



## ubuntu-2010-onlogic

Intel Xeon E-2278GEL testing with a Logic Supply RXM-181 (Z01-0001A027 BIOS) and Intel UHD P630 3GB on Ubuntu 20.10 via the Phoronix Test Suite.

### Automated Executive Summary

*1a had the most wins, coming in first place for 49% of the tests.*

*Based on the geometric mean of all complete results, the fastest (1a) was 1.012x the speed of the slowest (1). 3 was 0.994x the speed of 1a, 2 was 0.999x the speed of 3, 1 was 0.994x the speed of 2.*

*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 4.983x*

*DDraceNetwork (Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2 - Total Frame Time) at 2.213x*

*Redis (Test: LPOP) at 1.635x*

*oneDNN (Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU) at 1.283x*

*oneDNN (Harness: Deconvolution Batch shapes\_3d - Data Type: f32 - Engine: CPU) at 1.263x*

*oneDNN (Harness: Deconvolution Batch shapes\_3d - Data Type: u8s8f32 - Engine: CPU) at 1.152x*

*oneDNN (Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU) at 1.105x*

Redis (Test: GET) at 1.054x

oneDNN (Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU) at 1.054x

NAS Parallel Benchmarks (Test / Class: EP.C) at 1.05x.

## Test Systems:

1

1a

2

3

Processor: Intel Xeon E-2278GEL @ 3.90GHz (8 Cores / 16 Threads), Motherboard: Logic Supply RXM-181 (Z01-0001A027 BIOS), Chipset: Intel Cannon Lake PCH, Memory: 16GB, Disk: 512GB TS512GMTE510T, Graphics: Intel UHD P630 3GB (1150MHz), Audio: Realtek ALC233, Monitor: DELL P2415Q, Network: Intel I219-LM + 2 x Intel I210

OS: Ubuntu 20.10, Kernel: 5.8.0-41-generic (x86\_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, Display Driver: intel, OpenGL: 4.6 Mesa 20.2.6, Vulkan: 1.2.145, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86\_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,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,amdgc-n-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: Scaling Governor: intel\_pstate powersave - CPU Microcode: 0xde - Thermald 2.3

Python Notes: Python 3.8.6

Security Notes: itlb\_multihit: KVM: Mitigation of VMX disabled + I1tf: Not affected + mds: Not affected + meltdown: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Mitigation of TSX disabled + tsx\_async\_abort: Mitigation of TSX disabled

	1	1a	2	3
<b>VkFFT (Benchmark Score)</b>	<b>1273</b>	<b>1296</b>	1285	1287
<b>Normalized</b>	98.23%	100%	99.15%	99.31%
<b>Standard Deviation</b>	0.2%	0.1%	0.1%	
<b>VkResample - 2x - Single (ms)</b>	<b>501.908</b>	<b>498.532</b>	500.911	500.685
<b>Normalized</b>	99.33%	100%	99.53%	99.57%
<b>Standard Deviation</b>	0.1%	0.1%	0.1%	0.1%

DDraceNetwork - 1920 x 1080 - 92.07			
Fullscreen - OpenGL 3.3 - Default - RaiNyMore2 (FPS)			
Standard Deviation	0.4%		
DDraceNetwork - 1920 x 1080 - 209.31			
Fullscreen - OpenGL 3.3 - Default - Multeasymap (FPS)			
Standard Deviation	0.7%		
Warsow - 1920 x 1080 (FPS) 62.9			
Standard Deviation	1%		
VkResample - 2x - Double (ms)	<b>1004</b>	1006	<b>1008</b>
Normalized	100%	99.85%	99.64%
Standard Deviation	0.6%	0.6%	0.7%
VKMark - 1920 x 1080 (VKMark Score)	<b>525</b>	518	<b>517</b>
Normalized	100%	98.67%	98.48%
Standard Deviation	0.8%	0.2%	0.2%
QuantLib (MFLOPS)	<b>2181</b>	2185	<b>2187</b>
Normalized	99.7%	99.9%	100%
Standard Deviation	1.5%	1.1%	1.4%
Etcpak - DXT1 (Mpx/s)	<b>1209</b>	<b>1203</b>	1209
Normalized	100%	99.52%	99.98%
Standard Deviation	0.3%	0.1%	0.2%
Etcpak - ETC1 (Mpx/s)	<b>299.463</b>	<b>298.894</b>	299.215
Normalized	100%	99.81%	99.92%
Standard Deviation	0%	0.2%	0.2%
Etcpak - ETC2 (Mpx/s)	165.242	<b>164.078</b>	<b>165.255</b>
Normalized	99.99%	99.29%	100%
Standard Deviation	0%	0.9%	0%
Etcpak - ETC1 + Dithering (Mpx/s)	<b>280.771</b>	<b>279.658</b>	280.583
Normalized	100%	99.6%	99.93%
Standard Deviation	0.1%	0.6%	0%
NAS Parallel Benchmarks - CG.C (Mop/s)	<b>2906</b>	<b>2882</b>	2901
Normalized	100%	99.17%	99.84%
Standard Deviation	0.1%	0.1%	0.1%
NAS Parallel Benchmarks - EP.C (Mop/s)	1018	<b>983.13</b>	<b>1032</b>
Normalized	98.62%	95.26%	100%
Standard Deviation	2.8%	0.3%	0.2%
NAS Parallel Benchmarks - EP.D (Mop/s)	870.70	<b>860.27</b>	<b>881.34</b>
Normalized	98.79%	97.61%	100%
Standard Deviation	4.3%	3.5%	2.7%
NAS Parallel Benchmarks - FT.C (Mop/s)	<b>7366</b>	<b>7371</b>	7370
Normalized	99.92%	100%	99.98%
Standard Deviation	0.3%	0.2%	0.4%
NAS Parallel Benchmarks - LU.C (Mop/s)	<b>15452</b>	15459	<b>15474</b>
Normalized	99.86%	99.91%	100%
Standard Deviation	0.1%	0.1%	0.2%

<b>NAS Parallel Benchmarks - MG.C</b>	<b>5681</b>	5669	<b>5661</b>
(Mop/s)			
Normalized	100%	99.79%	99.66%
Standard Deviation	0.2%	0%	0.3%
<b>CloverLeaf - L.E.H (sec)</b>	<b>300.05</b>	<b>303.97</b>	303.67
Normalized	100%	98.71%	98.81%
Standard Deviation	0%	0.1%	0%
<b>CP2K Molecular Dynamics -</b>	<b>1478</b>	1478	<b>1480</b>
<b>Fayalite-FIST Data (sec)</b>			
Normalized	100%	99.97%	99.86%
<b>CLOMP - Static OMP Speedup</b>	<b>2.9</b>	<b>3.0</b>	<b>3.0</b>
(Speedup)			
Normalized	96.67%	100%	100%
Standard Deviation	2%	3%	1.9%
<b>Izbench - XZ 0 - Compression (MB/s)</b>	38	38	38
<b>Izbench - XZ 0 - Decompression</b>	105	105	105
Standard Deviation			0.6%
<b>Izbench - Zstd 1 - Compression (MB/s)</b>	<b>452</b>	451	<b>450</b>
Normalized	100%	99.78%	99.56%
Standard Deviation	0.2%	0.3%	0.6%
<b>Izbench - Zstd 1 - Decompression</b>	<b>1607</b>	<b>1607</b>	<b>1610</b>
Normalized	99.81%	99.81%	100%
Standard Deviation	0.4%	0.3%	0.2%
<b>Izbench - Zstd 8 - Compression (MB/s)</b>	<b>81</b>	<b>82</b>	<b>82</b>
Normalized	98.78%	100%	100%
<b>Izbench - Zstd 8 - Decompression</b>	1743	<b>1748</b>	<b>1739</b>
Normalized	99.71%	100%	99.49%
Standard Deviation	1.1%		0.8%
<b>Izbench - Crush 0 - Compression</b>	<b>101</b>	<b>102</b>	<b>101</b>
Normalized	99.02%	100%	99.02%
Standard Deviation	0.6%		1.7%
<b>Izbench - Crush 0 - Decompression</b>	450	450	450
(MB/s)			
<b>Izbench - Brotli 0 - Compression</b>	<b>416</b>	<b>419</b>	417
Normalized	99.28%	100%	99.52%
Standard Deviation			0.1%
<b>Izbench - Brotli 0 - Decompression</b>	<b>562</b>	<b>564</b>	<b>562</b>
(MB/s)			
Normalized	99.65%	100%	99.65%
Standard Deviation	0.3%	0.1%	
<b>Izbench - Brotli 2 - Compression</b>	<b>168</b>	<b>170</b>	169
Normalized	98.82%	100%	99.41%
<b>Izbench - Brotli 2 - Decompression</b>	<b>650</b>	<b>650</b>	<b>651</b>
(MB/s)			
Normalized	99.85%	99.85%	100%
Standard Deviation	0.2%		
<b>Izbench - Libdeflate 1 - Compression</b>	<b>213</b>	<b>214</b>	<b>214</b>
(MB/s)			
Normalized	99.53%	100%	100%
<b>Algebraic Multi-Grid Benchmark</b>	<b>122372167</b>	<b>122317033</b>	122334467
(Figure Of Merit)			
Normalized	100%	99.95%	99.97%
Standard Deviation	0%	0%	0%

QMCPACK - simple-H2O (Execution Time - sec)	38.534	38.049	38.453
Normalized	98.74%	100%	98.95%
Standard Deviation	2.9%	2.9%	2.8%
Timed HMMer Search - P.D.S (sec)	131.265	131.309	131.235
Normalized	99.98%	99.94%	100%
Standard Deviation	0.1%	0%	0%
Timed MAFFT Alignment - M.S.A - LSU RNA (sec)	12.585	12.606	12.536
Normalized	99.61%	99.44%	100%
Standard Deviation	0.3%	1.3%	0.4%
OpenFOAM - Motorbike 30M (sec)	464.54	464.94	464.97
Normalized	100%	99.91%	99.91%
Standard Deviation	0.1%	0%	0.1%
Quantum ESPRESSO - AUSURF112 (sec)	2191	2164	2159
Normalized	98.52%	99.75%	100%
Standard Deviation	1.6%	1.1%	0.5%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein	5.002	4.994	5.011
Normalized	99.82%	99.66%	100%
Standard Deviation	0.6%	0.4%	0.1%
LULESH (z/s)	2738	2738	2739
Normalized	99.96%	99.95%	100%
Standard Deviation	0.2%	0.1%	0.1%
simdjson - Kostya (GB/s)	0.48	0.48	0.48
Standard Deviation	1.2%	1.2%	1.2%
simdjson - LargeRand (GB/s)	0.37	0.37	0.37
Standard Deviation	0%	0%	0%
simdjson - PartialTweets (GB/s)	0.6	0.6	0.6
Standard Deviation	0%	0%	0%
simdjson - DistinctUserID (GB/s)	0.61	0.61	0.62
Normalized	98.39%	98.39%	100%
Standard Deviation	0.9%	0%	0.9%
LZ4 Compression - 1 - Compression Speed (MB/s)	5218	5224	5163
Normalized	99.88%	100%	98.82%
Standard Deviation	0%	0.1%	0.2%
LZ4 Compression - 1 - D.S (MB/s)	6004	6043	6035
Normalized	99.35%	100%	99.86%
Standard Deviation	0.2%	0%	0.1%
LZ4 Compression - 3 - Compression Speed (MB/s)	44.53	44.84	44.88
Normalized	99.22%	99.91%	100%
Standard Deviation	0%	0%	0%
LZ4 Compression - 3 - D.S (MB/s)	5984	5980	5982
Normalized	100%	99.95%	99.97%
Standard Deviation	0%	0%	0%
LZ4 Compression - 9 - Compression Speed (MB/s)	43.44	43.74	43.76
Normalized	99.27%	99.95%	100%
Standard Deviation	0%	0%	0%
LZ4 Compression - 9 - D.S (MB/s)	5990	5983	5980
Normalized	100%	99.89%	99.83%

	Standard Deviation	0.1%	0%	0%
	<b>Zstd Compression - 3 (MB/s)</b>	<b>1611</b>	<b>1606</b>	1607
	Normalized	100%	99.65%	99.71%
	Standard Deviation	0.1%	0.4%	0.6%
	<b>Zstd Compression - 19 (MB/s)</b>	12.5	12.5	12.5
	Standard Deviation	0%	0%	0%
	<b>Crafty - Elapsed Time (Nodes/s)</b>	<b>7355877</b>	7462464	<b>7480933</b>
	Normalized	98.33%	99.75%	100%
	Standard Deviation	0.6%	0.6%	0.2%
	<b>oneDNN - IP Shapes 1D - f32 - CPU (ms)</b>	<b>8.52785</b>	6.85206	<b>6.64536</b>
	Normalized	77.93%	96.98%	100%
	Standard Deviation	2.3%	4.5%	2.8%
	<b>oneDNN - IP Shapes 3D - f32 - CPU (ms)</b>	18.3582	<b>18.3766</b>	<b>18.0986</b>
	Normalized	98.59%	98.49%	100%
	Standard Deviation	1.4%	0.3%	0.5%
	<b>oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)</b>	<b>2.90509</b>	<b>2.62510</b>	2.65725
	Normalized	90.36%	100%	98.79%
	Standard Deviation	4.4%	6.1%	6%
	<b>oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)</b>	<b>4.41011</b>	<b>3.99059</b>	4.10228
	Normalized	90.49%	100%	97.28%
	Standard Deviation	1.5%	0.4%	1.1%
	<b>oneDNN - C.B.S.A - f32 - CPU (ms)</b>	<b>33.3155</b>	32.1370	<b>32.1167</b>
	Normalized	96.4%	99.94%	100%
	Standard Deviation	2%	0.5%	0.4%
	<b>oneDNN - D.B.s - f32 - CPU (ms)</b>	<b>8.29113</b>	<b>7.66942</b>	7.81482
	Normalized	92.5%	100%	98.14%
	Standard Deviation	3.1%	6.3%	6.8%
	<b>oneDNN - D.B.s - f32 - CPU (ms)</b>	<b>10.2687</b>	<b>8.13049</b>	8.71496
	Normalized	79.18%	100%	93.29%
	Standard Deviation	0.7%	0.5%	2.7%
	<b>oneDNN - C.B.S.A - u8s8f32 - CPU (ms)</b>	<b>31.7817</b>	31.0344	<b>31.0262</b>
	Normalized	97.62%	99.97%	100%
	Standard Deviation	1%	0.4%	0.2%
	<b>oneDNN - D.B.s - u8s8f32 - CPU (ms)</b>	<b>7.99169</b>	<b>7.88645</b>	7.93690
	Normalized	98.68%	100%	99.36%
	Standard Deviation	5.6%	5.4%	5.6%
	<b>oneDNN - D.B.s - u8s8f32 - CPU (ms)</b>	<b>5.31939</b>	<b>4.61762</b>	4.66944
	Normalized	86.81%	100%	98.89%
	Standard Deviation	1.1%	0.4%	1%
	<b>oneDNN - R.N.N.T - f32 - CPU (ms)</b>	<b>6006</b>	5899	<b>5885</b>
	Normalized	97.98%	99.76%	100%
	Standard Deviation	0.5%	0.1%	0.2%
	<b>oneDNN - R.N.N.I - f32 - CPU (ms)</b>	<b>3509</b>	3402	<b>3387</b>
	Normalized	96.54%	99.56%	100%
	Standard Deviation	0.6%	0.1%	0.3%
	<b>oneDNN - R.N.N.T - u8s8f32 - CPU (ms)</b>	<b>6004</b>	<b>5897</b>	5898
	Normalized	98.22%	100%	99.98%
	Standard Deviation	0.5%	0.2%	0.4%
	<b>oneDNN - R.N.N.I - u8s8f32 - CPU (ms)</b>	<b>3473</b>	3402	<b>3364</b>
	Normalized	96.87%	98.87%	100%
	Standard Deviation	2.1%	0.4%	0.1%

oneDNN - M.M.B.S.T - f32 - CPU (ms)	<b>7.59545</b>	7.23123	<b>7.20852</b>
Normalized	94.91%	99.69%	100%
Standard Deviation	0.5%	0.5%	0.1%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	<b>6001</b>	5903	<b>5893</b>
Normalized	98.21%	99.84%	100%
Standard Deviation	0.6%	0.4%	0.1%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	<b>3470</b>	3383	<b>3382</b>
Normalized	97.49%	99.99%	100%
Standard Deviation	1.4%	0.7%	0.8%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	<b>4.64891</b>	<b>4.55996</b>	4.57050
Normalized	98.09%	100%	99.77%
Standard Deviation	2.8%	2.9%	2.9%
dav1d - Chimera 1080p (FPS)	<b>436.17</b>	446.95	<b>451.88</b>
Normalized	96.52%	98.91%	100%
Standard Deviation	0.3%	0.6%	0.4%
dav1d - Summer Nature 4K (FPS)	101.12	<b>100.75</b>	<b>101.58</b>
Normalized	99.55%	99.18%	100%
Standard Deviation	0.5%	0.6%	0.6%
dav1d - S.N.1 (FPS)	<b>427.62</b>	<b>433.95</b>	433.44
Normalized	98.54%	100%	99.88%
Standard Deviation	0.4%	0.2%	0.4%
dav1d - C.1.1.b (FPS)	<b>88.15</b>	<b>88.24</b>	88.20
Normalized	99.9%	100%	99.95%
Standard Deviation	0.1%	0.1%	0.2%
Embree - Pathtracer - Crown (FPS)	<b>6.9571</b>	6.9272	<b>6.8925</b>
Normalized	100%	99.57%	99.07%
Standard Deviation	2.7%	3%	2.9%
Embree - Pathtracer ISPC - Crown (FPS)	<b>7.6874</b>	<b>7.7466</b>	7.7408
Normalized	99.24%	100%	99.93%
Standard Deviation	2.9%	1.1%	1.4%
Embree - Pathtracer - Asian Dragon (FPS)	7.9911	<b>7.9786</b>	<b>8.0194</b>
Normalized	99.65%	99.49%	100%
Standard Deviation	0.3%	0.6%	0.1%
Embree - Pathtracer - Asian Dragon Obj (FPS)	<b>7.3402</b>	7.3418	<b>7.3611</b>
Normalized	99.72%	99.74%	100%
Standard Deviation	0.4%	0.4%	0.1%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	8.9844	<b>8.9358</b>	<b>8.9952</b>
Normalized	99.88%	99.34%	100%
Standard Deviation	1.1%	0.8%	1.7%
Embree - Pathtracer ISPC - Asian Dragon Obj (FPS)	<b>7.9852</b>	<b>7.9535</b>	7.9747
Normalized	100%	99.6%	99.87%
Standard Deviation	0.5%	0.3%	0.3%
rav1e - 1 (FPS)	<b>0.386</b>	0.385	<b>0.383</b>
Normalized	100%	99.74%	99.22%
Standard Deviation	0.3%	0.3%	0%
rav1e - 5 (FPS)	1.096	<b>1.102</b>	<b>1.092</b>

	Normalized	99.46%	100%	99.09%
	Standard Deviation	0.6%	0.5%	0.2%
	<b>rav1e - 6 (FPS)</b>	<b>1.445</b>	<b>1.442</b>	1.443
	Normalized	100%	99.79%	99.86%
	Standard Deviation	0.2%	0.6%	0.1%
	<b>rav1e - 10 (FPS)</b>	3.158	<b>3.187</b>	<b>3.154</b>
	Normalized	99.09%	100%	98.96%
	Standard Deviation	0.2%	1.5%	0.1%
<b>Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)</b>		<b>243609</b>	244321	<b>244510</b>
	Normalized	99.63%	99.92%	100%
	Standard Deviation	2.6%	3%	3%
<b>Stockfish - Total Time (Nodes/s)</b>		11763649	<b>11662466</b>	<b>11884731</b>
	Normalized	98.98%	98.13%	100%
	Standard Deviation	0.6%	0.7%	2.7%
<b>asmFish - 1.H.M.2.D (Nodes/s)</b>		<b>18947598</b>	18657804	<b>18601604</b>
	Normalized	100%	98.47%	98.17%
	Standard Deviation	2.2%	0.4%	2%
<b>Timed FFmpeg Compilation - Time To Compile (sec)</b>		<b>86.587</b>	<b>88.427</b>	87.364
	Normalized	100%	97.92%	99.11%
	Standard Deviation	0.8%	2.3%	0.5%
<b>Timed Godot Game Engine Compilation - Time To Compile (sec)</b>		<b>228.927</b>	228.755	<b>227.555</b>
	Normalized	99.4%	99.48%	100%
	Standard Deviation	1%	0.1%	0.1%
<b>Build2 - Time To Compile (sec)</b>		231.162	<b>230.336</b>	<b>232.222</b>
	Normalized	99.64%	100%	99.19%
	Standard Deviation	0.7%	0.8%	0.7%
<b>Numpy Benchmark (Score)</b>		329.04	<b>339.74</b>	<b>328.97</b>
	Normalized	96.85%	100%	96.83%
	Standard Deviation	0.1%	0.1%	0.3%
<b>Timed Eigen Compilation - Time To Compile (sec)</b>		<b>89.907</b>	<b>87.791</b>	89.591
	Normalized	97.65%	100%	97.99%
	Standard Deviation	0%	0.1%	0.2%
<b>Cython Benchmark - N-Queens (sec)</b>		<b>25.821</b>	<b>26.327</b>	25.833
	Normalized	100%	98.08%	99.95%
	Standard Deviation	0.2%	3.7%	0.6%
<b>Monkey Audio Encoding - WAV To APE (sec)</b>		<b>12.770</b>	<b>12.814</b>	12.775
	Normalized	100%	99.66%	99.96%
	Standard Deviation	0.7%	0.7%	1.3%
<b>Opus Codec Encoding - WAV To Opus Encode (sec)</b>		9.606	<b>9.602</b>	<b>9.617</b>
	Normalized	99.96%	100%	99.84%
	Standard Deviation	0.3%	0.3%	0.3%
<b>eSpeak-NG Speech Engine - T.T.S.S (sec)</b>		<b>30.815</b>	<b>31.641</b>	30.961
	Normalized	100%	97.39%	99.53%
	Standard Deviation	2.8%	3.1%	1.2%
<b>Gcrypt Library (sec)</b>		229.820	<b>229.308</b>	<b>230.795</b>
	Normalized	99.78%	100%	99.36%
	Standard Deviation	0.4%	0.1%	0.4%

<b>WebP2 Image Encode - Default (sec)</b>	<b>5.516</b>	5.491	<b>5.466</b>
Normalized	99.09%	99.54%	100%
Standard Deviation	0.9%	0.6%	0.9%
<b>WebP2 Image Encode - Q.7.C.E.7</b>	<b>392.312</b>	392.407	<b>394.013</b>
Normalized	100%	99.98%	99.57%
Standard Deviation	0.5%	0.8%	0.7%
<b>WebP2 Image Encode - Q.9.C.E.7</b>	<b>724.517</b>	<b>723.522</b>	
Normalized	99.86%	100%	
Standard Deviation	0.2%	0.4%	
<b>WebP2 Image Encode - Q.1.C.E.5</b>	<b>21.346</b>	<b>21.367</b>	
Normalized	100%	99.9%	
Standard Deviation	2.8%	2.9%	
<b>WebP2 Image Encode - Q.1.L.C (sec)</b>	<b>1445</b>	<b>1446</b>	
Normalized	100%	99.94%	
Standard Deviation	0.2%	0.2%	
<b>Google SynthMark - VoiceMark_100</b>	<b>615.638</b>	<b>615.802</b>	
(Voices)			
Normalized	99.97%	100%	
Standard Deviation	0.1%	0.1%	
<b>Node.js V8 Web Tooling Benchmark</b>	<b>10.39</b>	<b>10.35</b>	
(runs/s)			
Normalized	100%	99.62%	
Standard Deviation	1.4%	1.8%	
<b>FinanceBench - Repo OpenMP (ms)</b>	<b>49677</b>	<b>49656</b>	
Normalized	99.96%	100%	
Standard Deviation	2%	2.6%	
<b>FinanceBench - Bonds OpenMP (ms)</b>	<b>71042</b>	<b>71207</b>	
Normalized	100%	99.77%	
Standard Deviation	0.5%	0.8%	
<b>ASKAP - tConvolve MT - Gridding</b>	<b>613.317</b>	<b>613.906</b>	
(Million Grid Points/sec)			
Normalized	99.9%	100%	
Standard Deviation	0.1%	0.1%	
<b>ASKAP - tConvolve MT - Degridding</b>	<b>993.030</b>	<b>992.413</b>	
(Million Grid Points/sec)			
Normalized	100%	99.94%	
Standard Deviation	0%	0%	
<b>ASKAP - tConvolve MPI - Degridding</b>	<b>1284</b>	<b>1278</b>	
(Mpix/sec)			
Normalized	100%	99.52%	
Standard Deviation	1.1%	1.6%	
<b>ASKAP - tConvolve MPI - Gridding</b>	<b>1156</b>	<b>1146</b>	
(Mpix/sec)			
Normalized	100%	99.15%	
Standard Deviation	0.8%	1.9%	
<b>ASKAP - tConvolve OpenMP - Gridding</b>	<b>690.017</b>	<b>682.729</b>	
(Million Grid Points/sec)			
Normalized	100%	98.94%	
Standard Deviation	2.3%	0.7%	
<b>ASKAP - tConvolve OpenMP - Degridding</b>	<b>1161</b>	<b>1159</b>	
(Million Grid Points/sec)			
Normalized	100%	99.86%	
Standard Deviation	0.3%	0.3%	
<b>ASKAP - H.C.O (Iterations/sec)</b>	<b>104.640</b>	<b>103.950</b>	

	Normalized	100%	99.34%
	Standard Deviation	0.4%	0.1%
<b>Cryptsetup - PBKDF2-sha512</b>		<b>1588751</b>	<b>1587950</b>
	(Iterations/sec)		
	Normalized	100%	99.95%
	Standard Deviation		0.1%
<b>Cryptsetup - PBKDF2-whirlpool</b>		<b>667331</b>	<b>667606</b>
	(Iterations/sec)		
	Normalized	99.96%	100%
	Standard Deviation	0.6%	0.4%
<b>Cryptsetup - A.X.2.E (MiB/s)</b>		<b>3388</b>	<b>3377</b>
	Normalized	100%	99.69%
	Standard Deviation	0.1%	1.1%
<b>Cryptsetup - A.X.2.D (MiB/s)</b>		<b>3394</b>	<b>3374</b>
	Normalized	100%	99.4%
	Standard Deviation	0.4%	1%
<b>Cryptsetup - S.X.2.E (MiB/s)</b>		<b>736.3</b>	<b>735.0</b>
	Normalized	100%	99.82%
	Standard Deviation	0.2%	0.1%
<b>Cryptsetup - S.X.2.D (MiB/s)</b>		<b>723.9</b>	<b>722.2</b>
	Normalized	100%	99.77%
	Standard Deviation	0.1%	0.2%
<b>Cryptsetup - T.X.2.E (MiB/s)</b>		<b>400.8</b>	<b>400.5</b>
	Normalized	100%	99.93%
	Standard Deviation	0.1%	0.2%
<b>Cryptsetup - T.X.2.D (MiB/s)</b>		<b>404.0</b>	<b>403.4</b>
	Normalized	100%	99.85%
	Standard Deviation	0.1%	0.1%
<b>Cryptsetup - A.X.5.E (MiB/s)</b>		<b>2785</b>	<b>2768</b>
	Normalized	100%	99.39%
	Standard Deviation	0.3%	0.8%
<b>Cryptsetup - A.X.5.D (MiB/s)</b>		<b>2784</b>	<b>2769</b>
	Normalized	100%	99.48%
	Standard Deviation	0.3%	0.6%
<b>Cryptsetup - S.X.5.E (MiB/s)</b>		<b>737.6</b>	<b>735.5</b>
	Normalized	100%	99.72%
	Standard Deviation		0.2%
<b>Cryptsetup - S.X.5.D (MiB/s)</b>		<b>723.8</b>	<b>722.5</b>
	Normalized	100%	99.82%
	Standard Deviation	0.1%	0.3%
<b>Cryptsetup - T.X.5.E (MiB/s)</b>		<b>400.9</b>	<b>400.5</b>
	Normalized	100%	99.9%
	Standard Deviation	0.1%	0.1%
<b>Cryptsetup - T.X.5.D (MiB/s)</b>		<b>403.7</b>	<b>403.4</b>
	Normalized	100%	99.93%
	Standard Deviation	0.1%	0.1%
<b>GROMACS - Water Benchmark</b>		<b>0.519</b>	<b>0.521</b>
	(Ns/Day)		
	Normalized	99.62%	100%
	Standard Deviation	0.7%	0.4%
<b>ASTC Encoder - Fast (sec)</b>		<b>7.13</b>	<b>7.12</b>
	Normalized	99.86%	100%
	Standard Deviation	0.7%	0.1%
<b>ASTC Encoder - Medium (sec)</b>		<b>6.23</b>	<b>6.23</b>
	Standard Deviation	0%	0.1%

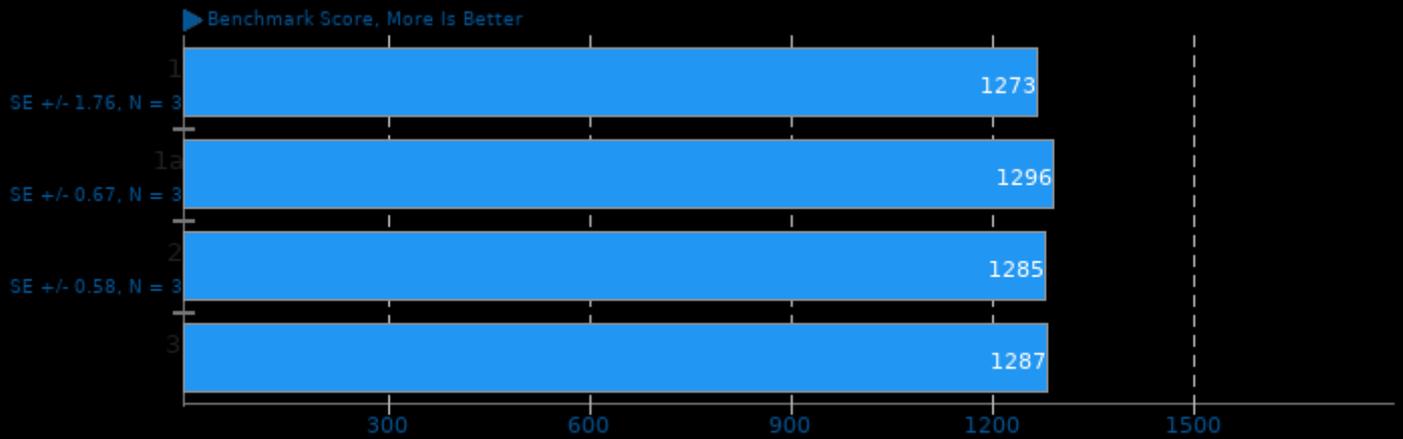
<b>ASTC Encoder - Thorough (sec)</b>	<b>46.78</b>	<b>46.89</b>
Normalized	100%	99.77%
Standard Deviation	1.8%	1.8%
<b>ASTC Encoder - Exhaustive (sec)</b>	<b>387.71</b>	<b>387.97</b>
Normalized	100%	99.93%
Standard Deviation	0.2%	0.1%
<b>Basis Universal - ETC1S (sec)</b>	<b>59.951</b>	<b>60.080</b>
Normalized	100%	99.79%
Standard Deviation	1%	0.9%
<b>Basis Universal - UASTC Level 0 (sec)</b>	<b>9.228</b>	<b>9.231</b>
Normalized	100%	99.97%
Standard Deviation	0.1%	0.1%
<b>Basis Universal - UASTC Level 2 (sec)</b>	<b>48.593</b>	<b>48.189</b>
Normalized	99.17%	100%
Standard Deviation	2.8%	2.8%
<b>Basis Universal - UASTC Level 3 (sec)</b>	<b>95.508</b>	<b>95.569</b>
Normalized	100%	99.94%
Standard Deviation	0.6%	0.5%
<b>Basis Universal - U.L.2.R.P.P (sec)</b>	<b>808.351</b>	<b>807.286</b>
Normalized	99.87%	100%
Standard Deviation	0.1%	0.1%
<b>SQLite Speedtest - Timed Time - Size 1,000 (sec)</b>	<b>62.031</b>	<b>61.254</b>
Normalized	98.75%	100%
Standard Deviation	0.6%	0.6%
<b>Redis - LPOP (Reqs/sec)</b>	<b>2827880</b>	<b>1729977</b>
Normalized	100%	61.18%
Standard Deviation	0.4%	0.6%
<b>Redis - SADD (Reqs/sec)</b>	<b>2261333</b>	<b>2247598</b>
Normalized	100%	99.39%
Standard Deviation	0.5%	0.3%
<b>Redis - LPUSH (Reqs/sec)</b>	<b>1718047</b>	<b>1717450</b>
Normalized	100%	99.97%
Standard Deviation	0.9%	0.3%
<b>Redis - GET (Reqs/sec)</b>	<b>2703703</b>	<b>2565613</b>
Normalized	100%	94.89%
Standard Deviation	1.1%	0.7%
<b>Redis - SET (Reqs/sec)</b>	<b>1980809</b>	<b>1981355</b>
Normalized	99.97%	100%
Standard Deviation	1.5%	0.7%
<b>Mobile Neural Network - SqueezeNetV1.0 (ms)</b>	<b>7.977</b>	<b>7.901</b>
Normalized	99.05%	100%
Standard Deviation	0.2%	0.8%
<b>Mobile Neural Network - resnet-v2-50 (ms)</b>	<b>42.471</b>	<b>42.207</b>
Normalized	99.38%	100%
Standard Deviation	0.3%	0.1%
<b>Mobile Neural Network - MobileNetV2_224 (ms)</b>	<b>4.616</b>	<b>4.589</b>
Normalized	99.42%	100%
Standard Deviation	0.5%	0.3%

Mobile Neural Network - mobilenet-v1-1.0 (ms)	<b>4.096</b>	<b>4.079</b>
Normalized	99.58%	100%
Standard Deviation	0.3%	0.5%
Mobile Neural Network - inception-v3 (ms)	<b>48.212</b>	<b>47.934</b>
Normalized	99.42%	100%
Standard Deviation	4%	4.7%
NCNN - CPU - mobilenet (ms)	<b>27.55</b>	<b>27.54</b>
Normalized	99.96%	100%
Standard Deviation	0.2%	0.1%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	<b>7.81</b>	<b>7.84</b>
Normalized	100%	99.62%
Standard Deviation	0.5%	0.5%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	<b>5.77</b>	<b>5.86</b>
Normalized	100%	98.46%
Standard Deviation	0.8%	1.1%
NCNN - CPU - shufflenet-v2 (ms)	<b>6.64</b>	<b>6.83</b>
Normalized	100%	97.22%
Standard Deviation	2.3%	2.8%
NCNN - CPU - mnasnet (ms)	<b>5.77</b>	<b>5.84</b>
Normalized	100%	98.8%
Standard Deviation	3%	2.8%
NCNN - CPU - efficientnet-b0 (ms)	<b>9.98</b>	<b>10.15</b>
Normalized	100%	98.33%
Standard Deviation	2.5%	0.4%
NCNN - CPU - blazeface (ms)	<b>2.44</b>	<b>2.51</b>
Normalized	100%	97.21%
Standard Deviation	4.4%	0.6%
NCNN - CPU - googlenet (ms)	<b>22.29</b>	<b>22.25</b>
Normalized	99.82%	100%
Standard Deviation	2.1%	2.7%
NCNN - CPU - vgg16 (ms)	<b>113.97</b>	<b>113.82</b>
Normalized	99.87%	100%
Standard Deviation	0.1%	0.1%
NCNN - CPU - resnet18 (ms)	<b>24.25</b>	<b>24.16</b>
Normalized	99.63%	100%
Standard Deviation	0.1%	0.7%
NCNN - CPU - alexnet (ms)	<b>21.11</b>	<b>21.05</b>
Normalized	99.72%	100%
Standard Deviation	0.1%	0.5%
NCNN - CPU - resnet50 (ms)	<b>43.67</b>	<b>43.68</b>
Normalized	100%	99.98%
Standard Deviation	0.1%	0.1%
NCNN - CPU - yolov4-tiny (ms)	<b>40.92</b>	<b>40.98</b>
Normalized	100%	99.85%
Standard Deviation	0.1%	0.2%
NCNN - CPU - squeezenet_ssd (ms)	<b>28.66</b>	<b>28.68</b>
Normalized	100%	99.93%
Standard Deviation	0.1%	0.1%
NCNN - CPU - regnety_400m (ms)	<b>17.88</b>	<b>19.34</b>
Normalized	100%	92.45%
Standard Deviation	1.7%	6.9%
NCNN - Vulkan GPU - mobilenet (ms)	<b>27.56</b>	<b>27.51</b>
Normalized	99.82%	100%

Standard Deviation	0.1%	0.1%
<b>NCNN - Vulkan GPU-v2-v2 - mobilenet-v2 (ms)</b>	<b>7.76</b>	<b>8.00</b>
Normalized	100%	97%
Standard Deviation	0.6%	3%
<b>NCNN - Vulkan GPU-v3-v3 - mobilenet-v3 (ms)</b>	<b>5.78</b>	<b>6.04</b>
Normalized	100%	95.7%
Standard Deviation	1%	5.3%
<b>NCNN - Vulkan GPU - shufflenet-v2</b>	<b>6.67</b>	<b>6.86</b>
Normalized	100%	97.23%
Standard Deviation	2.2%	4.5%
<b>NCNN - Vulkan GPU - mnasnet (ms)</b>	<b>5.76</b>	<b>5.82</b>
Normalized	100%	98.97%
Standard Deviation	3.3%	3.5%
<b>NCNN - Vulkan GPU - efficientnet-b0 (ms)</b>	<b>10.00</b>	<b>10.06</b>
Normalized	100%	99.4%
Standard Deviation	2.3%	2.3%
<b>NCNN - Vulkan GPU - blazeface (ms)</b>	<b>2.45</b>	<b>2.47</b>
Normalized	100%	99.19%
Standard Deviation	4.5%	3.5%
<b>NCNN - Vulkan GPU - googlenet (ms)</b>	<b>22.36</b>	<b>22.26</b>
Normalized	99.55%	100%
Standard Deviation	1.8%	2.8%
<b>NCNN - Vulkan GPU - vgg16 (ms)</b>	<b>114.03</b>	<b>113.72</b>
Normalized	99.73%	100%
Standard Deviation	0.2%	0.1%
<b>NCNN - Vulkan GPU - resnet18 (ms)</b>	<b>24.28</b>	<b>24.15</b>
Normalized	99.46%	100%
Standard Deviation	0.1%	0.5%
<b>NCNN - Vulkan GPU - alexnet (ms)</b>	<b>21.12</b>	<b>21.11</b>
Normalized	99.95%	100%
Standard Deviation	0.1%	0.1%
<b>NCNN - Vulkan GPU - resnet50 (ms)</b>	<b>43.81</b>	<b>43.71</b>
Normalized	99.77%	100%
Standard Deviation	0.3%	0.2%
<b>NCNN - Vulkan GPU - yolov4-tiny (ms)</b>	<b>40.95</b>	<b>40.99</b>
Normalized	100%	99.9%
Standard Deviation	0.1%	0.2%
<b>NCNN - Vulkan GPU - squeezenet_ssd (ms)</b>	<b>28.69</b>	<b>28.70</b>
Normalized	100%	99.97%
Standard Deviation	0.1%	0%
<b>NCNN - Vulkan GPU - regnety_400m (ms)</b>	<b>17.90</b>	<b>18.61</b>
Normalized	100%	96.18%
Standard Deviation	2.1%	0.7%
<b>TNN - CPU - MobileNet v2 (ms)</b>	<b>372.039</b>	<b>368.304</b>
Normalized	99%	100%
Standard Deviation	0.9%	0.2%
<b>TNN - CPU - SqueezeNet v1.1 (ms)</b>	<b>343.574</b>	<b>343.209</b>
Normalized	99.89%	100%
Standard Deviation	0%	0%

<b>IndigoBench - CPU - Bedroom (M samples/s)</b>	<b>1.089</b>	<b>1.090</b>
Normalized	99.91%	100%
Standard Deviation	0.1%	0.2%
<b>IndigoBench - CPU - Supercar (M samples/s)</b>	<b>2.509</b>	<b>2.512</b>
Normalized	99.88%	100%
Standard Deviation	0.3%	0.2%
<b>ONNX Runtime - yolov4 - OpenMP CPU (Inferences/min)</b>	261	261
Standard Deviation	0.2%	0.1%
<b>ONNX Runtime - bert squad-10 - OpenMP CPU (Inferences/min)</b>	397	397
Standard Deviation	0.5%	0.5%
<b>ONNX Runtime - fcn-resnet101-11 - OpenMP CPU (Inferences/min)</b>	45	45
Standard Deviation	0%	0.6%
<b>ONNX Runtime - shufflenet-v2-10 - OpenMP CPU (Inferences/min)</b>	<b>14156</b>	<b>14141</b>
Normalized	100%	99.89%
Standard Deviation	0.3%	0.4%
<b>ONNX Runtime - super-resolution-10 - OpenMP CPU (Inferences/min)</b>	<b>3243</b>	<b>3197</b>
Normalized	100%	98.58%
Standard Deviation	0.4%	1.9%
<b>AI Benchmark Alpha - D.I.S (Score)</b>	<b>743</b>	<b>742</b>
Normalized	100%	99.87%
<b>AI Benchmark Alpha - D.T.S (Score)</b>	687	687
<b>AI Benchmark Alpha - Device AI Score (Score)</b>	<b>1430</b>	<b>1429</b>
Normalized	100%	99.93%
<b>PHPBench - P.B.S (Score)</b>	<b>655165</b>	<b>654272</b>
Normalized	100%	99.86%
Standard Deviation	0.4%	0.4%
<b>WavPack Audio Encoding - WAV To WavPack (sec)</b>	<b>16.693</b>	<b>16.689</b>
Normalized	99.98%	100%
Standard Deviation	0.1%	0.1%
<b>Unpacking Firefox - firefox-84.0.source.tar.xz (sec)</b>	<b>21.407</b>	<b>21.635</b>
Normalized	100%	98.95%
Standard Deviation	2.9%	2.9%
<b>Kripke (Throughput FoM)</b>	<b>17521143</b>	<b>17477813</b>
Normalized	100%	99.75%
Standard Deviation	0.4%	0.2%
<b>BRL-CAD - V.P.M (VGR Performance Metric)</b>	<b>68561</b>	<b>69488</b>
Normalized	98.67%	100%

