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## Ryzen 5 3600XT 2021 AMD

AMD Ryzen 5 3600XT 6-Core testing with a MSI X470 GAMING M7 AC (MS-7B77) v1.0 (1.E0 BIOS) and MSI AMD Radeon R7 370 / R9 270/370 OEM 4GB on Ubuntu 20.10 via the Phoronix Test Suite.

### Automated Executive Summary

2 had the most wins, coming in first place for 38% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.019x the speed of the slowest (1). 4 was 0.999x the speed of 3, 2 was 0.999x the speed of 4, 1 was 0.983x the speed of 2.

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

Redis (Test: LPOP) at 1.666x  
CloverLeaf (Lagrangian-Eulerian Hydrodynamics) at 1.154x  
Mobile Neural Network (Model: inception-v3) at 1.099x  
Mobile Neural Network (Model: resnet-v2-50) at 1.098x  
ONNX Runtime (Model: yolov4 - Device: OpenMP CPU) at 1.088x  
Redis (Test: GET) at 1.081x  
ONNX Runtime (Model: bertsquad-10 - Device: OpenMP CPU) at 1.067x  
Kripke at 1.064x  
Cpuminer-Opt (Algorithm: x25x) at 1.061x

Quantum ESPRESSO (*Input: AUSURF112*) at 1.055x.

## Test Systems:

### 1

### 2

Processor: AMD Ryzen 5 3600XT 6-Core @ 3.80GHz (6 Cores / 12 Threads), Motherboard: MSI X470 GAMING M7 AC (MS-7B77) v1.0 (1.E0 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 500GB CT500P2SSD8, Graphics: MSI AMD Radeon R7 370 / R9 270/370 OEM 4GB, Audio: AMD Oland/Hainan/Cape, Monitor: G237HL, Network: Qualcomm Atheros Killer E2500 + Intel 8265 / 8275

OS: Ubuntu 20.10, Kernel: 5.8.0-28-generic (x86\_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.5 Mesa 20.2.1 (LLVM 11.0.0), 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,objc++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v  
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8701021  
Graphics Notes: GLAMOR  
Python Notes: Python 3.8.6

Security Notes: itlb\_multihit: Not affected + l1tf: 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 Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbs: Not affected + tsx\_async\_abort: Not affected

### 3

### 4

Processor: AMD Ryzen 5 3600XT 6-Core @ 3.80GHz (6 Cores / 12 Threads), Motherboard: MSI X470 GAMING M7 AC (MS-7B77) v1.0 (1.E0 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 500GB CT500P2SSD8, Graphics: MSI AMD Radeon R7 370 / R9 270/370 OEM 4GB, Audio: AMD Oland/Hainan/Cape, Monitor: G237HL, Network: Qualcomm Atheros Killer E2500 + Intel 8265 / 8275

OS: Ubuntu 20.10, Kernel: 5.8.0-33-generic (x86\_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.5 Mesa 20.2.1 (LLVM 11.0.0), 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,objc++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v  
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8701021  
Graphics Notes: GLAMOR

Python Notes: Python 3.8.6

Security Notes: itlb\_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre\_v1: Mitigation of usercopy/swapgs barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Full AMD retrpoline IBPB: conditional STIBP: conditional RSB filling + srbs: Not affected + tsx\_async\_abort: Not affected

	1	2	3	4
<b>Quantum ESPRESSO - AUSURF112</b>	<b>1542</b>	1465	1462	<b>1461</b>
(sec)				
Normalized	94.8%	99.73%	99.96%	100%
Standard Deviation	0.7%	0.1%	1.3%	1.4%
<b>OpenFOAM - Motorbike 60M (sec)</b>	<b>1419</b>	<b>1385</b>	1387	<b>1386</b>
(sec)				
Normalized	97.63%	100%	99.85%	99.91%
Standard Deviation	0.1%	0.1%	0.2%	0.1%
<b>NAS Parallel Benchmarks - EP.D</b>	<b>404.66</b>	405.00	404.68	<b>405.18</b>
(Mop/s)				
Normalized	99.87%	99.96%	99.88%	100%
Standard Deviation	0.5%	0.2%	0.2%	0.2%
<b>CP2K Molecular Dynamics - Fayalite-FIST Data (sec)</b>	<b>1007</b>		1005	<b>999.692</b>
(sec)				
Normalized	99.29%		99.46%	100%
<b>OpenFOAM - Motorbike 30M (sec)</b>	<b>264.35</b>	<b>254.94</b>	255.18	<b>255.03</b>
(sec)				
Normalized	96.44%	100%	99.91%	99.96%
Standard Deviation	0.1%	0.4%	0.1%	0.3%
<b>Gcrypt Library (sec)</b>	198.769	<b>195.436</b>	<b>199.368</b>	196.166
(sec)				
Normalized	98.32%	100%	98.03%	99.63%
Standard Deviation	0.9%	0.5%	0.8%	1%
<b>CloverLeaf - L.E.H (sec)</b>	<b>201.12</b>	<b>174.32</b>	174.48	<b>174.50</b>
(sec)				
Normalized	86.67%	100%	99.91%	99.9%
Standard Deviation	0.2%	0.2%	0.1%	0.2%
<b>Mobile Neural Network - inception-v3</b>	<b>36.599</b>	33.522	<b>33.299</b>	33.631
(ms)				
Normalized	90.98%	99.33%	100%	99.01%
Standard Deviation	1.6%	1.5%	3.4%	2%
<b>Mobile Neural Network - mobilenet-v1-1.0 (ms)</b>	<b>4.215</b>	3.696	<b>3.606</b>	3.719
(ms)				
Normalized	85.55%	97.56%	100%	96.96%
Standard Deviation	6.9%	0.9%	4.1%	2.1%
<b>Mobile Neural Network - 3.814</b>	<b>3.814</b>	3.406	<b>3.247</b>	3.425
(ms)				
<b>MobileNetV2_224 (ms)</b>				
Normalized	85.13%	95.33%	100%	94.8%
Standard Deviation	6.7%	2.2%	4%	3.4%
<b>Mobile Neural Network - resnet-v2-50</b>	<b>30.869</b>	28.588	<b>28.126</b>	28.601
(ms)				
Normalized	91.11%	98.38%	100%	98.34%
Standard Deviation	2%	1.3%	1.9%	1.3%
<b>Mobile Neural Network - 6.584</b>	<b>6.584</b>	5.911	<b>5.696</b>	5.922
(ms)				
Normalized	86.51%	96.36%	100%	96.18%
Standard Deviation	7.1%	1.5%	2.6%	2.7%

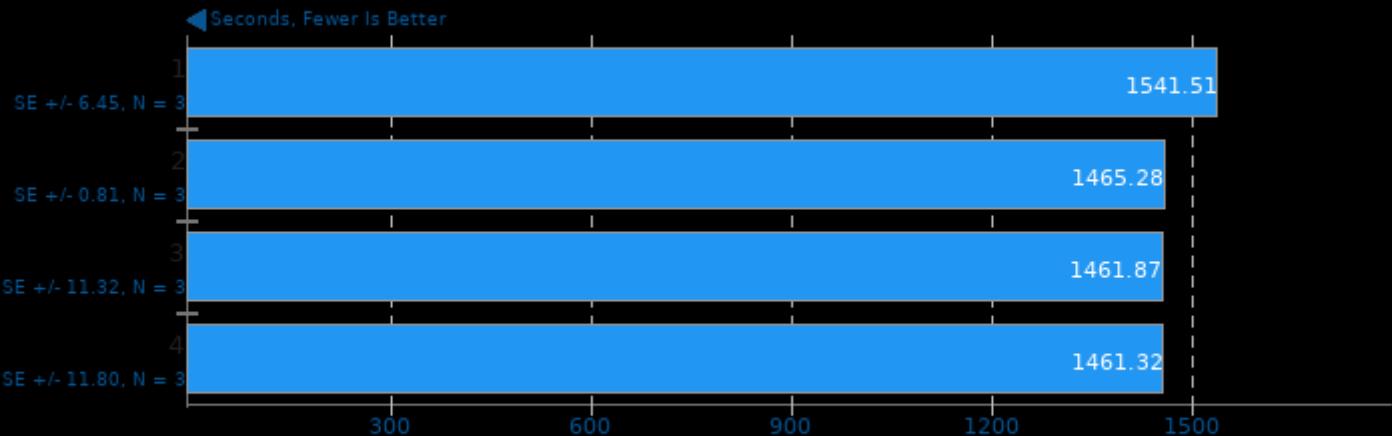
<b>Timed Godot Game Engine</b>	<b>177.130</b>	175.015	175.621	<b>174.752</b>
<b>Compilation - Time To Compile (sec)</b>				
Normalized	98.66%	99.85%	99.51%	100%
Standard Deviation	0.4%	0.3%	0.4%	0.4%
<b>dav1d - C.1.1.b (FPS)</b>	<b>98.81</b>	99.72	99.80	<b>99.87</b>
Normalized	98.94%	99.85%	99.93%	100%
Standard Deviation	0.4%	0.4%	0.1%	0.3%
<b>ONNX Runtime - fcn-resnet101-11 -</b>	<b>49</b>	<b>51</b>	<b>51</b>	<b>51</b>
<b>OpenMP CPU (Inferences/min)</b>				
Normalized	96.08%	100%	100%	100%
Standard Deviation	0%	0%	0.6%	0.6%
<b>ONNX Runtime - bertsquad-10 -</b>	<b>431</b>	<b>460</b>	<b>460</b>	458
<b>OpenMP CPU (Inferences/min)</b>				
Normalized	93.7%	100%	100%	99.57%
Standard Deviation	0.4%	0.3%	0.2%	0.1%
<b>ONNX Runtime - yolov4 - OpenMP</b>	<b>262</b>	<b>285</b>	<b>285</b>	284
<b>CPU (Inferences/min)</b>				
Normalized	91.93%	100%	100%	99.65%
Standard Deviation	0.6%	0.8%	0.7%	0.7%
<b>ONNX Runtime - shufflenet-v2-10 -</b>	<b>13254</b>	<b>13793</b>	13749	13780
<b>OpenMP CPU (Inferences/min)</b>				
Normalized	96.09%	100%	99.68%	99.91%
Standard Deviation	0.8%	1.3%	0.2%	1%
<b>ONNX Runtime - super-resolution-10 -</b>	<b>3900</b>	4014	4039	<b>4041</b>
<b>OpenMP CPU (Inferences/min)</b>				
Normalized	96.51%	99.33%	99.95%	100%
Standard Deviation	0.7%	0.5%	1.3%	0.7%
<b>NAS Parallel Benchmarks - L.U.C</b>	<b>21543</b>	22192	22188	<b>22211</b>
<b>(Mop/s)</b>				
Normalized	96.99%	99.92%	99.9%	100%
Standard Deviation	0.8%	0.3%	0.4%	0.5%
<b>Warsow - 1920 x 1080 (FPS)</b>	<b>338.2</b>	<b>343.3</b>	343.2	343.1
Normalized	98.51%	100%	99.97%	99.94%
Standard Deviation	2.7%	0.1%	0.1%	0.1%
<b>FinanceBench - Bonds OpenMP (ms)</b>	<b>65896</b>	64900	64885	<b>64083</b>
Normalized	97.25%	98.74%	98.76%	100%
Standard Deviation	0%	1%	1.9%	2.8%
<b>Cpuminer-Opt - Blake-2 S (kH/s)</b>	<b>238335</b>	<b>244116</b>	240059	240657
Normalized	97.63%	100%	98.34%	98.58%
Standard Deviation	3%	2.7%	7.3%	0.5%
<b>GnuPG - 2.7.S.F.E (sec)</b>	<b>65.810</b>	<b>66.314</b>	65.921	66.191
Normalized	100%	99.24%	99.83%	99.42%
Standard Deviation	1.4%	1.7%	2%	0.4%
<b>Cpuminer-Opt - Q.S.2.P (kH/s)</b>	<b>48913</b>	<b>52197</b>	50913	52183
Normalized	93.71%	100%	97.54%	99.97%
Standard Deviation	14.7%	2.2%	2.8%	2.1%
<b>FinanceBench - Repo OpenMP (ms)</b>	<b>46121</b>	44851	45488	<b>44330</b>
Normalized	96.12%	98.84%	97.45%	100%
Standard Deviation	2.9%	2.2%	0.4%	1.2%
<b>Cpuminer-Opt - T.S.2.O (kH/s)</b>	<b>66013</b>	69067	69013	<b>69137</b>
Normalized	95.48%	99.9%	99.82%	100%
Standard Deviation	16.5%	0.8%	1.7%	0.2%
<b>rav1e - 5 (FPS)</b>	<b>1.222</b>	1.243	1.246	<b>1.247</b>
Normalized	98%	99.68%	99.92%	100%

	Standard Deviation	0.8%	0.3%	0.5%	0.6%
<b>Kripke (Throughput FoM)</b>	<b>70264853</b>	74326827	<b>74780217</b>	74402083	
	Normalized	93.96%	99.39%	100%	99.49%
	Standard Deviation	0.6%	1%	2.5%	0.5%
<b>rav1e - 1 (FPS)</b>	<b>0.432</b>	<b>0.436</b>	0.433	0.433	
	Normalized	99.08%	100%	99.31%	99.31%
	Standard Deviation	0.8%	0.5%	0.9%	0.5%
<b>Cython Benchmark - N-Queens (sec)</b>	<b>23.123</b>	22.998	<b>22.823</b>	23.032	
	Normalized	98.7%	99.24%	100%	99.09%
	Standard Deviation	1.9%	0.4%	1.5%	3.1%
<b>rav1e - 6 (FPS)</b>	<b>1.640</b>	<b>1.657</b>	<b>1.657</b>	1.651	
	Normalized	98.97%	100%	100%	99.64%
	Standard Deviation	0.2%	0.1%	0.2%	0.5%
<b>QuantLib (MFLOPS)</b>	<b>2528</b>	<b>2558</b>	<b>2558</b>	2554	
	Normalized	98.83%	100%	100%	99.84%
	Standard Deviation	2%	2.4%	2.6%	2.9%
<b>Cpuminer-Opt - Ringcoin (kH/s)</b>	<b>1445</b>	1469	1455	<b>1471</b>	
	Normalized	98.21%	99.86%	98.86%	100%
	Standard Deviation	0.6%	2.8%	0.1%	1.9%
<b>Cpuminer-Opt - Magi (kH/s)</b>	326.42	<b>325.64</b>	326.71	<b>328.62</b>	
	Normalized	99.33%	99.09%	99.42%	100%
	Standard Deviation	0.6%	0.5%	0.9%	0.3%
<b>Cpuminer-Opt - Myriad-Groestl (kH/s)</b>	<b>11407</b>	<b>11537</b>	11447	11457	
	Normalized	98.87%	100%	99.22%	99.31%
	Standard Deviation	0.2%	1.7%	0.3%	0.4%
<b>Cpuminer-Opt - Skeincoin (kH/s)</b>	<b>55357</b>	<b>54643</b>	55070	55173	
	Normalized	100%	98.71%	99.48%	99.67%
	Standard Deviation	3%	0.9%	0.3%	0.5%
<b>Cpuminer-Opt - x25x (kH/s)</b>	215.45	<b>208.83</b>	217.02	<b>221.63</b>	
	Normalized	97.21%	94.22%	97.92%	100%
	Standard Deviation	1.2%	2.8%	2.3%	1.6%
<b>Cpuminer-Opt - LBC, LBRY Credits (kH/s)</b>	<b>17850</b>	17980	17990	<b>17993</b>	
	Normalized	99.21%	99.93%	99.98%	100%
	Standard Deviation	0.1%	0.6%	0.7%	0.1%
<b>Cpuminer-Opt - Deepcoin (kH/s)</b>	<b>5857</b>	5891	<b>5958</b>	5905	
	Normalized	98.31%	98.88%	100%	99.11%
	Standard Deviation	0.5%	0.1%	2.4%	0.8%
<b>Cpuminer-Opt - Garlicoin (kH/s)</b>	<b>1380</b>	<b>1384</b>	1383	1382	
	Normalized	99.74%	100%	99.92%	99.9%
	Standard Deviation	0.8%	0.9%	0.3%	0.5%
<b>Google SynthMark - VoiceMark_100 (Voices)</b>	677.097	674.800	<b>674.430</b>	<b>678.514</b>	
	Normalized	99.79%	99.45%	99.4%	100%
	Standard Deviation	0.4%	0.7%	0.8%	0.5%
<b>dav1d - Summer Nature 4K (FPS)</b>	<b>143.17</b>	146.48	<b>146.83</b>	146.24	
	Normalized	97.51%	99.76%	100%	99.6%
	Standard Deviation	0.4%	0.3%	0.5%	0.3%
<b>dav1d - Chimera 1080p (FPS)</b>	<b>446.96</b>	<b>452.77</b>	447.96	448.11	
	Normalized	98.72%	100%	98.94%	98.97%
	Standard Deviation	0.3%	0.3%	0.9%	0.2%
<b>EtcPak - ETC2 (Mpx/s)</b>	<b>181.969</b>	<b>187.194</b>	186.133	187.187	
	Normalized	97.21%	100%	99.43%	100%
	Standard Deviation	0.6%	0%	1%	0%

<b>QMCPACK - simple-H2O (Execution Time - sec)</b>	<b>25.552</b>	25.054	25.366	<b>24.990</b>
Normalized	97.8%	99.74%	98.52%	100%
Standard Deviation	1.6%	0.6%	0.6%	0.5%
<b>rav1e - 10 (FPS)</b>	<b>3.485</b>	<b>3.574</b>	3.550	<b>3.557</b>
Normalized	97.51%	100%	99.33%	99.52%
Standard Deviation	1%	0.3%	1.1%	0.4%
<b>NAS Parallel Benchmarks - EP.C (Mop/s)</b>	<b>410.88</b>	<b>409.80</b>	410.61	<b>410.05</b>
Normalized	100%	99.74%	99.93%	99.8%
Standard Deviation	0.2%	0.4%	0.3%	0.4%
<b>Redis - SADD (Req/sec)</b>	<b>2141311</b>	2125735	<b>2105323</b>	2139098
Normalized	100%	99.27%	98.32%	99.9%
Standard Deviation	3%	2.5%	0.4%	1.1%
<b>Redis - SET (Req/sec)</b>	1851979	1841099	<b>1856776</b>	<b>1836405</b>
Normalized	99.74%	99.16%	100%	98.9%
Standard Deviation	0.9%	3%	1.6%	0.6%
<b>TNN - CPU - MobileNet v2 (ms)</b>	<b>250.388</b>	243.908	242.680	<b>242.661</b>
Normalized	96.91%	99.49%	99.99%	100%
Standard Deviation	0.4%	0.3%	1.5%	0.6%
<b>EtcPak - ETC1 + Dithering (Mpx/s)</b>	<b>286.220</b>	<b>293.718</b>	291.112	289.189
Normalized	97.45%	100%	99.11%	98.46%
Standard Deviation	0.5%	0%	1.4%	1.5%
<b>Redis - LPUSH (Req/sec)</b>	<b>1632902</b>	<b>1559029</b>	1597848	1595091
Normalized	100%	95.48%	97.85%	97.68%
Standard Deviation	0.6%	2.3%	1.1%	1.6%
<b>TNN - CPU - SqueezeNet v1.1 (ms)</b>	<b>235.926</b>	<b>230.268</b>	232.452	234.123
Normalized	97.6%	100%	99.06%	98.35%
Standard Deviation	1.7%	0.2%	1.6%	1.4%
<b>Redis - LPOP (Req/sec)</b>	<b>2660505</b>	<b>1597153</b>	1616268	1624828
Normalized	100%	60.03%	60.75%	61.07%
Standard Deviation	1%	1.6%	0.6%	0.4%
<b>Redis - GET (Req/sec)</b>	<b>2536489</b>	2363574	<b>2346917</b>	2350173
Normalized	100%	93.18%	92.53%	92.65%
Standard Deviation	1.8%	2.7%	2.2%	2.1%
<b>EtcPak - ETC1 (Mpx/s)</b>	<b>309.636</b>	318.111	316.785	<b>318.158</b>
Normalized	97.32%	99.99%	99.57%	100%
Standard Deviation	1%	1%	0.9%	1%
<b>Algebraic Multi-Grid Benchmark (Figure Of Merit)</b>	<b>217568133</b>	<b>222762933</b>	220939167	221189267
Normalized	97.67%	100%	99.18%	99.29%
Standard Deviation	1.5%	0.1%	0.8%	0.8%
<b>dav1d - S.N.1 (FPS)</b>	<b>406.74</b>	412.23	<b>411.77</b>	<b>412.76</b>
Normalized	98.54%	99.87%	99.76%	100%
Standard Deviation	0.6%	0.3%	0%	1%
<b>LAMMPS Molecular Dynamics</b>	<b>4.770</b>	<b>4.967</b>	4.925	4.906
<b>Simulator - Rhodopsin Protein</b>				
Normalized	96.03%	100%	99.15%	98.77%
Standard Deviation	5.3%	0.7%	2.8%	2.5%
<b>LULESH (z/s)</b>	<b>1556</b>	<b>1582</b>	1577	<b>1574</b>
Normalized	98.33%	100%	99.69%	99.49%
Standard Deviation	0.4%	0%	0.1%	0.2%
<b>EtcPak - DXT1 (Mpx/s)</b>	<b>1374</b>	1380	<b>1396</b>	<b>1395</b>
Normalized	98.43%	98.82%	100%	99.93%
Standard Deviation	0.7%	1.3%	0.1%	0.1%

## Quantum ESPRESSO 6.7

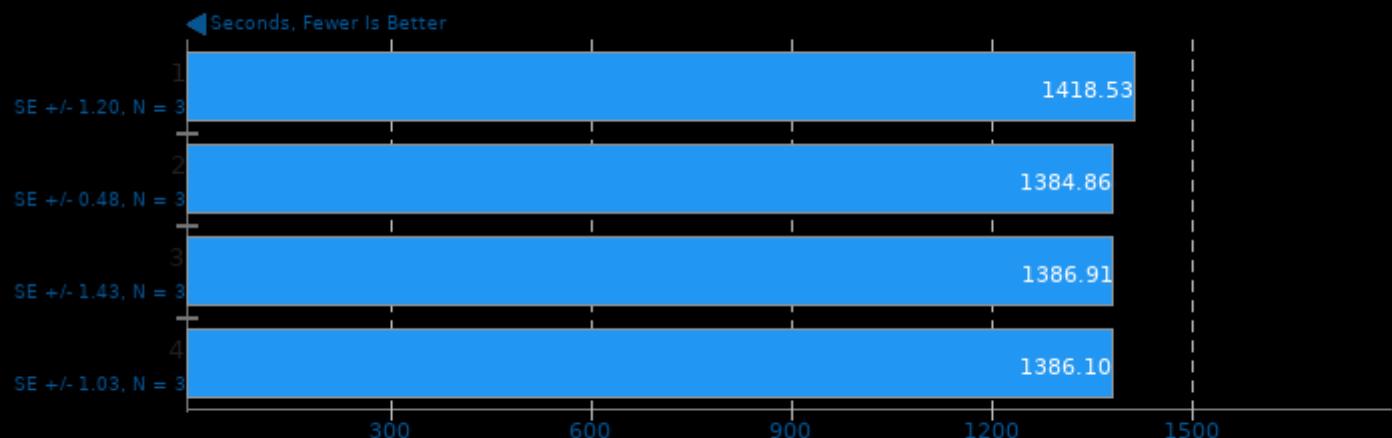
Input: AUSURF112



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

## OpenFOAM 8

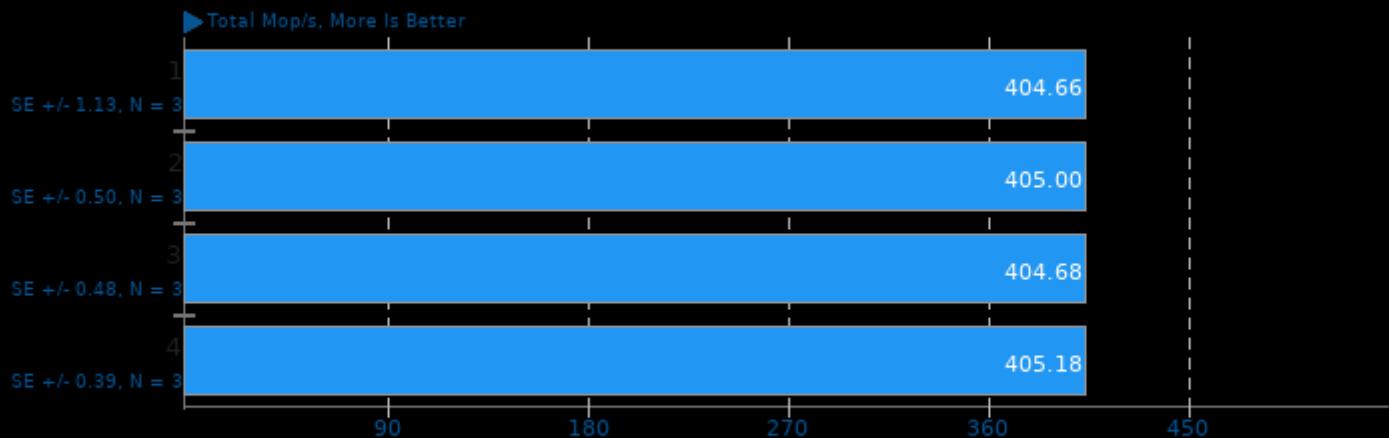
Input: Motorbike 60M



1. (CXX) g++ options: -std=c++11 -m64 -O3 -ftemplate-depth=100 -fPIC -fuse-lld=bfd -Xlinker --add-needed --no-as-needed -lspecies -lfiniteVolume -lfvOpt

