



5600X Week

AMD Ryzen 5 5600X 6-Core testing with a ASUS TUF GAMING B550M-PLUS (WI-FI) (1216 BIOS) and XFX AMD Radeon R9 285/380 2GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 35% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.001x the speed of the slowest (1). 4 was 1x the speed of 3, 2 was 1x the speed of 4, 1 was 1x the speed of 2.

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

Redis (Test: LPOP) at 1.669x

Redis (Test: GET) at 1.049x

Izbench (Test: Crush 0 - Process: Compression) at 1.031x

Redis (Test: SET) at 1.031x

Cpuminer-Opt (Algorithm: x25x) at 1.022x

Izbench (Test: Zstd 8 - Process: Decompression) at 1.02x

Cpuminer-Opt (Algorithm: Deepcoin) at 1.017x

Cpuminer-Opt (Algorithm: Skeincoin) at 1.015x

ONNX Runtime (Model: fcn-resnet101-11 - Device: OpenMP CPU) at 1.015x

FinanceBench (Benchmark: Bonds OpenMP) at 1.013x.

Test Systems:

1

2

3

4

Processor: AMD Ryzen 5 5600X 6-Core @ 3.70GHz (6 Cores / 12 Threads), Motherboard: ASUS TUF GAMING B550M-PLUS (WI-FI) (1216 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: 500GB Western Digital WDS500G3X0C-00SJG0, Graphics: XFX AMD Radeon R9 285/380 2GB (918/1375MHz), Audio: AMD Tonga HDMI Audio, Monitor: G237HL, Network: Realtek RTL8125 2.5GbE + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.10.4-051004-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 20.2.6 (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,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgc-nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009

Python Notes: Python 3.8.6

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

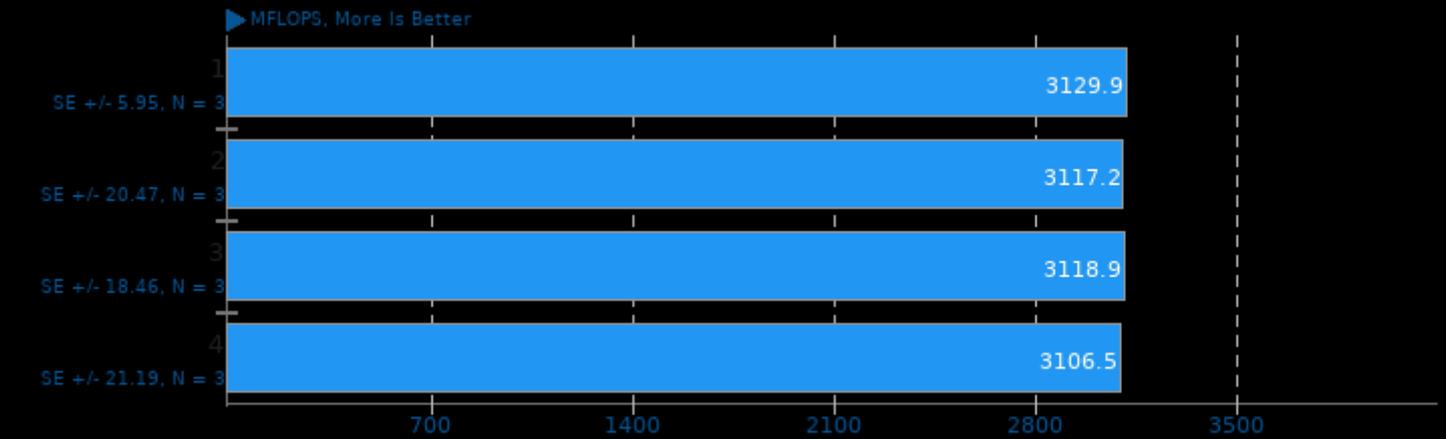
	1	2	3	4
QuantLib (MFLOPS)	3130	3117	3119	3107
Normalized	100%	99.59%	99.65%	99.25%
Standard Deviation	0.3%	1.1%	1%	1.2%
Etcpak - DXT1 (Mpx/s)	1473	1473	1475	1478
Normalized	99.68%	99.64%	99.77%	100%
Standard Deviation	0.3%	0.2%	0.2%	0.5%
Etcpak - ETC1 (Mpx/s)	370.380	370.249	370.331	370.418
Normalized	99.99%	99.95%	99.98%	100%
Standard Deviation	0.1%	0.2%	0.1%	0.1%
Etcpak - ETC2 (Mpx/s)	228.815	229.080	228.939	228.816
Normalized	99.88%	100%	99.94%	99.88%

	Standard Deviation	0.2%	0%	0%	0.2%
Etcpak - ETC1 + Dithering (Mpx/s)		335.815	336.967	336.782	336.179
	Normalized	99.66%	100%	99.95%	99.77%
	Standard Deviation	0.1%	0%	0.1%	0.1%
NAS Parallel Benchmarks - EP.C (Mop/s)		761.78	759.46	758.93	761.31
	Normalized	100%	99.7%	99.63%	99.94%
	Standard Deviation	0%	0.6%	0.8%	0.2%
NAS Parallel Benchmarks - EP.D (Mop/s)		760.79	759.29	762.14	761.84
	Normalized	99.82%	99.63%	100%	99.96%
	Standard Deviation	0.6%	1.1%	0.6%	0.7%
NAS Parallel Benchmarks - LU.C (Mop/s)		25333	25511	25539	25518
	Normalized	99.19%	99.89%	100%	99.92%
	Standard Deviation	0.3%	0.1%	0.2%	0.1%
Izbench - XZ 0 - Compression (MB/s)		53	53	53	
	Standard Deviation			1.1%	
Izbench - XZ 0 - Decompression		165	165	165	
Izbench - Zstd 1 - Compression (MB/s)		659	663	661	
	Normalized	99.4%	100%	99.7%	
	Standard Deviation		0.5%	0.2%	
Izbench - Zstd 1 - Decompression		2212	2228	2223	
	Normalized	99.28%	100%	99.78%	
	Standard Deviation	0.9%	0.1%	0.3%	
Izbench - Zstd 8 - Compression (MB/s)		122	121	122	
	Normalized	100%	99.18%	100%	
	Standard Deviation		0.5%		
Izbench - Zstd 8 - Decompression		2425	2394	2443	
	Normalized	99.26%	97.99%	100%	
	Standard Deviation	0.4%	2.9%	0.4%	
Izbench - Crush 0 - Compression		166	161	166	
	Normalized	100%	96.99%	100%	
	Standard Deviation	2.2%	0.4%	1.3%	
Izbench - Crush 0 - Decompression (MB/s)		686	686	686	
Izbench - Brotli 0 - Compression		610	611	610	
	Normalized	99.84%	100%	99.84%	
	Standard Deviation	0.6%	0.3%	0.6%	
Izbench - Brotli 0 - Decompression (MB/s)		794	792	793	
	Normalized	100%	99.75%	99.87%	
	Standard Deviation		0.1%		
Izbench - Brotli 2 - Compression		259	258	258	
	Normalized	100%	99.61%	99.61%	
	Standard Deviation	0.4%		0.7%	
Izbench - Brotli 2 - Decompression (MB/s)		944	946	913	
	Normalized	99.79%	100%	96.51%	
	Standard Deviation			6.4%	
Izbench - Libdeflate 1 - Compression (MB/s)		325	324	325	
	Normalized	100%	99.69%	100%	
	Standard Deviation	0.5%		0.5%	

QMCPACK - simple-H2O (Execution Time - sec)	19.762	19.758	19.786
Normalized	99.98%	100%	99.86%
Standard Deviation	1.4%	1.3%	1.2%
Cython Benchmark - N-Queens (sec)	17.489	17.508	17.625
Normalized	100%	99.89%	99.23%
Standard Deviation	0.6%	1.1%	0.4%
Gcrypt Library (sec)	174.915	175.453	176.361
Normalized	100%	99.69%	99.18%
Standard Deviation	0.2%	0.2%	0.9%
Cpuminer-Opt - Magi (kH/s)	358.54	356.89	357.86
Normalized	100%	99.54%	99.81%
Standard Deviation	1.2%	0.8%	0.5%
Cpuminer-Opt - x25x (kH/s)	250.19	255.68	252.92
Normalized	97.85%	100%	98.92%
Standard Deviation	0.8%	1%	1.6%
Cpuminer-Opt - Deepcoin (kH/s)	7350	7475	7443
Normalized	98.34%	100%	99.57%
Standard Deviation	0.3%	2.5%	1.7%
Cpuminer-Opt - Ringcoin (kH/s)	1688	1694	1518
Normalized	99.67%	100%	89.63%
Standard Deviation	0.5%	1%	31.3%
Cpuminer-Opt - Blake-2 S (kH/s)	245500	260080	253811
Normalized	94.39%	100%	97.59%
Standard Deviation	6.4%	8%	7.7%
Cpuminer-Opt - Garlicoin (kH/s)	1748	1769	1766
Normalized	98.85%	100%	99.87%
Standard Deviation	0.4%	1.6%	0.3%
Cpuminer-Opt - Skeincoin (kH/s)	67543	68193	67178
Normalized	99.05%	100%	98.51%
Standard Deviation	1.2%	1%	2.5%
Cpuminer-Opt - Myriad-Groestl (kH/s)	15183	15080	15732
Normalized	96.51%	95.86%	100%
Standard Deviation	2.4%	0.7%	8.9%
Cpuminer-Opt - LBC, LBRY Credits (kH/s)	24927	24837	25117
Normalized	99.24%	98.89%	100%
Standard Deviation	0.2%	0.3%	1.1%
Cpuminer-Opt - Q.S.2.P (kH/s)	62553	61707	57976
Normalized	100%	98.65%	92.68%
Standard Deviation	0.4%	1%	25%
Cpuminer-Opt - T.S.2.O (kH/s)	82383	82507	82113
Normalized	99.85%	100%	99.52%
Standard Deviation	0.5%	0.1%	0.2%
FinanceBench - Repo OpenMP (ms)	36092	35848	36269
Normalized	99.32%	100%	98.84%
Standard Deviation	0.5%	0.2%	2.5%
FinanceBench - Bonds OpenMP (ms)	51651	52078	51405
Normalized	99.52%	98.71%	100%
Standard Deviation	0.4%	1.8%	0.1%
Redis - LPOP (Reqs/sec)	3891232	2331315	2346925
Normalized	100%	59.91%	60.31%
Standard Deviation	2.1%	2%	0.5%
Redis - SADD (Reqs/sec)	3104794	3101114	3135294
Normalized	99.03%	98.91%	100%

	Standard Deviation	0.8%	0.1%	0.8%
Redis - LPUSH (Reqs/sec)		2250856	2267106	2274919
	Normalized	98.94%	99.66%	100%
	Standard Deviation	2.5%	0.3%	1.2%
Redis - GET (Reqs/sec)		3681677	3508601	3525749
	Normalized	100%	95.3%	95.76%
	Standard Deviation	2.1%	1.6%	0.4%
Redis - SET (Reqs/sec)		2834306	2802012	2750028
	Normalized	100%	98.86%	97.03%
	Standard Deviation	0.6%	1.3%	2.4%
ONNX Runtime - yolov4 - OpenMP CPU (Inferences/min)		426	426	427
	Normalized	99.77%	99.77%	100%
	Standard Deviation	0.3%	0.3%	0.1%
ONNX Runtime - bert squad-10 - OpenMP CPU (Inferences/min)		637	637	640
	Normalized	99.53%	99.53%	100%
	Standard Deviation	0.1%	0.3%	0.5%
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU (Inferences/min)		67	68	68
	Normalized	98.53%	100%	100%
	Standard Deviation	0.4%	0.4%	0.4%
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU (Inferences/min)		19858	19921	19906
	Normalized	99.68%	100%	99.92%
	Standard Deviation	0.6%	0.2%	0.3%
ONNX Runtime - super-resolution-10 - OpenMP CPU (Inferences/min)		4870	4871	4873
	Normalized	99.94%	99.96%	100%
	Standard Deviation	0.2%	0.2%	0.2%
GnuPG - 2.7.S.F.E (sec)		55.908	55.544	55.494
	Normalized	99.26%	99.91%	100%
	Standard Deviation	1.4%	0.2%	0.2%

