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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
<b>LevelDB - Hot Read (us/Op)</b>	<b>6.279</b>	6.193	<b>6.179</b>
Normalized	98.41%	99.77%	100%
Standard Deviation	0.6%	2.1%	2.2%

<b>LevelDB - Fill Sync (MB/s)</b>	0.5	0.5	0.5
Standard Deviation	0%	0%	0%
<b>LevelDB - Fill Sync (us/Op)</b>	2580	<b>2590</b>	<b>2567</b>
Normalized	99.48%	99.1%	100%
Standard Deviation	0.5%	0.3%	1.6%
<b>LevelDB - Overwrite (MB/s)</b>	<b>14.1</b>	<b>14.2</b>	<b>14.2</b>
Normalized	99.3%	100%	100%
Standard Deviation	1.1%	0.8%	0%
<b>LevelDB - Overwrite (us/Op)</b>	<b>93.691</b>	<b>93.308</b>	93.369
Normalized	99.59%	100%	99.93%
Standard Deviation	1.1%	0.5%	0.2%
<b>LevelDB - Rand Fill (MB/s)</b>	<b>14.3</b>	<b>14.2</b>	<b>14.2</b>
Normalized	100%	99.3%	99.3%
Standard Deviation	0.7%	0%	0%
<b>LevelDB - Rand Fill (us/Op)</b>	<b>92.849</b>	<b>93.310</b>	93.261
Normalized	100%	99.51%	99.56%
Standard Deviation	0.4%	0.1%	0%
<b>LevelDB - Rand Read (us/Op)</b>	<b>6.194</b>	<b>6.215</b>	6.197
Normalized	100%	99.66%	99.95%
Standard Deviation	2.3%	1.8%	2.2%
<b>LevelDB - Seek Rand (us/Op)</b>	<b>8.570</b>	8.588	<b>8.671</b>
Normalized	100%	99.79%	98.84%
Standard Deviation	1.3%	2.8%	2.8%
<b>LevelDB - Rand Delete (us/Op)</b>	<b>93.337</b>	<b>93.795</b>	93.465
Normalized	100%	99.51%	99.86%
Standard Deviation	0.5%	0.1%	0.8%
<b>LevelDB - Seq Fill (MB/s)</b>	13.8	13.8	13.8
Standard Deviation	0.4%	0%	0.7%
<b>LevelDB - Seq Fill (us/Op)</b>	<b>96.311</b>	<b>96.087</b>	96.106
Normalized	99.77%	100%	99.98%
Standard Deviation	0.5%	0.1%	0.8%
<b>DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)</b>	103.28	<b>103.29</b>	<b>103.26</b>
Normalized	99.99%	100%	99.97%
Standard Deviation	0.1%	0.1%	0.1%
<b>DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)</b>	<b>223.91</b>	<b>231.61</b>	228.36
Normalized	96.68%	100%	98.6%
Standard Deviation	0.8%	0.6%	1.2%
<b>DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Zoomed out - RaiNyMore2</b>	<b>129.93</b>	<b>129.59</b>	129.75
Normalized	100%	99.74%	99.86%
Standard Deviation	0.2%	0.1%	0.1%
<b>DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Zoomed out - Multeasymap</b>	186.09	<b>185.95</b>	<b>186.25</b>
Normalized	99.91%	99.84%	100%
Standard Deviation	0.1%	0%	0.1%
<b>DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Zoomed out - RaiNyMore2</b>	138.73	<b>138.93</b>	<b>138.61</b>
Normalized	99.86%	100%	99.77%
Standard Deviation	0.1%	0.2%	0.1%
<b>DDraceNetwork - 1920 x 1080 - Fullscreen - OpenGL 3.3 - Zoomed out - Multeasymap</b>	204.48	<b>204.57</b>	<b>204.12</b>
Normalized	99.96%	100%	99.78%

	Standard Deviation	0.3%	0.1%	0.3%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Default - RaiNyMore2 (FPS)	Normalized	98.08	98.07	97.96
	Standard Deviation	0%	0.1%	0.1%
DDraceNetwork - 1920 x 1080 - Windowed - OpenGL 3.3 - Default - Multeasymap (FPS)	Normalized	100%	99.99%	99.88%
	Standard Deviation	0%	0.1%	0.1%
yquake2 - OpenGL 1.x - 1920 x 1080 (FPS)	Normalized	219.63	225.34	221.31
	Standard Deviation	0.1%	1.2%	0.6%
yquake2 - OpenGL 3.x - 1920 x 1080 (FPS)	Normalized	424.7	421.7	426.1
	Standard Deviation	2.9%	3%	2.5%
yquake2 - Software CPU - 1920 x 1080 (FPS)	Normalized	242.0	242.4	241.2
	Standard Deviation	0.3%	0.2%	0.5%
WireGuard + Linux Networking Stack Stress Test (sec)	Normalized	93.9	93.1	93.0
	Standard Deviation	100%	99.15%	99.04%
	Standard Deviation	0.2%	0.4%	0.4%
Timed HMMer Search - P.D.S (sec)	Normalized	366.948	371.305	367.106
	Standard Deviation	100%	98.83%	99.96%
	Standard Deviation	0.4%	0.4%	0.8%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	Normalized	147.576	147.642	147.652
	Standard Deviation	100%	99.96%	99.95%
	Standard Deviation	0.3%	0.1%	0%
LZ4 Compression - 1 - Compression Speed (MB/s)	Normalized	2.916	2.964	2.884
	Standard Deviation	98.38%	100%	97.3%
	Standard Deviation	8.9%	8%	9.1%
LZ4 Compression - 1 - D.S (MB/s)	Normalized	4217	4306	4243
	Standard Deviation	97.92%	100%	98.54%
	Standard Deviation	0.5%	1.4%	0.4%
LZ4 Compression - 3 - Compression Speed (MB/s)	Normalized	4950	4968	4951
	Standard Deviation	99.64%	100%	99.66%
	Standard Deviation	0.9%	0.8%	1.2%
LZ4 Compression - 3 - D.S (MB/s)	Normalized	43.60	43.69	43.63
	Standard Deviation	99.79%	100%	99.86%
	Standard Deviation	0.4%	0.1%	0.2%
LZ4 Compression - 3 - D.S (MB/s)	Normalized	4876	4943	4946
	Standard Deviation	98.58%	99.95%	100%
	Standard Deviation	0.2%	0.4%	0.4%
LZ4 Compression - 9 - Compression Speed (MB/s)	Normalized	42.54	42.63	42.69
	Standard Deviation	99.65%	99.86%	100%
	Standard Deviation	1.1%	0.6%	0.1%
LZ4 Compression - 9 - D.S (MB/s)	Normalized	4886	4945	4957
	Standard Deviation	98.57%	99.76%	100%
	Standard Deviation	0.2%	0.6%	0.2%
Crafty - Elapsed Time (Nodes/s)	Normalized	6779968	6787365	6757521
	Standard Deviation	99.89%	100%	99.56%
	Standard Deviation	0.1%	0.3%	0.1%
Embree - Pathtracer - Crown (FPS)	Normalized	5.6061	5.6232	5.6388
	Standard Deviation	99.99%	100%	99.99%
	Standard Deviation	0%	0.01%	0%

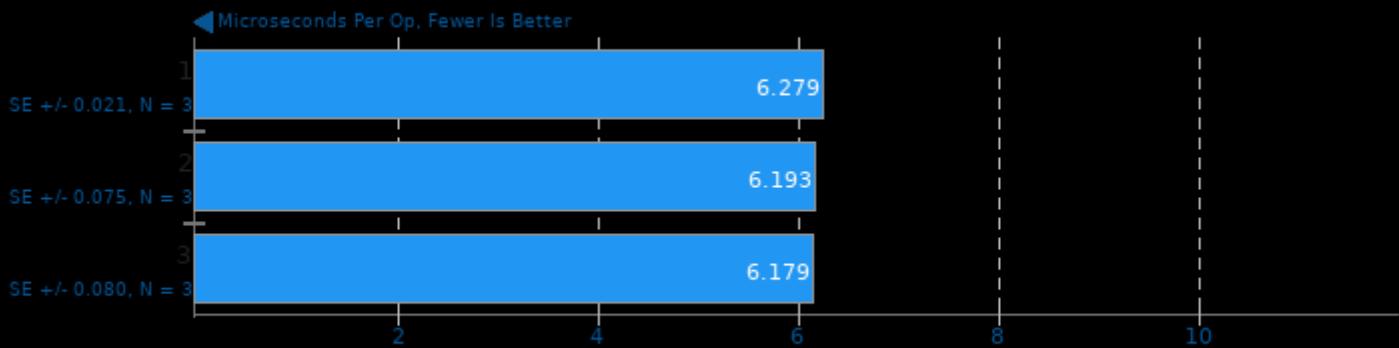
	Normalized	99.42%	99.72%	100%
	Standard Deviation	0.3%	0.3%	0.3%
<b>Embree - Pathtracer ISPC - Crown (FPS)</b>	<b>6.0957</b>	<b>6.0978</b>	<b>6.0918</b>	
	Normalized	99.97%	100%	99.9%
	Standard Deviation	0.1%	0.3%	0.8%
<b>Embree - Pathtracer - Asian Dragon (FPS)</b>	<b>6.5768</b>	<b>6.5102</b>	<b>6.6198</b>	
	Normalized	99.35%	98.34%	100%
	Standard Deviation	0.8%	0.5%	0.3%
<b>Embree - Pathtracer - Asian Dragon Obj</b>	<b>6.0371</b>	<b>6.1038</b>	<b>6.1150</b>	
	Normalized	98.73%	99.82%	100%
	Standard Deviation	2.4%	0.3%	0.2%
<b>Embree - Pathtracer ISPC - Asian Dragon (FPS)</b>	<b>7.4868</b>	<b>7.4817</b>	<b>7.4864</b>	
	Normalized	100%	99.93%	99.99%
	Standard Deviation	0.5%	0.4%	1.1%
<b>Embree - Pathtracer ISPC - Asian Dragon Obj</b>	<b>6.7138</b>	<b>6.6441</b>	<b>6.7235</b>	
	Normalized	99.86%	98.82%	100%
	Standard Deviation	0.3%	1.6%	0.3%
<b>rav1e - 1 (FPS)</b>	<b>0.181</b>	<b>0.179</b>	<b>0.181</b>	
	Normalized	100%	98.9%	100%
	Standard Deviation	0%	0.3%	0.3%
<b>rav1e - 5 (FPS)</b>	<b>0.483</b>	<b>0.479</b>	<b>0.485</b>	
	Normalized	99.59%	98.76%	100%
	Standard Deviation	0.1%	0.4%	0.1%
<b>rav1e - 6 (FPS)</b>	<b>0.611</b>	<b>0.603</b>	<b>0.610</b>	
	Normalized	100%	98.69%	99.84%
	Standard Deviation	0.3%	0.2%	0.5%
<b>rav1e - 10 (FPS)</b>	<b>1.664</b>	<b>1.649</b>	<b>1.663</b>	
	Normalized	100%	99.1%	99.94%
	Standard Deviation	0.4%	0.4%	0.3%
<b>Stockfish - Total Time (Nodes/s)</b>	<b>10203799</b>	<b>9981063</b>	<b>9936208</b>	
	Normalized	100%	97.82%	97.38%
	Standard Deviation	2.4%	3%	1.2%
<b>asmFish - 1.H.M.2.D (Nodes/s)</b>	<b>15716675</b>	<b>15669061</b>	<b>15478632</b>	
	Normalized	100%	99.7%	98.49%
	Standard Deviation	1.7%	2.3%	0.4%
<b>Numpy Benchmark (Score)</b>	<b>219.91</b>	<b>218.66</b>	<b>218.99</b>	
	Normalized	100%	99.43%	99.58%
	Standard Deviation	0.3%	1.7%	0.1%
<b>eSpeak-NG Speech Engine - T.T.S (sec)</b>	<b>38.640</b>	<b>38.740</b>	<b>39.962</b>	
	Normalized	100%	99.74%	96.69%
	Standard Deviation	2.8%	2.3%	2.9%
<b>GROMACS - Water Benchmark (Ns/Day)</b>	<b>0.350</b>	<b>0.350</b>	<b>0.354</b>	
	Normalized	98.87%	98.87%	100%
	Standard Deviation	0.8%	0.6%	0.6%
<b>TensorFlow Lite - SqueezeNet (us)</b>	<b>381095</b>	<b>380990</b>	<b>380615</b>	
	Normalized	99.87%	99.9%	100%
	Standard Deviation	0.1%	0.1%	0%
<b>TensorFlow Lite - Inception V4 (us)</b>	<b>5550033</b>	<b>5552217</b>	<b>5552277</b>	
	Normalized	100%	99.96%	99.96%
	Standard Deviation	0%	0%	0%
<b>TensorFlow Lite - NASNet Mobile (us)</b>	<b>326640</b>	<b>326369</b>	<b>326923</b>	
	Normalized	99.92%	100%	99.83%
	Standard Deviation	0.1%	0.1%	0.1%

<b>TensorFlow Lite - Mobilenet Float (us)</b>	262997	<b>262975</b>	<b>263032</b>
Normalized	99.99%	100%	99.98%
Standard Deviation	0%	0.1%	0.1%
<b>TensorFlow Lite - Mobilenet Quant (us)</b>	<b>269132</b>	<b>268909</b>	268975
Normalized	99.92%	100%	99.98%
Standard Deviation	0.1%	0%	0%
<b>TensorFlow Lite - I.R.V (us)</b>	<b>5028767</b>	<b>5032873</b>	5030577
Normalized	100%	99.92%	99.96%
Standard Deviation	0%	0.1%	0%
<b>Basis Universal - ETC1S (sec)</b>	73.384	<b>73.311</b>	<b>73.578</b>
Normalized	99.9%	100%	99.64%
Standard Deviation	0.6%	0.1%	1%
<b>Basis Universal - UASTC Level 0 (sec)</b>	<b>10.911</b>	<b>10.940</b>	<b>10.911</b>
Normalized	100%	99.73%	100%
Standard Deviation	0.2%	0.7%	0.1%
<b>Basis Universal - UASTC Level 2 (sec)</b>	59.272	<b>59.327</b>	<b>59.270</b>
Normalized	100%	99.9%	100%
Standard Deviation	0%	0.2%	0.1%
<b>Basis Universal - UASTC Level 3 (sec)</b>	<b>113.707</b>	<b>113.755</b>	113.725
Normalized	100%	99.96%	99.98%
Standard Deviation	0%	0.1%	0%
<b>Basis Universal - U.L.2.R.P.P (sec)</b>	<b>889.180</b>	889.577	<b>890.288</b>
Normalized	100%	99.96%	99.88%
Standard Deviation	0%	0.1%	0.1%
<b>Redis - LPOP (Reqs/sec)</b>	<b>415823</b>	356128	<b>355007</b>
Normalized	100%	85.64%	85.37%
Standard Deviation	1.3%	0.8%	1.3%
<b>Redis - SADD (Reqs/sec)</b>	396378	<b>396976</b>	<b>396260</b>
Normalized	99.85%	100%	99.82%
Standard Deviation	0.6%	0.4%	1.1%
<b>Redis - LPUSH (Reqs/sec)</b>	<b>351754</b>	350430	<b>346422</b>
Normalized	100%	99.62%	98.48%
Standard Deviation	0.8%	0.9%	2%
<b>Redis - GET (Reqs/sec)</b>	<b>415592</b>	<b>406381</b>	410617
Normalized	100%	97.78%	98.8%
Standard Deviation	0.4%	0.7%	0.5%
<b>Redis - SET (Reqs/sec)</b>	372388	<b>371161</b>	<b>374687</b>
Normalized	99.39%	99.06%	100%
Standard Deviation	1.4%	1.5%	1.9%
<b>NCNN - CPU - squeezenet (ms)</b>	47.30	<b>47.99</b>	<b>47.00</b>
Normalized	99.37%	97.94%	100%
Standard Deviation	0.9%	2%	0.3%
<b>NCNN - CPU - mobilenet (ms)</b>	48.66	<b>49.87</b>	<b>48.60</b>
Normalized	99.88%	97.45%	100%
Standard Deviation	1.1%	0.9%	0.5%
<b>NCNN - CPU-v2-v2 - mobilenet-v2 (ms)</b>	<b>14.27</b>	14.31	<b>14.33</b>
Normalized	100%	99.72%	99.58%
Standard Deviation	0.4%	0.7%	0.5%
<b>NCNN - CPU-v3-v3 - mobilenet-v3 (ms)</b>	<b>62.51</b>	62.45	<b>61.86</b>
Normalized	98.96%	99.06%	100%
Standard Deviation	1%	1.3%	0.5%
<b>NCNN - CPU - shufflenet-v2 (ms)</b>	<b>6.72</b>	<b>6.44</b>	6.57
Normalized	95.83%	100%	98.02%
Standard Deviation	2%	3.2%	0.6%
<b>NCNN - CPU - mnasnet (ms)</b>	<b>115.73</b>	<b>114.57</b>	114.94

Normalized	99%	100%	99.68%
Standard Deviation	2.1%	1%	0.5%
<b>NCNN - CPU - efficientnet-b0 (ms)</b>	<b>132.65</b>	<b>133.76</b>	<b>131.88</b>
Normalized	99.42%	98.59%	100%
Standard Deviation	0.4%	0.7%	0.3%
<b>NCNN - CPU - blazeface (ms)</b>	<b>2.27</b>	<b>2.21</b>	<b>2.24</b>
Normalized	97.36%	100%	98.66%
Standard Deviation	4.2%	1.8%	2.5%
<b>NCNN - CPU - googlenet (ms)</b>	<b>41.87</b>	<b>44.63</b>	<b>41.99</b>
Normalized	100%	93.82%	99.71%
Standard Deviation	1.1%	0.6%	0.9%
<b>NCNN - CPU - vgg16 (ms)</b>	<b>370.56</b>	<b>374.53</b>	<b>371.10</b>
Normalized	100%	98.94%	99.85%
Standard Deviation	0%	0.2%	0.2%
<b>NCNN - CPU - resnet18 (ms)</b>	<b>41.03</b>	<b>43.17</b>	<b>41.37</b>
Normalized	100%	95.04%	99.18%
Standard Deviation	1.3%	0.9%	0.7%
<b>NCNN - CPU - alexnet (ms)</b>	<b>30.46</b>	<b>30.68</b>	<b>30.38</b>
Normalized	99.74%	99.02%	100%
Standard Deviation	0%	0.7%	0.9%
<b>NCNN - CPU - resnet50 (ms)</b>	<b>89.75</b>	<b>90.25</b>	<b>90.34</b>
Normalized	100%	99.45%	99.35%
Standard Deviation	0.3%	1%	0.9%
<b>NCNN - CPU - yolov4-tiny (ms)</b>	<b>99.67</b>	<b>104.63</b>	<b>99.55</b>
Normalized	99.88%	95.14%	100%
Standard Deviation	0.5%	1.4%	0.5%
<b>TNN - CPU - MobileNet v2 (ms)</b>	<b>321.745</b>	<b>322.833</b>	<b>321.810</b>
Normalized	100%	99.66%	99.98%
Standard Deviation	0%	0.5%	0.1%
<b>TNN - CPU - SqueezeNet v1.1 (ms)</b>	<b>314.692</b>	<b>314.035</b>	<b>314.360</b>
Normalized	99.79%	100%	99.9%
Standard Deviation	0.1%	0.3%	0.2%
<b>IndigoBench - CPU - Bedroom (M samples/s)</b>	<b>0.868</b>	<b>0.865</b>	<b>0.867</b>
Normalized	100%	99.65%	99.88%
Standard Deviation	1%	0.5%	0.3%
<b>IndigoBench - CPU - Supercar (M samples/s)</b>	<b>1.848</b>	<b>1.877</b>	<b>1.860</b>
Normalized	98.45%	100%	99.09%
Standard Deviation	0.9%	1.4%	0.8%
<b>PHPBench - P.B.S (Score)</b>	<b>441399</b>	<b>440386</b>	<b>440386</b>
Normalized	100%	99.77%	99.77%
Standard Deviation	0.3%	1.4%	0.5%
<b>BRL-CAD - V.P.M (VGR Performance Metric)</b>	<b>58952</b>	<b>58715</b>	<b>62625</b>
Normalized	94.13%	93.76%	100%

