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2990wx-2021-amd

AMD Ryzen Threadripper 2990WX 32-Core testing with a ASUS ROG ZENITH EXTREME (1701 BIOS) and Gigabyte AMD Radeon RX 470/480/570/570X/580/580X/590 4GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

4 had the most wins, coming in first place for 32% of the tests.

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

ONNX Runtime (Model: *bertsquad-10* - Device: OpenMP CPU) at 1.77x
IOR (Block Size: 32MB - Disk Target: Default Test Directory) at 1.724x
IOR (Block Size: 16MB - Disk Target: Default Test Directory) at 1.648x
IOR (Block Size: 2MB - Disk Target: Default Test Directory) at 1.276x
ONNX Runtime (Model: *yolov4* - Device: OpenMP CPU) at 1.181x
IOR (Block Size: 8MB - Disk Target: Default Test Directory) at 1.135x
ONNX Runtime (Model: *fcn-resnet101-11* - Device: OpenMP CPU) at 1.13x
ONNX Runtime (Model: *super-resolution-10* - Device: OpenMP CPU) at 1.068x
QMCPACK (Input: *simple-H2O*) at 1.051x
Mobile Neural Network (Model: *SqueezeNetV1.0*) at 1.046x.

Test Systems:

1

1a

2

3

4

5

Processor: AMD Ryzen Threadripper 2990WX 32-Core @ 3.00GHz (32 Cores / 64 Threads), Motherboard: ASUS ROG ZENITH EXTREME (1701 BIOS), Chipset: AMD 17h, Memory: 32GB, Disk: Samsung SSD 970 EVO 500GB + 250GB Western Digital WDS250G2X0C-00L350, Graphics: Gigabyte AMD Radeon RX 470/480/570/570X/580/580X/590 4GB (1244/1750MHz), Audio: Realtek ALC1220, Monitor: LG Ultra HD, Network: Intel I211 + Qualcomm Atheros QCA6174 802.11ac + Wilocity Wil6200 802.11ad

OS: Ubuntu 20.10, Kernel: 5.8.0-34-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, Display Driver: modesetting 1.20.9, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
 Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,objc++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp/nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
 Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
 Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x800820d
 Python Notes: Python 3.8.6

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IPBP: conditional STIBP: disabled RSB filling + srbs: Not affected + tsx_async_abort: Not affected

	1	1a	2	3	4	5
ONNX Runtime - bertsquad-10 - OpenMP CPU (Inferences/min)	122		128		213	216
Normalized	56.48%		59.26%		98.61%	100%
Standard Deviation	5.9%		2%		1.6%	4.2%
IOR - 32MB (MB/s)	492.81		480.75	471.83	813.49	506.83
Normalized	60.58%		59.1%	58%	100%	62.3%
Standard Deviation	3.5%		2.8%	1.7%	1.4%	3%
IOR - 16MB (MB/s)	492.78		490.50	496.04	808.18	527.67
Normalized	60.97%		60.69%	61.38%	100%	65.29%
Standard Deviation	1.1%		2.7%	0.5%	0.7%	0.9%

IOR - 2MB (MB/s)	958.85	781.51	753.94	791.04	961.66
Normalized	99.71%	81.27%	78.4%	82.26%	100%
Standard Deviation	0.7%	1.9%	2.3%	1.3%	0.6%
ONNX Runtime - yolov4 -	155	157		183	181
OpenMP CPU					
Normalized	84.7%	85.79%		100%	98.91%
Standard Deviation	4%	2.7%		4%	1.9%
IOR - 8MB (MB/s)	524.14	535.92	529.36	594.69	536.25
Normalized	88.14%	90.12%	89.01%	100%	90.17%
Standard Deviation	2.8%	2.8%	3%	2.2%	3.5%
ONNX Runtime -	54	54		59	61
fcn-resnet101-11 - OpenMP					
CPU (Inferences/min)					
Normalized	88.52%	88.52%		96.72%	100%
Standard Deviation	0.5%	0.5%			1.7%
ONNX Runtime -	2211	2223		2362	2341
super-resolution-10 -					
OpenMP CPU					
Normalized	93.61%	94.12%		100%	99.11%
Standard Deviation	0.4%	0.7%		0.6%	1.6%
QMCPACK - simple-H2O	36.305	37.346	37.455	35.900	35.624
(Execution Time - sec)					
Normalized	98.12%	95.39%	95.11%	99.23%	100%
Standard Deviation	2.7%	2.4%	5.1%	4.8%	2.9%
Mobile Neural Network -	9.459	9.208		9.044	9.126
SqueezeNetV1.0 (ms)					
Normalized	95.61%	98.22%		100%	99.1%
Standard Deviation	4.9%	4.4%		2.8%	3.7%
FinanceBench - Bonds		58308	58879	56415	56830
OpenMP (ms)					
Normalized	96.75%	95.82%		100%	99.27%
Standard Deviation	0.6%	0.6%		0.3%	0.1%
LAMMPS Molecular	15.352		15.437 14.799	15.013	15.061
Dynamics Simulator - 20k					
Normalized	99.45%	100%	95.87%	97.25%	97.56%
Standard Deviation	0.3%	1.1%	0.6%	0.3%	1.8%
Cpuminer-Opt - Skeincoin		137040	135643	131437	132140
(kH/s)					
Normalized	100%	98.98%		95.91%	96.42%
Standard Deviation	1.2%	1.3%		2.3%	0.6%
FinanceBench - Repo		42858	42329	41317	41135
OpenMP (ms)					
Normalized	95.98%	97.18%		99.56%	100%
Standard Deviation	0.8%	2.3%		0.2%	1.1%
Algebraic Multi-Grid	401359967	391813467	396403133	398053633	386077433
Benchmark (Figure Of Merit)					
Normalized	100%	97.62%	98.76%	99.18%	96.19%
Standard Deviation	2%	0.9%	1.1%	0.1%	1.4%
dav1d - Summer Nature 4K	206.02	204.27	202.23	208.11	209.54
(FPS)					
Normalized	98.32%	97.48%	96.51%	99.32%	100%
Standard Deviation	3.8%	3.8%	3.6%	2.9%	0.4%

TNN - CPU - MobileNet v2	281.081 (ms)	279.843	289.279	288.426
Normalized	99.56%	100%	96.74%	97.02%
Standard Deviation	0.1%	0.5%	0.5%	0.3%
Cpuminer-Opt - LBC, LBRY	45567	45570	46943	45451
Credits (kH/s)				
Normalized	97.07%	97.08%	100%	96.82%
Standard Deviation	2.5%	1.9%	2%	3.3%
Izbench - Zstd 1 -	1583	1572	1572	1533
Decompression (MB/s)				
Normalized	100%	99.31%	99.31%	96.84%
Standard Deviation	0.1%	0%	0.3%	4.6%
RELION - Basic - CPU (sec)	1824	1794	1768	1781
Normalized	96.94%	98.56%	100%	99.26%
Standard Deviation	1.4%	0.3%	1%	0.5%
Cpuminer-Opt - Garlicoin	4590 (kH/s)	4640	4522	4520
Normalized	98.92%	100%	97.45%	97.42%
Standard Deviation	3%	2.5%	0.1%	0%
rav1e - 10 (FPS)	2.957	2.885	2.911	2.924
Normalized	100%	97.57%	98.44%	98.88%
Standard Deviation	0.7%	0.6%	0.3%	0.6%
Cpuminer-Opt - x25x (kH/s)	819.47	839.46	830.66	830.89
Normalized	97.62%	100%	98.95%	98.98%
Standard Deviation	1.7%	1.2%	0.2%	0.2%
Quantum ESPRESSO -	1706	1711	1688	1673
AUSURF112 (sec)				
Normalized	98.09%	97.79%	99.73%	100%
Standard Deviation	3%	2.7%	2.7%	0.6%
Mobile Neural Network -	48.514	48.290	47.444	48.246
inception-v3 (ms)				
Normalized	97.79%	98.25%	100%	98.34%
Standard Deviation	2.5%	2.8%	0.4%	3.6%
Timed Godot Game Engine	83.675	82.317	81.894	82.105
Compilation - Time To				
Compile (sec)				
Normalized	97.87%	99.49%	100%	99.74%
Standard Deviation	1.8%	0.7%	0.4%	0.8%
rav1e - 5 (FPS)	1.002	0.993	0.995	1.014
Normalized	98.82%	97.93%	100%	99.41%
Standard Deviation	0.7%	0.5%	0.3%	0.5%
rav1e - 1 (FPS)	0.340	0.337	0.338	0.343
Normalized	98.84%	97.97%	99.71%	100%
Standard Deviation	0.7%	0.5%	1.5%	0.3%
Cpuminer-Opt - Blake-2 S	577410	571013	575833	565767
(kH/s)				
Normalized	100%	98.89%	99.73%	97.98%
Standard Deviation	1.2%	1.1%	1.2%	1.6%
Cpuminer-Opt - Magi (kH/s)	1172	1150	1173	1171
Normalized	99.95%	98.05%	100%	99.89%
Standard Deviation	0.1%	2.6%	0.2%	0.5%

CP2K Molecular Dynamics -	1475			1448
Fayalite-FIST Data (sec)				
Normalized	98.15%			100%
Izbench - Brotli 0 -	498	489		492
Compression (MB/s)				494
Normalized	100%	98.19%		98.8%
Standard Deviation	1.1%	1.1%		0.4%
rav1e - 6 (FPS)	1.322	1.307	1.308	1.329
Normalized	99.47%	98.34%	98.42%	100%
Standard Deviation	0.4%	0.8%	0.5%	0.6%
dav1d - Chimera 1080p (FPS)	533.91		540.87	542.26
Normalized	98.46%	99.74%	100%	99.75%
Standard Deviation	2.9%	0.5%	0.3%	0.8%
QuantLib (MFLOPS)	2321	2286		2289
Normalized	100%	98.5%		98.62%
Standard Deviation	0.3%	3%		3%
Izbench - Libdeflate 1 -	203	204		203
Compression (MB/s)				206
Normalized	98.54%	99.03%		98.54%
Standard Deviation	2.6%	2.6%		2.8%
Izbench - Brotli 0 -	577	569		572
Decompression (MB/s)				572
Normalized	100%	98.61%		99.13%
Standard Deviation	1.3%	0.5%		99.13%
Etcpk - ETC1 + Dithering (Mpx/s)	227.802		230.993	229.770
Normalized	98.62%	100%	99.47%	99.98%
Standard Deviation	2.8%	0%	1%	0.3%
Mobile Neural Network -	38.329		37.812	
resnet-v2-50 (ms)				37.935
Normalized	98.65%	100%		99.68%
Standard Deviation	2.5%	2.7%		1.3%
Cython Benchmark -		26.033	25.862	26.152
N-Queens (sec)				25.821
Normalized	99.19%	99.84%		98.73%
Standard Deviation	0.9%	1.7%		1.2%
Etcpk - DXT1 (Mpx/s)	1599		1615	1607
Normalized	98.75%	99.74%	99.25%	99.9%
Standard Deviation	0%	0.2%	1%	0.1%
Izbench - Zstd 8 -	1765	1786		1787
Decompression (MB/s)				1784
Normalized	98.77%	99.94%		100%
Standard Deviation		0%		0.1%
dav1d - S.N.1 (FPS)	555.39		548.65	552.84
Normalized	100%	98.79%	99.54%	99.86%
Standard Deviation	0.9%	0.9%	0.7%	0.4%
Cpuminer-Opt - T.S.2.O	221130	218553		220147
Normalized	100%	98.83%		99.56%
Standard Deviation	0.4%	0.5%		0.4%
Google SynthMark -	594.561		593.545	587.965
Normalized	100%	99.83%		98.89%
Standard Deviation	0.5%	0.4%		0.5%

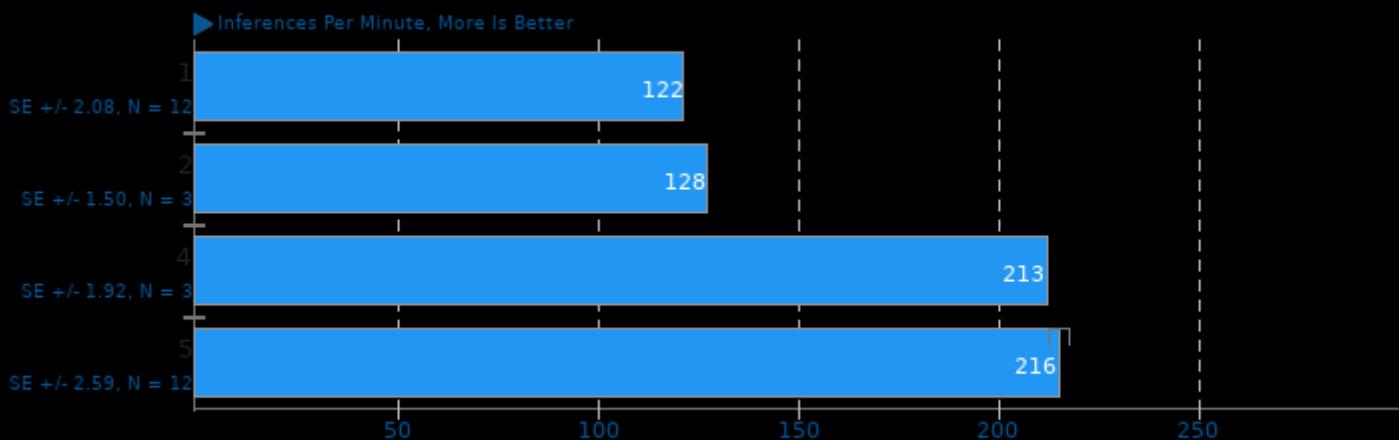
Izbench - Crush 0 - Compression (MB/s)	94	94	95	94
Normalized	98.95%	98.95%	100%	98.95%
Standard Deviation	0.6%	0.6%	1.6%	1.2%
Cpuminer-Opt - Deepcoin (kH/s)	17059	16883	16920	16947
Normalized	100%	98.97%	99.19%	99.34%
Standard Deviation	2.6%	0.3%	0.1%	0.5%
dav1d - C.1.1.b (FPS)	117.16	117.18	117.72	117.85
Normalized	99.04%	99.05%	99.62%	100%
Standard Deviation	0.7%	0.1%	0.4%	0.3%
NAS Parallel Benchmarks - EP.C (Mop/s)	1734	1741	1750	1743
Normalized	99.06%	99.49%	100%	99.6%
Standard Deviation	0.7%	0.1%	0.7%	0.5%
Izbench - XZ 0 - Decompression (MB/s)	108	109	109	108
Normalized	99.08%	100%	100%	99.08%
Mobile Neural Network - MobileNetV2_224 (ms)	5.672	5.670	5.621	5.632
Normalized	99.1%	99.14%	100%	99.8%
Standard Deviation	4.3%	5%	4.2%	3.8%
Cpuminer-Opt - Myriad-Groestl (kH/s)	10123	10130	10210	10127
Normalized	99.15%	99.22%	100%	99.19%
Standard Deviation	0.2%	0.3%	1.1%	0.2%
Gcrypt Library (sec)	216.058	217.833	216.246	216.768
Normalized	100%	99.19%	99.91%	99.67%
Standard Deviation	0.4%	1.6%	0.6%	0.9%
Cpuminer-Opt - Ringcoin (kH/s)	2937	2941	2930	2951
Normalized	99.53%	99.66%	99.29%	100%
Standard Deviation	0.4%	0.5%	0.5%	0.6%
Cpuminer-Opt - Q.S.2.P	166940	165833	165943	166993
Normalized	99.97%	99.31%	99.37%	100%
Standard Deviation	0.2%	1.1%	1.4%	1.8%
Etcpk - ETC2 (Mpx/s)	154.297	154.896	154.923	155.118
Normalized	99.47%	99.86%	100%	99.47%
Standard Deviation	0.7%	0%	0%	0%
Izbench - Brotli 2 - Compression (MB/s)	196	196	197	196
Normalized	99.49%	99.49%	100%	99.49%
Standard Deviation	0.3%	0.3%	0.3%	0.3%
Etcpk - ETC1 (Mpx/s)	247.713	248.786	247.557	248.611
Normalized	99.57%	100%	99.93%	99.98%
Standard Deviation	0.7%	0%	0.4%	0.3%
NAS Parallel Benchmarks - EP.D (Mop/s)	1740	1741	1732	1737
Normalized	99.99%	100%	99.51%	99.82%
Standard Deviation	0%	0.1%	0.3%	0.3%
Izbench - Crush 0 - Decompression (MB/s)	481	481	480	481
Normalized	100%	100%	99.79%	100%
Standard Deviation	0.1%	0.1%	0.2%	0.2%

Izbench - Zstd 1 - Compression (MB/s)	526	526	525	525
Normalized	100%	100%	99.81%	99.81%
Standard Deviation	0.4%	0.2%	0.1%	0.3%
TNN - CPU - SqueezeNet v1.1 (ms)	251.689	251.540	251.417	251.339
Normalized	99.86%	99.92%	99.97%	100%
Standard Deviation	0%	0.1%	0.2%	0%
Izbench - Zstd 8 - Compression (MB/s)	94	94	94	94
Izbench - XZ 0 - Compression (MB/s)	37	37	37	37
Standard Deviation	1.6%			
OpenFOAM - Motorbike 60M (sec)	726.90			
Standard Deviation	4.4%			
Izbench - Brotli 2 - Decompression (MB/s)	662	664	666	640
Normalized	99.4%	99.7%	100%	96.1%
Standard Deviation	1.1%	0.3%	0.2%	6.4%
NAS Parallel Benchmarks - MG.C (Mop/s)	17336	16587	17193	16630
Normalized	100%	95.68%	99.17%	95.93%
Standard Deviation	8.9%	11.7%	7%	12.4%
NAS Parallel Benchmarks - LU.C (Mop/s)	40722	39921	39759	41731
Normalized	97.58%	95.66%	95.27%	100%
Standard Deviation	6.7%	8%	8.8%	5.2%
NAS Parallel Benchmarks - IS.D (Mop/s)	751.00	770.10	793.83	811.98
Normalized	92.49%	94.84%	97.76%	100%
Standard Deviation	9.1%	6.6%	4.4%	2.1%
NAS Parallel Benchmarks - FT.C (Mop/s)	21668	21183	22315	22032
Normalized	97.1%	94.93%	100%	98.73%
Standard Deviation	7.1%	8.1%	1.1%	0.4%
NAS Parallel Benchmarks - CG.C (Mop/s)	7686	7203	7218	7441
Normalized	100%	93.72%	93.91%	96.81%
Standard Deviation	10.8%	12.4%	10.9%	10.3%
Kripke (Throughput FoM)	26877810	27358503	25710838	25857623
Normalized	98.24%	100%	93.98%	94.51%
Standard Deviation	0.3%	6.3%	5.8%	8.3%
ONNX Runtime - ONNX Runtime - 5011		5487	6400	6498
shufflenet-v2-10 - OpenMP CPU (Inferences/min)				
Normalized	77.12%	84.44%	98.49%	100%
Standard Deviation	11.6%	1.7%	3.7%	1.7%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	4.339	4.336	4.408	4.340
Normalized	99.93%	100%	98.37%	99.91%
Standard Deviation	4.4%	6%	3.9%	3.2%

LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	13.008	12.766	12.475	12.589	12.832
Normalized	100%	98.14%	95.9%	96.78%	98.65%
Standard Deviation	6.1%	7.5%	5%	6.8%	6.7%
OpenFOAM - Motorbike 30M (sec)	76.57	40.81			
Normalized	53.3%	100%			
Standard Deviation	37.5%	79.2%			
CloverLeaf - L.E.H (sec)	119.54	125.43	132.07	86.58	86.15
Normalized	72.07%	68.68%	65.23%	99.5%	100%
Standard Deviation	1%	10.1%	7.3%	10.9%	6.3%
IOR - 4MB (MB/s)	623.83	592.02	582.93	687.41	654.19
Normalized	90.75%	86.12%	84.8%	100%	95.17%
Standard Deviation	23.2%	3.9%	3.2%	1%	21.2%

ONNX Runtime 1.6

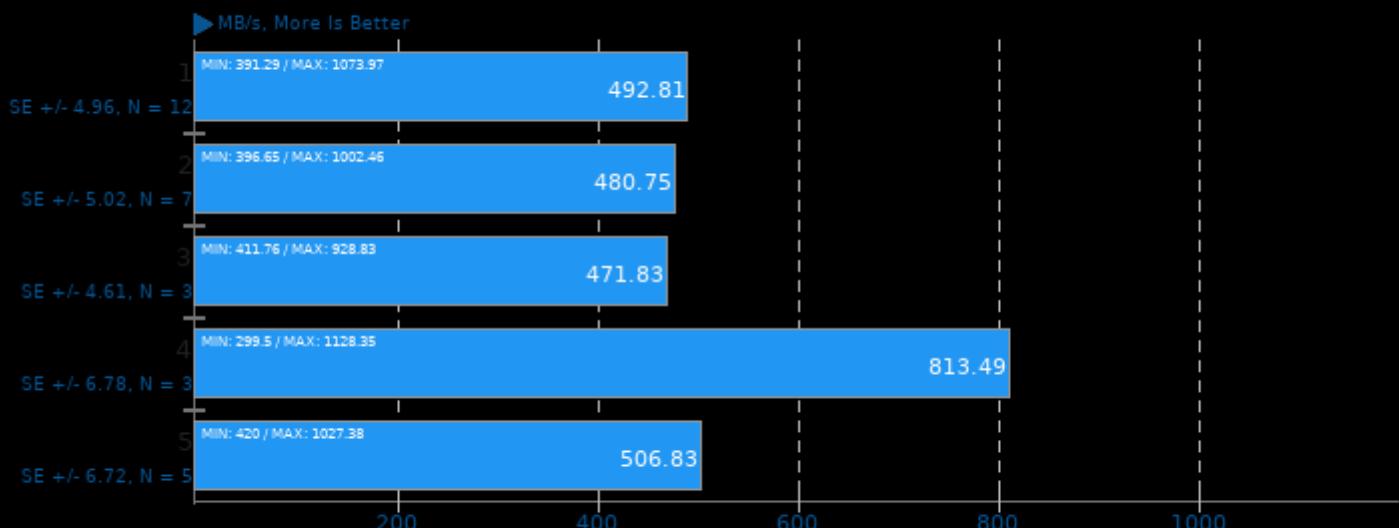
Model: bertsquad-10 - Device: OpenMP CPU