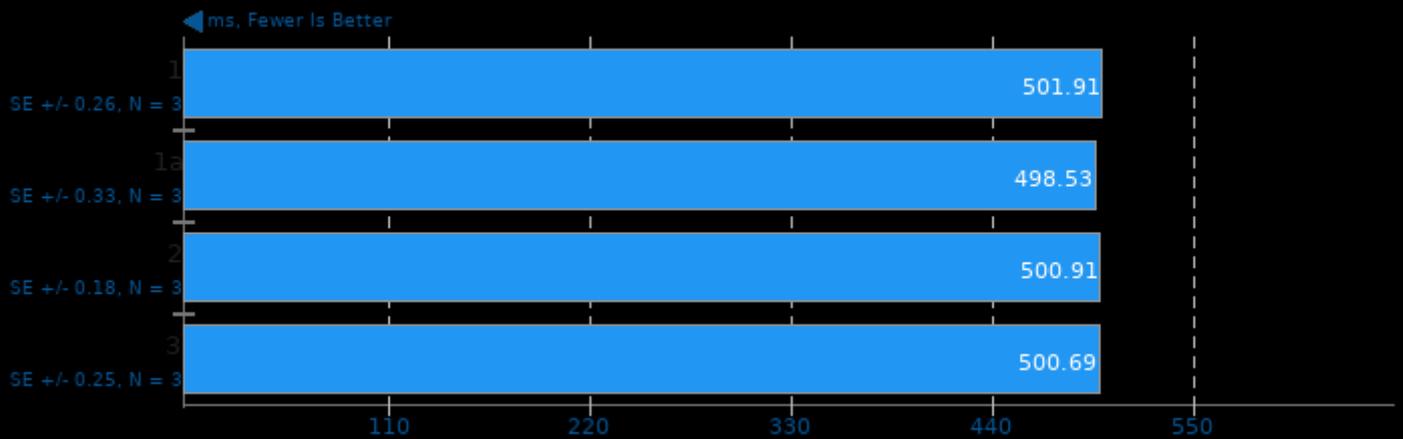
### VkFFT 1.1.1



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

### VkResample 1.0

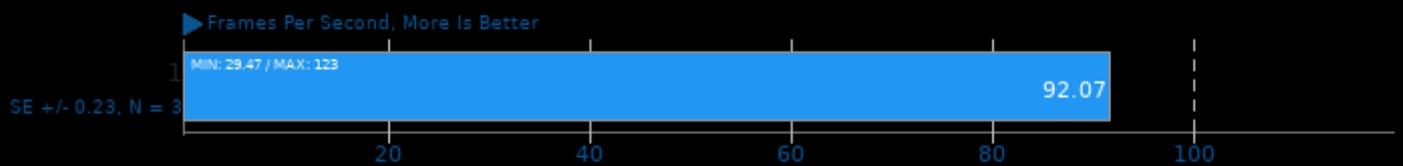
Upscale: 2x - Precision: Single



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

### DDraceNetwork 15.2.3

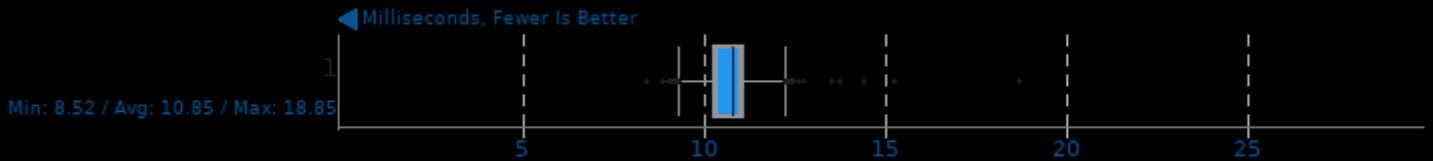
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: RaiNyMore2



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -pthread -lcurl -freetype -SDL2 -lwavpack -lopusfile -lopus -logg -lGL -lX11 -lnotify -lgdk\_pixbuf-2.0

### DDraceNetwork 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 -lcurl -lfreetype -lSDL2 -lwavpack -lopusfile -lopus -logg -lGL -lX11 -lnotify -lgdk\_pixbuf-2.0 -

### DDraceNetwork 15.2.3

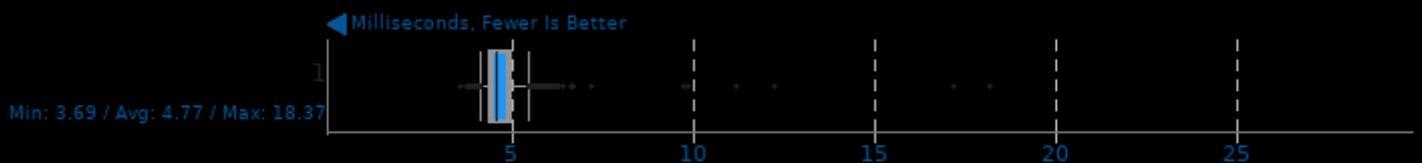
Resolution: 1920 x 1080 - Mode: Fullscreen - Renderer: OpenGL 3.3 - Zoom: Default - Demo: Multeasymap



1. (CXX) g++ options: -O3 -rdynamic -lcrypto -lz -lrt -lpthread -lcurl -lfreetype -lSDL2 -lwavpack -lopusfile -lopus -logg -lGL -lX11 -lnotify -lgdk\_pixbuf-2.0 -

### DDraceNetwork 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 -lcurl -lfreetype -lSDL2 -lwavpack -lopusfile -lopus -logg -lGL -lX11 -lnotify -lgdk\_pixbuf-2.0 -

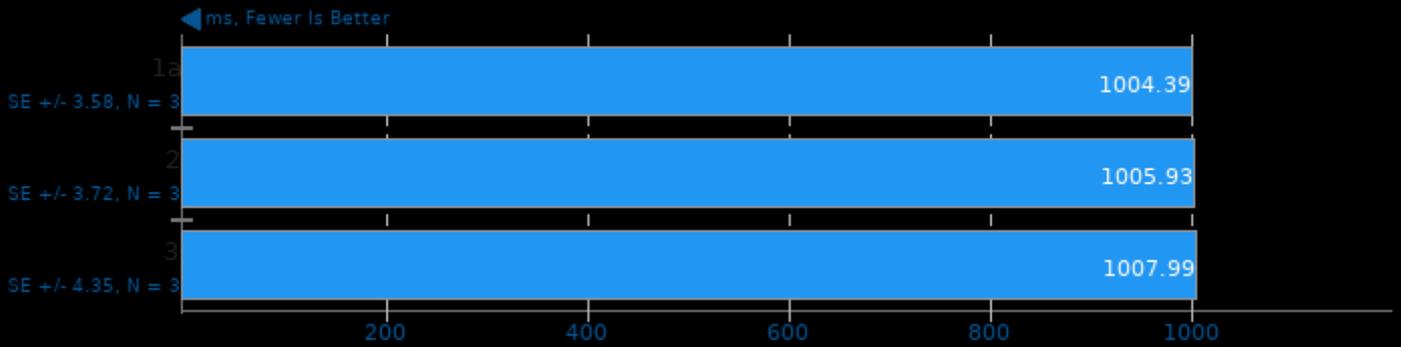
### Warsow 2.5 Beta

Resolution: 1920 x 1080



### VkResample 1.0

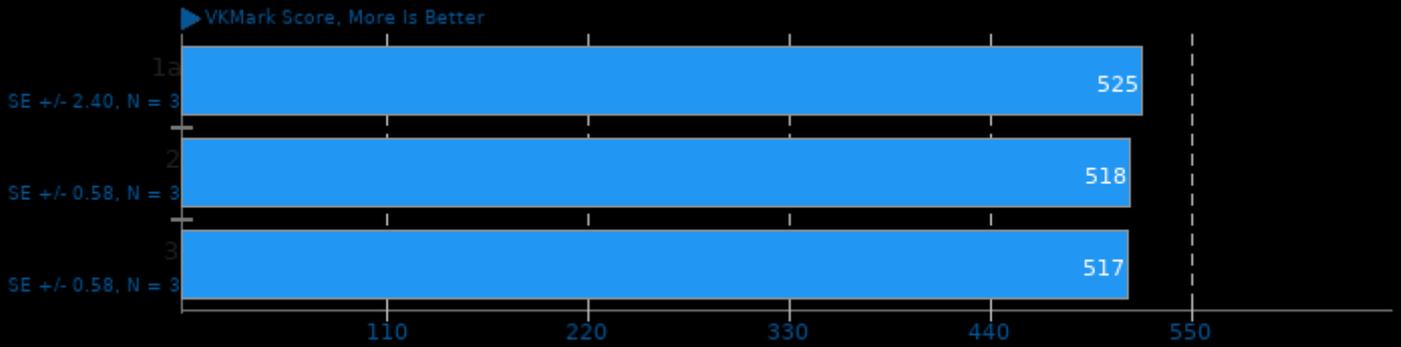
Upscale: 2x - Precision: Double



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

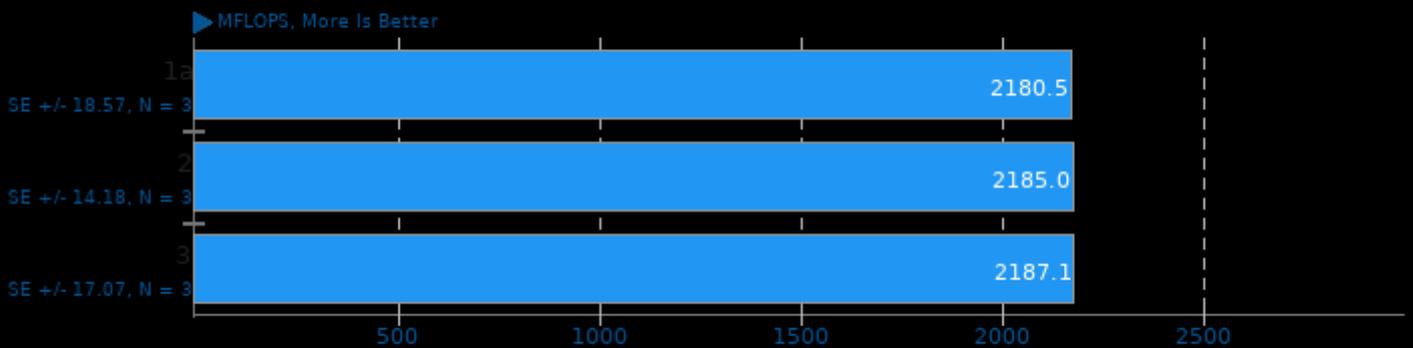
### VKMark 2020-05-21

Resolution: 1920 x 1080



1. (CXX) g++ options: -pthread -ldl -pipe -std=c++14 -MD -MQ -MF

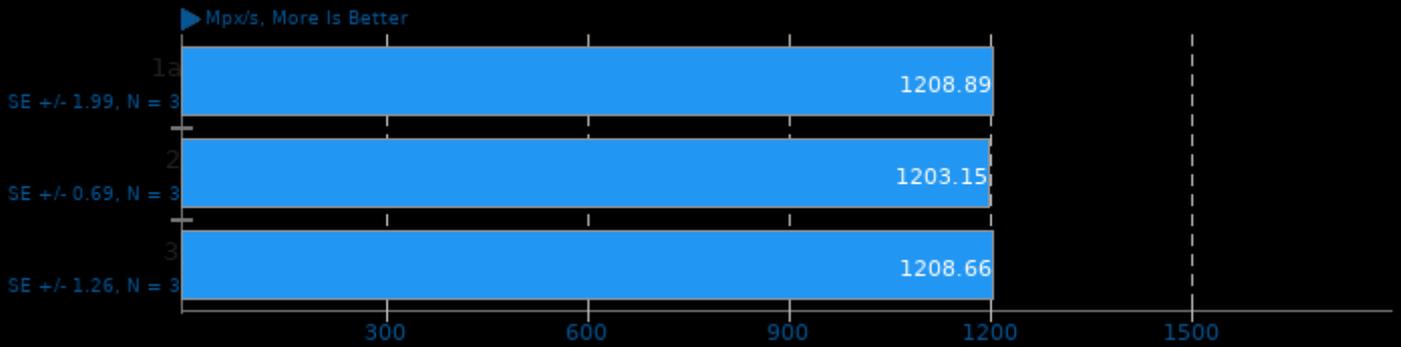
### QuantLib 1.21



1. (CXX) g++ options: -O3 -march=native -rdynamic

### Etcpak 0.7

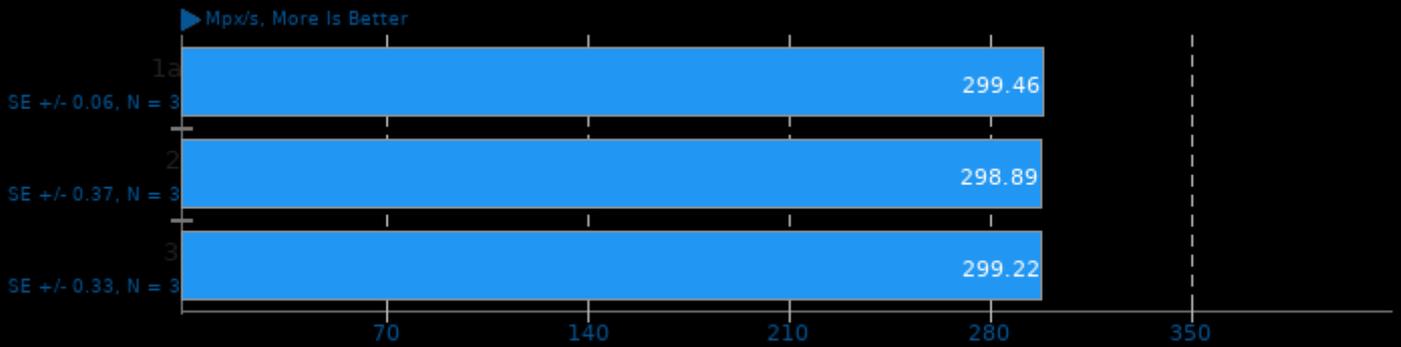
Configuration: DXT1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

### Etcpak 0.7

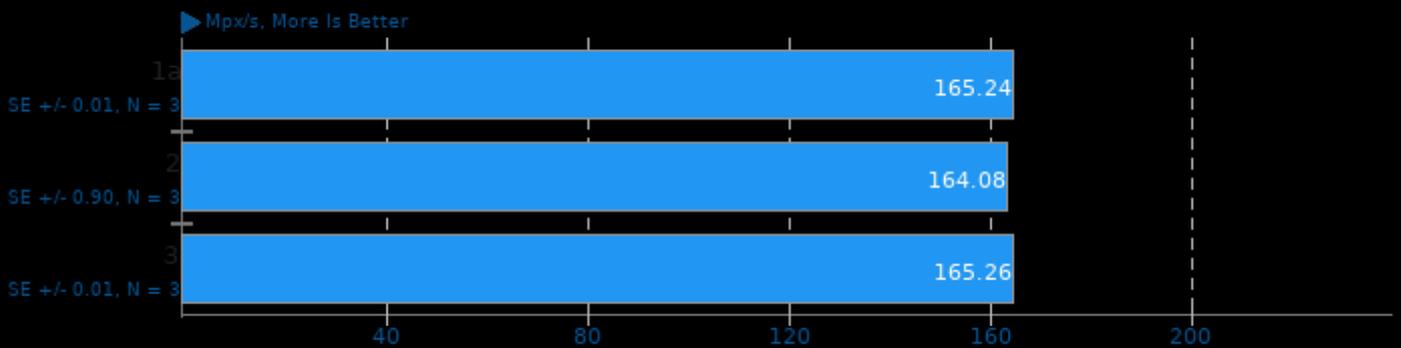
Configuration: ETC1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

### Etcpak 0.7

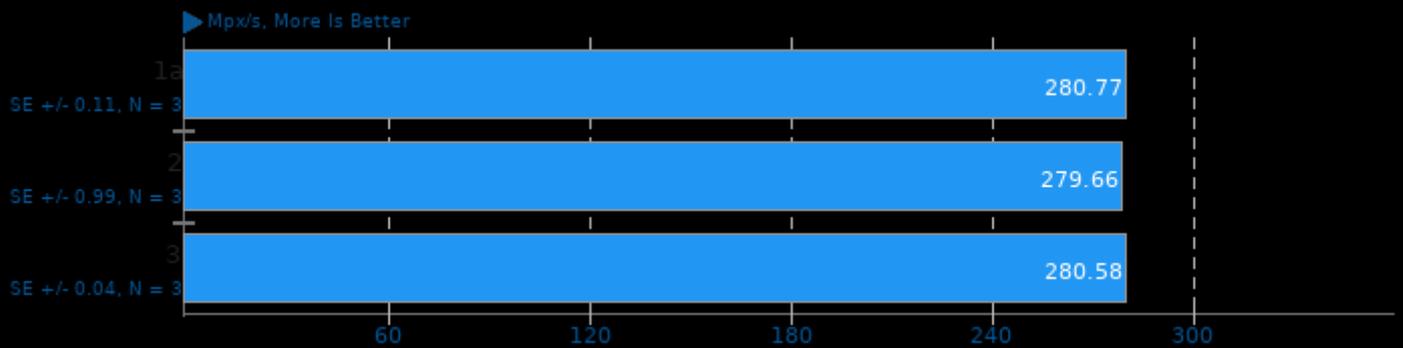
Configuration: ETC2



1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

### Etcpak 0.7

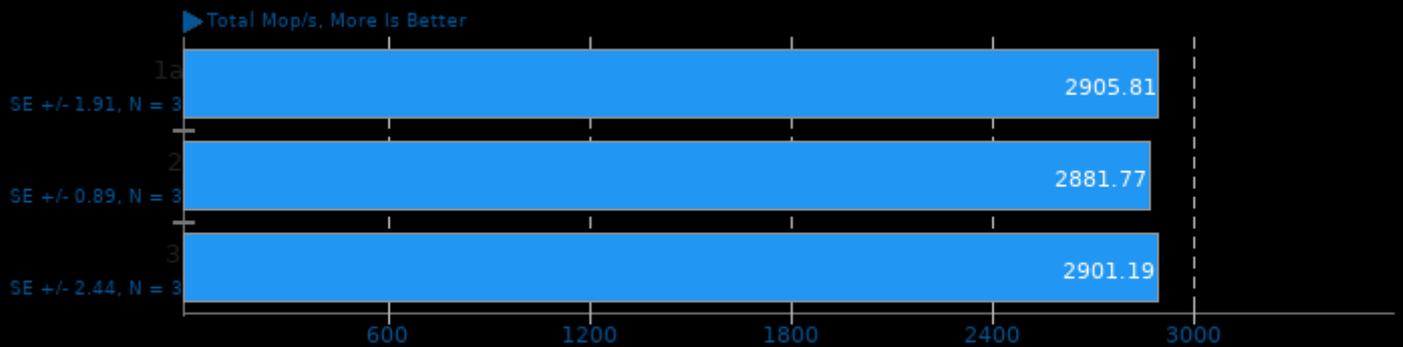
Configuration: ETC1 + Dithering



1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

### NAS Parallel Benchmarks 3.4

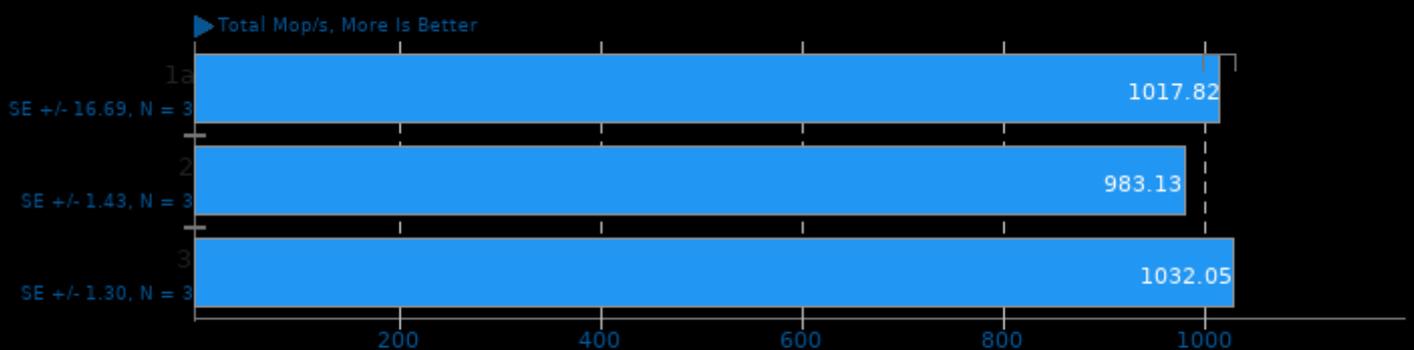
Test / Class: CG.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent\_pthreads -lutl  
2. Open MPI 4.0.3

### NAS Parallel Benchmarks 3.4

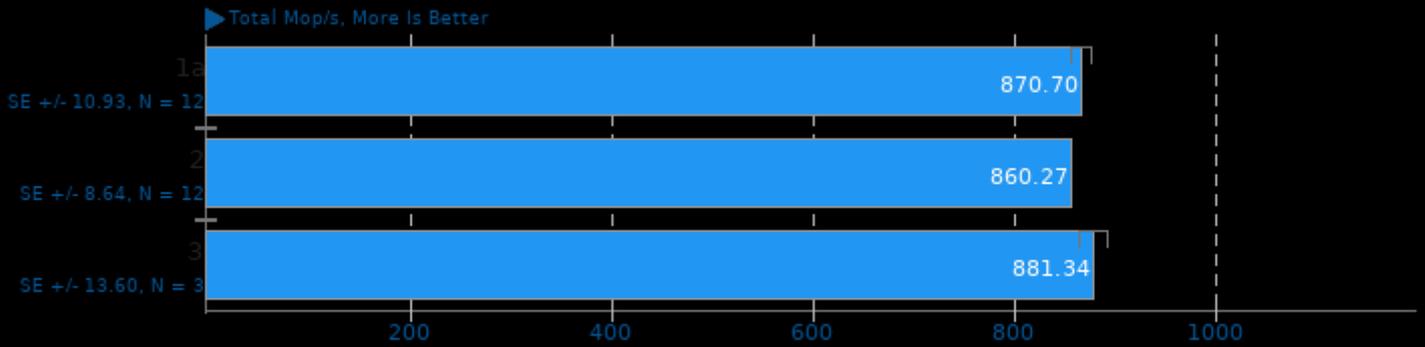
Test / Class: EP.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent\_pthreads -lutl  
2. Open MPI 4.0.3

### NAS Parallel Benchmarks 3.4

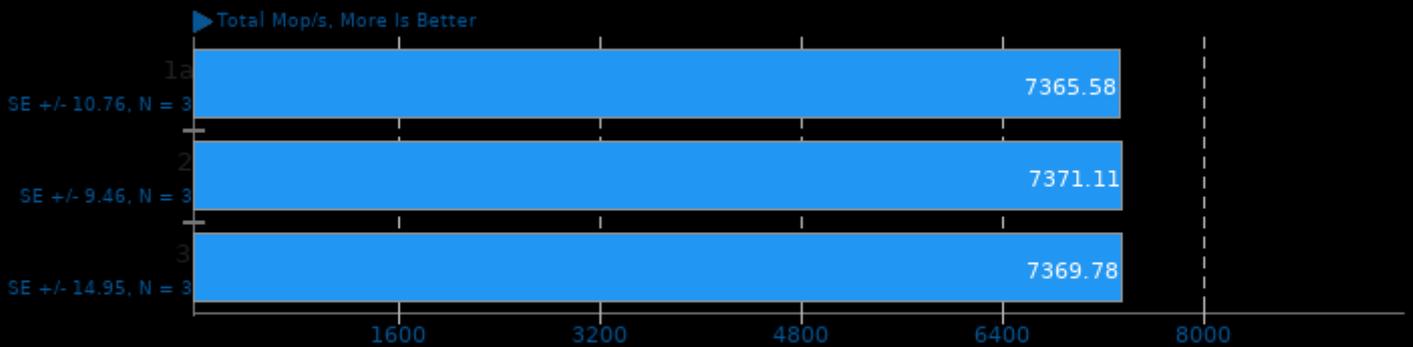
Test / Class: EP.D



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpi fh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent\_pthreads -luti  
2. Open MPI 4.0.3

### NAS Parallel Benchmarks 3.4

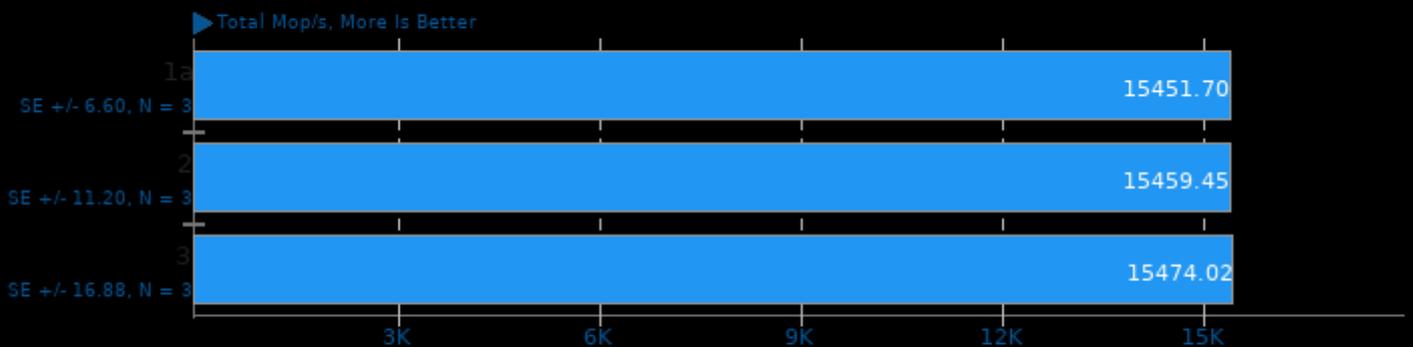
Test / Class: FT.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpi fh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent\_pthreads -luti  
2. Open MPI 4.0.3

### NAS Parallel Benchmarks 3.4

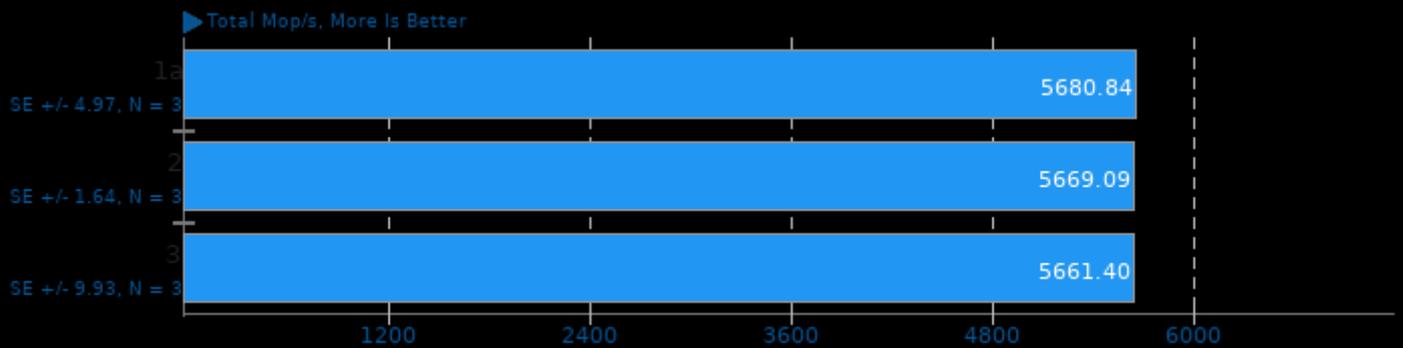
Test / Class: LU.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpi fh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent\_pthreads -luti  
2. Open MPI 4.0.3

## NAS Parallel Benchmarks 3.4

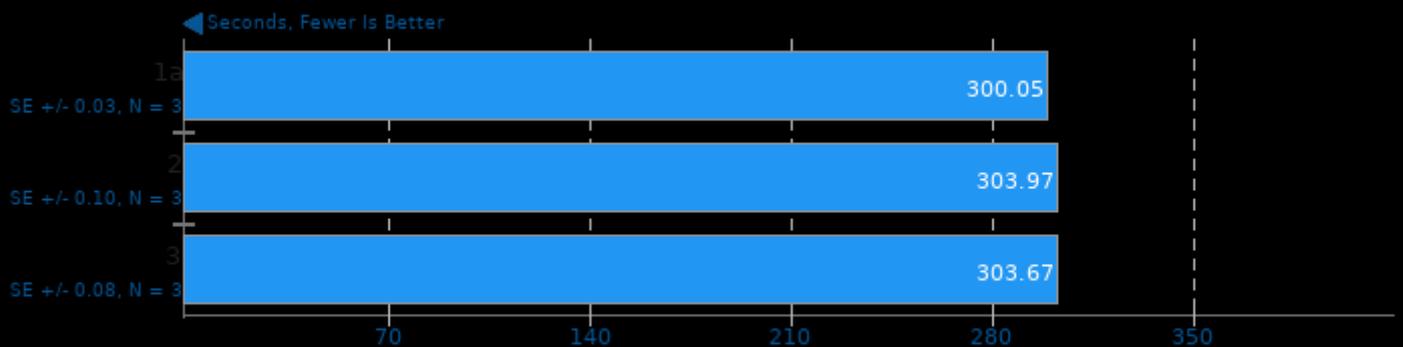
Test / Class: MG.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent\_pthreads -lut
2. Open MPI 4.0.3

## CloverLeaf

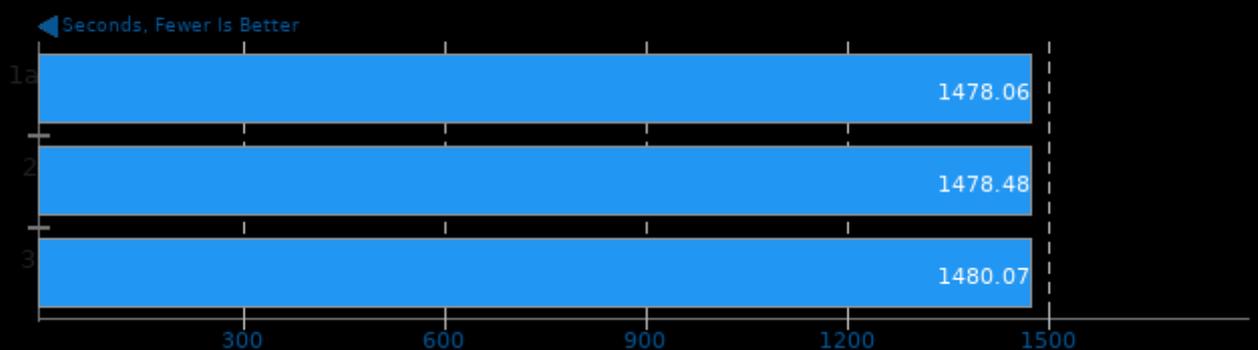
Lagrangian-Eulerian Hydrodynamics



1. (F9X) gfortran options: -O3 -march=native -funroll-loops -fopenmp

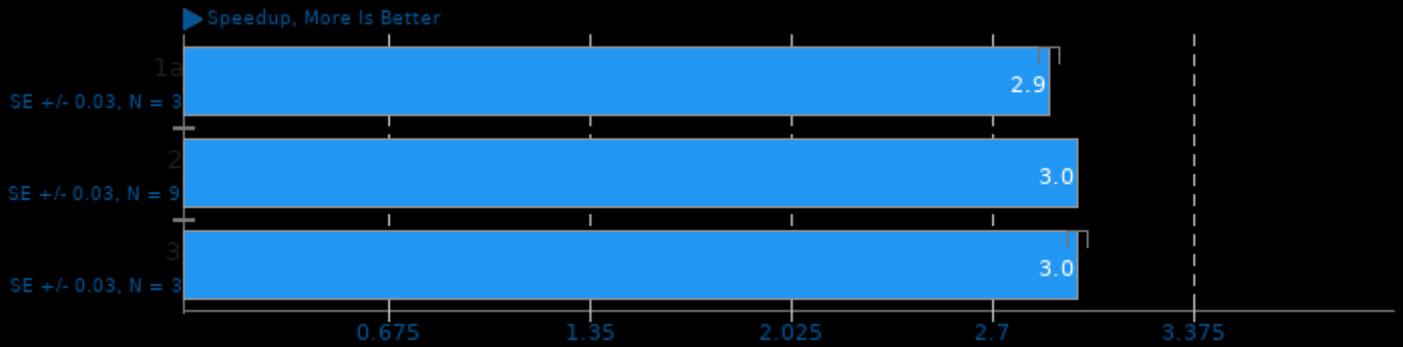
## CP2K Molecular Dynamics 8.1

Fayalite-FIST Data



## CLOMP 1.2

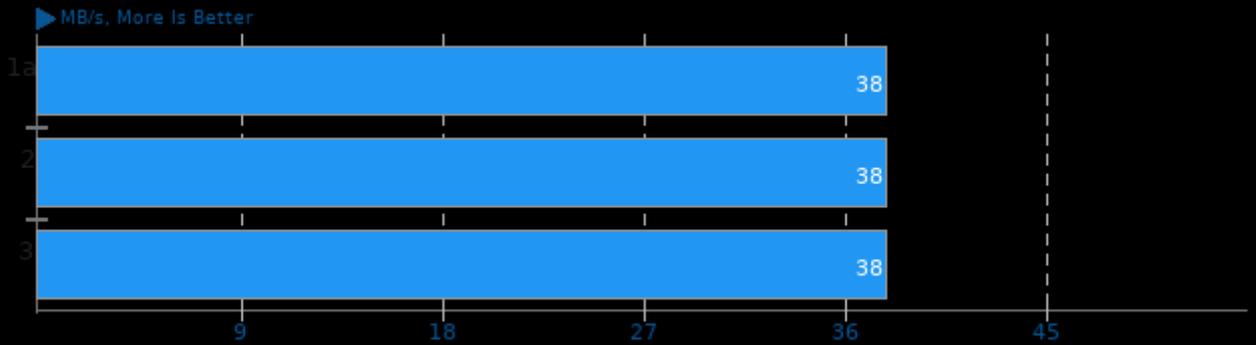
Static OMP Speedup



1. (CC) gcc options: -fopenmp -O3 -lm

## Izbench 1.8

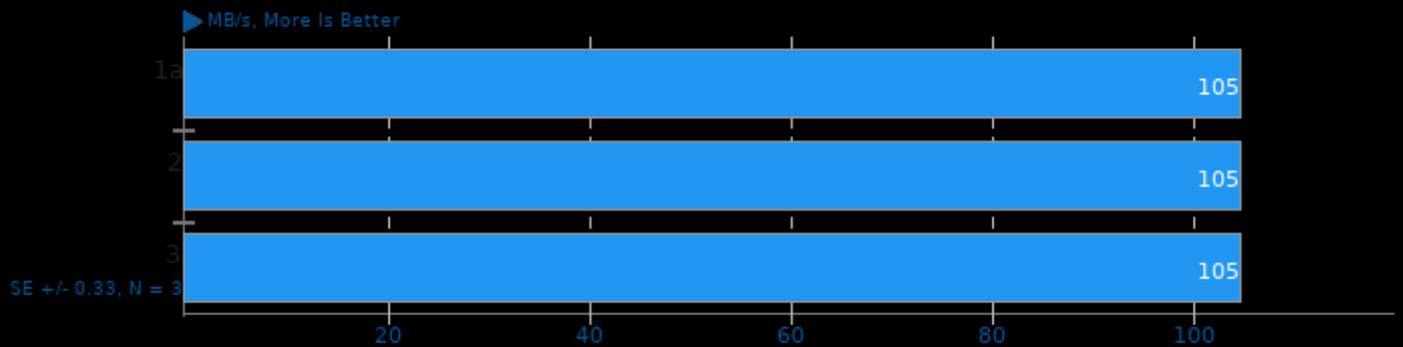
Test: XZ 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

## Izbench 1.8

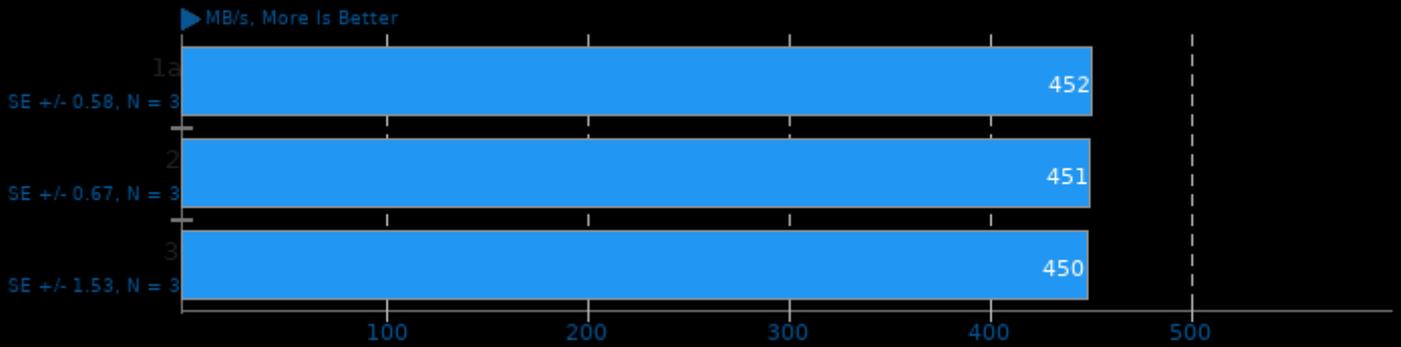
Test: XZ 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

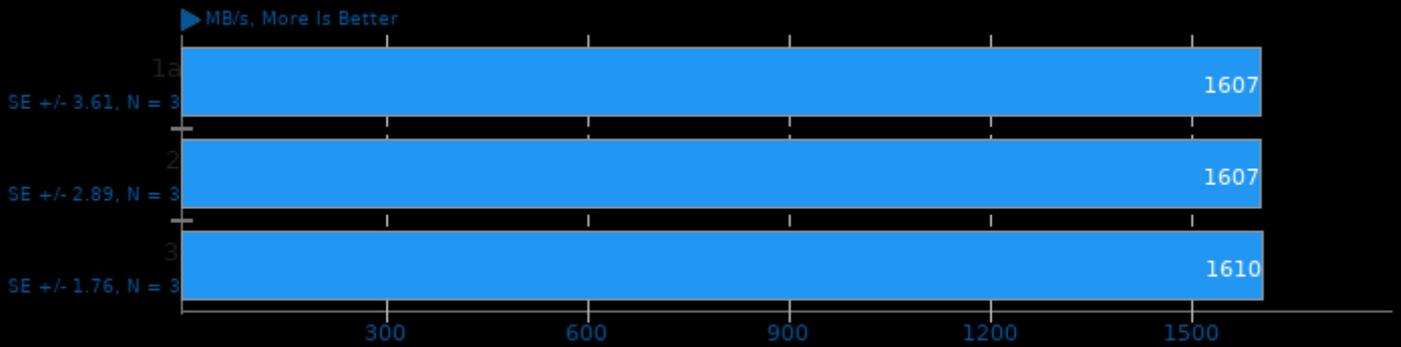
Test: Zstd 1 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

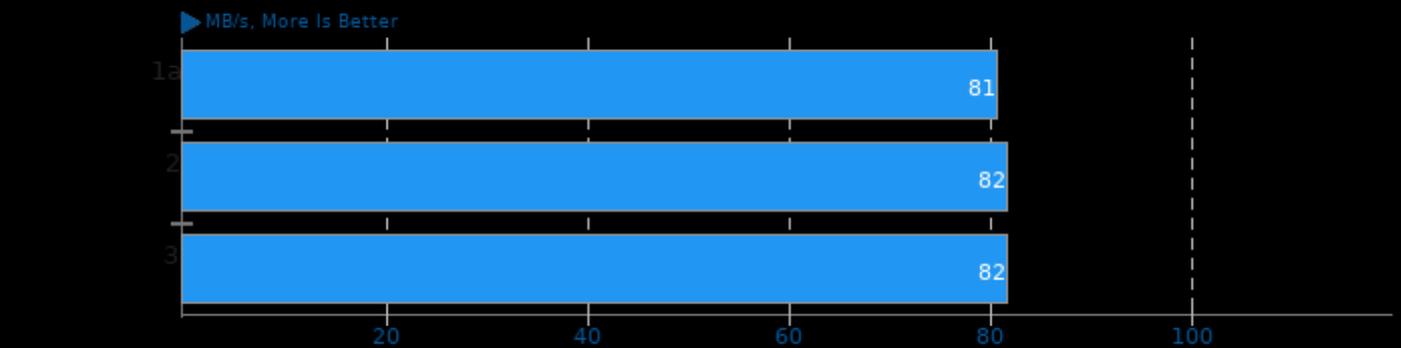
Test: Zstd 1 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

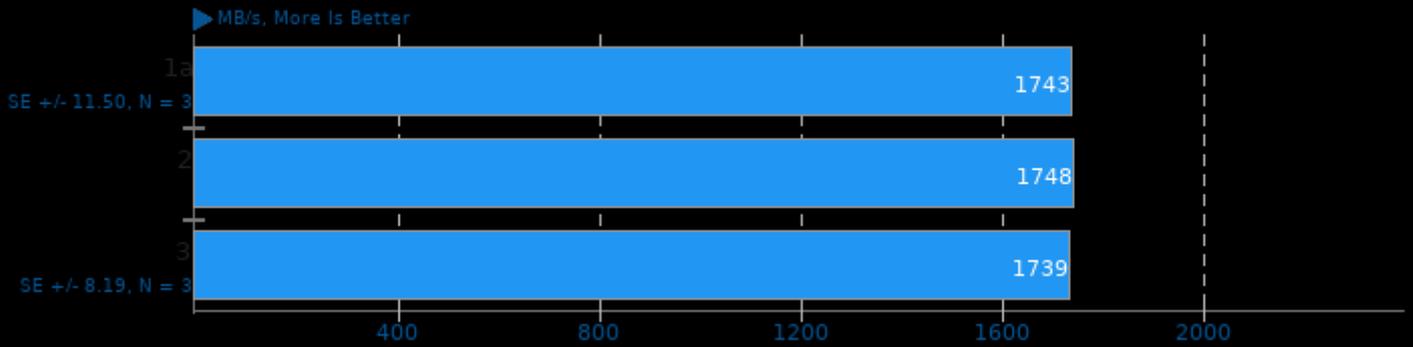
Test: Zstd 8 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

