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## EPYC 7F72

AMD EPYC 7F72 24-Core testing with a Supermicro H11DSi-NT v2.00 (2.1 BIOS) and llvmpipe on Ubuntu 20.10 via the Phoronix Test Suite.

### Automated Executive Summary

*EPYC 7F72 had the most wins, coming in first place for 38% of the tests.*

*Based on the geometric mean of all complete results, the fastest (EPYC 7F72) was 1.004x the speed of the slowest (AMD EPYC 7F72). AMD 7F72 was 0.998x the speed of EPYC 7F72 and AMD EPYC 7F72 was 0.998x the speed of AMD 7F72.*

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

*yquake2 (Renderer: Software CPU - Resolution: 1920 x 1080) at 1.634x*

*NCNN (Target: CPU-v3-v3 - Model: mobilenet-v3) at 1.044x*

*NCNN (Target: CPU - Model: mobilenet) at 1.038x*

*LAMMPS Molecular Dynamics Simulator (Model: Rhodopsin Protein) at 1.037x*

*NCNN (Target: CPU - Model: squeezenet) at 1.036x*

*HPC Challenge (Test / Class: G-Random Access) at 1.035x*

*InfluxDB (Concurrent Streams: 64 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000) at 1.032x*

*LevelDB (Benchmark: Hot Read) at 1.031x*

*LZ4 Compression (Compression Level: 3 - Compression Speed) at 1.03x  
 Timed LLVM Compilation (Time To Compile) at 1.029x.*

## Test Systems:

### EPYC 7F72

#### AMD 7F72

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Processor: AMD EPYC 7F72 24-Core @ 3.20GHz (24 Cores / 48 Threads), Motherboard: Supermicro H11DSi-NT v2.00 (2.1 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 1000GB Western Digital WD\_BLACK SN850 1TB, Graphics: llvmpipe, Monitor: VE228, Network: 2 x Intel 10G X550T

OS: Ubuntu 20.10, Kernel: 5.8.0-29-generic (x86\_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.5 Mesa 20.2.1 (LLVM 11.0.0 256 bits), Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86\_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/us r,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8301034

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 retpoline IBPB: conditional IBRS\_FW STIBP: conditional RSB filling + srbs: Not affected + tsx\_async\_abort: Not affected

	EPYC 7F72	AMD 7F72	AMD EPYC 7F72
<b>LevelDB - Hot Read (us/Op)</b>	<b>39.772</b>	<b>40.990</b>	40.623
Normalized	100%	97.03%	97.91%
Standard Deviation	0.6%	2.4%	0.6%
<b>LevelDB - Fill Sync (MB/s)</b>	<b>4.5</b>	<b>4.5</b>	4.5
Standard Deviation	0%	0%	0%
<b>LevelDB - Fill Sync (us/Op)</b>	<b>1169</b>	1163	<b>1163</b>
Normalized	99.5%	99.94%	100%
Standard Deviation	0.3%	0.6%	1.3%
<b>LevelDB - Overwrite (MB/s)</b>	<b>23.1</b>	<b>23.2</b>	<b>23.2</b>
Normalized	99.57%	100%	100%
Standard Deviation	0.2%	0.4%	0.4%
<b>LevelDB - Overwrite (us/Op)</b>	<b>229.121</b>	<b>228.697</b>	228.708
Normalized	99.81%	100%	100%

	Standard Deviation	0.3%	0.5%	0.4%
<b>LevelDB - Rand Fill (MB/s)</b>	23.3	<b>23.2</b>	<b>23.2</b>	
Normalized	100%	99.57%	99.57%	
Standard Deviation	0.2%	0%	0%	
<b>LevelDB - Rand Fill (us/Op)</b>	<b>228.038</b>	<b>228.607</b>	228.317	
Normalized	100%	99.75%	99.88%	
Standard Deviation	0.2%	0.1%	0.1%	
<b>LevelDB - Rand Read (us/Op)</b>	<b>39.867</b>	<b>40.383</b>	40.030	
Normalized	100%	98.72%	99.59%	
Standard Deviation	0.8%	2.2%	0.9%	
<b>LevelDB - Seek Rand (us/Op)</b>	64.337	<b>63.751</b>	<b>64.871</b>	
Normalized	99.09%	100%	98.27%	
Standard Deviation	1.8%	0.4%	1.4%	
<b>LevelDB - Rand Delete (us/Op)</b>	<b>209.853</b>	<b>210.651</b>	210.334	
Normalized	100%	99.62%	99.77%	
Standard Deviation	0.5%	0.3%	0.2%	
<b>LevelDB - Seq Fill (MB/s)</b>	<b>24.1</b>	<b>24.0</b>	<b>24.0</b>	
Normalized	100%	99.59%	99.59%	
Standard Deviation	0%	0.4%	0.2%	
<b>LevelDB - Seq Fill (us/Op)</b>	<b>220.327</b>	220.804	<b>220.867</b>	
Normalized	100%	99.78%	99.76%	
Standard Deviation	0.1%	0.5%	0.1%	
<b>yquake2 - Software CPU - 1920 x 1080 (FPS)</b>	<b>14.5</b>	<b>23.7</b>	<b>14.5</b>	
Normalized	61.18%	100%	61.18%	
Standard Deviation	0%	0.6%	0.4%	
<b>High Performance Conjugate Gradient (GFLOP/s)</b>	14.9995	<b>14.9731</b>	<b>15.4451</b>	
Normalized	97.11%	96.94%	100%	
Standard Deviation	5.8%	7.3%	1.9%	
<b>HPC Challenge - G-HPL (GFLOPS)</b>	87.25450	<b>87.31077</b>	<b>86.88297</b>	
Normalized	99.94%	100%	99.51%	
Standard Deviation	0.8%	0.6%	0.8%	
<b>HPC Challenge - G-Ffte (GFLOPS)</b>	<b>9.87238</b>	<b>8.43121</b>	9.41895	
Normalized	100%	85.4%	95.41%	
Standard Deviation	20.3%	11.6%	13.4%	
<b>HPC Challenge - EP-DGEMM (GFLOPS)</b>	<b>36.14100</b>	<b>36.76553</b>	36.43880	
Normalized	98.3%	100%	99.11%	
Standard Deviation	2.9%	4%	2.3%	
<b>HPC Challenge - G-Ptrans (GB/s)</b>	<b>7.75739</b>	8.17553	<b>8.28555</b>	
Normalized	93.63%	98.67%	100%	
Standard Deviation	9.6%	9%	6.9%	
<b>HPC Challenge - EP-STREAM Triad (GB/s)</b>	<b>3.11627</b>	<b>3.38220</b>	3.29923	
Normalized	92.14%	100%	97.55%	
Standard Deviation	7.7%	0.4%	3.3%	
<b>HPC Challenge - G-Rand Access (GUP/s)</b>	<b>0.03144</b>	0.03051	<b>0.03037</b>	
Normalized	100%	97.04%	96.6%	
Standard Deviation	0.8%	6%	4%	
<b>HPC Challenge - R.R.L (usecs)</b>	<b>1.16869</b>	1.16276	<b>1.15717</b>	
Normalized	99.01%	99.52%	100%	
Standard Deviation	1.3%	2.8%	2.2%	
<b>HPC Challenge - R.R.B (GB/s)</b>	<b>2.71076</b>	2.72515	<b>2.73035</b>	
Normalized	99.28%	99.81%	100%	
Standard Deviation	1.2%	4.2%	2.1%	
<b>HPC Challenge - M.P.P.B (MB/s)</b>	<b>9566</b>	10110	<b>10456</b>	
Normalized	91.49%	96.69%	100%	

	Standard Deviation	10.2%		13%	18.8%
<b>NAMD - ATPase Simulation - 327,506 Atoms</b>	0.88169 <b>(days/ns)</b>		<b>0.87532</b>	<b>0.89277</b>	
	Normalized	99.28%		100%	98.05%
	Standard Deviation	1.1%		0.8%	2.1%
<b>FFTE - N.2.3.C.F.R (MFLOPS)</b>	111182		<b>111005</b>	<b>113220</b>	
	Normalized	98.2%		98.04%	100%
	Standard Deviation	1.8%		2.2%	1.8%
<b>Timed HMMer Search - P.D.S (sec)</b>	142.115		<b>142.131</b>	<b>142.080</b>	
	Normalized	99.98%		99.96%	100%
	Standard Deviation	0.1%		0%	0.2%
<b>LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)</b>	15.789		<b>15.816</b>	<b>15.779</b>	
	Normalized	99.83%		100%	99.77%
	Standard Deviation	0.4%		0.8%	0.1%
<b>LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)</b>	<b>12.129</b>		<b>11.700</b>		11.705
	Normalized	100%		96.46%	96.5%
	Standard Deviation	1.2%		1.1%	0.3%
<b>WebP Image Encode - Default (Encode Time - sec)</b>	1.611		<b>1.602</b>	<b>1.612</b>	
	Normalized	99.44%		100%	99.38%
	Standard Deviation	0.4%		0.4%	0.4%
<b>WebP Image Encode - Quality 100 (Encode Time - sec)</b>	<b>2.596</b>		<b>2.585</b>		2.591
	Normalized	99.58%		100%	99.77%
	Standard Deviation	0.4%		0.2%	0.2%
<b>WebP Image Encode - Q.1.L (Encode Time - sec)</b>	<b>19.042</b>		19.018		<b>19.015</b>
	Normalized	99.86%		99.98%	100%
	Standard Deviation	0.2%		0.2%	0.1%
<b>WebP Image Encode - Q.1.H.C (Encode Time - sec)</b>	<b>8.538</b>		<b>8.549</b>		8.548
	Normalized	100%		99.87%	99.88%
	Standard Deviation	0.1%		0.4%	0%
<b>WebP Image Encode - Q.1.L.H.C (Encode Time - sec)</b>	39.280		<b>39.170</b>	<b>39.342</b>	
	Normalized	99.72%		100%	99.56%
	Standard Deviation	0.4%		0.3%	0.4%
<b>BYTE Unix Benchmark - Dhrystone 2 (LPS)</b>	<b>37455257</b>		37547273		<b>37624547</b>
	Normalized	99.55%		99.79%	100%
	Standard Deviation	2.7%		1.1%	0.4%
<b>LZ4 Compression - 1 - Compression Speed (MB/s)</b>	9777		<b>9740</b>	<b>9780</b>	
	Normalized	99.97%		99.59%	100%
	Standard Deviation	0.5%		0.4%	0.3%
<b>LZ4 Compression - 1 - D.S (MB/s)</b>	11309		<b>11271</b>	<b>11315</b>	
	Normalized	99.95%		99.62%	100%
	Standard Deviation	0.5%		0.1%	0.4%
<b>LZ4 Compression - 3 - Compression Speed (MB/s)</b>	<b>50.78</b>		50.54		<b>49.31</b>
	Normalized	100%		99.53%	97.11%
	Standard Deviation	2.2%		1.2%	0.2%

<b>LZ4 Compression - 3 - D.S (MB/s)</b>	10606	<b>10662</b>	<b>10549</b>
Normalized	99.48%	100%	98.94%
Standard Deviation	0.7%	0%	0.3%
<b>LZ4 Compression - 9 - Compression Speed (MB/s)</b>	<b>49.70</b>	<b>48.33</b>	48.98
Normalized	100%	97.24%	98.55%
Standard Deviation	2.3%	2.5%	1.5%
<b>LZ4 Compression - 9 - D.S (MB/s)</b>	10631	<b>10616</b>	<b>10686</b>
Normalized	99.49%	99.35%	100%
Standard Deviation	0.6%	0.5%	0.1%
<b>LibRaw - P.P.B (Mpix/sec)</b>	<b>35.11</b>	35.01	<b>34.96</b>
Normalized	100%	99.72%	99.57%
Standard Deviation	0.5%	0.5%	0.3%
<b>Crafty - Elapsed Time (Nodes/s)</b>	<b>7406309</b>	7382916	<b>7359217</b>
Normalized	100%	99.68%	99.36%
Standard Deviation	0.3%	0.4%	1.5%
<b>oneDNN - IP Shapes 1D - f32 - CPU (ms)</b>	1.73051	<b>1.73388</b>	<b>1.72765</b>
Normalized	99.83%	99.64%	100%
Standard Deviation	0.4%	1%	0.2%
<b>oneDNN - IP Shapes 3D - f32 - CPU (ms)</b>	2.77815	<b>2.75004</b>	<b>2.78214</b>
Normalized	98.99%	100%	98.85%
Standard Deviation	0.7%	1.1%	0.9%
<b>oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)</b>	<b>1.43782</b>	<b>1.42645</b>	1.42669
Normalized	99.21%	100%	99.98%
Standard Deviation	1.2%	0.6%	0.1%
<b>oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)</b>	0.592804	<b>0.839025</b>	<b>0.591702</b>
Normalized	99.81%	70.52%	100%
Standard Deviation	0.9%	7.3%	0.3%
<b>oneDNN - C.B.S.A - f32 - CPU (ms)</b>	2.84936	<b>2.90342</b>	<b>2.83648</b>
Normalized	99.55%	97.69%	100%
Standard Deviation	0.5%	0.5%	1.1%
<b>oneDNN - D.B.s - f32 - CPU (ms)</b>	<b>2.35946</b>	<b>2.34152</b>	2.35726
Normalized	99.24%	100%	99.33%
Standard Deviation	0.2%	1.6%	1.5%
<b>oneDNN - D.B.s - f32 - CPU (ms)</b>	<b>3.15047</b>	3.14499	<b>3.13878</b>
Normalized	99.63%	99.8%	100%
Standard Deviation	0.6%	1%	0.8%
<b>oneDNN - C.B.S.A - u8s8f32 - CPU (ms)</b>	<b>5.30320</b>	5.35950	<b>5.36330</b>
Normalized	100%	98.95%	98.88%
Standard Deviation	0.5%	0.8%	1.1%
<b>oneDNN - D.B.s - u8s8f32 - CPU (ms)</b>	6.37725	<b>6.41390</b>	<b>6.32884</b>
Normalized	99.24%	98.67%	100%
Standard Deviation	0.2%	0.3%	1%
<b>oneDNN - D.B.s - u8s8f32 - CPU (ms)</b>	<b>2.30961</b>	2.30633	<b>2.29672</b>
Normalized	99.44%	99.58%	100%
Standard Deviation	0.1%	0.7%	0.1%
<b>oneDNN - R.N.N.T - f32 - CPU (ms)</b>	<b>1611</b>	<b>1614</b>	1612
Normalized	100%	99.85%	99.97%
Standard Deviation	0.3%	1.2%	0.4%
<b>oneDNN - R.N.N.I - f32 - CPU (ms)</b>	<b>925.976</b>	<b>930.714</b>	929.886
Normalized	100%	99.49%	99.58%
Standard Deviation	0.2%	0.1%	1.3%
<b>oneDNN - R.N.N.T - u8s8f32 - CPU (ms)</b>	<b>1614</b>	1611	<b>1606</b>
Normalized	99.5%	99.69%	100%
Standard Deviation	0.8%	0.7%	0.7%

oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	<b>934.686</b>	930.711	<b>928.115</b>
Normalized	99.3%	99.72%	100%
Standard Deviation	0.4%	0.5%	0.6%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	<b>0.578226</b>	<b>0.575254</b>	0.576657
Normalized	99.49%	100%	99.76%
Standard Deviation	0.5%	0.8%	0.5%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	<b>1617</b>	1607	<b>1603</b>
Normalized	99.14%	99.74%	100%
Standard Deviation	0.4%	0.3%	0.2%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	931.275	<b>924.024</b>	<b>932.489</b>
Normalized	99.22%	100%	99.09%
Standard Deviation	1.2%	0.7%	0.7%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	1.40235	<b>1.38651</b>	<b>1.40346</b>
Normalized	98.87%	100%	98.79%
Standard Deviation	1.1%	0.7%	0.6%
Kvazaar - Bosphorus 4K - Slow (FPS)	<b>10.73</b>	<b>10.70</b>	<b>10.73</b>
Normalized	100%	99.72%	100%
Standard Deviation	0.1%	0.1%	0.1%
Kvazaar - Bosphorus 4K - Medium (FPS)	<b>10.95</b>	<b>10.91</b>	10.92
Normalized	100%	99.63%	99.73%
Standard Deviation	0.1%	0%	0.1%
Kvazaar - Bosphorus 1080p - Slow (FPS)	<b>36.21</b>	<b>36.09</b>	36.15
Normalized	100%	99.67%	99.83%
Standard Deviation	0.3%	0.3%	0.1%
Kvazaar - Bosphorus 1080p - Medium (FPS)	<b>37.14</b>	<b>36.97</b>	37.08
Normalized	100%	99.54%	99.84%
Standard Deviation	0.4%	0.1%	0.1%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	<b>24.00</b>	23.98	<b>23.93</b>
Normalized	100%	99.92%	99.71%
Standard Deviation	0.2%	0.2%	0.2%
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	<b>41.99</b>	42.13	<b>42.17</b>
Normalized	99.57%	99.91%	100%
Standard Deviation	0.3%	0.3%	0.7%
Kvazaar - Bosphorus 1080p - Very Fast (FPS)	83.06	<b>82.46</b>	<b>83.29</b>
Normalized	99.72%	99%	100%
Standard Deviation	0.5%	0.2%	0.2%
Kvazaar - Bosphorus 1080p - Ultra Fast	<b>142.44</b>	<b>141.93</b>	142.03
Normalized	100%	99.64%	99.71%
Standard Deviation	0.3%	0.5%	0.2%
rav1e - 1 (FPS)	<b>0.349</b>	<b>0.349</b>	<b>0.346</b>
Normalized	100%	100%	99.14%
Standard Deviation	0.6%	0.3%	0.6%
rav1e - 5 (FPS)	<b>1.037</b>	<b>1.036</b>	<b>1.037</b>
Normalized	100%	99.9%	100%
Standard Deviation	0.5%	0.2%	0.3%
rav1e - 6 (FPS)	<b>1.385</b>	<b>1.386</b>	<b>1.385</b>
Normalized	99.93%	100%	99.93%
Standard Deviation	0.5%	0.3%	0.3%
rav1e - 10 (FPS)	<b>3.039</b>	3.032	<b>3.026</b>
Normalized	100%	99.77%	99.57%
Standard Deviation	0.2%	0.4%	0.1%
x264 - H.2.V.E (FPS)	<b>178.79</b>	177.86	<b>177.71</b>
Normalized	100%	99.48%	99.4%
Standard Deviation	1.8%	1.4%	1.5%
x265 - Bosphorus 4K (FPS)	<b>23.53</b>	23.59	<b>23.60</b>

	Normalized	99.7%	99.96%	100%
	Standard Deviation	0.2%	0.4%	0.2%
x265 - Bosphorus 1080p (FPS)	<b>60.61</b>	60.33	<b>60.25</b>	
	Normalized	100%	99.54%	99.41%
	Standard Deviation	0.5%	0.1%	0.2%
<b>Stockfish - Total Time (Nodes/s)</b>	<b>52597544</b>	<b>53421517</b>	52704023	
	Normalized	98.46%	100%	98.66%
	Standard Deviation	3.4%	2.2%	2.6%
<b>asmFish - 1.H.M.2.D (Nodes/s)</b>	64349837	<b>64448741</b>	<b>63564766</b>	
	Normalized	99.85%	100%	98.63%
	Standard Deviation	0.8%	1%	1.8%
<b>Timed Clash Compilation - Time To Compile</b>	462.283	<b>462.323</b>	<b>461.624</b>	
(sec)				
	Normalized	99.86%	99.85%	100%
	Standard Deviation	0%	0.4%	0.2%
<b>Timed Linux Kernel Compilation - Time To Compile (sec)</b>	<b>38.863</b>	<b>39.054</b>	38.903	
	Normalized	100%	99.51%	99.9%
	Standard Deviation	2.1%	2.3%	2.4%
<b>Timed LLVM Compilation - Time To Compile</b>	<b>298.145</b>	<b>289.654</b>	294.113	
(sec)				
	Normalized	97.15%	100%	98.48%
	Standard Deviation	1%	1.7%	2.4%
<b>Numpy Benchmark (Score)</b>	<b>324.13</b>	321.81	<b>318.47</b>	
	Normalized	100%	99.28%	98.25%
	Standard Deviation	0.2%	1.3%	0.5%
<b>eSpeak-NG Speech Engine - T.T.S.S (sec)</b>	<b>32.795</b>	32.759	<b>32.711</b>	
	Normalized	99.74%	99.85%	100%
	Standard Deviation	0.7%	0.7%	0.6%
<b>RNNNoise (sec)</b>	21.137	<b>21.126</b>	<b>21.168</b>	
	Normalized	99.95%	100%	99.8%
	Standard Deviation	0%	0.1%	0.1%
<b>KeyDB (Ops/sec)</b>	<b>424091</b>	<b>426285</b>	424640	
	Normalized	99.49%	100%	99.61%
	Standard Deviation	0.4%	1.9%	1%
<b>GROMACS - Water Benchmark (Ns/Day)</b>	<b>2.847</b>	<b>2.830</b>	2.846	
	Normalized	100%	99.4%	99.96%
	Standard Deviation	0.2%	0.5%	0.2%
<b>TensorFlow Lite - SqueezeNet (us)</b>	89588	<b>89394</b>	<b>89813</b>	
	Normalized	99.78%	100%	99.53%
	Standard Deviation	0.1%	0.1%	0.2%
<b>TensorFlow Lite - Inception V4 (us)</b>	<b>1342877</b>	<b>1347400</b>	1344893	
	Normalized	100%	99.66%	99.85%
	Standard Deviation	0.4%	0.4%	0.4%
<b>TensorFlow Lite - NASNet Mobile (us)</b>	<b>104517</b>	<b>103641</b>	104362	
	Normalized	99.16%	100%	99.31%
	Standard Deviation	0.3%	0.4%	0.1%
<b>TensorFlow Lite - Mobilenet Float (us)</b>	60165	<b>59960</b>	<b>60332</b>	
	Normalized	99.66%	100%	99.38%
	Standard Deviation	0.1%	0.1%	0.4%
<b>TensorFlow Lite - Mobilenet Quant (us)</b>	61482	<b>61261</b>	<b>61596</b>	
	Normalized	99.64%	100%	99.46%
	Standard Deviation	0.3%	0.3%	0.3%
<b>TensorFlow Lite - I.R.V (us)</b>	<b>1175663</b>	<b>1179913</b>	1178590	
	Normalized	100%	99.64%	99.75%

	Standard Deviation	0.4%	0.3%	0.5%
<b>PostgreSQL pgbench - 1 - 1 - Read Only</b>	29419	<b>29391</b>	<b>29462</b>	
	Normalized	99.85%	99.76%	100%
	Standard Deviation	0.9%	1.9%	2.3%
<b>PostgreSQL pgbench - 1 - 1 - Read Only -</b>	0.034	0.034	0.034	
<b>Average Latency (ms)</b>				
	Standard Deviation	0%	1.7%	2.4%
<b>PostgreSQL pgbench - 1 - 1 - Read Write</b>	2019	<b>2027</b>	<b>2009</b>	
	Normalized	99.61%	100%	99.11%
	Standard Deviation	0.1%	1.4%	0.7%
<b>PostgreSQL pgbench - 1 - 1 - Read Write -</b>	0.495	<b>0.493</b>	<b>0.498</b>	
<b>Average Latency (ms)</b>				
	Normalized	99.6%	100%	99%
	Standard Deviation	0.1%	1.3%	0.7%
<b>PostgreSQL pgbench - 1 - 50 - Read Only</b>	847231	<b>852612</b>	<b>842022</b>	
	(TPS)			
	Normalized	99.37%	100%	98.76%
	Standard Deviation	2.3%	0.9%	1.9%
<b>PostgreSQL pgbench - 1 - 50 - Read Only -</b>	0.059	0.059	0.059	
<b>Average Latency (ms)</b>				
	Standard Deviation	2.9%	1%	1.9%
<b>PostgreSQL pgbench - 1 - 100 - Read Only</b>	698452	<b>698778</b>	<b>695344</b>	
	(TPS)			
	Normalized	99.95%	100%	99.51%
	Standard Deviation	0.5%	0.2%	0.3%
<b>PostgreSQL pgbench - 1 - 100 - Read Only -</b>	<b>0.143</b>	<b>0.143</b>	<b>0.144</b>	
<b>Average Latency (ms)</b>				
	Normalized	100%	100%	99.31%
	Standard Deviation	0.4%	0.4%	0%
<b>PostgreSQL pgbench - 1 - 50 - Read Write</b>	<b>2421</b>	<b>2431</b>	2424	
	(TPS)			
	Normalized	99.59%	100%	99.71%
	Standard Deviation	0.2%	0.1%	0.4%
<b>PostgreSQL pgbench - 1 - 50 - Read Write -</b>	<b>20.663</b>	<b>20.571</b>	20.630	
<b>Average Latency (ms)</b>				
	Normalized	99.55%	100%	99.71%
	Standard Deviation	0.2%	0.1%	0.4%
<b>PostgreSQL pgbench - 100 - 1 - Read Only</b>	<b>24336</b>	24345	<b>24446</b>	
	(TPS)			
	Normalized	99.55%	99.59%	100%
	Standard Deviation	1.2%	1%	2.3%
<b>PostgreSQL pgbench - 100 - 1 - Read Only -</b>	0.041	0.041	0.041	
<b>Average Latency (ms)</b>				
	Standard Deviation	1.4%	0%	2.4%
<b>PostgreSQL pgbench - 1 - 100 - Read Write</b>	<b>2145</b>	2144	<b>2142</b>	
	(TPS)			
	Normalized	100%	99.95%	99.86%
	Standard Deviation	0.4%	0.5%	0.3%
<b>PostgreSQL pgbench - 1 - 100 - Read Write -</b>	<b>46.683</b>	46.694	<b>46.742</b>	
<b>Average Latency (ms)</b>				
	Normalized	100%	99.98%	99.87%
	Standard Deviation	0.4%	0.5%	0.3%

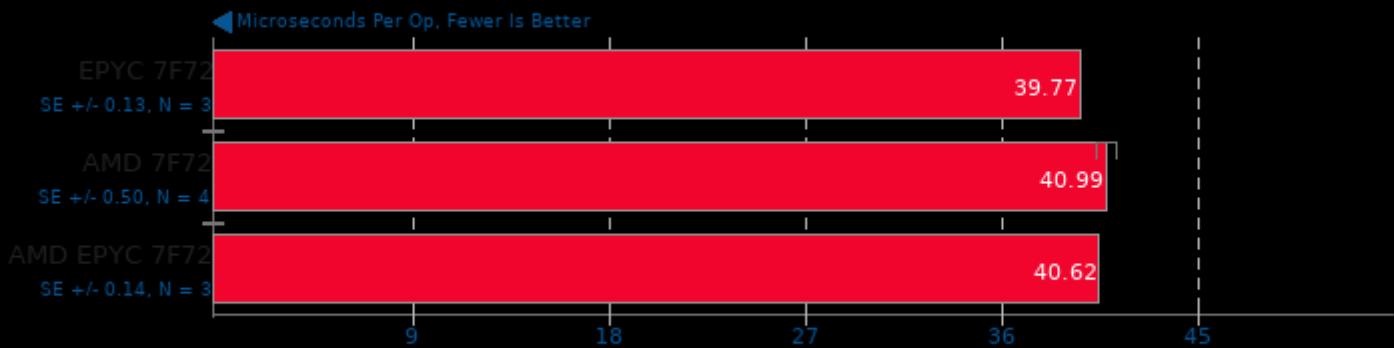
<b>PostgreSQL pgbench - 100 - 1 - Read Write</b>	1805  (TPS)	<b>1801</b>	<b>1807</b>
Normalized	99.89%	99.67%	100%
Standard Deviation	0.1%	1%	0.6%
<b>PostgreSQL pgbench - 100 - 1 - Read Write -</b>	0.554  Average Latency (ms)	<b>0.556</b>	<b>0.553</b>
Normalized	99.82%	99.46%	100%
Standard Deviation	0.2%	1.1%	0.5%
<b>PostgreSQL pgbench - 100 - 50 - Read Only</b>	551623  (TPS)	<b>555320</b>	<b>551484</b>
Normalized	99.33%	100%	99.31%
Standard Deviation	1.8%	0.8%	0.4%
<b>PostgreSQL pgbench - 100 - 50 - Read Only -</b>	<b>0.091</b>  Average Latency (ms)	<b>0.090</b>	<b>0.091</b>
Normalized	98.9%	100%	98.9%
Standard Deviation	1.9%	0.6%	0.6%
<b>PostgreSQL pgbench - 100 - 100 - Read Only</b>	529318  (TPS)	<b>530581</b>	<b>529066</b>
Normalized	99.76%	100%	99.71%
Standard Deviation	0.2%	0.2%	0.2%
<b>PostgreSQL pgbench - 100 - 100 - Read Only</b>	0.189  - Average Latency (ms)	0.189	0.189
Standard Deviation	0.3%	0.3%	0.3%
<b>PostgreSQL pgbench - 100 - 50 - Read Write</b>	<b>21479</b>  (TPS)	<b>21521</b>	21481
Normalized	99.8%	100%	99.81%
Standard Deviation	0.2%	0.1%	0.3%
<b>PostgreSQL pgbench - 100 - 50 - Read Write</b>	<b>2.329</b>  - Average Latency (ms)	<b>2.324</b>	2.328
Normalized	99.79%	100%	99.83%
Standard Deviation	0.2%	0.1%	0.3%
<b>PostgreSQL pgbench - 100 - 100 - Read Write (TPS)</b>	<b>29486</b>	29537	<b>29552</b>
Normalized	99.78%	99.95%	100%
Standard Deviation	0.3%	0.6%	0.2%
<b>PostgreSQL pgbench - 100 - 100 - Read Write - Average Latency (ms)</b>	<b>3.395</b>	3.389	<b>3.388</b>
Normalized	99.79%	99.97%	100%
Standard Deviation	0.3%	0.6%	0.2%
<b>Basis Universal - ETC1S (sec)</b>	<b>49.360</b>	49.511	<b>49.579</b>
Normalized	100%	99.7%	99.56%
Standard Deviation	0%	0.1%	0.2%
<b>Basis Universal - UASTC Level 0 (sec)</b>	<b>7.578</b>	<b>7.733</b>	7.606
Normalized	100%	98%	99.63%
Standard Deviation	0.1%	0.3%	0.5%
<b>Basis Universal - UASTC Level 2 (sec)</b>	<b>16.901</b>	<b>16.980</b>	16.926
Normalized	100%	99.53%	99.85%
Standard Deviation	0.1%	0.2%	0.1%
<b>Basis Universal - UASTC Level 3 (sec)</b>	<b>27.182</b>	<b>27.287</b>	27.210
Normalized	100%	99.62%	99.9%
Standard Deviation	0.1%	0.1%	0.2%
<b>Basis Universal - U.L.2.R.P.P (sec)</b>	694.869	<b>693.897</b>	<b>694.995</b>
Normalized	99.86%	100%	99.84%
Standard Deviation	0.5%	0.1%	0.4%

<b>Hugin - P.P.A.S.T (sec)</b>	<b>50.006</b>	50.325	<b>50.461</b>
Normalized	100%	99.37%	99.1%
Standard Deviation	1.8%	1.3%	0.8%
<b>Redis - LPOP (Reqs/sec)</b>	<b>2134890</b>	<b>1376509</b>	1379285
Normalized	100%	64.48%	64.61%
Standard Deviation	8.1%	6.3%	16.2%
<b>Redis - SADD (Reqs/sec)</b>	<b>1658090</b>	<b>1757207</b>	1723521
Normalized	94.36%	100%	98.08%
Standard Deviation	7.9%	8.6%	8.8%
<b>Redis - LPUSH (Reqs/sec)</b>	<b>1295999</b>	<b>1332611</b>	1317593
Normalized	97.25%	100%	98.87%
Standard Deviation	7%	6.4%	7%
<b>Redis - GET (Reqs/sec)</b>	<b>2038393</b>	<b>1814384</b>	1897704
Normalized	100%	89.01%	93.1%
Standard Deviation	9.8%	6.3%	10.6%
<b>Redis - SET (Reqs/sec)</b>	1495616	<b>1500640</b>	<b>1475850</b>
Normalized	99.67%	100%	98.35%
Standard Deviation	8.7%	9.2%	7.3%
<b>NCNN - CPU - squeezenet (ms)</b>	21.26	<b>21.10</b>	<b>21.87</b>
Normalized	99.25%	100%	96.48%
Standard Deviation	2.2%	1.4%	2.3%
<b>NCNN - CPU - mobilenet (ms)</b>	<b>21.44</b>	<b>22.26</b>	22.20
Normalized	100%	96.32%	96.58%
Standard Deviation	5.3%	3.8%	4.3%
<b>NCNN - CPU-v2-v2 - mobilenet-v2 (ms)</b>	<b>10.04</b>	10.06	<b>10.08</b>
Normalized	100%	99.8%	99.6%
Standard Deviation	2.9%	3%	0.6%
<b>NCNN - CPU-v3-v3 - mobilenet-v3 (ms)</b>	<b>9.52</b>	9.61	<b>9.94</b>
Normalized	100%	99.06%	95.77%
Standard Deviation	3.7%	2%	1.6%
<b>NCNN - CPU - shufflenet-v2 (ms)</b>	<b>10.45</b>	<b>10.35</b>	<b>10.45</b>
Normalized	99.04%	100%	99.04%
Standard Deviation	8.1%	2.4%	2.6%
<b>NCNN - CPU - mnasnet (ms)</b>	<b>9.58</b>	9.51	<b>9.50</b>
Normalized	99.16%	99.89%	100%
Standard Deviation	6%	4.4%	3.3%
<b>NCNN - CPU - efficientnet-b0 (ms)</b>	<b>12.29</b>	<b>12.61</b>	12.54
Normalized	100%	97.46%	98.01%
Standard Deviation	3.6%	1.2%	1.6%
<b>NCNN - CPU - blazeface (ms)</b>	<b>4.09</b>	4.13	<b>4.16</b>
Normalized	100%	99.03%	98.32%
Standard Deviation	1.6%	0.9%	2.2%
<b>NCNN - CPU - googlenet (ms)</b>	<b>22.07</b>	<b>21.55</b>	22.01
Normalized	97.64%	100%	97.91%
Standard Deviation	1.9%	1.6%	3.2%
<b>NCNN - CPU - vgg16 (ms)</b>	<b>36.48</b>	36.56	<b>37.48</b>
Normalized	100%	99.78%	97.33%
Standard Deviation	1.1%	4.2%	3%
<b>NCNN - CPU - resnet18 (ms)</b>	<b>13.82</b>	13.86	<b>14.10</b>
Normalized	100%	99.71%	98.01%
Standard Deviation	1%	3.3%	4.3%
<b>NCNN - CPU - alexnet (ms)</b>	<b>10.38</b>	10.51	<b>10.52</b>
Normalized	100%	98.76%	98.67%
Standard Deviation	1.6%	1.3%	2.9%
<b>NCNN - CPU - resnet50 (ms)</b>	24.95	<b>24.53</b>	<b>25.03</b>

Normalized	98.32%	100%	98%
Standard Deviation	0.9%	3.8%	1.4%
<b>NCNN - CPU - yolov4-tiny (ms)</b>	<b>31.05</b>	<b>31.33</b>	<b>30.75</b>
Normalized	99.03%	98.15%	100%
Standard Deviation	1%	2.4%	1.6%
<b>TNN - CPU - MobileNet v2 (ms)</b>	<b>295.193</b>	<b>292.901</b>	<b>294.653</b>
Normalized	99.22%	100%	99.41%
Standard Deviation	0.4%	0.2%	0.5%
<b>TNN - CPU - SqueezeNet v1.1 (ms)</b>	<b>275.522</b>	<b>275.703</b>	<b>275.381</b>
Normalized	99.95%	99.88%	100%
Standard Deviation	0.1%	0.2%	0.2%
<b>IndigoBench - CPU - Bedroom (M samples/s)</b>	<b>4.769</b>	<b>4.775</b>	<b>4.770</b>
Normalized	99.87%	100%	99.9%
Standard Deviation	1.1%	0.5%	0.2%
<b>IndigoBench - CPU - Supercar (M samples/s)</b>	<b>10.309</b>	<b>10.339</b>	<b>10.314</b>
Normalized	99.71%	100%	99.76%
Standard Deviation	0.9%	0.4%	0.4%
<b>Hierarchical INTegration - FLOAT (QUIPs)</b>	<b>321206770</b>	<b>321880723</b>	<b>322432634</b>
Normalized	99.62%	99.83%	100%
Standard Deviation	0.4%	0%	0.1%
<b>AI Benchmark Alpha - D.I.S (Score)</b>	<b>1960</b>	<b>2009</b>	<b>2007</b>
Normalized	97.56%	100%	99.9%
<b>AI Benchmark Alpha - D.T.S (Score)</b>	<b>1513</b>	<b>1523</b>	<b>1520</b>
Normalized	99.34%	100%	99.8%
<b>AI Benchmark Alpha - Device AI Score</b>	<b>3473</b>	<b>3532</b>	<b>3527</b>
Normalized	98.33%	100%	99.86%
<b>PHPBench - P.B.S (Score)</b>	<b>568796</b>	<b>567897</b>	<b>573567</b>
Normalized	99.17%	99.01%	100%
Standard Deviation	1.8%	1.3%	1%
<b>Mipack Benchmark - scikit_ica (sec)</b>	<b>51.74</b>	<b>51.82</b>	<b>51.84</b>
Normalized	100%	99.85%	99.81%
Standard Deviation	0.4%	0.3%	0.1%
<b>Mipack Benchmark - scikit_qda (sec)</b>	<b>40.05</b>	<b>39.49</b>	<b>39.86</b>
Normalized	98.6%	100%	99.07%
Standard Deviation	0.3%	0.8%	2.5%
<b>Mipack Benchmark - scikit_svm (sec)</b>	<b>24.45</b>	<b>24.49</b>	<b>25.02</b>
Normalized	100%	99.84%	97.72%
Standard Deviation	0.3%	0.1%	1%
<b>Mipack Benchmark -</b>	<b>1.61</b>	<b>1.59</b>	<b>1.62</b>
<b>scikit_linearridge regression (sec)</b>			
Normalized	98.76%	100%	98.15%
Standard Deviation	1%	0.6%	1.1%
<b>BRL-CAD - V.P.M (VGR Performance Metric)</b>	<b>337924</b>	<b>332394</b>	<b>341885</b>
Normalized	98.84%	97.22%	100%
<b>InfluxDB - 4 - 10000 - 2,5000,1 - 10000</b>	<b>1198000</b>	<b>1199592</b>	<b>1197198</b>
Normalized	99.87%	100%	99.8%
Standard Deviation	0.4%	0.6%	0.3%
<b>InfluxDB - 64 - 10000 - 2,5000,1 - 10000</b>	<b>1339488</b>	<b>1339130</b>	<b>1297583</b>
(val/sec)			
Normalized	100%	99.97%	96.87%
Standard Deviation	0.2%	0.1%	0.2%

