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4960X

Intel Core i7-4960X testing with a MSI X79MA-GD45 (MS-7738) v1.0 (V3.8 BIOS) and AMD FirePro V4800 on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 42% of the tests.

Based on the geometric mean of all complete results, the fastest (1) was 1.004x the speed of the slowest (2). 3 was 0.999x the speed of 1 and 2 was 0.997x the speed of 3.

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

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time) at 6.531x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time) at 5.255x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap - Total Frame Time) at 3.636x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap - Total Frame Time) at 3.603x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo:

RaiNyMore2 - Total Frame Time) at 1.536x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo:

RaiNyMore2 - Total Frame Time) at 1.502x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo:

RaiNyMore2 - Total Frame Time) at 1.31x

DDraceNetwork (Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo:

RaiNyMore2 - Total Frame Time) at 1.308x

Redis (Test: LPOP) at 1.171x

BRL-CAD (VGR Performance Metric) at 1.067x.

Test Systems:

1

2

3

Processor: Intel Core i7-4960X @ 4.00GHz (6 Cores / 12 Threads), Motherboard: MSI X79MA-GD45 (MS-7738) v1.0 (V3.8 BIOS), Chipset: Intel Xeon E7 v2/Xeon, Memory: 8GB, Disk: VisionTek 240GB, Graphics: AMD FirePro V4800, Audio: Realtek ALC892, Monitor: DELL S2409W, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 20.10, Kernel: 5.8.0-29-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 (LLVM 11.0.0), 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

Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: intel_cpfreq ondemand - CPU Microcode: 0x42e

Graphics Notes: GLAMOR

Python Notes: Python 3.8.6

Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + I1tf: 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 + srbd: Not affected + tsx_async_abort: Not affected

	1	2	3
Redis - LPOP (Req/sec)	415823	356128	355007
Normalized	100%	85.64%	85.37%
Standard Deviation	1.3%	0.8%	1.3%

BRL-CAD - V.P.M (VGR Performance Metric)	58952	58715	62625
Normalized	94.13%	93.76%	100%
NCNN - CPU - googlenet (ms)	41.87	44.63	41.99
Normalized	100%	93.82%	99.71%
Standard Deviation	1.1%	0.6%	0.9%
NCNN - CPU - resnet18 (ms)	41.03	43.17	41.37
Normalized	100%	95.04%	99.18%
Standard Deviation	1.3%	0.9%	0.7%
NCNN - CPU - yolov4-tiny (ms)	99.67	104.63	99.55
Normalized	99.88%	95.14%	100%
Standard Deviation	0.5%	1.4%	0.5%
NCNN - CPU - shufflenet-v2 (ms)	6.72	6.44	6.57
Normalized	95.83%	100%	98.02%
Standard Deviation	2%	3.2%	0.6%
DDrakeNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - Multiesasymap (FPS)	223.91	231.61	228.36
Normalized	96.68%	100%	98.6%
Standard Deviation	0.8%	0.6%	1.2%
eSpeak-NG Speech Engine - T.T.S.S (sec)	38.640	38.740	39.962
Normalized	100%	99.74%	96.69%
Standard Deviation	2.8%	2.3%	2.9%
NCNN - CPU - blazeface (ms)	2.27	2.21	2.24
Normalized	97.36%	100%	98.66%
Standard Deviation	4.2%	1.8%	2.5%
Stockfish - Total Time (Nodes/s)	10203799	9981063	9936208
Normalized	100%	97.82%	97.38%
Standard Deviation	2.4%	3%	1.2%
NCNN - CPU - mobilenet (ms)	48.66	49.87	48.60
Normalized	99.88%	97.45%	100%
Standard Deviation	1.1%	0.9%	0.5%
DDrakeNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Default - Multiesasymap (FPS)	219.63	225.34	221.31
Normalized	97.47%	100%	98.21%
Standard Deviation	0.1%	1.2%	0.6%
Redis - GET (Req/sec)	415592	406381	410617
Normalized	100%	97.78%	98.8%
Standard Deviation	0.4%	0.7%	0.5%
LZ4 Compression - 1 - Compression Speed (MB/s)	4217	4306	4243
Normalized	97.92%	100%	98.54%
Standard Deviation	0.5%	1.4%	0.4%
NCNN - CPU - squeezenet (ms)	47.30	47.99	47.00
Normalized	99.37%	97.94%	100%
Standard Deviation	0.9%	2%	0.3%
Embree - Pathtracer - Asian Dragon (FPS)	6.5768	6.5102	6.6198
Normalized	99.35%	98.34%	100%
Standard Deviation	0.8%	0.5%	0.3%
LevelDB - Hot Read (us/Op)	6.279	6.193	6.179
Normalized	98.41%	99.77%	100%
Standard Deviation	0.6%	2.1%	2.2%
IndigoBench - CPU - Supercar (M samples/s)	1.848	1.877	1.860
Normalized	98.45%	100%	99.09%
Standard Deviation	0.9%	1.4%	0.8%
Redis - LPUSH (Req/sec)	351754	350430	346422
Normalized	100%	99.62%	98.48%

	Standard Deviation	0.8%	0.9%	2%
asmFish - 1.H.M.2.D (Nodes/s)	Normalized	15716675	15669061	15478632
	Standard Deviation	1.7%	2.3%	0.4%
LZ4 Compression - 9 - D.S (MB/s)	Normalized	4886	4945	4957
	Standard Deviation	0.2%	0.6%	0.2%
LZ4 Compression - 3 - D.S (MB/s)	Normalized	4876	4943	4946
	Standard Deviation	0.2%	0.4%	0.4%
NCNN - CPU - efficientnet-b0 (ms)	Normalized	132.65	133.76	131.88
	Standard Deviation	0.4%	0.7%	0.3%
rav1e - 6 (FPS)	Normalized	0.611	0.603	0.610
	Standard Deviation	0.3%	0.2%	0.5%
Embree - Pathtracer - Asian Dragon Obj	Normalized	6.0371	6.1038	6.1150
	Standard Deviation	2.4%	0.3%	0.2%
rav1e - 5 (FPS)	Normalized	0.483	0.479	0.485
	Standard Deviation	0.1%	0.4%	0.1%
Embree - Pathtracer ISPC - Asian Dragon	Normalized	6.7138	6.6441	6.7235
	Standard Deviation	0.3%	1.6%	0.3%
WireGuard + Linux Networking Stack Stress	Test (sec)	366.948	371.305	367.106
	Normalized	100%	98.83%	99.96%
	Standard Deviation	0.4%	0.4%	0.8%
LevelDB - Seek Rand (us/Op)	Normalized	8.570	8.588	8.671
	Standard Deviation	1.3%	2.8%	2.8%
GROMACS - Water Benchmark (Ns/Day)	Normalized	0.350	0.350	0.354
	Standard Deviation	0.8%	0.6%	0.6%
rav1e - 1 (FPS)	Normalized	0.181	0.179	0.181
	Standard Deviation	0%	0.3%	0.3%
NCNN - CPU - vgg16 (ms)	Normalized	370.56	374.53	371.10
	Standard Deviation	0%	0.2%	0.2%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	Normalized	62.51	62.45	61.86
	Standard Deviation	1%	1.3%	0.5%
yquake2 - OpenGL 1.x - 1920 x 1080 (FPS)	Normalized	424.7	421.7	426.1
	Standard Deviation	2.9%	3%	2.5%
NCNN - CPU - mnasnet (ms)	Normalized	115.73	114.57	114.94
	Standard Deviation	2.1%	1%	0.5%
NCNN - CPU - alexnet (ms)	Normalized	30.46	30.68	30.38
	Standard Deviation	0%	0.7%	0.9%
yquake2 - Software CPU - 1920 x 1080 (FPS)	Normalized	93.9	93.1	93.0

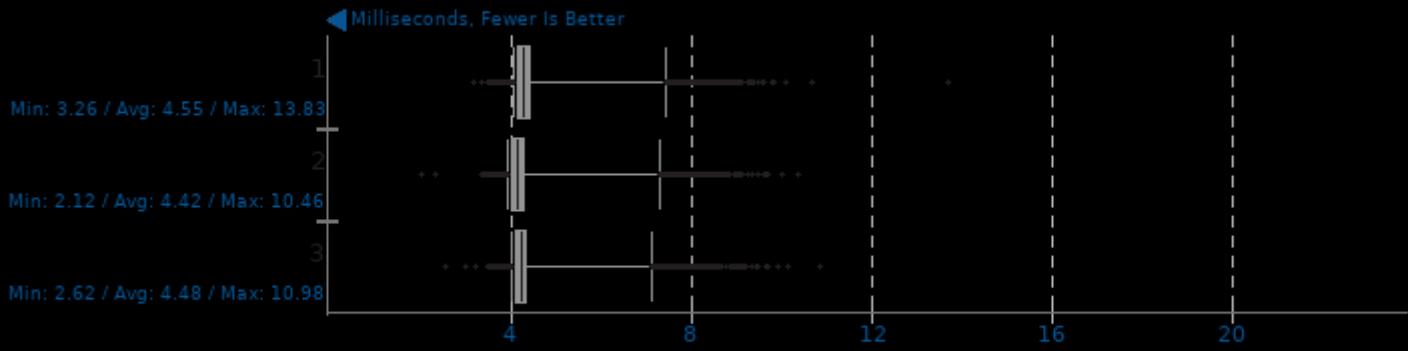
Normalized	100%	99.15%	99.04%
Standard Deviation	0.2%	0.4%	0.4%
Redis - SET (Req/s)	372388	371161	374687
Normalized	99.39%	99.06%	100%
Standard Deviation	1.4%	1.5%	1.9%
rav1e - 10 (FPS)	1.664	1.649	1.663
Normalized	100%	99.1%	99.94%
Standard Deviation	0.4%	0.4%	0.3%
LevelDB - Fill Sync (us/Op)	2580	2590	2567
Normalized	99.48%	99.1%	100%
Standard Deviation	0.5%	0.3%	1.6%
LevelDB - Overwrite (MB/s)	14.1	14.2	14.2
Normalized	99.3%	100%	100%
Standard Deviation	1.1%	0.8%	0%
LevelDB - Rand Fill (MB/s)	14.3	14.2	14.2
Normalized	100%	99.3%	99.3%
Standard Deviation	0.7%	0%	0%
NCNN - CPU - resnet50 (ms)	89.75	90.25	90.34
Normalized	100%	99.45%	99.35%
Standard Deviation	0.3%	1%	0.9%
Embree - Pathtracer - Crown (FPS)	5.6061	5.6232	5.6388
Normalized	99.42%	99.72%	100%
Standard Deviation	0.3%	0.3%	0.3%
Numpy Benchmark (Score)	219.91	218.66	218.99
Normalized	100%	99.43%	99.58%
Standard Deviation	0.3%	1.7%	0.1%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	242.0	242.4	241.2
Normalized	99.83%	100%	99.5%
Standard Deviation	0.3%	0.2%	0.5%
LevelDB - Rand Fill (us/Op)	92.849	93.310	93.261
Normalized	100%	99.51%	99.56%
Standard Deviation	0.4%	0.1%	0%
LevelDB - Rand Delete (us/Op)	93.337	93.795	93.465
Normalized	100%	99.51%	99.86%
Standard Deviation	0.5%	0.1%	0.8%
Crafty - Elapsed Time (Nodes/s)	6779968	6787365	6757521
Normalized	99.89%	100%	99.56%
Standard Deviation	0.1%	0.3%	0.1%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	14.27	14.31	14.33
Normalized	100%	99.72%	99.58%
Standard Deviation	0.4%	0.7%	0.5%
LevelDB - Overwrite (us/Op)	93.691	93.308	93.369
Normalized	99.59%	100%	99.93%
Standard Deviation	1.1%	0.5%	0.2%
Basis Universal - ETC1S (sec)	73.384	73.311	73.578
Normalized	99.9%	100%	99.64%
Standard Deviation	0.6%	0.1%	1%
LZ4 Compression - 1 - D.S (MB/s)	4950	4968	4951
Normalized	99.64%	100%	99.66%
Standard Deviation	0.9%	0.8%	1.2%
LZ4 Compression - 9 - Compression Speed (MB/s)	42.54	42.63	42.69
Normalized	99.65%	99.86%	100%
Standard Deviation	1.1%	0.6%	0.1%
IndigoBench - CPU - Bedroom (M samples/s)	0.868	0.865	0.867

Normalized	100%	99.65%	99.88%
Standard Deviation	1%	0.5%	0.3%
LevelDB - Rand Read (us/Op)	6.194	6.215	6.197
Normalized	100%	99.66%	99.95%
Standard Deviation	2.3%	1.8%	2.2%
TNN - CPU - MobileNet v2 (ms)	321.745	322.833	321.810
Normalized	100%	99.66%	99.98%
Standard Deviation	0%	0.5%	0.1%
Basis Universal - UASTC Level 0 (sec)	10.911	10.940	10.911
Normalized	100%	99.73%	100%
Standard Deviation	0.2%	0.7%	0.1%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Zoomed out - RaiNyMore2	129.93	129.59	129.75
Normalized	100%	99.74%	99.86%
Standard Deviation	0.2%	0.1%	0.1%
LevelDB - Seq Fill (us/Op)	96.311	96.087	96.106
Normalized	99.77%	100%	99.98%
Standard Deviation	0.5%	0.1%	0.8%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Zoomed out - RaiNyMore2	138.73	138.93	138.61
Normalized	99.86%	100%	99.77%
Standard Deviation	0.1%	0.2%	0.1%
PHPBench - P.B.S (Score)	441399	440386	440386
Normalized	100%	99.77%	99.77%
Standard Deviation	0.3%	1.4%	0.5%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Zoomed out - Multeasymap	204.48	204.57	204.12
Normalized	99.96%	100%	99.78%
Standard Deviation	0.3%	0.1%	0.3%
TNN - CPU - SqueezeNet v1.1 (ms)	314.692	314.035	314.360
Normalized	99.79%	100%	99.9%
Standard Deviation	0.1%	0.3%	0.2%
LZ4 Compression - 3 - Compression Speed (MB/s)	43.60	43.69	43.63
Normalized	99.79%	100%	99.86%
Standard Deviation	0.4%	0.1%	0.2%
Redis - SADD (Reqs/sec)	396378	396976	396260
Normalized	99.85%	100%	99.82%
Standard Deviation	0.6%	0.4%	1.1%
TensorFlow Lite - NASNet Mobile (us)	326640	326369	326923
Normalized	99.92%	100%	99.83%
Standard Deviation	0.1%	0.1%	0.1%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Zoomed out - Multeasymap	186.09	185.95	186.25
Normalized	99.91%	99.84%	100%
Standard Deviation	0.1%	0%	0.1%
TensorFlow Lite - SqueezeNet (us)	381095	380990	380615
Normalized	99.87%	99.9%	100%
Standard Deviation	0.1%	0.1%	0%
Basis Universal - U.L.2.R.P.P (sec)	889.180	889.577	890.288
Normalized	100%	99.96%	99.88%
Standard Deviation	0%	0.1%	0.1%

DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	98.08	98.07	97.96
Normalized	100%	99.99%	99.88%
Standard Deviation	0%	0.1%	0.1%
Embree - Pathtracer ISPC - Crown (FPS)	6.0957	6.0978	6.0918
Normalized	99.97%	100%	99.9%
Standard Deviation	0.1%	0.3%	0.8%
Basis Universal - UASTC Level 2 (sec)	59.272	59.327	59.270
Normalized	100%	99.9%	100%
Standard Deviation	0%	0.2%	0.1%
TensorFlow Lite - Mobilenet Quant (us)	269132	268909	268975
Normalized	99.92%	100%	99.98%
Standard Deviation	0.1%	0%	0%
TensorFlow Lite - I.R.V (us)	5028767	5032873	5030577
Normalized	100%	99.92%	99.96%
Standard Deviation	0%	0.1%	0%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	7.4868	7.4817	7.4864
Normalized	100%	99.93%	99.99%
Standard Deviation	0.5%	0.4%	1.1%
Timed HMMer Search - P.D.S (sec)	147.576	147.642	147.652
Normalized	100%	99.96%	99.95%
Standard Deviation	0.3%	0.1%	0%
Basis Universal - UASTC Level 3 (sec)	113.707	113.755	113.725
Normalized	100%	99.96%	99.98%
Standard Deviation	0%	0.1%	0%
TensorFlow Lite - Inception V4 (us)	5550033	5552217	5552277
Normalized	100%	99.96%	99.96%
Standard Deviation	0%	0%	0%
DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	103.28	103.29	103.26
Normalized	99.99%	100%	99.97%
Standard Deviation	0.1%	0.1%	0.1%
TensorFlow Lite - Mobilenet Float (us)	262997	262975	263032
Normalized	99.99%	100%	99.98%
Standard Deviation	0%	0.1%	0.1%
LevelDB - Seq Fill (MB/s)	13.8	13.8	13.8
Standard Deviation	0.4%	0%	0.7%
LevelDB - Fill Sync (MB/s)	0.5	0.5	0.5
Standard Deviation	0%	0%	0%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	2.916	2.964	2.884
Normalized	98.38%	100%	97.3%
Standard Deviation	8.9%	8%	9.1%

DDrakeNetwork 15.2.3

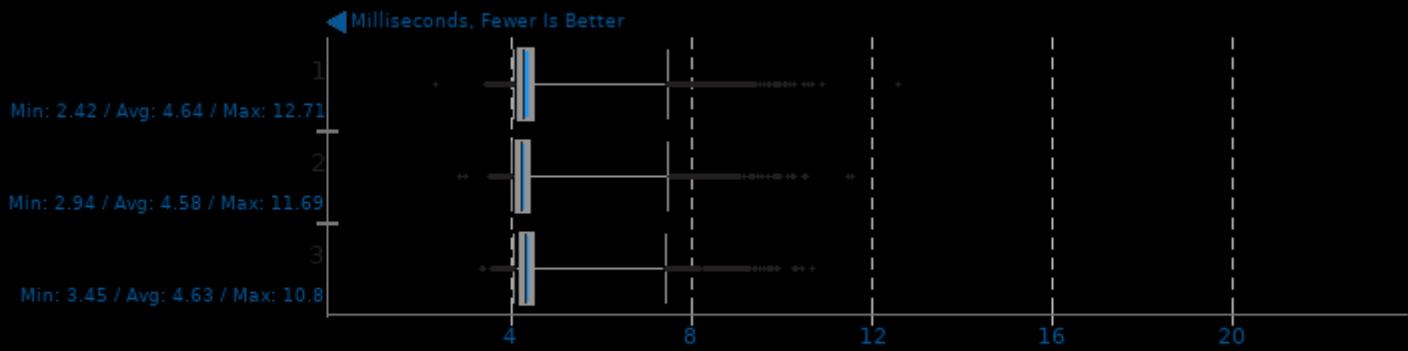
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

DDrakeNetwork 15.2.3

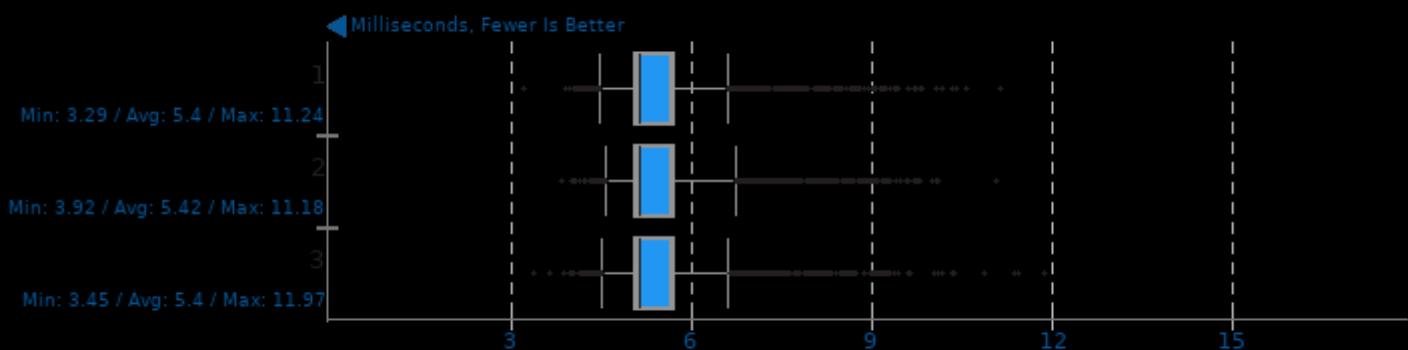
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time



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DDrakeNetwork 15.2.3

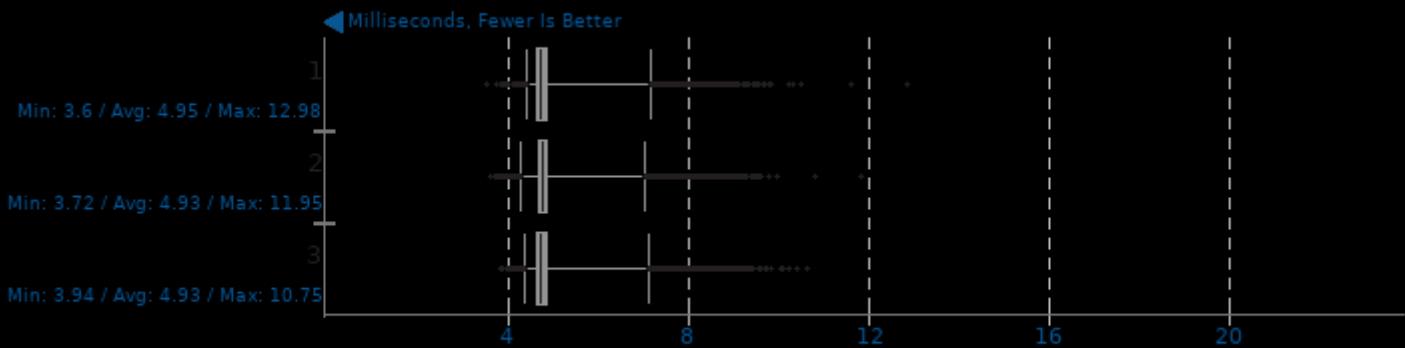
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap - Total Frame Time



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

DDrakeNetwork 15.2.3

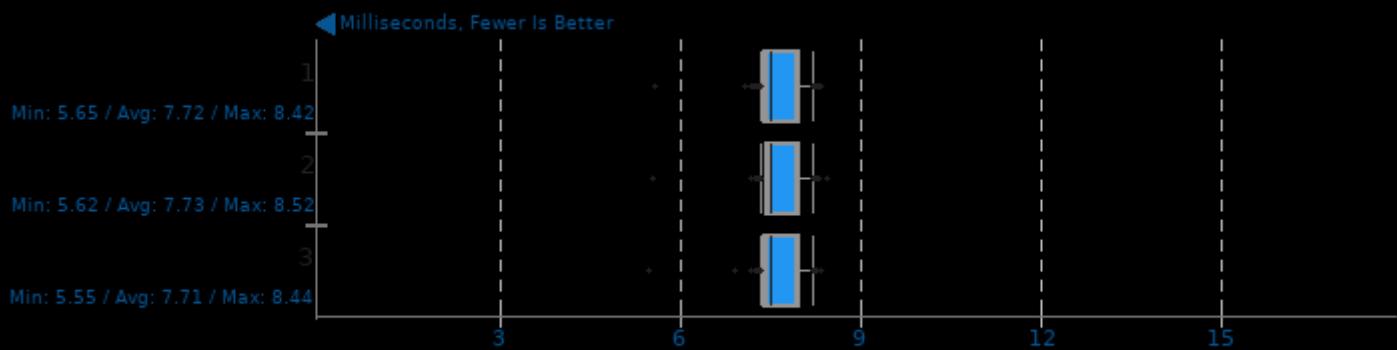
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multiesymap - Total Frame Time