## LevelDB 1.22

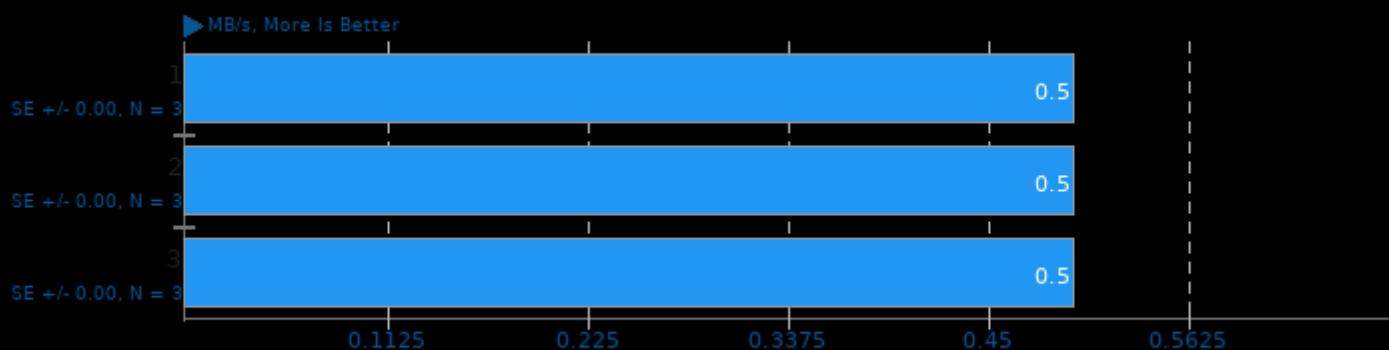
Benchmark: Hot Read



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

## LevelDB 1.22

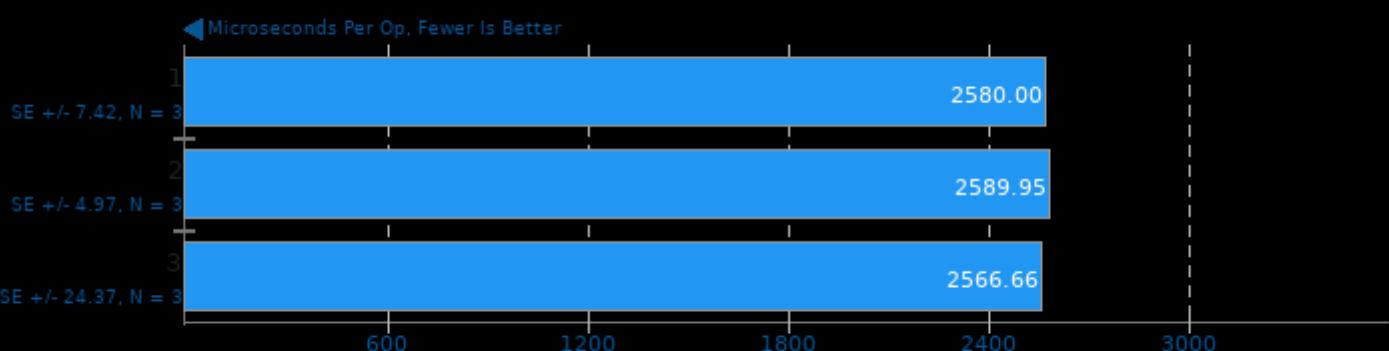
Benchmark: Fill Sync



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

## LevelDB 1.22

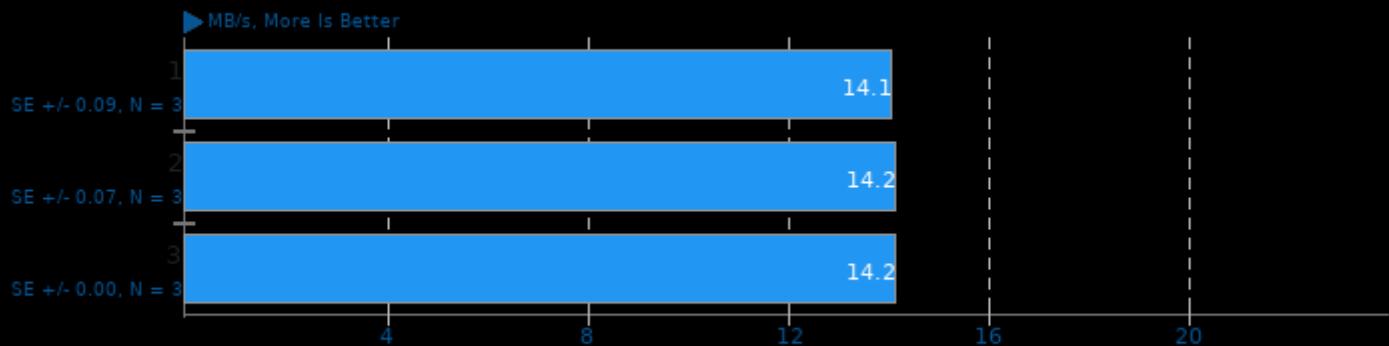
Benchmark: Fill Sync



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

## LevelDB 1.22

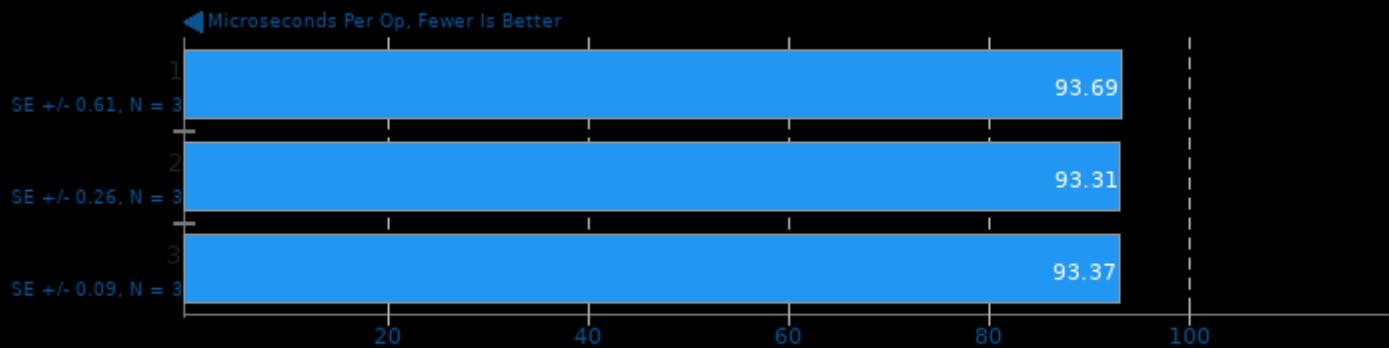
Benchmark: Overwrite



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

## LevelDB 1.22

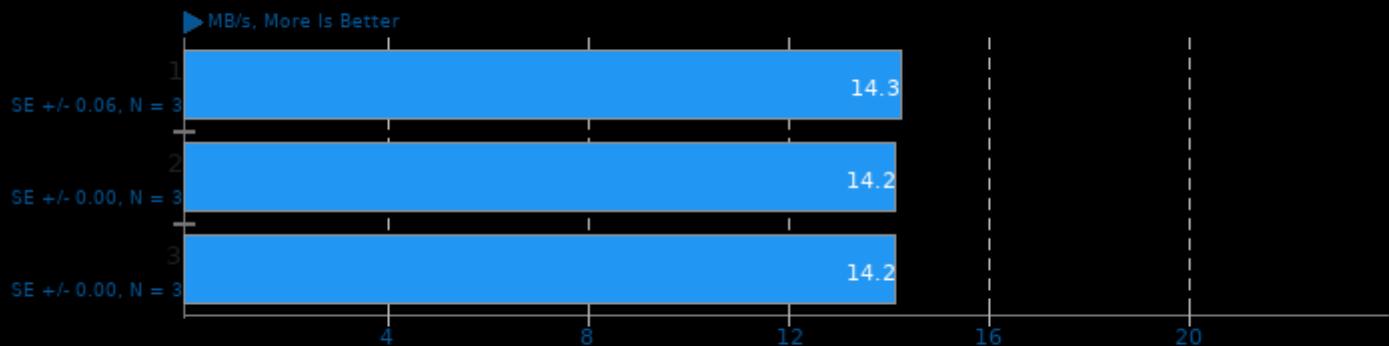
Benchmark: Overwrite



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

## LevelDB 1.22

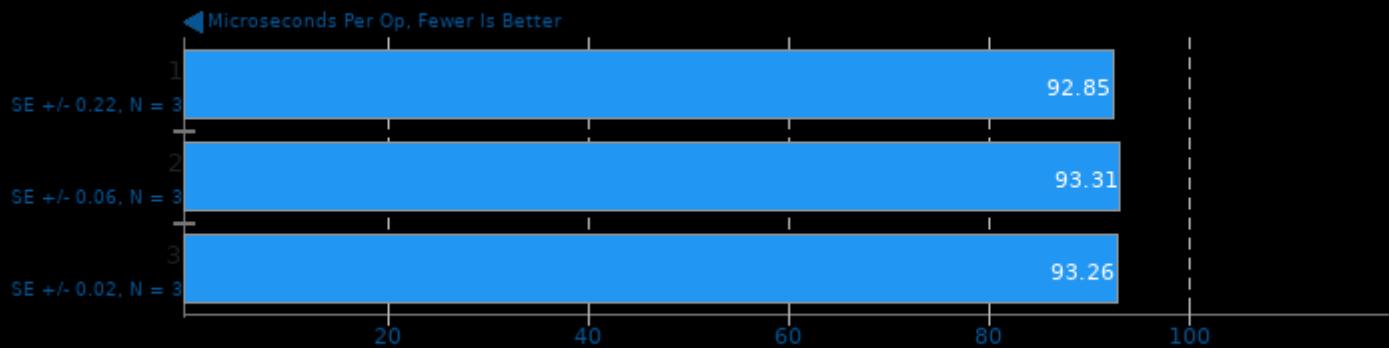
Benchmark: Random Fill



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

## LevelDB 1.22

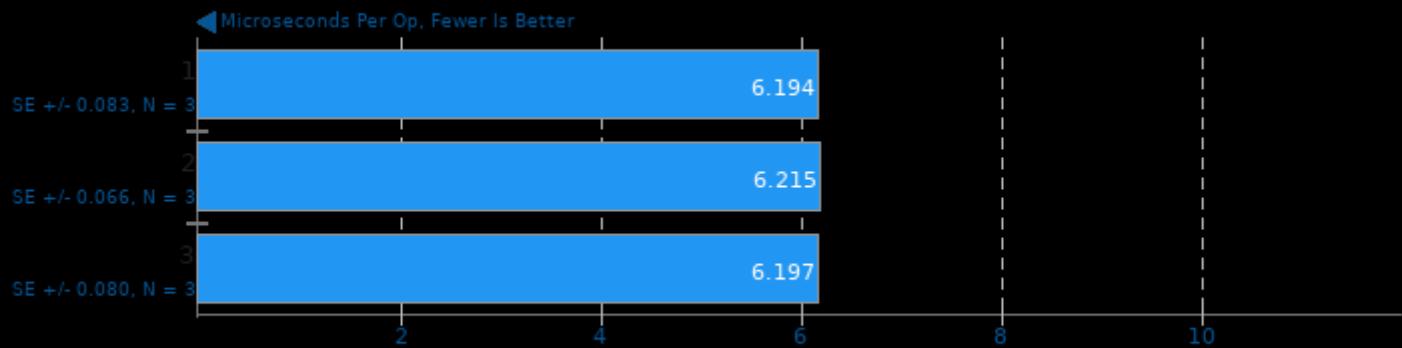
Benchmark: Random Fill



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

## LevelDB 1.22

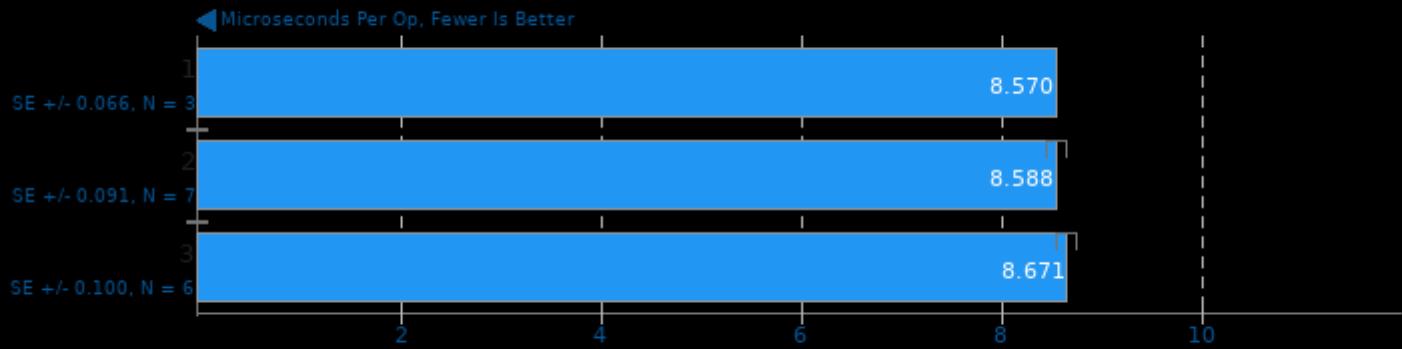
Benchmark: Random Read



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

## LevelDB 1.22

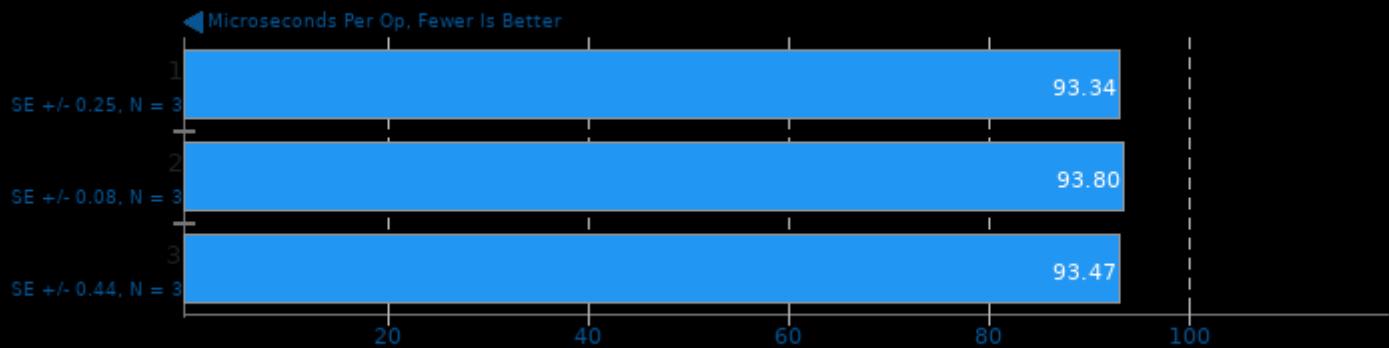
Benchmark: Seek Random



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

## LevelDB 1.22

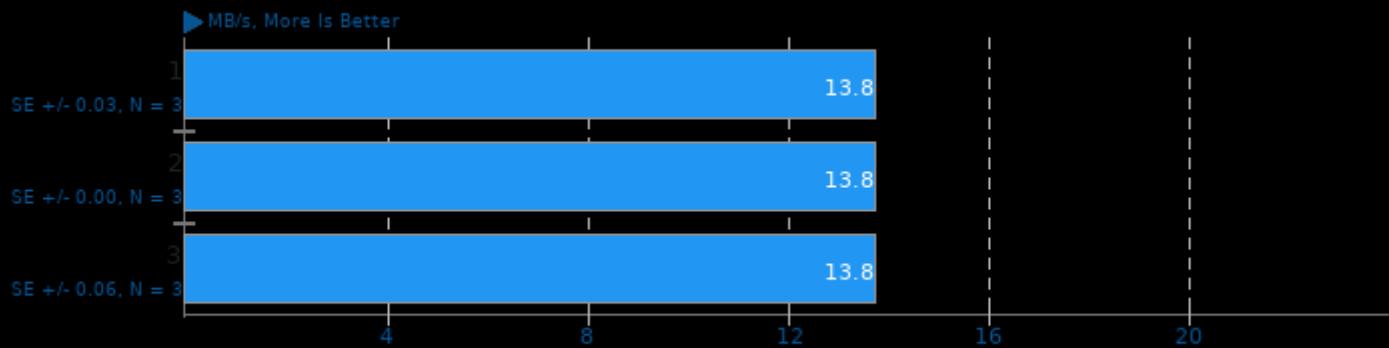
Benchmark: Random Delete



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

## LevelDB 1.22

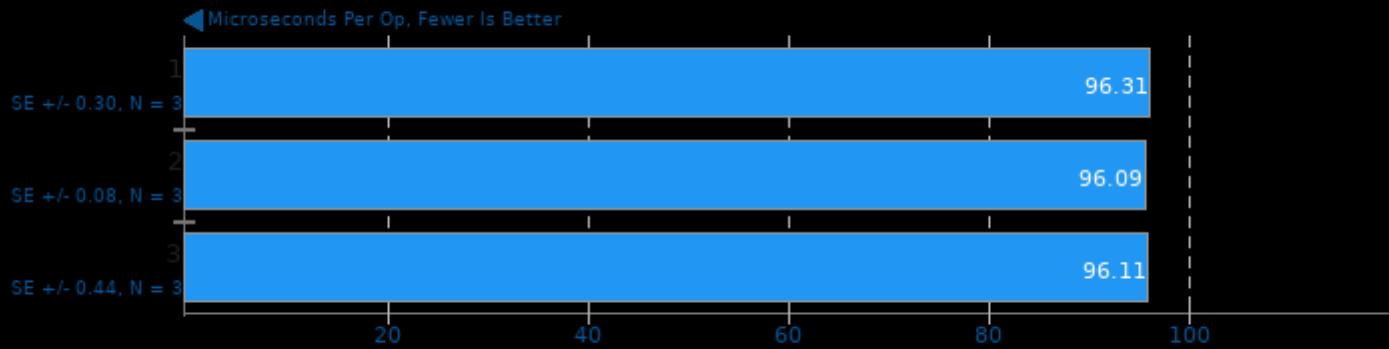
Benchmark: Sequential Fill



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

## LevelDB 1.22

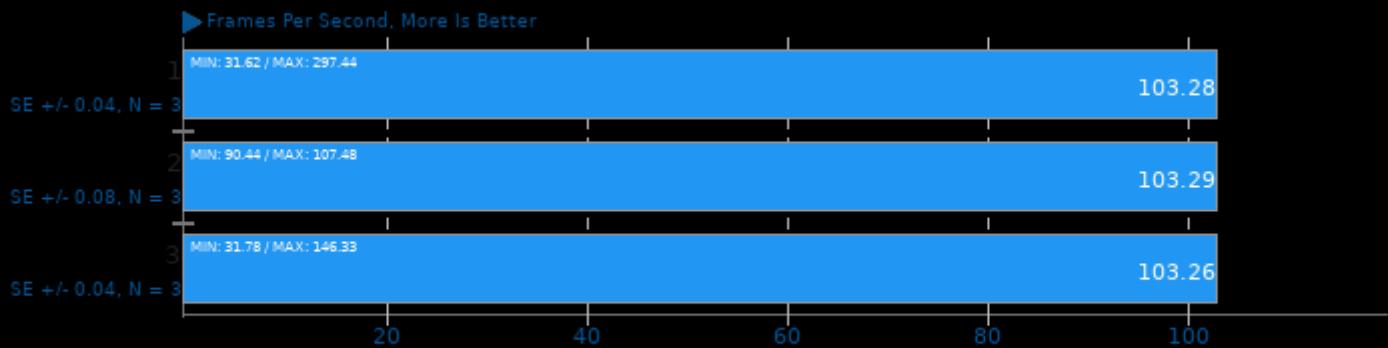
Benchmark: Sequential Fill



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

## DDrakeNetwork 15.2.3

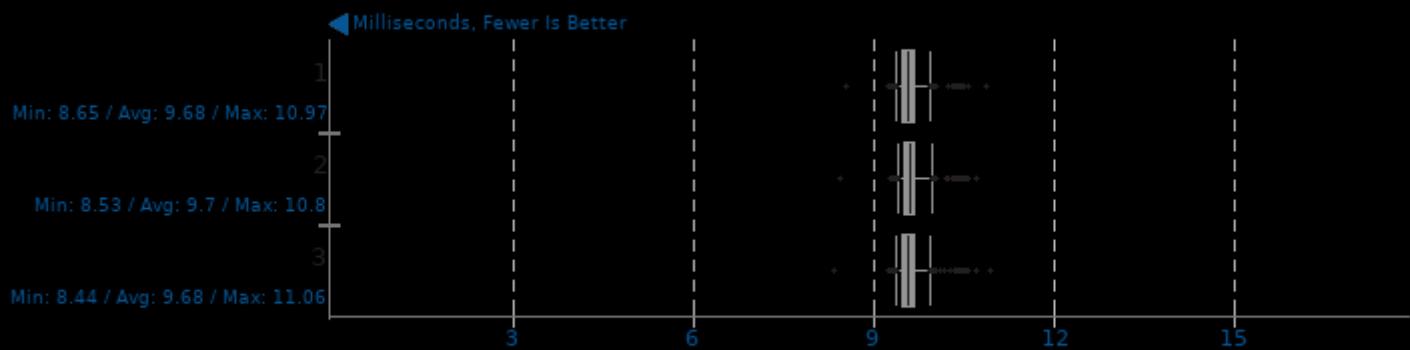
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



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

## DDrakeNetwork 15.2.3

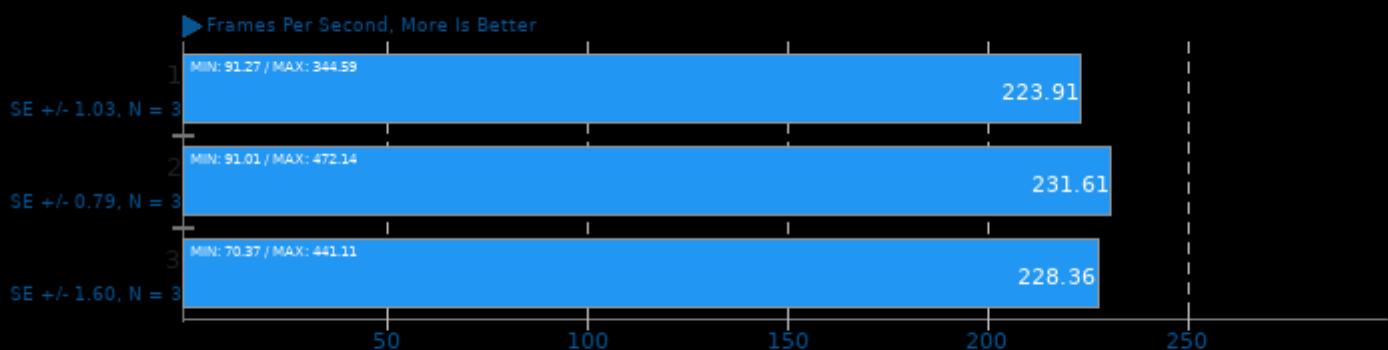
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



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

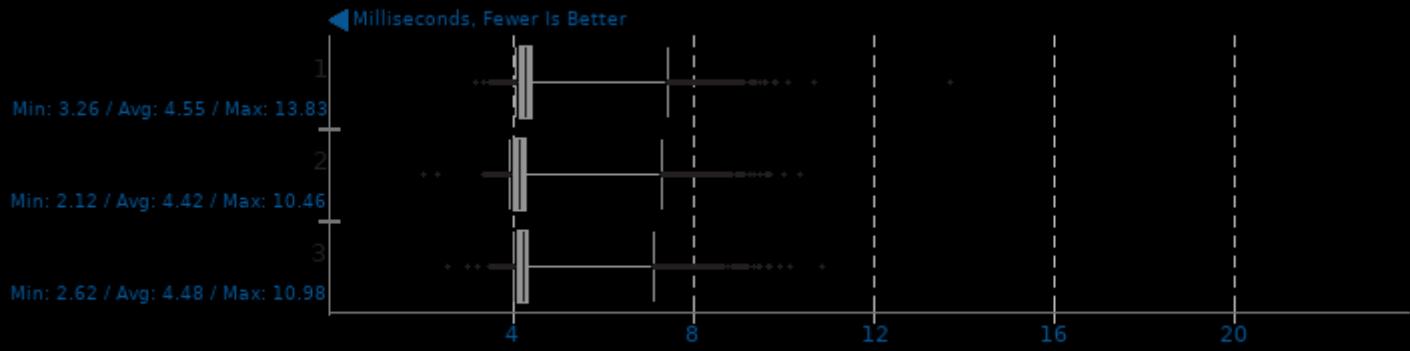
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap



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

## DDrakeNetwork 15.2.3

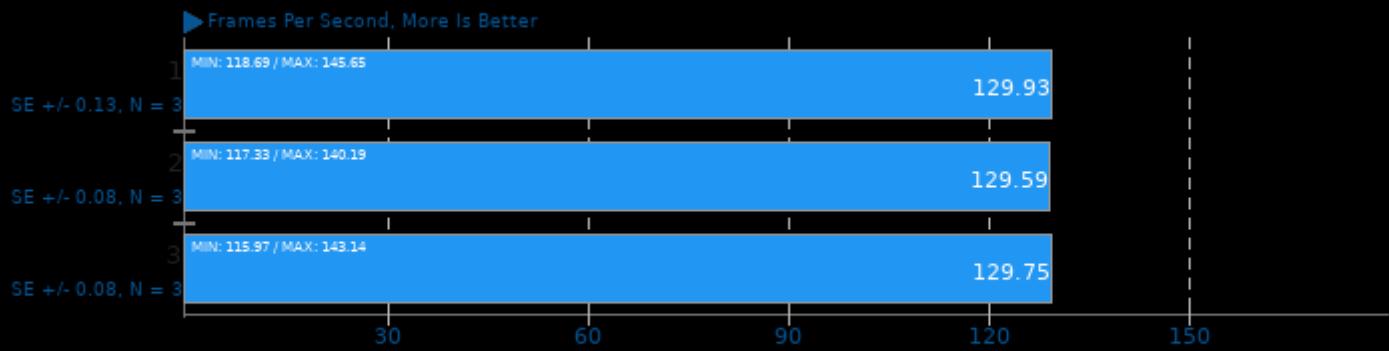
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time



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

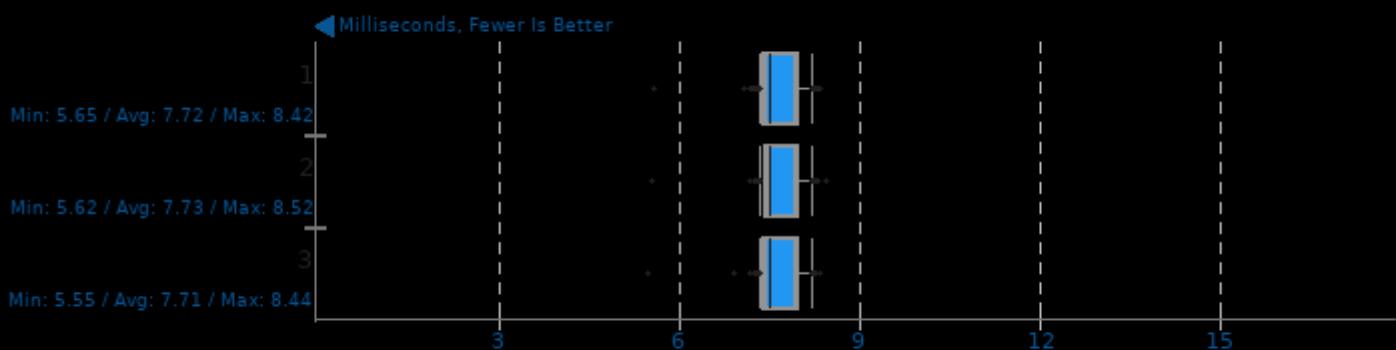
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2