## LevelDB 1.22

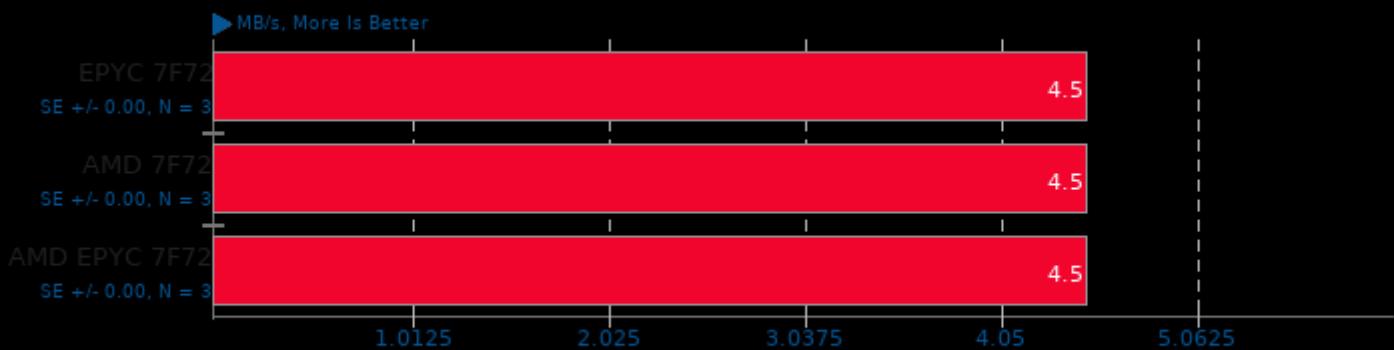
Benchmark: Hot Read



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

## LevelDB 1.22

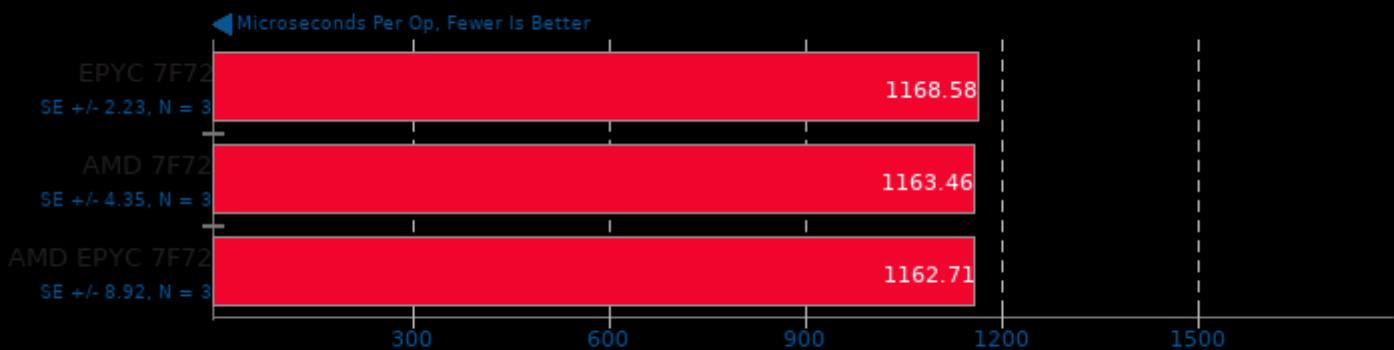
Benchmark: Fill Sync



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

## LevelDB 1.22

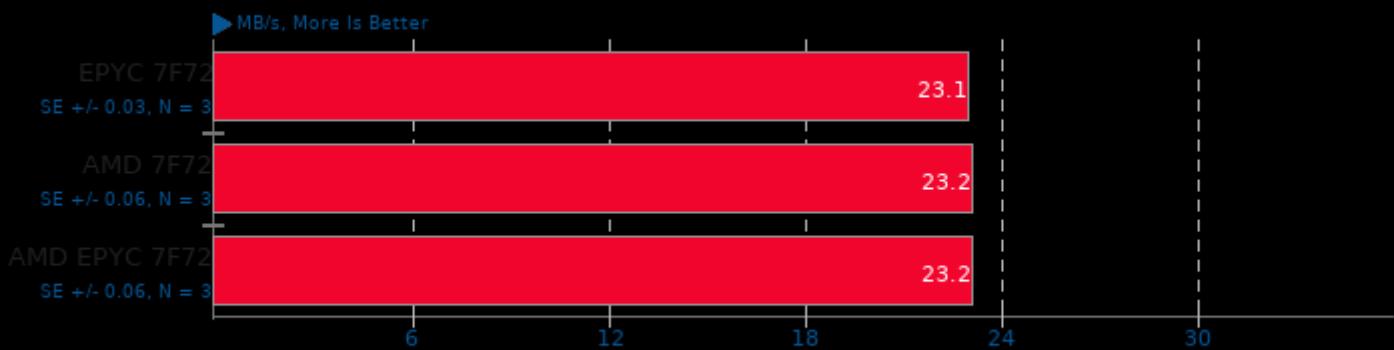
Benchmark: Fill Sync



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

## LevelDB 1.22

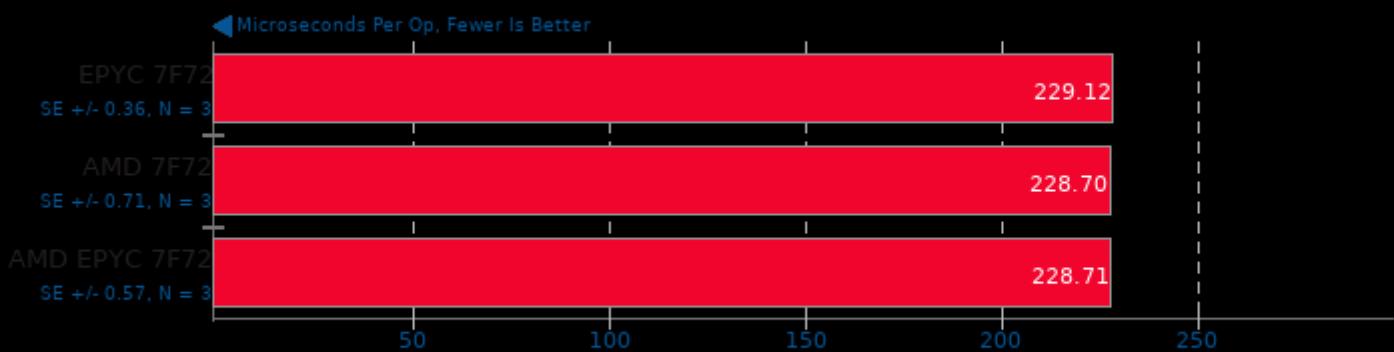
Benchmark: Overwrite



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

## LevelDB 1.22

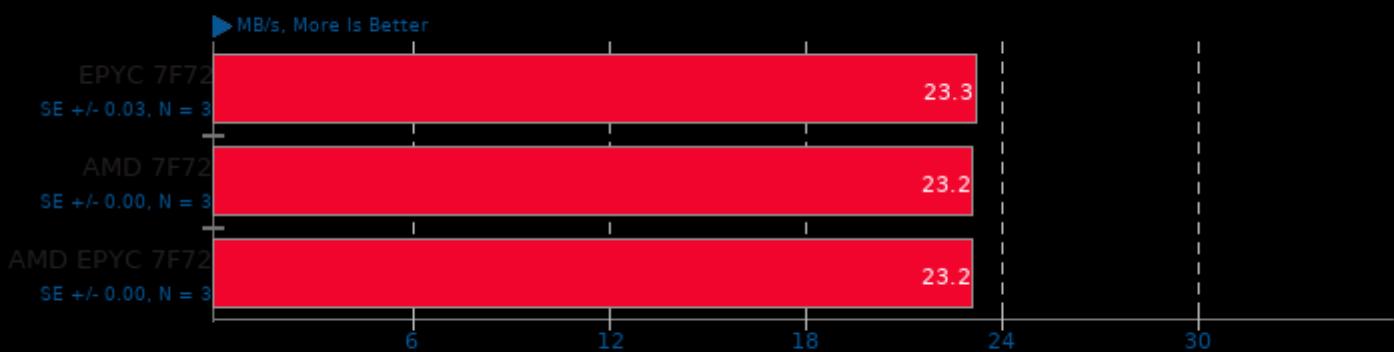
Benchmark: Overwrite



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

## LevelDB 1.22

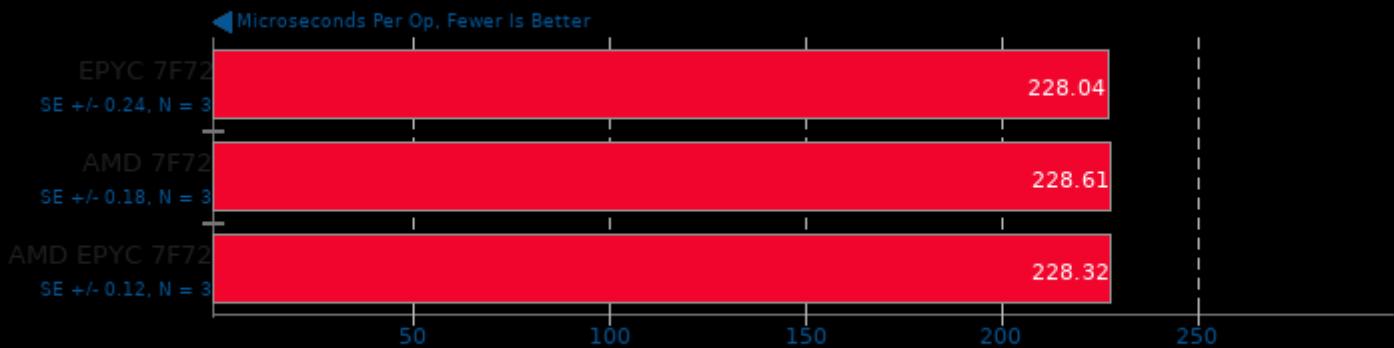
Benchmark: Random Fill



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

## LevelDB 1.22

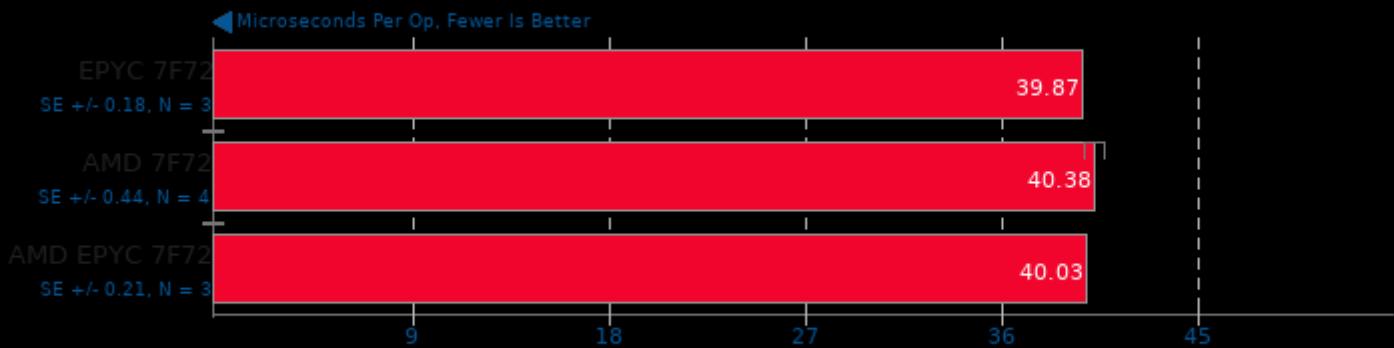
Benchmark: Random Fill



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

## LevelDB 1.22

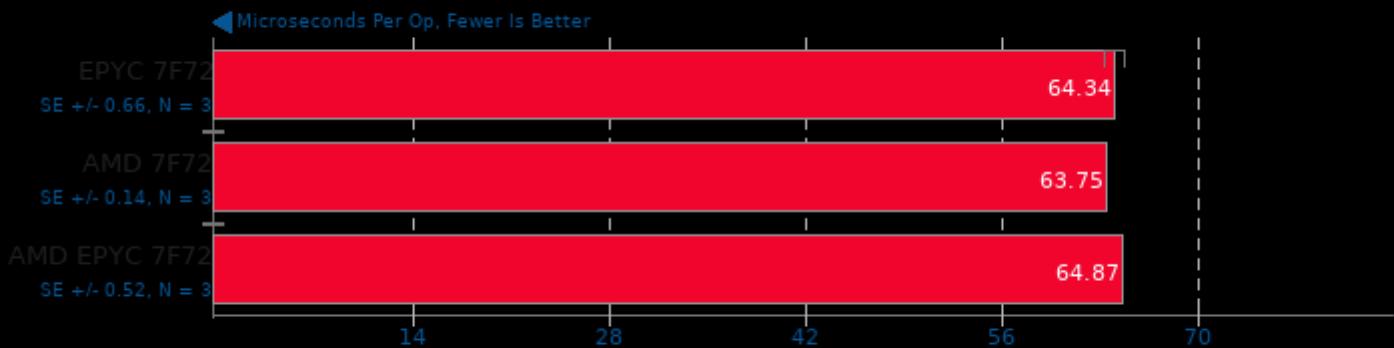
Benchmark: Random Read



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

## LevelDB 1.22

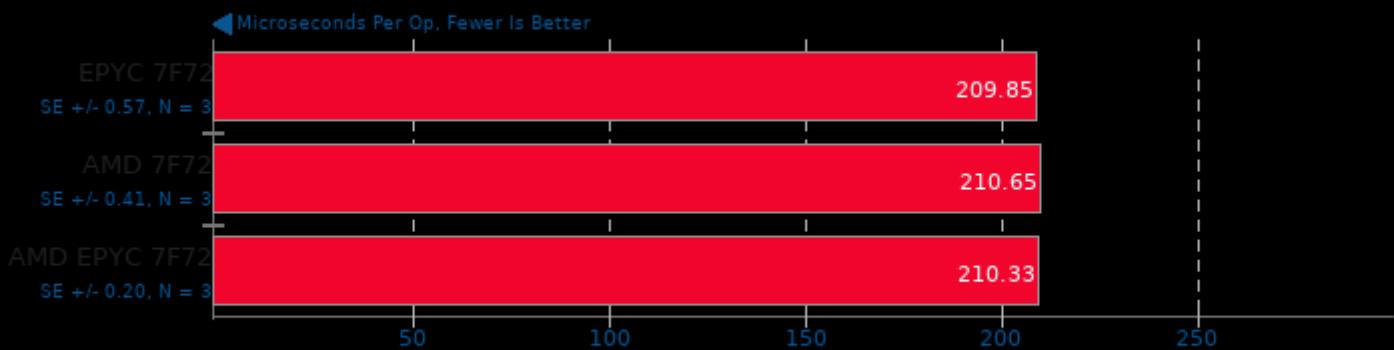
Benchmark: Seek Random



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

## LevelDB 1.22

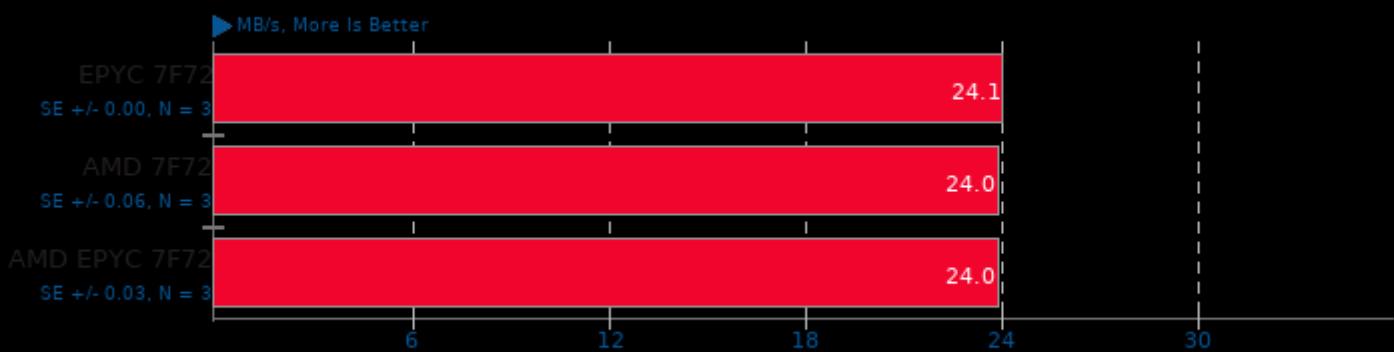
Benchmark: Random Delete



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

## LevelDB 1.22

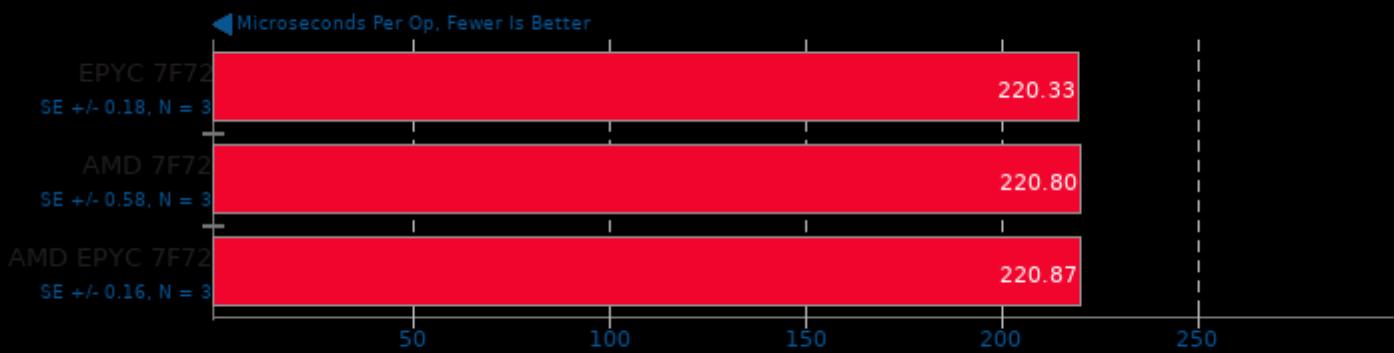
Benchmark: Sequential Fill



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

## LevelDB 1.22

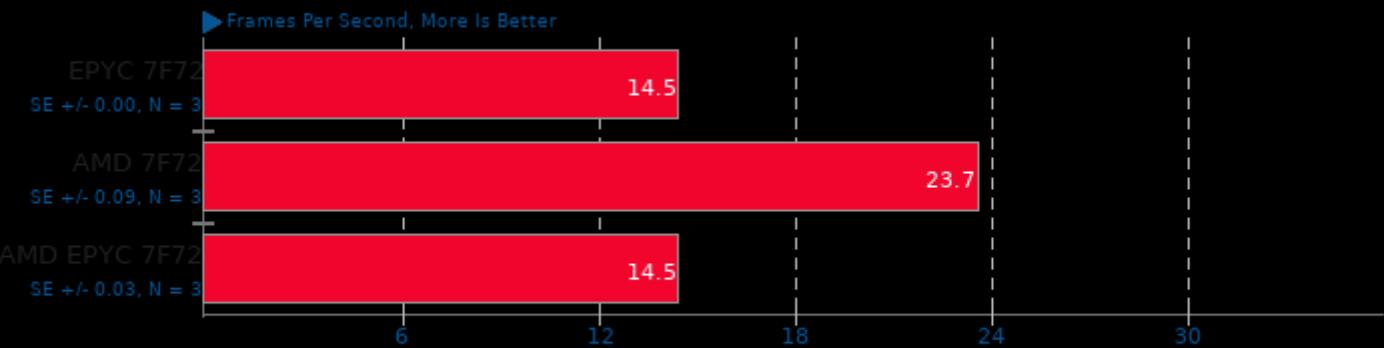
Benchmark: Sequential Fill



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

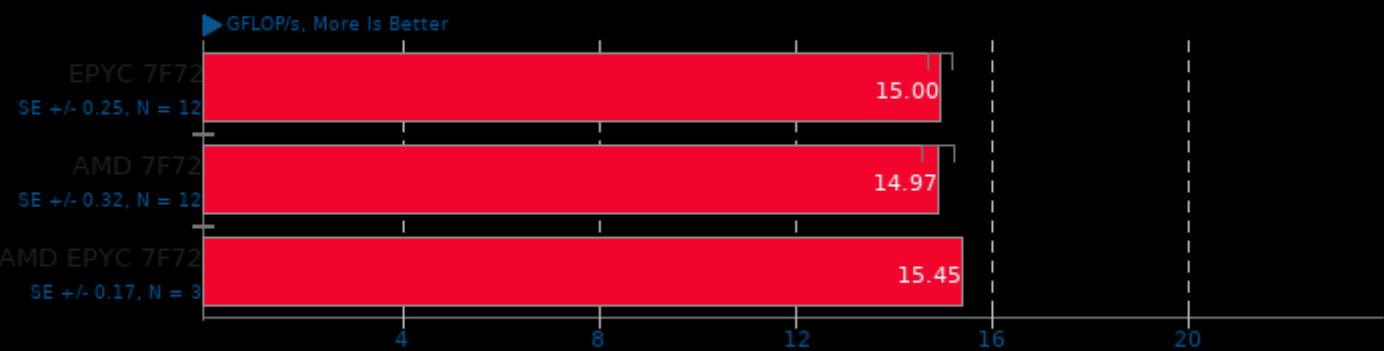
## yquake2 7.45

Renderer: Software CPU - Resolution: 1920 x 1080



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

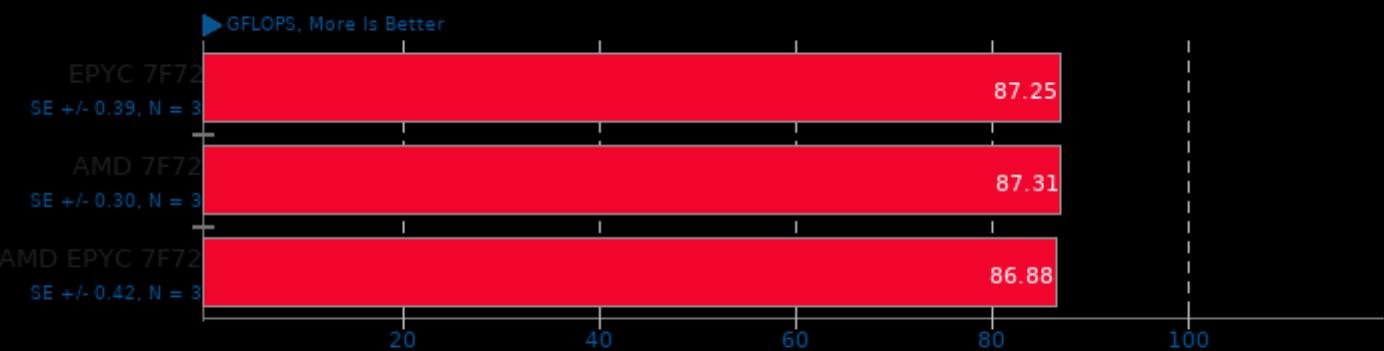
## High Performance Conjugate Gradient 3.1



1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -pthread -lmpi\_cxx -lmpi

## HPC Challenge 1.5.0

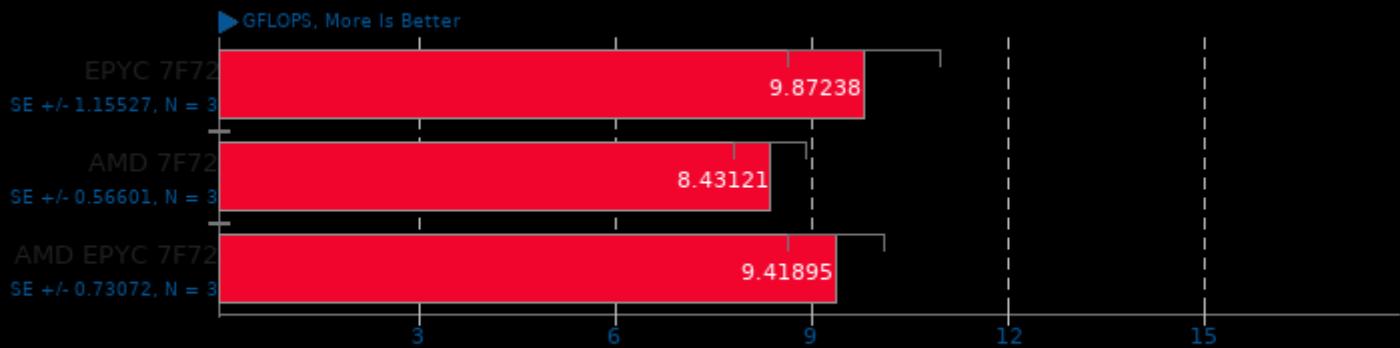
Test / Class: G-HPL



1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops  
 2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: G-Ffte

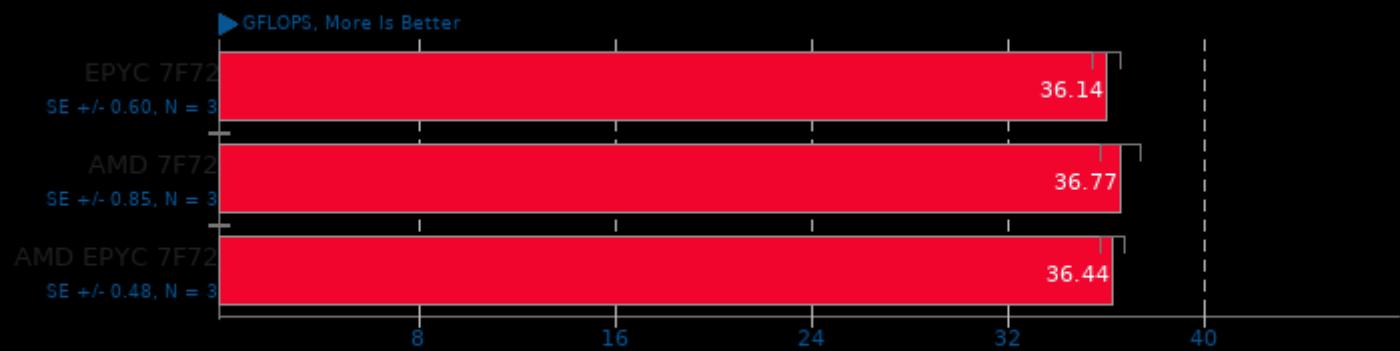


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: EP-DGEMM

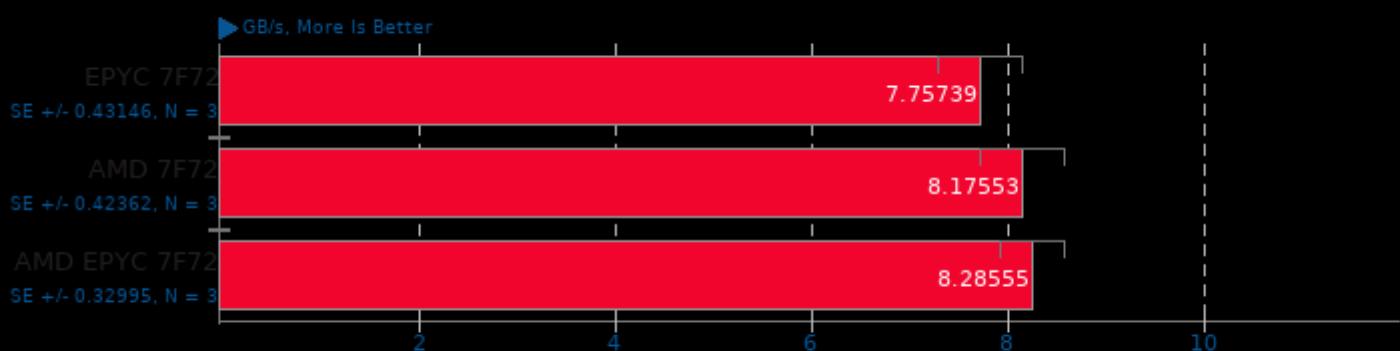


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: G-Ptrans

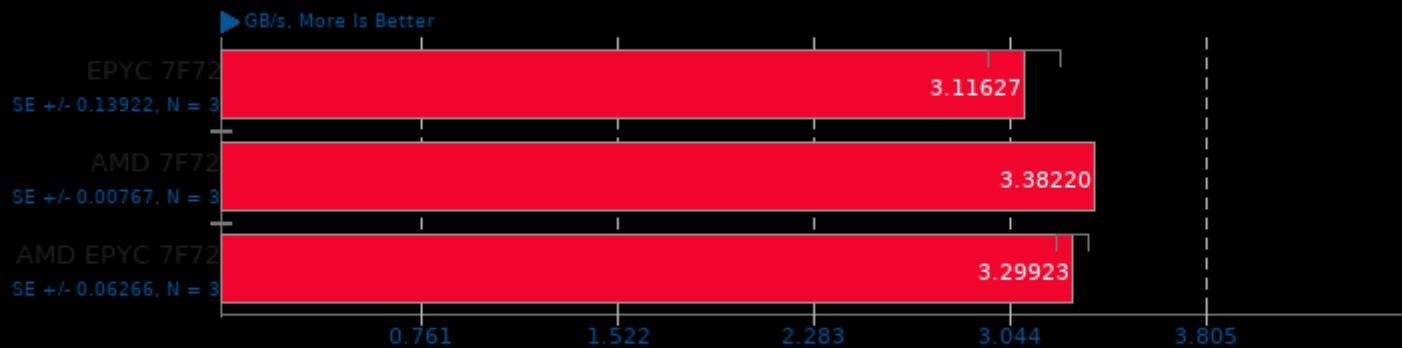


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: EP-STREAM Triad

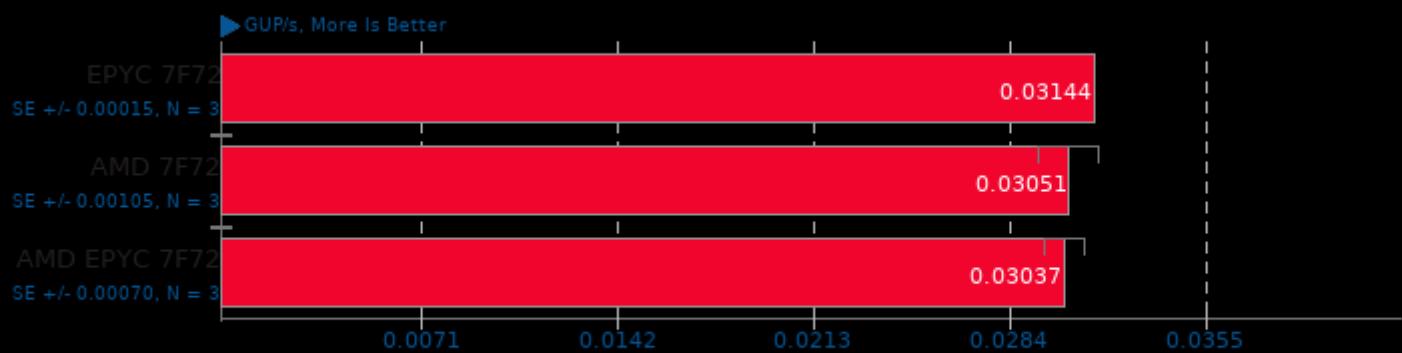


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: G-Random Access

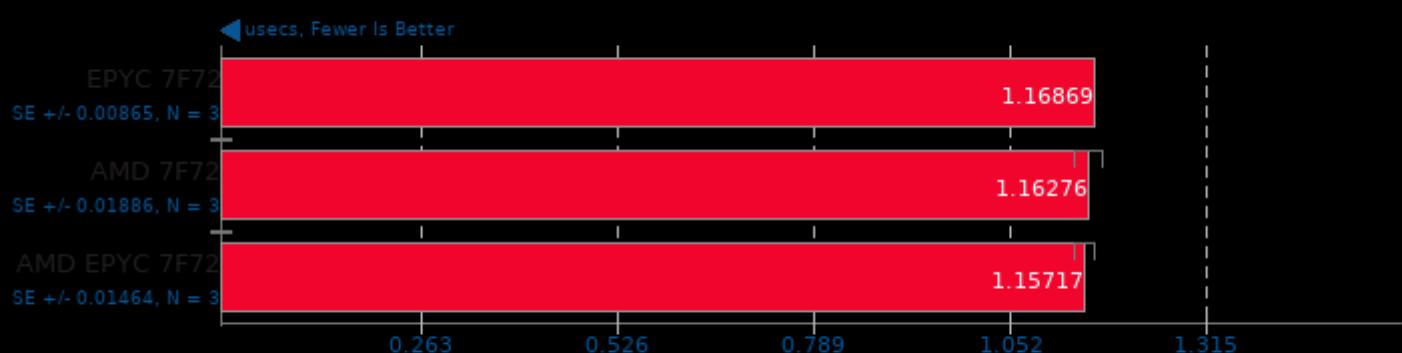


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: Random Ring Latency

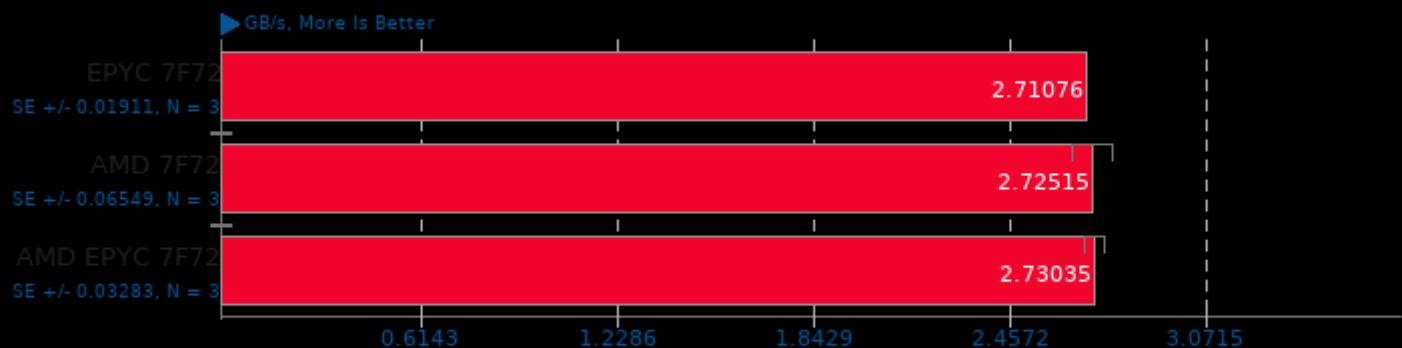


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: Random Ring Bandwidth

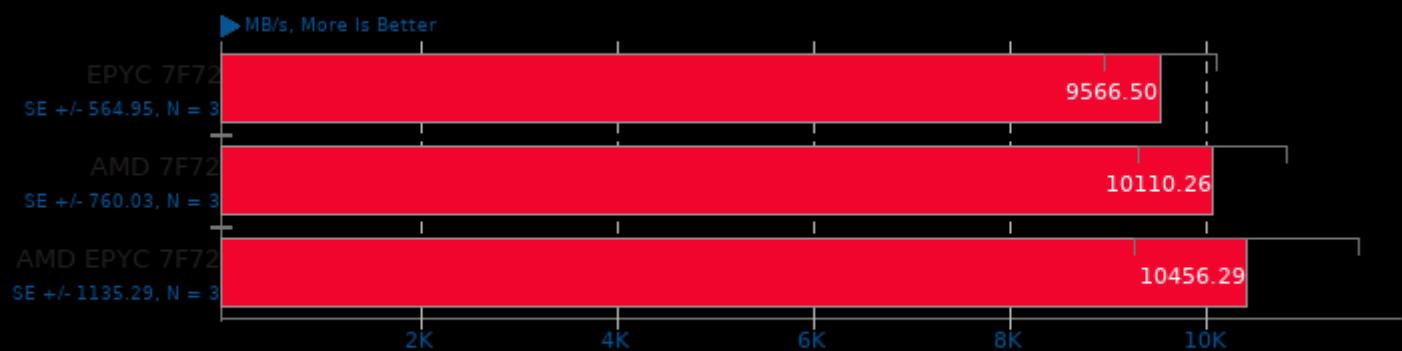


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

## HPC Challenge 1.5.0

Test / Class: Max Ping Pong Bandwidth

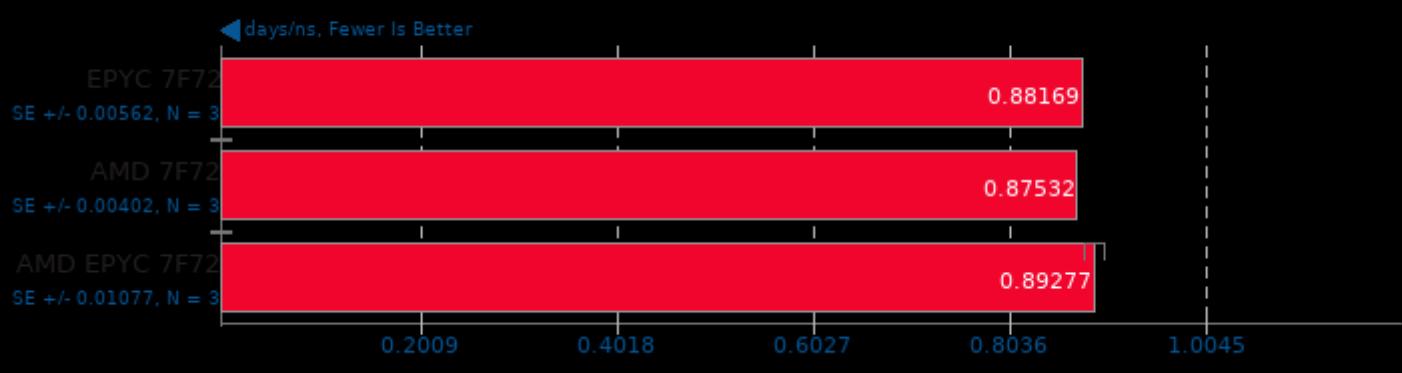


1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops

2. ATLAS + Open MPI 4.0.3

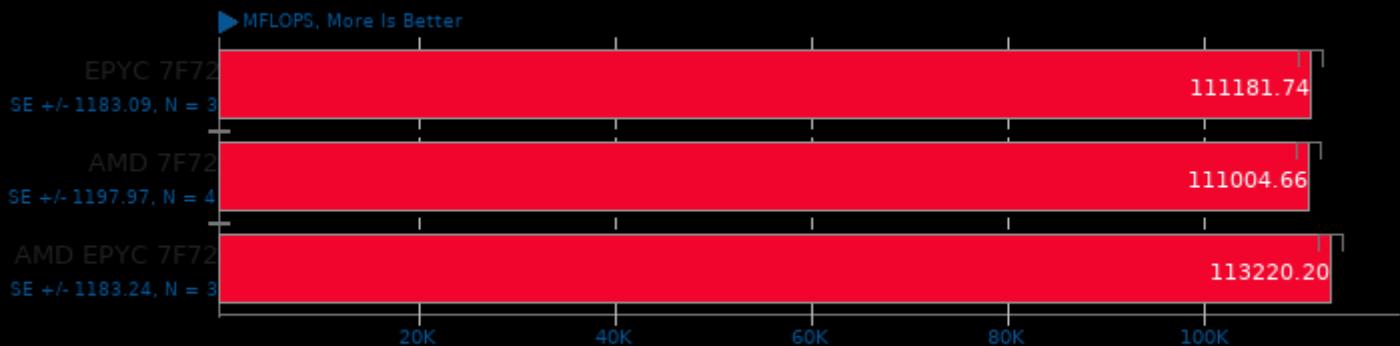
## NAMD 2.14

ATPase Simulation - 327,506 Atoms



## FFTE 7.0

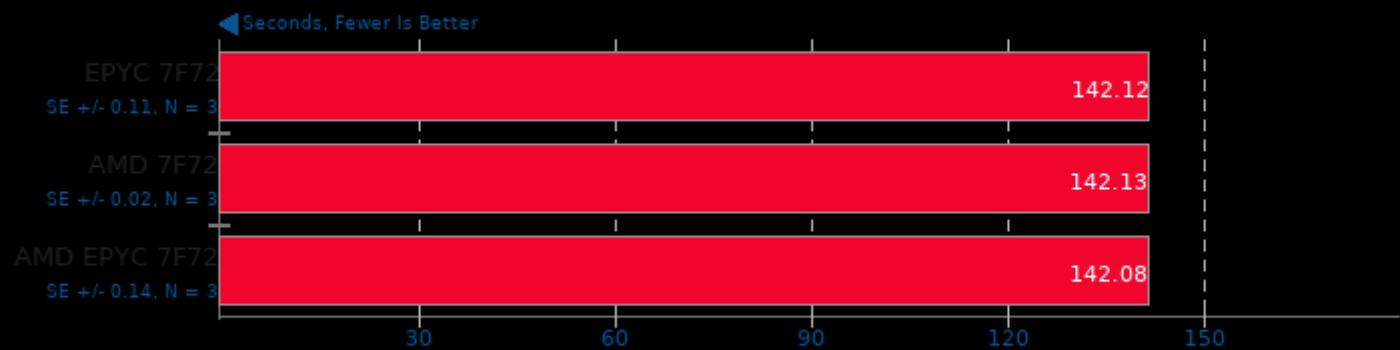
N=256, 3D Complex FFT Routine



1. (F9X) gfortran options: -O3 -fomit-frame-pointer -fopenmp

## Timed HMMer Search 3.3.1

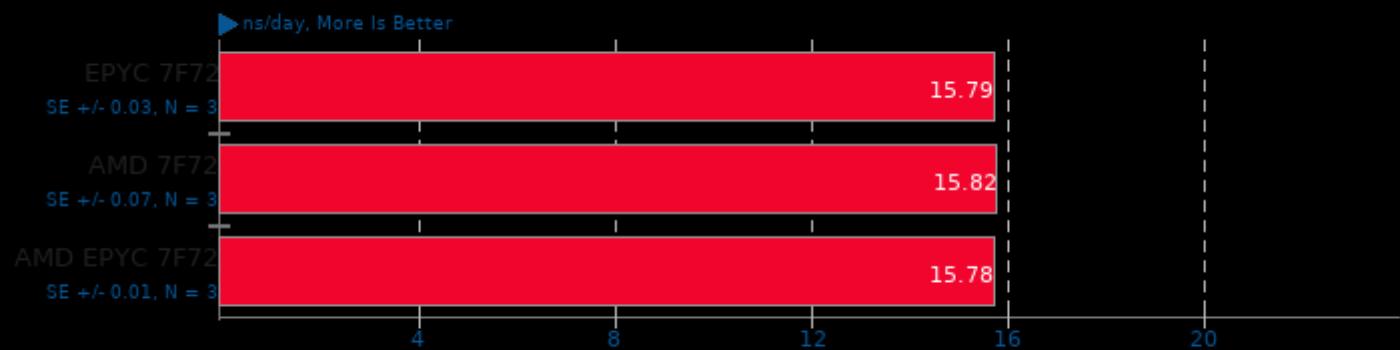
Pfam Database Search



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

## LAMMPS Molecular Dynamics Simulator 29Oct2020

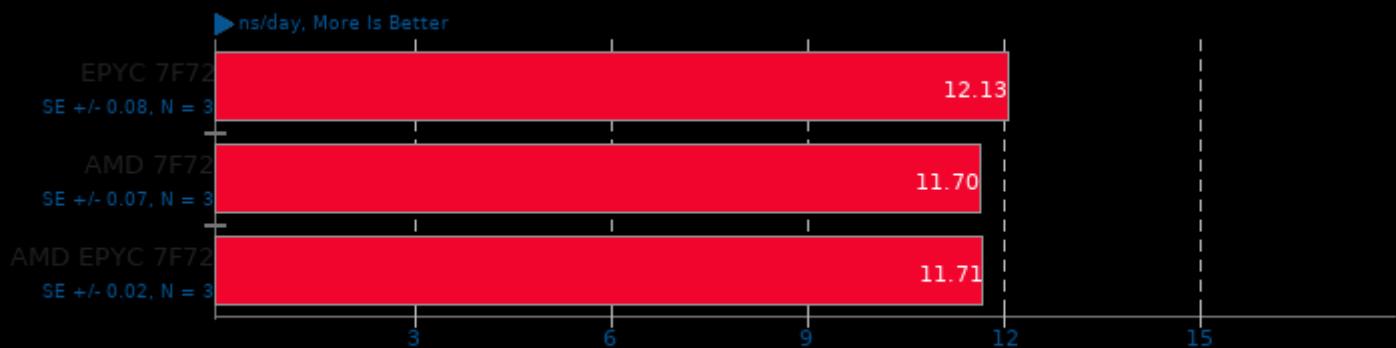
Model: 20k Atoms



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

## LAMMPS Molecular Dynamics Simulator 29Oct2020

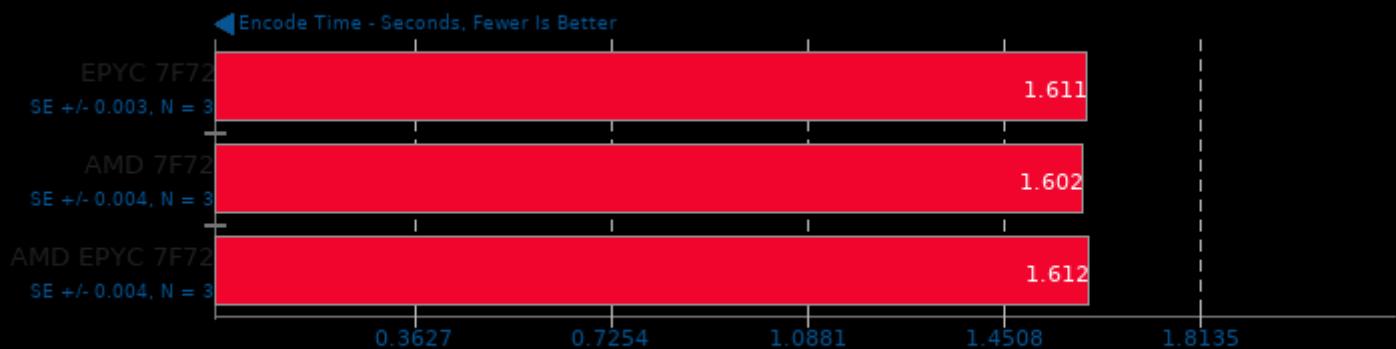
Model: Rhodopsin Protein



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

## WebP Image Encode 1.1

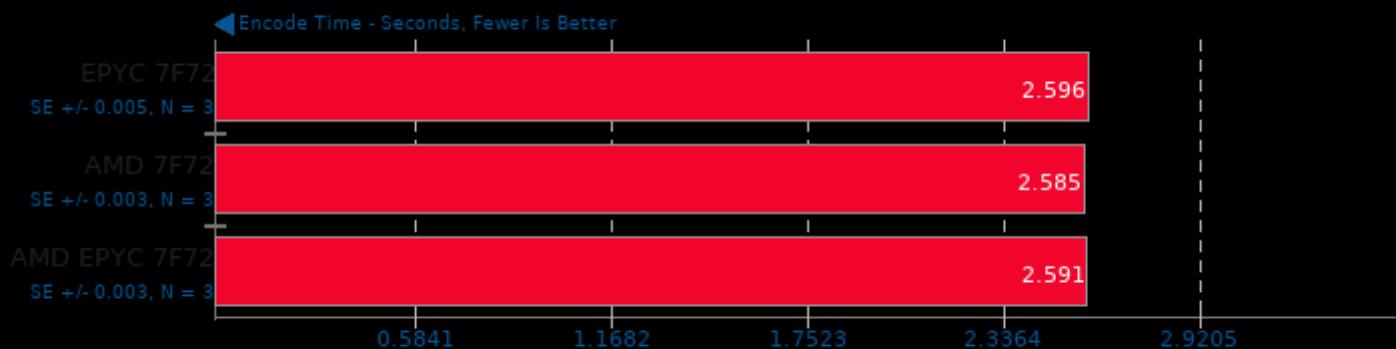
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