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

IOR 3.3.0

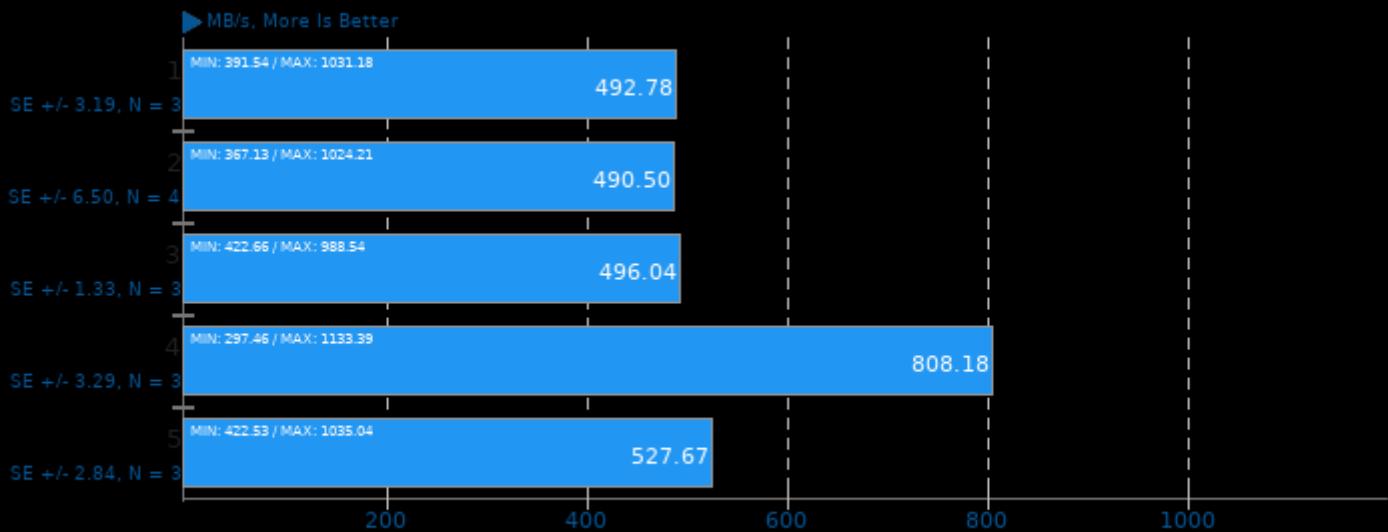
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1. (CC) gcc options: -O2 -lm -pthread -lmpi

IOR 3.3.0

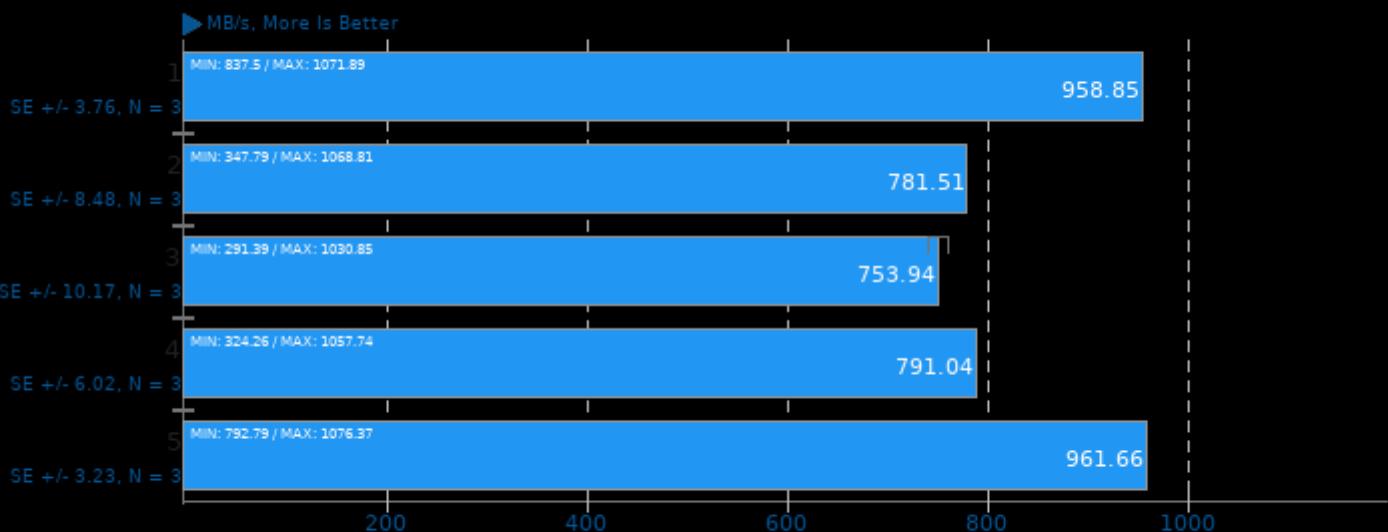
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1. (CC) gcc options: -O2 -lm -pthread -lmpi

IOR 3.3.0

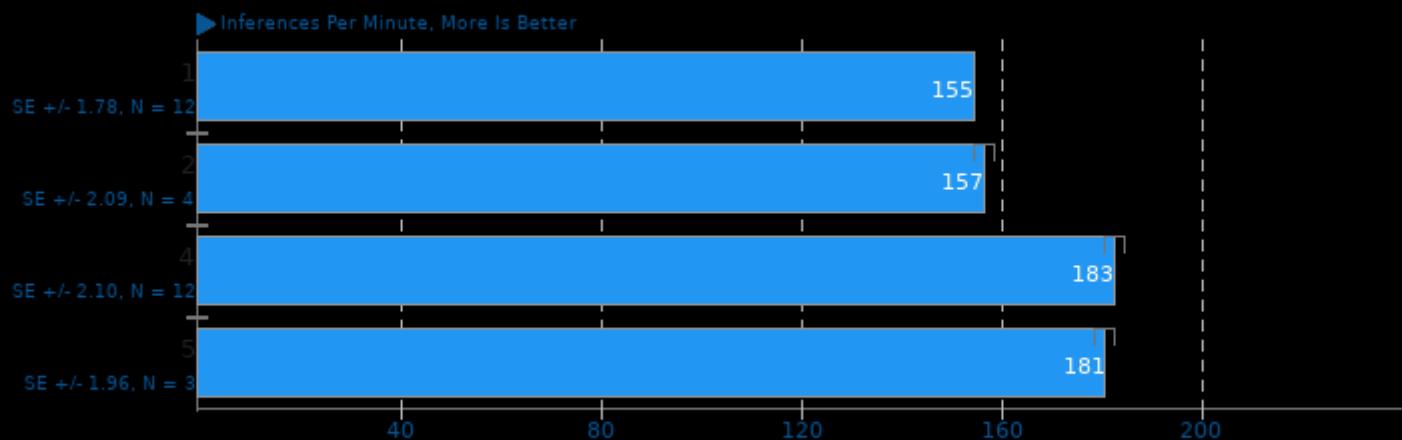
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1. (CC) gcc options: -O2 -lm -pthread -lmpi

ONNX Runtime 1.6

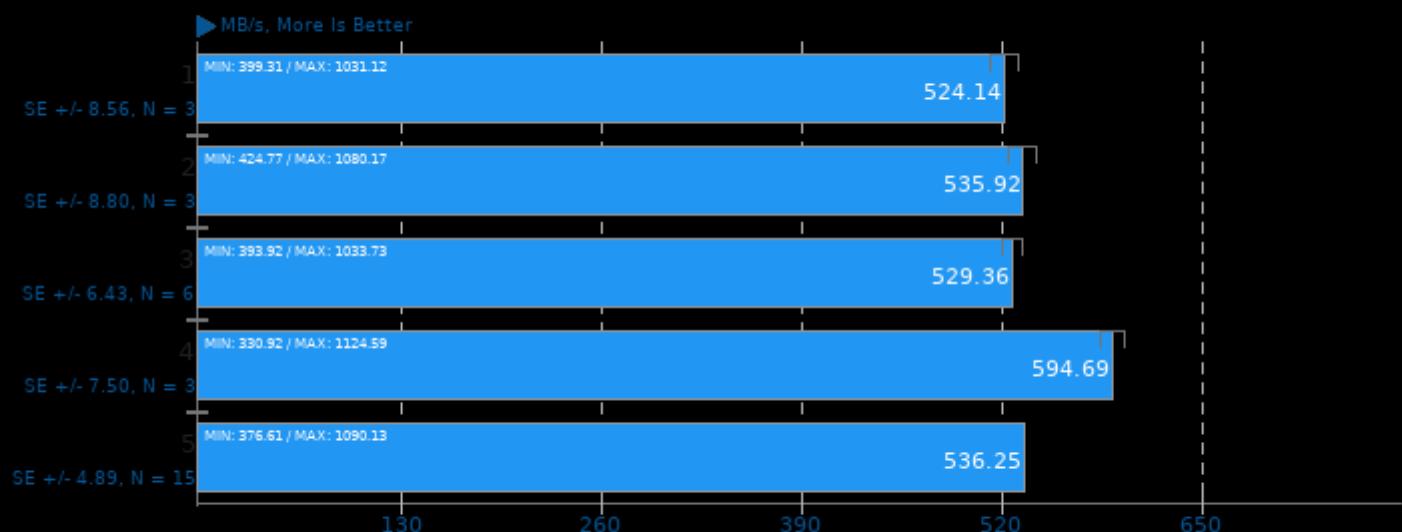
Model: yolov4 - Device: OpenMP CPU



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

IOR 3.3.0

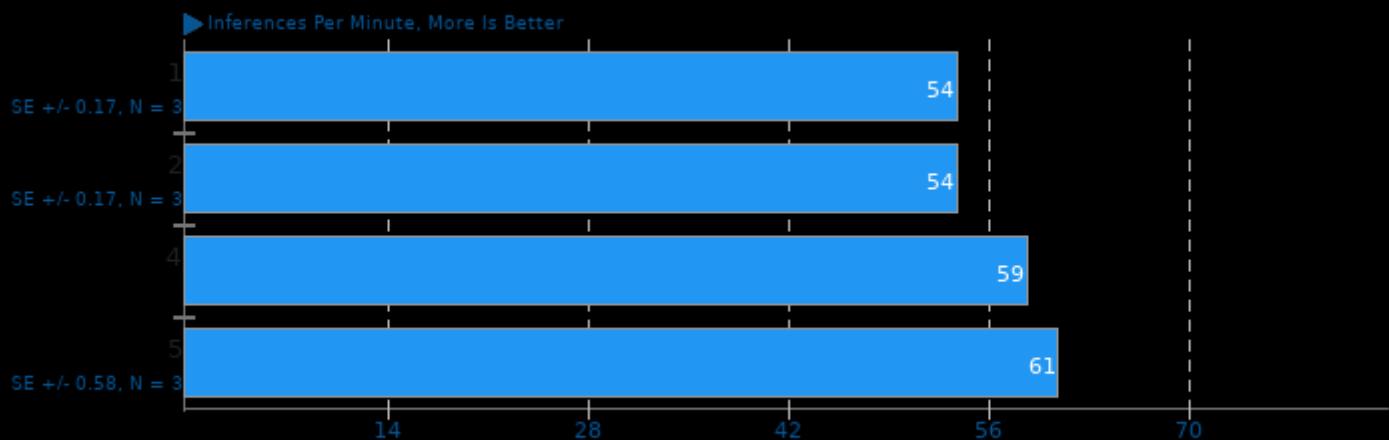
Block Size: 8MB - Disk Target: Default Test Directory



1. (CC) gcc options: -O2 -lm -pthread -lmpi

ONNX Runtime 1.6

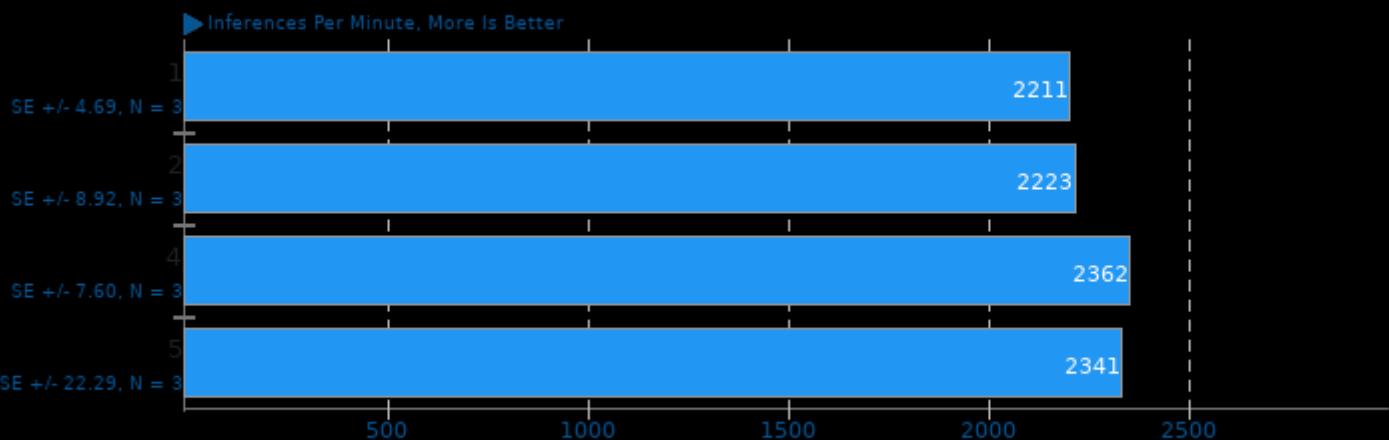
Model: fcn-resnet101-11 - Device: OpenMP CPU



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

ONNX Runtime 1.6

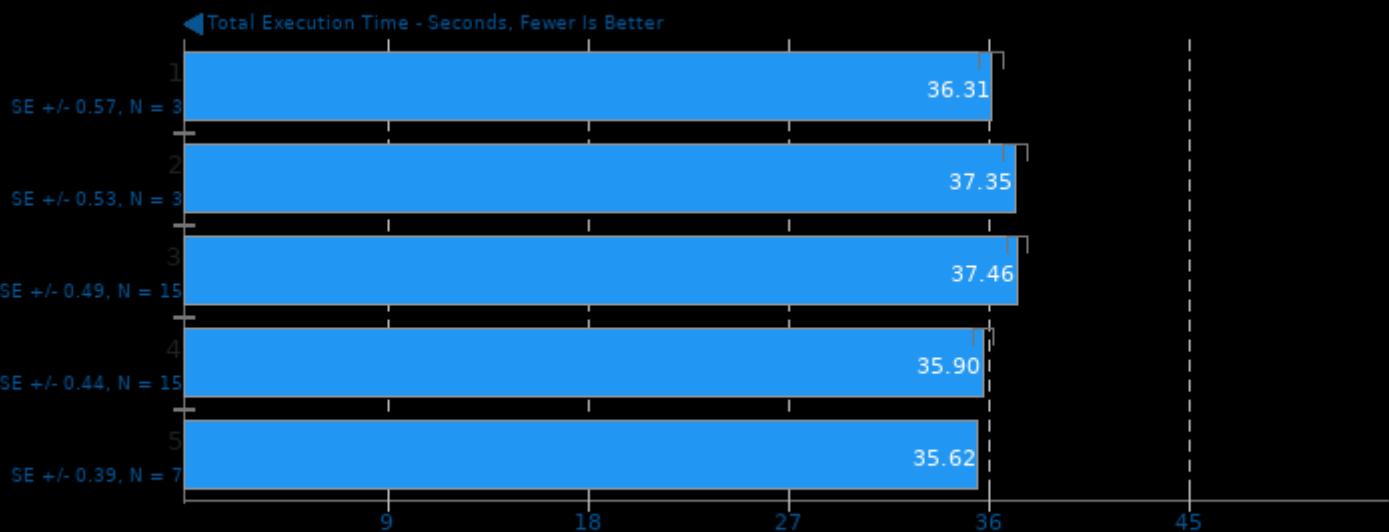
Model: super-resolution-10 - Device: OpenMP CPU