## NAS Parallel Benchmarks 3.4

Test / Class: EP.D

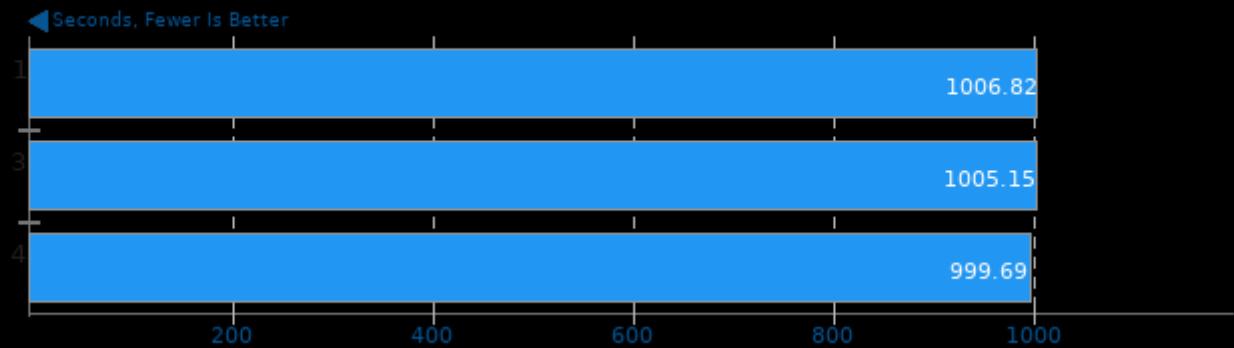


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent\_pthreads -lutil

2. Open MPI 4.0.3

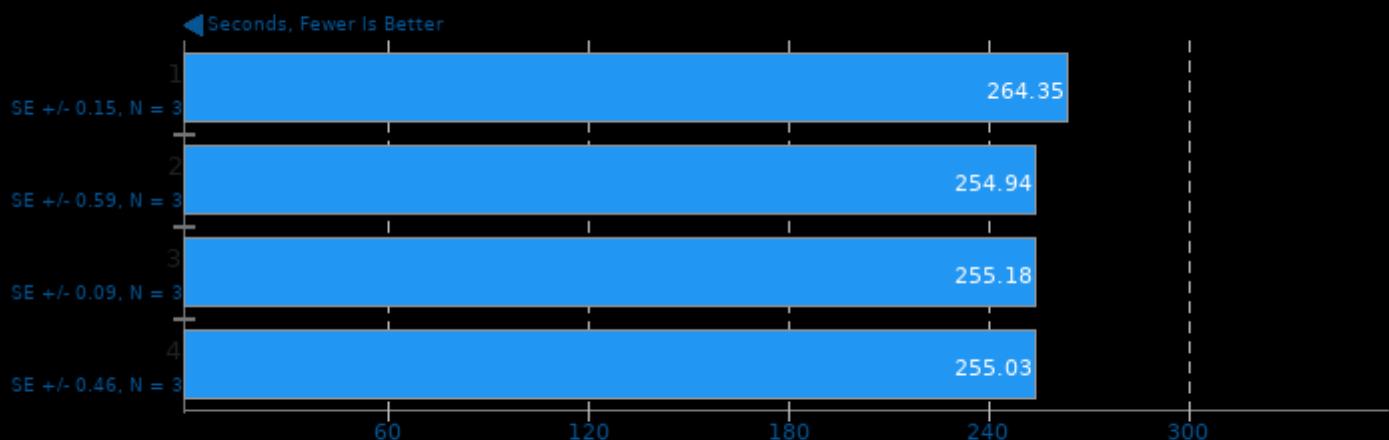
## CP2K Molecular Dynamics 8.1

Fayalite-FIST Data



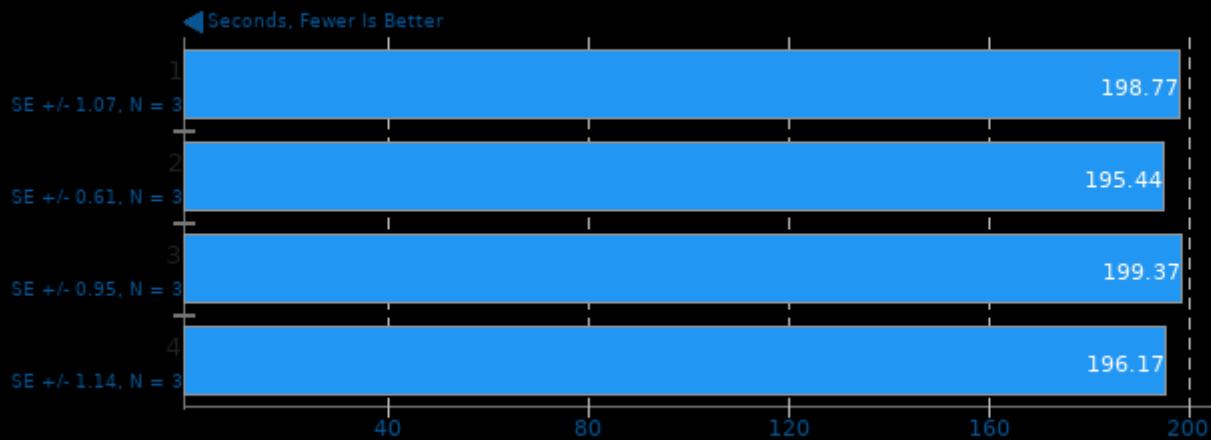
## OpenFOAM 8

Input: Motorbike 30M



1. (CXX) g++ options: -std=c++11 -m64 -O3 -ftemplate-depth=100 -fPIC -fuse-lld=bfd -Xlinker --add-needed --no-as-needed -lspecies -lfiniteVolume -lfvOpt