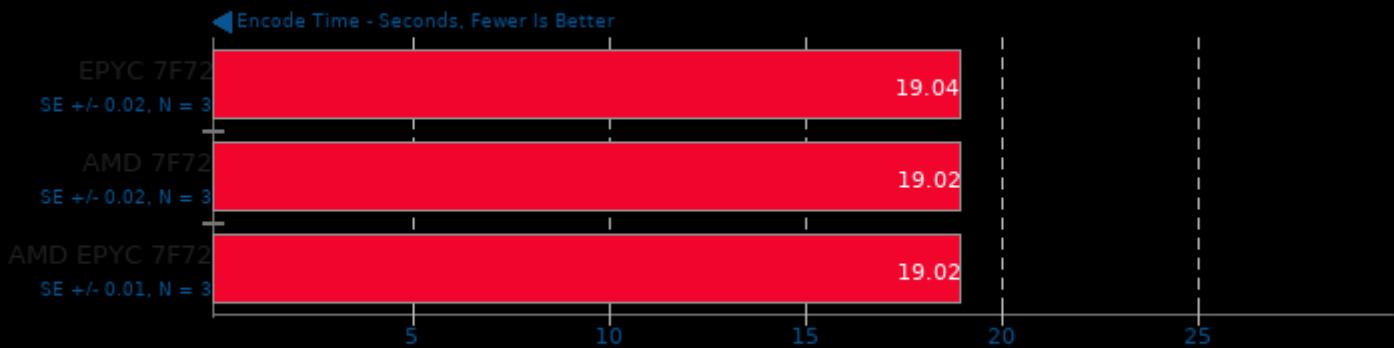
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

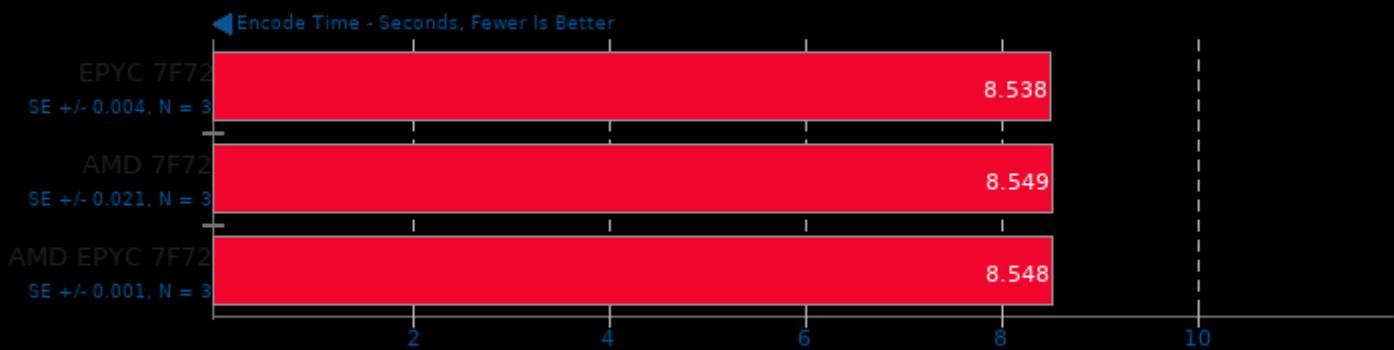
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

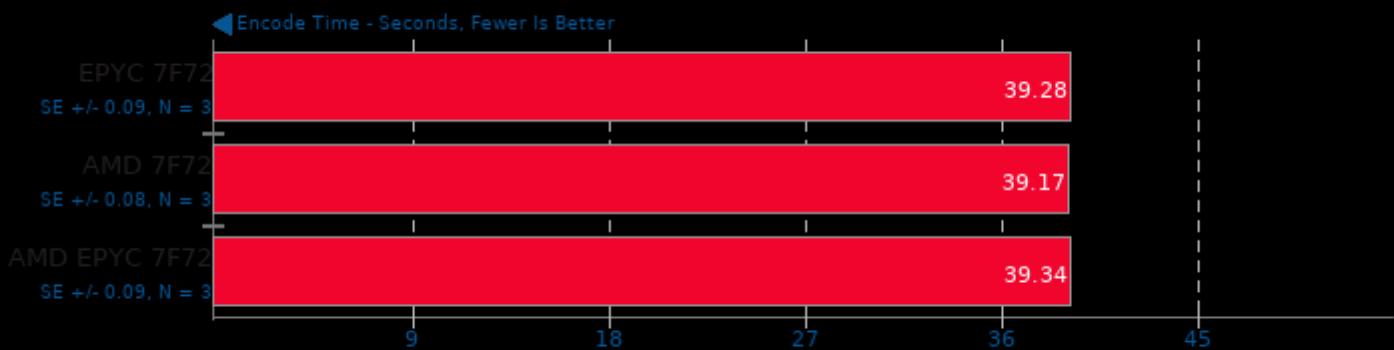
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

## WebP Image Encode 1.1

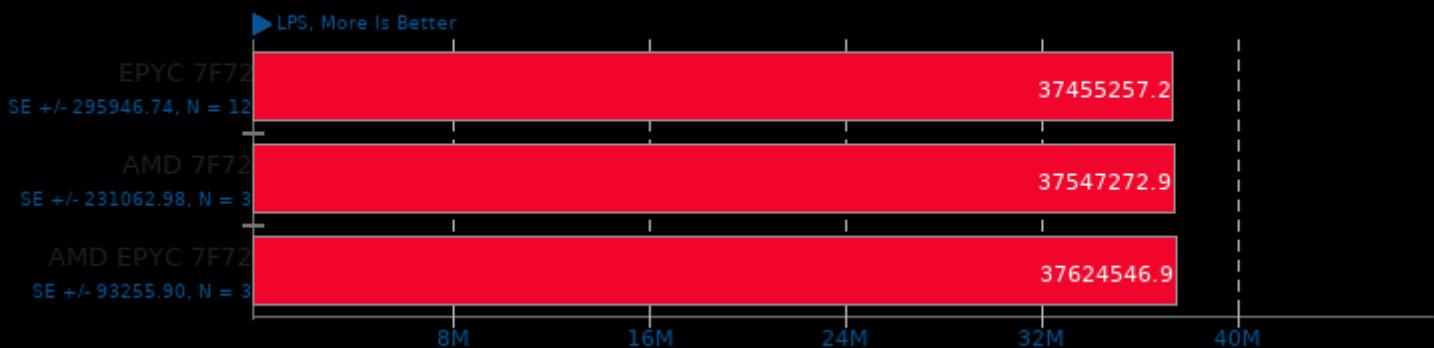
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

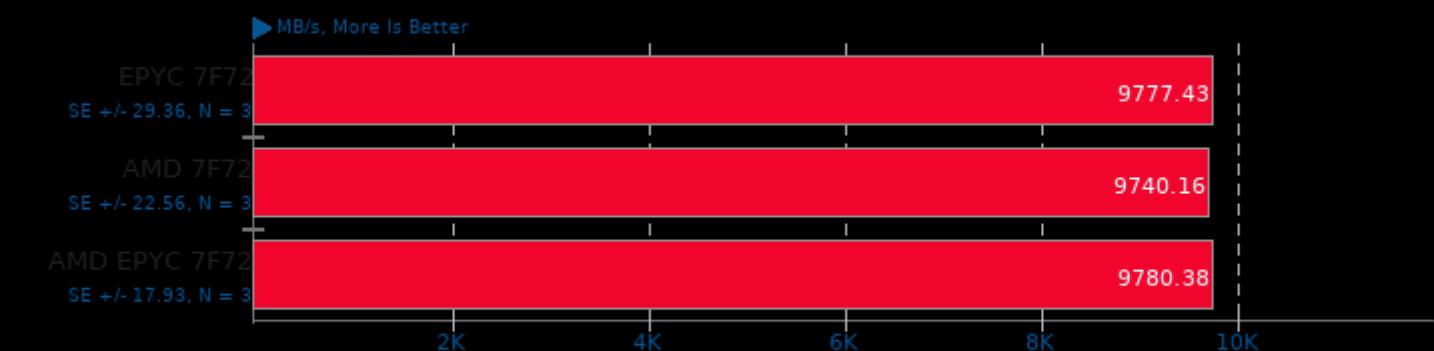
## BYTE Unix Benchmark 3.6

Computational Test: Dhrystone 2



## LZ4 Compression 1.9.3

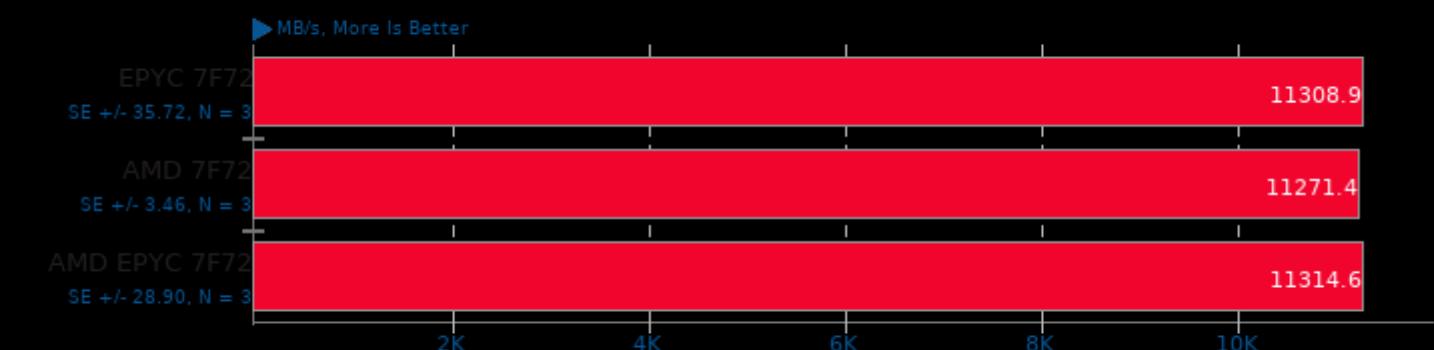
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

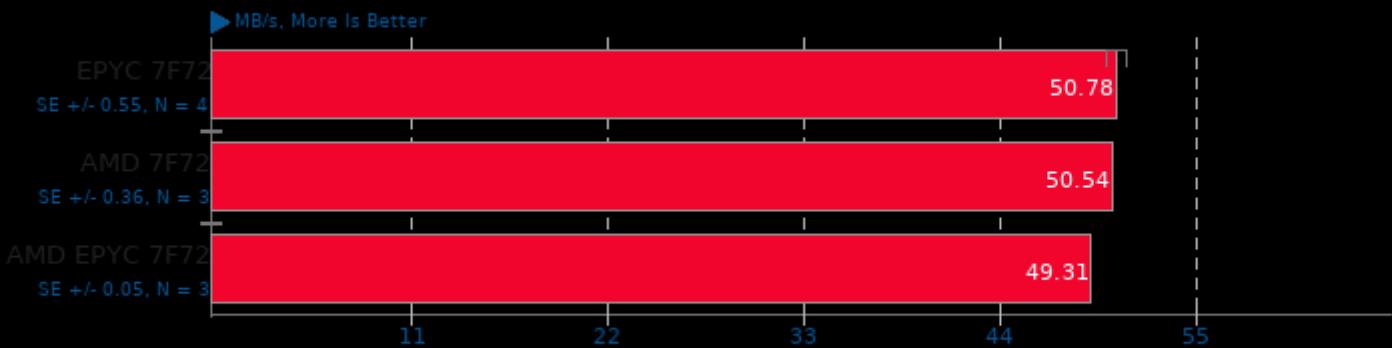
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

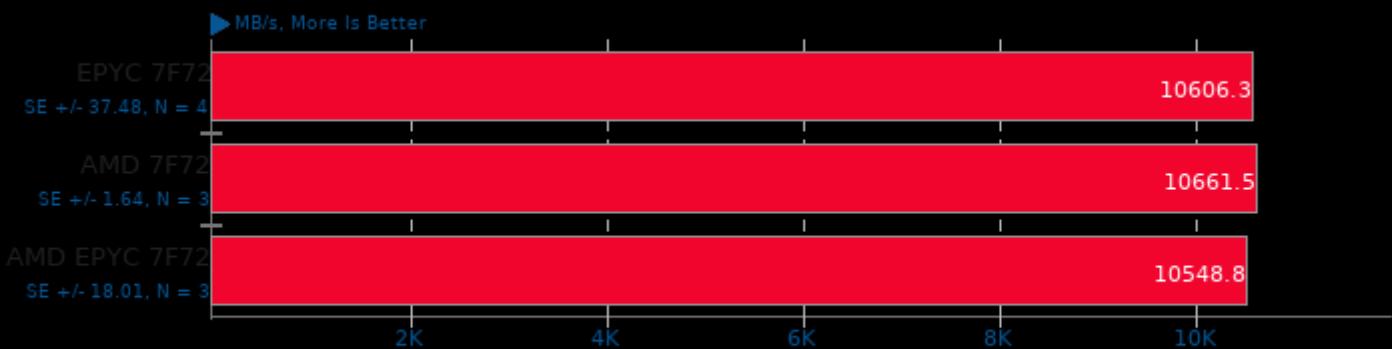
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

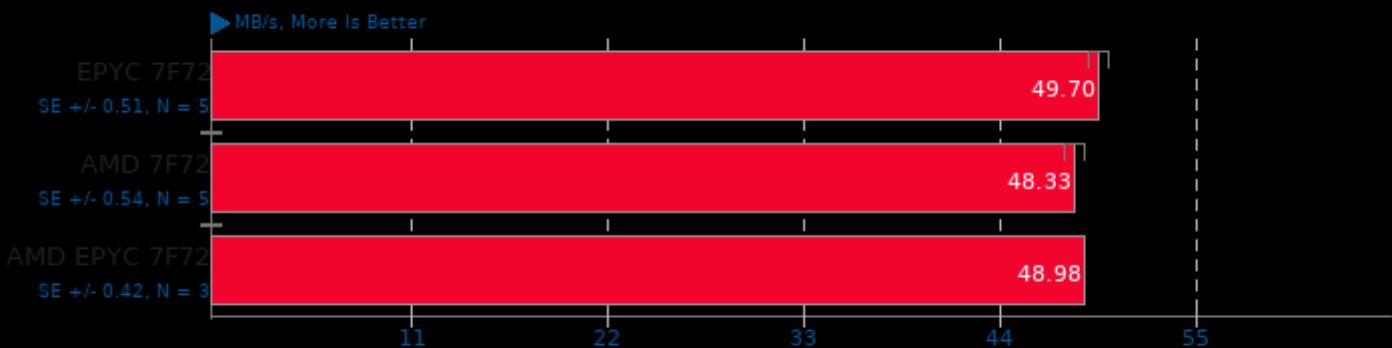
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

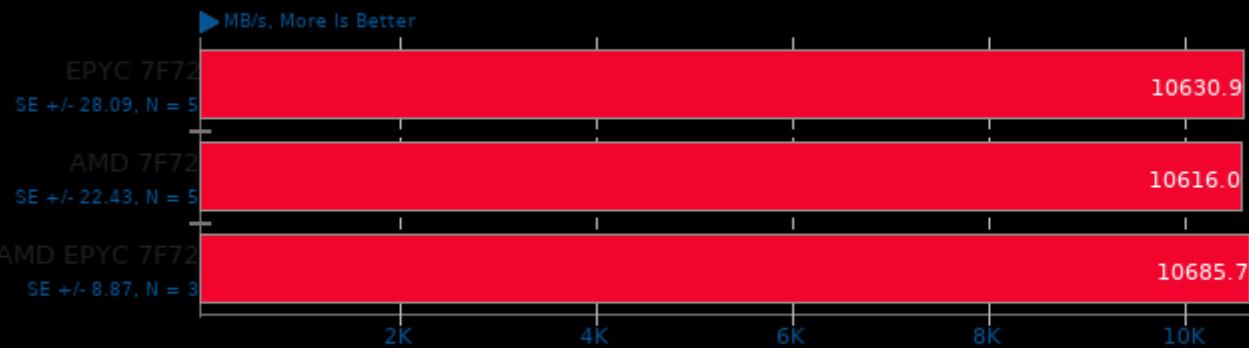
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

## LZ4 Compression 1.9.3

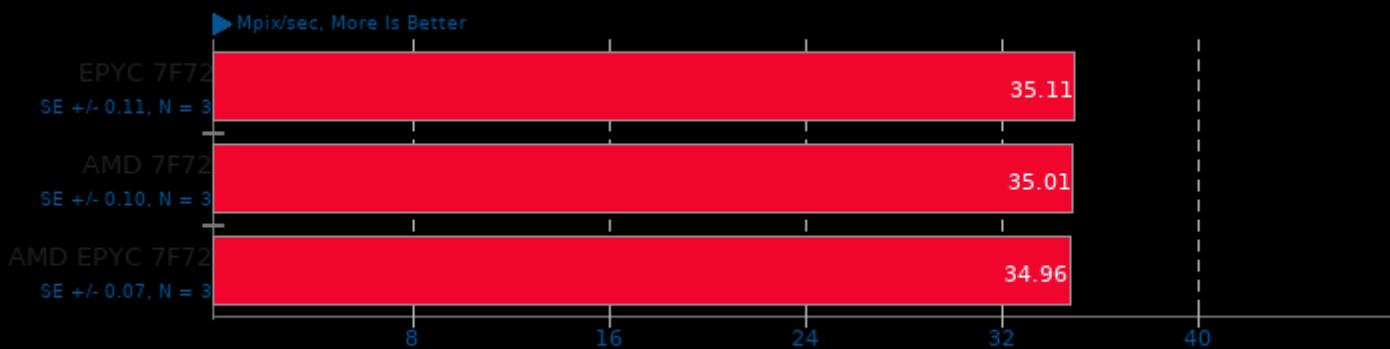
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

## LibRaw 0.20

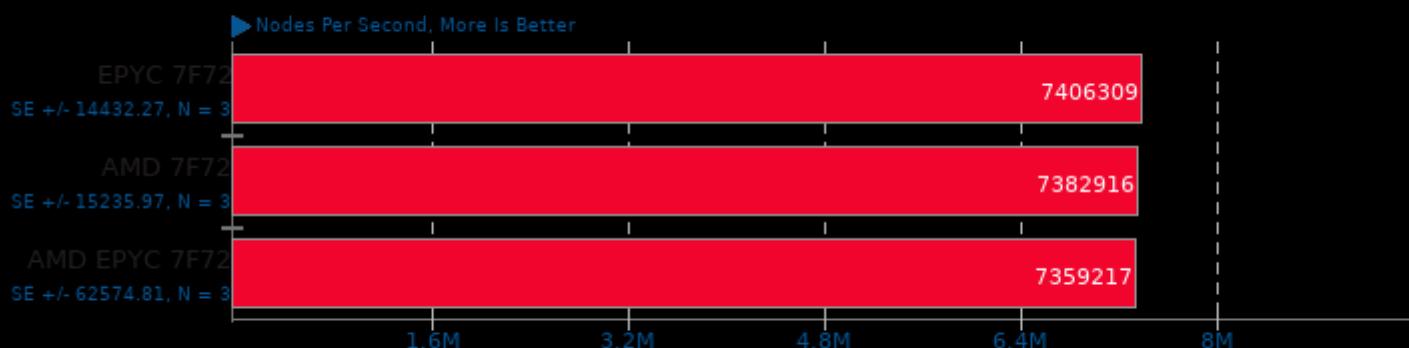
Post-Processing Benchmark



1. (CXX) g++ options: -O2 -fopenmp -ljpeg -lz -lm

## Crafty 25.2

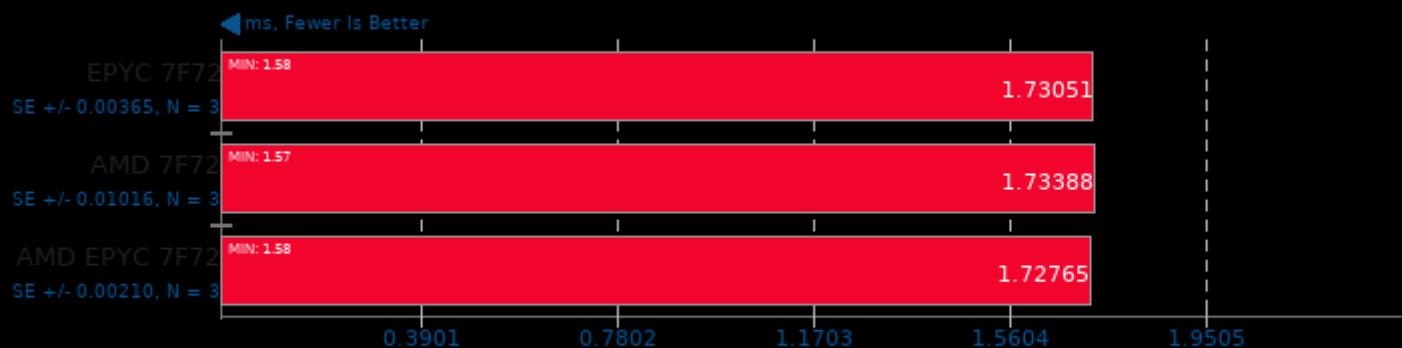
Elapsed Time



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

## oneDNN 2.0

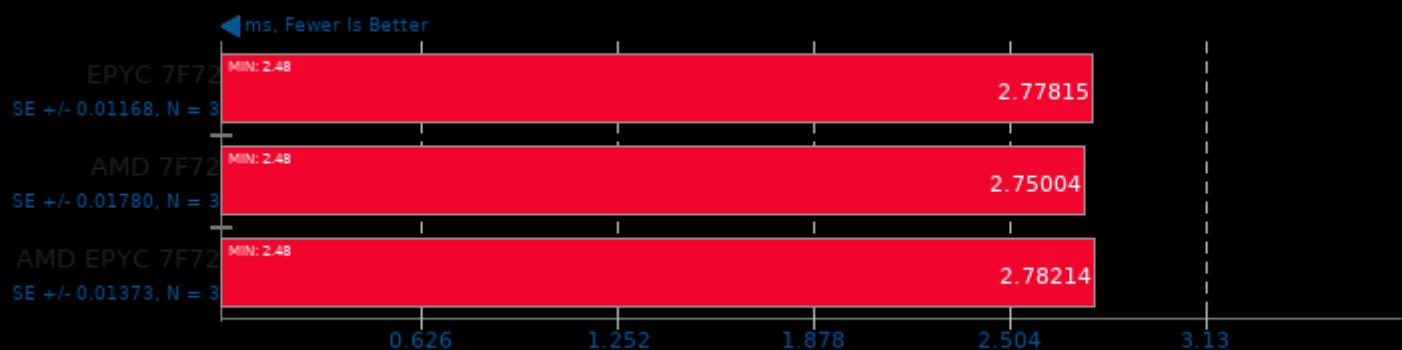
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

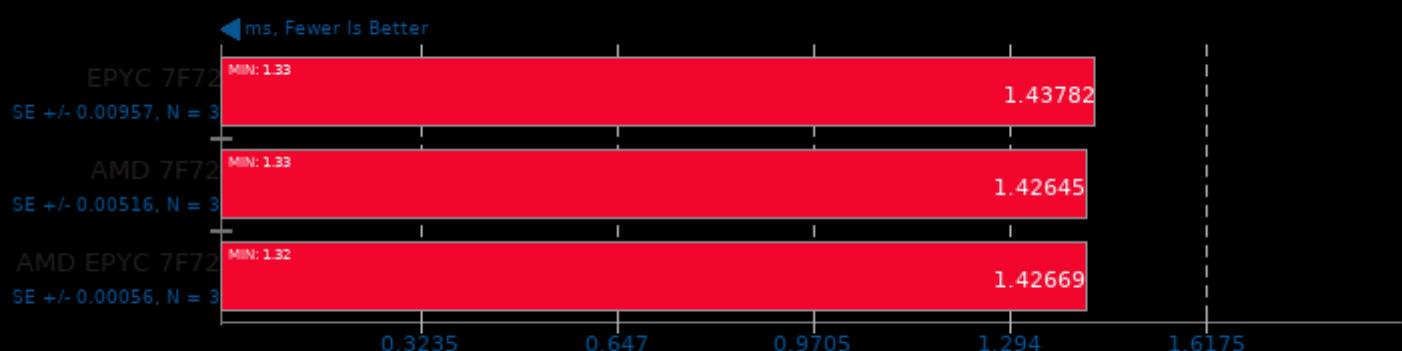
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

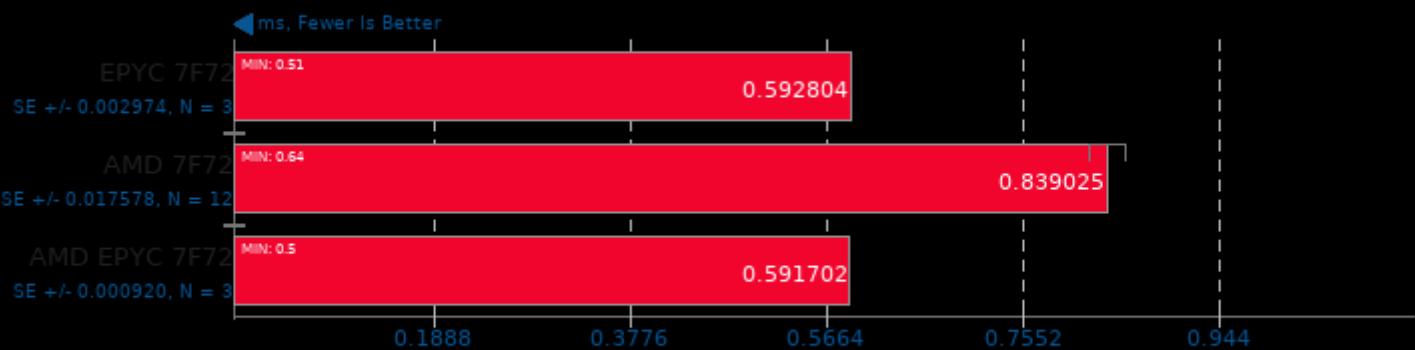
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

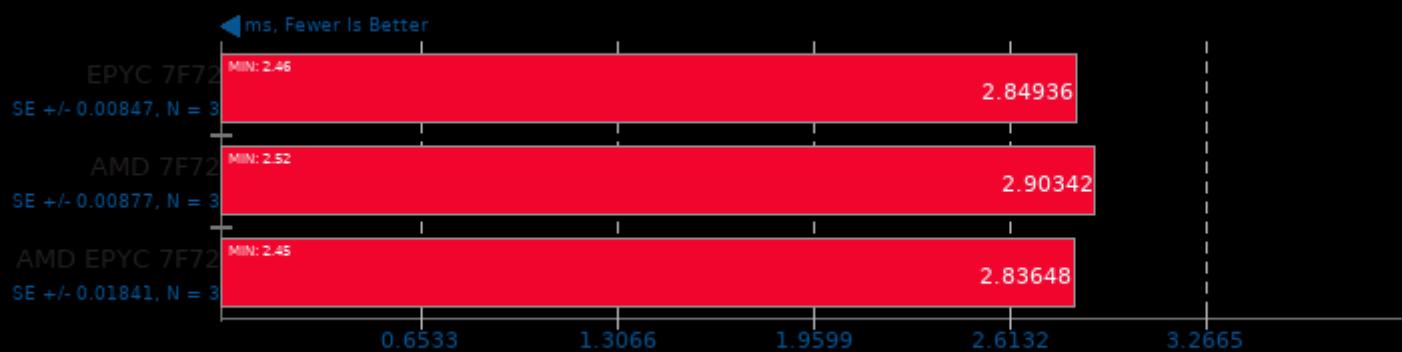
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

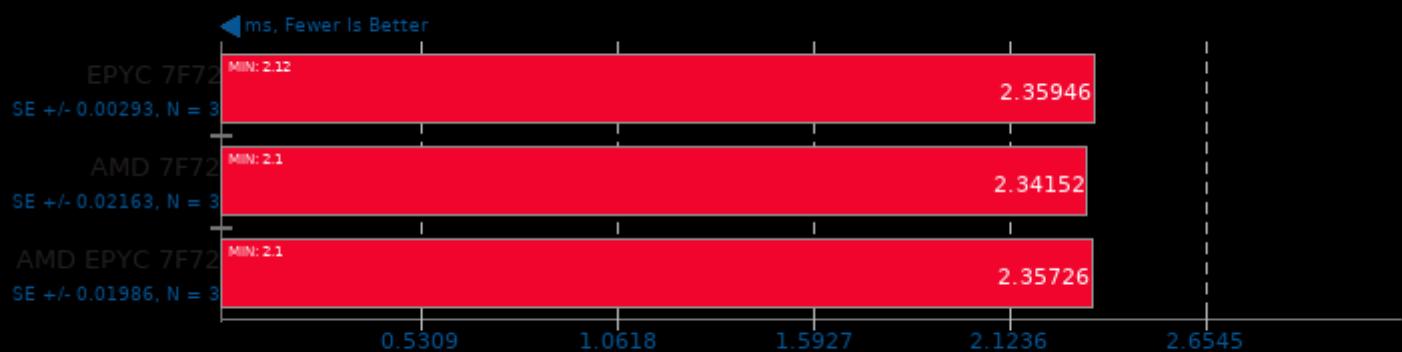
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

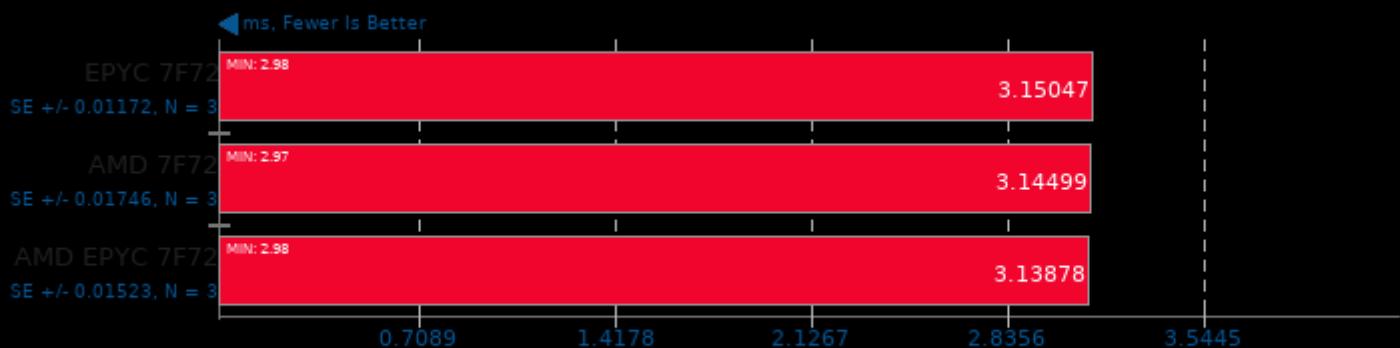
Harness: Deconvolution Batch shapes\_1d - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

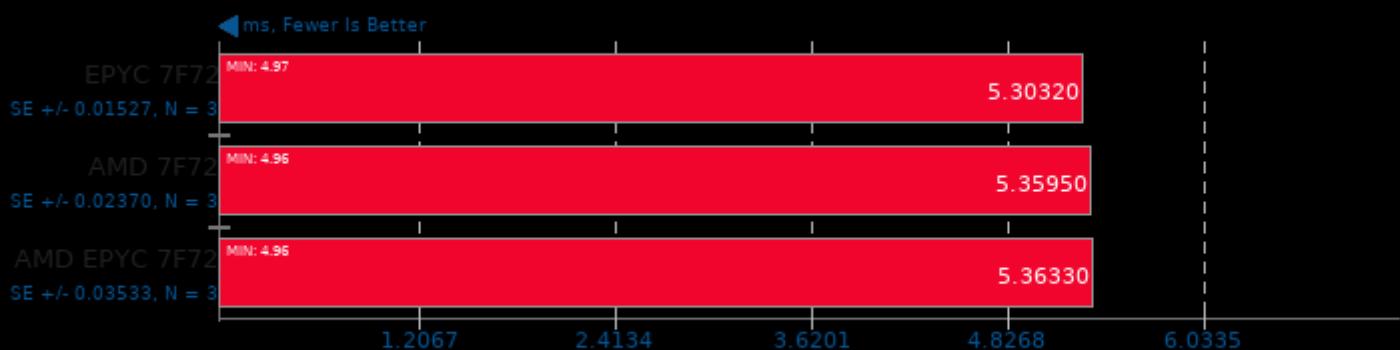
Harness: Deconvolution Batch shapes\_3d - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

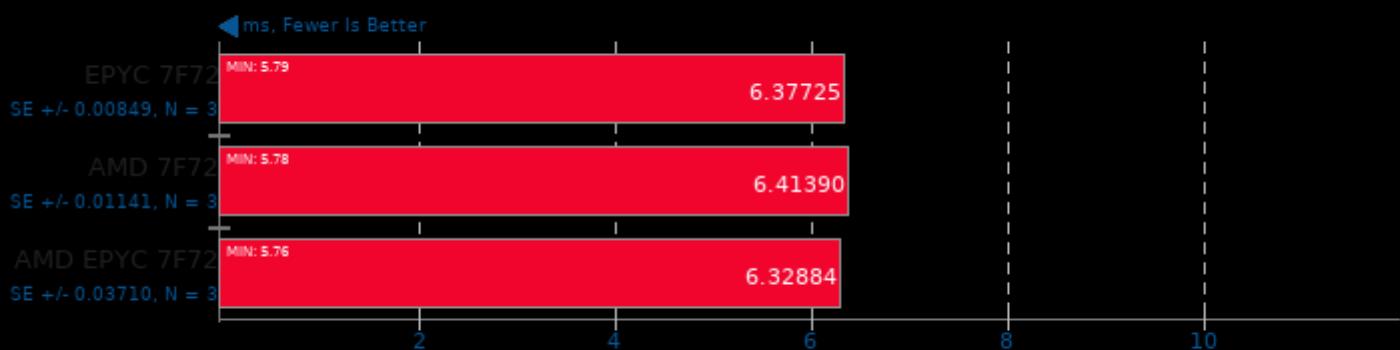
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

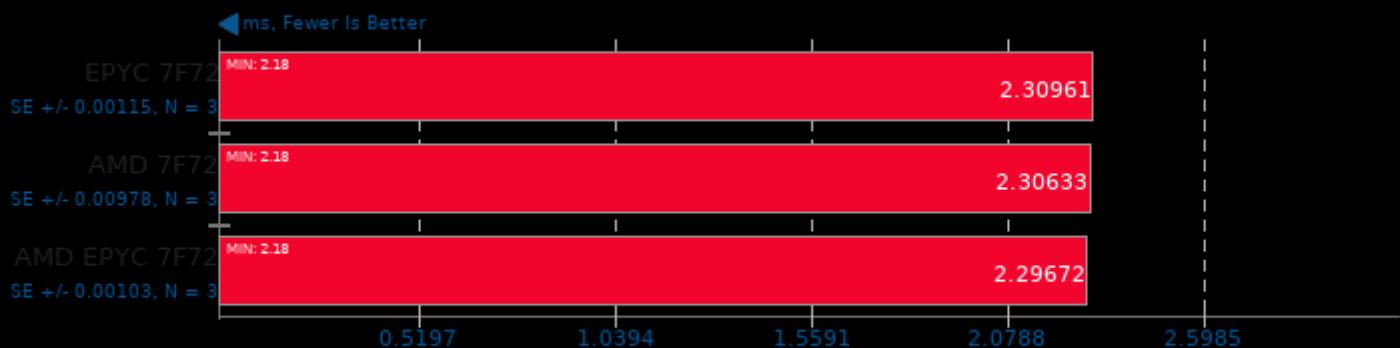
Harness: Deconvolution Batch shapes\_1d - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

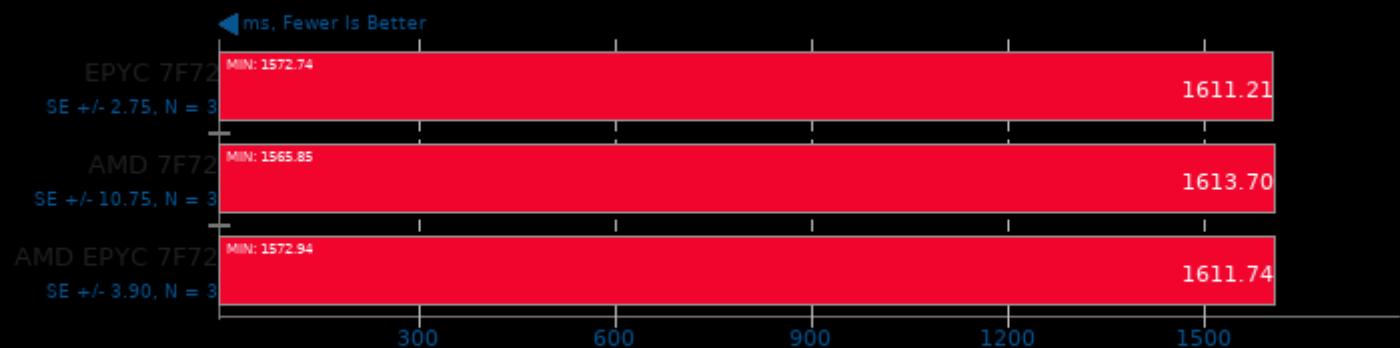
Harness: Deconvolution Batch shapes\_3d - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

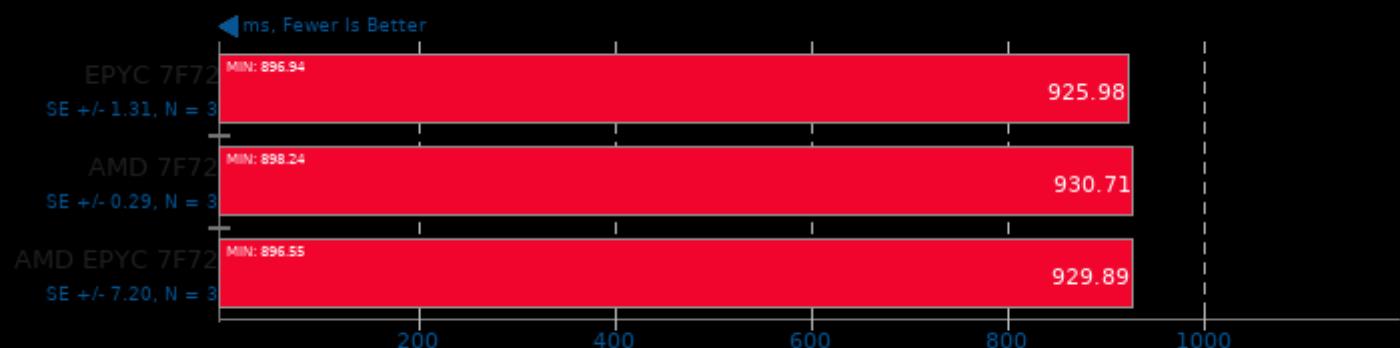
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