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

QMCPACK 3.10

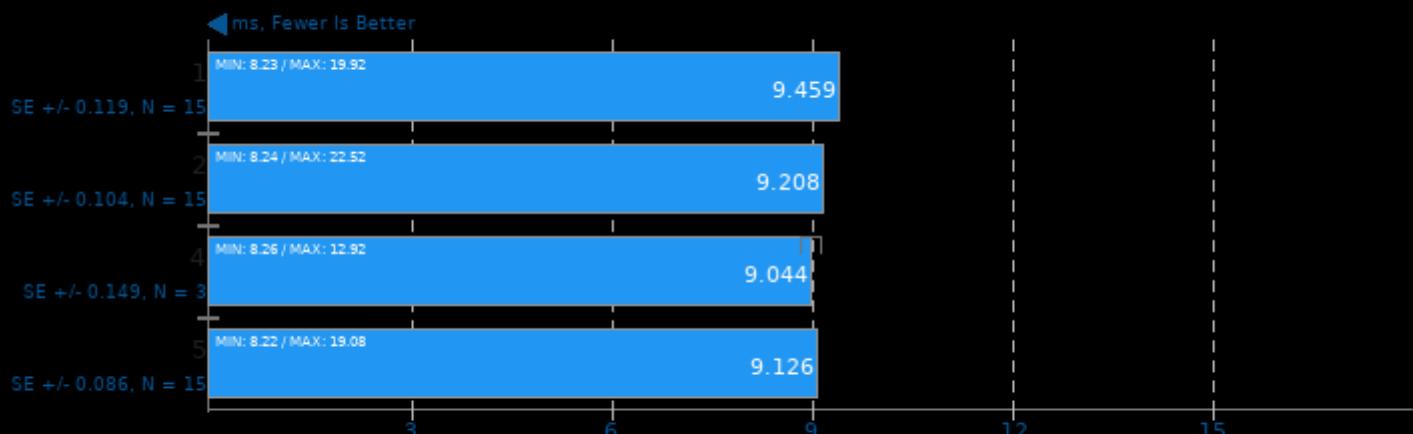
Input: simple-H2O



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

Mobile Neural Network 1.1.1

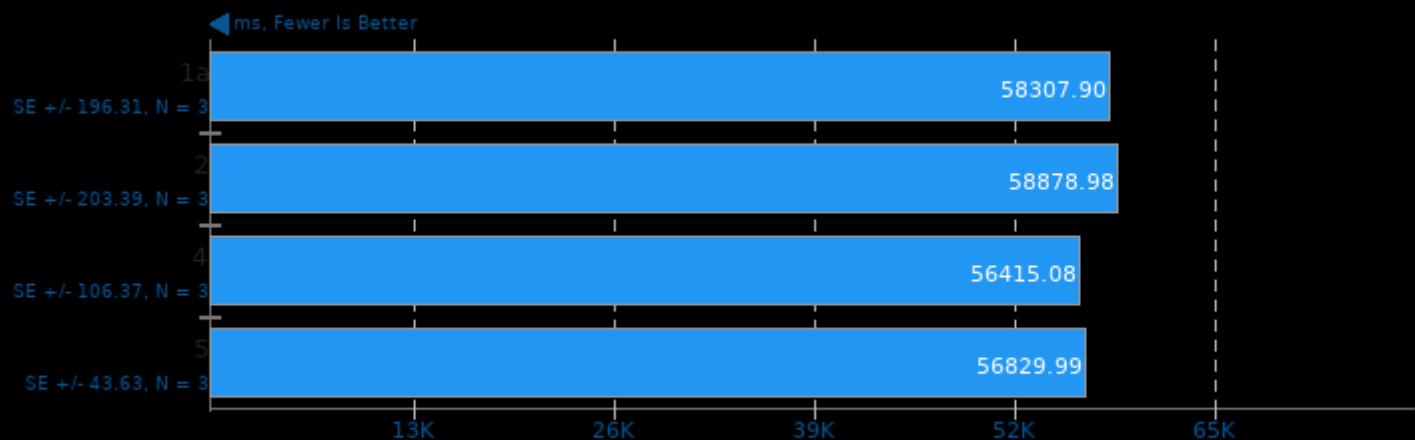
Model: SqueezeNetV1.0



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

FinanceBench 2016-07-25

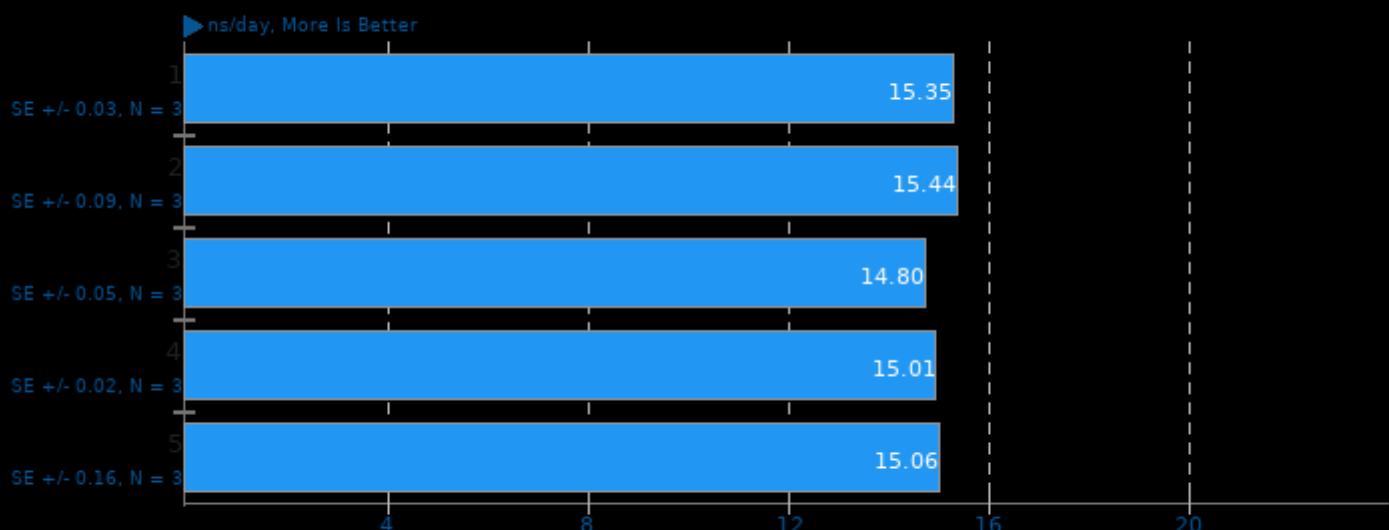
Benchmark: Bonds OpenMP



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

LAMMPS Molecular Dynamics Simulator 29Oct2020

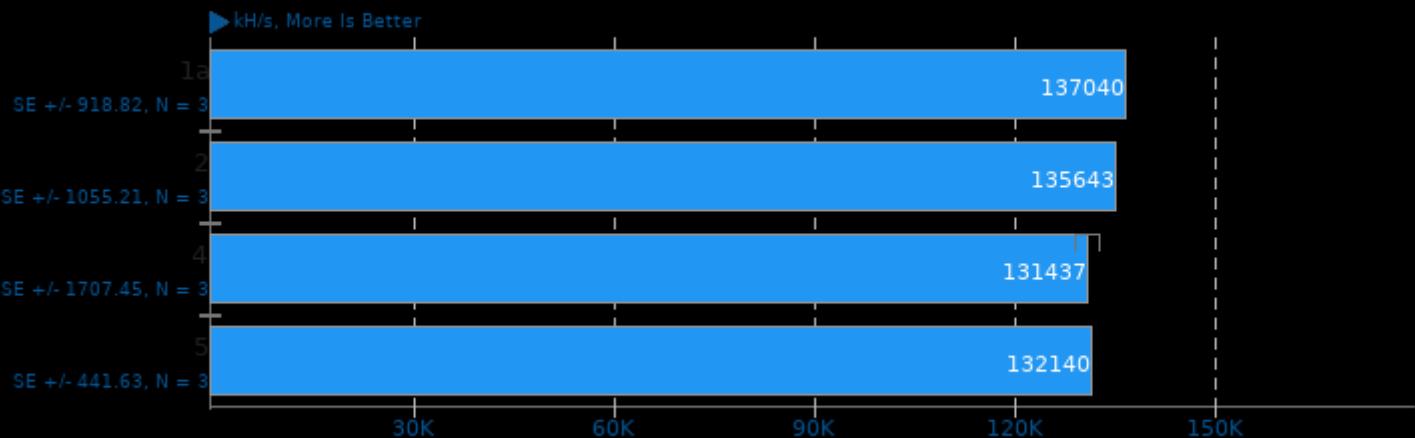
Model: 20k Atoms



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

Cpuminer-Opt 3.15.5

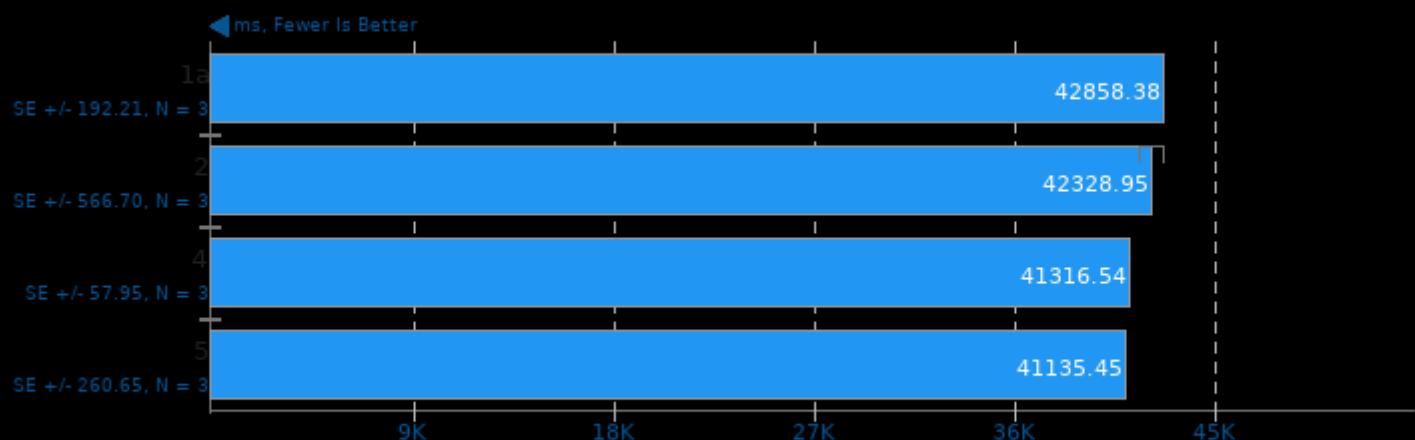
Algorithm: Skeincoin



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

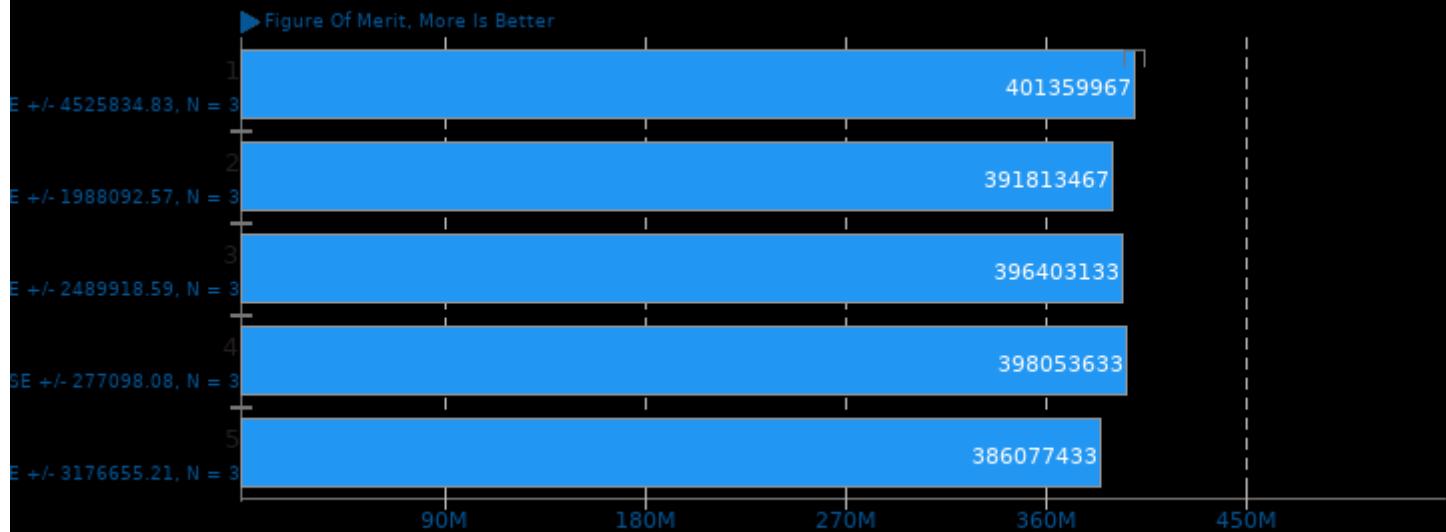
FinanceBench 2016-07-25

Benchmark: Repo OpenMP



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

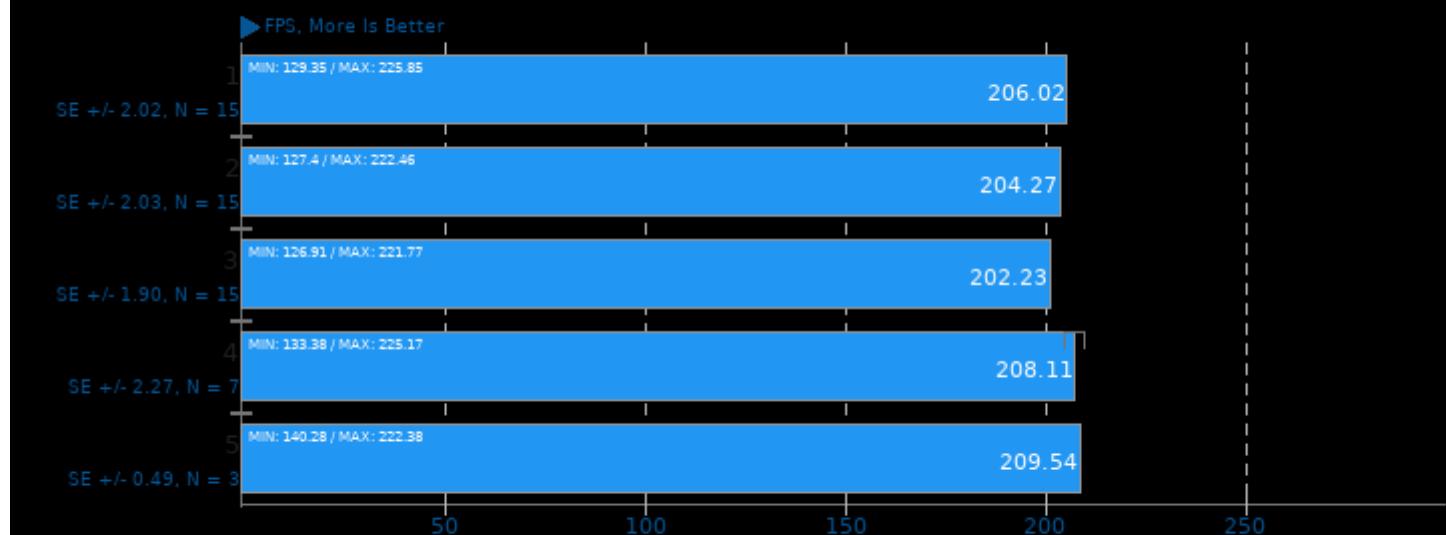
Algebraic Multi-Grid Benchmark 1.2



1. (CC) gcc options: -lparcsr_ls -lparcsr_mv -lseq_mv -lj_mv -lkrylov -lHYPRE_utilities -lm -fopenmp -pthread -lmpi

dav1d 0.8.1

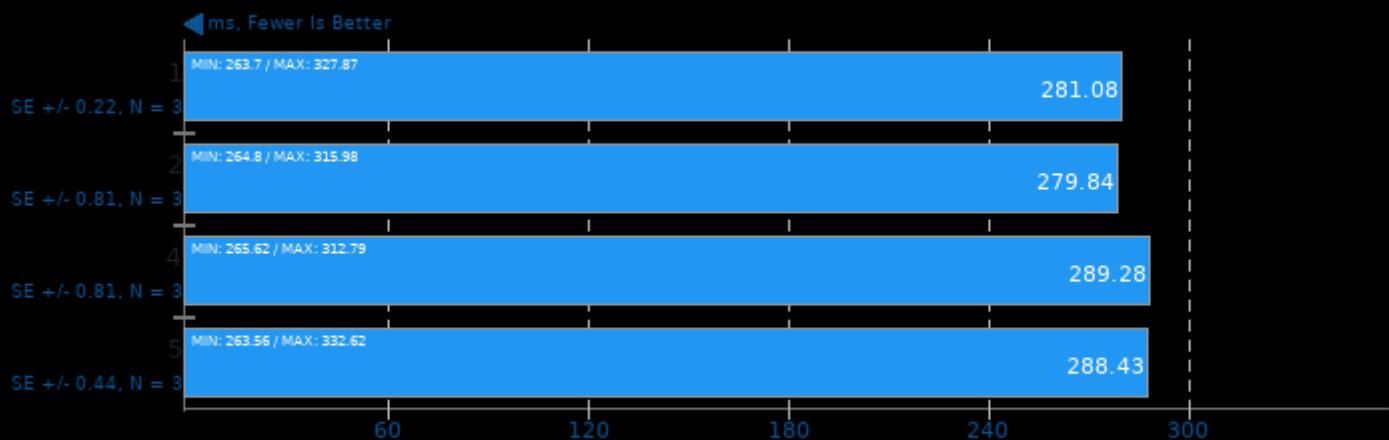
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

TNN 0.2.3

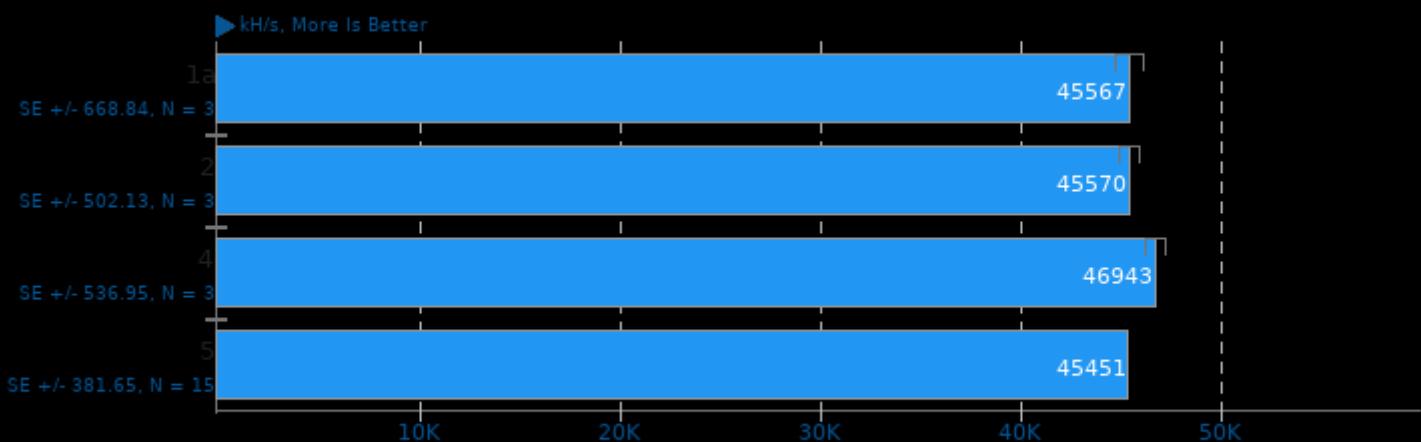
Target: CPU - Model: MobileNet v2



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

Cpuminer-Opt 3.15.5

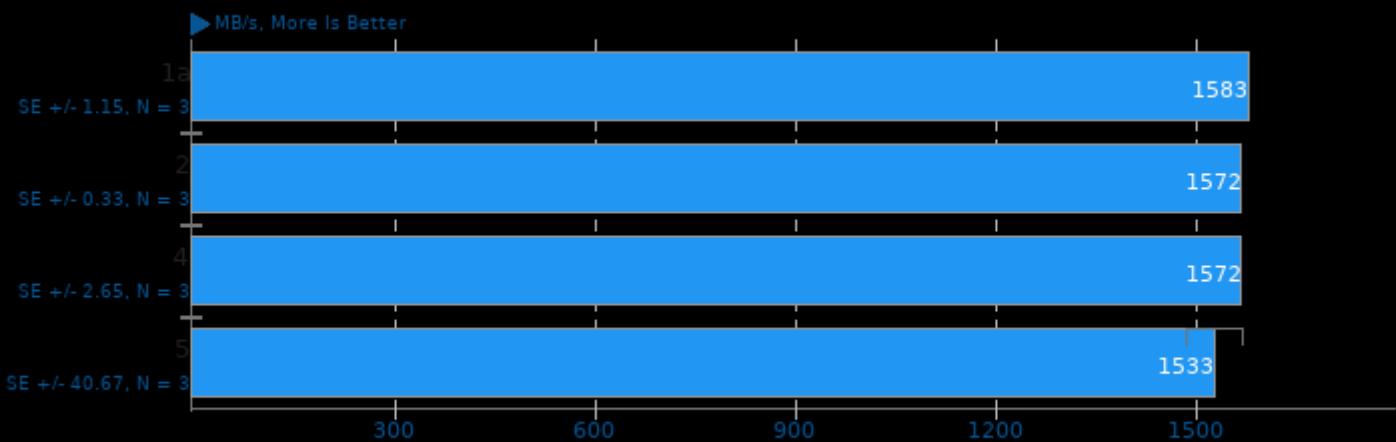
Algorithm: LBC, LBRY Credits



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

lzbench 1.8

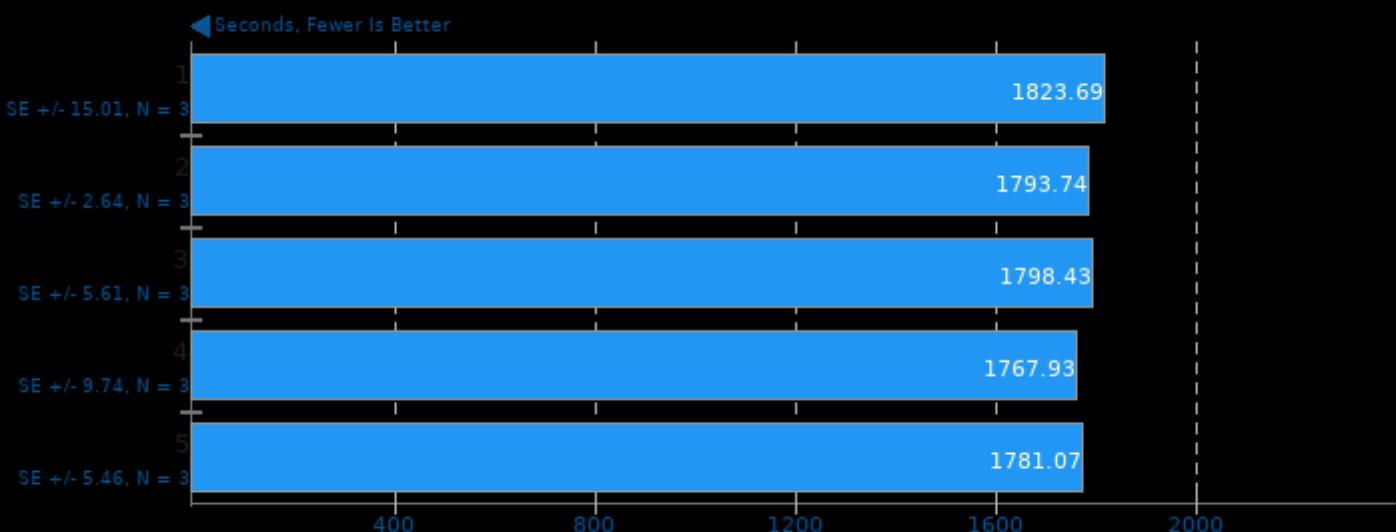
Test: Zstd 1 - Process: Decompression



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

RELION 3.1.1

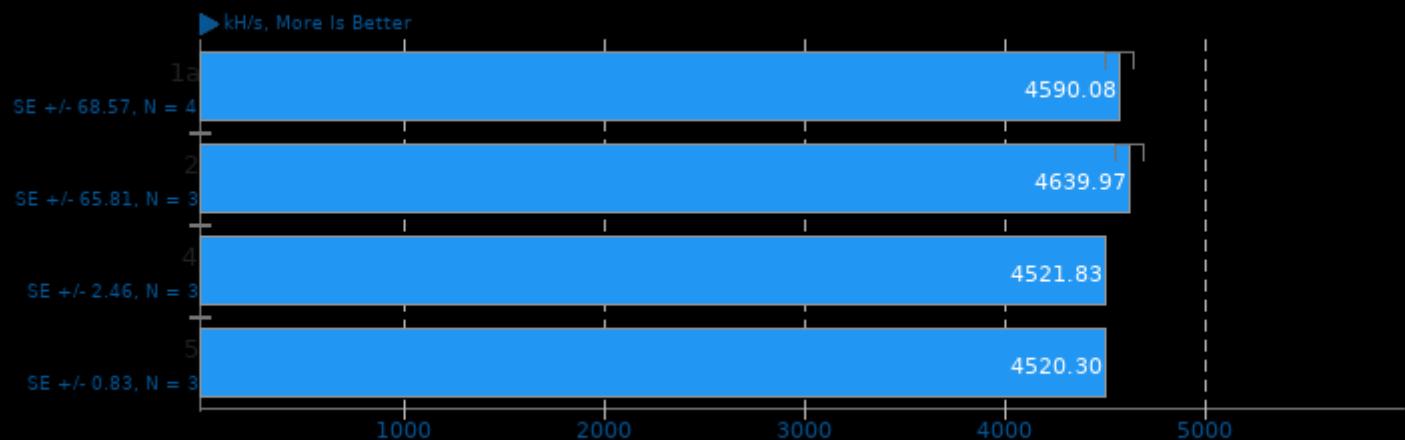
Test: Basic - Device: CPU



1. (CXX) g++ options: -fopenmp -std=c++0x -O3 -rdynamic -ldl -ltiff -lfftw3f -lfftw3 -lpng -pthread -lmpi_cxx -lmpi

