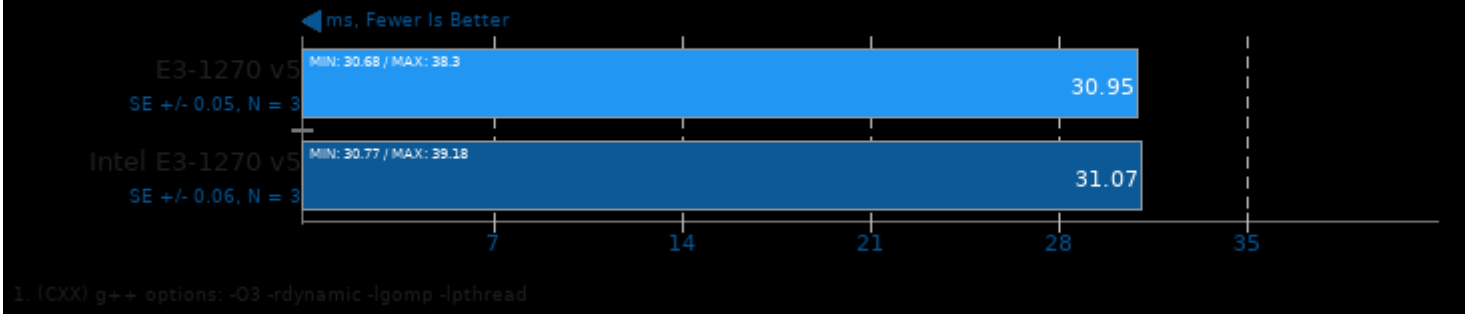

Darktable 3.2.1
Test: Masskrug - Acceleration: CPU-only
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.03, N = 3
17.64
Intel E3-1270 v5
SE +/- 0.02, N = 3
17.66
4
8
12
16
20
Darktable 3.2.1
Test: Server Rack - Acceleration: CPU-only
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.001, N = 3
0.303
Intel E3-1270 v5
SE +/- 0.001, N = 3
0.303
0.0682
0.1364
0.2046
0.2728
0.341
Darktable 3.2.1
Test: Server Room - Acceleration: CPU-only
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.01, N = 3
16.33
Intel E3-1270 v5
SE +/- 0.01, N = 3
16.38
4
8
12
16
20
GIMP 2.10.18
Test: resize
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.11, N = 3
10.12
Intel E3-1270 v5
SE +/- 0.09, N = 3
10.12
3
6
9
12
15


GIMP 2.10.18
Test: rotate
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.01, N = 3
13.21
Intel E3-1270 v5
SE +/- 0.01, N = 3
13.27
3
6
9
12
15
GIMP 2.10.18
Test: auto-levels
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.02, N = 3
13.96
Intel E3-1270 v5
SE +/- 0.03, N = 3
13.99
4
8
12
16
20
GIMP 2.10.18
Test: unsharp-mask
Seconds, Fewer Is Better
E3-1270 v5
SE +/- 0.02, N = 3
16.48
Intel E3-1270 v5
SE +/- 0.01, N = 3
16.58
4
8
12
16
20
Redis 6.0.9
Test: LPOP
Requests Per Second, More Is Better
E3-1270 v5
SE +/- 35307.39, N = 3
2474738.00
Intel E3-1270 v5
SE +/- 17575.36, N = 3
1562349.41
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3


Redis 6.0.9
Test: SADD
Requests Per Second, More Is Better
E3-1270 v5
SE +/- 21963.20, N = 5
1968165.50
Intel E3-1270 v5
SE +/- 9498.00, N = 3
1995091.13
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: LPUSH
Requests Per Second, More Is Better
E3-1270 v5
SE +/- 2925.55, N = 3
1553842.04
Intel E3-1270 v5
SE +/- 11346.87, N = 3
1554867.17
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: GET
Requests Per Second, More Is Better
E3-1270 v5
SE +/- 14756.37, N = 3
2333326.30
Intel E3-1270 v5
SE +/- 21416.32, N = 6
2213002.25
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: SET
Requests Per Second, More Is Better
E3-1270 v5
SE +/- 20593.20, N = 14
1727820.39
Intel E3-1270 v5
SE +/- 16820.81, N = 3
1755141.46
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

