



test-cpu-3750

AMD Ryzen 7 1700 Eight-Core testing with a ASRock X370 Gaming X (P5.20 BIOS) and Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 4GB on Arch rolling via the Phoronix Test Suite.

Test Systems:

Samsung SSD 970 EVO - AMD Ryzen 7 1700 Eight-Core

AMD Ryzen 7 1700 Eight-Core

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

Processor: AMD Ryzen 7 1700 Eight-Core @ 3.00GHz (8 Cores / 16 Threads), Motherboard: ASRock X370 Gaming X (P5.20 BIOS), Chipset: AMD 17h, Memory: 32GB, Disk: Samsung SSD 970 EVO 250GB + 256GB TS256GSSD370 + SATA3 240GB SSD, Graphics: Sapphire AMD Radeon RX 470/480/570/570X/580/580X/590 4GB (1284/1750MHz), Audio: AMD Ellesmere HDMI Audio, Monitor: MSI MAG341CQ, Network: Intel I211

OS: Arch rolling, Kernel: 5.11.16-arch1-1 (x86_64), Desktop: Xfce 4.16, Display Server: X Server 1.20.11, OpenGL: 4.6

Mesa 21.0.3 (LLVM 11.1.0), OpenCL: OpenCL 1.1 Mesa 21.0.3, Vulkan: 1.2.145, Compiler: GCC 10.2.0 + Clang 11.1.0 + LLVM 11.1.0, File-System: ext4, Screen Resolution: 3440x1440

Kernel Notes: Transparent Huge Pages: madvise

Environment Notes: NVM_CD_FLAGS=

Compiler Notes: --disable-libssp --disable-libstdc++-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-liberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu

Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x8001137

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

	Samsung SSD 970 EVO - AMD Ryzen 7 1700 Eight-Core	AMD Ryzen 7 1700 Eight-Core	AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX
ArrayFire - BLAS CPU (GFLOPS)		211.291	
ArrayFire - BLAS OpenCL (GFLOPS)		1428	
GNU GMP GMPbench - Total Time (GMPbench Score)		4542	
Xmrig - Monero - 1M (H/s)		1901	
Xmrig - Wownero - 1M (H/s)		3158	
ONNX Runtime - yolov4 - OpenMP CPU (Inferences/min)		190	
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU (Inferences/min)		36	
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU (Inferences/min)		8847	
ONNX Runtime - super-resolution-10 - OpenMP CPU (Inferences/min)		2741	
Cryptsetup - PBKDF2-sha512 (Iterations/sec)		1367113	
Cryptsetup - PBKDF2-whirlpool		584490	
Aircrack-ng (k/s)		13799	
Cpuminer-Opt - Magi (kH/s)		320	
Cpuminer-Opt - x25x (kH/s)		242.46	
Cpuminer-Opt - Deepcoin (kH/s)		4573	
Cpuminer-Opt - Ringcoin (kH/s)		1655	
Cpuminer-Opt - Blake-2 S (kH/s)		210610	
Cpuminer-Opt - Garlicoin (kH/s)		1190	
Cpuminer-Opt - Skeincoin (kH/s)		38070	
Cpuminer-Opt - Myriad-Groestl (kH/s)		11460	
Cpuminer-Opt - LBC, LBRY Credits (kH/s)		10900	
Cpuminer-Opt - Q.S.2.P (kH/s)		63800	
Cpuminer-Opt - T.S.2.O (kH/s)		87170	
IOR - 2MB - /home/kub0x/nvme_disk (MB/s)	235.57		
Standard Deviation	1%		
IOR - 4MB - /home/kub0x/nvme_disk (MB/s)	243.12		
Standard Deviation	0.5%		

IOR - 8MB - /home/kub0x/nvme_disk (MB/s)	249.88
Standard Deviation	0.3%
IOR - 16MB - /home/kub0x/nvme_disk (MB/s)	201.89
Standard Deviation	4.8%
C-Blosc - blosclz (MB/s)	8121
Standard Deviation	0.8%
Izbench - XZ 0 - Compression (MB/s)	32
Standard Deviation	1.8%
Izbench - XZ 0 - Decompression (MB/s)	97
Standard Deviation	0%
Izbench - Zstd 1 - Compression (MB/s)	447
Standard Deviation	0%
Izbench - Zstd 1 - Decompression (MB/s)	1397
Standard Deviation	0.1%
Izbench - Zstd 8 - Compression (MB/s)	80
Standard Deviation	0.7%
Izbench - Zstd 8 - Decompression (MB/s)	1550
Standard Deviation	0.2%
Izbench - Crush 0 - Compression (MB/s)	72
Standard Deviation	0%
Izbench - Crush 0 - Decompression (MB/s)	428
Standard Deviation	0.1%
Izbench - Brotli 0 - Compression (MB/s)	410
Standard Deviation	0.1%
Izbench - Brotli 0 - Decompression (MB/s)	507
Standard Deviation	0.1%
Izbench - Brotli 2 - Compression (MB/s)	171
Standard Deviation	0%
Izbench - Brotli 2 - Decompression (MB/s)	590
Standard Deviation	0.3%
Izbench - Libdeflate 1 - Compression (MB/s)	203
Standard Deviation	2.2%
LZ4 Compression - 1 - Compression Speed (MB/s)	6589
Standard Deviation	0.1%
LZ4 Compression - 1 - D.S (MB/s)	7381
Standard Deviation	1.4%
LZ4 Compression - 3 - Compression Speed (MB/s)	38.82
Standard Deviation	0.8%
LZ4 Compression - 3 - D.S (MB/s)	7148
Standard Deviation	0.3%
LZ4 Compression - 9 - Compression Speed (MB/s)	37.83
Standard Deviation	2.1%
LZ4 Compression - 9 - D.S (MB/s)	7159
Standard Deviation	0.1%
Zstd Compression - 3 - Compression Speed (MB/s)	1760
Standard Deviation	1%
Zstd Compression - 3 - D.S (MB/s)	2755
Standard Deviation	0.1%

Zstd Compression - 8 - Compression Speed (MB/s)	222.0	
Standard Deviation	0.8%	
Zstd Compression - 8 - D.S (MB/s)	2843	
Standard Deviation	0.1%	
Zstd Compression - 19 - Compression Speed (MB/s)	20.9	
Standard Deviation	2.2%	
Zstd Compression - 19 - D.S (MB/s)	2597	
Standard Deviation	0.1%	
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	777.2	
Standard Deviation	0.5%	
Zstd Compression - 3, Long Mode - D.S	2920	
Standard Deviation	0.1%	
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	291.6	
Standard Deviation	0.8%	
Zstd Compression - 8, Long Mode - D.S	3025	
Standard Deviation	0.1%	
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	18.2	
Standard Deviation	2.5%	
Zstd Compression - 19, Long Mode - D.S (MB/s)	2576	
Standard Deviation	0.1%	
CacheBench - Read (MB/s)	2781	
CacheBench - Write (MB/s)	24462	
CacheBench - R.M.W (MB/s)	48450	
RAMspeed SMP - Add - Integer (MB/s)		20912
RAMspeed SMP - Copy - Integer (MB/s)		18452
RAMspeed SMP - Scale - Integer (MB/s)		17283
RAMspeed SMP - Triad - Integer (MB/s)		17197
RAMspeed SMP - Average - Integer (MB/s)		18659
RAMspeed SMP - Add - Floating Point (MB/s)		21043
RAMspeed SMP - Copy - Floating Point		18531
RAMspeed SMP - Scale - Floating Point		17884
RAMspeed SMP - Triad - Floating Point		20414
RAMspeed SMP - Average - Floating Point (MB/s)		19458
Tinymembench - Standard Memcpy (MB/s)		12766
Tinymembench - Standard Memset (MB/s)		10197
Java SciMark - Composite (Mflops)	2441	
Standard Deviation	0.9%	
Java SciMark - Monte Carlo (Mflops)	1404	
Standard Deviation	0.2%	
Java SciMark - F.F.T (Mflops)	1455	
Standard Deviation	2.9%	
Java SciMark - S.M.M (Mflops)	2388	
Standard Deviation	0%	

Java SciMark - D.L.M.F (Mflops)	5580	
Standard Deviation	1.9%	
Java SciMark - J.S.O.R (Mflops)	1379	
Standard Deviation	0%	
LuaJIT - Composite (Mflops)	1267	
Standard Deviation	0.5%	
LuaJIT - Monte Carlo (Mflops)	431.46	
Standard Deviation	0.2%	
LuaJIT - F.F.T (Mflops)	255.53	
Standard Deviation	0.1%	
LuaJIT - S.M.M (Mflops)	1042	
Standard Deviation	0.1%	
LuaJIT - D.L.M.F (Mflops)	2987	
Standard Deviation	1%	
LuaJIT - J.S.O.R (Mflops)	1621	
Standard Deviation	0%	
Himeno Benchmark - P.P.S (MFLOPS)	3980	
Botan - KASUMI (MiB/s)	80.907	
Botan - KASUMI - Decrypt (MiB/s)	78.311	
Botan - AES-256 (MiB/s)	4944	
Botan - AES-256 - Decrypt (MiB/s)	4951	
Botan - Twofish (MiB/s)	320.888	
Botan - Twofish - Decrypt (MiB/s)	324.035	
Botan - Blowfish (MiB/s)	385.235	
Botan - Blowfish - Decrypt (MiB/s)	389.487	
Botan - CAST-256 (MiB/s)	126.41	
Botan - CAST-256 - Decrypt (MiB/s)	126.47	
Botan - ChaCha20Poly1305 (MiB/s)	441.36	
Botan - ChaCha20Poly1305 - Decrypt (MiB/s)	436.821	
Cryptsetup - A.X.2.E (MiB/s)	2490	
Cryptsetup - A.X.2.D (MiB/s)	2500	
Cryptsetup - S.X.2.E (MiB/s)	351.1	
Cryptsetup - S.X.2.D (MiB/s)	348.8	
Cryptsetup - T.X.2.E (MiB/s)	360.3	
Cryptsetup - A.X.5.E (MiB/s)	2142	
Cryptsetup - A.X.5.D (MiB/s)	2128	
Cryptsetup - S.X.5.E (MiB/s)	351.5	
Cryptsetup - S.X.5.D (MiB/s)	348.3	
Cryptsetup - T.X.5.E (MiB/s)	359.9	
Cryptsetup - T.X.5.D (MiB/s)	359.2	
MBW - Memory Copy - 128 MiB (MiB/s)		12035
MBW - Memory Copy - 512 MiB (MiB/s)		12301
MBW - Memory Copy - 1024 MiB (MiB/s)		12373
MBW - Memory Copy - 4096 MiB (MiB/s)		12171
MBW - Memory Copy - 8192 MiB (MiB/s)		12528
MBW - M.C.F.B.S - 128 MiB (MiB/s)		6350
MBW - M.C.F.B.S - 512 MiB (MiB/s)		7058
MBW - M.C.F.B.S - 1024 MiB (MiB/s)		7070
MBW - M.C.F.B.S - 4096 MiB (MiB/s)		7254