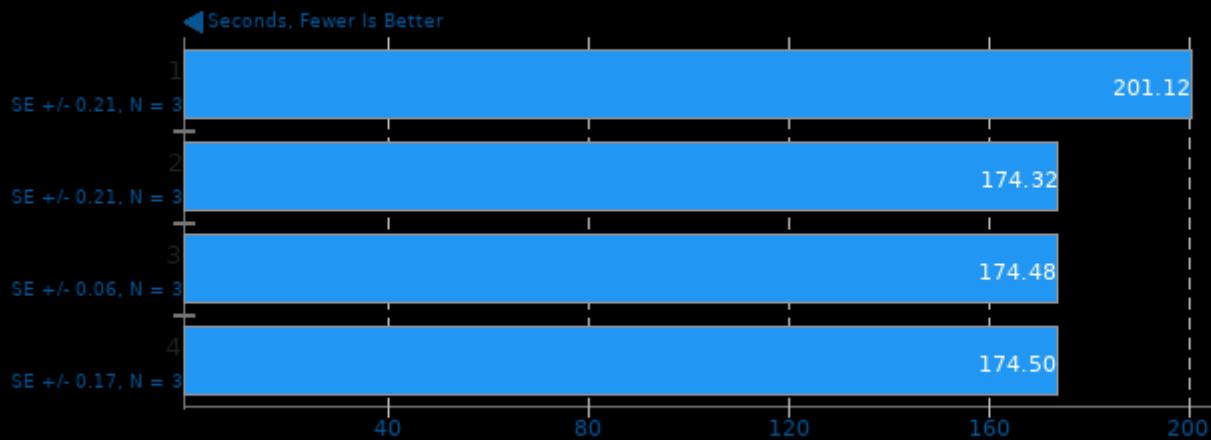
## Gcrypt Library 1.9



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

## CloverLeaf

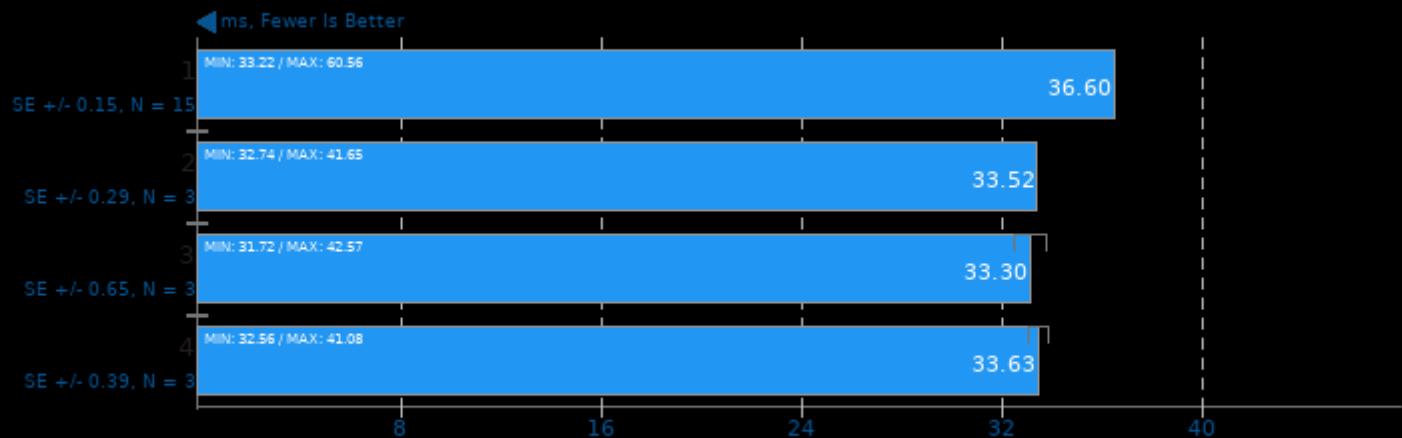
Lagrangian-Eulerian Hydrodynamics



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

## Mobile Neural Network 1.1.1

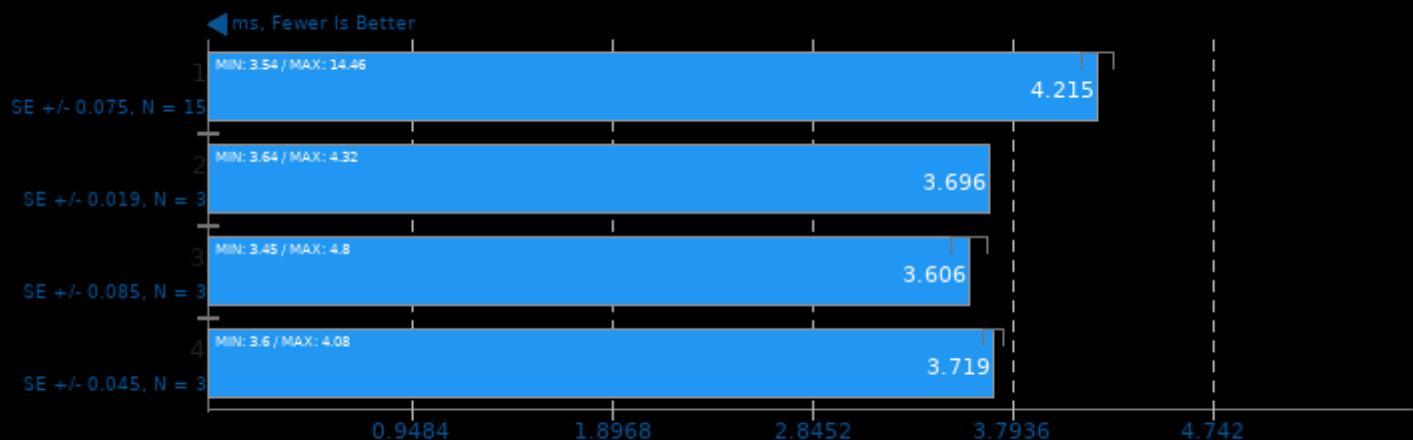
Model: inception-v3



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

## Mobile Neural Network 1.1.1

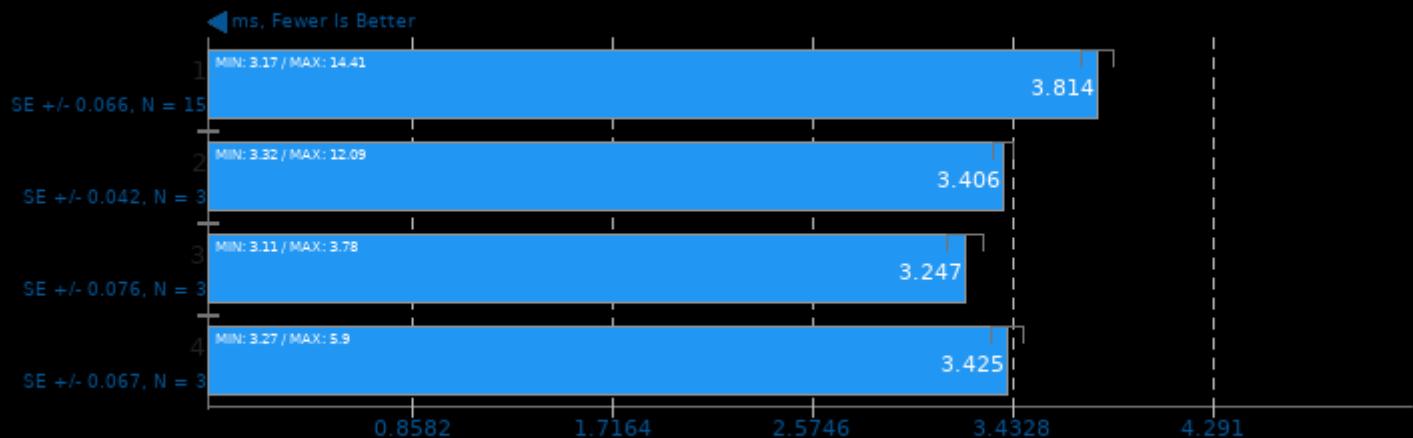
Model: mobilenet-v1-1.0



```
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

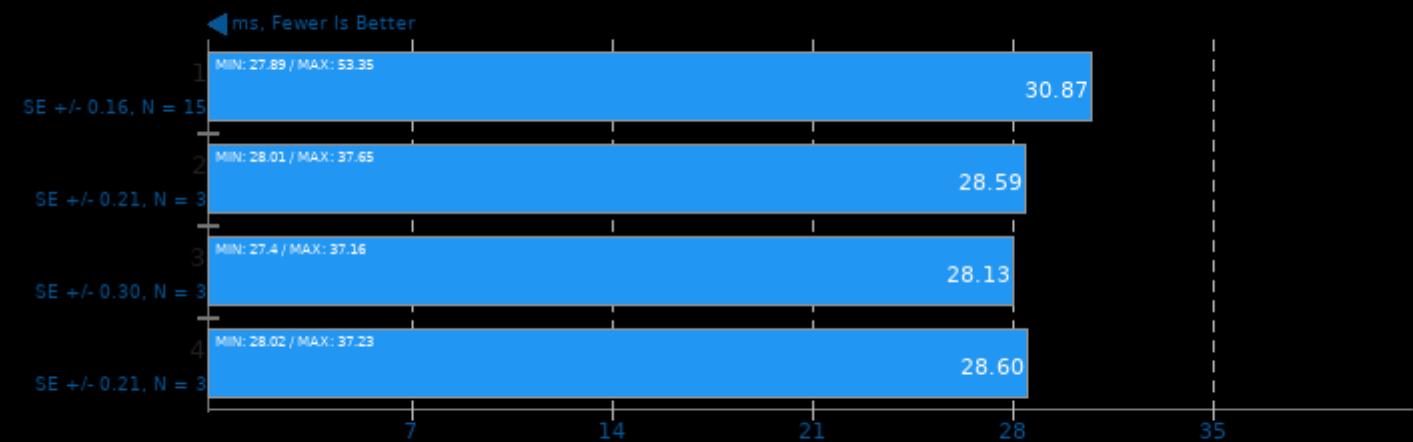
Model: MobileNetV2\_224



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

## Mobile Neural Network 1.1.1

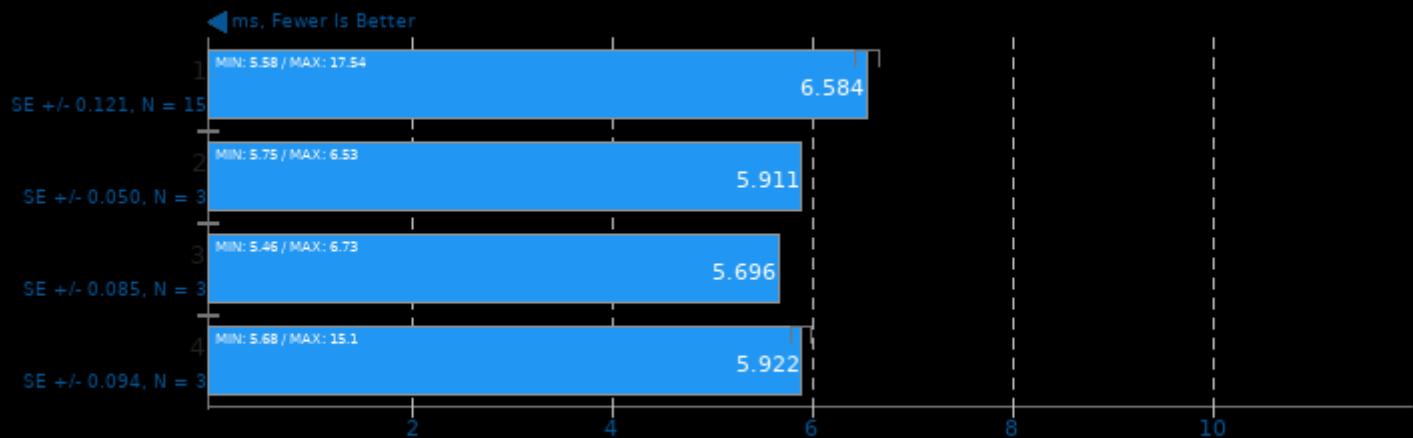
Model: resnet-v2-50



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

## Mobile Neural Network 1.1.1

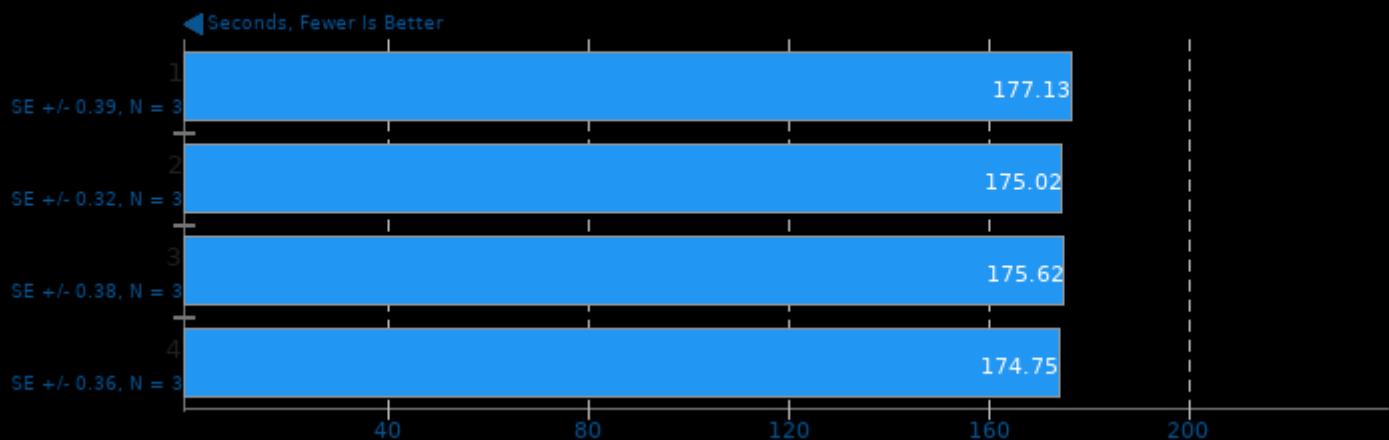
Model: SqueezeNetV1.0



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

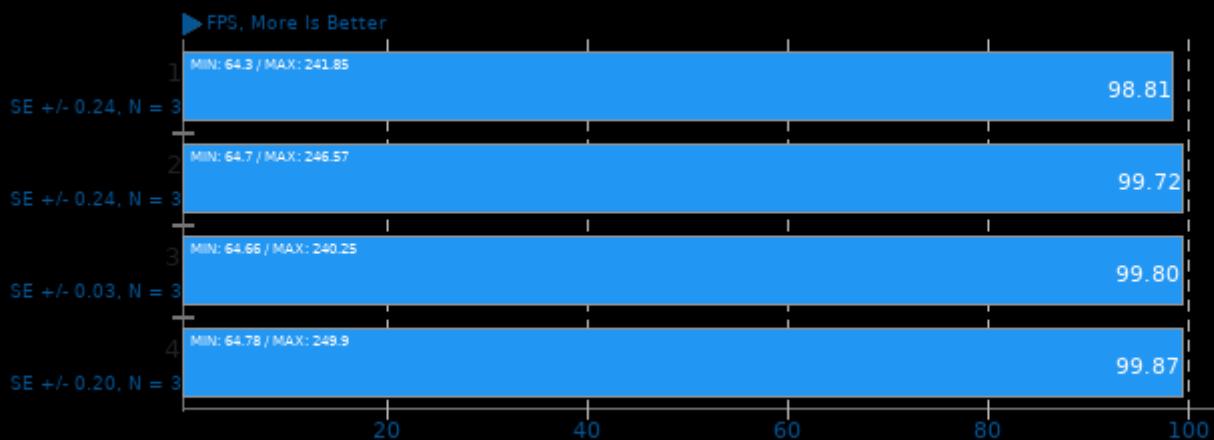
## Timed Godot Game Engine Compilation 3.2.3

Time To Compile



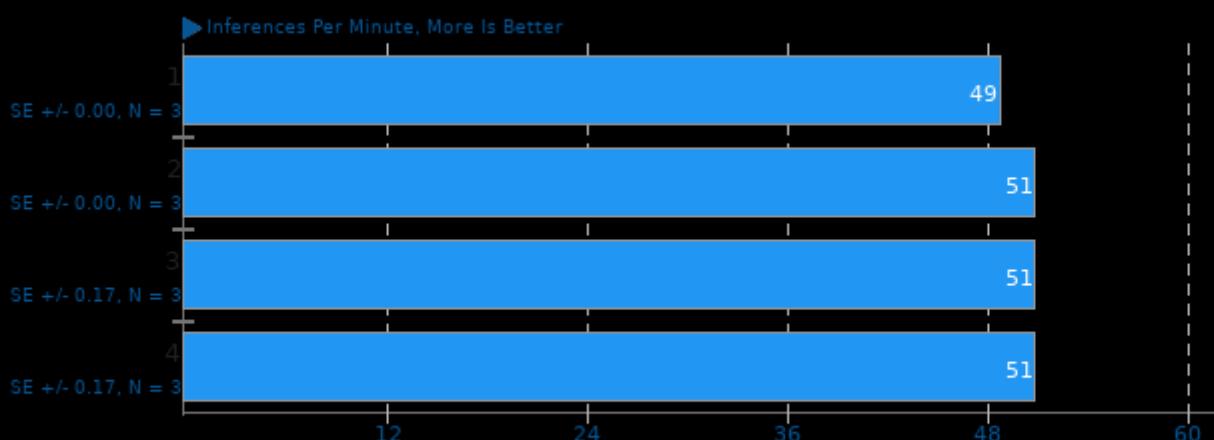
## dav1d 0.8.1

Video Input: Chimera 1080p 10-bit



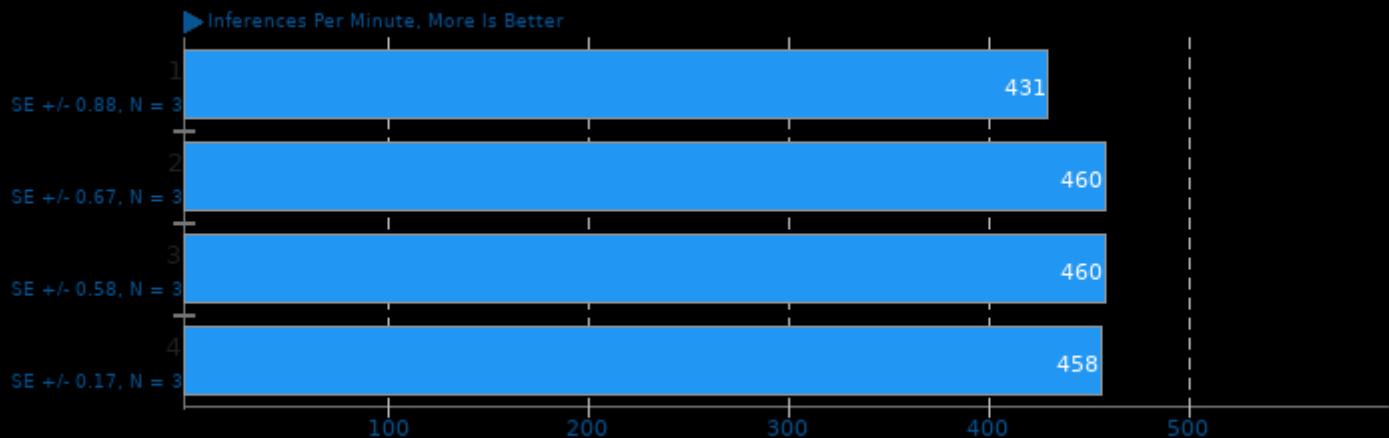
## ONNX Runtime 1.6

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



## ONNX Runtime 1.6

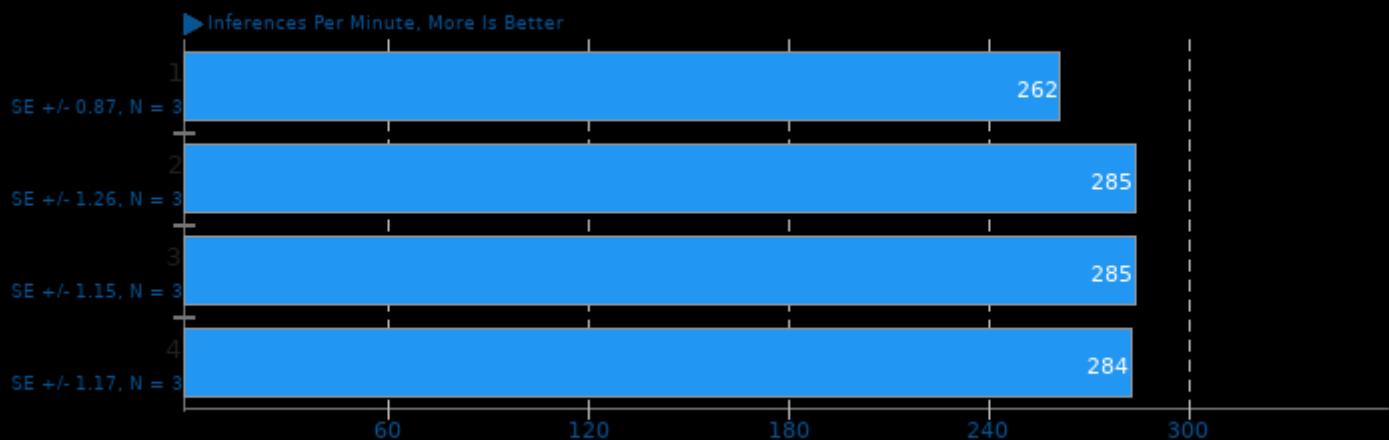
Model: bertsquad-10 - Device: OpenMP CPU



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

## ONNX Runtime 1.6

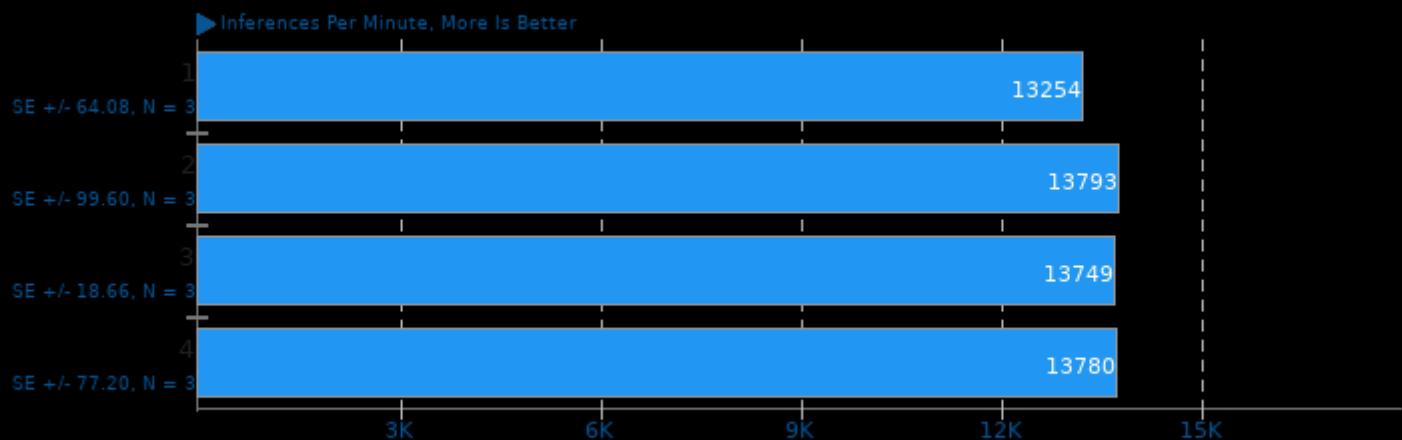
Model: yolov4 - Device: OpenMP CPU



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

## ONNX Runtime 1.6

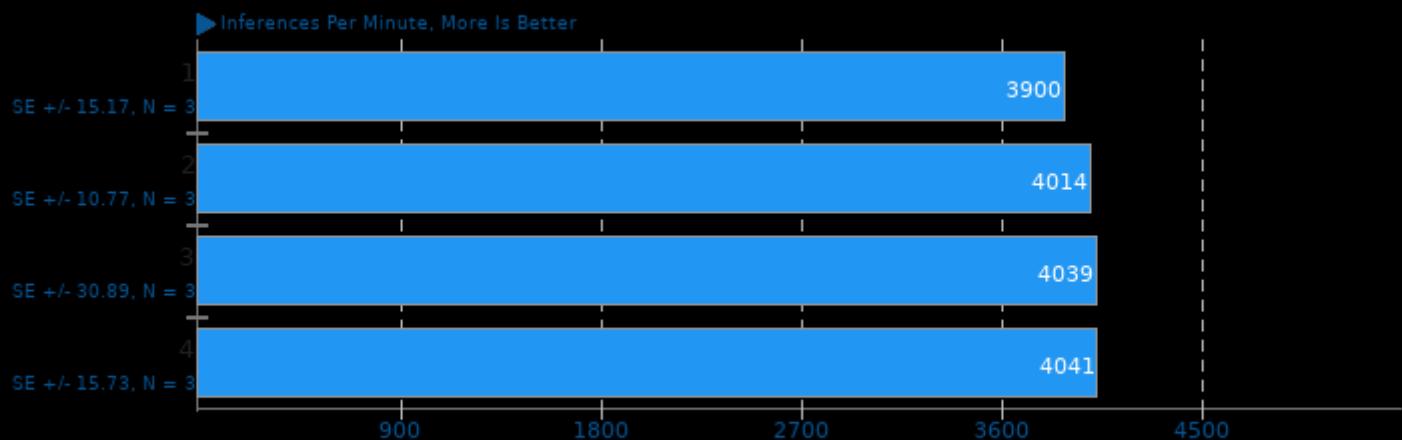
Model: shufflenet-v2-10 - Device: OpenMP CPU



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

## ONNX Runtime 1.6

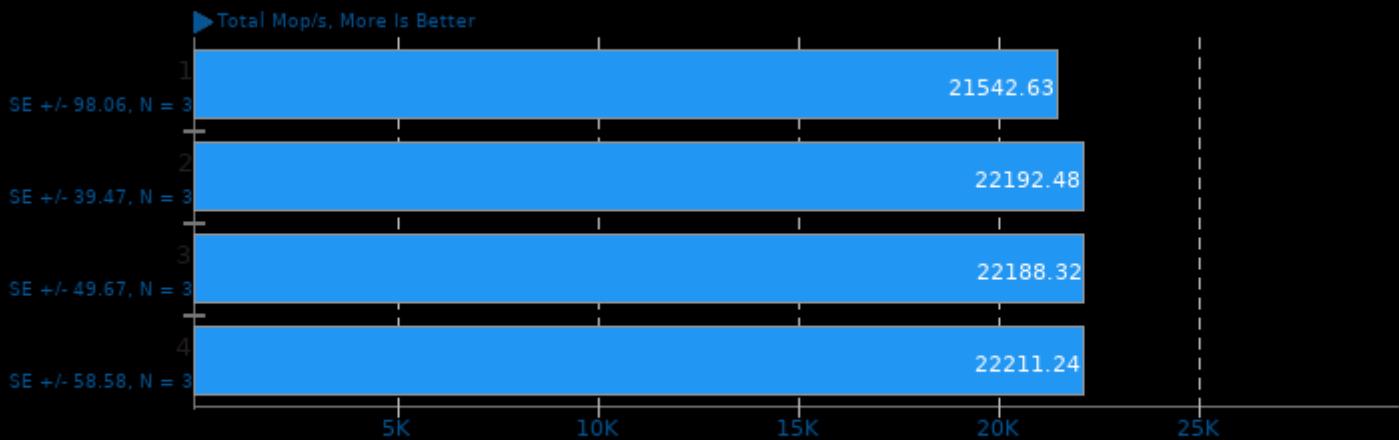
Model: super-resolution-10 - Device: OpenMP CPU



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

## NAS Parallel Benchmarks 3.4

Test / Class: LU.C