NCNN 20201218

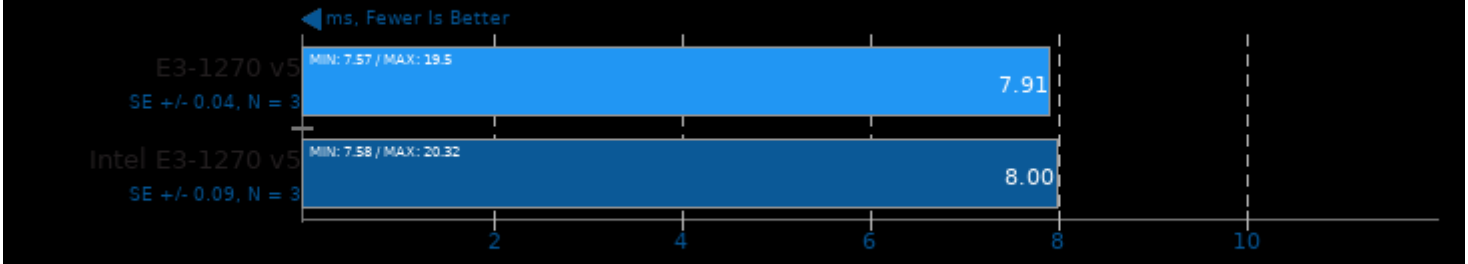
Target: CPU - Model: mobilenet



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

NCNN 20201218

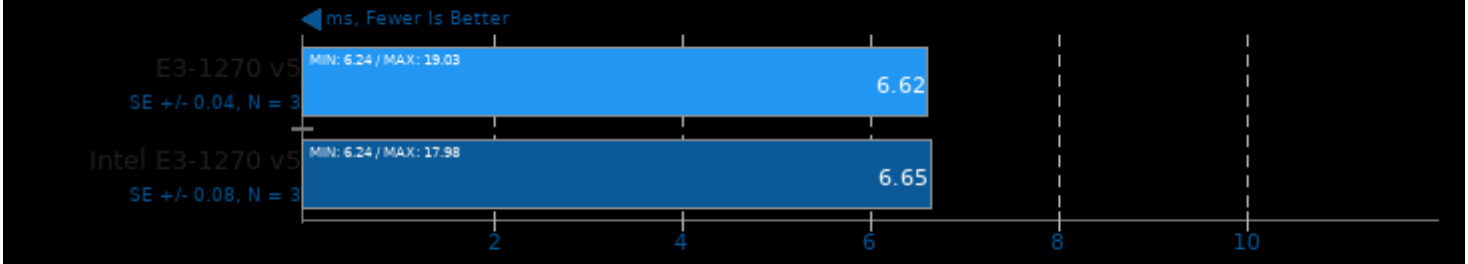
Target: CPU-v2-v2 - Model: mobilenet-v2



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

NCNN 20201218

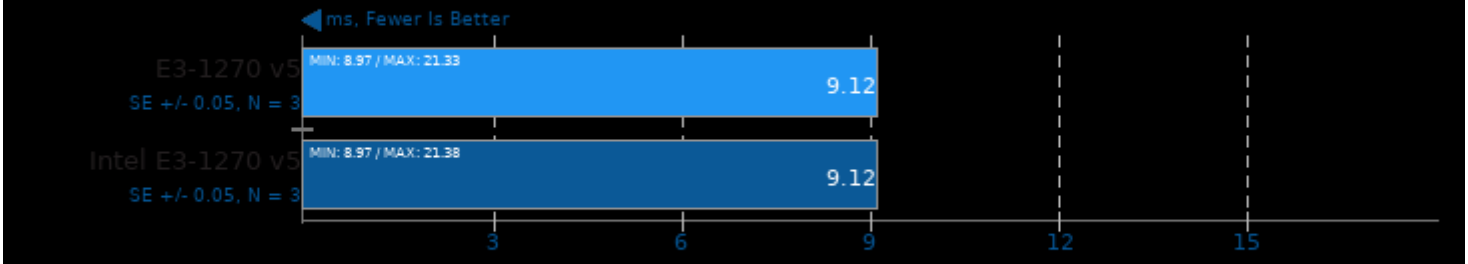
Target: CPU-v3-v3 - Model: mobilenet-v3



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

NCNN 20201218

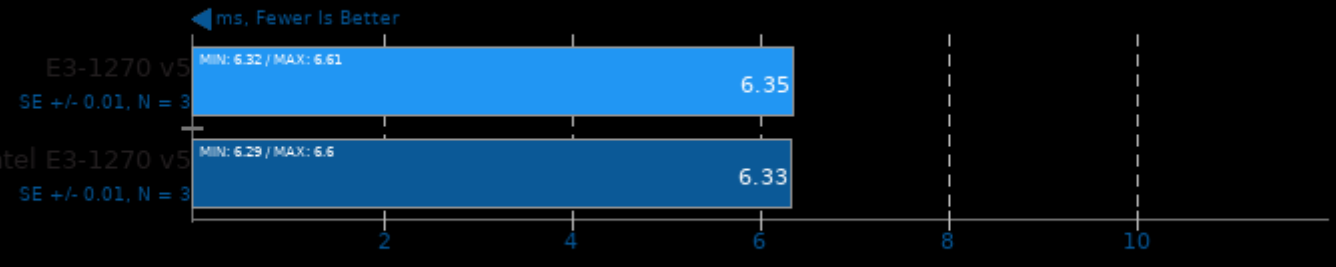
Target: CPU - Model: shufflenet-v2