MBW - M.C.F.B.S - 8192 MiB (MiB/s)		7313
Crypto++ - All Algorithms (MiB/s)	1406	
Crypto++ - Keyed Algorithms (MiB/s)	554.352098	
Crypto++ - Unkeyed Algorithms (MiB/s)	321.694665	
Crypto++ - I.E.C.P.K.A (MiB/s)	4135	
7-Zip Compression - C.S.T (MIPS)	34130	
Standard Deviation	1.5%	
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	5.334	
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	5.15	
NGINX Benchmark - S.W.P.S (Reqs/sec)	20958	
BLAKE2 (Cycles/Byte)	5.11	
System ZLIB Decompression (ms)	1948	
Standard Deviation	0.1%	
ArrayFire - C.G.C (ms)	35.52	
Parboil - OpenCL BFS (sec)	1.726123	
Standard Deviation	1%	
GnuPG - 2.7.S.F.E (sec)	63.233	
Standard Deviation	2.4%	
Parallel BZIP2 Compression - 2.F.C (sec)	4.772	
Standard Deviation	0.8%	
Gzip Compression - L.S.T.A.T.t.g (sec)	46.749	
Standard Deviation	0.7%	
XZ Compression - C.u.1.0.3.s.i.i.C.L.9 (sec)	47.458	
Standard Deviation	0.4%	
System GZIP Decompression (sec)	3.395	
Standard Deviation	0%	
System XZ Decompression (sec)	4.450	
Standard Deviation	0%	
RAR Compression - L.S.T.A.T.R (sec)	71.997	
Standard Deviation	2.4%	
Bork File Encrypter - F.E.T (sec)	10.369	
Normalized	100%	
t-test1 - 1 (sec)		23.228
t-test1 - 2 (sec)		7.62
Rodinia - OpenMP LavaMD (sec)	273.966	
Rodinia - OpenMP HotSpot3D (sec)	113.123	
Rodinia - OpenMP Leukocyte (sec)	146.716	
Rodinia - OpenMP CFD Solver (sec)	30.237	
Rodinia - O.S (sec)	29.009	
Parboil - OpenMP LBM (sec)	139.726059	
Parboil - OpenMP CUTCP (sec)	3.117468	
Parboil - OpenMP Stencil (sec)	14.004133	
Parboil - O.M.G (sec)	96.698586	
CppPerformanceBenchmarks - Atol (sec)	79.107	
CppPerformanceBenchmarks - Ctype (sec)	38.594	
CppPerformanceBenchmarks - Math Library (sec)	350.179	

CppPerformanceBenchmarks - Rand Numbers (sec)	1223
CppPerformanceBenchmarks - Stepanov Vector (sec)	85.285
CppPerformanceBenchmarks - Function Objects (sec)	17.034
CppPerformanceBenchmarks - S.A (sec)	32.406

ArrayFire 3.7

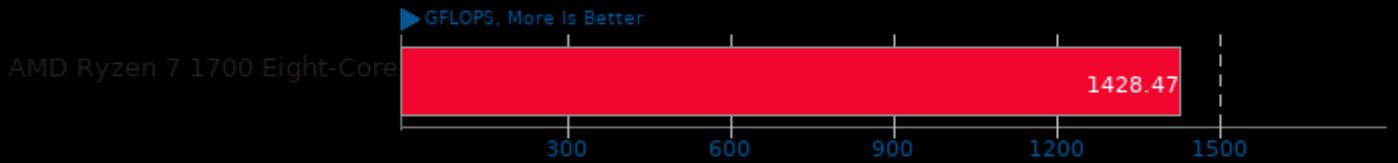
Test: BLAS CPU



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

ArrayFire 3.7

Test: BLAS OpenCL



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

GNU GMP GMPbench 6.2.1

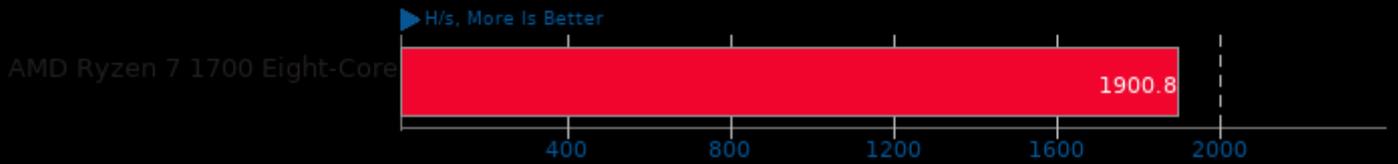
Total Time



1. (C) gcc options: -O3 -fomit-frame-pointer -lm

Xmrig 6.12.1

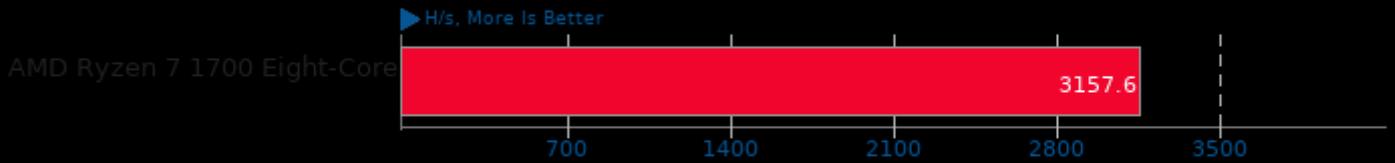
Variant: Monero - Hash Count: 1M



1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -ludev -lpthread -lrt -ldl -lhwloc

Xmrig 6.12.1

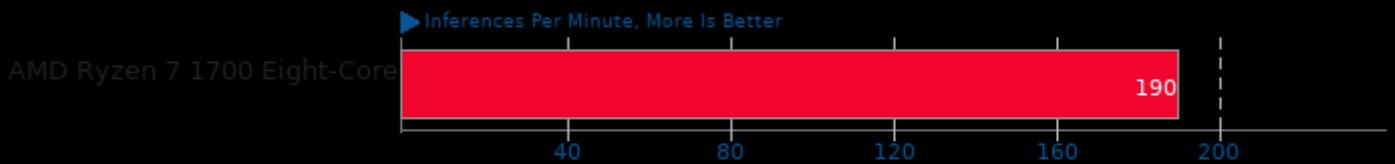
Variant: Wownero - Hash Count: 1M



1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -hwloc

ONNX Runtime 1.6

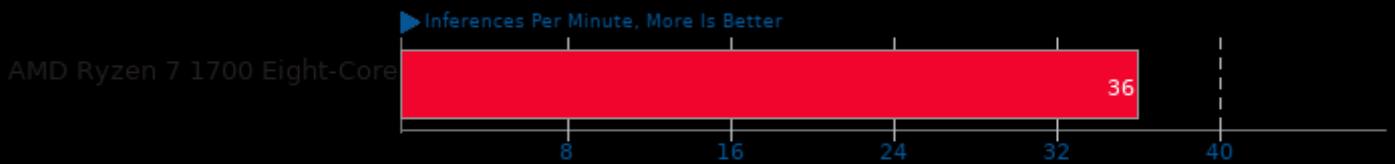
Model: yolov4 - Device: OpenMP CPU



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

ONNX Runtime 1.6

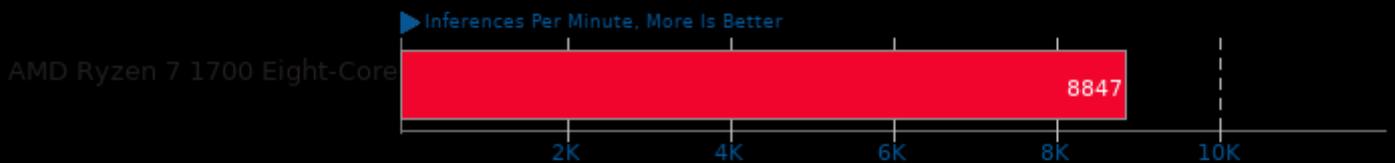
Model: fcnn-resnet101-11 - Device: OpenMP CPU



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

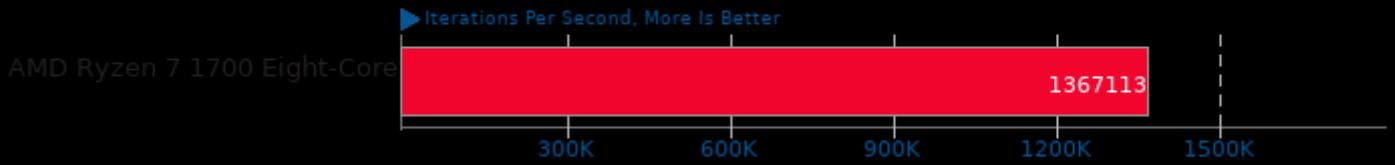
Model: super-resolution-10 - Device: OpenMP CPU



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

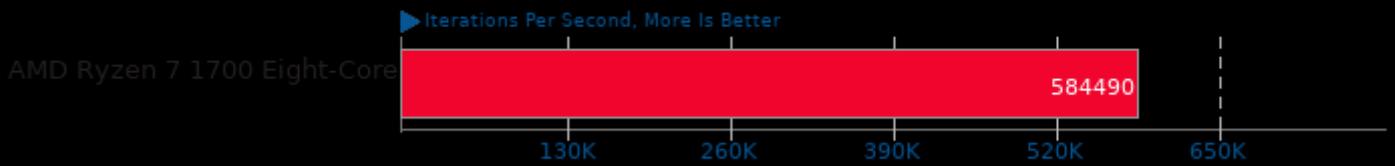
Cryptsetup

PBKDF2-sha512

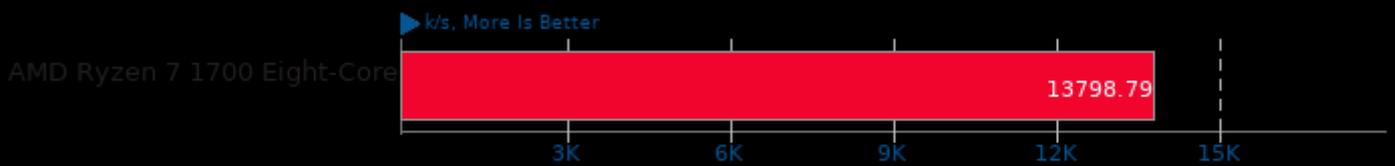


Cryptsetup

PBKDF2-whirlpool



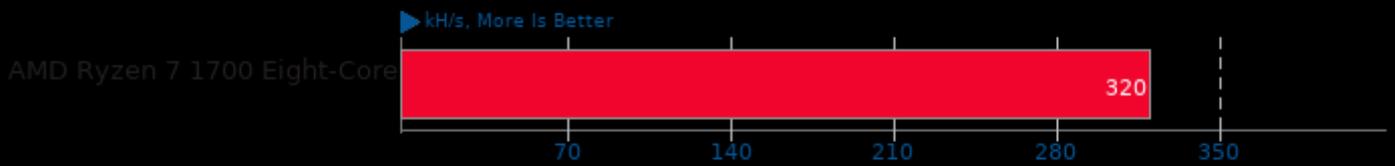
Aircrack-ng 1.5.2



1. (CXX) g++ options: -O3 -fvisibility=hidden -masm=intel -fcommon -rdynamic -lsqlite3 -lpthread -lz -lcrypto -lhwloc -ldl -lm -pthread