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

DDrakeNetwork 15.2.3

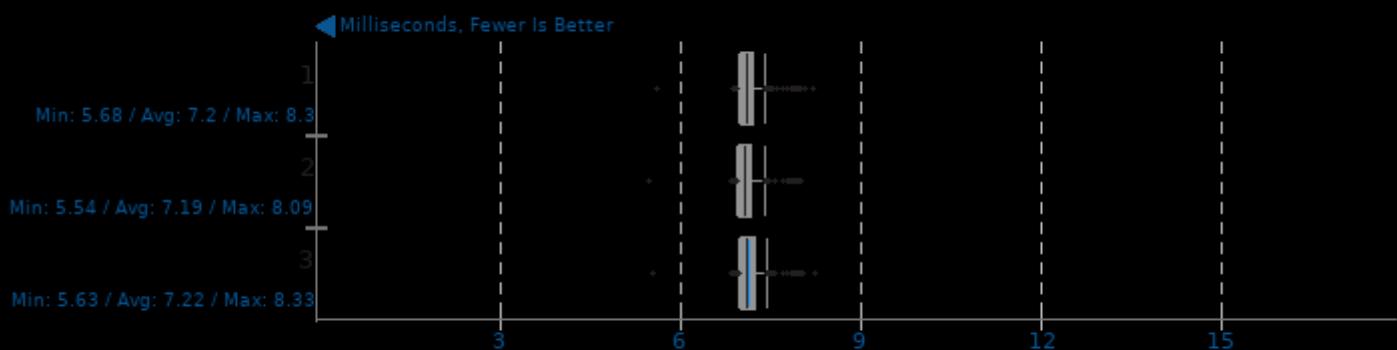
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2 - Total Frame Time



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DDrakeNetwork 15.2.3

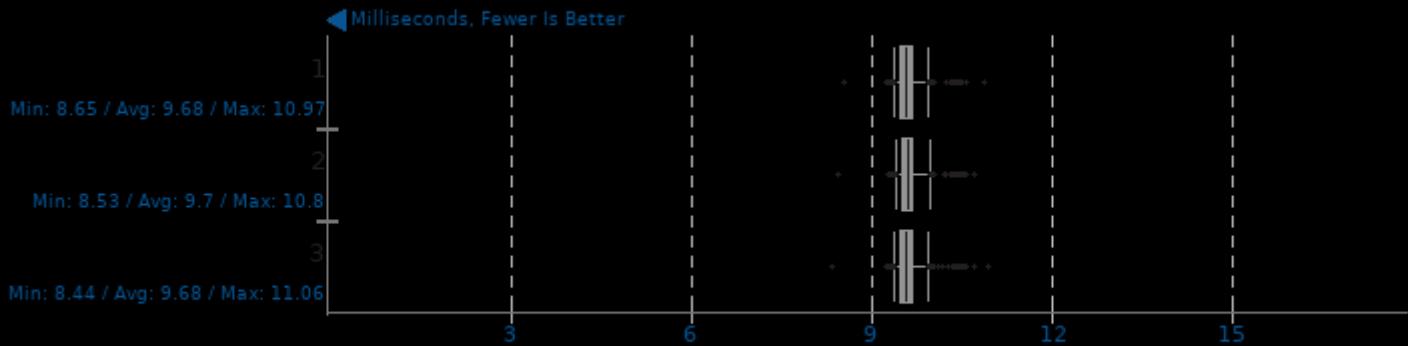
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2 - Total Frame Time



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DDrakeNetwork 15.2.3

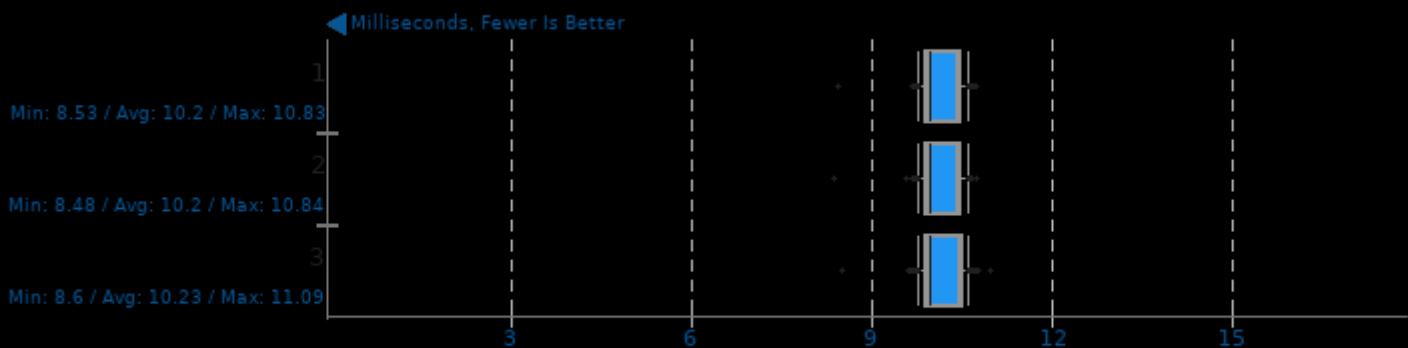
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

DDrakeNetwork 15.2.3

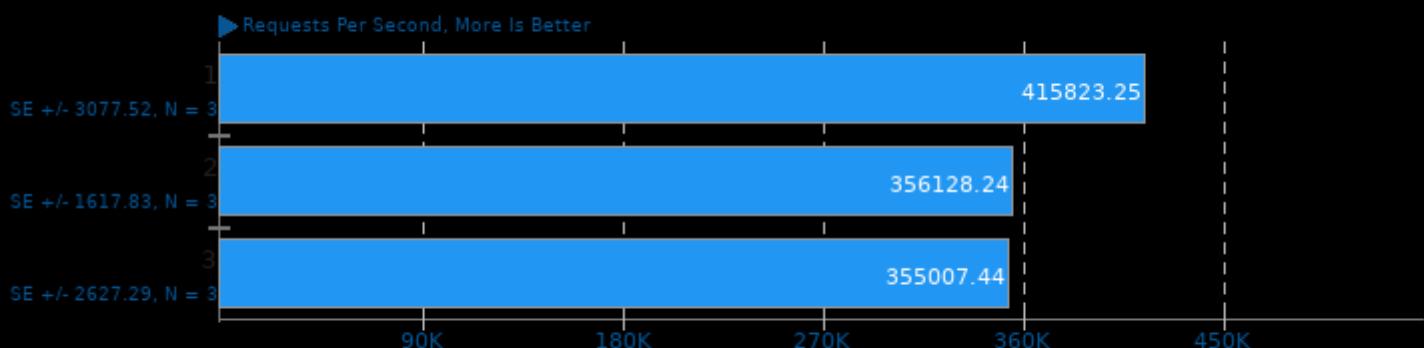
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

Redis 6.0.9

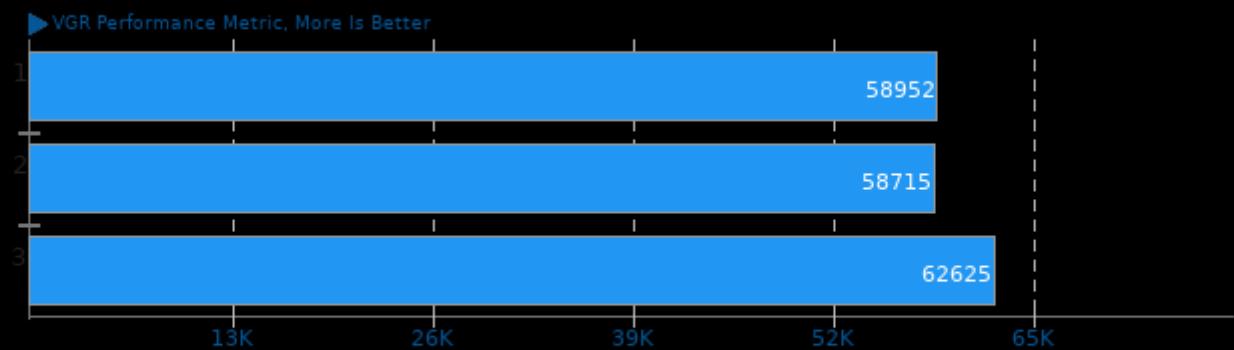
Test: LPOP



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

BRL-CAD 7.30.8

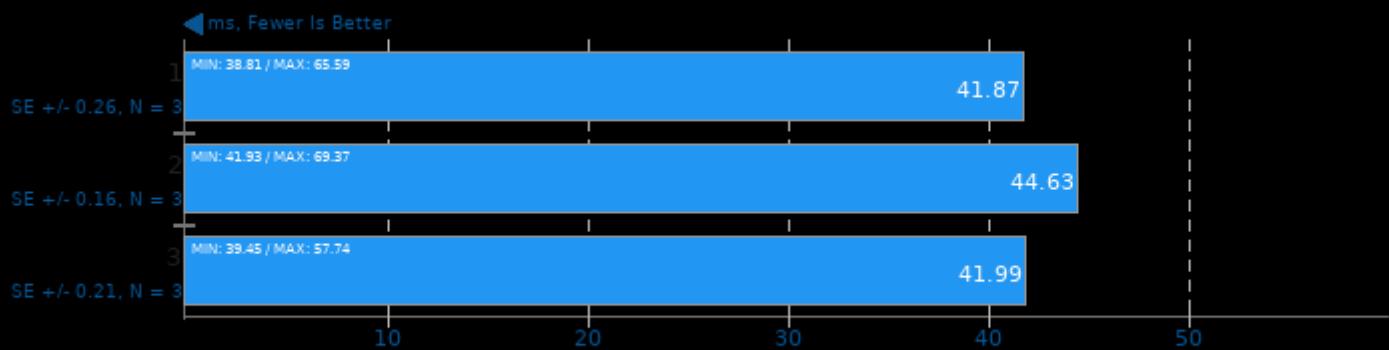
VGR Performance Metric



1. (CXX) g++ options: -std=c++11 -pipe -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth=128 -m64 -ggdb3 -O3 -fipa-ptx -fstrength-reduce

NCNN 20200916

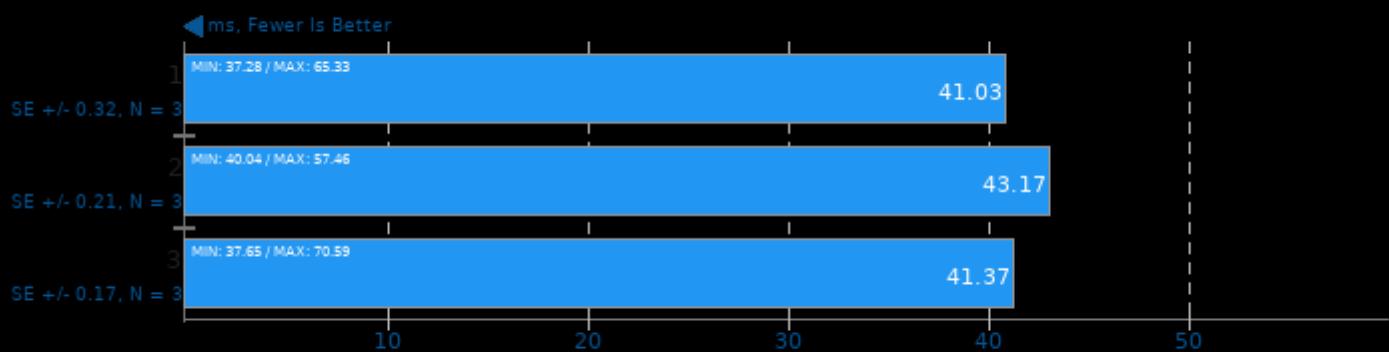
Target: CPU - Model: googlenet



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

NCNN 20200916

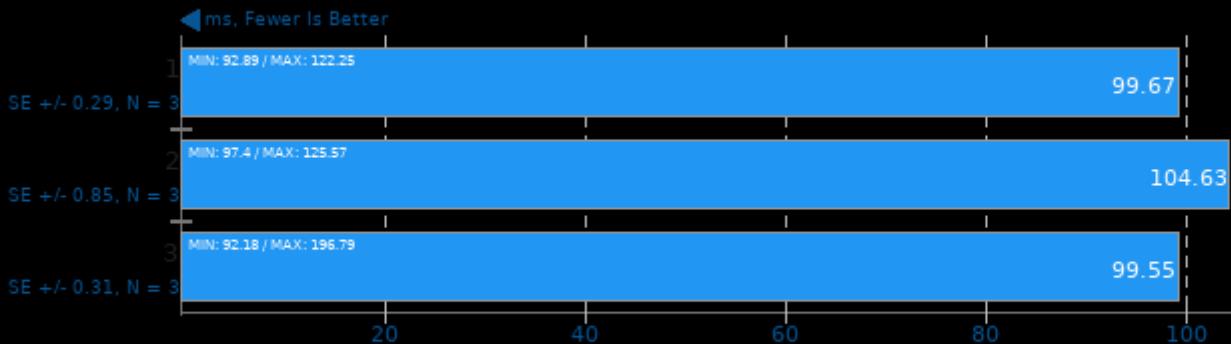
Target: CPU - Model: resnet18



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

NCNN 20200916

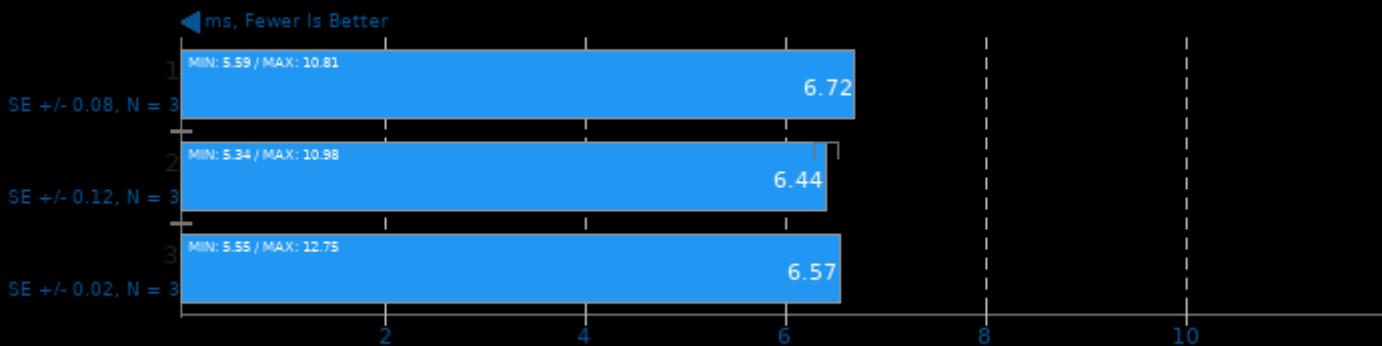
Target: CPU - Model: yolov4-tiny



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

NCNN 20200916

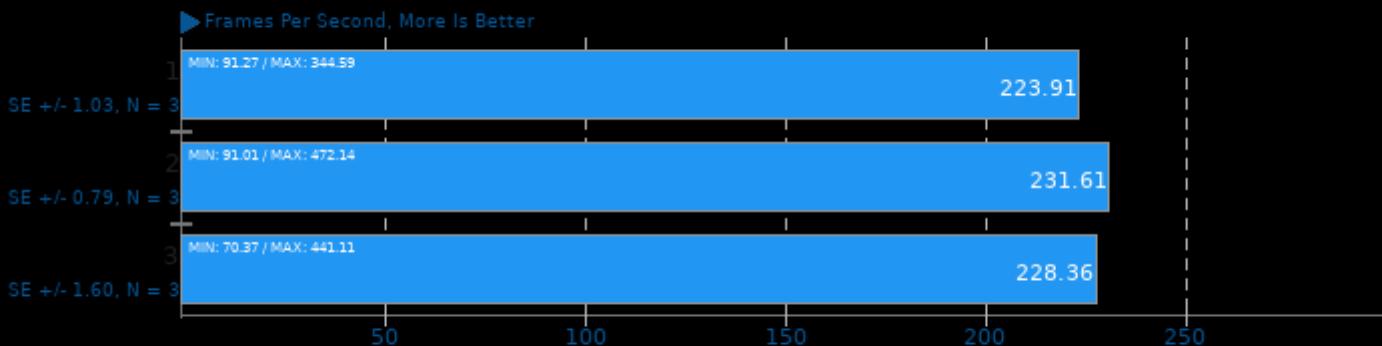
Target: CPU - Model: shufflenet-v2



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

DDrakeNetwork 15.2.3

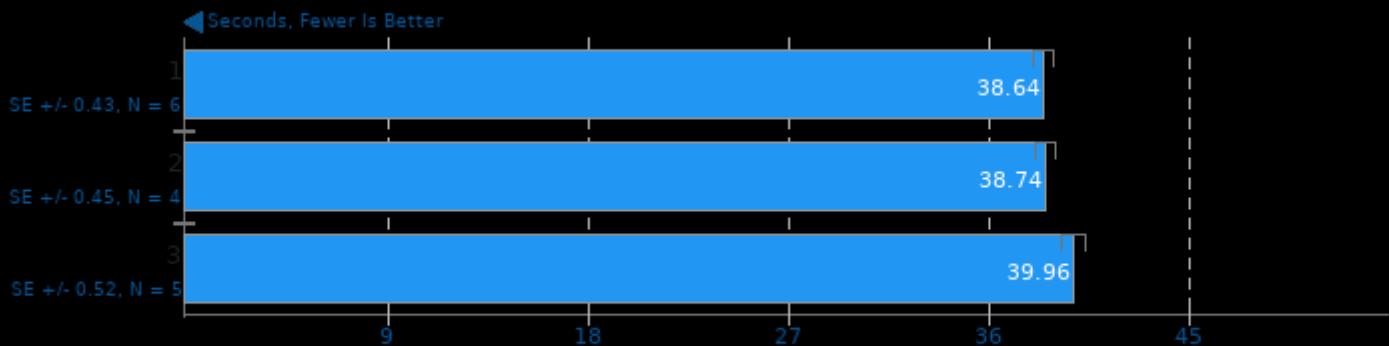
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multieasymap



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -IGL -X11 -notify -gdk_pixbuf-2.0 -

eSpeak-NG Speech Engine 20200907

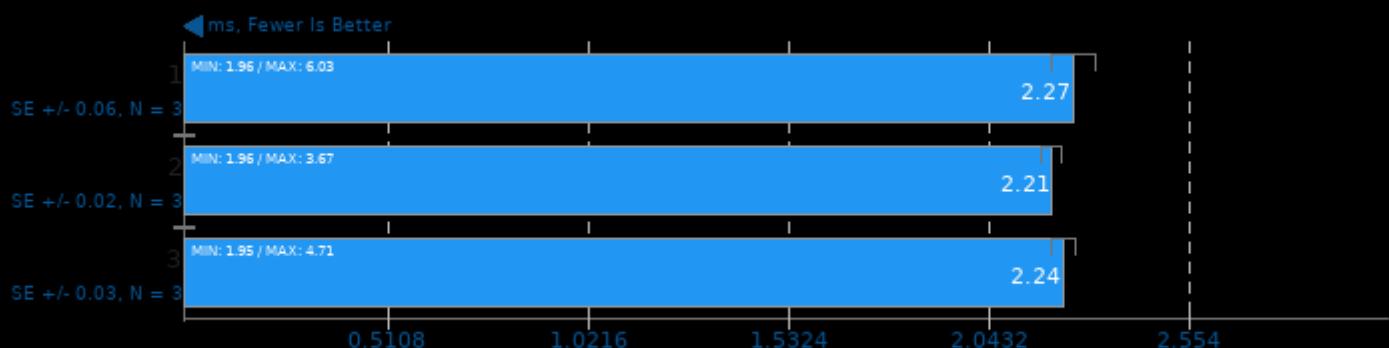
Text-To-Speech Synthesis



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

NCNN 20200916

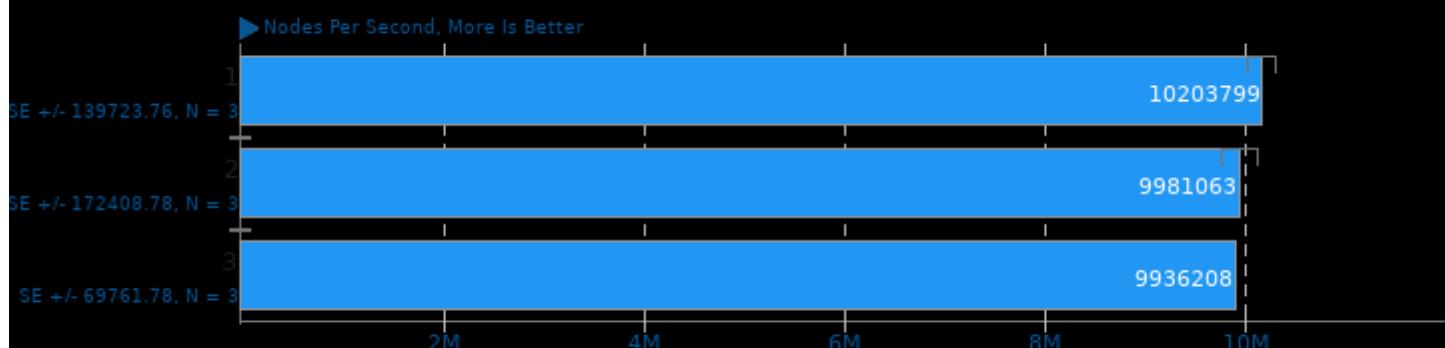
Target: CPU - Model: blazeface



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

Stockfish 12

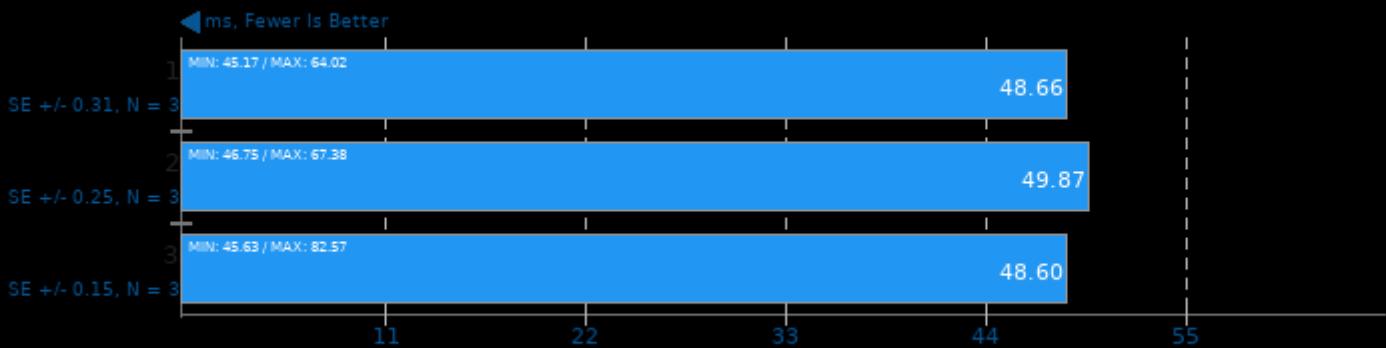
Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++17 -pedantic -O3 -msse -msse3 -mpopcnt -msse4.1 -mssse3 -msse2 -fno-ffts -fno=jobserver

NCNN 20200916

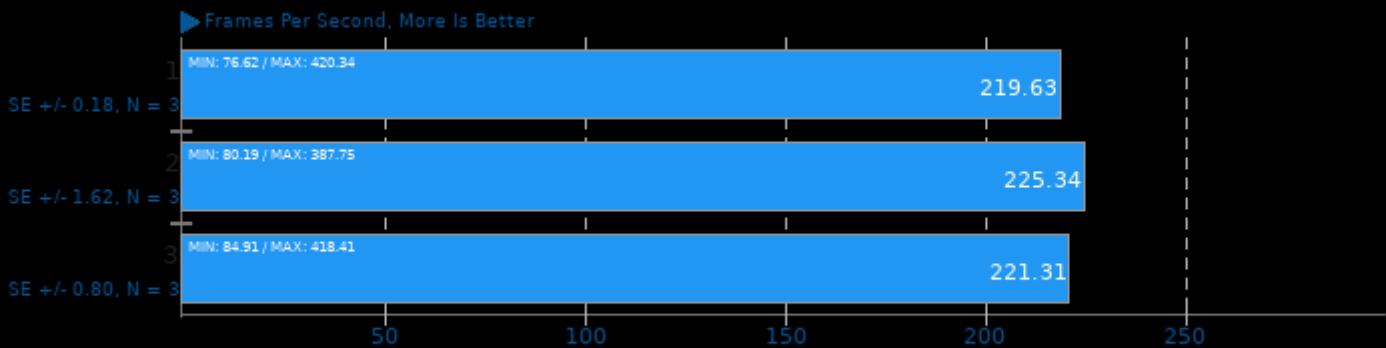
Target: CPU - Model: mobilenet



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

DDrakeNetwork 15.2.3

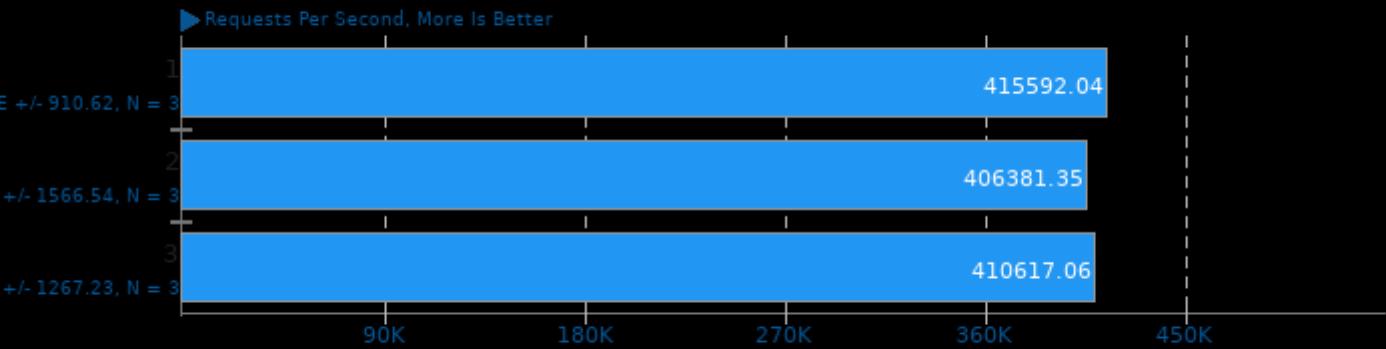
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -ogg -GL -X11 -notify -gdk_pixbuf-2.0 -