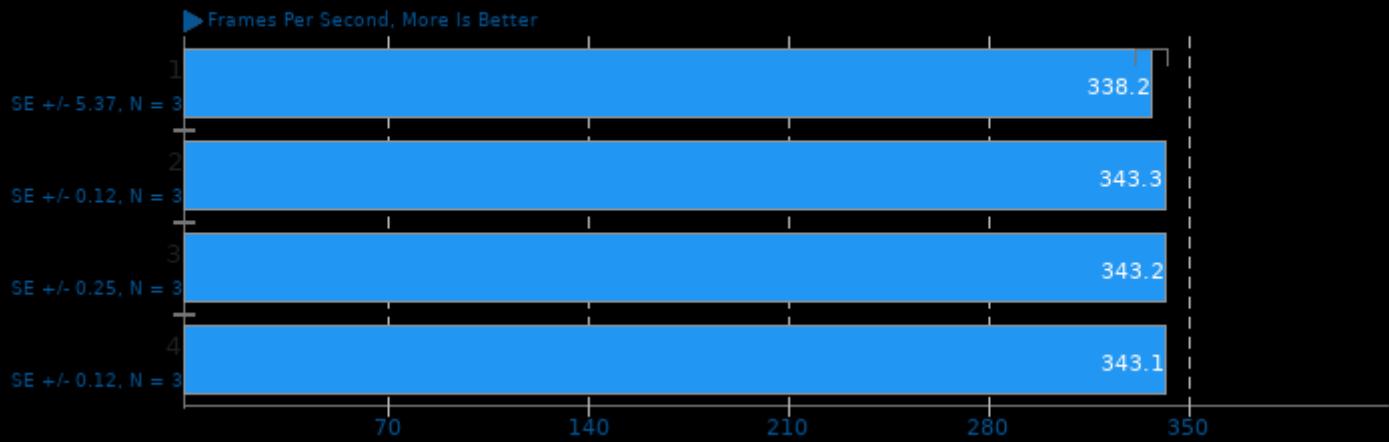


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi\_usempif08 -lmpi\_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent\_pthreads -lutil

2. Open MPI 4.0.3

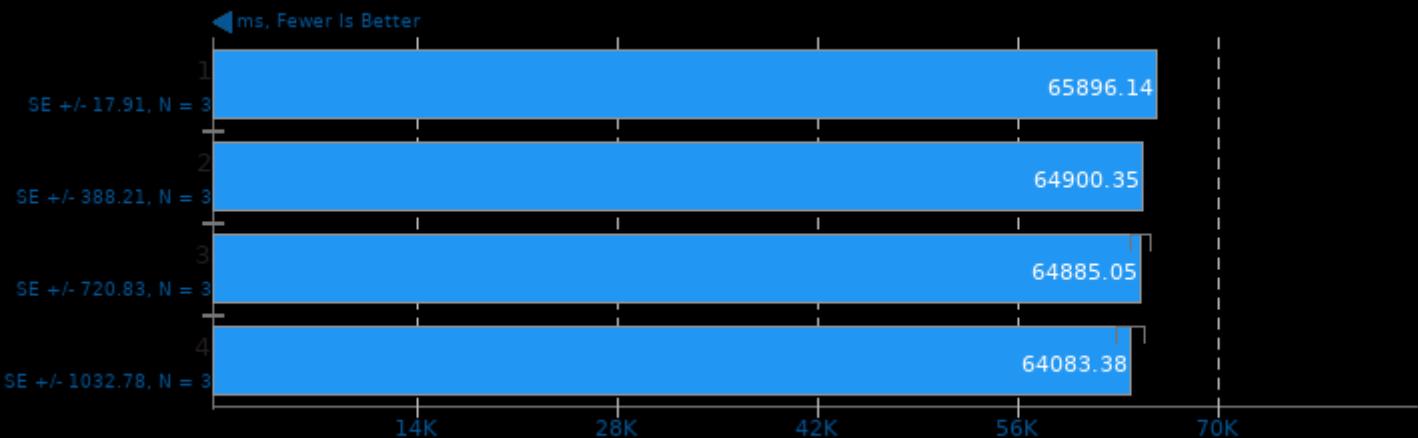
## Warsow 2.5 Beta

Resolution: 1920 x 1080



**FinanceBench 2016-07-25**

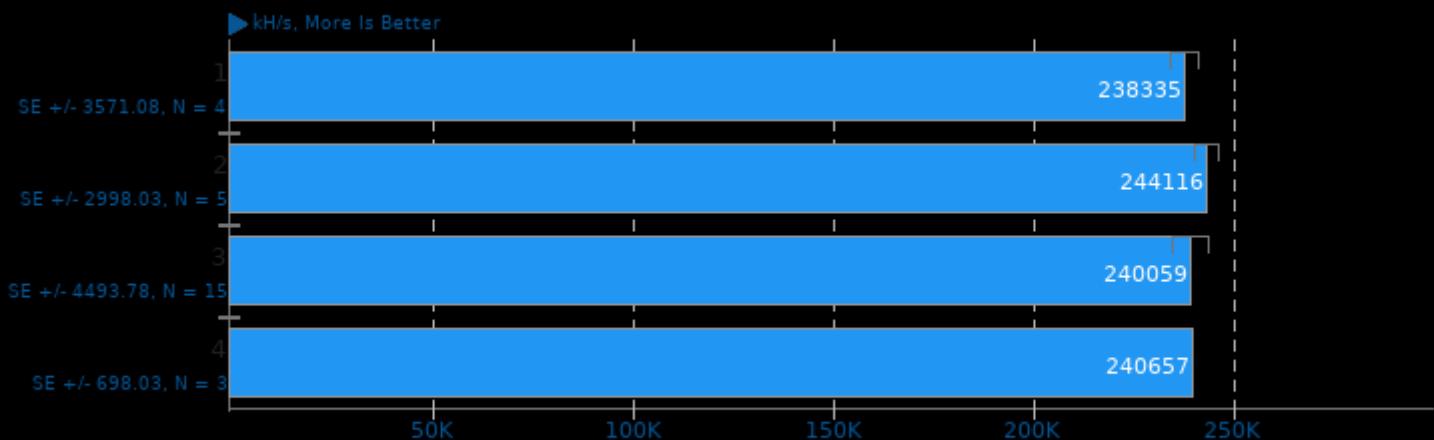
Benchmark: Bonds OpenMP



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

**Cpuminer-Opt 3.15.5**

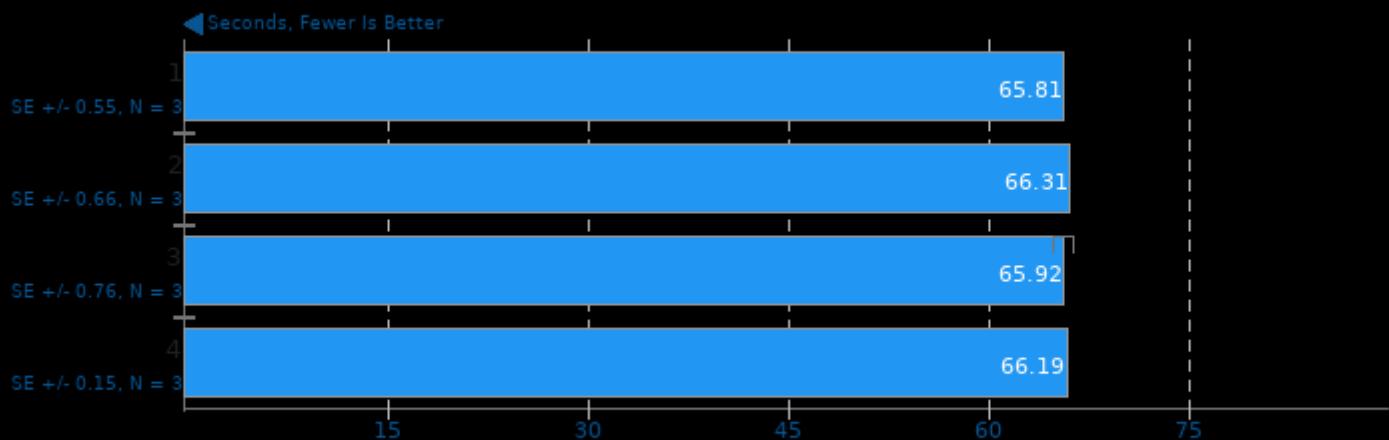
Algorithm: Blake-2 S



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

## GnuPG 2.2.27

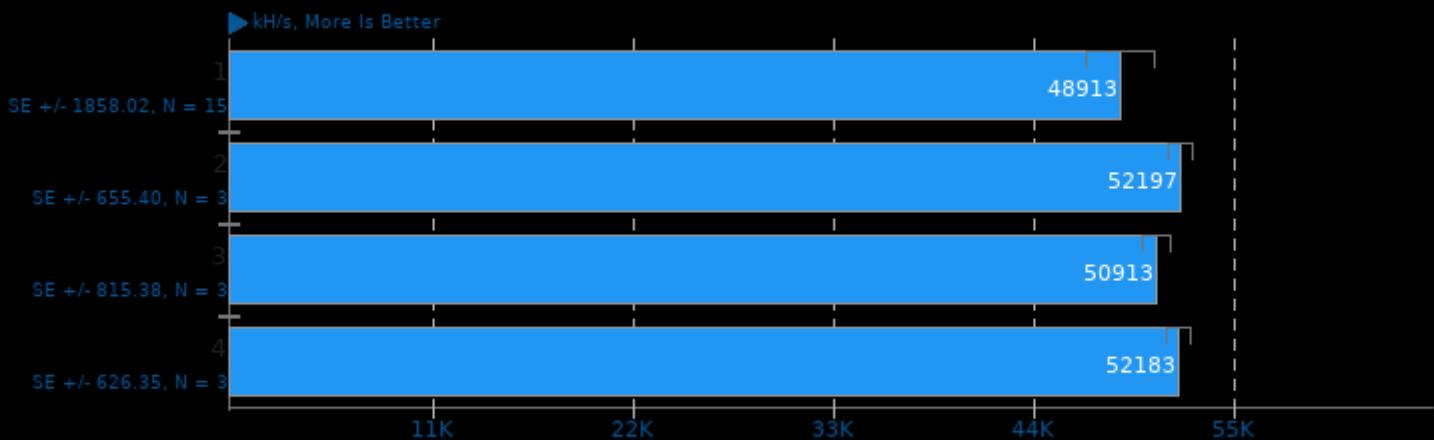
2.7GB Sample File Encryption



1. (CC) gcc options: -O2

## Cpuminer-Opt 3.15.5

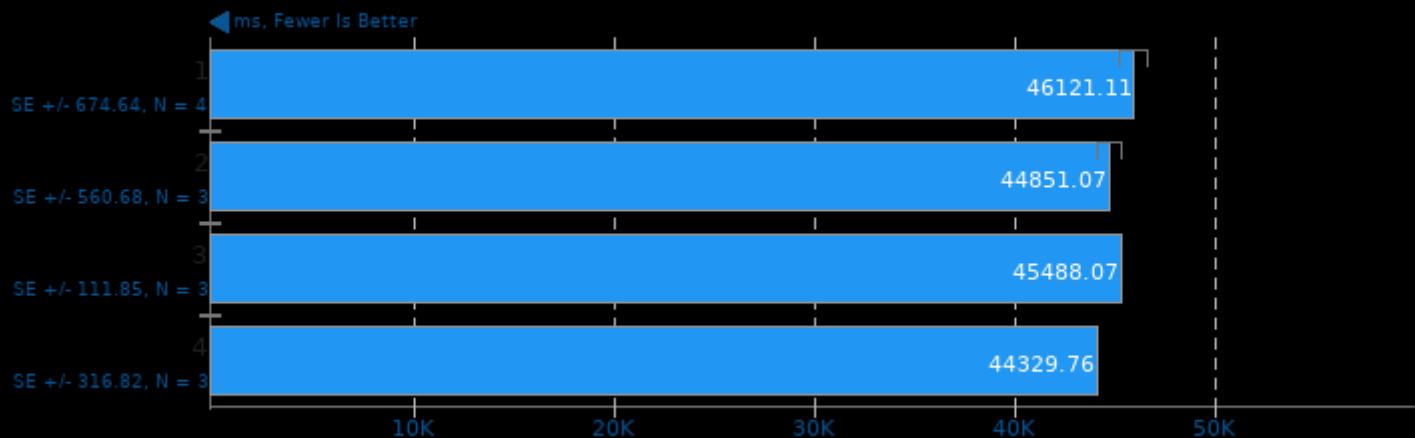
Algorithm: Quad SHA-256, Pyrite



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

## FinanceBench 2016-07-25

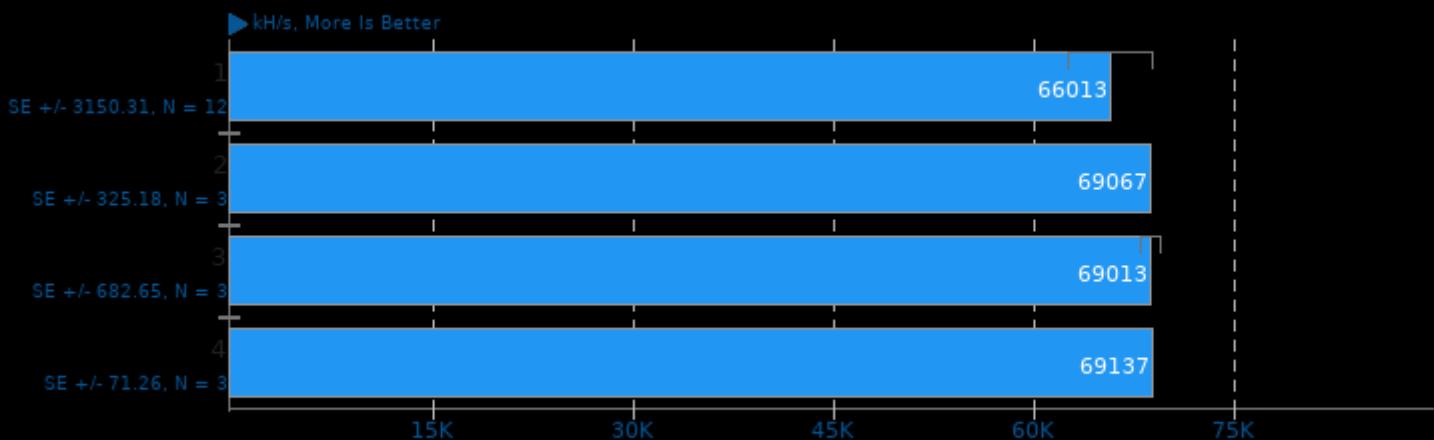
Benchmark: Repo OpenMP



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

## Cpuminer-Opt 3.15.5

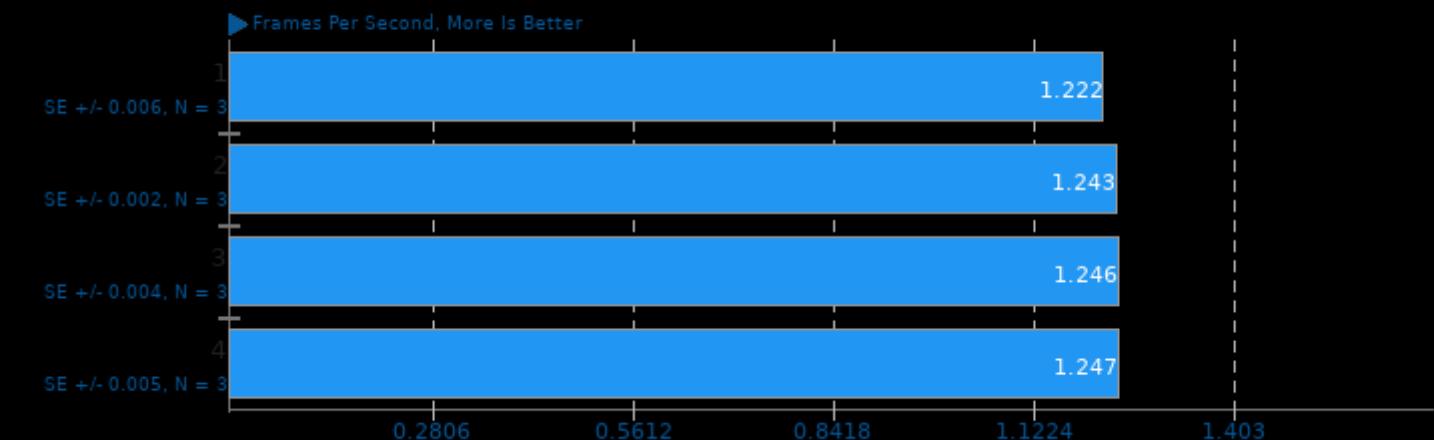
Algorithm: Triple SHA-256, Onecoin



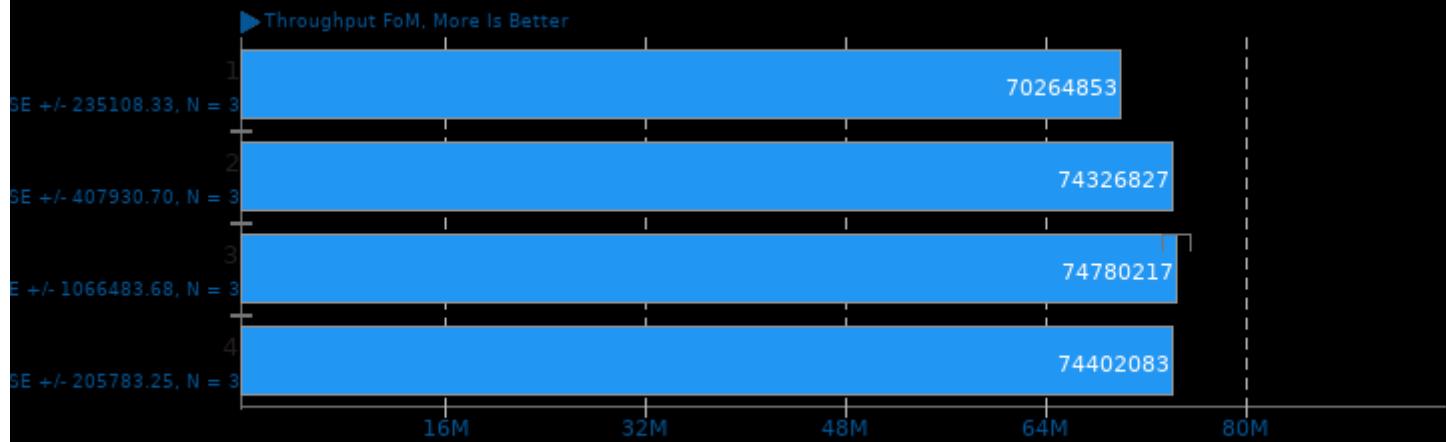
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

## rav1e 0.4

Speed: 5



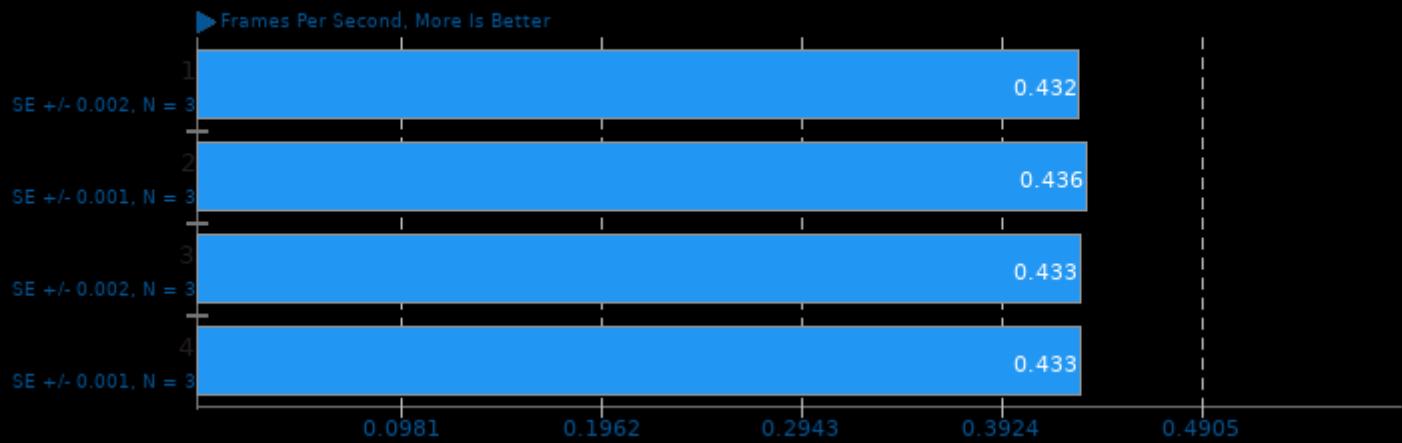
## Kripke 1.2.4



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

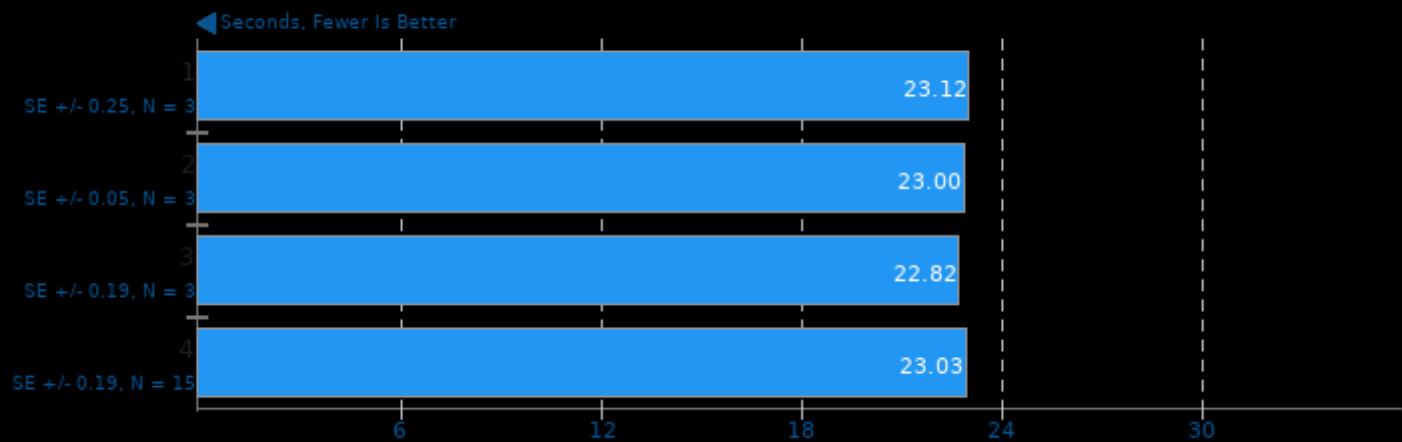
## ravle 0.4

Speed: 1



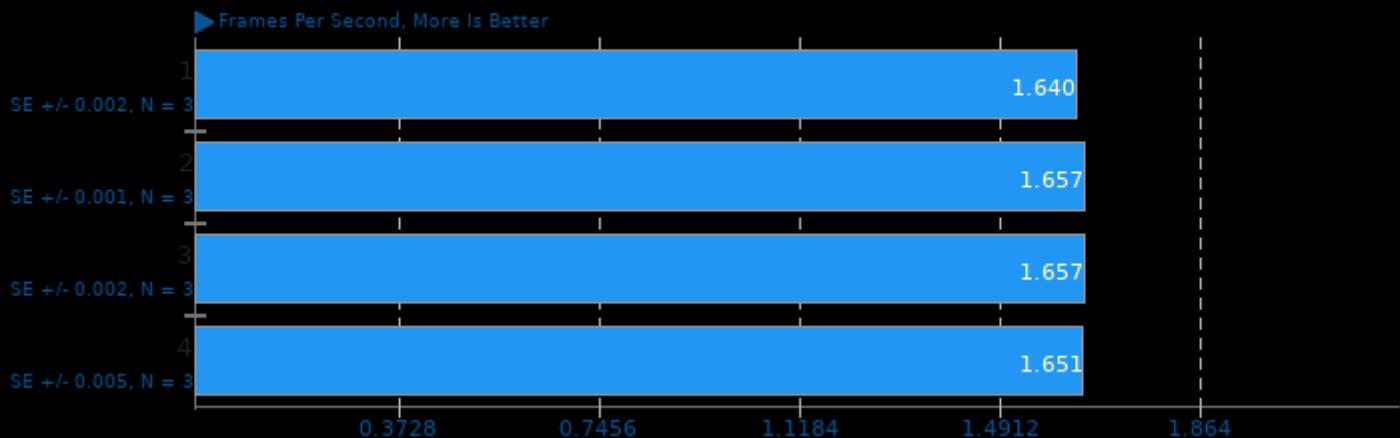
## Cython Benchmark 0.29.21

Test: N-Queens

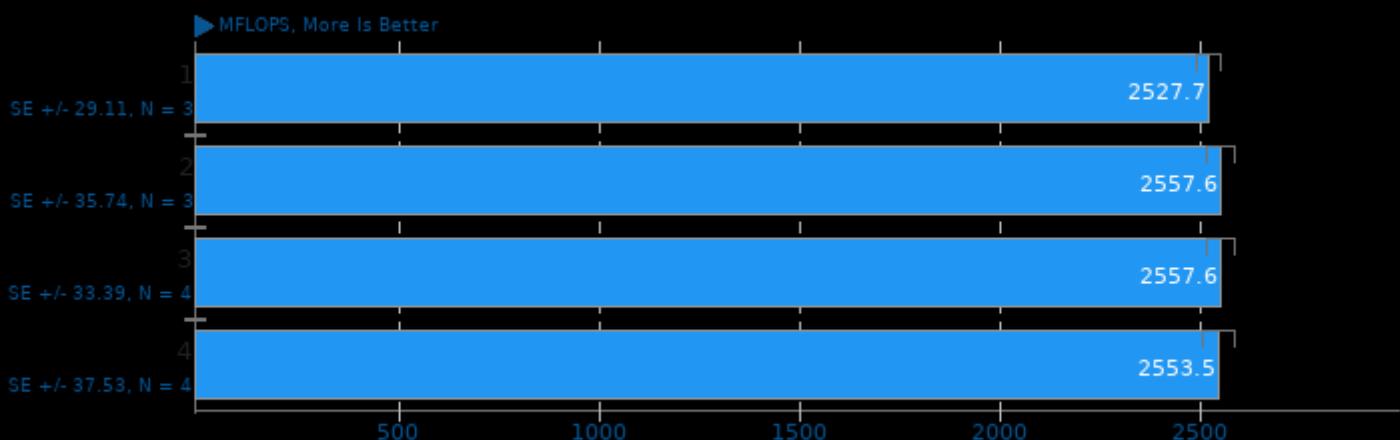


## rav1e 0.4

Speed: 6



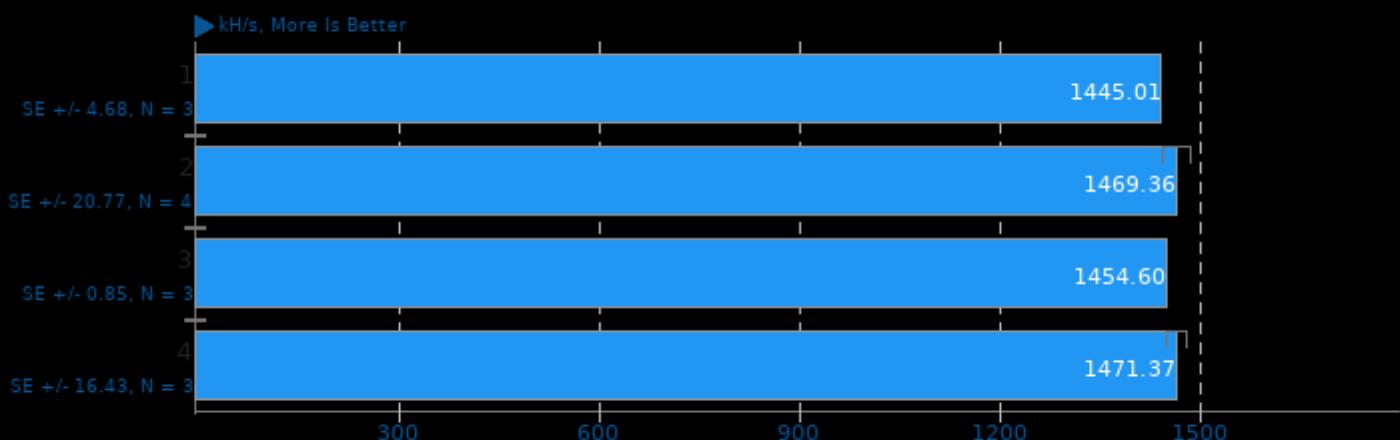
## QuantLib 1.21



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

## Cpuminer-Opt 3.15.5

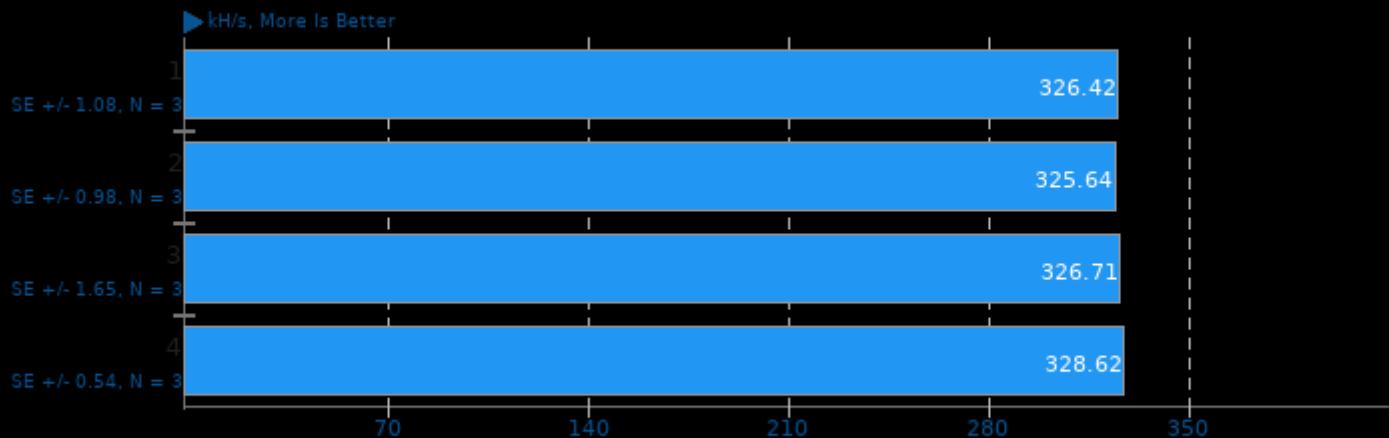
Algorithm: Ringcoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

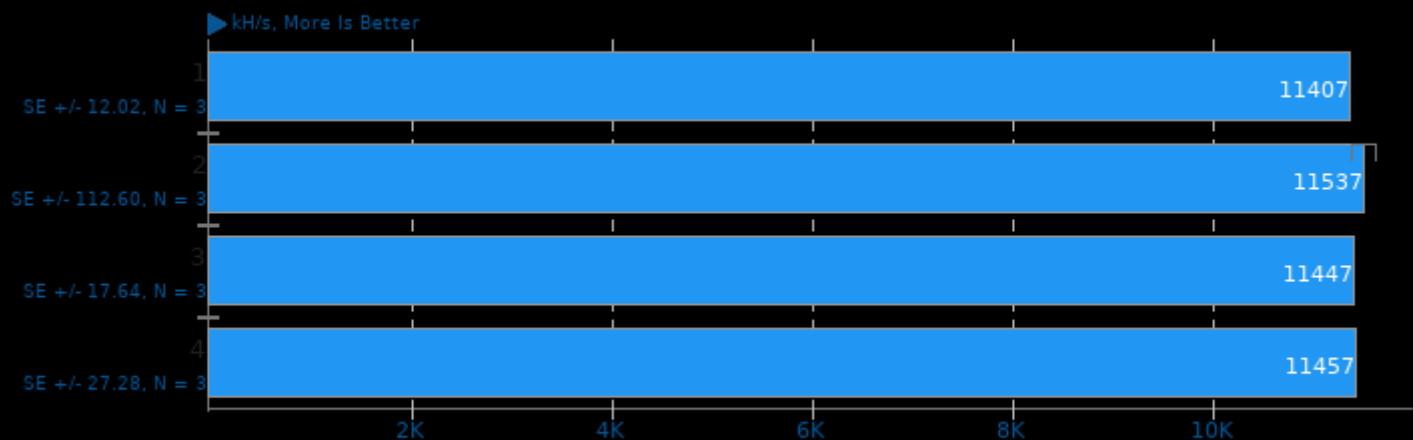
Algorithm: Magi



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

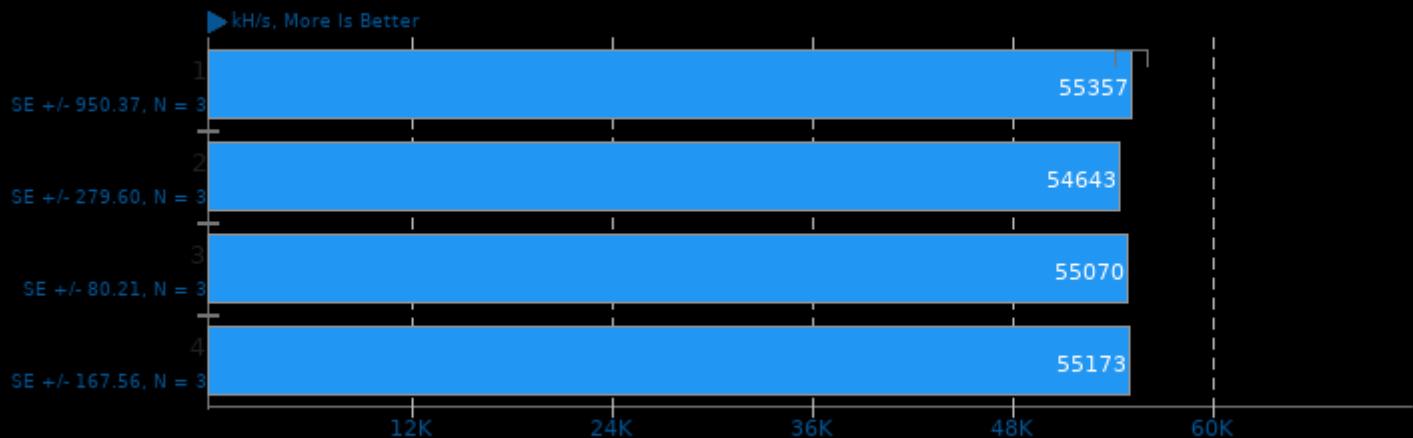
Algorithm: Myriad-Groestl