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

NCNN 20201218

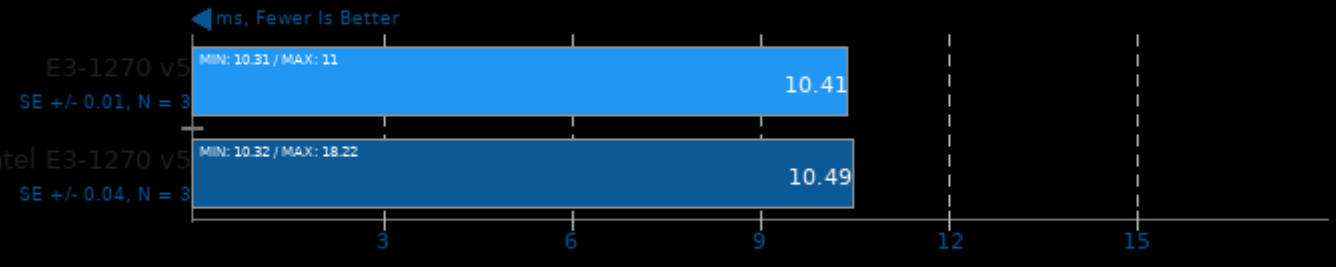
Target: CPU - Model: mnasnet



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

NCNN 20201218

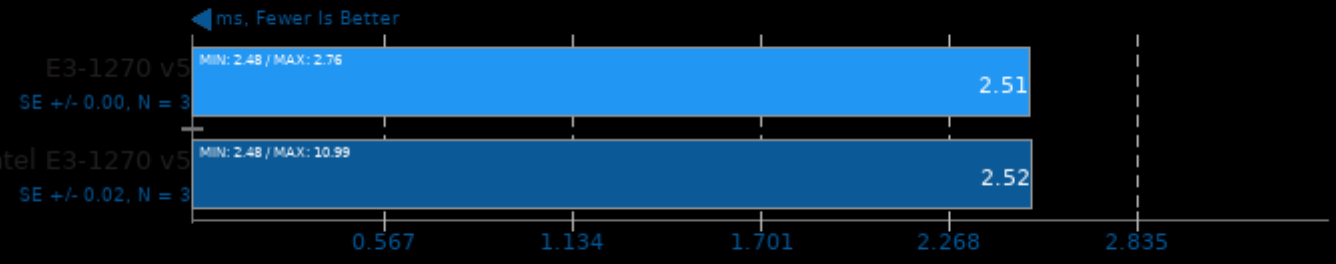
Target: CPU - Model: efficientnet-b0



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

NCNN 20201218

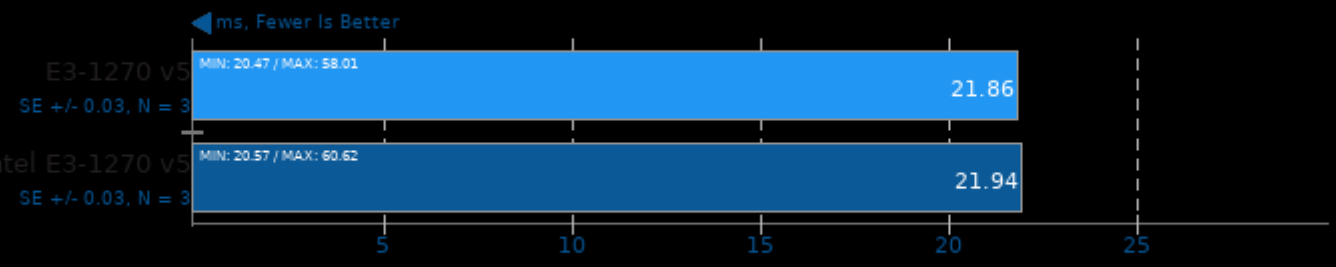
Target: CPU - Model: blazeface



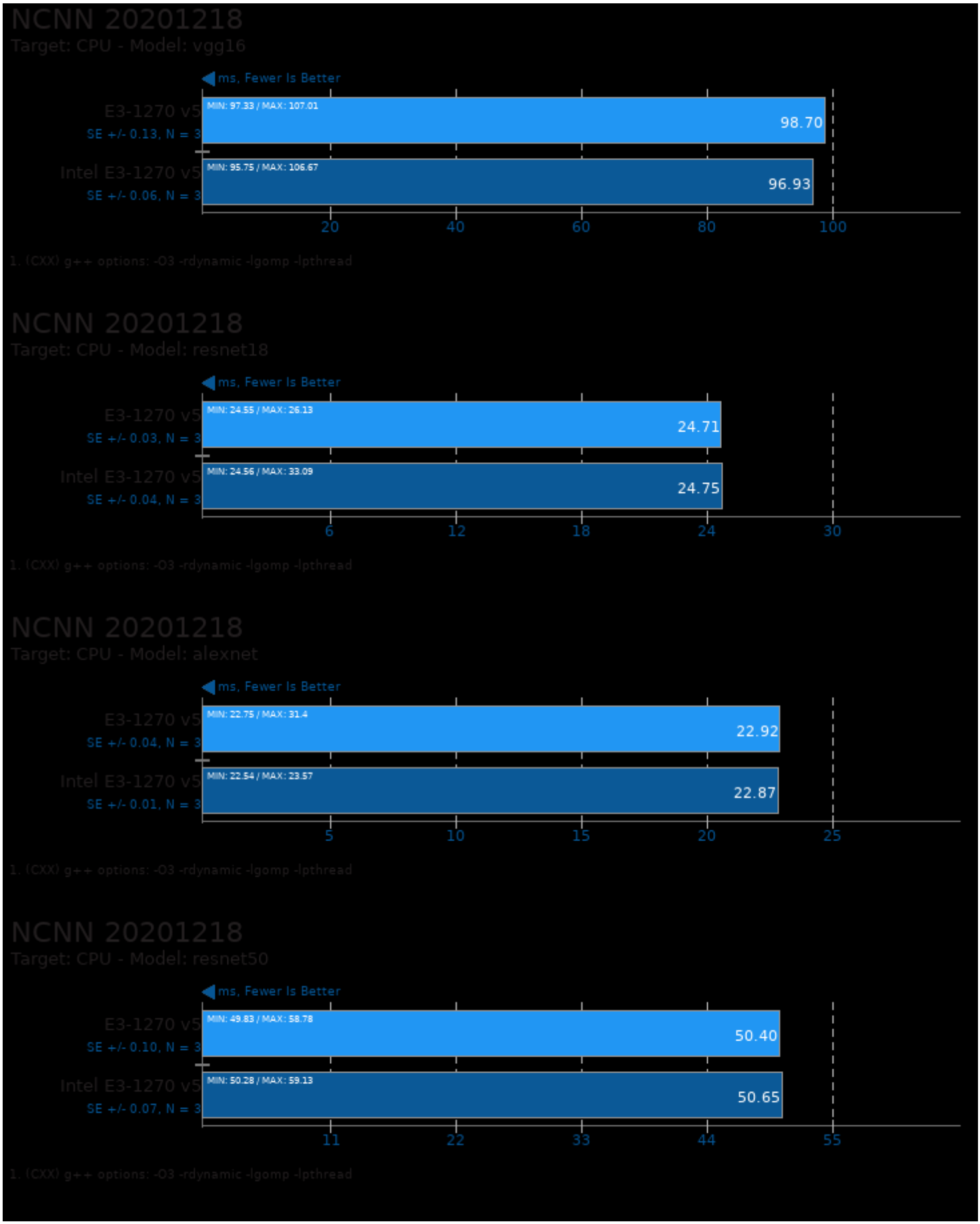
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