Cpuminer-Opt 3.15.5

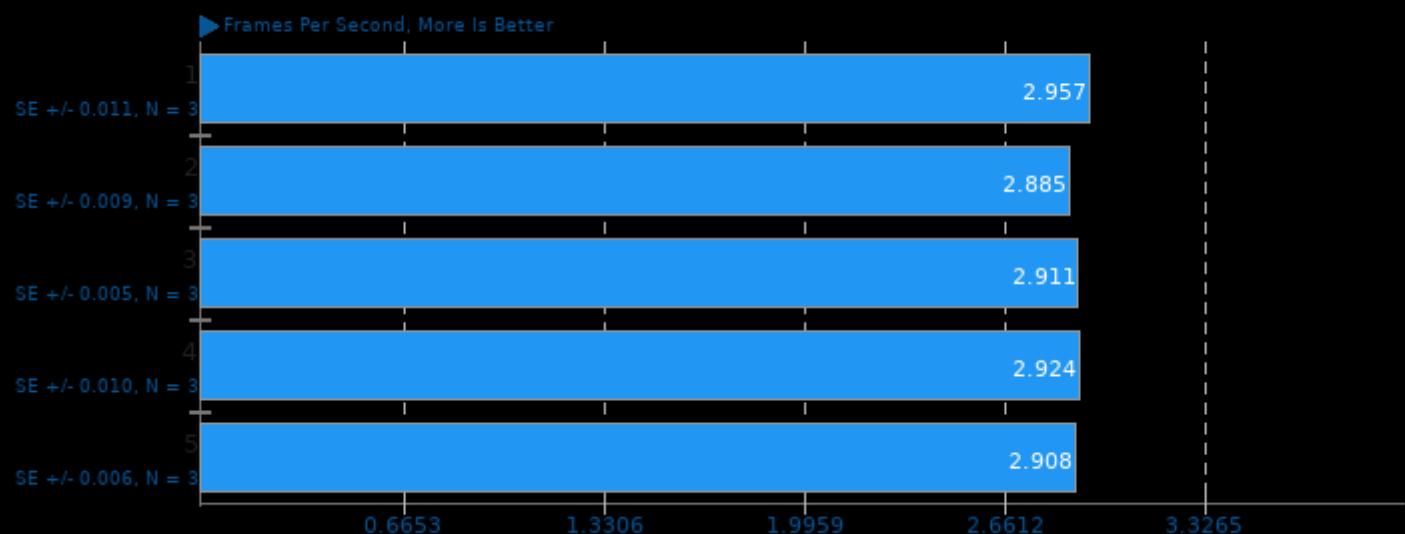
Algorithm: Garlicoin



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

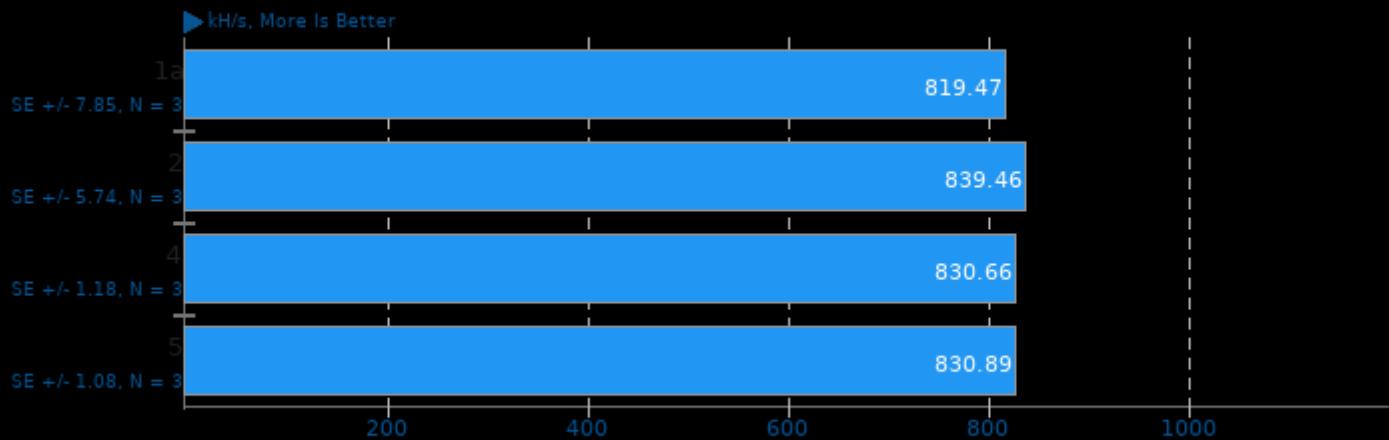
rav1e 0.4

Speed: 10



Cpuminer-Opt 3.15.5

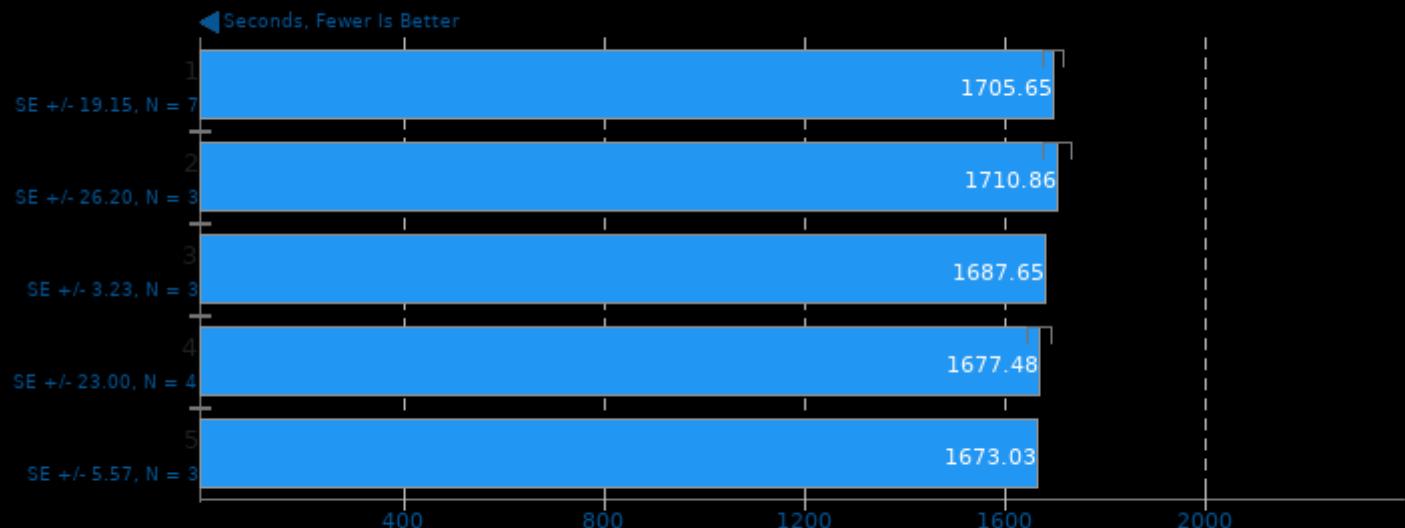
Algorithm: x25x



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

Quantum ESPRESSO 6.7

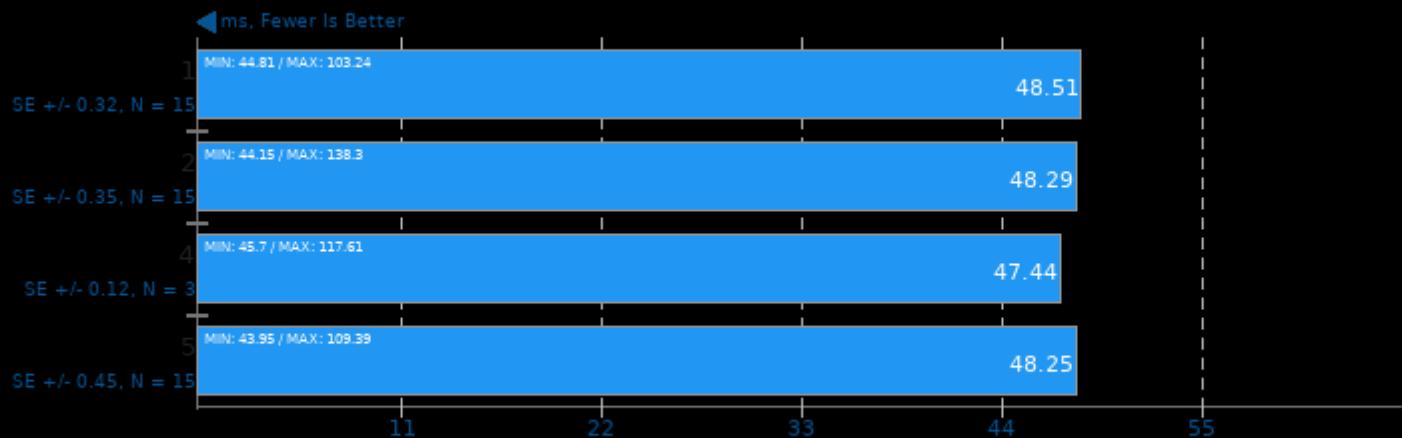
Input: AUSURF112



1. (F9X) gfortran options: -lopenblas -fopenmp -fopenmp-sax -fopenmp-wxml -fopenmp-common -fopenmp-utils -fopenmp-fsys -fftw3 -pthread -lmpi_usempif08 -lmpi_mpifh -

Mobile Neural Network 1.1.1

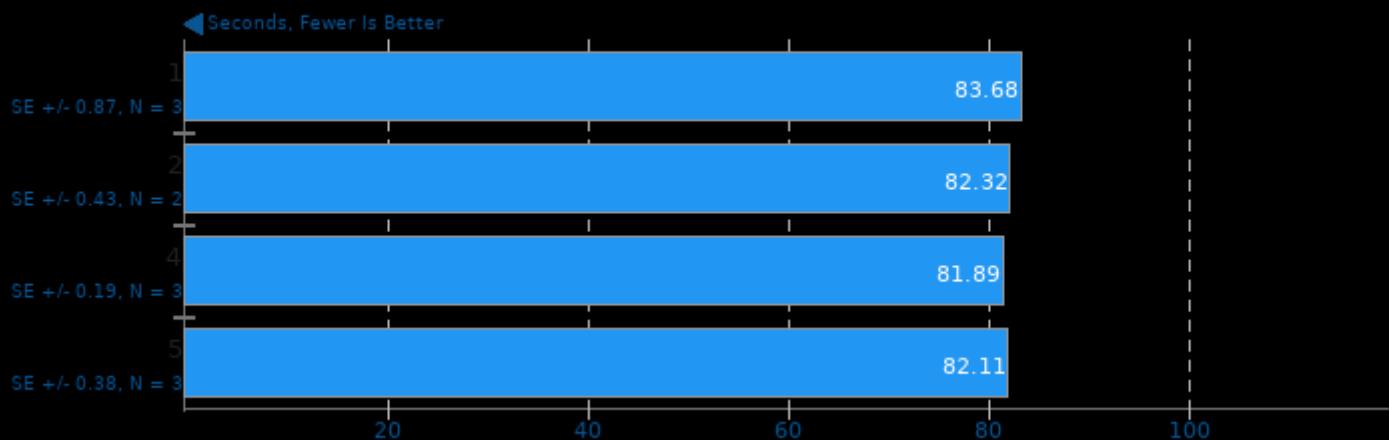
Model: inception-v3



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

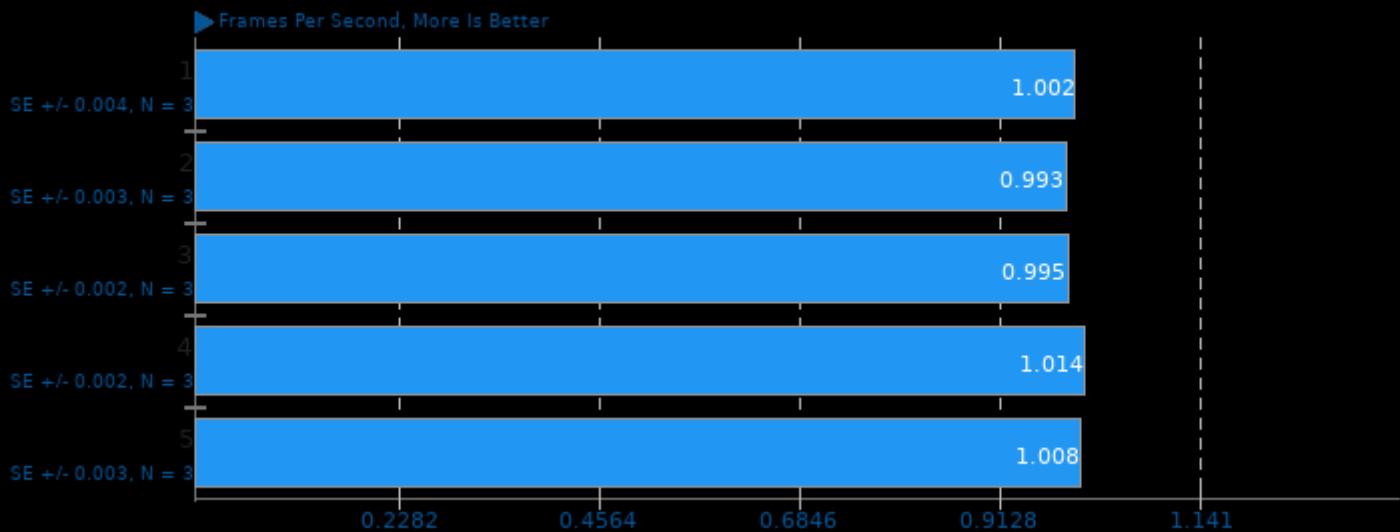
Timed Godot Game Engine Compilation 3.2.3