Cpuminer-Opt 3.15.5

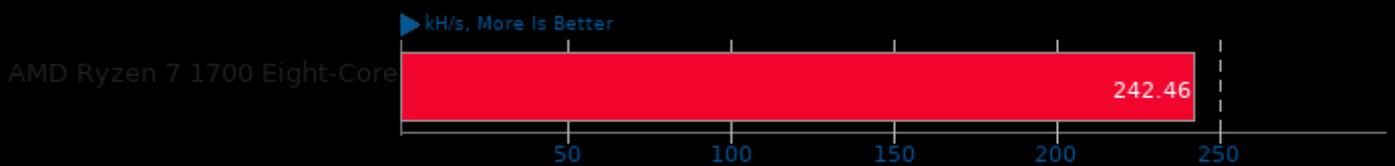
Algorithm: Magi



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

Cpuminer-Opt 3.15.5

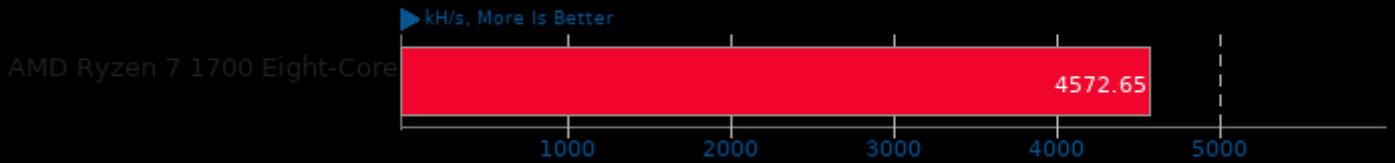
Algorithm: x25x



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

Cpuminer-Opt 3.15.5

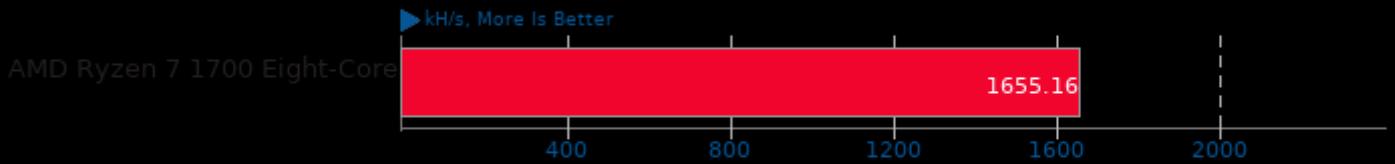
Algorithm: Deepcoin



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

Cpuminer-Opt 3.15.5

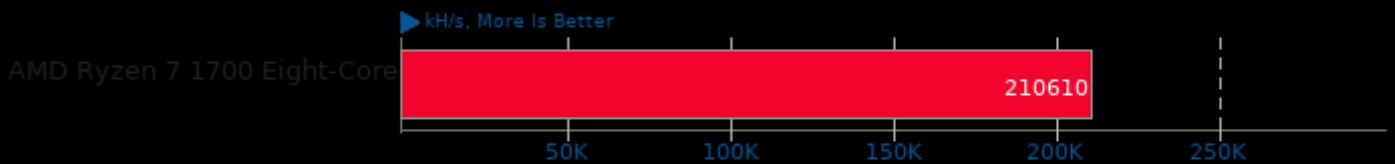
Algorithm: Ringcoin



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

Cpuminer-Opt 3.15.5

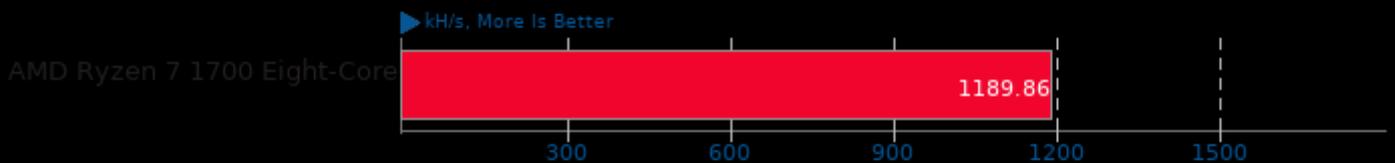
Algorithm: Blake-2 S



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

Cpuminer-Opt 3.15.5

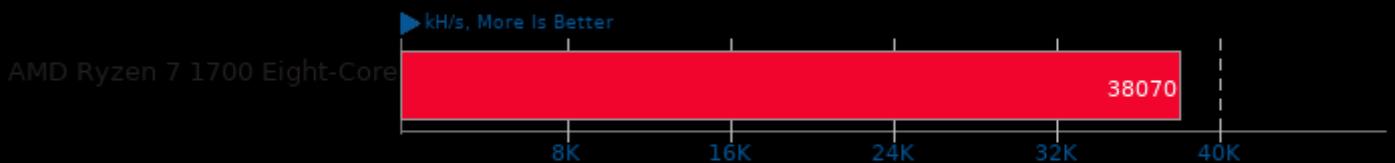
Algorithm: Garlicoin



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

Cpuminer-Opt 3.15.5

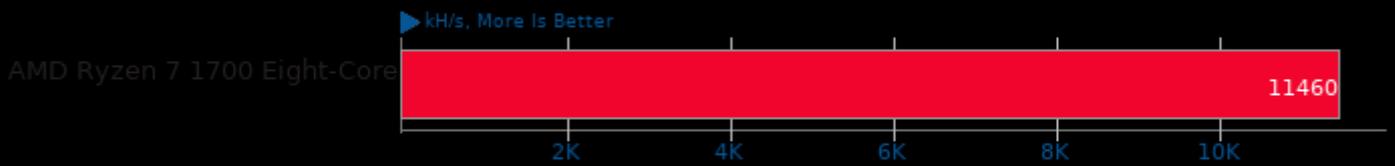
Algorithm: Skeincoin



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

Cpuminer-Opt 3.15.5

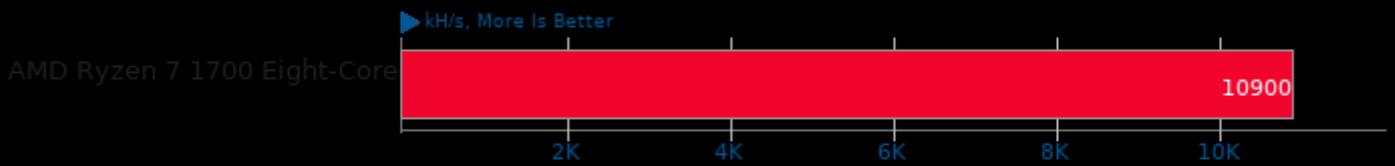
Algorithm: Myriad-Groestl



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

Cpuminer-Opt 3.15.5

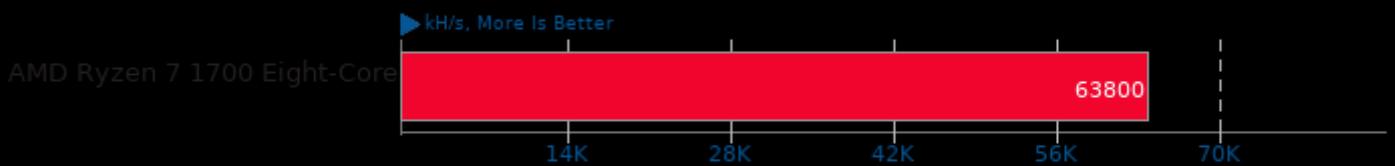
Algorithm: LBC, LBRY Credits



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

Cpuminer-Opt 3.15.5

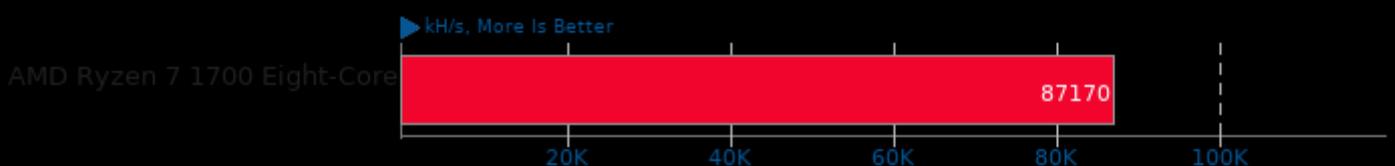
Algorithm: Quad SHA-256, Pyrite



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

Cpuminer-Opt 3.15.5

Algorithm: Triple SHA-256, Onecoin



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

IOR 3.3.0

Block Size: 2MB - Disk Target: /home/kub0x/nvme_disk



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

IOR 3.3.0

Block Size: 4MB - Disk Target: /home/kub0x/nvme_disk



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

IOR 3.3.0

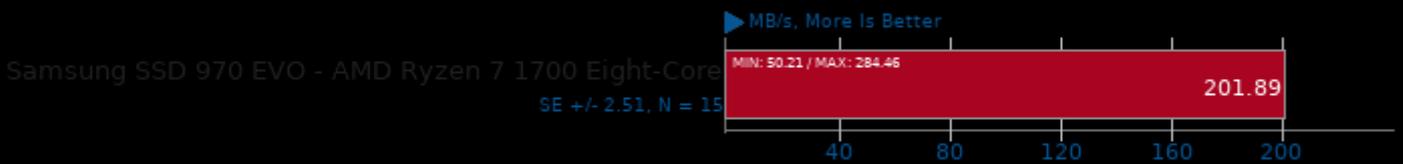
Block Size: 8MB - Disk Target: /home/kub0x/nvme_disk



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

IOR 3.3.0

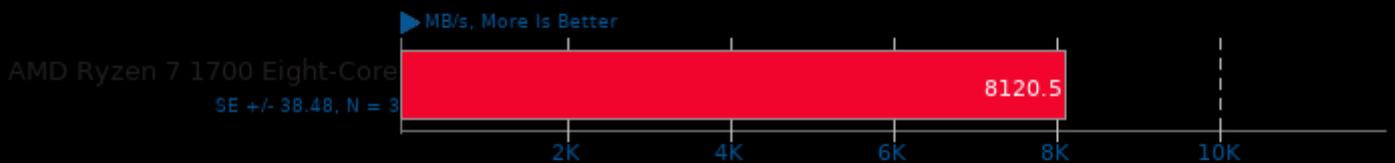
Block Size: 16MB - Disk Target: /home/kub0x/nvme_disk