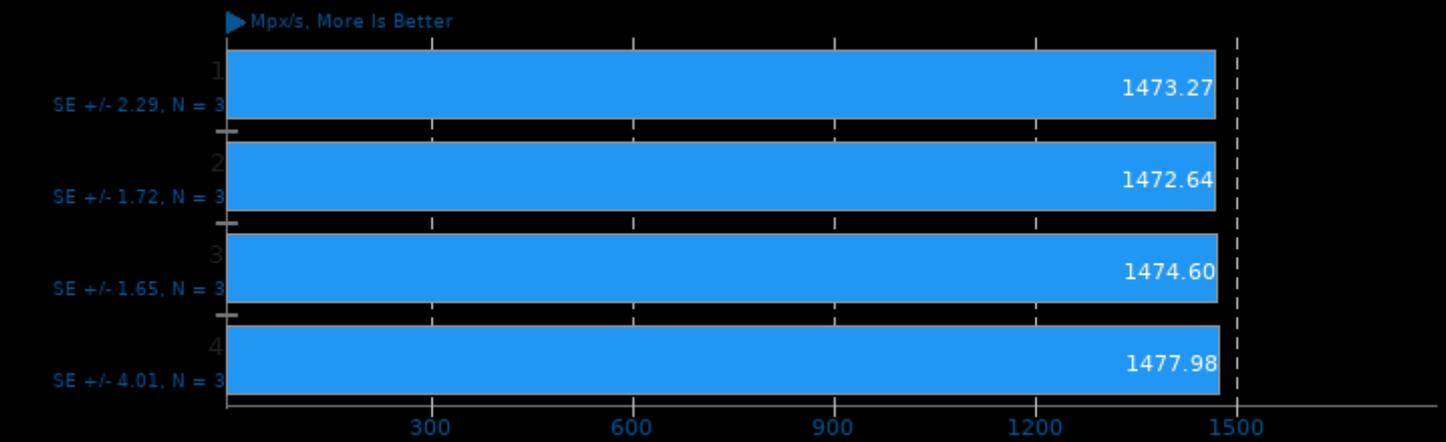
QuantLib 1.21



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

Etcpak 0.7

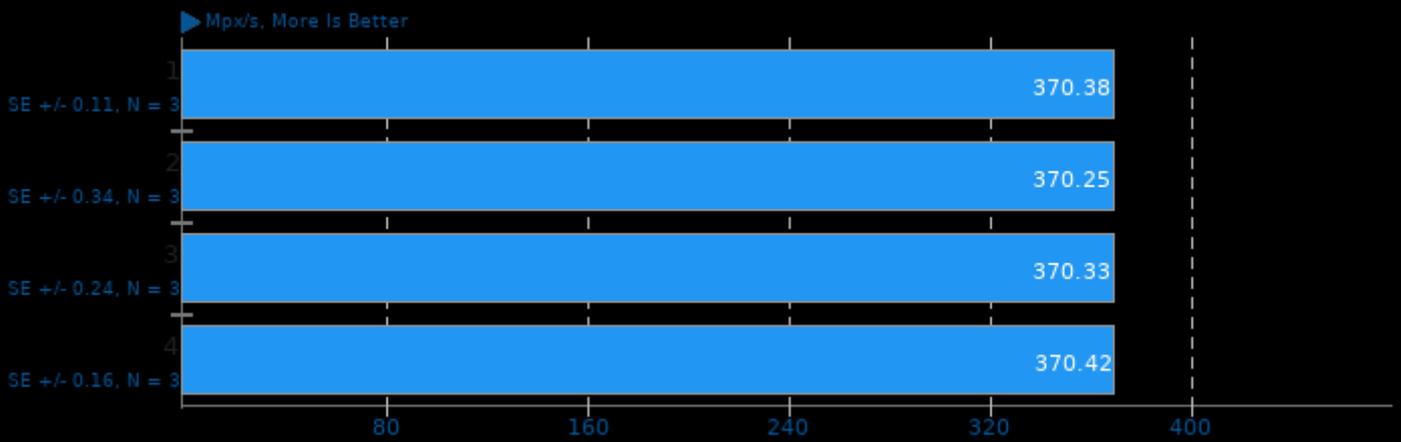
Configuration: DXT1



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

Etcpak 0.7

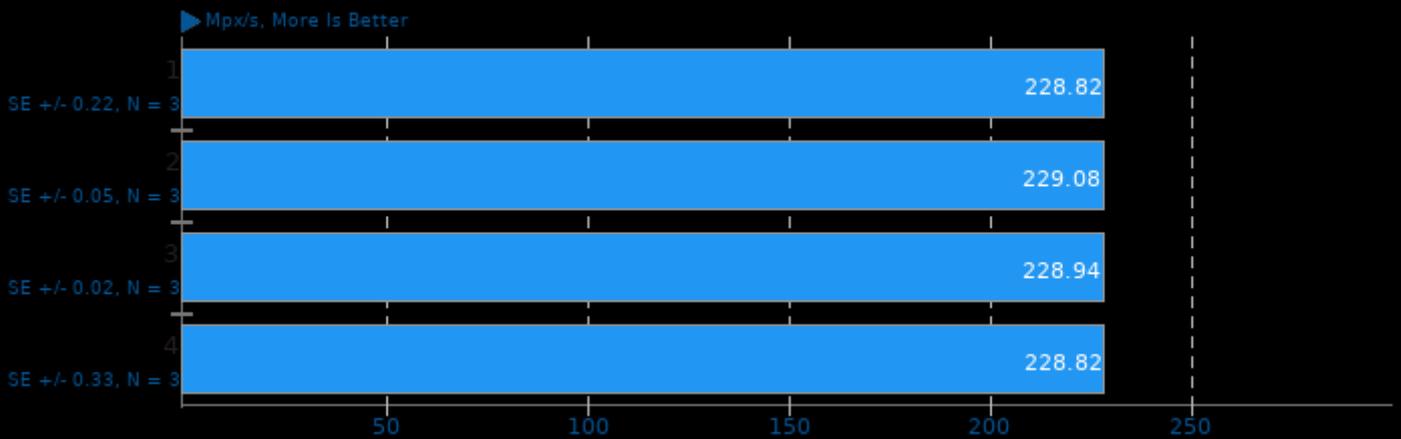
Configuration: ETC1



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

Etcpak 0.7

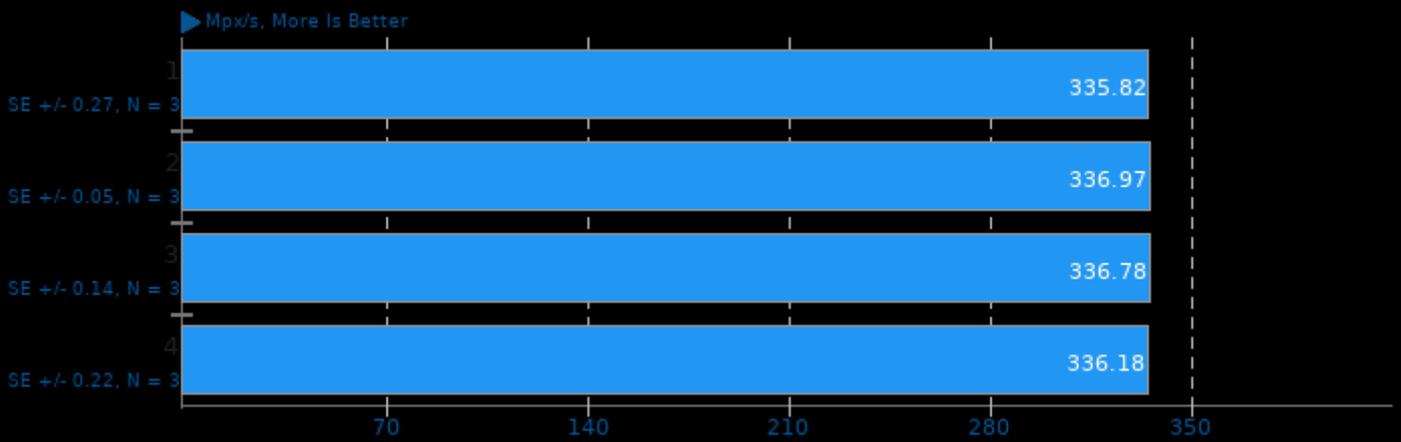
Configuration: ETC2



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

Etcpak 0.7

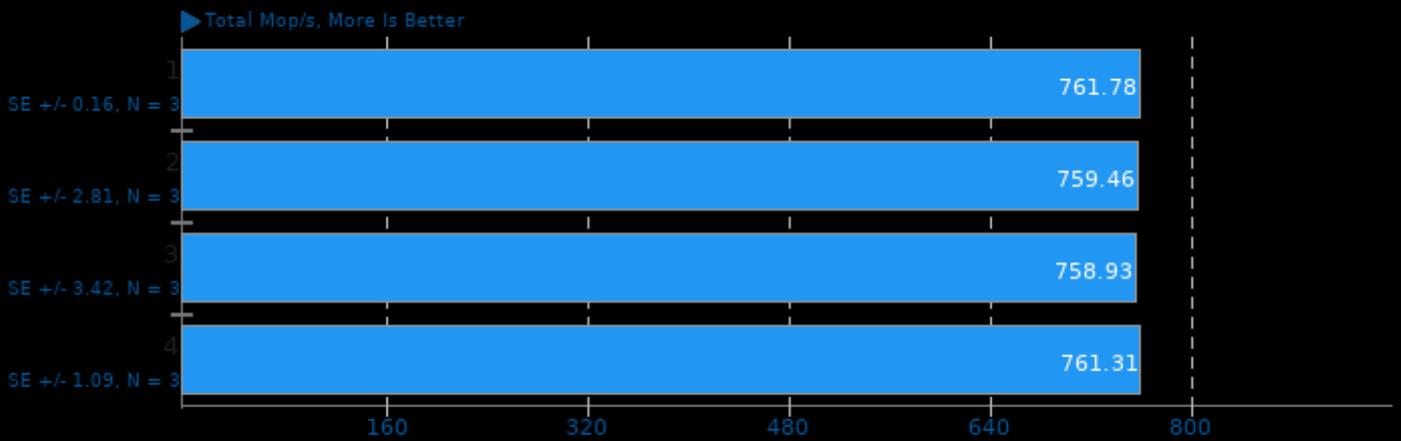
Configuration: ETC1 + Dithering



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

NAS Parallel Benchmarks 3.4

Test / Class: EP.C

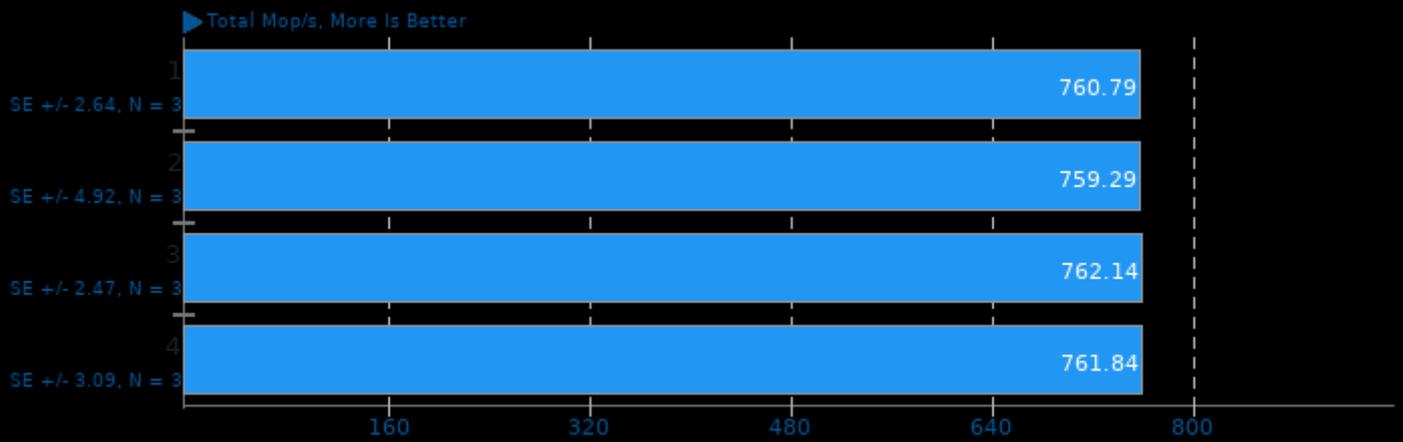


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti

2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

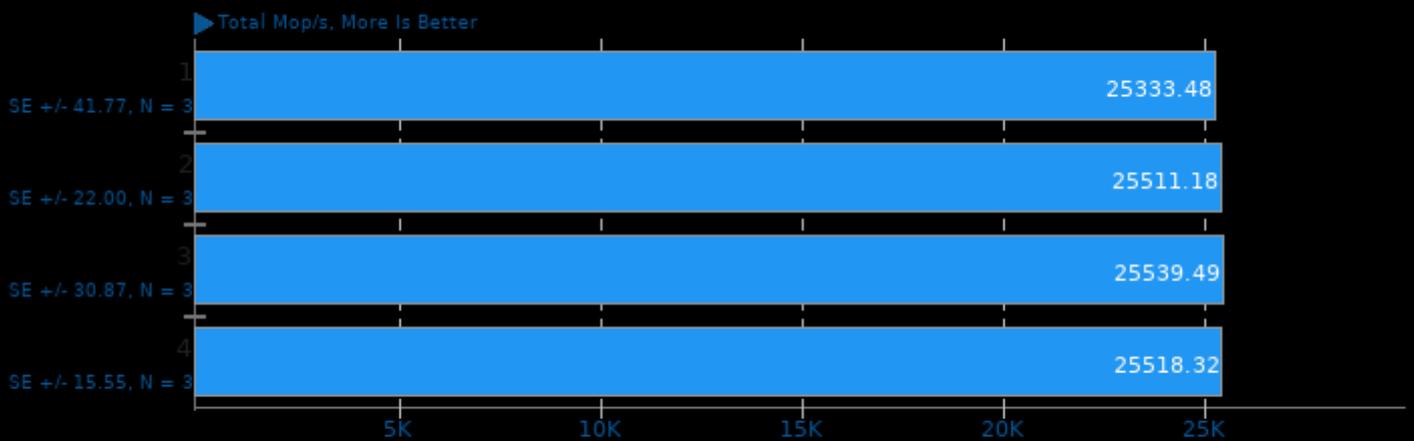
Test / Class: EP.D



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti
2. Open MPI 4.0.3

NAS Parallel Benchmarks 3.4

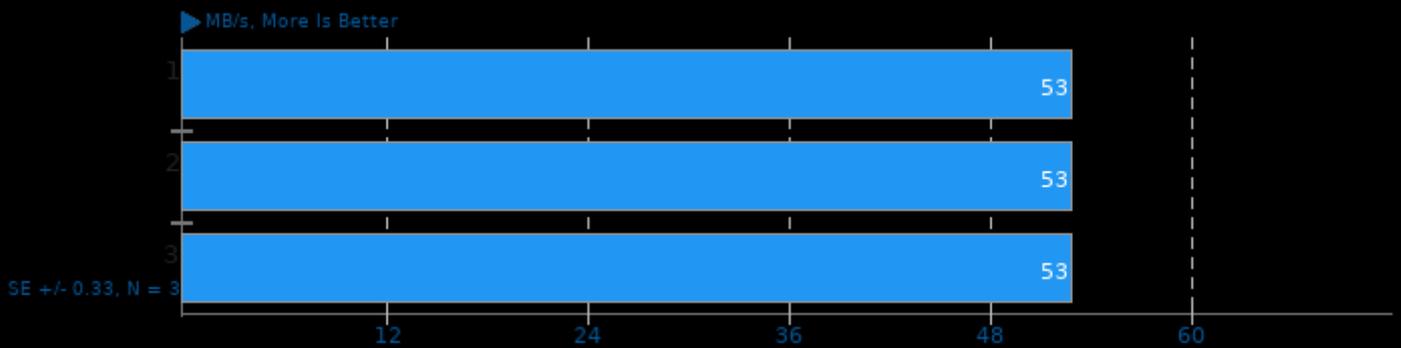
Test / Class: LU.C



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent -levent_pthreads -luti
2. Open MPI 4.0.3