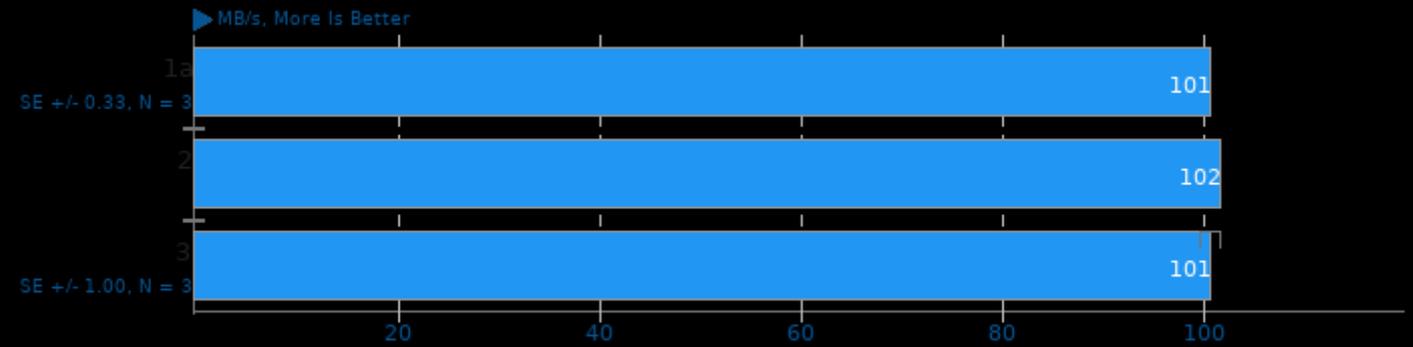
Test: Zstd 8 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

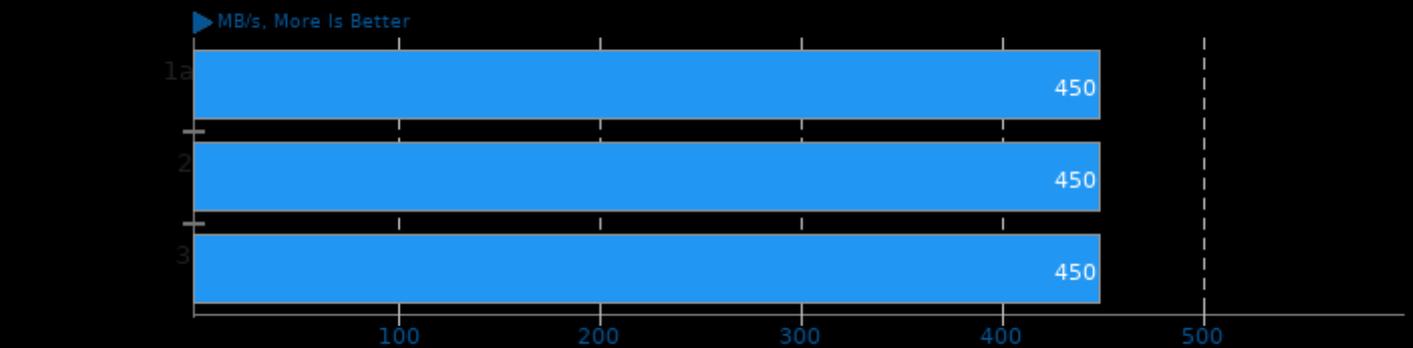
Test: Crush 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

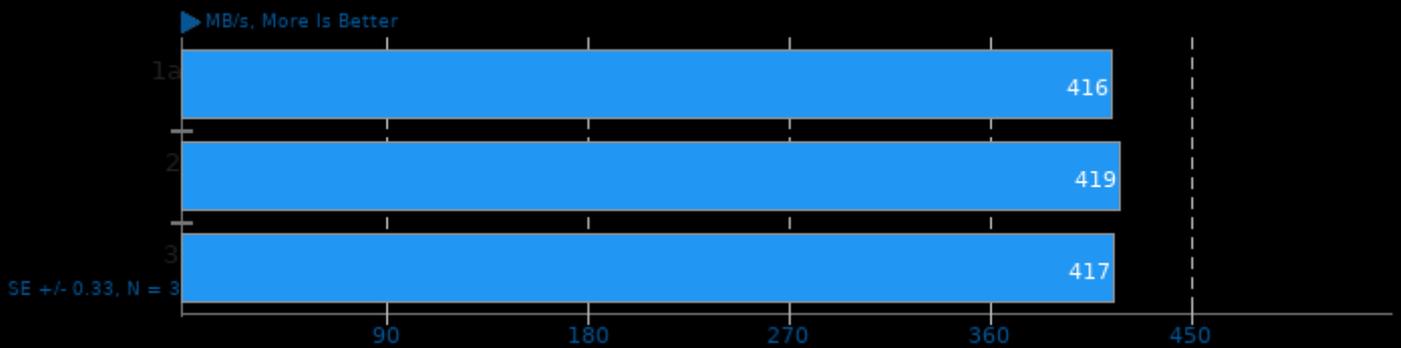
Test: Crush 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

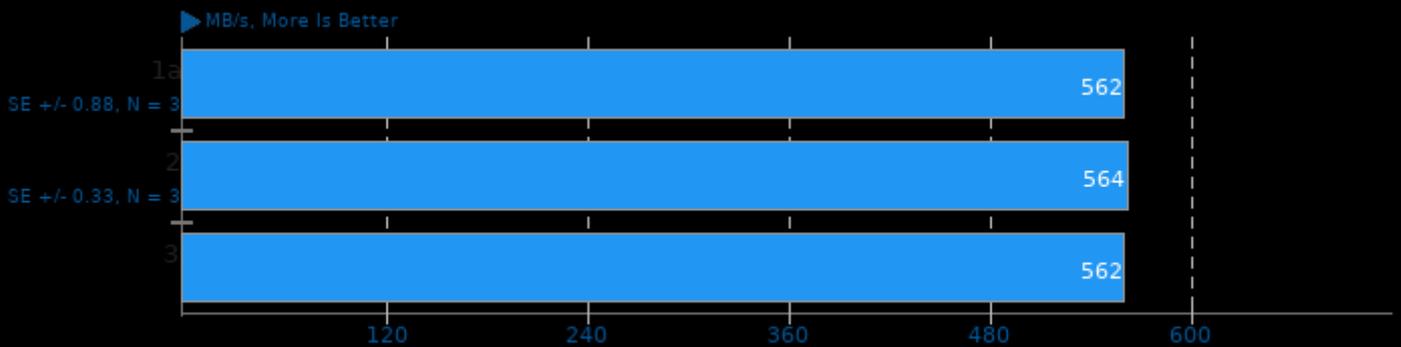
Test: Brotli 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

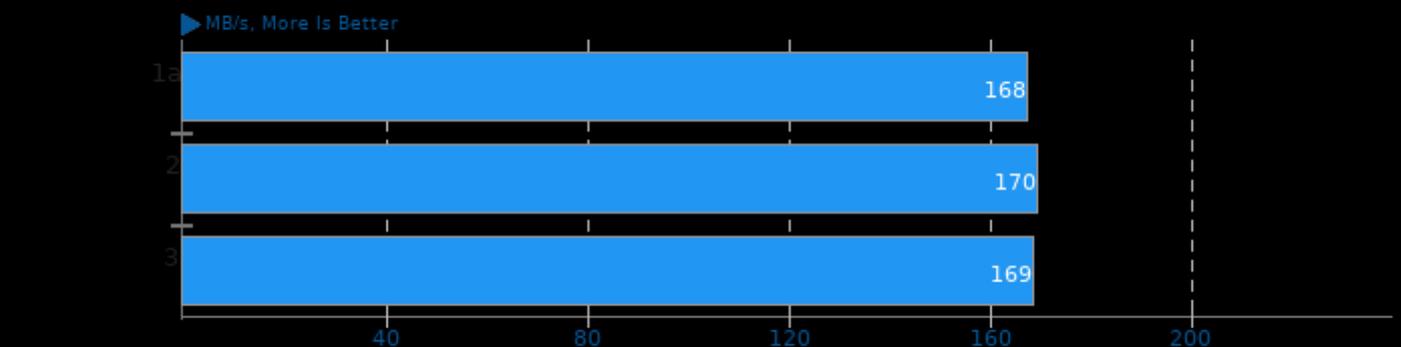
Test: Brotli 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

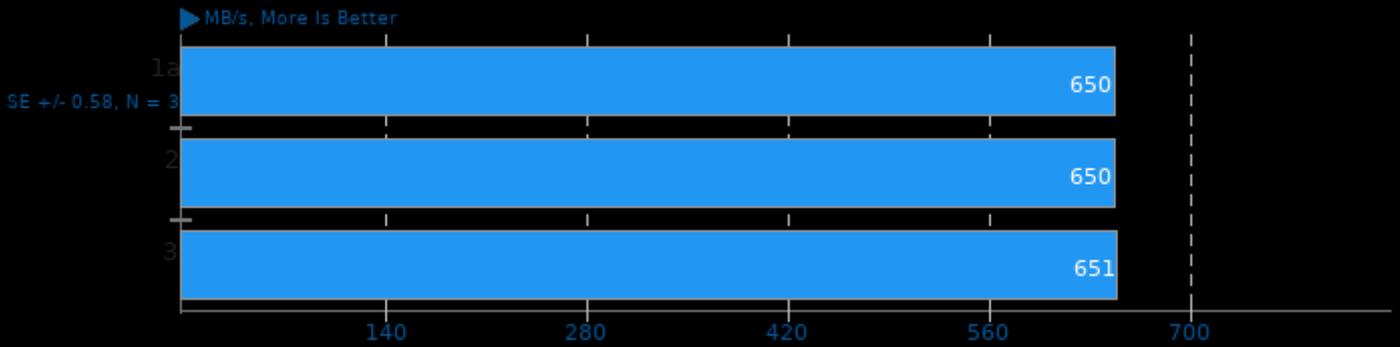
Test: Brotli 2 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

### Izbench 1.8

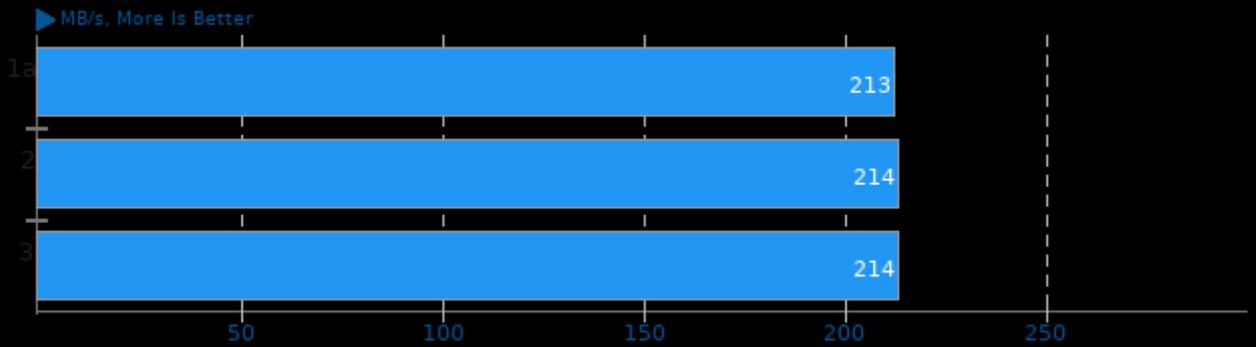
Test: Brotli 2 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

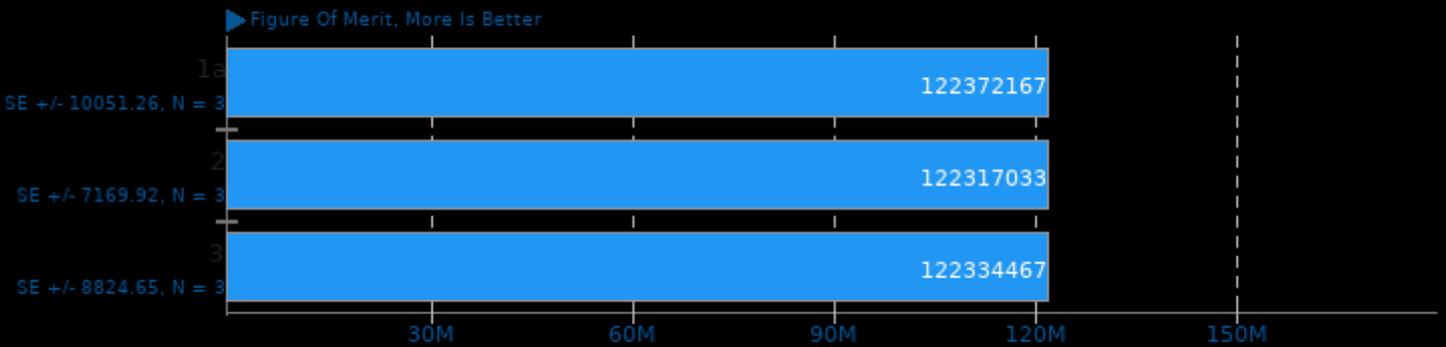
### Izbench 1.8

Test: Libdeflate 1 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

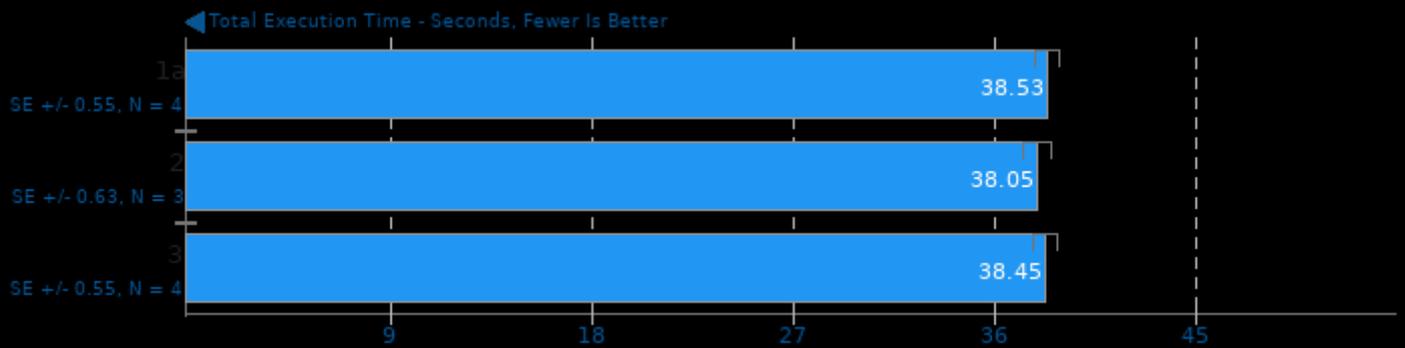
### Algebraic Multi-Grid Benchmark 1.2



1. (CC) gcc options: -lparcsr\_ls -lparcsr\_mv -lseq\_mv -llj\_mv -lkrylov -lHYPRE\_utilities -lm -fopenmp -pthread -lmpi

## QMCPACK 3.10

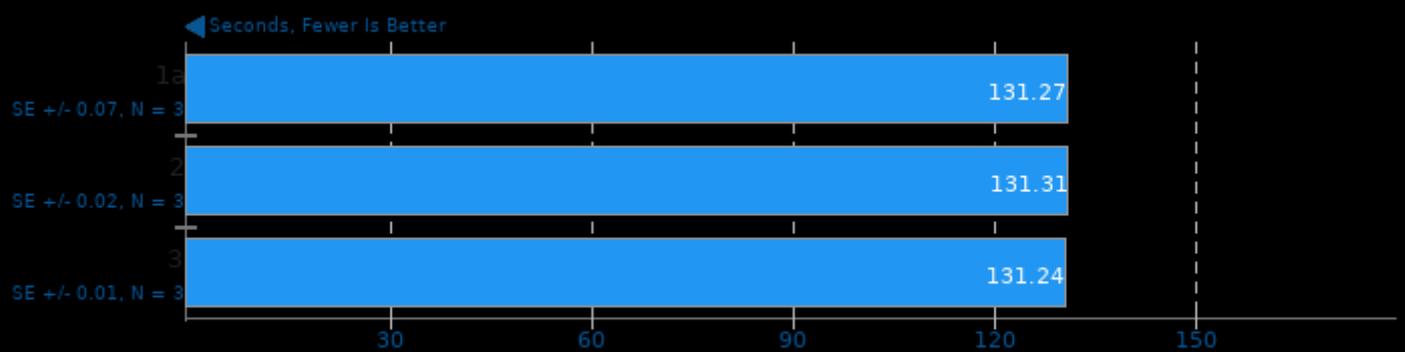
Input: simple-H2O



1. (CXX) g++ options: -fopenmp -finline-limit=1000 -fstrict-aliasing -funroll-all-loops -march=native -O3 -fomit-frame-pointer -ffast-math -pthread -lm

## Timed HMMer Search 3.3.1

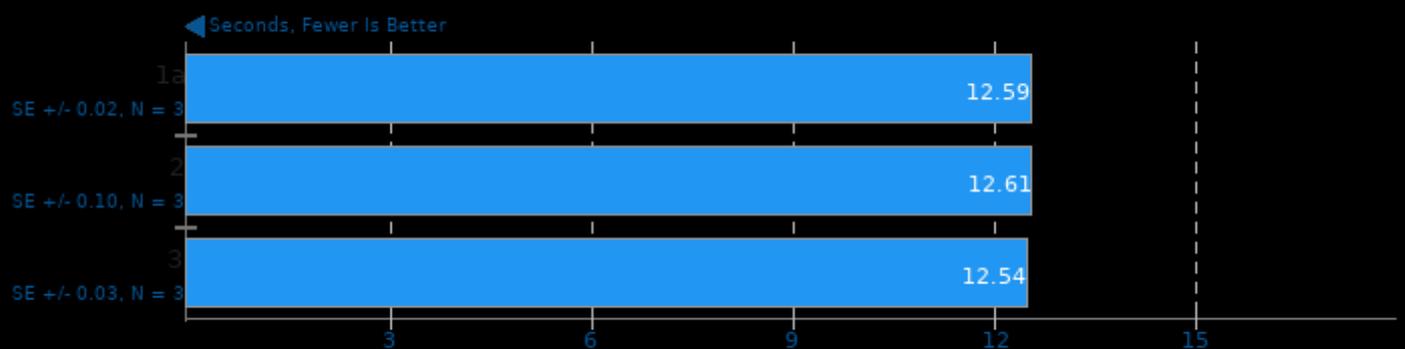
Pfam Database Search



1. (C) gcc options: -O3 -pthread -lhmmmer -leasel -lm

## Timed MAFFT Alignment 7.471

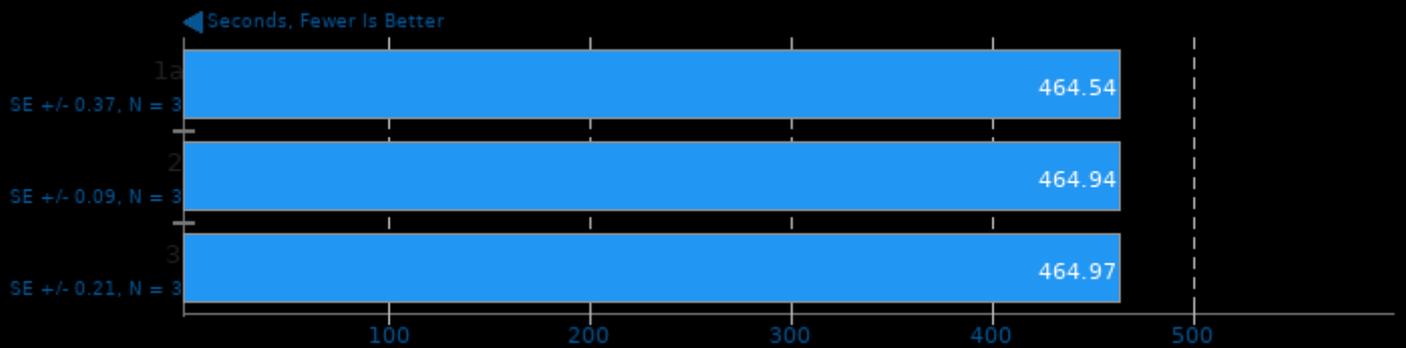
Multiple Sequence Alignment - LSU RNA



1. (C) gcc options: -std=c99 -O3 -lm -lpthread

## OpenFOAM 8

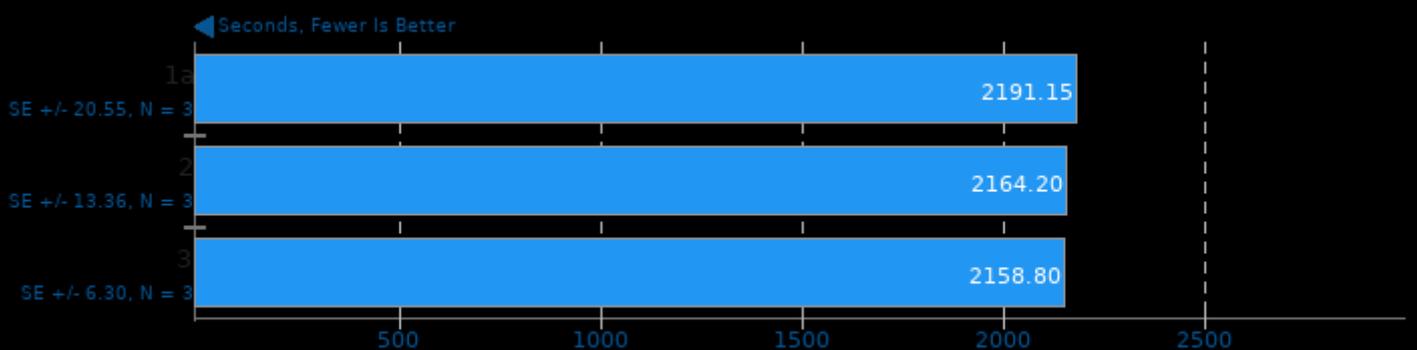
Input: Motorbike 30M



1. (CXX) g++ options: -std=c++11 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-id=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh

## Quantum ESPRESSO 6.7

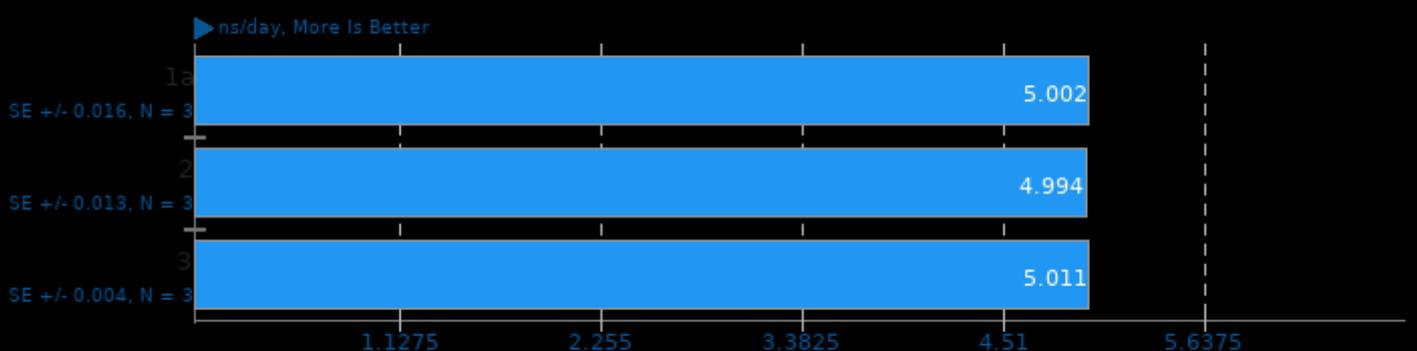
Input: AUSURF112



1. (F9X) gfortran options: -lopenblas -lFoX\_dom -lFoX\_sax -lFoX\_wxml -lFoX\_common -lFoX\_utils -lFoX\_fsys -lfftw3 -pthread -lmpi\_usempif08 -lmpi\_mpifh

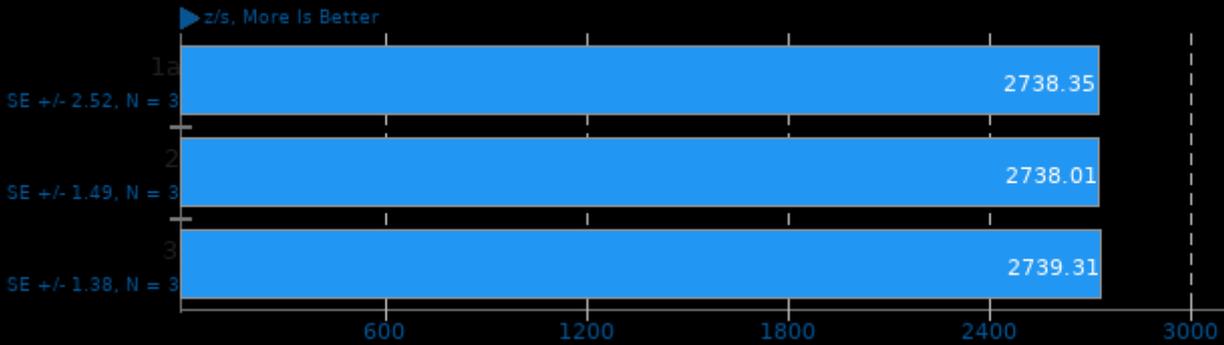
## LAMMPS Molecular Dynamics Simulator 29Oct2020

Model: Rhodopsin Protein



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

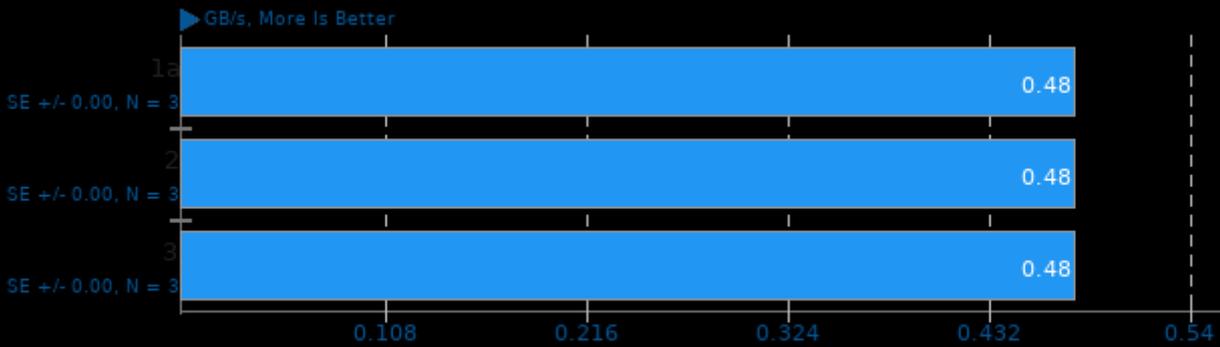
### LULESH 2.0.3



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

### simdjson 0.7.1

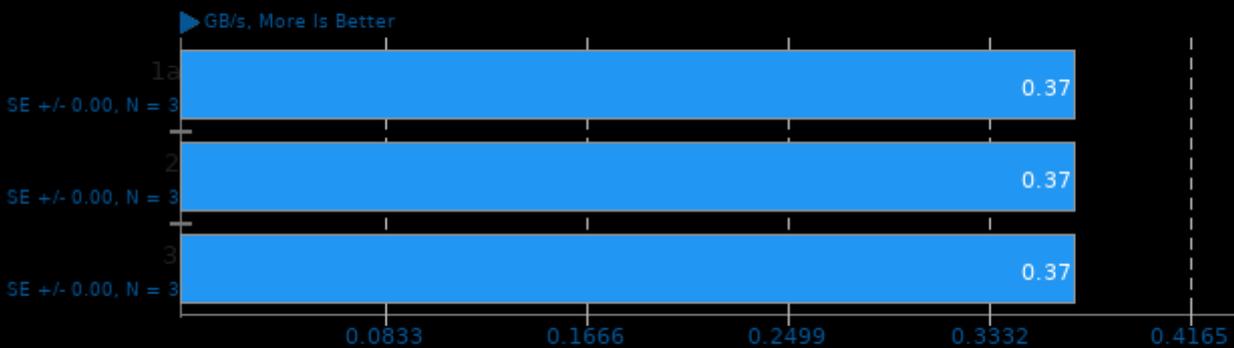
Throughput Test: Kostya



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

### simdjson 0.7.1

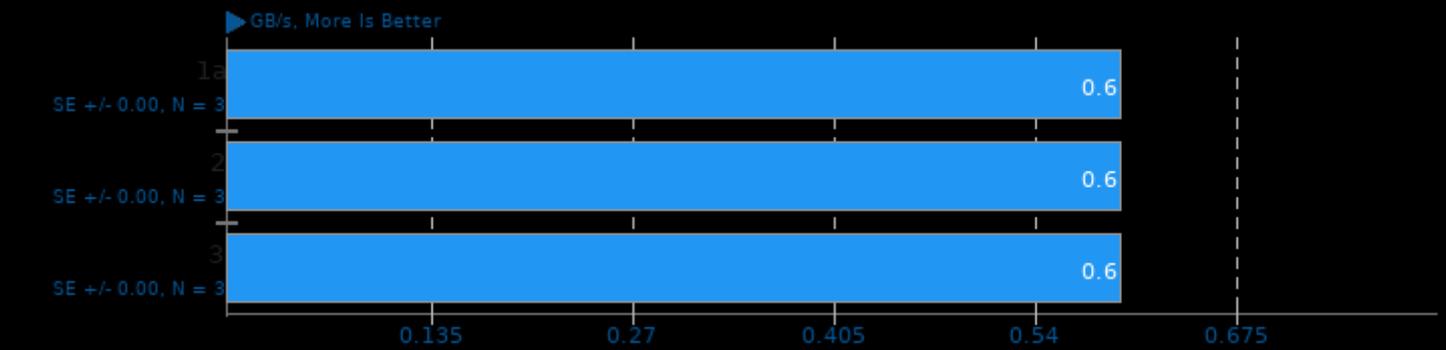
Throughput Test: LargeRandom



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

### simdjson 0.7.1

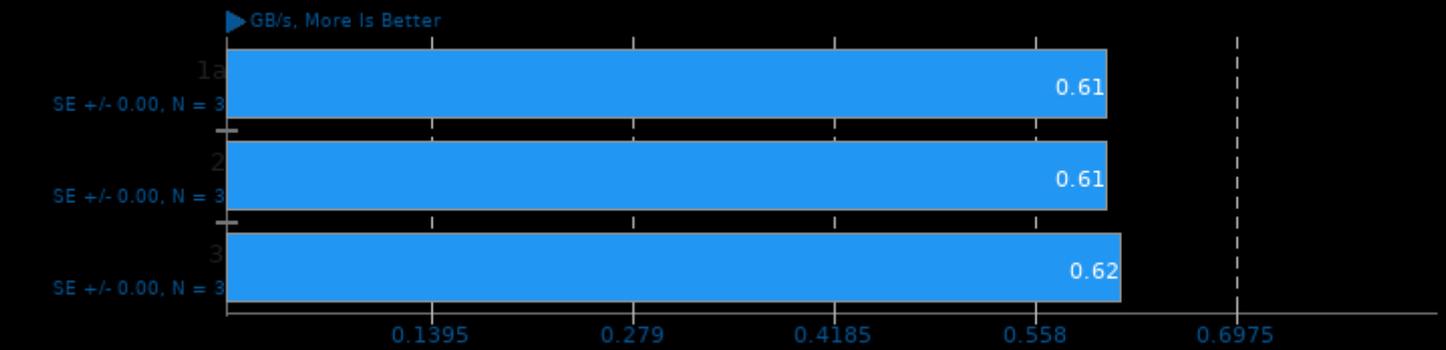
Throughput Test: PartialTweets



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

### simdjson 0.7.1

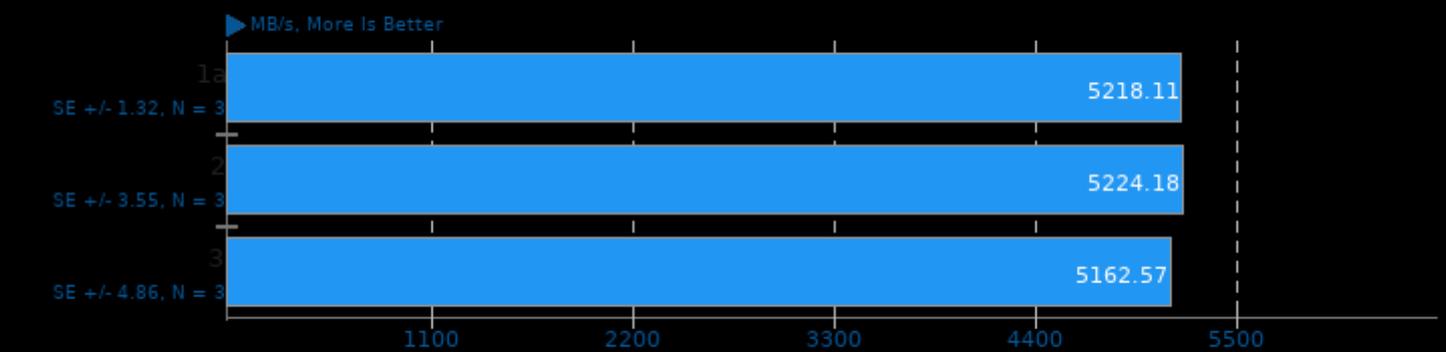
Throughput Test: DistinctUserID



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

### LZ4 Compression 1.9.3

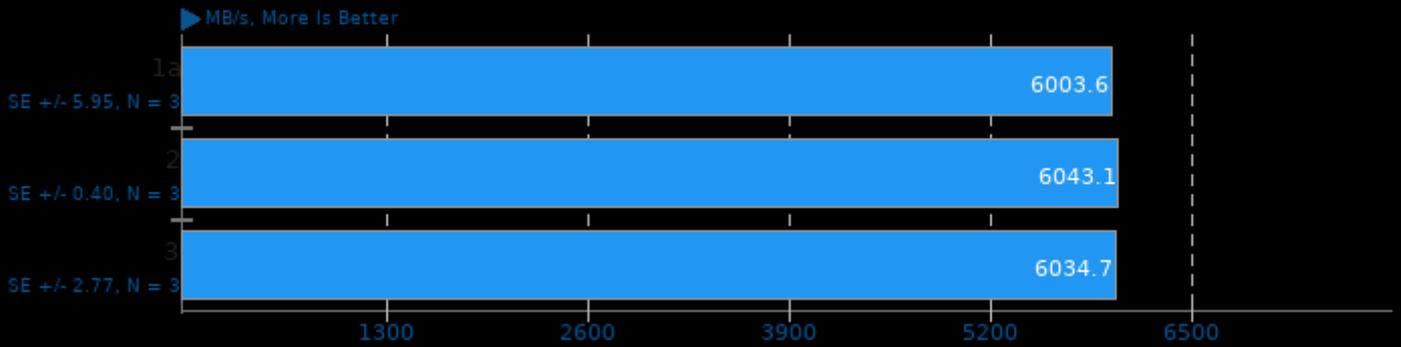
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

### LZ4 Compression 1.9.3

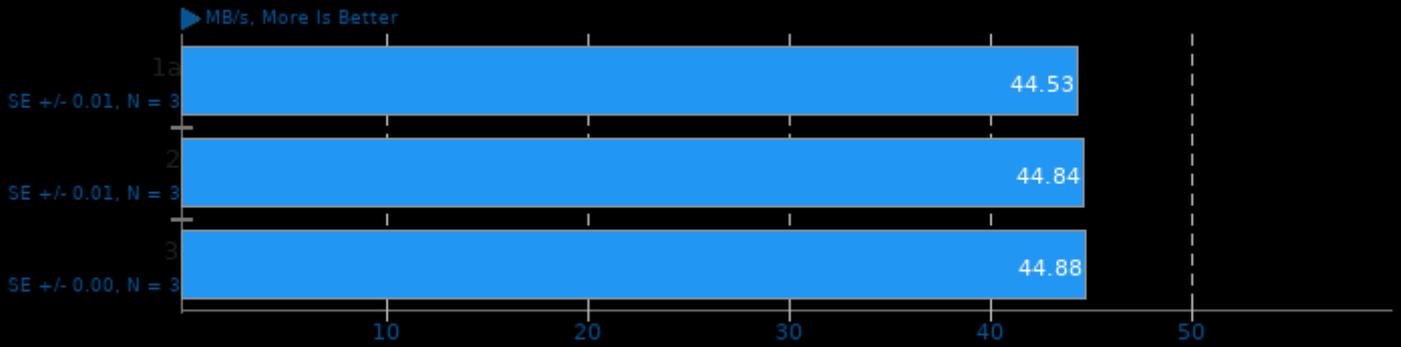
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

### LZ4 Compression 1.9.3

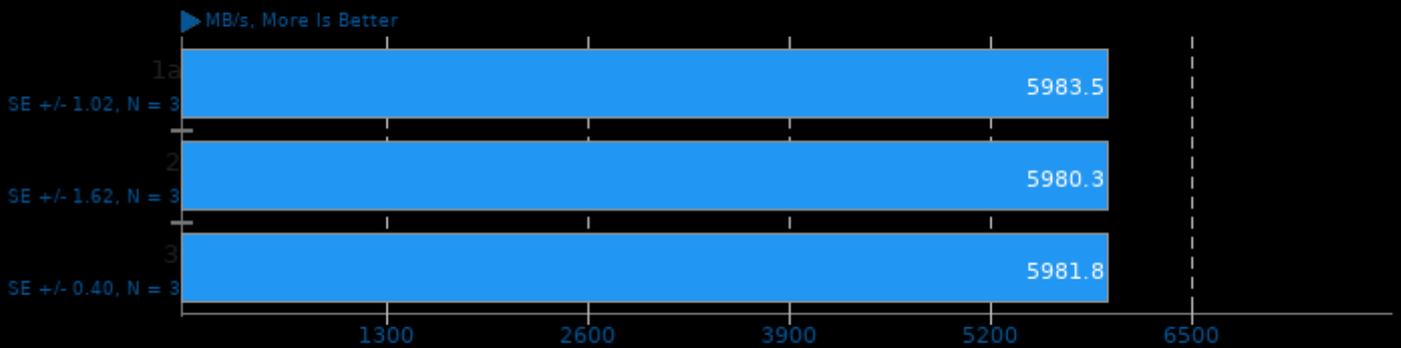
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

### LZ4 Compression 1.9.3

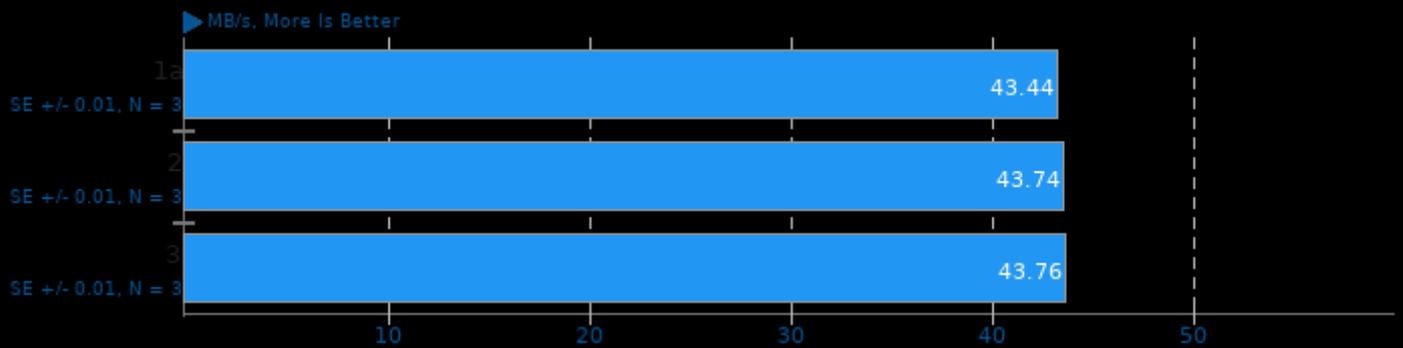
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

### LZ4 Compression 1.9.3

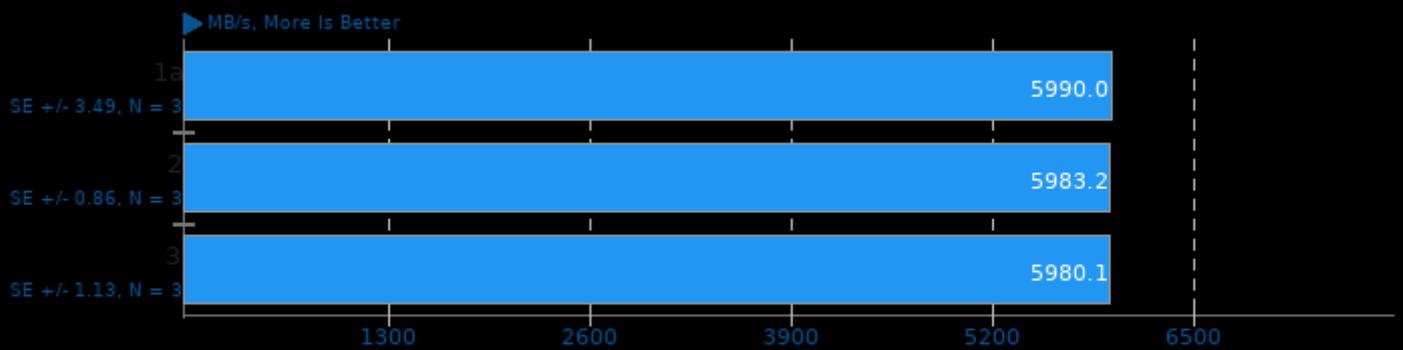
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

### LZ4 Compression 1.9.3

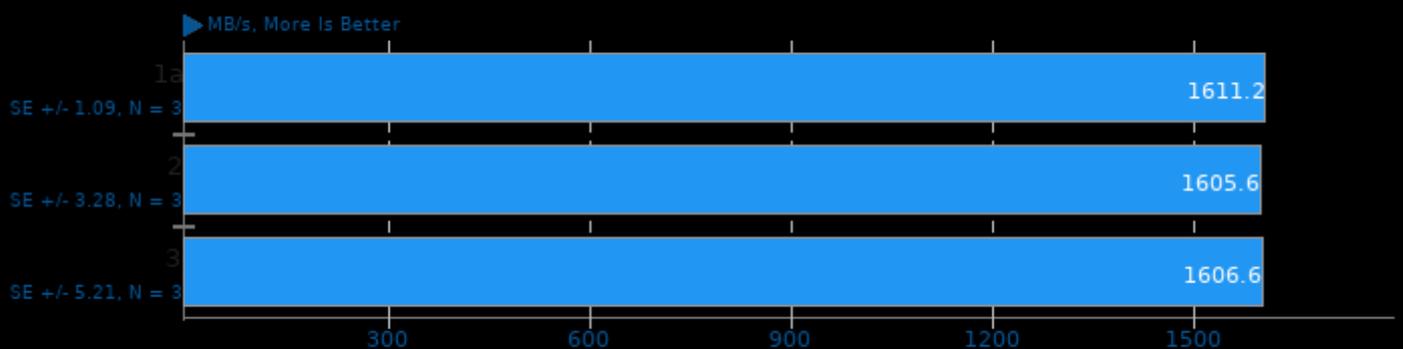
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