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

## DDrakeNetwork 15.2.3

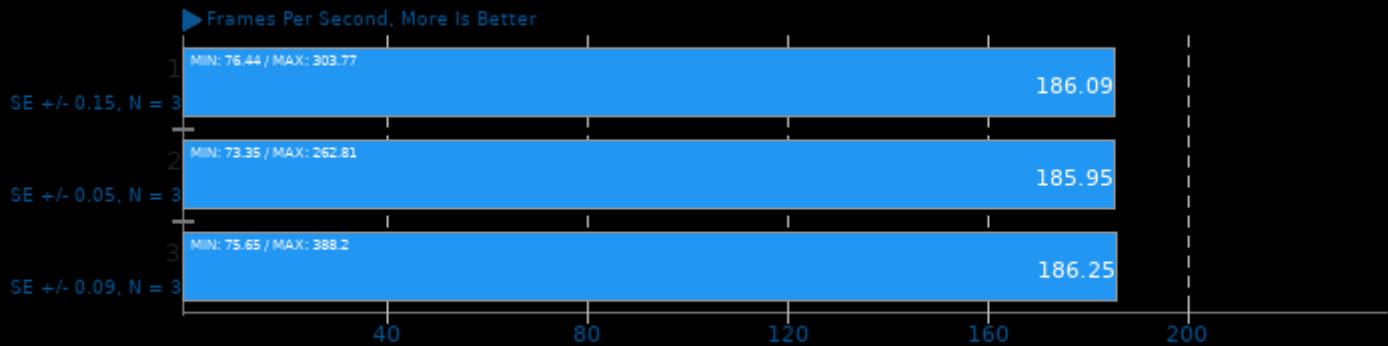
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2 - Total Frame Time



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

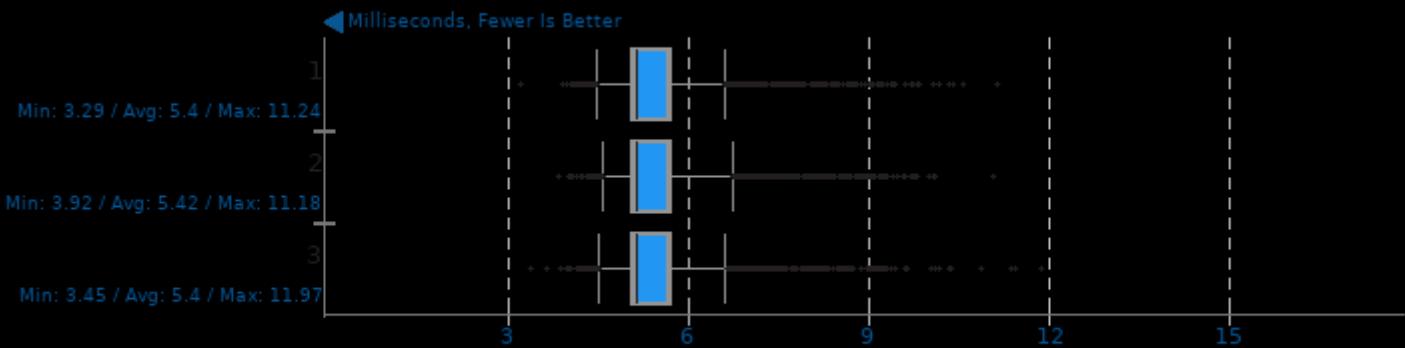
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap



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

## DDrakeNetwork 15.2.3

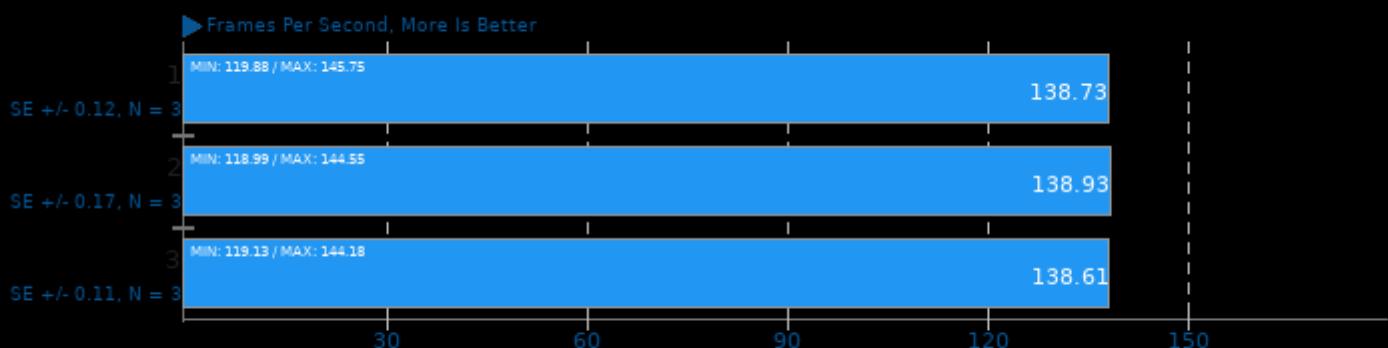
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap - Total Frame Time



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

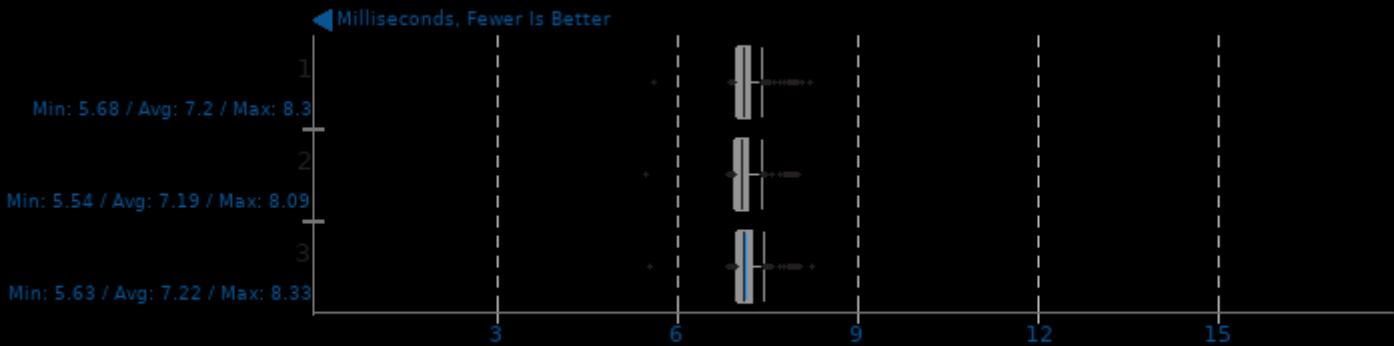
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2



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

## DDrakeNetwork 15.2.3

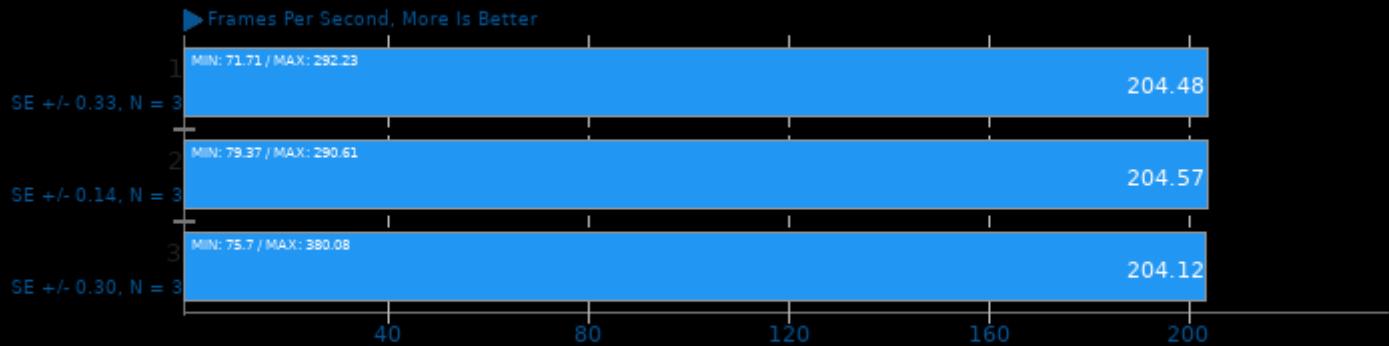
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: RaiNyMore2 - Total Frame Time



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: 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 -logg -GL -X11 -notify -gdk\_pixbuf-2.0 -

## DDrakeNetwork 15.2.3

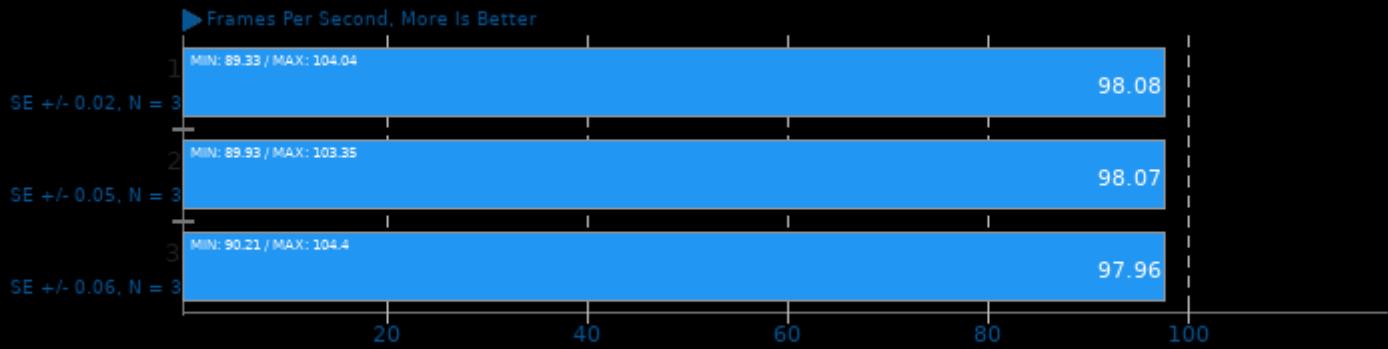
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Zoomed out - Demo: Multeasymap - Total Frame Time



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

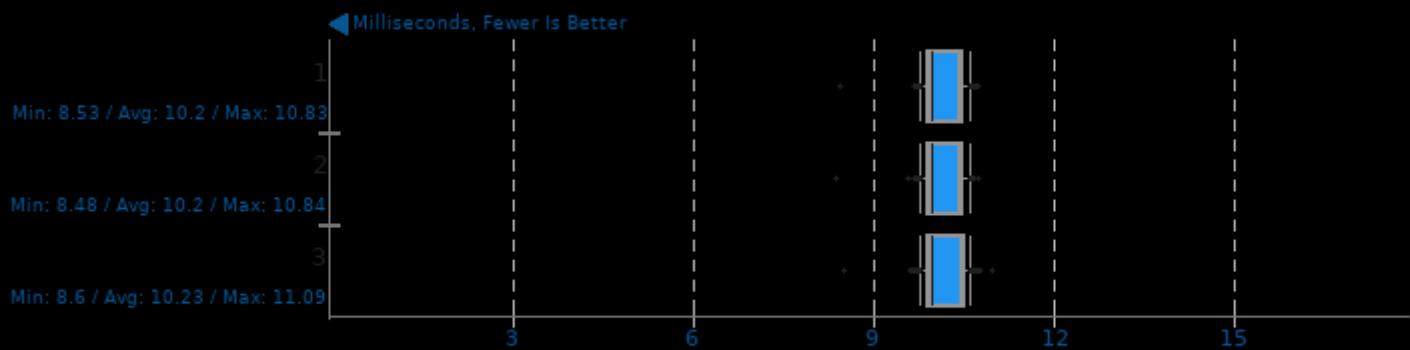
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



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

## DDrakeNetwork 15.2.3

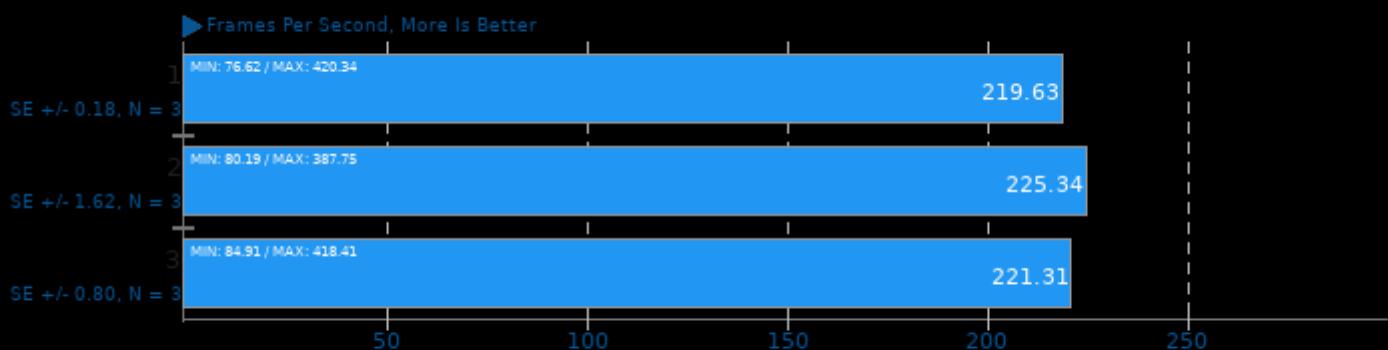
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time



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

## DDrakeNetwork 15.2.3

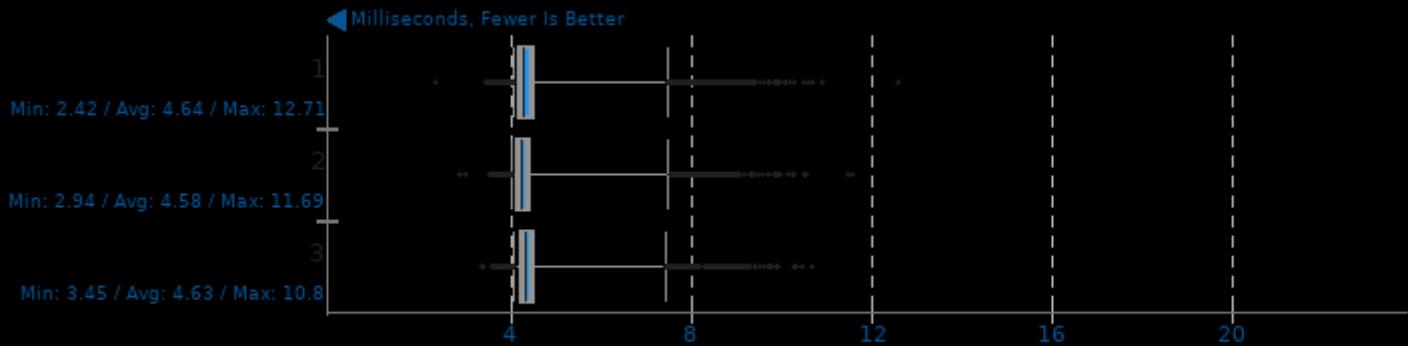
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap



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

## DDrakeNetwork 15.2.3

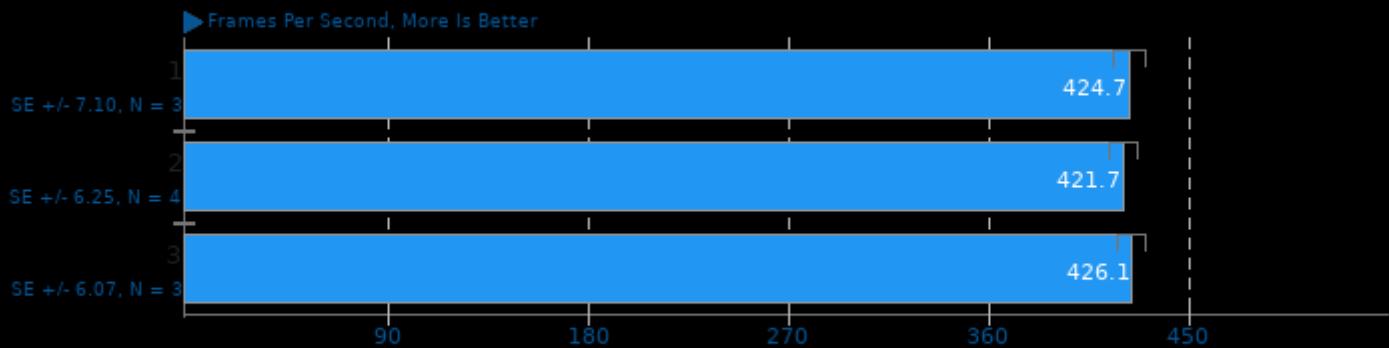
Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap - Total Frame Time



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

## yquake2 7.45

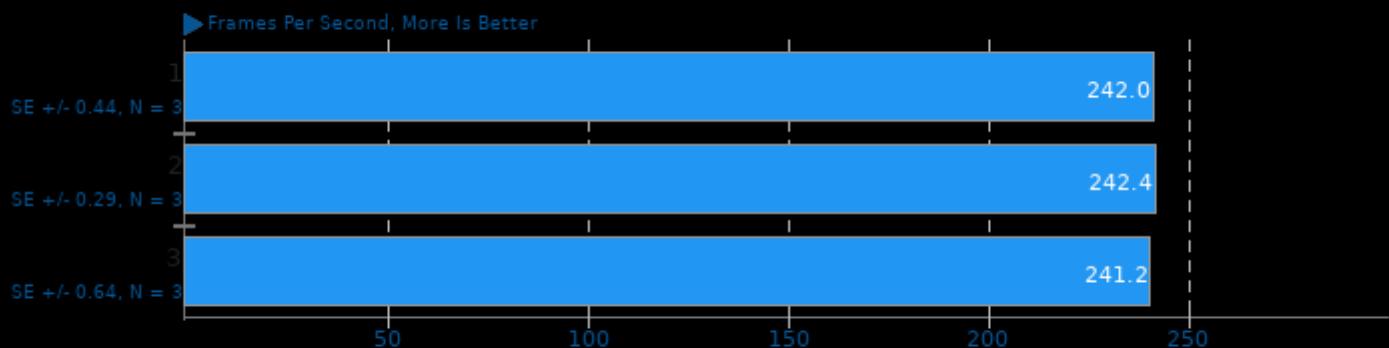
Renderer: OpenGL 1.x - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -SDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfpm

## yquake2 7.45

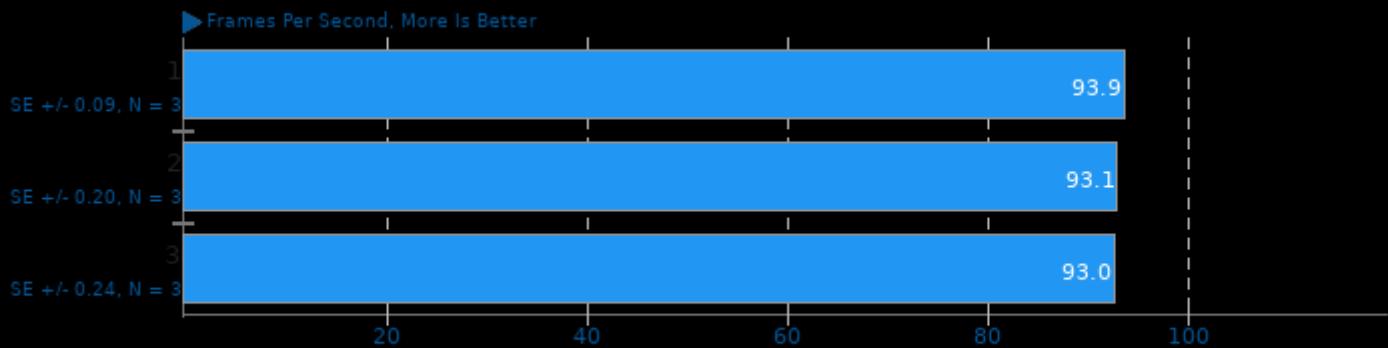
Renderer: OpenGL 3.x - Resolution: 1920 x 1080



1. (CC) gcc options: -lm -ldl -rdynamic -shared -SDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfpm

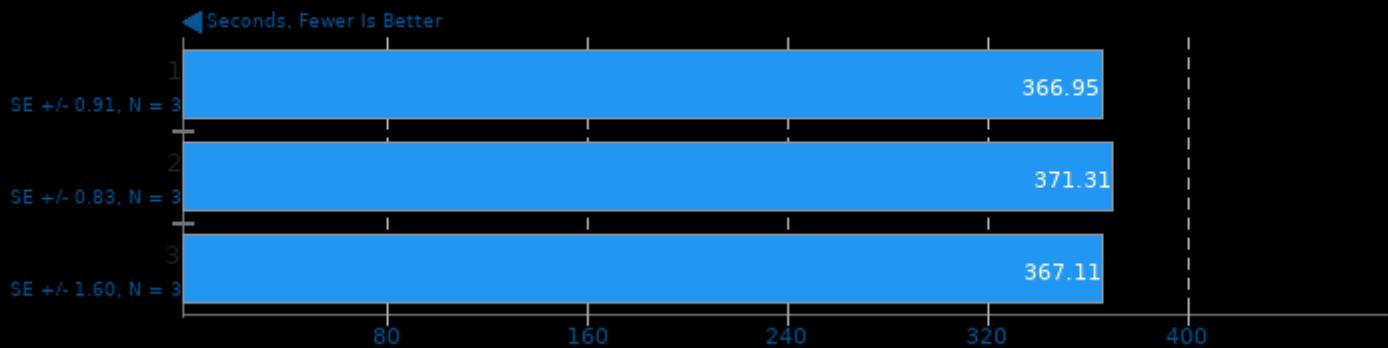
## yquake2 7.45

Renderer: Software CPU - Resolution: 1920 x 1080



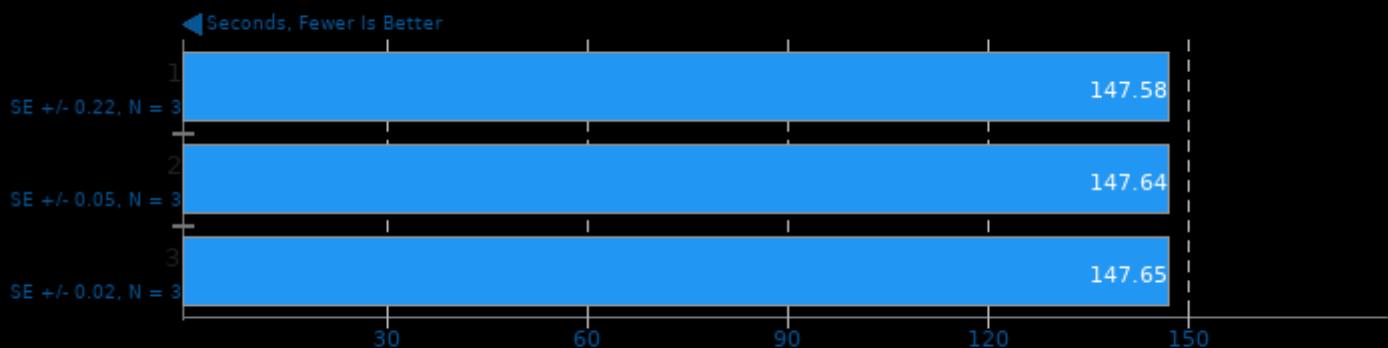
1. (CC) gcc options: -lm -ldl -rdynamic -shared -fSDL2 -O2 -pipe -fomit-frame-pointer -std=gnu99 -fno-strict-aliasing -fwrapv -fvisibility=hidden -MMD -mfpmath=sse