Redis 6.0.9

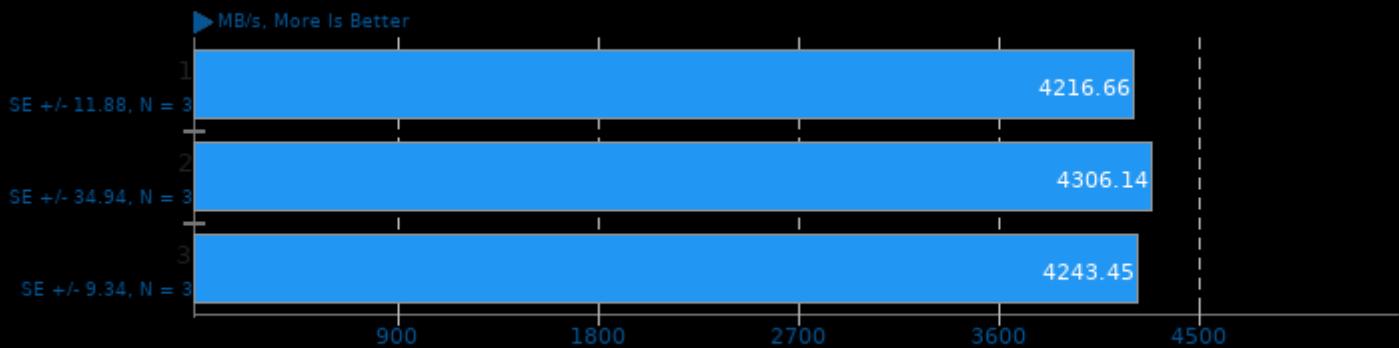
Test: GET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

LZ4 Compression 1.9.3

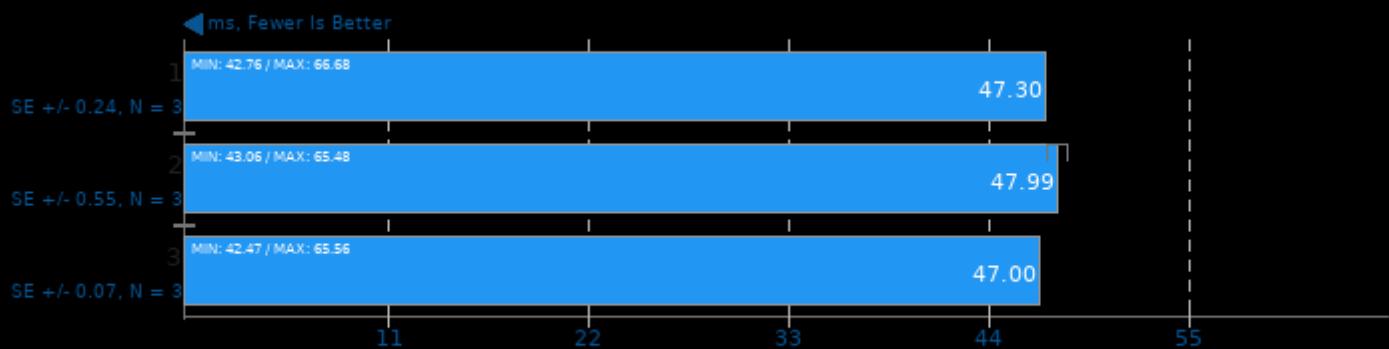
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

NCNN 20200916

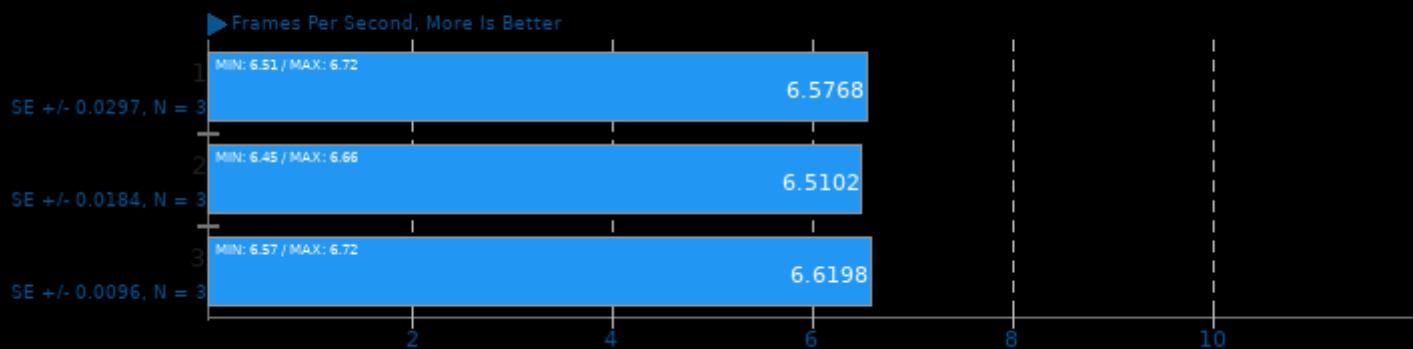
Target: CPU - Model: squeezezenet



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

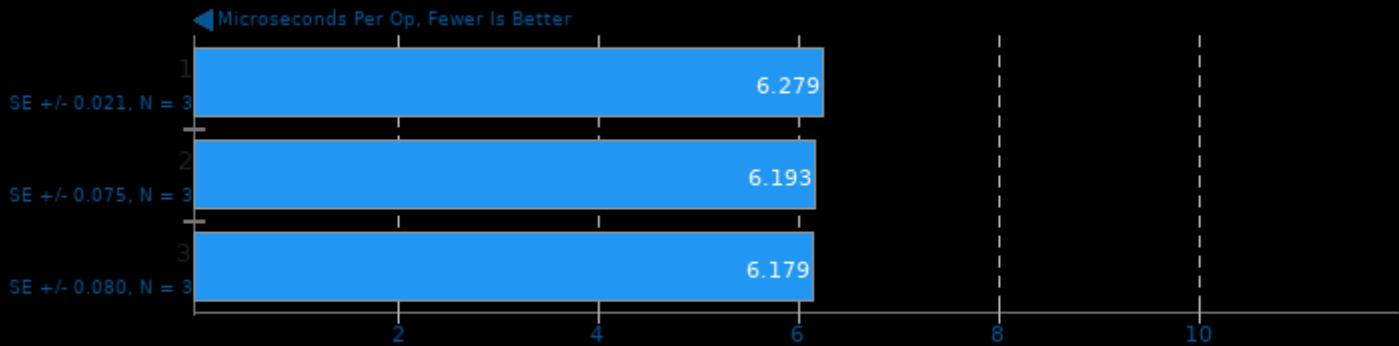
Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon



LevelDB 1.22

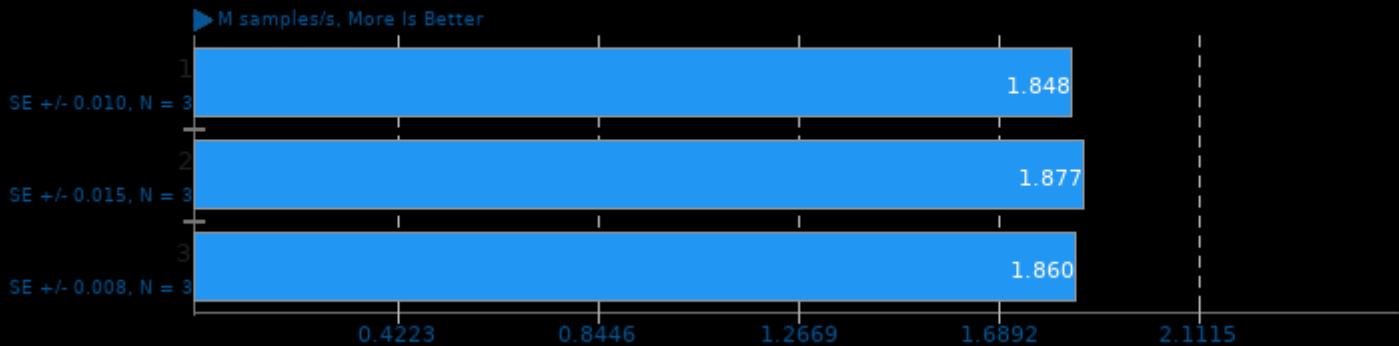
Benchmark: Hot Read



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

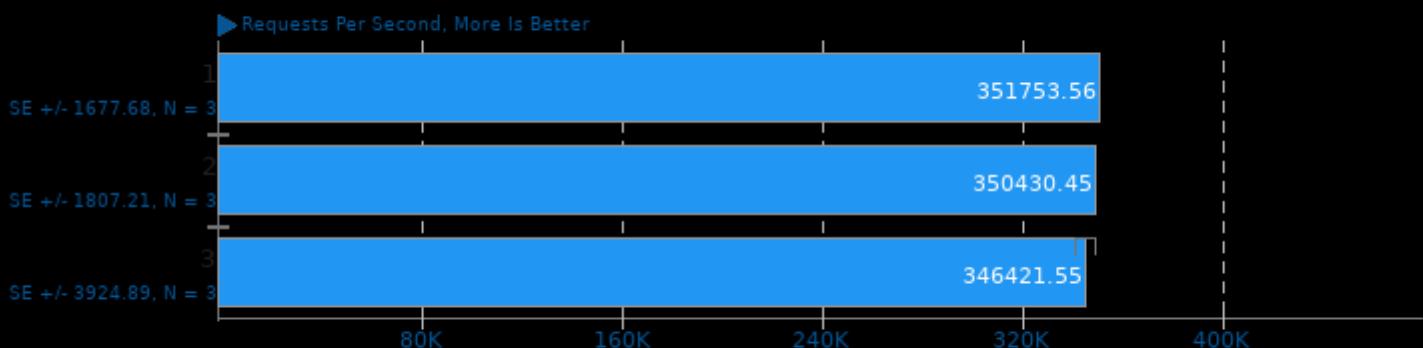
IndigoBench 4.4

Acceleration: CPU - Scene: Supercar



Redis 6.0.9

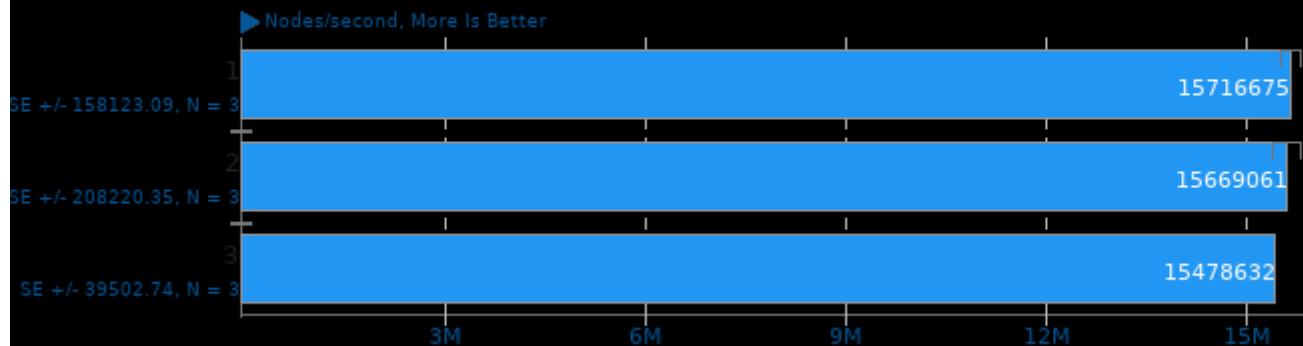
Test: LPUSH



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

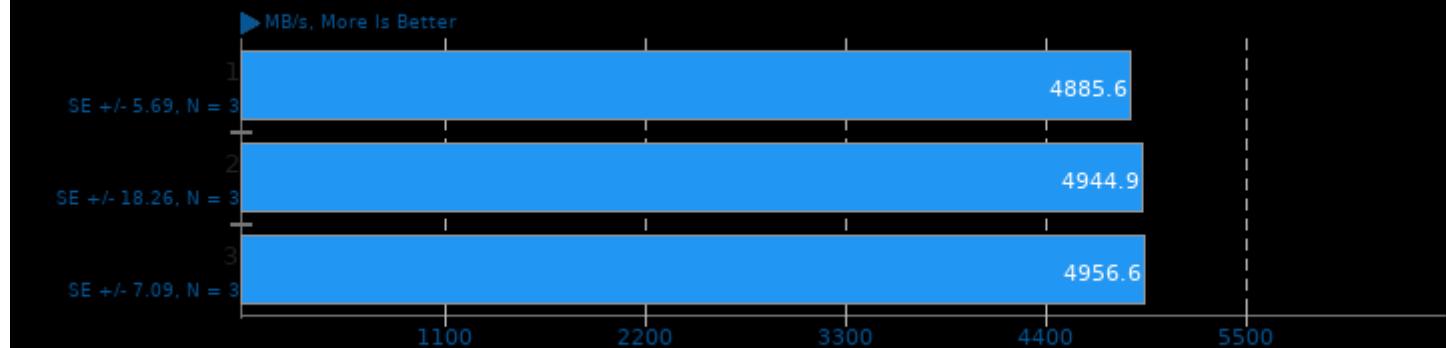
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



LZ4 Compression 1.9.3

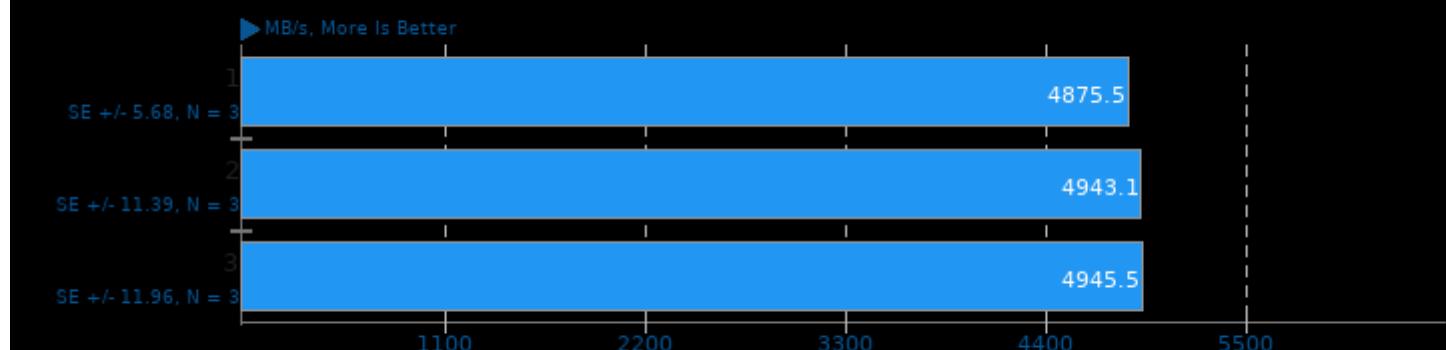
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

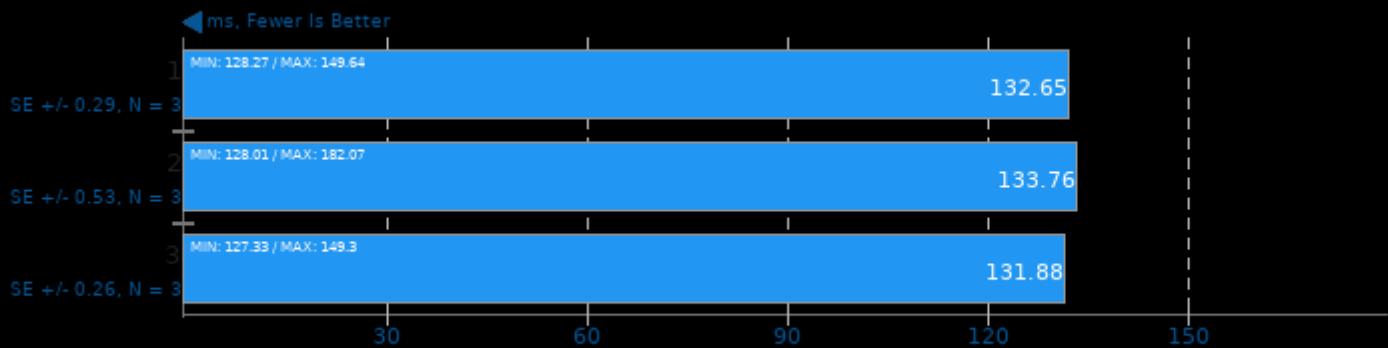
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

NCNN 20200916

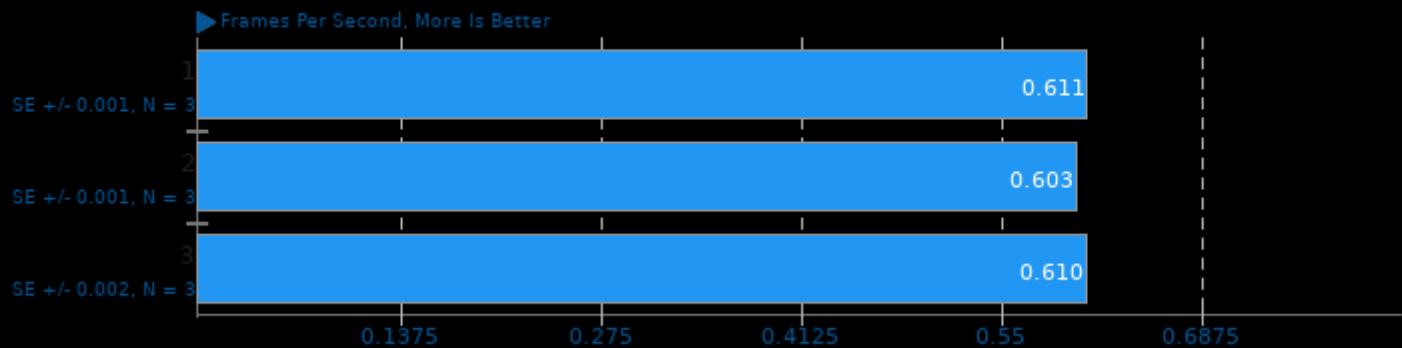
Target: CPU - Model: efficientnet-b0



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

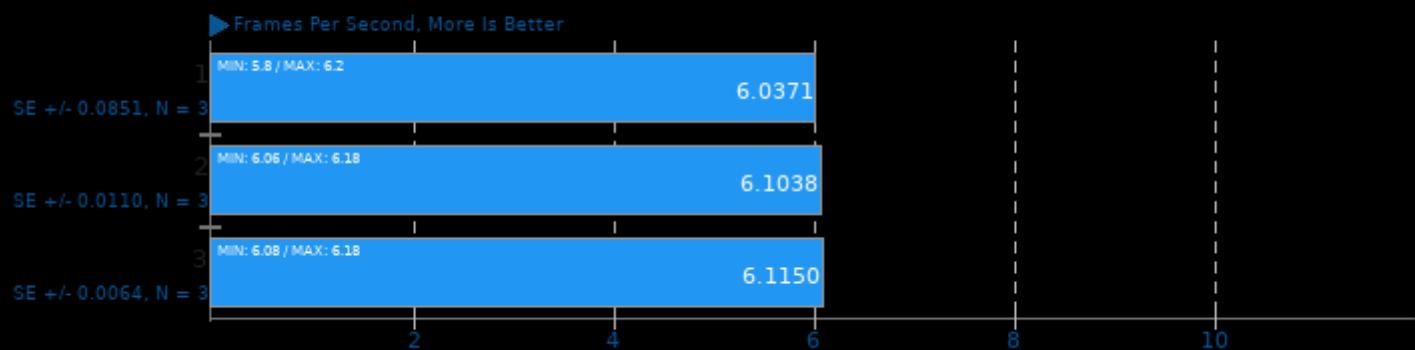
rav1e 0.4 Alpha

Speed: 6



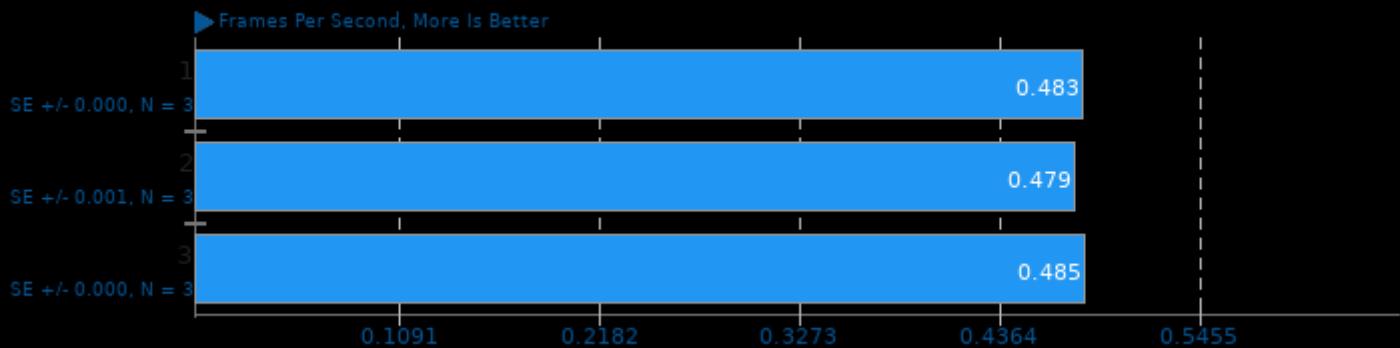
Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon Obj