### Zstd Compression 1.4.5

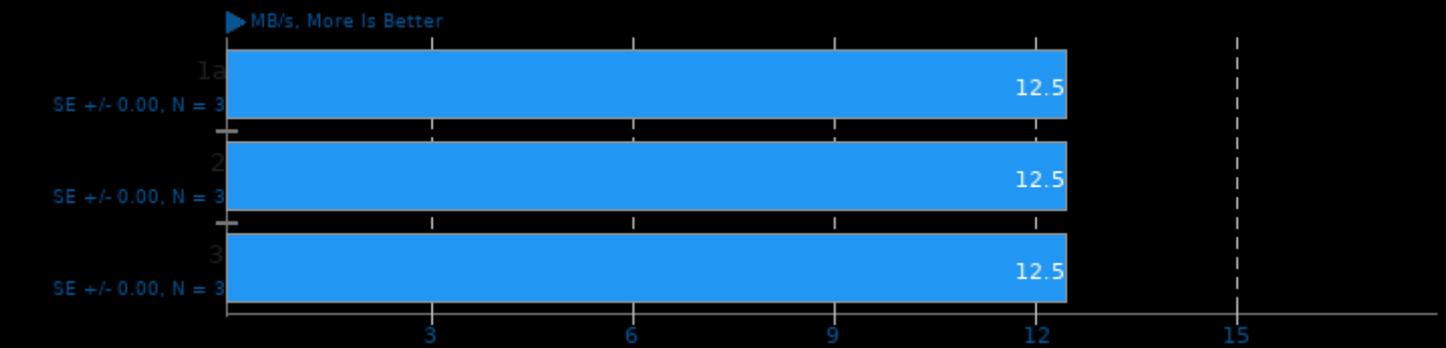
Compression Level: 3



1. (CC) gcc options: -O3 -pthread -lz -llzma

## Zstd Compression 1.4.5

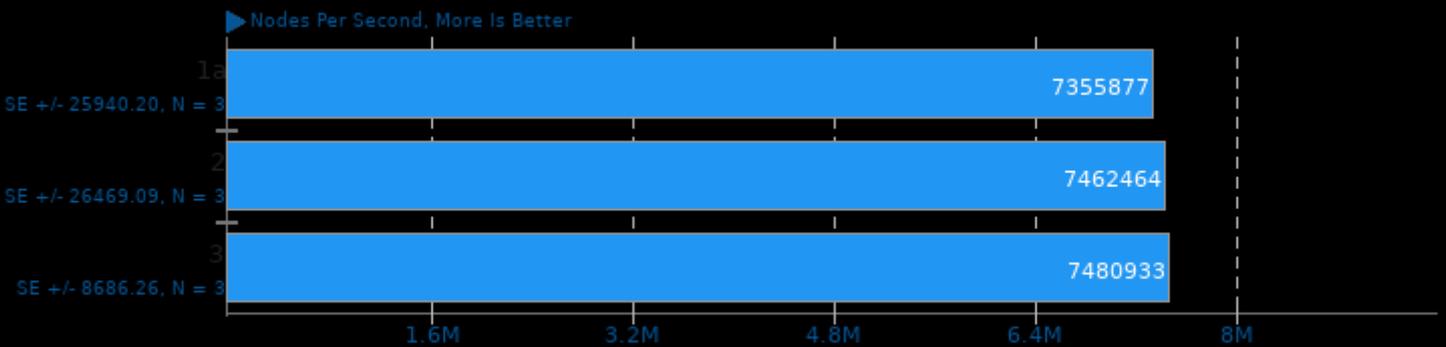
Compression Level: 19



1. (CC) gcc options: -O3 -pthread -lz -llzma

## Crafty 25.2

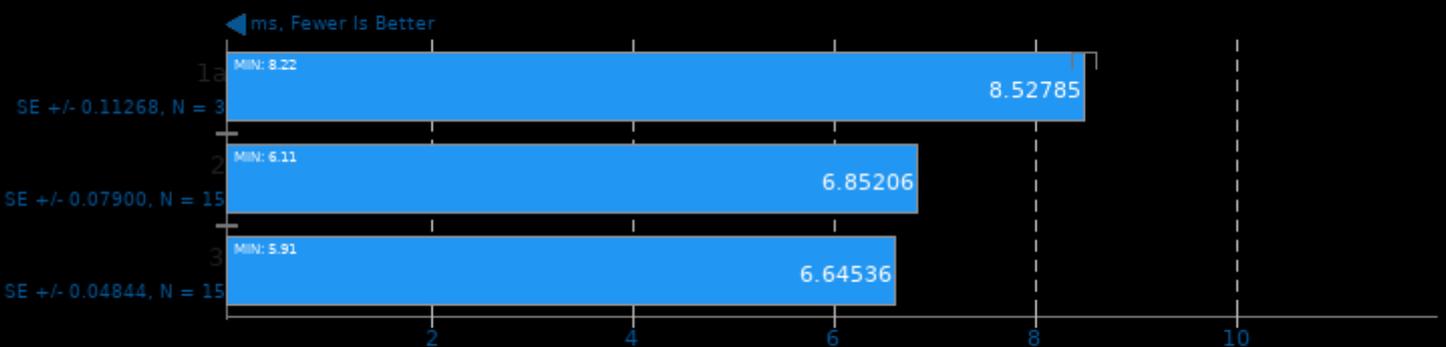
Elapsed Time



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

## oneDNN 2.0

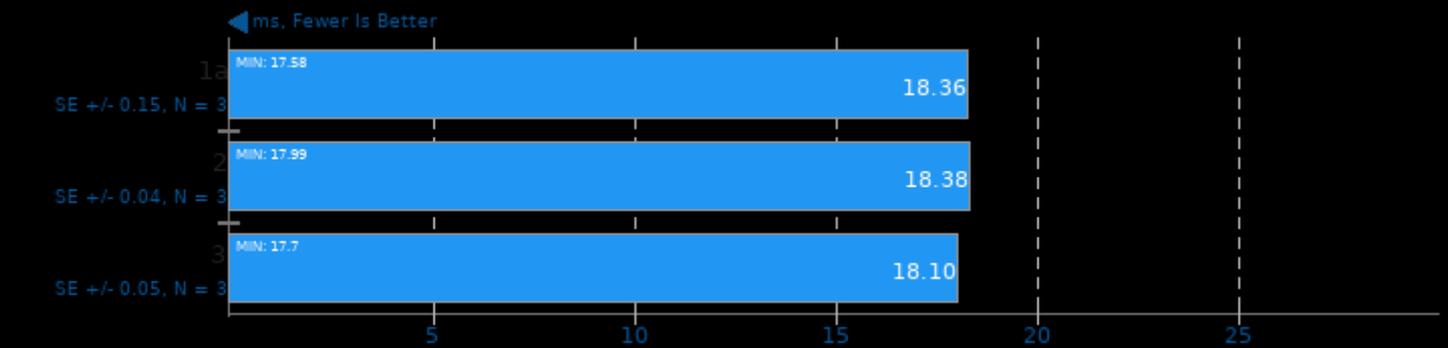
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -mssse4.1 -fPIC -pie -pthread

### oneDNN 2.0

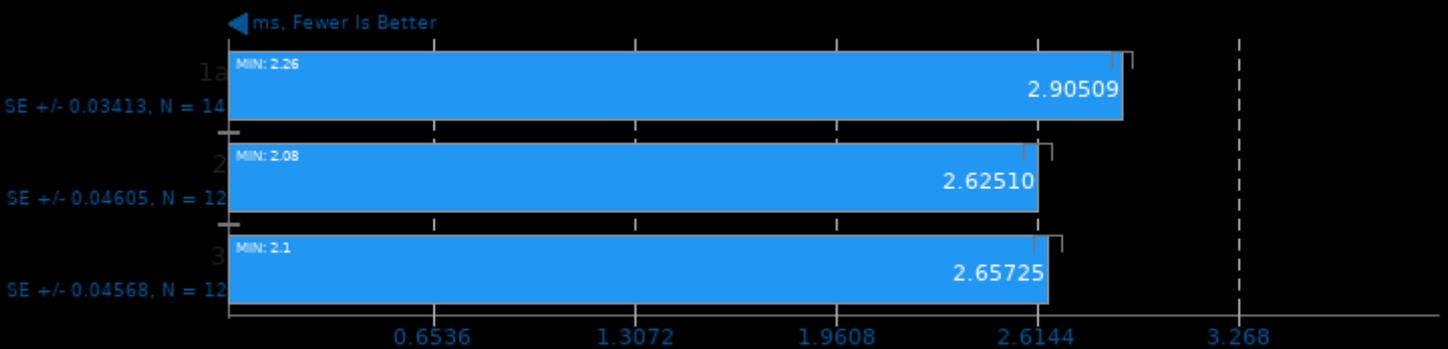
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

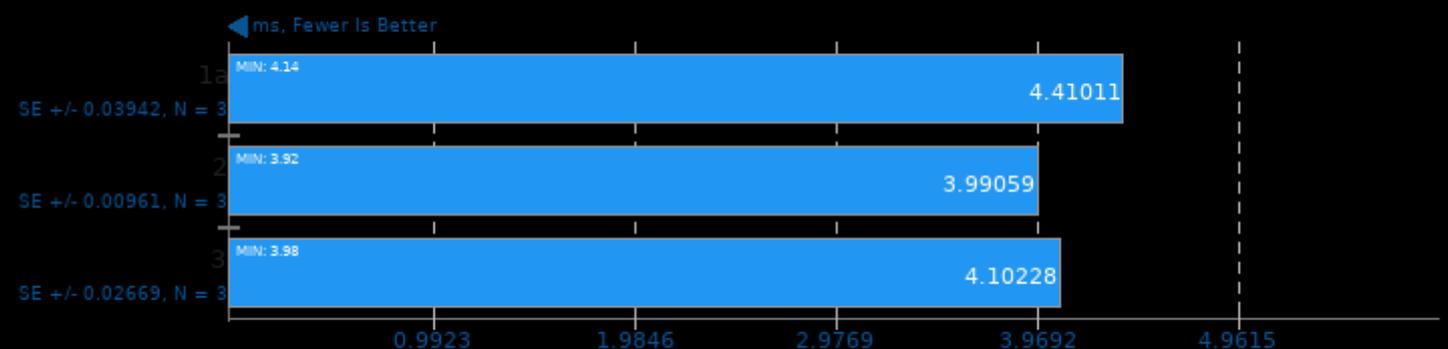
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

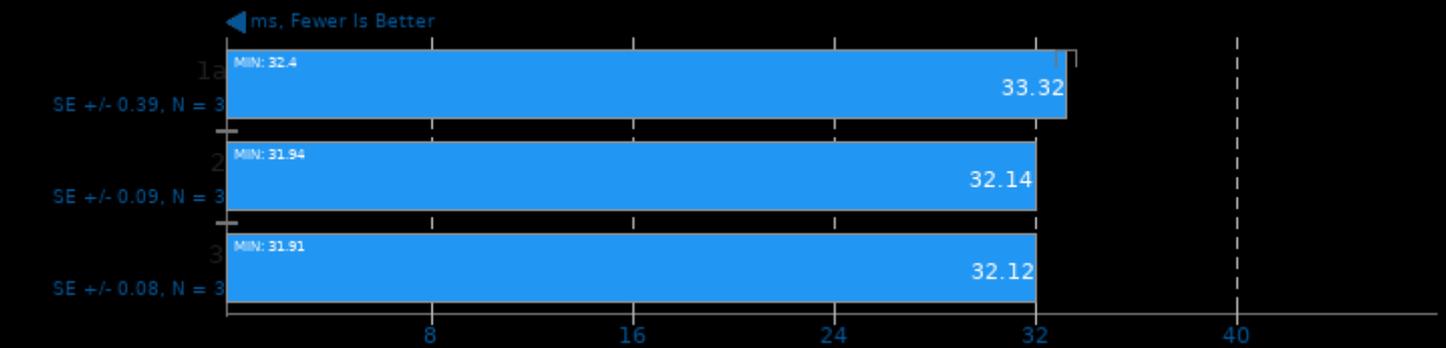
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

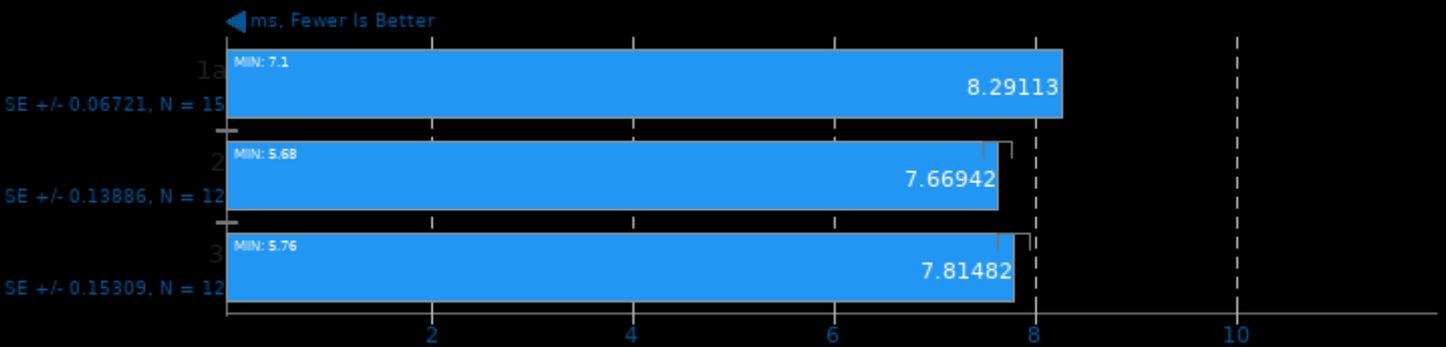
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

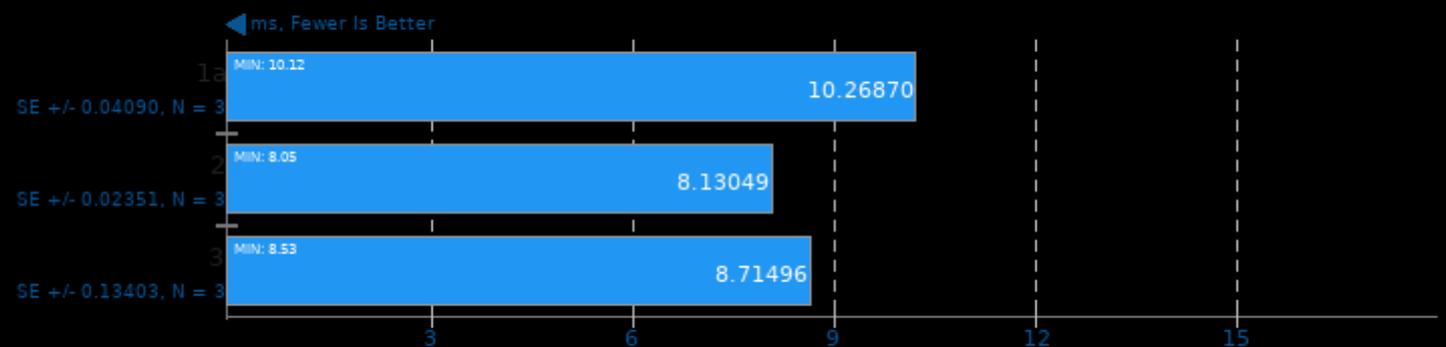
Harness: Deconvolution Batch shapes\_1d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

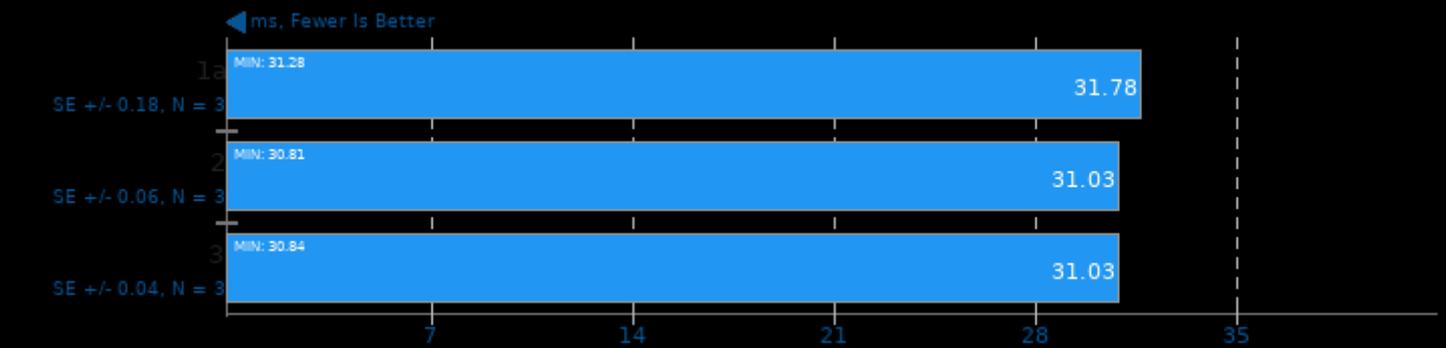
Harness: Deconvolution Batch shapes\_3d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

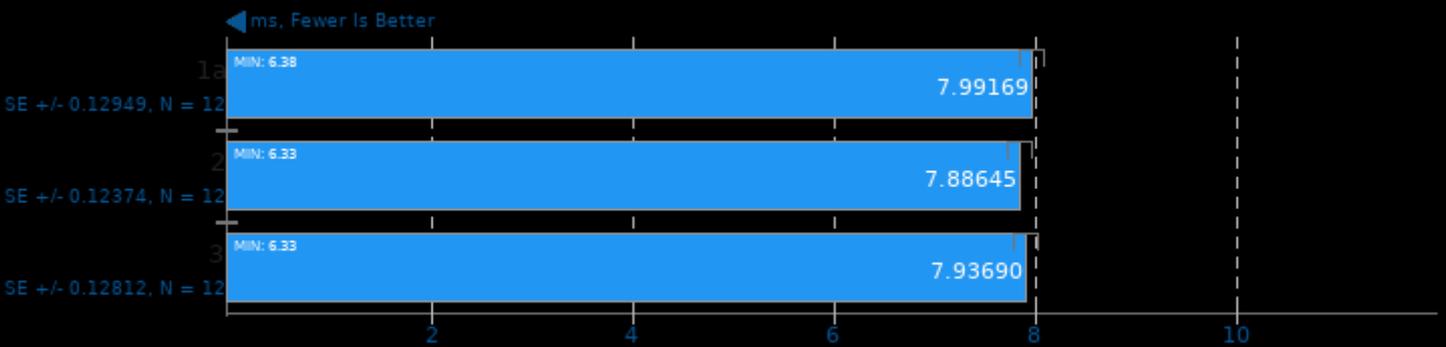
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

### oneDNN 2.0

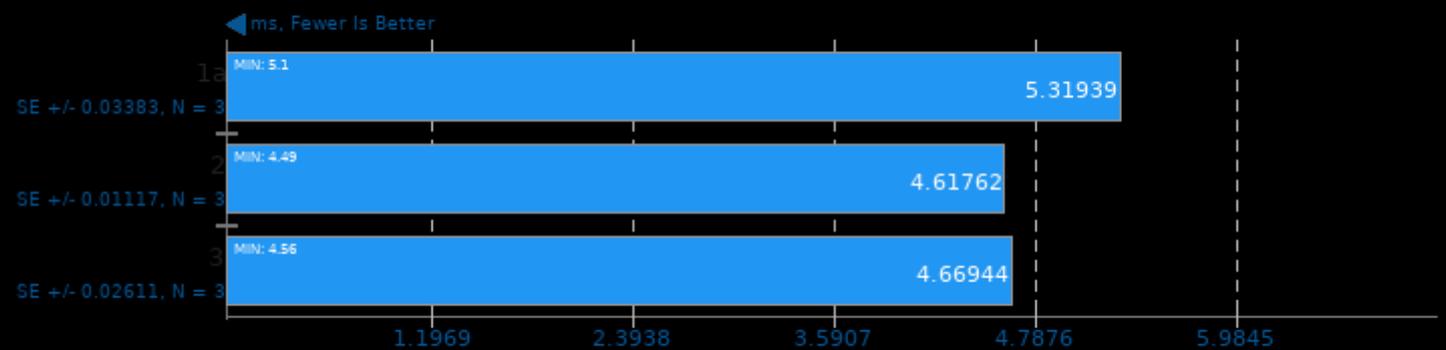
Harness: Deconvolution Batch shapes\_1d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

### oneDNN 2.0

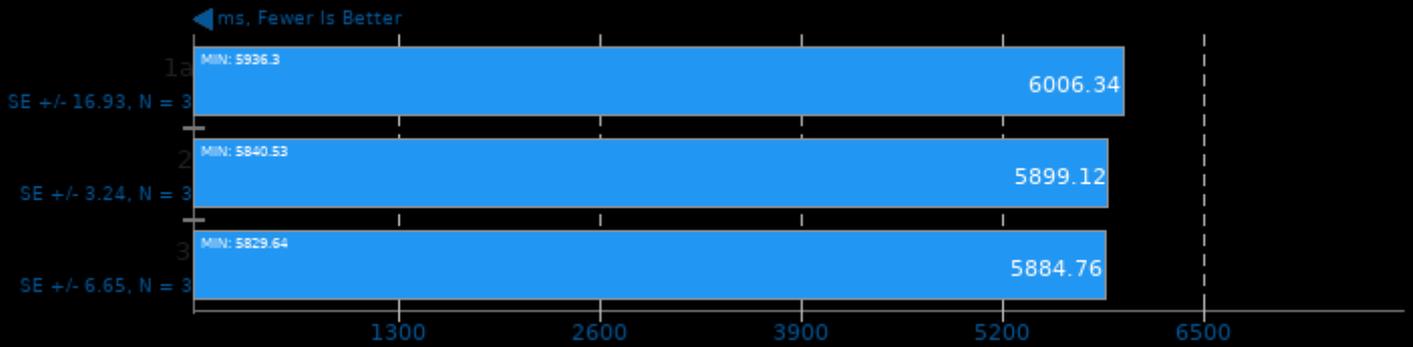
Harness: Deconvolution Batch shapes\_3d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

### oneDNN 2.0

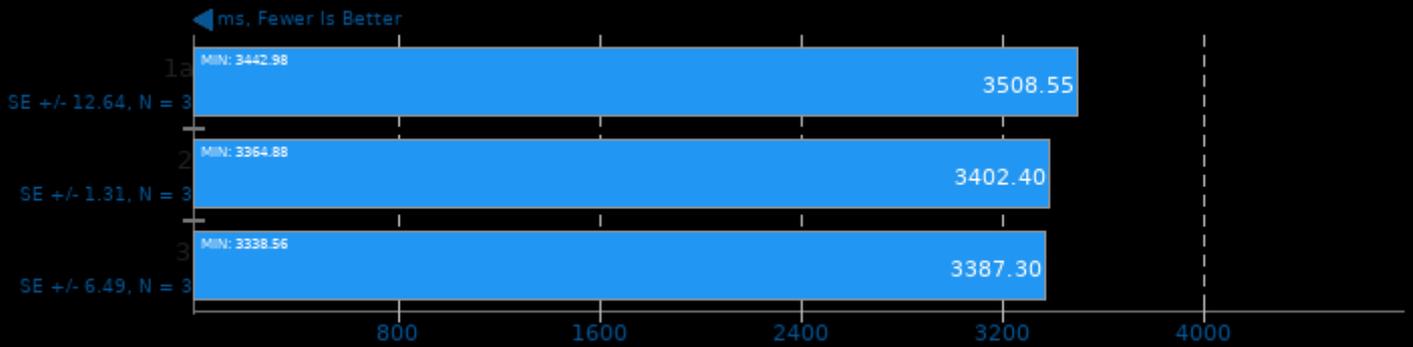
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

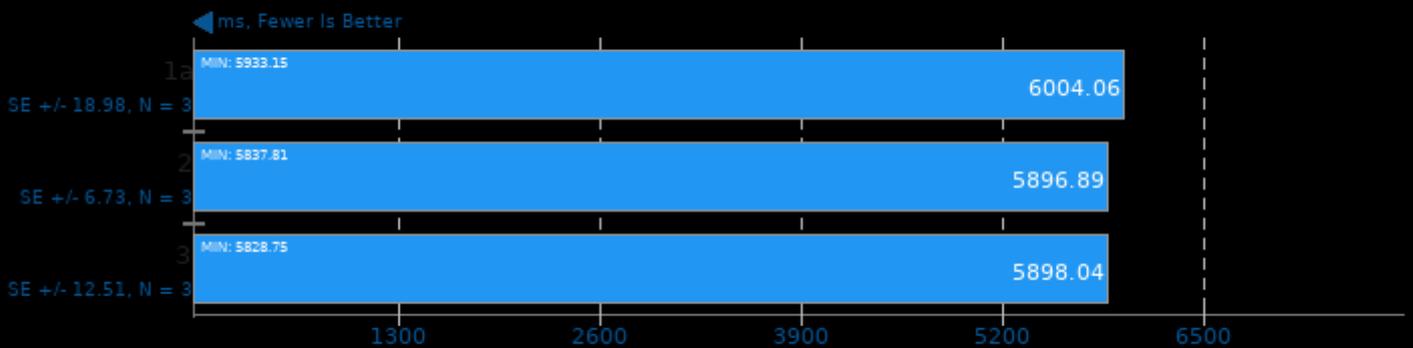
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

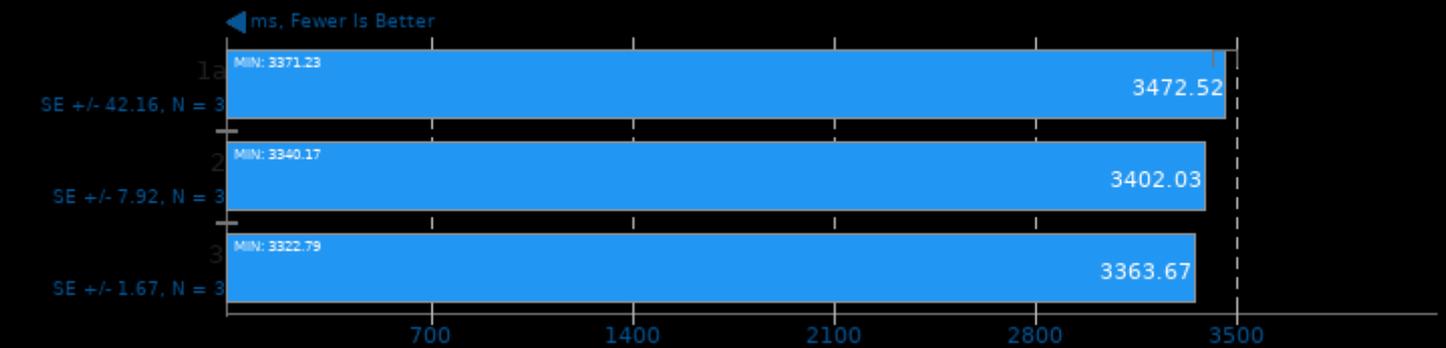
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

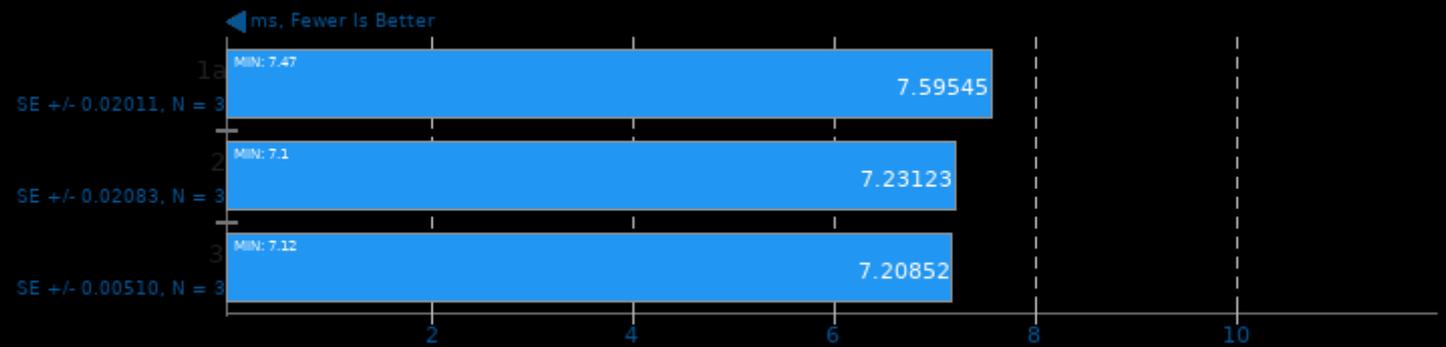
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

### oneDNN 2.0

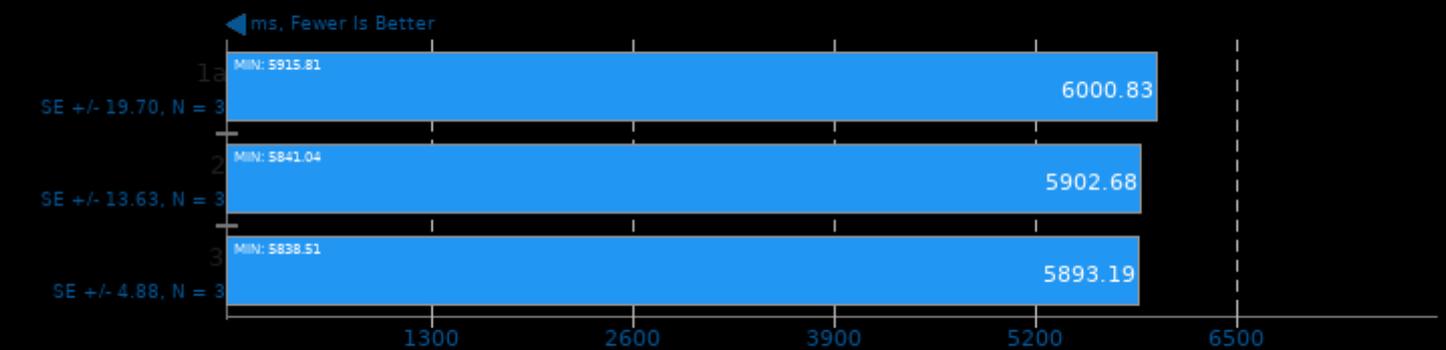
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

### oneDNN 2.0

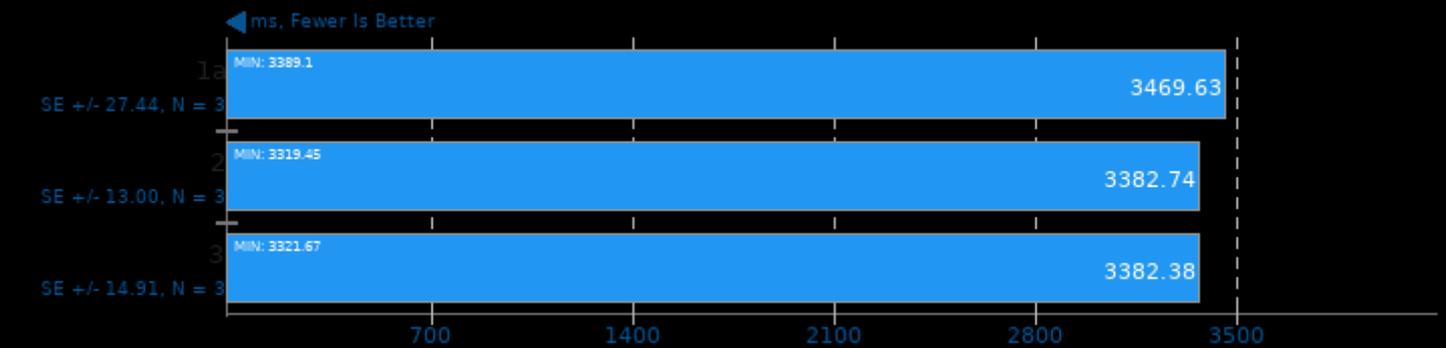
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -lpthread

### oneDNN 2.0

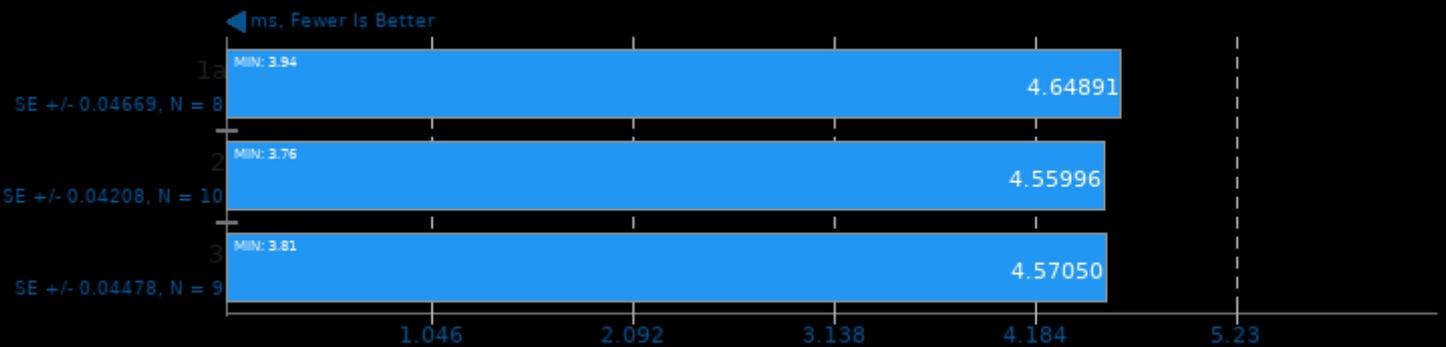
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### oneDNN 2.0

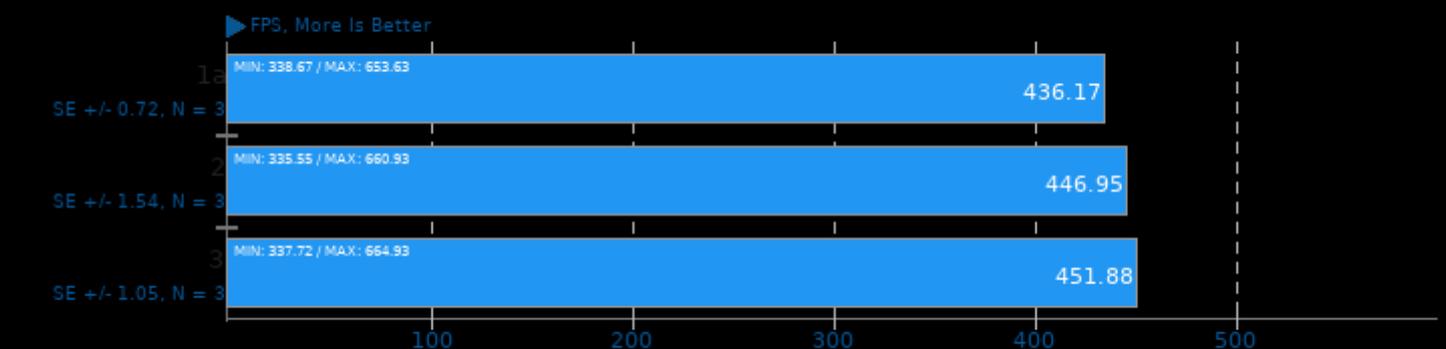
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -std=c++11 -fopenmp -msse4.1 -fpic -pie -pthread

### dav1d 0.8.1

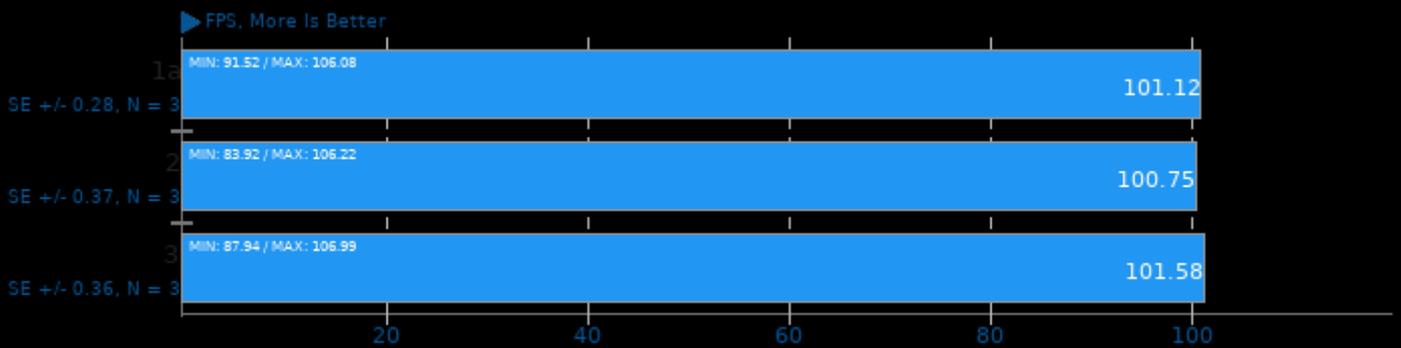
Video Input: Chimera 1080p



1. (C) gcc options: -pthread

### dav1d 0.8.1

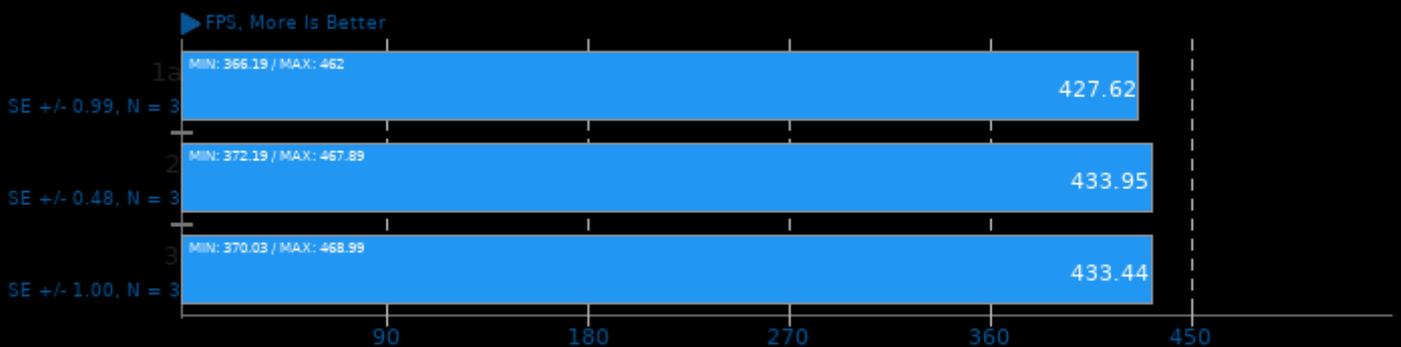
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

### dav1d 0.8.1

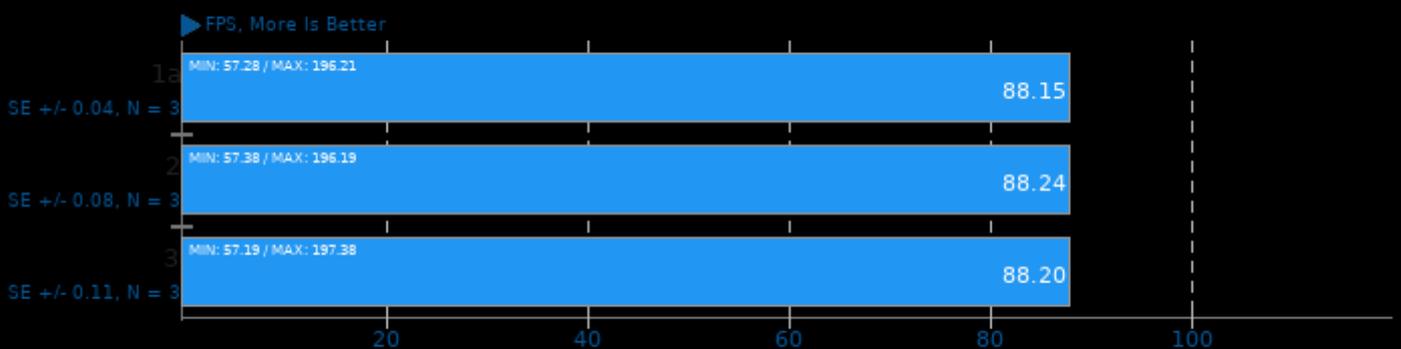
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

### dav1d 0.8.1

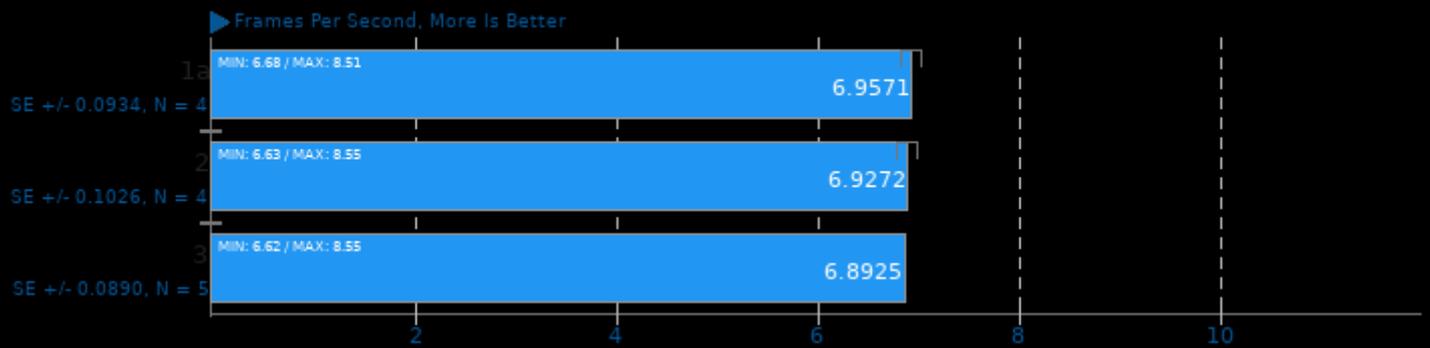
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