Time To Compile

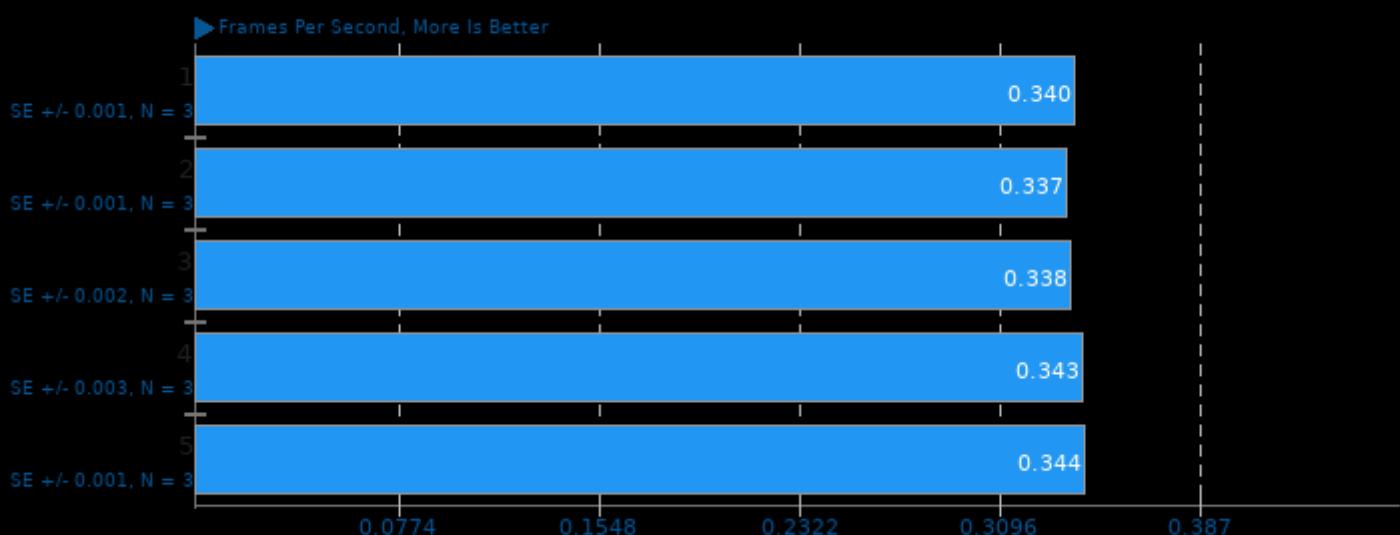


rav1e 0.4

Speed: 5

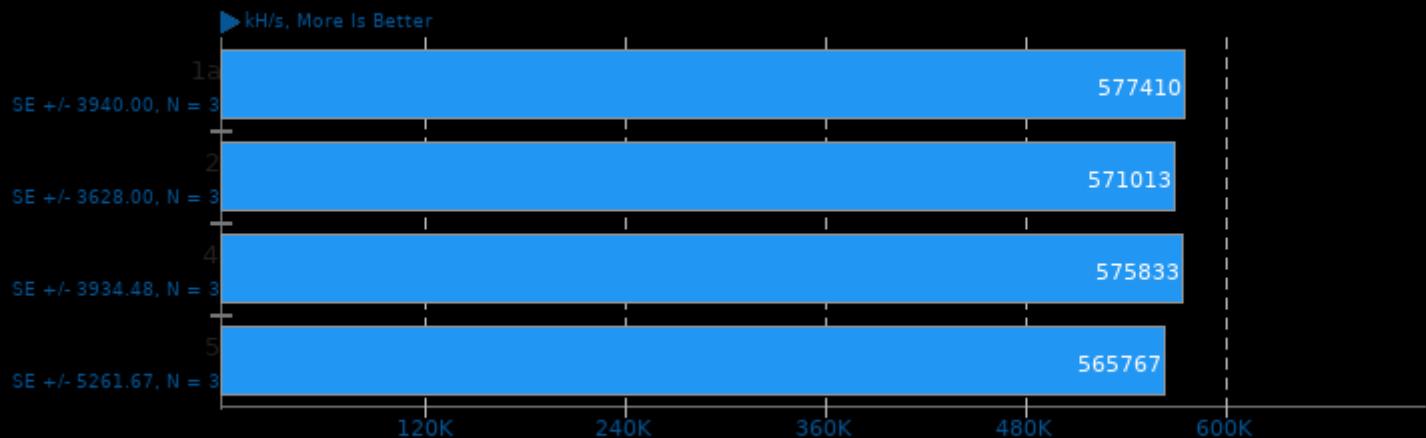
**rav1e 0.4**

Speed: 1



Cpuminer-Opt 3.15.5

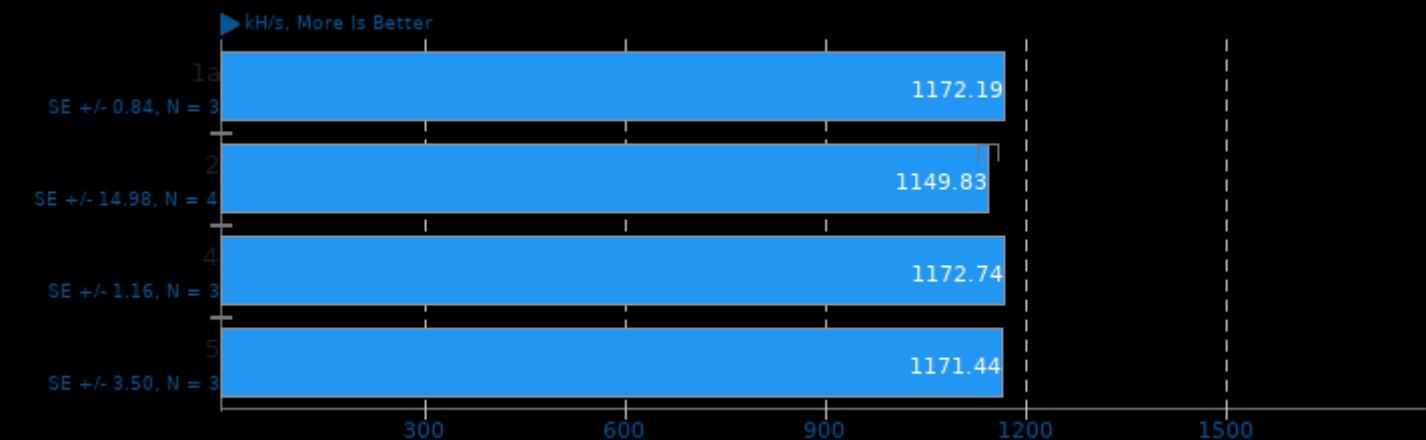
Algorithm: Blake-2 S



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

Cpuminer-Opt 3.15.5

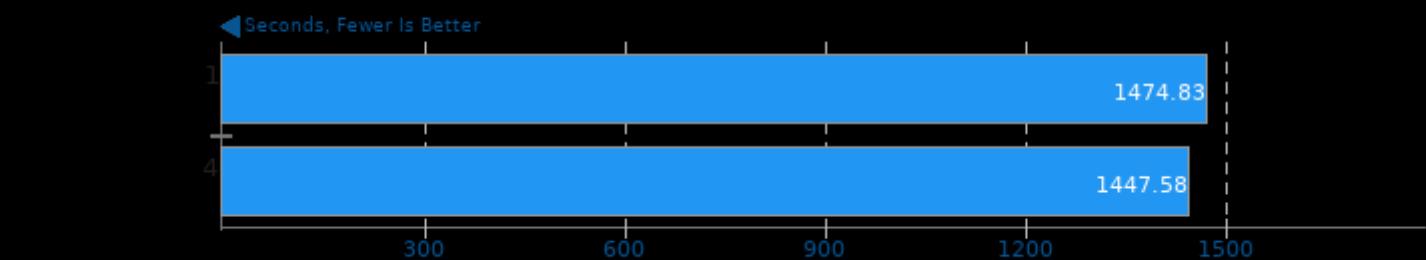
Algorithm: Magi



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

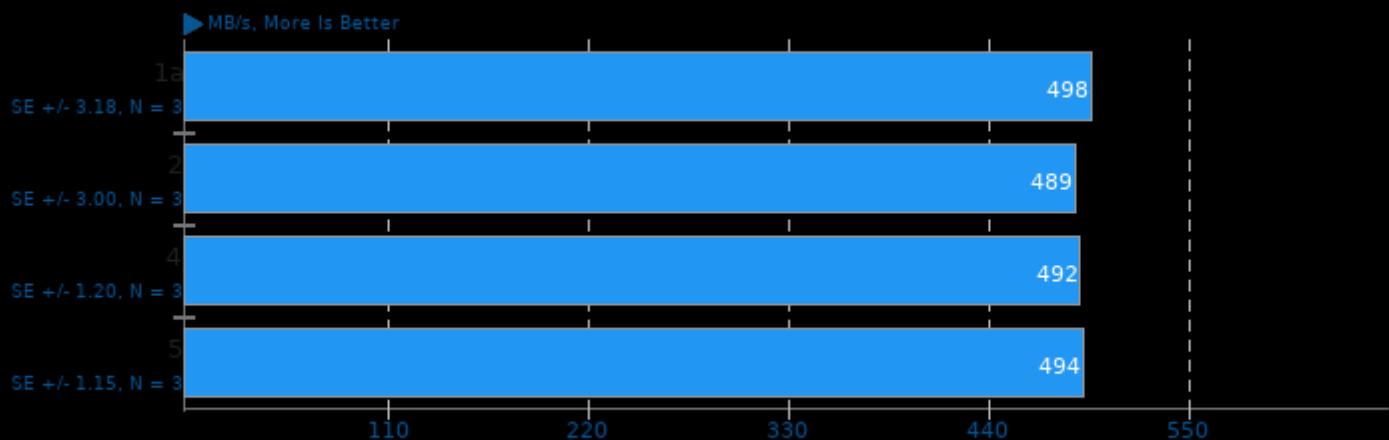
CP2K Molecular Dynamics 8.1

Fayalite-FIST Data



lzbench 1.8

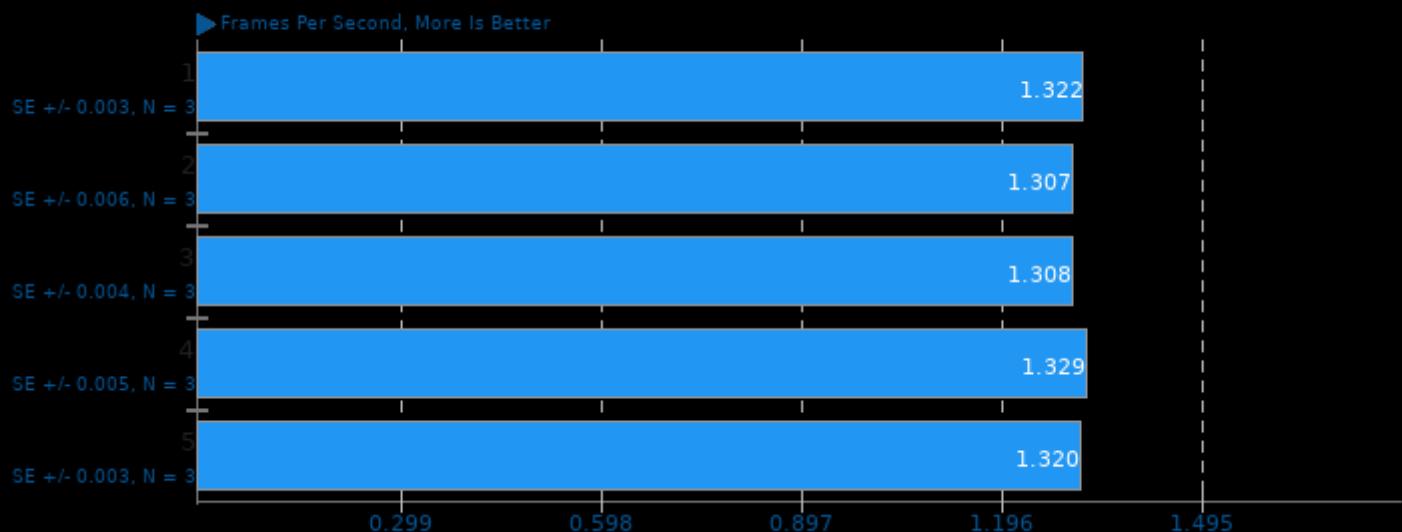
Test: Brotli 0 - Process: Compression



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

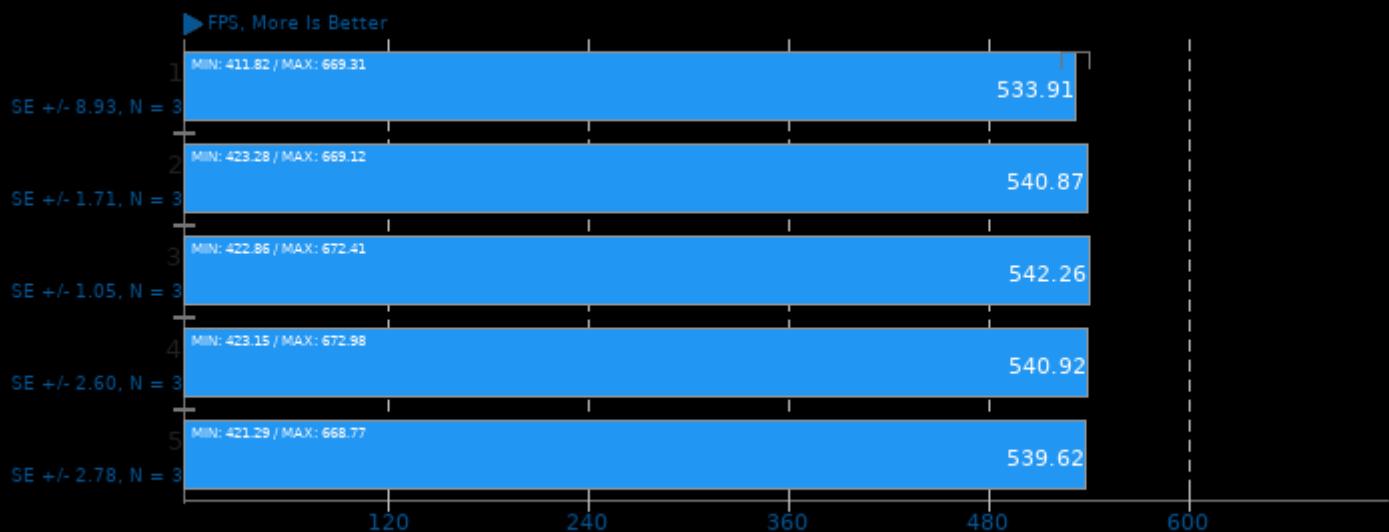
ravle 0.4

Speed: 6



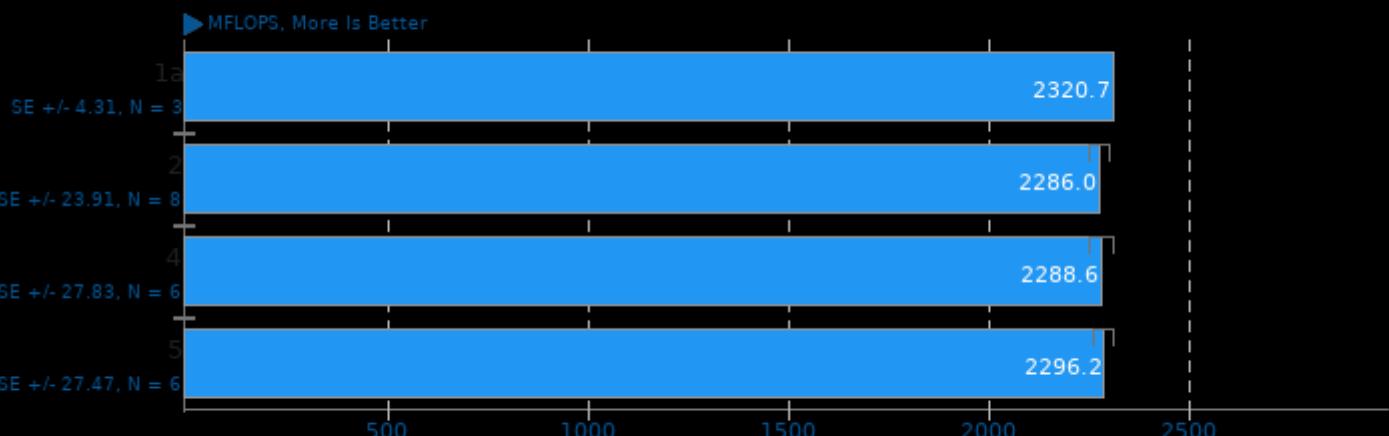
dav1d 0.8.1

Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

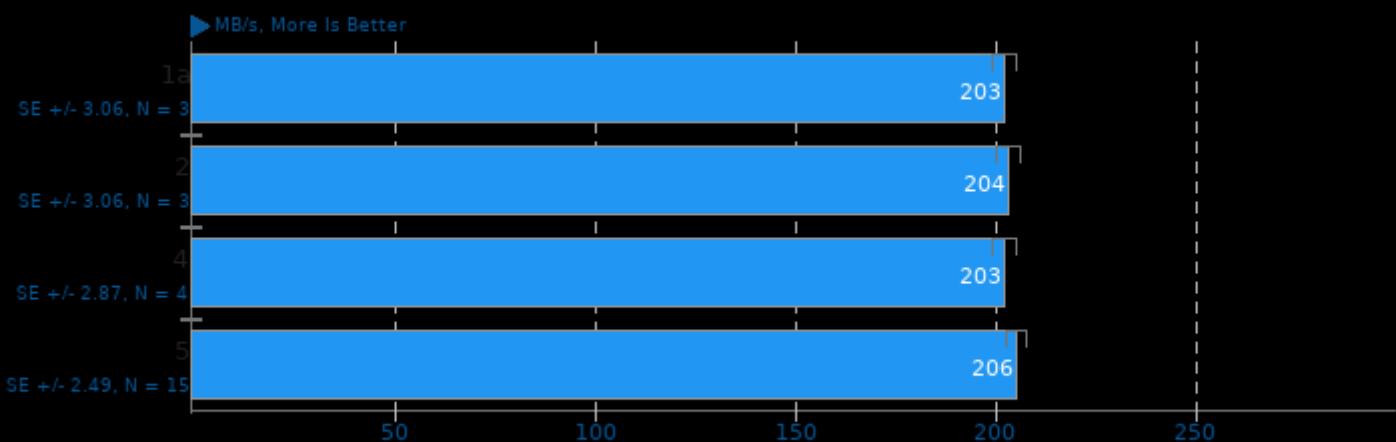
QuantLib 1.21



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

Izbench 1.8

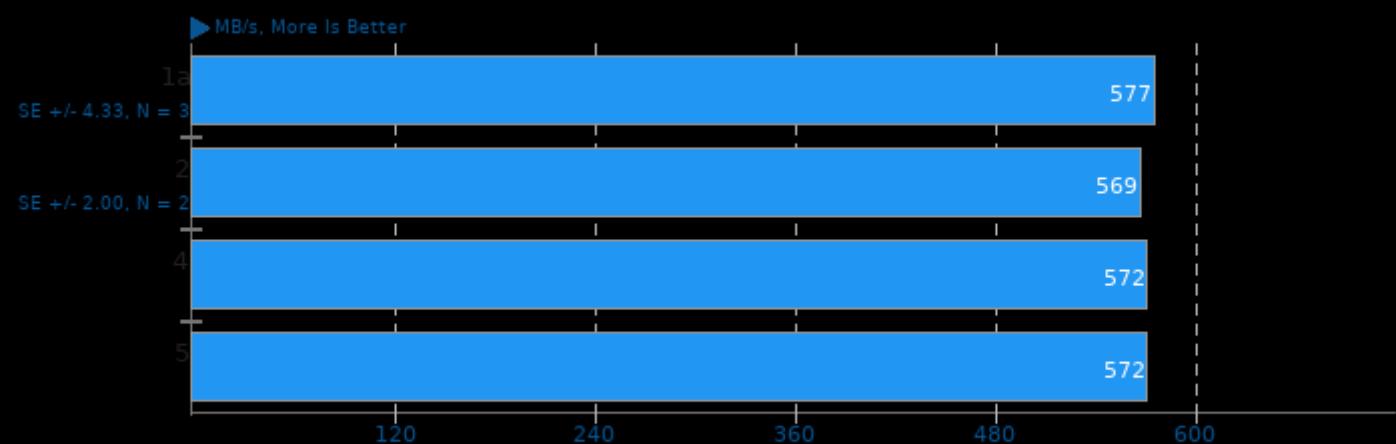
Test: Libdeflate 1 - Process: Compression



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

Izbench 1.8

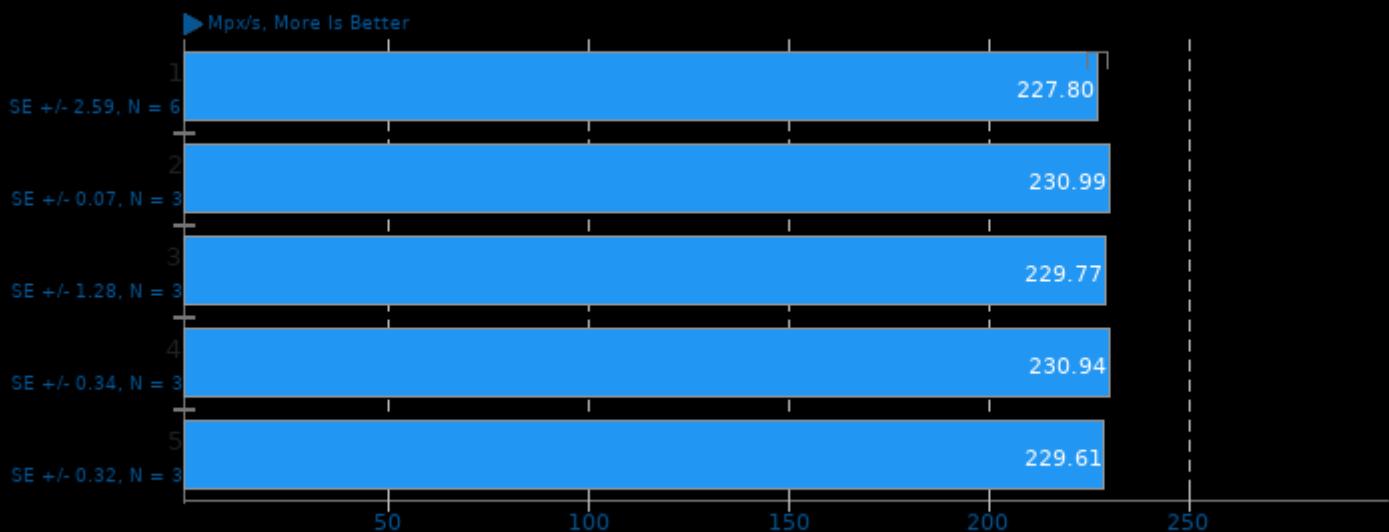
Test: Brotli 0 - Process: Decompression



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

EtcPak 0.7

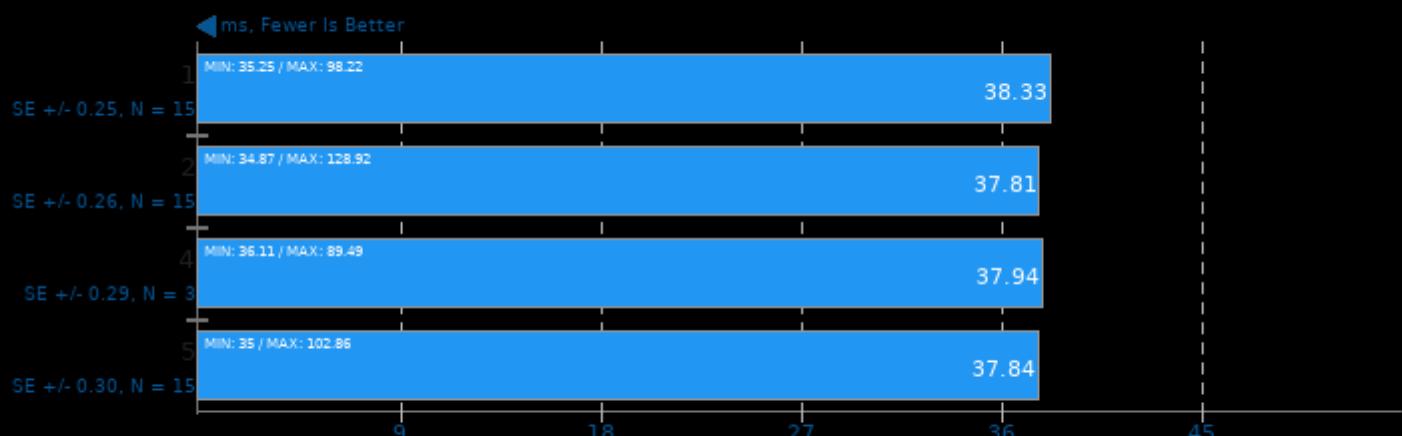
Configuration: ETC1 + Dithering



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

Mobile Neural Network 1.1.1

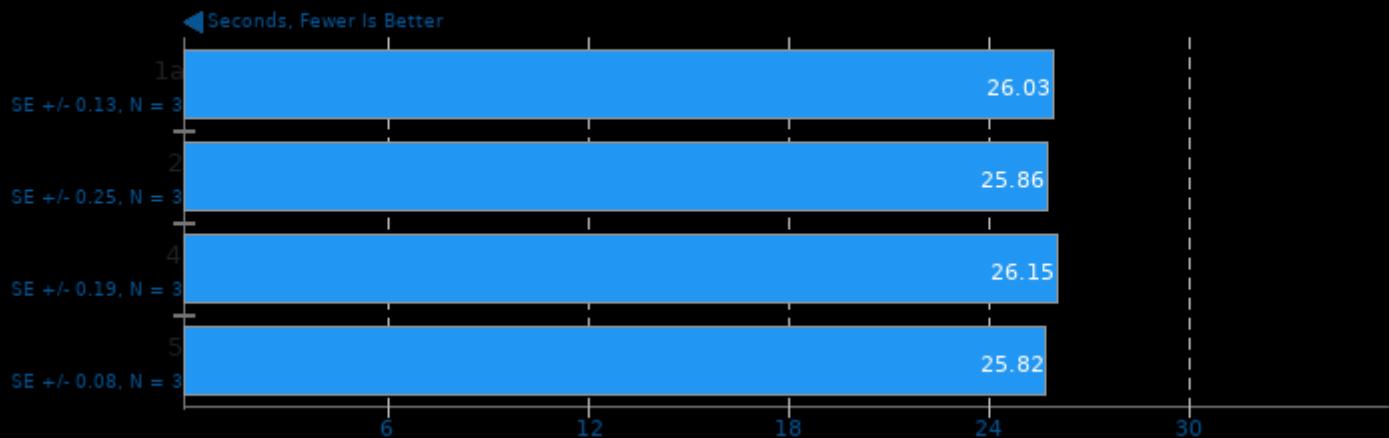
Model: resnet-v2-50



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

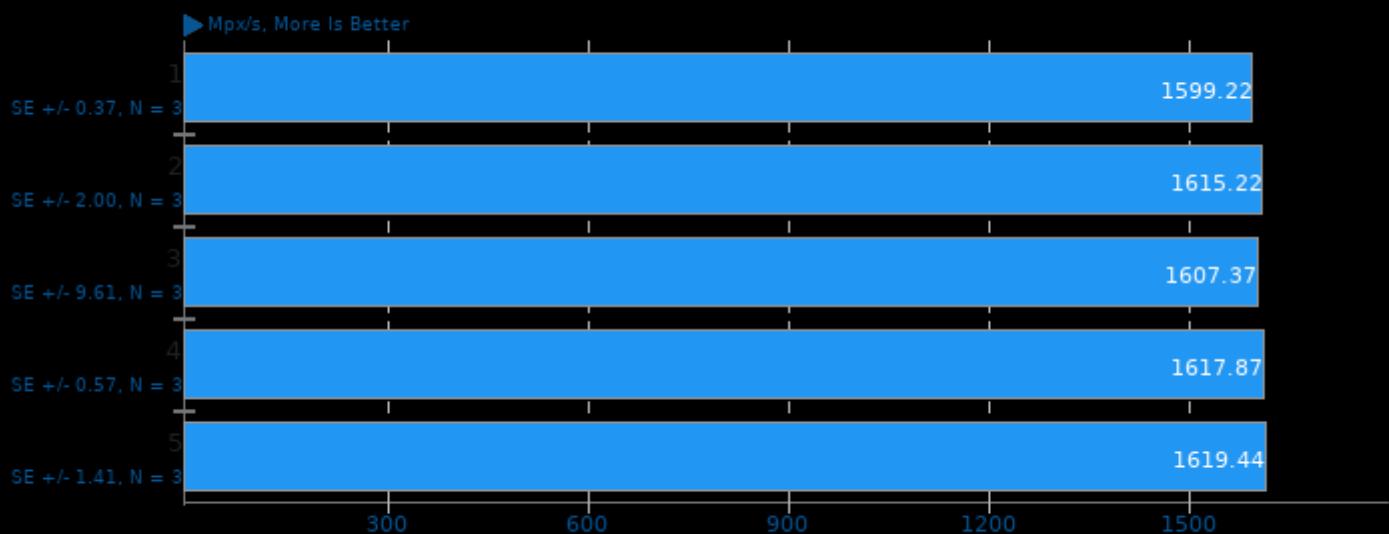
Cython Benchmark 0.29.21

Test: N-Queens



EtcPak 0.7

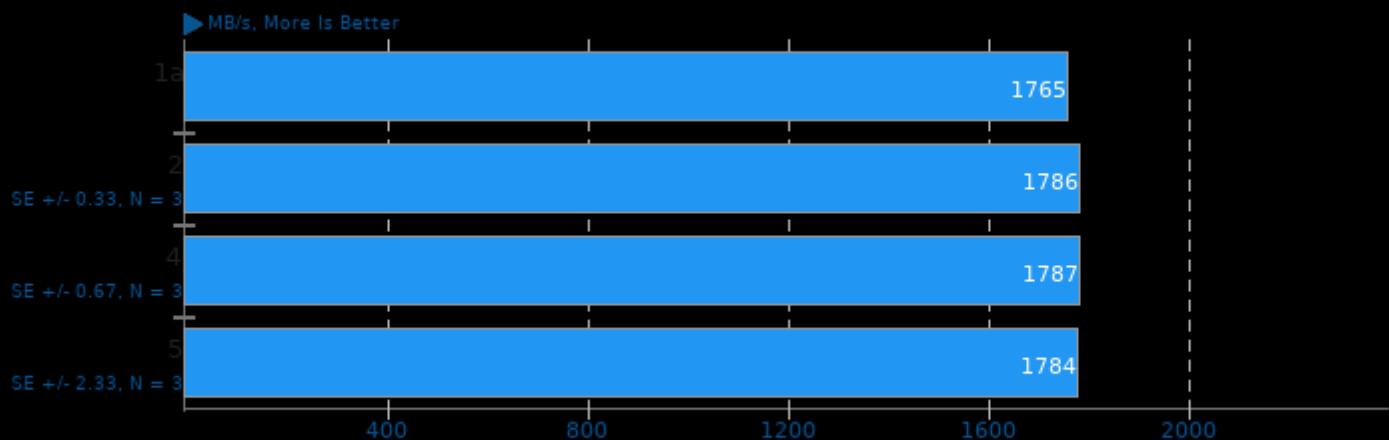
Configuration: DXT1



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

lzbench 1.8

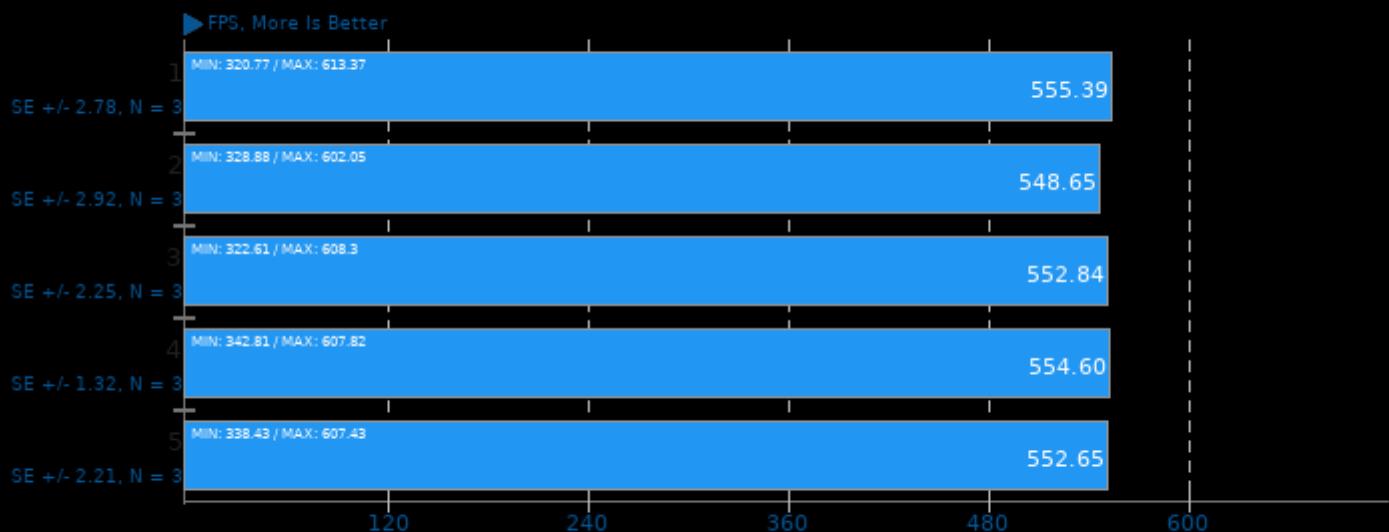
Test: Zstd 8 - Process: Decompression



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

dav1d 0.8.1

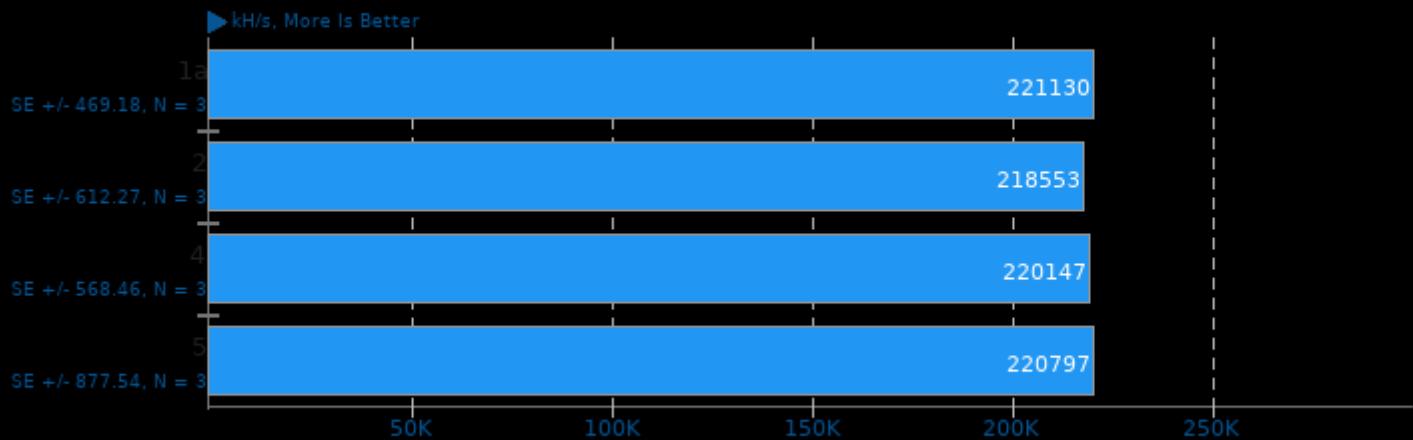
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