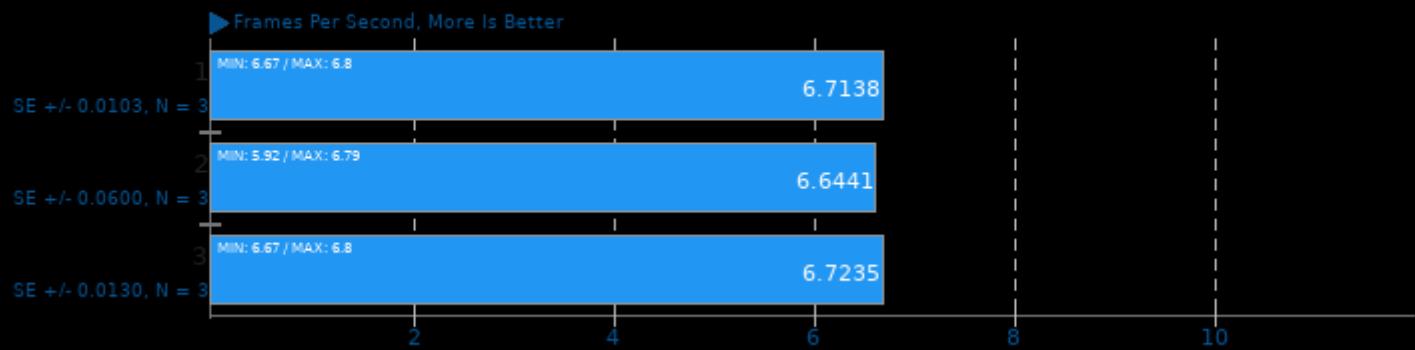
rav1e 0.4 Alpha

Speed: 5

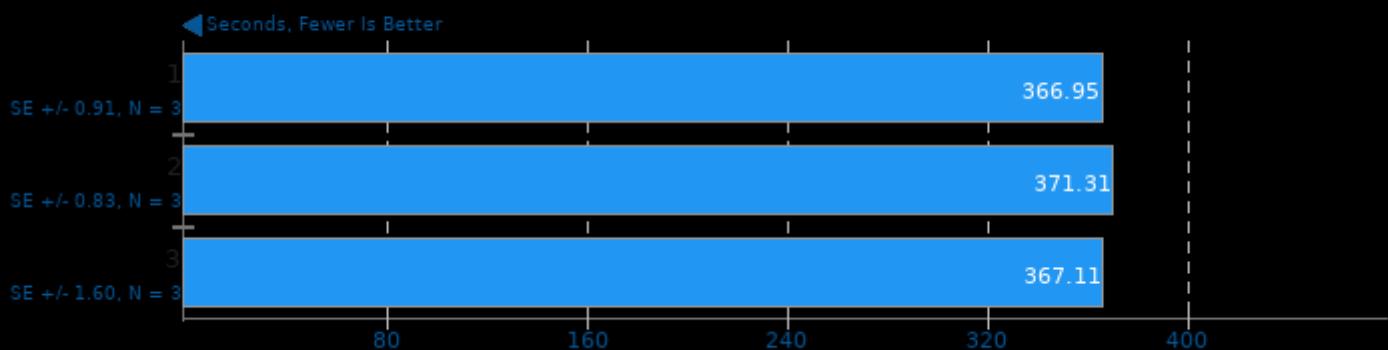


Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon Obj

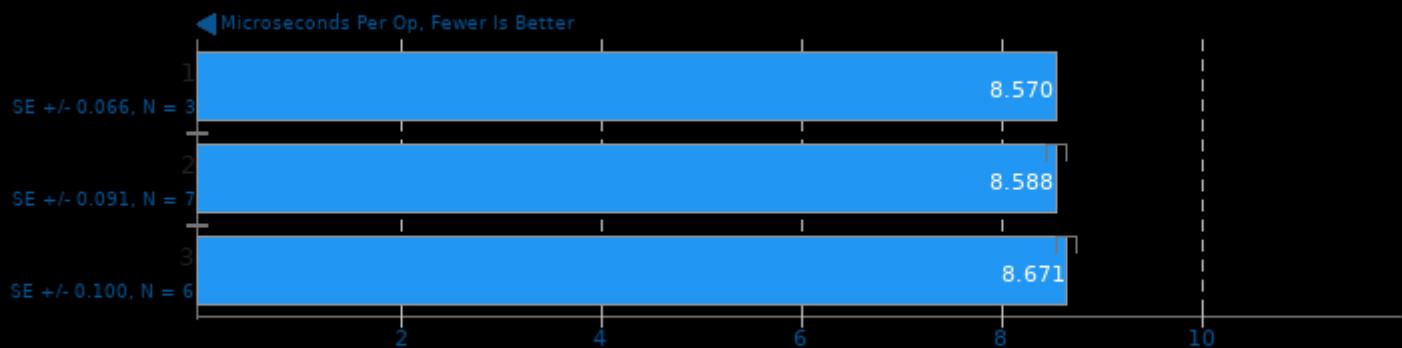


WireGuard + Linux Networking Stack Stress Test



LevelDB 1.22

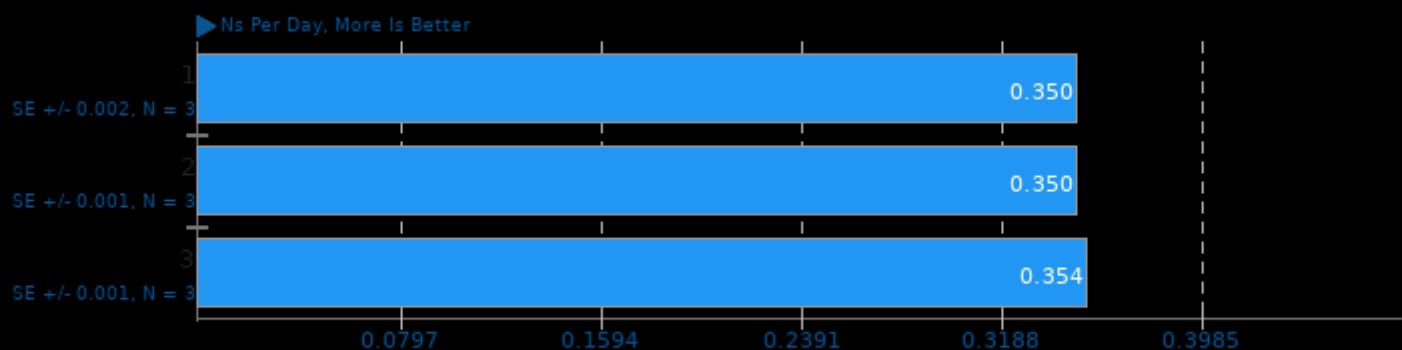
Benchmark: Seek Random



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

GROMACS 2020.3

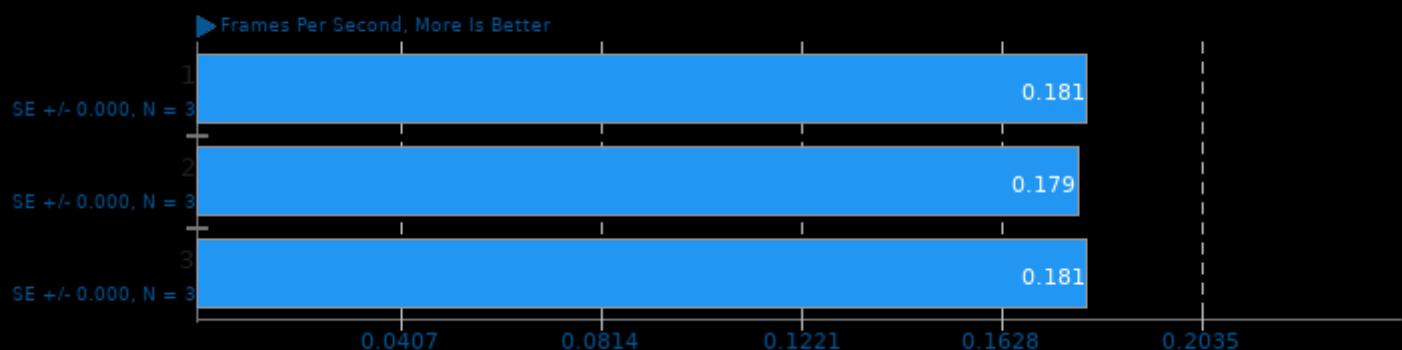
Water Benchmark



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

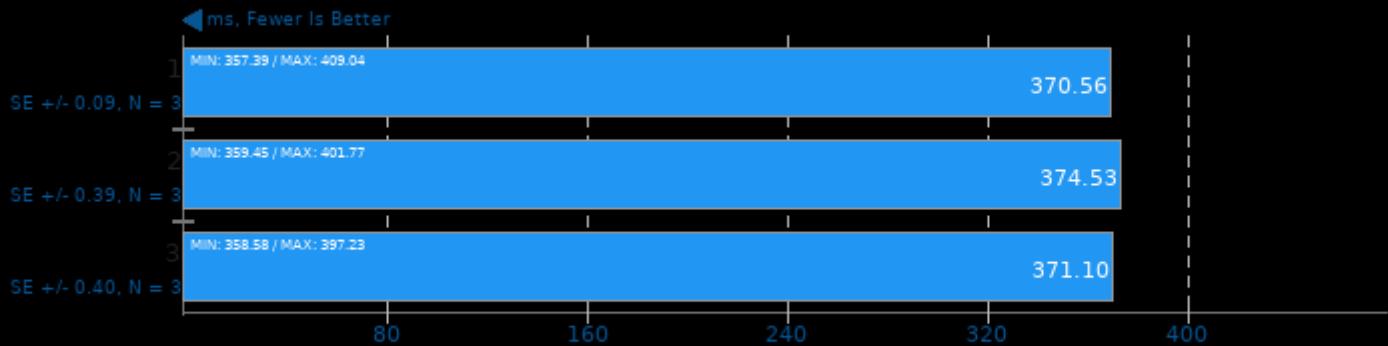
rav1e 0.4 Alpha

Speed: 1



NCNN 20200916

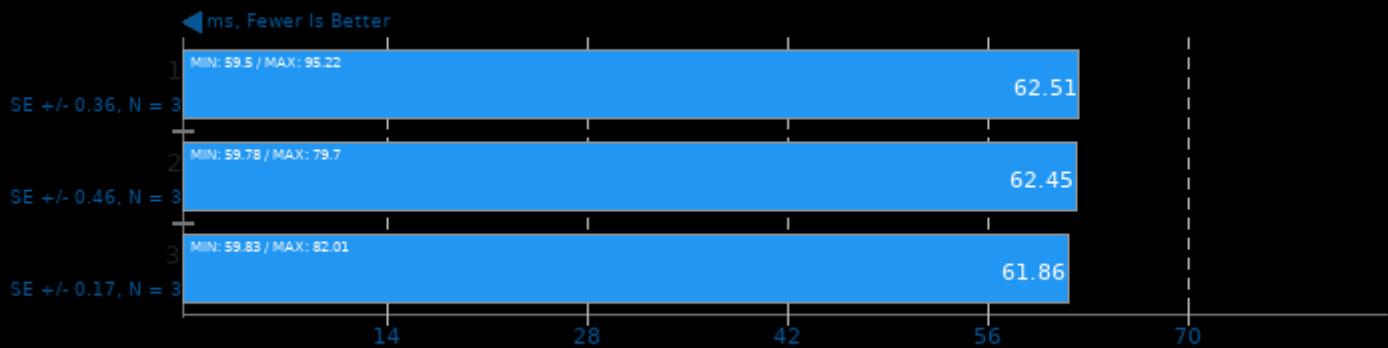
Target: CPU - Model: vgg16



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

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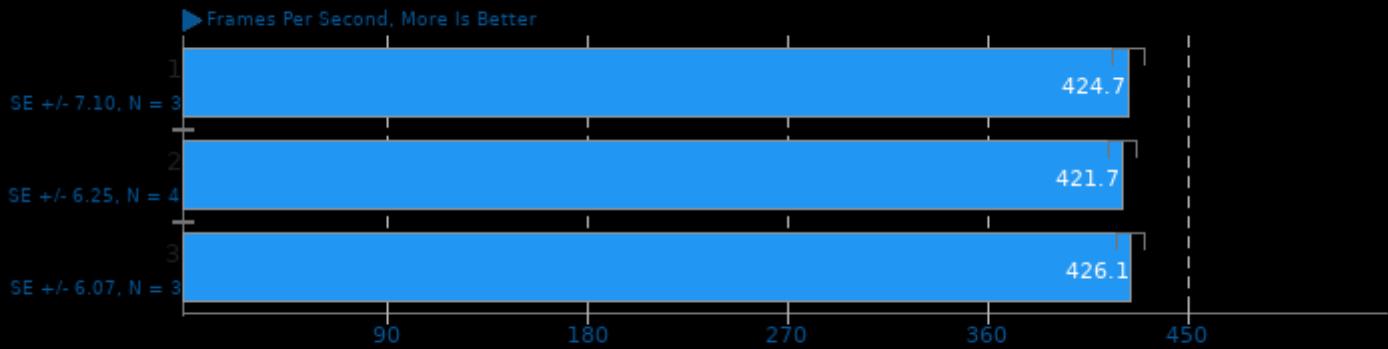
Target: CPU-v3-v3 - Model: mobilenet-v3



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

yquake2 7.45

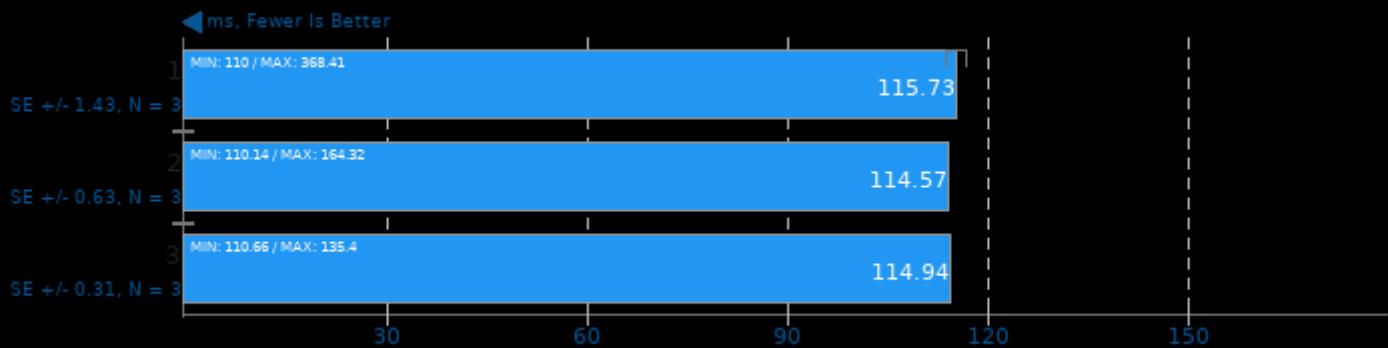
Renderer: OpenGL 1.x - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfpr-

NCNN 20200916

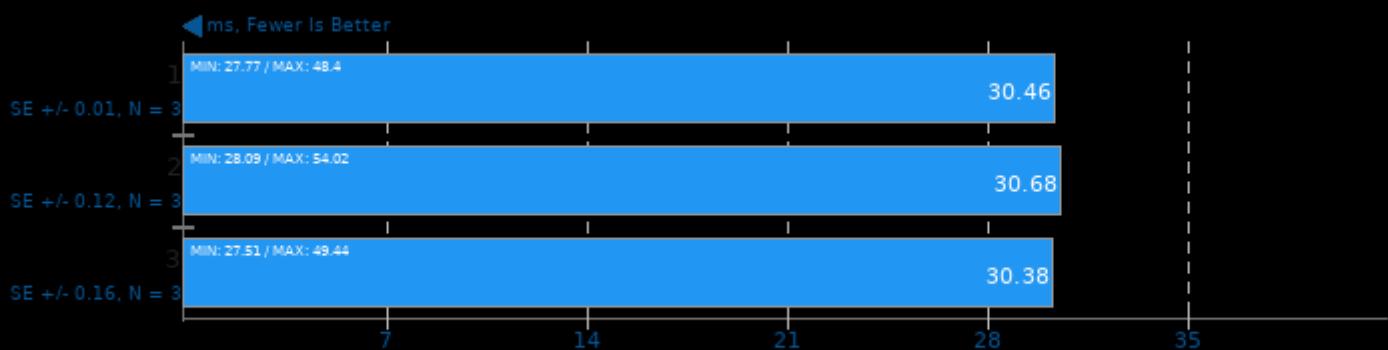
Target: CPU - Model: mnasnet



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

NCNN 20200916

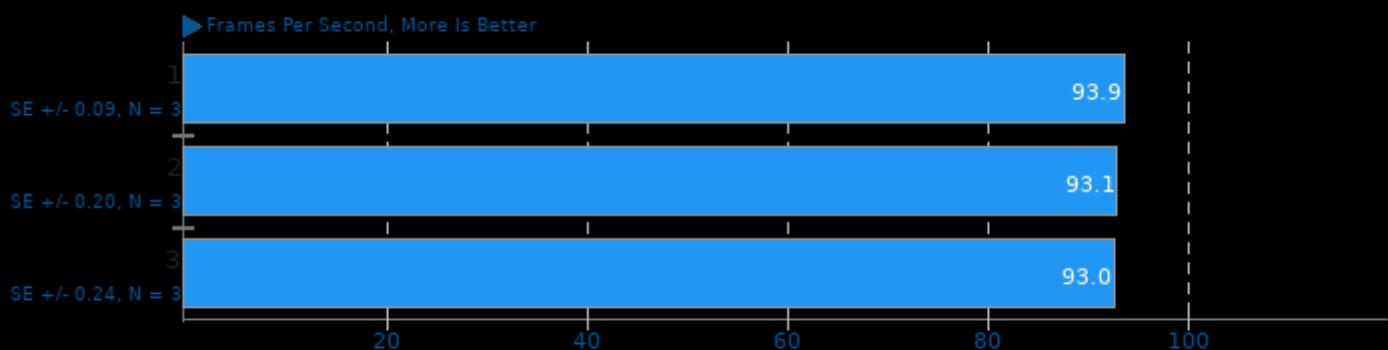
Target: CPU - Model: alexnet



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

yquake2 7.45

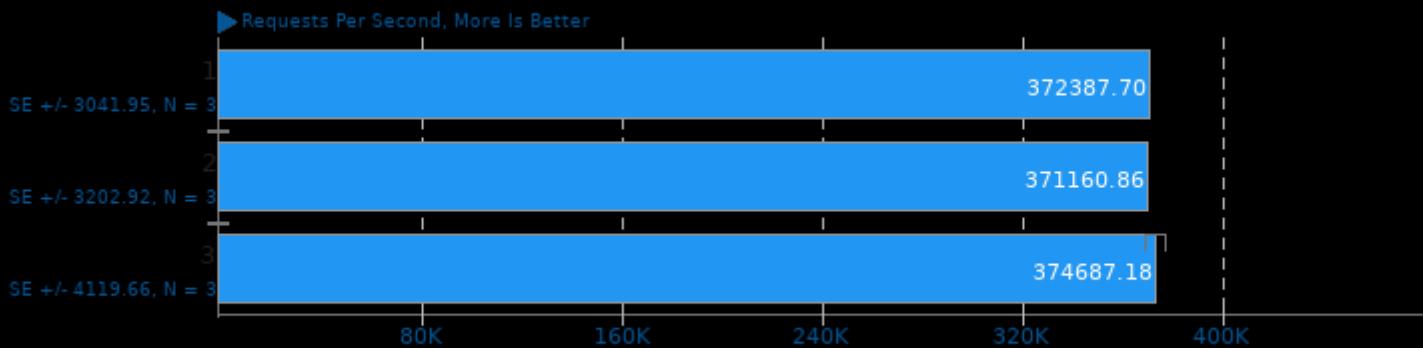
Renderer: Software CPU - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -lSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfpr

Redis 6.0.9

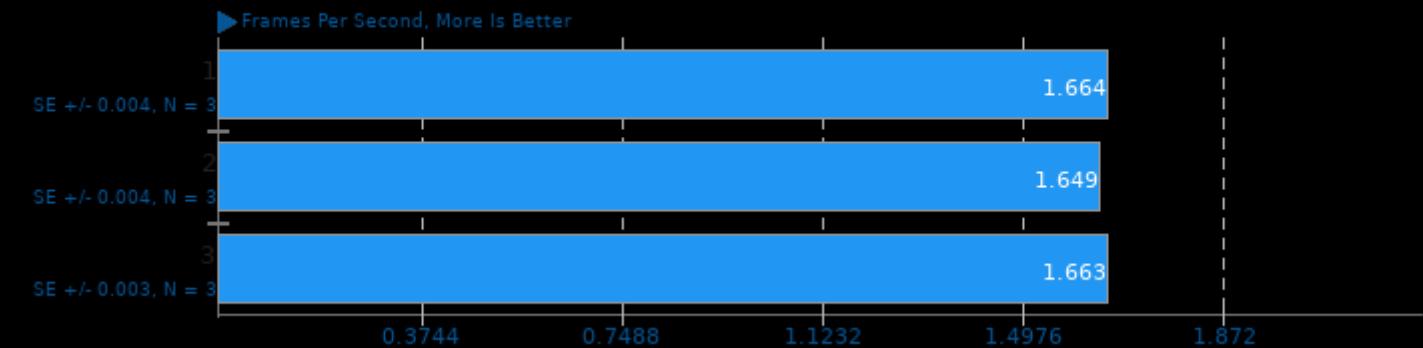
Test: SET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