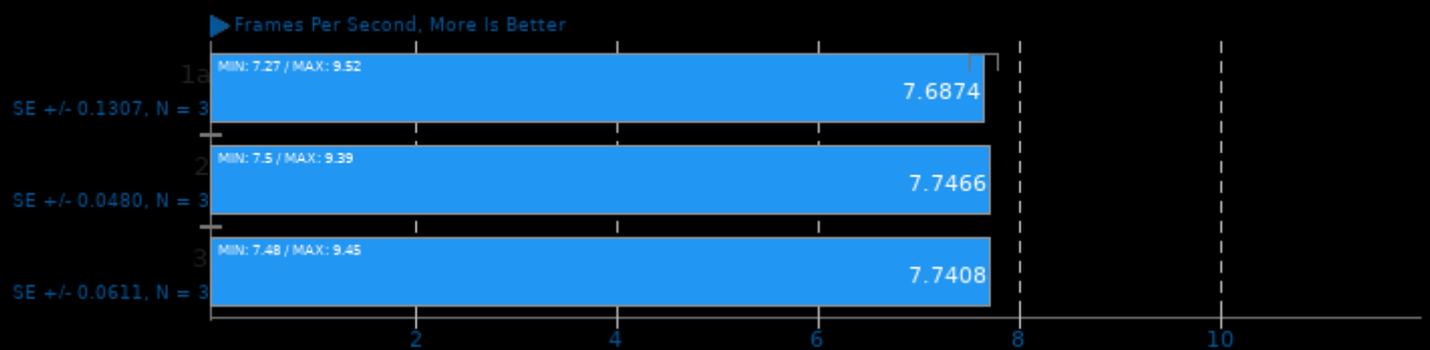
### Embree 3.9.0

Binary: Pathtracer - Model: Crown



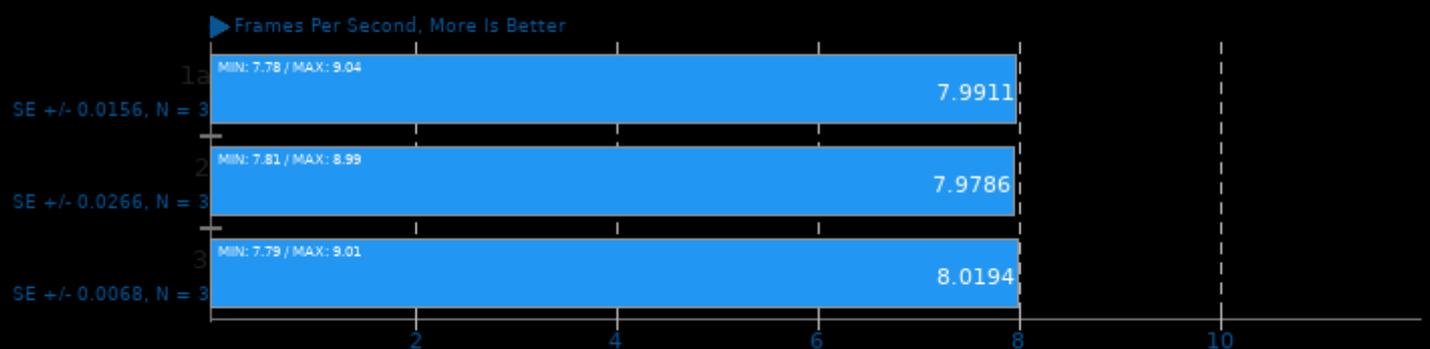
### Embree 3.9.0

Binary: Pathtracer ISPC - Model: Crown



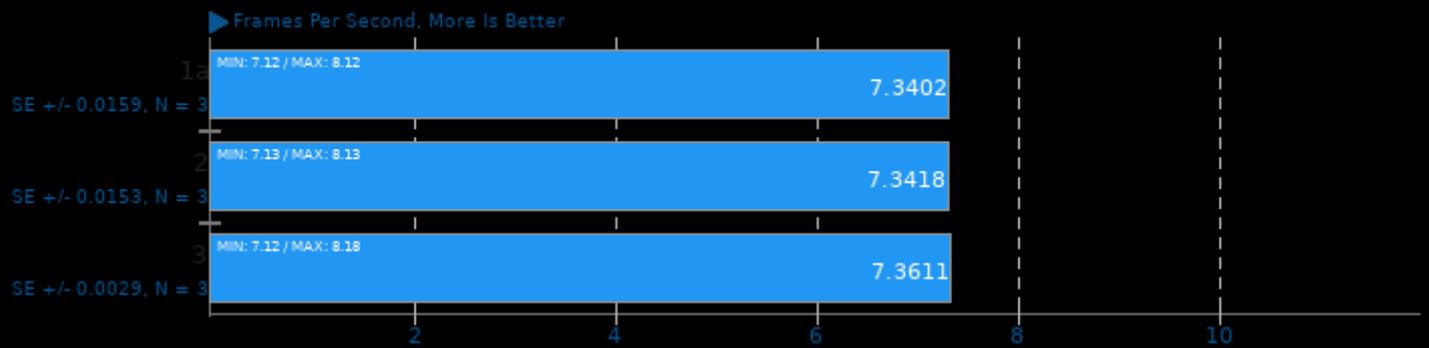
### Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon



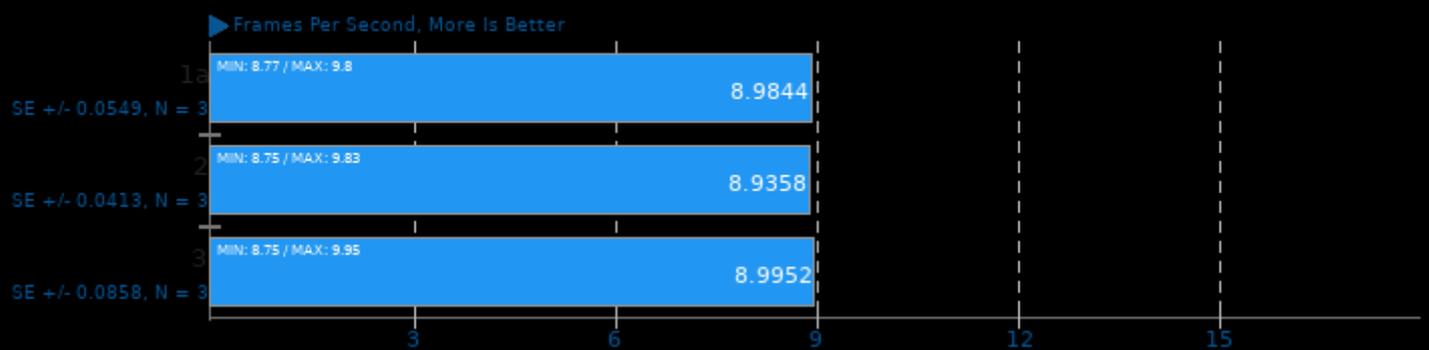
### Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon Obj



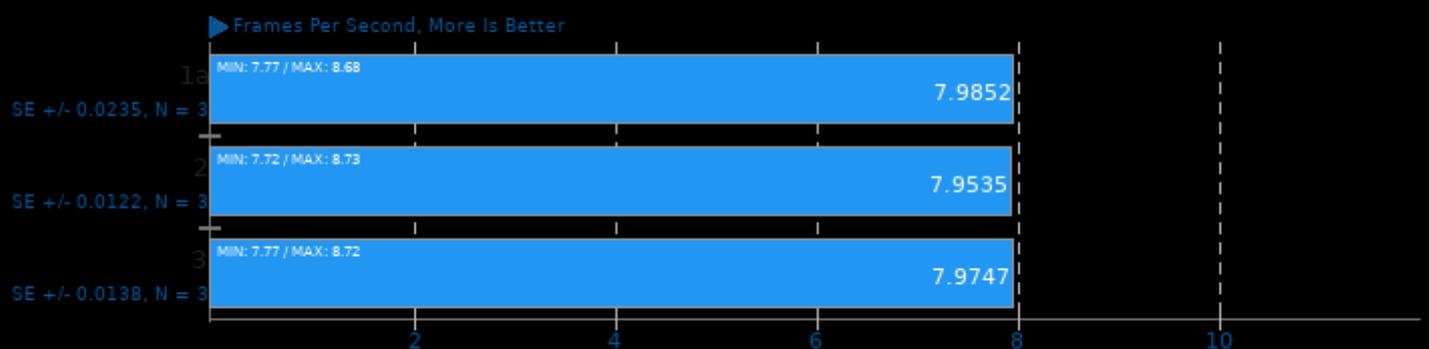
### Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon



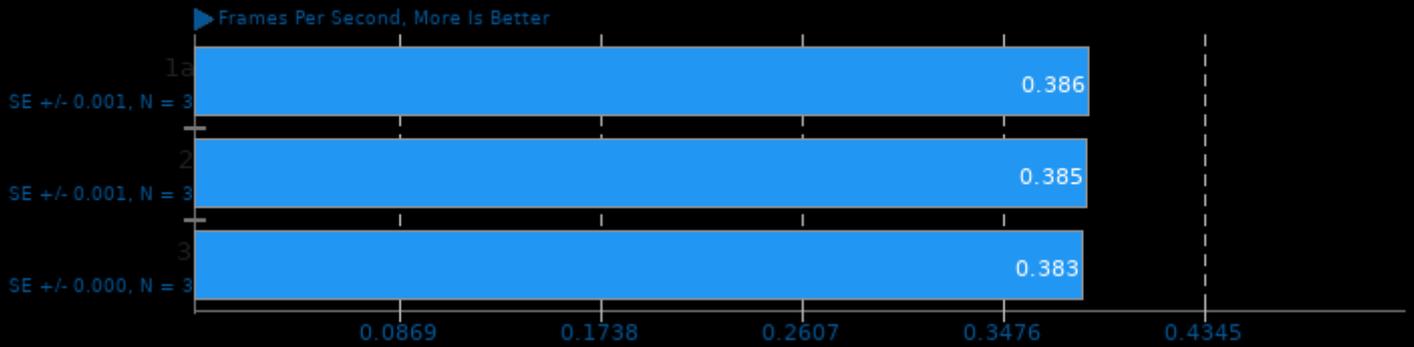
### Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon Obj



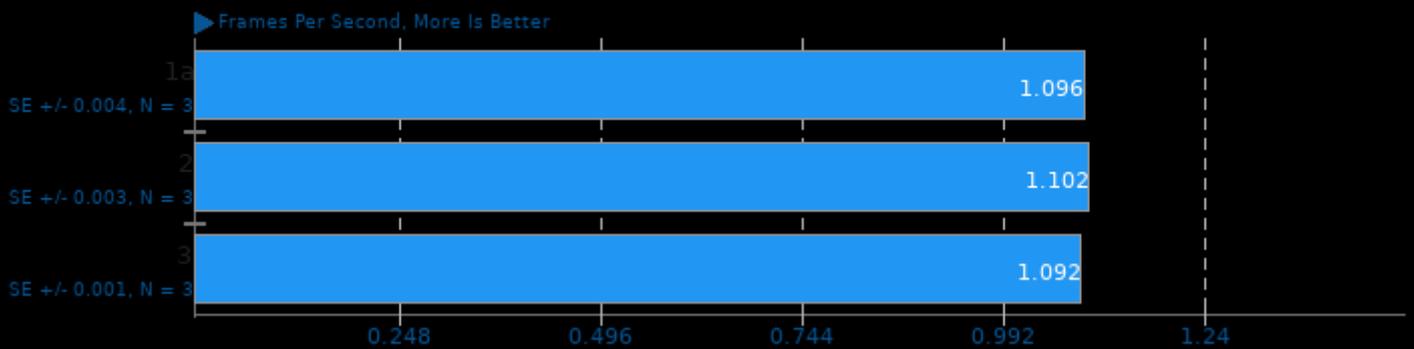
rav1e 0.4

Speed: 1



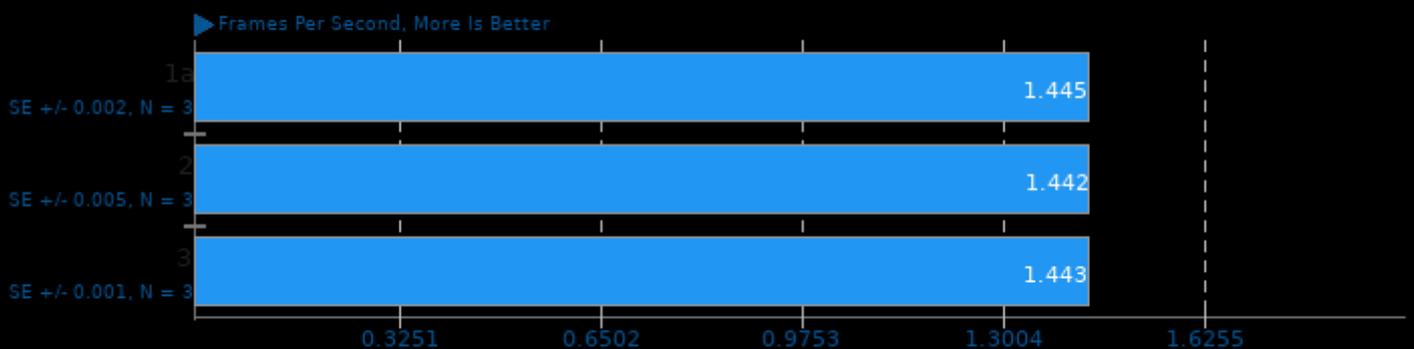
rav1e 0.4

Speed: 5



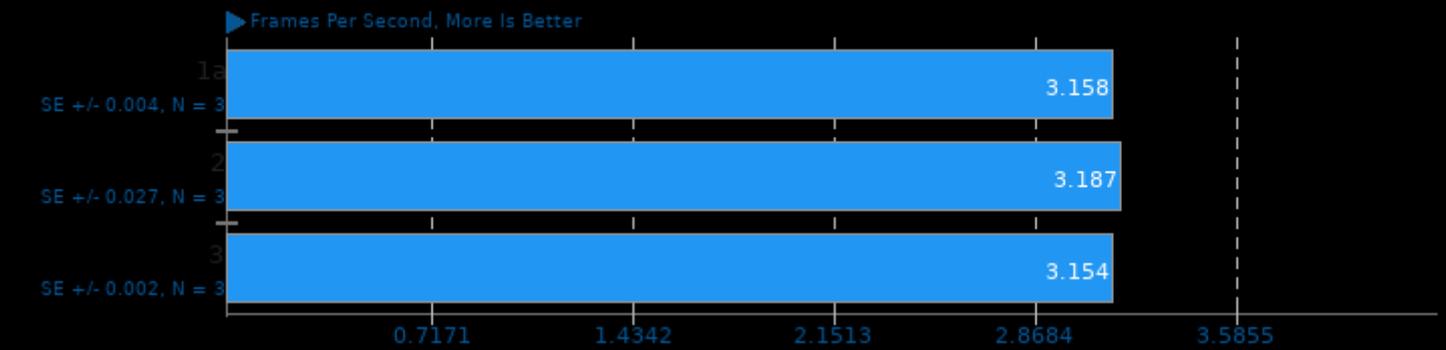
rav1e 0.4

Speed: 6



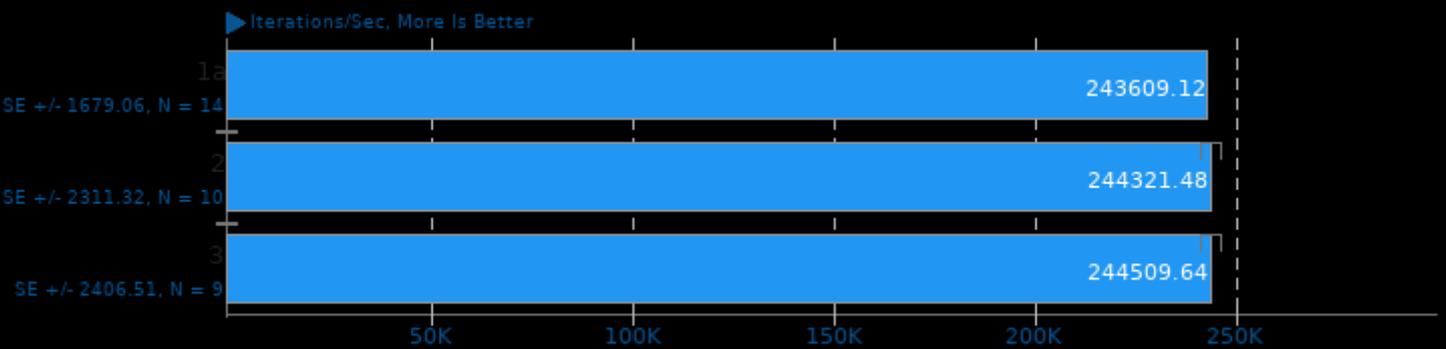
### rav1e 0.4

Speed: 10



### Coremark 1.0

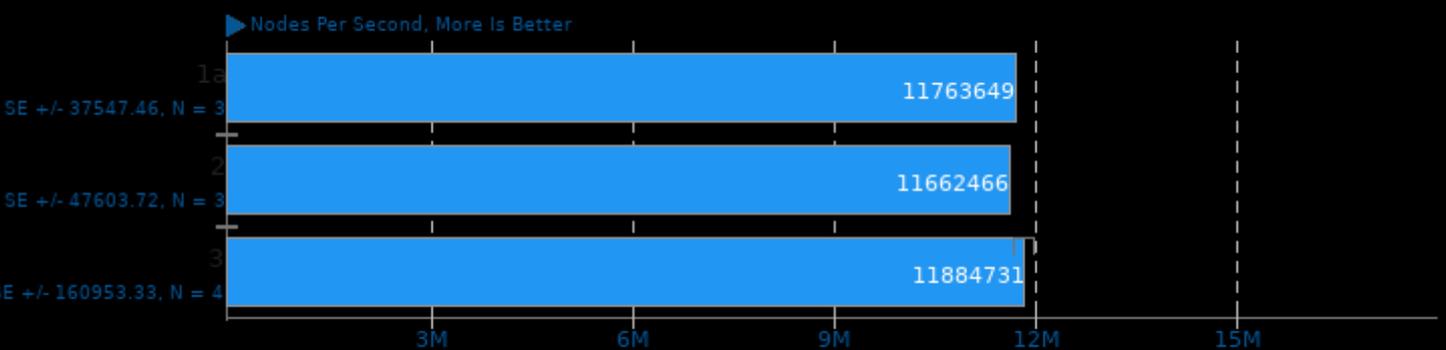
CoreMark Size 666 - Iterations Per Second



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

### Stockfish 12

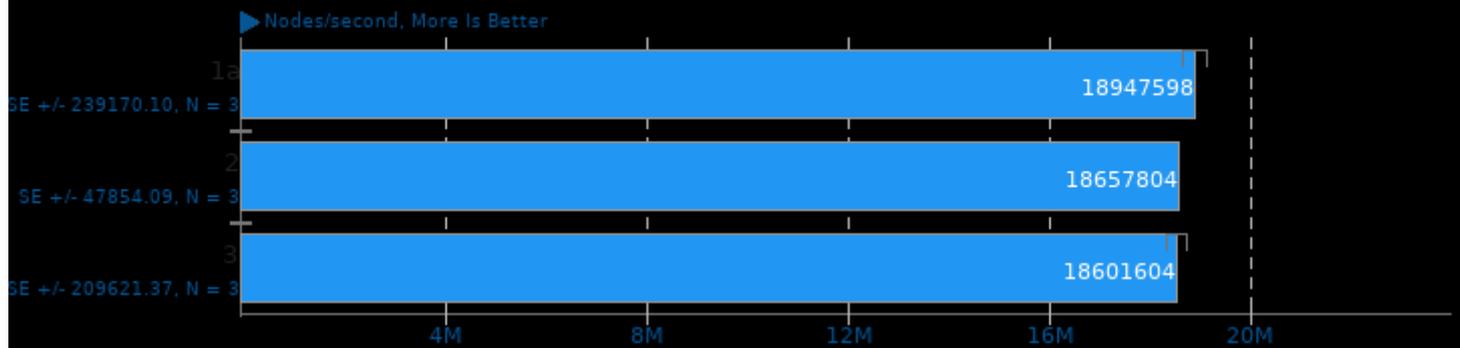
Total Time



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

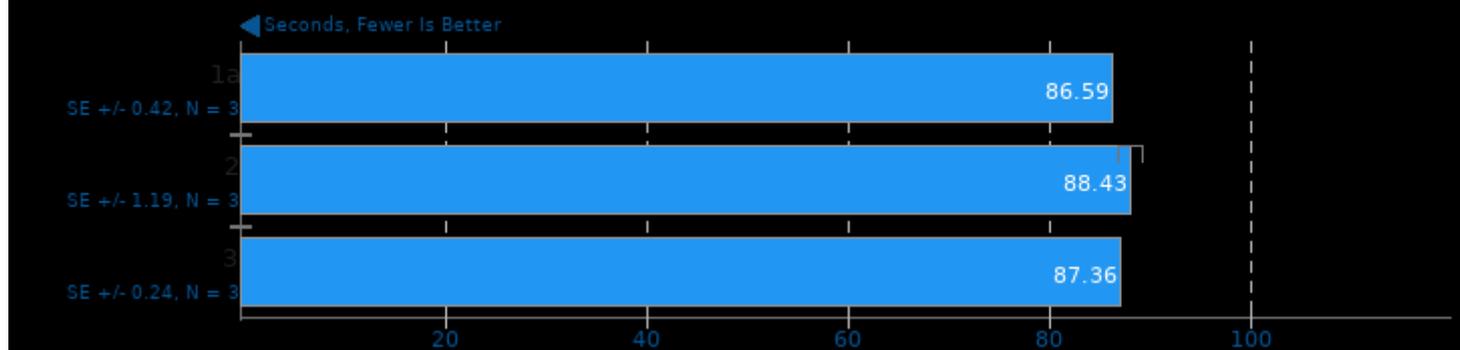
### asmFish 2018-07-23

1024 Hash Memory, 26 Depth



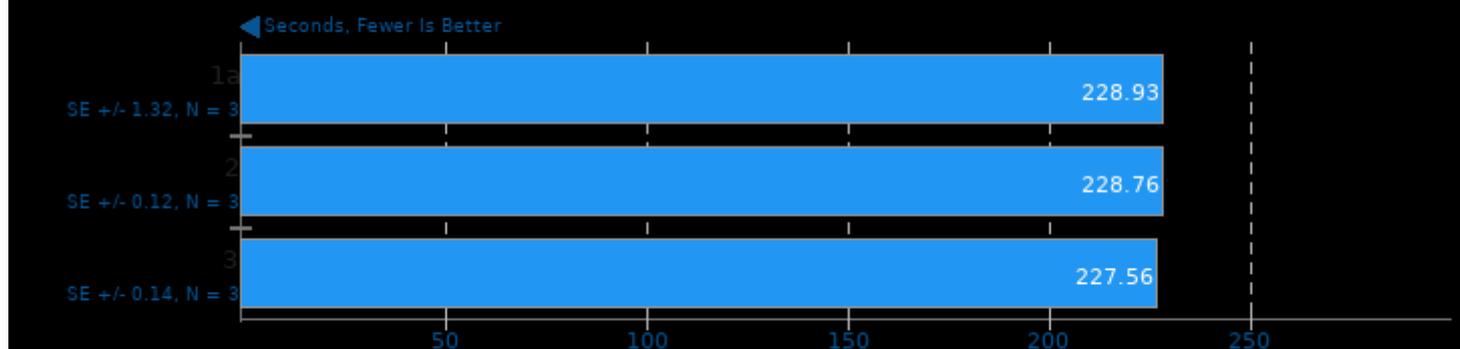
### Timed FFmpeg Compilation 4.2.2

Time To Compile



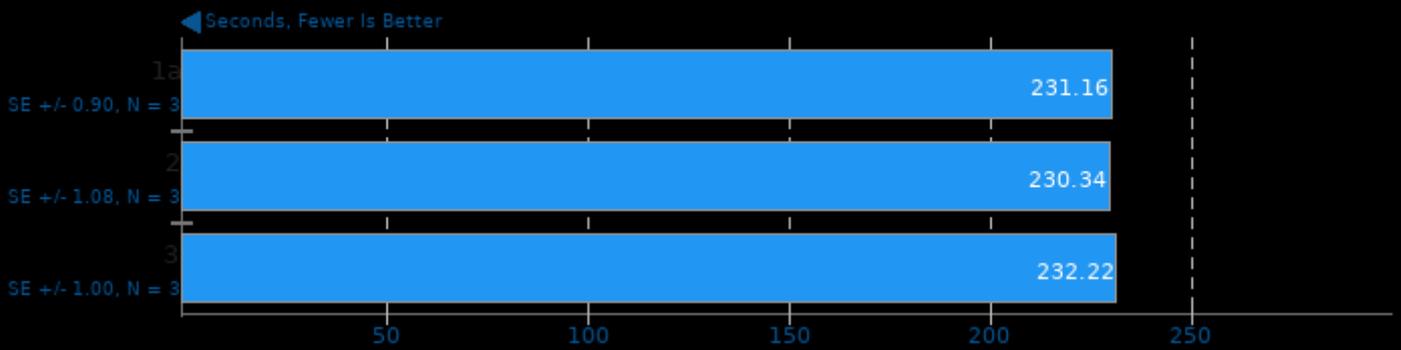
### Timed Godot Game Engine Compilation 3.2.3

Time To Compile

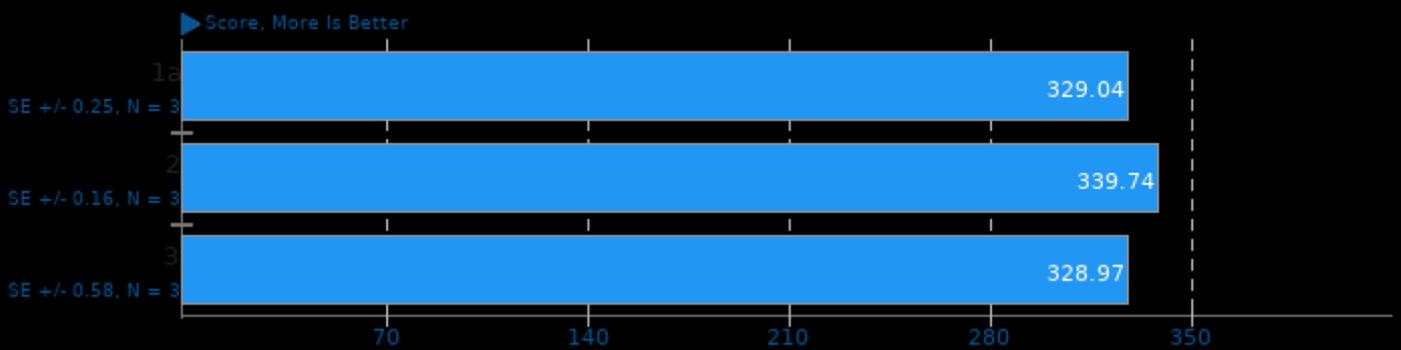


### Build2 0.13

Time To Compile

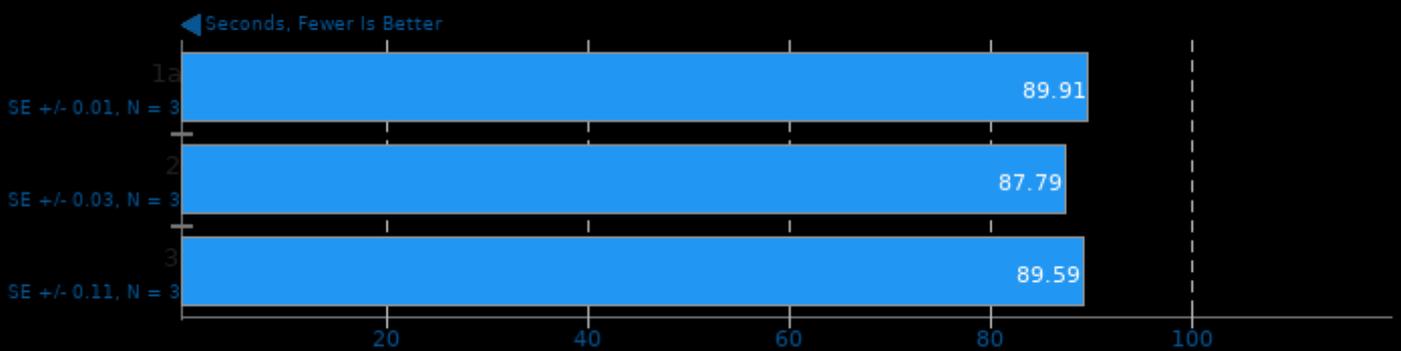


### Numpy Benchmark



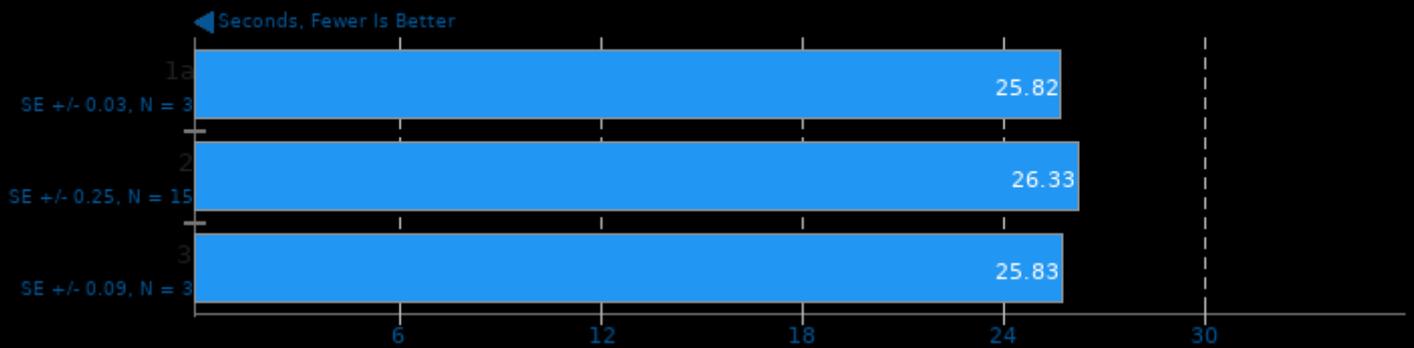
### Timed Eigen Compilation 3.3.9

Time To Compile



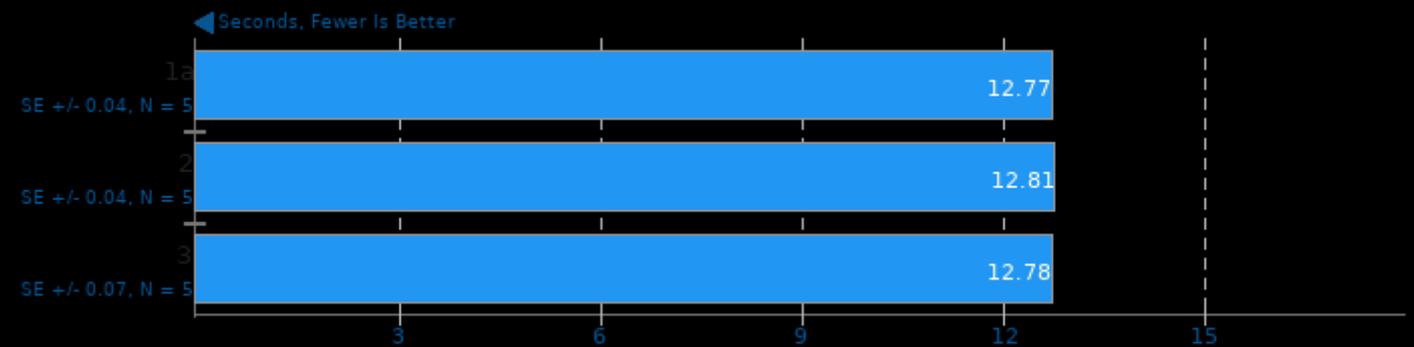
### Cython Benchmark 0.29.21

Test: N-Queens



### Monkey Audio Encoding 3.99.6

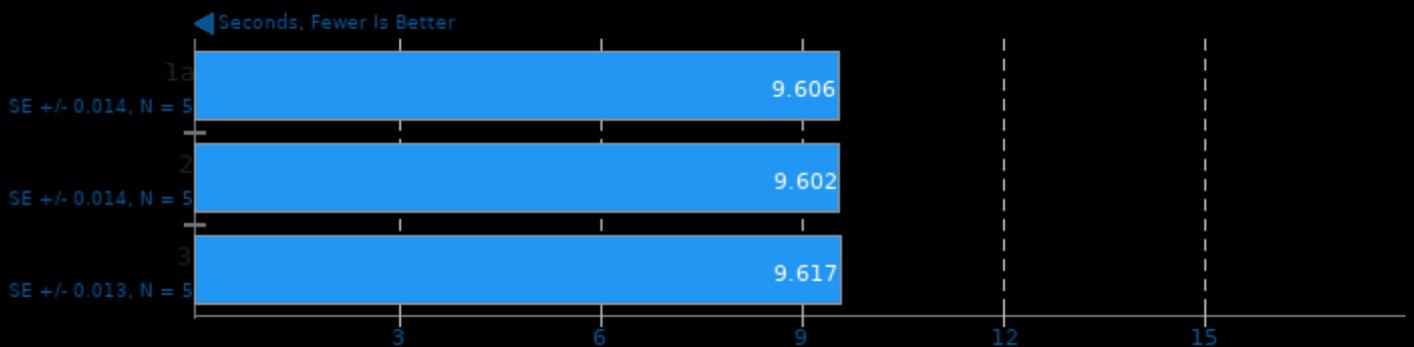
WAV To APE



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

### Opus Codec Encoding 1.3.1

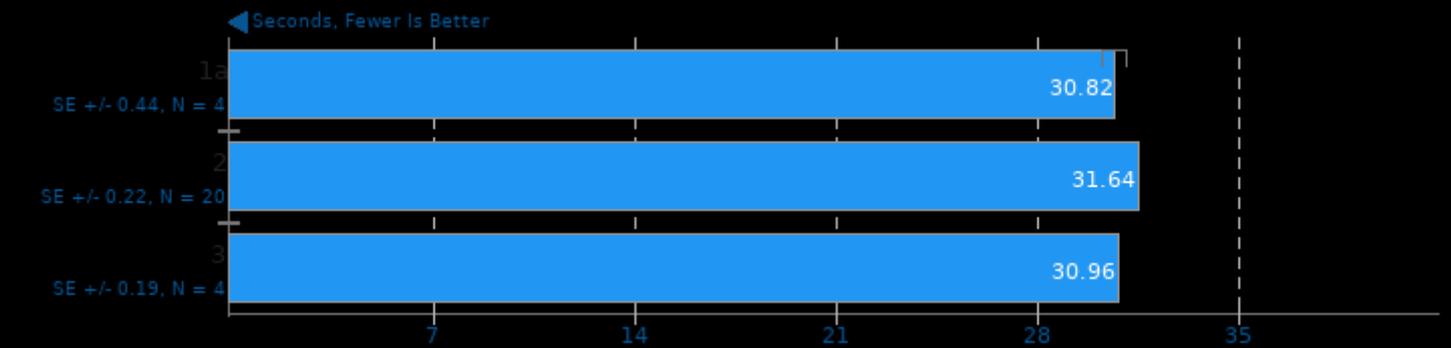
WAV To Opus Encode



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

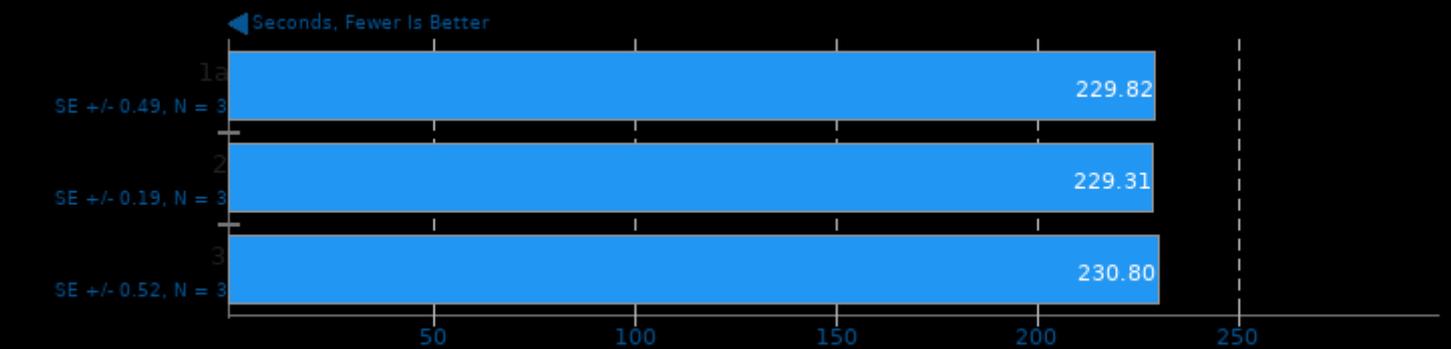
## eSpeak-NG Speech Engine 20200907

Text-To-Speech Synthesis



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

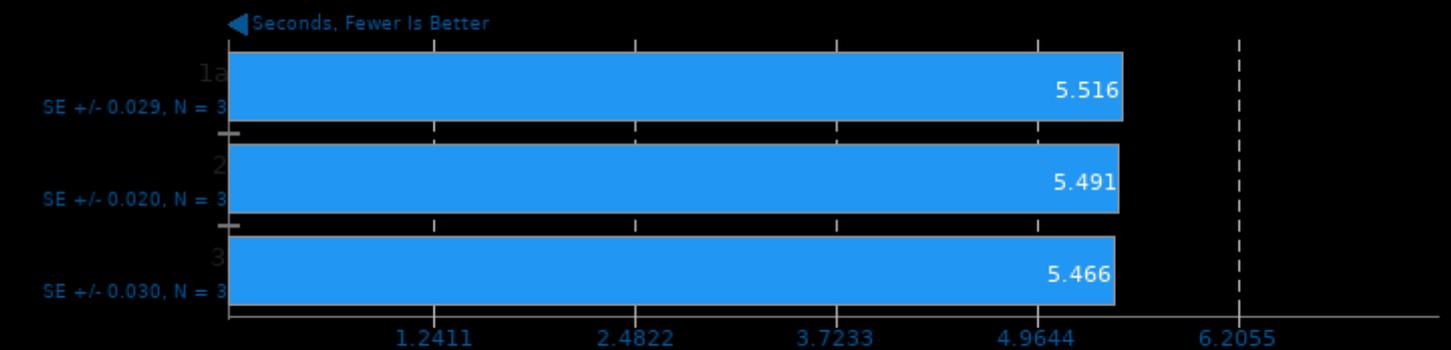
## Gcrypt Library 1.9



1. (CC) gcc options: -O2 -fvisibility=hidden

## WebP2 Image Encode 20210126

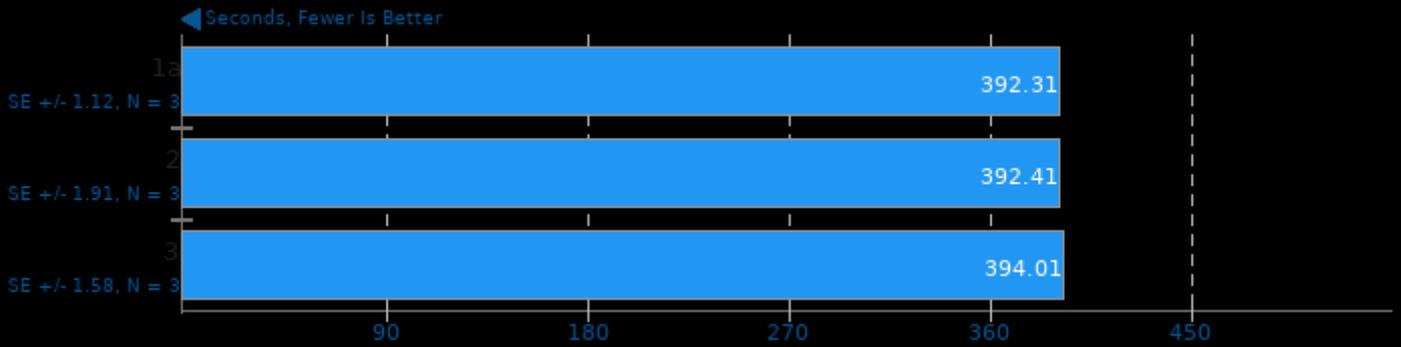
Encode Settings: Default



1. (CXX) g++ options: -mssse4.2 -fno-rtti -O3 -rdynamic -pthread -ljpeg

### WebP2 Image Encode 20210126

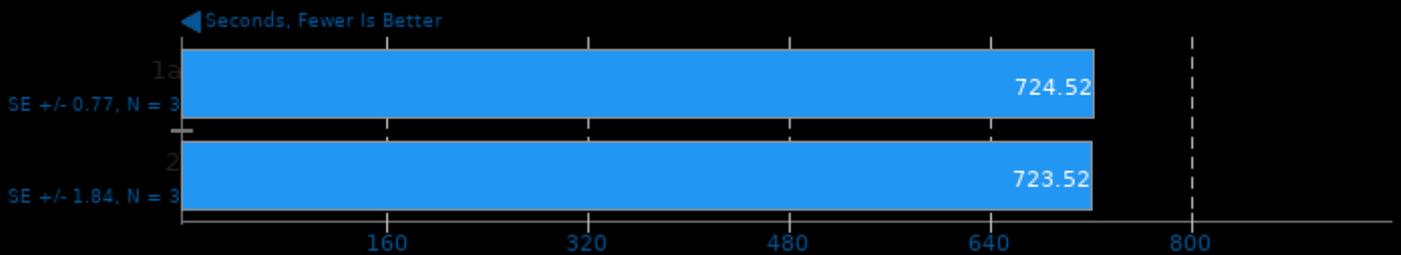
Encode Settings: Quality 75, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -rdynamic -lpthread -ljpeg

### WebP2 Image Encode 20210126

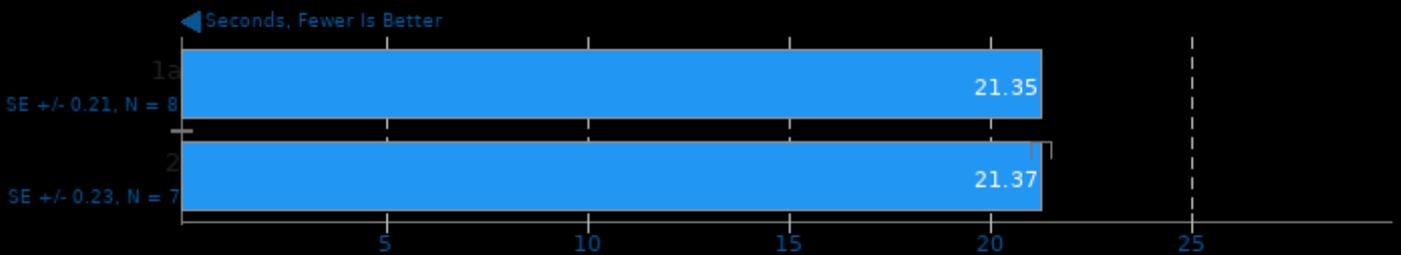
Encode Settings: Quality 95, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -rdynamic -lpthread -ljpeg