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

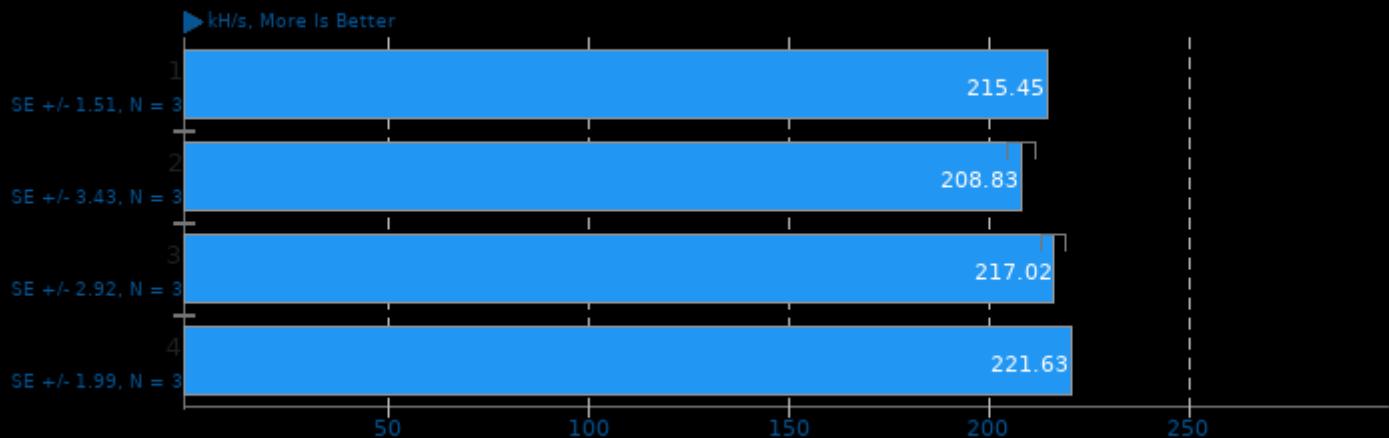
Algorithm: Skeincoin



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

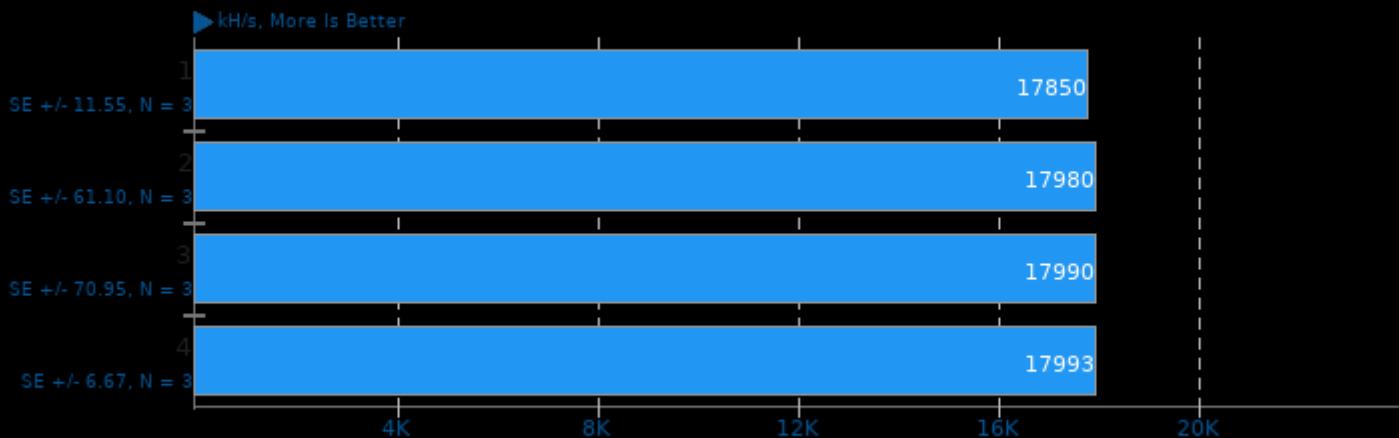
Algorithm: x25x



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

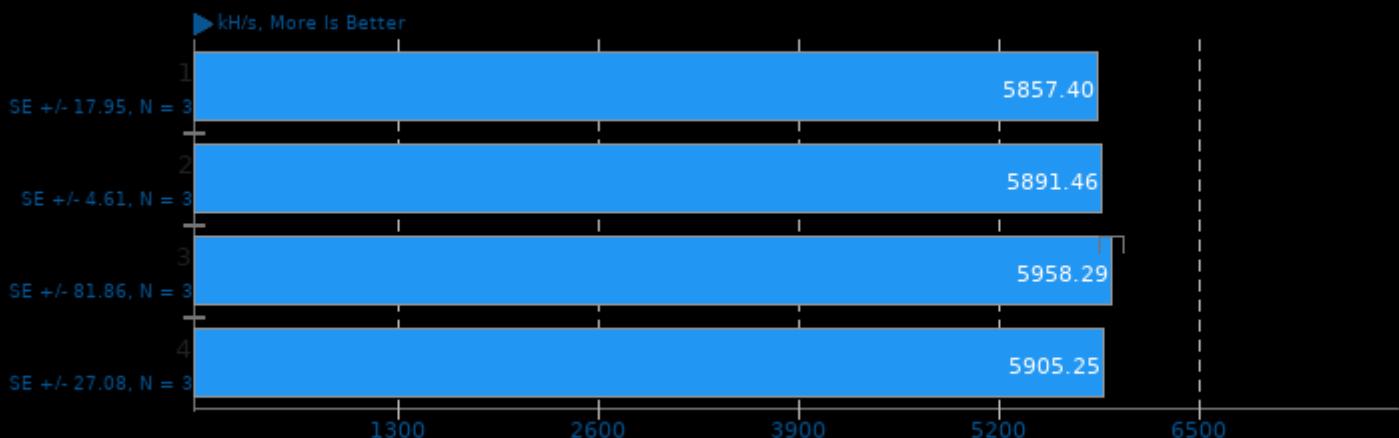
Algorithm: LBC, LBRY Credits



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

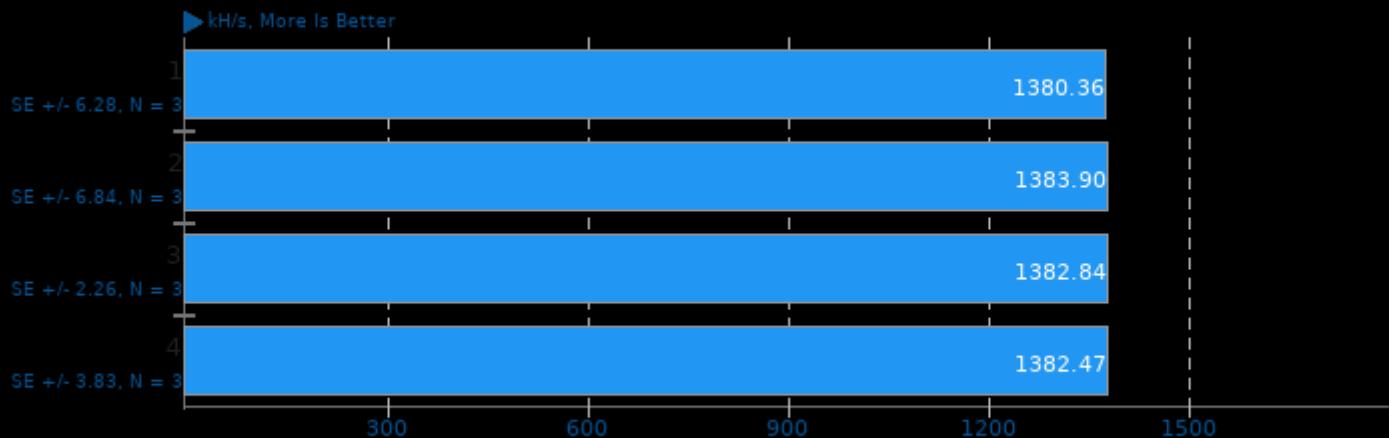
Algorithm: Deepcoin



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

## Cpuminer-Opt 3.15.5

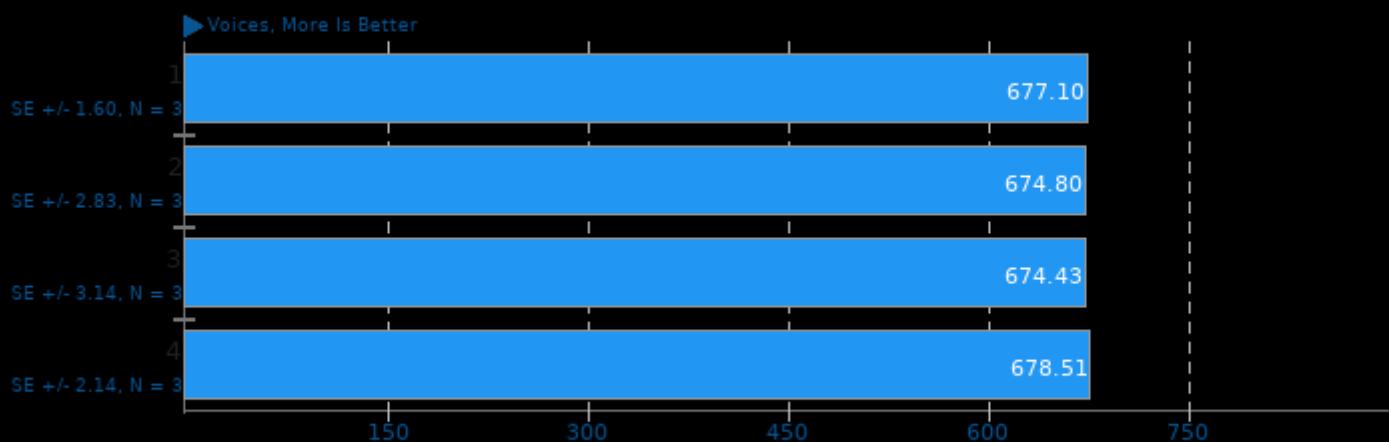
Algorithm: Garlicoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

## Google SynthMark 20201109

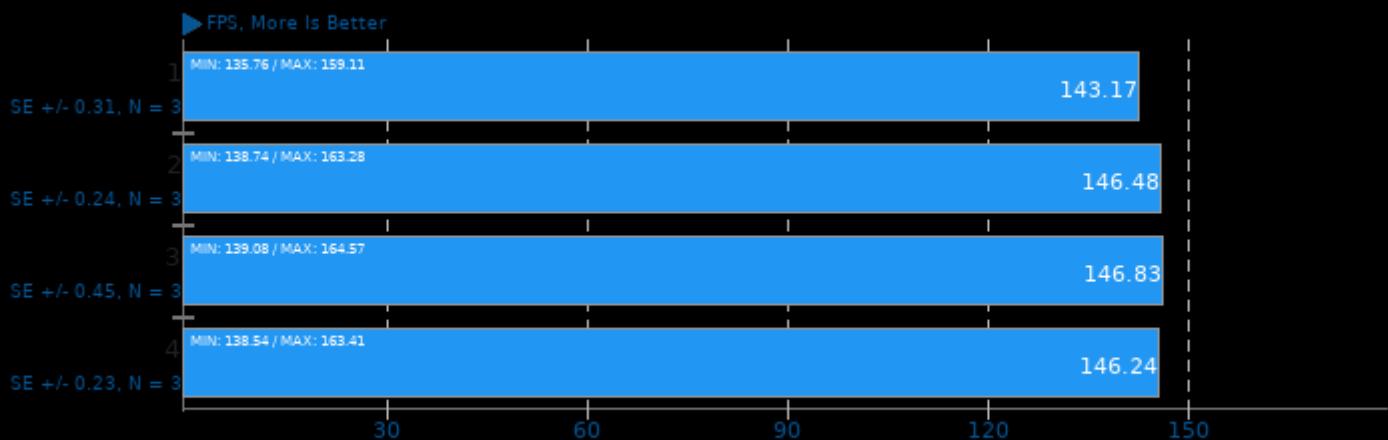
Test: VoiceMark\_100



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

**dav1d 0.8.1**

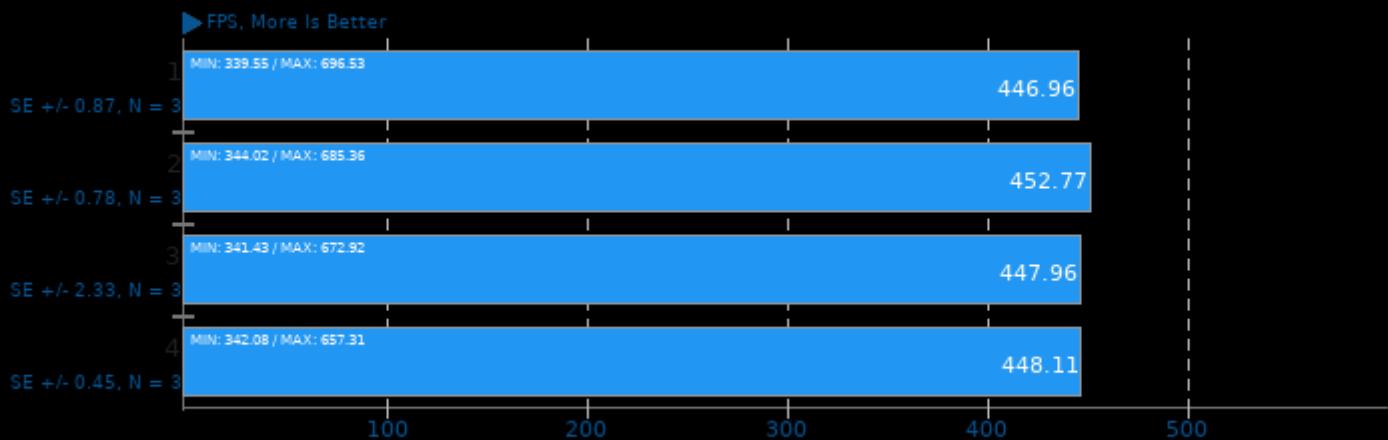
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

**dav1d 0.8.1**

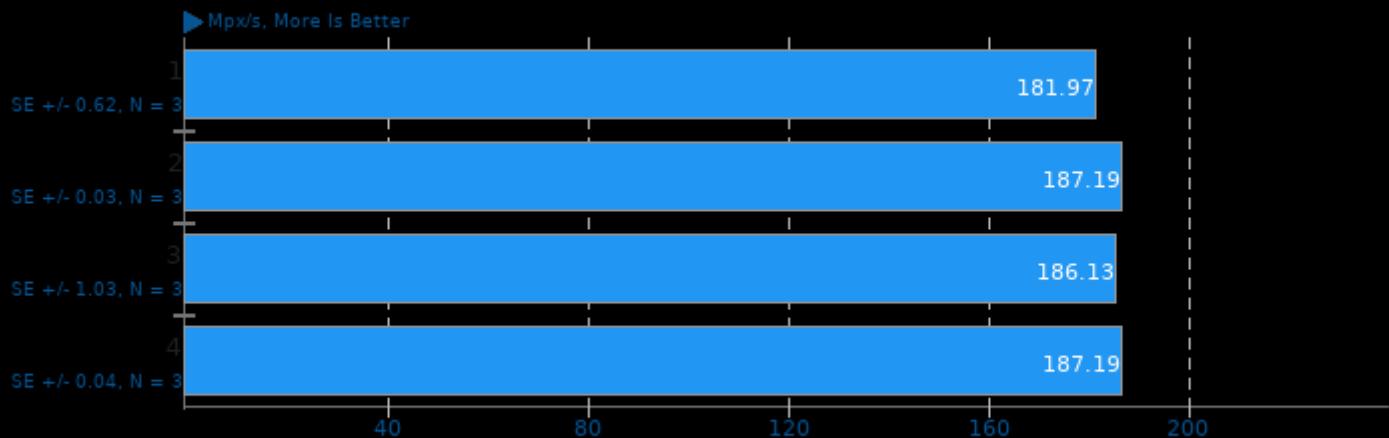
Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

## EtcPak 0.7

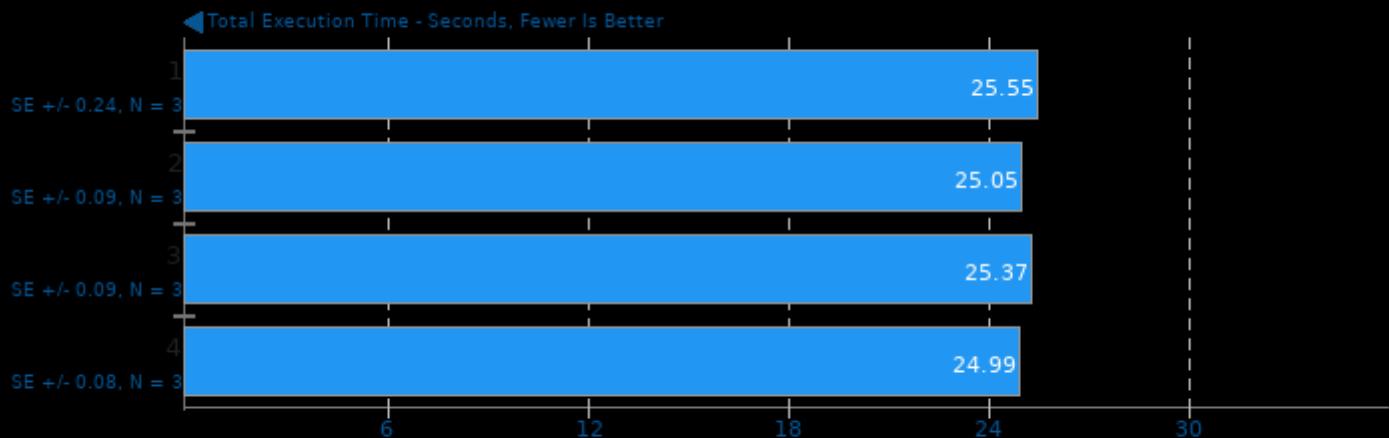
Configuration: ETC2



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

## QMCPACK 3.10

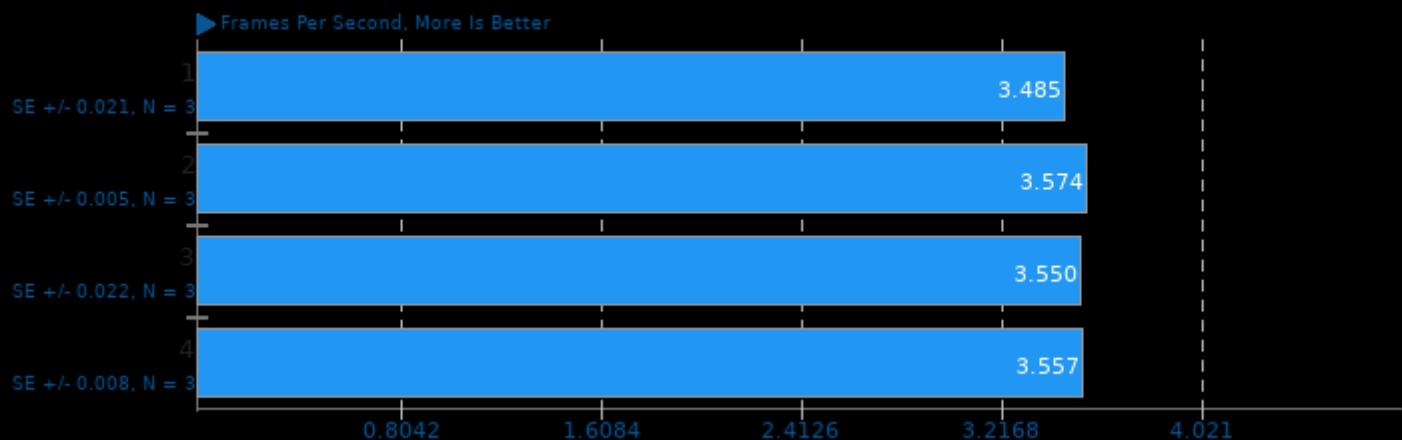
Input: simple-H2O



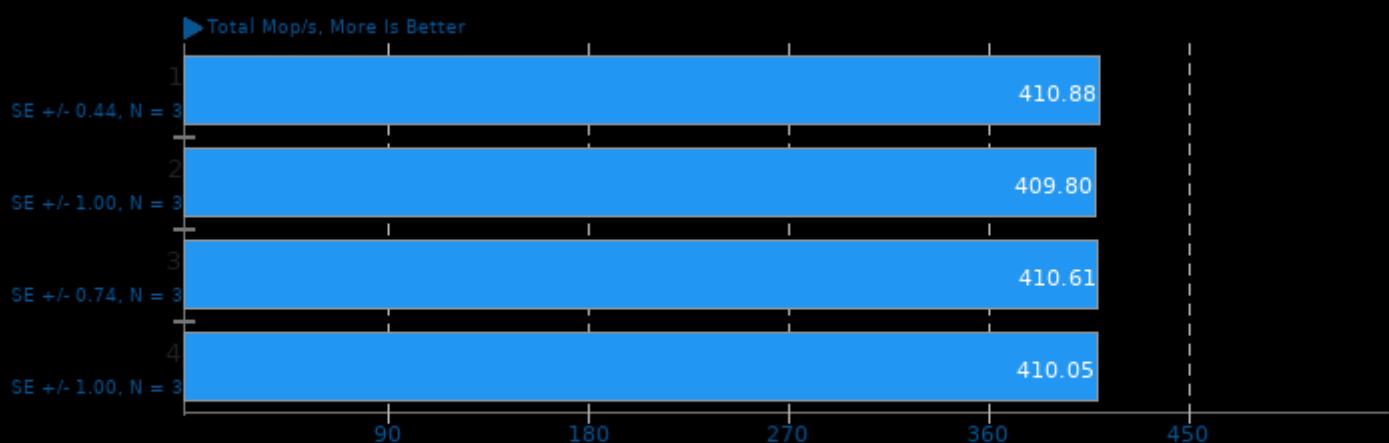
1. (CXX) g++ options: -fopenmp -finline-limit=1000 -fstrict-aliasing -funroll-all-loops -march=native -O3 -fomit-frame-pointer -ffast-math -pthread -lm

**ravle 0.4**

Speed: 10

**NAS Parallel Benchmarks 3.4**

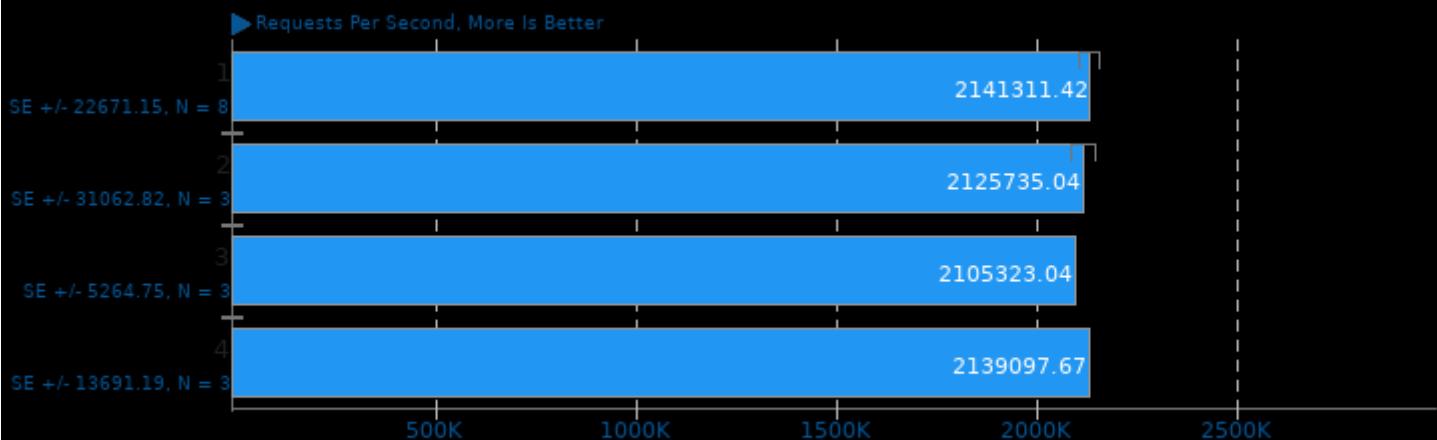
Test / Class: EP.C



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

## Redis 6.0.9

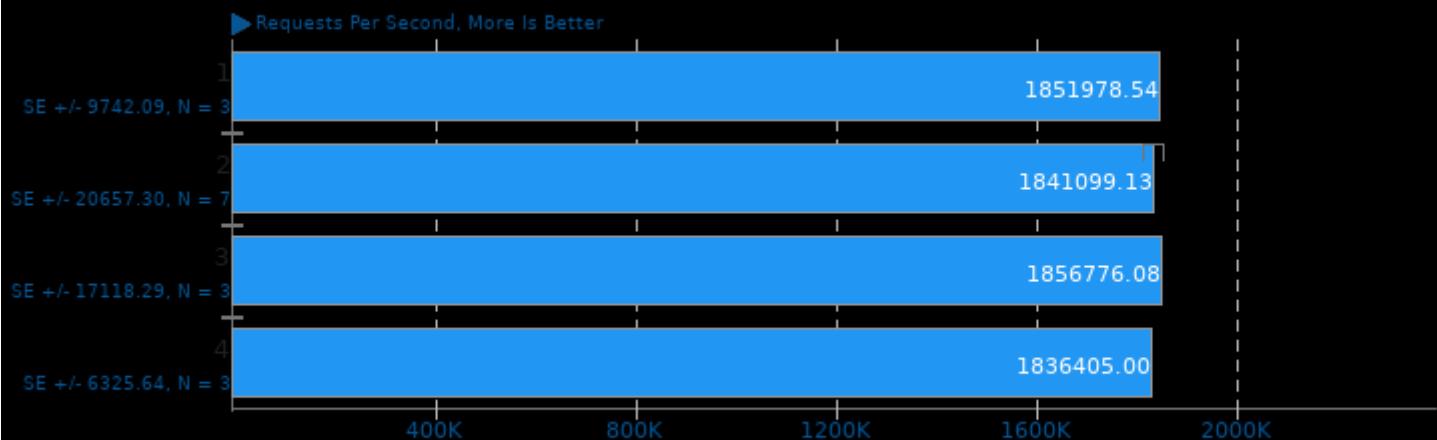
Test: SADD



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

## Redis 6.0.9

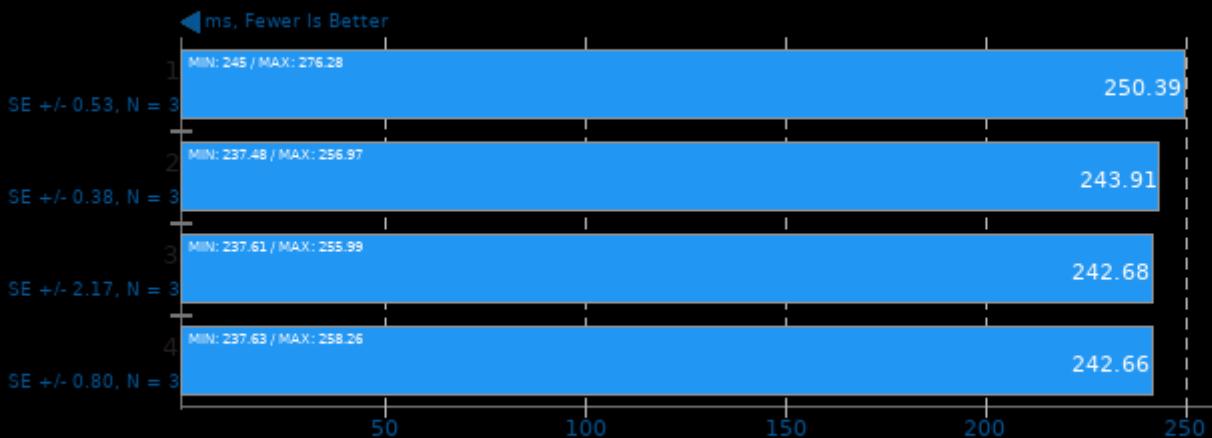
Test: SET



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

## TNN 0.2.3

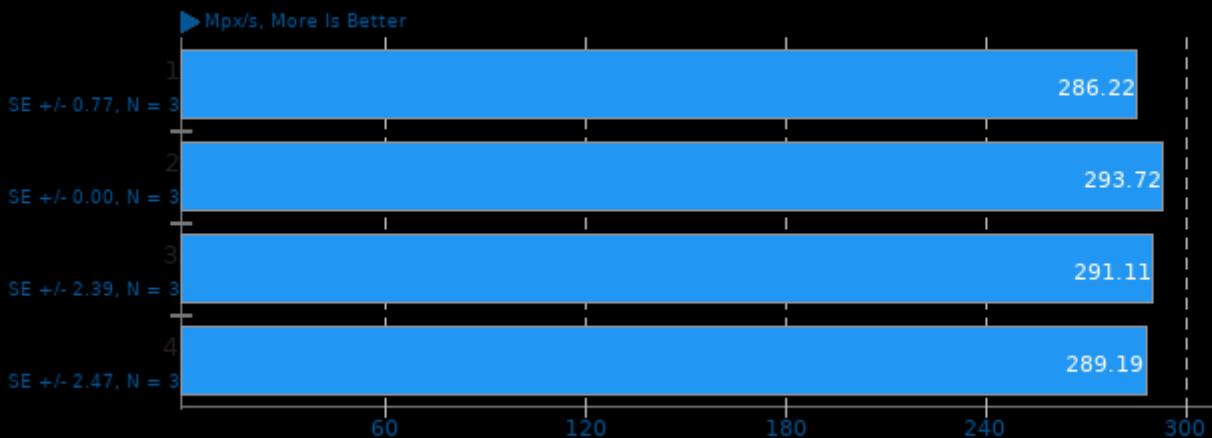
Target: CPU - Model: MobileNet v2



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