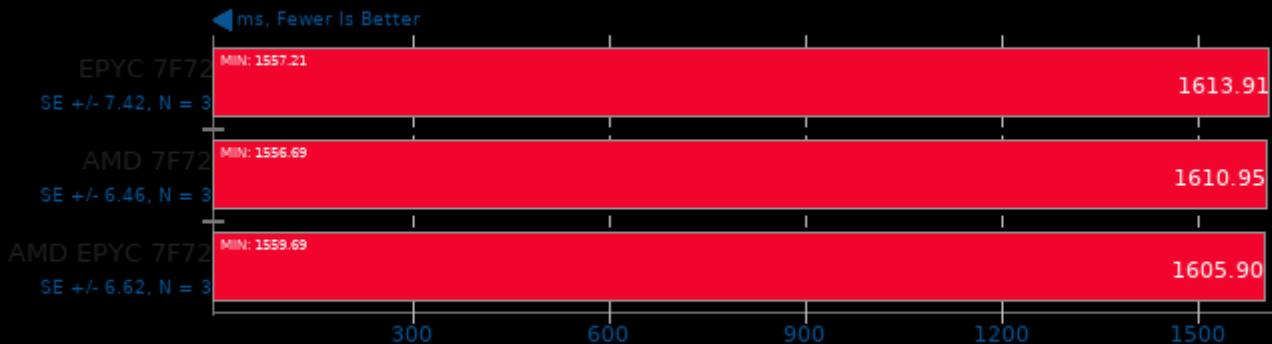
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

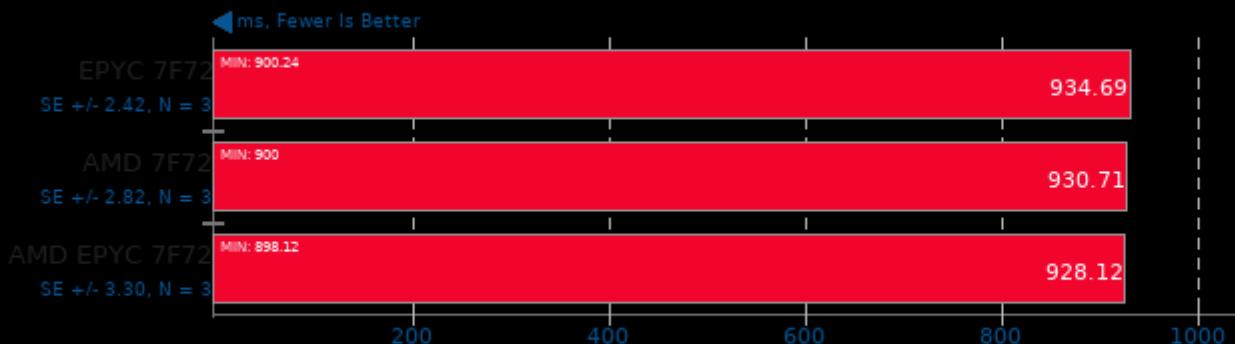
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

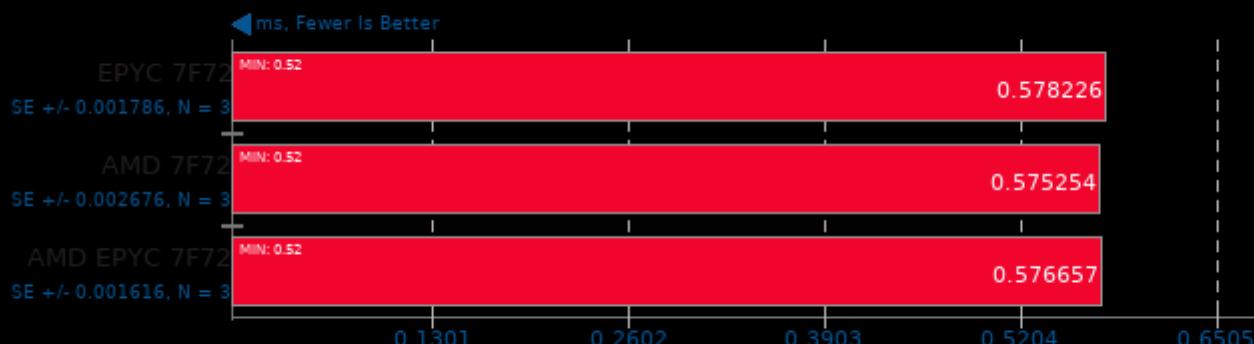
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU



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

## oneDNN 2.0

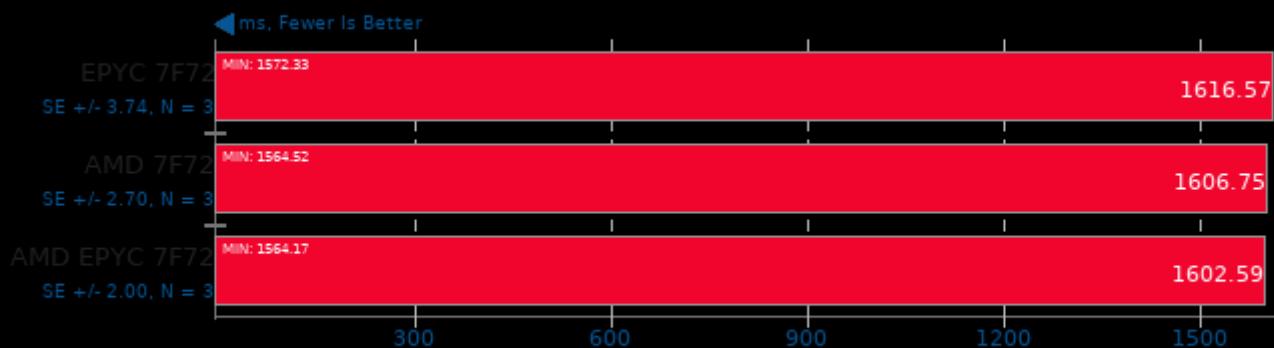
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



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

## oneDNN 2.0

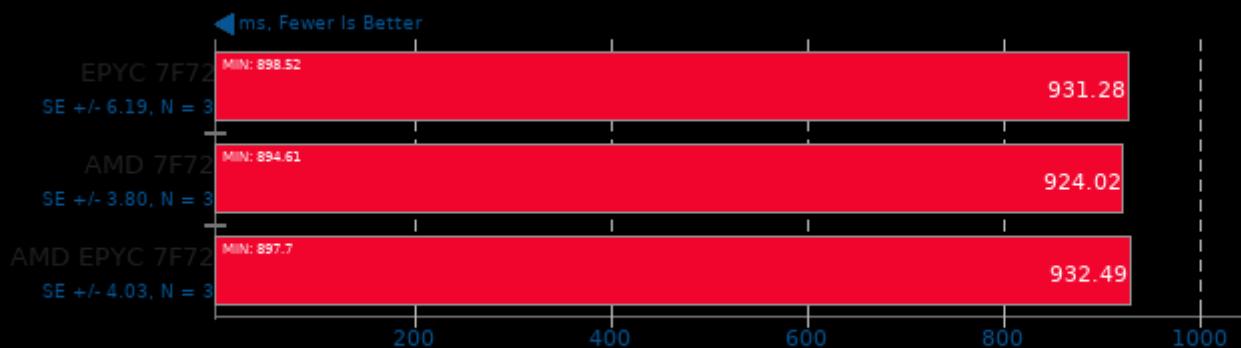
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU



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

## oneDNN 2.0

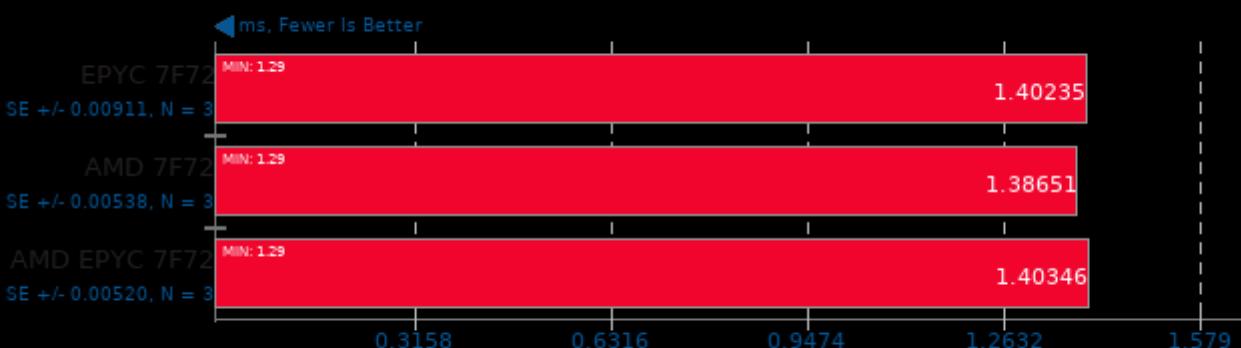
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU



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

## oneDNN 2.0

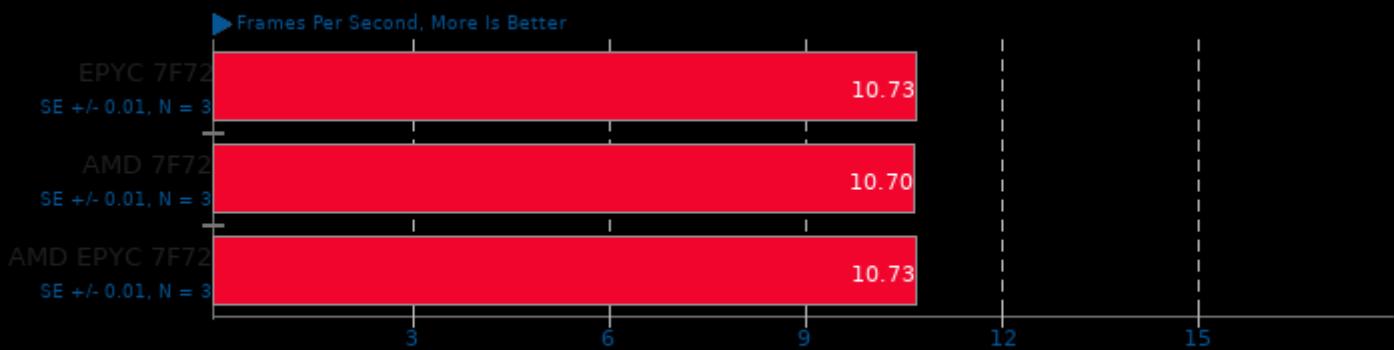
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



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

## Kvazaar 2.0

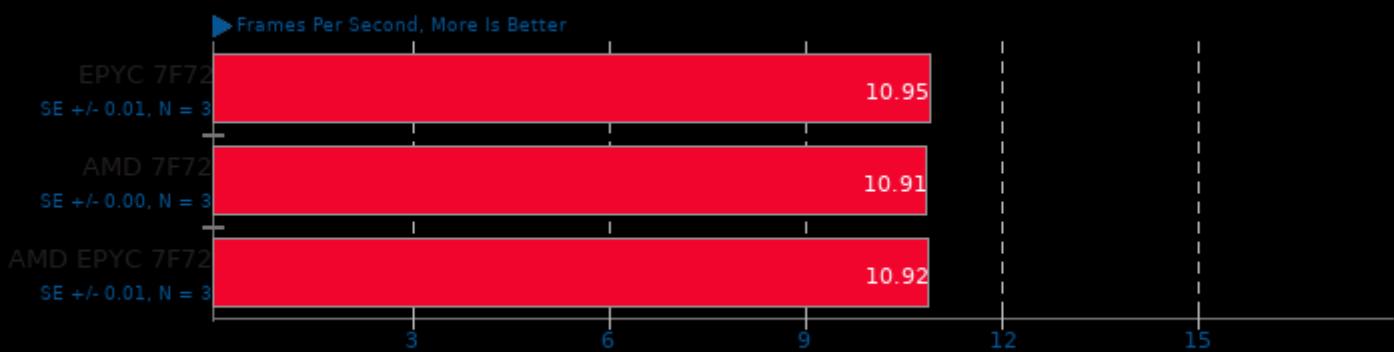
Video Input: Bosphorus 4K - Video Preset: Slow



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

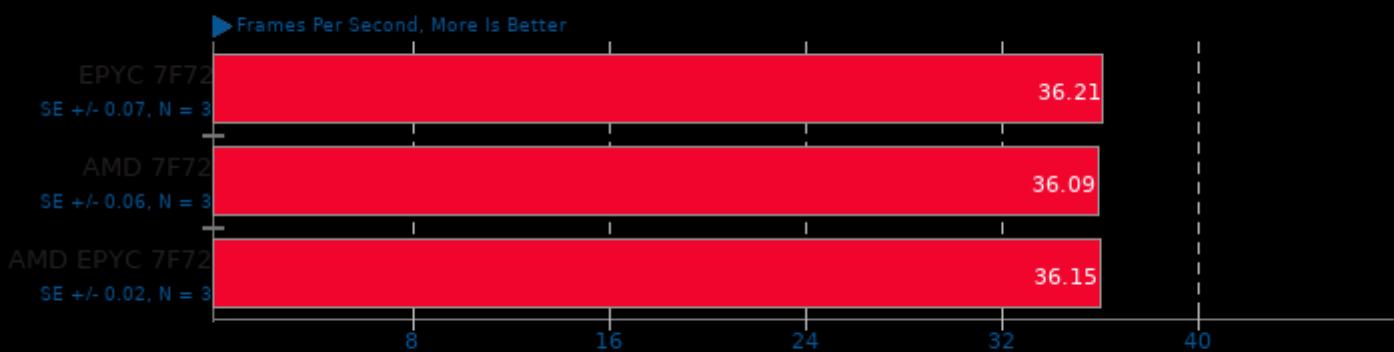
Video Input: Bosphorus 4K - Video Preset: Medium



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

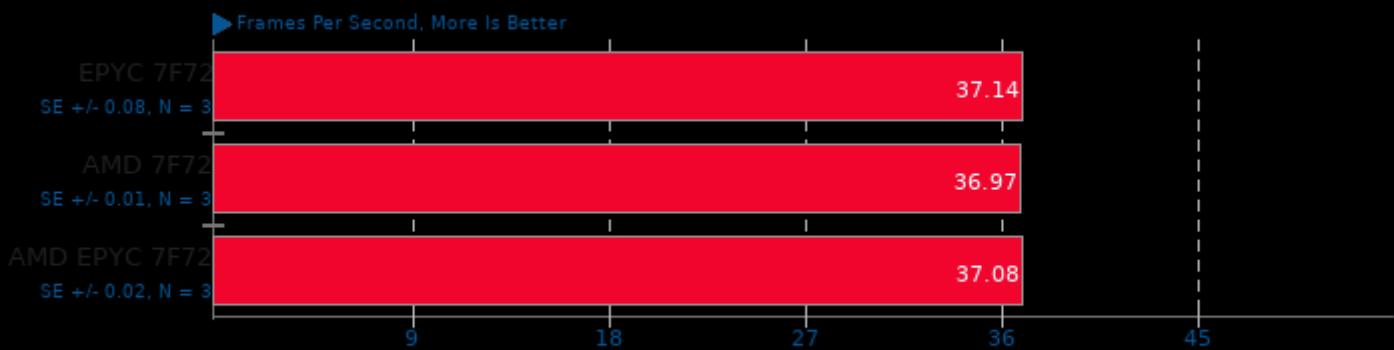
Video Input: Bosphorus 1080p - Video Preset: Slow



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

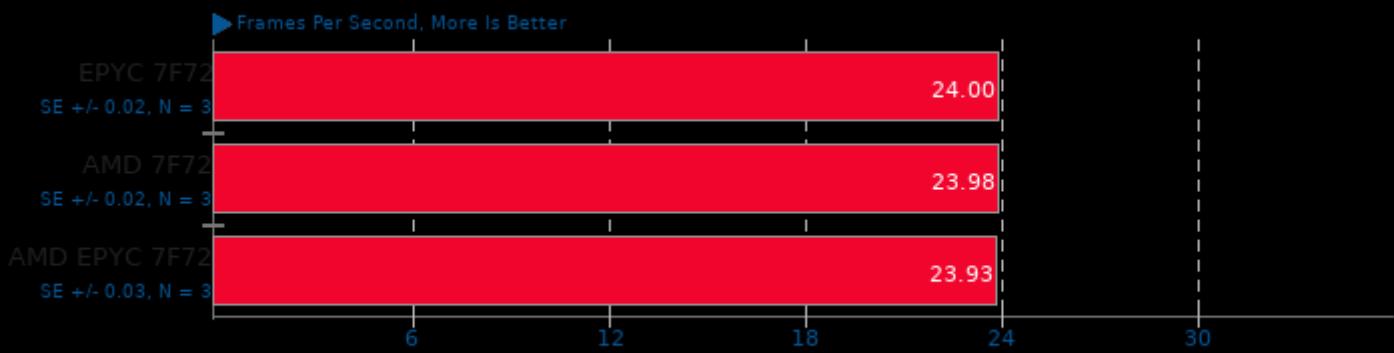
Video Input: Bosphorus 1080p - Video Preset: Medium



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

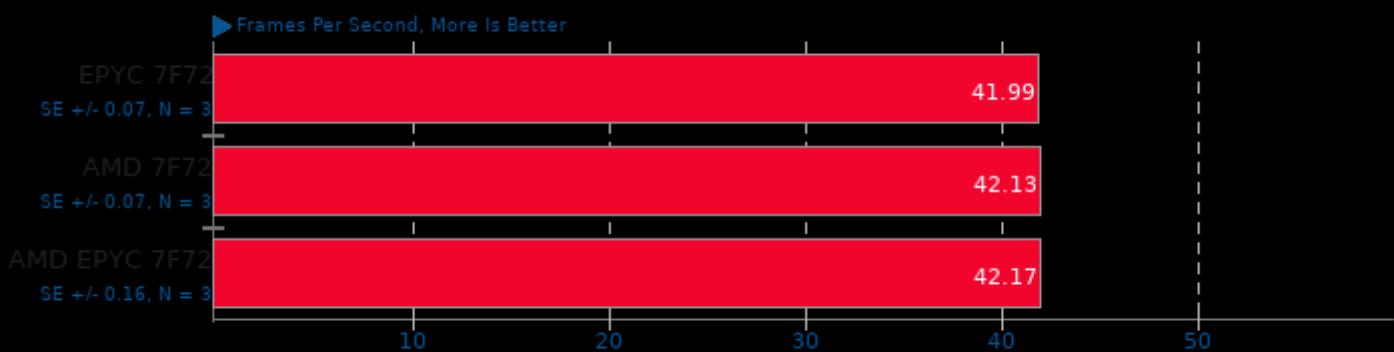
Video Input: Bosphorus 4K - Video Preset: Very Fast



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

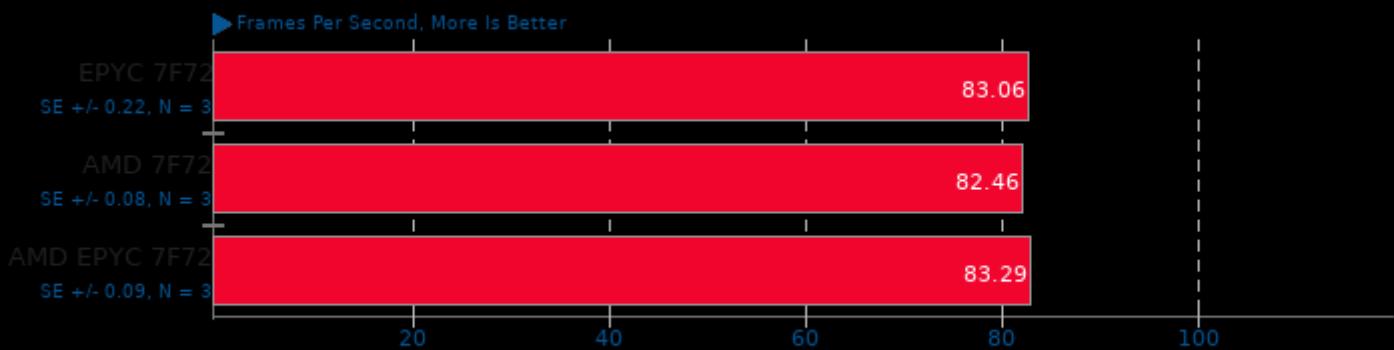
Video Input: Bosphorus 4K - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

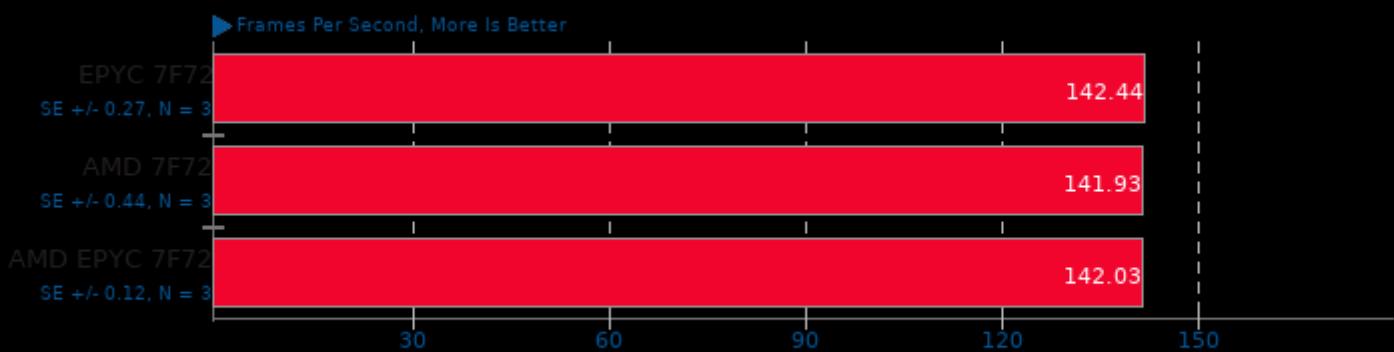
Video Input: Bosphorus 1080p - Video Preset: Very Fast



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

## Kvazaar 2.0

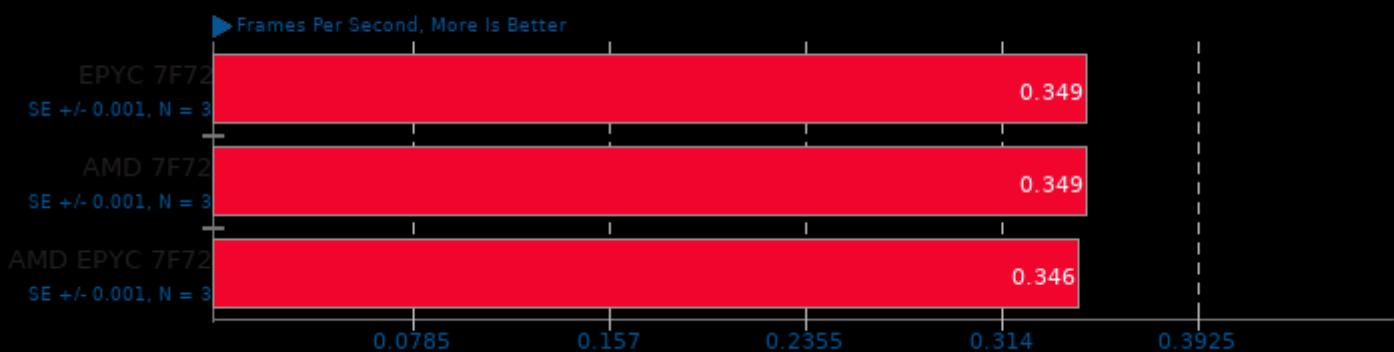
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

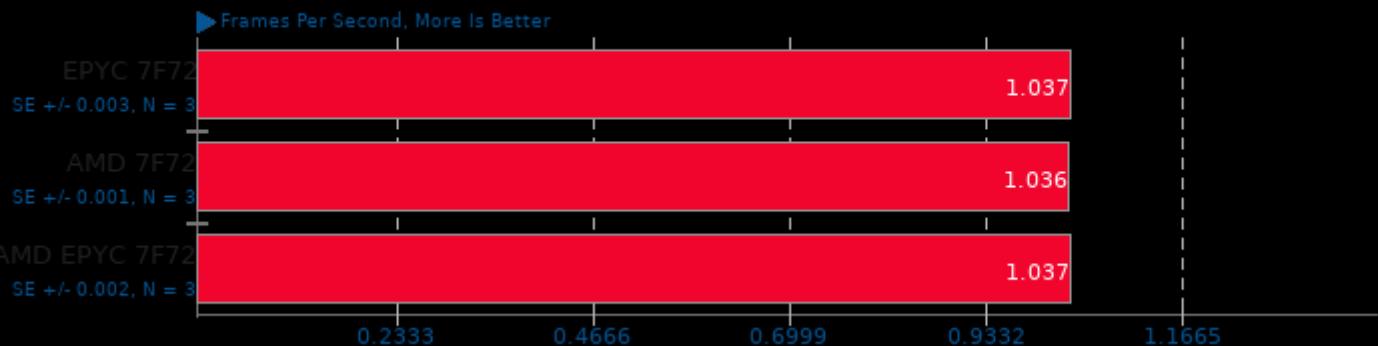
## rav1e 0.4 Alpha

Speed: 1

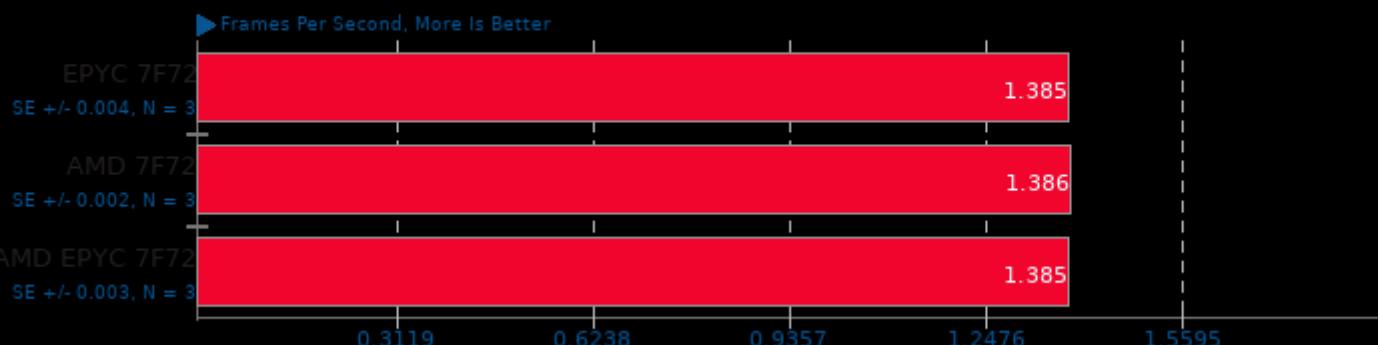


**rav1e 0.4 Alpha**

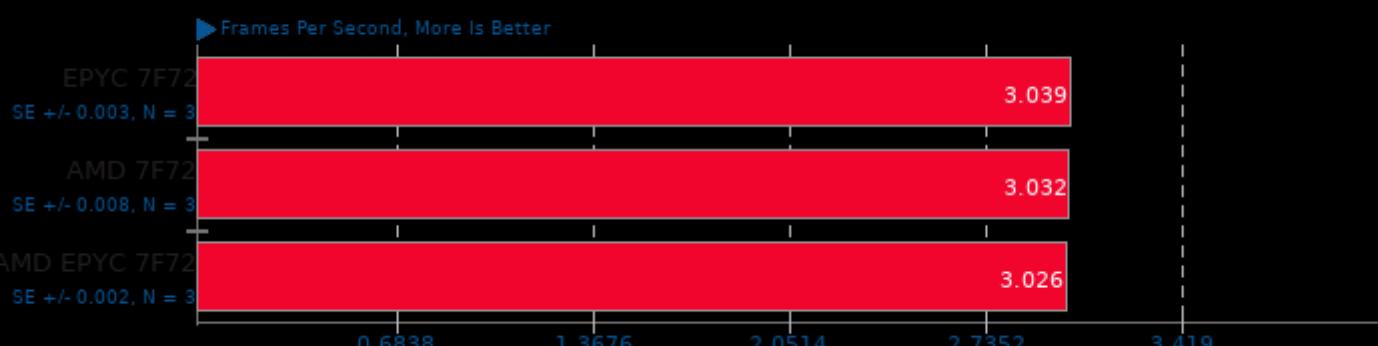
Speed: 5

**rav1e 0.4 Alpha**

Speed: 6

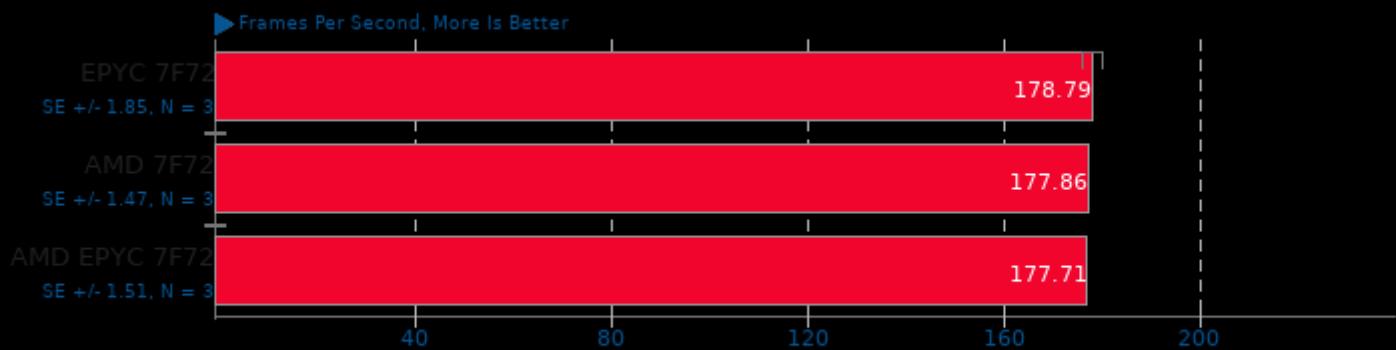
**rav1e 0.4 Alpha**

Speed: 10



**x264 2019-12-17**

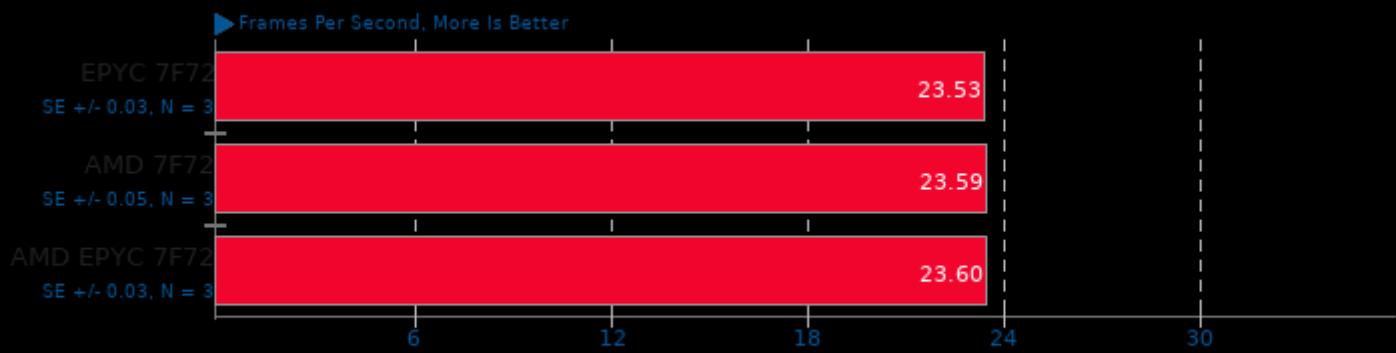
H.264 Video Encoding



1. (CC) gcc options: -ldl -lavformat -lavcodec -lavutil -lswscale -m64 -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectorize

**x265 3.4**

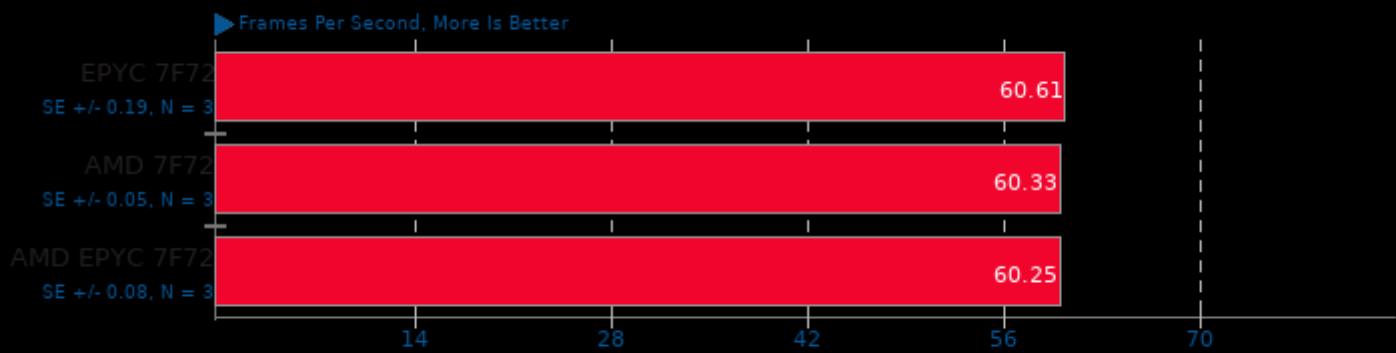
Video Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

**x265 3.4**

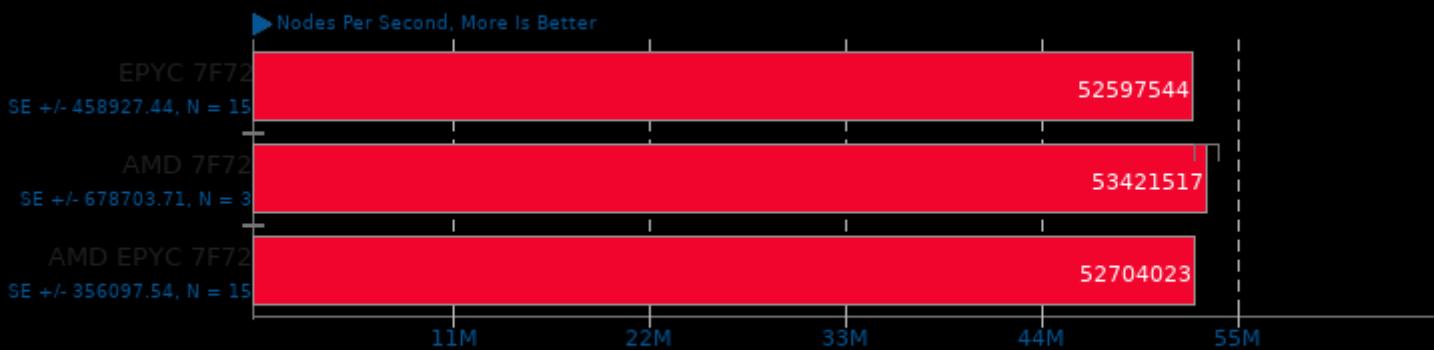
Video Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