### WebP2 Image Encode 20210126

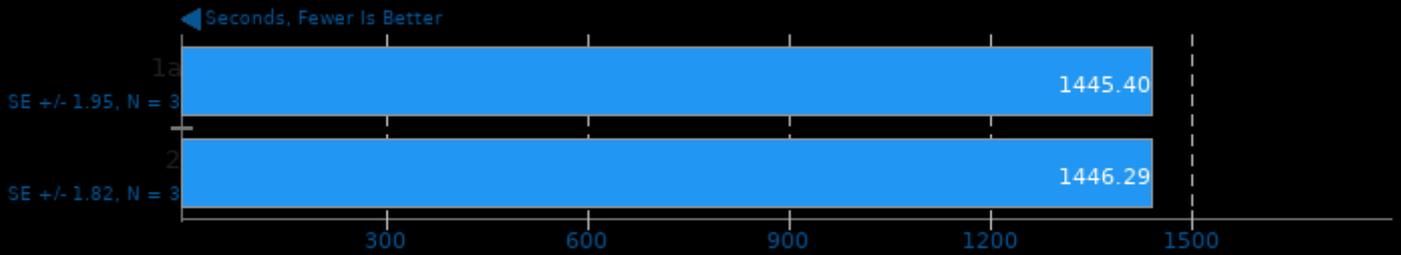
Encode Settings: Quality 100, Compression Effort 5



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -rdynamic -lpthread -ljpeg

## WebP2 Image Encode 20210126

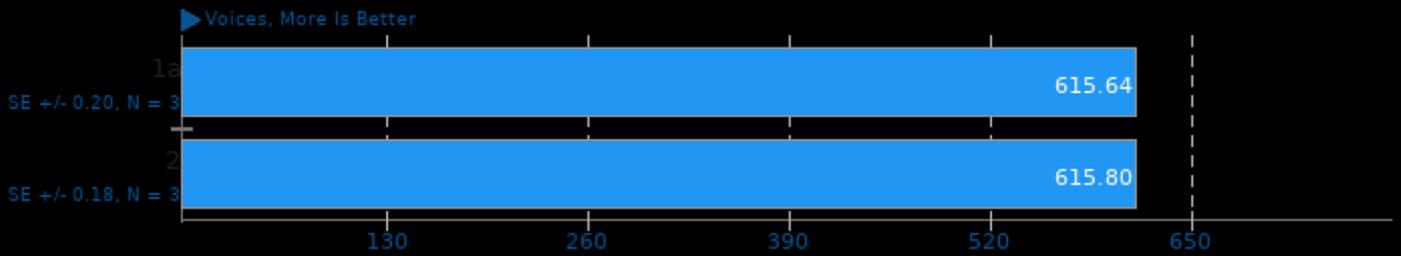
Encode Settings: Quality 100, Lossless Compression



1. (CXX) g++ options: -mssse4.2 -fno-rtti -O3 -rdynamic -lpthread -ljpeg

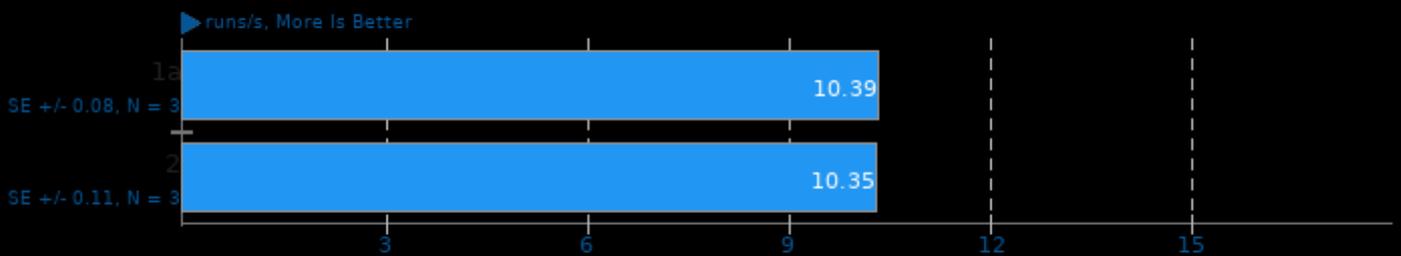
## Google SynthMark 20201109

Test: VoiceMark\_100



1. (CXX) g++ options: -lm -lpthread -std=c++11 -Ofast

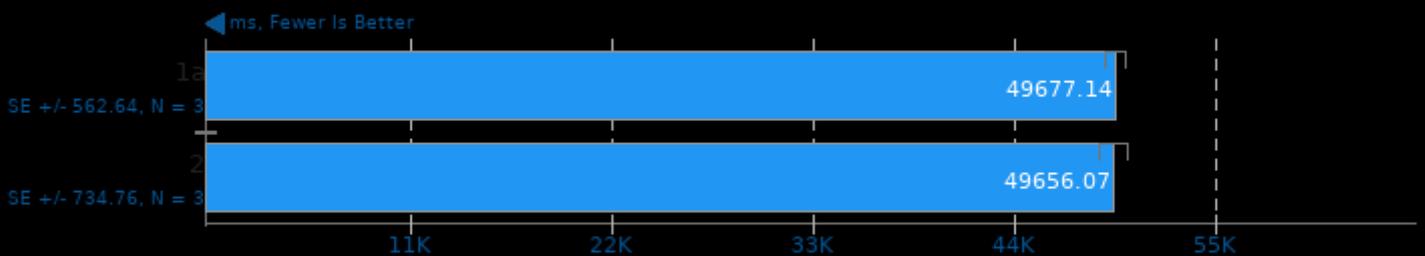
## Node.js V8 Web Tooling Benchmark



1. Nodejs  
v12.18.2

## FinanceBench 2016-07-25

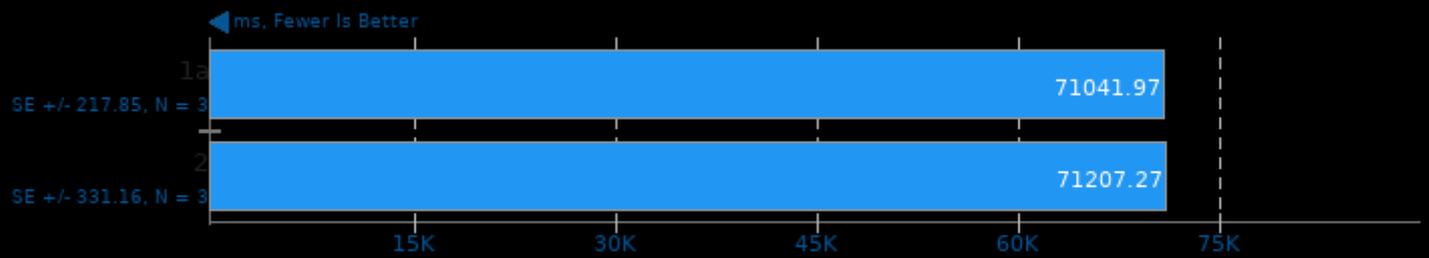
Benchmark: Repo OpenMP



1. (CXX) g++ options: -O3 -march=native -fopenmp

## FinanceBench 2016-07-25

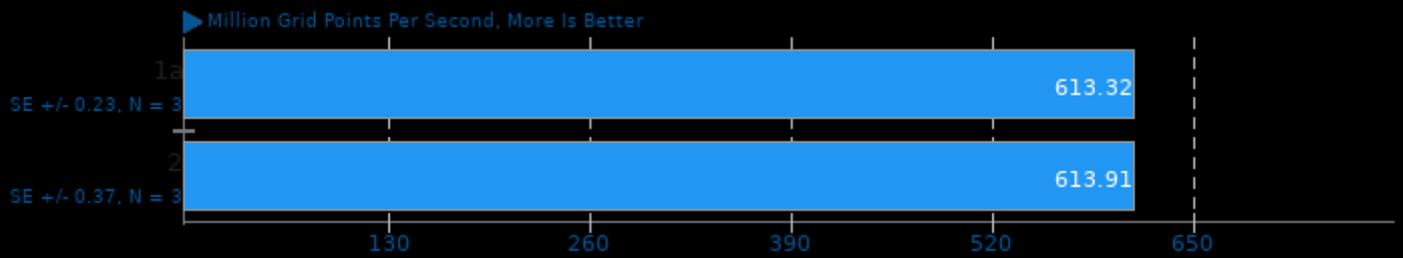
Benchmark: Bonds OpenMP



1. (CXX) g++ options: -O3 -march=native -fopenmp

## ASKAP 1.0

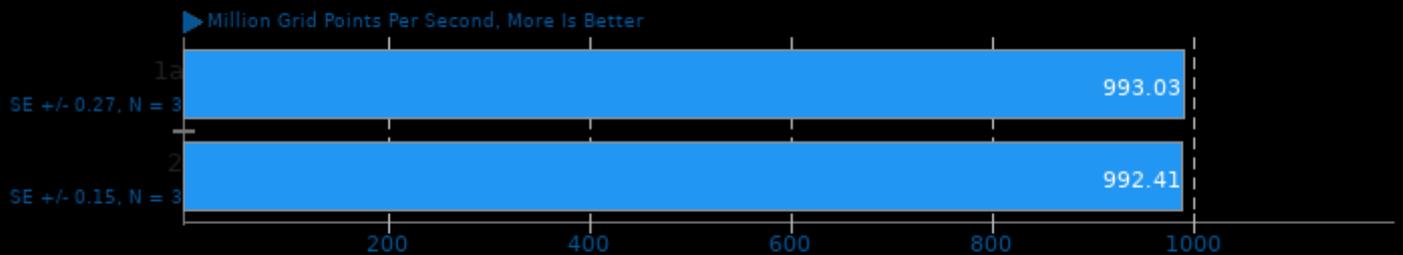
Test: tConvolve MT - Gridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

## ASKAP 1.0

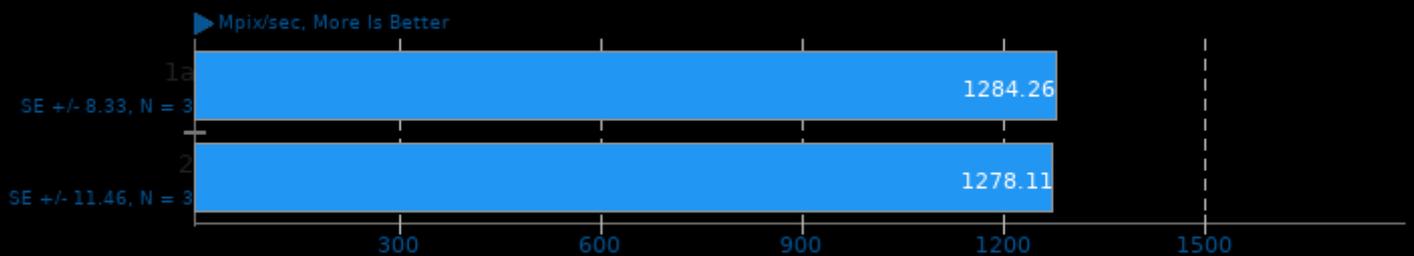
Test: tConvolve MT - Degriding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

## ASKAP 1.0

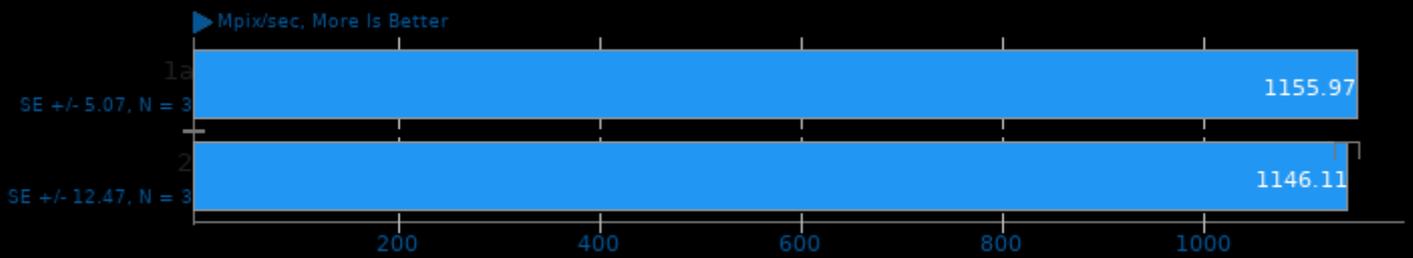
Test: tConvolve MPI - Degriding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

### ASKAP 1.0

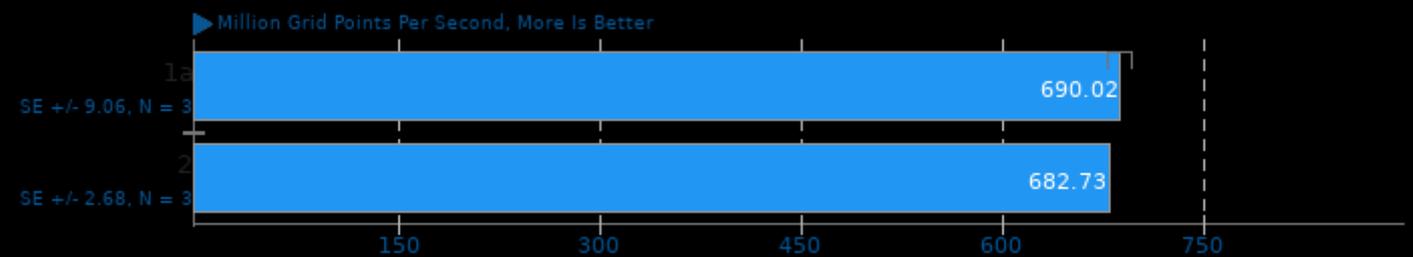
Test: tConvolve MPI - Gridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

### ASKAP 1.0

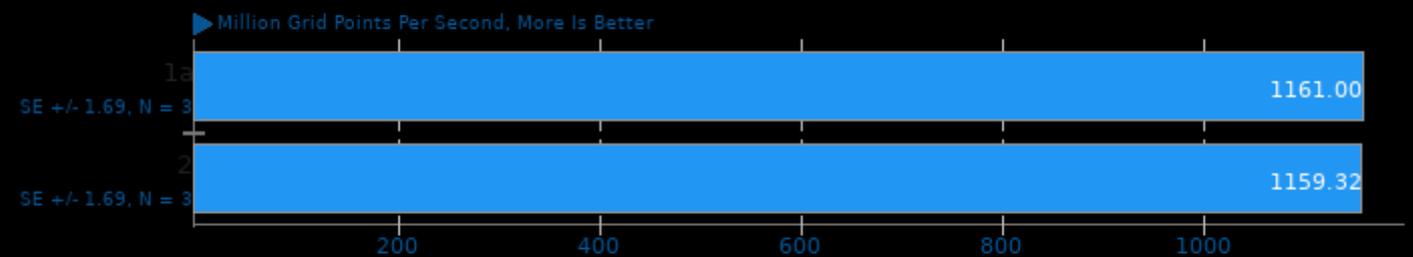
Test: tConvolve OpenMP - Gridding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

### ASKAP 1.0

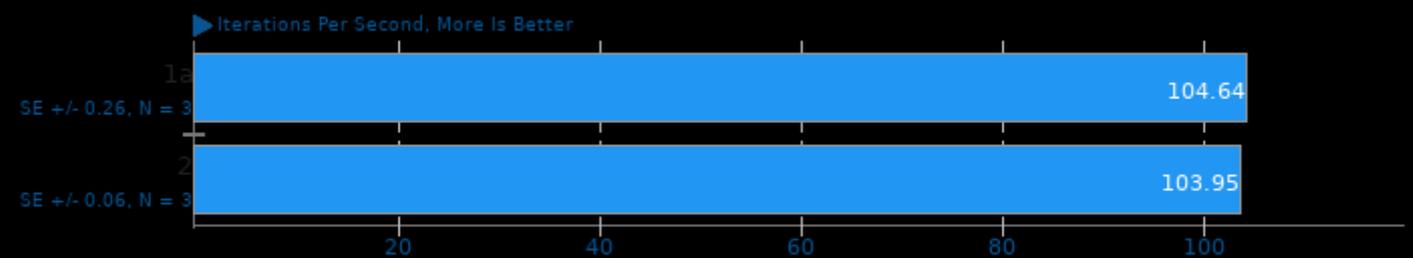
Test: tConvolve OpenMP - Degriding



1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

### ASKAP 1.0

Test: Hogbom Clean OpenMP

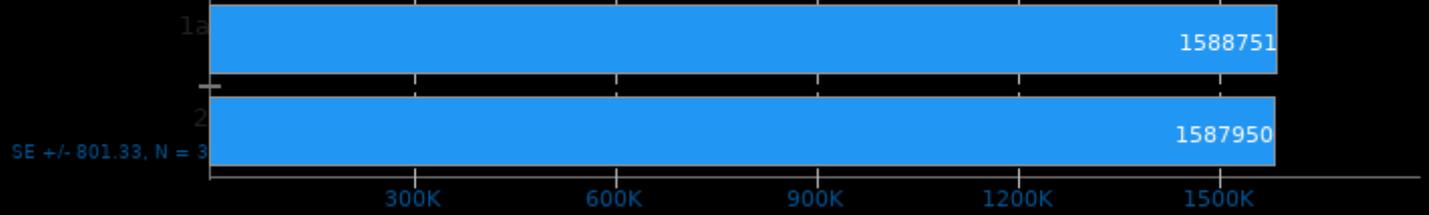


1. (CXX) g++ options: -O3 -fstrict-aliasing -fopenmp

### Cryptsetup

PBKDF2-sha512

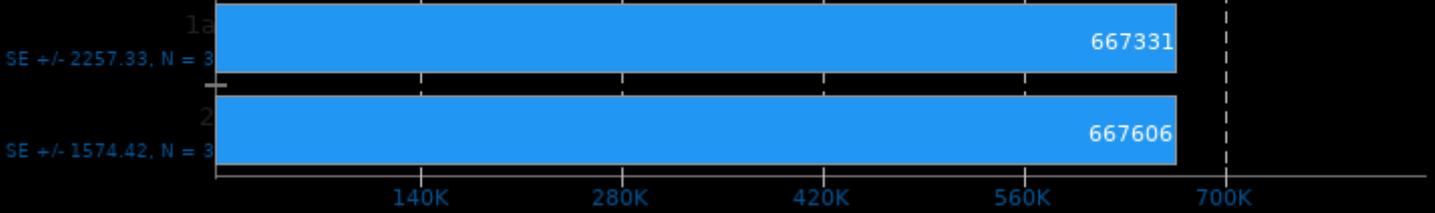
Iterations Per Second, More Is Better



### Cryptsetup

PBKDF2-whirlpool

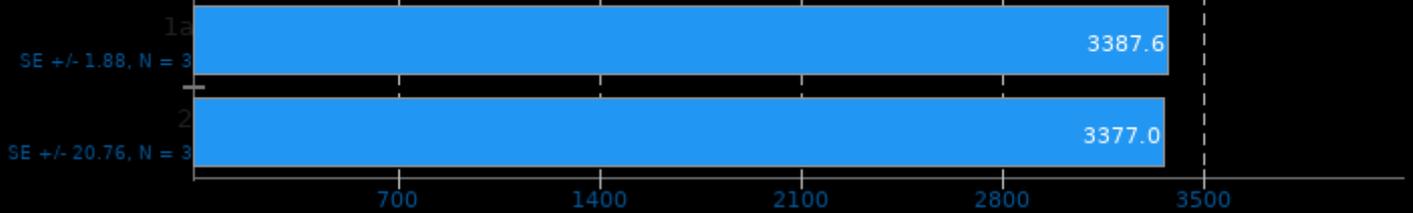
Iterations Per Second, More Is Better



### Cryptsetup

AES-XTS 256b Encryption

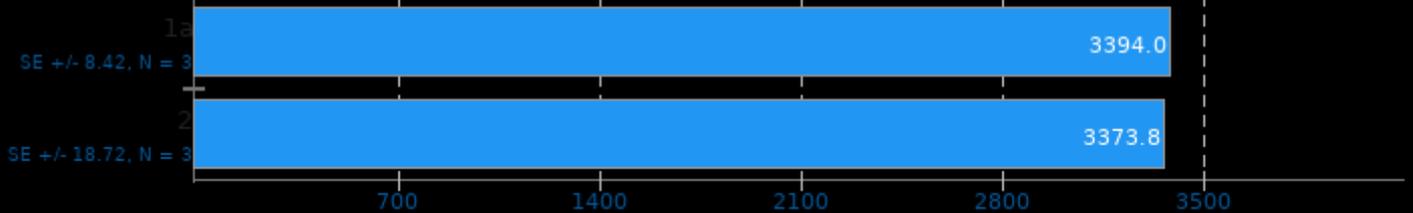
MiB/s, More Is Better



### Cryptsetup

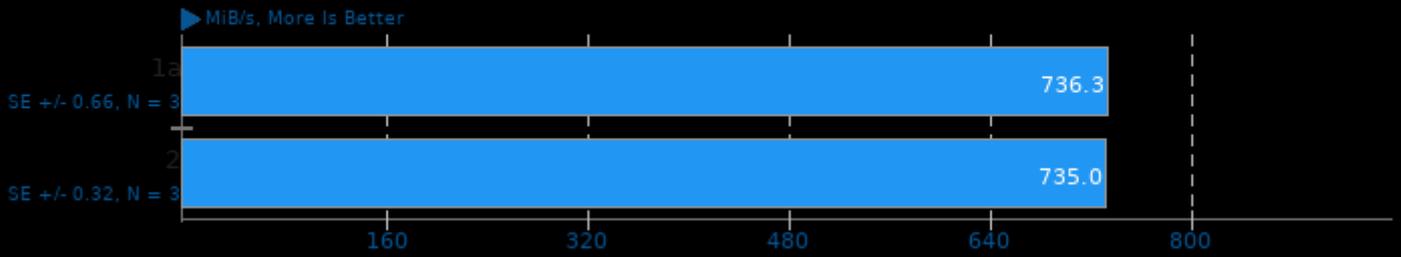
AES-XTS 256b Decryption

MiB/s, More Is Better



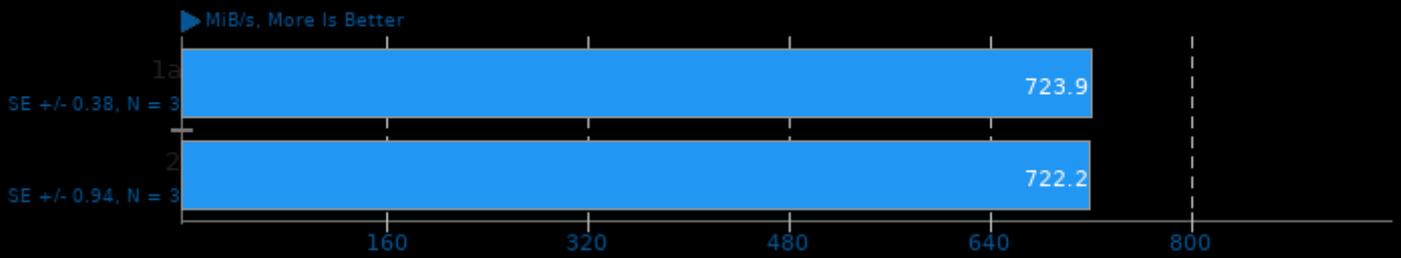
### Cryptsetup

Serpent-XTS 256b Encryption



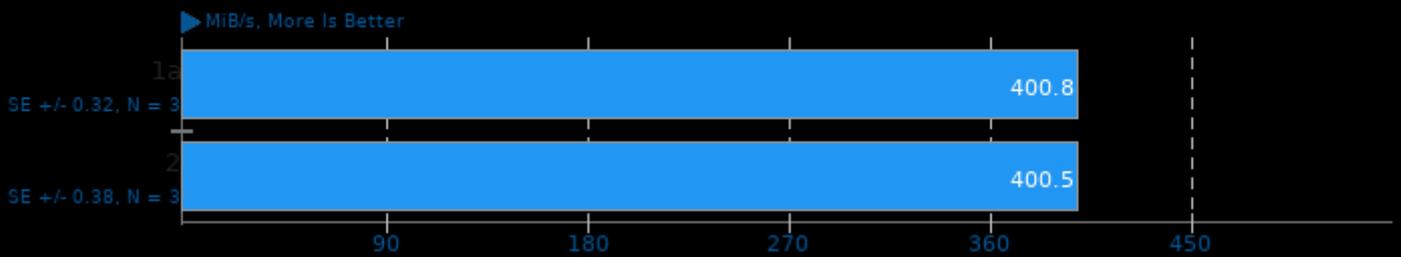
### Cryptsetup

Serpent-XTS 256b Decryption



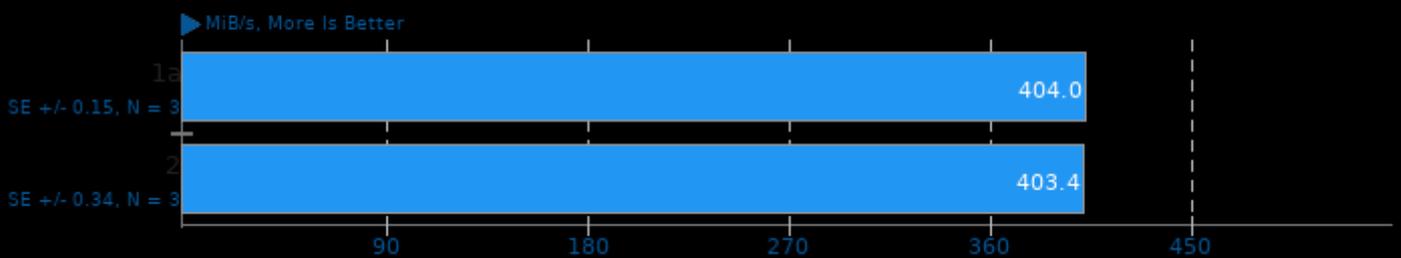
### Cryptsetup

Twofish-XTS 256b Encryption



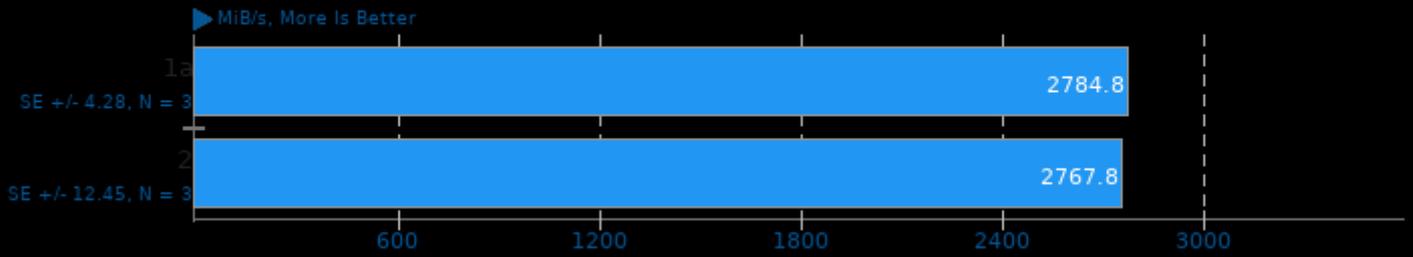
### Cryptsetup

Twofish-XTS 256b Decryption



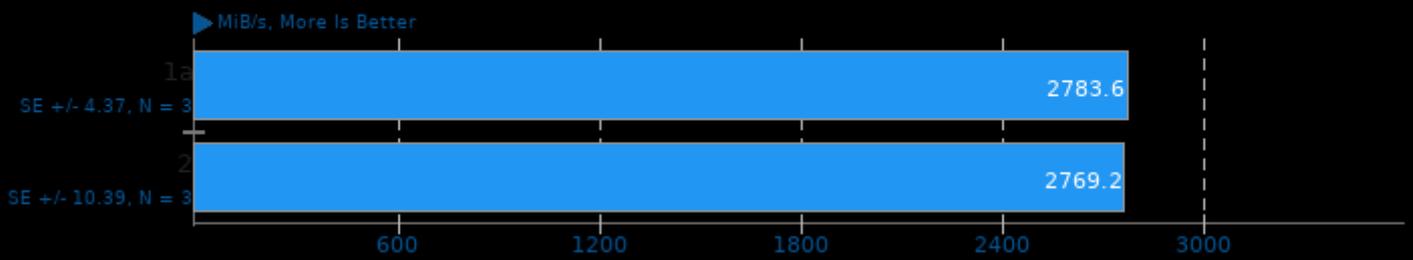
### Cryptsetup

AES-XTS 512b Encryption



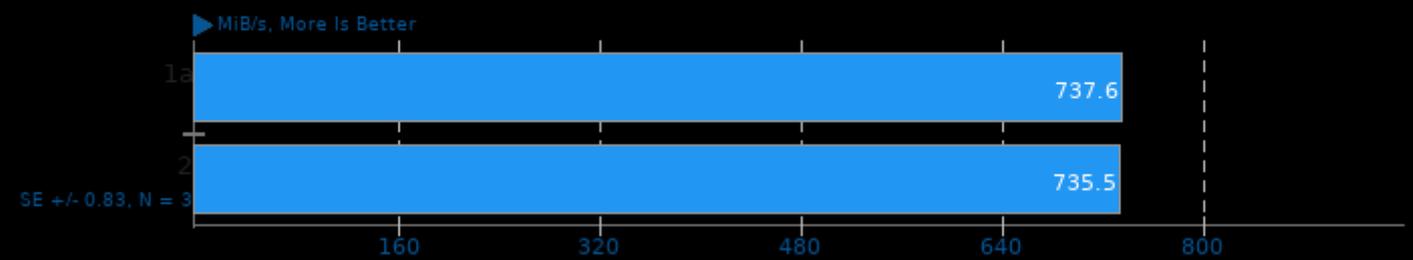
### Cryptsetup

AES-XTS 512b Decryption



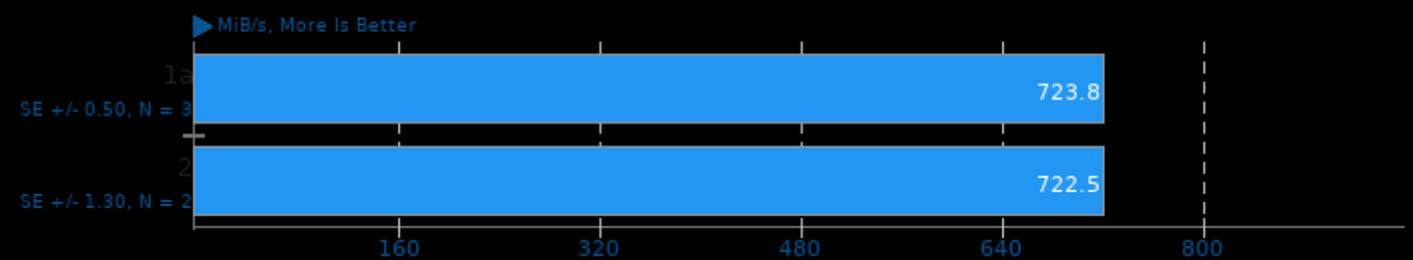
### Cryptsetup

Serpent-XTS 512b Encryption



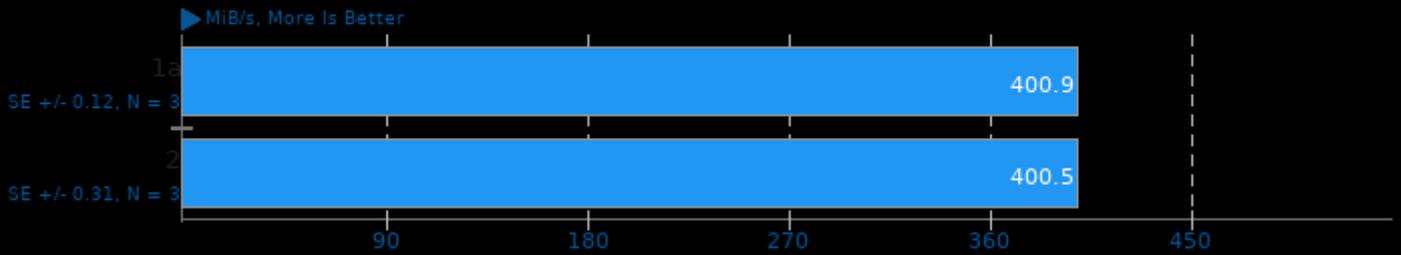
### Cryptsetup

Serpent-XTS 512b Decryption



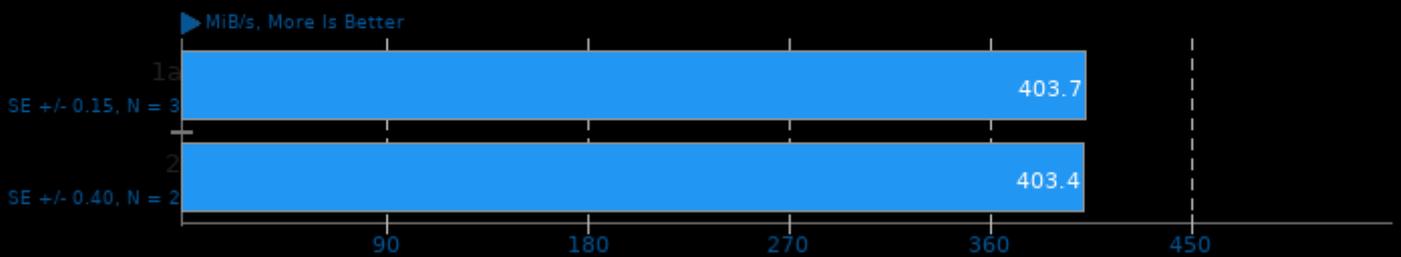
### Cryptsetup

Twofish-XTS 512b Encryption



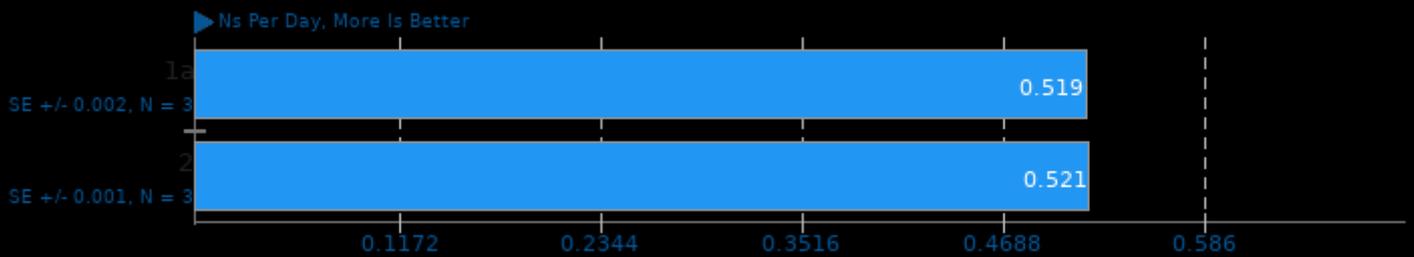
### Cryptsetup

Twofish-XTS 512b Decryption



### GROMACS 2020.3

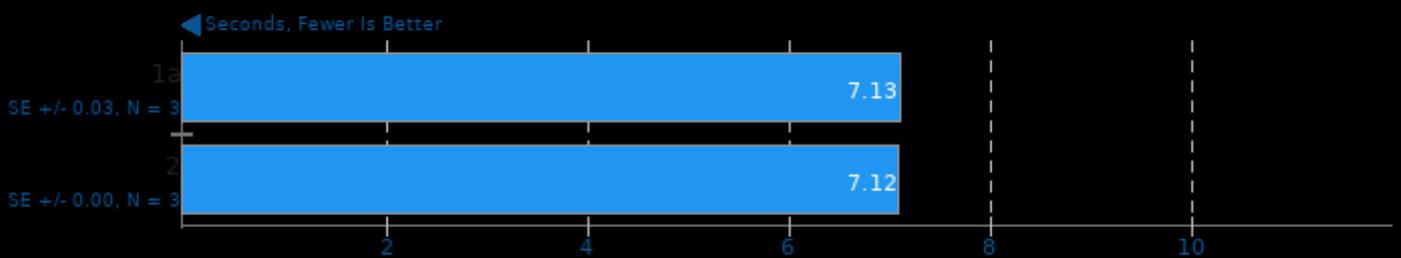
Water Benchmark



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

### ASTC Encoder 2.0

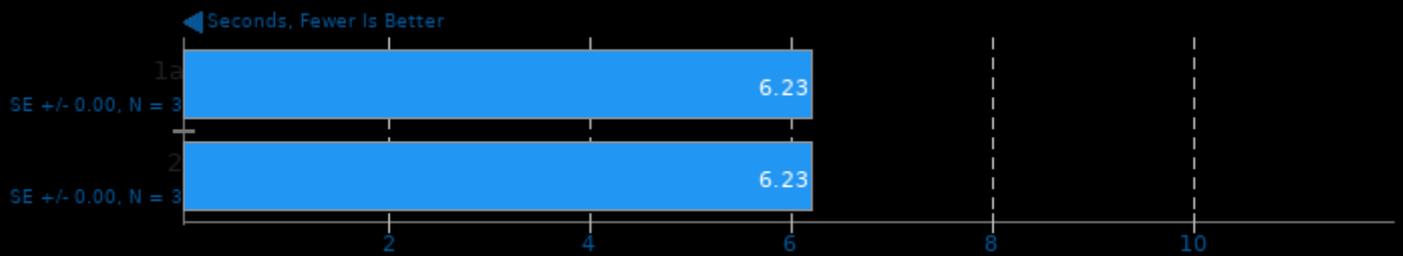
Preset: Fast



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno -mfpmath=sse -mavx2 -mpopcnt -lpthread