## WireGuard + Linux Networking Stack Stress Test



## Timed HMMer Search 3.3.1

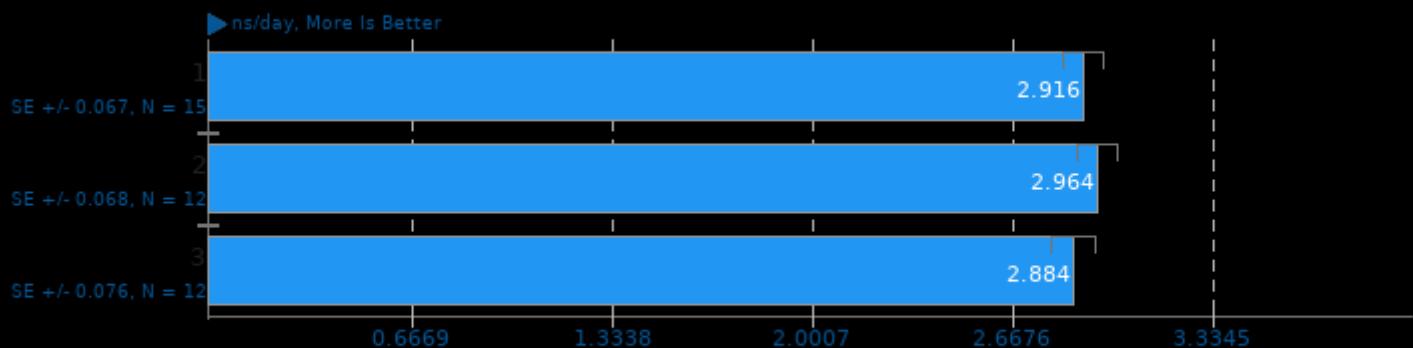
Pfam Database Search



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

## LAMMPS Molecular Dynamics Simulator 29Oct2020

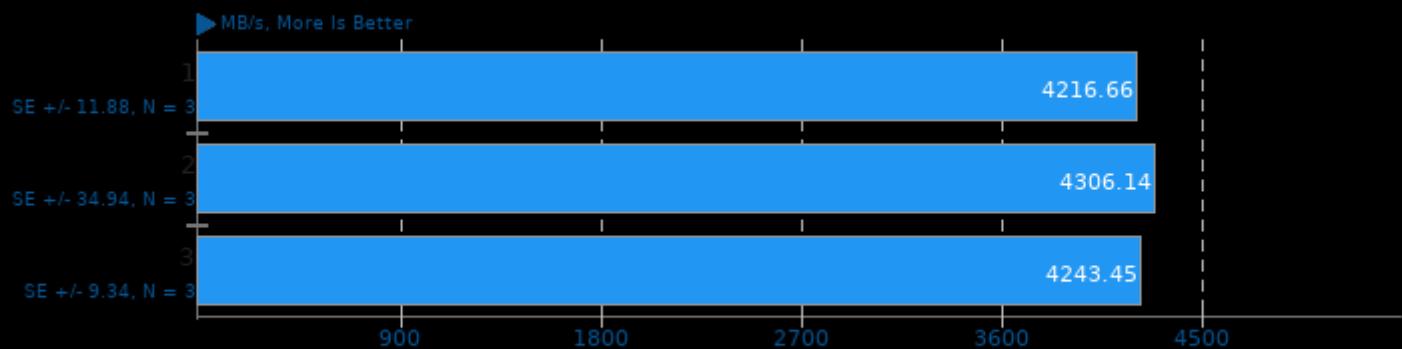
Model: Rhodopsin Protein



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

## LZ4 Compression 1.9.3

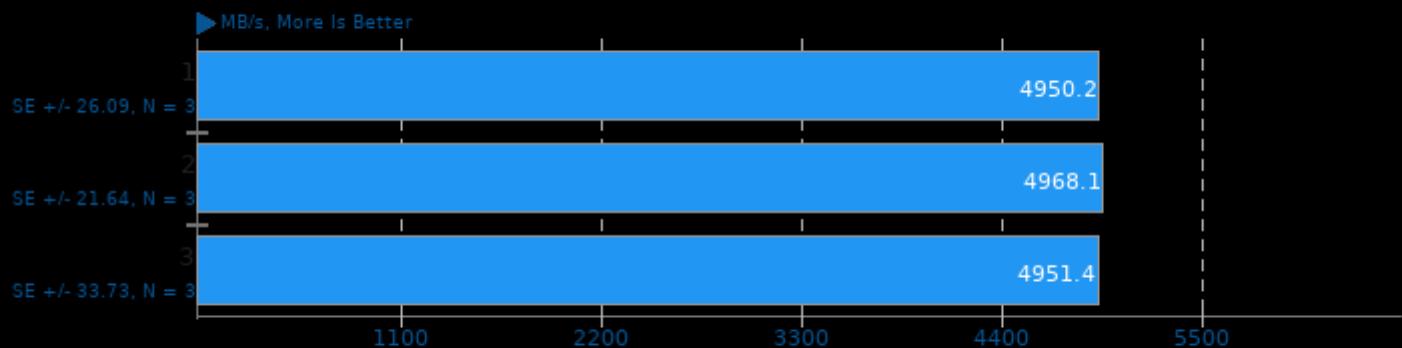
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

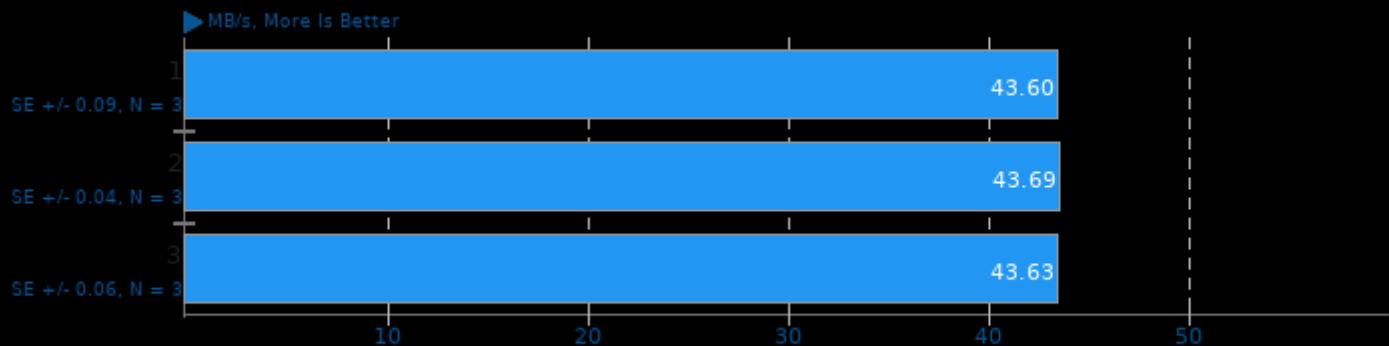
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

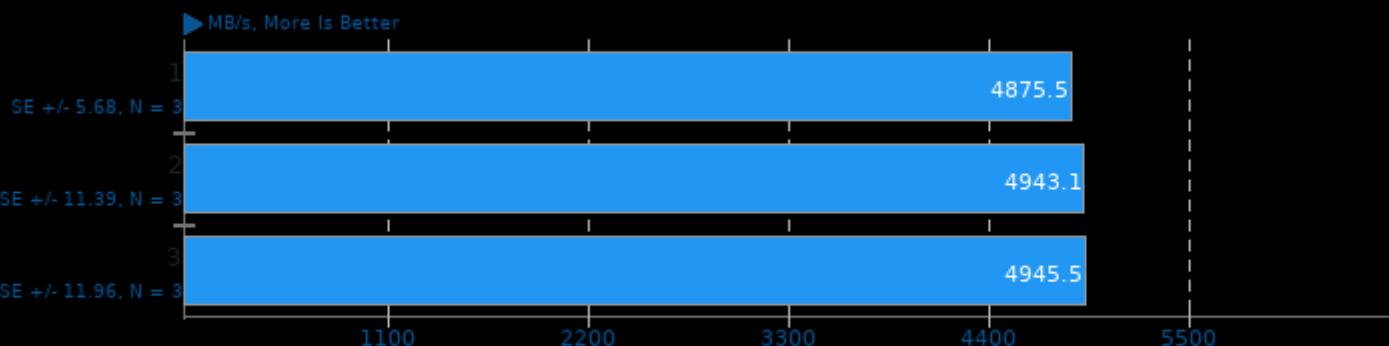
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

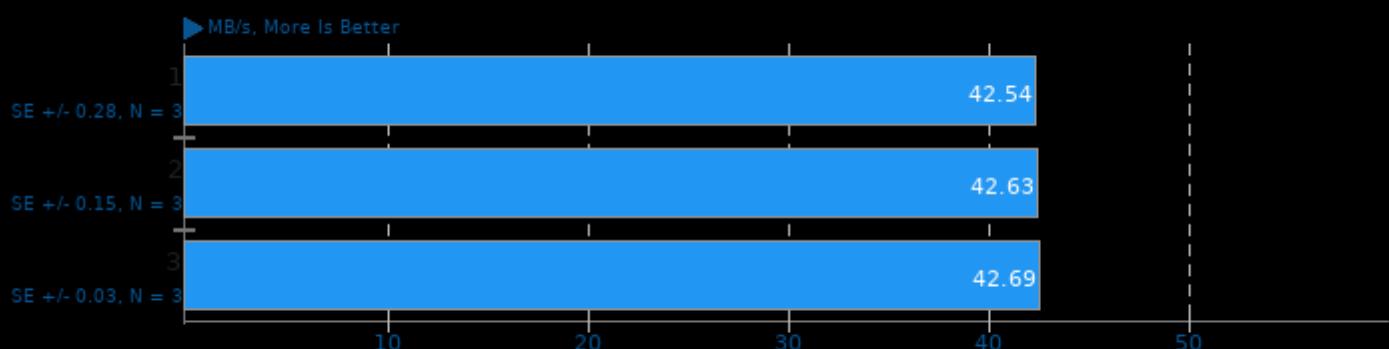
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

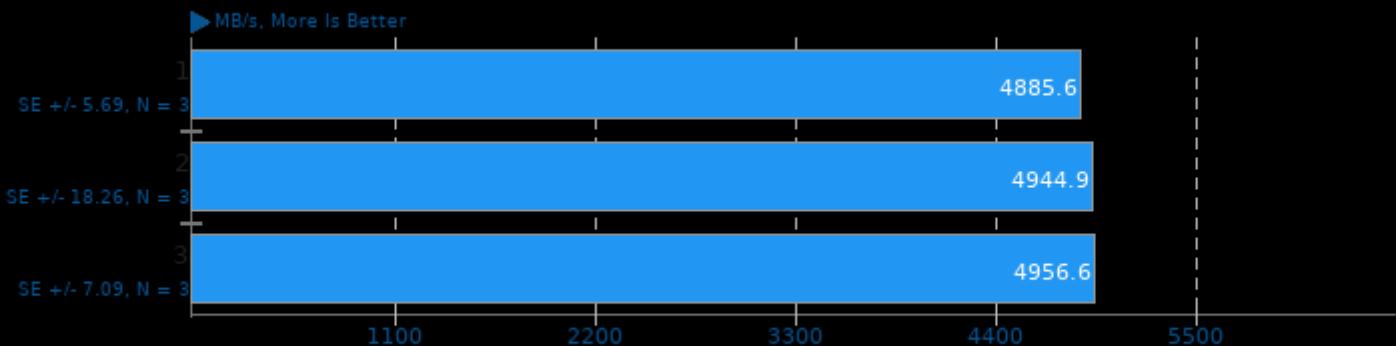
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

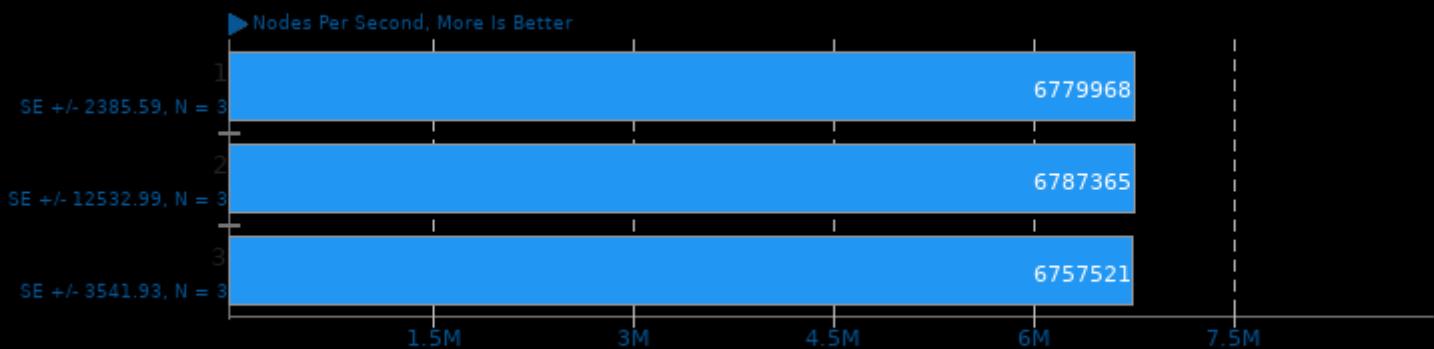
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

## Crafty 25.2

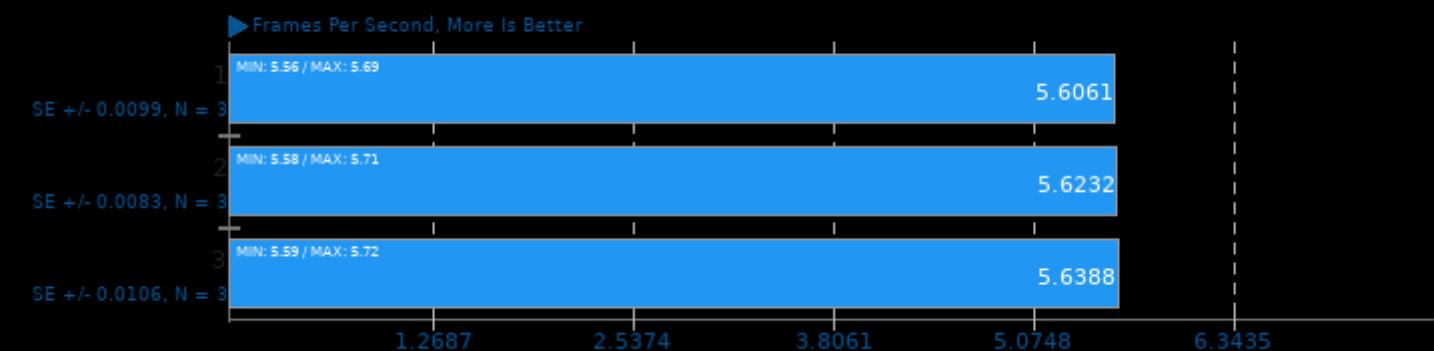
Elapsed Time



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

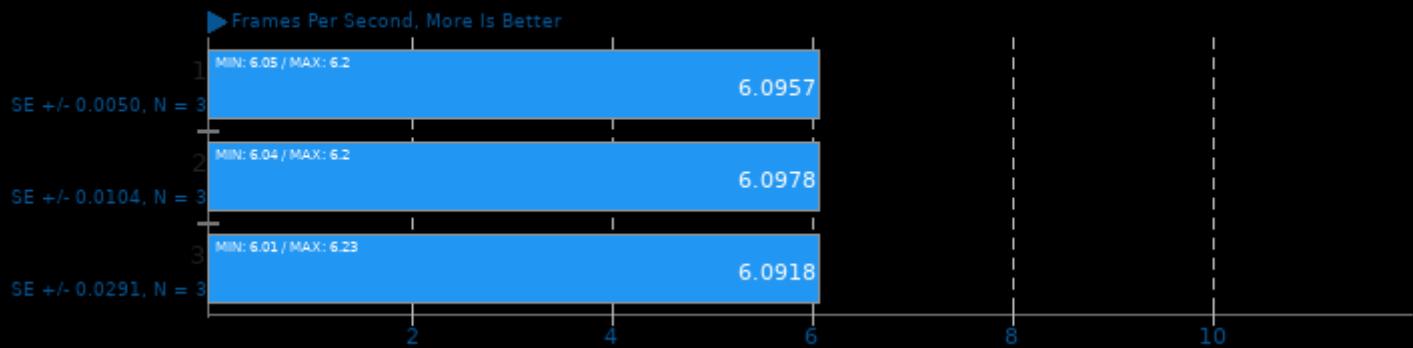
## Embree 3.9.0

Binary: Pathtracer - Model: Crown



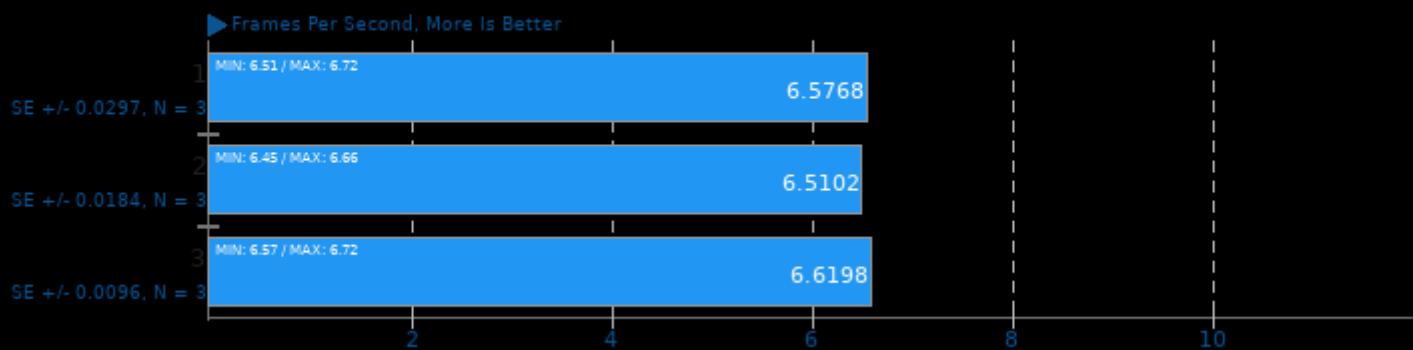
## Embree 3.9.0

Binary: Pathtracer ISPC - Model: Crown



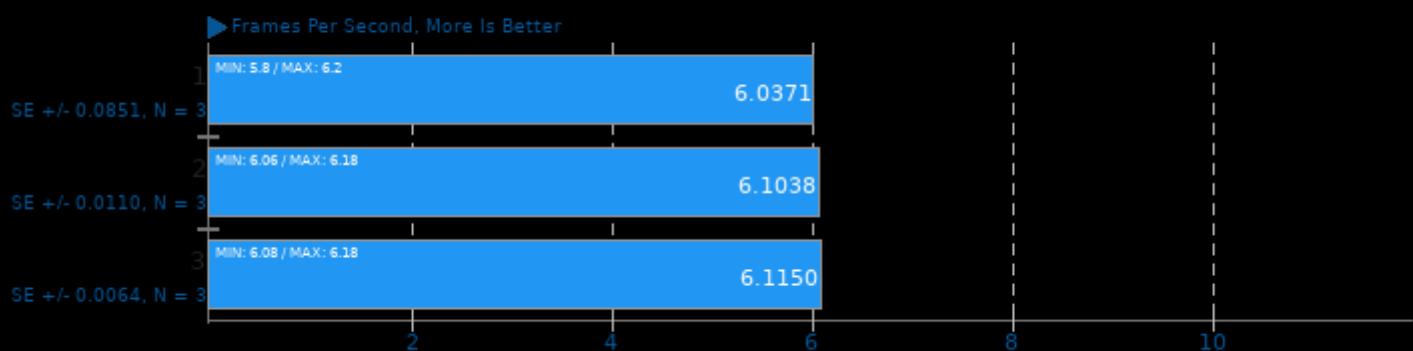
## Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon



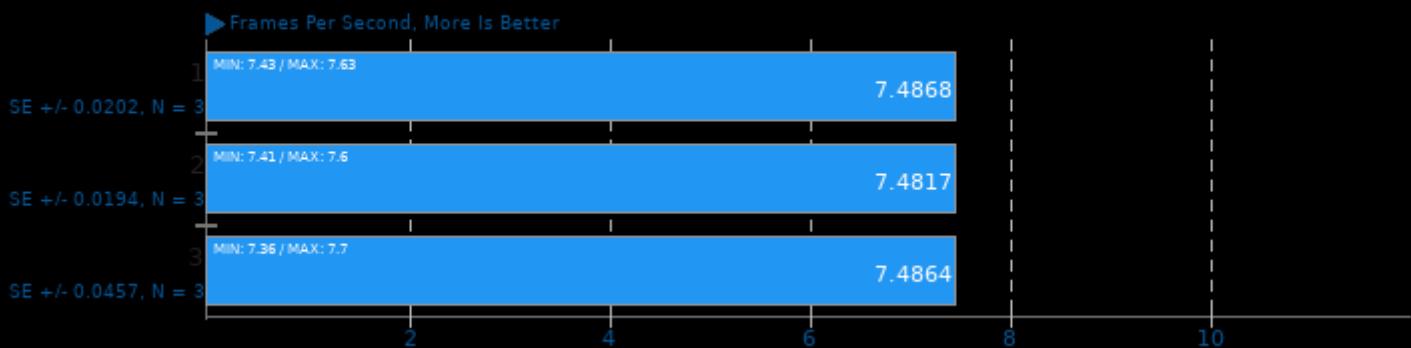
## Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon Obj



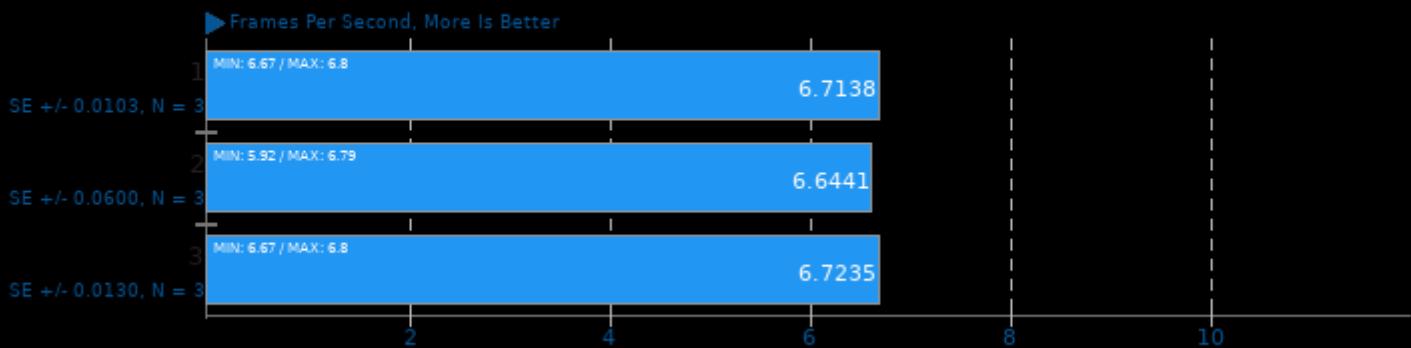
## Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon



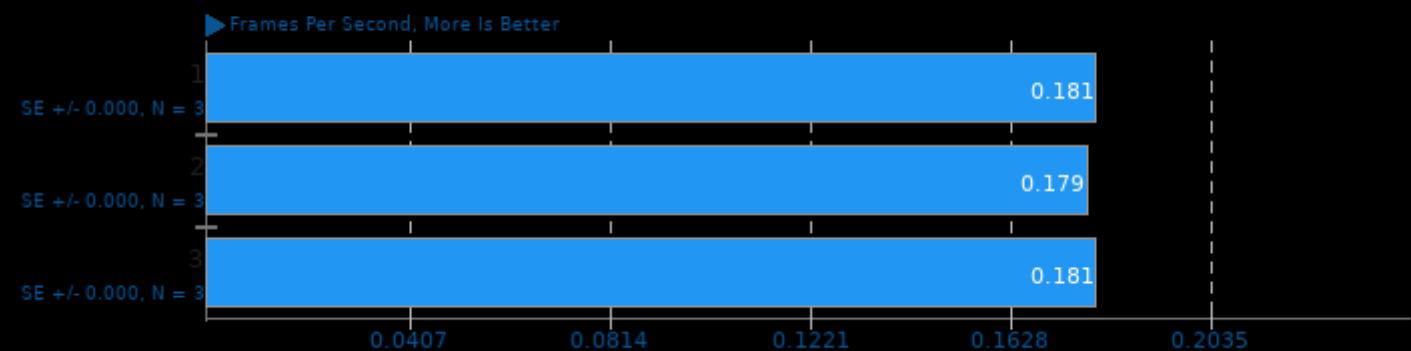
## Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon Obj