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

C-Blosc 2.0 Beta 5

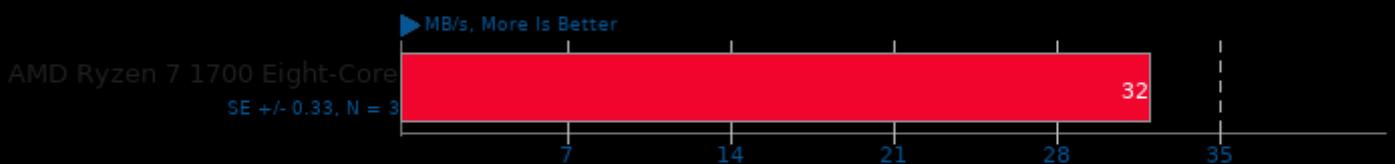
Compressor: blosclz



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

Izbench 1.8

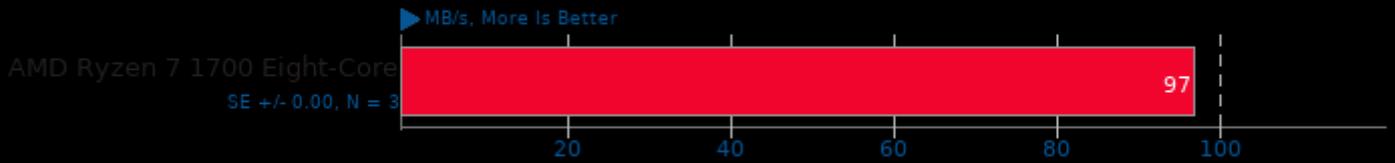
Test: XZ 0 - Process: Compression



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

Izbench 1.8

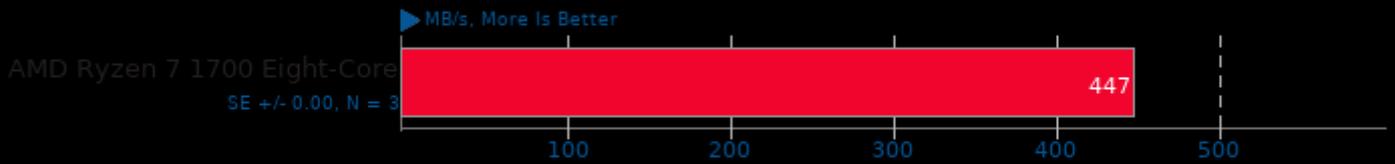
Test: XZ 0 - Process: Decompression



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

Izbench 1.8

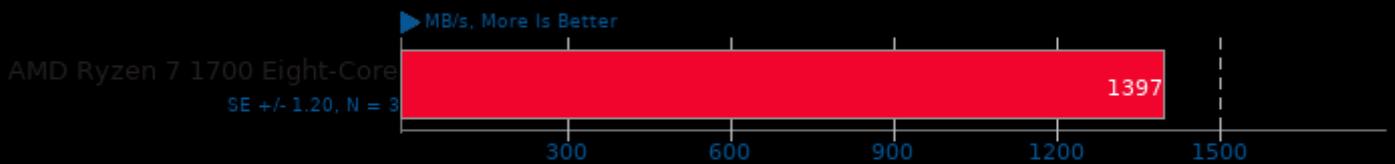
Test: Zstd 1 - Process: Compression



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

Izbench 1.8

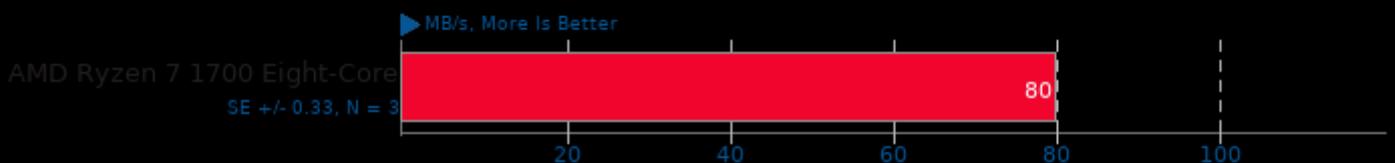
Test: Zstd 1 - Process: Decompression



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

Izbench 1.8

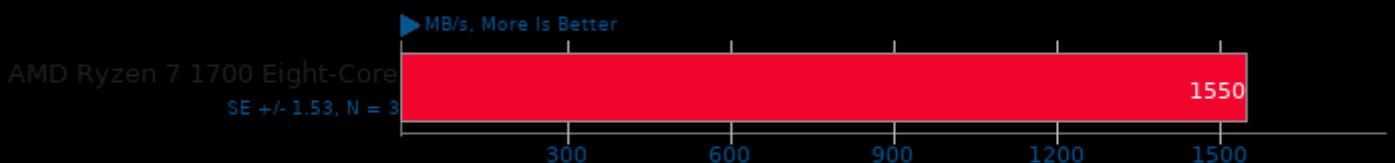
Test: Zstd 8 - Process: Compression



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

Izbench 1.8

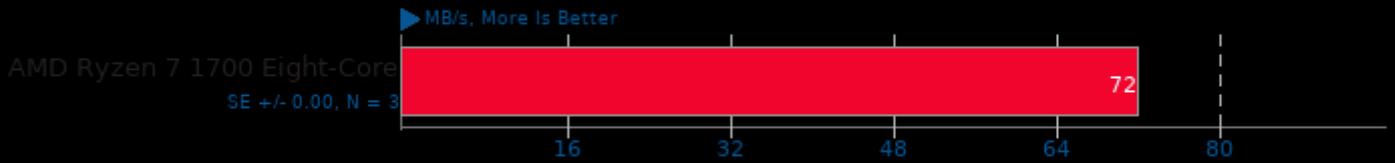
Test: Zstd 8 - Process: Decompression



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

Izbench 1.8

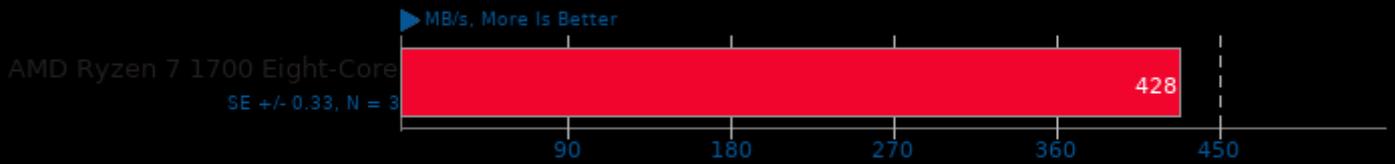
Test: Crush 0 - Process: Compression



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

Izbench 1.8

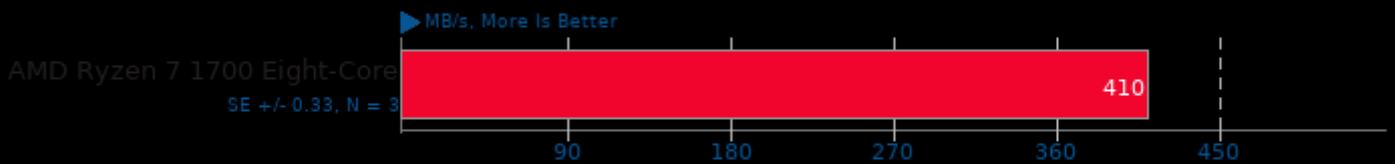
Test: Crush 0 - Process: Decompression



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

Izbench 1.8

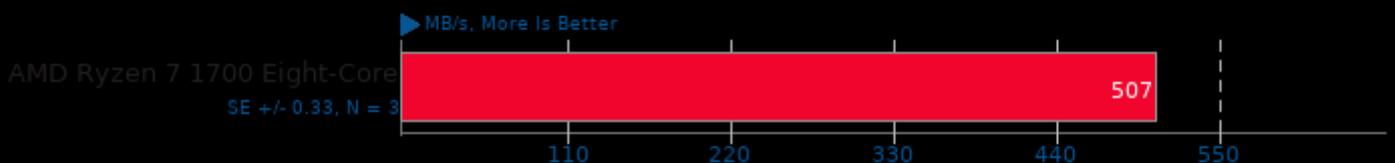
Test: Brotli 0 - Process: Compression



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

Izbench 1.8

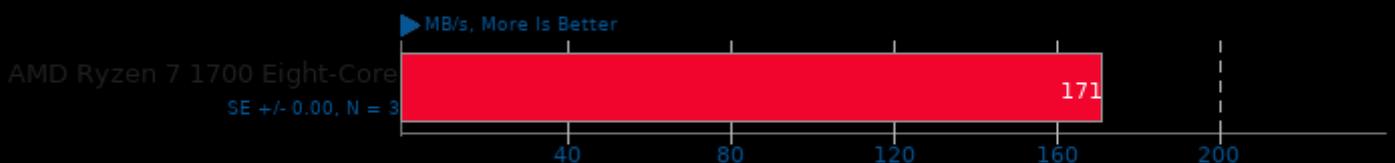
Test: Brotli 0 - Process: Decompression



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

Izbench 1.8

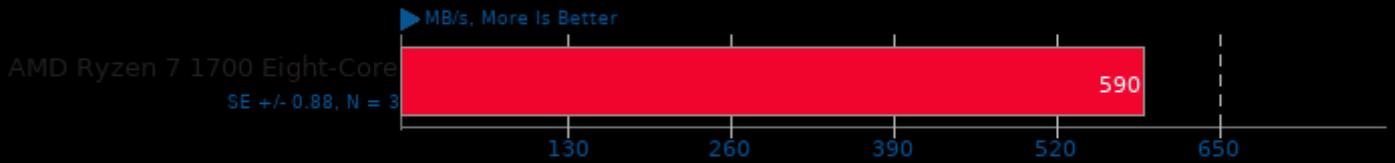
Test: Brotli 2 - Process: Compression



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

Izbench 1.8

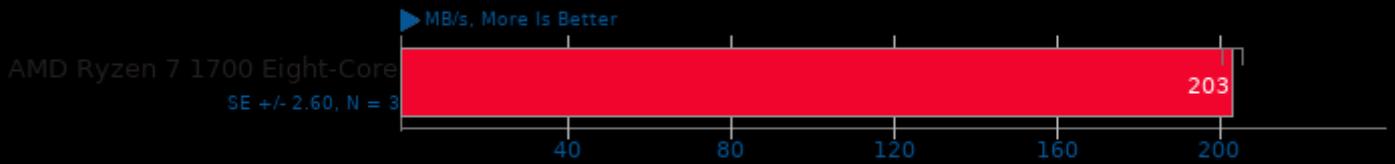
Test: Brotli 2 - Process: Decompression



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

Izbench 1.8

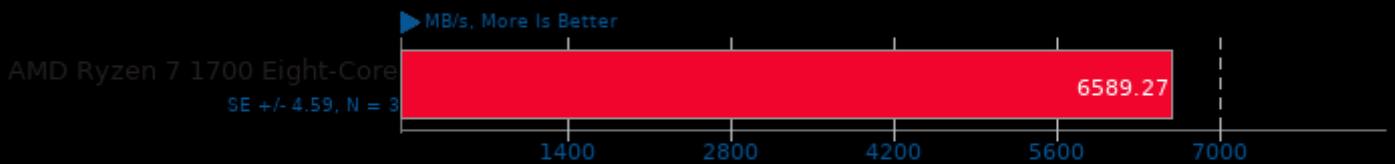
Test: Libdeflate 1 - Process: Compression



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

LZ4 Compression 1.9.3

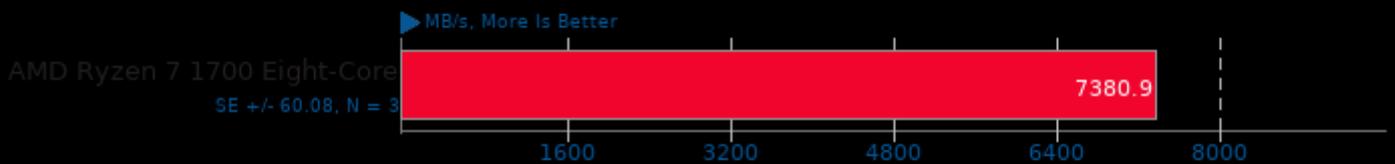
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

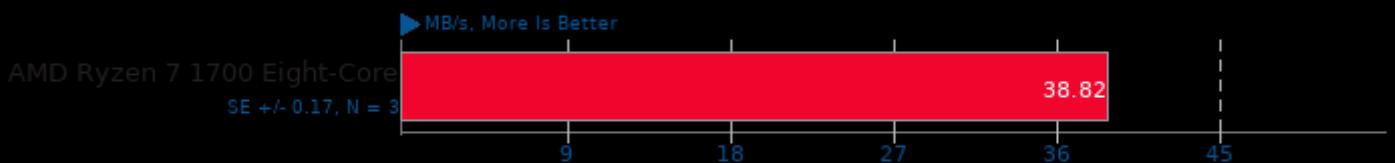
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

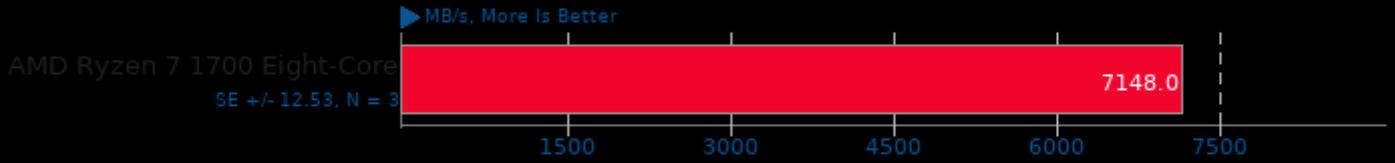
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

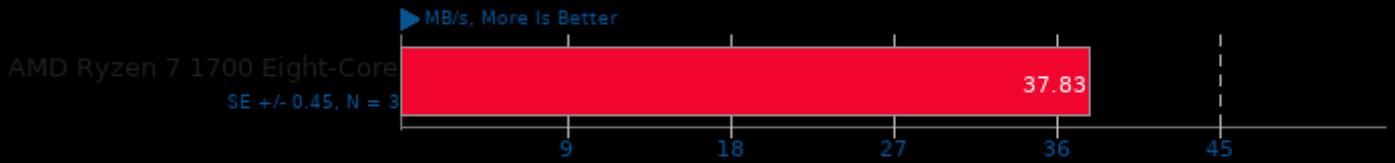
Compression Level: 3 - Decompression Speed



1, (CC) gcc options: -O3

LZ4 Compression 1.9.3

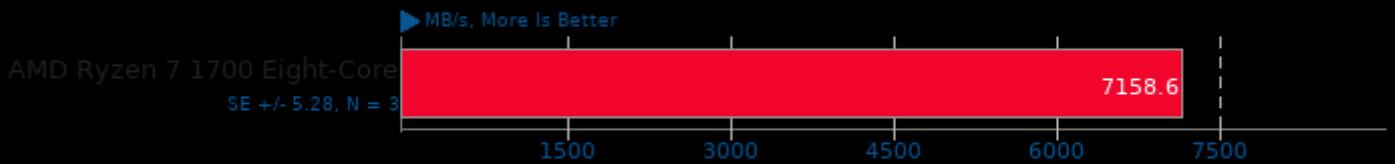
Compression Level: 9 - Compression Speed



1, (CC) gcc options: -O3

LZ4 Compression 1.9.3

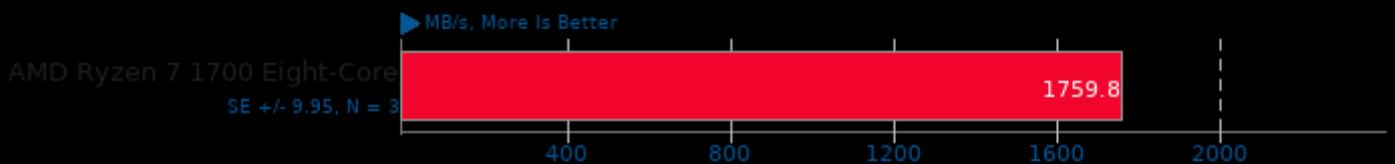
Compression Level: 9 - Decompression Speed