### ASTC Encoder 2.0

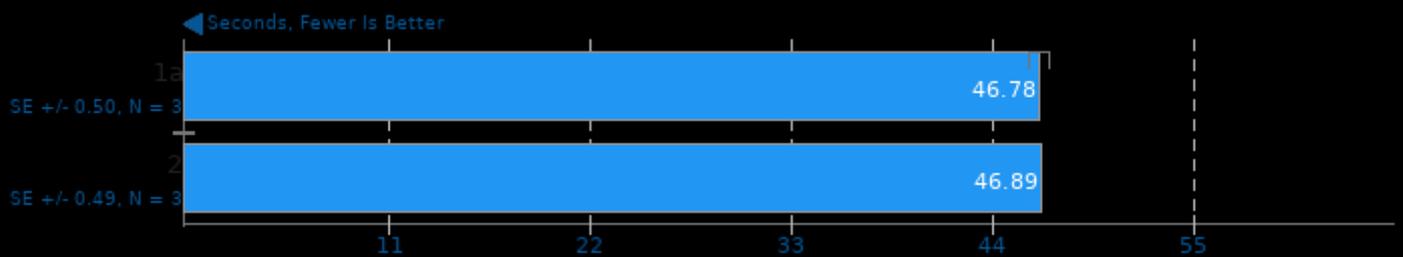
Preset: Medium



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

### ASTC Encoder 2.0

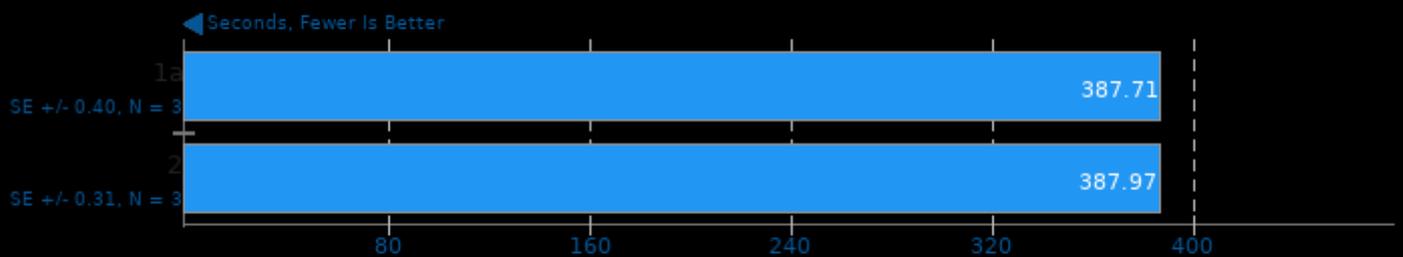
Preset: Thorough



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

### ASTC Encoder 2.0

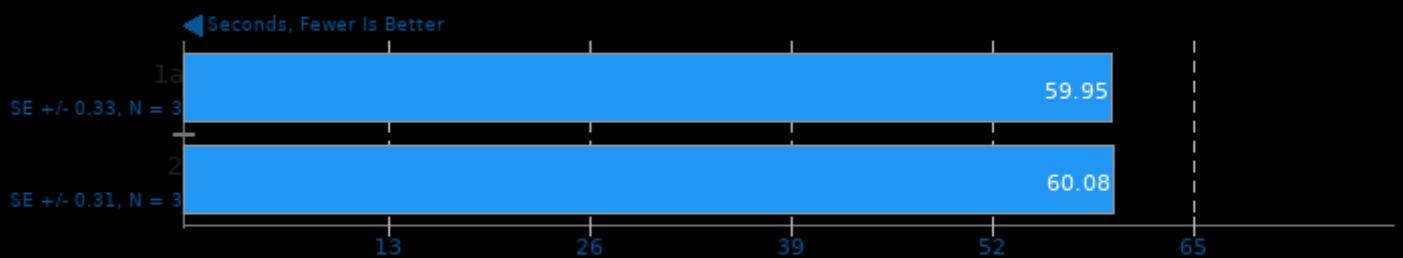
Preset: Exhaustive



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

### Basis Universal 1.12

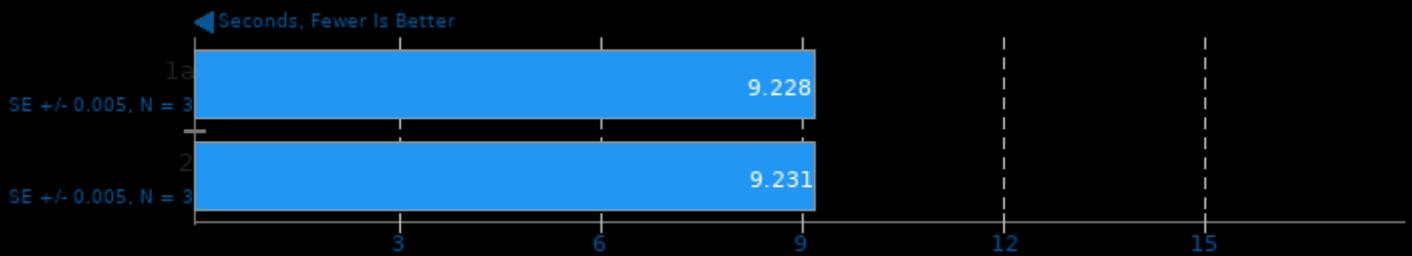
Settings: ETC1S



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

### Basis Universal 1.12

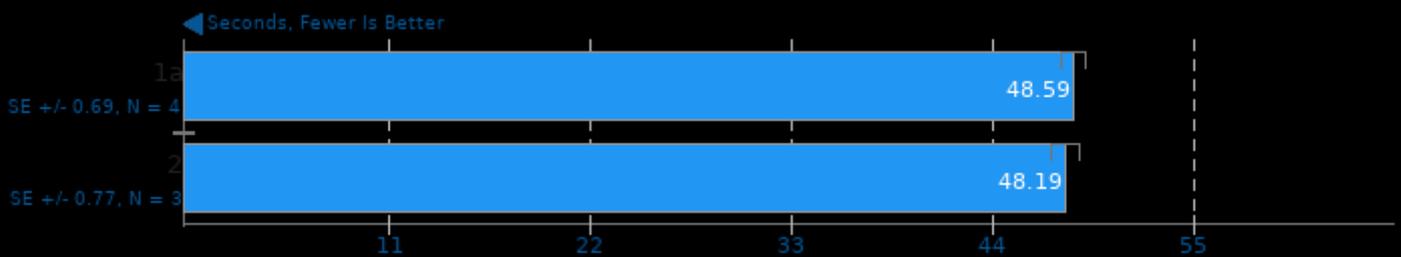
Settings: UASTC Level 0



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

### Basis Universal 1.12

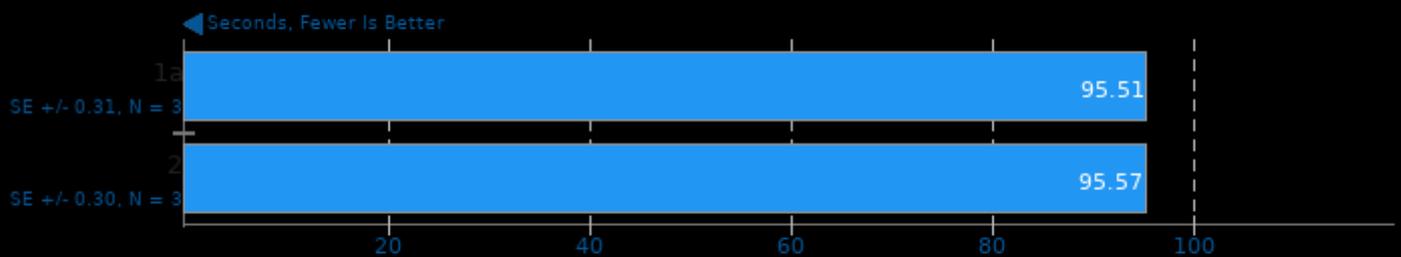
Settings: UASTC Level 2



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

### Basis Universal 1.12

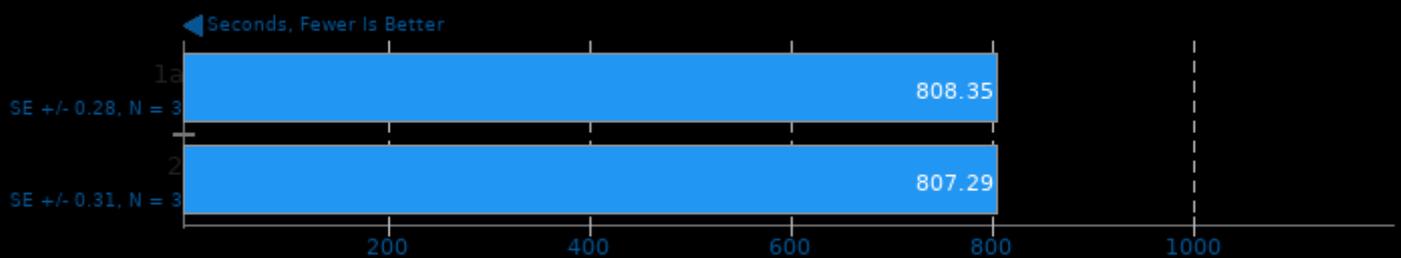
Settings: UASTC Level 3



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

### Basis Universal 1.12

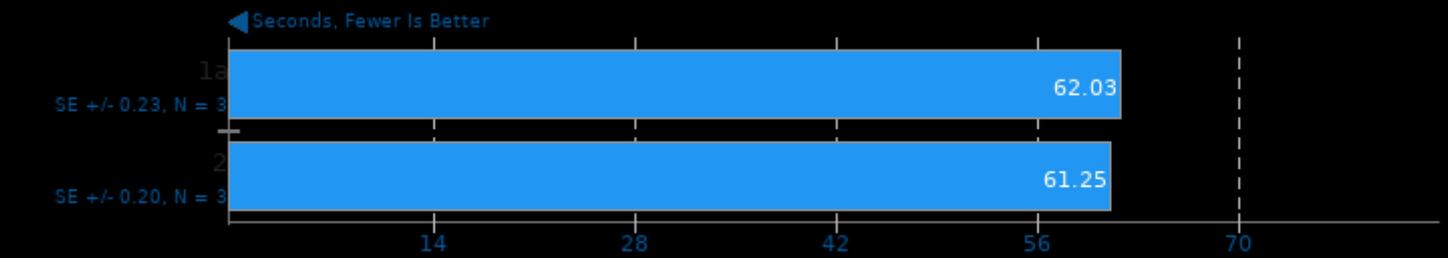
Settings: UASTC Level 2 + RDO Post-Processing



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

### SQLite Speedtest 3.30

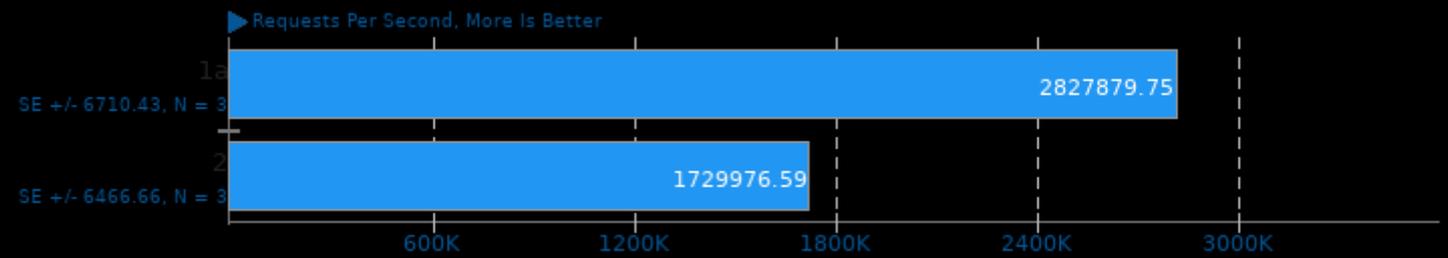
Timed Time - Size 1,000



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

### Redis 6.0.9

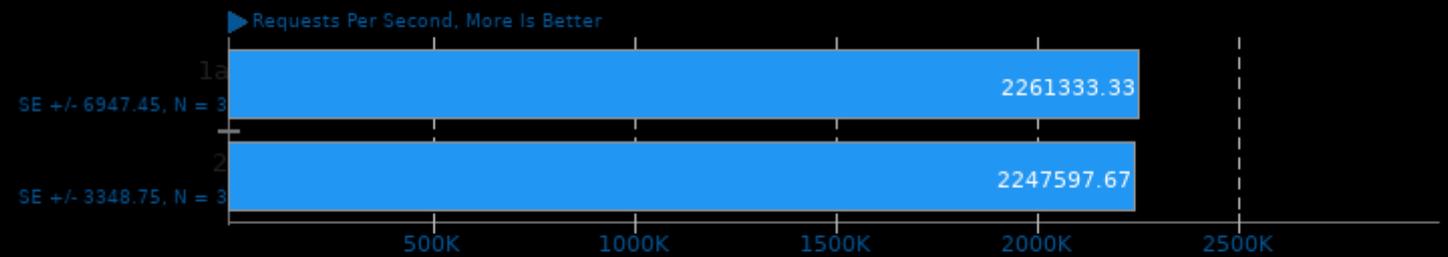
Test: LPOP



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

### Redis 6.0.9

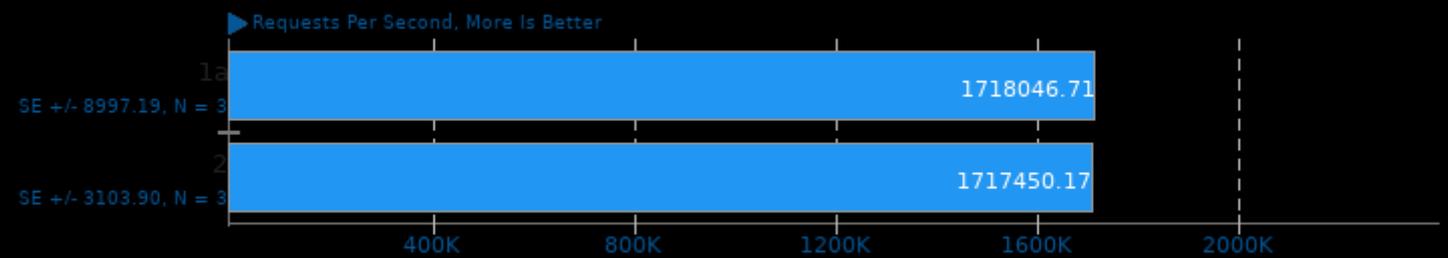
Test: SADD



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

### Redis 6.0.9

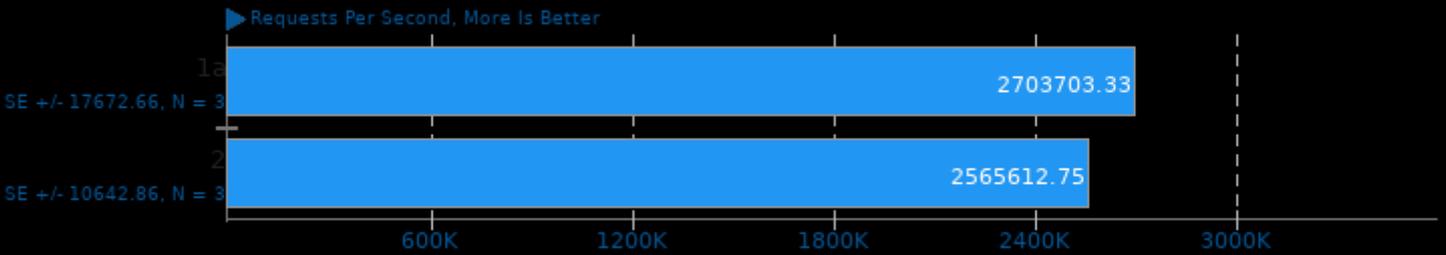
Test: LPUSE



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

### Redis 6.0.9

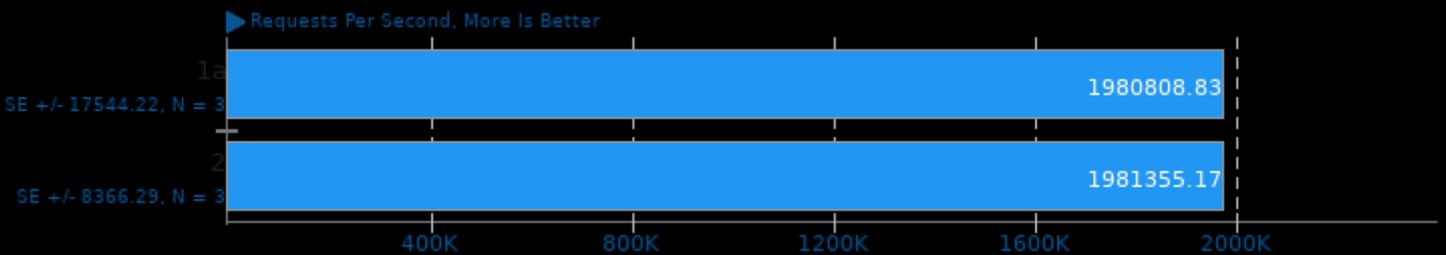
Test: GET



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

### Redis 6.0.9

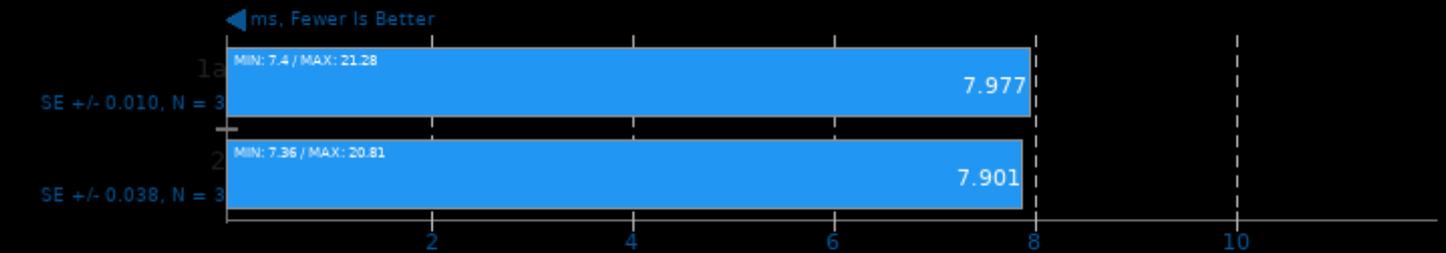
Test: SET



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

### Mobile Neural Network 1.1.1

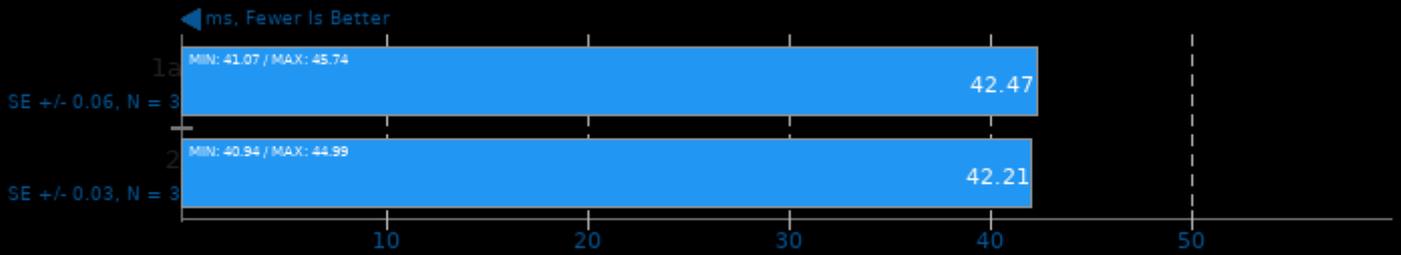
Model: SqueezeNetV1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-

### Mobile Neural Network 1.1.1

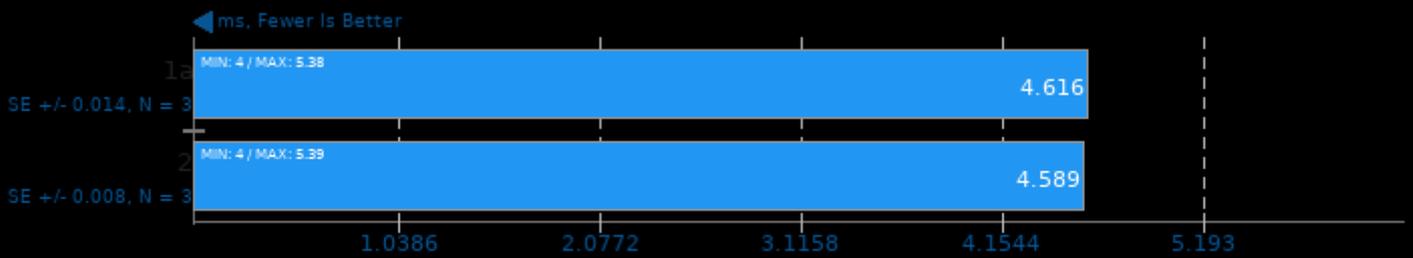
Model: resnet-v2-50



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-

### Mobile Neural Network 1.1.1

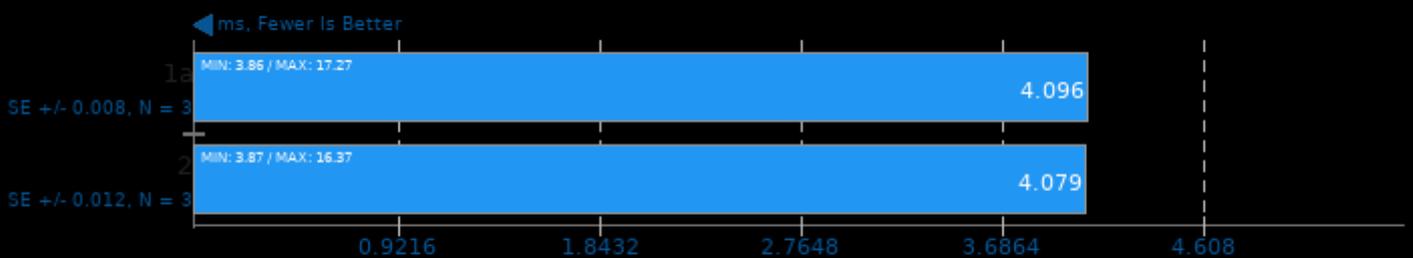
Model: MobileNetV2\_224



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-

### Mobile Neural Network 1.1.1

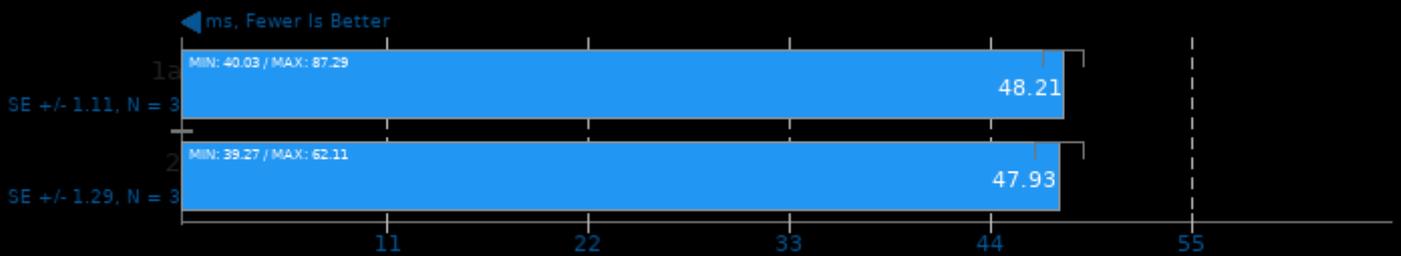
Model: mobilenet-v1-1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-

## Mobile Neural Network 1.1.1

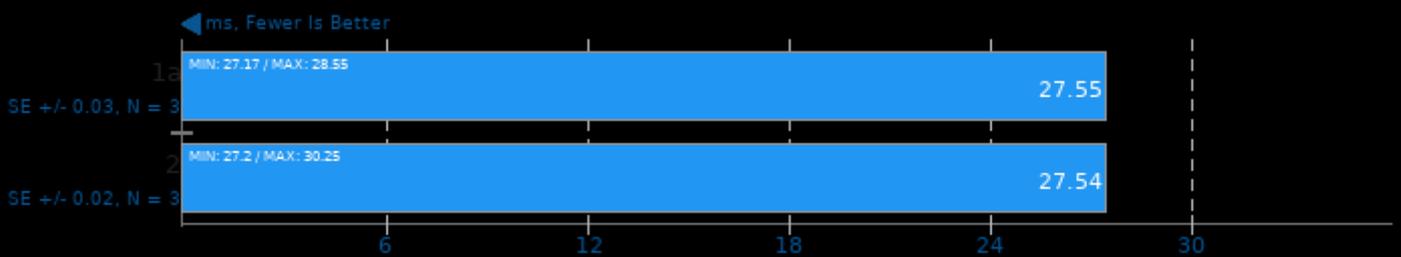
Model: inception-v3



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno

## NCNN 20201218

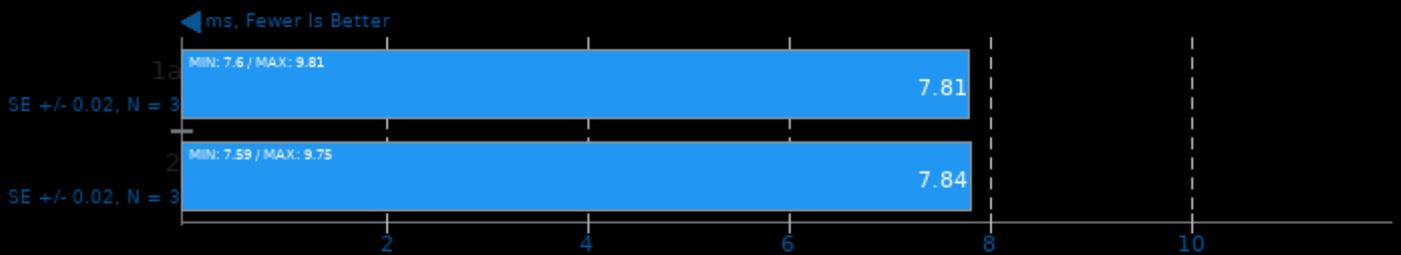
Target: CPU - Model: mobilenet



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

## NCNN 20201218

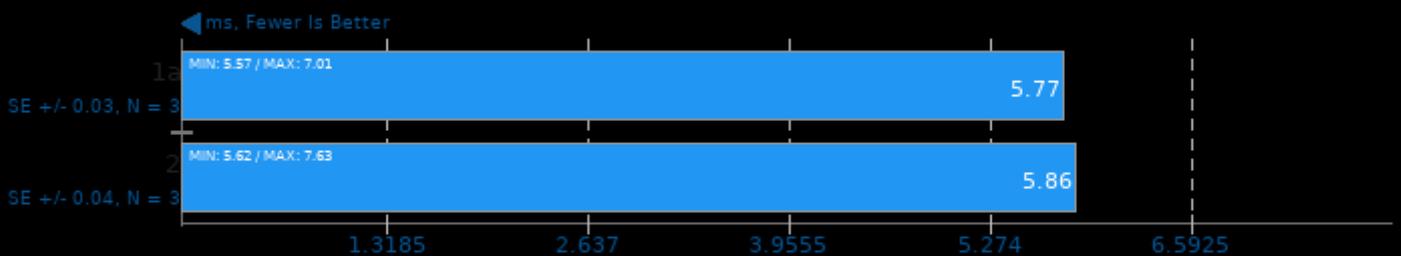
Target: CPU-v2-v2 - Model: mobilenet-v2



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

## NCNN 20201218

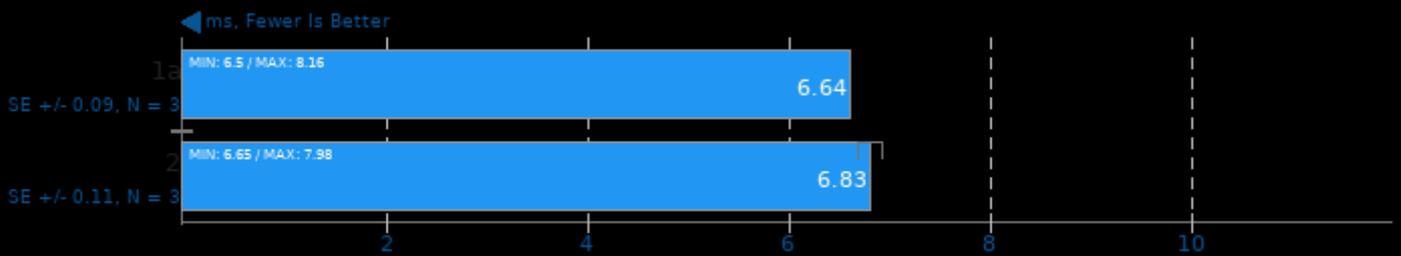
Target: CPU-v3-v3 - Model: mobilenet-v3



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

### NCNN 20201218

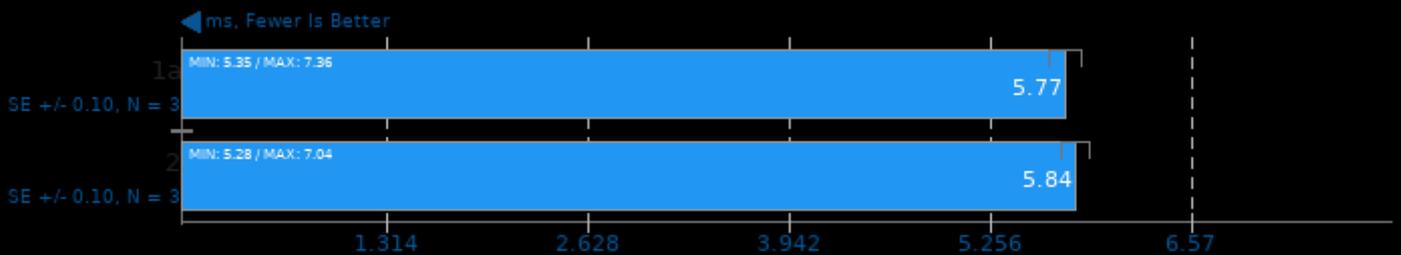
Target: CPU - Model: shufflenet-v2



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

### NCNN 20201218

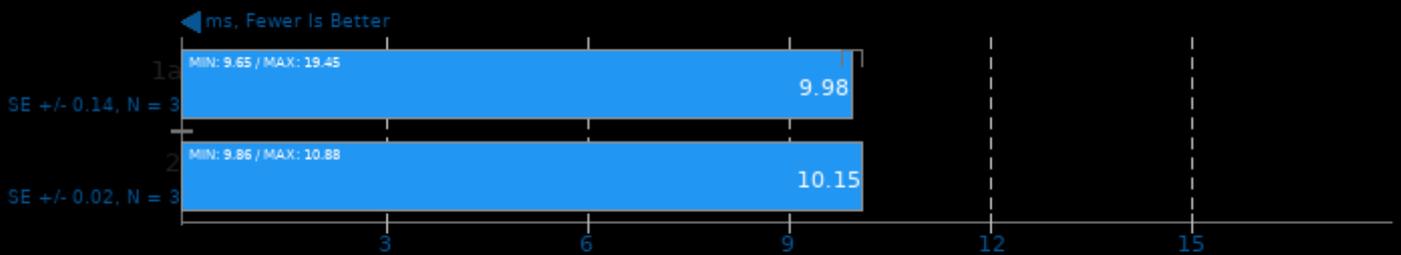
Target: CPU - Model: mnasnet



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

### NCNN 20201218

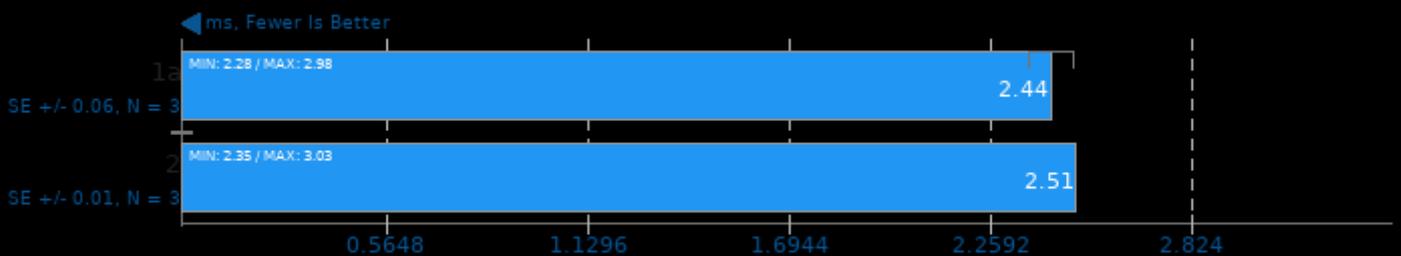
Target: CPU - Model: efficientnet-b0



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

### NCNN 20201218

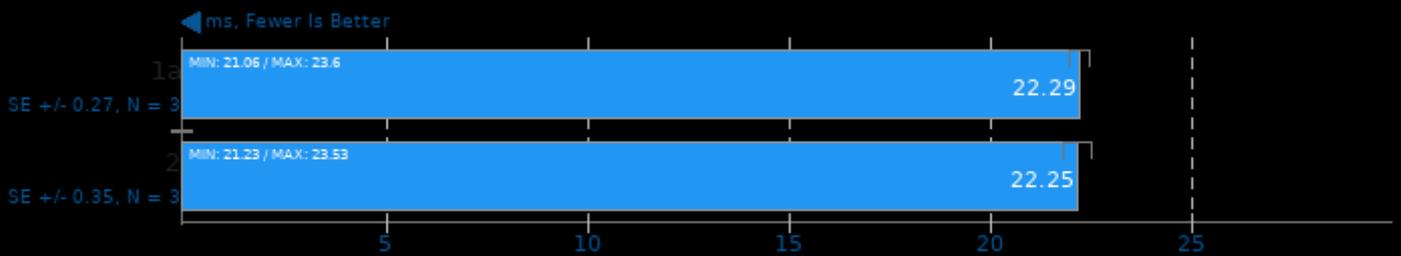
Target: CPU - Model: blazeface



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

### NCNN 20201218

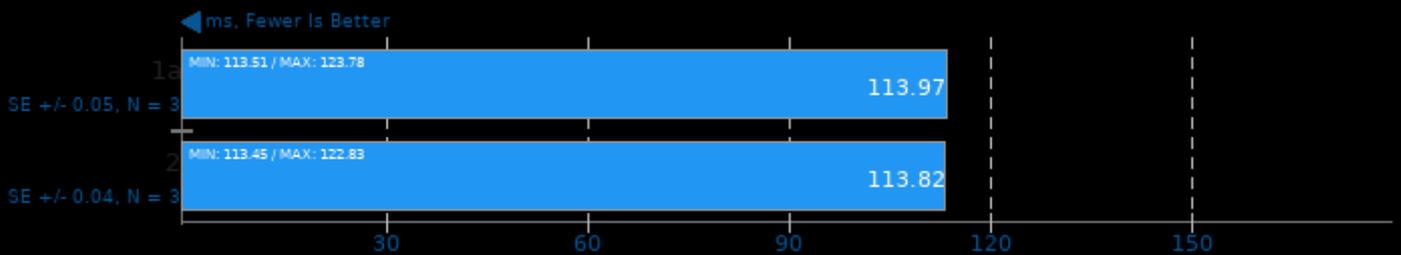
Target: CPU - Model: googlenet



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

### NCNN 20201218

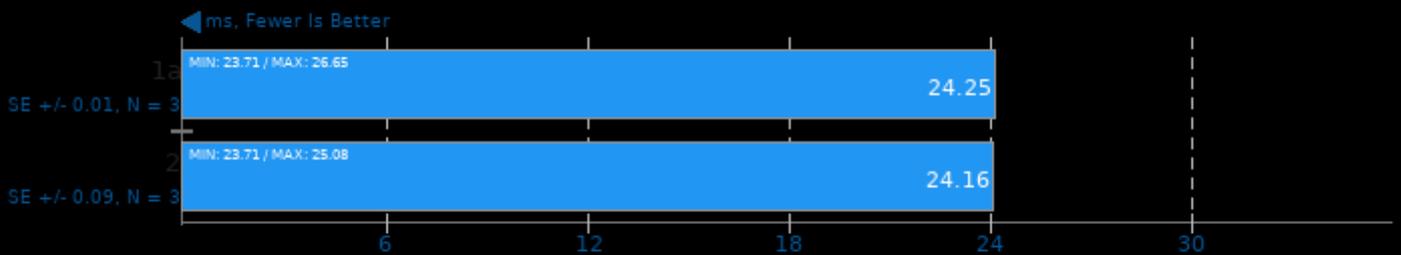
Target: CPU - Model: vgg16



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

### NCNN 20201218

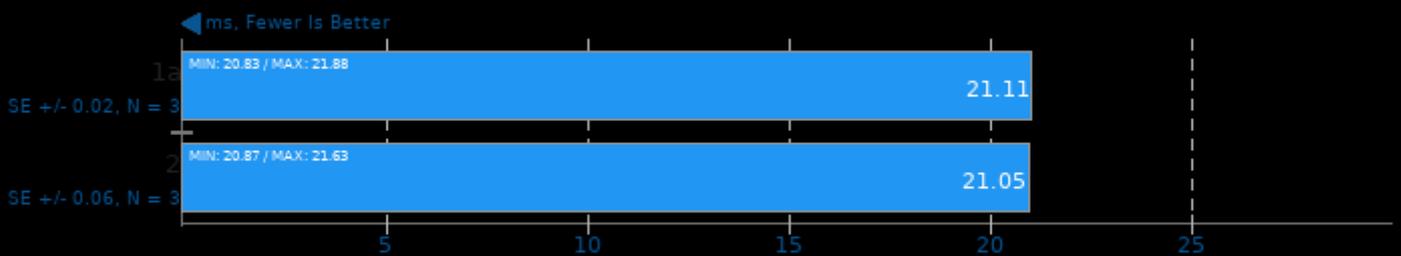
Target: CPU - Model: resnet18



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

### NCNN 20201218

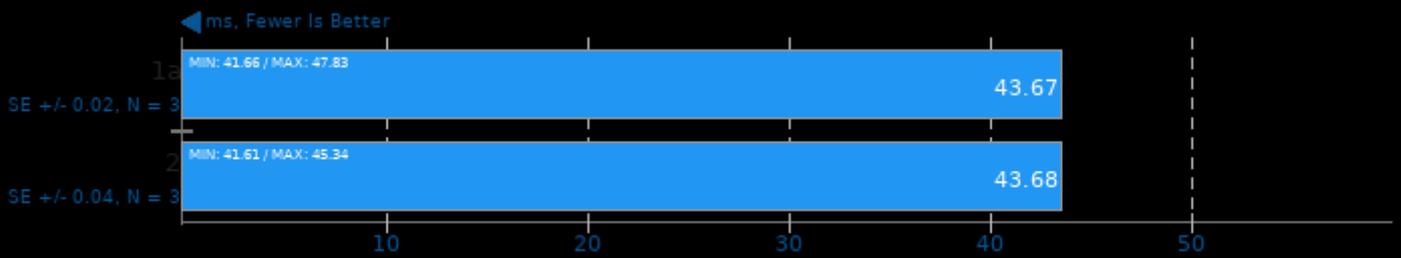
Target: CPU - Model: alexnet



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

### NCNN 20201218

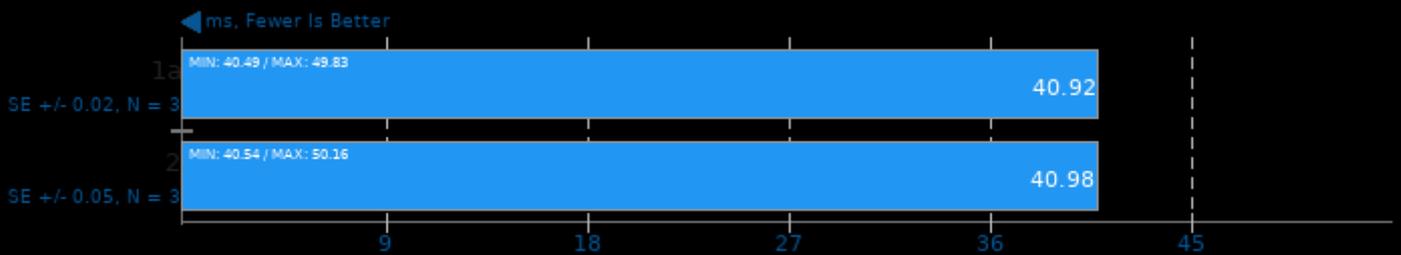
Target: CPU - Model: resnet50



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

### NCNN 20201218

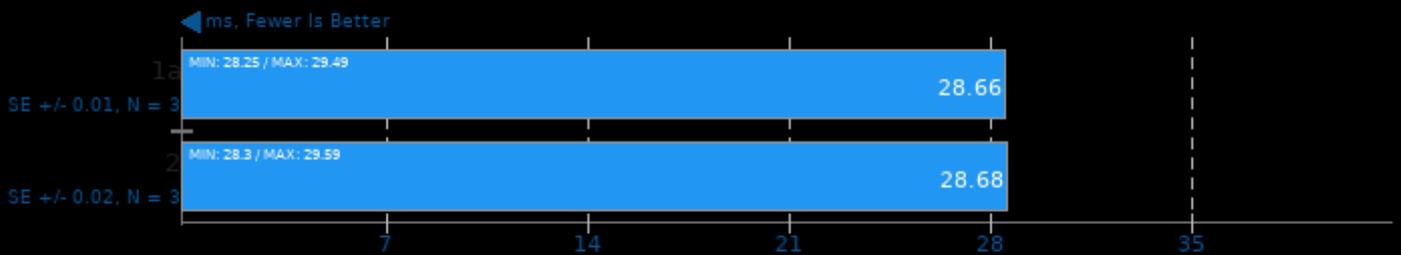
Target: CPU - Model: yolov4-tiny



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

### NCNN 20201218

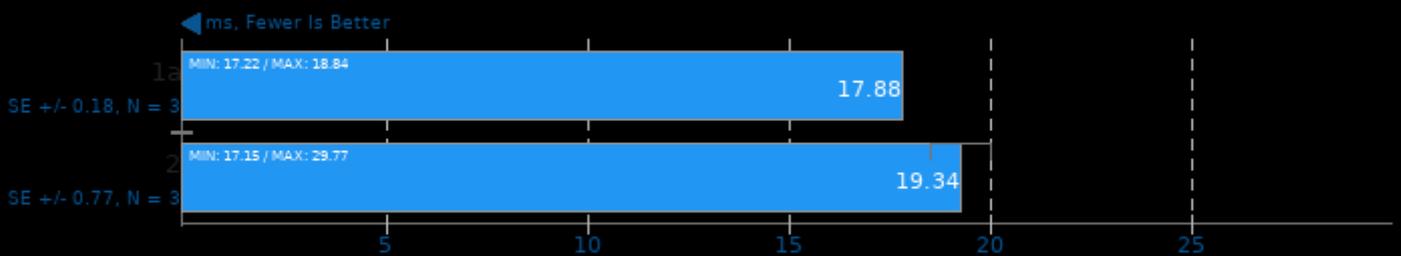
Target: CPU - Model: squeezenet\_ssd



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

### NCNN 20201218

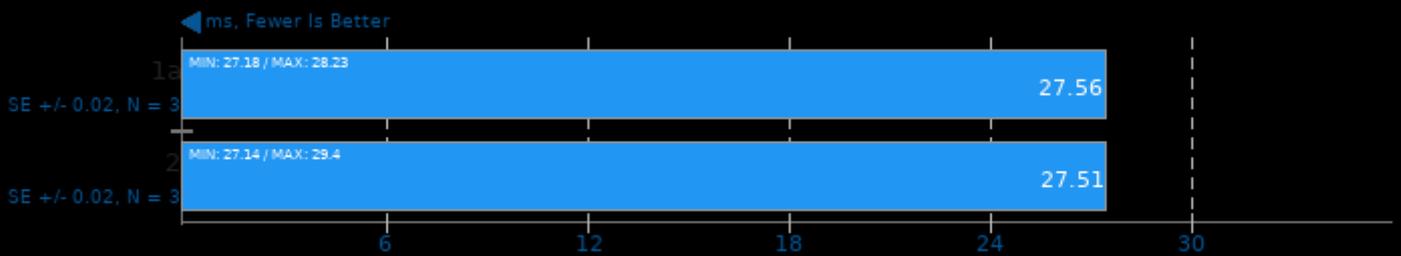
Target: CPU - Model: regnety\_400m



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

### NCNN 20201218

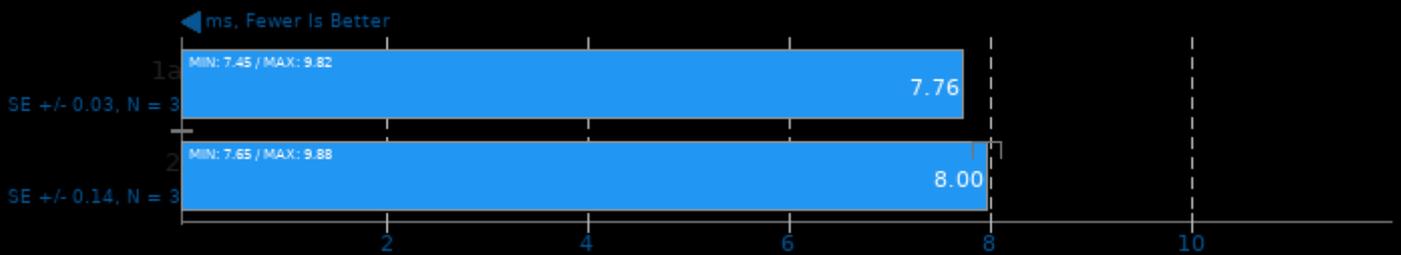
Target: Vulkan GPU - Model: mobilenet



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

### NCNN 20201218

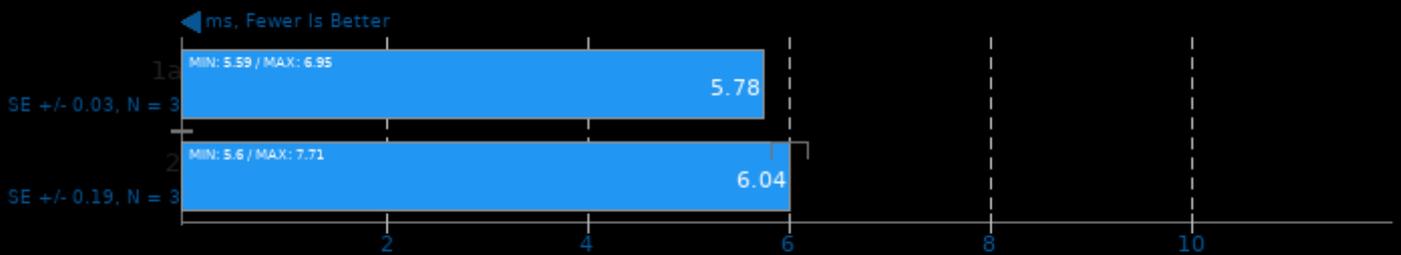
Target: Vulkan GPU-v2-v2 - Model: mobilenet-v2