Izbench 1.8

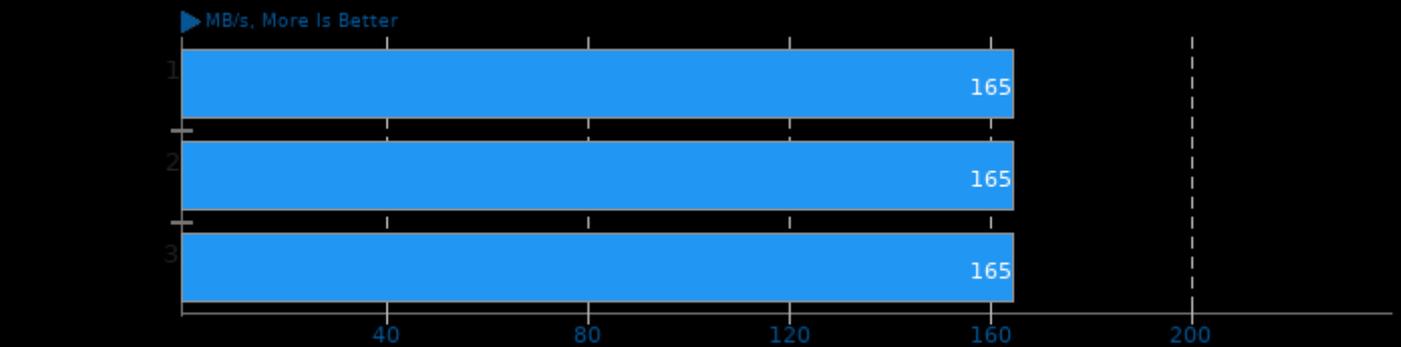
Test: XZ 0 - Process: Compression



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

Izbench 1.8

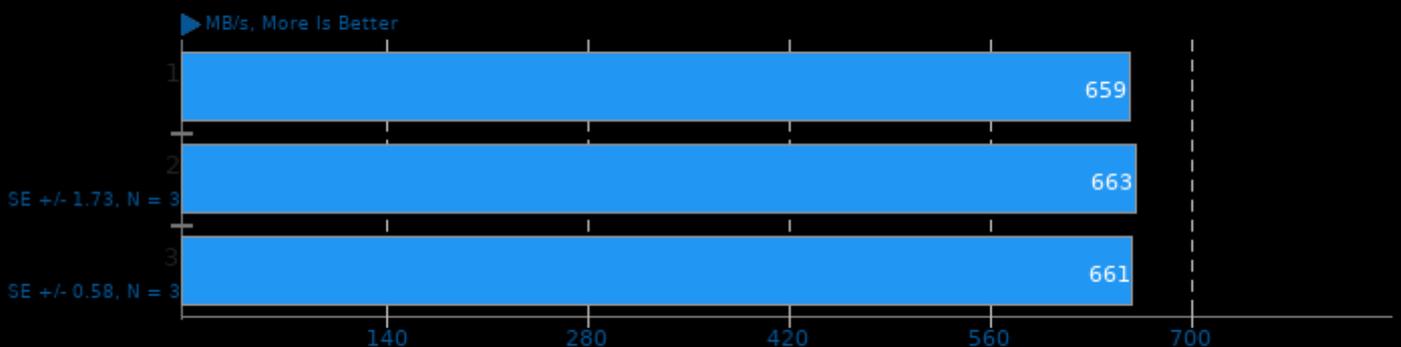
Test: XZ 0 - Process: Decompression



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

Izbench 1.8

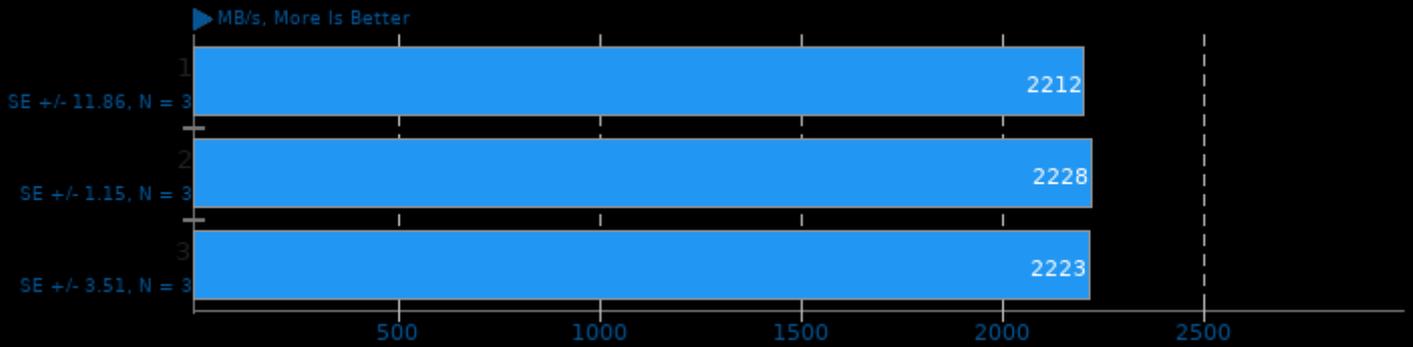
Test: Zstd 1 - Process: Compression



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

Izbench 1.8

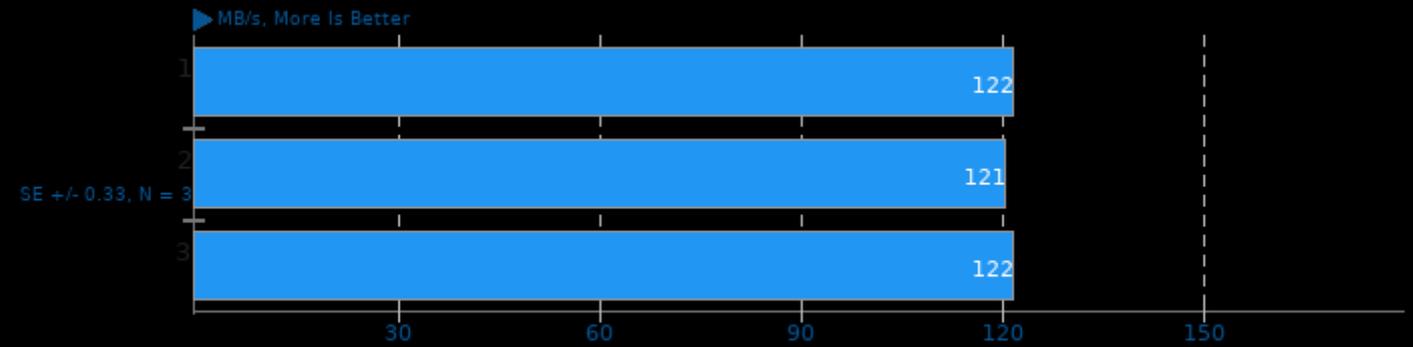
Test: Zstd 1 - Process: Decompression



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

Izbench 1.8

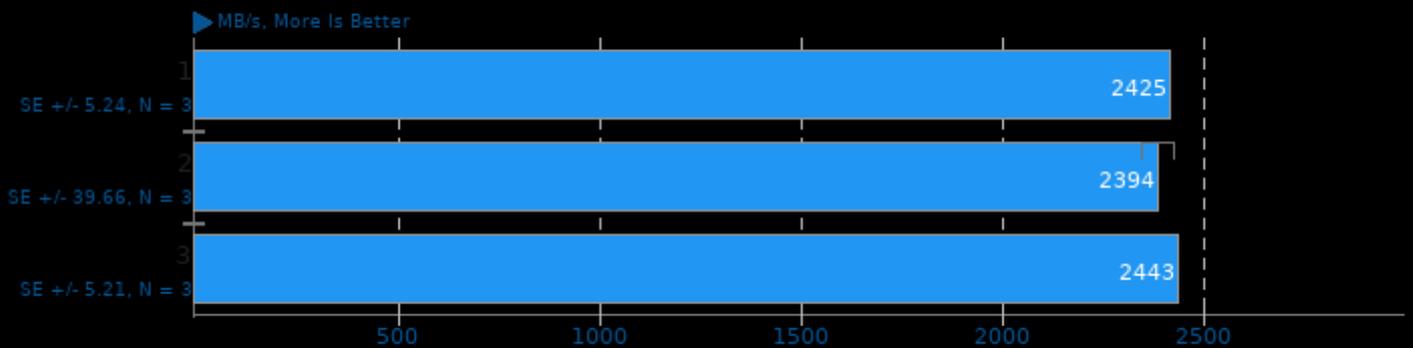
Test: Zstd 8 - Process: Compression



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

Izbench 1.8

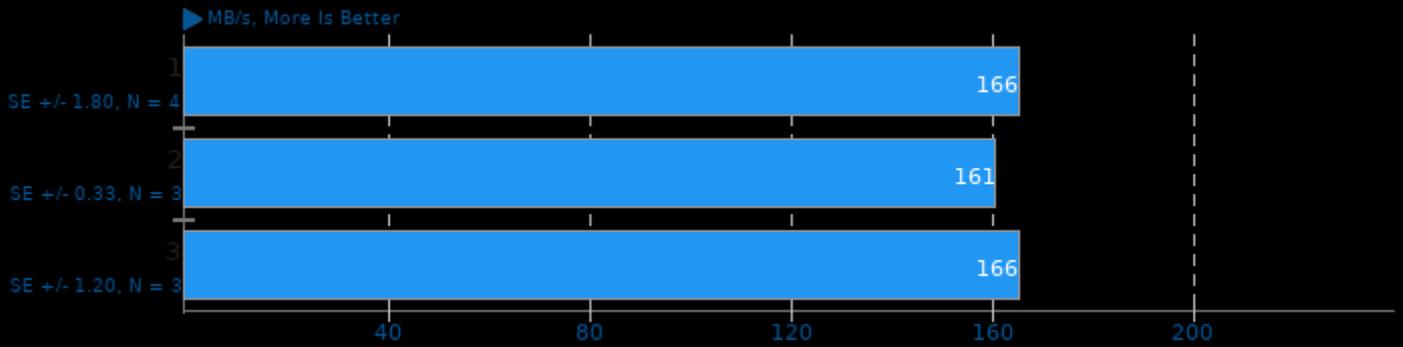
Test: Zstd 8 - Process: Decompression



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

Izbench 1.8

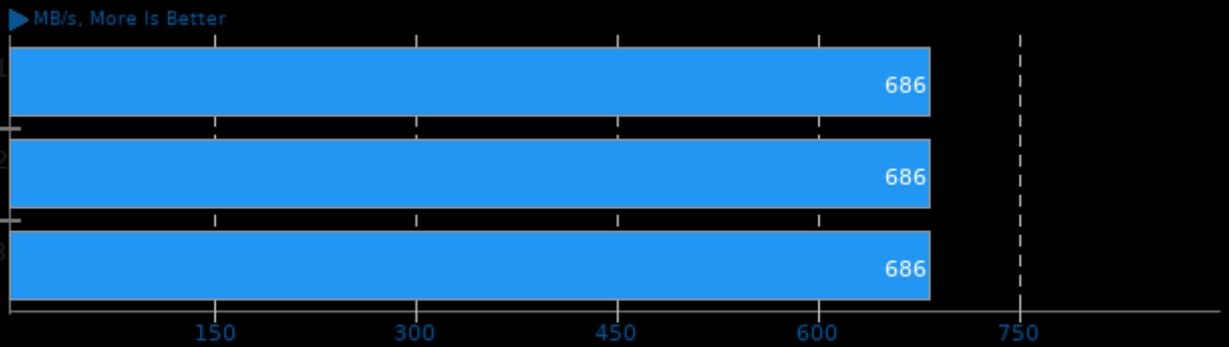
Test: Crush 0 - Process: Compression



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

Izbench 1.8

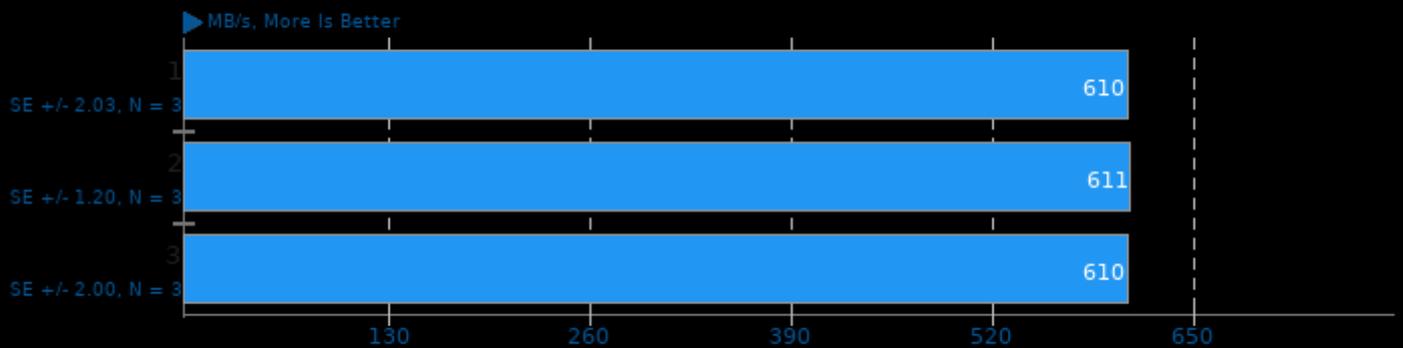