1, (CC) gcc options: -O3

Zstd Compression 1.4.9

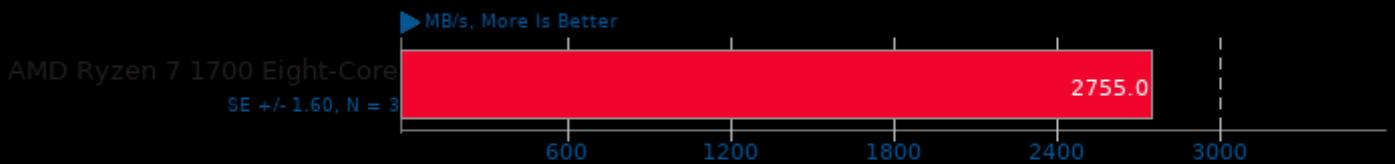
Compression Level: 3 - Compression Speed



1, (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

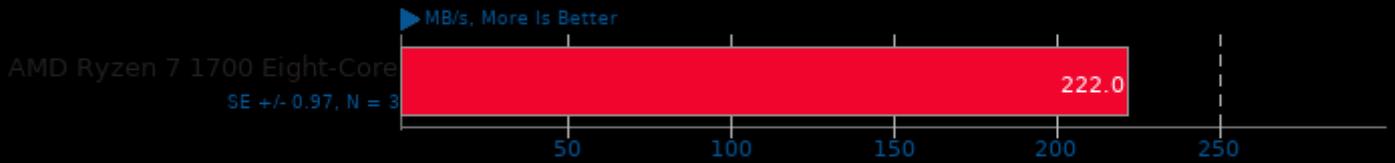
Compression Level: 3 - Decompression Speed



1, (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

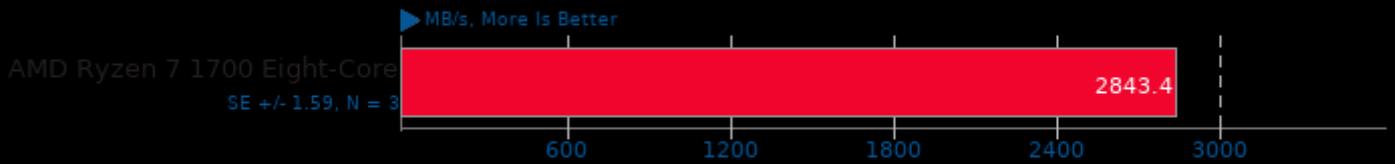
Compression Level: 8 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

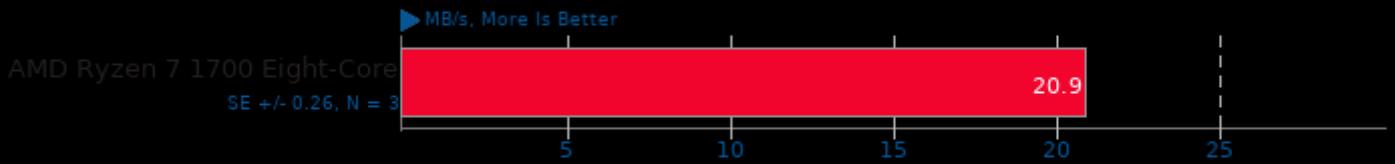
Compression Level: 8 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

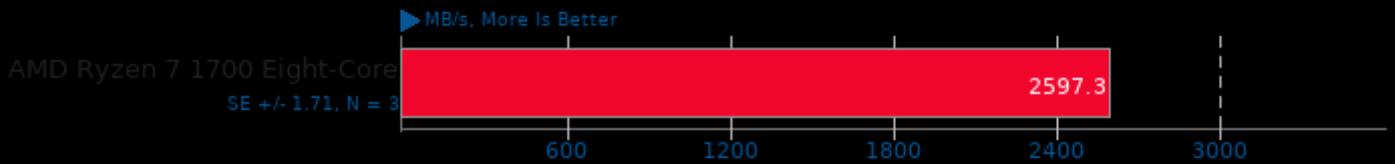
Compression Level: 19 - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

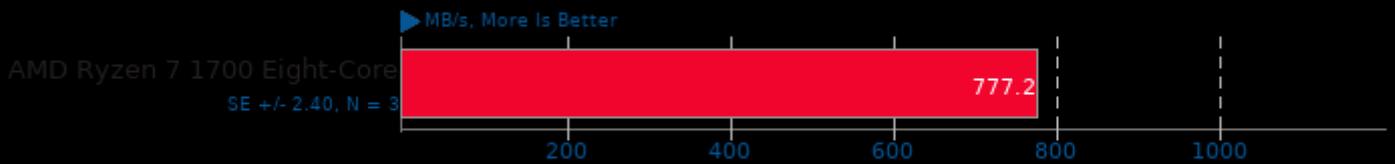
Compression Level: 19 - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

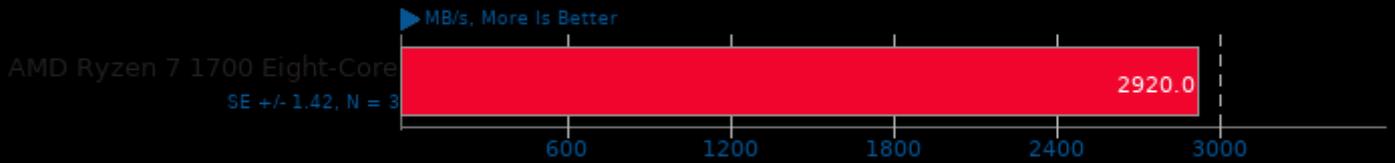
Compression Level: 3, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

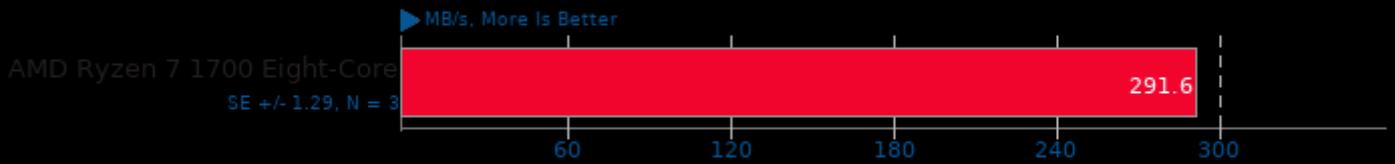
Compression Level: 3, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

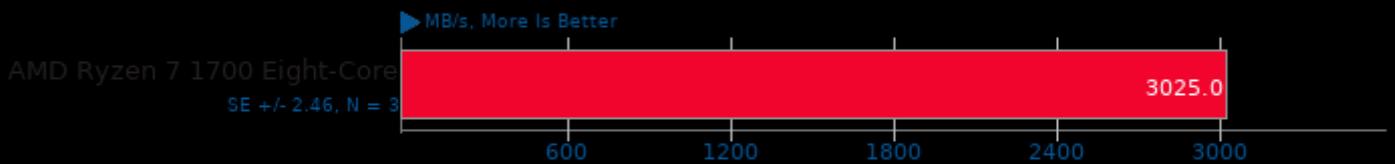
Compression Level: 8, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

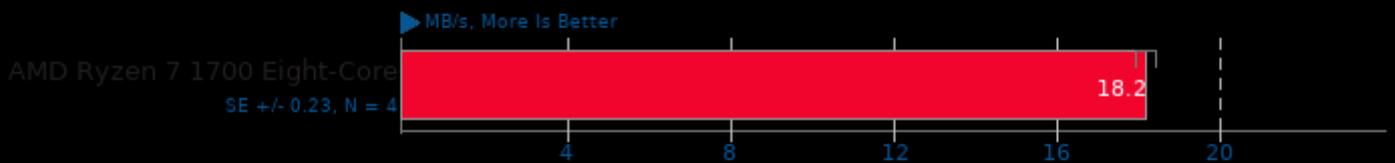
Compression Level: 8, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

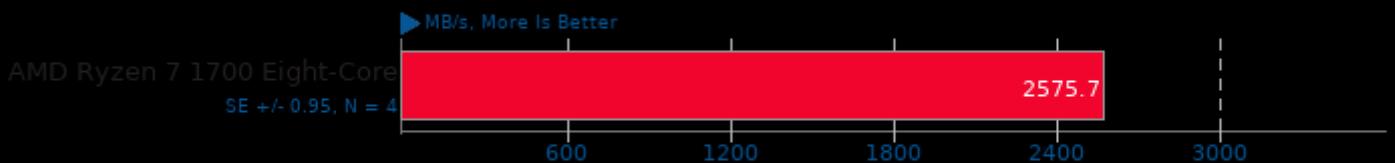
Compression Level: 19, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.9

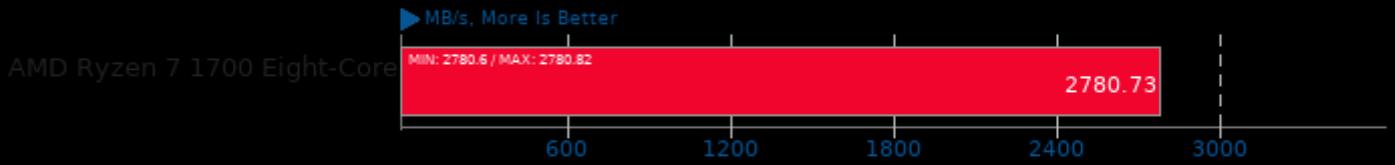
Compression Level: 19, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