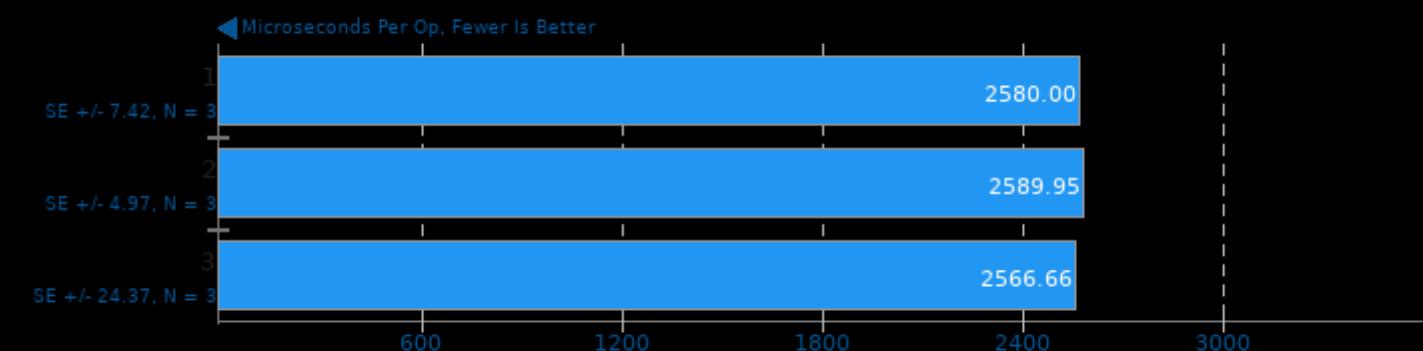
rav1e 0.4 Alpha

Speed: 10



LevelDB 1.22

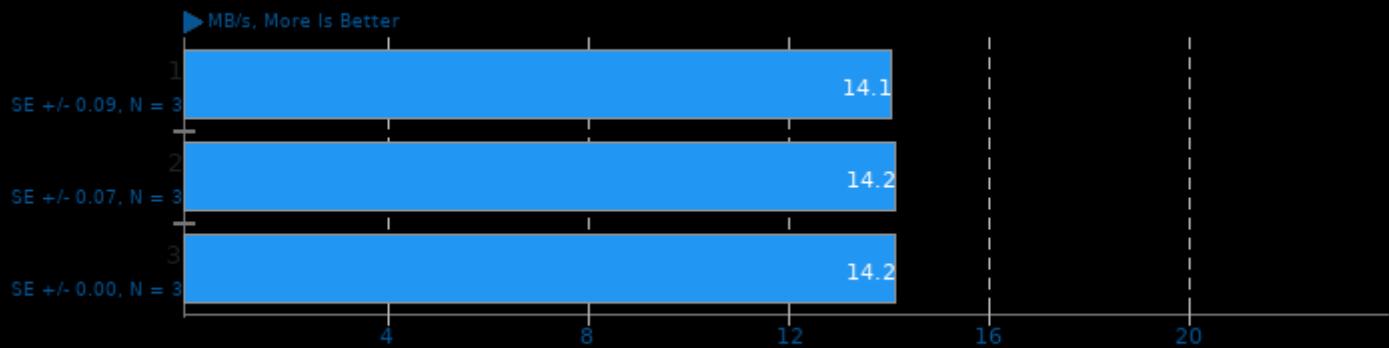
Benchmark: Fill Sync



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

LevelDB 1.22

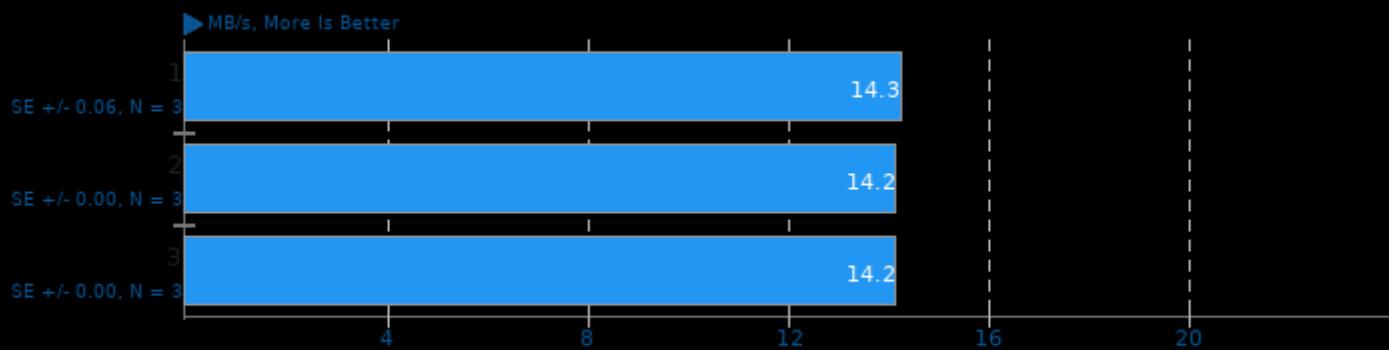
Benchmark: Overwrite



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

LevelDB 1.22

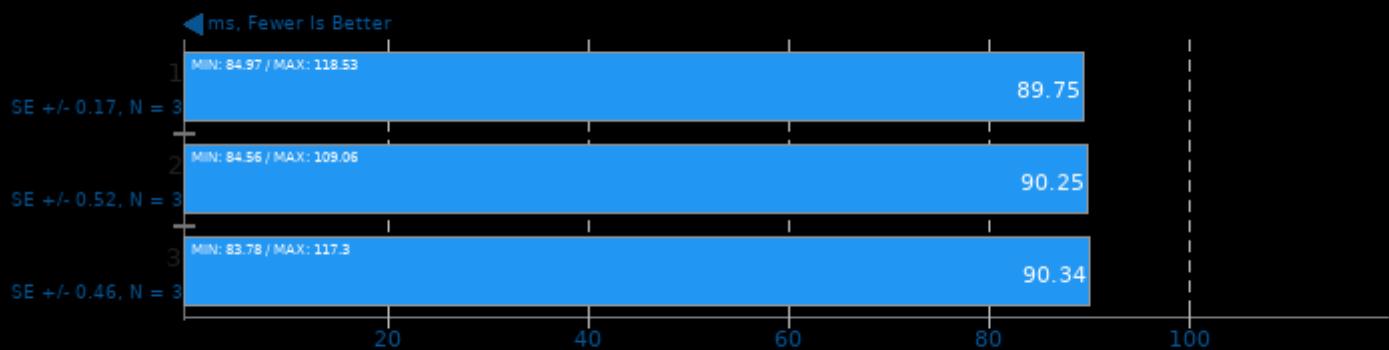
Benchmark: Random Fill



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

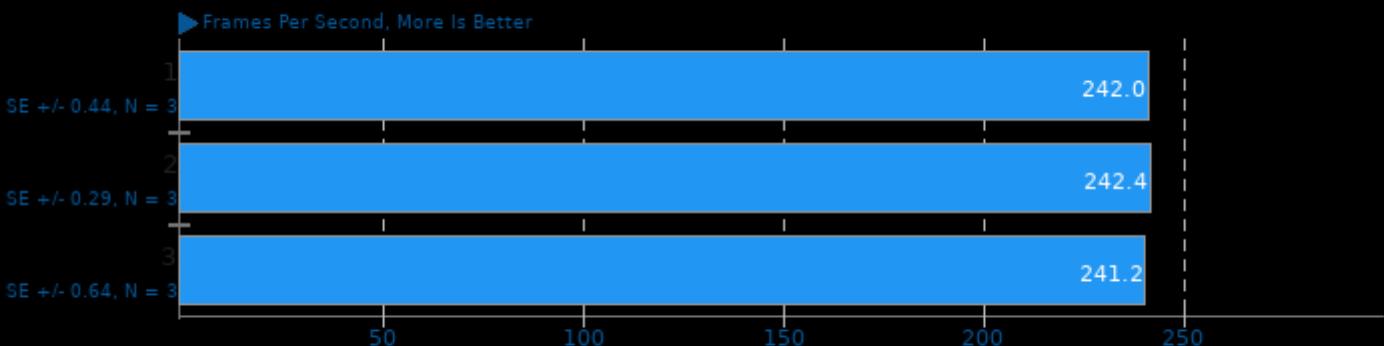
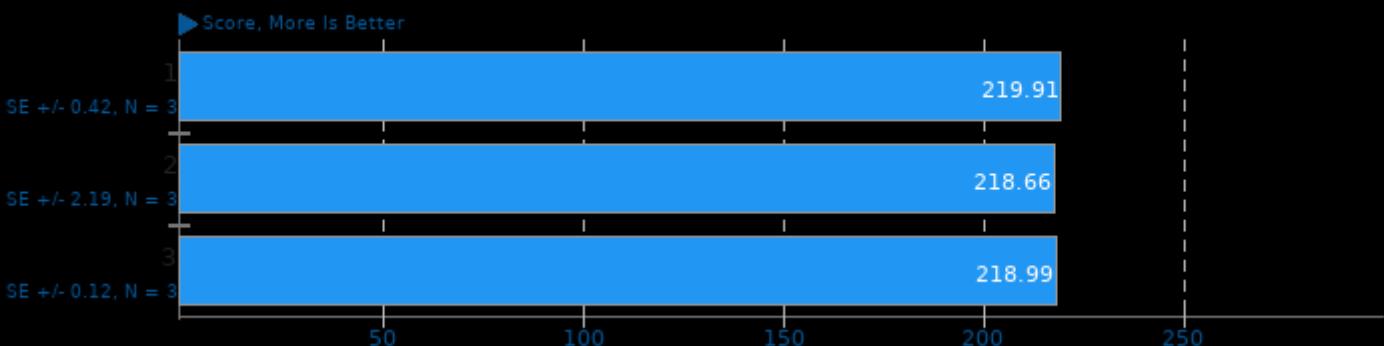
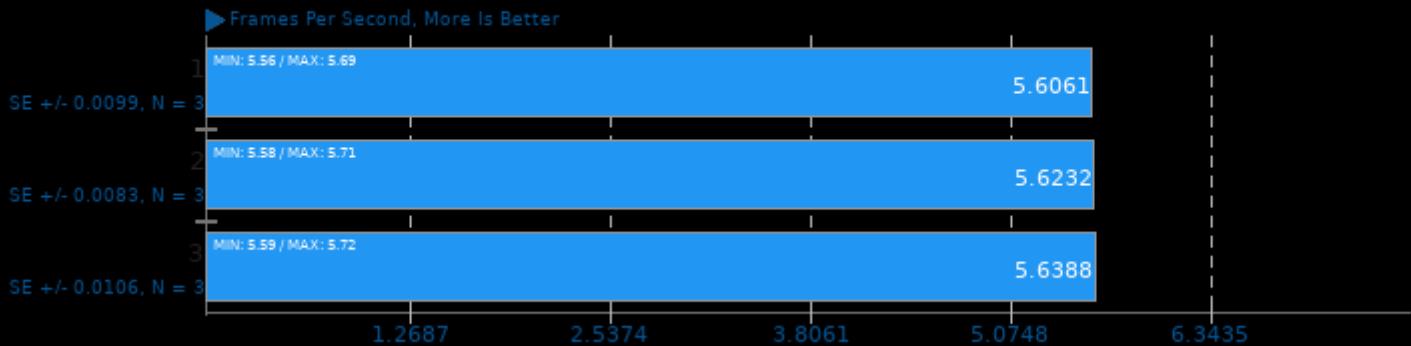
NCNN 20200916

Target: CPU - Model: resnet50



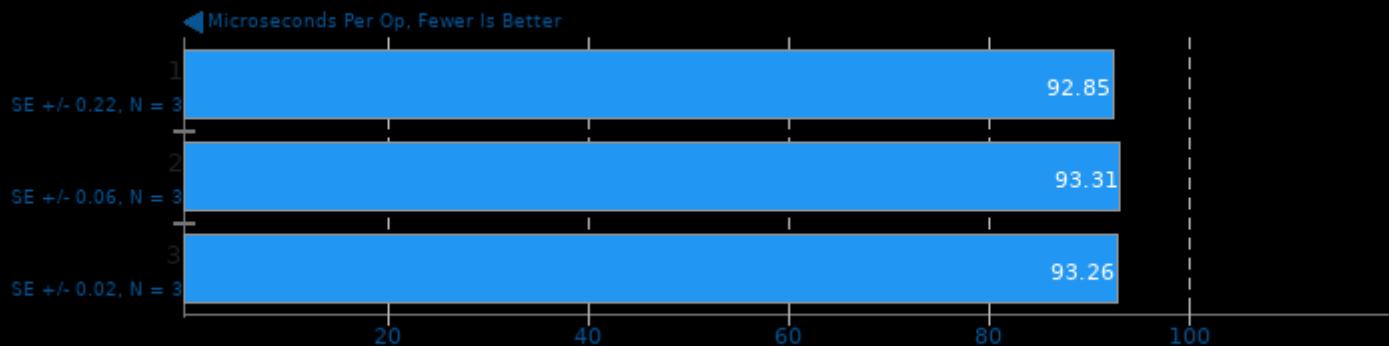
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread

Embree 3.9.0



LevelDB 1.22

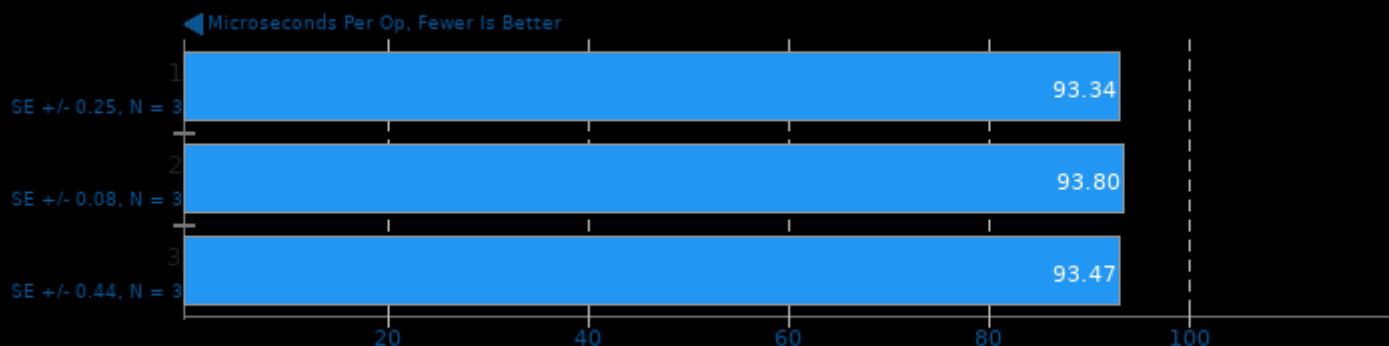
Benchmark: Random Fill



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

LevelDB 1.22

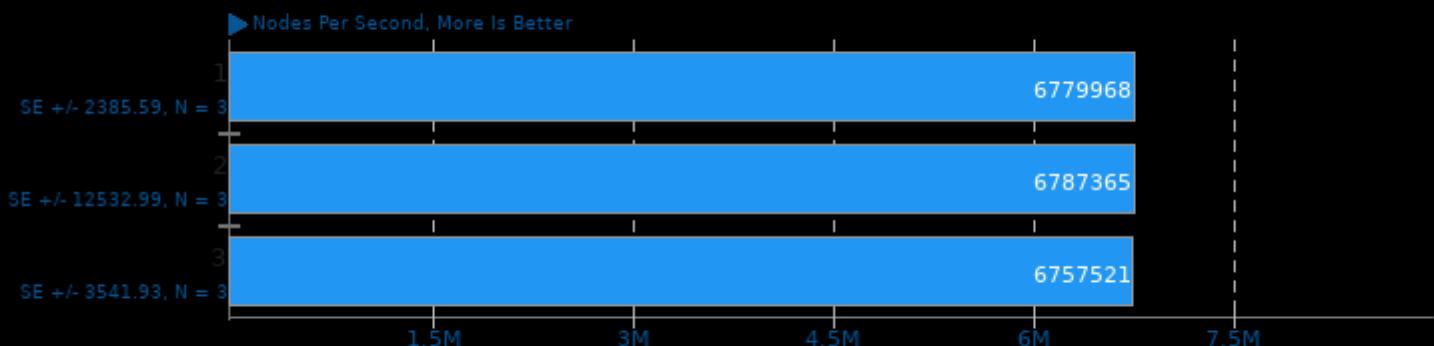
Benchmark: Random Delete



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

Crafty 25.2

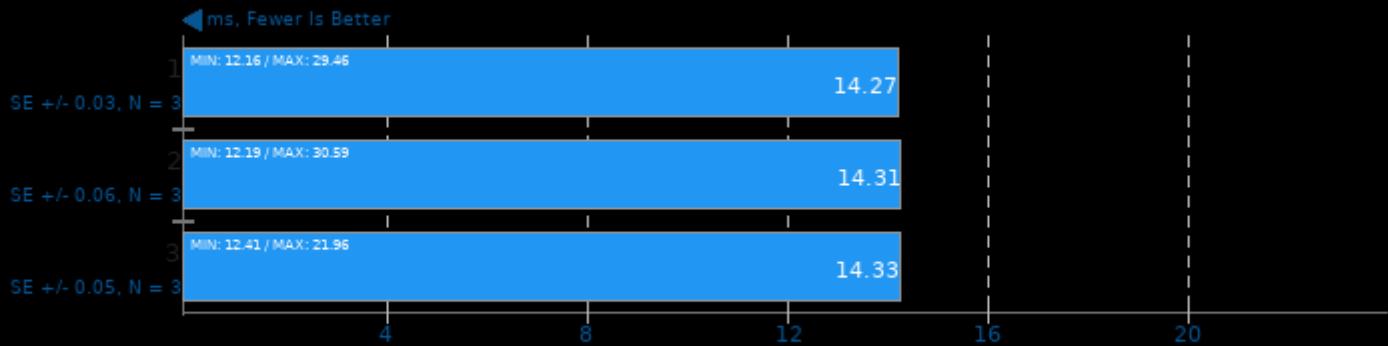
Elapsed Time



1. (CC) gcc options: -pthread -stdc++ -fprofile-use -lm

NCNN 20200916

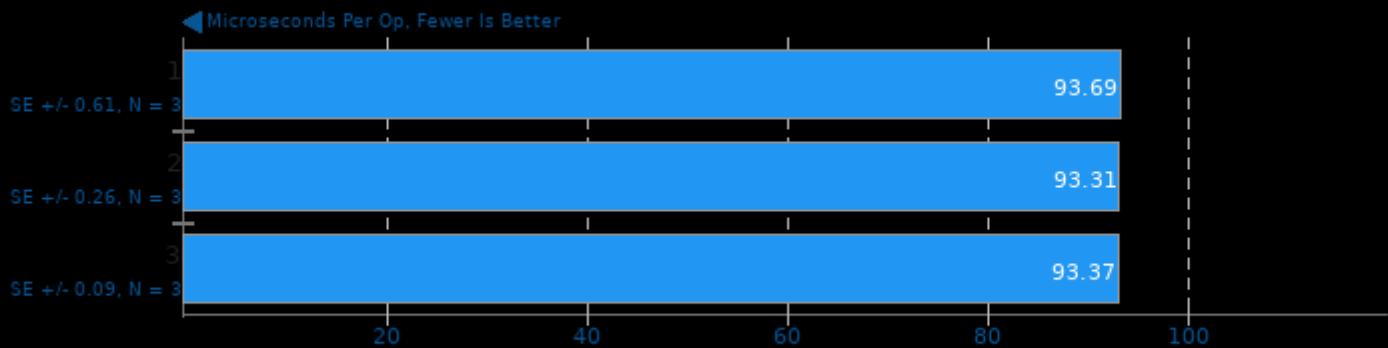
Target: CPU-v2-v2 - Model: mobilenet-v2



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

LevelDB 1.22

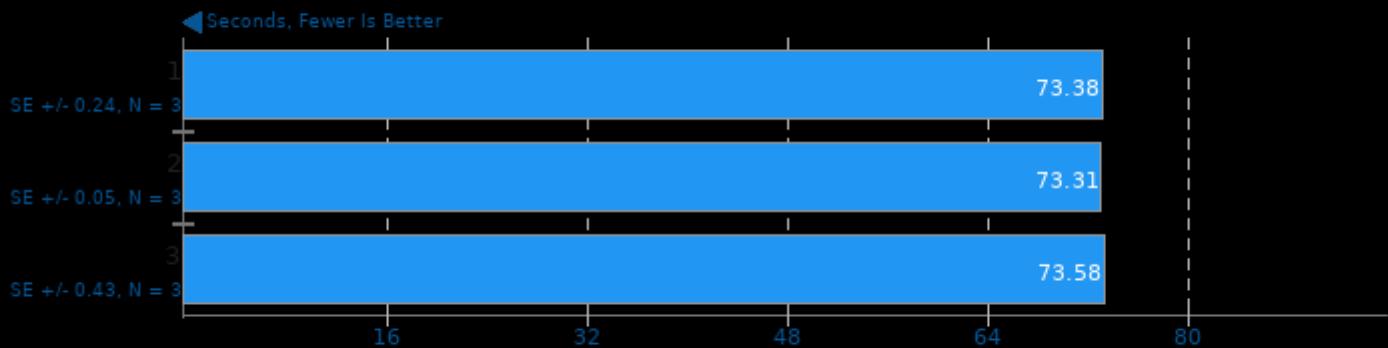
Benchmark: Overwrite



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

Basis Universal 1.12

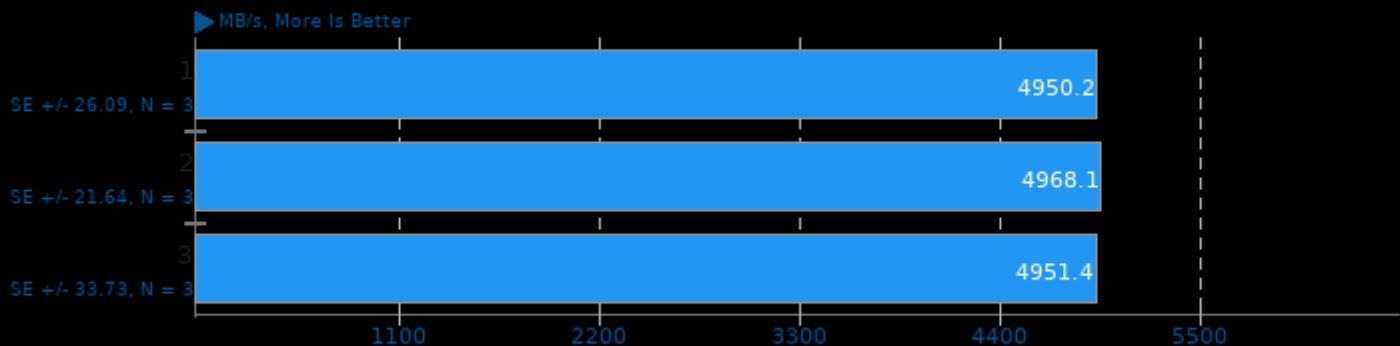
Settings: ETC1S



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

LZ4 Compression 1.9.3

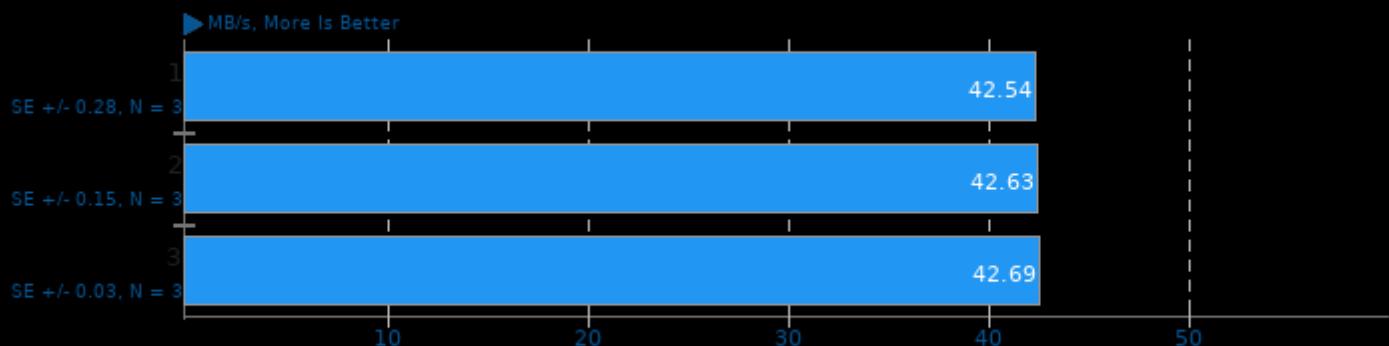
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

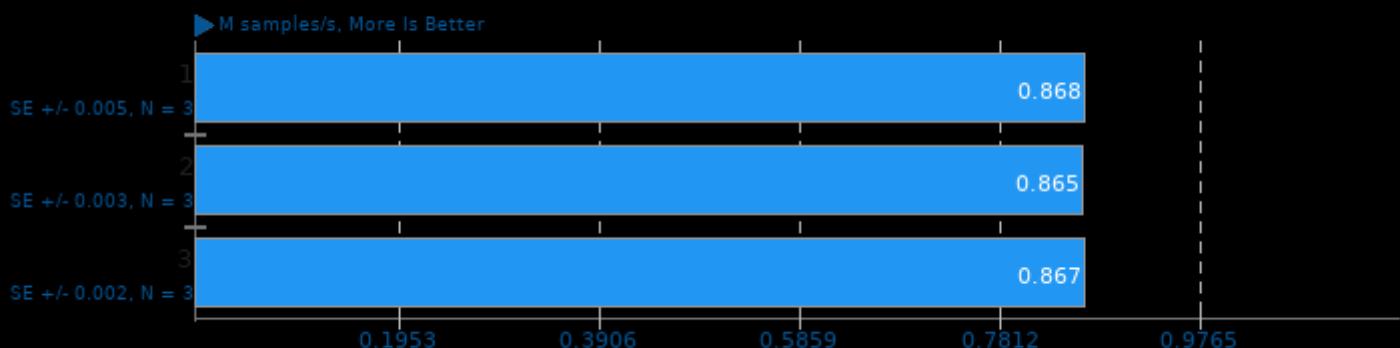
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