Test: Crush 0 - Process: Decompression



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

Izbench 1.8

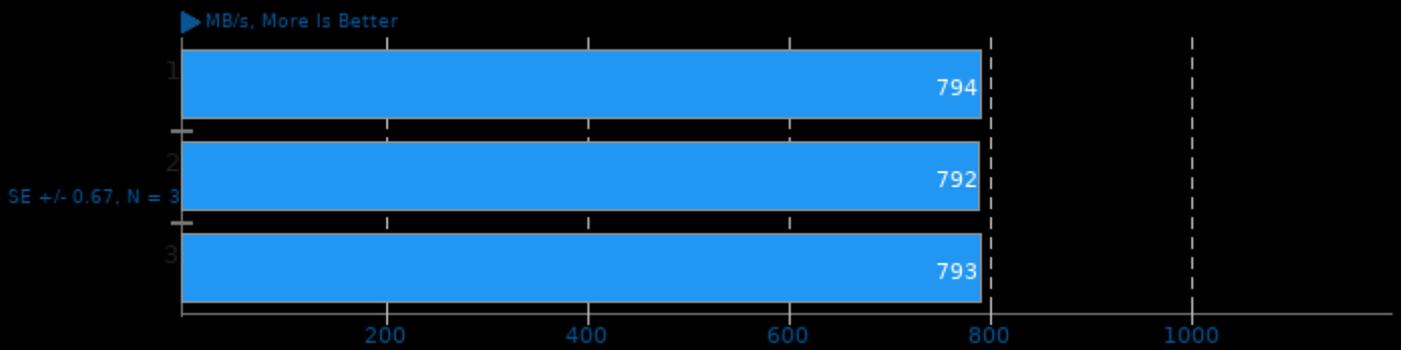
Test: Brotli 0 - Process: Compression



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

Izbench 1.8

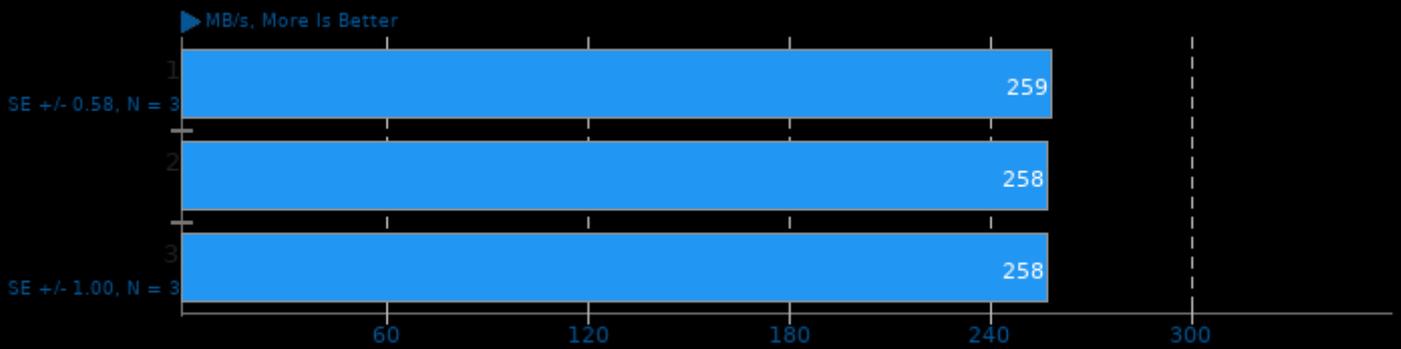
Test: Brotli 0 - Process: Decompression



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

Izbench 1.8

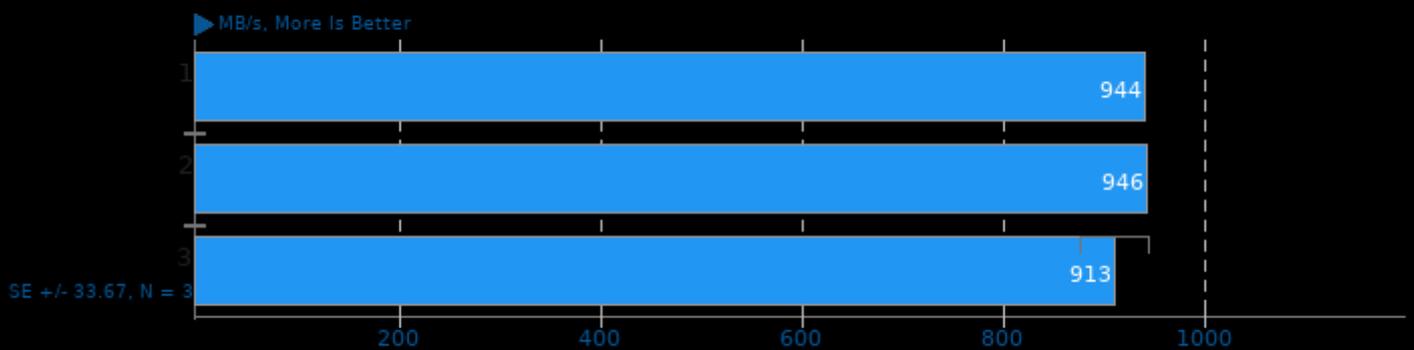
Test: Brotli 2 - Process: Compression



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

Izbench 1.8

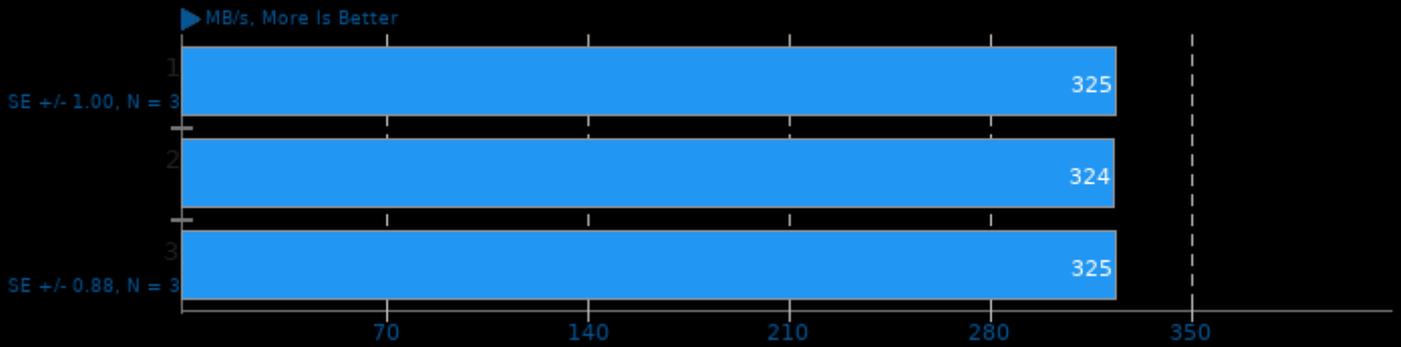
Test: Brotli 2 - Process: Decompression



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

Izbench 1.8

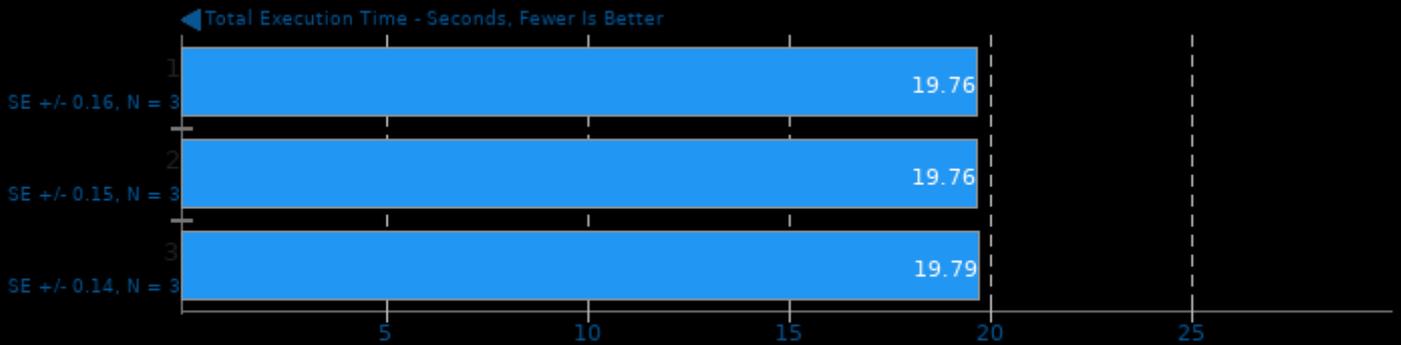
Test: Libdeflate 1 - Process: Compression



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

QMCPACK 3.10

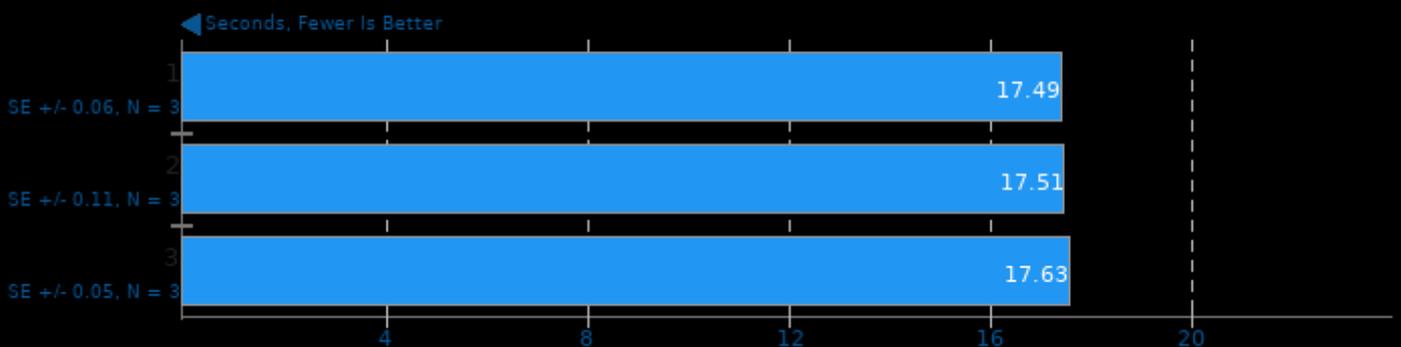
Input: simple-H2O



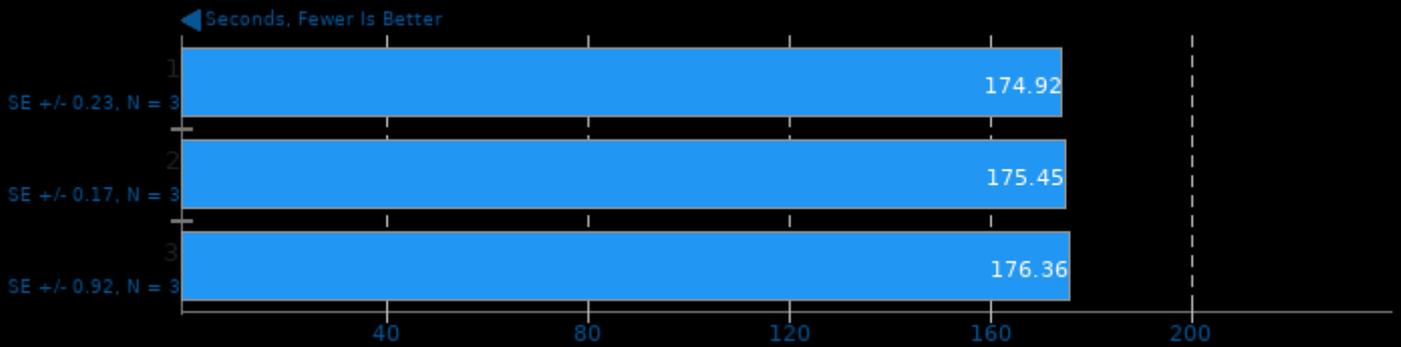
1. (CXX) g++ options: -fopenmp -finline-limit=1000 -fstrict-aliasing -funroll-all-loops -march=native -O3 -fomit-frame-pointer -ffast-math -pthread -lm