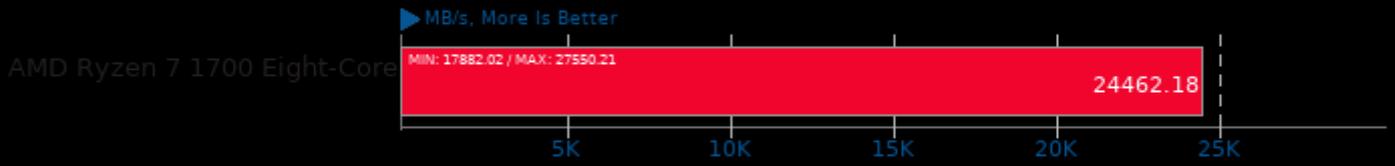
CacheBench

Test: Read



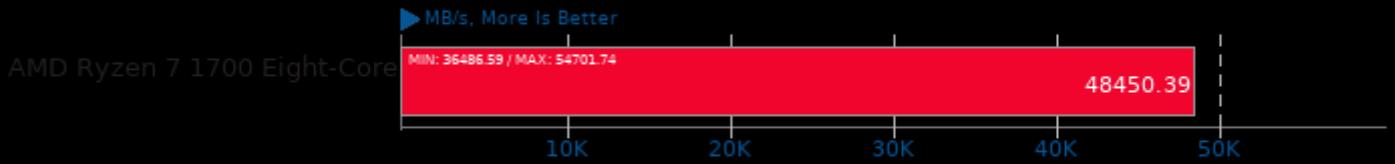
CacheBench

Test: Write



CacheBench

Test: Read / Modify / Write



RAMspeed SMP 3.5.0

Type: Add - Benchmark: Integer



RAMspeed SMP 3.5.0

Type: Copy - Benchmark: Integer



RAMspeed SMP 3.5.0

Type: Scale - Benchmark: Integer

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

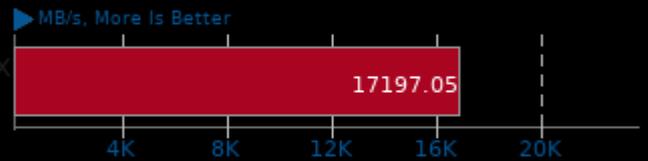


1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

Type: Triad - Benchmark: Integer

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

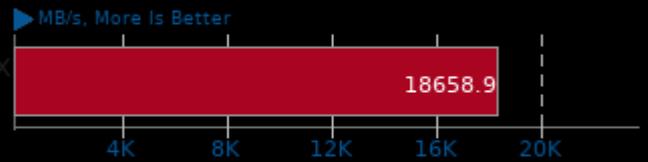


1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

Type: Average - Benchmark: Integer

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

RAMspeed SMP 3.5.0

Type: Add - Benchmark: Floating Point

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

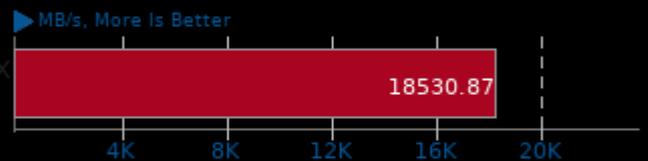


1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

Type: Copy - Benchmark: Floating Point

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

RAMspeed SMP 3.5.0

Type: Scale - Benchmark: Floating Point

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

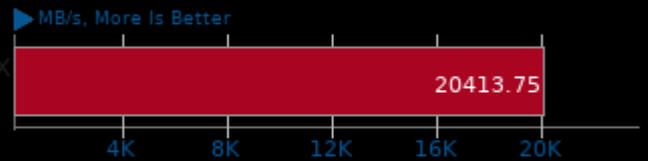


1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

Type: Triad - Benchmark: Floating Point

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

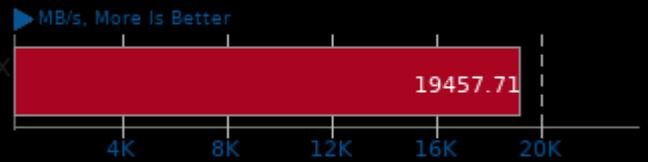


1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

Type: Average - Benchmark: Floating Point

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

Tinymembench 2018-05-28

Standard Memcpy

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

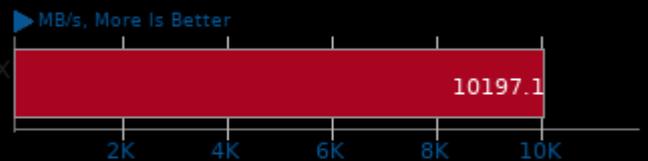


1. (CC) gcc options: -O2 -lm

Tinymembench 2018-05-28

Standard Memset

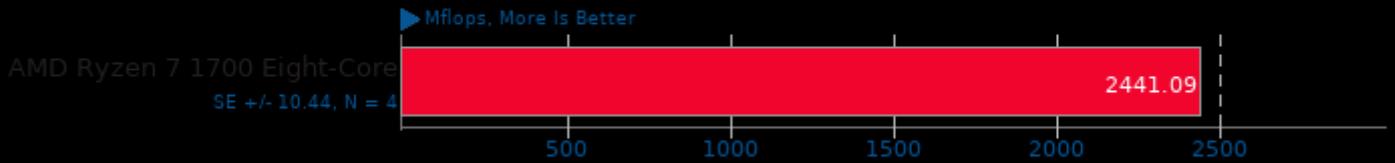
AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