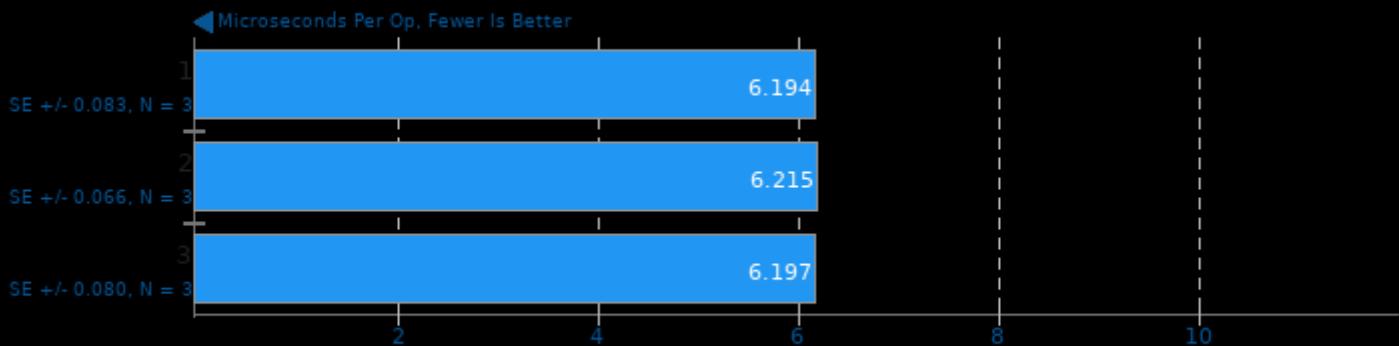
IndigoBench 4.4

Acceleration: CPU - Scene: Bedroom



LevelDB 1.22

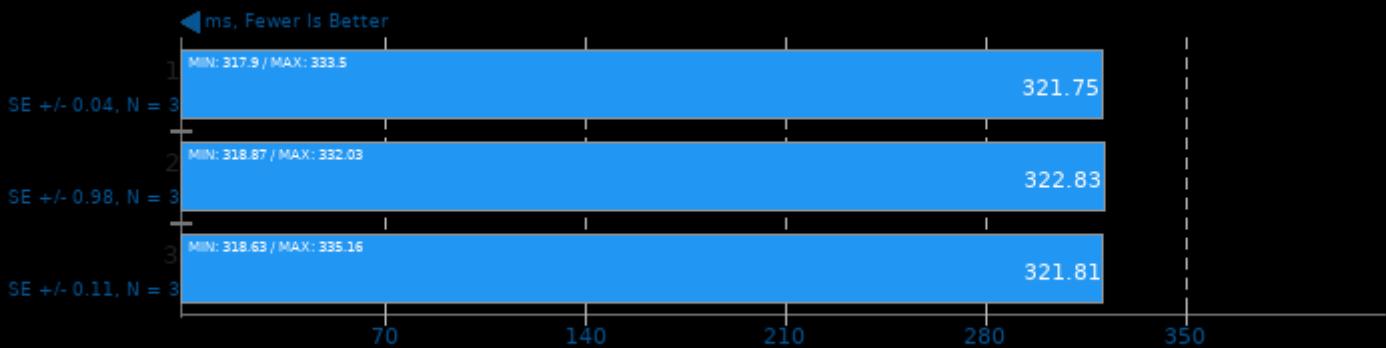
Benchmark: Random Read



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

TNN 0.2.3

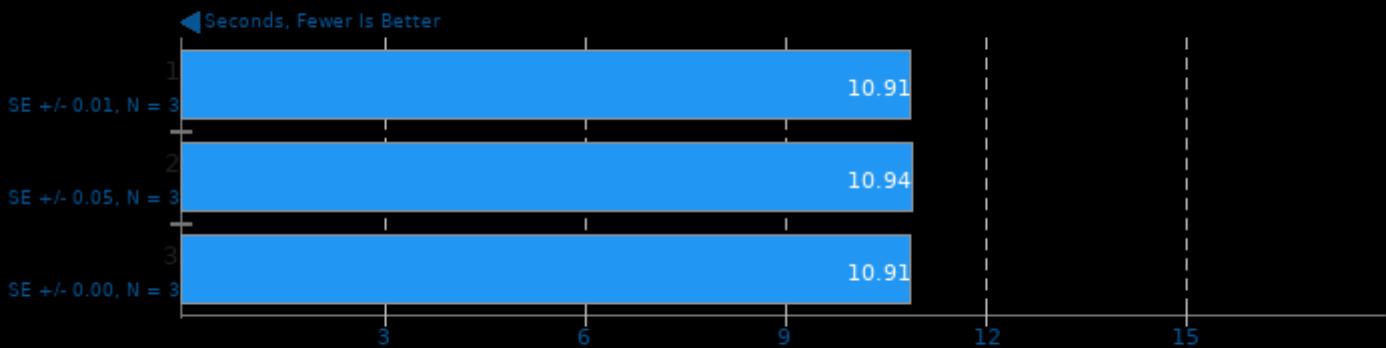
Target: CPU - Model: MobileNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -O3 -rdynamic -ldl

Basis Universal 1.12

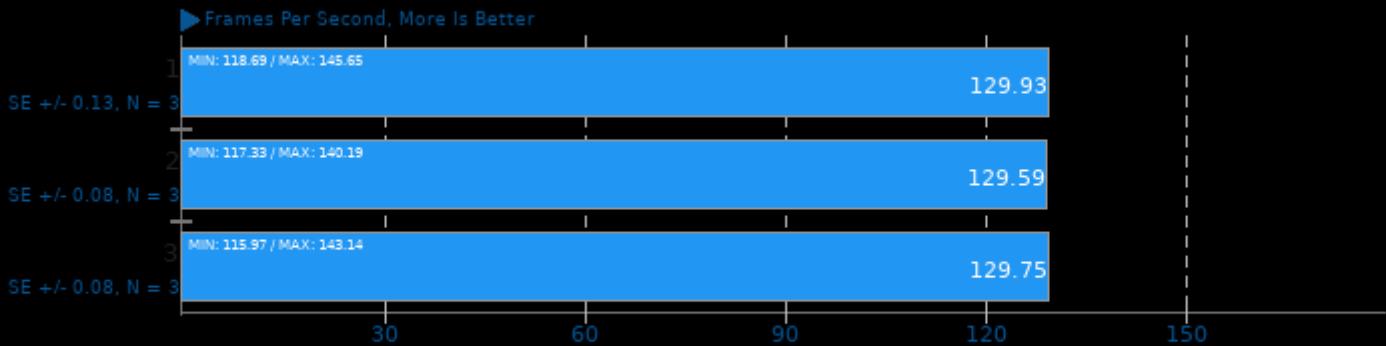
Settings: UASTC Level 0



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

DDrakeNetwork 15.2.3

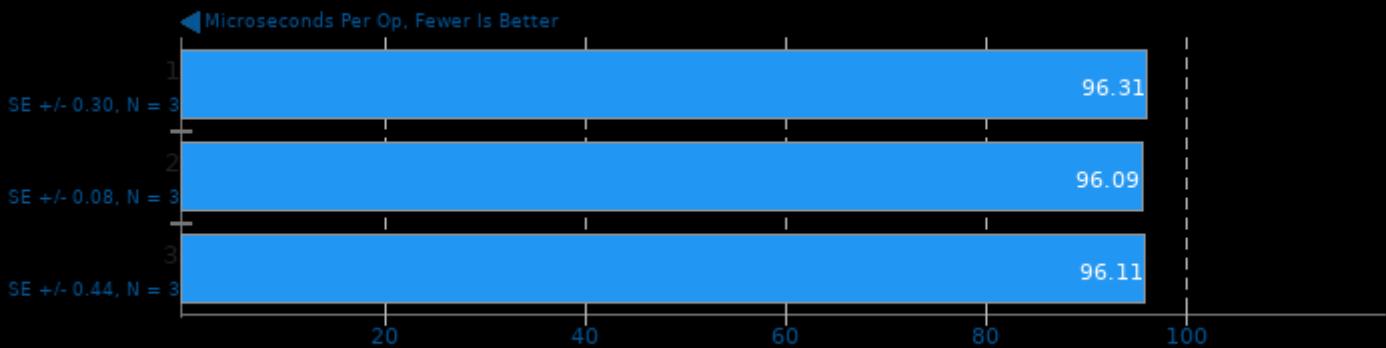
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

LevelDB 1.22

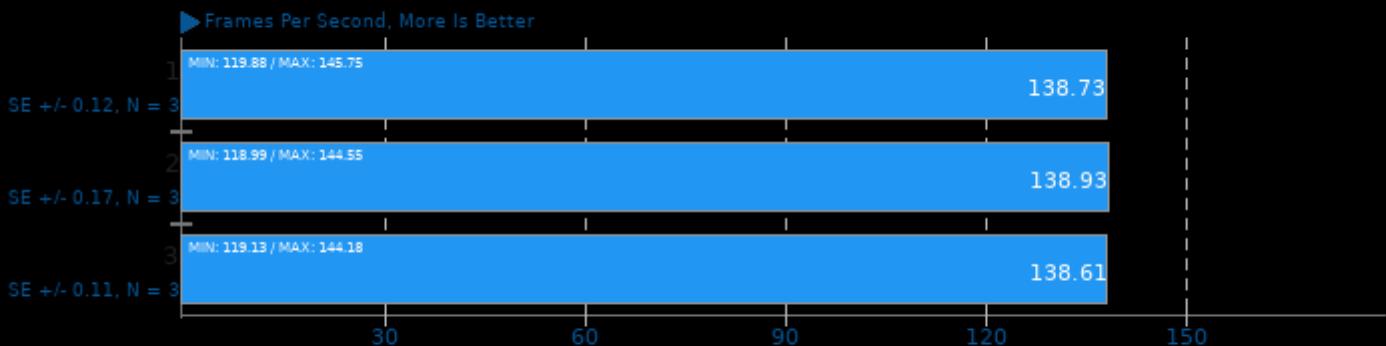
Benchmark: Sequential Fill



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

DDrakeNetwork 15.2.3

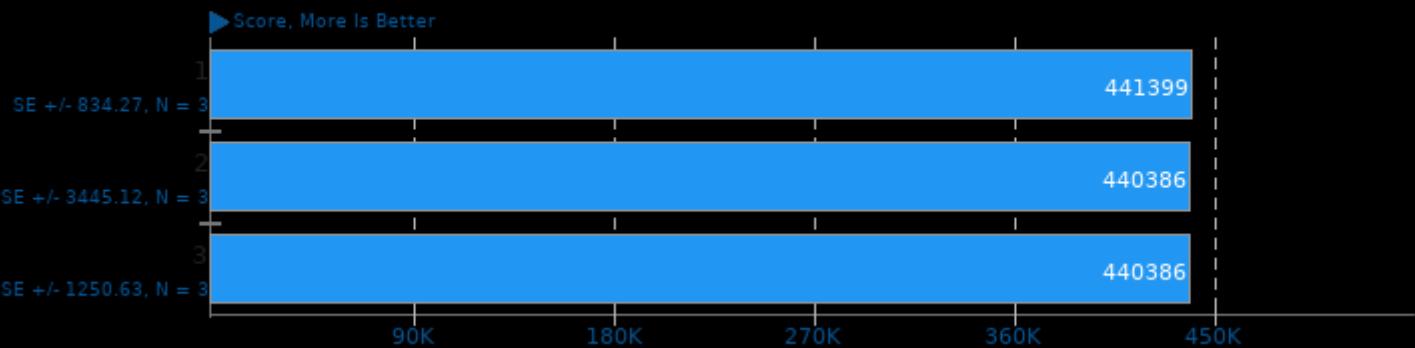
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

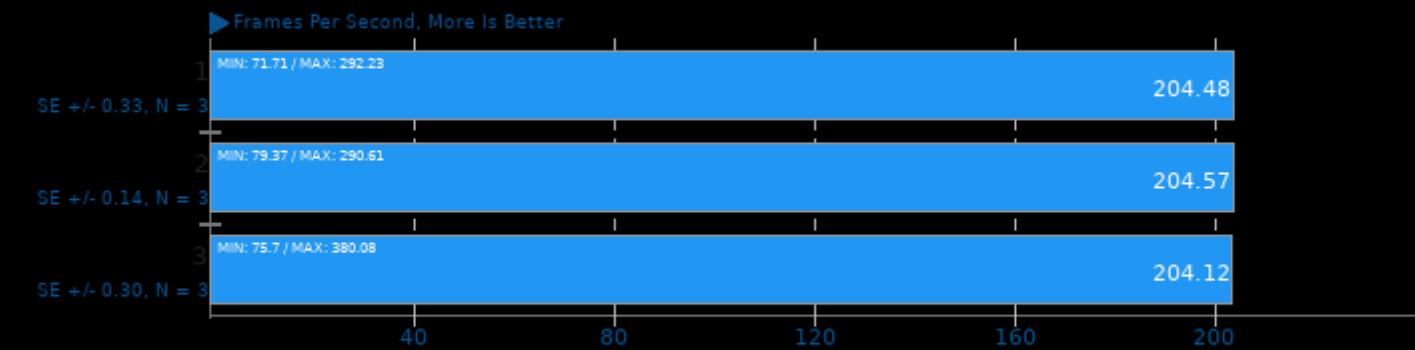
PHPBench 0.8.1

PHP Benchmark Suite



DDraceNetwork 15.2.3

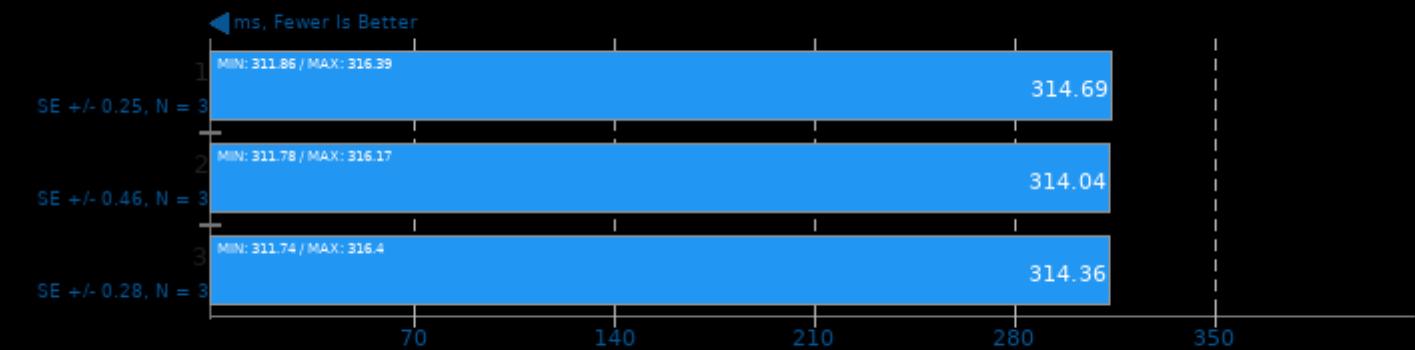
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -log -GL -X11 -notify -gdk_pixbuf-2.0 -

TNN 0.2.3

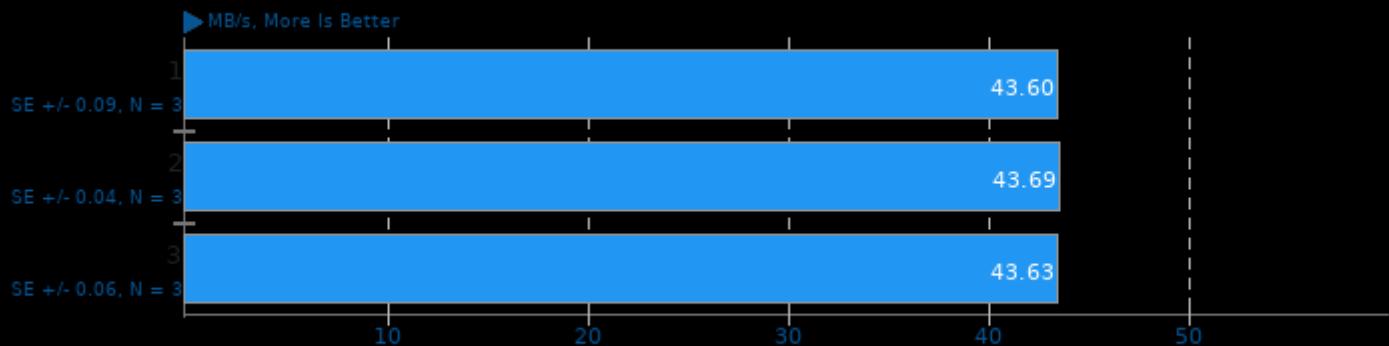
Target: CPU - Model: SqueezeNet v1.1



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -O3 -rdynamic -ldl

LZ4 Compression 1.9.3

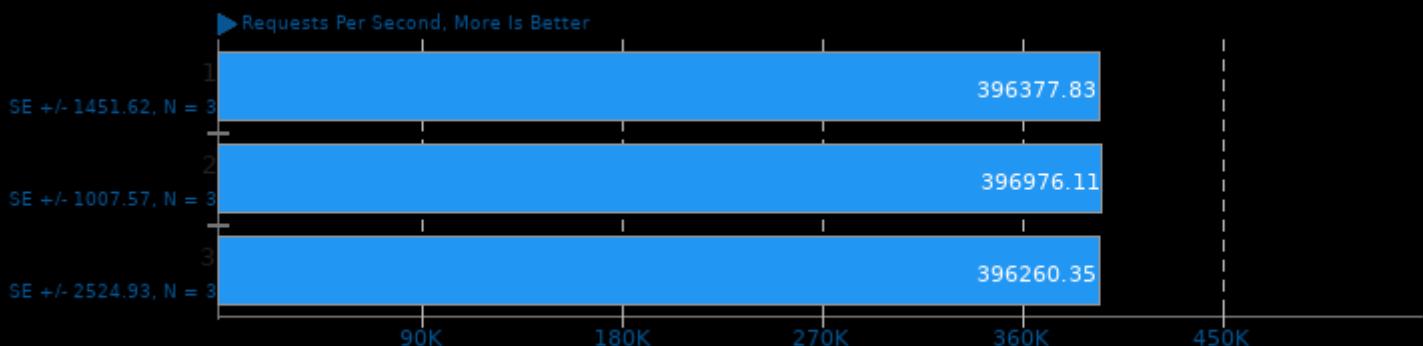
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

Redis 6.0.9

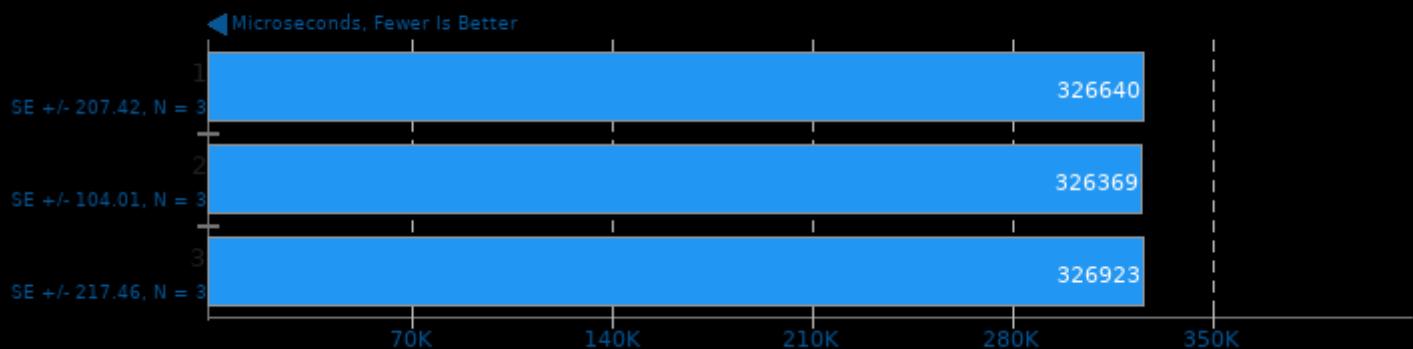
Test: SADD



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

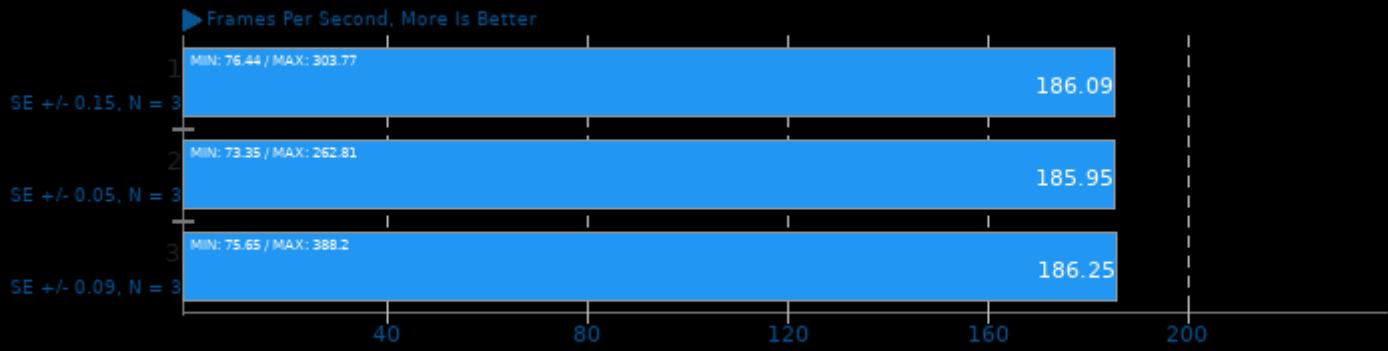
TensorFlow Lite 2020-08-23

Model: NASNet Mobile



DDrakeNetwork 15.2.3

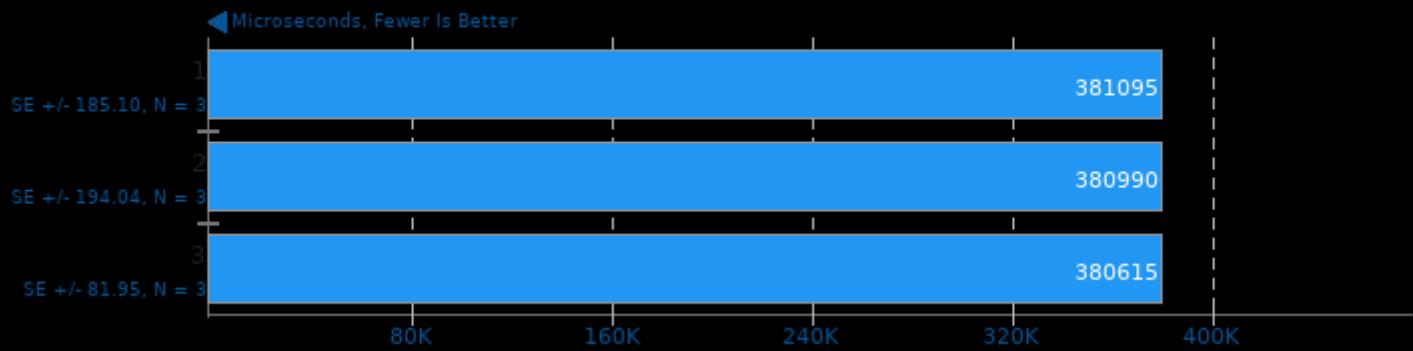
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

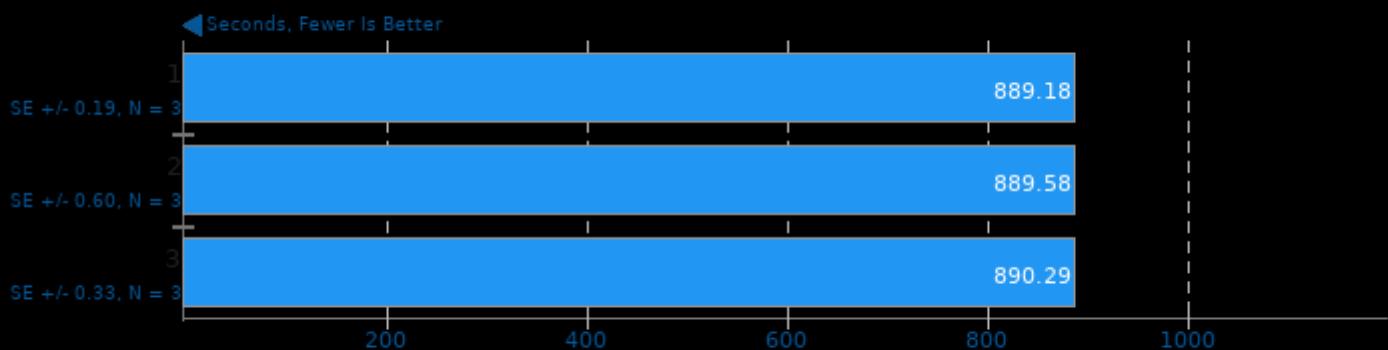
TensorFlow Lite 2020-08-23

Model: SqueezeNet



Basis Universal 1.12

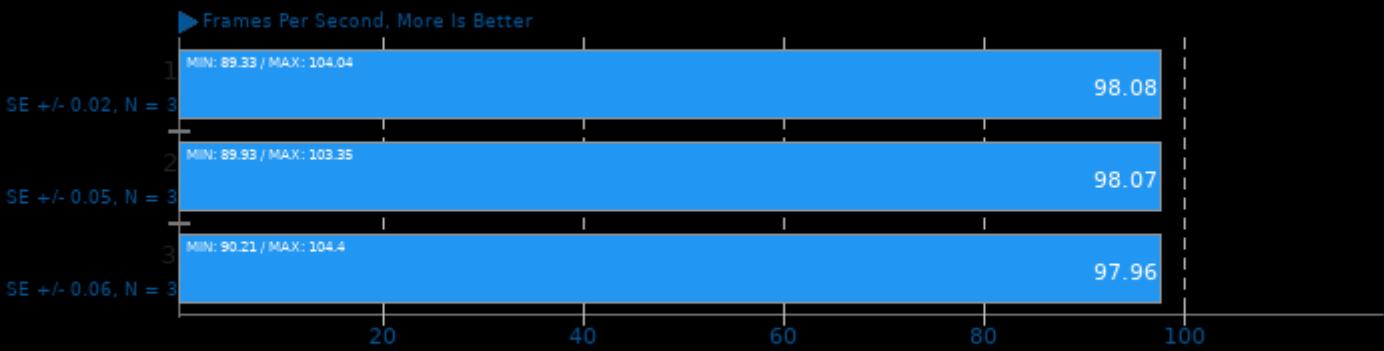
Settings: UASTC Level 2 + RDO Post-Processing