Cython Benchmark 0.29.21

Test: N-Queens



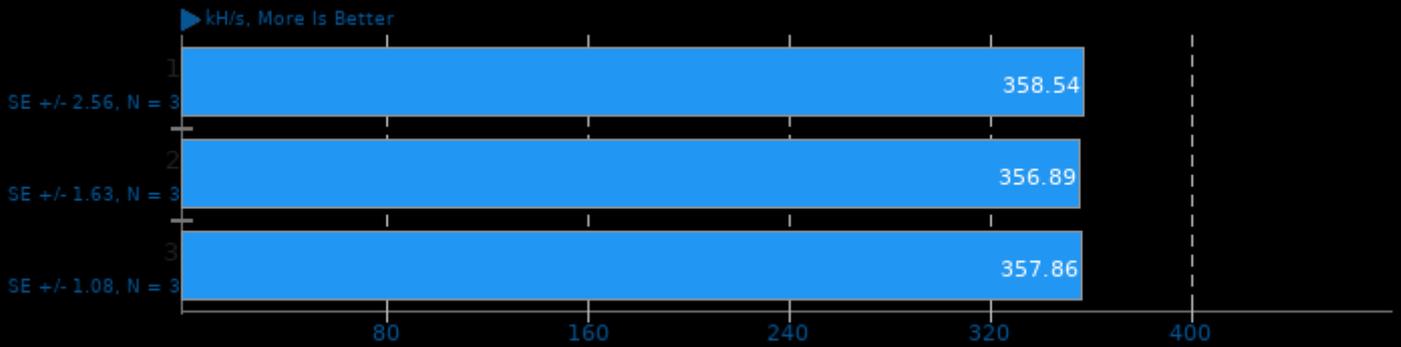
Gcrypt Library 1.9



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

Cpuminer-Opt 3.15.5

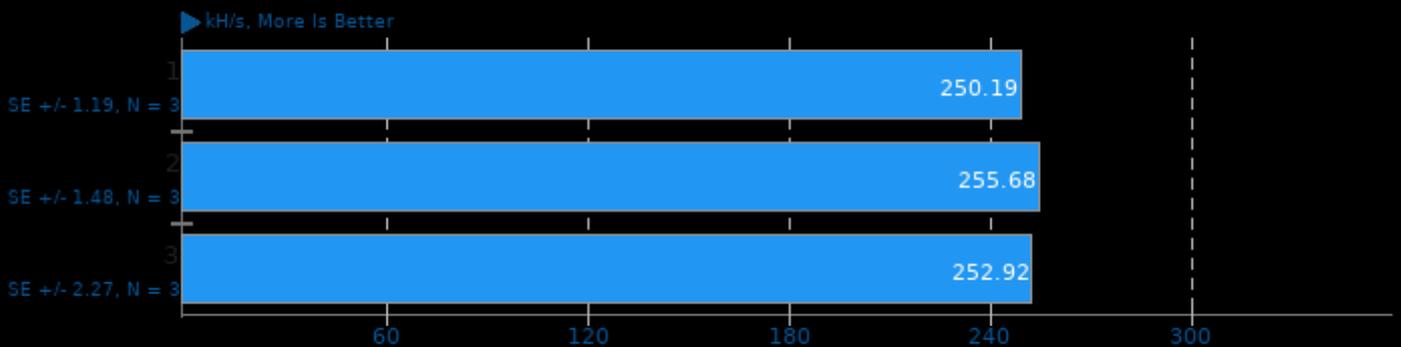
Algorithm: Magi



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

Cpuminer-Opt 3.15.5

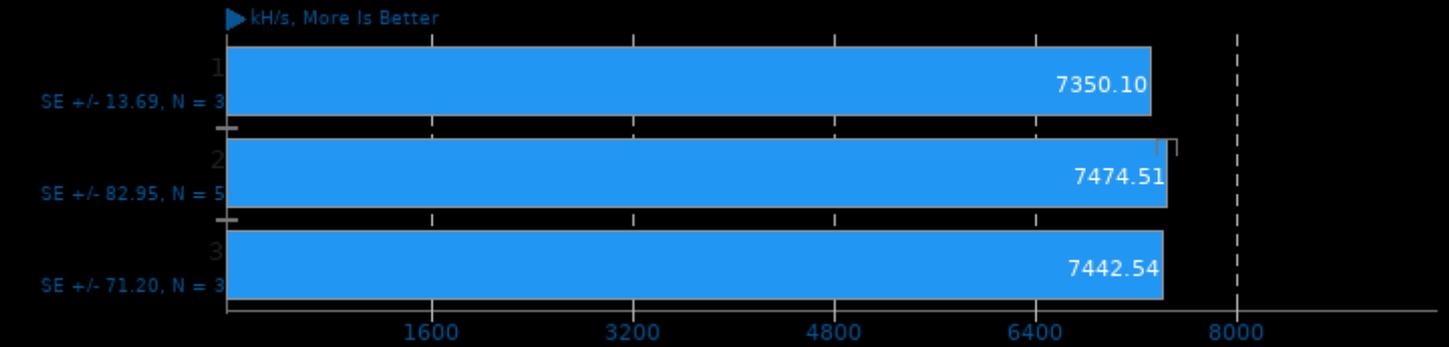
Algorithm: x25x



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

Cpuminer-Opt 3.15.5

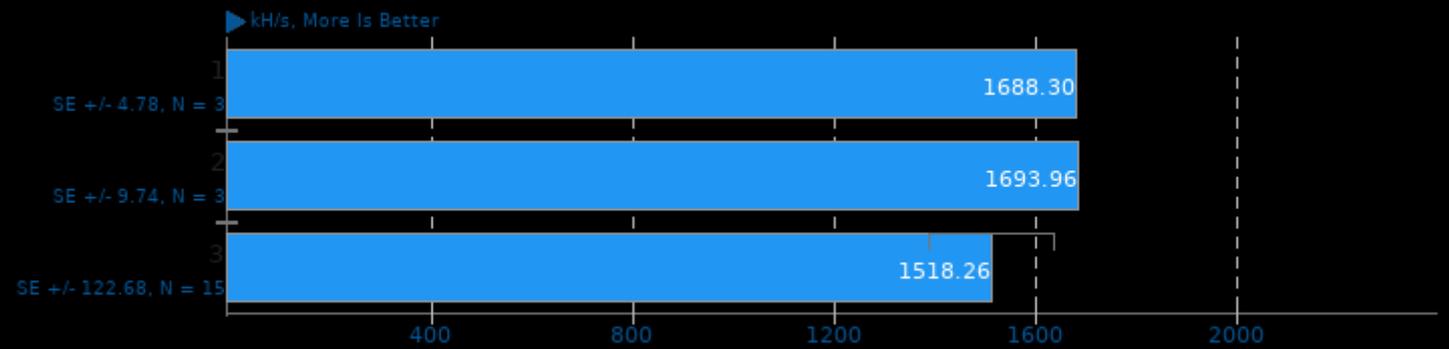
Algorithm: Deepcoin



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

Cpuminer-Opt 3.15.5

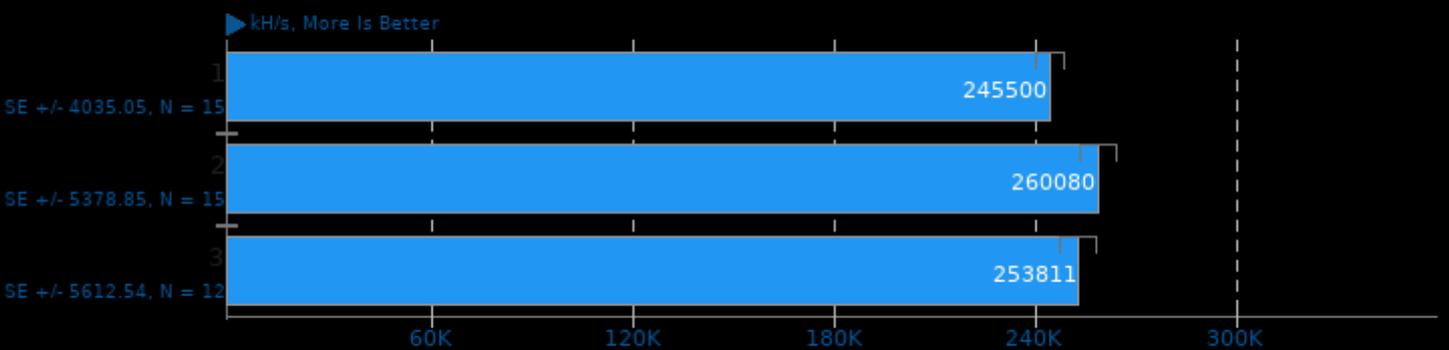
Algorithm: Ringcoin



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

Cpuminer-Opt 3.15.5

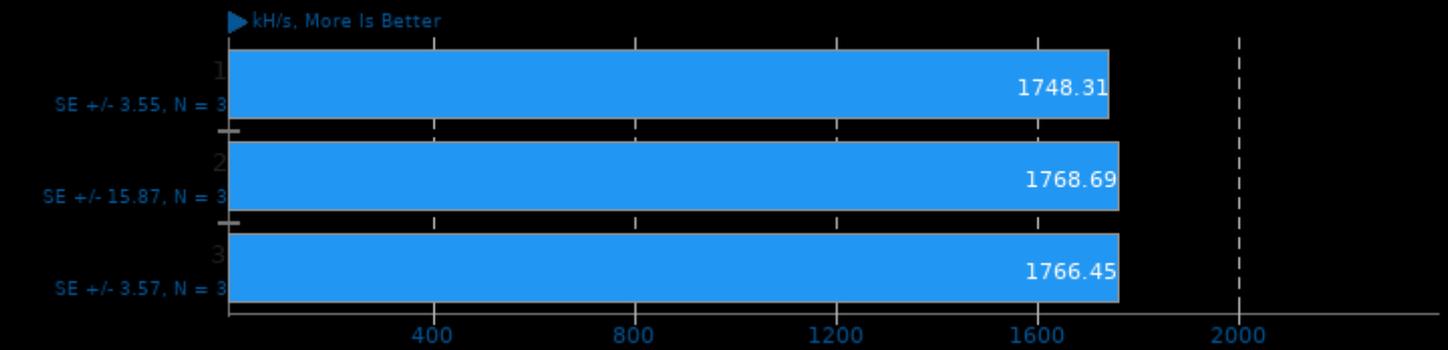
Algorithm: Blake-2 S



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

Cpuminer-Opt 3.15.5

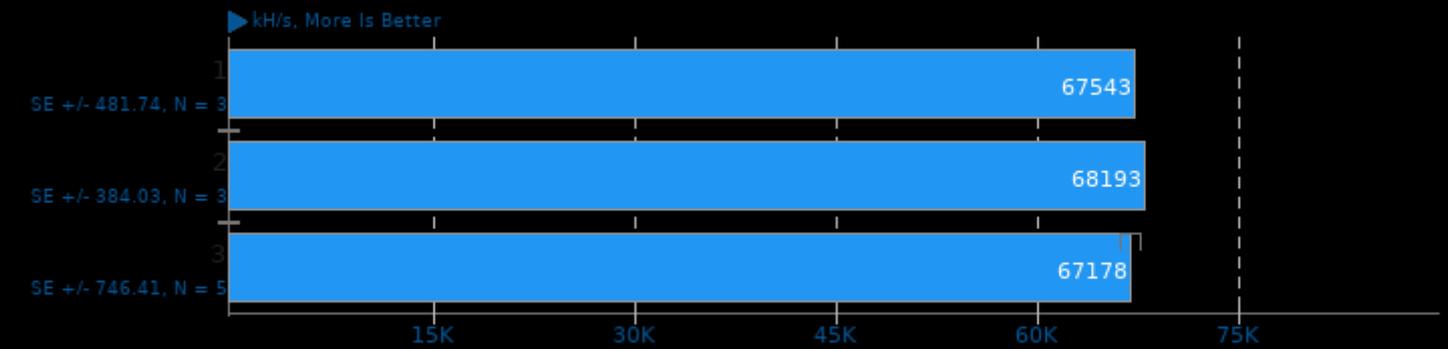
Algorithm: Garlicoin



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

Cpuminer-Opt 3.15.5

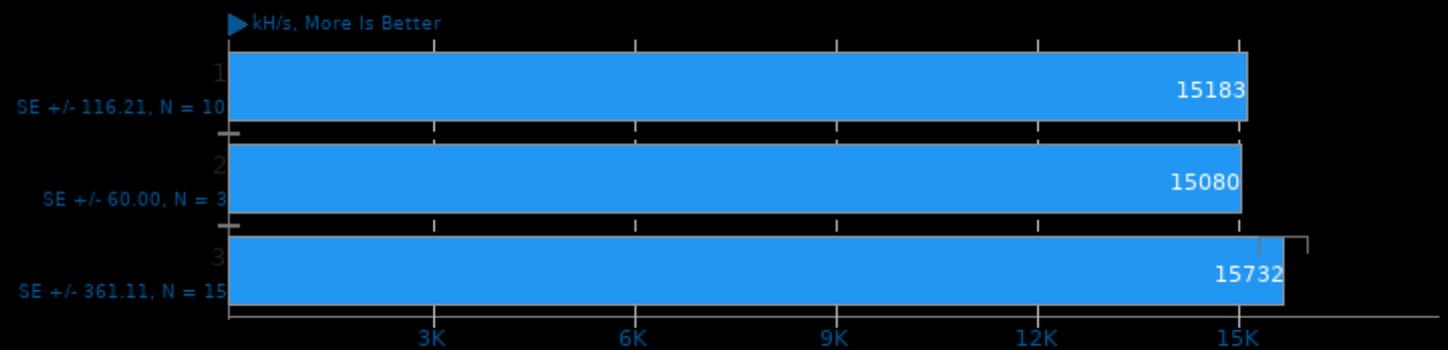
Algorithm: Skeincoin



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