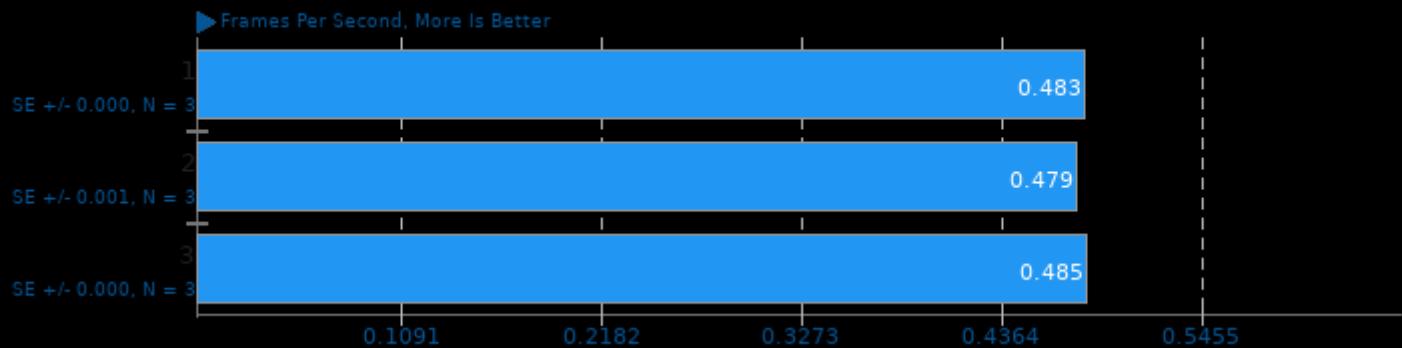
## rav1e 0.4 Alpha

Speed: 1

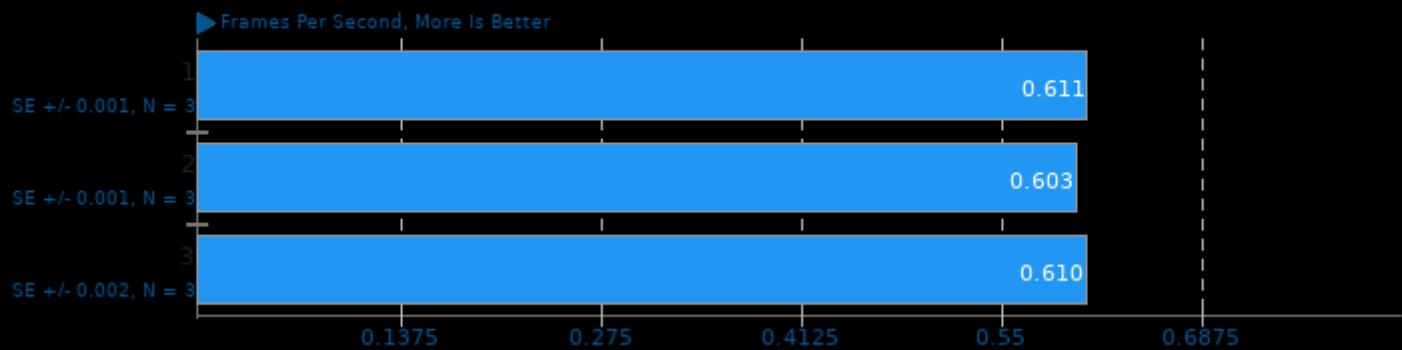


**rav1e 0.4 Alpha**

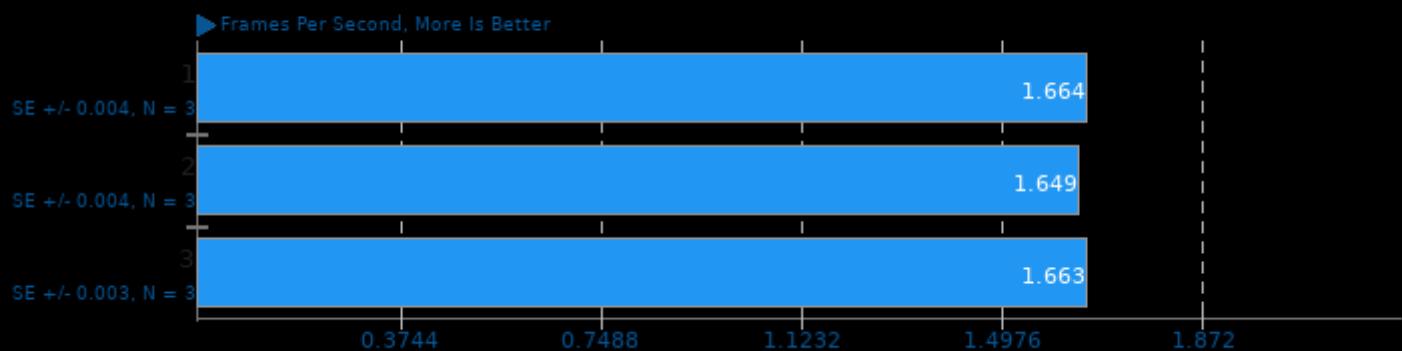
Speed: 5

**rav1e 0.4 Alpha**

Speed: 6

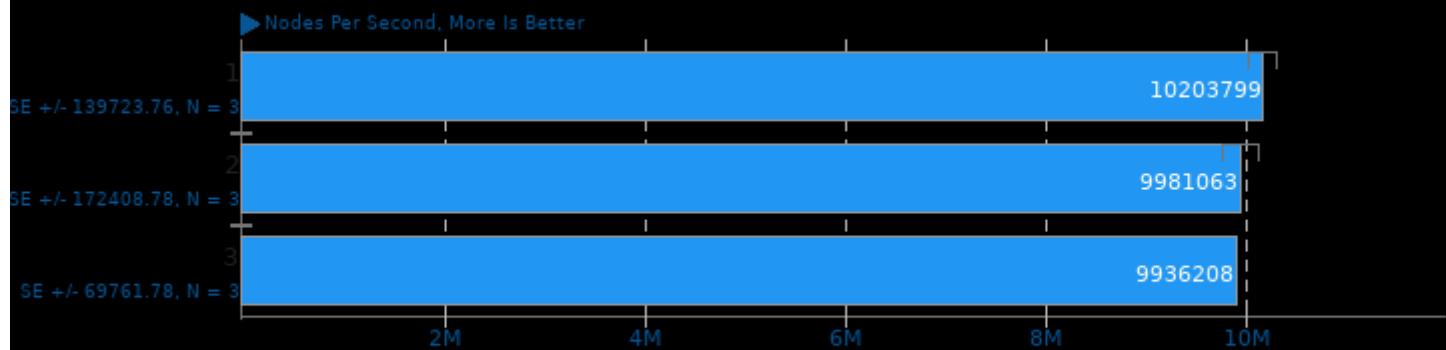
**rav1e 0.4 Alpha**

Speed: 10



## Stockfish 12

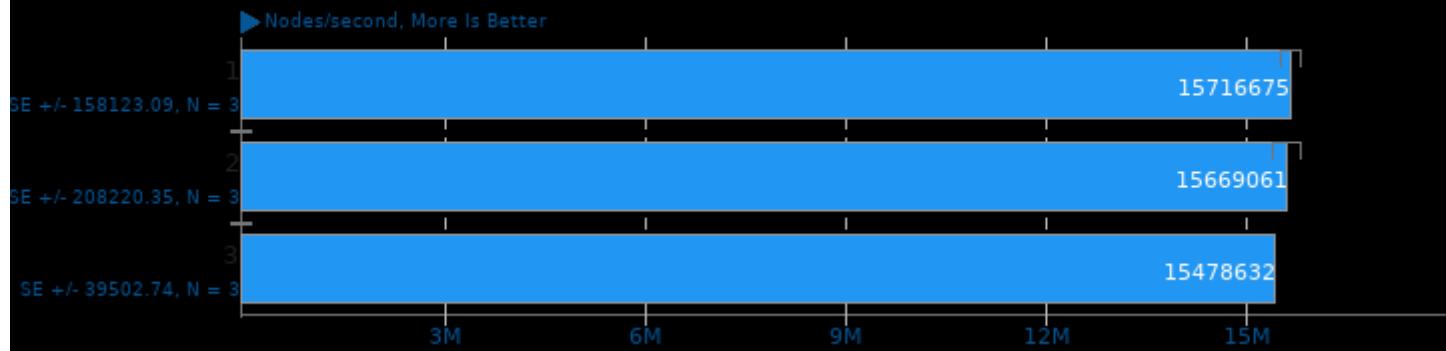
Total Time



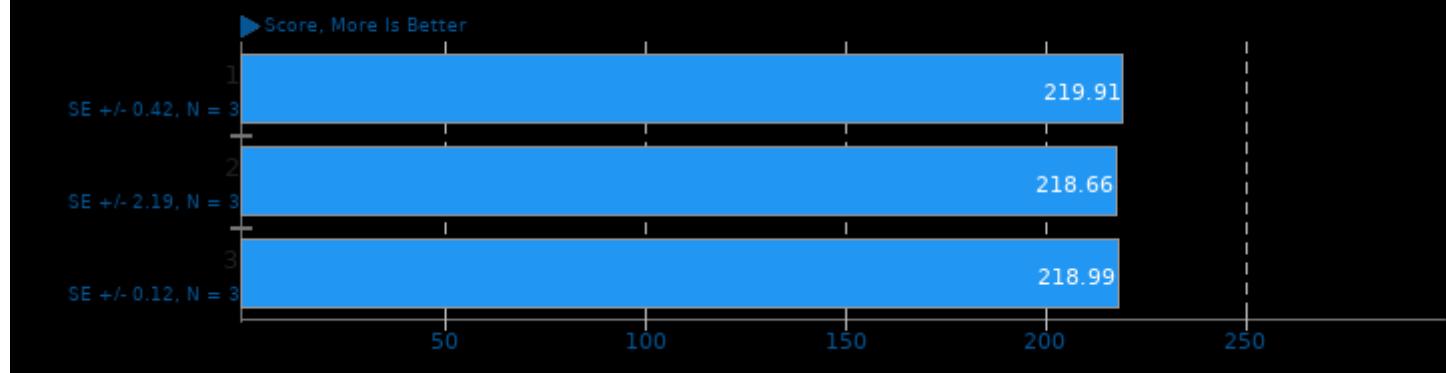
1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++17 -pedantic -O3 -msse -msse3 -mpopcnt -msse4.1 -msse3 -msse2 -fno -fno=jobserver