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

DDrakeNetwork 15.2.3

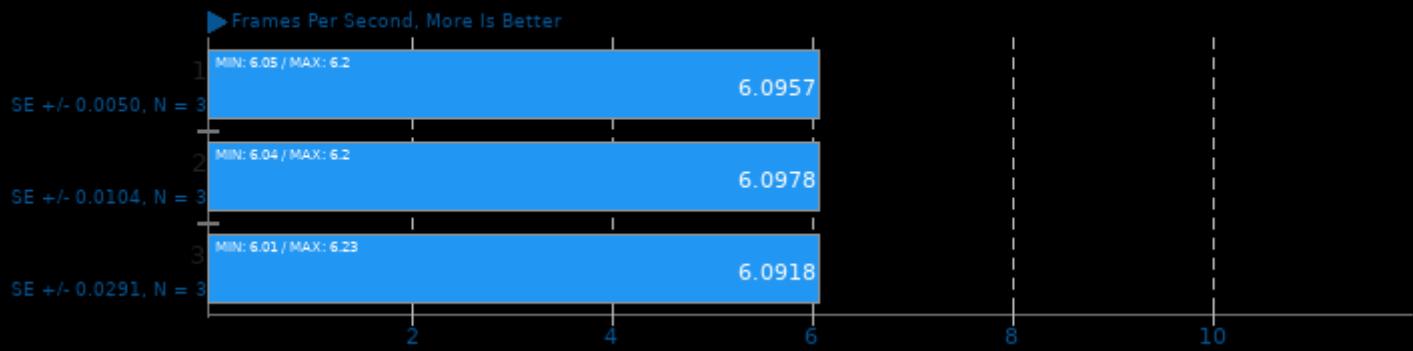
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -logg -GL -X11 -notify -gdk_pixbuf-2.0 -

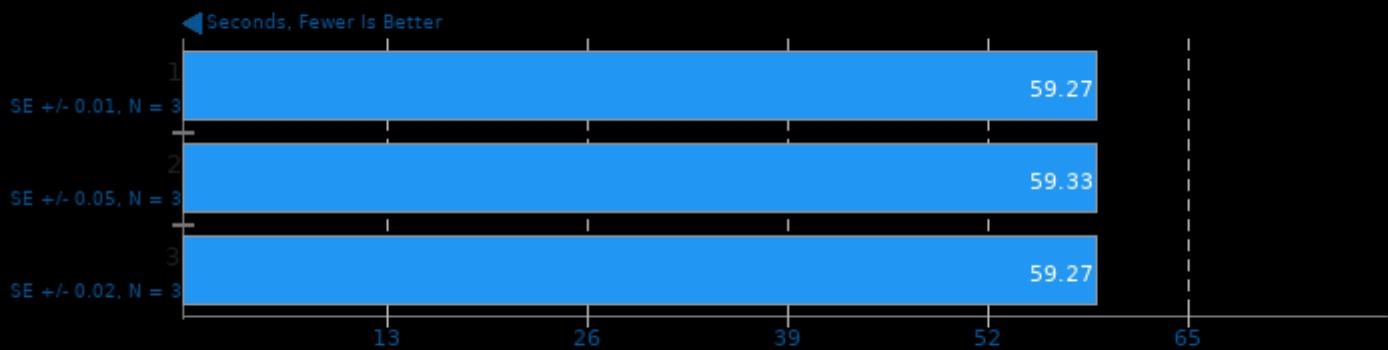
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Crown



Basis Universal 1.12

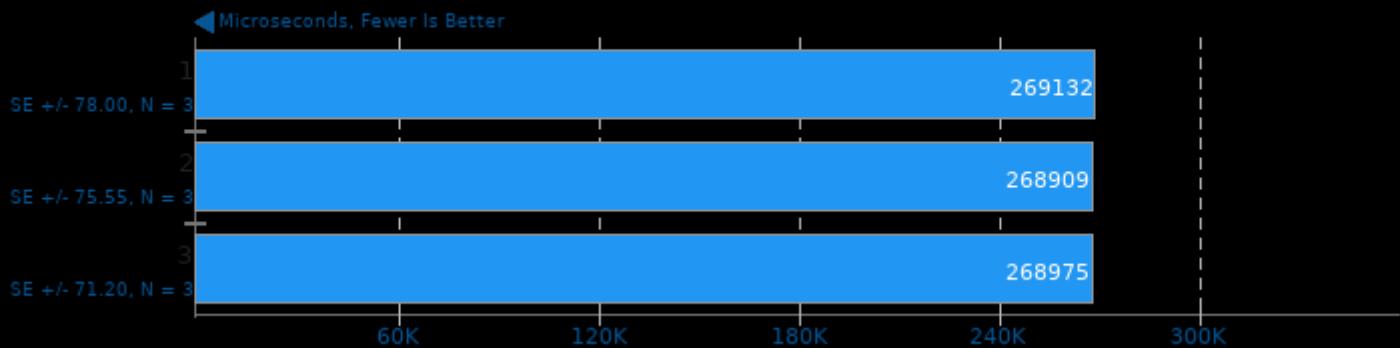
Settings: UASTC Level 2



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

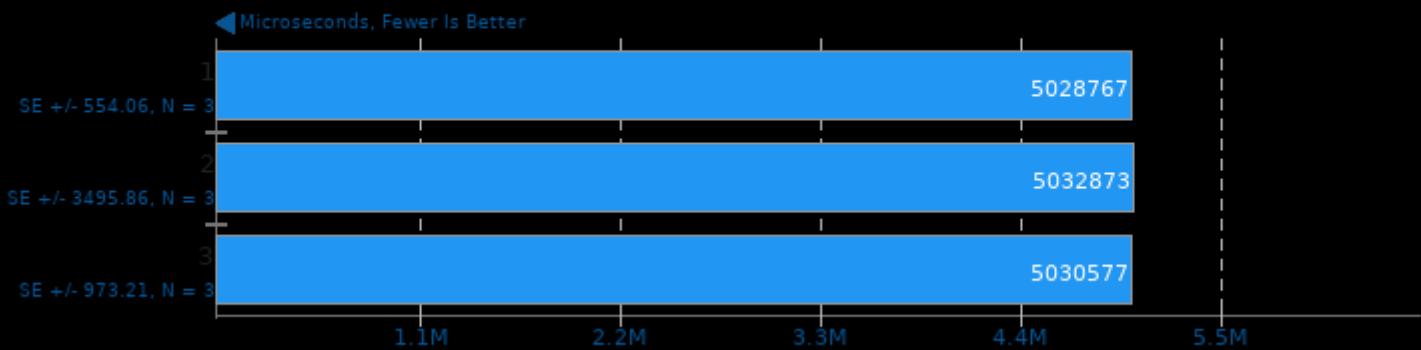
TensorFlow Lite 2020-08-23

Model: Mobilenet Quant



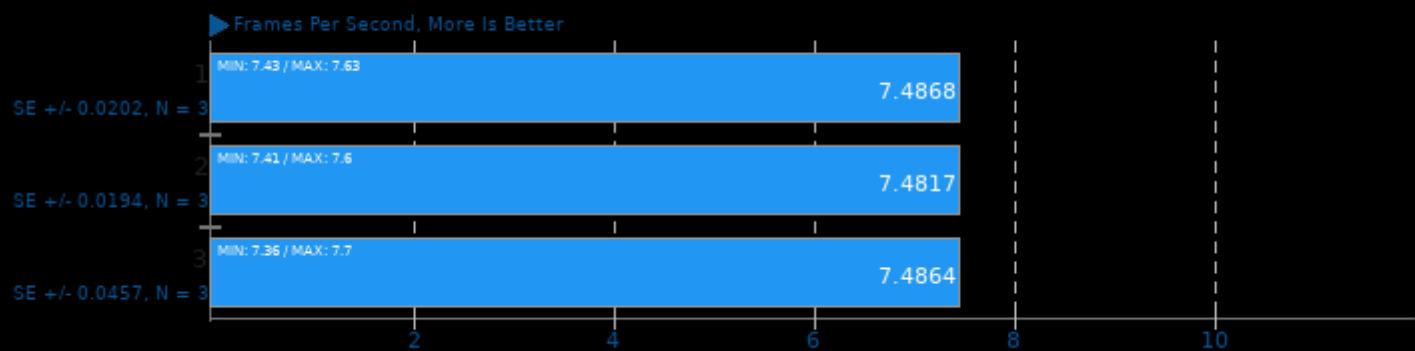
TensorFlow Lite 2020-08-23

Model: Inception ResNet V2



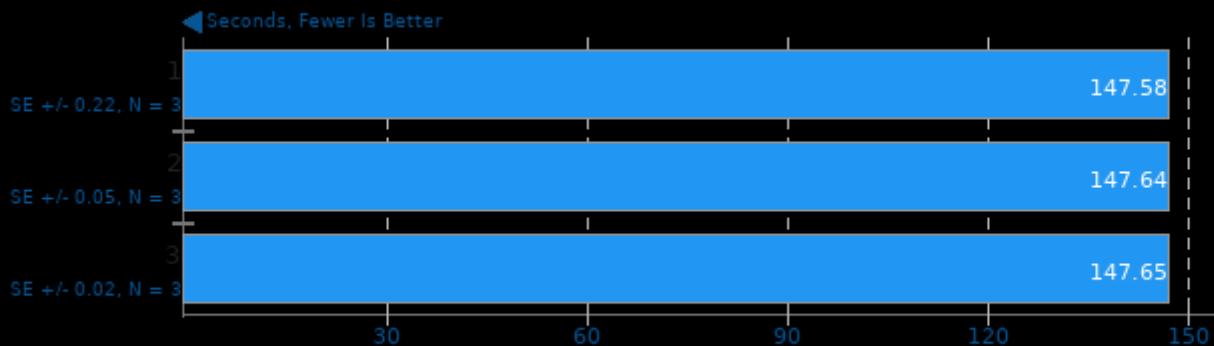
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon



Timed HMMer Search 3.3.1

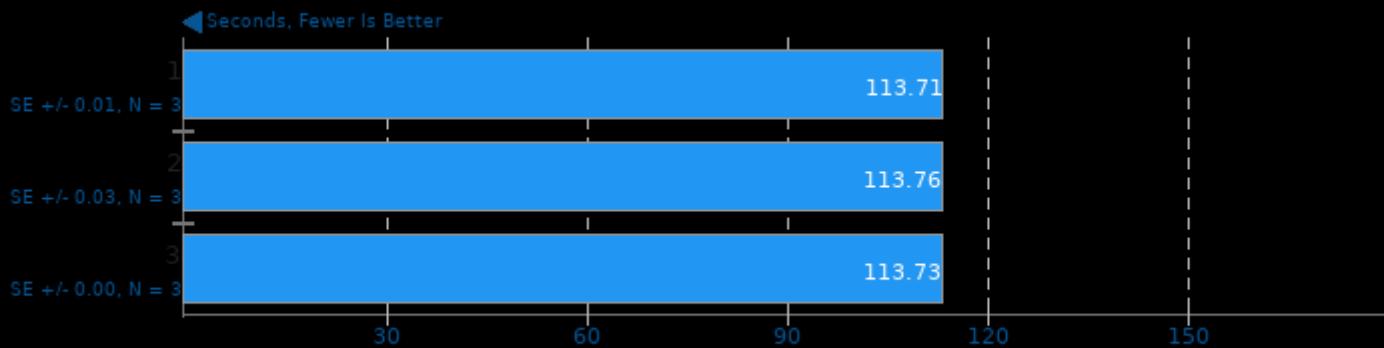
Pfam Database Search



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

Basis Universal 1.12

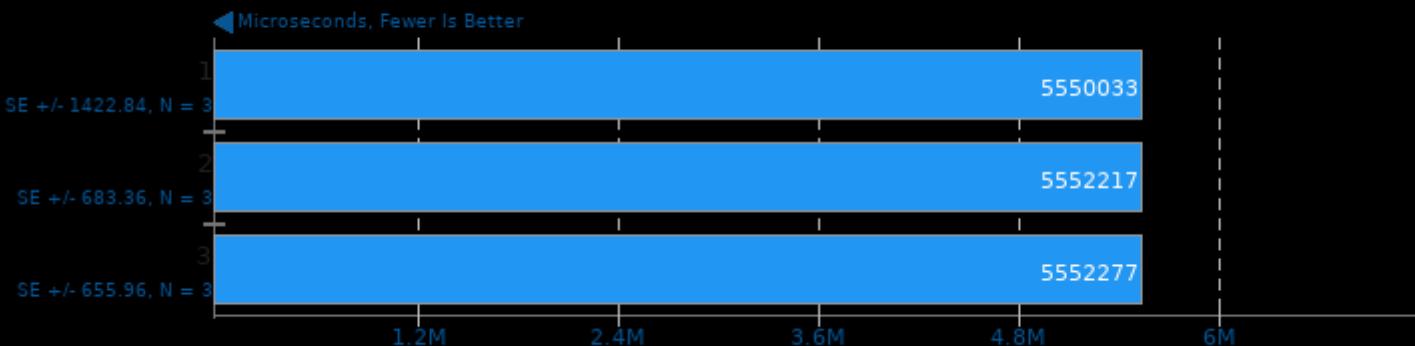
Settings: UASTC Level 3



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

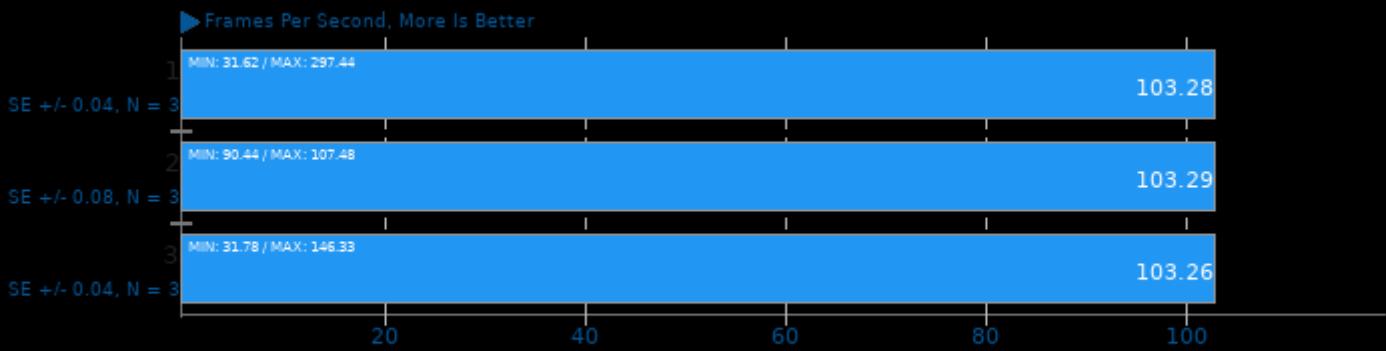
TensorFlow Lite 2020-08-23

Model: Inception V4



DDrakeNetwork 15.2.3

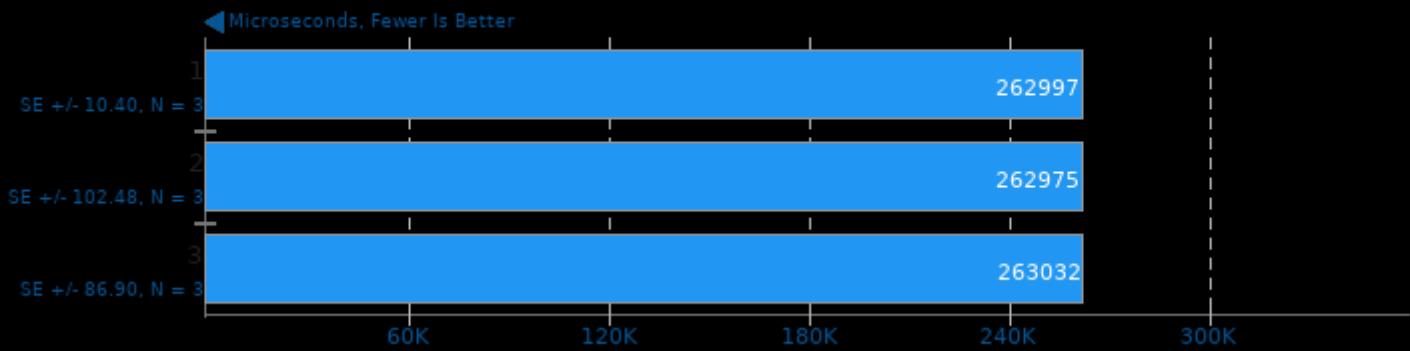
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -curl -freetype -SDL2 -wavpack -opusfile -opus -ogg -GL -X11 -notify -gdk_pixbuf-2.0 -

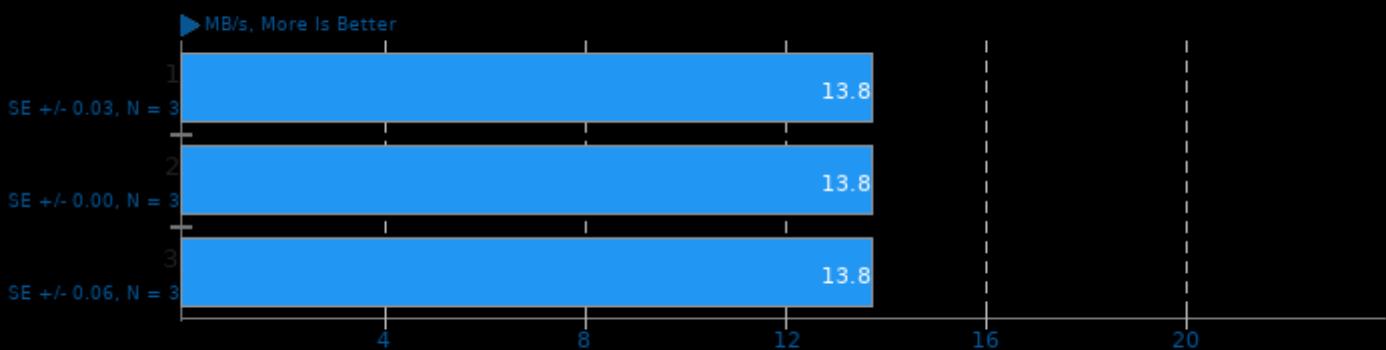
TensorFlow Lite 2020-08-23

Model: Mobilenet Float



LevelDB 1.22

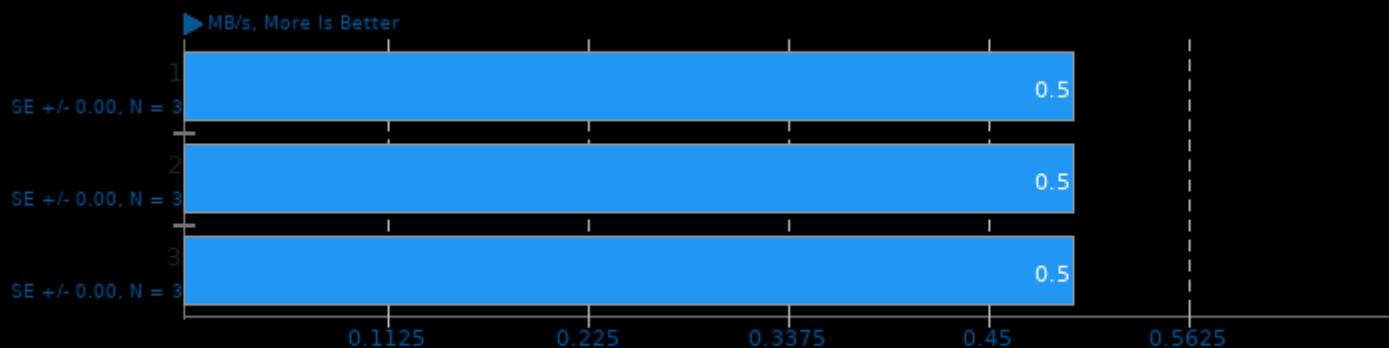
Benchmark: Sequential Fill



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

LevelDB 1.22

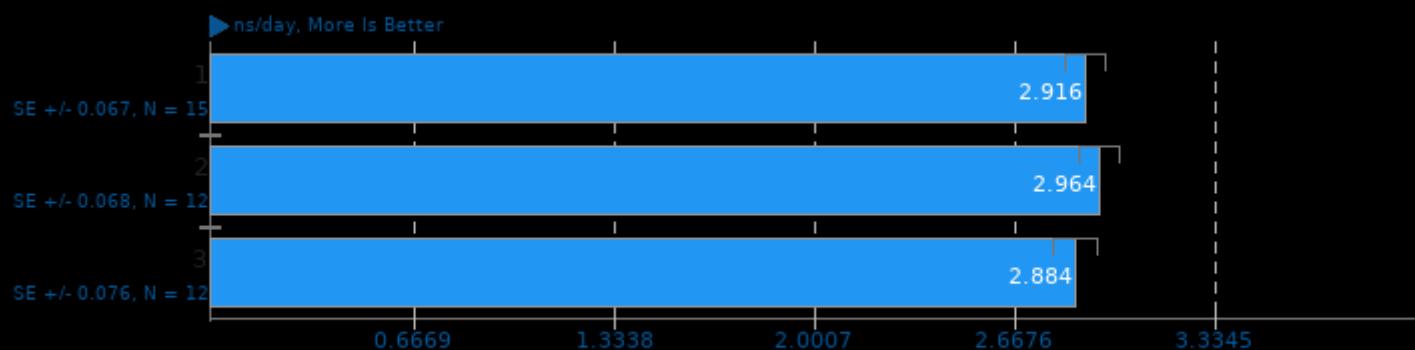
Benchmark: Fill Sync



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

LAMMPS Molecular Dynamics Simulator 29Oct2020

Model: Rhodopsin Protein

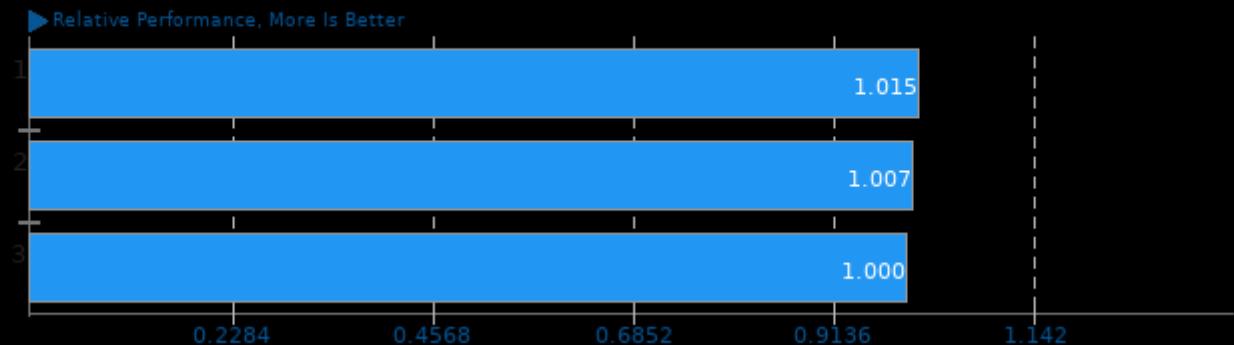


1. (CXX) g++ options: -O3 -lpthread -lm

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

Geometric Mean Of Chess Test Suite

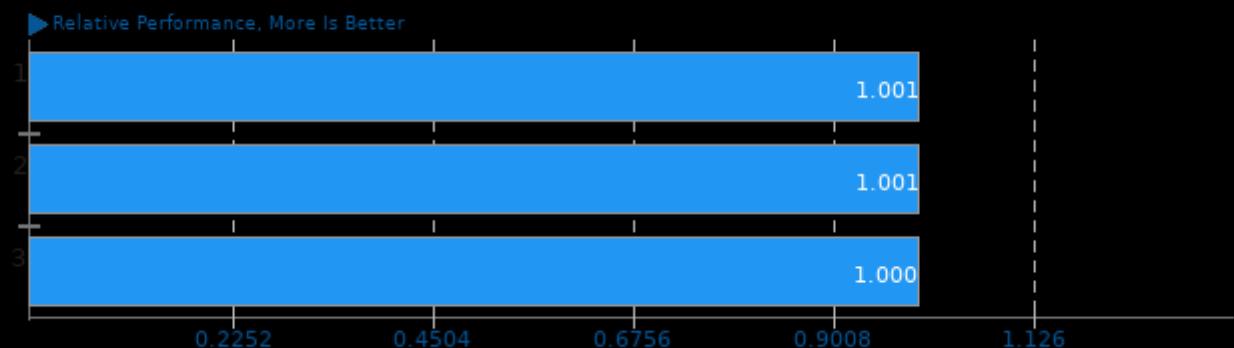
Result Composite - 4960X



Geometric mean based upon tests: pts/crafty, pts/stockfish and pts/asmfish

Geometric Mean Of C/C++ Compiler Tests

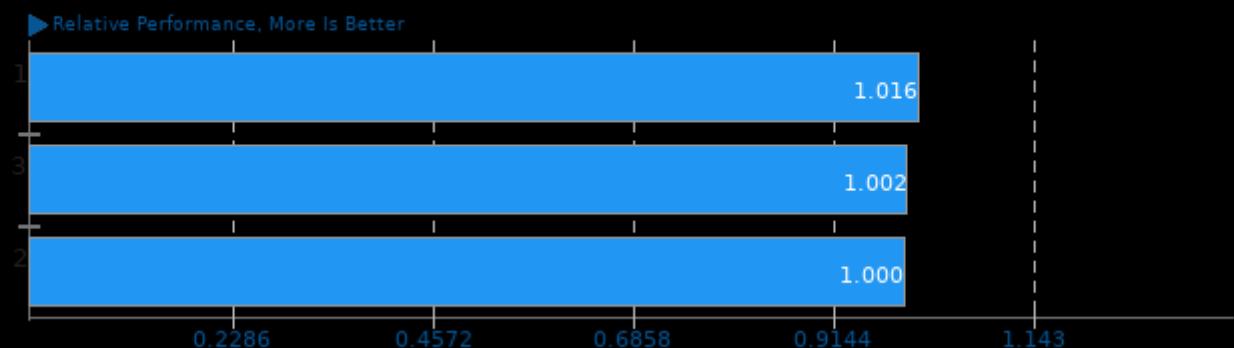
Result Composite - 4960X



Geometric mean based upon tests: pts/stockfish, pts/hmmer, pts/lammps, pts/gromacs, pts/leveldb and pts/basis