## Stockfish 12

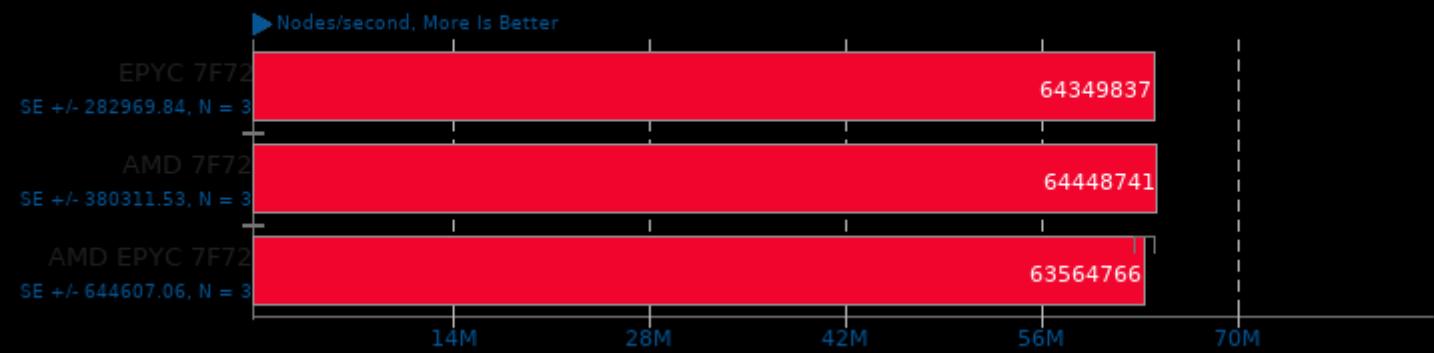
Total Time



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

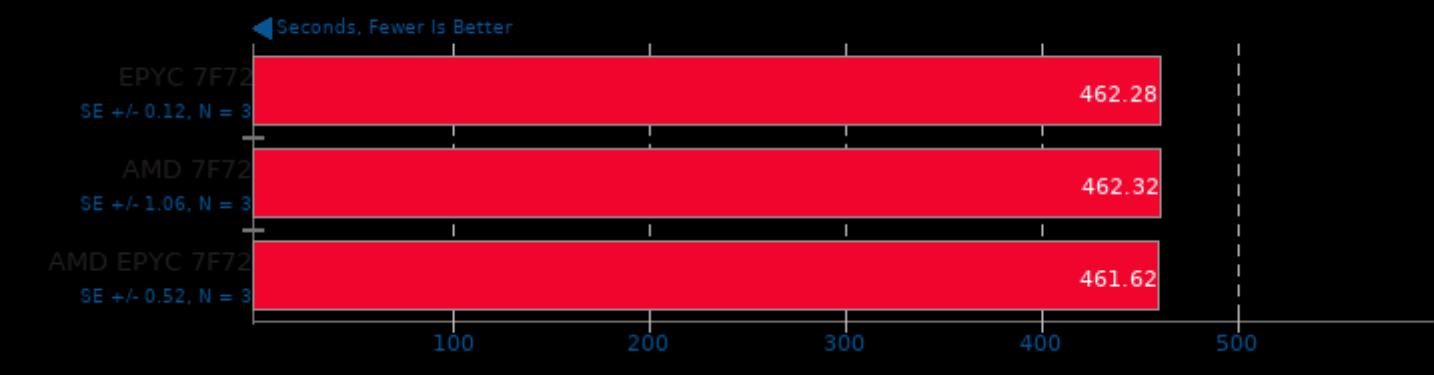
## asmFish 2018-07-23

1024 Hash Memory, 26 Depth



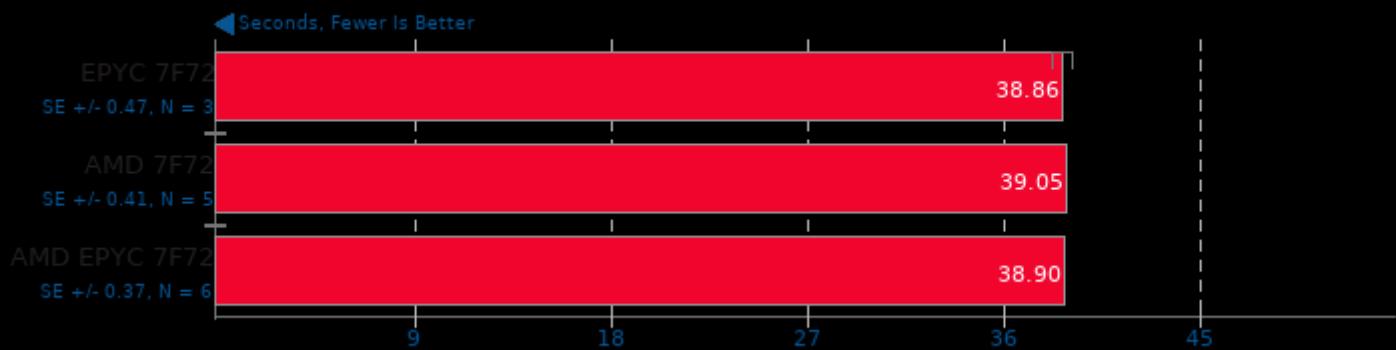
## Timed Clash Compilation

Time To Compile



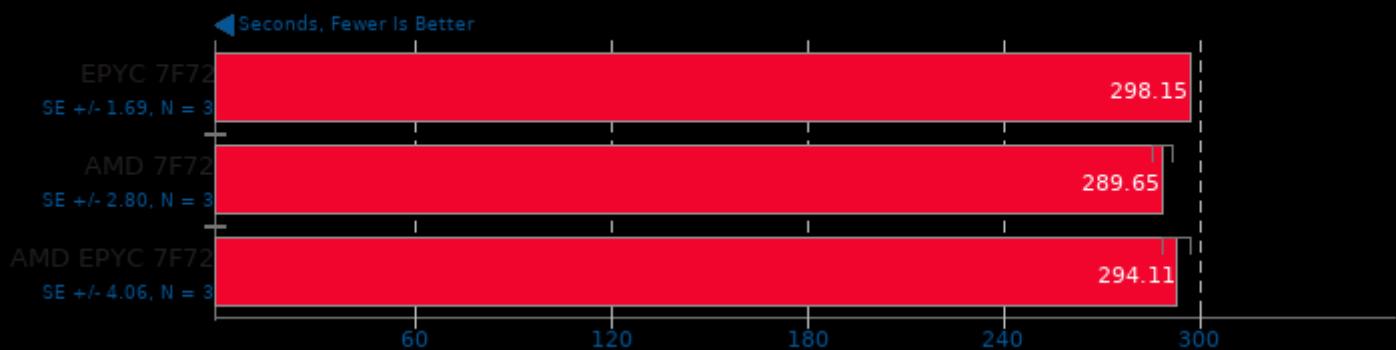
## Timed Linux Kernel Compilation 5.4

Time To Compile

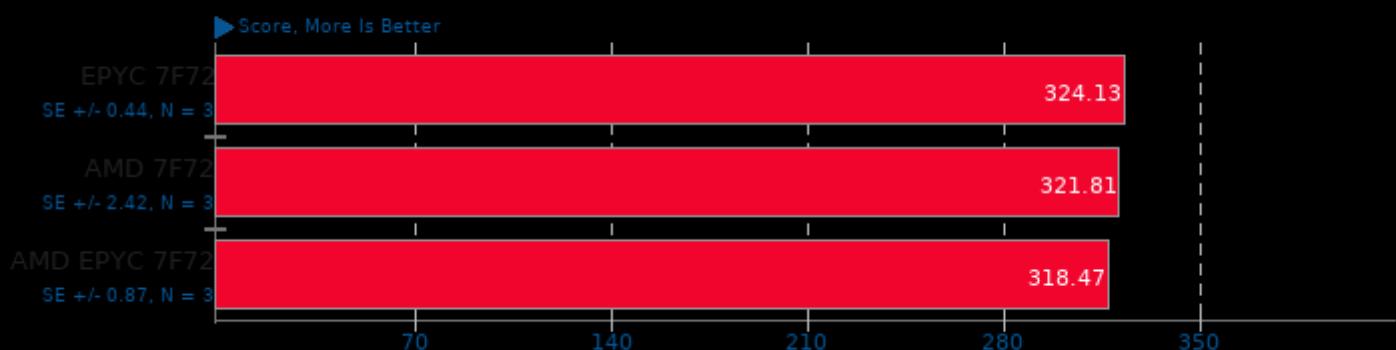


## Timed LLVM Compilation 10.0

Time To Compile

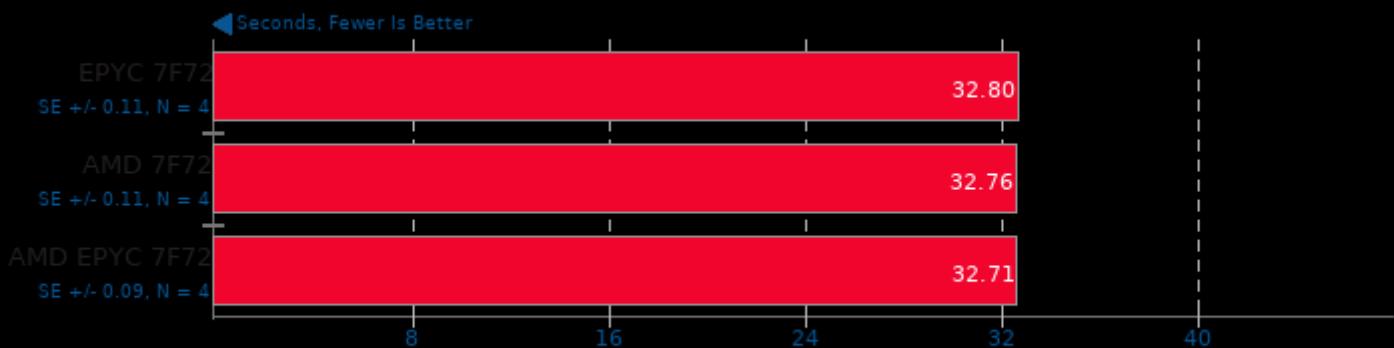


## Numpy Benchmark



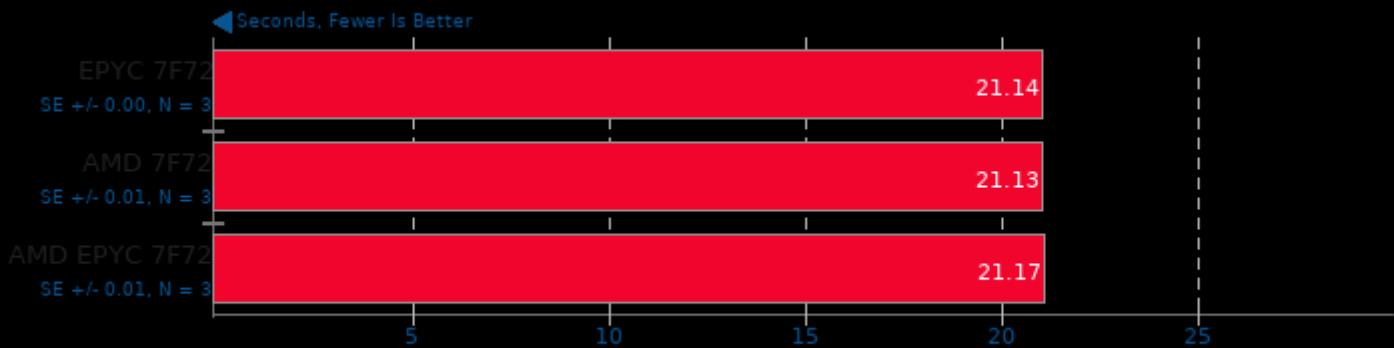
## eSpeak-NG Speech Engine 20200907

Text-To-Speech Synthesis



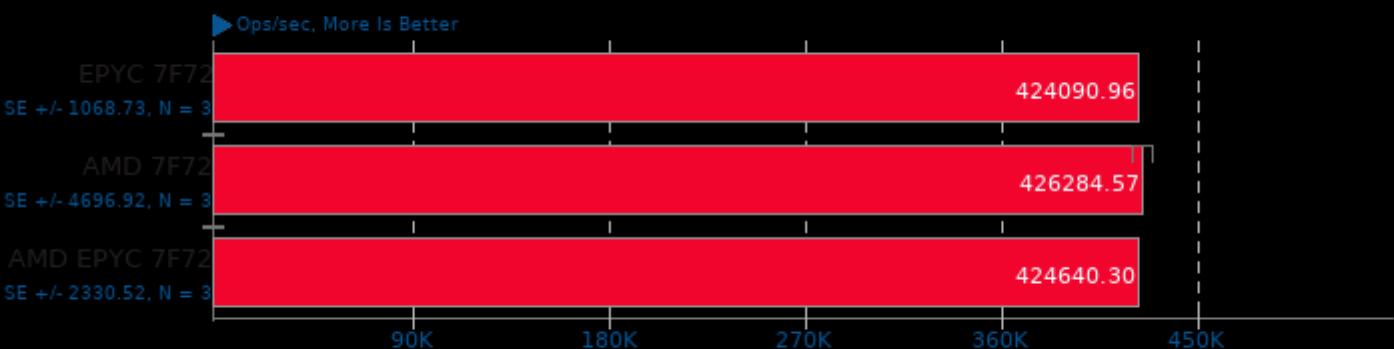
1. (CC) gcc options: -O2 -std=c99

## RNNoise 2020-06-28



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

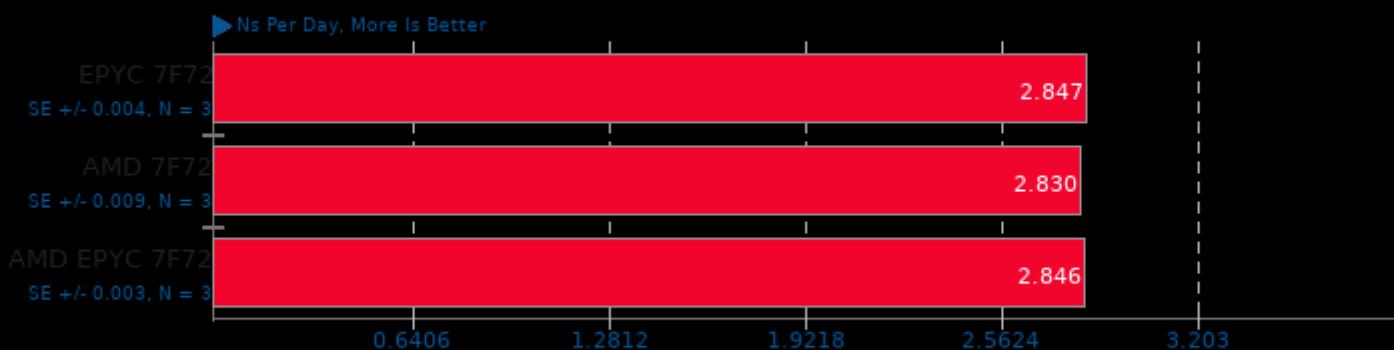
## KeyDB 6.0.16



1. (CXX) g++ options: -O2 -levent\_openssl -levent -lcrypto -lssl -lpthread -lz -lpcres

## GROMACS 2020.3

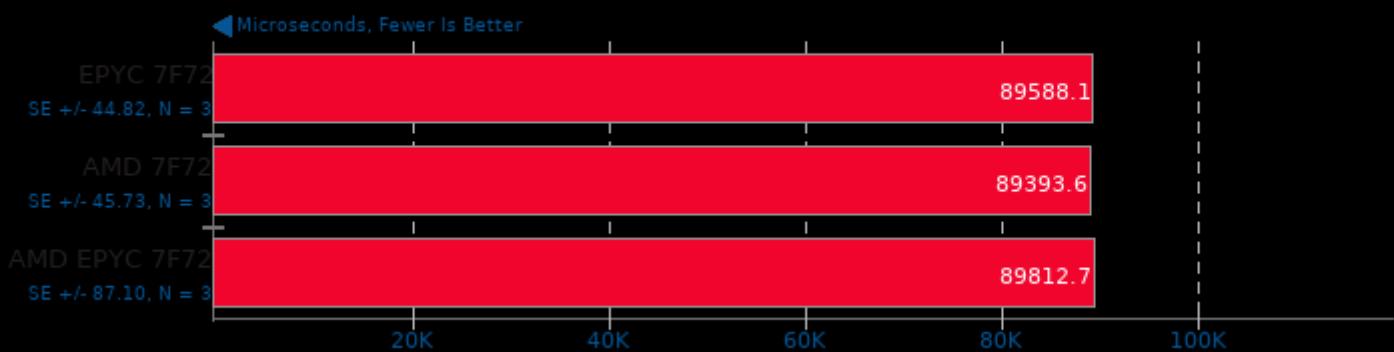
Water Benchmark



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

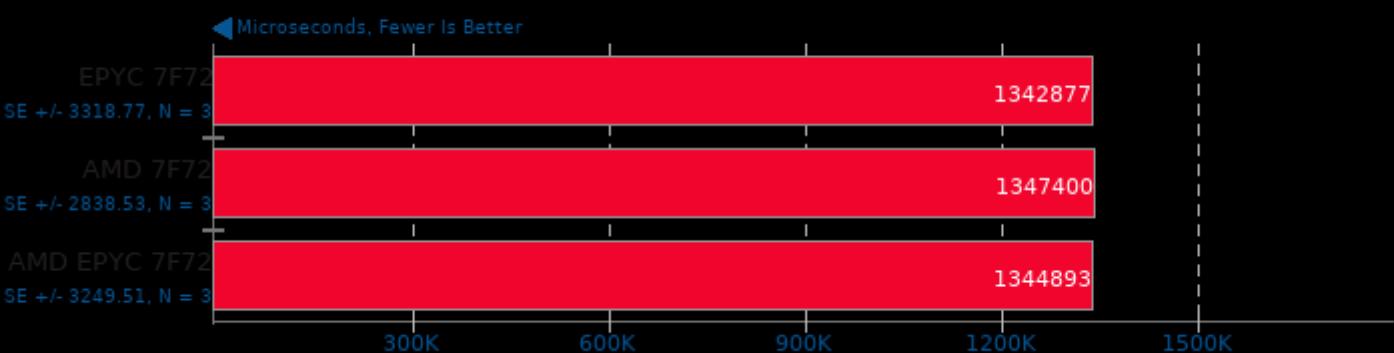
## TensorFlow Lite 2020-08-23

Model: SqueezeNet



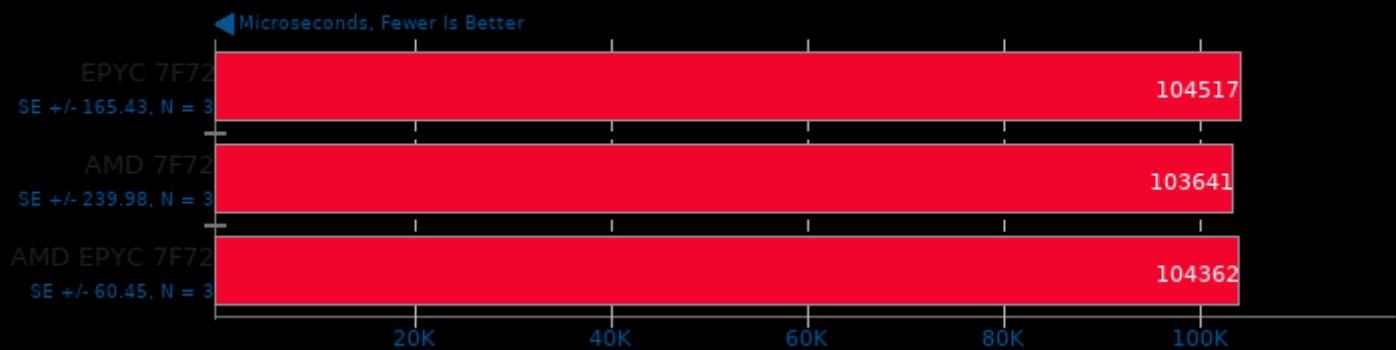
## TensorFlow Lite 2020-08-23

Model: Inception V4



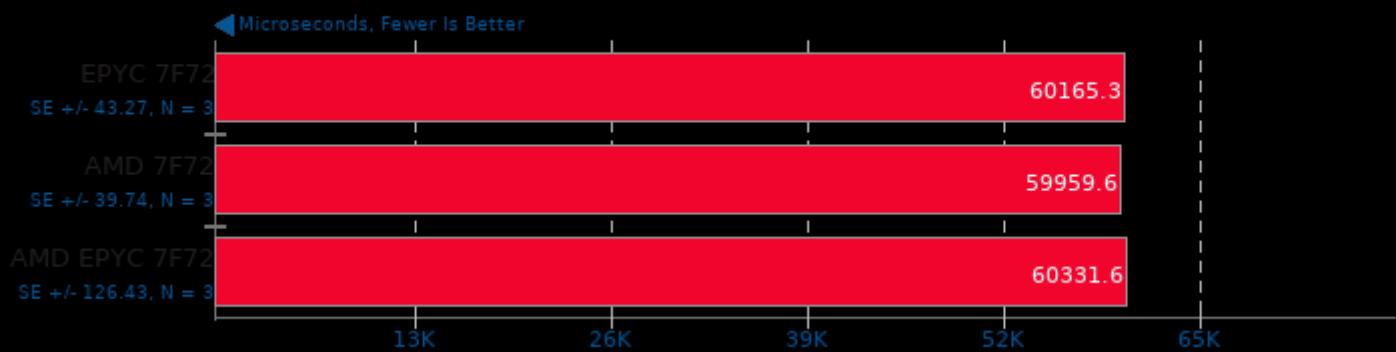
## TensorFlow Lite 2020-08-23

Model: NASNet Mobile



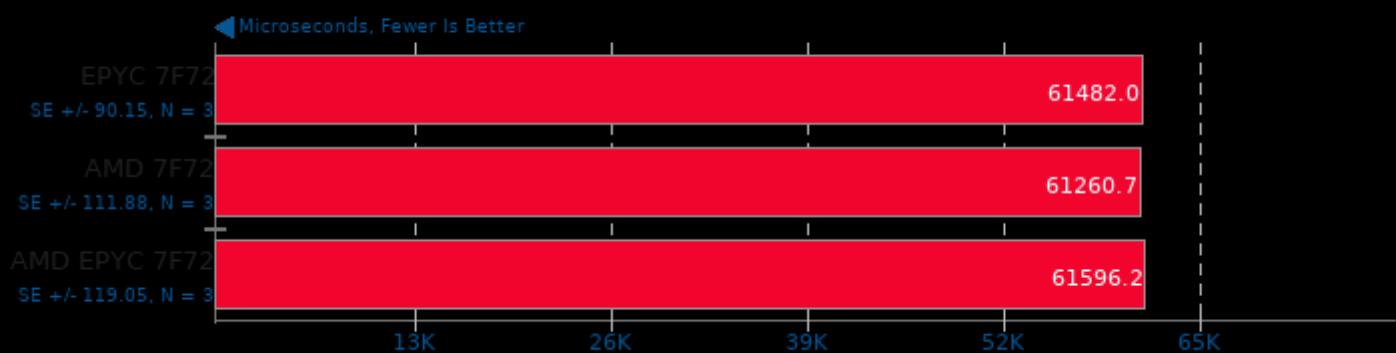
## TensorFlow Lite 2020-08-23

Model: Mobilenet Float



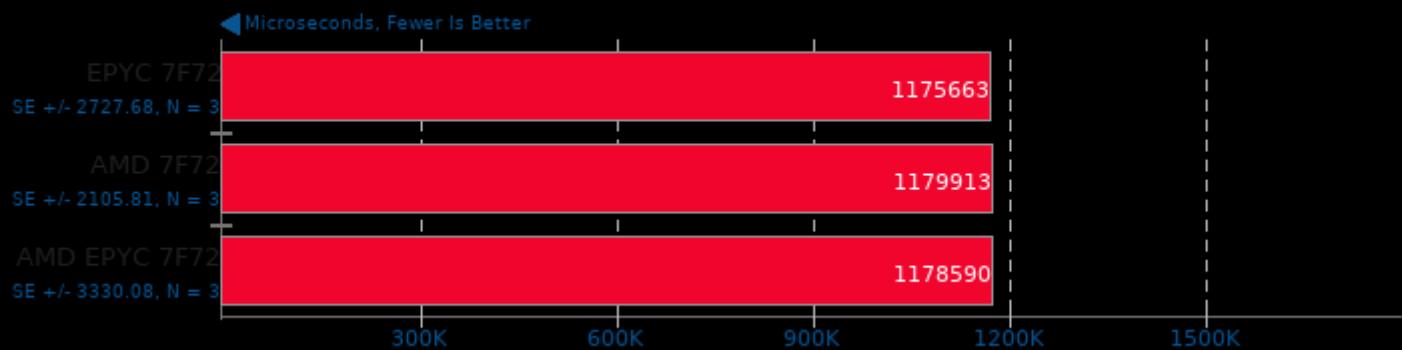
## TensorFlow Lite 2020-08-23

Model: Mobilenet Quant



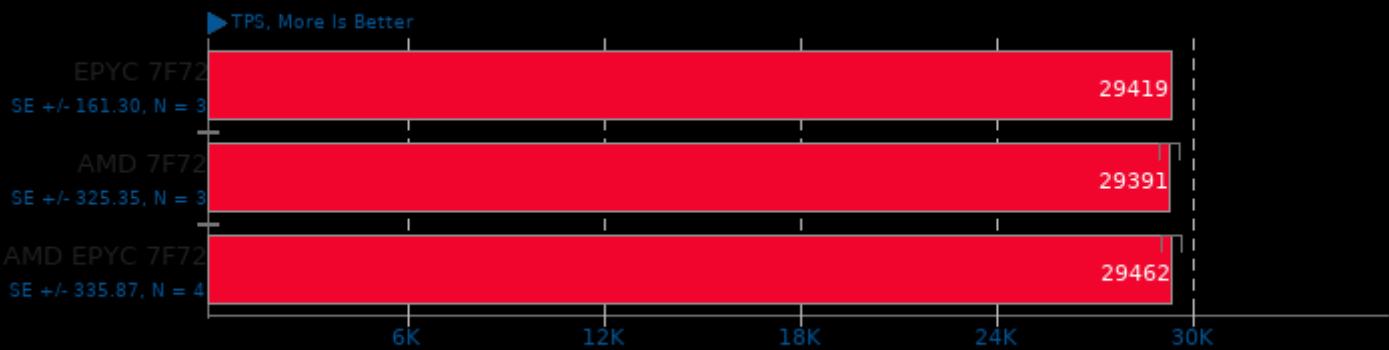
## TensorFlow Lite 2020-08-23

Model: Inception ResNet V2



## PostgreSQL pgbench 13.0

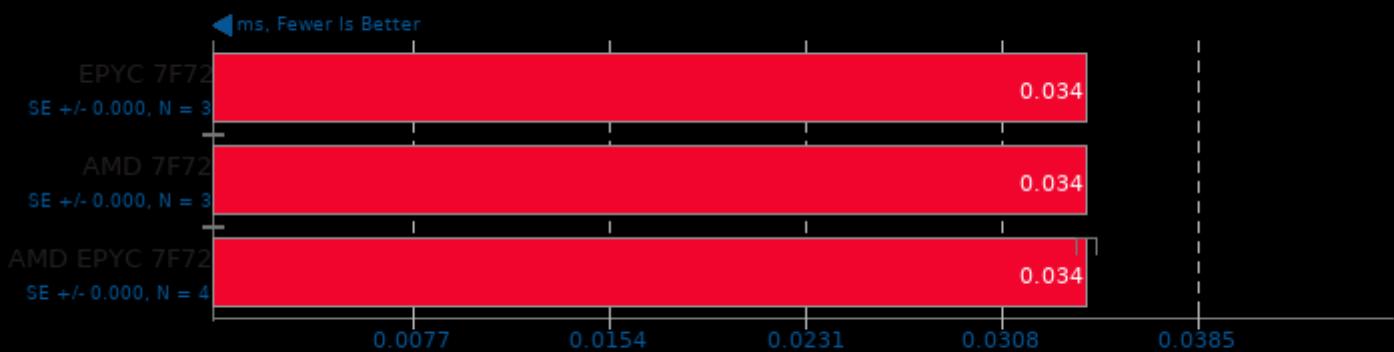
Scaling Factor: 1 - Clients: 1 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

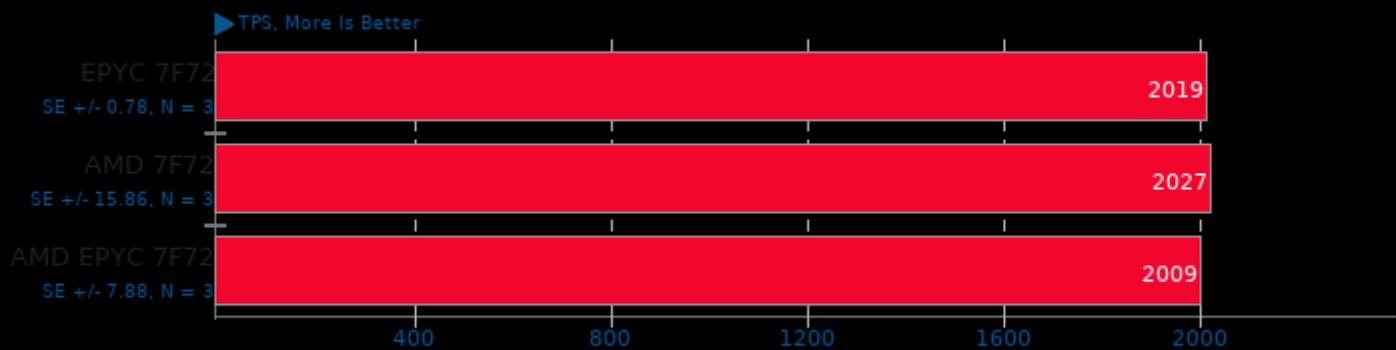
Scaling Factor: 1 - Clients: 1 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

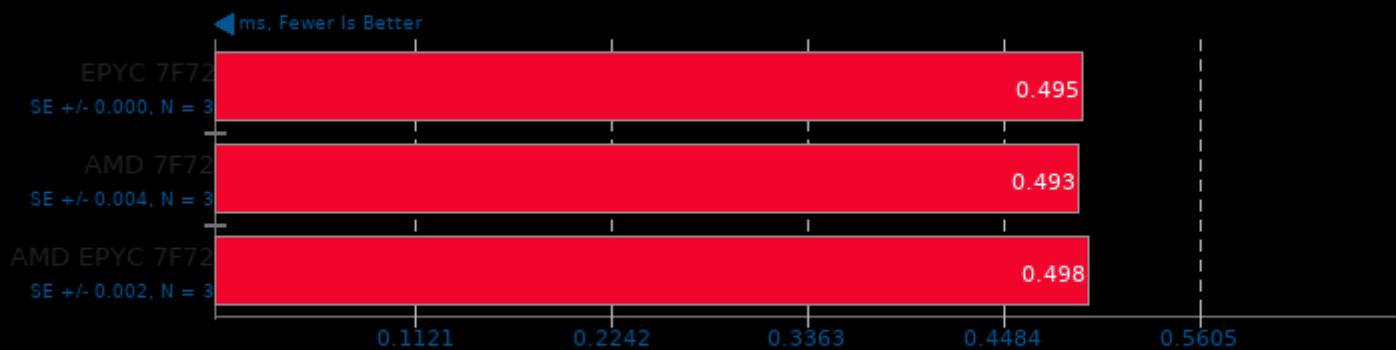
Scaling Factor: 1 - Clients: 1 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

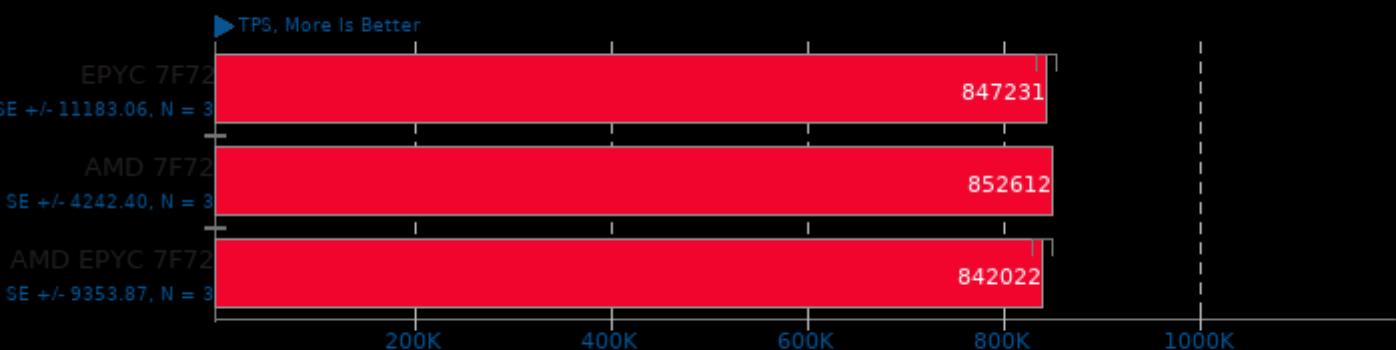
Scaling Factor: 1 - Clients: 1 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

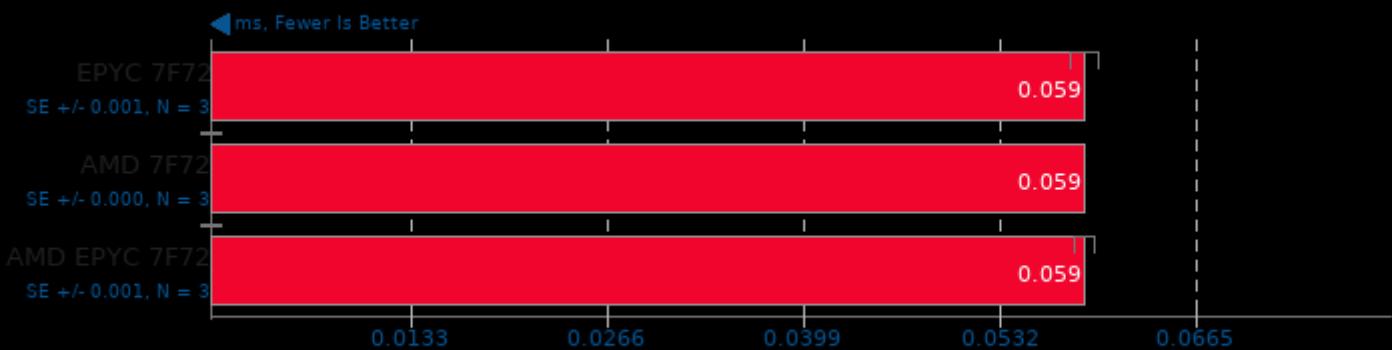
Scaling Factor: 1 - Clients: 50 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

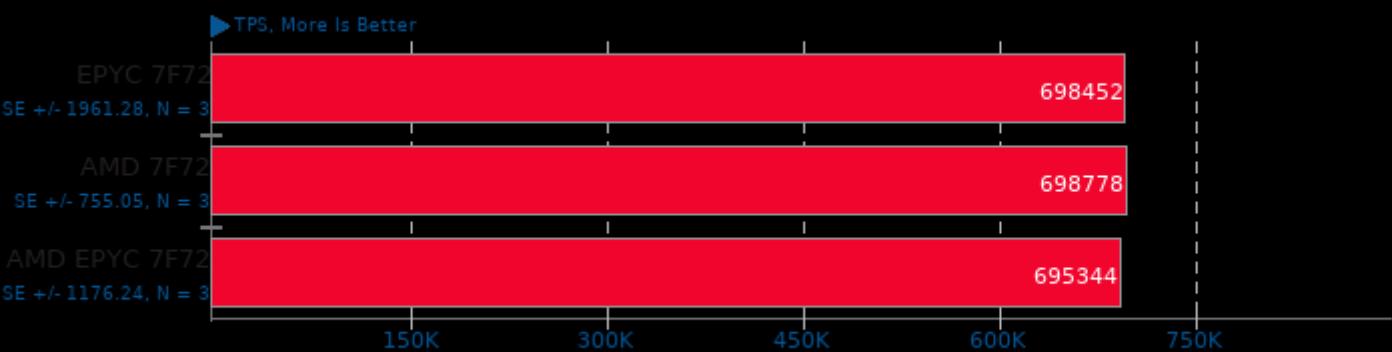
Scaling Factor: 1 - Clients: 50 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

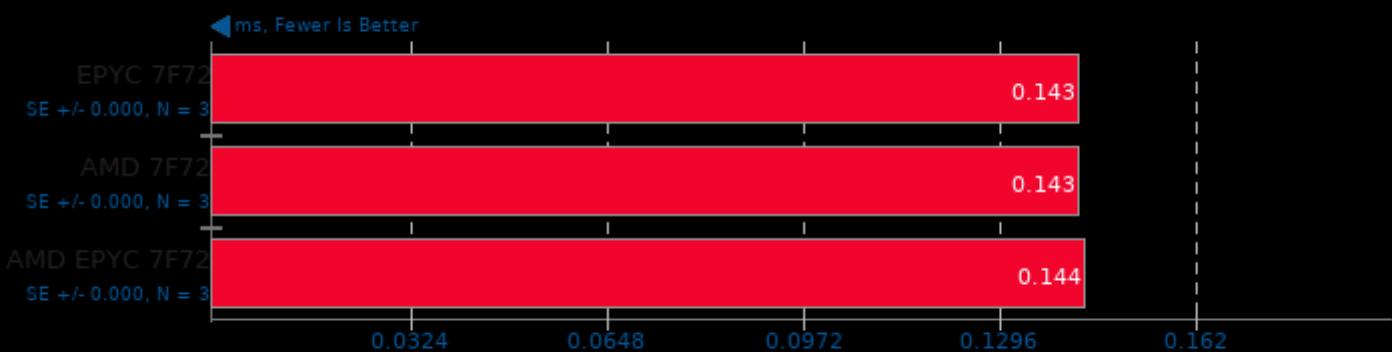
Scaling Factor: 1 - Clients: 100 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

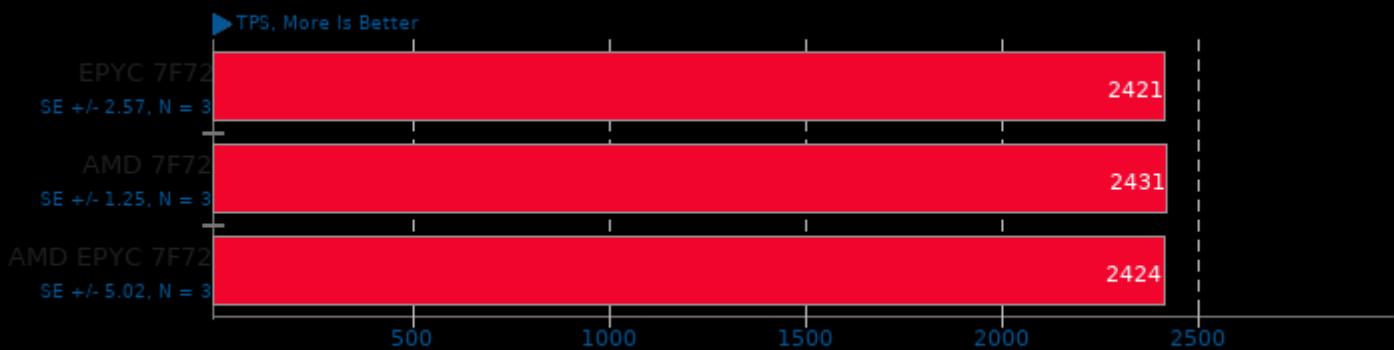
Scaling Factor: 1 - Clients: 100 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

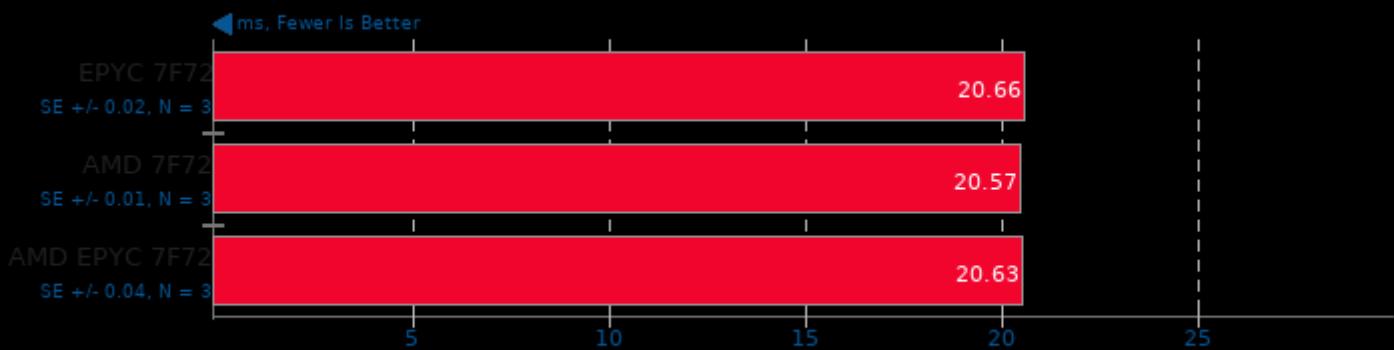
Scaling Factor: 1 - Clients: 50 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

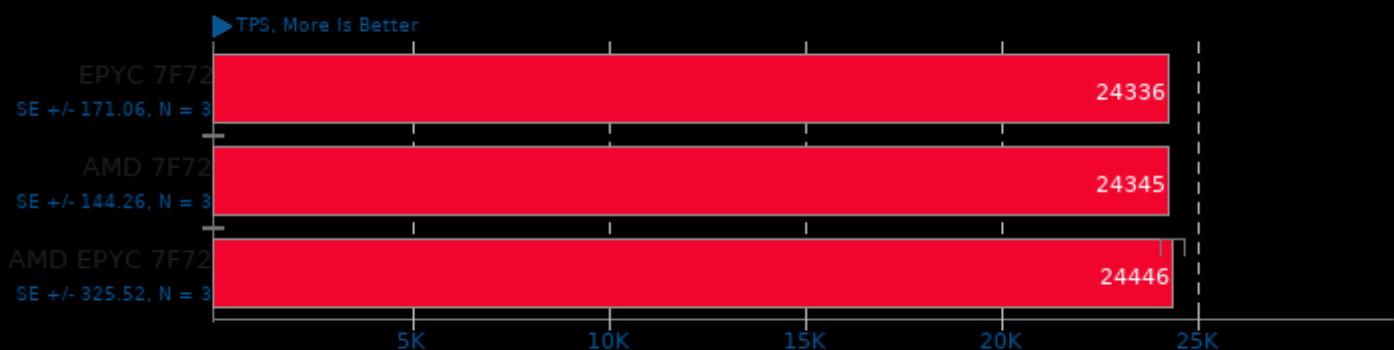
Scaling Factor: 1 - Clients: 50 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

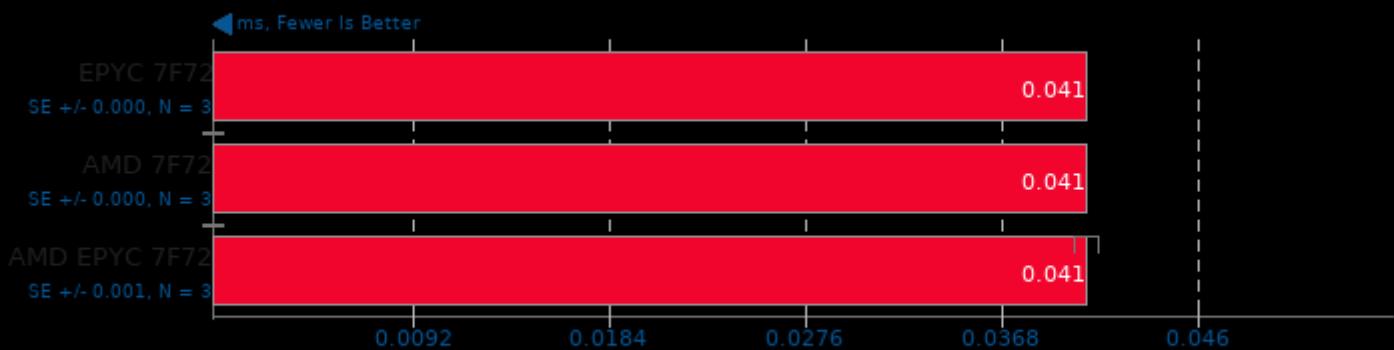
Scaling Factor: 100 - Clients: 1 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

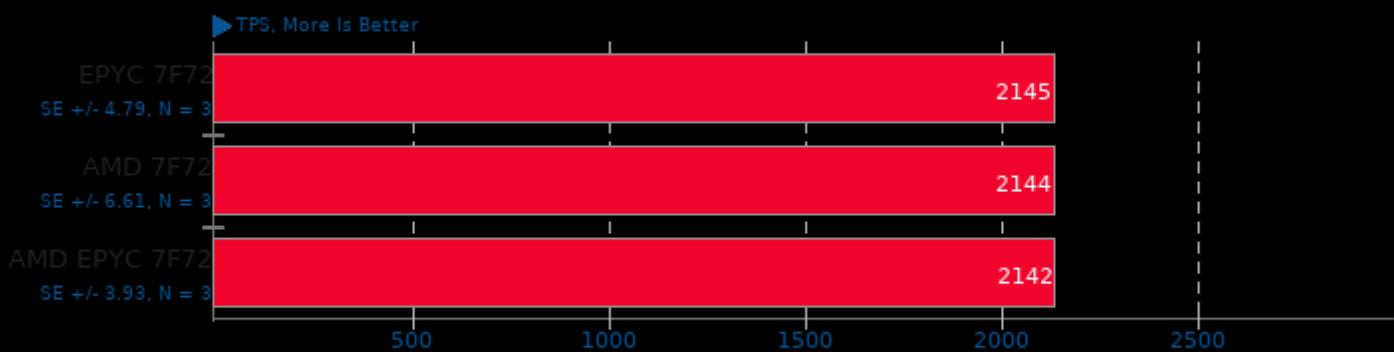
Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

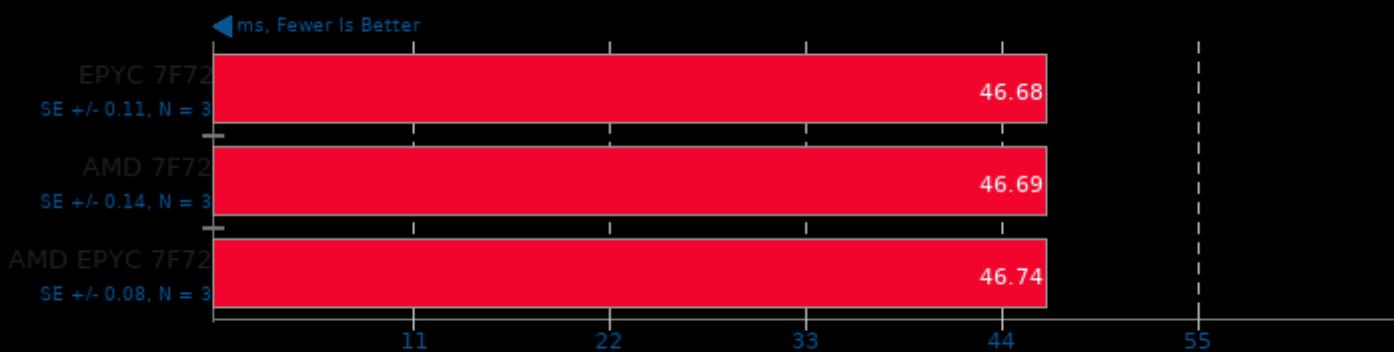
Scaling Factor: 1 - Clients: 100 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