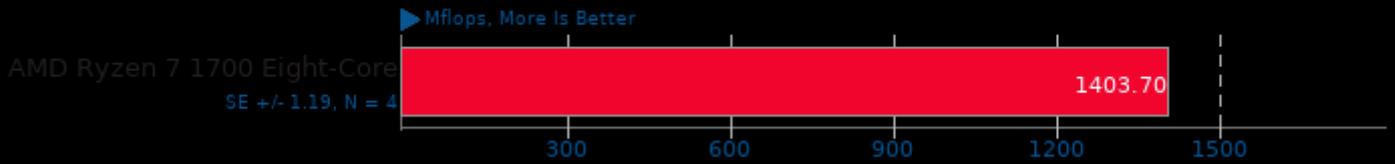
Java SciMark 2.0

Computational Test: Composite



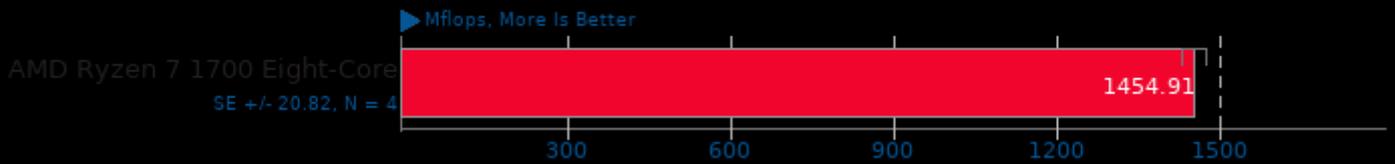
Java SciMark 2.0

Computational Test: Monte Carlo



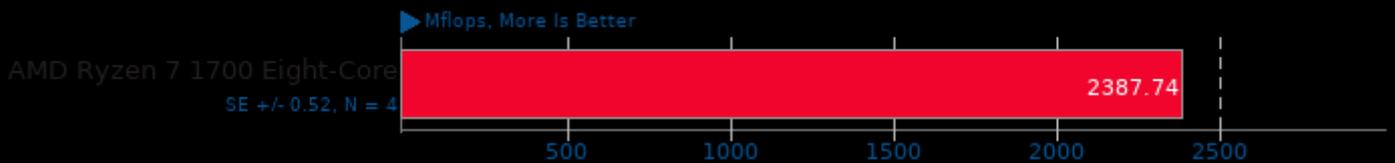
Java SciMark 2.0

Computational Test: Fast Fourier Transform



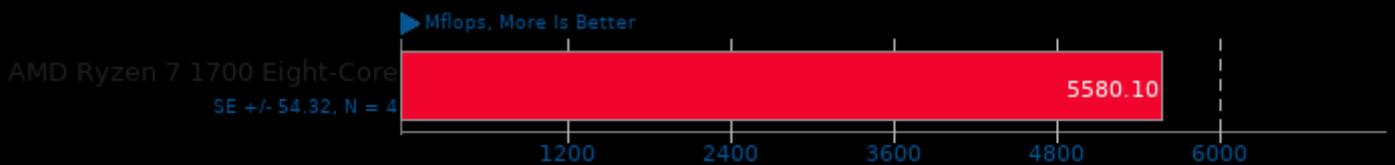
Java SciMark 2.0

Computational Test: Sparse Matrix Multiply



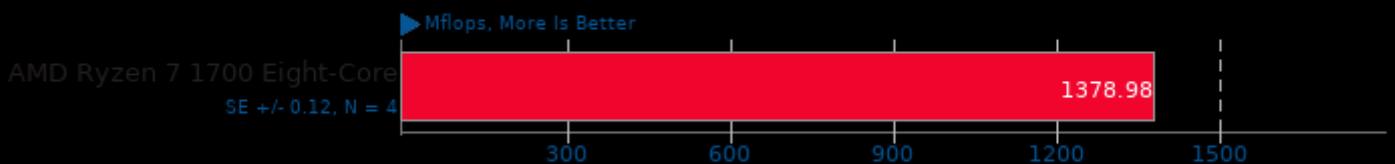
Java SciMark 2.0

Computational Test: Dense LU Matrix Factorization



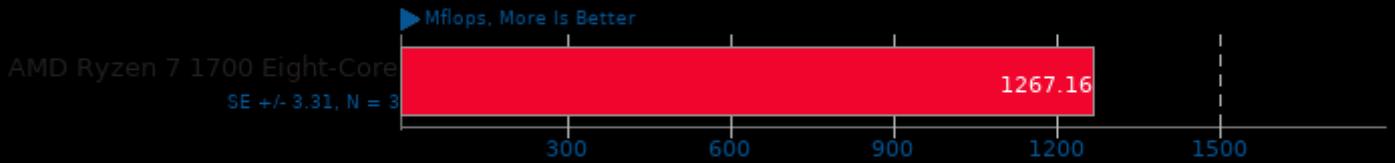
Java SciMark 2.0

Computational Test: Jacobi Successive Over-Relaxation



LuajIT 2.1-git

Test: Composite



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuajIT 2.1-git

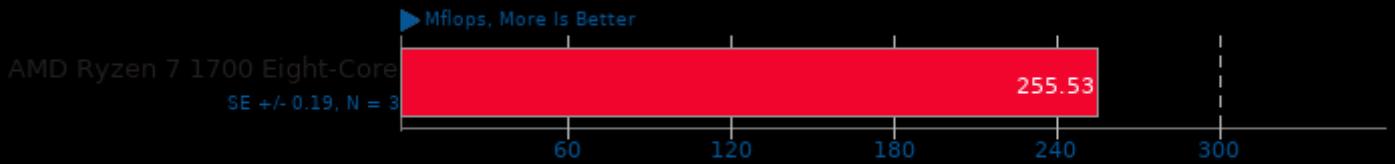
Test: Monte Carlo



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuajIT 2.1-git

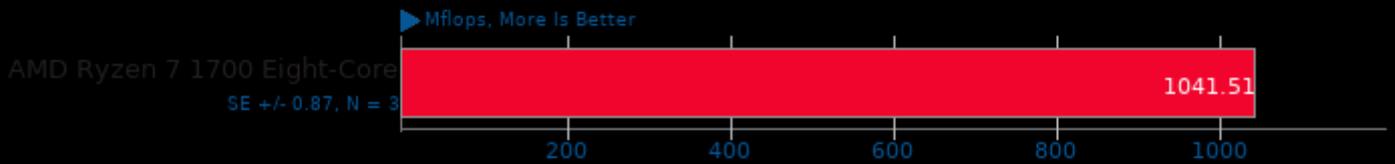
Test: Fast Fourier Transform



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuajIT 2.1-git

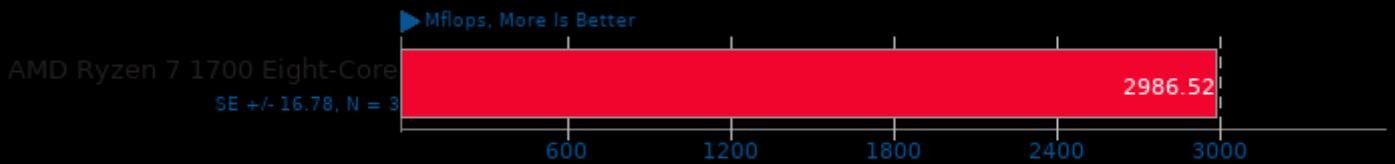
Test: Sparse Matrix Multiply



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuajIT 2.1-git

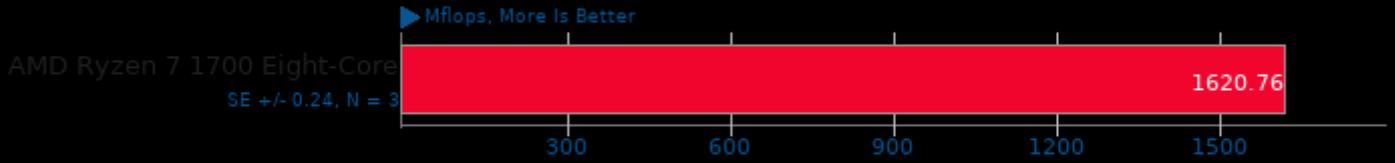
Test: Dense LU Matrix Factorization



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

LuajIT 2.1-git

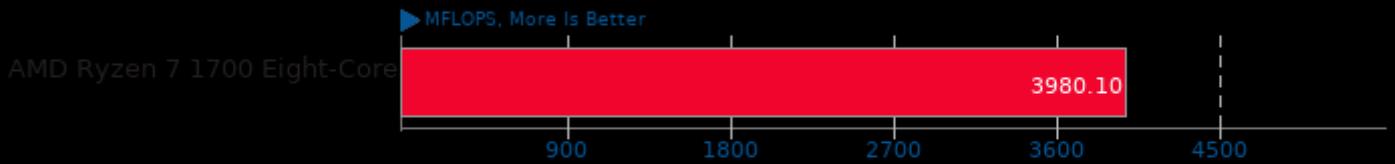
Test: Jacobi Successive Over-Relaxation



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

Himeno Benchmark 3.0

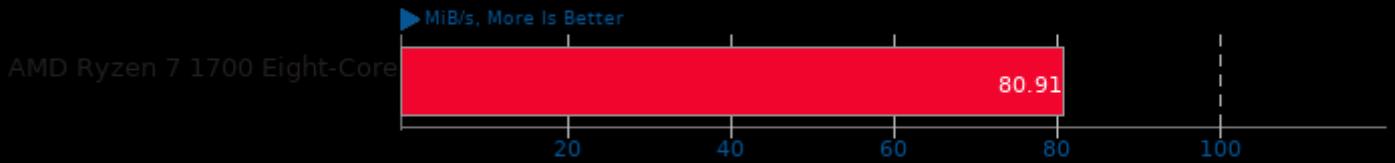
Poisson Pressure Solver



1. (CC) gcc options: -O3 -mavx2

Botan 2.17.3

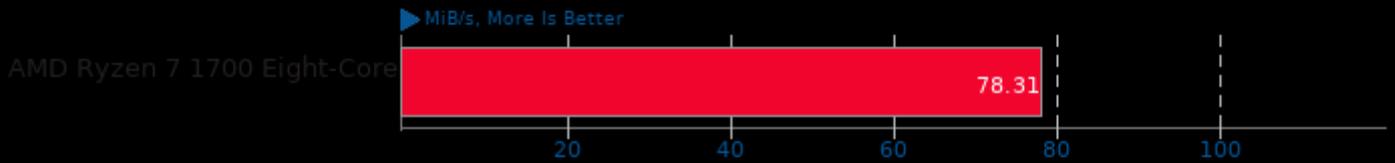
Test: KASUMI



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

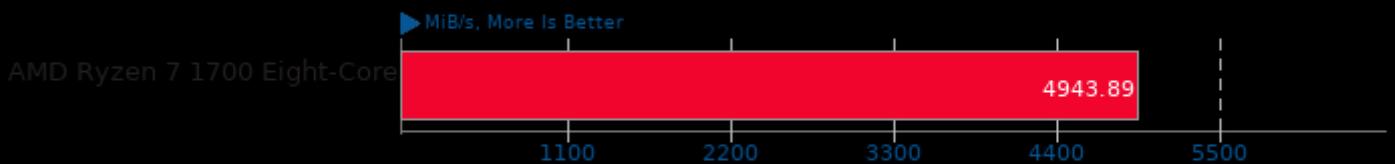
Test: KASUMI - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

Test: AES-256



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

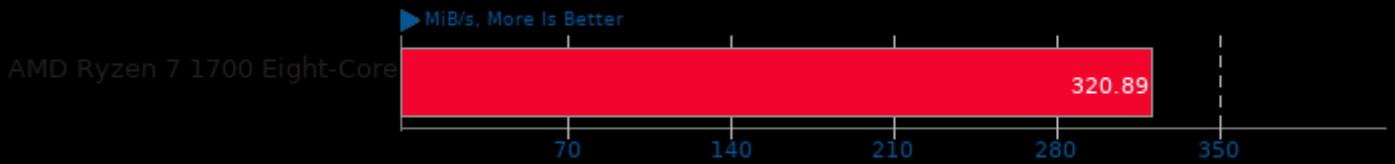
Test: AES-256 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

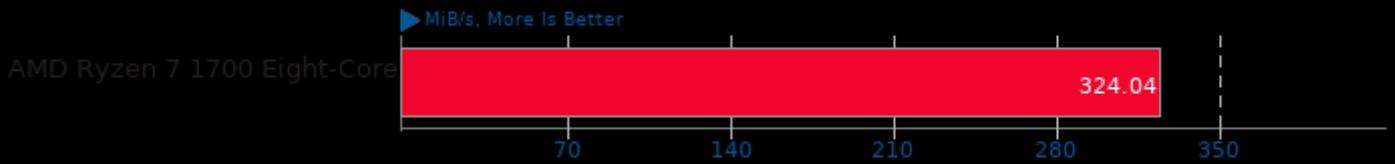
Test: Twofish



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

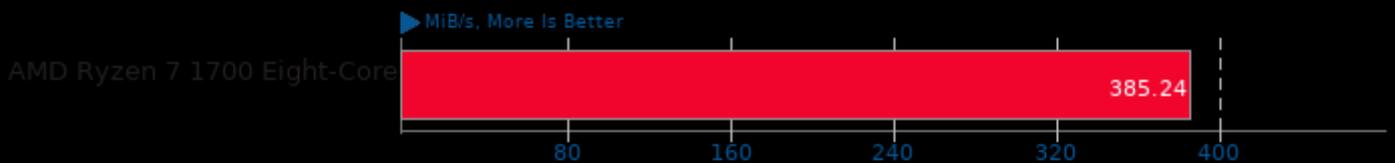
Test: Twofish - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

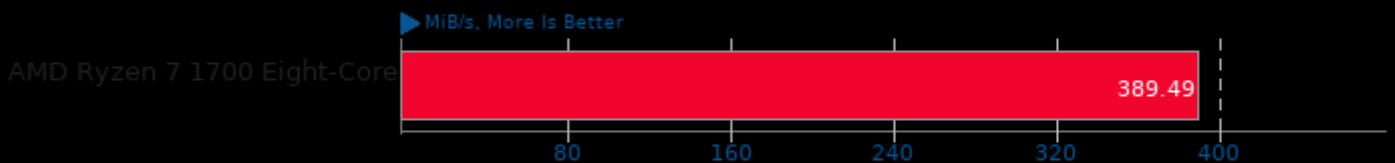
Test: Blowfish



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

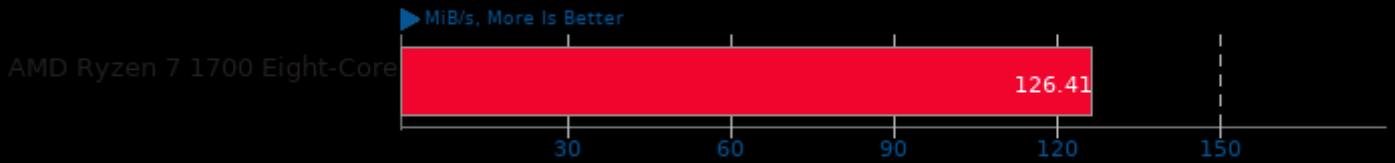
Test: Blowfish - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

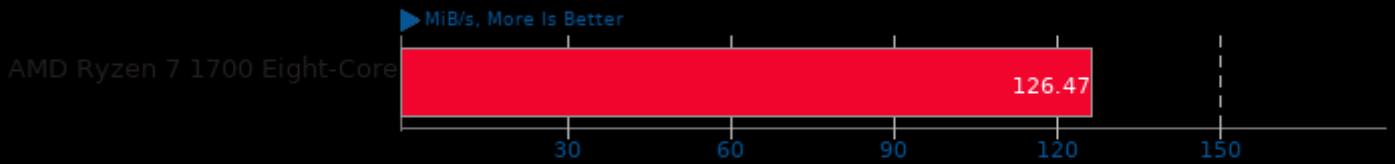
Test: CAST-256



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

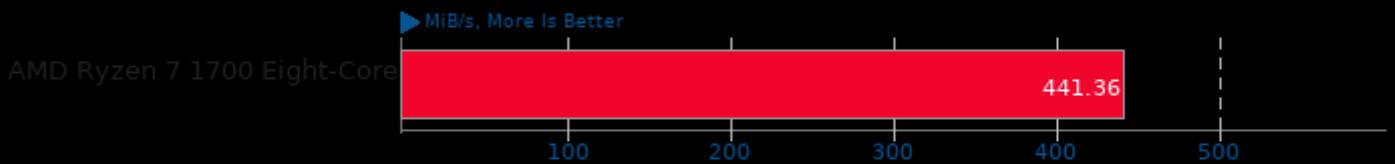
Test: CAST-256 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

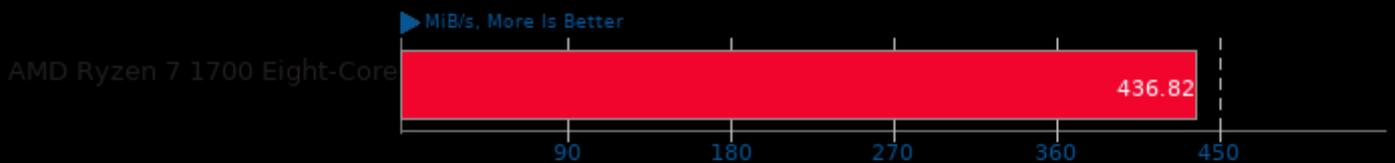
Test: ChaCha20Poly1305



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

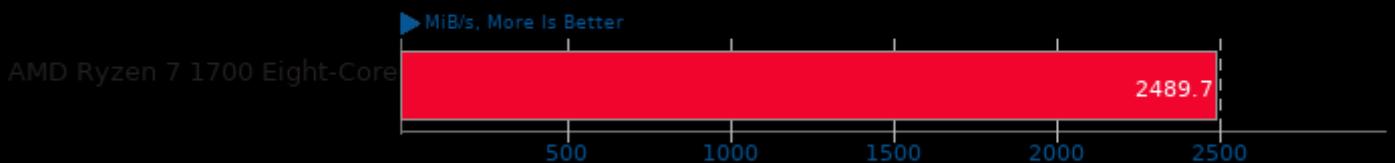
Test: ChaCha20Poly1305 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