Cpuminer-Opt 3.15.5

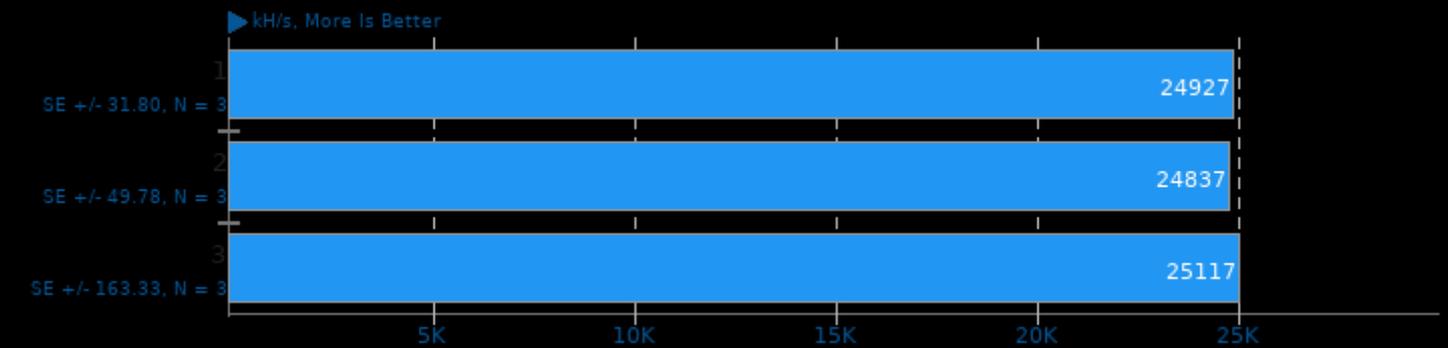
Algorithm: Myriad-Groestl



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

Cpuminer-Opt 3.15.5

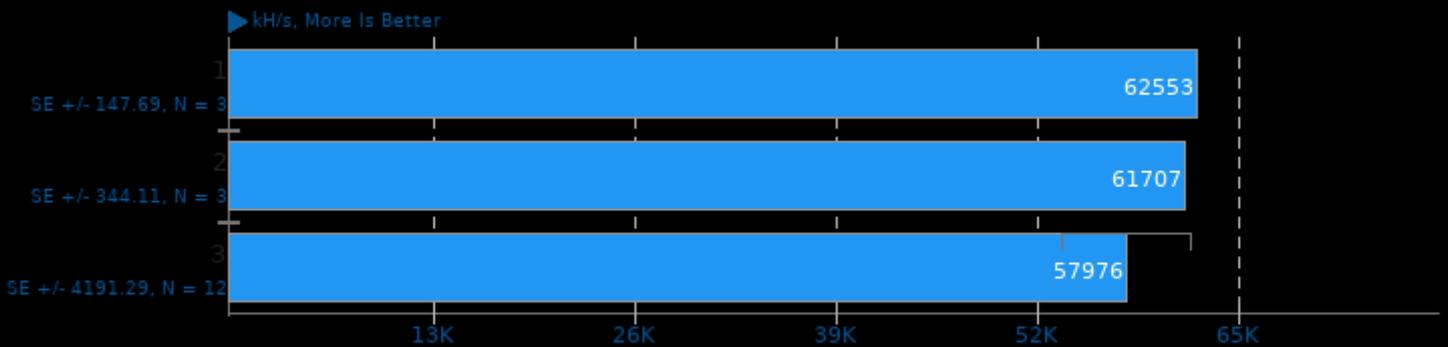
Algorithm: LBC, LBRY Credits



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

Cpuminer-Opt 3.15.5

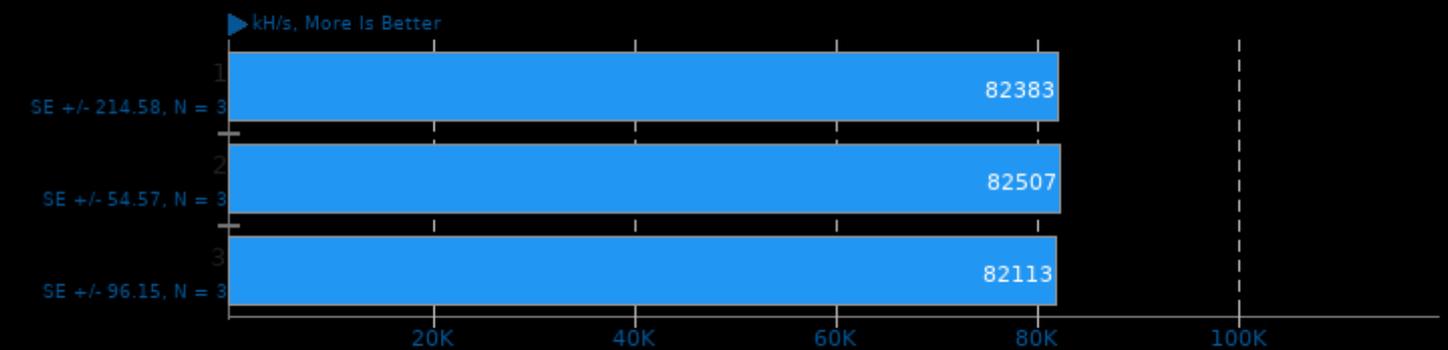
Algorithm: Quad SHA-256, Pyrite



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

Cpuminer-Opt 3.15.5

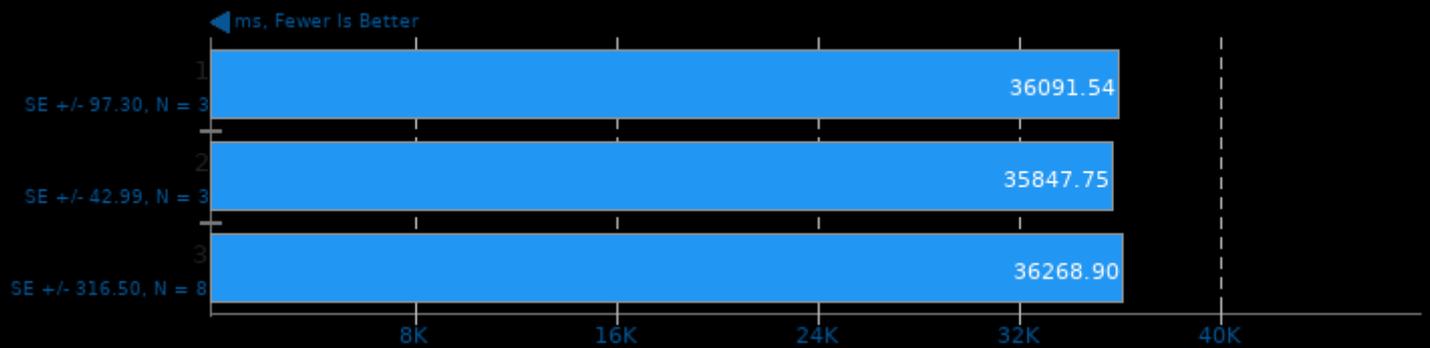
Algorithm: Triple SHA-256, Onecoin



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

FinanceBench 2016-07-25

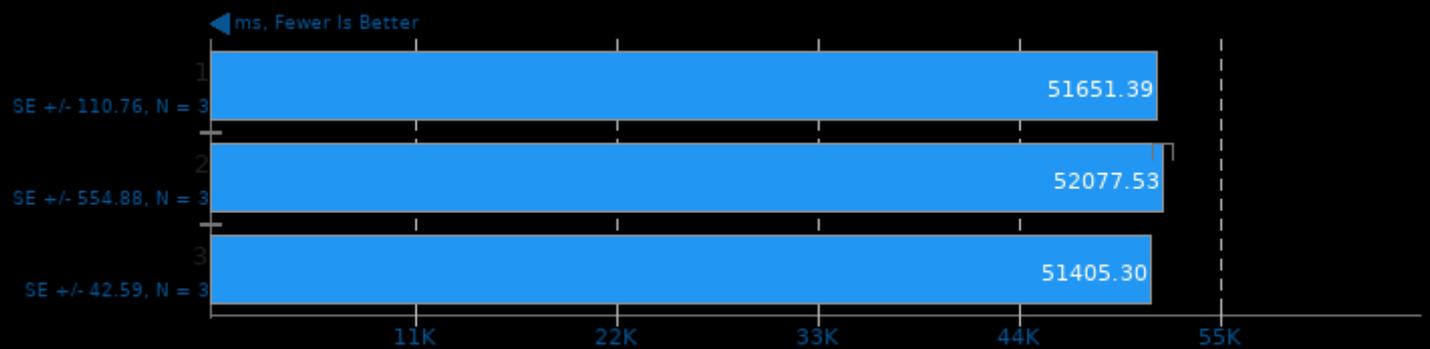
Benchmark: Repo OpenMP



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

FinanceBench 2016-07-25

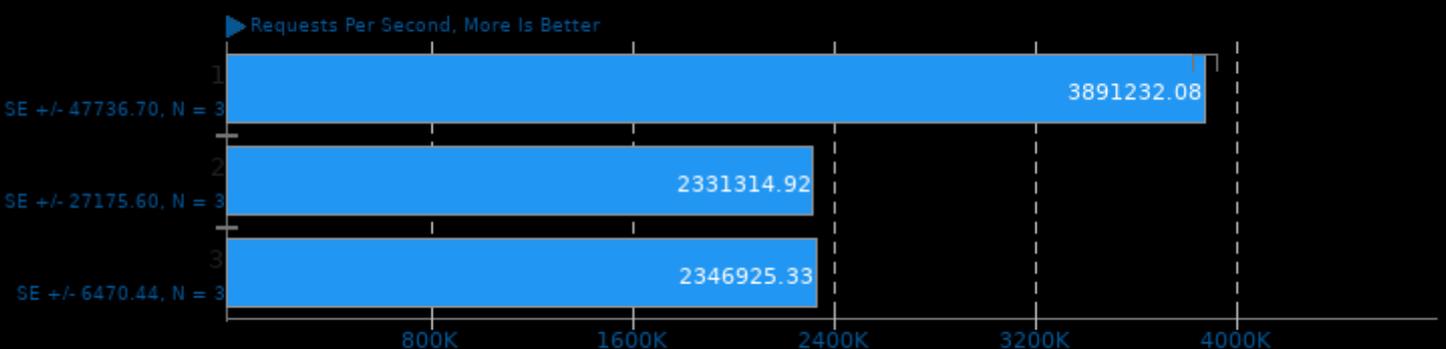
Benchmark: Bonds OpenMP



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

Redis 6.0.9

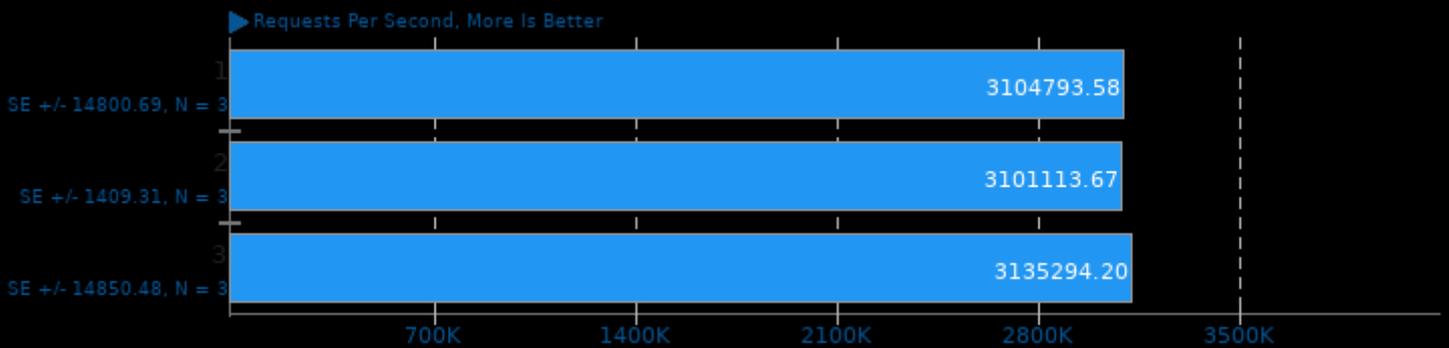
Test: LPOP



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

Redis 6.0.9

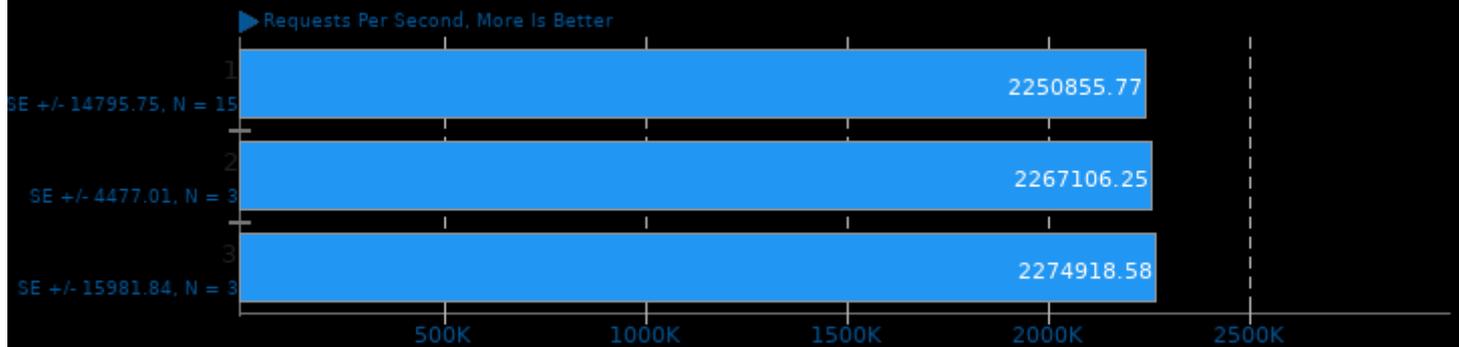
Test: SADD



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