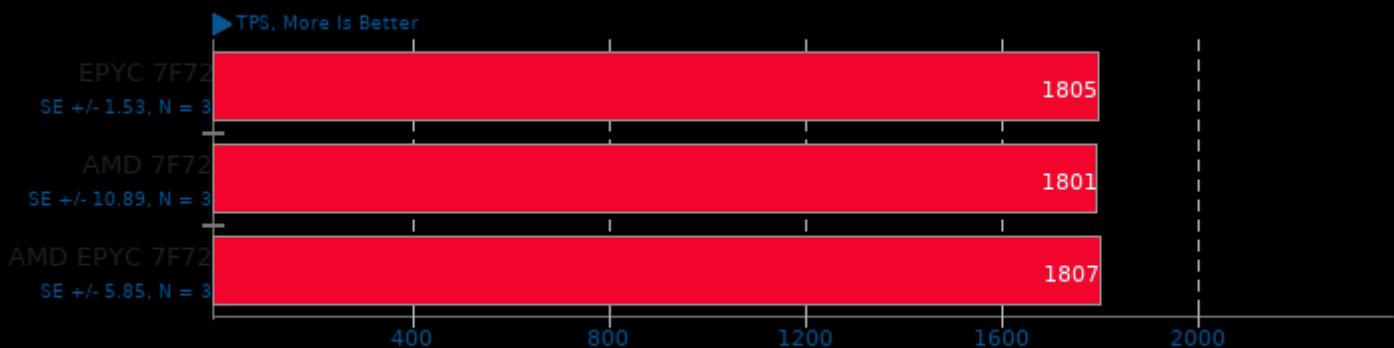
Scaling Factor: 1 - Clients: 100 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

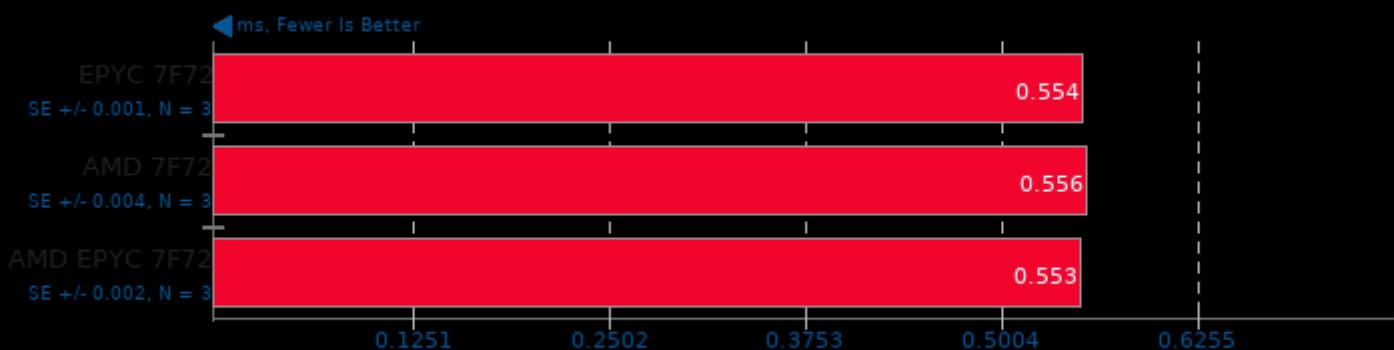
Scaling Factor: 100 - Clients: 1 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

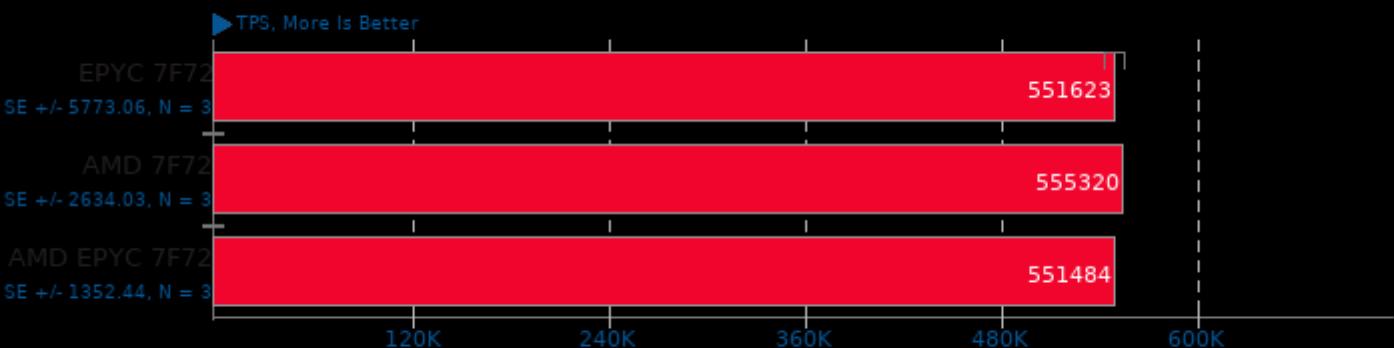
Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

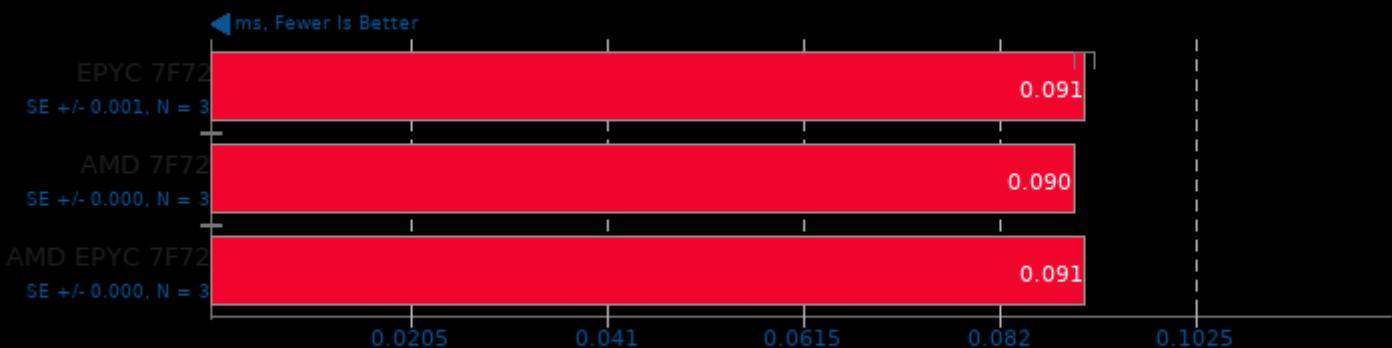
Scaling Factor: 100 - Clients: 50 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

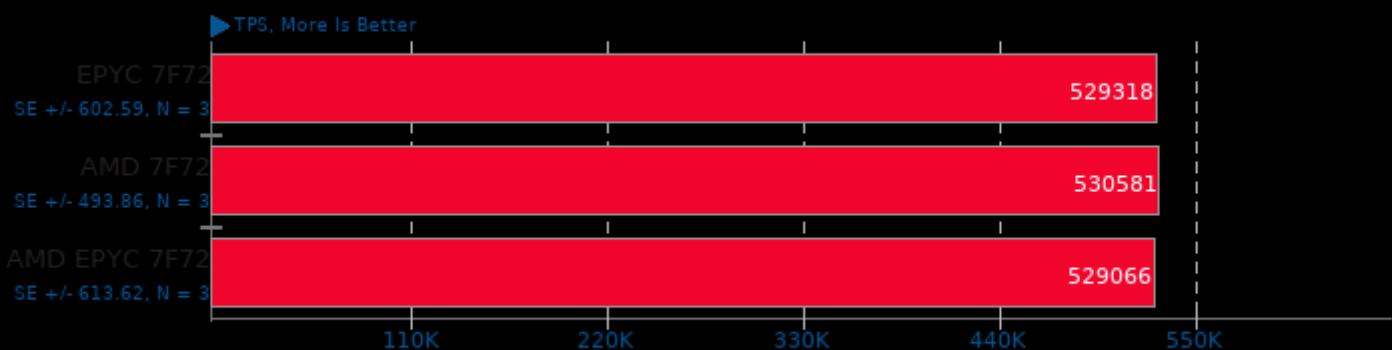
Scaling Factor: 100 - Clients: 50 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lpthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

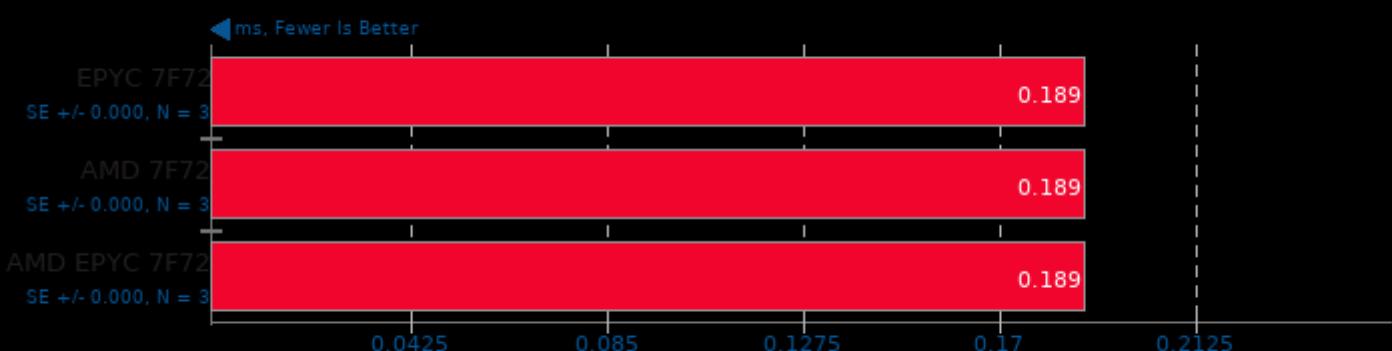
Scaling Factor: 100 - Clients: 100 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lpthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

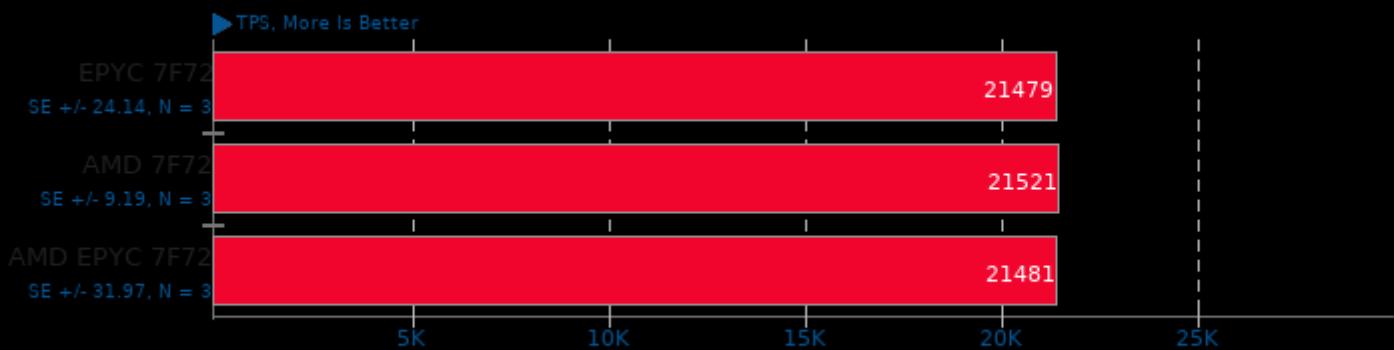
Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lgpgcommon -lgpgport -lpq -lpthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

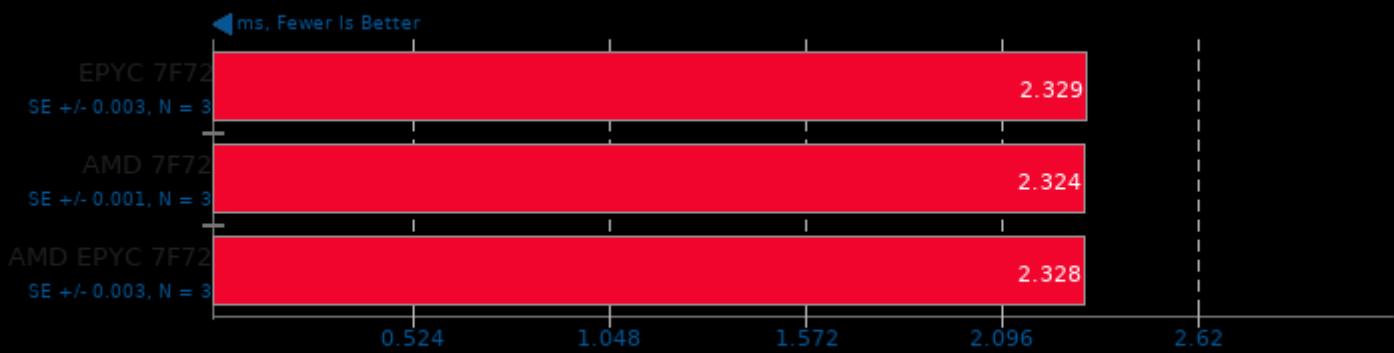
Scaling Factor: 100 - Clients: 50 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

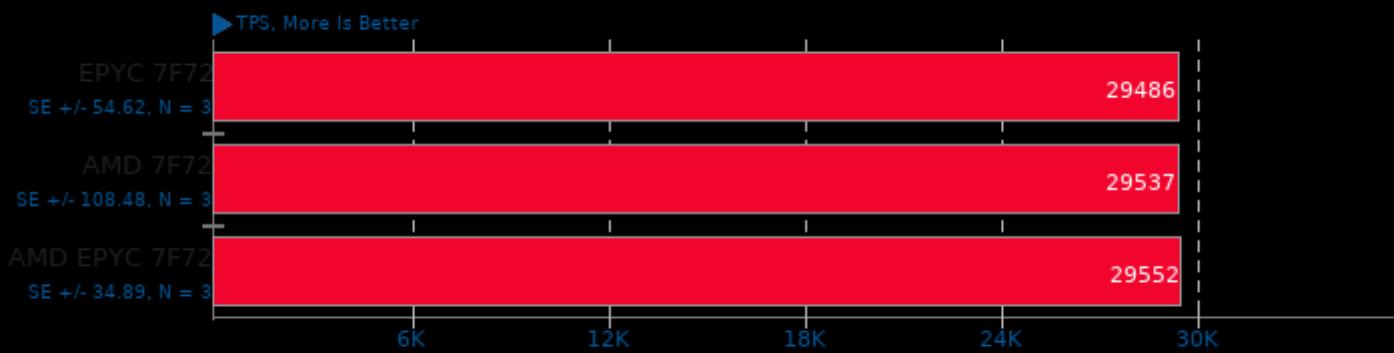
Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

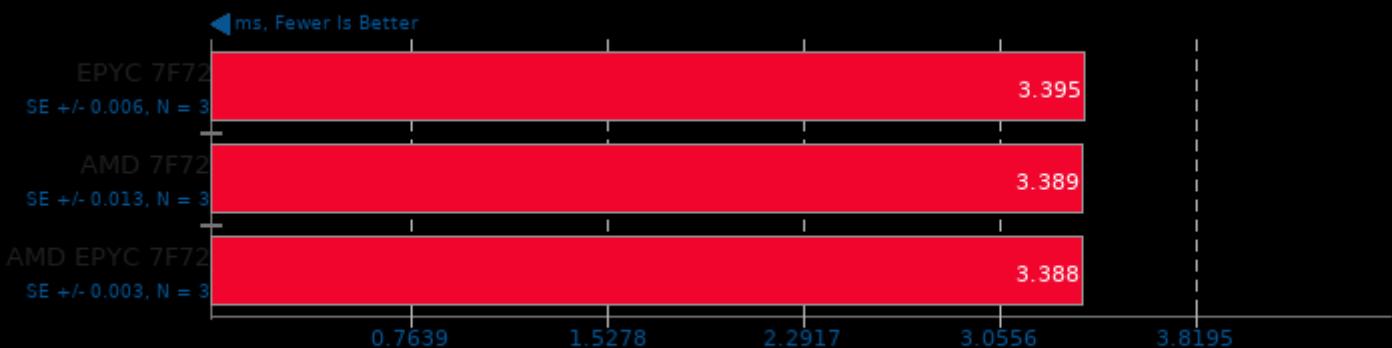
Scaling Factor: 100 - Clients: 100 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## PostgreSQL pgbench 13.0

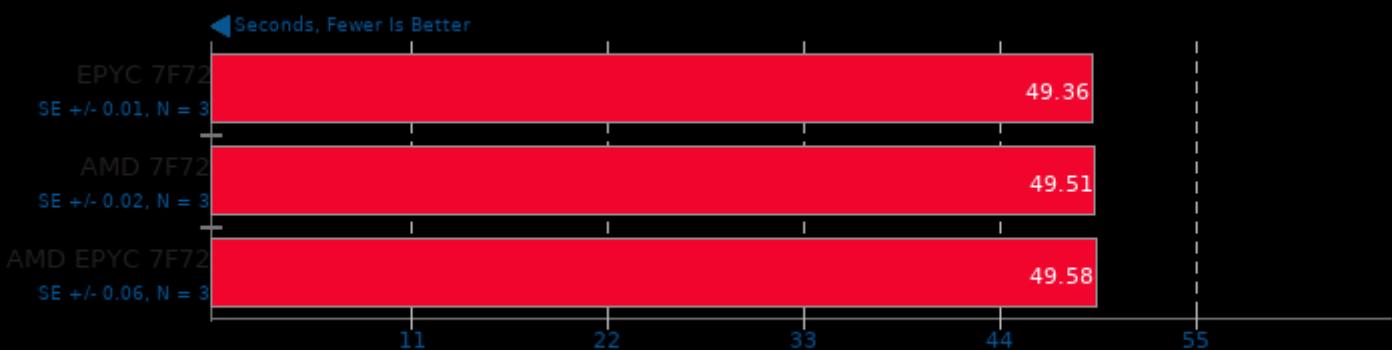
Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

## Basis Universal 1.12

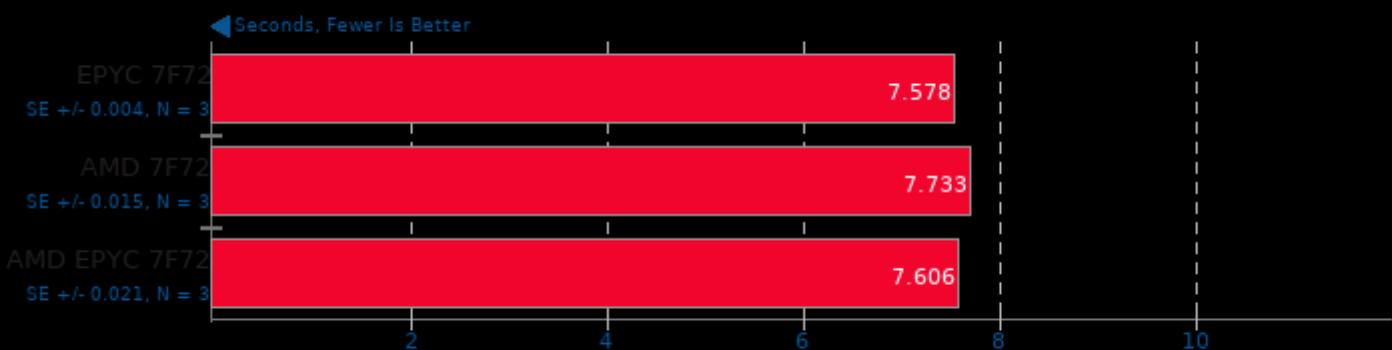
Settings: ETC1S



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

## Basis Universal 1.12

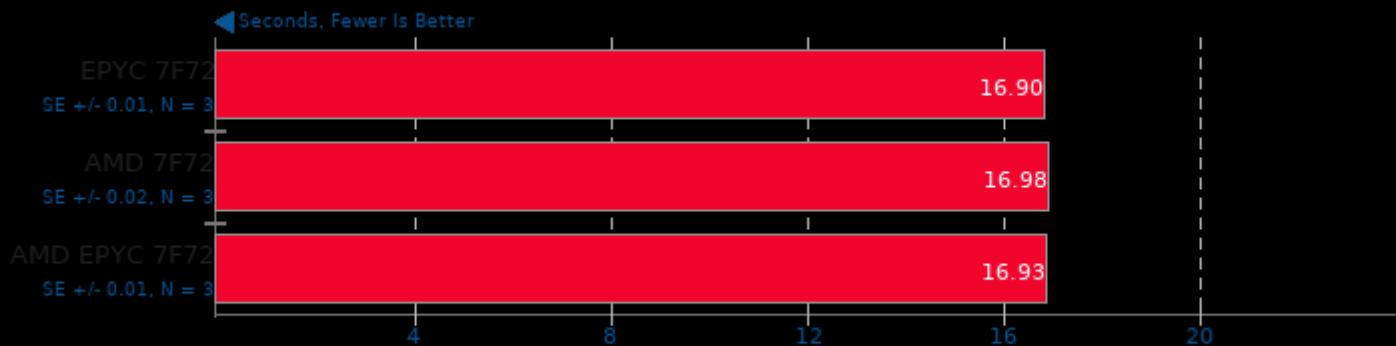
Settings: UASTC Level 0



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

## Basis Universal 1.12

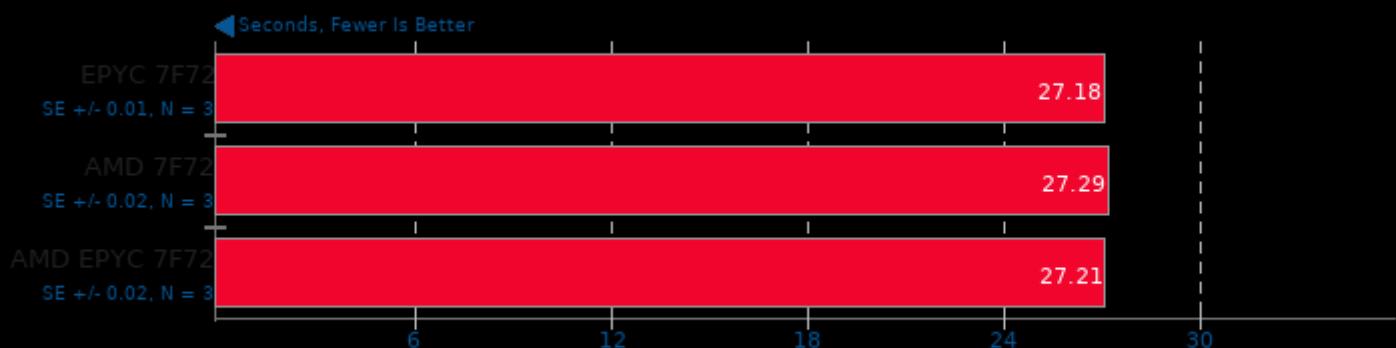
Settings: UASTC Level 2



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

## Basis Universal 1.12

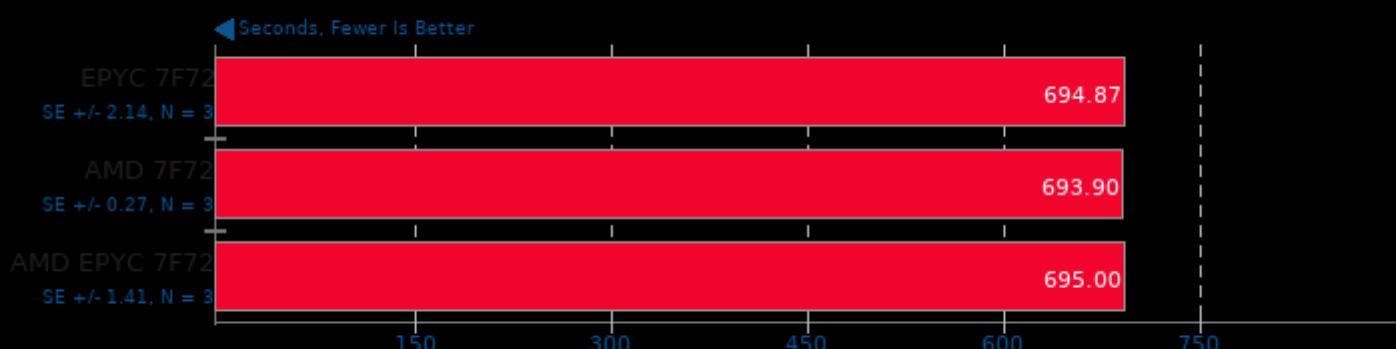
Settings: UASTC Level 3



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

## Basis Universal 1.12

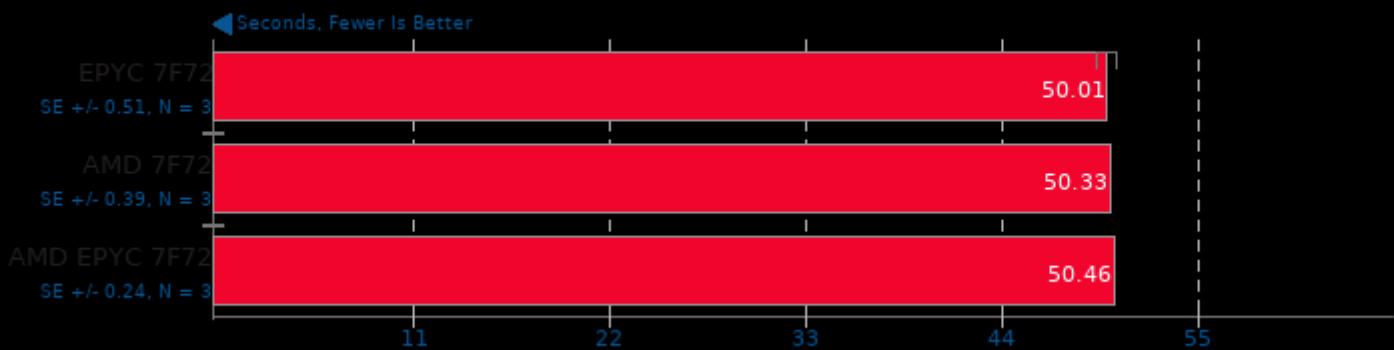
Settings: UASTC Level 2 + RDO Post-Processing