Cpuminer-Opt 3.15.5

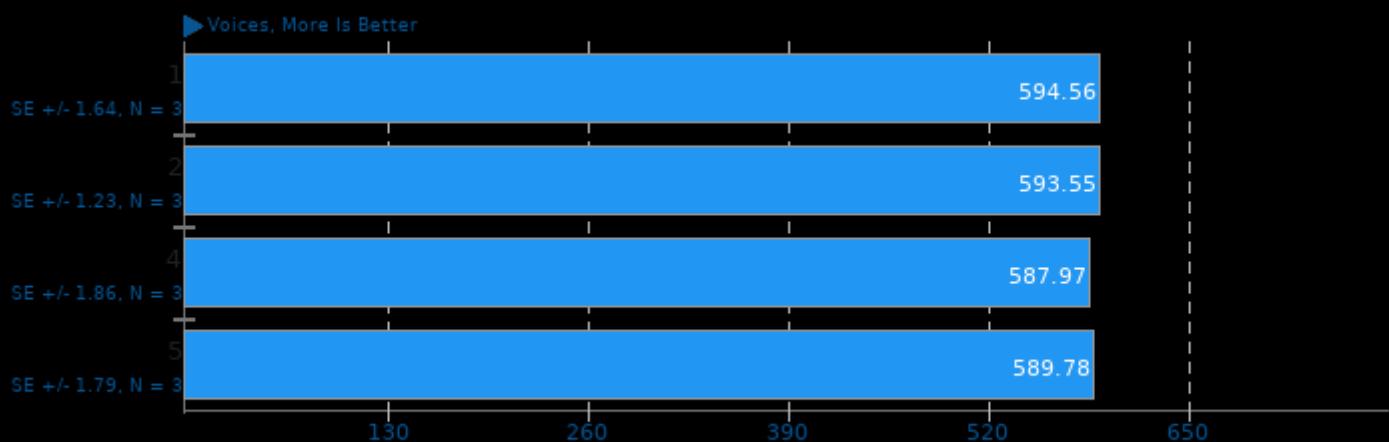
Algorithm: Triple SHA-256, Onecoin



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

Google SynthMark 20201109

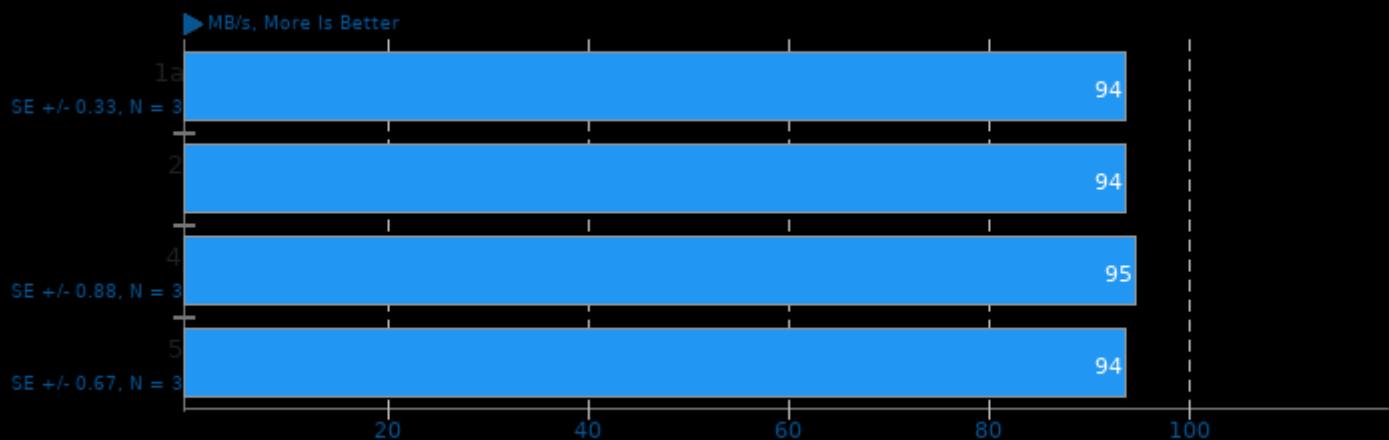
Test: VoiceMark_100



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

Izbench 1.8

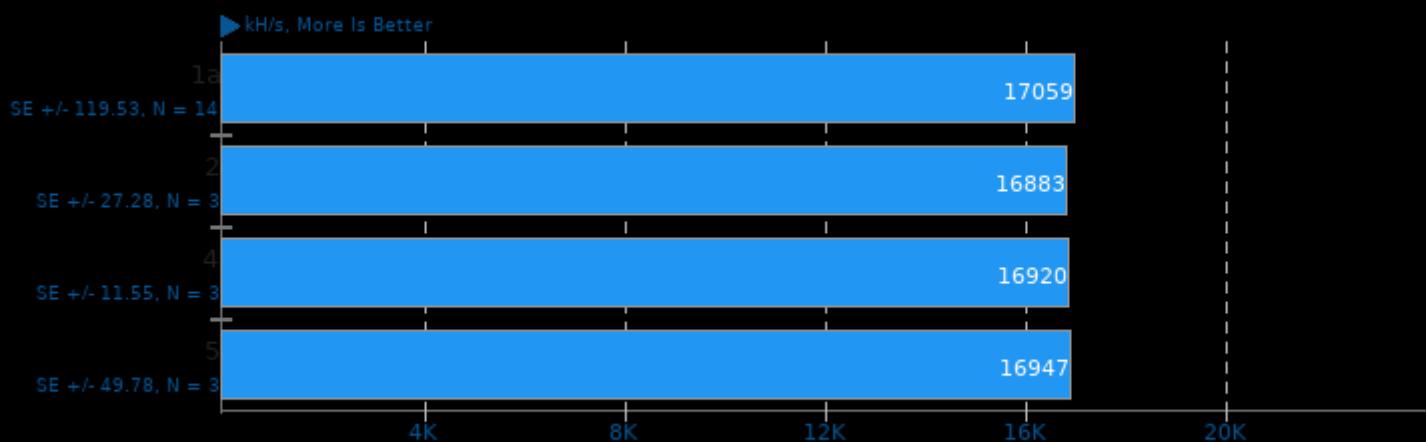
Test: Crush 0 - Process: Compression



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

Cpuminer-Opt 3.15.5

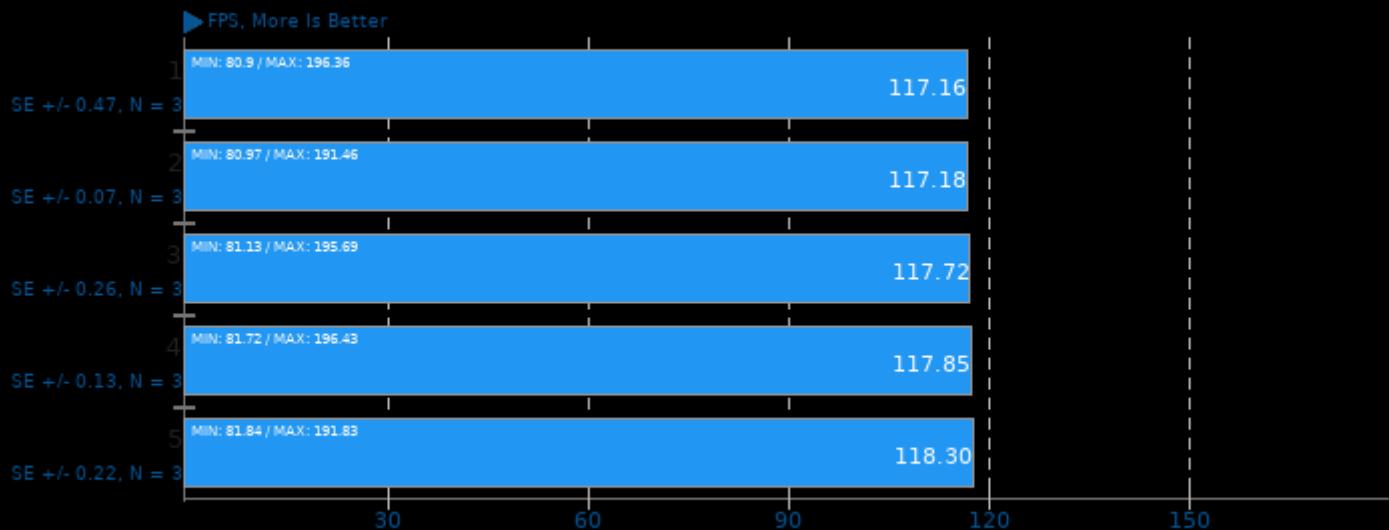
Algorithm: Deepcoin



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

dav1d 0.8.1

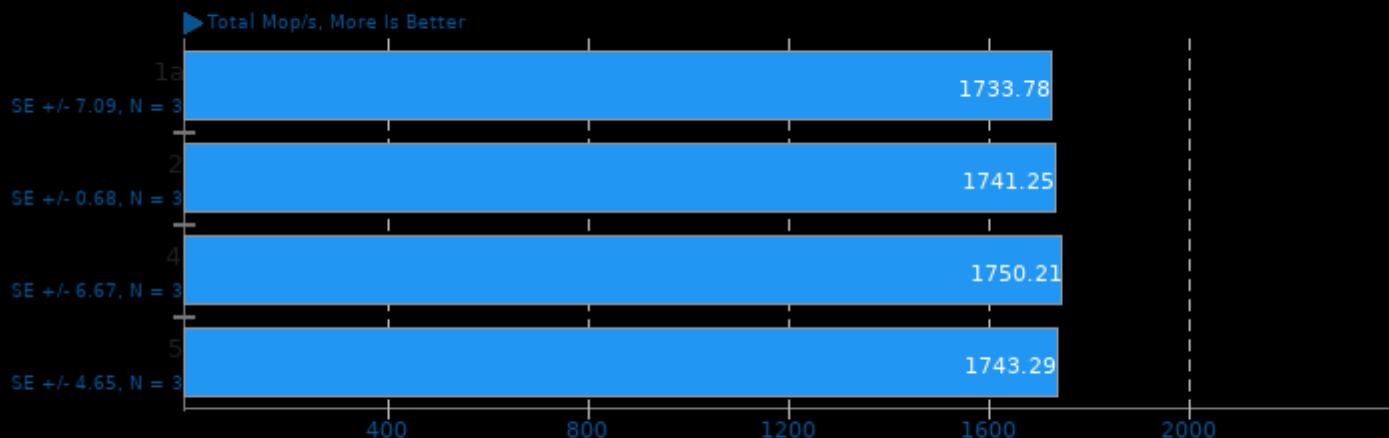
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