Redis 6.0.9

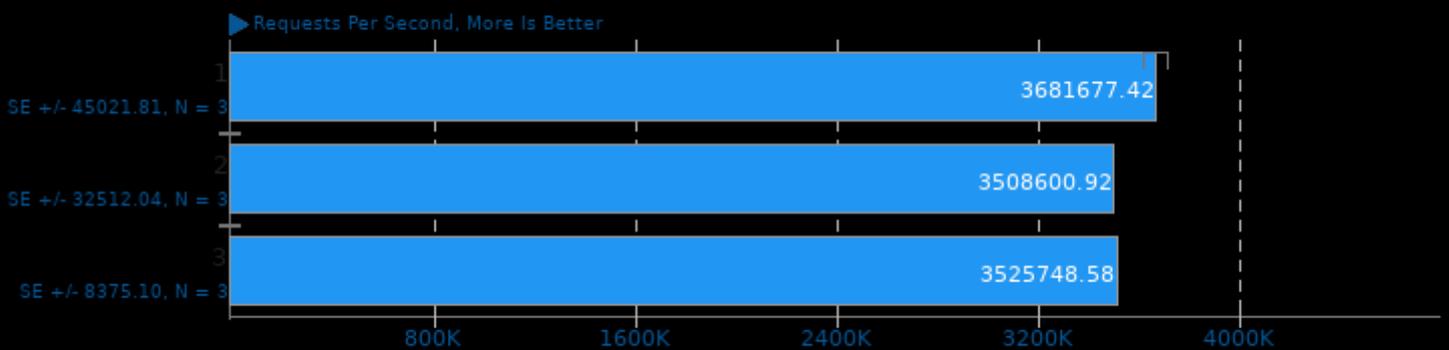
Test: LPUSH



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

Redis 6.0.9

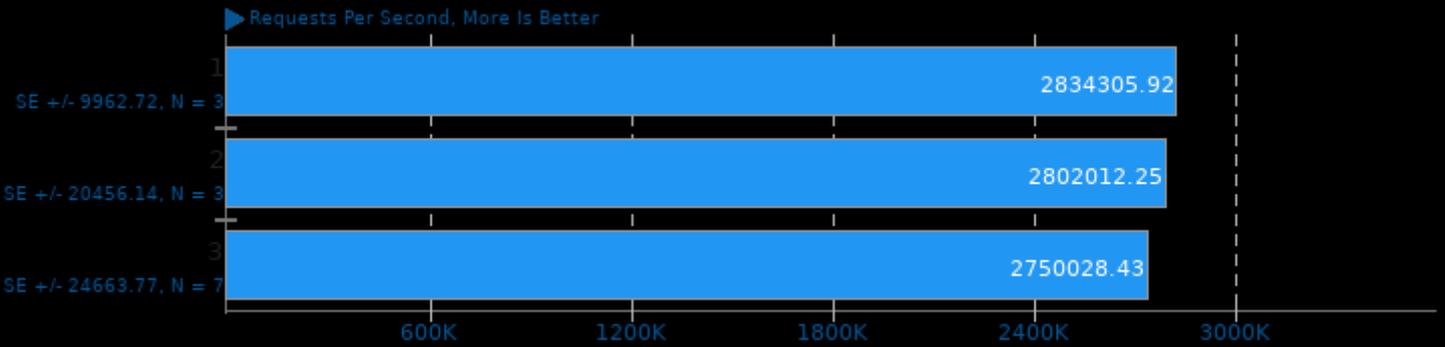
Test: GET



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

Redis 6.0.9

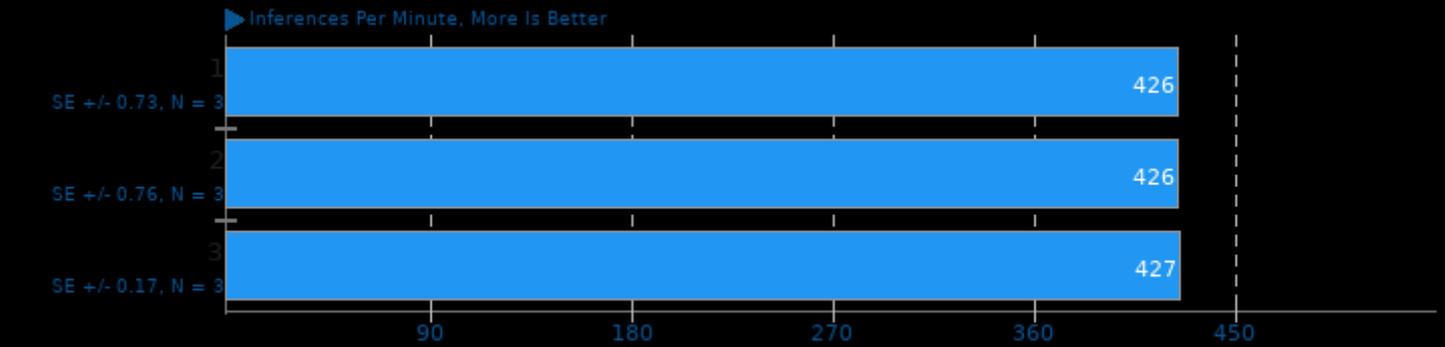
Test: SET



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

ONNX Runtime 1.6

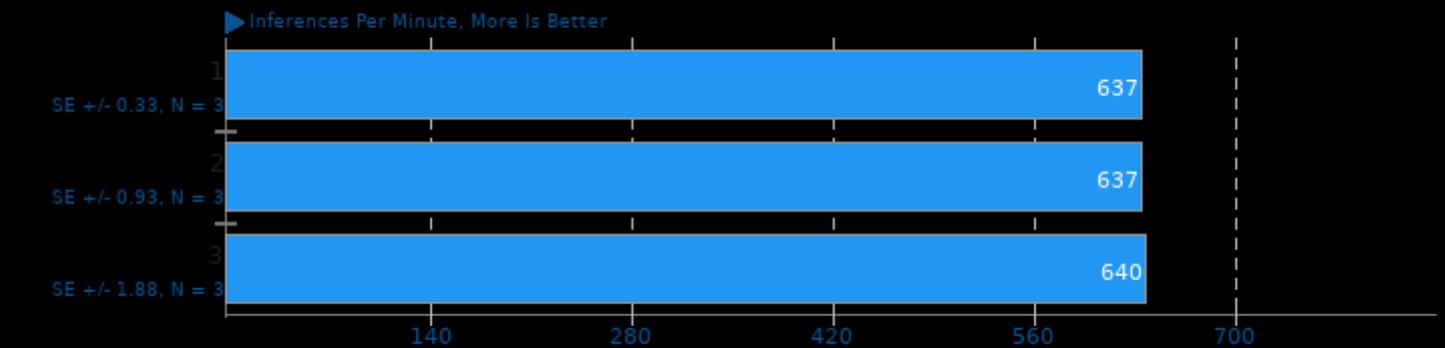
Model: yolov4 - Device: OpenMP CPU



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

ONNX Runtime 1.6

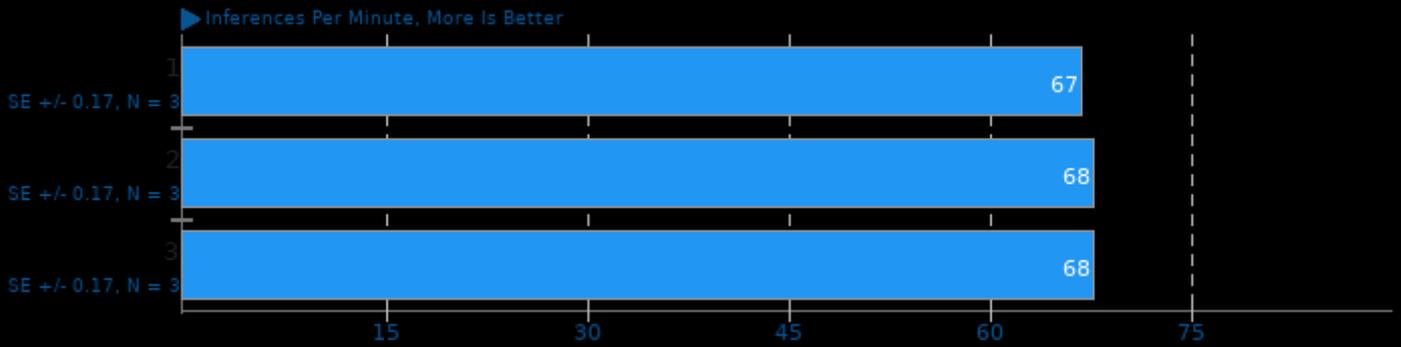
Model: bertseq-10 - Device: OpenMP CPU



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

ONNX Runtime 1.6

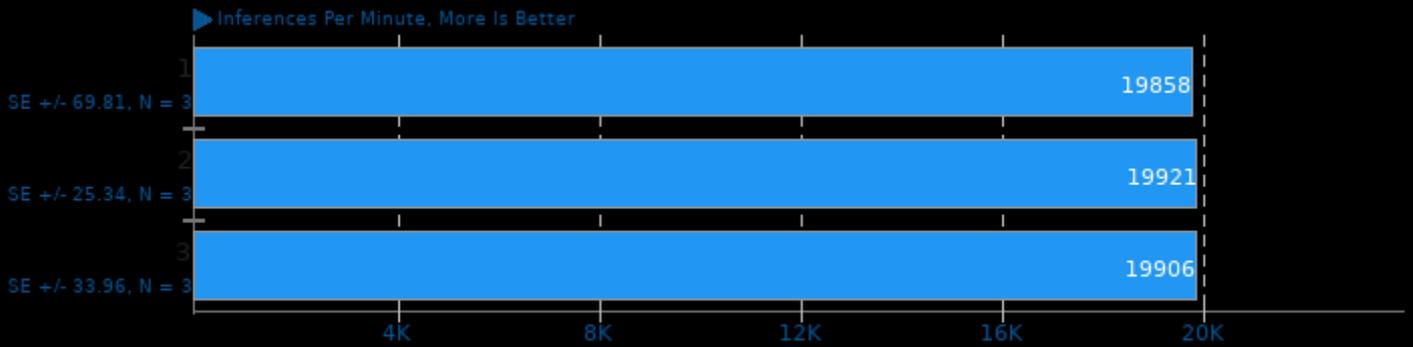
Model: fcn-resnet101-11 - Device: OpenMP CPU



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

ONNX Runtime 1.6

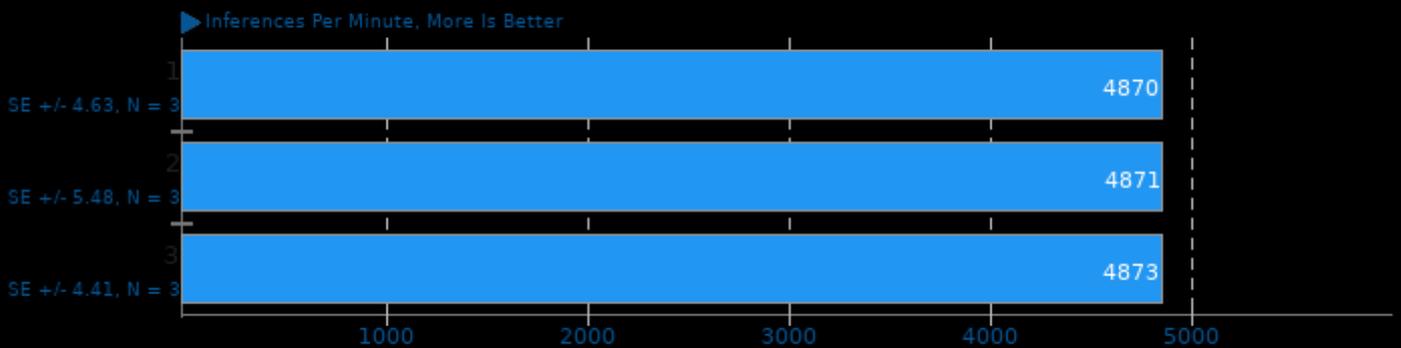
Model: shufflenet-v2-10 - Device: OpenMP CPU



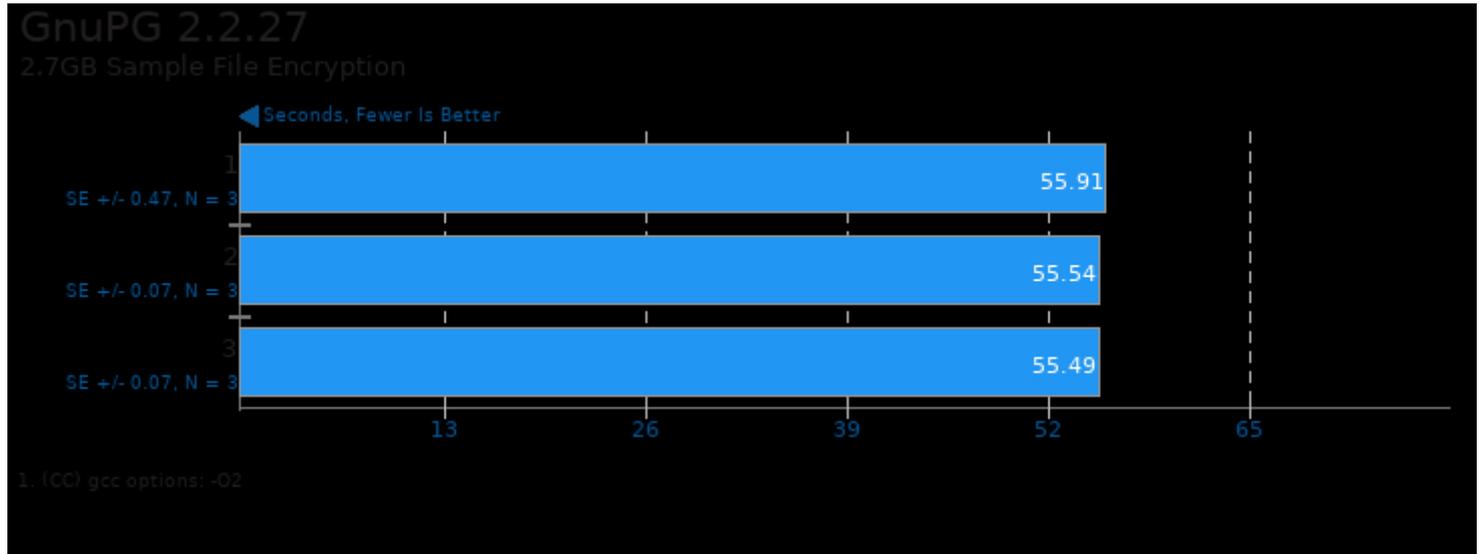
1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.6

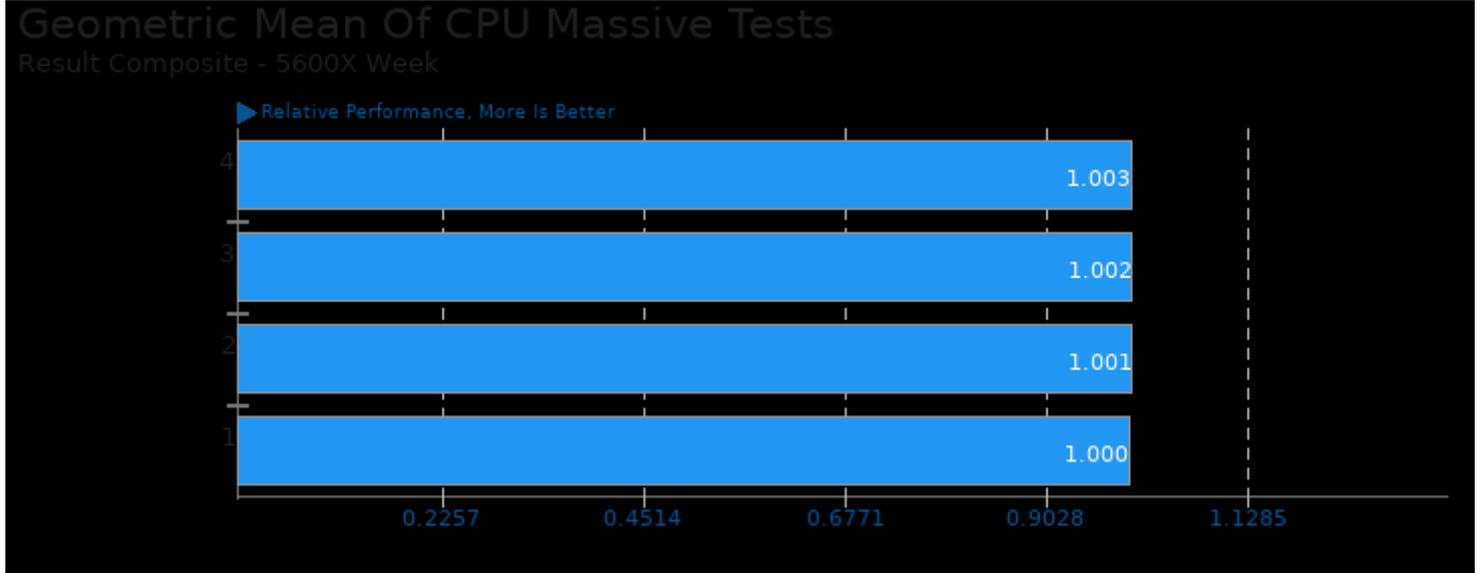
Model: super-resolution-10 - Device: OpenMP CPU