Target: CPU - Model: googlenet

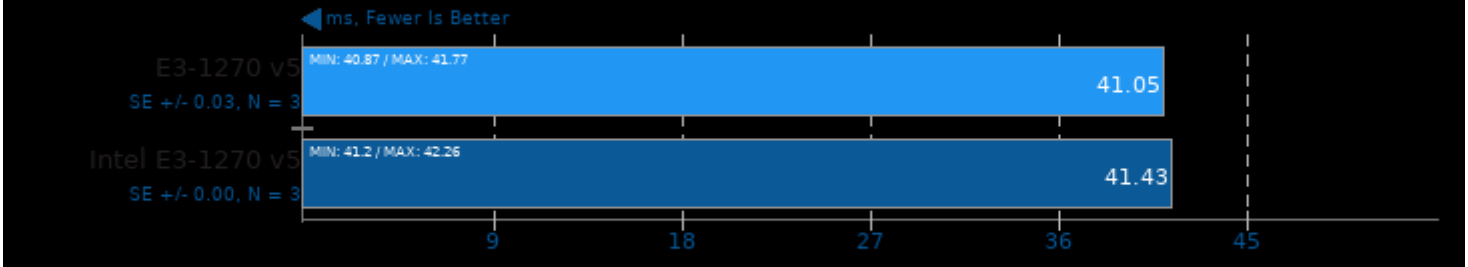


1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread


NCNN 20201218
Target: CPU - Model: vgg16
ms, Fewer Is Better
E3-1270 v5
SE +/- 0.13, N = 3
MIN: 97.33 / MAX: 107.01
98.70
Intel E3-1270 v5
SE +/- 0.06, N = 3
MIN: 95.75 / MAX: 106.67
96.93
20
40
60
80
100
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread
NCNN 20201218
Target: CPU - Model: resnet18
ms, Fewer Is Better
E3-1270 v5
SE +/- 0.03, N = 3
MIN: 24.55 / MAX: 26.13
24.71
Intel E3-1270 v5
SE +/- 0.04, N = 3
MIN: 24.56 / MAX: 33.09
24.75
6
12
18
24
30
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread
NCNN 20201218
Target: CPU - Model: alexnet
ms, Fewer Is Better
E3-1270 v5
SE +/- 0.04, N = 3
MIN: 22.75 / MAX: 31.4
22.92
Intel E3-1270 v5
SE +/- 0.01, N = 3
MIN: 22.54 / MAX: 23.57
22.87
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread
NCNN 20201218
Target: CPU - Model: resnet50
ms, Fewer Is Better
E3-1270 v5
SE +/- 0.10, N = 3
MIN: 49.83 / MAX: 58.78
50.40
Intel E3-1270 v5
SE +/- 0.07, N = 3
MIN: 50.28 / MAX: 59.13
50.65
11
22
33
44
55
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