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

## Hugin

Panorama Photo Assistant + Stitching Time



## Redis 6.0.9

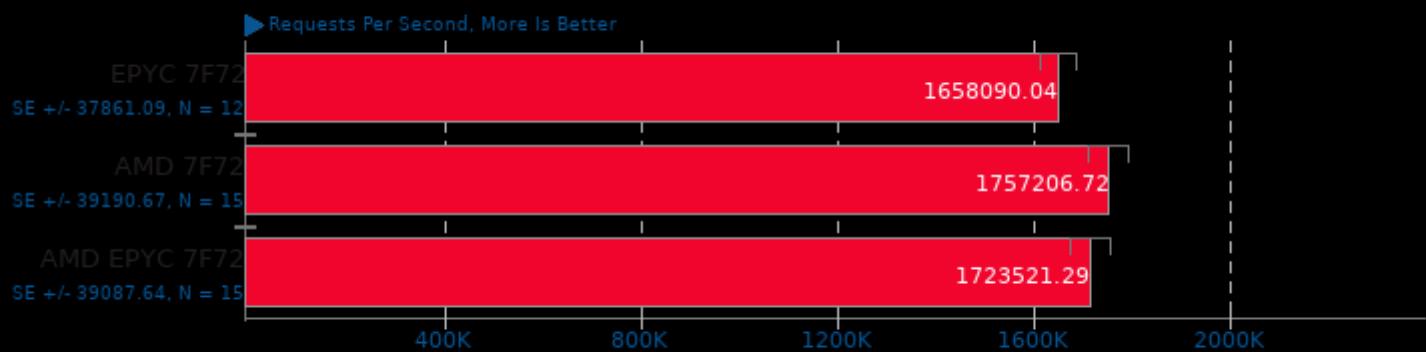
Test: LPOP



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

## Redis 6.0.9

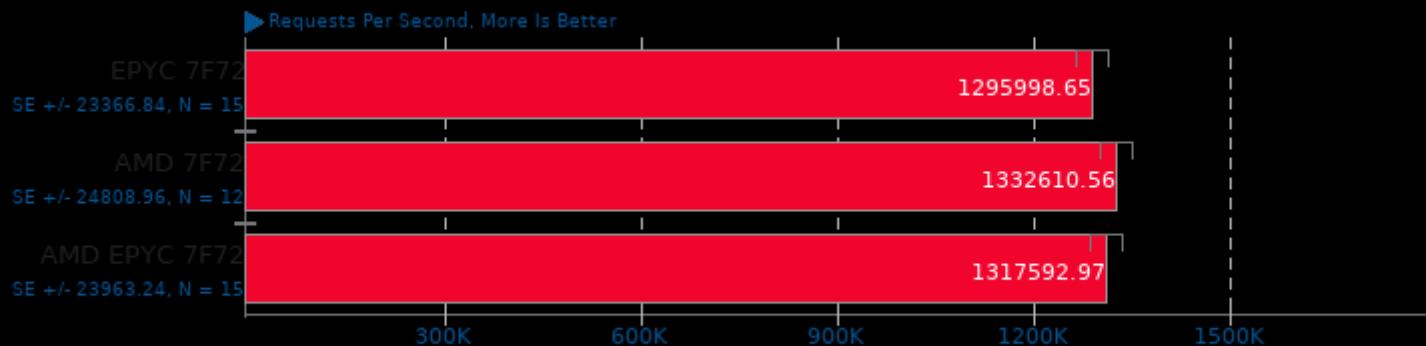
Test: SADD



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

## Redis 6.0.9

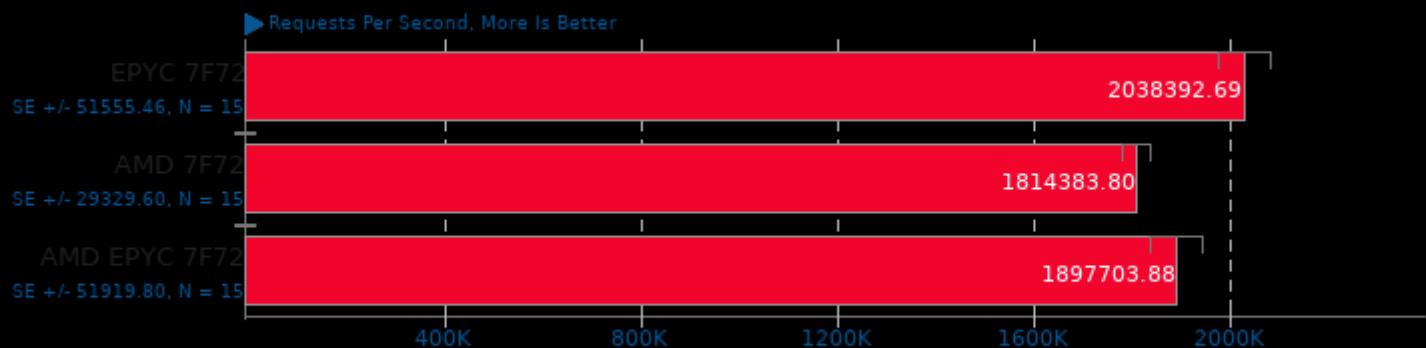
Test: LPUSH



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

## Redis 6.0.9

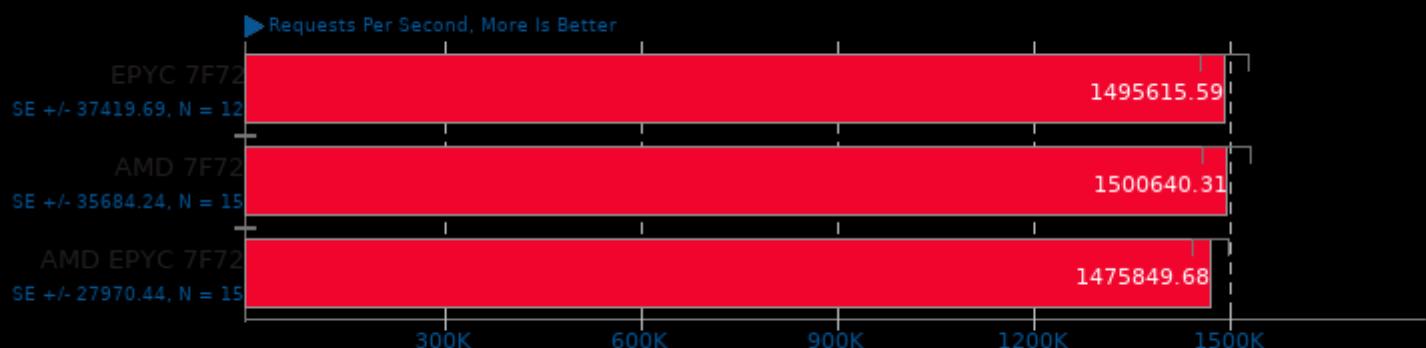
Test: GET



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

## Redis 6.0.9

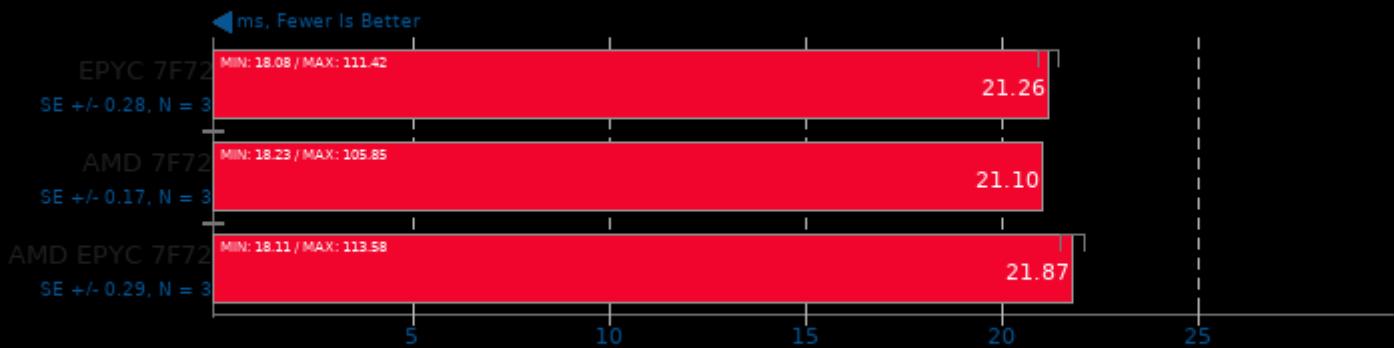
Test: SET



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

## NCNN 20200916

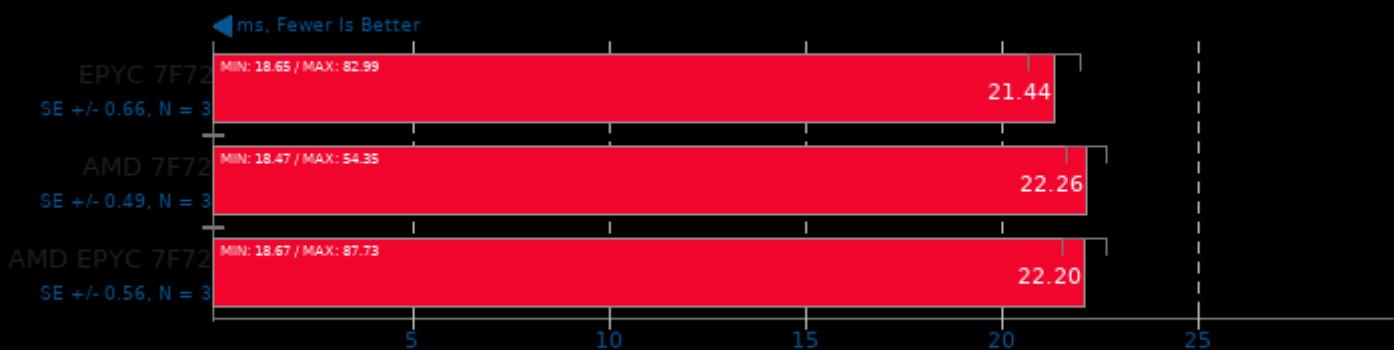
Target: CPU - Model: squeezeonet



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

## NCNN 20200916

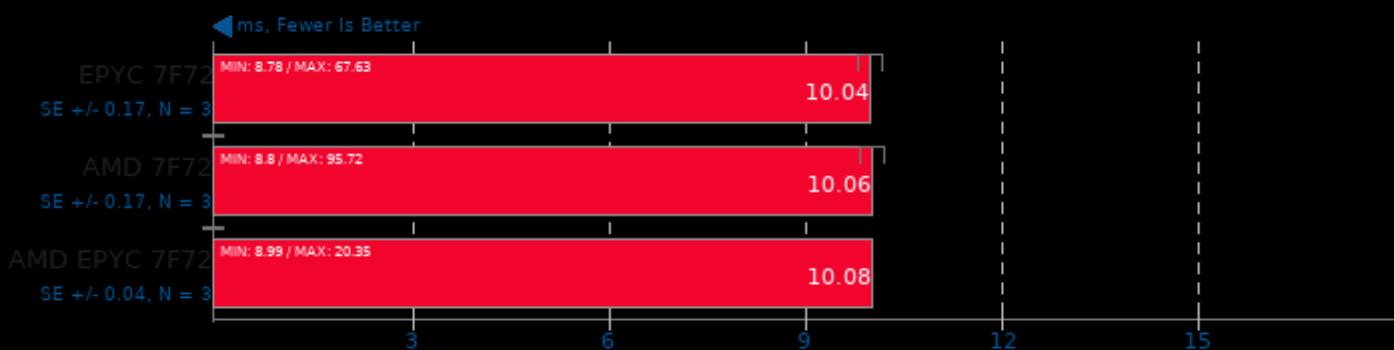
Target: CPU - Model: mobilenet



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

## NCNN 20200916

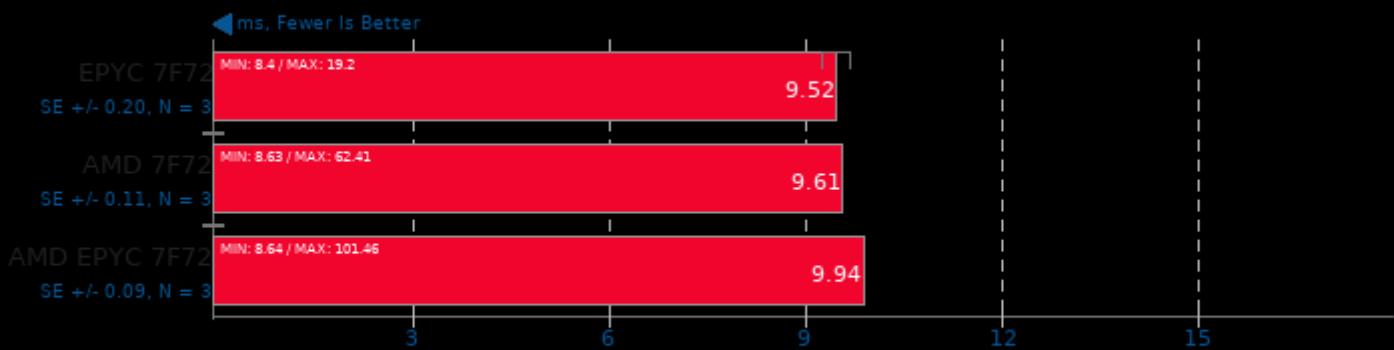
Target: CPU-v2-v2 - Model: mobilenet-v2



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

## NCNN 20200916

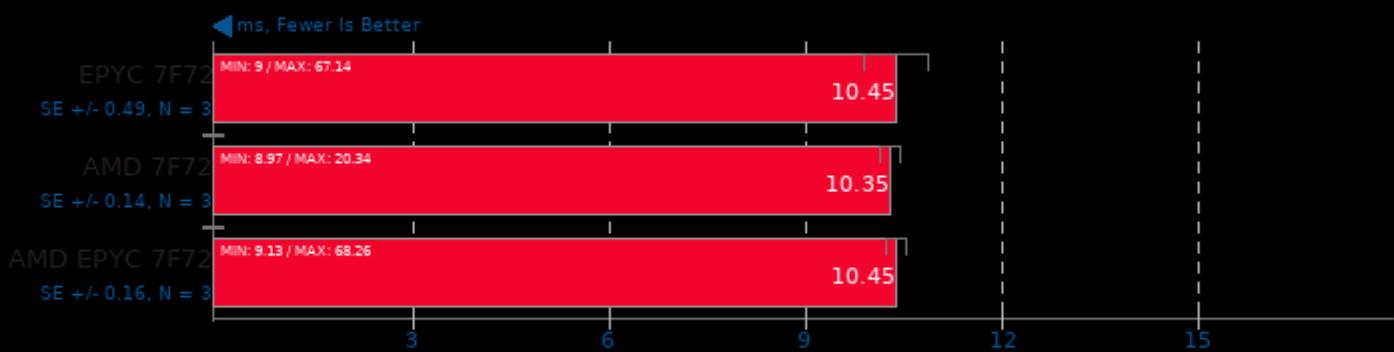
Target: CPU-v3-v3 - Model: mobilenet-v3



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

## NCNN 20200916

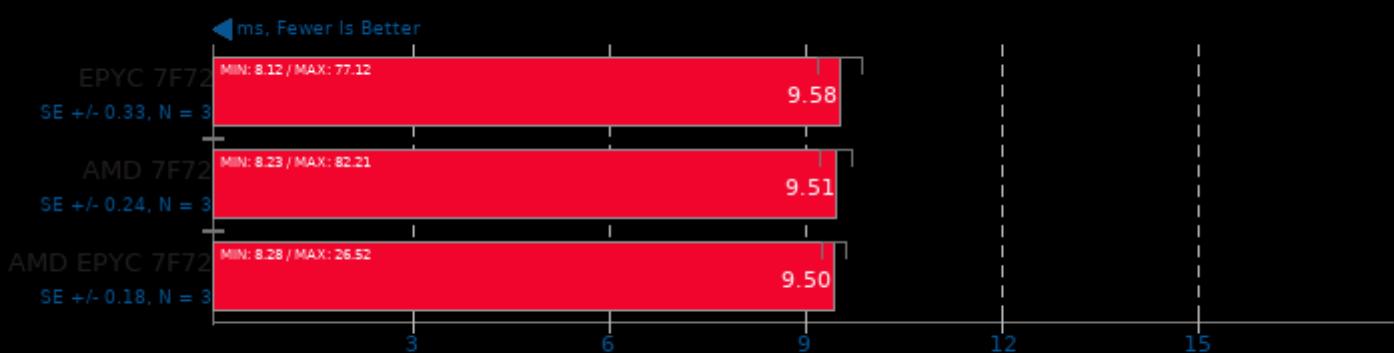
Target: CPU - Model: shufflenet-v2



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

## NCNN 20200916

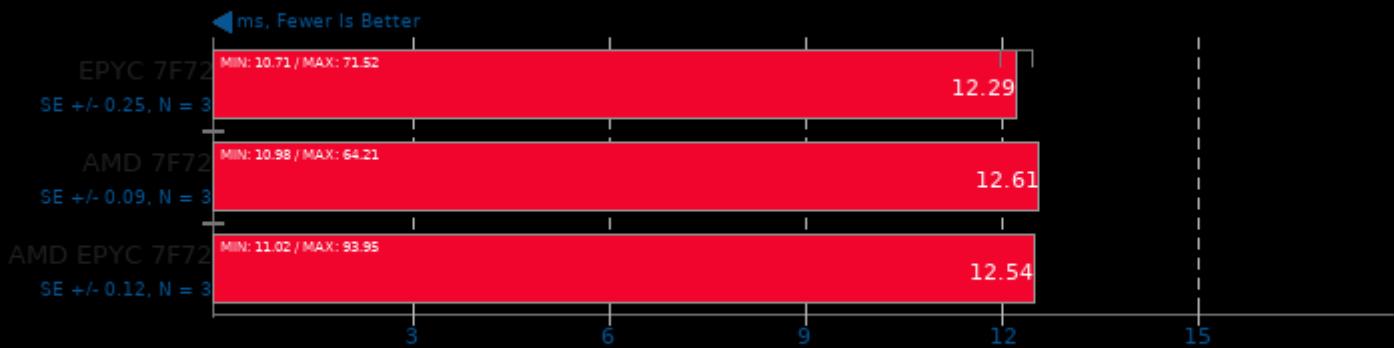
Target: CPU - Model: mnasnet



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

## NCNN 20200916

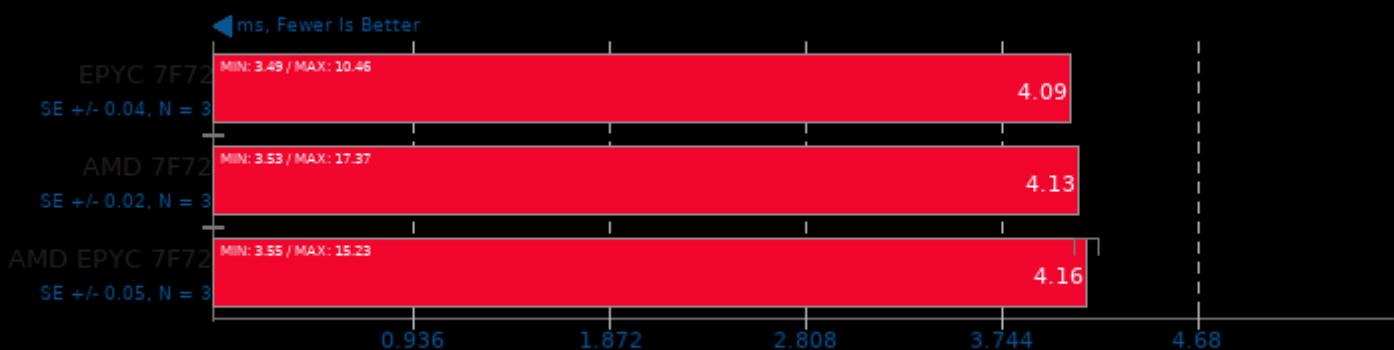
Target: CPU - Model: efficientnet-b0



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

## NCNN 20200916

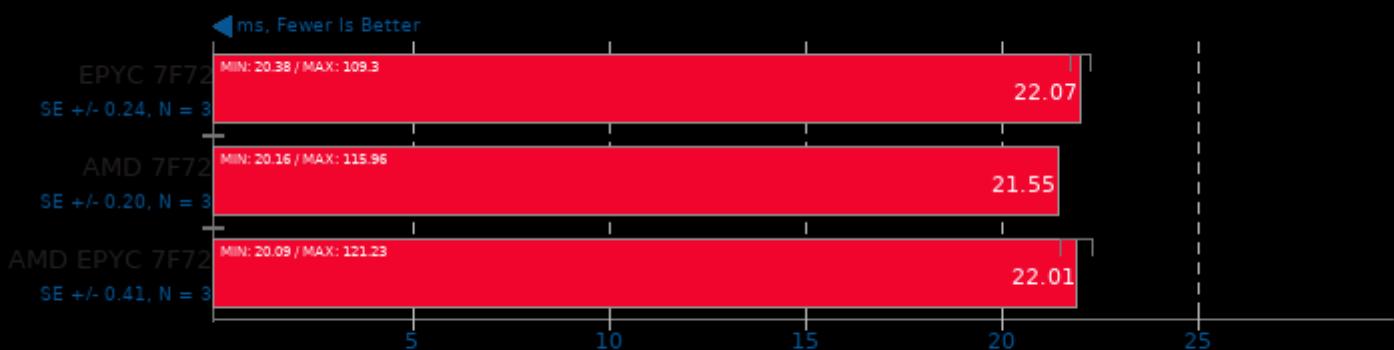
Target: CPU - Model: blazeface



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

## NCNN 20200916

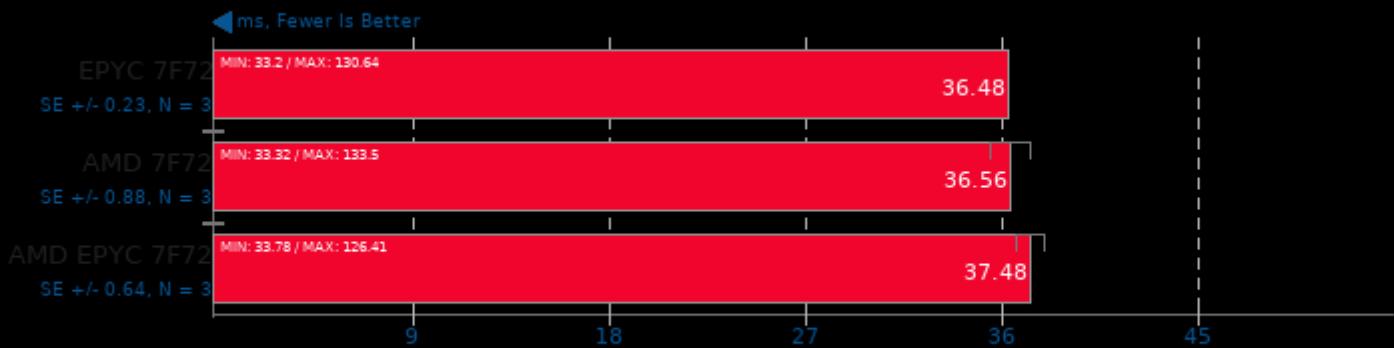
Target: CPU - Model: googlenet



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

**NCNN 20200916**

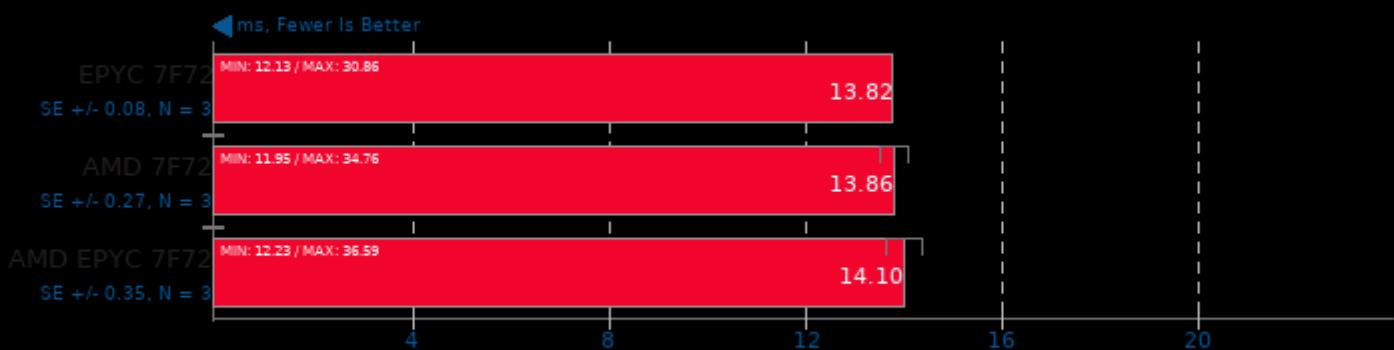
Target: CPU - Model: vgg16



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

**NCNN 20200916**

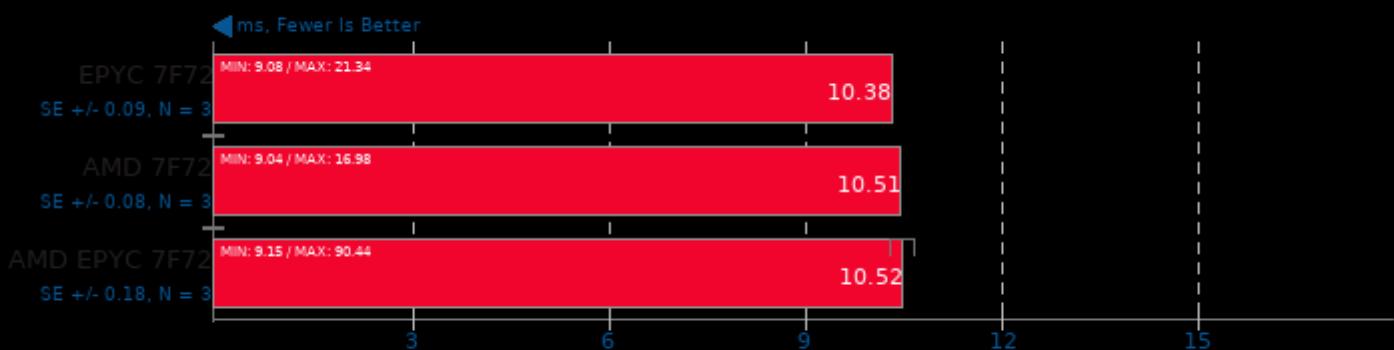
Target: CPU - Model: resnet18



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

**NCNN 20200916**

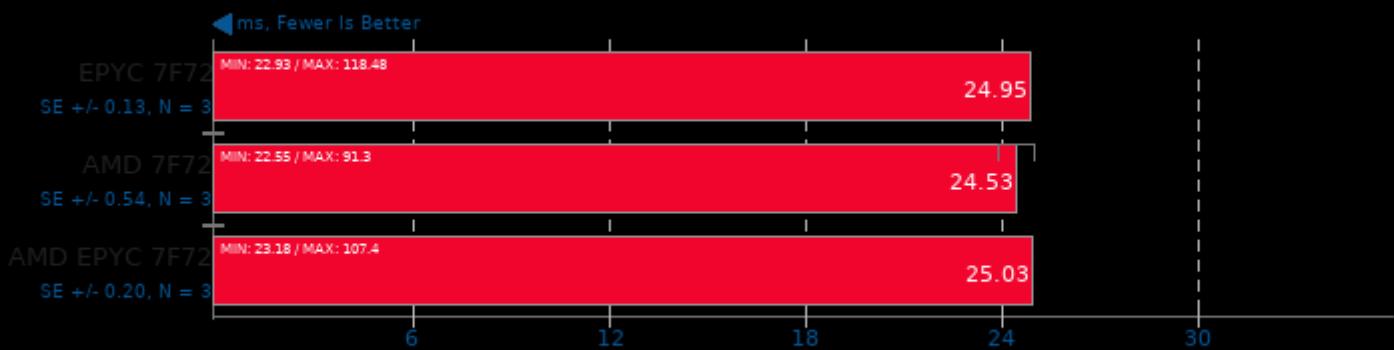
Target: CPU - Model: alexnet



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

## NCNN 20200916

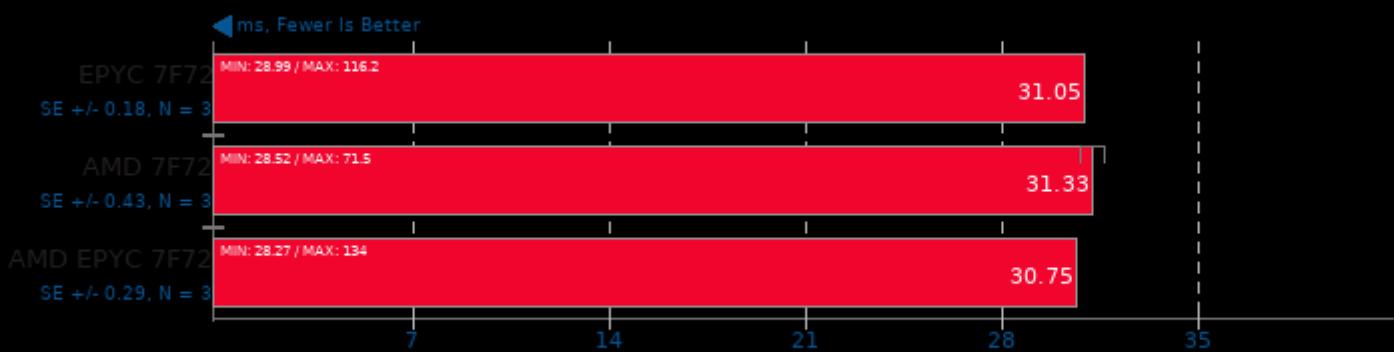
Target: CPU - Model: resnet50



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

## NCNN 20200916

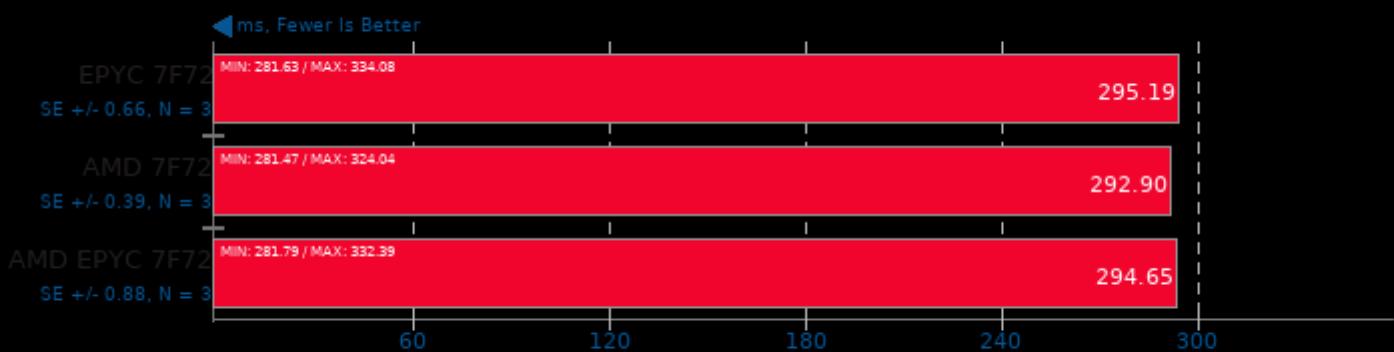
Target: CPU - Model: yolov4-tiny



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

## TNN 0.2.3

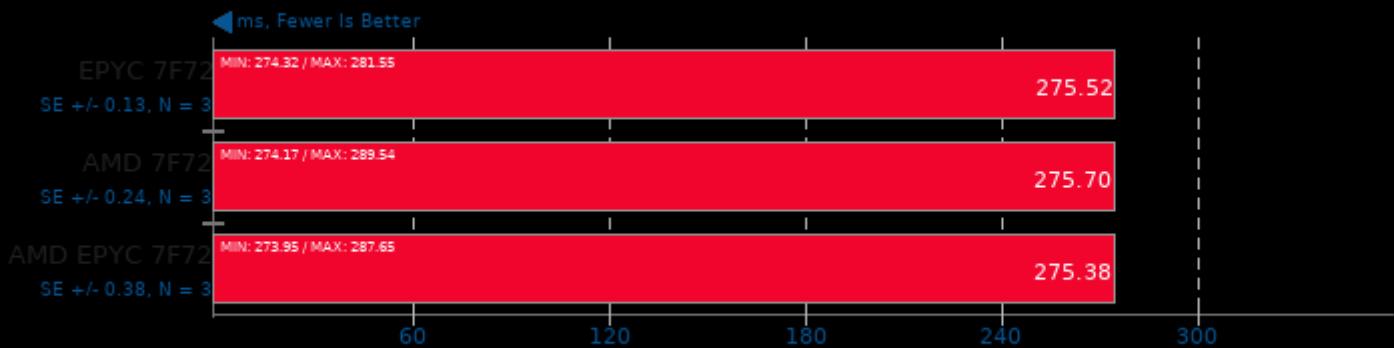
Target: CPU - Model: MobileNet v2



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

## TNN 0.2.3

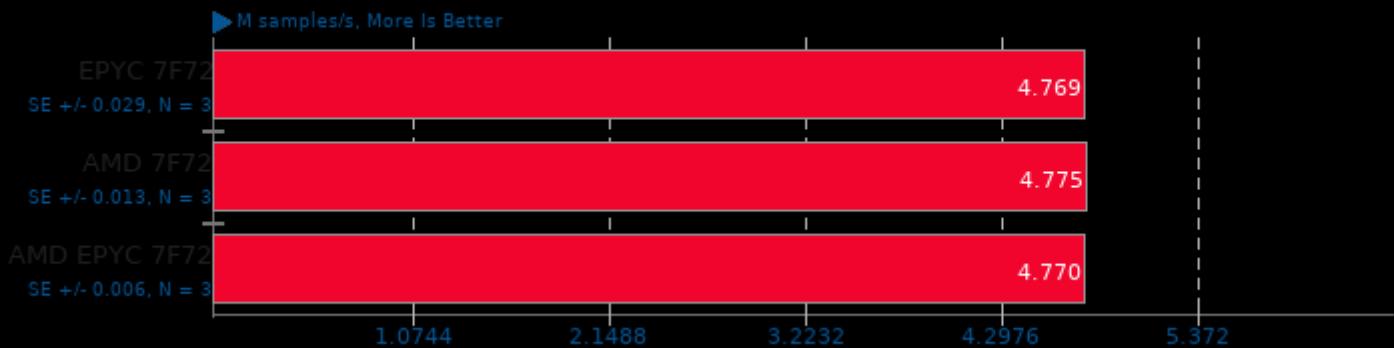
Target: CPU - Model: SqueezeNet v1.1



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

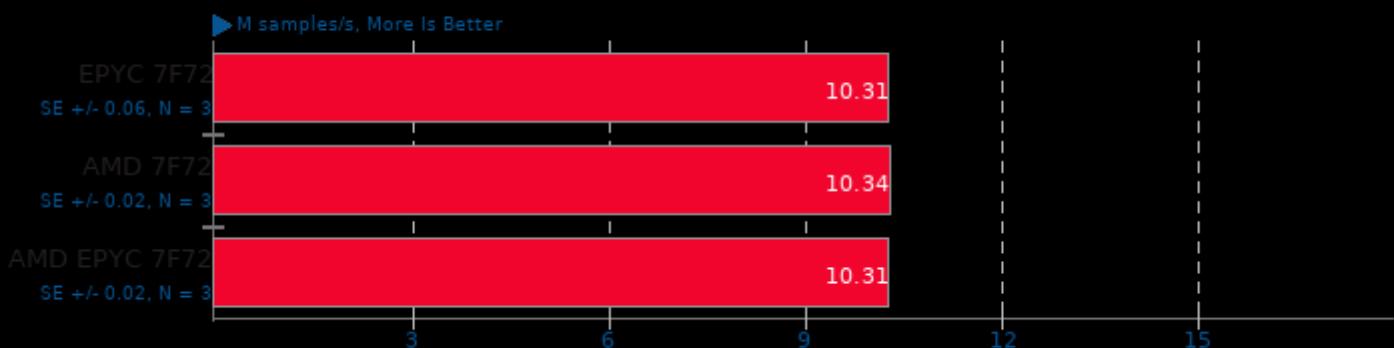
## IndigoBench 4.4

Acceleration: CPU - Scene: Bedroom



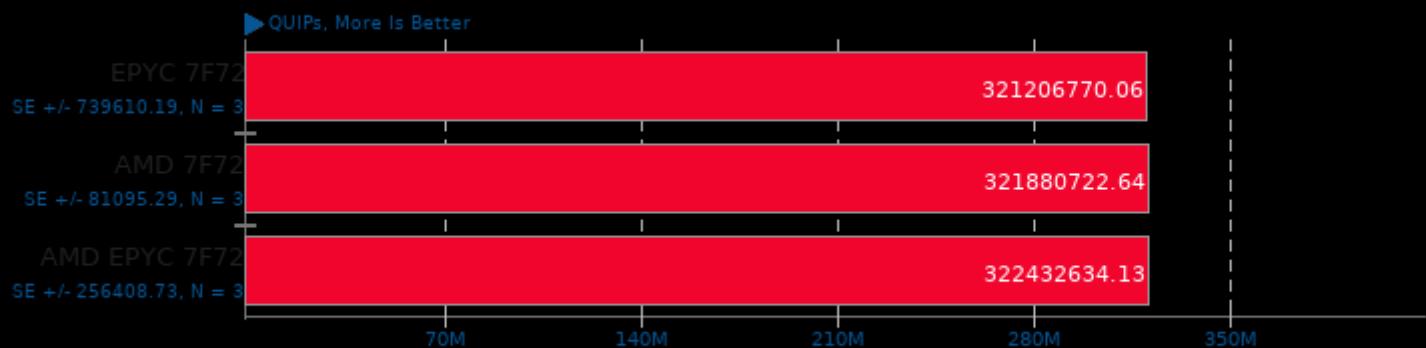
## IndigoBench 4.4

Acceleration: CPU - Scene: Supercar



## Hierarchical INTegration 1.0

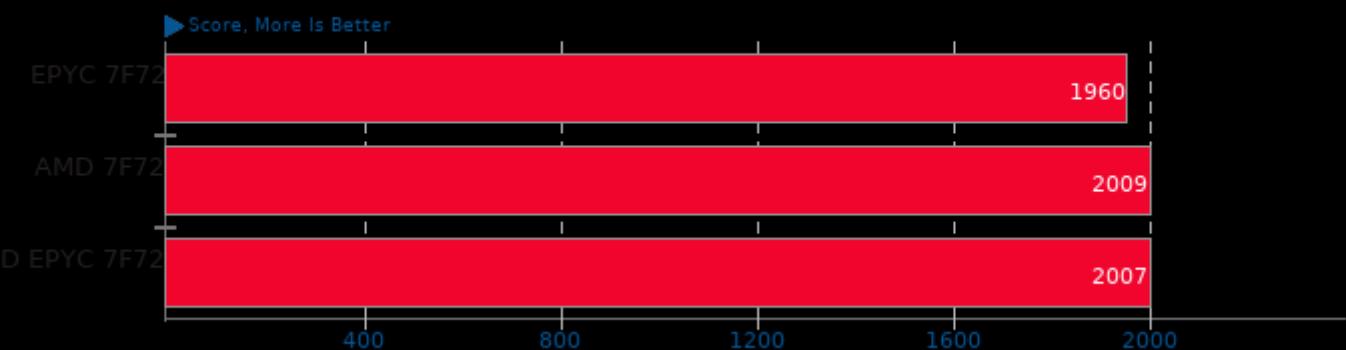
Test: FLOAT



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

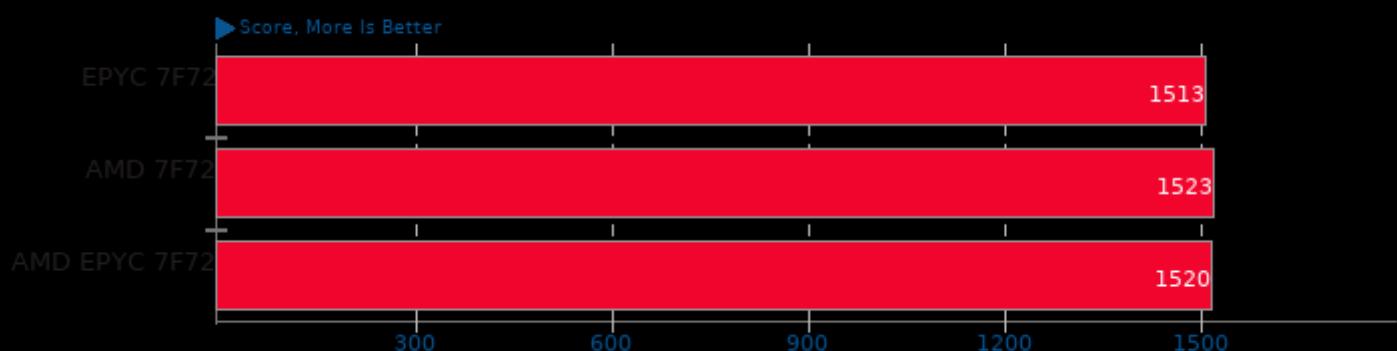
## AI Benchmark Alpha 0.1.2

Device Inference Score



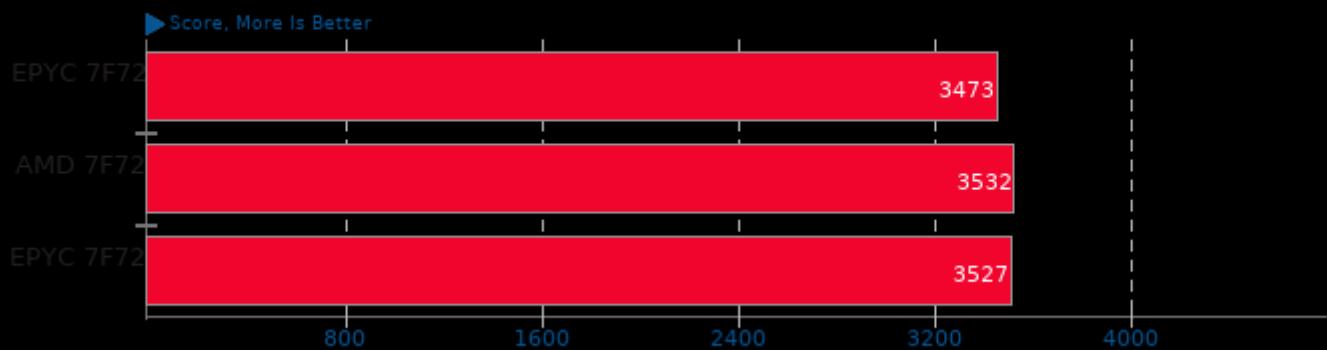
## AI Benchmark Alpha 0.1.2

Device Training Score



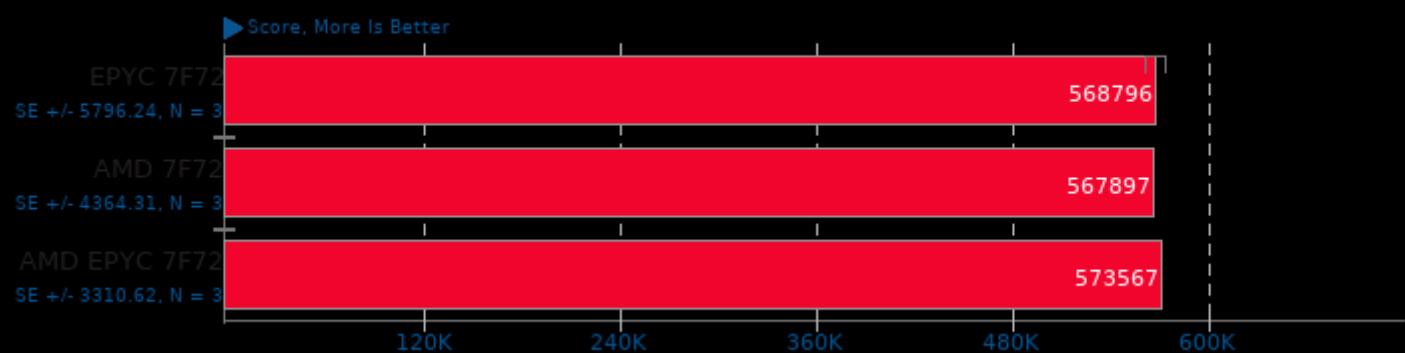
## AI Benchmark Alpha 0.1.2

Device AI Score



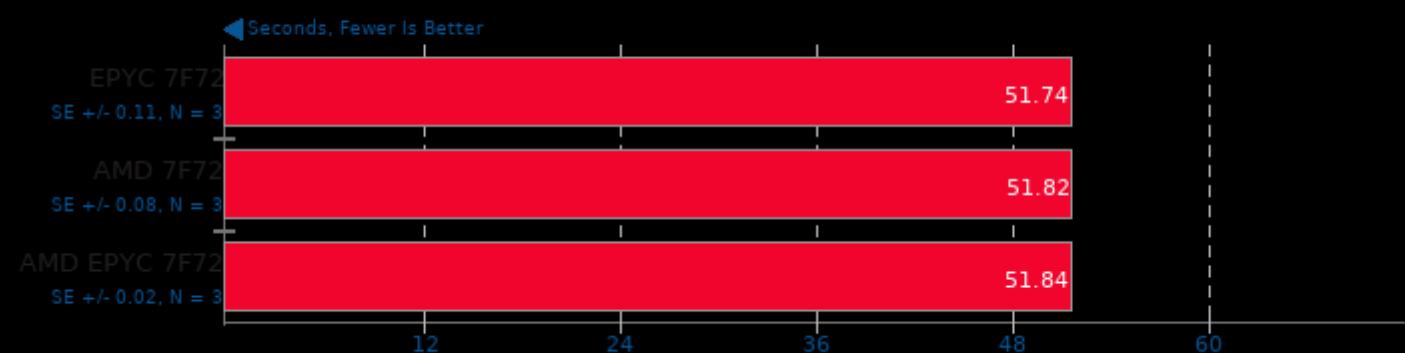
## PHPBench 0.8.1

PHP Benchmark Suite



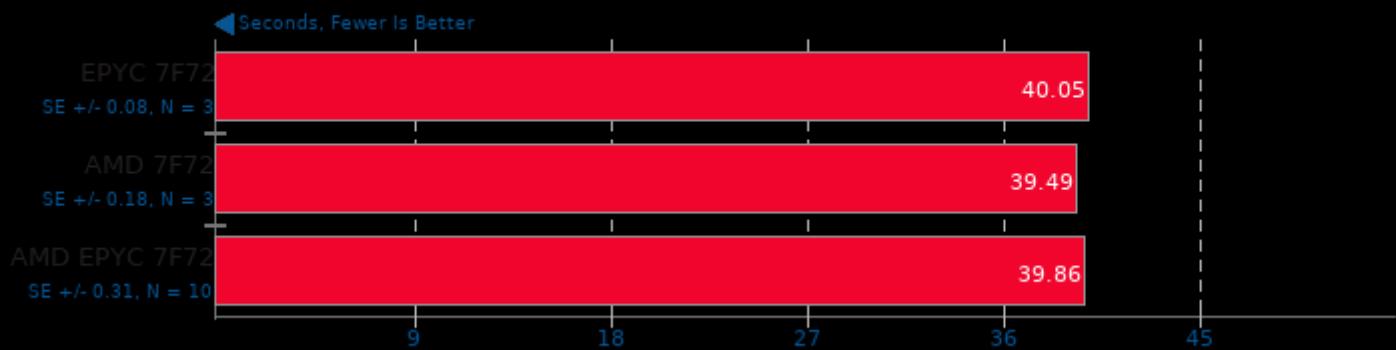
## Milpack Benchmark

Benchmark: scikit\_ica



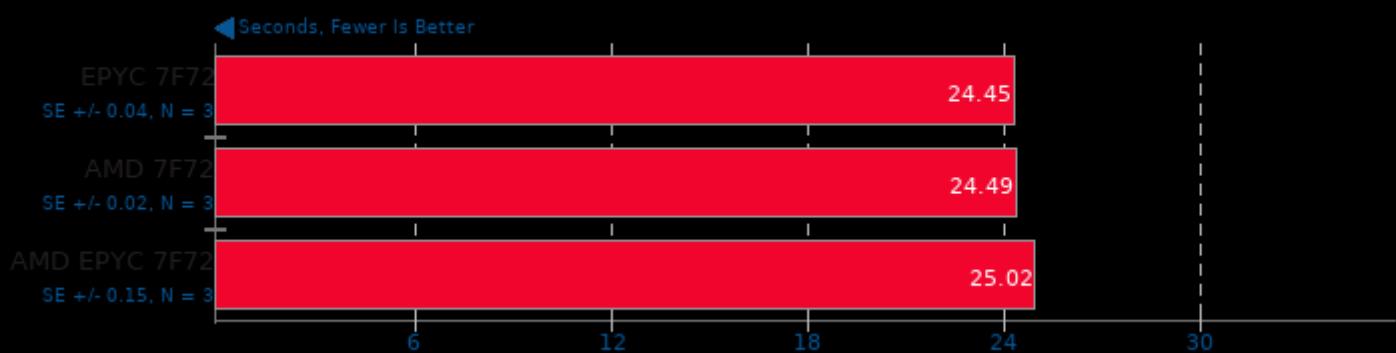
## Milpack Benchmark

Benchmark: scikit\_qda



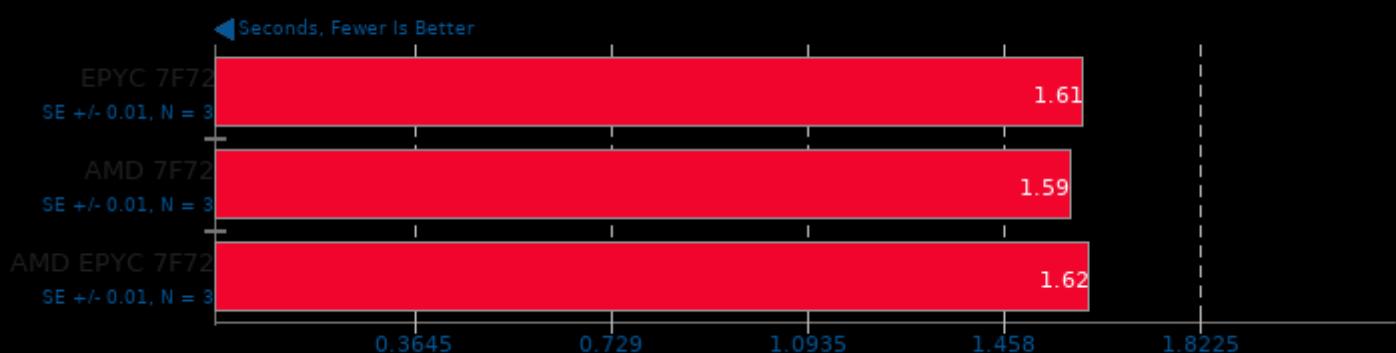
## Milpack Benchmark

Benchmark: scikit\_svm



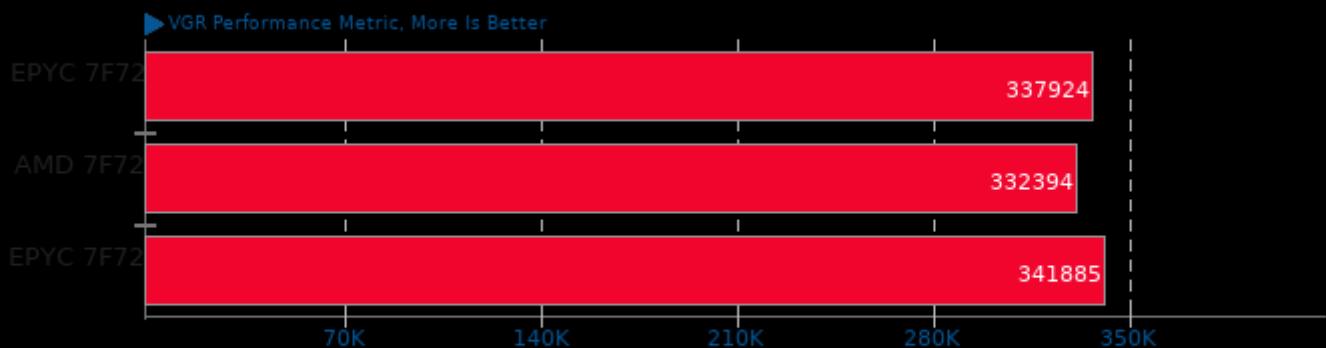
## Milpack Benchmark

Benchmark: scikit\_linearridge\_regression



## BRL-CAD 7.30.8

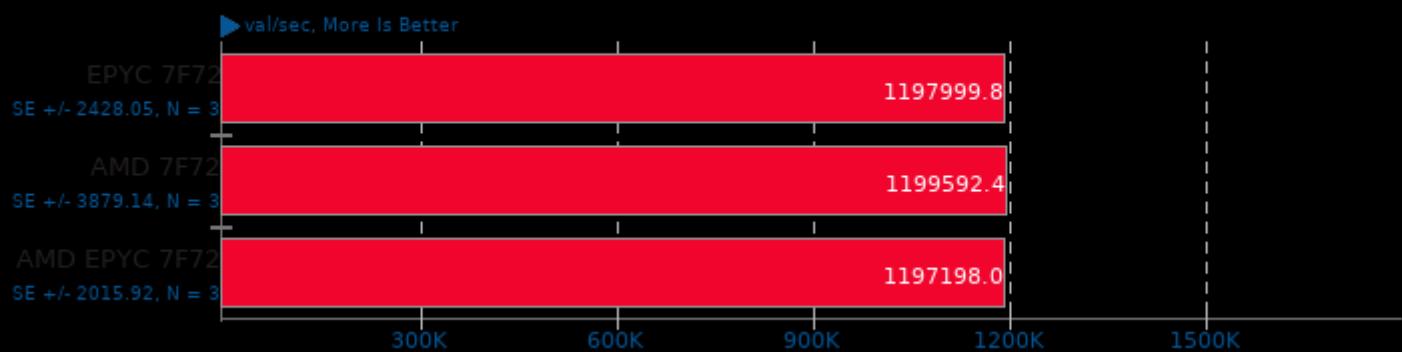
VGR Performance Metric



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

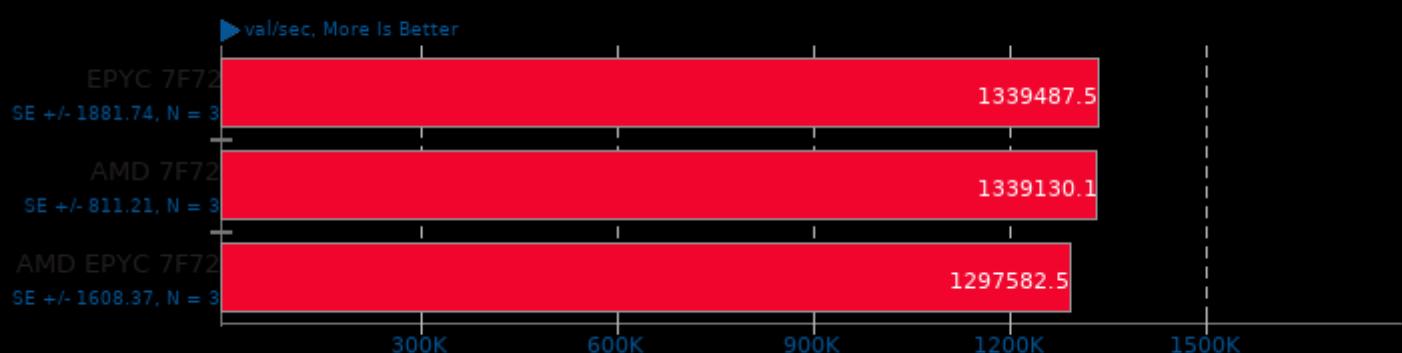
## InfluxDB 1.8.2

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



## InfluxDB 1.8.2

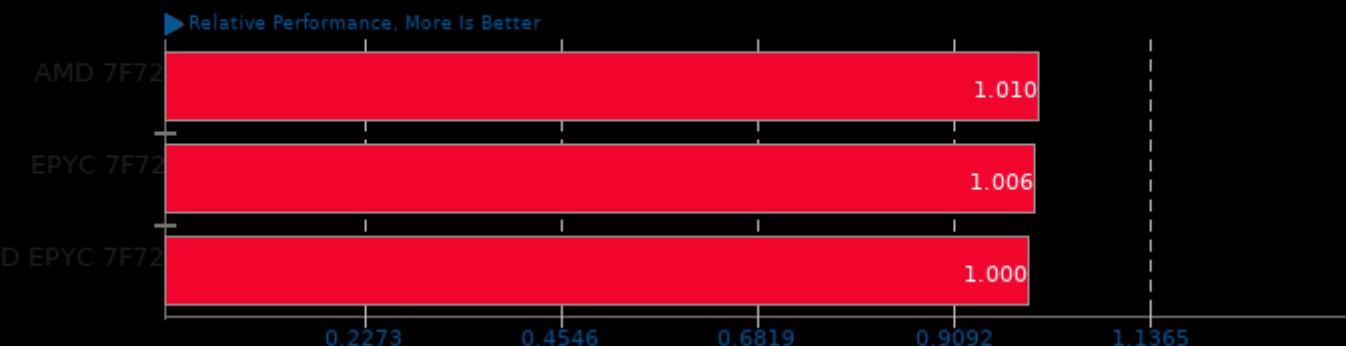
Concurrent Streams: 64 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000