NAS Parallel Benchmarks 3.4

Test / Class: EP.C

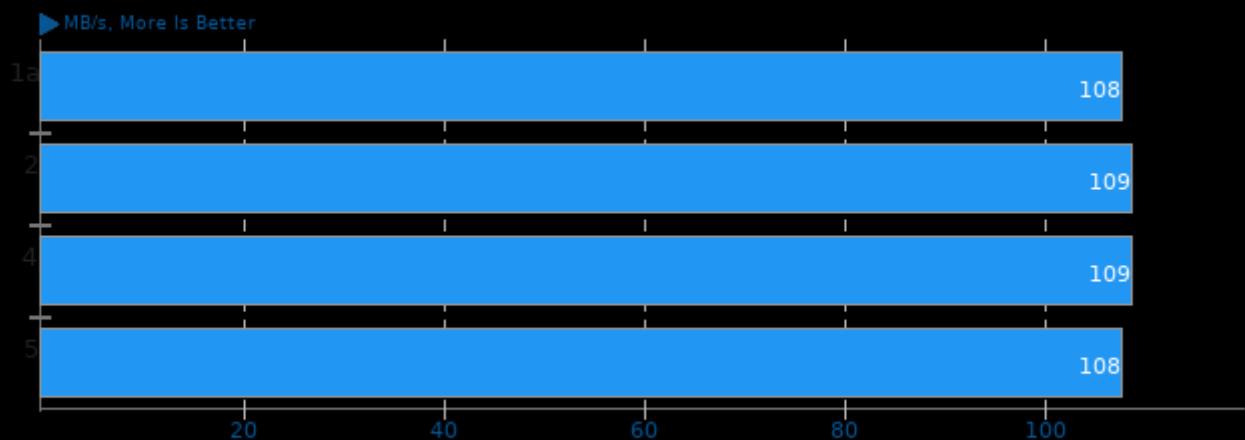


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

Izbench 1.8

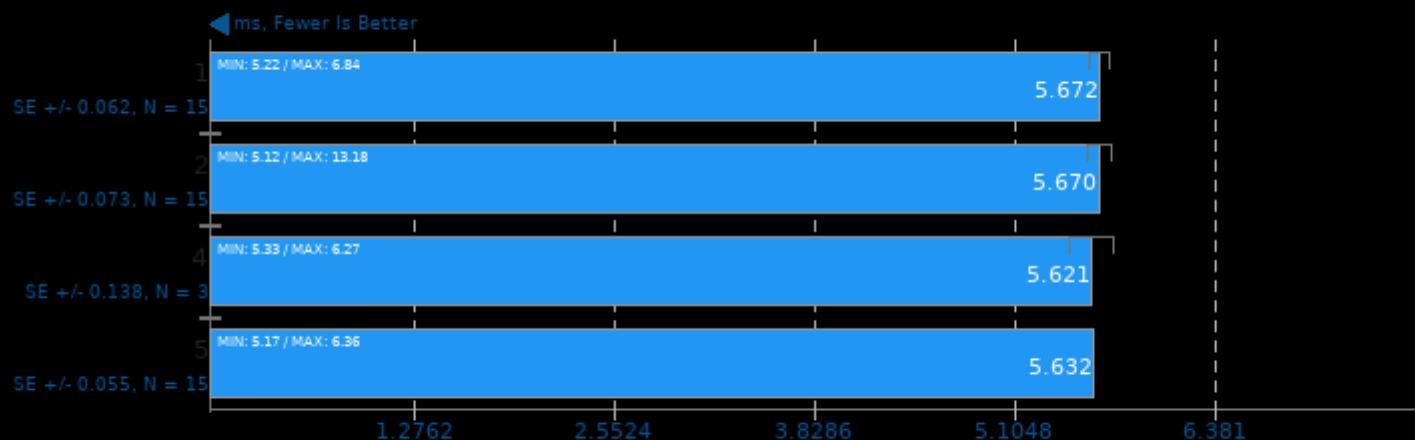
Test: XZ 0 - Process: Decompression



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

Mobile Neural Network 1.1.1

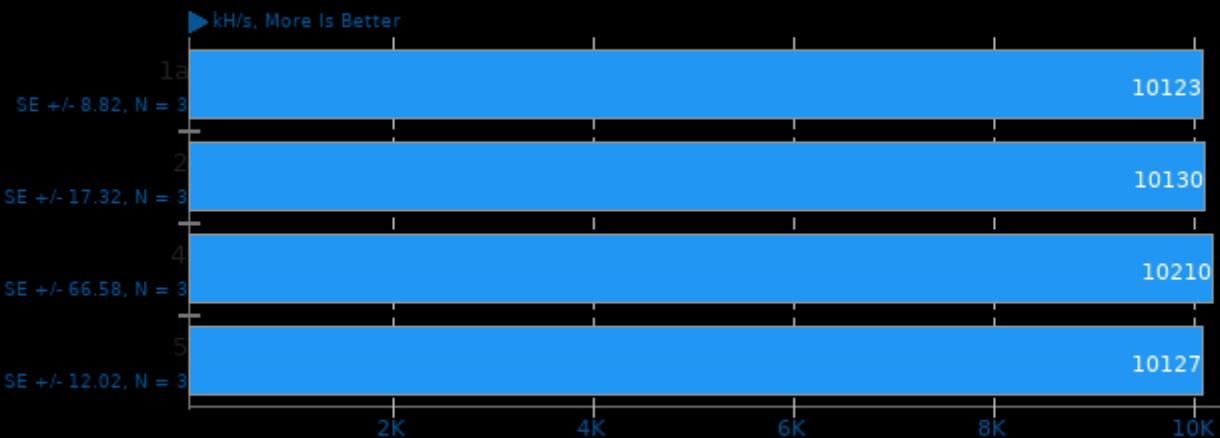
Model: MobileNetV2_224



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

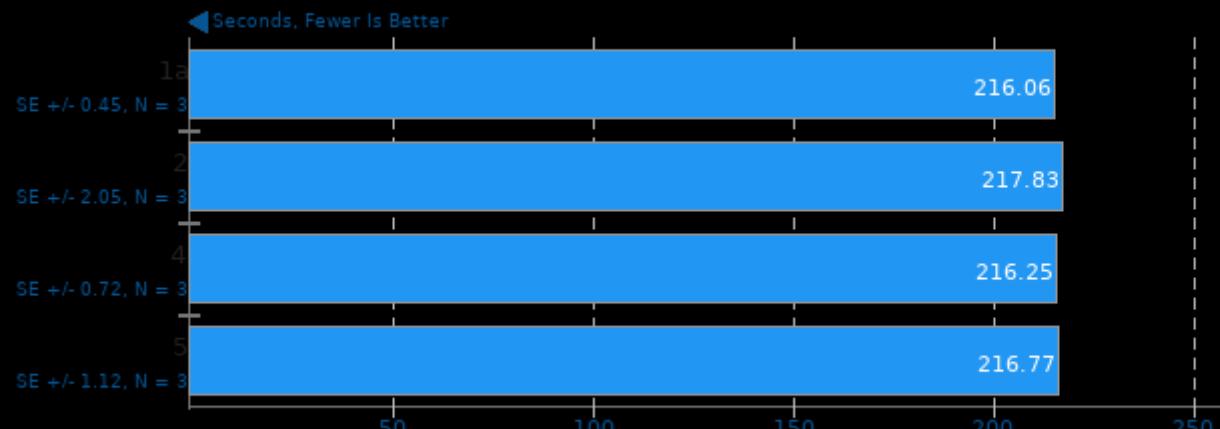
Cpuminer-Opt 3.15.5

Algorithm: Myriad-Groestl



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

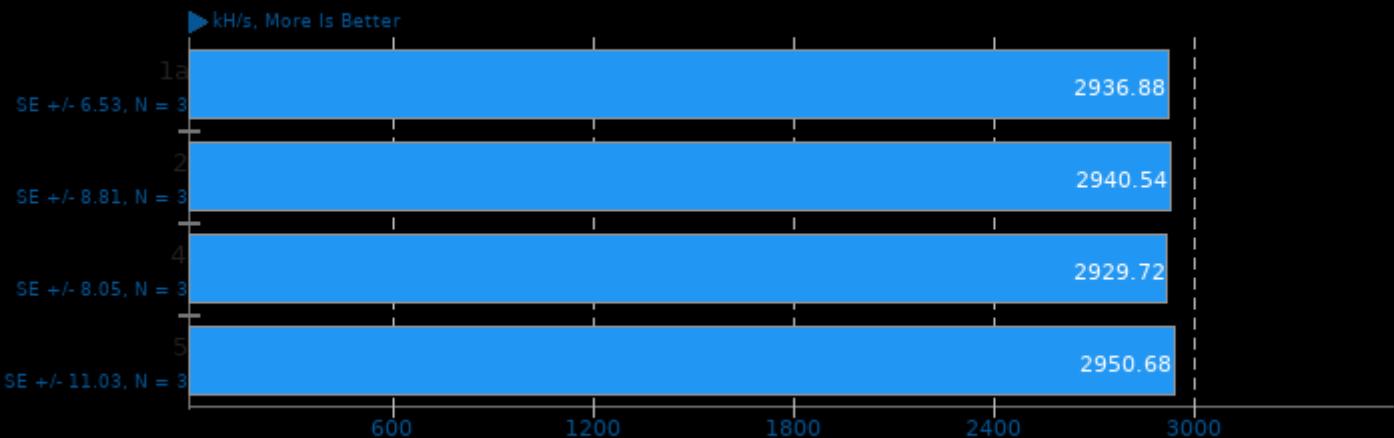
Gcrypt Library 1.9



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

Cpuminer-Opt 3.15.5

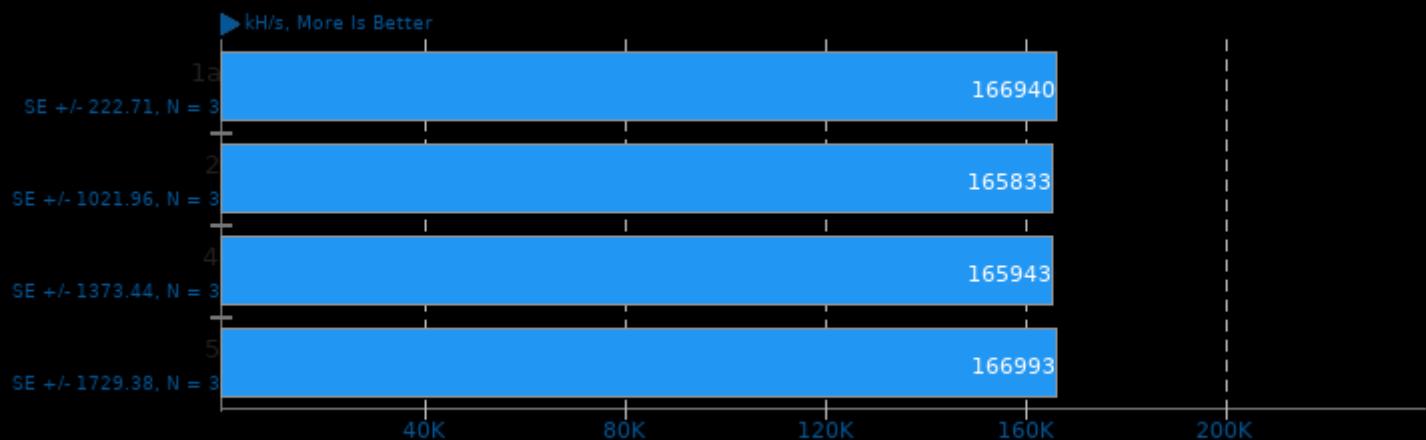
Algorithm: Ringcoin



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

Cpuminer-Opt 3.15.5

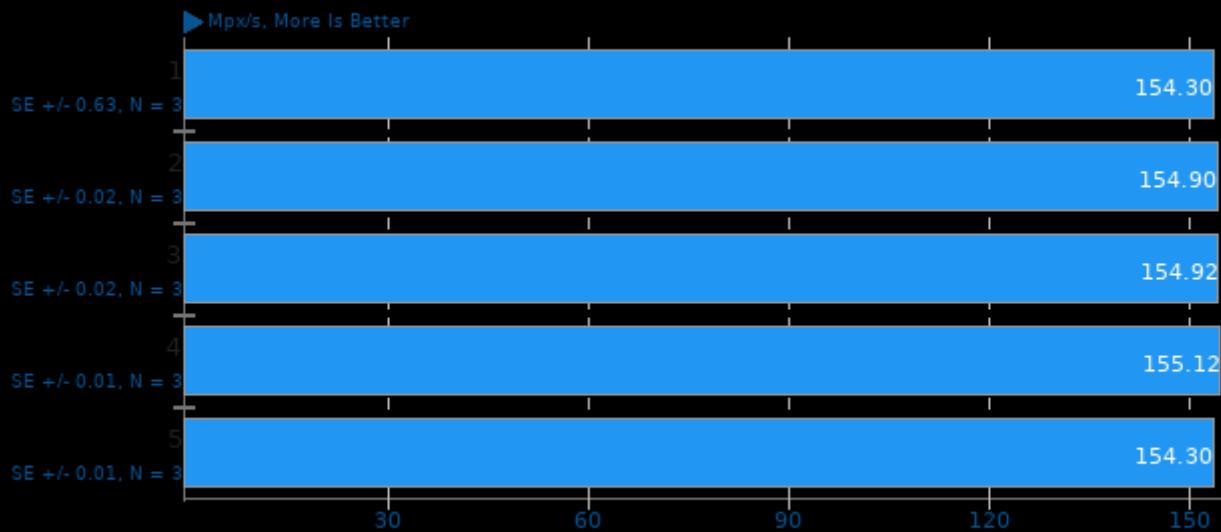
Algorithm: Quad SHA-256, Pyrite



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

EtcPak 0.7

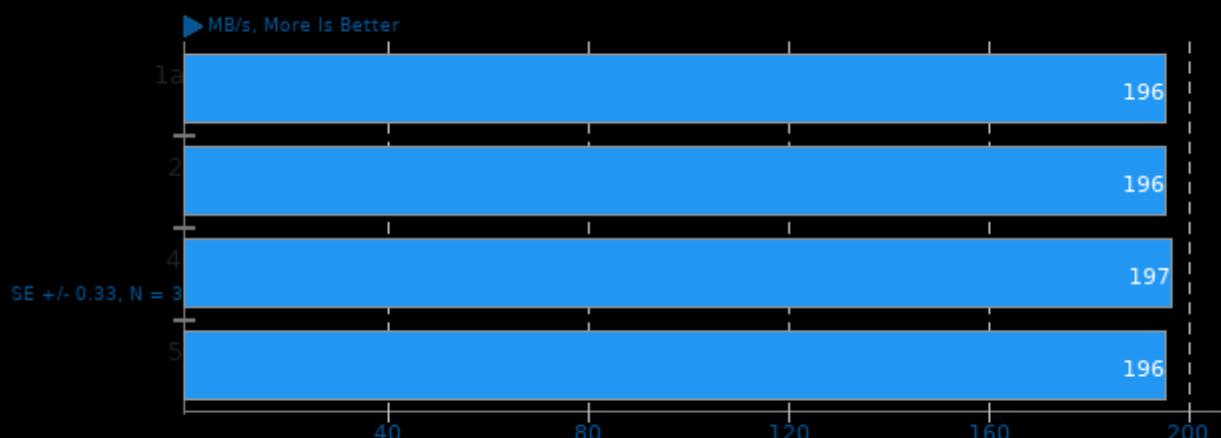
Configuration: ETC2



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

Izbench 1.8

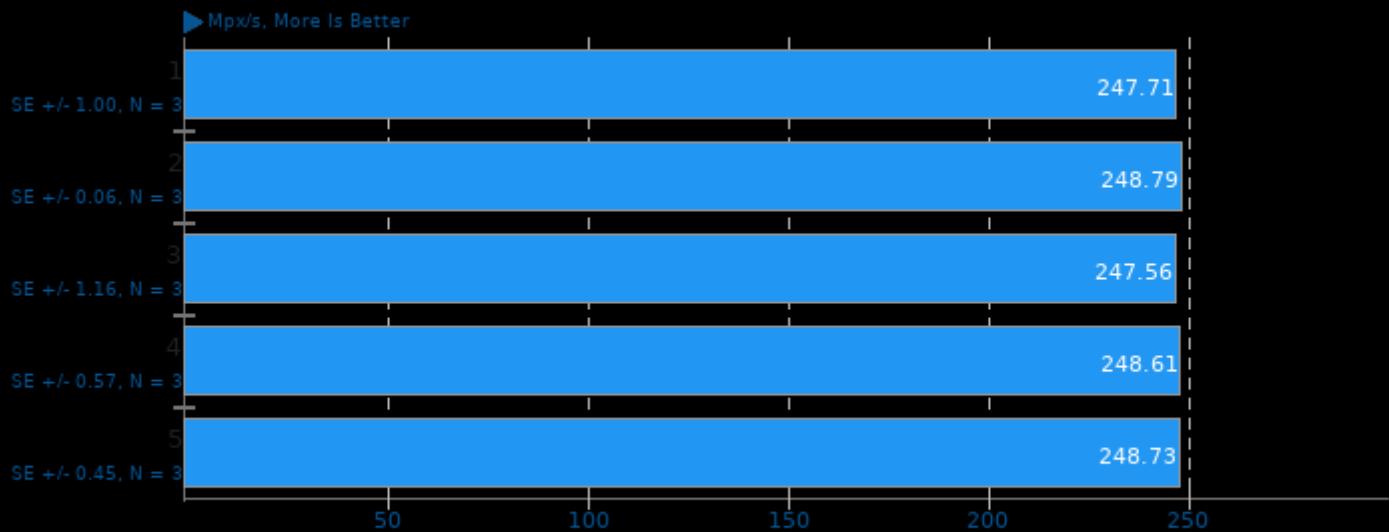
Test: Brotli 2 - Process: Compression



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

EtcPak 0.7

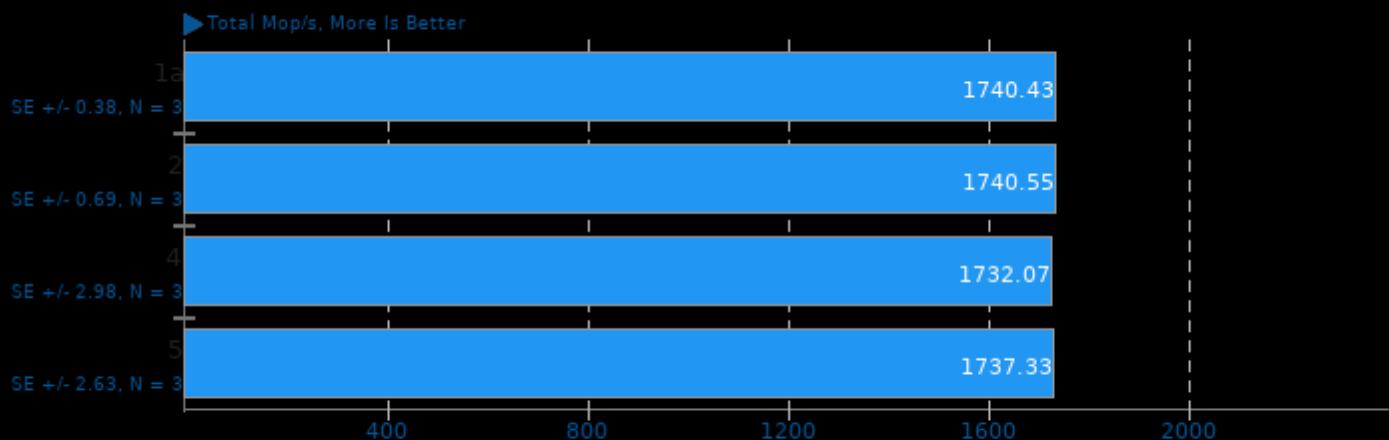
Configuration: ETC1



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

NAS Parallel Benchmarks 3.4

Test / Class: EP.D

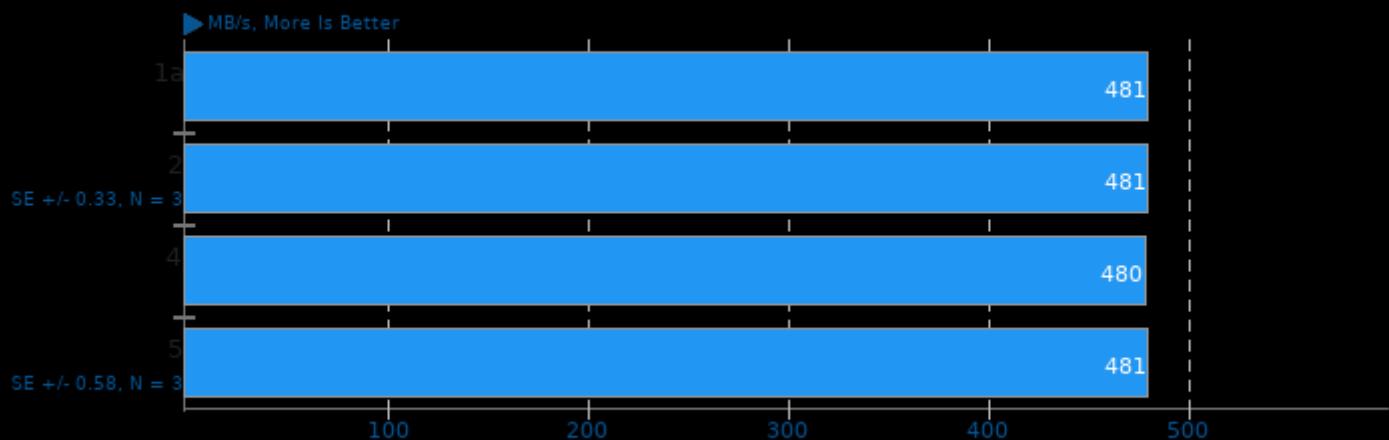


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

Izbench 1.8

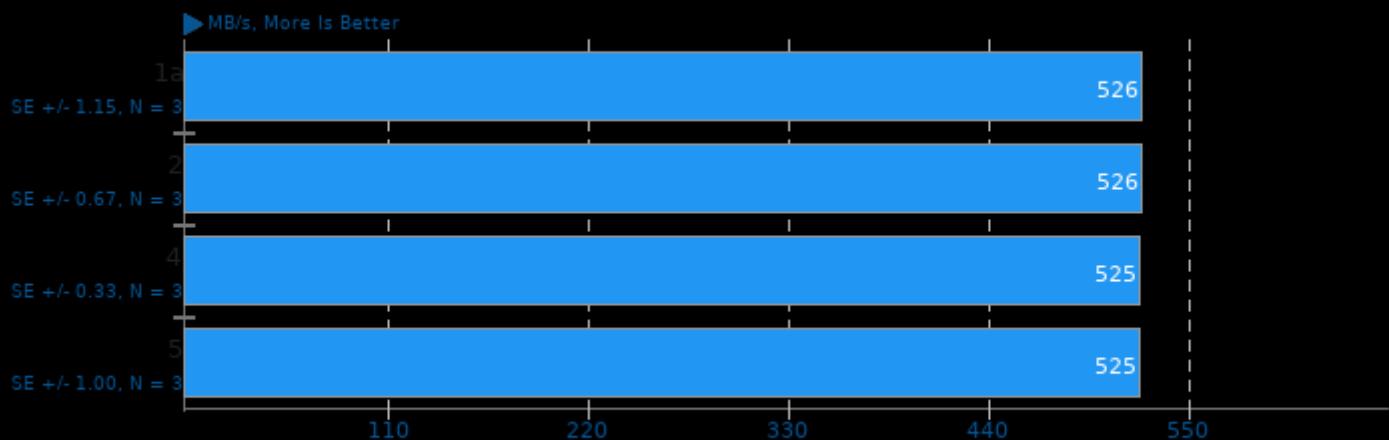
Test: Crush 0 - Process: Decompression



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

Izbench 1.8

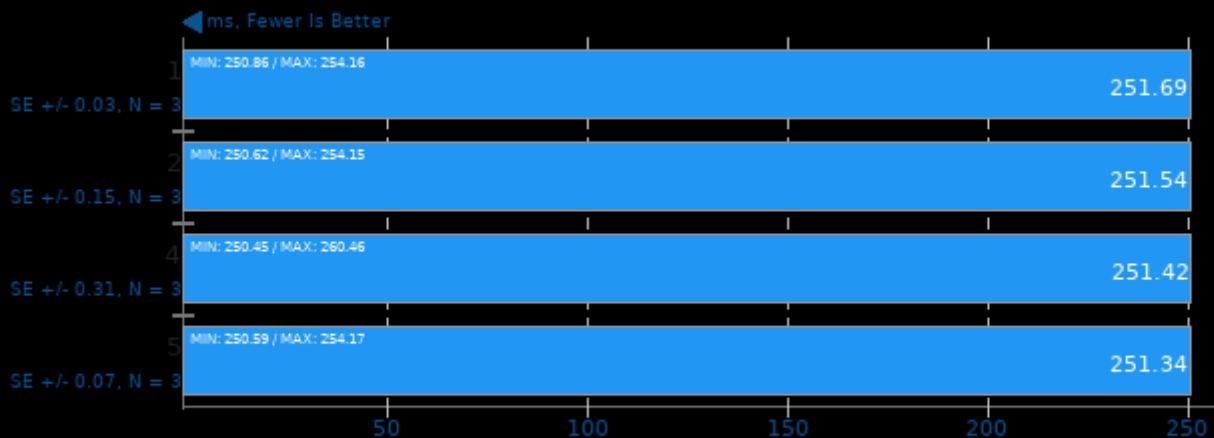
Test: Zstd 1 - Process: Compression



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

TNN 0.2.3

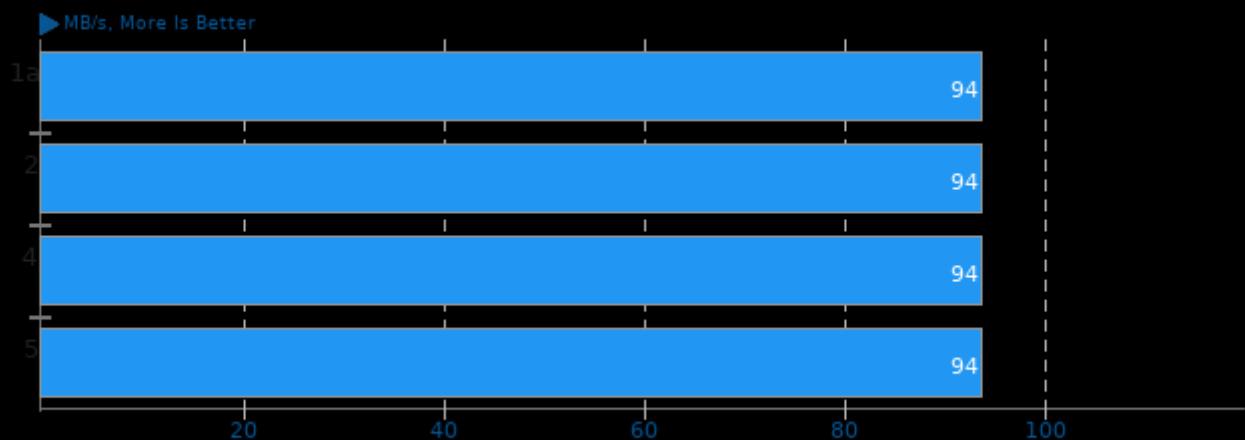
Target: CPU - Model: SqueezeNet v1.1



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

Izbench 1.8

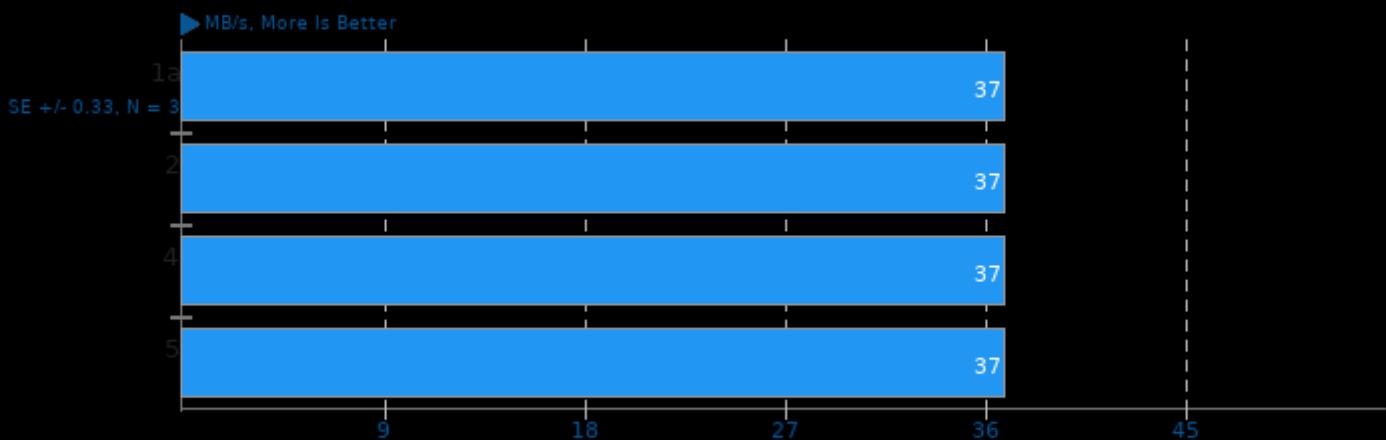
Test: Zstd 8 - Process: Compression



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