NCNN 20201218

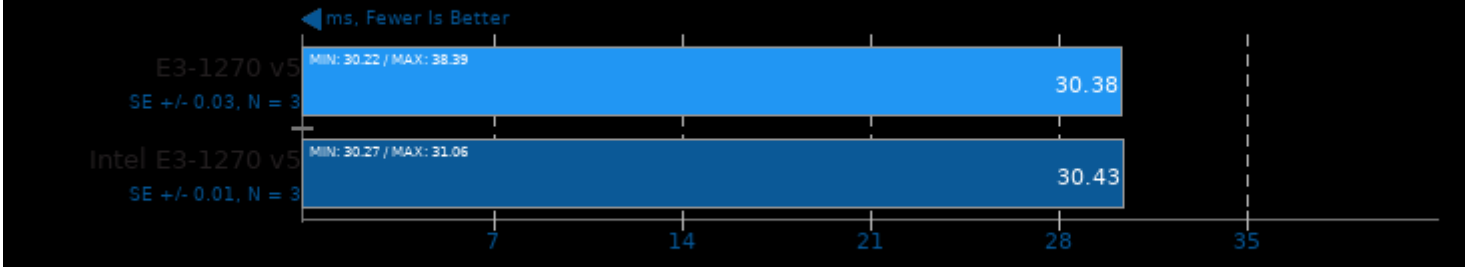
Target: CPU - Model: yolov4-tiny



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

NCNN 20201218

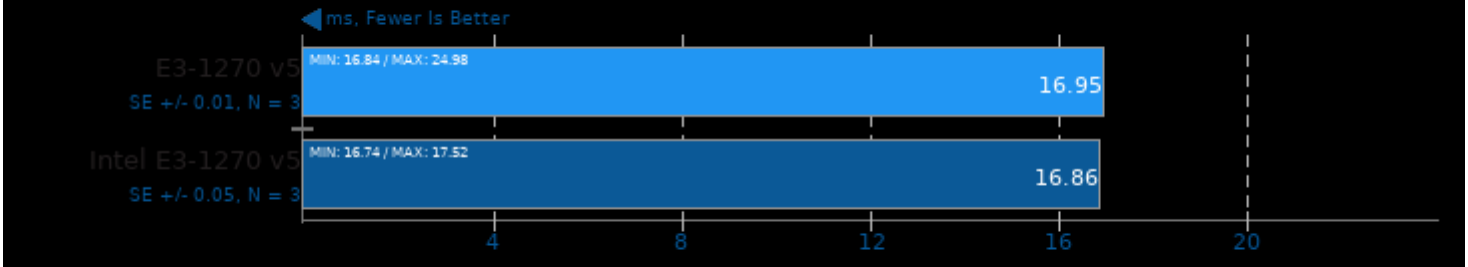
Target: CPU - Model: squeezenet_ssd



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

NCNN 20201218

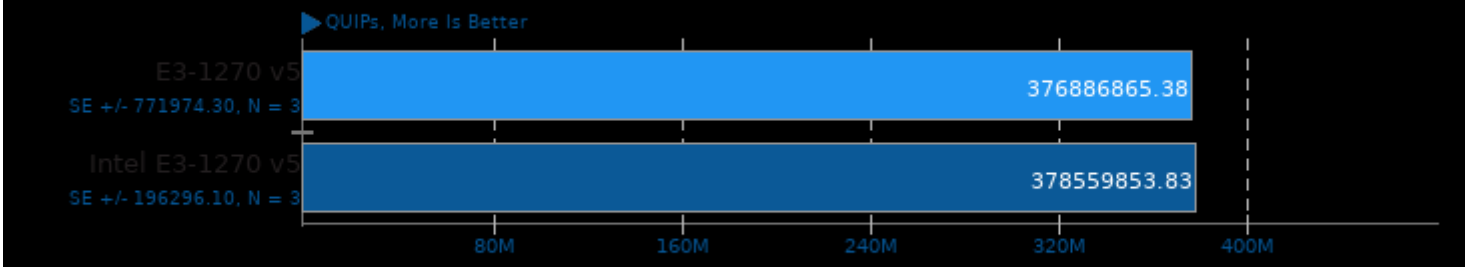
Target: CPU - Model: regnety_400m



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

Hierarchical INTegration 1.0

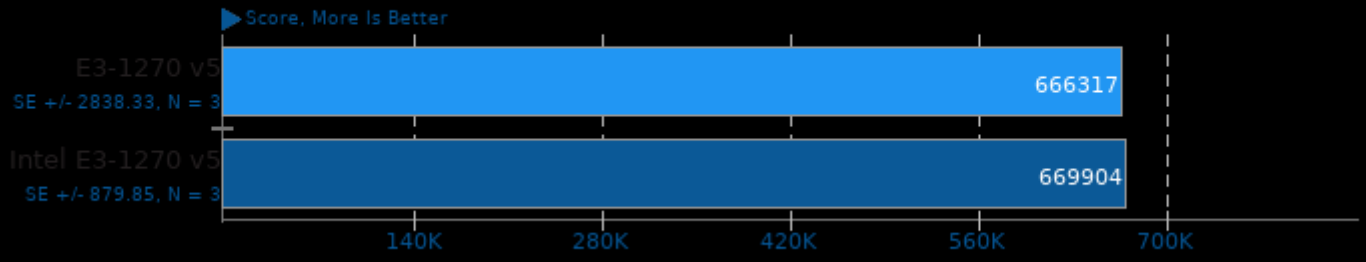
Test: FLOAT



1. (CC) gcc options: -O3 -march=native -lm

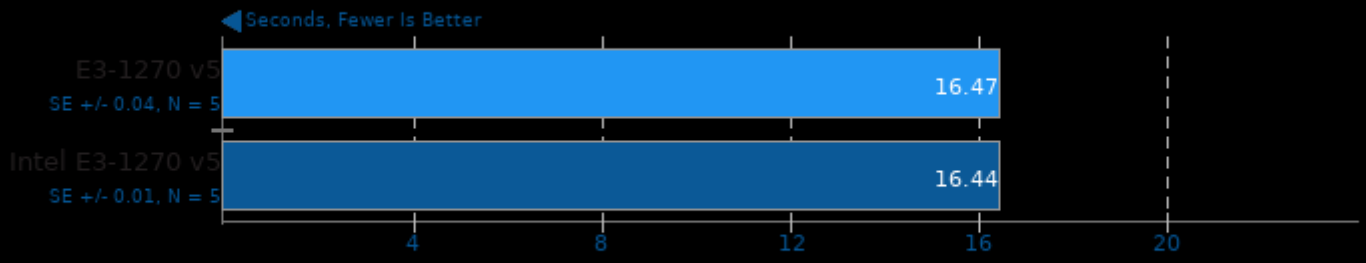
PHPBench 0.8.1

PHP Benchmark Suite



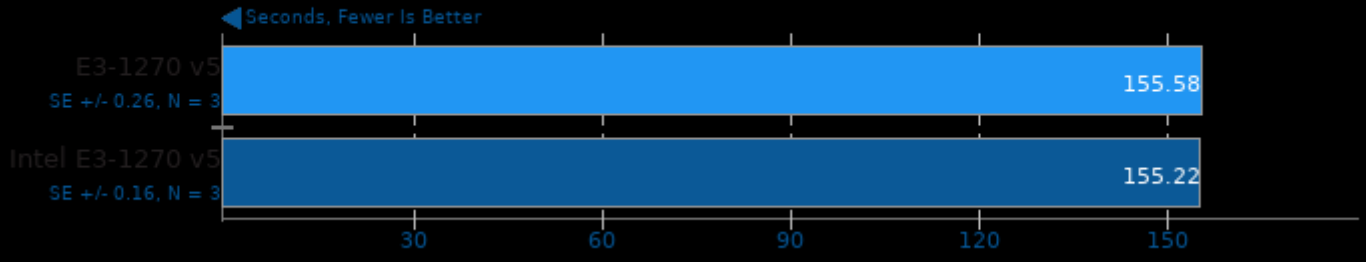
WavPack Audio Encoding 5.3

WAV To WavPack



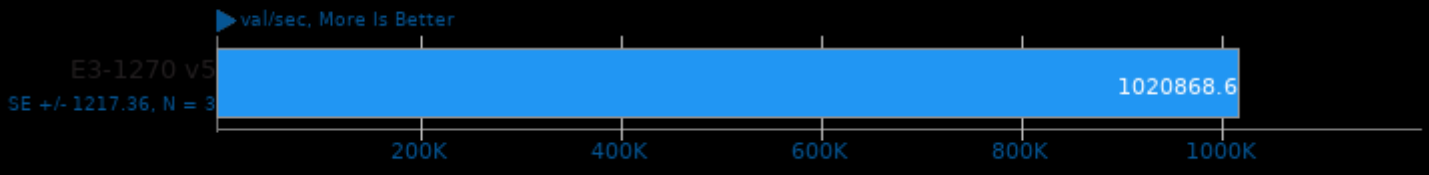
1. (CXX) g++ options: -rdynamic

Scikit-Learn 0.22.1



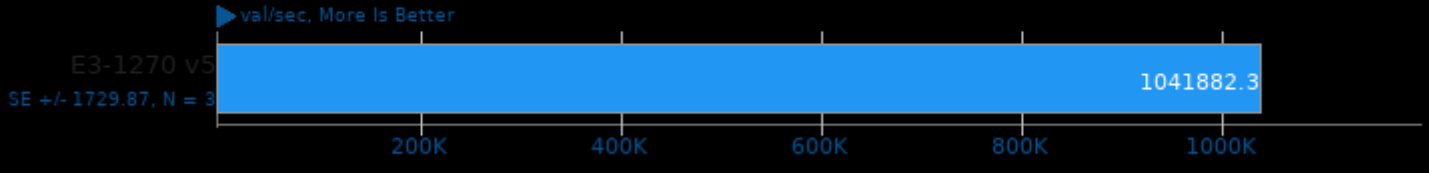
InfluxDB 1.8.2

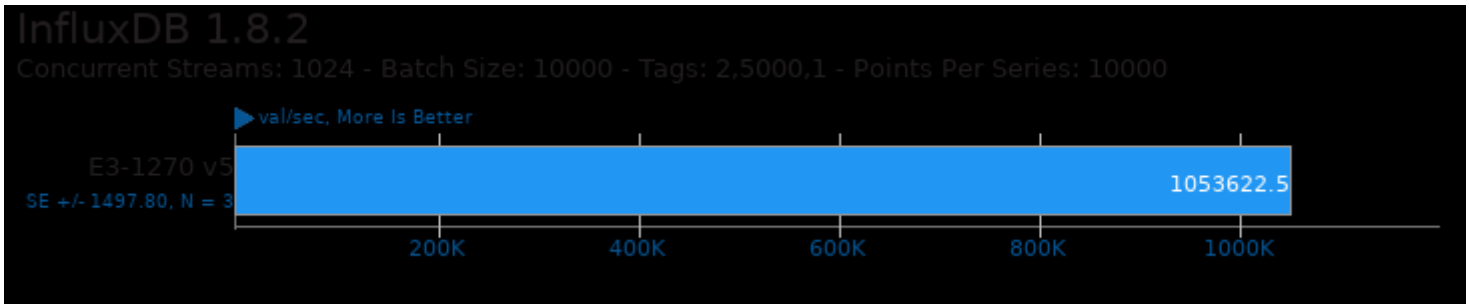
Concurrent Streams: 4 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000