## EtcPak 0.7

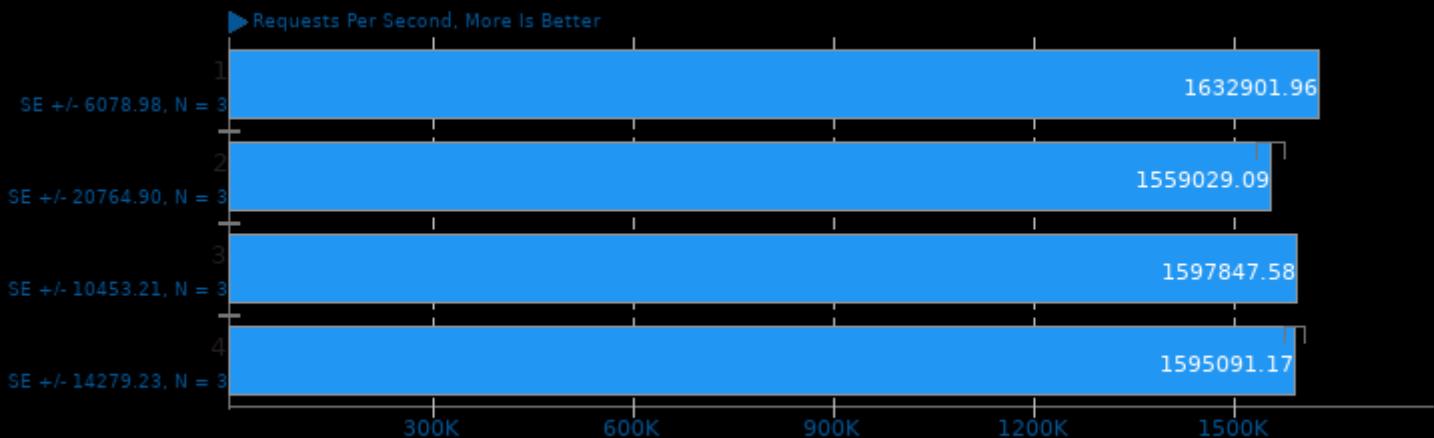
Configuration: ETC1 + Dithering



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

## Redis 6.0.9

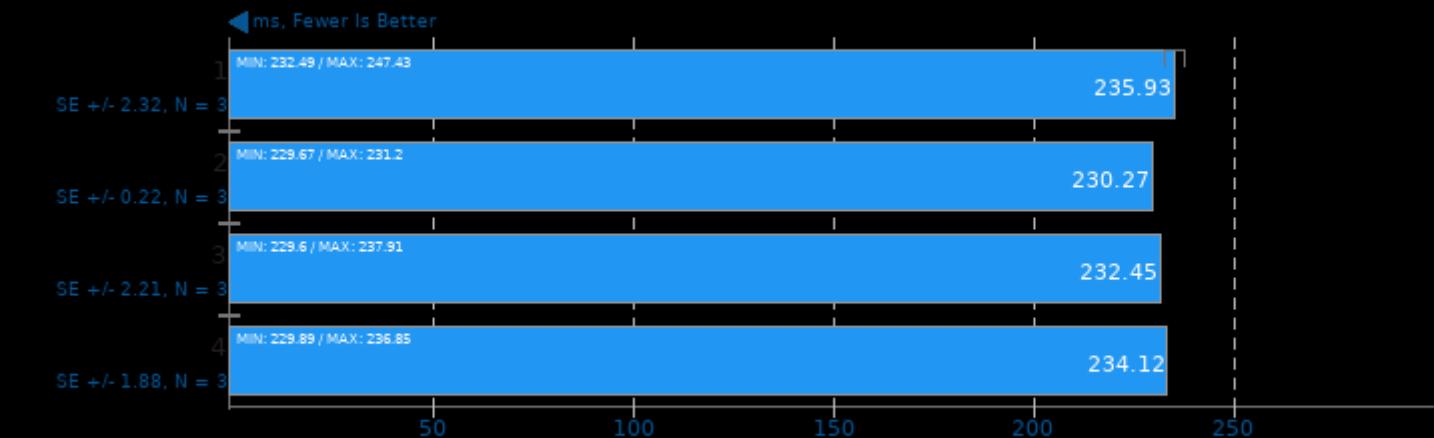
Test: LPUSH



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

## TNN 0.2.3

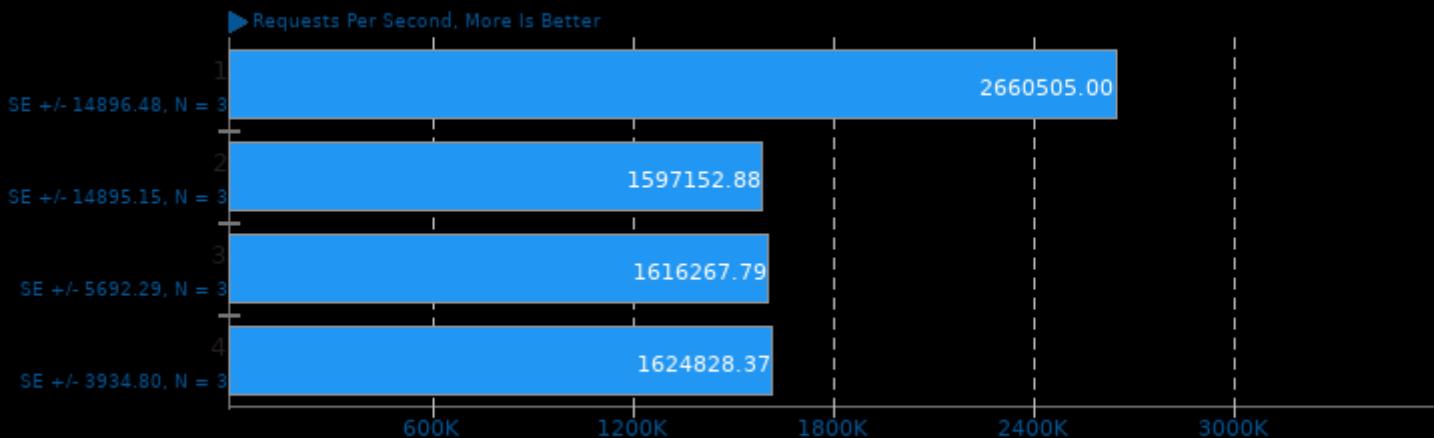
Target: CPU - Model: SqueezeNet v1.1



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

## Redis 6.0.9

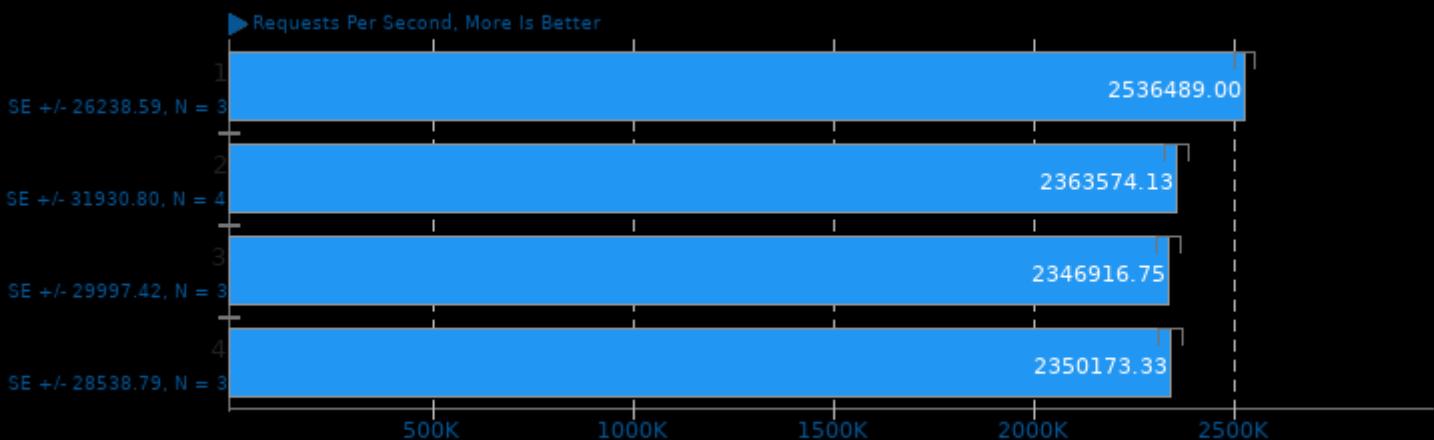
Test: LPOP



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

## Redis 6.0.9

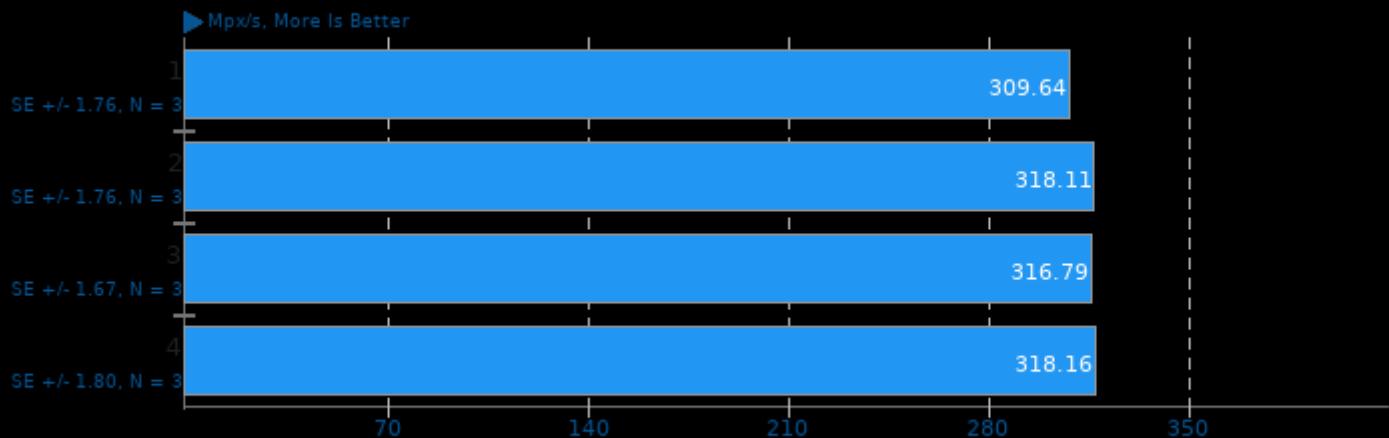
Test: GET



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

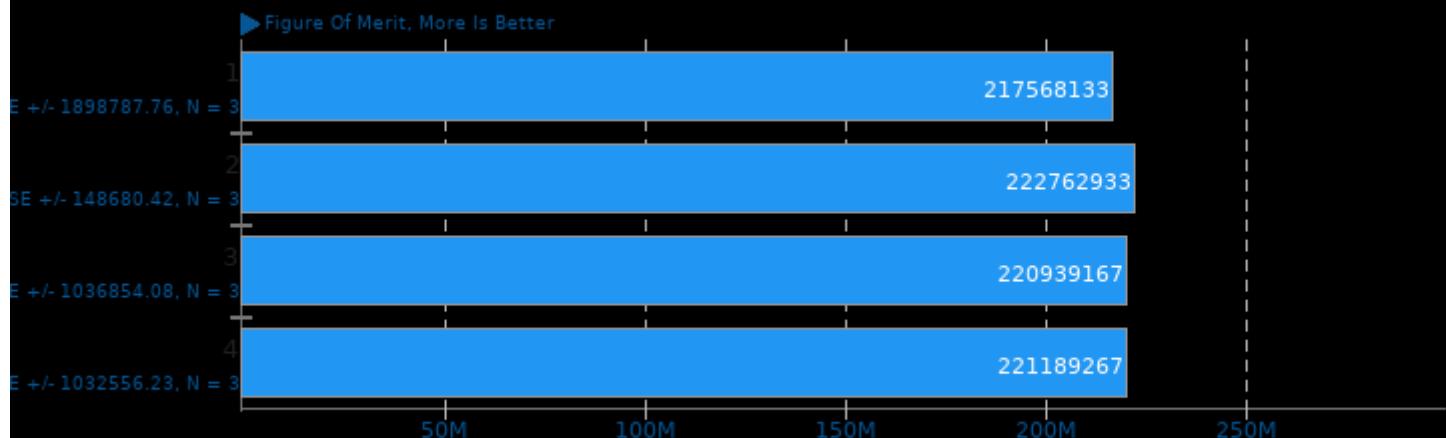
## EtcPak 0.7

Configuration: ETC1



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

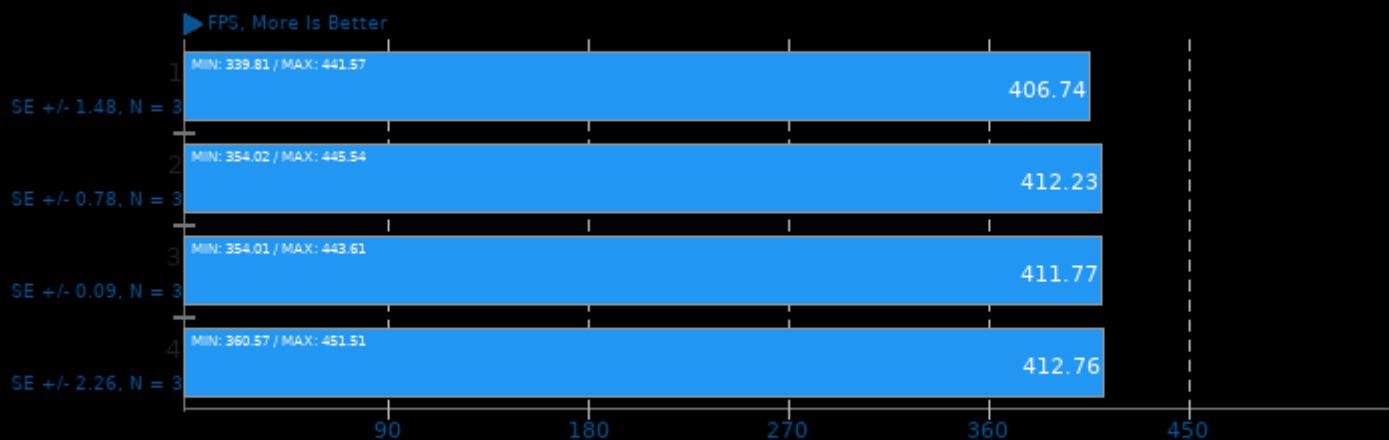
## Algebraic Multi-Grid Benchmark 1.2



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

**dav1d 0.8.1**

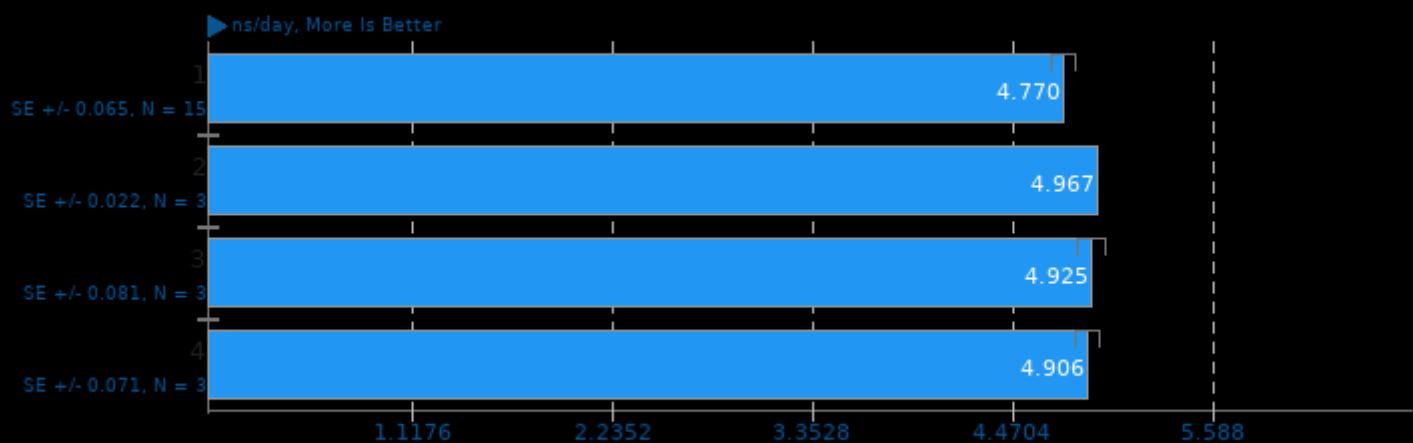
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

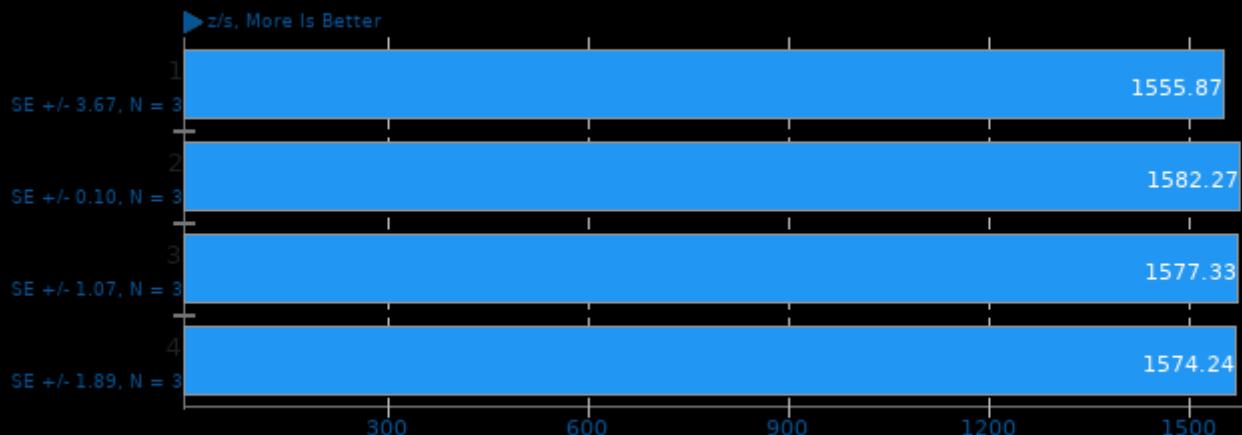
**LAMMPS Molecular Dynamics Simulator 29Oct2020**

Model: Rhodopsin Protein



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

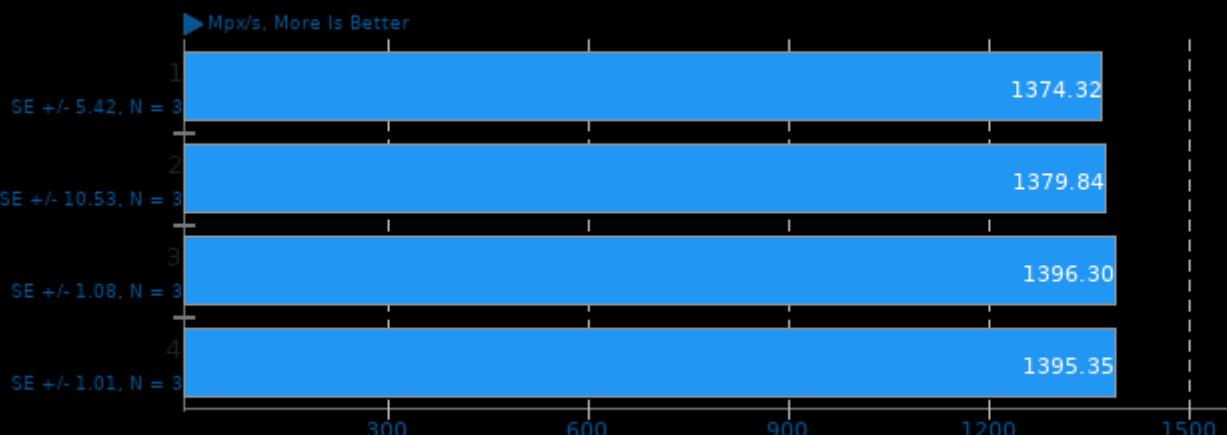
## LULESH 2.0.3



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

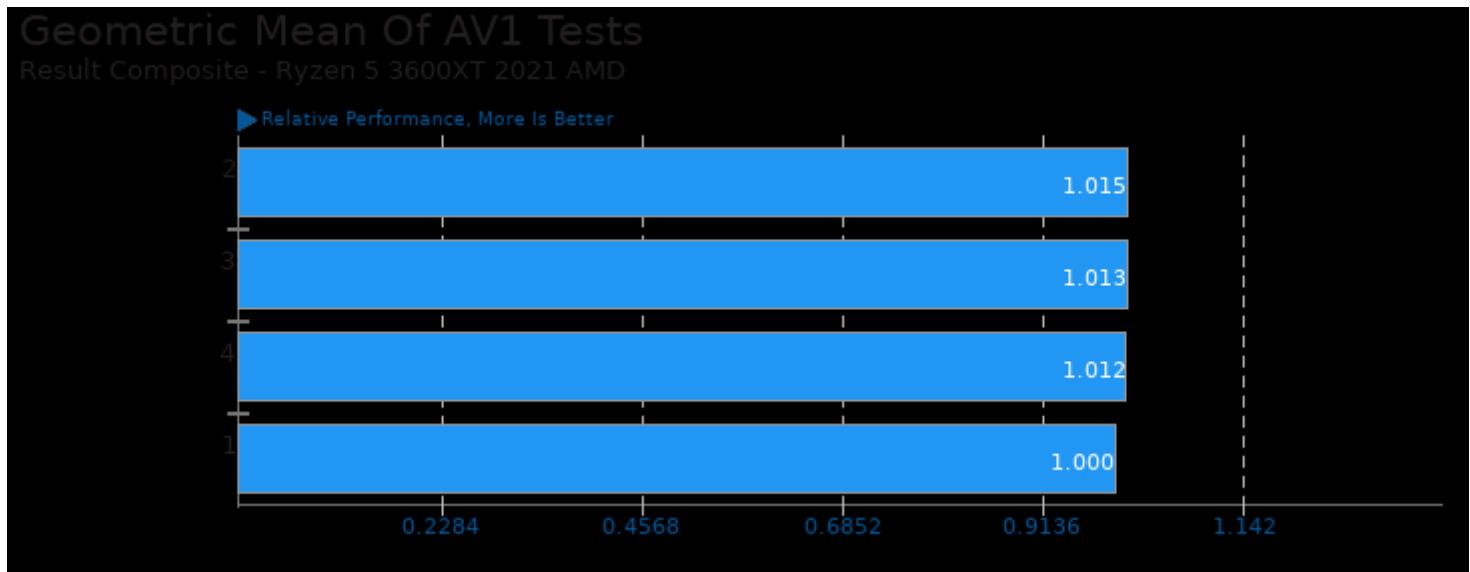
## EtcPak 0.7

Configuration: DXT1

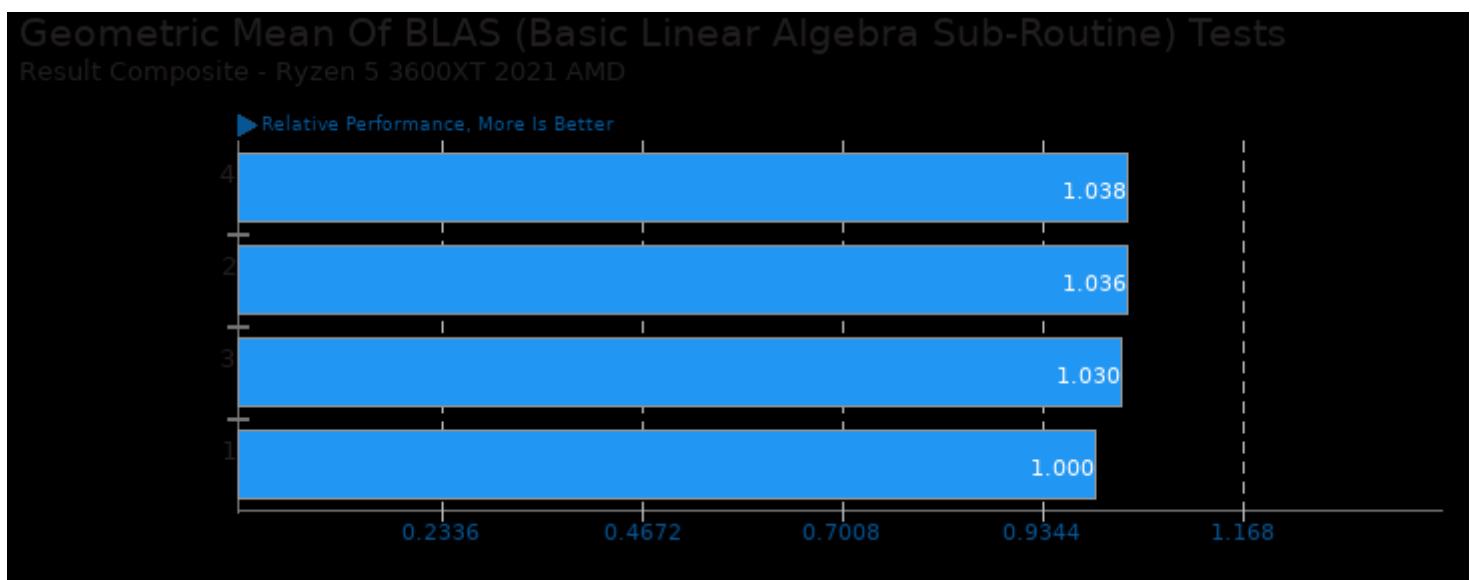


1. (CXX) g++ options: -O3 -march=native -std=c++11 -pthread

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



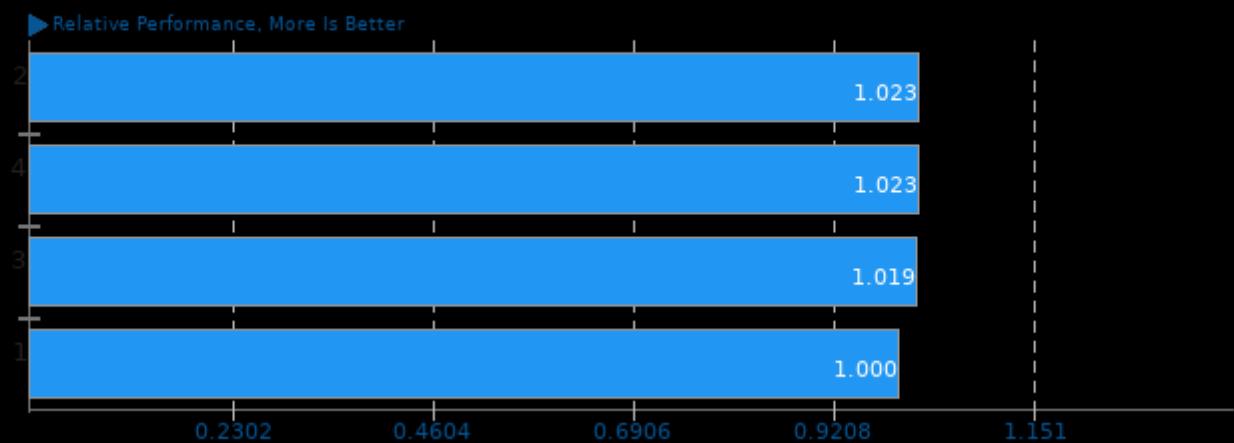
Geometric mean based upon tests: pts/dav1d and pts/rav1e



Geometric mean based upon tests: pts/qe and pts/qmcpack

**Geometric Mean Of C++ Boost Tests**

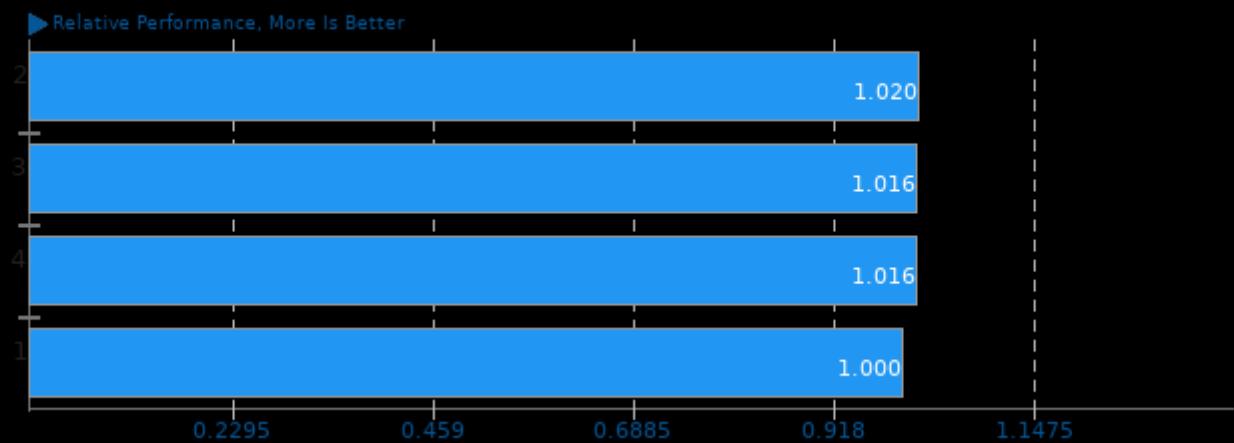
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/openfoam, pts/quantlib and pts/qmcpack

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

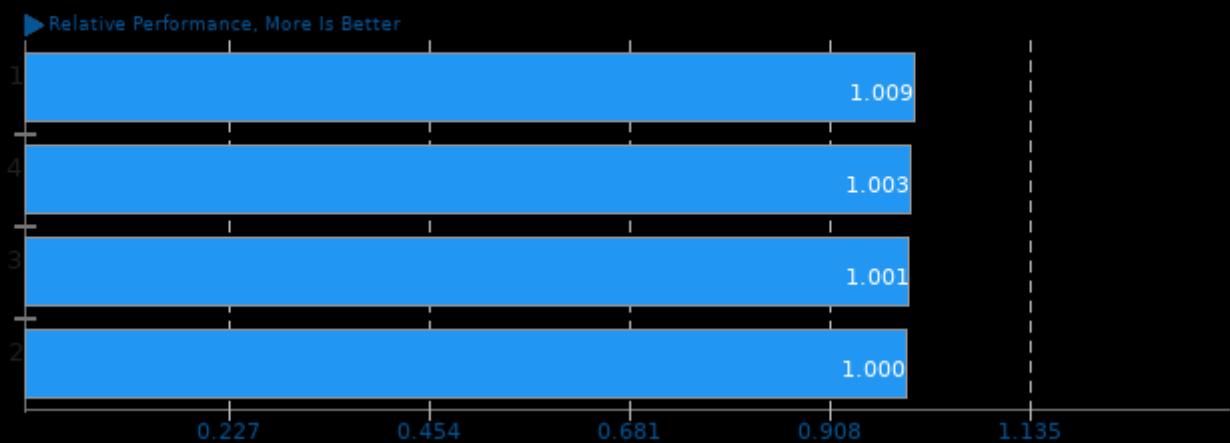