## asmFish 2018-07-23

1024 Hash Memory, 26 Depth

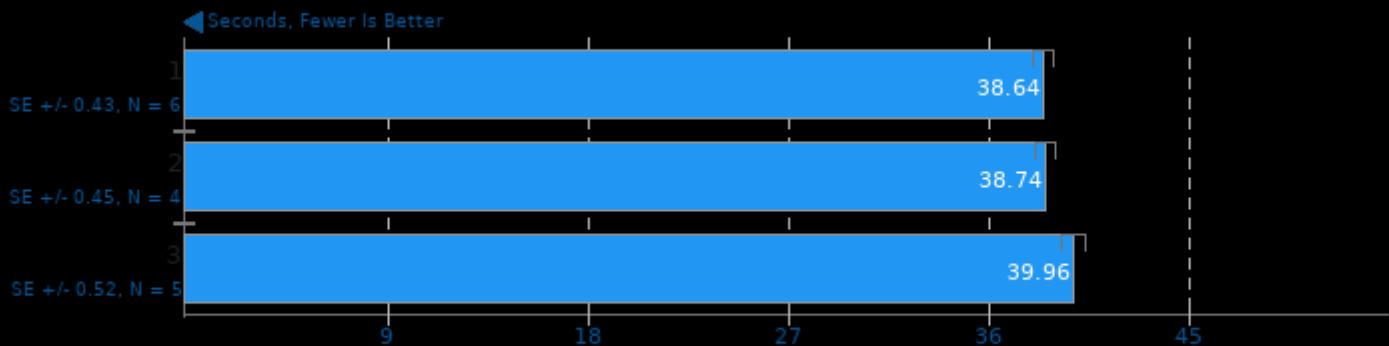


## Numpy Benchmark



## eSpeak-NG Speech Engine 20200907

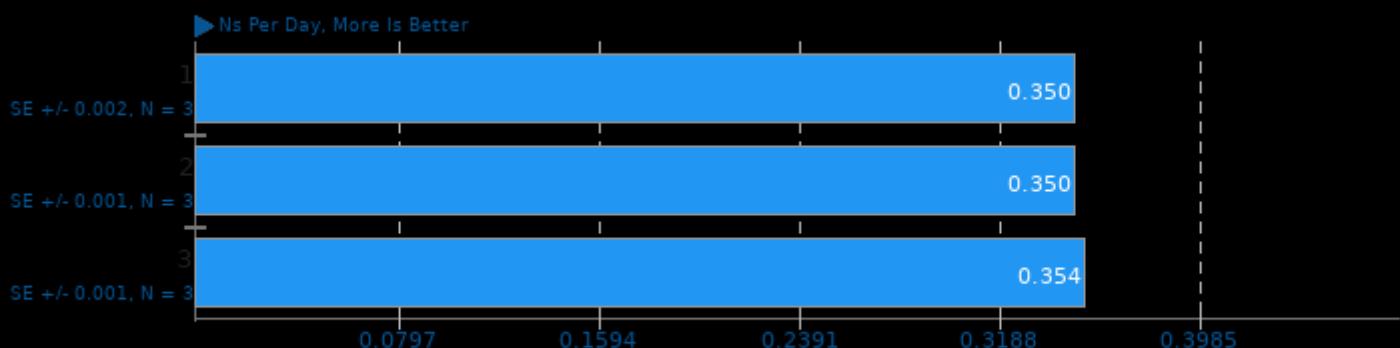
Text-To-Speech Synthesis



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

## GROMACS 2020.3

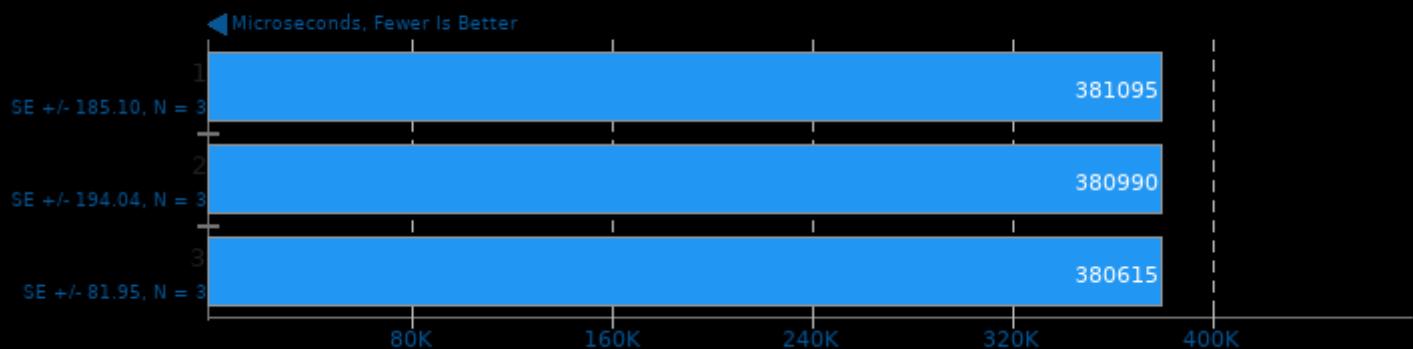
Water Benchmark



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

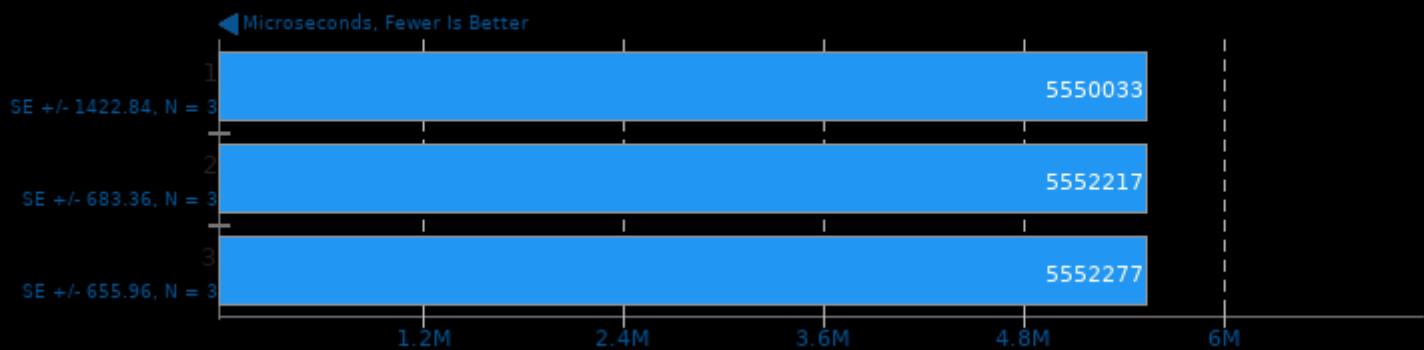
## TensorFlow Lite 2020-08-23

Model: SqueezeNet



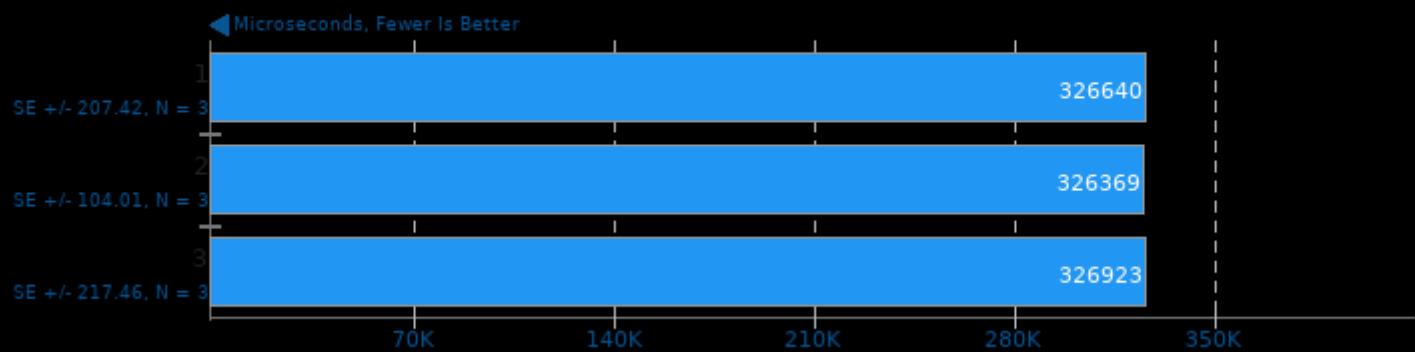
## TensorFlow Lite 2020-08-23

Model: Inception V4



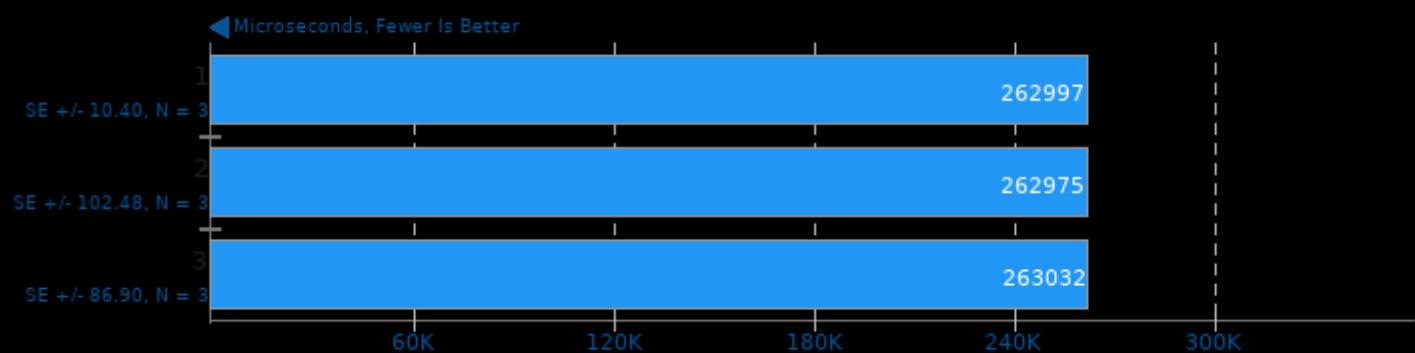
## TensorFlow Lite 2020-08-23

Model: NASNet Mobile



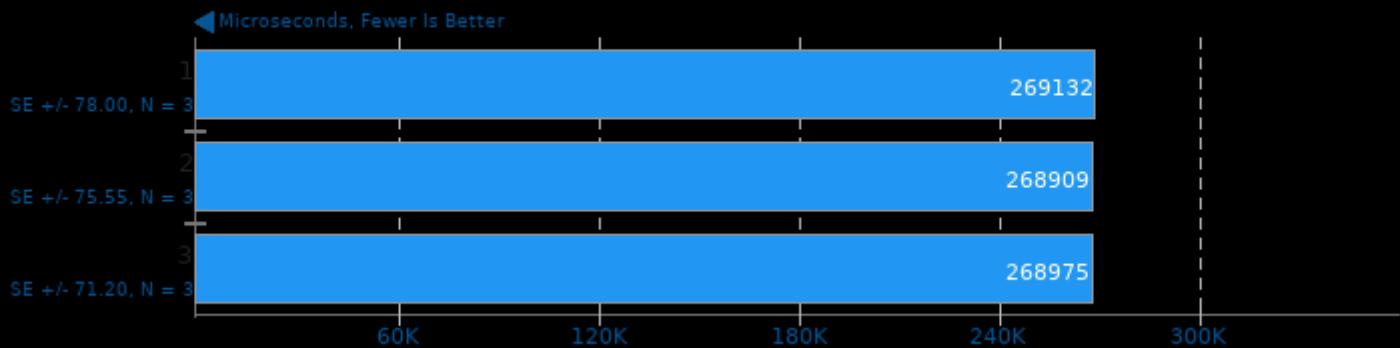
## TensorFlow Lite 2020-08-23

Model: Mobilenet Float



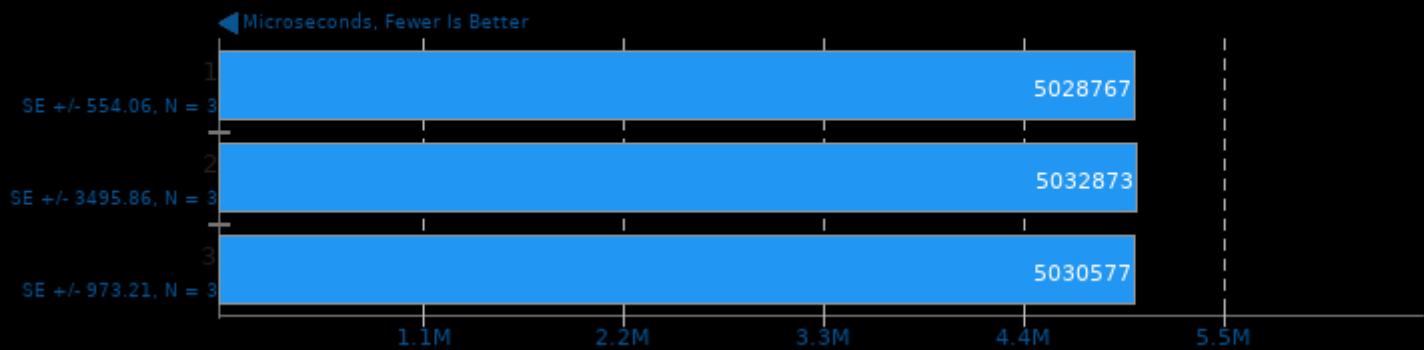
## TensorFlow Lite 2020-08-23

Model: Mobilenet Quant



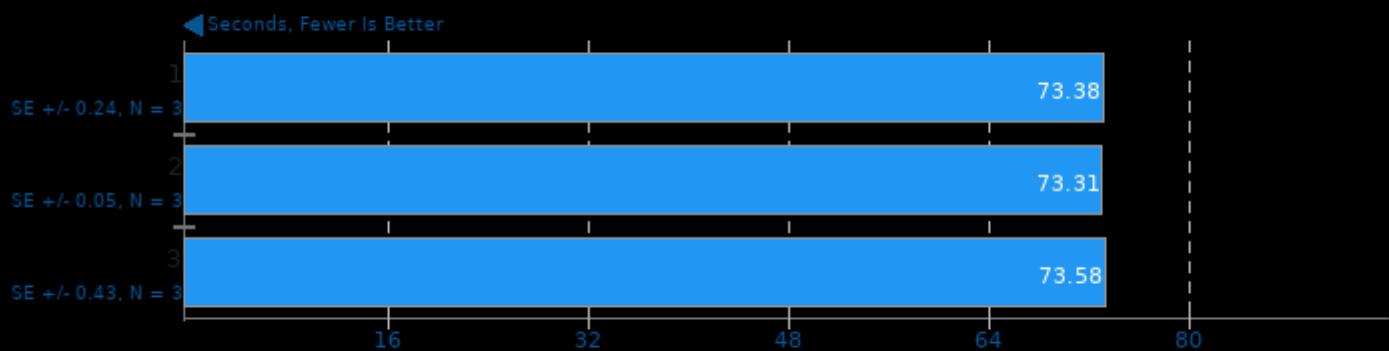
## TensorFlow Lite 2020-08-23

Model: Inception ResNet V2



## Basis Universal 1.12

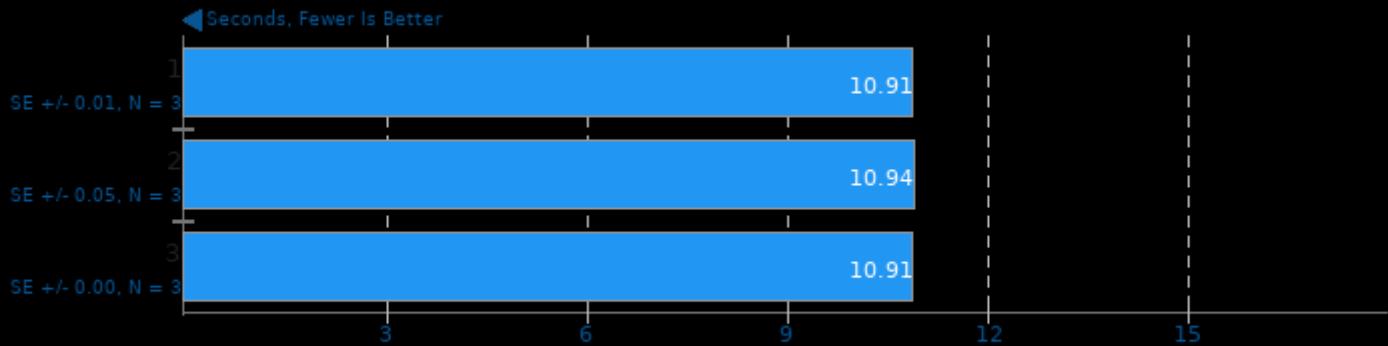
Settings: ETC1S



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

## Basis Universal 1.12

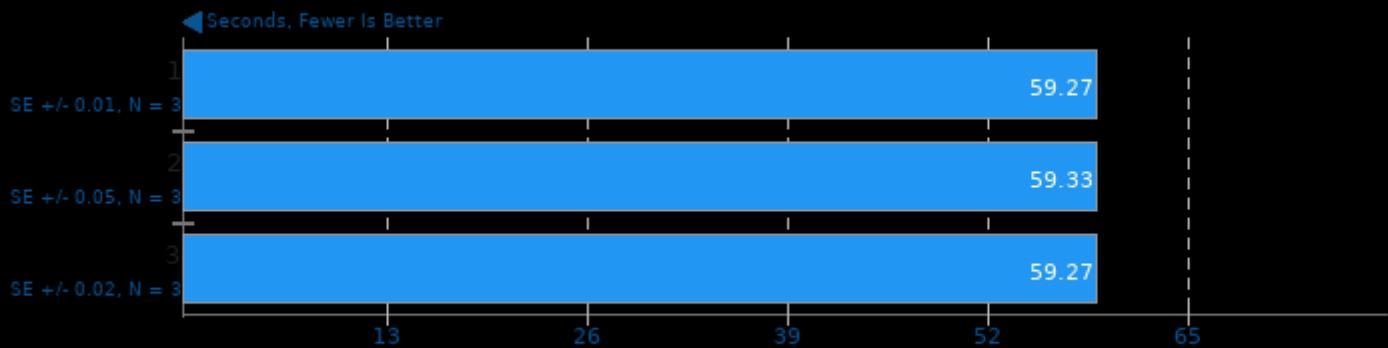
Settings: UASTC Level 0



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

## Basis Universal 1.12

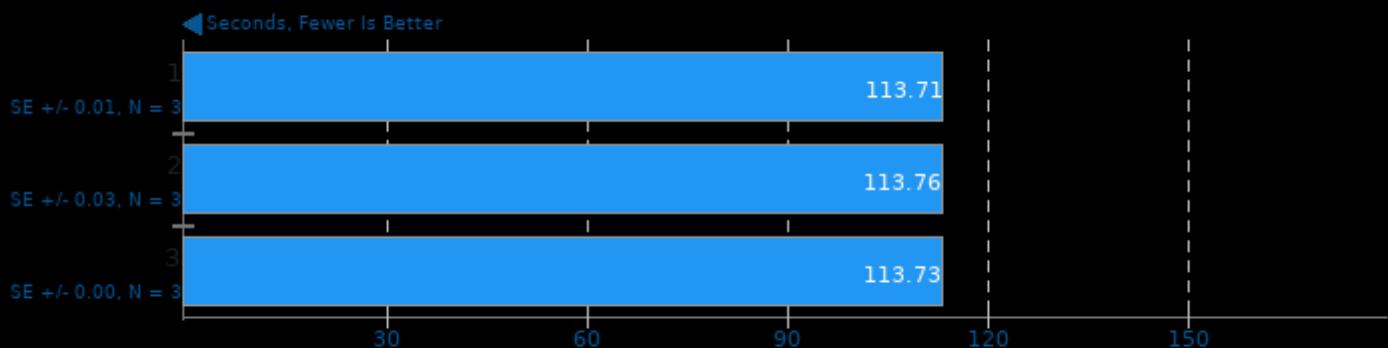
Settings: UASTC Level 2



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

## Basis Universal 1.12

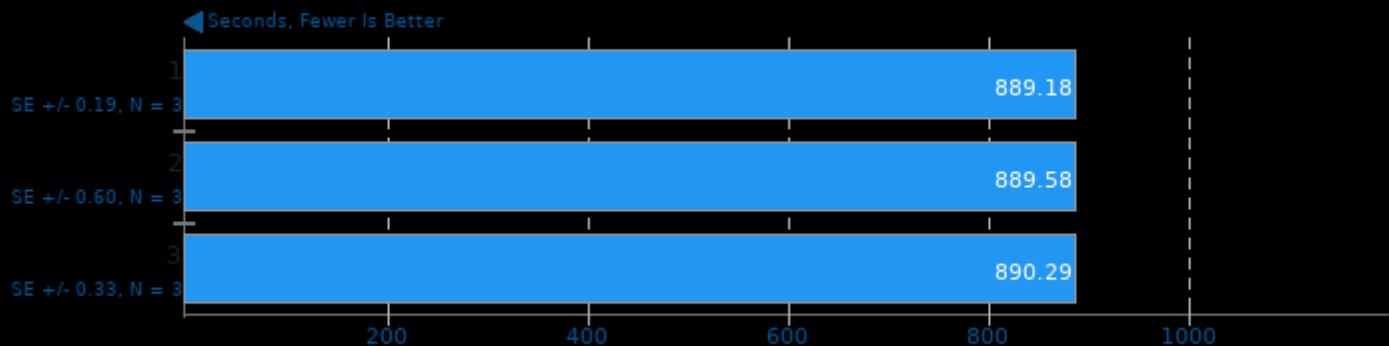
Settings: UASTC Level 3



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

## Basis Universal 1.12

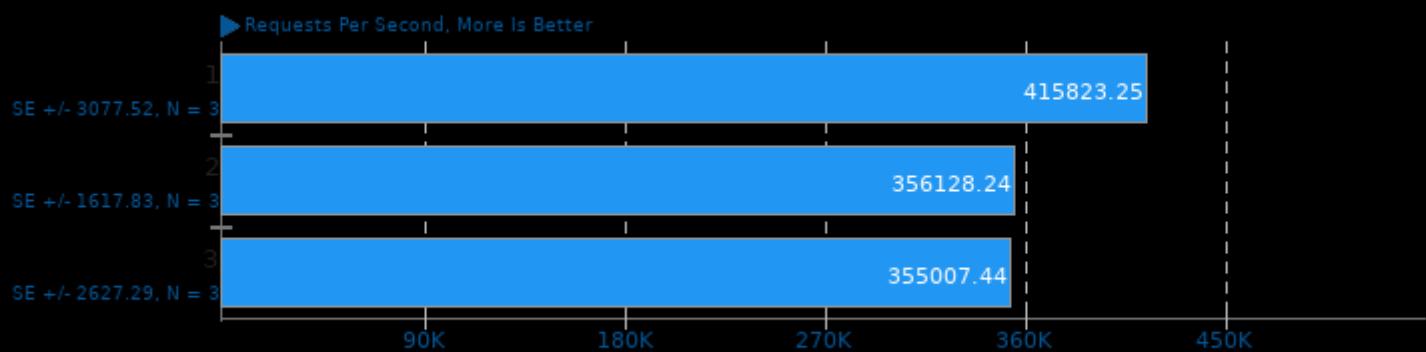
Settings: UASTC Level 2 + RDO Post-Processing