Geometric Mean Of CPU Massive Tests

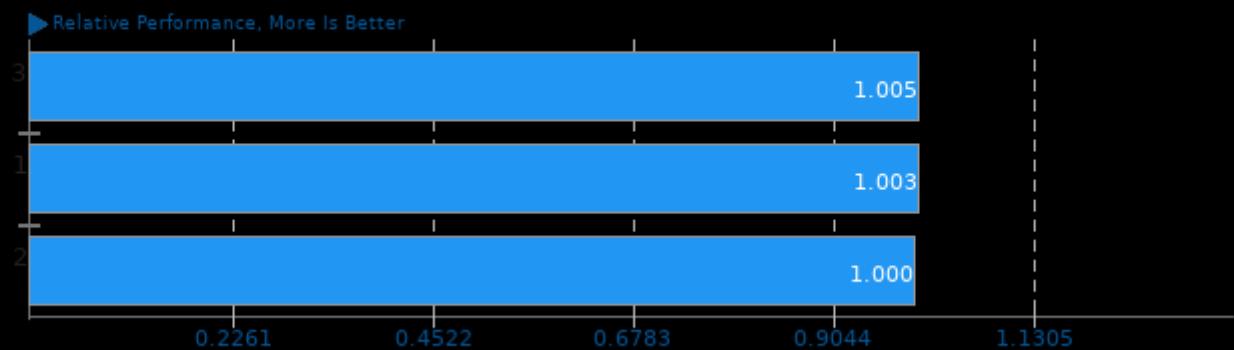
Result Composite - 4960X



Geometric mean based upon tests: pts/asmfish, pts/brl-cad, pts/crafty, pts/hmmer, pts/lammps, pts(numpy, pts/phpbench, pts/redis and pts/stockfish

Geometric Mean Of Creator Workloads Tests

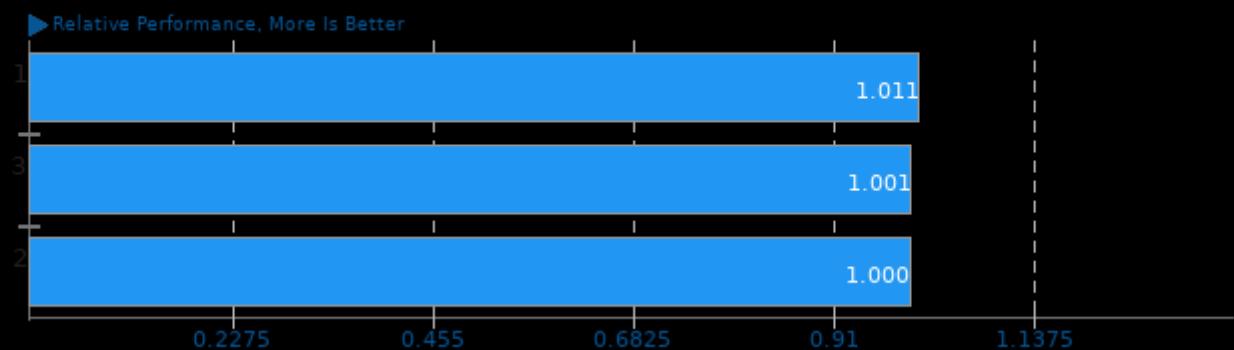
Result Composite - 4960X



Geometric mean based upon tests: pts/indigobench, pts/rav1e, pts/embree, pts/basis, pts/espeak and pts/brl-cad

Geometric Mean Of Database Test Suite

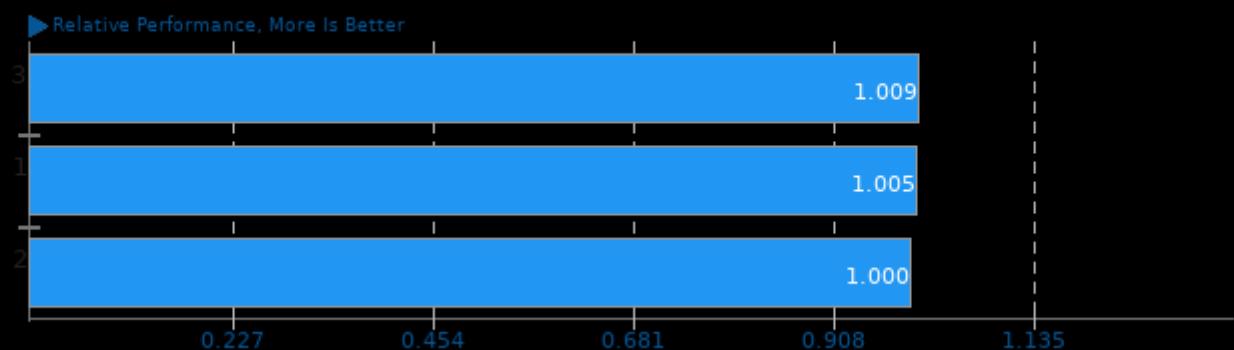
Result Composite - 4960X



Geometric mean based upon tests: pts/redis and pts/leveldb

Geometric Mean Of HPC - High Performance Computing Tests

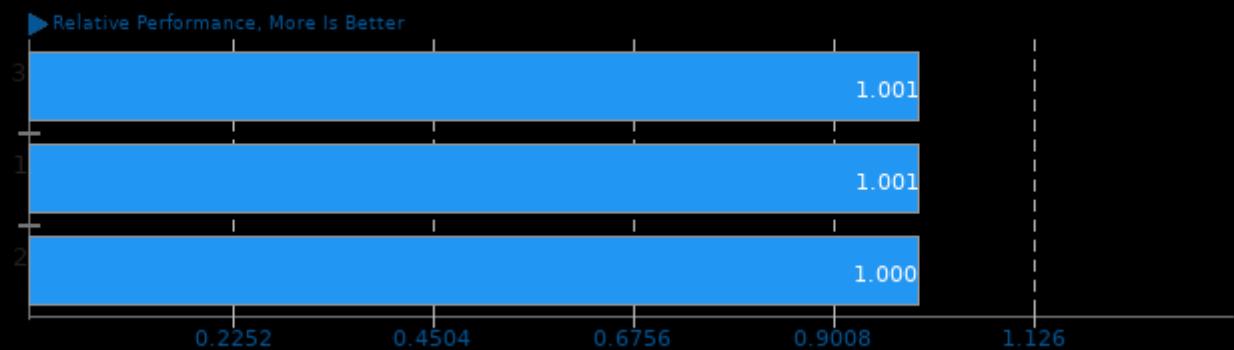
Result Composite - 4960X



Geometric mean based upon tests: pts/gromacs, pts/lammps, pts/hmmer, pts/ncnn, pts/tnn, pts(numpy and pts/tensorflow-lite

Geometric Mean Of Common Kernel Benchmarks Tests

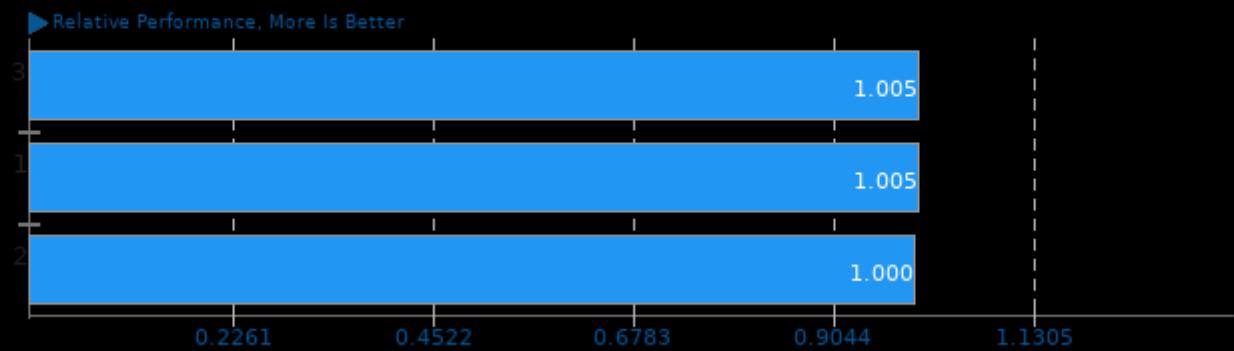
Result Composite - 4960X



Geometric mean based upon tests: system/wireguard and pts/leveldb

Geometric Mean Of Machine Learning Tests

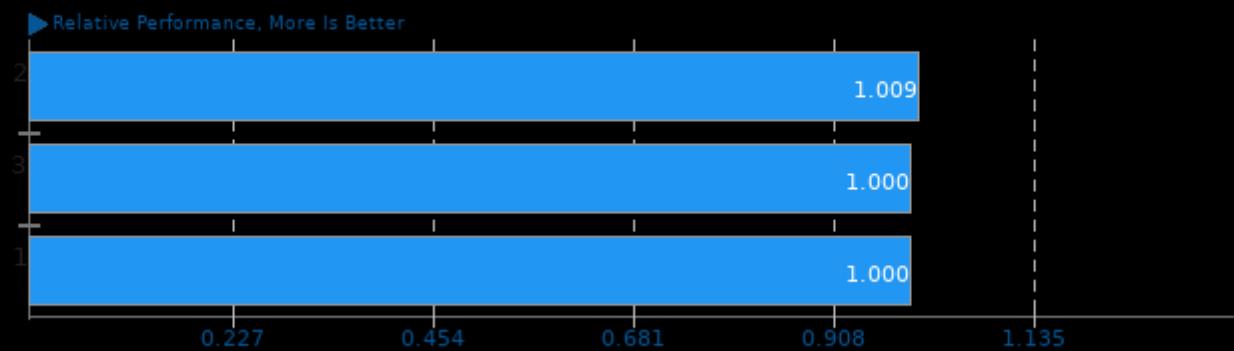
Result Composite - 4960X



Geometric mean based upon tests: pts/ncnn, pts/tnn, pts/numpy and pts/tensorflow-lite

Geometric Mean Of Molecular Dynamics Tests

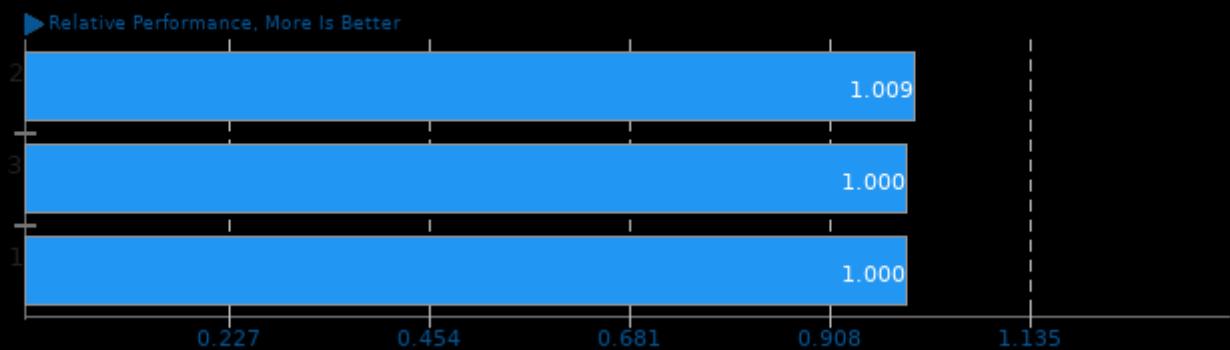
Result Composite - 4960X



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

Geometric Mean Of MPI Benchmarks Tests

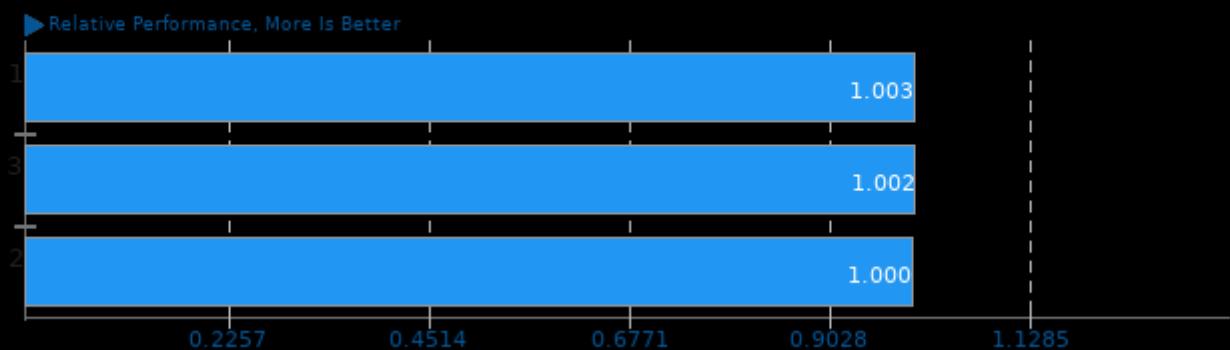
Result Composite - 4960X



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

Geometric Mean Of Multi-Core Tests

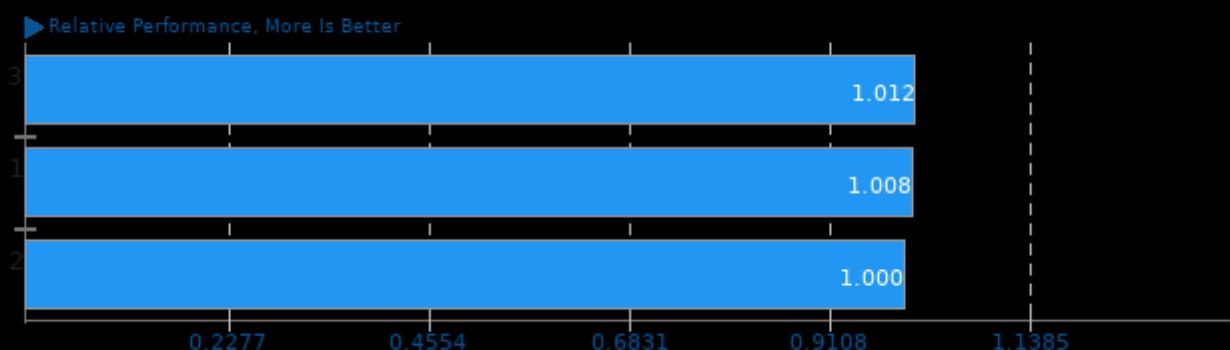
Result Composite - 4960X



Geometric mean based upon tests: pts/stockfish, pts/rav1e, pts/asmfish, pts/lammps, pts/gromacs, pts/indigobench and pts/embree

Geometric Mean Of NVIDIA GPU Compute Tests

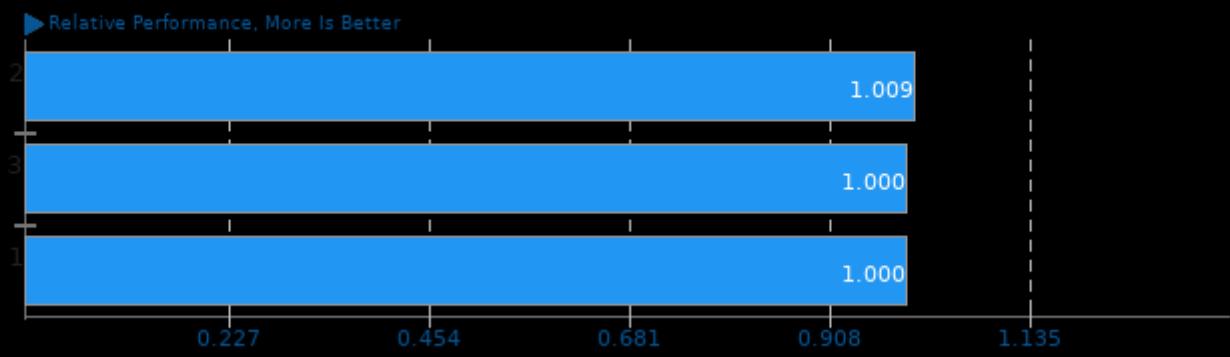
Result Composite - 4960X



Geometric mean based upon tests: pts/gromacs, pts/indigobench and pts/ncnn

Geometric Mean Of OpenMPI Tests

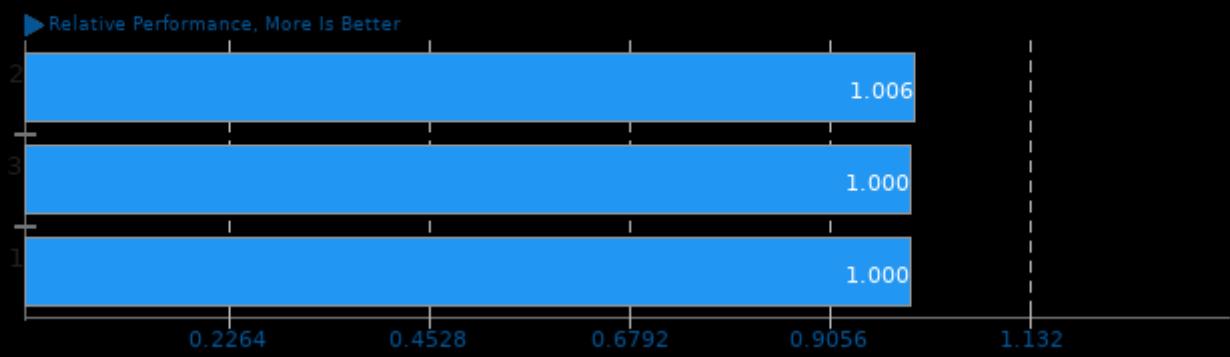
Result Composite - 4960X



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

Geometric Mean Of Scientific Computing Tests

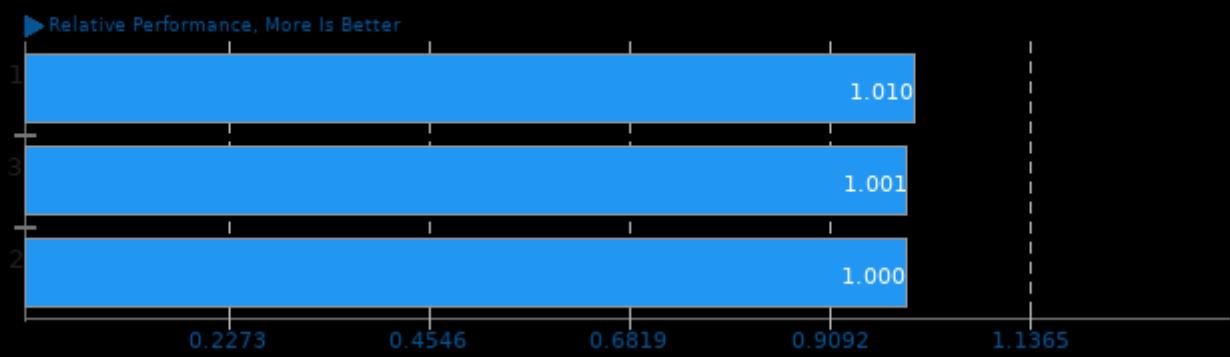
Result Composite - 4960X



Geometric mean based upon tests: pts/gromacs, pts/lammps and pts/hmmer

Geometric Mean Of Server Tests

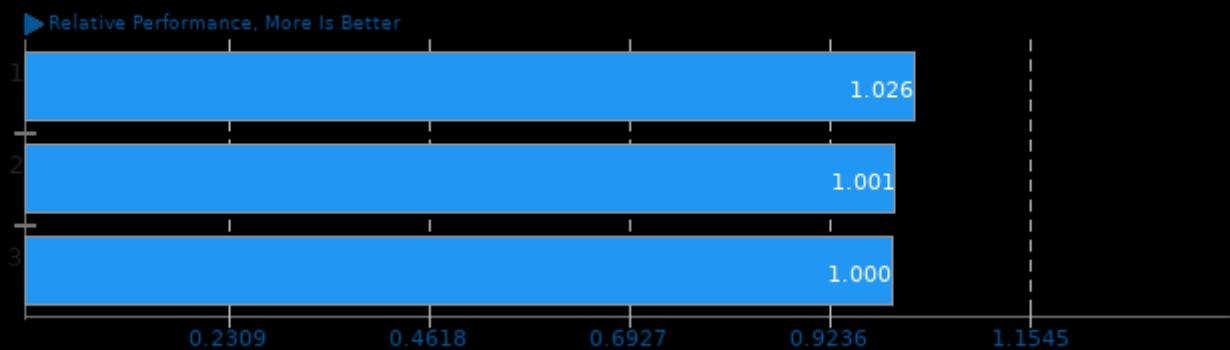
Result Composite - 4960X



Geometric mean based upon tests: pts/redis, pts/phpbench and pts/leveldb

Geometric Mean Of Server CPU Tests

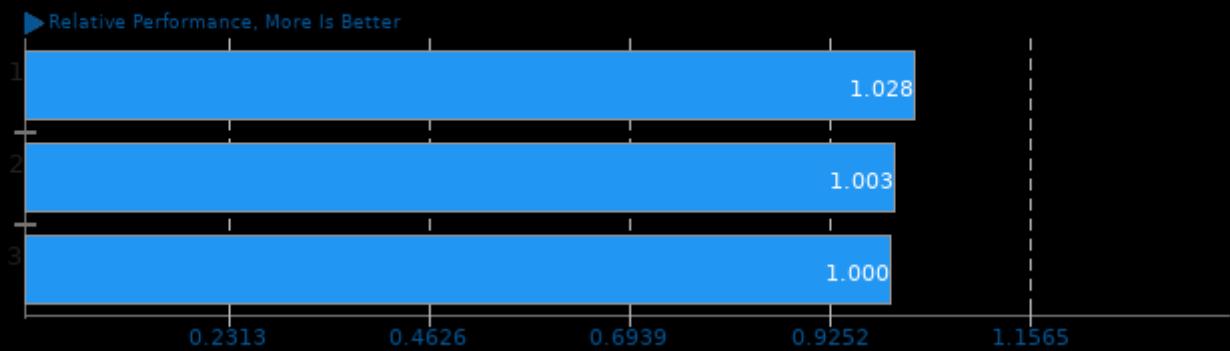
Result Composite - 4960X



Geometric mean based upon tests: pts/stockfish, pts/asmfish, pts/redis, pts/numpy and pts/phpbench

Geometric Mean Of Single-Threaded Tests

Result Composite - 4960X



Geometric mean based upon tests: pts/numpy, pts/espeak, pts/redis and pts/phpbench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 08:24.