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

### Geometric Mean Of Chess Test Suite

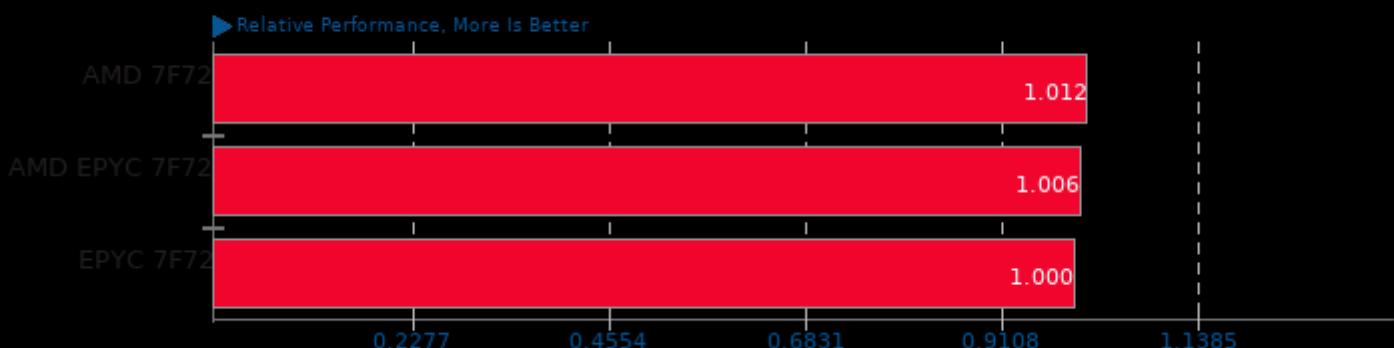
Result Composite - EPYC 7F72



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

### Geometric Mean Of Timed Code Compilation Tests

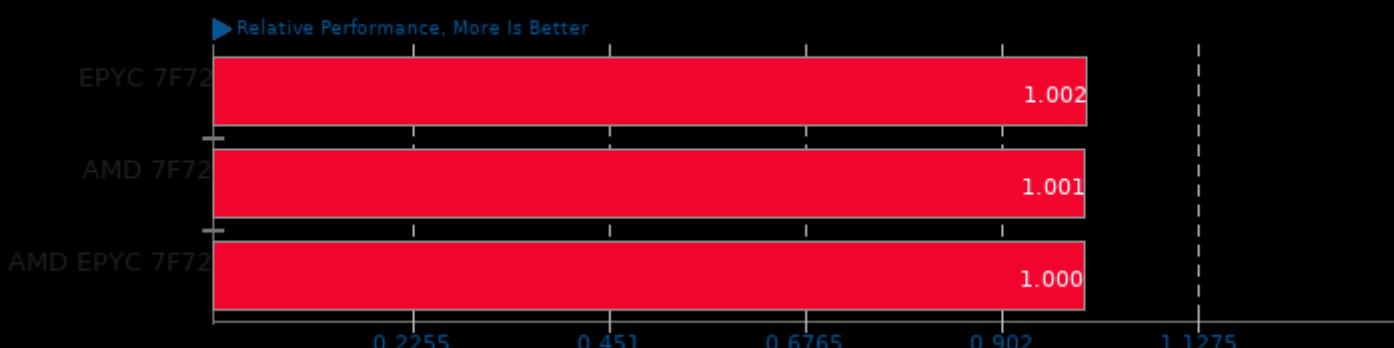
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/build-linux-kernel and pts/build-llvm

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

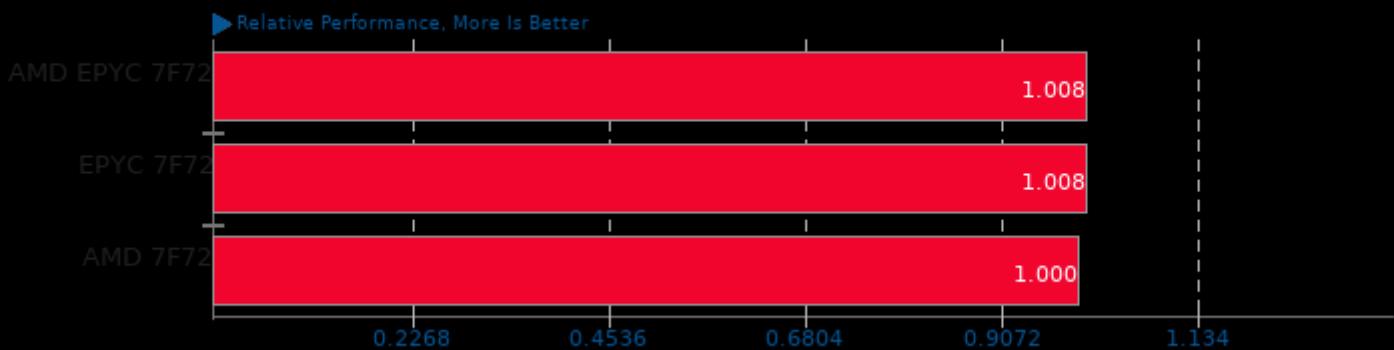
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/stockfish, pts/hammer, pts/build-llvm, pts/pgbench, pts/x264, pts/x265, pts/kvazaar, pts/lammps, pts/gromacs, pts/keydb, pts/leveldb and pts/basis

## Geometric Mean Of Creator Workloads Tests

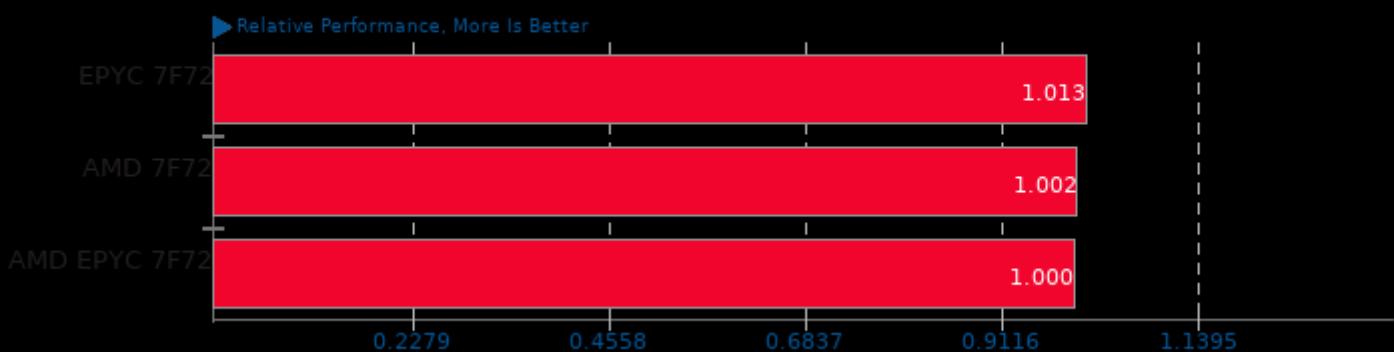
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/indigobench, pts/x264, pts/x265, pts/kvazaar, pts/rav1e, pts/libraw, pts/webp, system/hugin, pts/onednn, pts/basis, pts/espeak, pts/rnnoise and pts/brl-cad

## Geometric Mean Of Database Test Suite

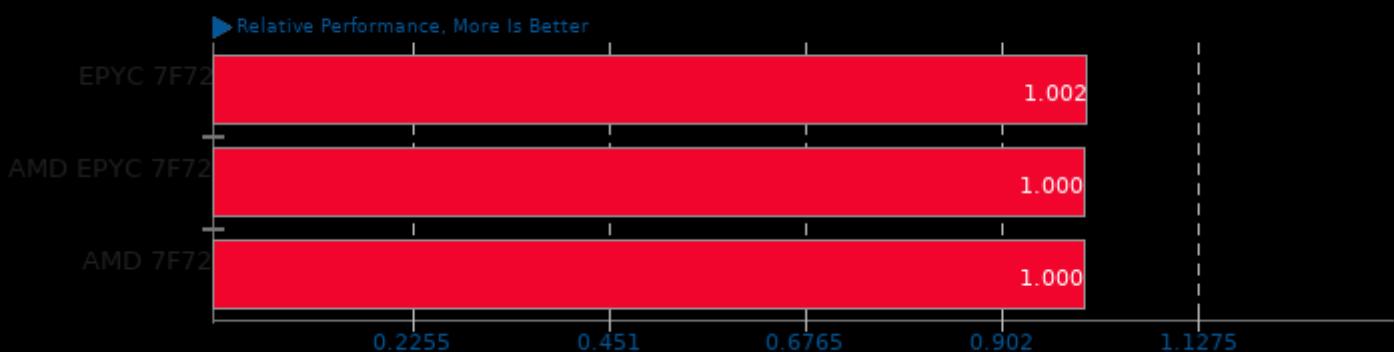
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/redis, pts/keydb, pts/leveldb, pts/pgbench and pts/influxdb

## Geometric Mean Of Encoding Tests

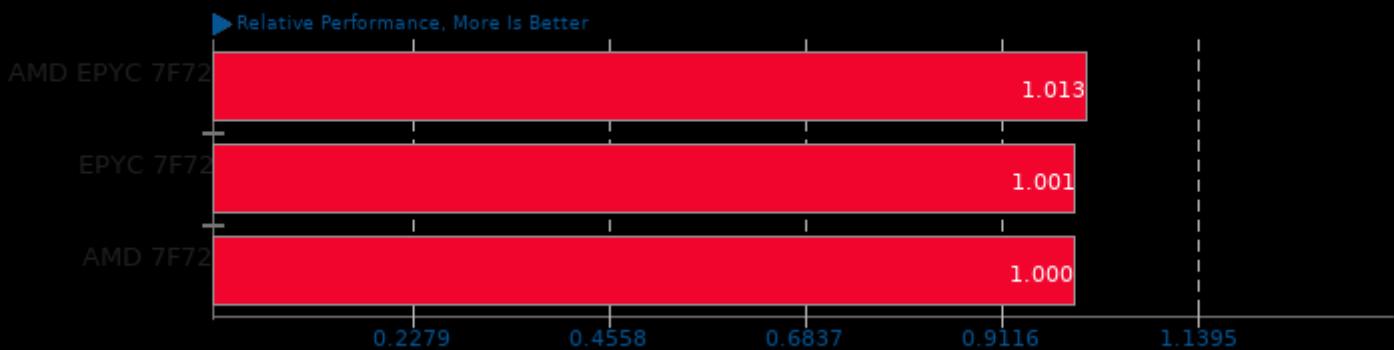
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/x264, pts/x265, pts/kvazaar and pts/rav1e

## Geometric Mean Of Fortran Tests

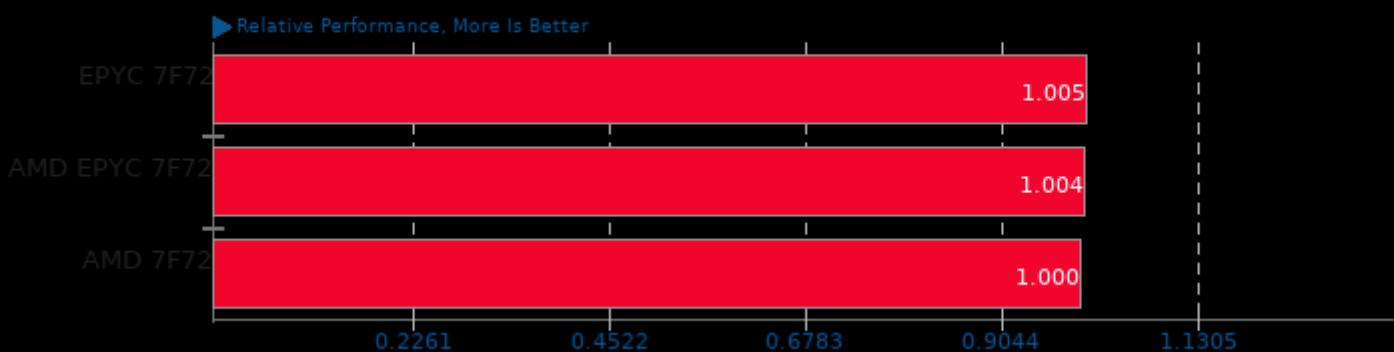
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/hpcg, pts/hpcc, pts/ffte and pts/lammps

## Geometric Mean Of HPC - High Performance Computing Tests

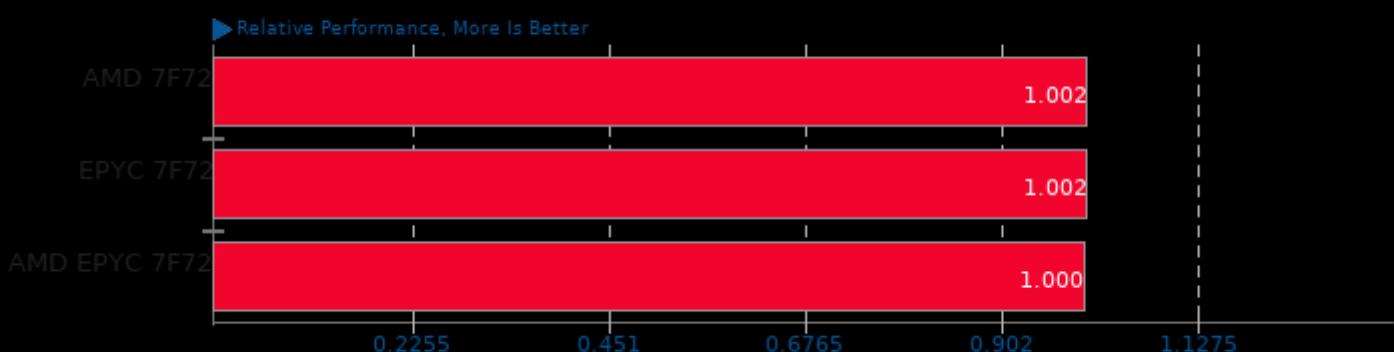
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/hpcc, pts/hpcg, pts/ffte, pts/namd, pts/gromacs, pts/lammps, pts/hmmer, pts/ncnn, pts/tnn, pts/numpy, pts/ai-benchmark, pts/rnnoise, pts/mlpack, pts/tensorflow-lite and pts/onnednn

## Geometric Mean Of Imaging Tests

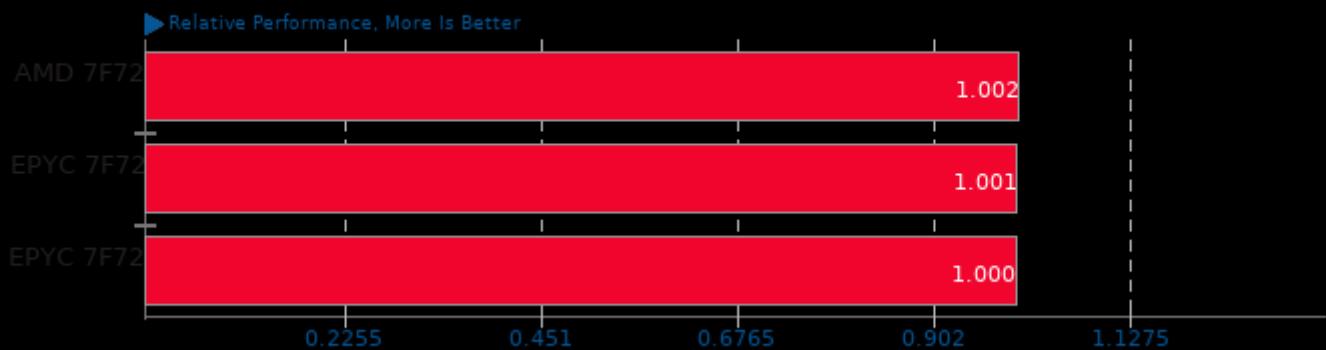
Result Composite - EPYC 7F72



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

## Geometric Mean Of Common Kernel Benchmarks Tests

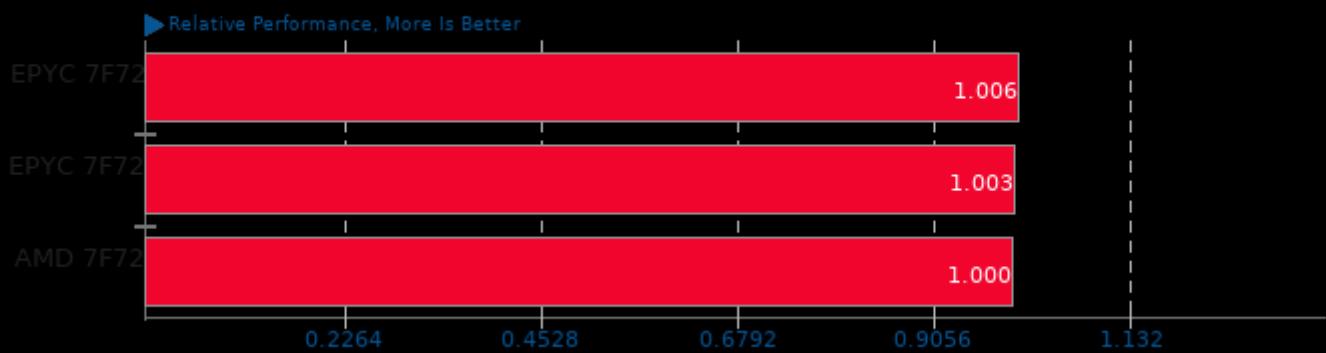
Result Composite - EPYC 7F72



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

## Geometric Mean Of Machine Learning Tests

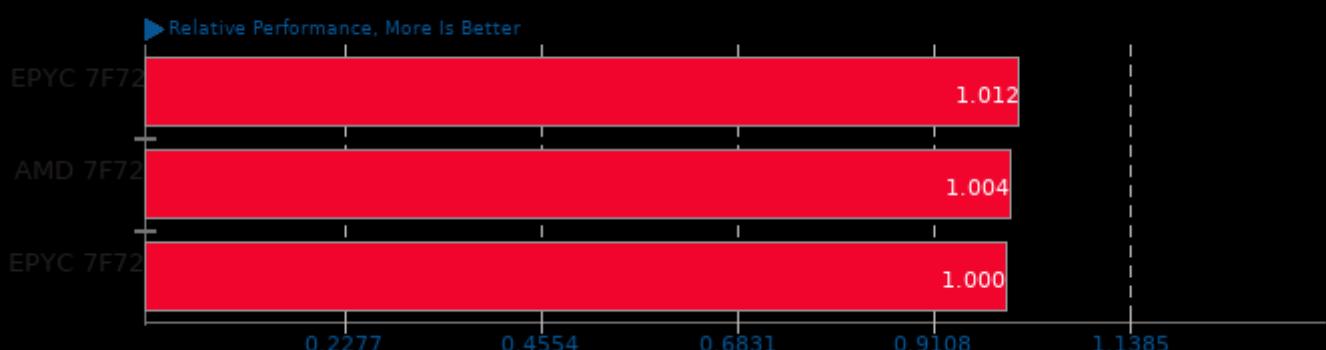
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/ncnn, pts/tnn, pts(numpy, pts/ai-benchmark, pts/rnnoise, pts/mlpack, pts/tensorflow-lite and pts/onenn

## Geometric Mean Of Molecular Dynamics Tests

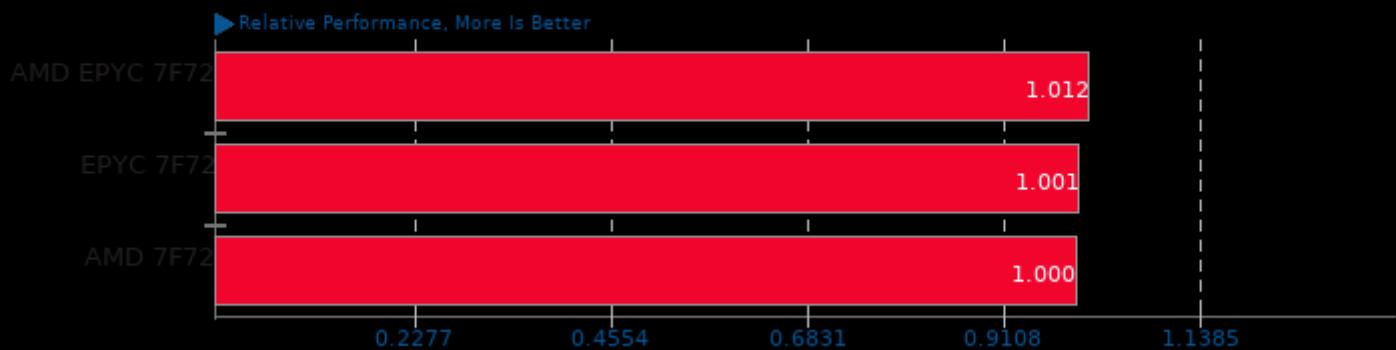
Result Composite - EPYC 7F72



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

## Geometric Mean Of MPI Benchmarks Tests

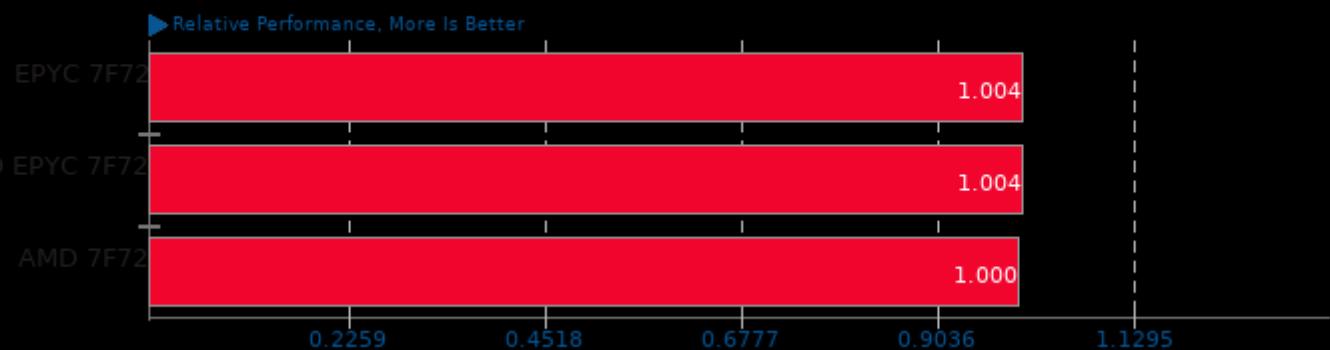
Result Composite - EPYC 7F72



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

## Geometric Mean Of Multi-Core Tests

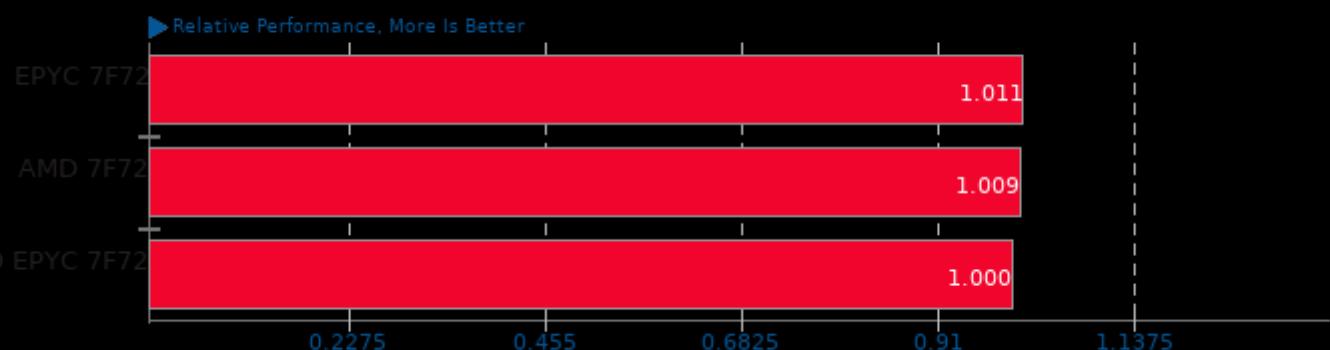
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/stockfish, pts/x264, pts/x265, pts/kvazaar, pts/rav1e, pts/namd, pts/asfmish, pts/onednn, pts/lammps, pts/gromacs, pts/build-linux-kernel, pts/build-llvm, pts/indigobench, pts/hpcg and pts/pgbench

## Geometric Mean Of NVIDIA GPU Compute Tests

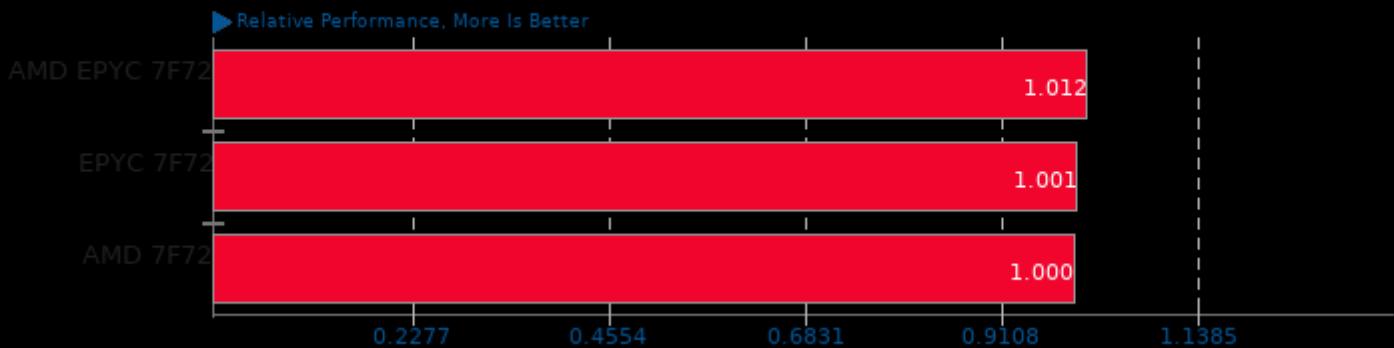
Result Composite - EPYC 7F72



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

## Geometric Mean Of OpenMPI Tests

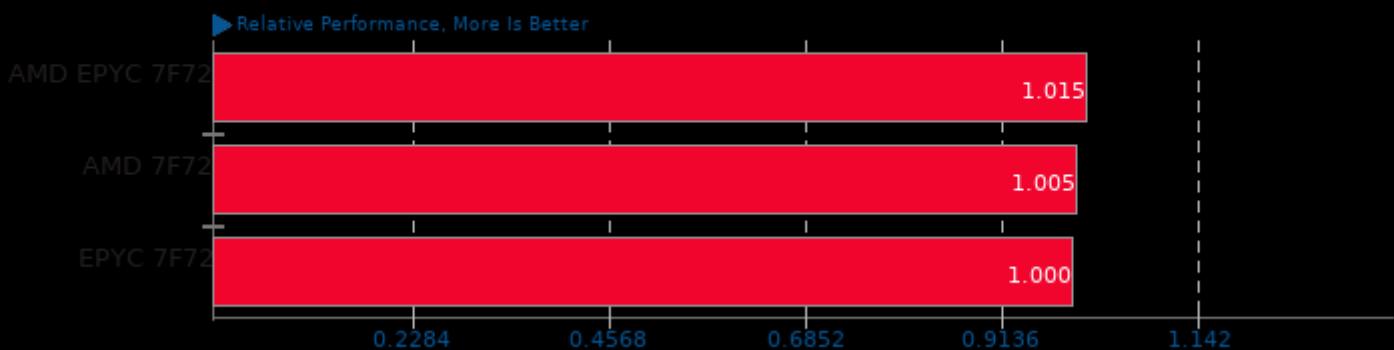
Result Composite - EPYC 7F72



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

## Geometric Mean Of Programmer / Developer System Benchmarks Tests

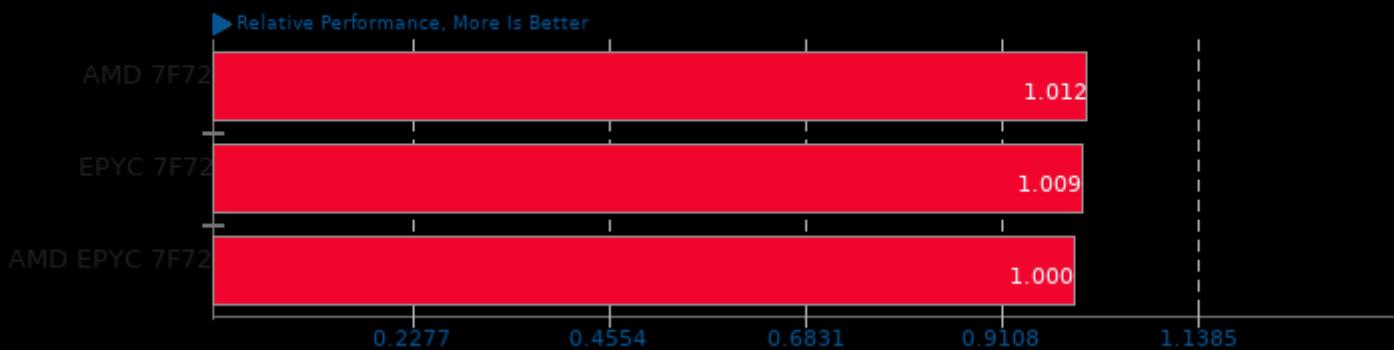
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/build-linux-kernel, pts/build-llvm and pts/hpcc

## Geometric Mean Of Python Tests

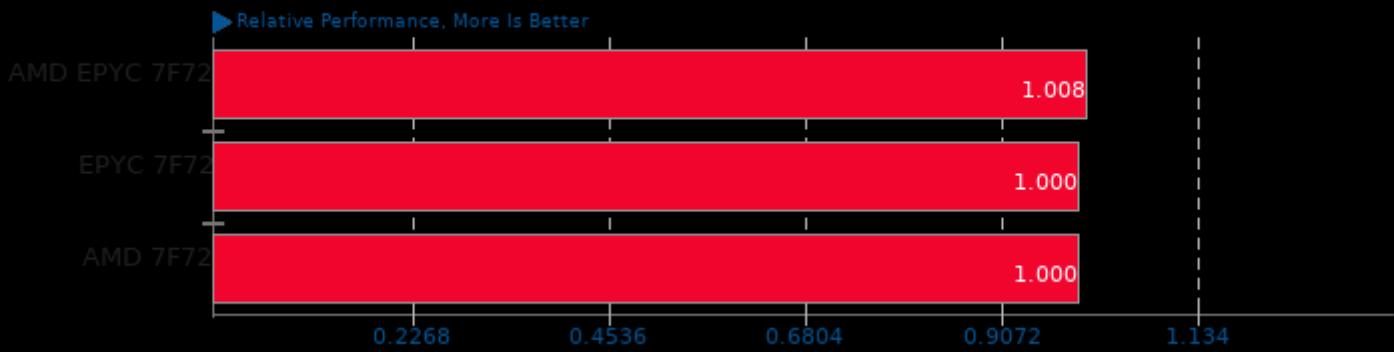
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/numpy and pts/mlpack

## Geometric Mean Of Scientific Computing Tests

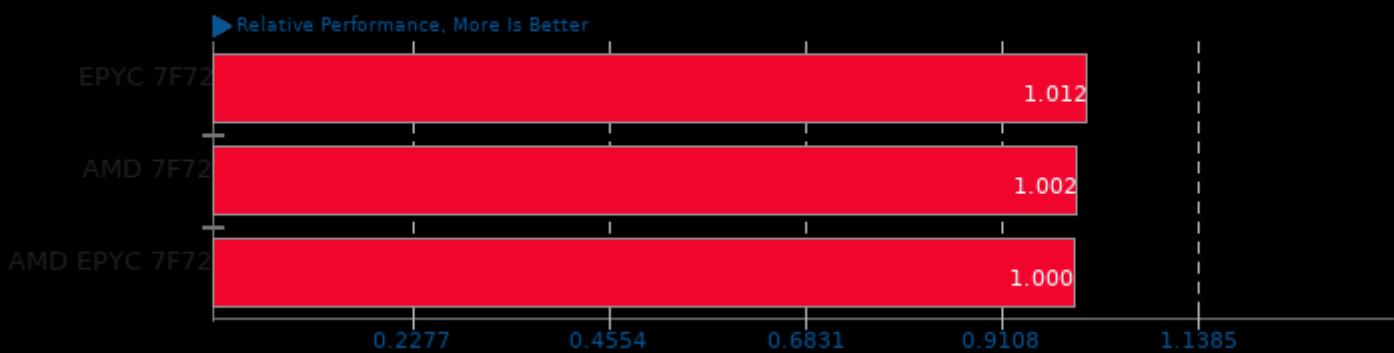
Result Composite - EPYC 7F72



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

## Geometric Mean Of Server Tests

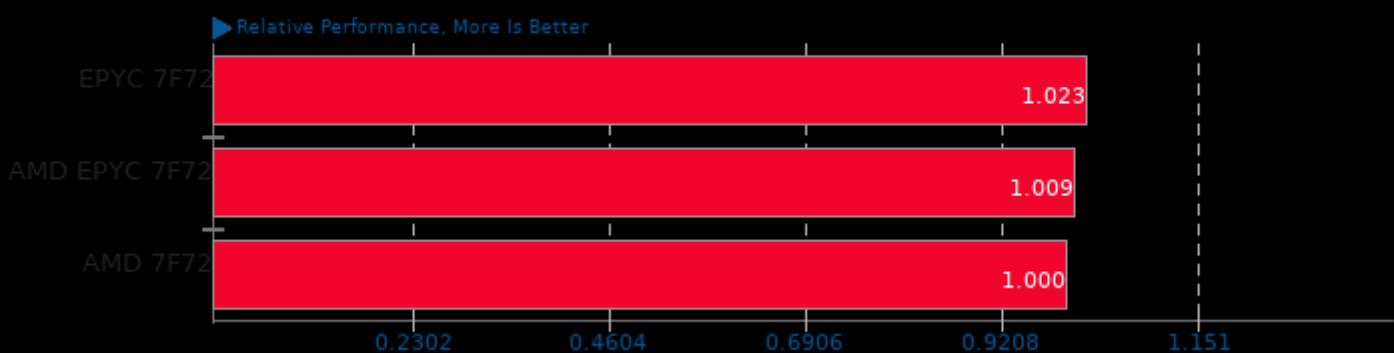
Result Composite - EPYC 7F72



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

## Geometric Mean Of Server CPU Tests

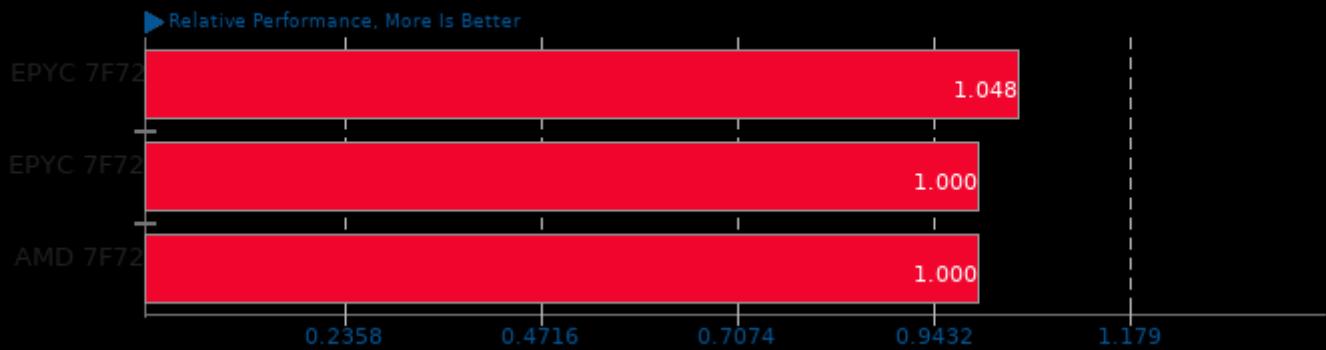
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/namd, pts/onnednn, pts/x264, pts/x265, pts/stockfish, pts/asmfish, pts/build-linux-kernel, pts/build-llvm, pts/redis, pts/numpy and pts/phpbench

## Geometric Mean Of Single-Threaded Tests

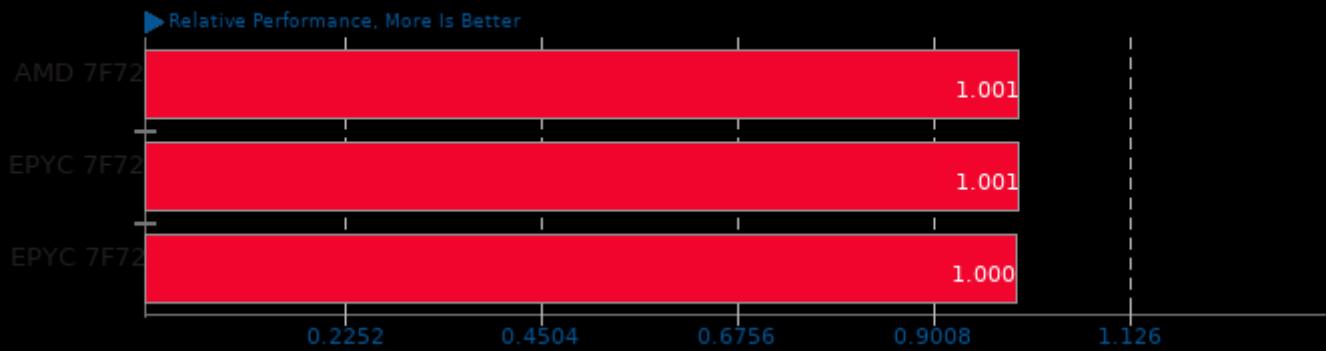
Result Composite - EPYC 7F72



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

## Geometric Mean Of Speech Tests

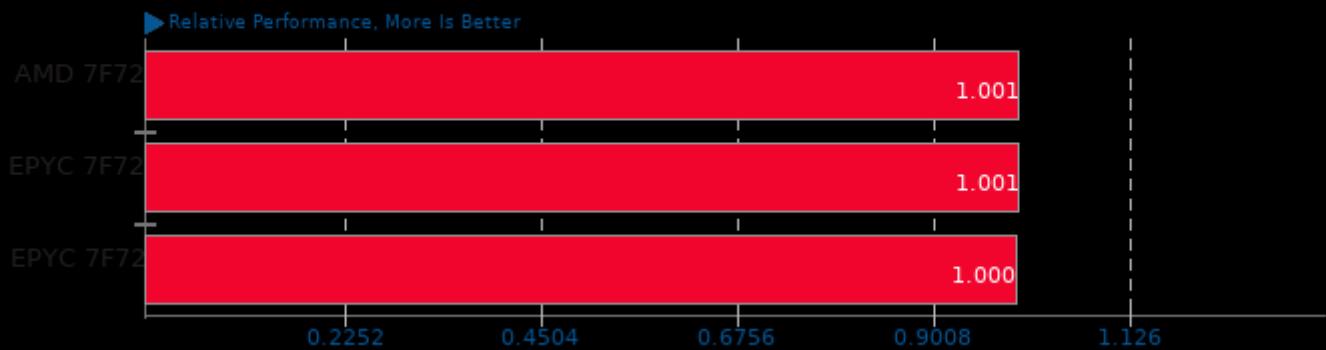
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/espeak and pts/rnnoise

## Geometric Mean Of Telephony Tests

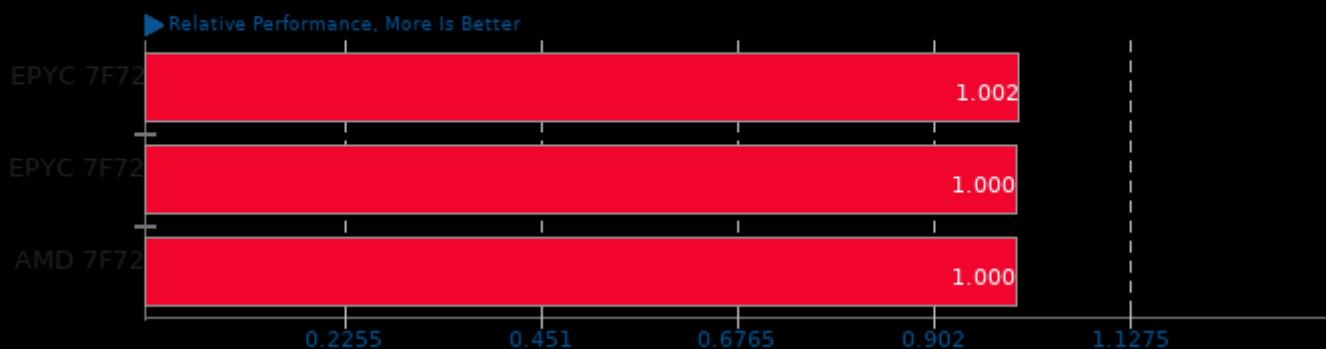
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/espeak and pts/rnnoise

## Geometric Mean Of Video Encoding Tests

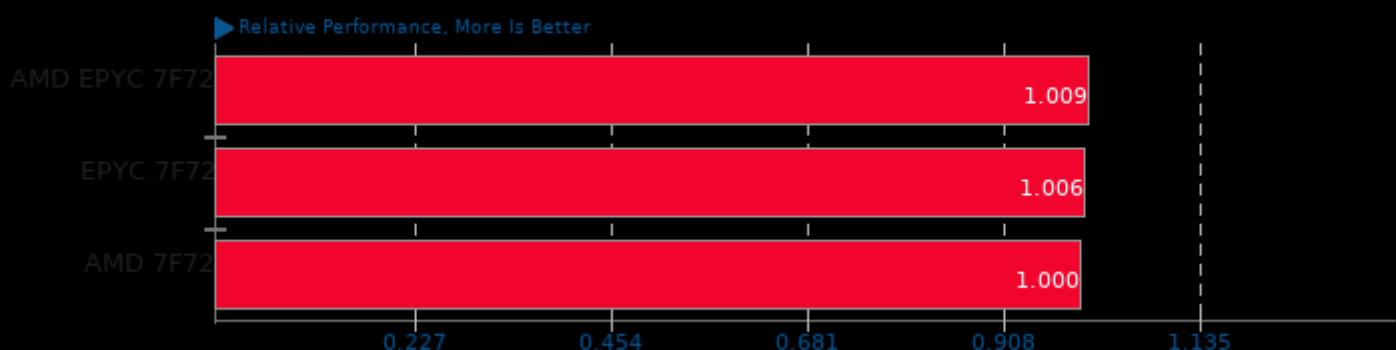
Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/x264, pts/x265, pts/kvazaar and pts/rav1e

## Geometric Mean Of Common Workstation Benchmarks Tests

Result Composite - EPYC 7F72



Geometric mean based upon tests: pts/brl-cad and pts/x265

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 18:42.*