InfluxDB 1.8.2

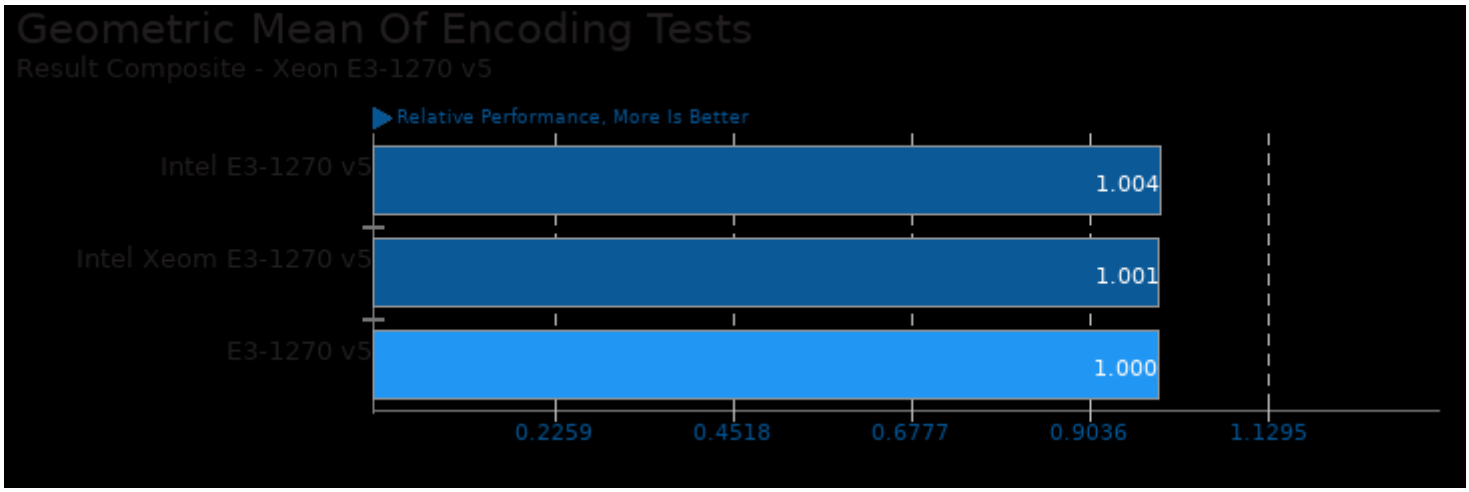
Concurrent Streams: 64 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000



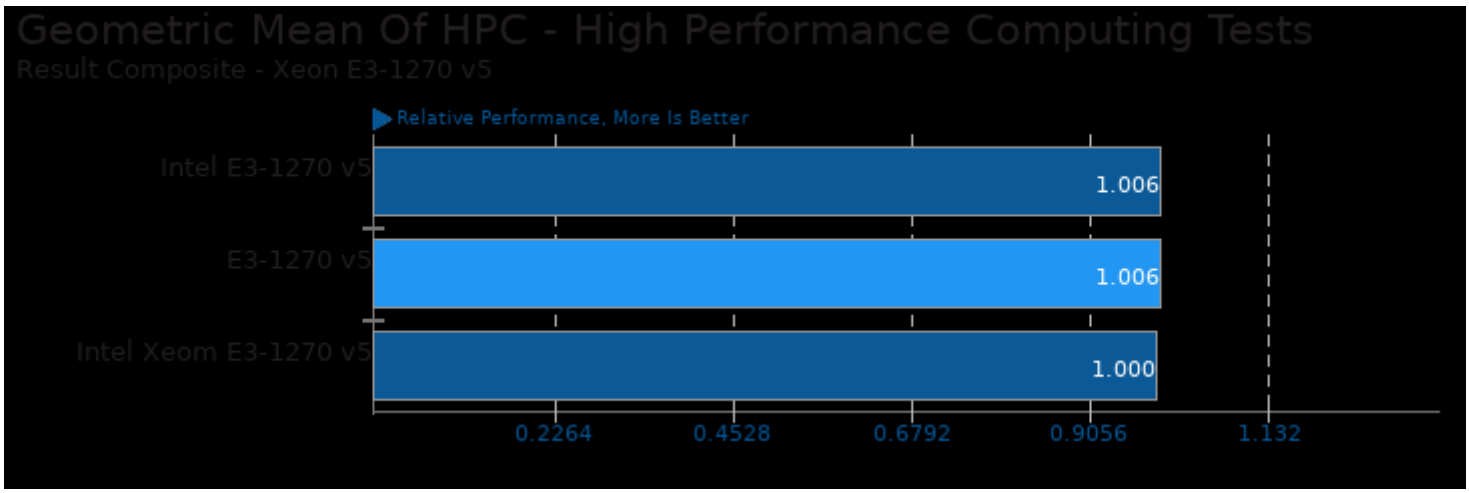

InfluxDB 1.8.2
Concurrent Streams: 1024 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000
val/sec, More Is Better
E3-1270 v5
SE +/- 1497.80, N = 3
1053622.5
200K
400K
600K
800K
1000K