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

## Redis 6.0.9

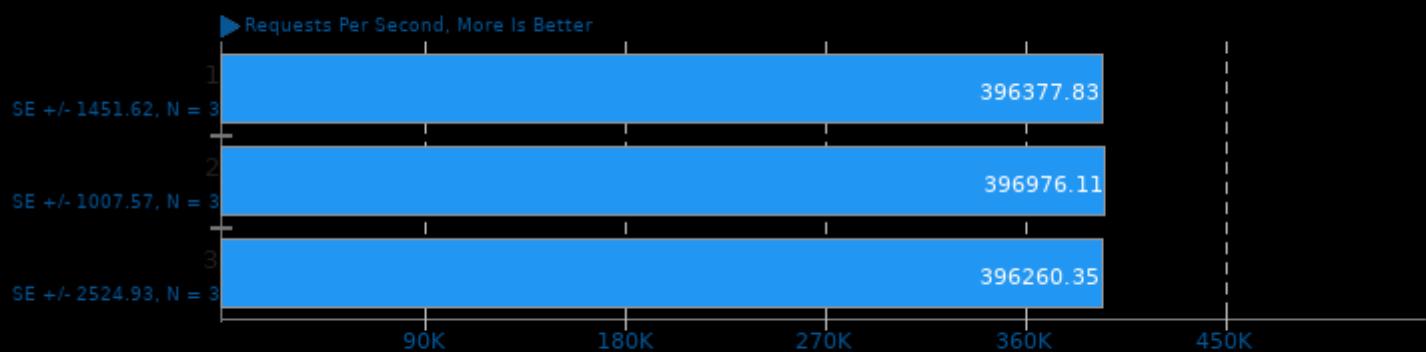
Test: LPOP



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

## Redis 6.0.9

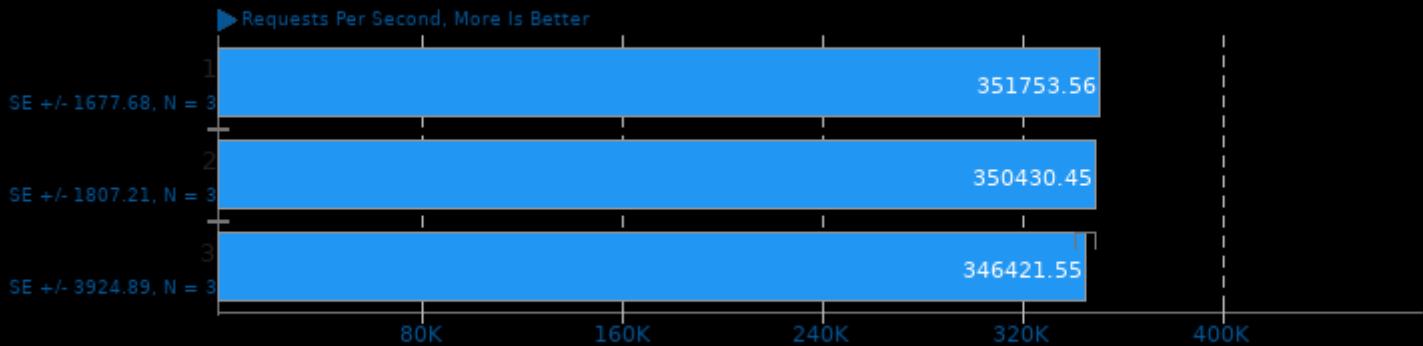
Test: SADD



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

## Redis 6.0.9

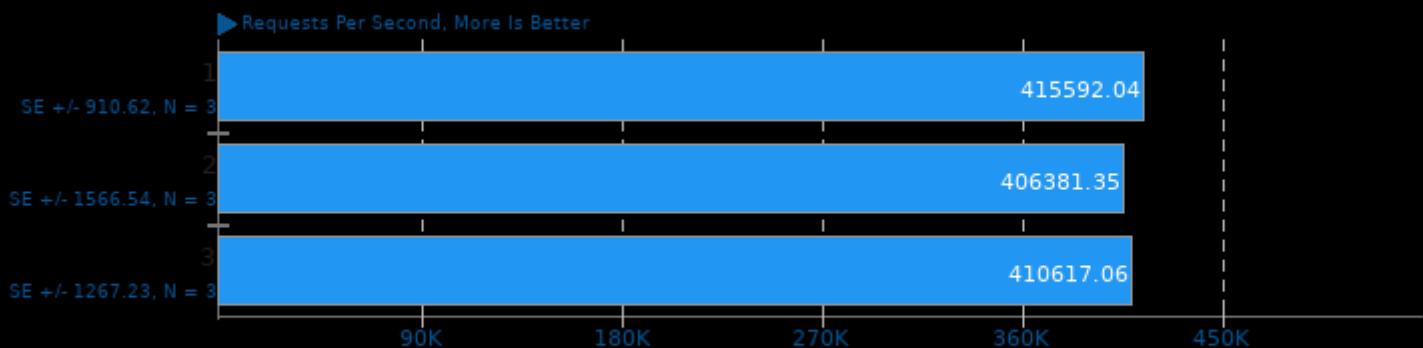
Test: LPUSH



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

## Redis 6.0.9

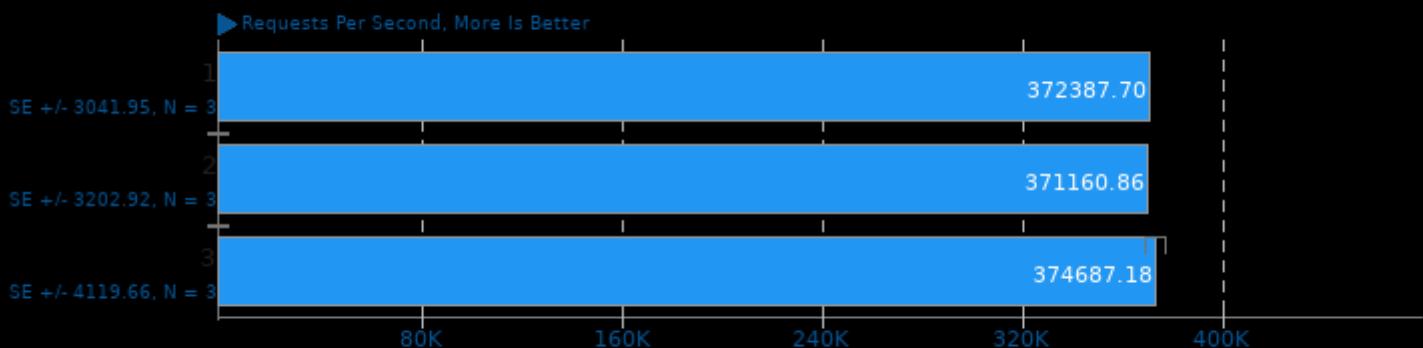
Test: GET



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

## Redis 6.0.9

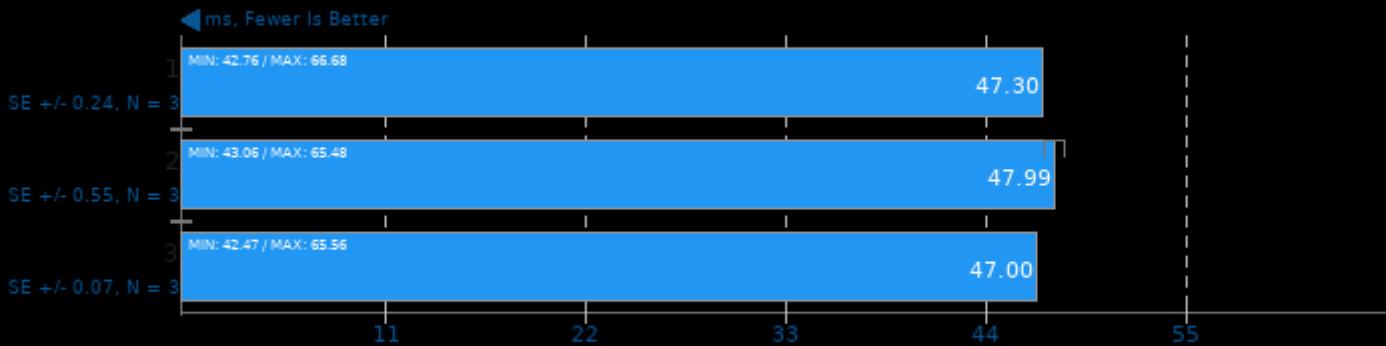
Test: SET



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

## NCNN 20200916

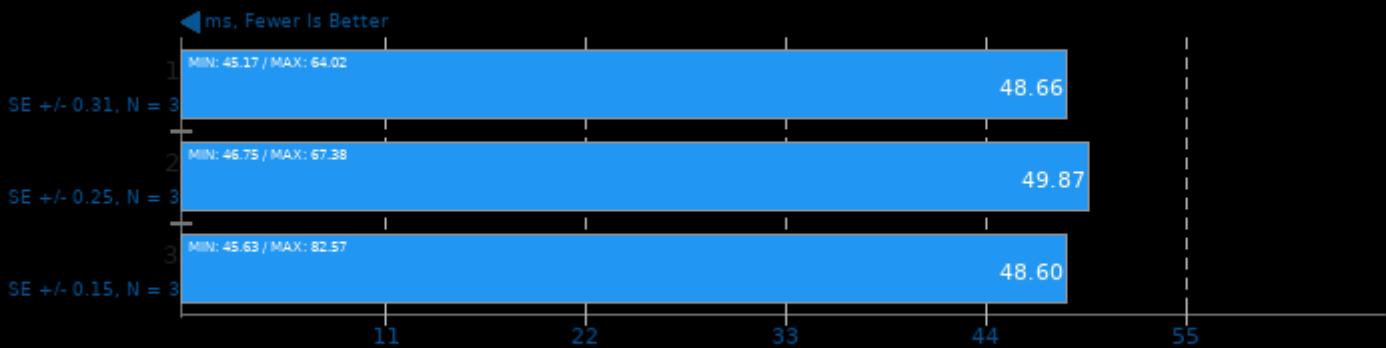
Target: CPU - Model: squeezeNet



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

## NCNN 20200916

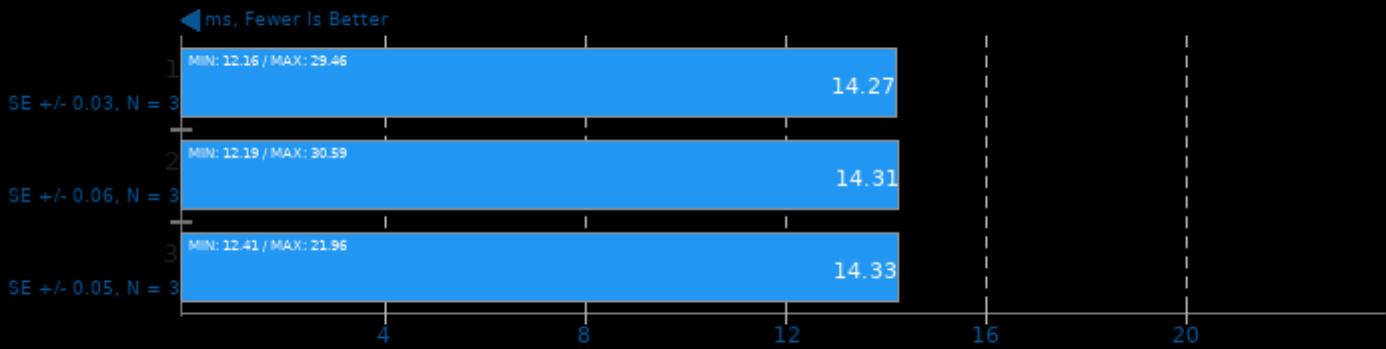
Target: CPU - Model: mobilenet



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

## NCNN 20200916

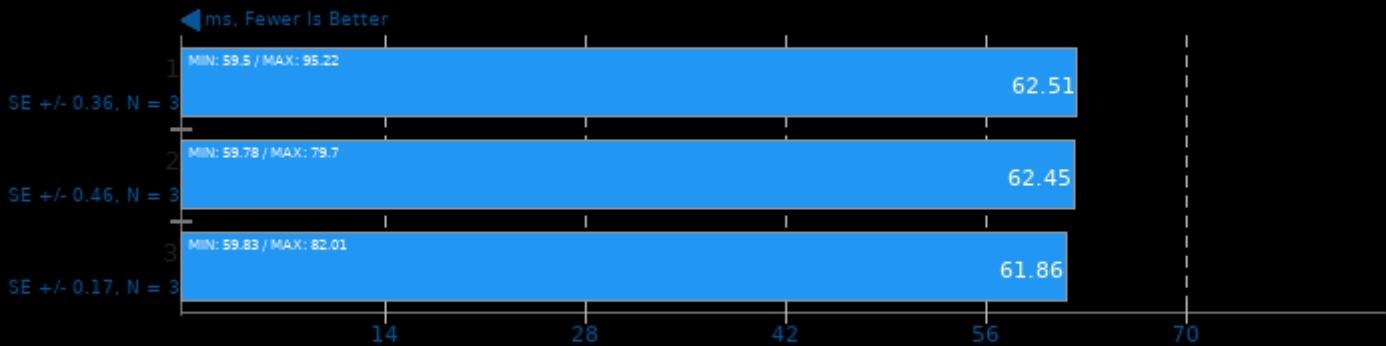
Target: CPU-v2-v2 - Model: mobilenet-v2



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

## NCNN 20200916

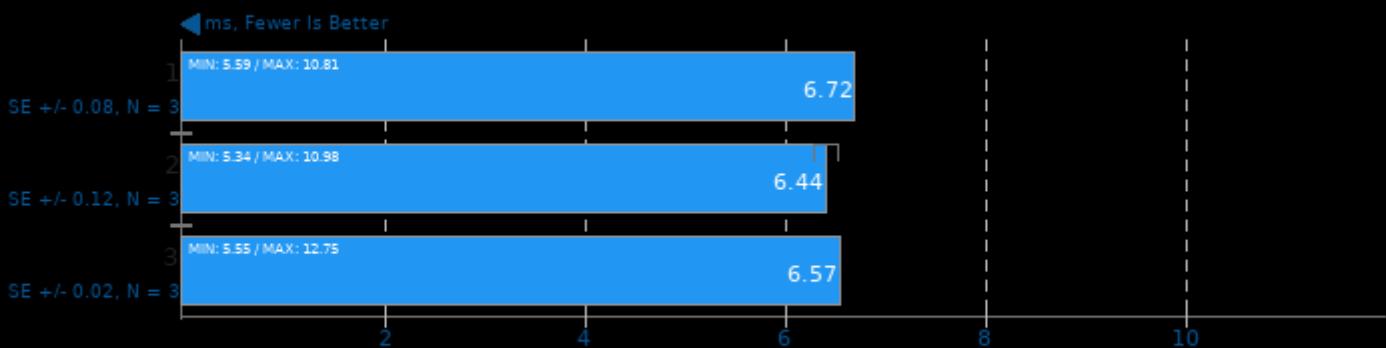
Target: CPU-v3-v3 - Model: mobilenet-v3



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

## NCNN 20200916

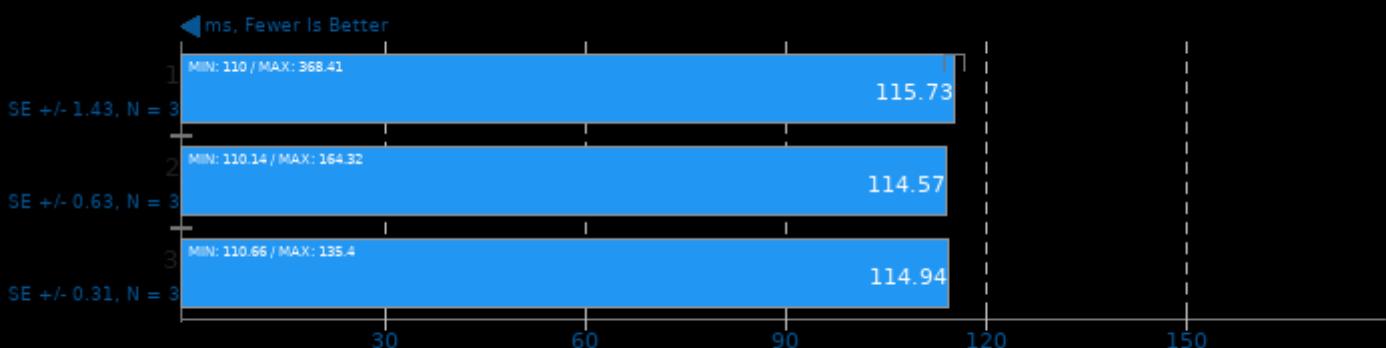
Target: CPU - Model: shufflenet-v2



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

## NCNN 20200916

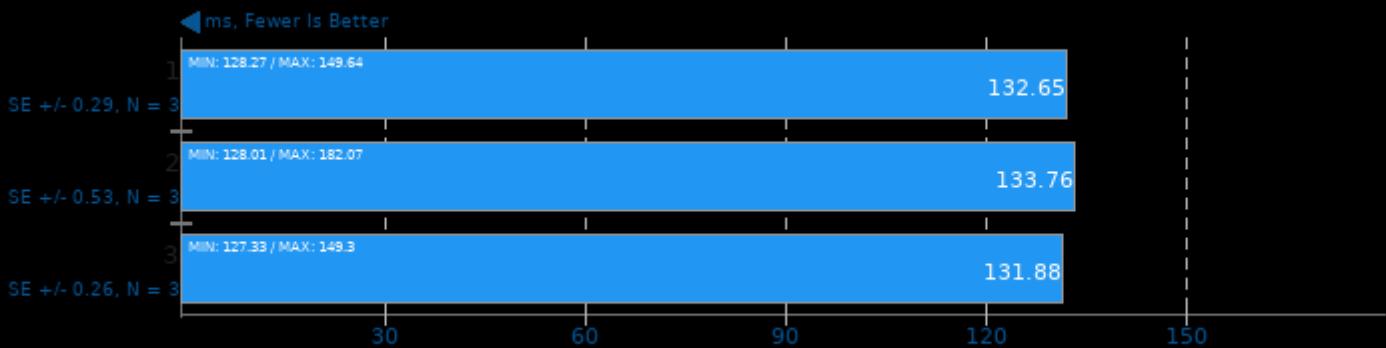
Target: CPU - Model: mnasnet



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

## NCNN 20200916

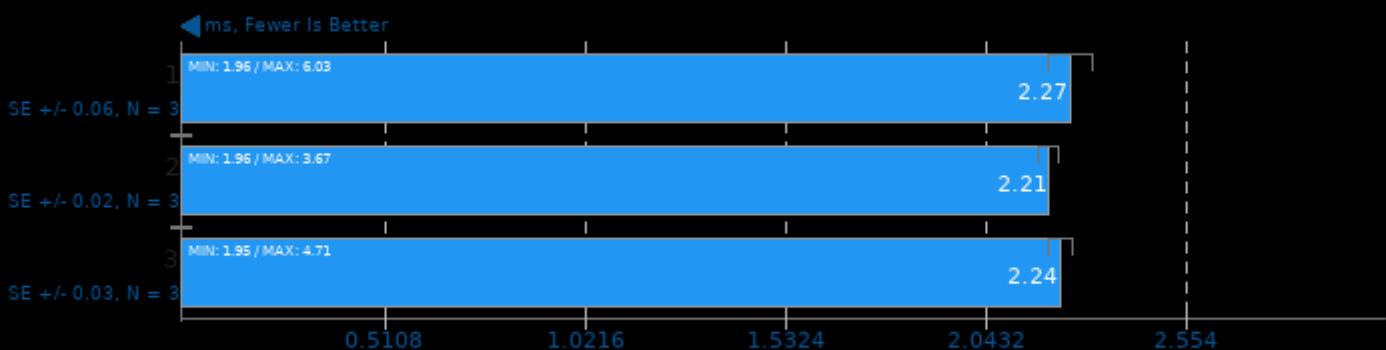
Target: CPU - Model: efficientnet-b0



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

## NCNN 20200916

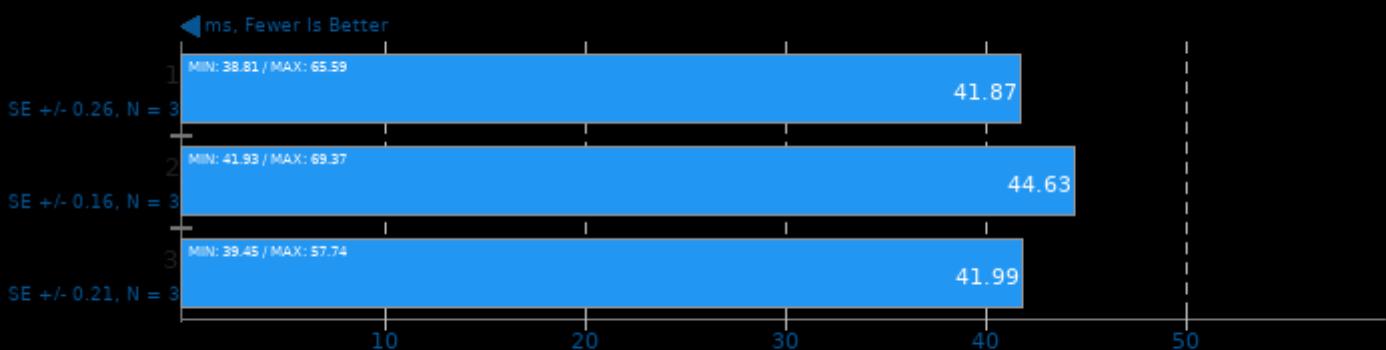
Target: CPU - Model: blazeface



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

## NCNN 20200916

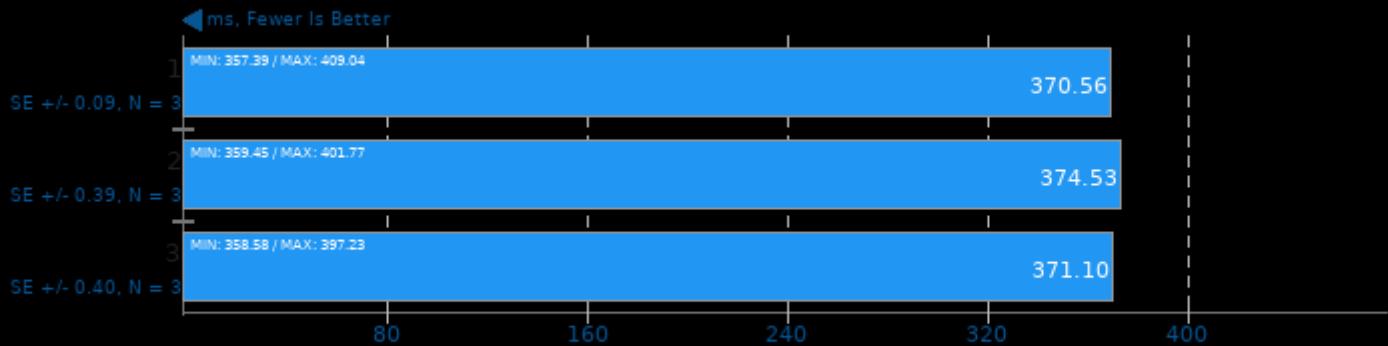
Target: CPU - Model: googlenet



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

**NCNN 20200916**

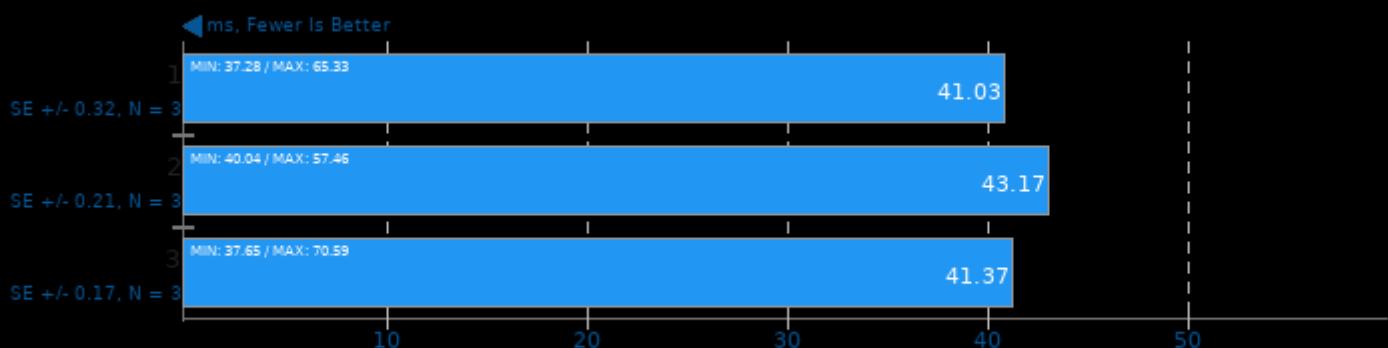
Target: CPU - Model: vgg16



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

**NCNN 20200916**

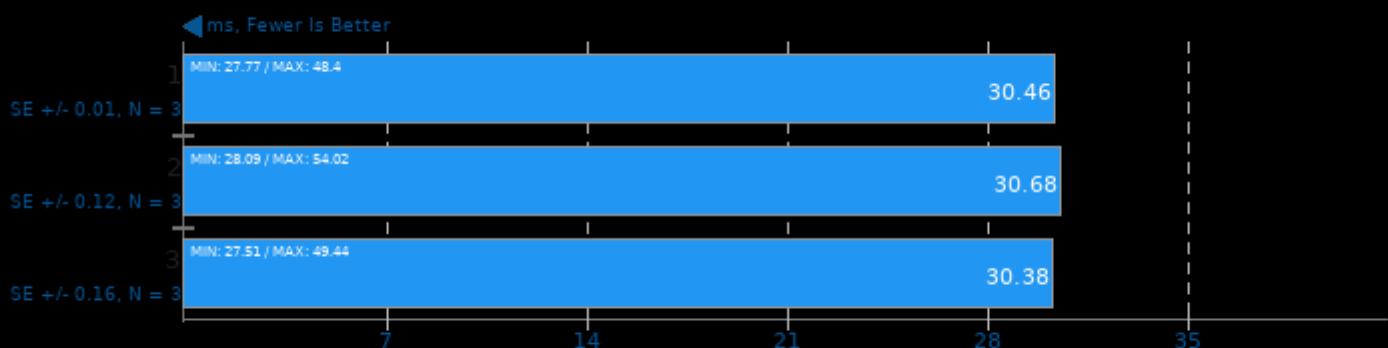
Target: CPU - Model: resnet18



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

**NCNN 20200916**

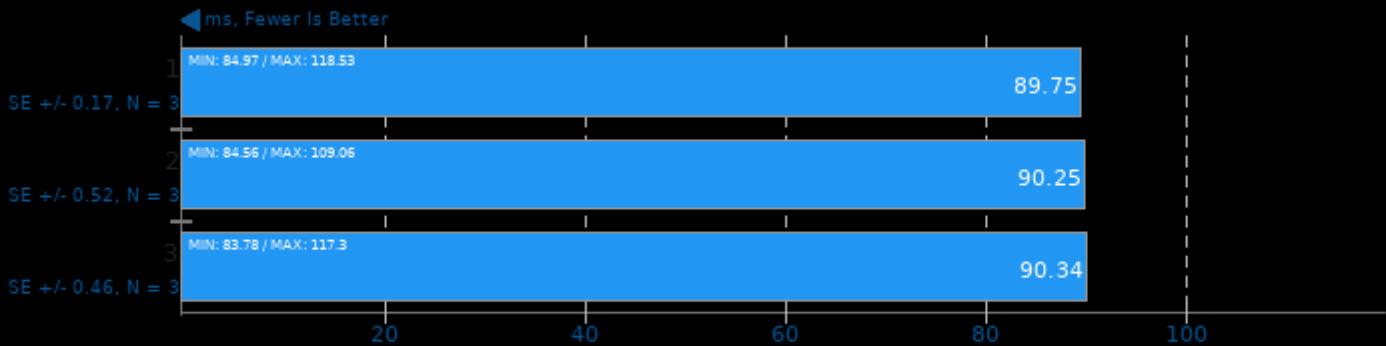
Target: CPU - Model: alexnet



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

## NCNN 20200916

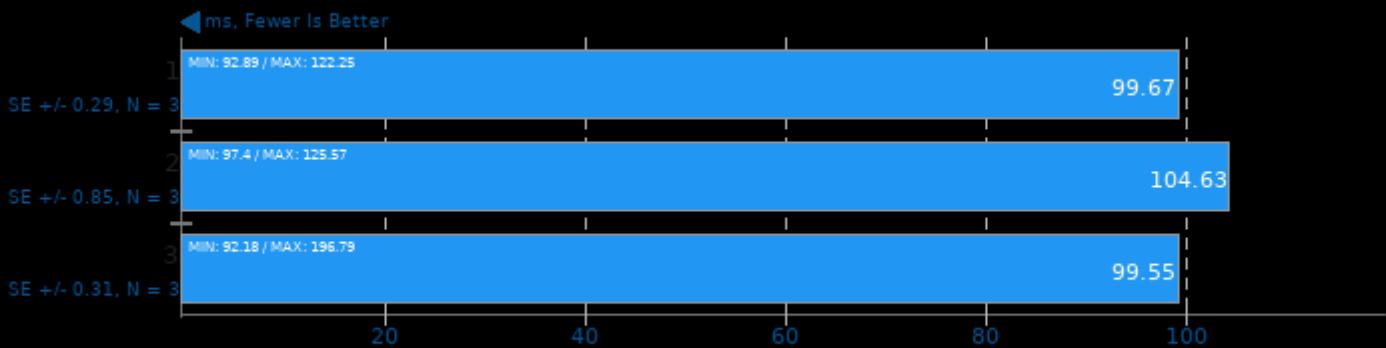
Target: CPU - Model: resnet50



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

## NCNN 20200916

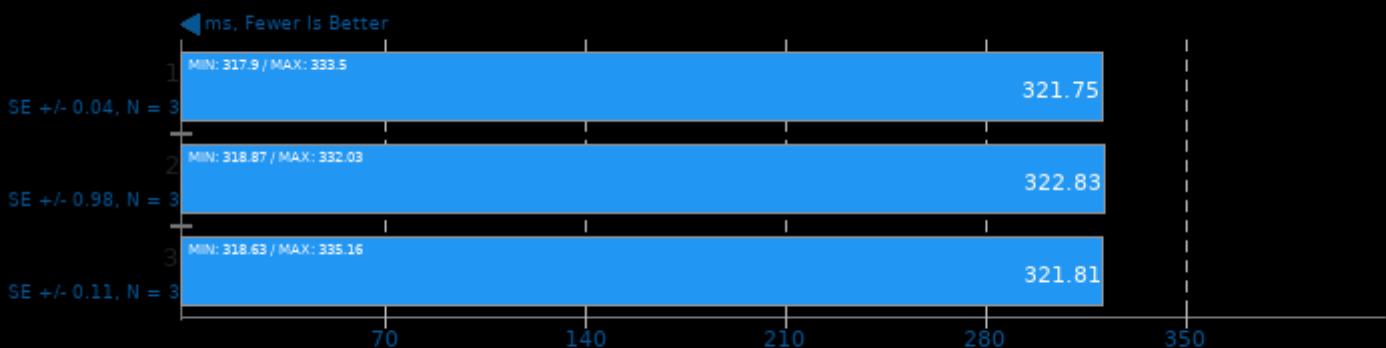
Target: CPU - Model: yolov4-tiny



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

## TNN 0.2.3

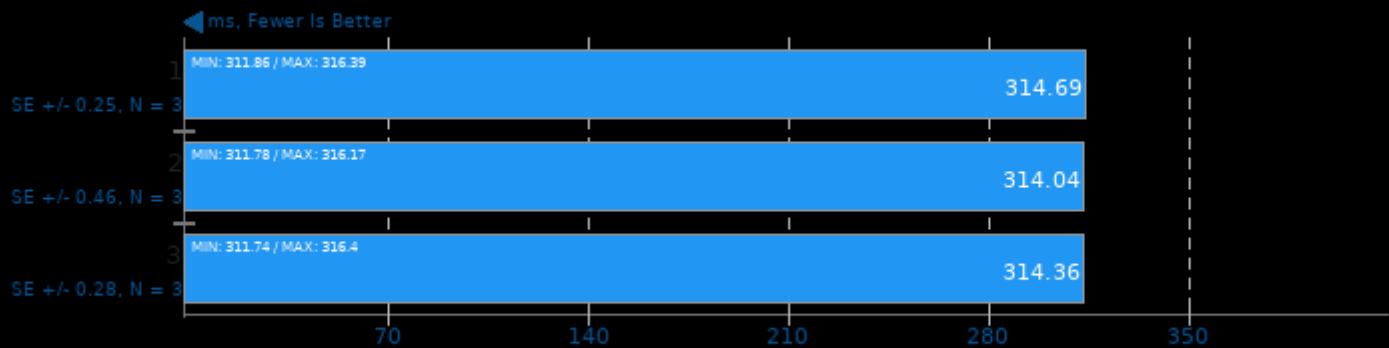
Target: CPU - Model: MobileNet v2



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

## TNN 0.2.3

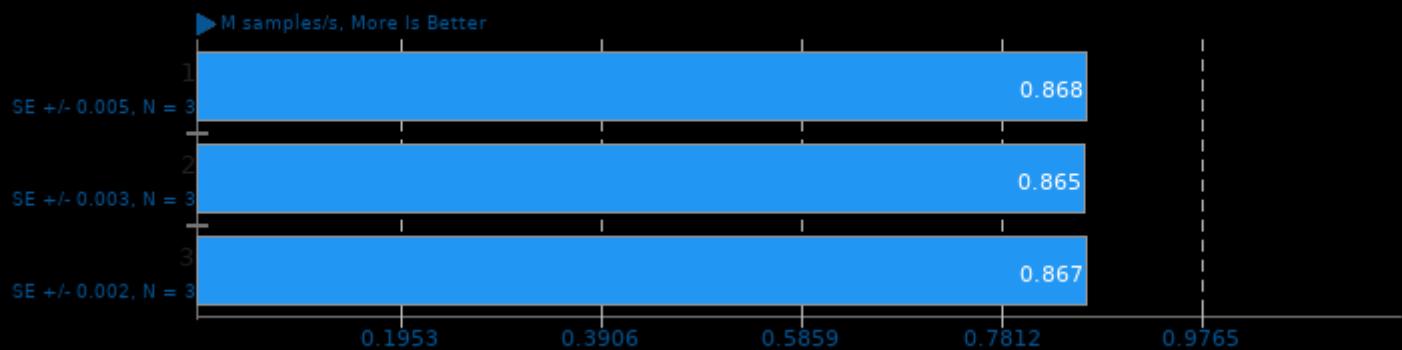
Target: CPU - Model: SqueezeNet v1.1



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

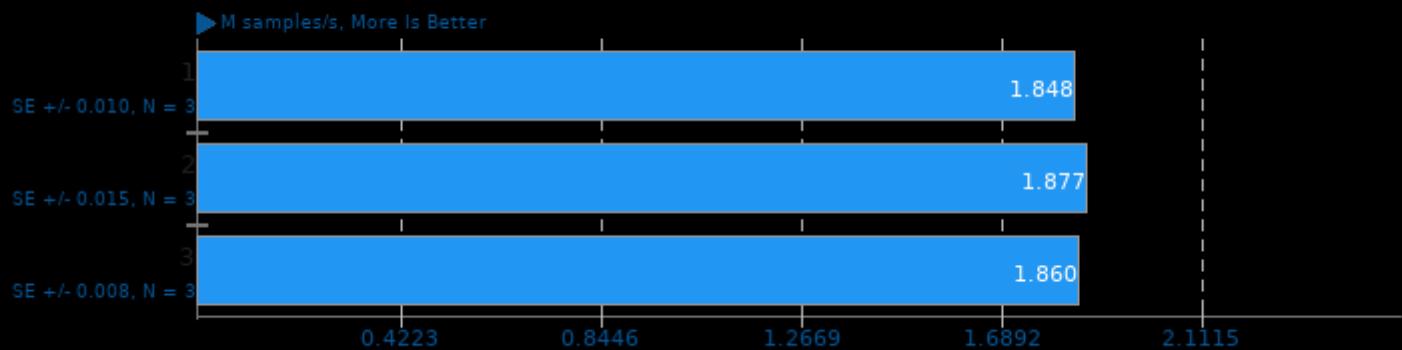
## IndigoBench 4.4

Acceleration: CPU - Scene: Bedroom



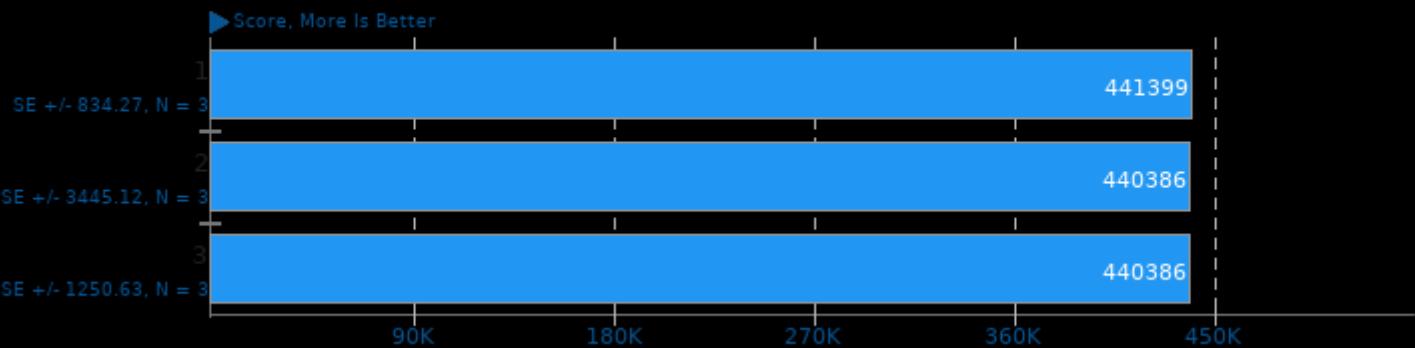
## IndigoBench 4.4

Acceleration: CPU - Scene: Supercar



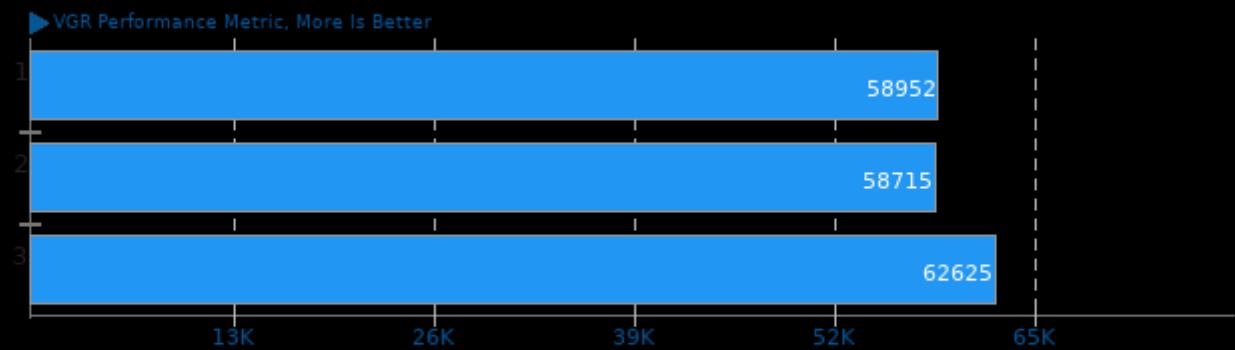
## PHPBench 0.8.1

PHP Benchmark Suite



## BRL-CAD 7.30.8

VGR Performance Metric

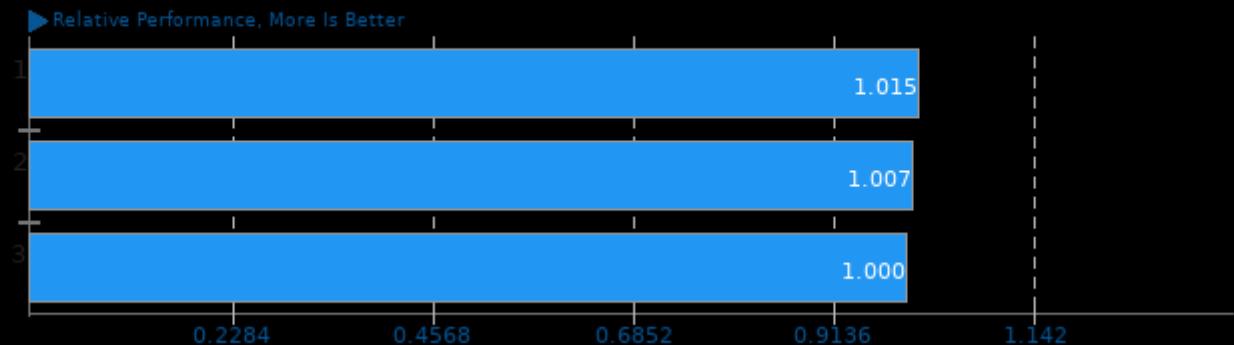


1. (CXX) g++ options: -std=c++11 -pipe -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth=128 -m64 -ggdb3 -O3 -fipa-pta -fstrength-reduce