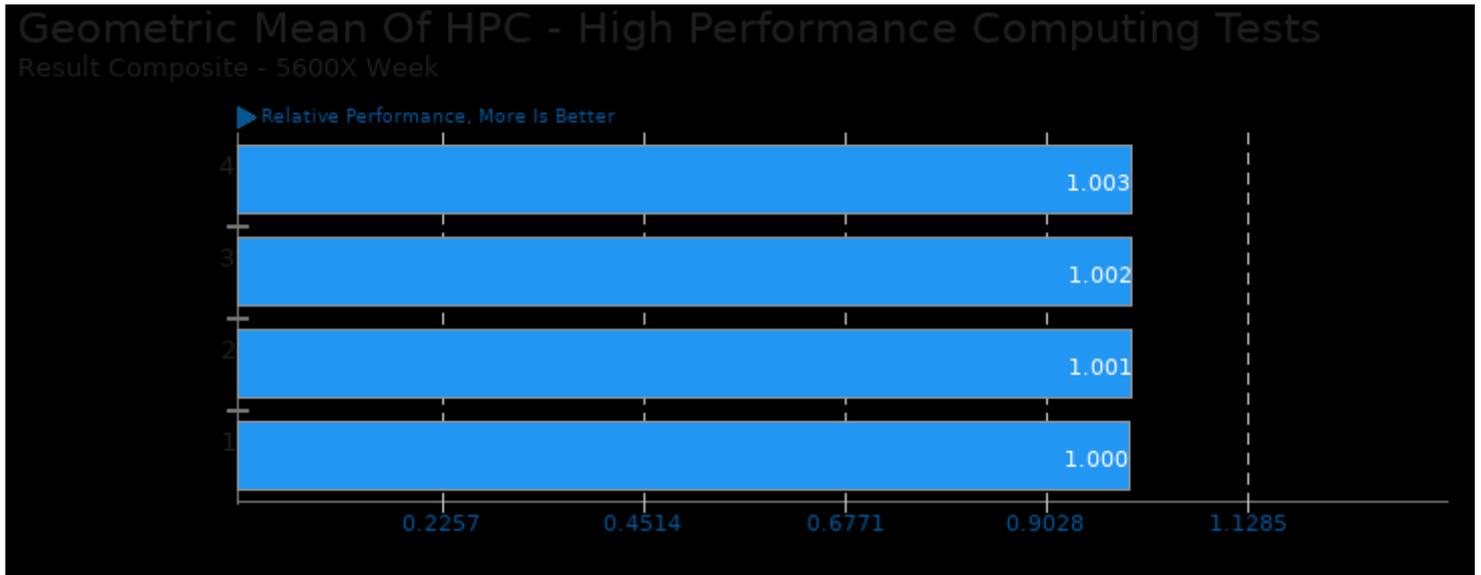
1. (CXX) g++ options: -fopenmp -function-sections -fdata-sections -O3 -ldl -lrt



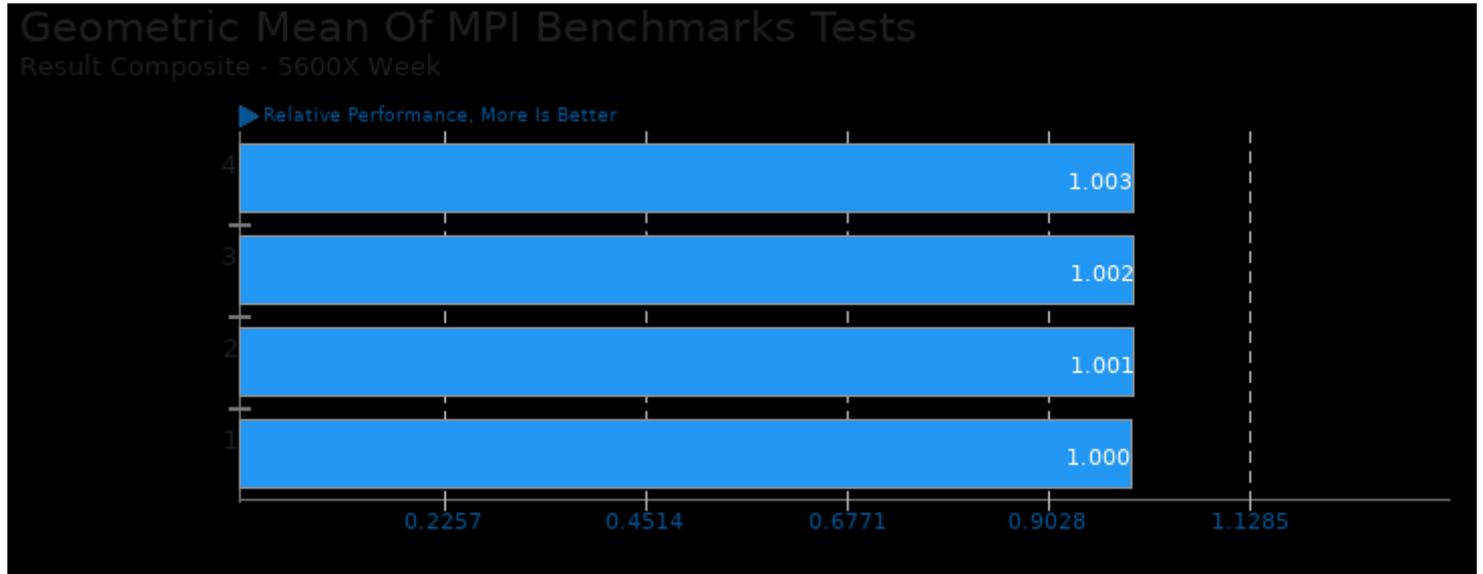
These geometric means are based upon test groupings / test suites for this result file.



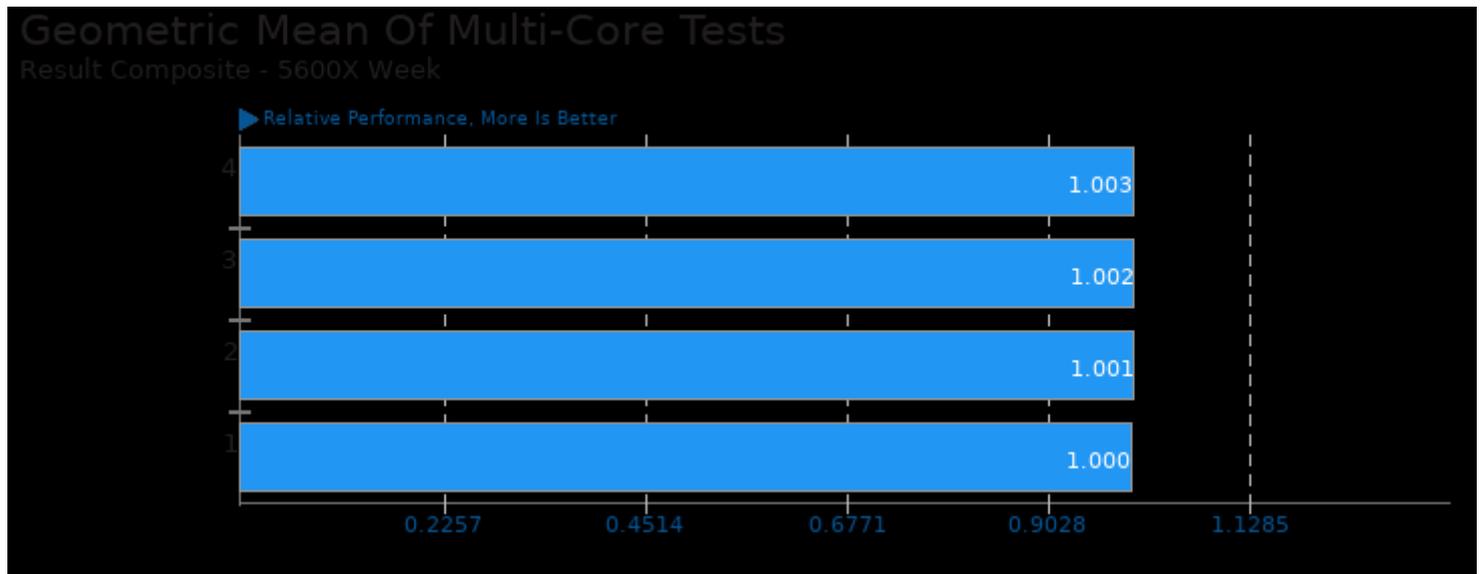
Geometric mean based upon tests: pts/cython-bench, pts/lzbench, pts/npb, pts/redis and pts/cpuminer-opt



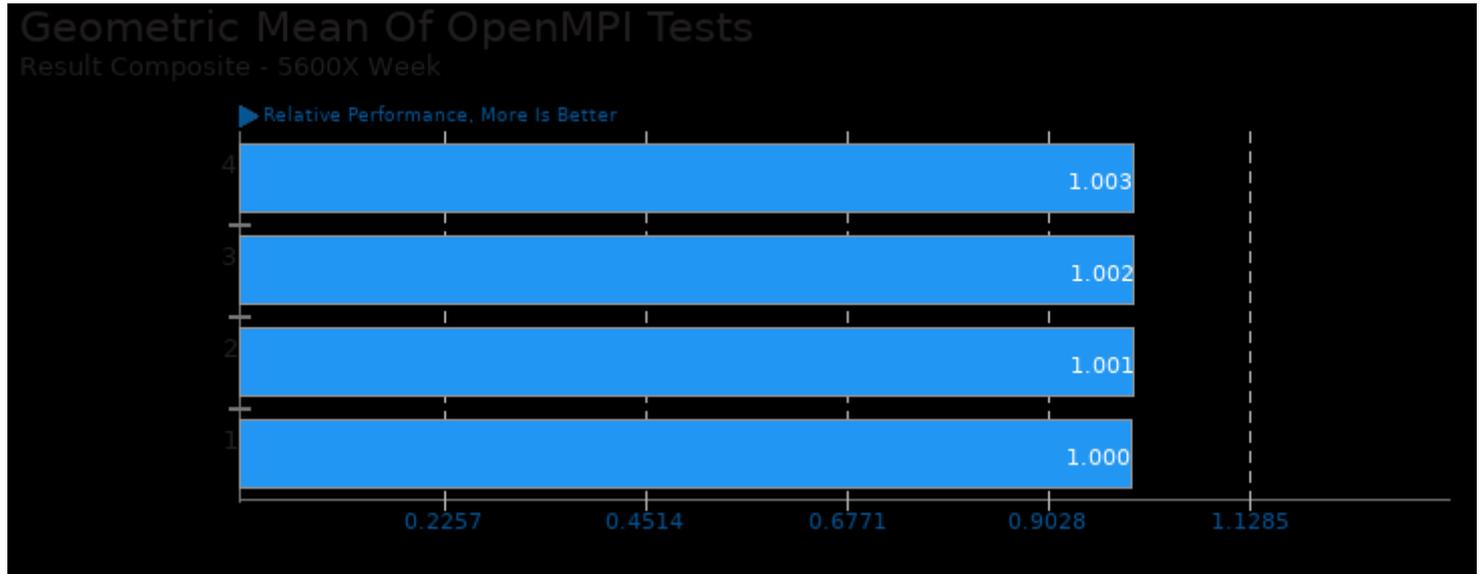
Geometric mean based upon tests: pts/npb, pts/qmcpack and pts/onnx



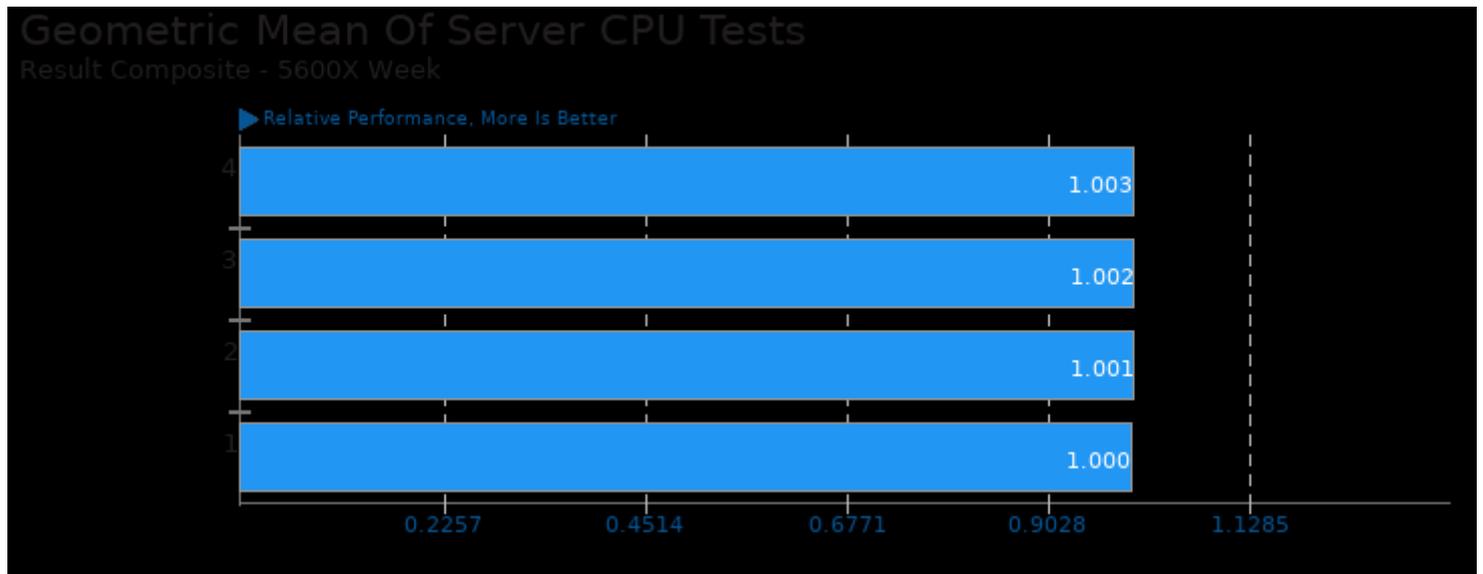
Geometric mean based upon tests: pts/qmcpack and pts/npb



Geometric mean based upon tests: pts/cpuminer-opt and pts/npb



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



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 10:05.