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

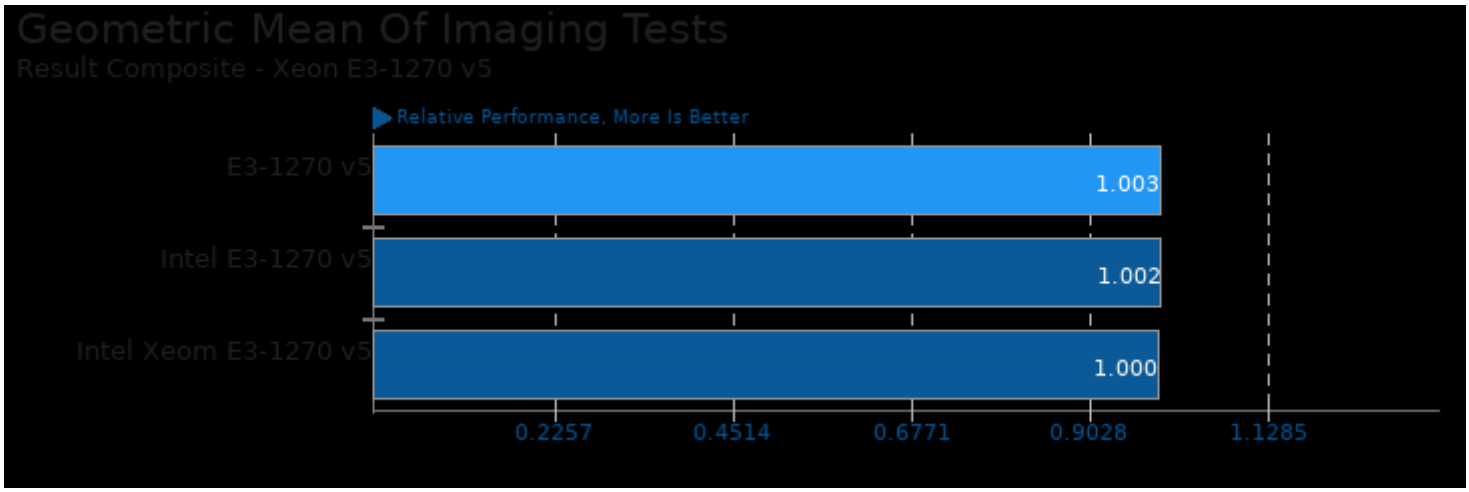
Geometric mean based upon tests: pts/vpxenc, pts/rav1e, pts/encode-mp3, pts/encode-ape, pts/encode-wavpack, pts/encode-opus, pts/libraw, pts/webp, system/gimp, system/darktable and pts/espeak



Geometric mean based upon tests: pts/encode-mp3, pts/encode-ape, pts/encode-wavpack, pts/encode-opus, pts/vpxenc and pts/rav1e

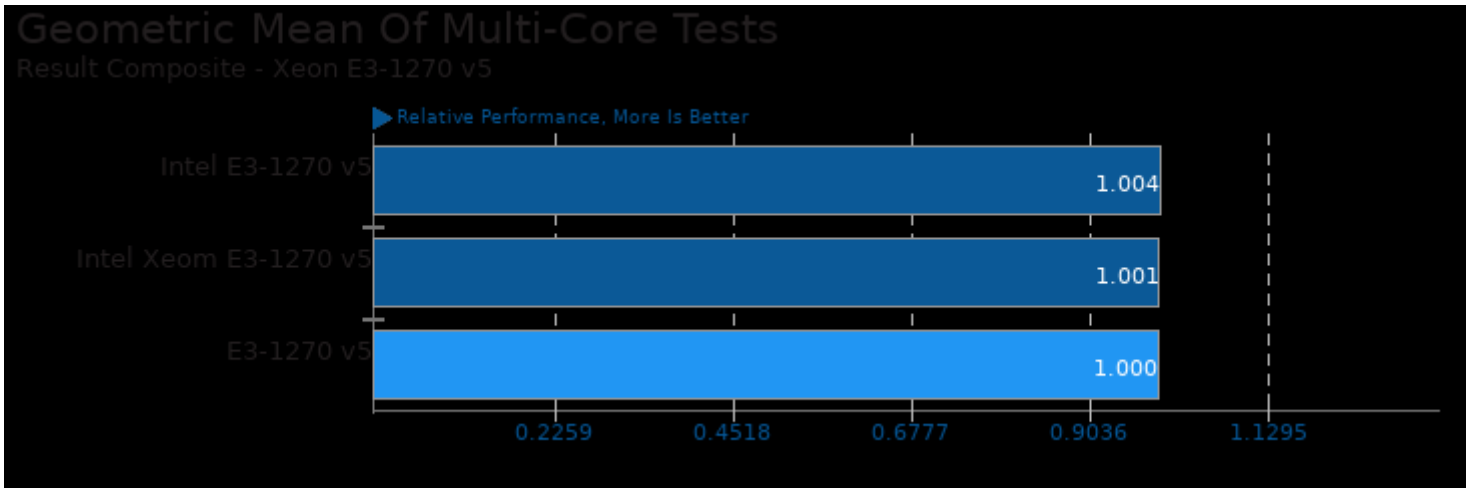


Geometric mean based upon tests: pts/lulesh, pts/incompact3d, pts/himeno, pts/hmmer, pts/ncnn, pts/numpy and pts/scikit-learn

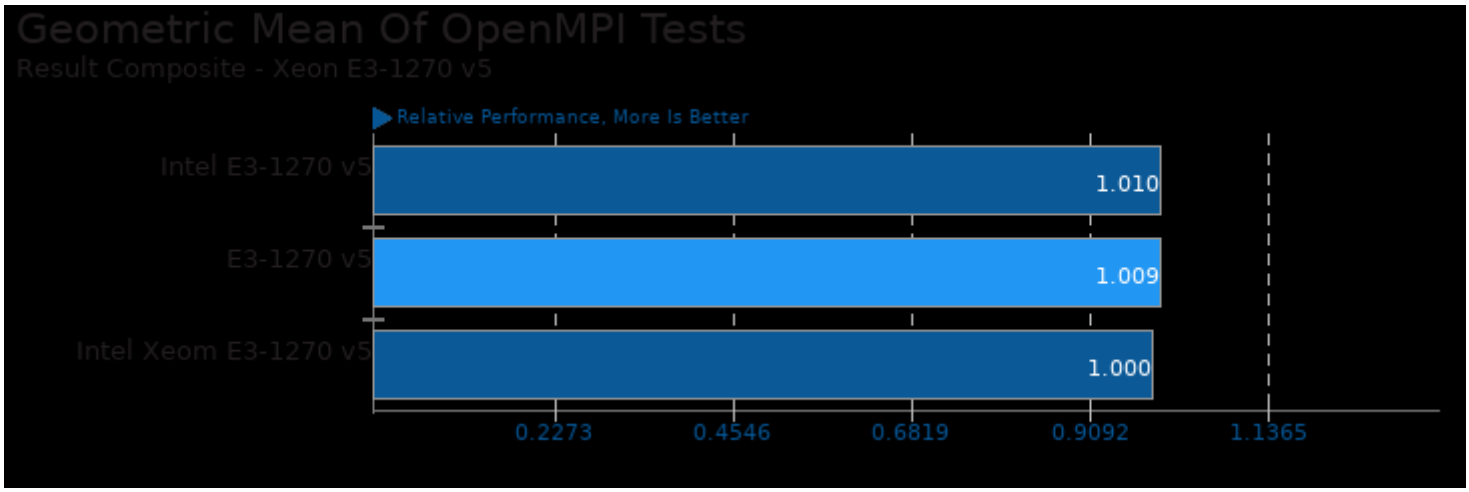


Geometric mean based upon tests: pts/libraw, pts/webp, system/gimp and system/darktable