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

### Geometric Mean Of Chess Test Suite

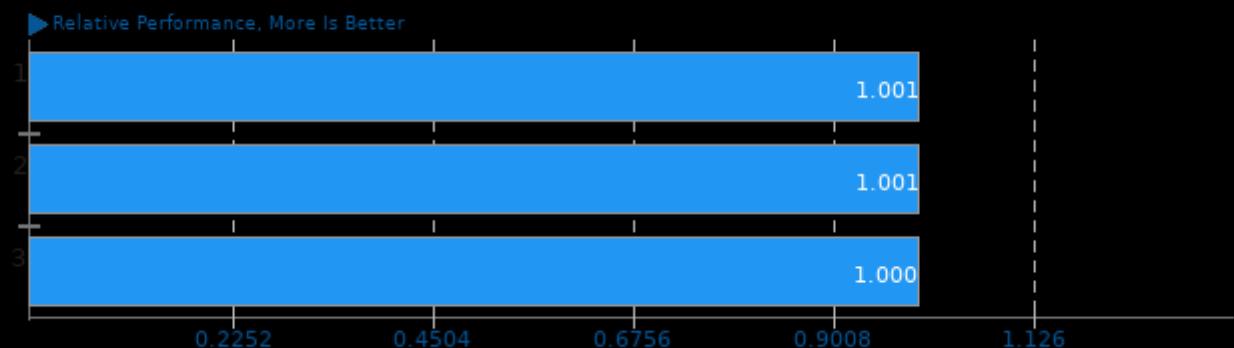
Result Composite - 4960X



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

### Geometric Mean Of C/C++ Compiler Tests

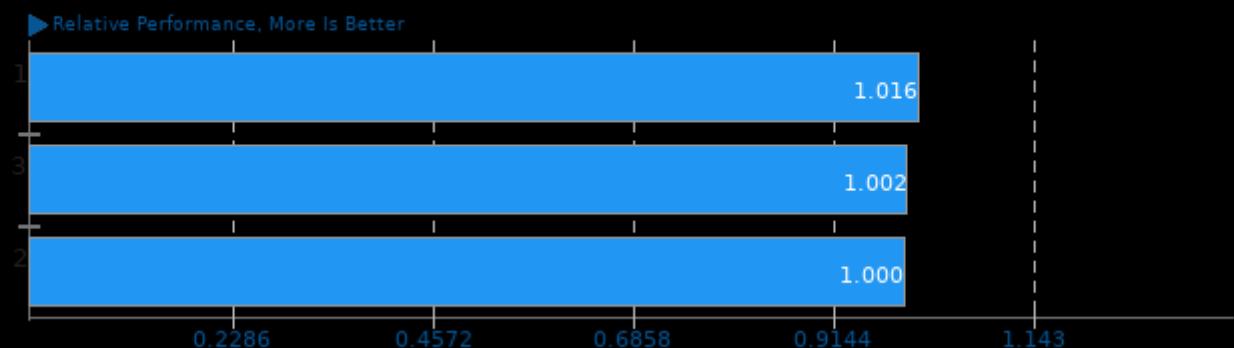
Result Composite - 4960X



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

### Geometric Mean Of CPU Massive Tests

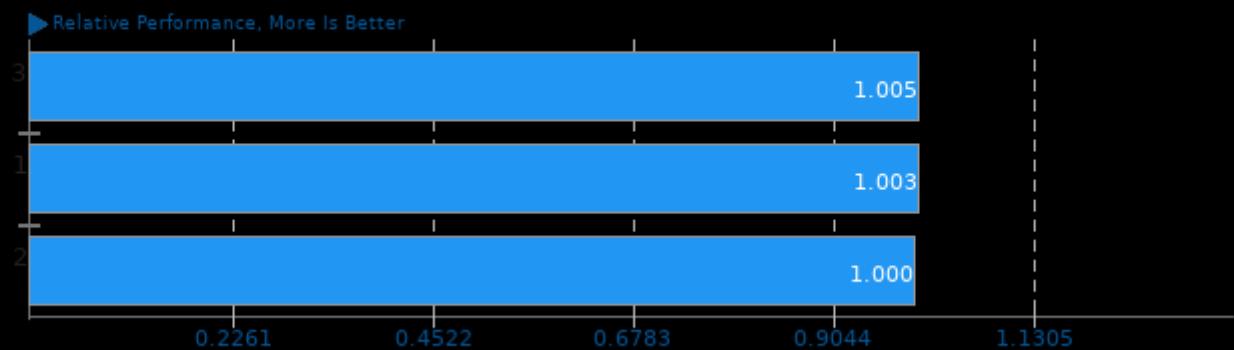
Result Composite - 4960X



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

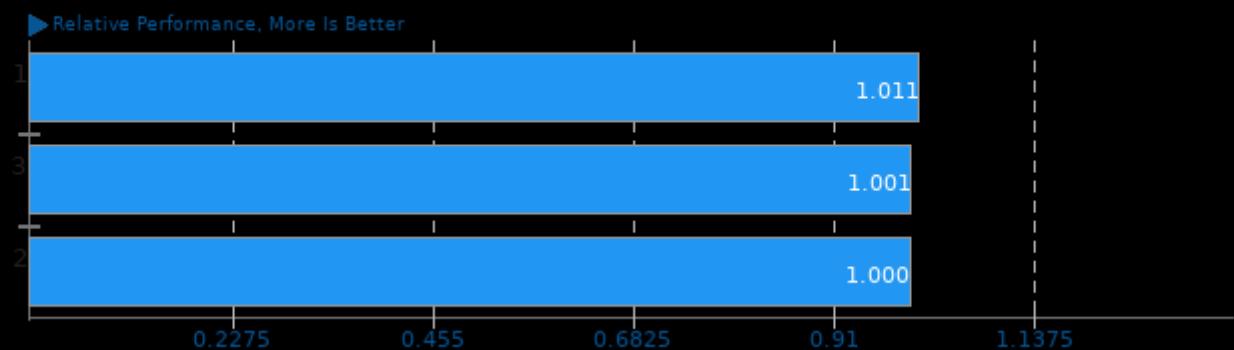
Result Composite - 4960X



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

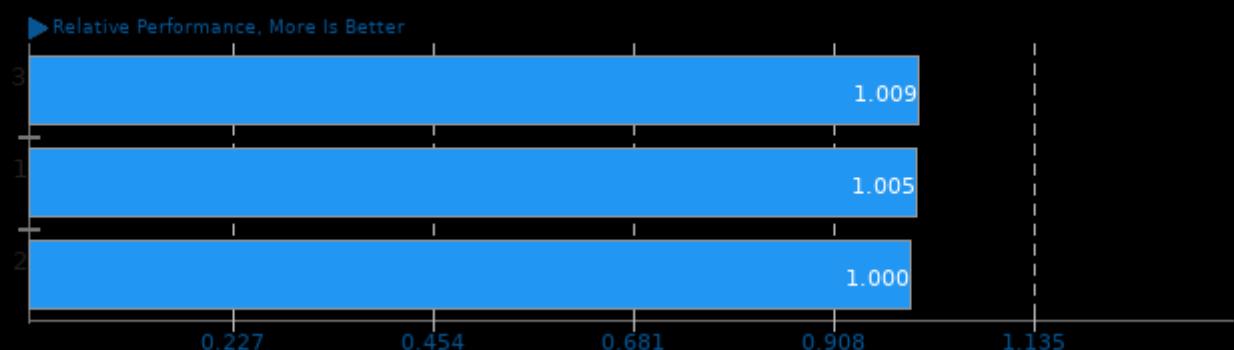
Result Composite - 4960X



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

## Geometric Mean Of HPC - High Performance Computing Tests

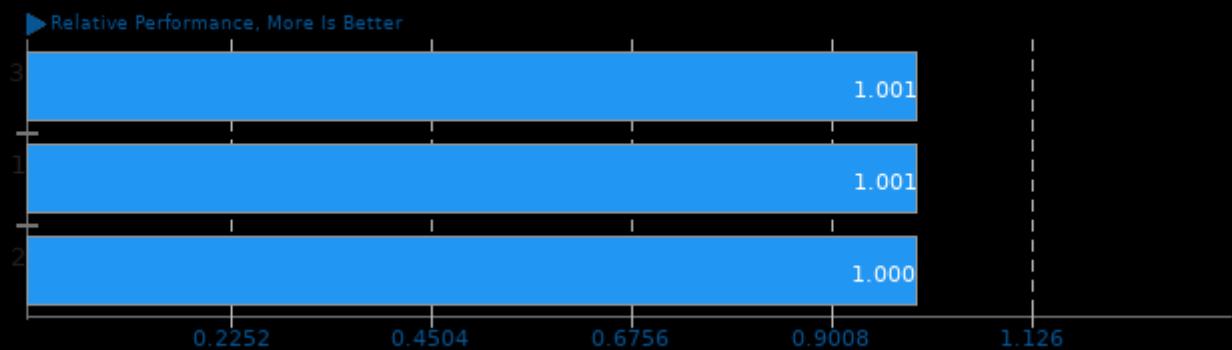
Result Composite - 4960X



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

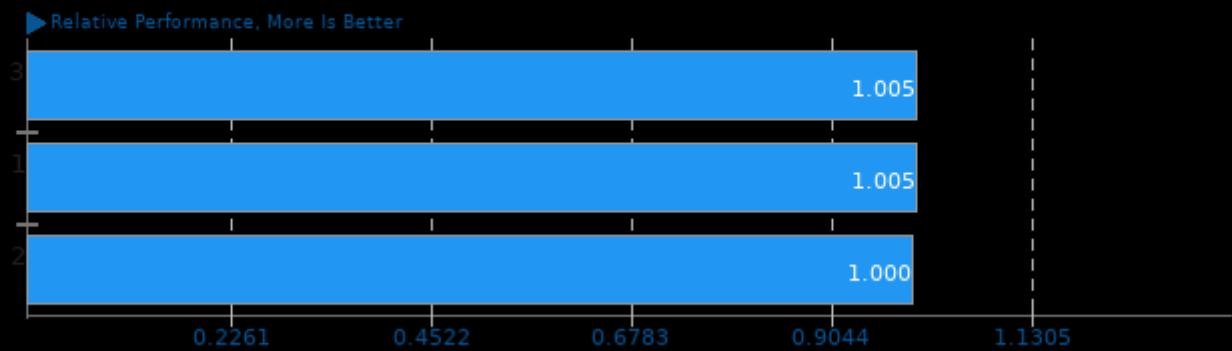
Result Composite - 4960X



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

## Geometric Mean Of Machine Learning Tests

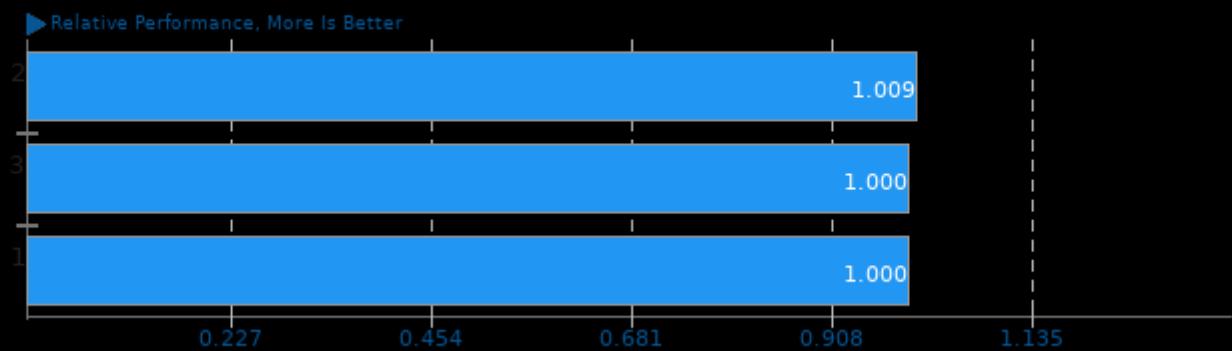
Result Composite - 4960X



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

## Geometric Mean Of Molecular Dynamics Tests

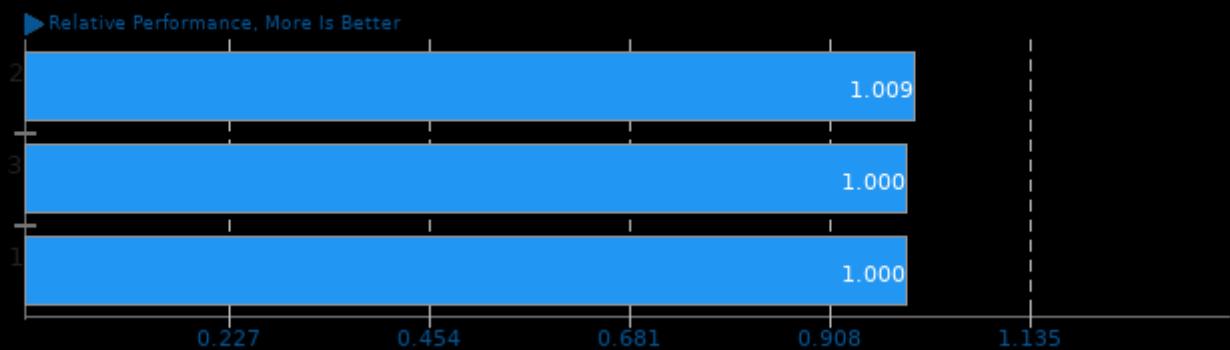
Result Composite - 4960X



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

## Geometric Mean Of MPI Benchmarks Tests

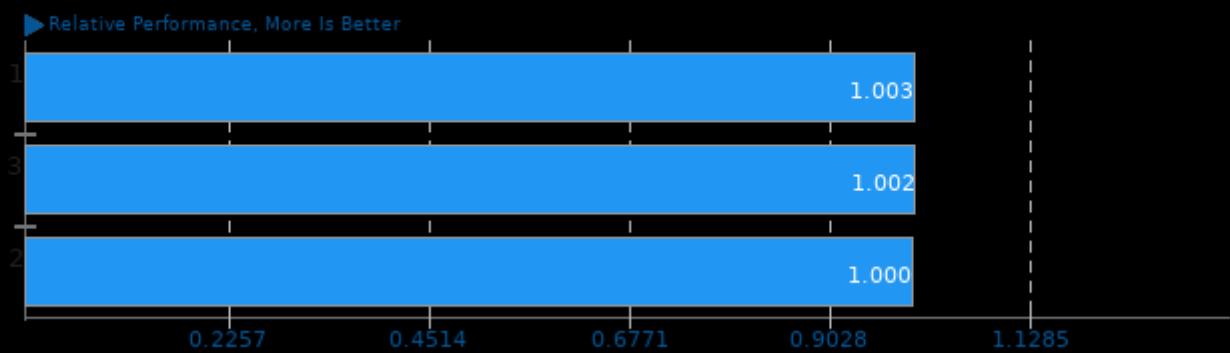
Result Composite - 4960X



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

## Geometric Mean Of Multi-Core Tests

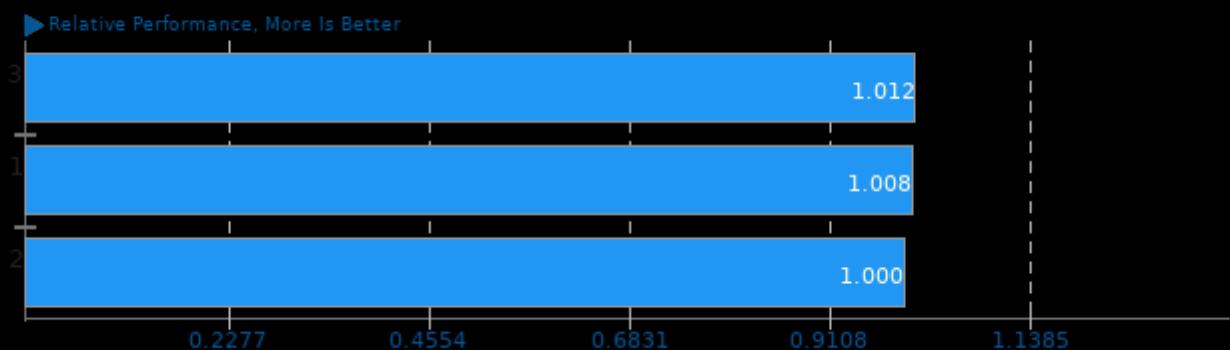
Result Composite - 4960X



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

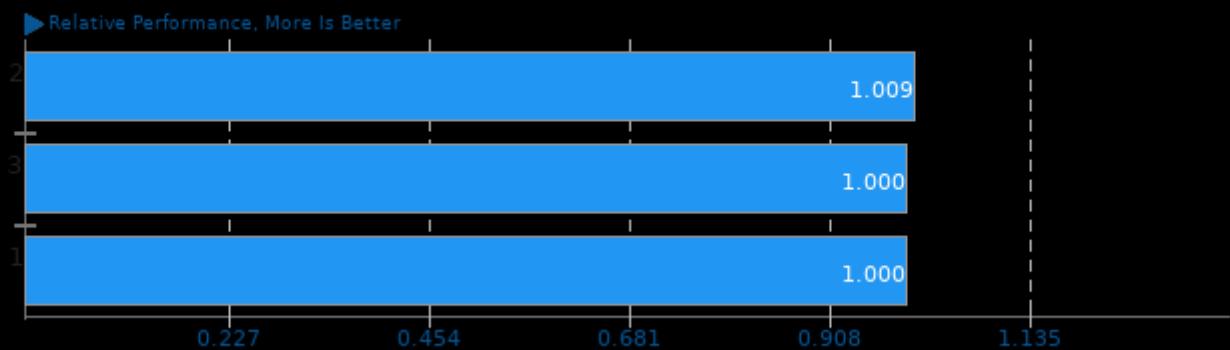
Result Composite - 4960X



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

## Geometric Mean Of OpenMPI Tests

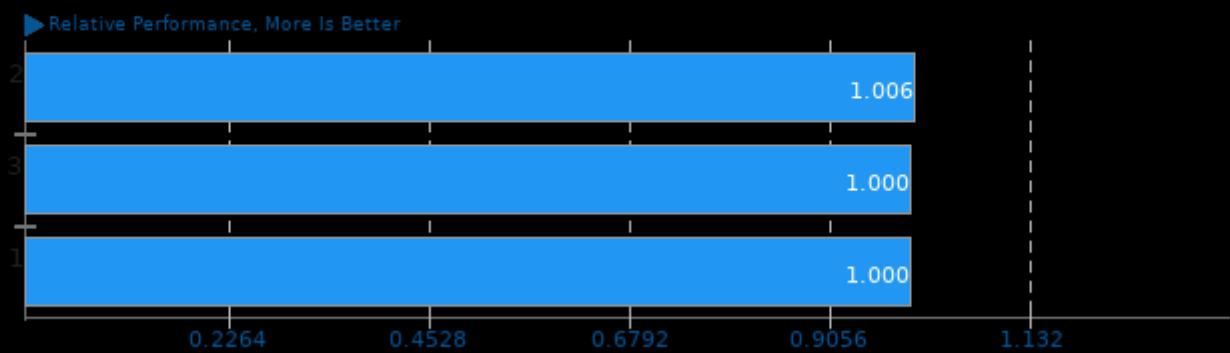
Result Composite - 4960X



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

## Geometric Mean Of Scientific Computing Tests

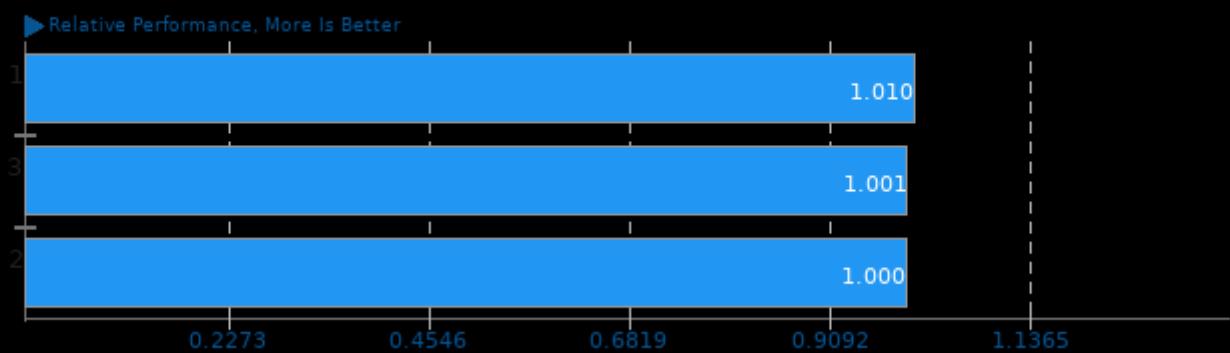
Result Composite - 4960X



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

## Geometric Mean Of Server Tests

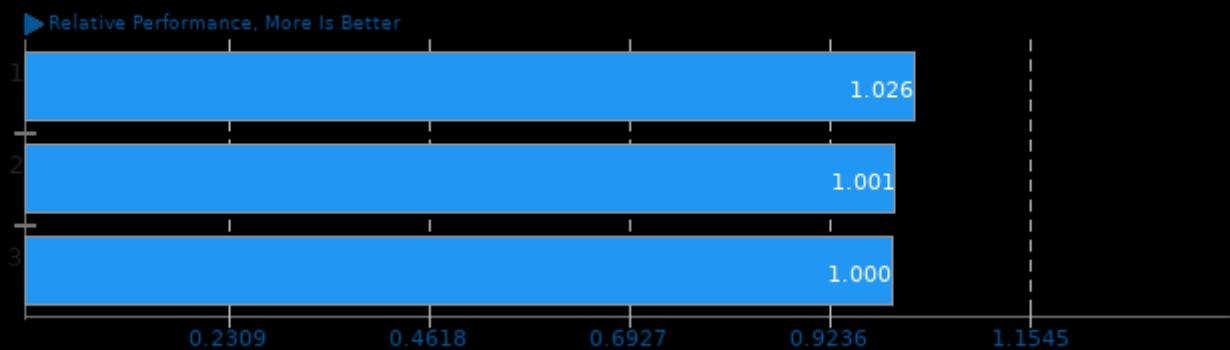
Result Composite - 4960X



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

## Geometric Mean Of Server CPU Tests

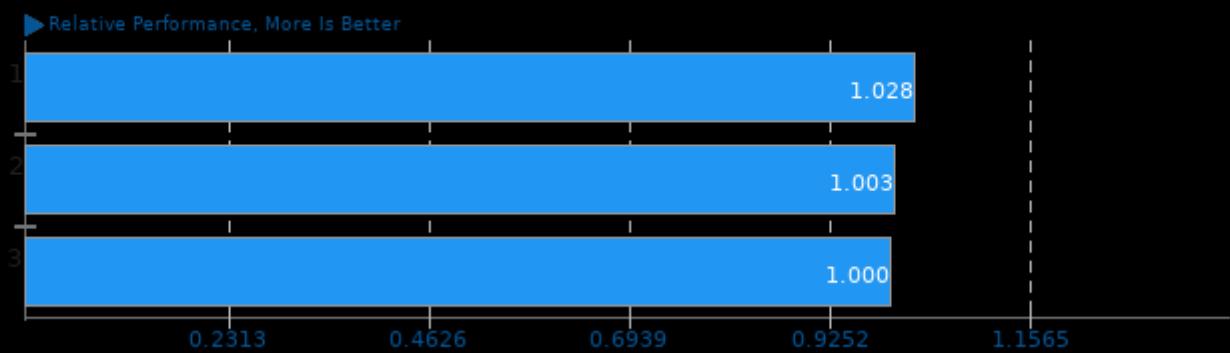
Result Composite - 4960X



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 Thursday, 28 March 2024 18:18.*