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

### NCNN 20201218

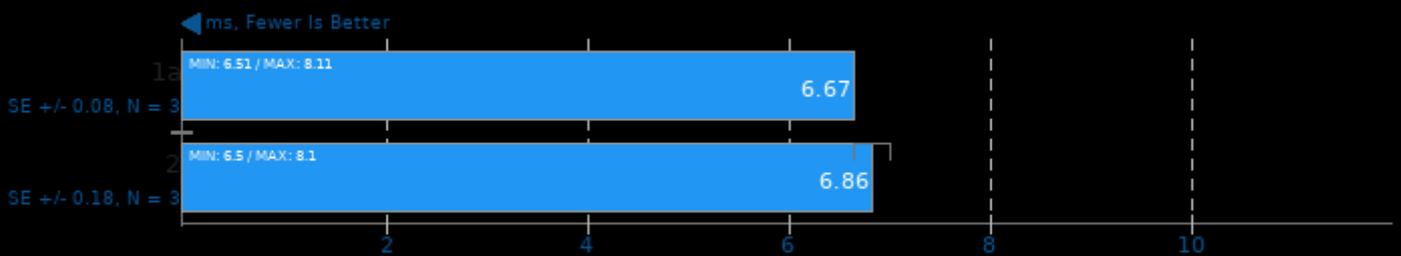
Target: Vulkan GPU-v3-v3 - Model: mobilenet-v3



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

### NCNN 20201218

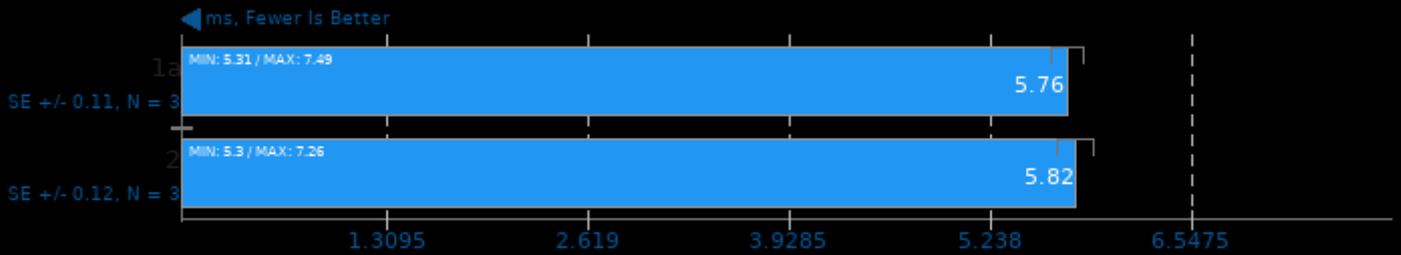
Target: Vulkan GPU - Model: shufflenet-v2



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

### NCNN 20201218

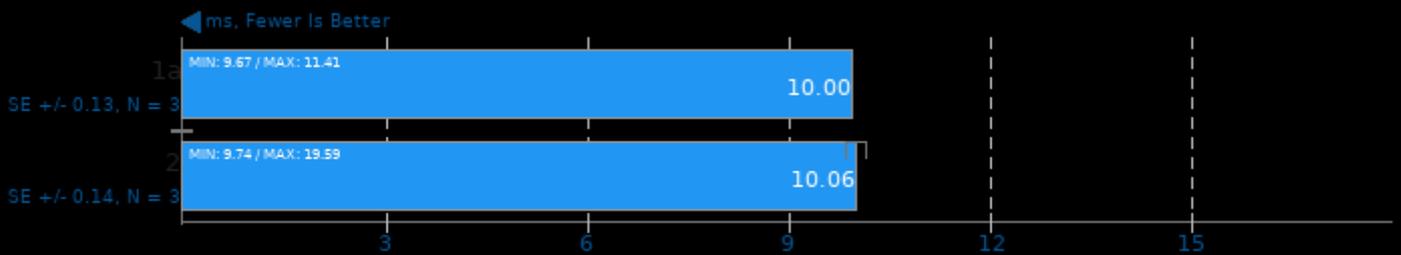
Target: Vulkan GPU - Model: mnasnet



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

### NCNN 20201218

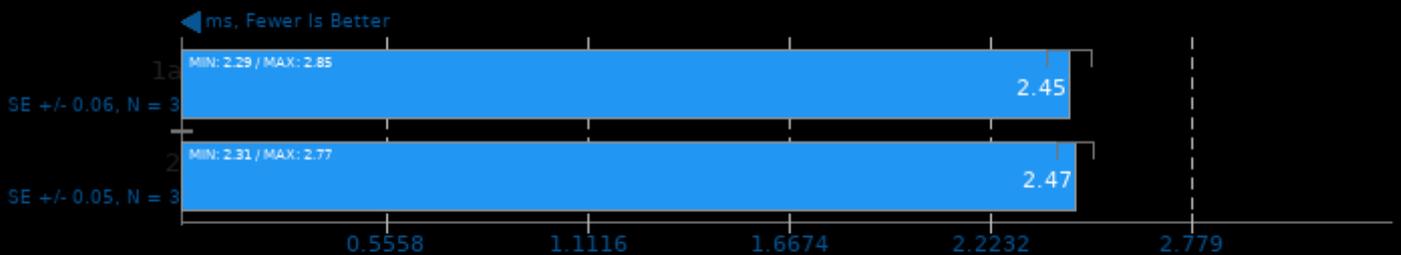
Target: Vulkan GPU - Model: efficientnet-b0



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

### NCNN 20201218

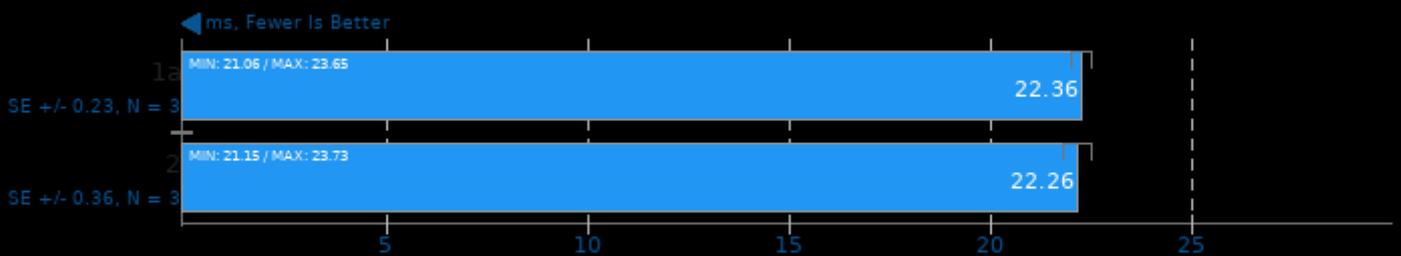
Target: Vulkan GPU - Model: blazeface



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

### NCNN 20201218

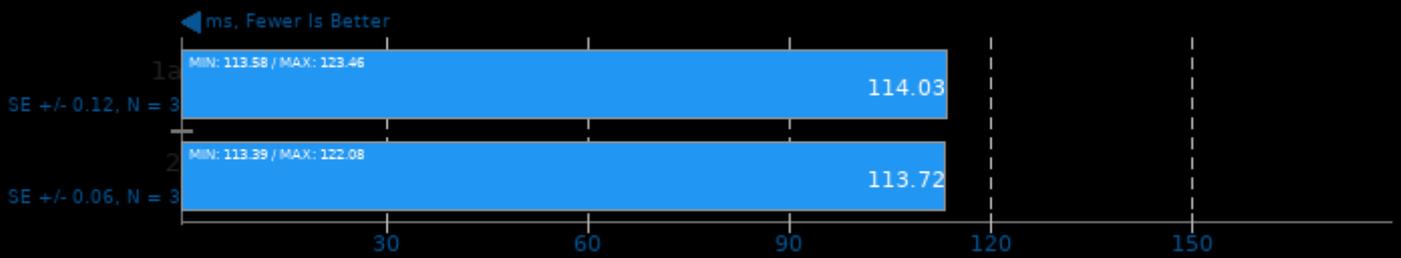
Target: Vulkan GPU - Model: googlenet



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

### NCNN 20201218

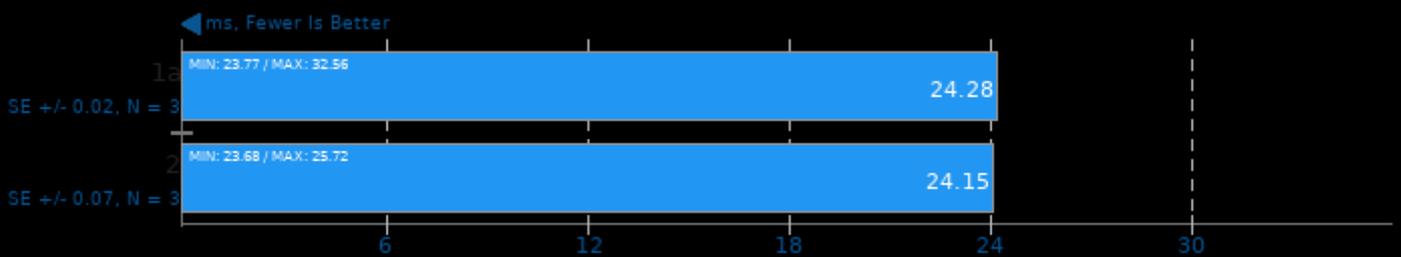
Target: Vulkan GPU - Model: vgg16



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

### NCNN 20201218

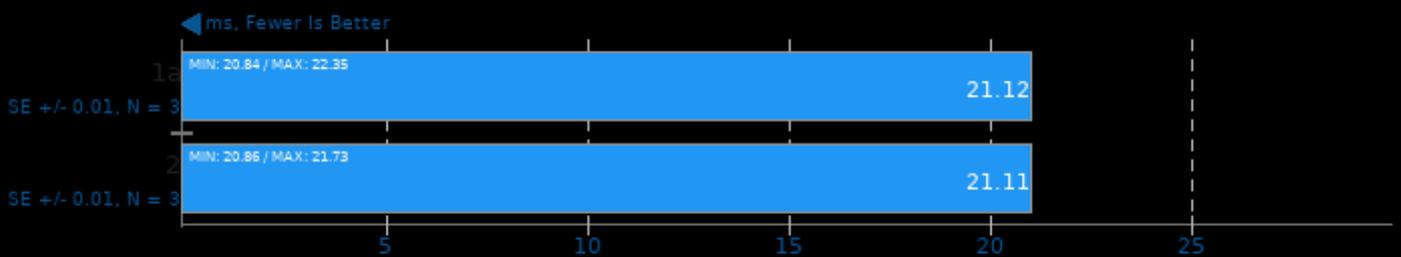
Target: Vulkan GPU - Model: resnet18



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

### NCNN 20201218

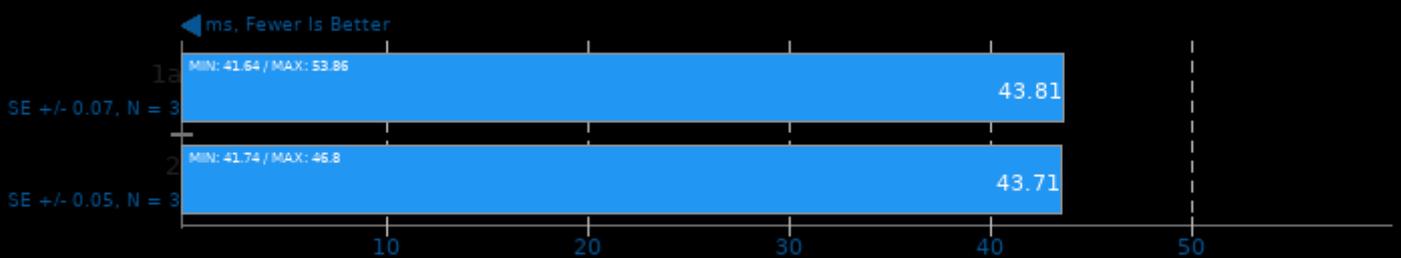
Target: Vulkan GPU - Model: alexnet



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

### NCNN 20201218

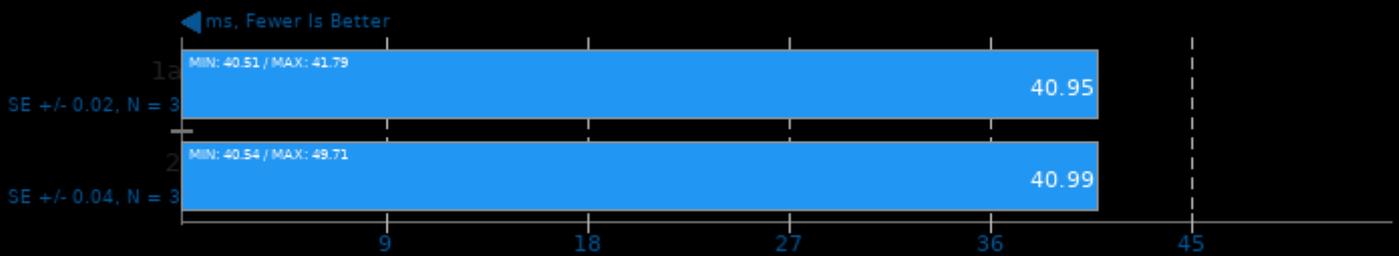
Target: Vulkan GPU - Model: resnet50



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

### NCNN 20201218

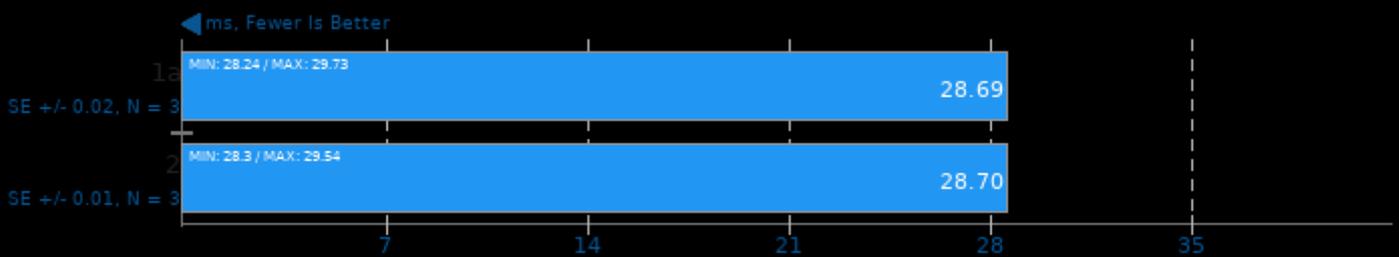
Target: Vulkan GPU - Model: yolov4-tiny



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

### NCNN 20201218

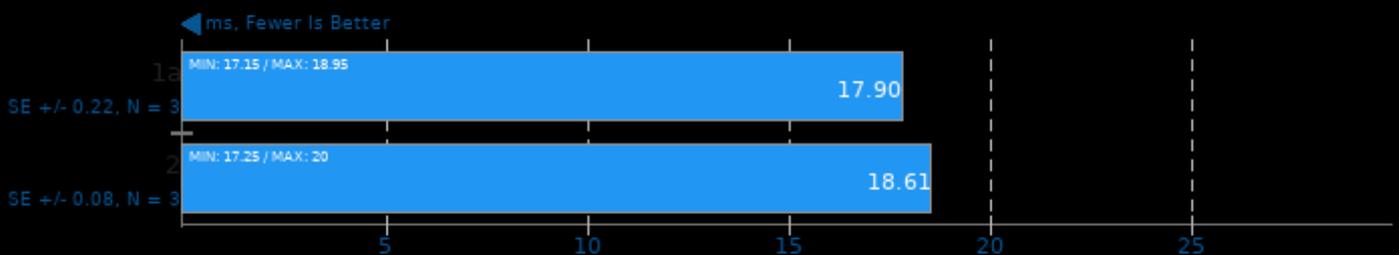
Target: Vulkan GPU - Model: squeezenet\_ssd



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

### NCNN 20201218

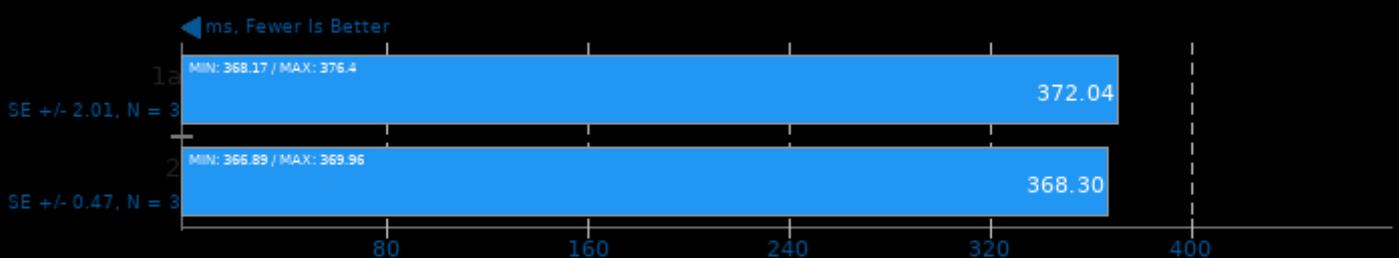
Target: Vulkan GPU - Model: regnety\_400m



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

### TNN 0.2.3

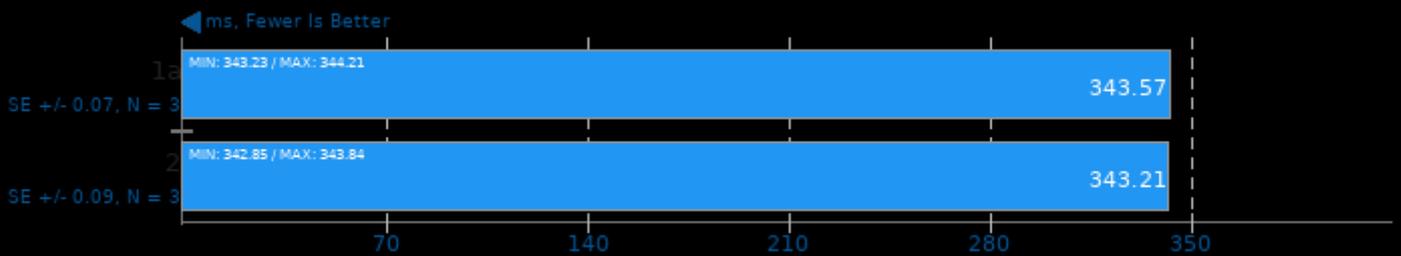
Target: CPU - Model: MobileNet v2



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

### TNN 0.2.3

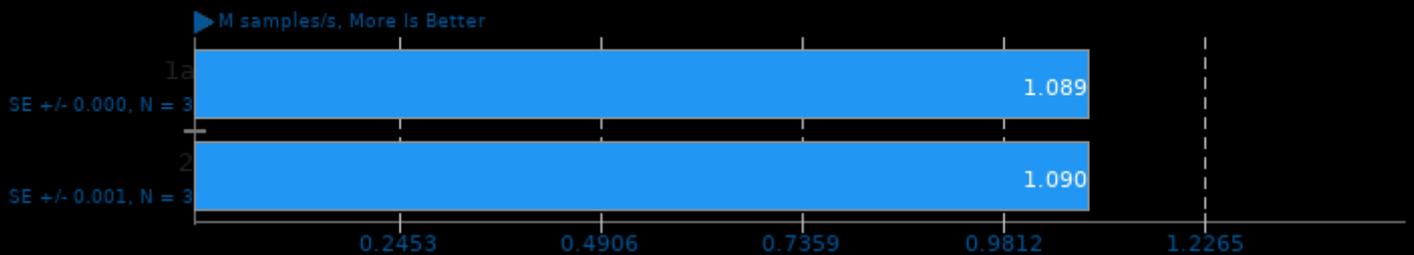
Target: CPU - Model: SqueezeNet v1.1



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

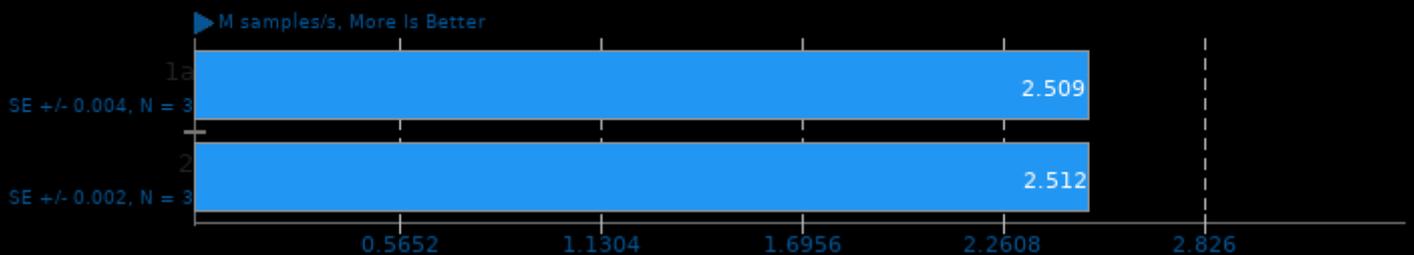
### IndigoBench 4.4

Acceleration: CPU - Scene: Bedroom



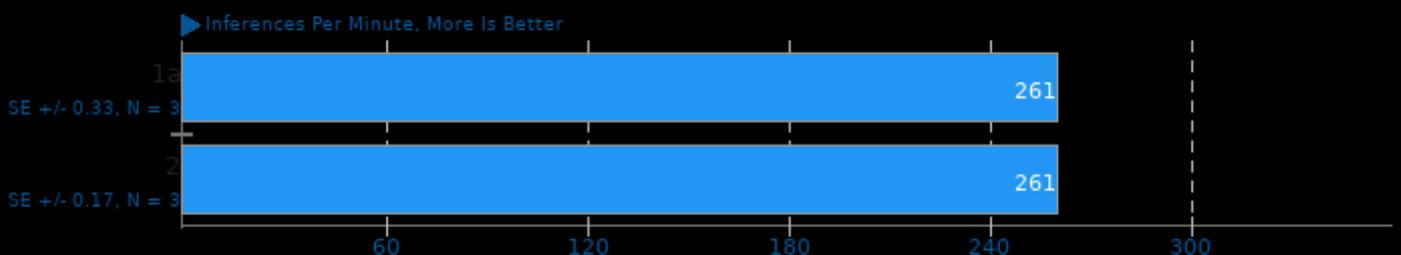
### IndigoBench 4.4

Acceleration: CPU - Scene: Supercar



### ONNX Runtime 1.6

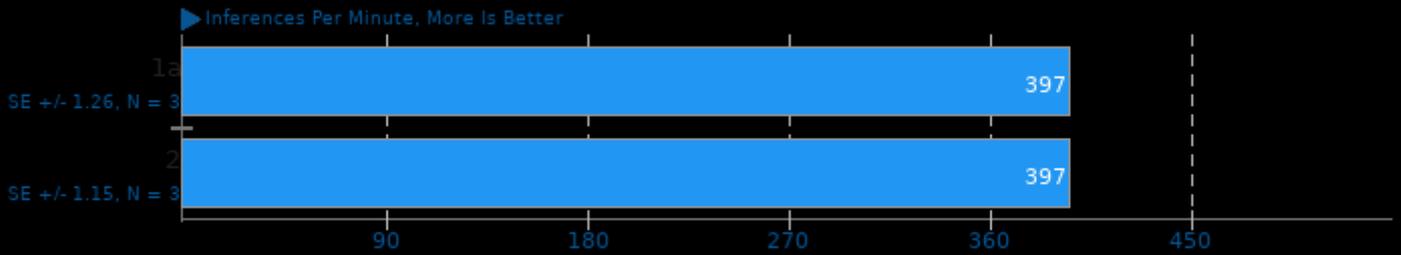
Model: yolov4 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt

### ONNX Runtime 1.6

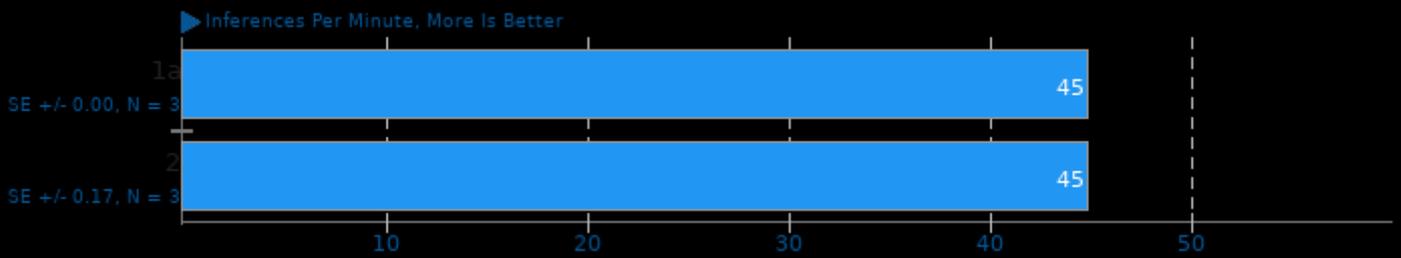
Model: bertseq-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

### ONNX Runtime 1.6

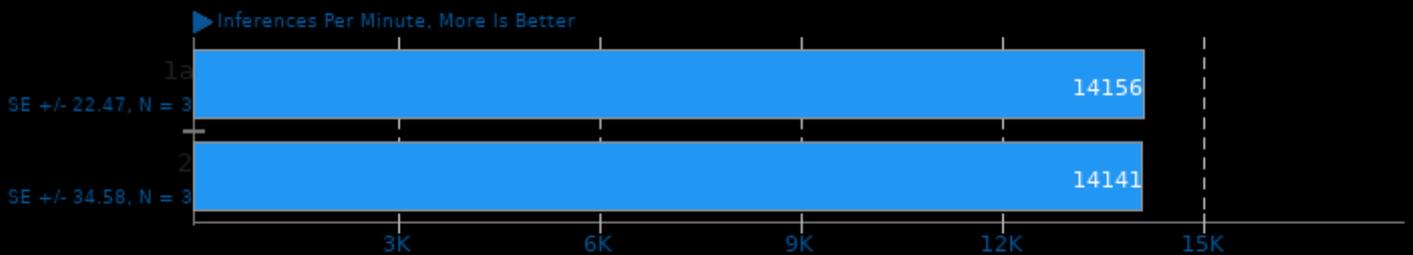
Model: fc-resnet101-11 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

### ONNX Runtime 1.6

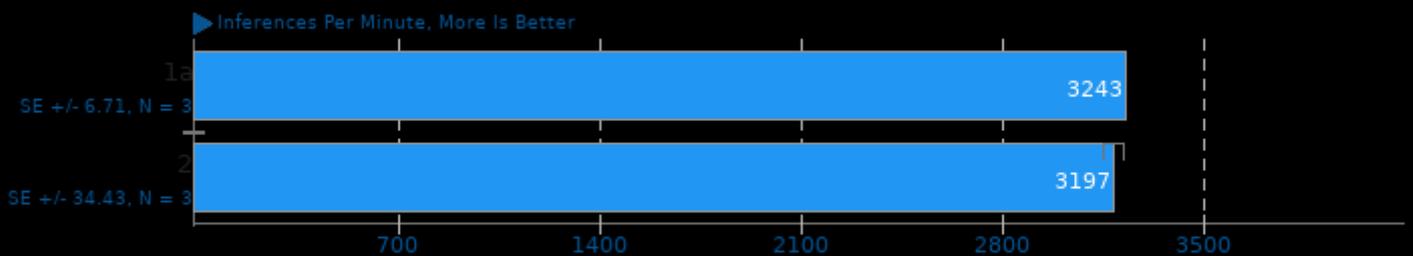
Model: shufflenet-v2-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

### ONNX Runtime 1.6

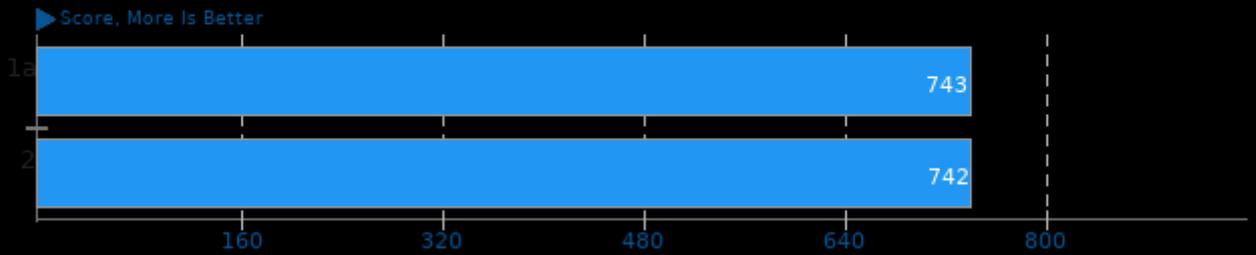
Model: super-resolution-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

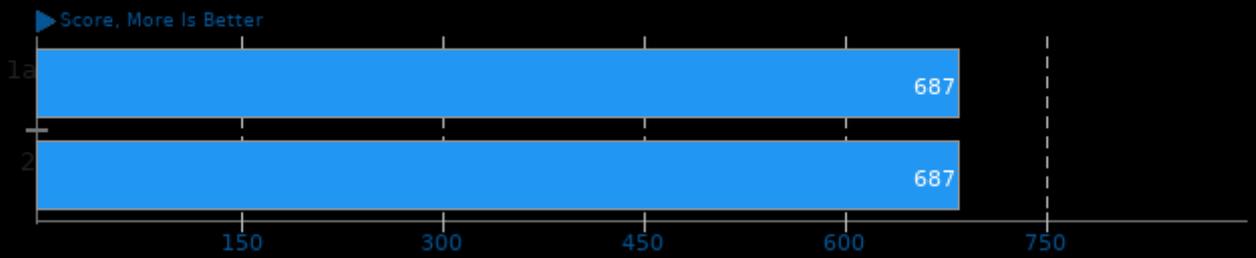
### AI Benchmark Alpha 0.1.2

Device Inference Score



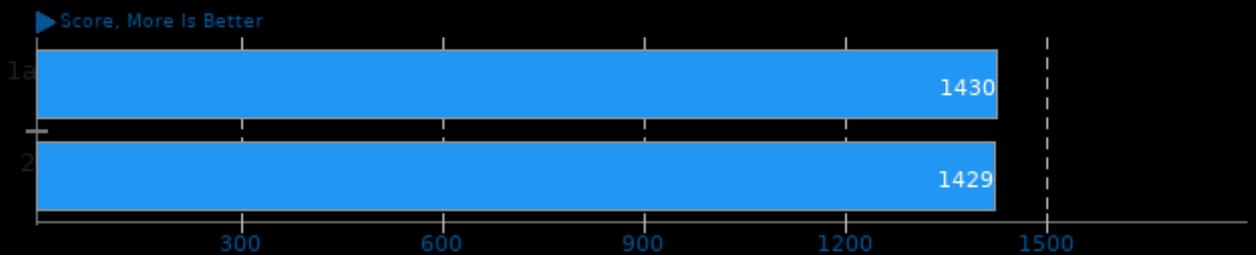
### AI Benchmark Alpha 0.1.2

Device Training Score



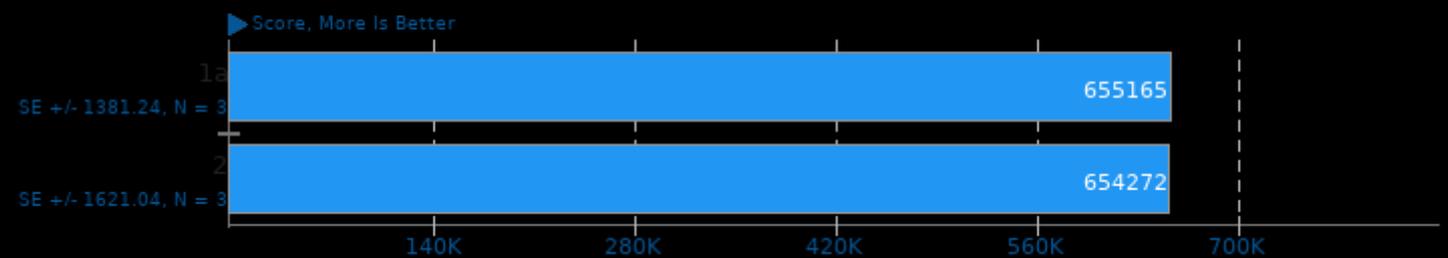
### AI Benchmark Alpha 0.1.2

Device AI Score



### PHPBench 0.8.1

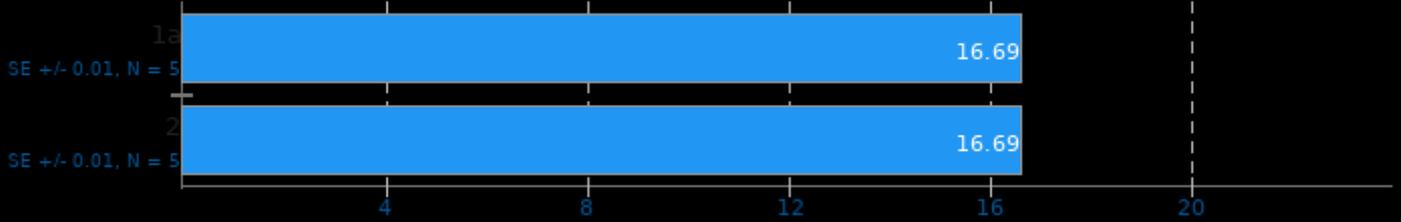
PHP Benchmark Suite



## WavPack Audio Encoding 5.3

WAV To WavPack

◀ Seconds, Fewer Is Better

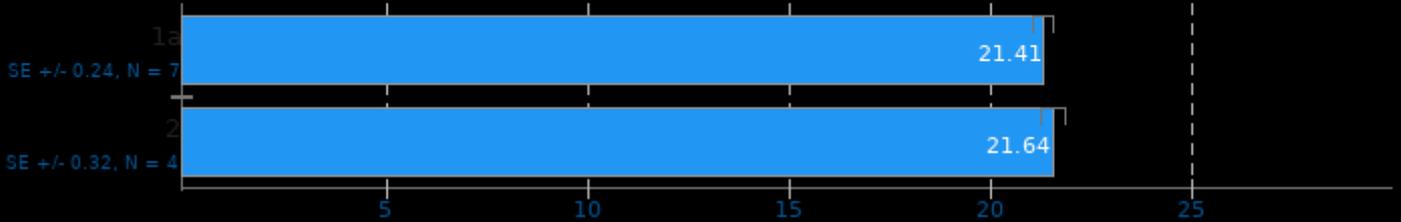


1. (CXX) g++ options: -rdynamic

## Unpacking Firefox 84.0

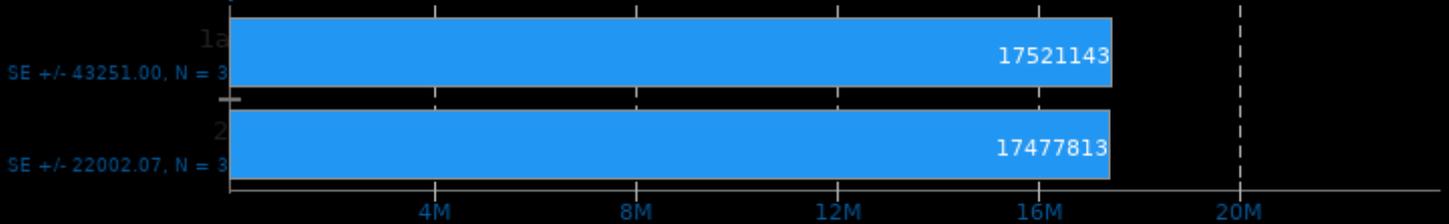
Extracting: firefox-84.0.source.tar.xz

◀ Seconds, Fewer Is Better



## Kripke 1.2.4

▶ Throughput FoM, More Is Better

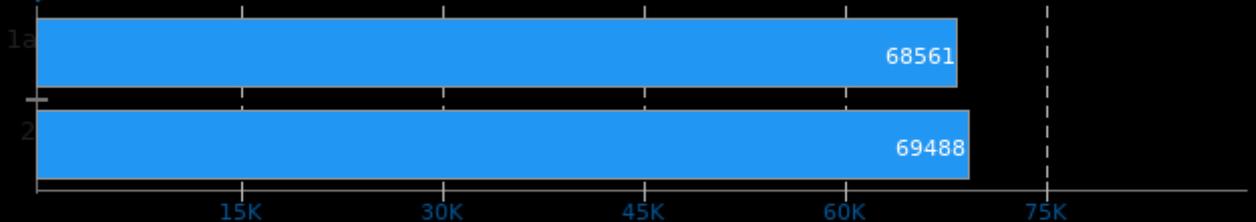


1. (CXX) g++ options: -O3 -fopenmp

## BRL-CAD 7.30.8

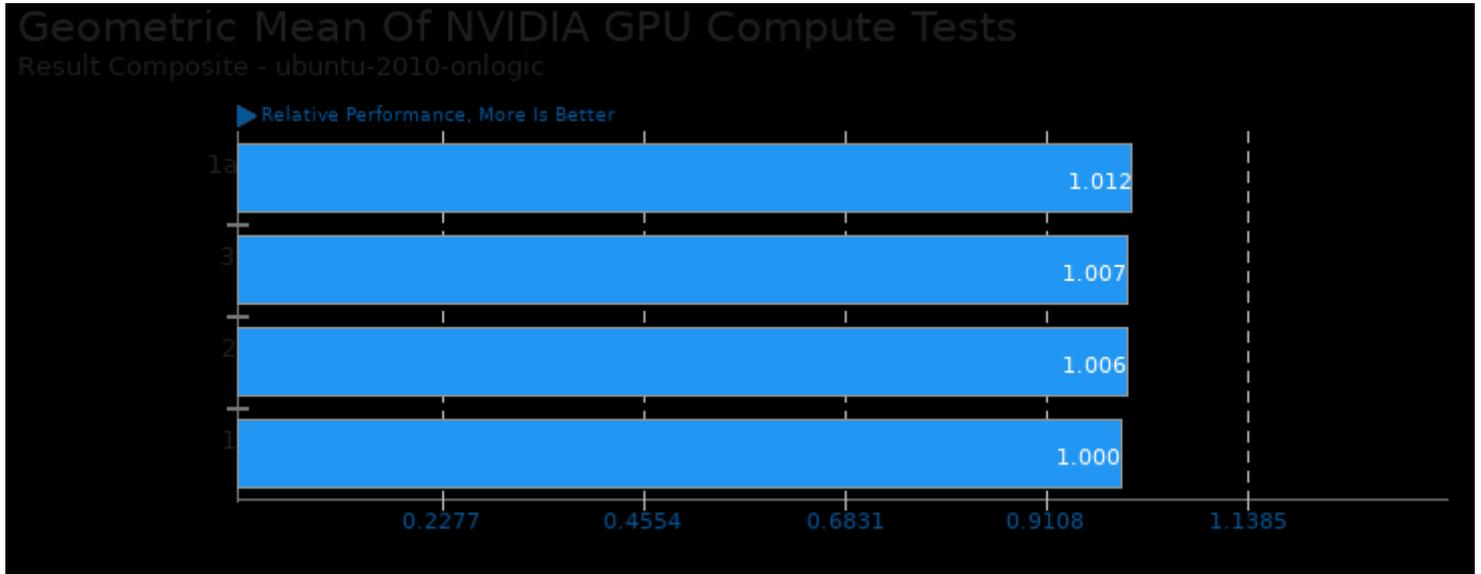
VGR Performance Metric

▶ VGR Performance Metric, More Is Better

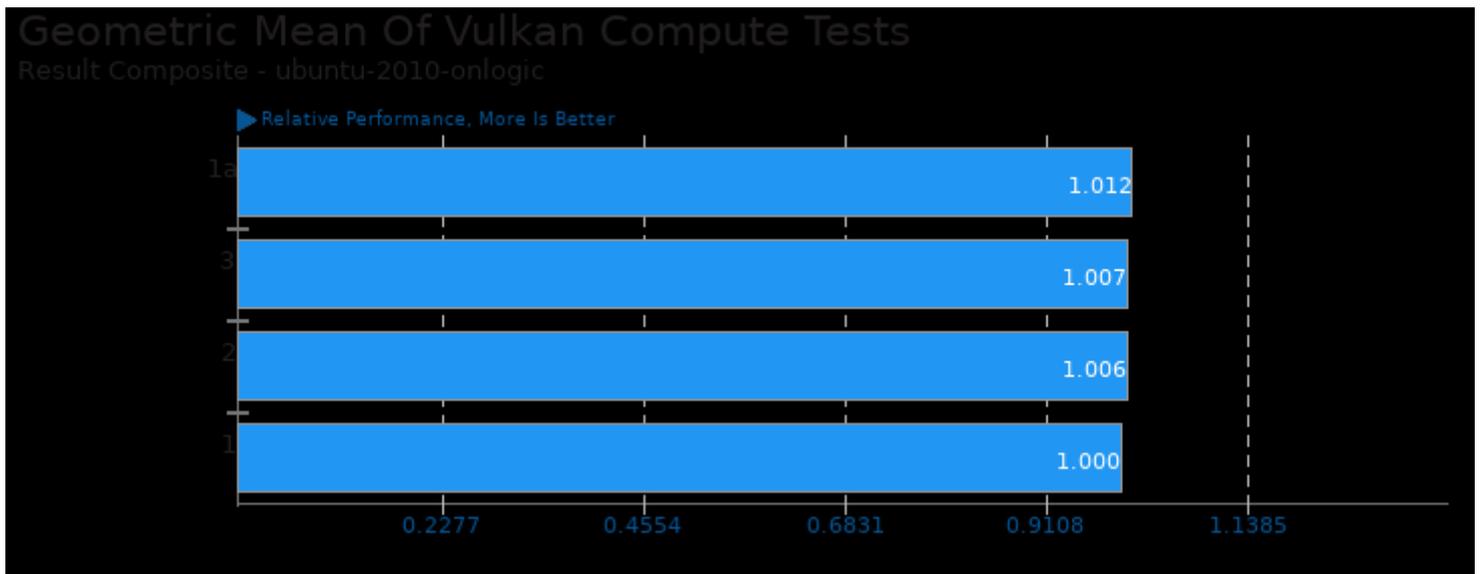


1. (CXX) g++ options: -std=c++11 -pipe -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pta -fstrength-reduce

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



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



Geometric mean based upon tests: pts/vkfft, pts/vkresample and pts/ncnn

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:05.