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/dav1d and pts/lammps

**Geometric Mean Of CPU Massive Tests**

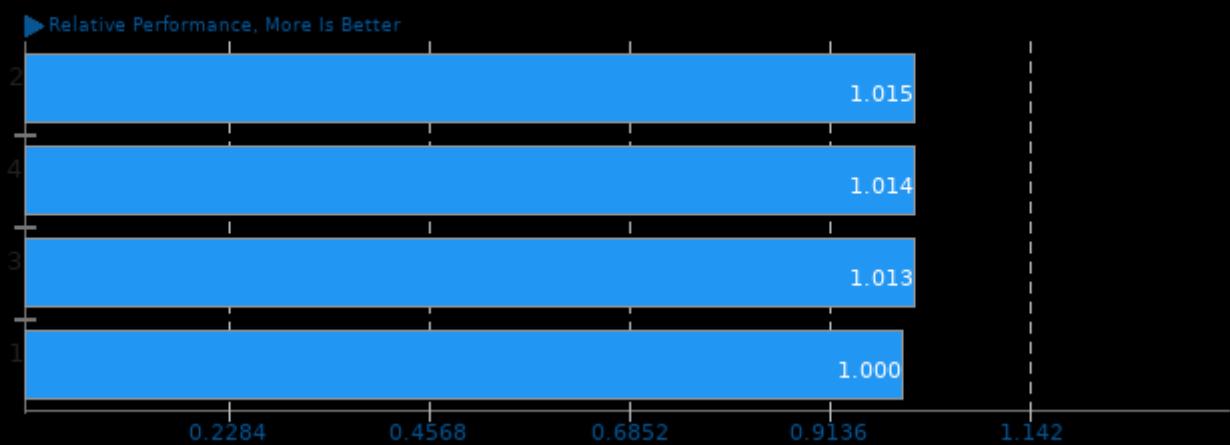
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/cloverleaf, pts/cython-bench, pts/dav1d, pts/lammps, pts/npb, pts/redis and pts/cpuminer-opt

**Geometric Mean Of Creator Workloads Tests**

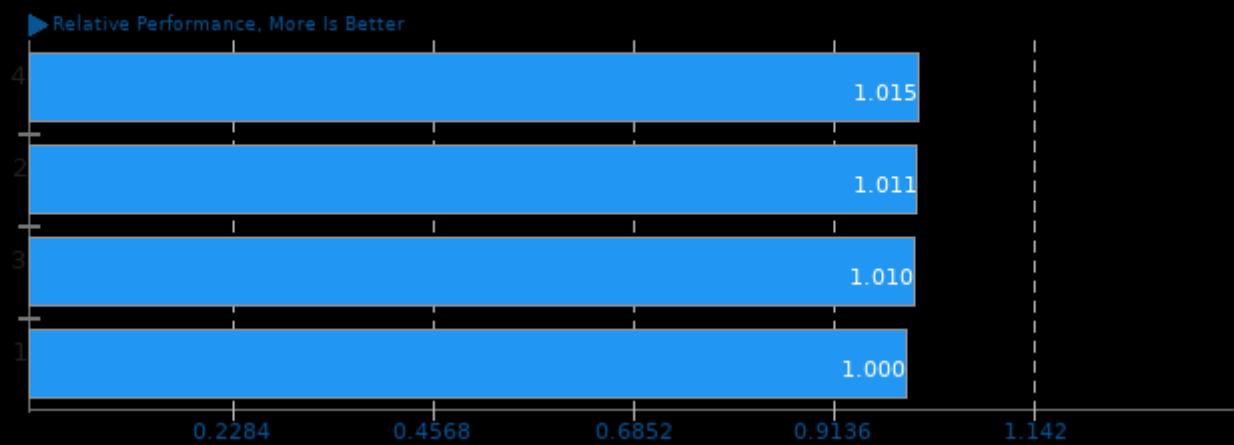
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/dav1d, pts/rav1e, pts/etcpak, pts/build-godot and pts/synthmark

**Geometric Mean Of Cryptography Tests**

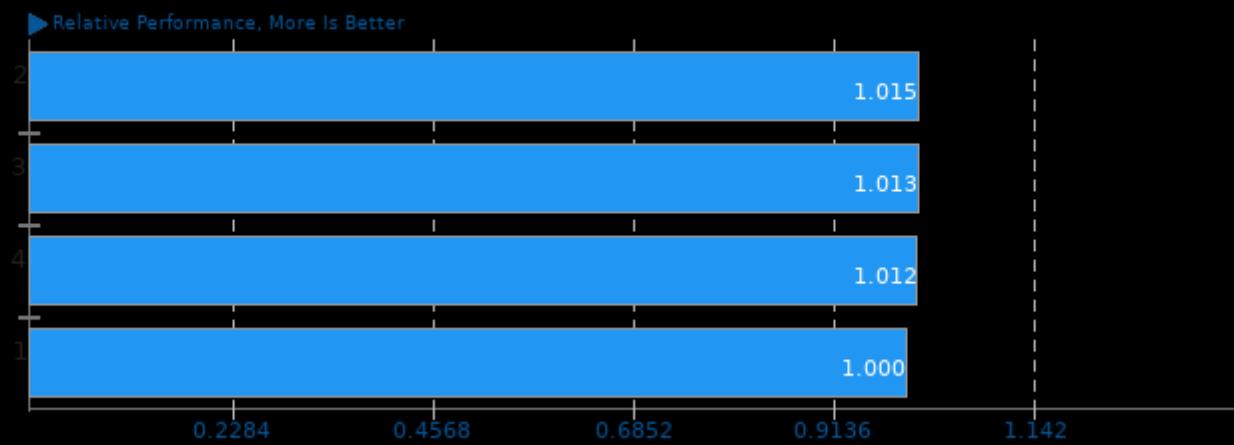
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/gnupg, pts/gcrypt and pts/cpuminer-opt

**Geometric Mean Of Encoding Tests**

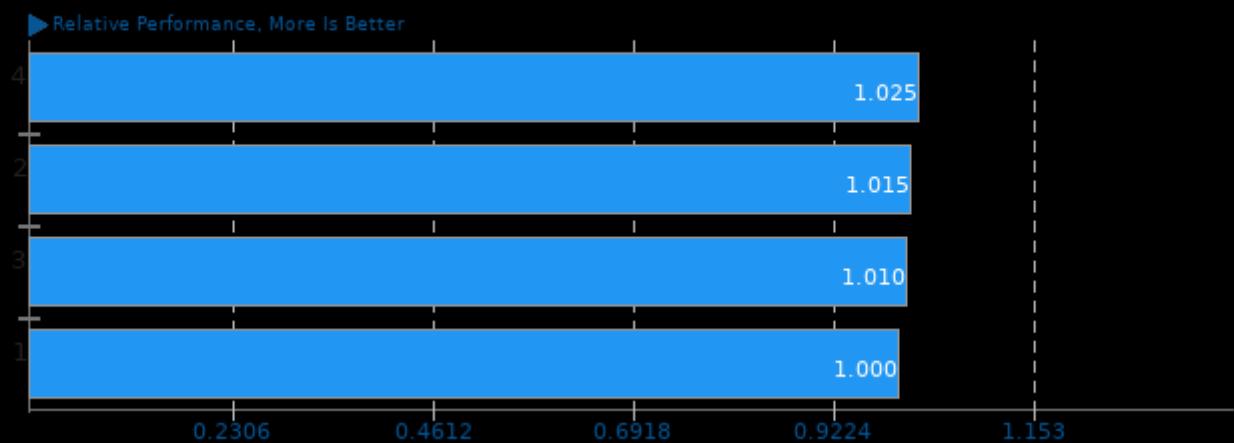
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/dav1d and pts/rav1e

**Geometric Mean Of Finance Tests**

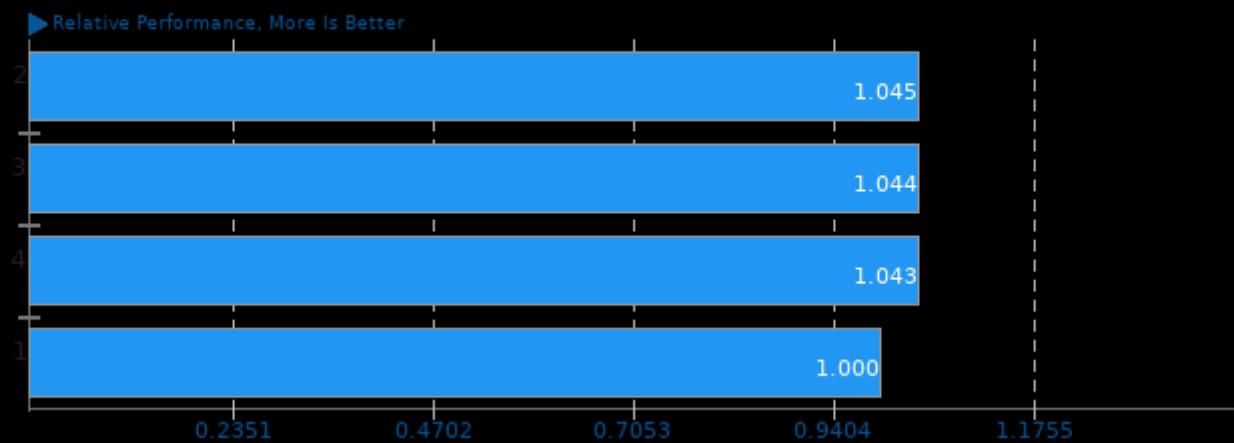
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/financebench and pts/quantlib

**Geometric Mean Of Fortran Tests**

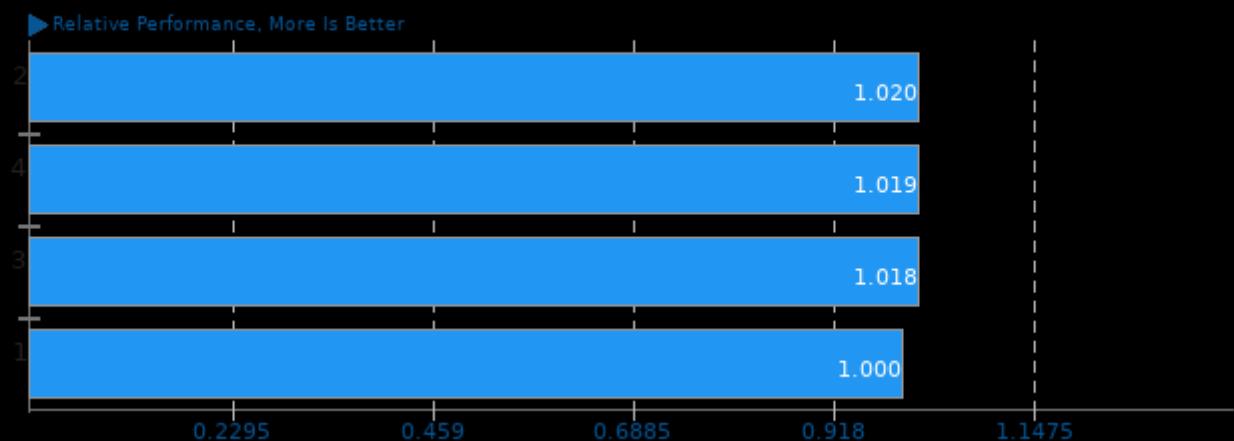
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/qe, pts/npb, pts/cloverleaf and pts/lammps

**Geometric Mean Of Game Development Tests**

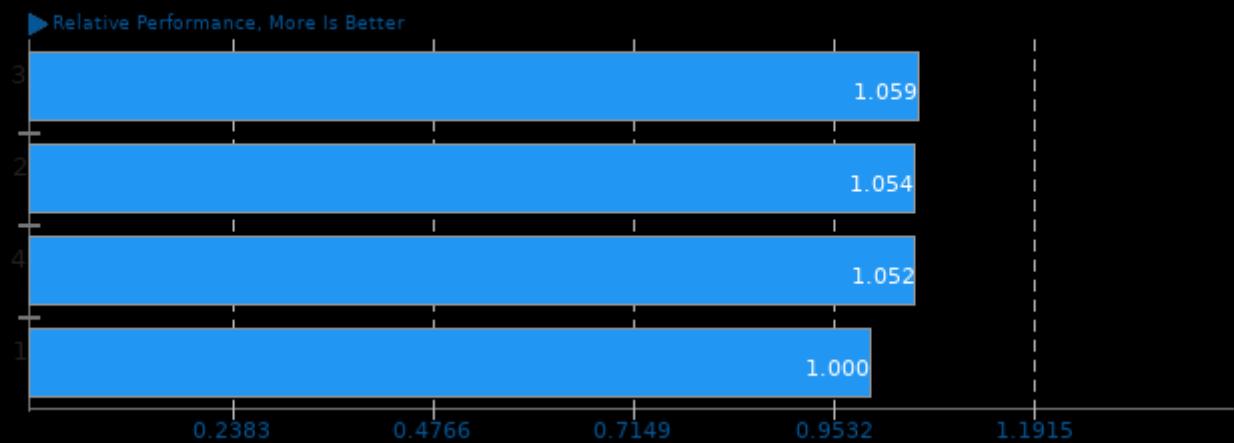
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/etcetak and pts/build-godot

**Geometric Mean Of HPC - High Performance Computing Tests**

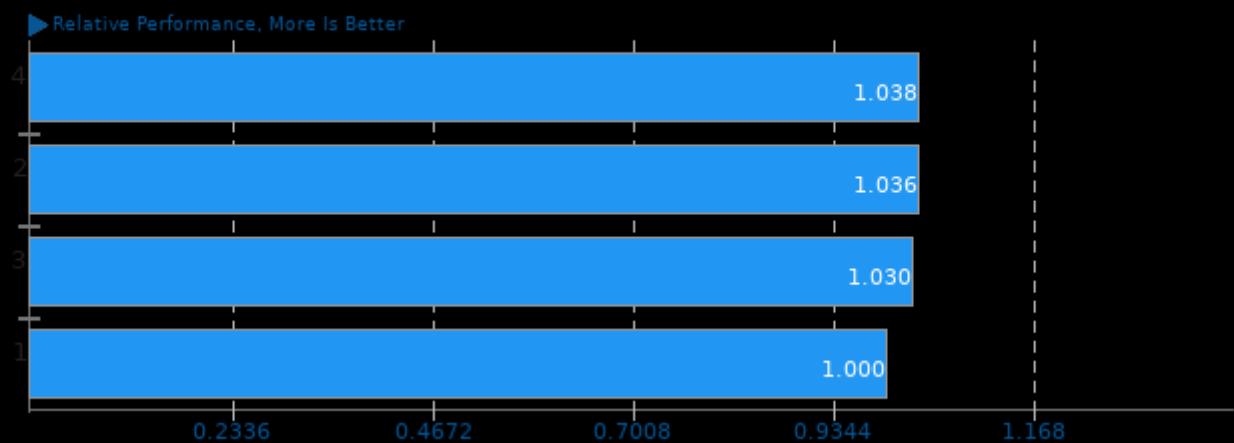
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/npb, pts/qe, pts/amg, pts/cp2k, pts/cloverleaf, pts/lammps, pts/lulesh, pts/openfoam, pts/qmcpack, pts/kripke, pts/mnn, pts/tnn and pts/onnx

**Geometric Mean Of LAPACK (Linear Algebra Pack) Tests**

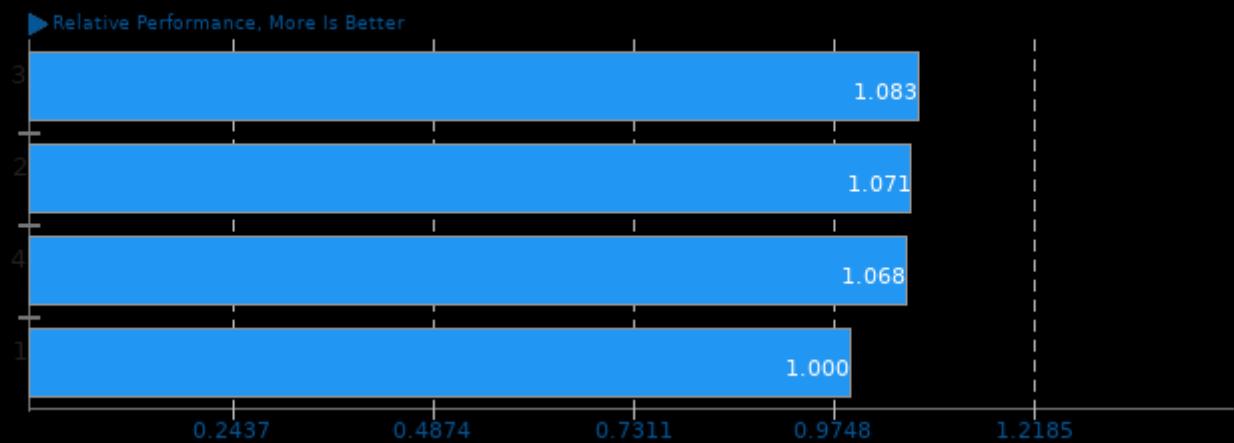
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/qe and pts/qmcpack

**Geometric Mean Of Machine Learning Tests**

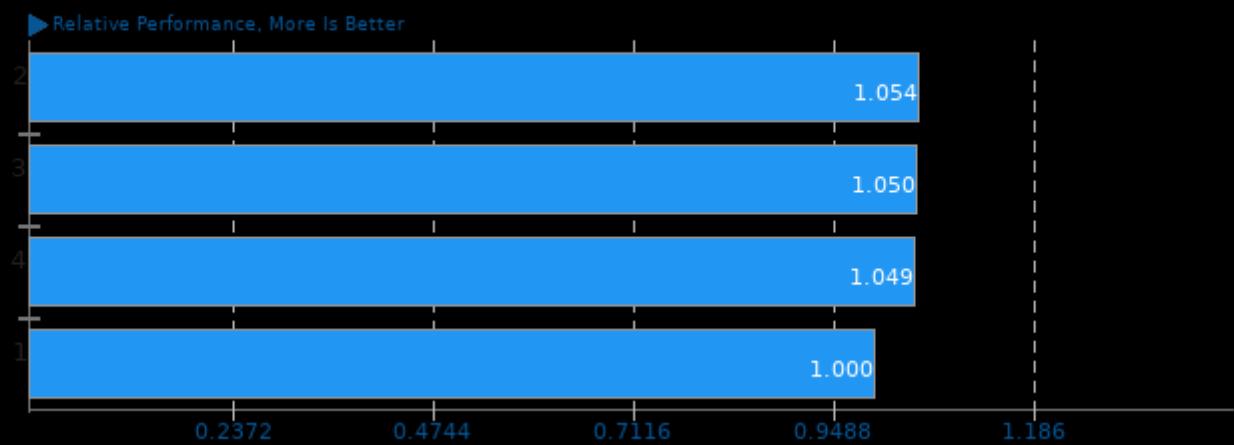
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/mnn, pts/tnn and pts/onnx