Geometric mean based upon tests: pts/lulesh and pts/incompact3d

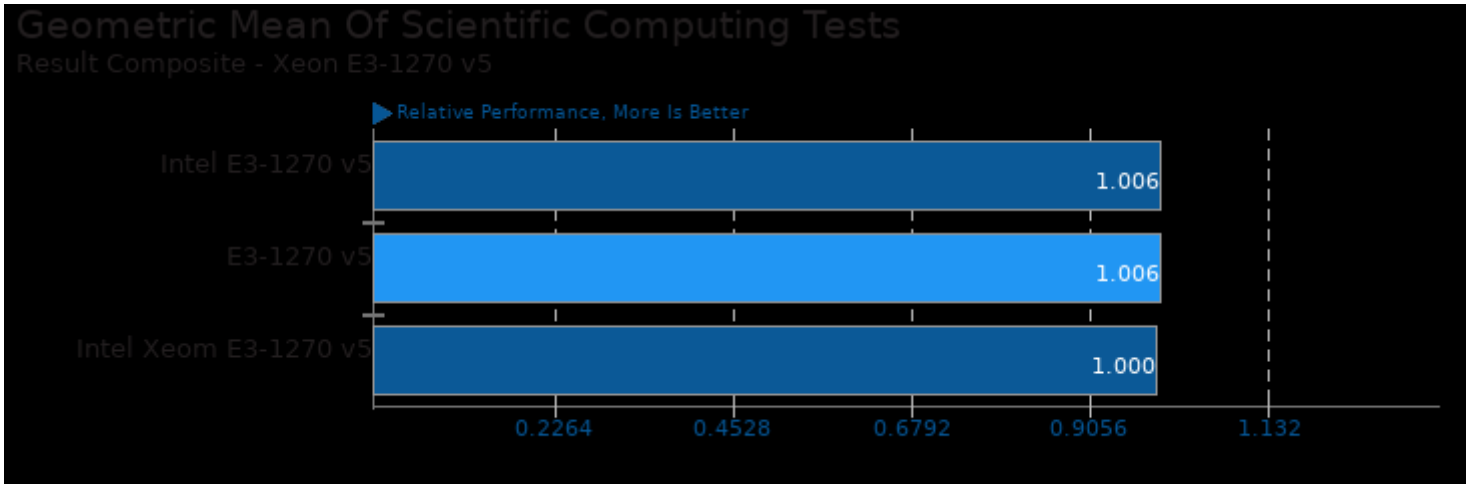


Geometric mean based upon tests: pts/coremark, pts/vpxenc, pts/rav1e, pts/build-eigen and pts/build2



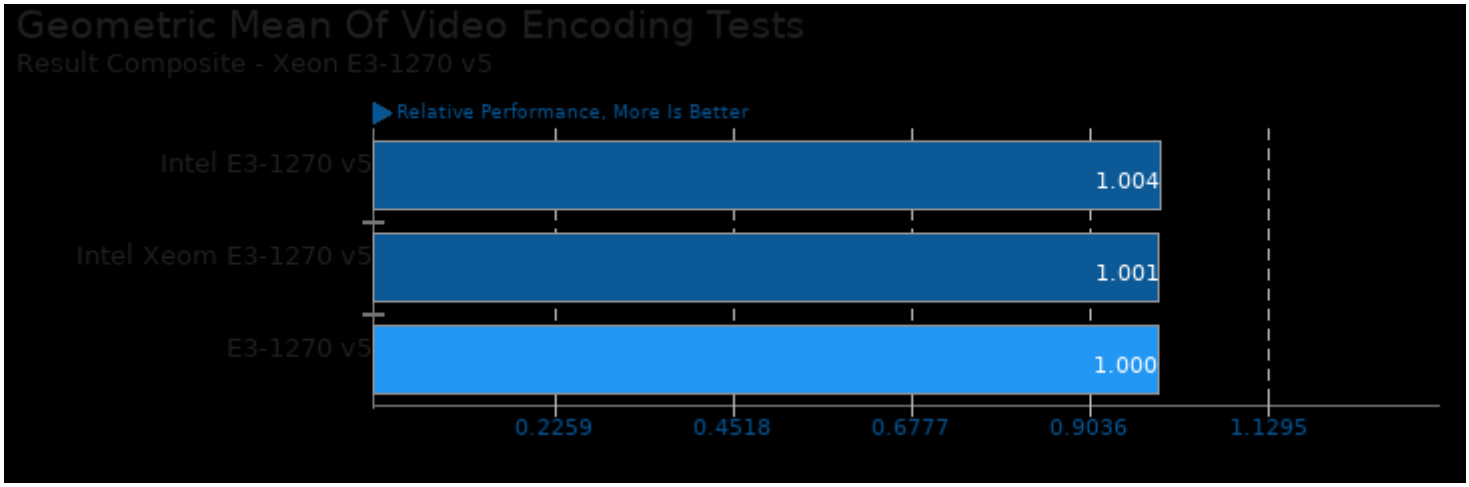
Geometric mean based upon tests: pts/incompact3d and pts/lulesh

Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest, pts/node-web-tooling, system/cryptsetup, pts/build-eigen and pts/build2



Geometric mean based upon tests: pts/lulesh, pts/incompact3d, pts/himeno and pts/hmmer

Geometric mean based upon tests: pts/redis, pts/keydb, pts/phpbench, pts/simdjson, pts/node-web-tooling, pts/sqlite-speedtest and pts/influxdb



Geometric mean based upon tests: pts/vpxenc and pts/rav1e

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:46.