Izbench 1.8

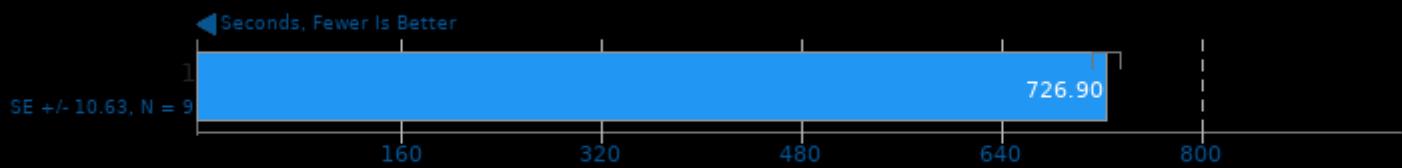
Test: XZ 0 - Process: Compression



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

OpenFOAM 8

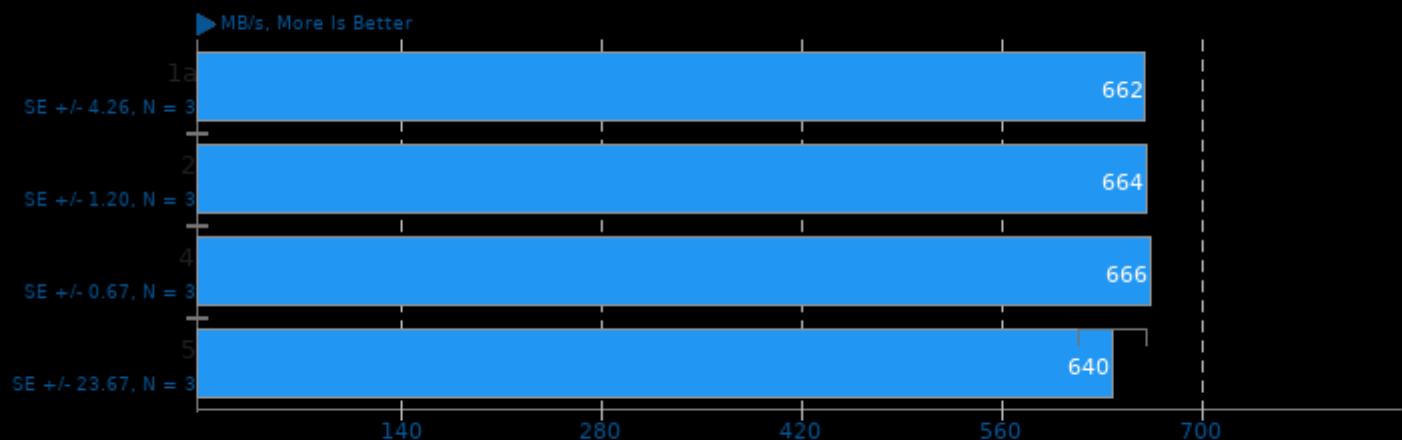
Input: Motorbike 60M



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

Izbench 1.8

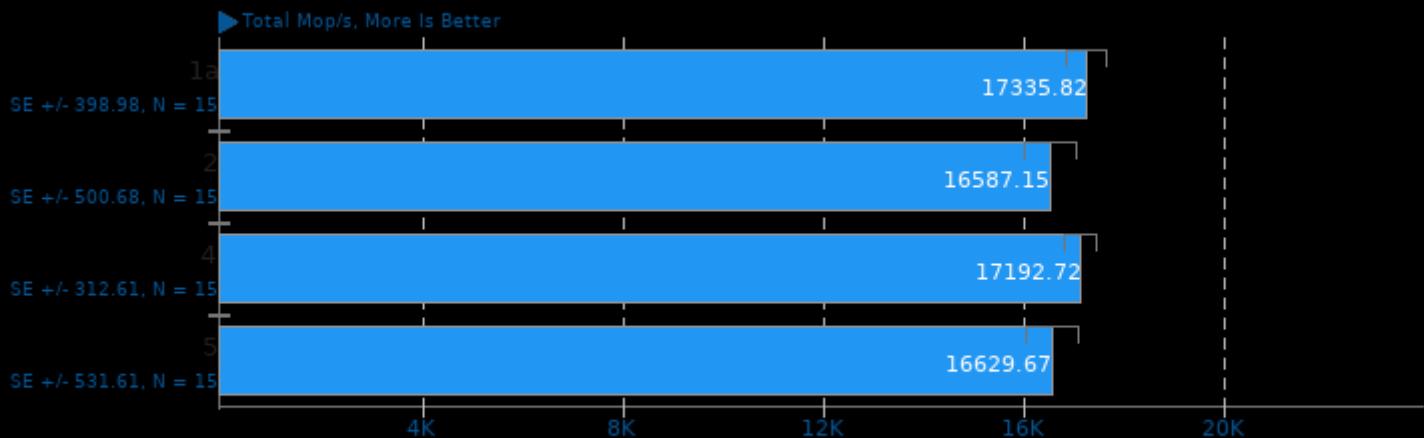
Test: Brotli 2 - Process: Decompression



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

NAS Parallel Benchmarks 3.4

Test / Class: MG.C

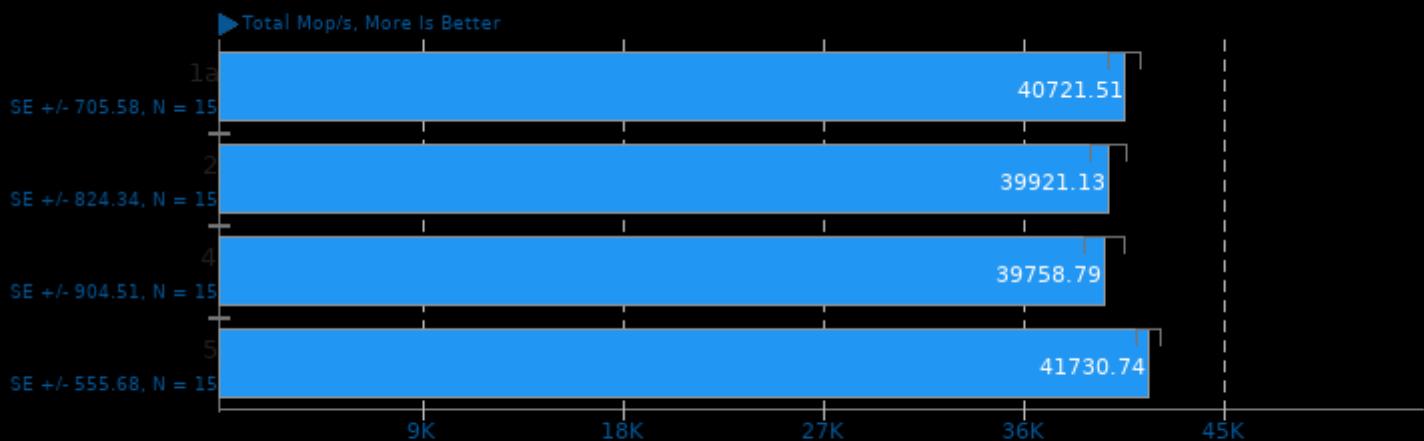


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

Test / Class: LU.C

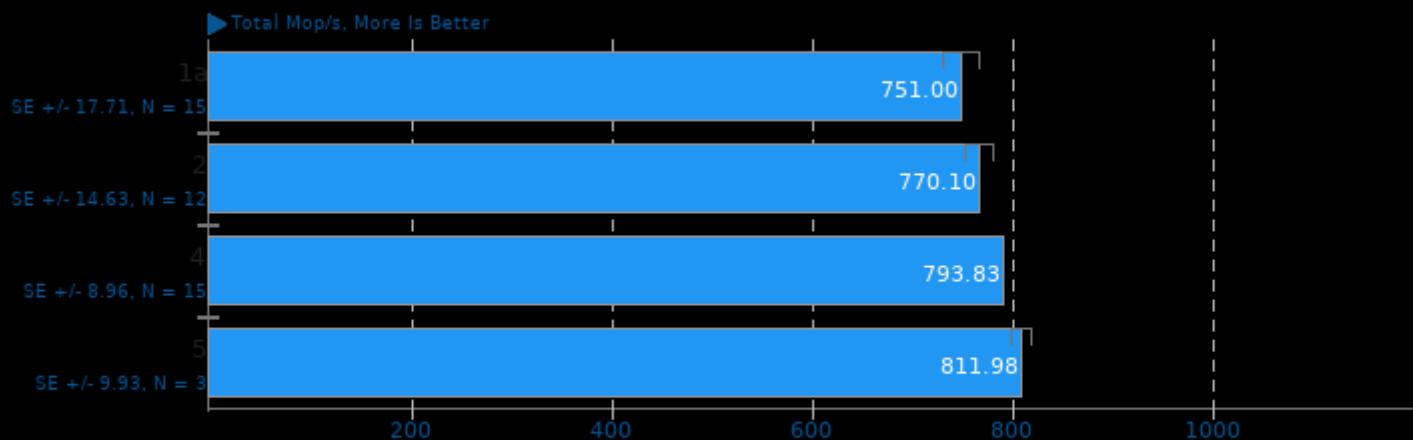


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

Test / Class: IS.D

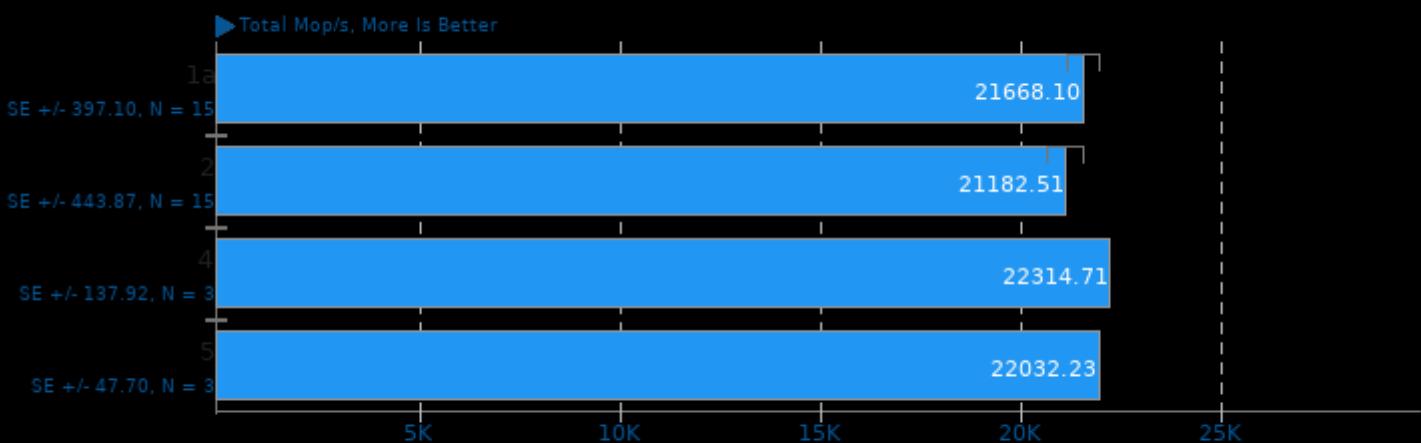


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

Test / Class: FT.C

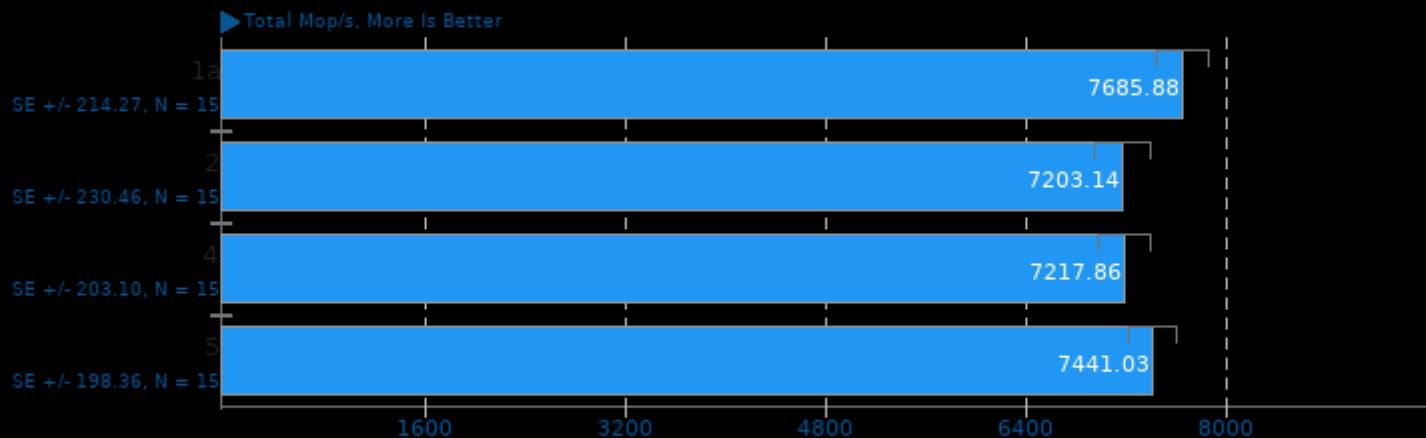


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

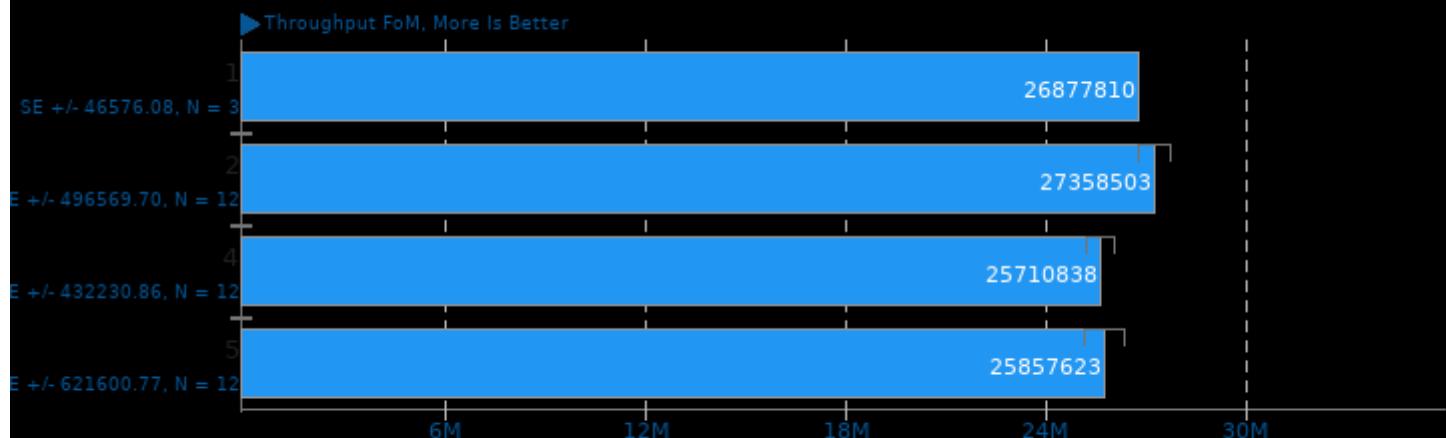
Test / Class: CG.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen rte -lopen pal -lhwloc -ldl -levent -levent_pthreads -lutil

2. Open MPI 4.0.3

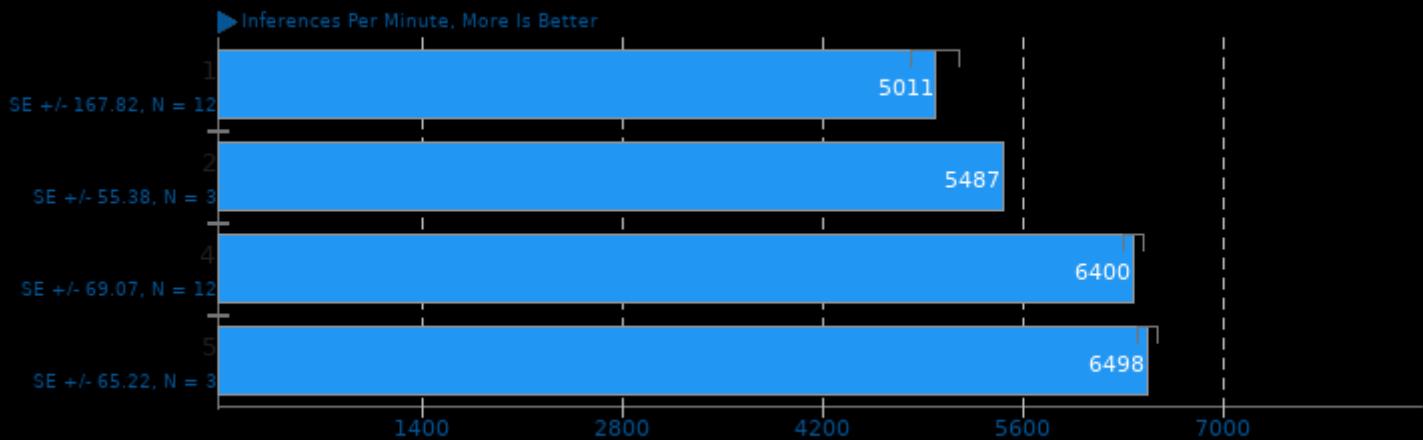
Kripke 1.2.4



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

ONNX Runtime 1.6

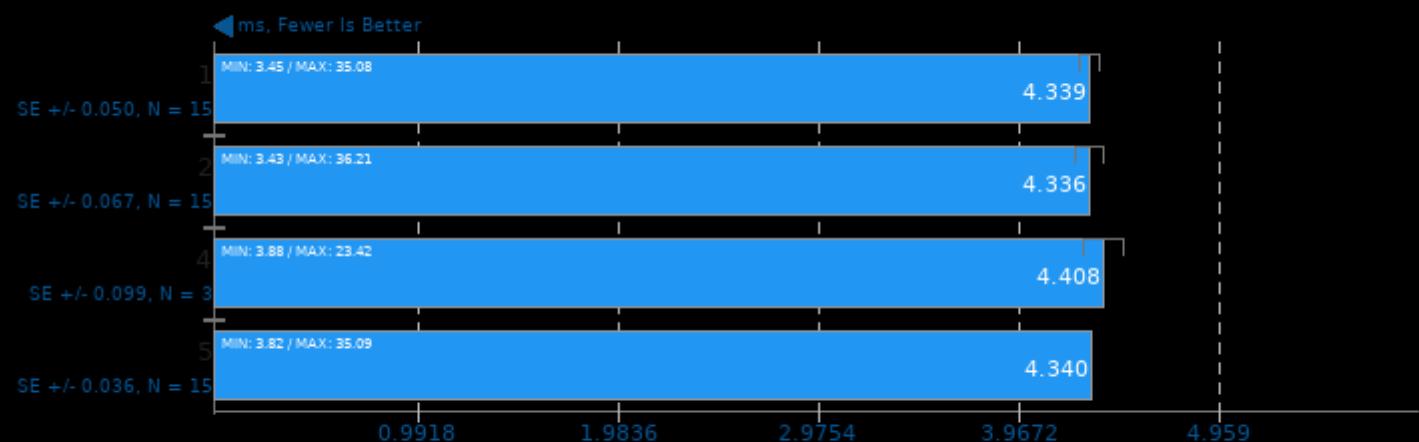
Model: shufflenet-v2-10 - Device: OpenMP CPU



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

Mobile Neural Network 1.1.1

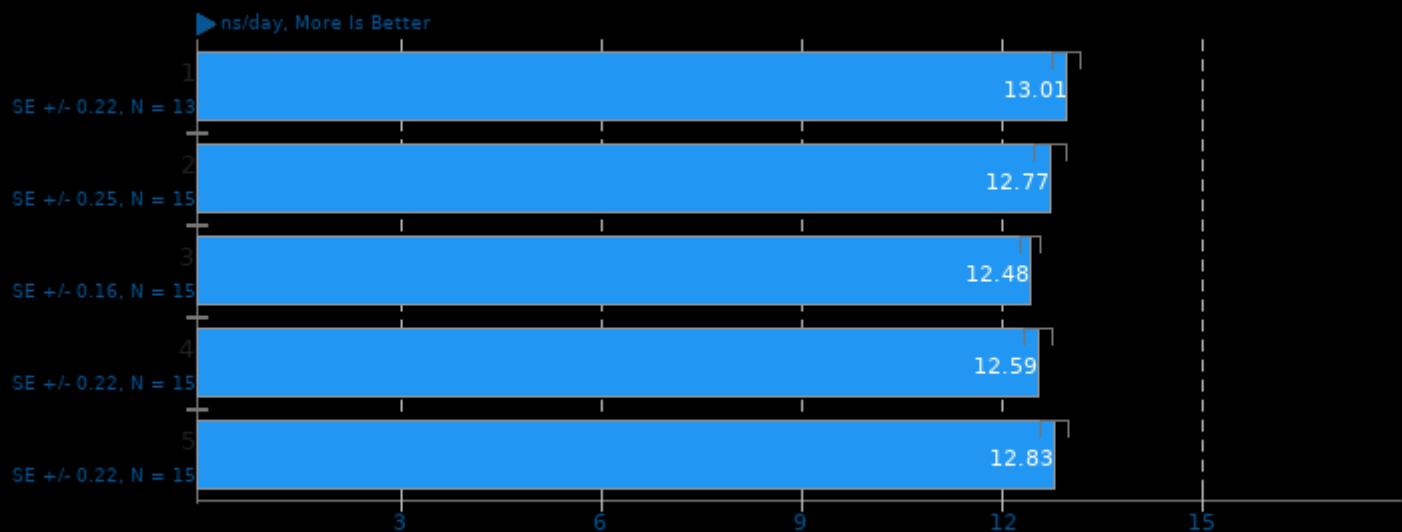
Model: mobilenet-v1-1.0



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

LAMMPS Molecular Dynamics Simulator 29Oct2020

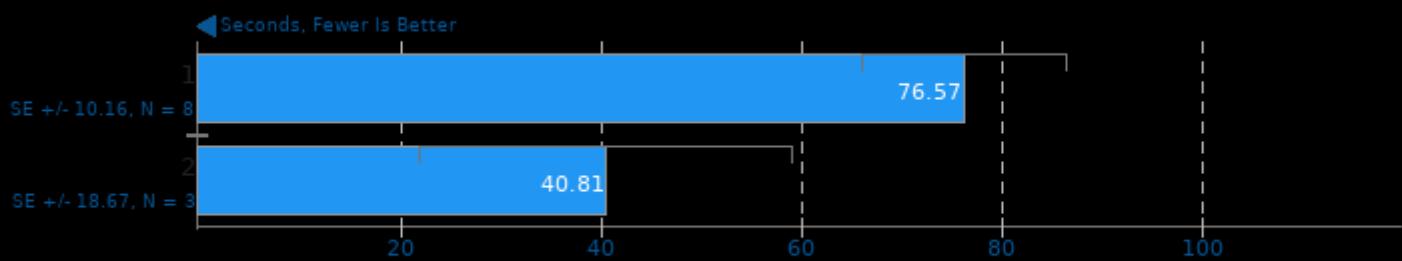
Model: Rhodopsin Protein



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

OpenFOAM 8

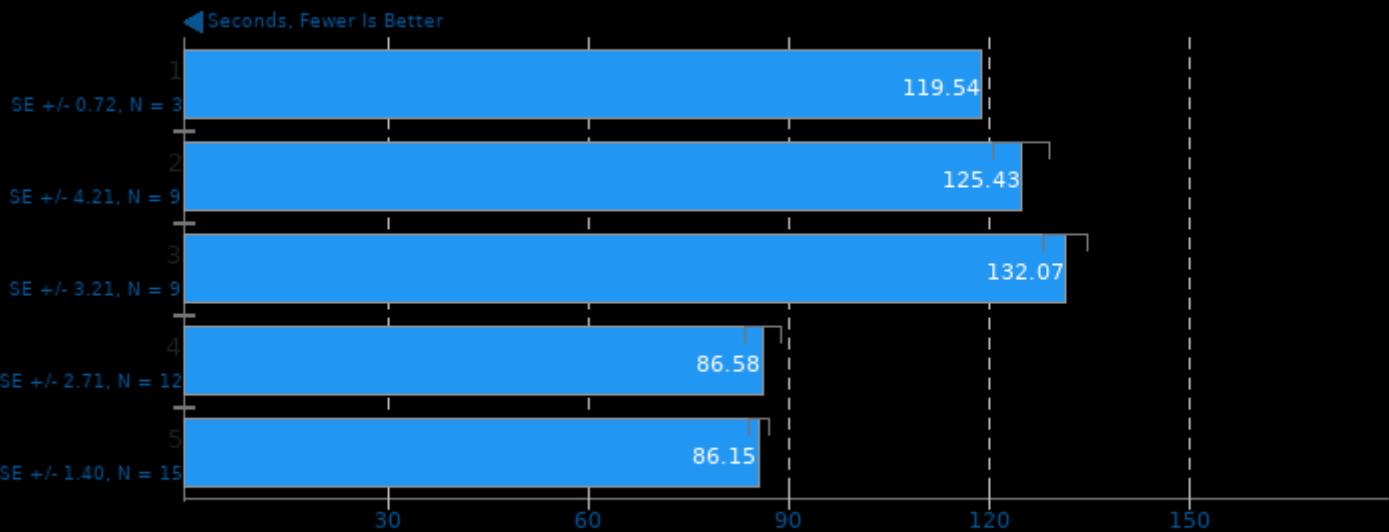
Input: Motorbike 30M



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

CloverLeaf

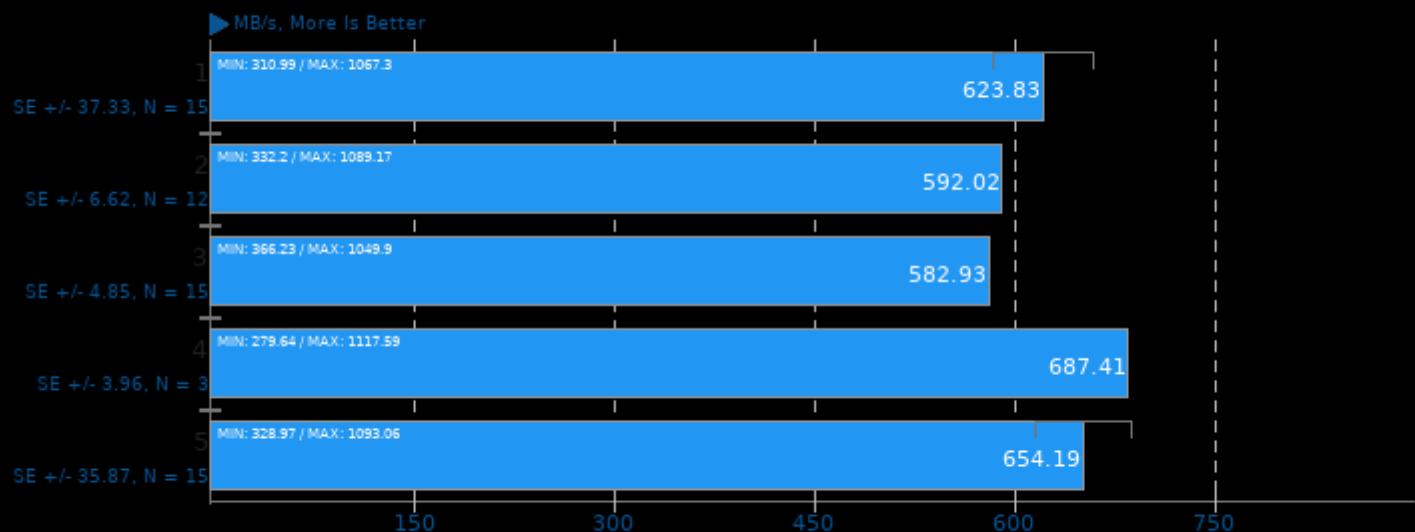
Lagrangian-Eulerian Hydrodynamics



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

IOR 3.3.0

Block Size: 4MB - Disk Target: Default Test Directory



1. (CC) gcc options: -O2 -lm -pthread -lmpi

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