**Geometric Mean Of Molecular Dynamics Tests**

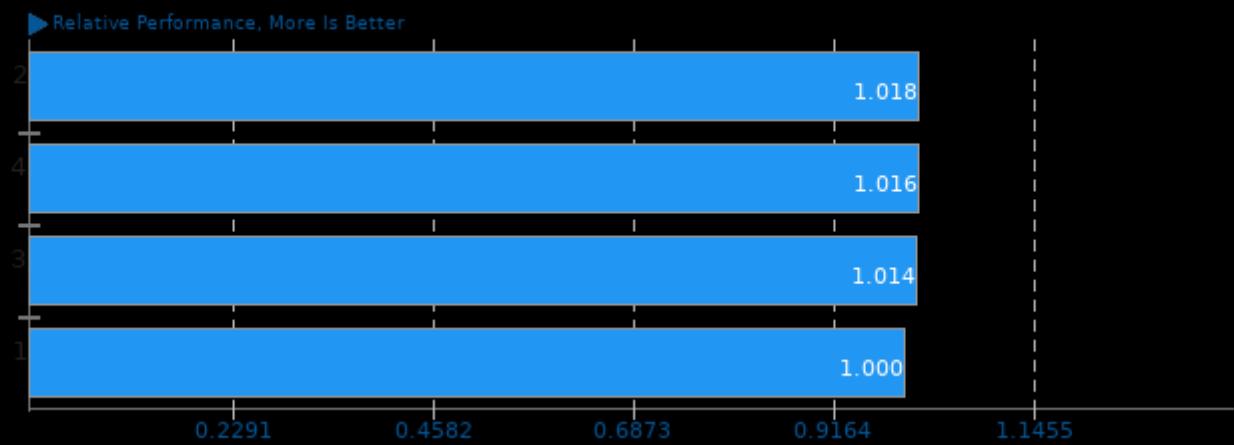
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/cp2k, pts/cloverleaf, pts/lammps, pts/lulesh and pts/openfoam

**Geometric Mean Of MPI Benchmarks Tests**

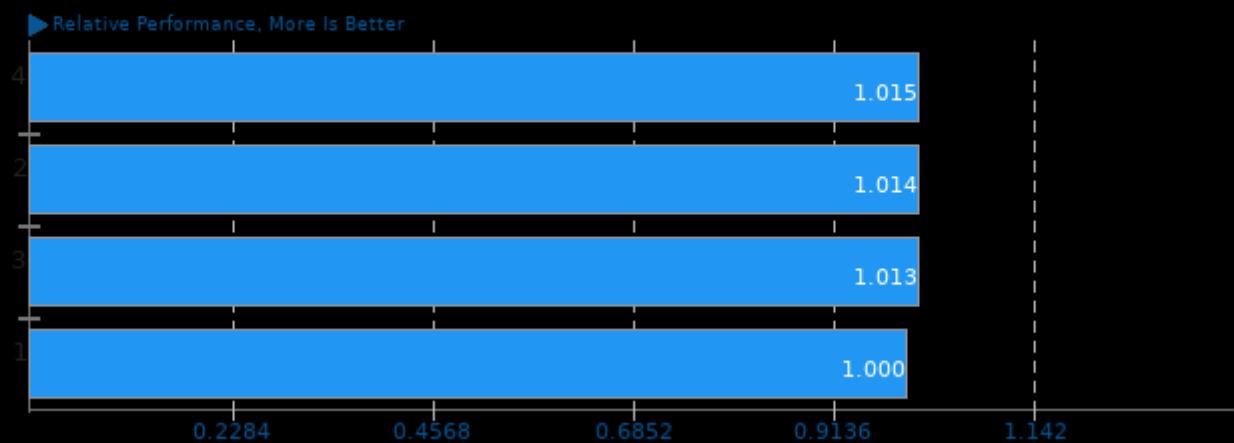
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/lammps, pts/qmcpack and pts/npb

**Geometric Mean Of Multi-Core Tests**

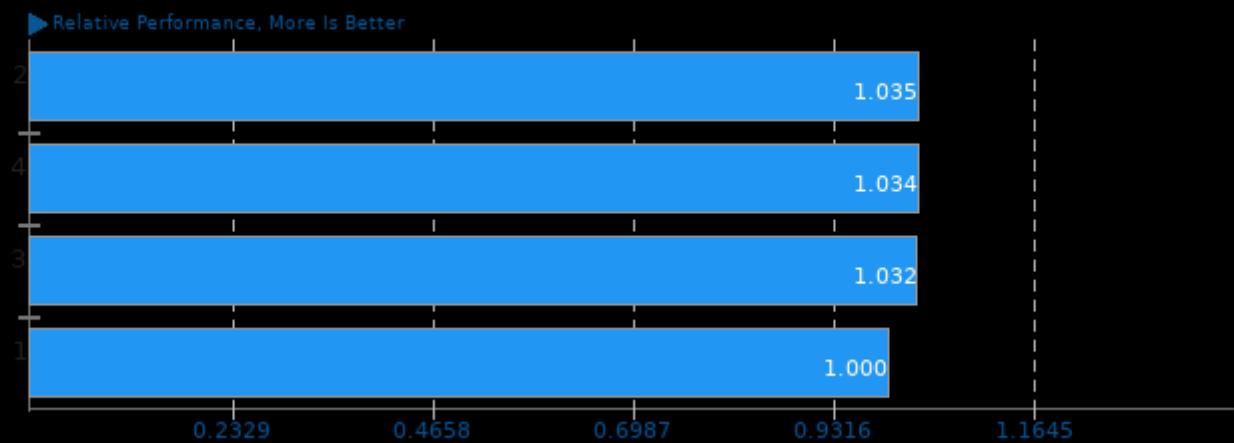
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/cpuminer-opt, pts/dav1d, pts/rav1e, pts/npb, pts/lammps and pts/build-godot

**Geometric Mean Of OpenMPI Tests**

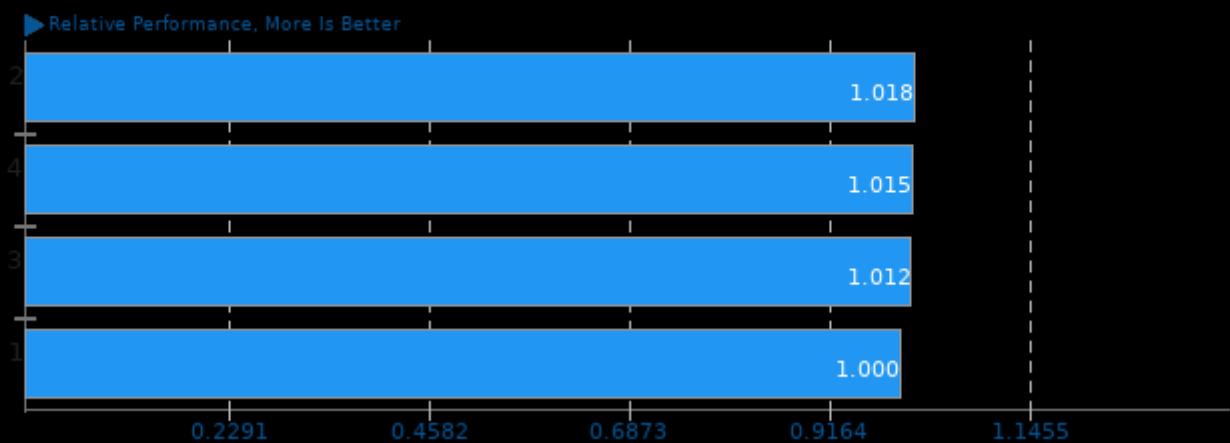
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/qe, pts/openfoam, pts/npb, pts/cp2k, pts/cloverleaf, pts/qmcpack, pts/amg, pts/lammps and pts/lulesh

### Geometric Mean Of Programmer / Developer System Benchmarks Tests

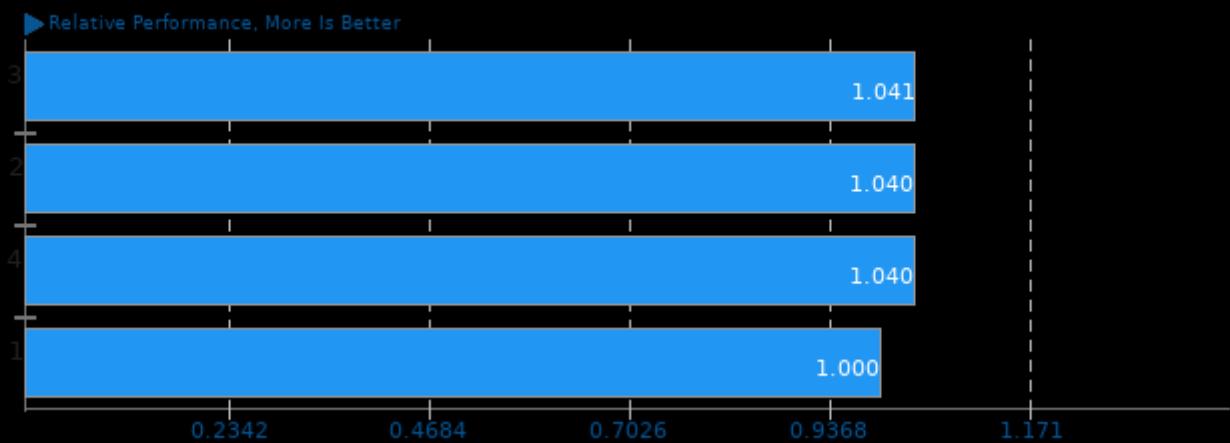
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/build-godot and pts/amg

### Geometric Mean Of Python Tests

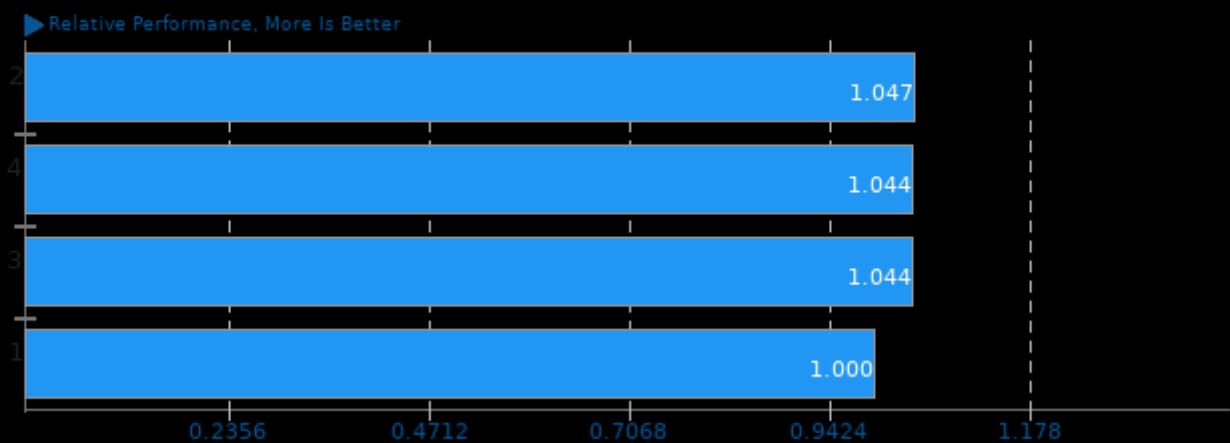
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/build-godot, pts/onnx and pts/cython-bench

**Geometric Mean Of Scientific Computing Tests**

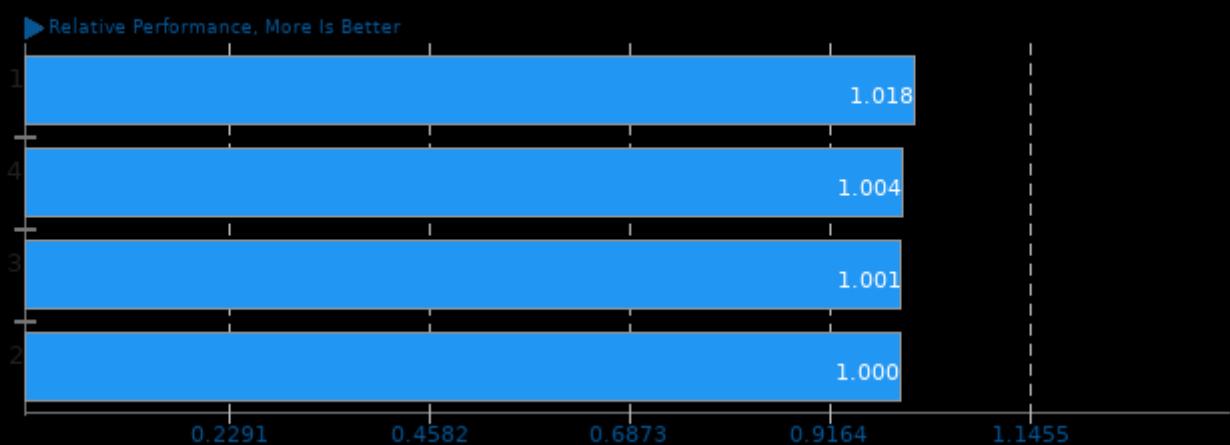
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/amg, pts/cp2k, pts/cloverleaf, pts/lammps, pts/lulesh, pts/openfoam, pts/qmcpack, pts/qe and pts/kripke

**Geometric Mean Of Server CPU Tests**

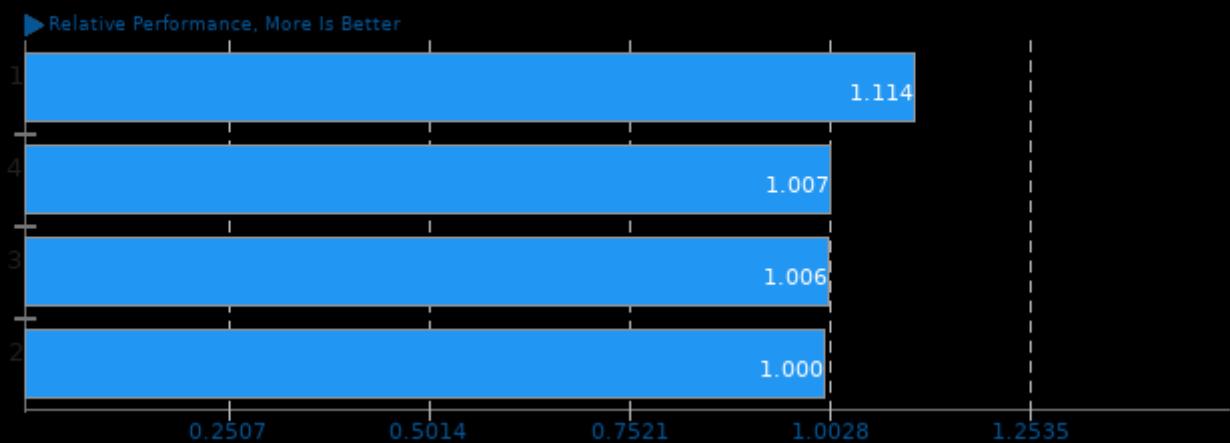
Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/npb, pts/cp2k, pts/dav1d, pts/redis, pts/cython-bench and pts/cpuminer-opt

**Geometric Mean Of Single-Threaded Tests**

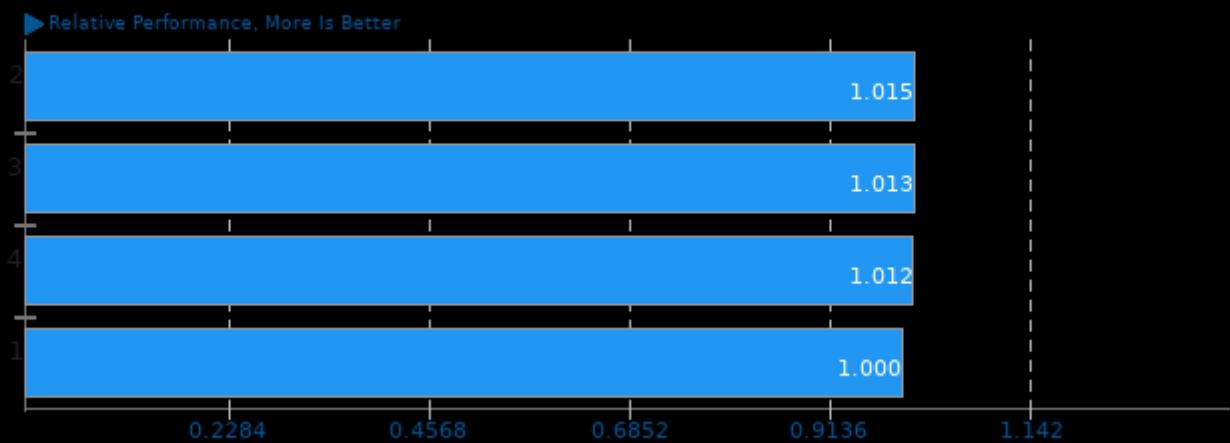
Result Composite - Ryzen 5 3600XT 2021 AMD



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

**Geometric Mean Of Video Encoding Tests**

Result Composite - Ryzen 5 3600XT 2021 AMD



Geometric mean based upon tests: pts/dav1d and pts/rav1e

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 18:28.*