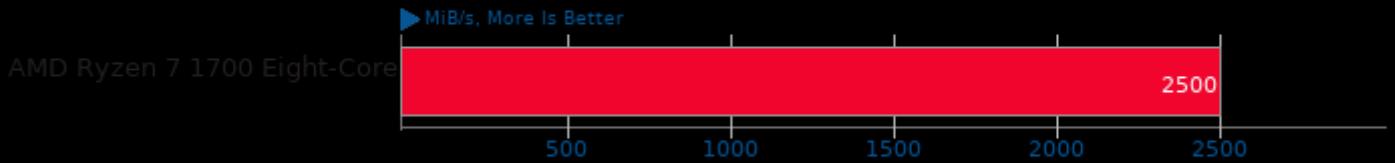
Cryptsetup

Test: AES-XTS 256b Encryption



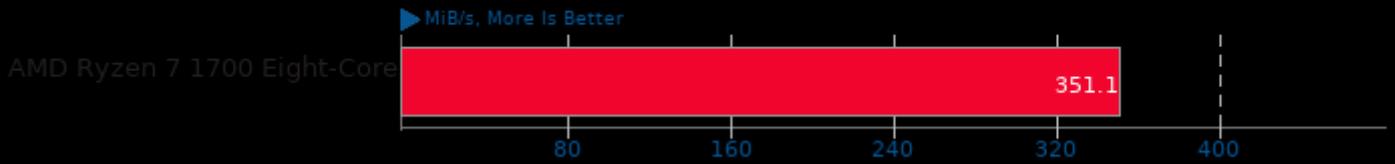
Cryptsetup

AES-XTS 256b Decryption



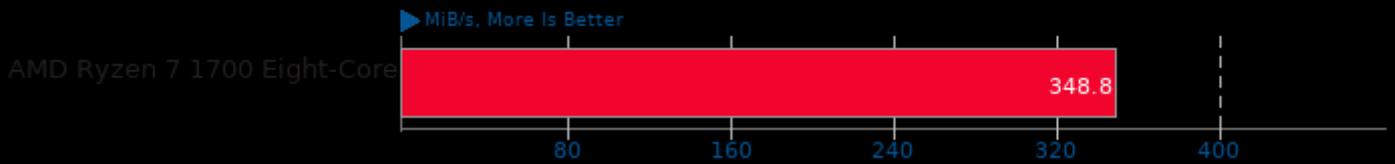
Cryptsetup

Serpent-XTS 256b Encryption



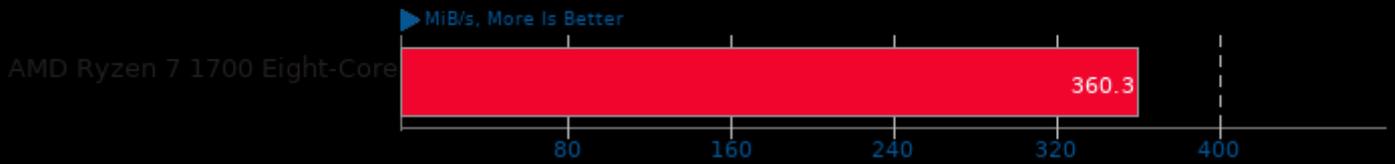
Cryptsetup

Serpent-XTS 256b Decryption



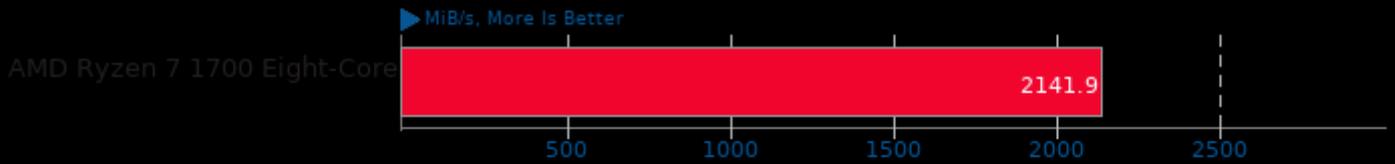
Cryptsetup

Twofish-XTS 256b Encryption



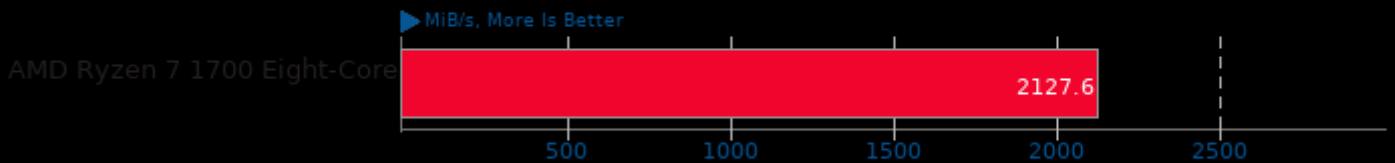
Cryptsetup

AES-XTS 512b Encryption



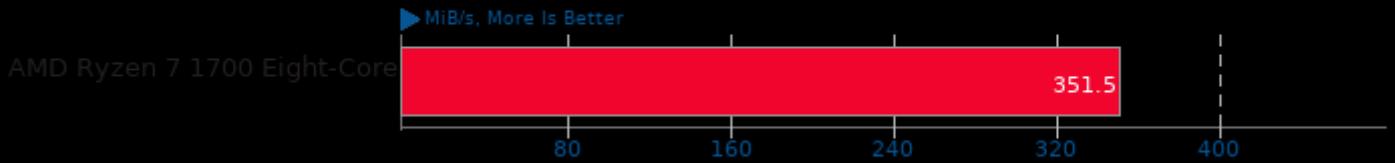
Cryptsetup

AES-XTS 512b Decryption



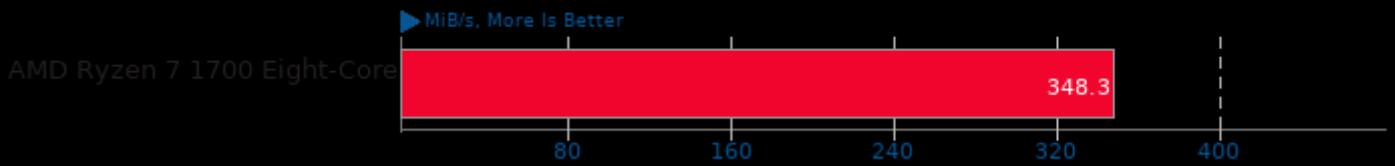
Cryptsetup

Serpent-XTS 512b Encryption



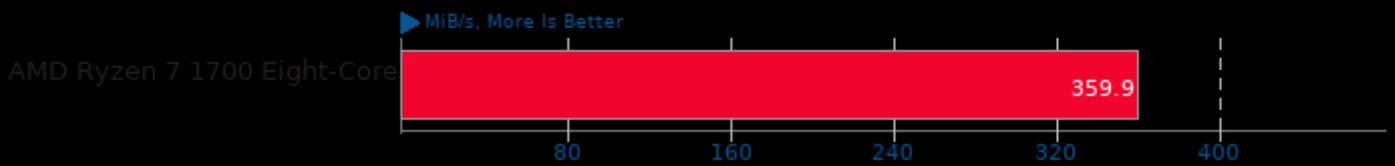
Cryptsetup

Serpent-XTS 512b Decryption



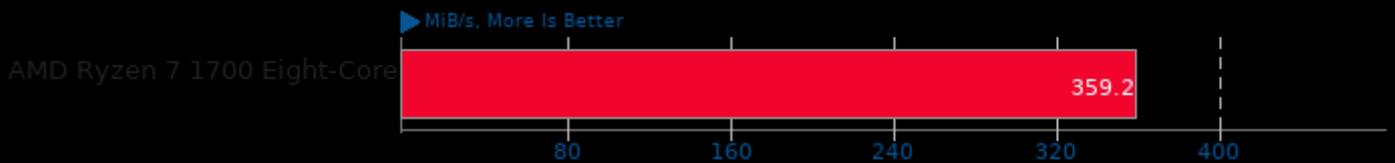
Cryptsetup

Twofish-XTS 512b Encryption



Cryptsetup

Twofish-XTS 512b Decryption



MBW 2018-09-08

Test: Memory Copy - Array Size: 128 MiB

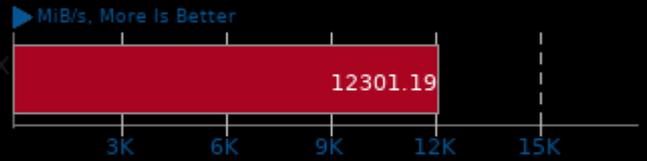


1. (CC) gcc options: -O3 -march=native

MBW 2018-09-08

Test: Memory Copy - Array Size: 512 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

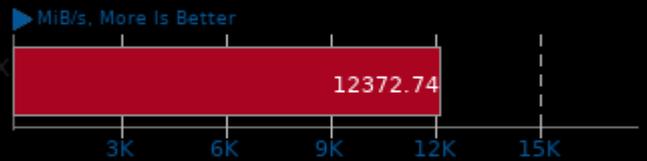


1. (CC) gcc options: -O3 -march=native

MBW 2018-09-08

Test: Memory Copy - Array Size: 1024 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

MBW 2018-09-08

Test: Memory Copy - Array Size: 4096 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

MBW 2018-09-08

Test: Memory Copy - Array Size: 8192 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

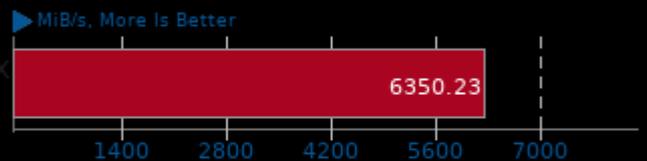


1. (CC) gcc options: -O3 -march=native

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

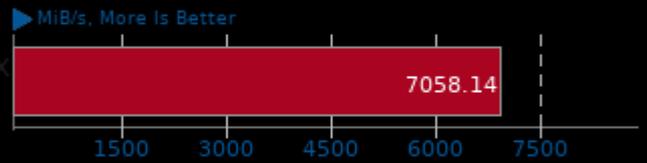


1. (CC) gcc options: -O3 -march=native

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

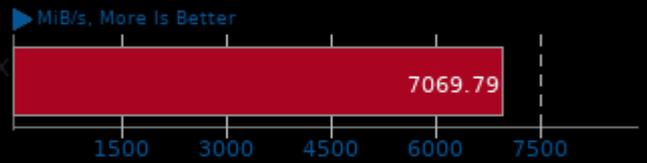


1. (C) gcc options: -O3 -march=native

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX



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

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

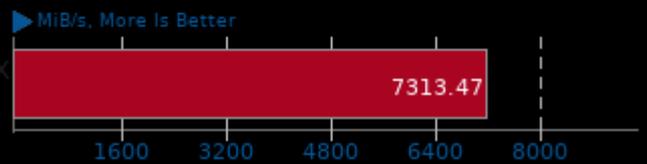


1. (C) gcc options: -O3 -march=native

MBW 2018-09-08

Test: Memory Copy, Fixed Block Size - Array Size: 8192 MiB

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

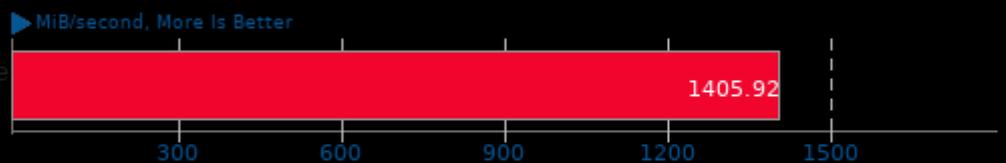


1. (C) gcc options: -O3 -march=native

Crypto++ 8.2

Test: All Algorithms

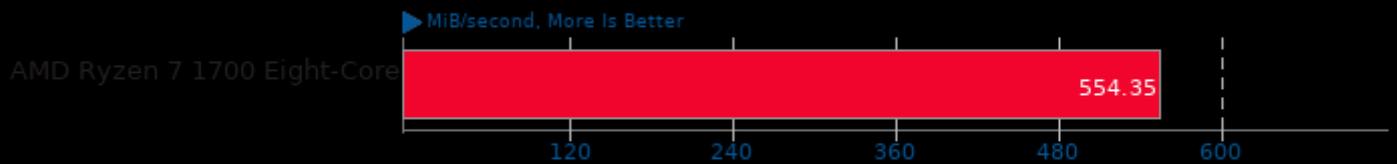
AMD Ryzen 7 1700 Eight-Core



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

Crypto++ 8.2

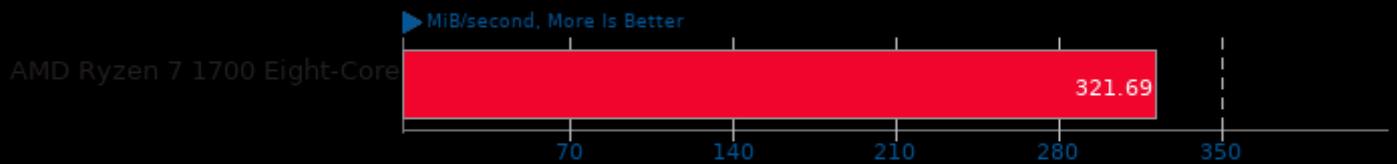
Test: Keyed Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

Crypto++ 8.2

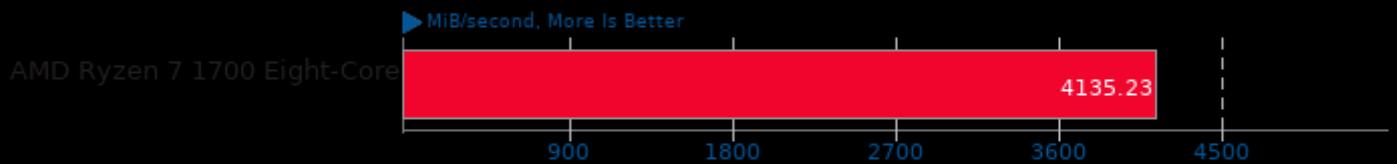
Test: Unkeyed Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

Crypto++ 8.2

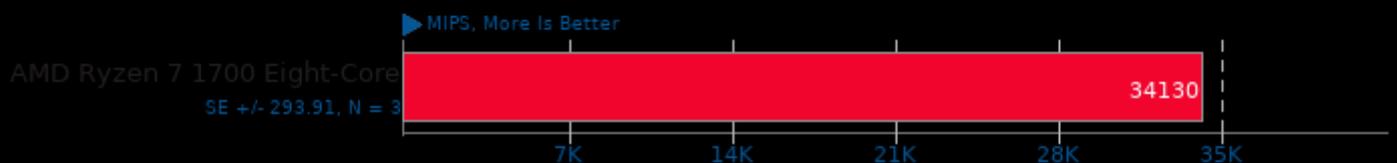
Test: Integer + Elliptic Curve Public Key Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

7-Zip Compression 16.02

Compress Speed Test



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

LAMMPS Molecular Dynamics Simulator 29Oct2020

Model: 20k Atoms



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

LAMMPS Molecular Dynamics Simulator 29Oct2020

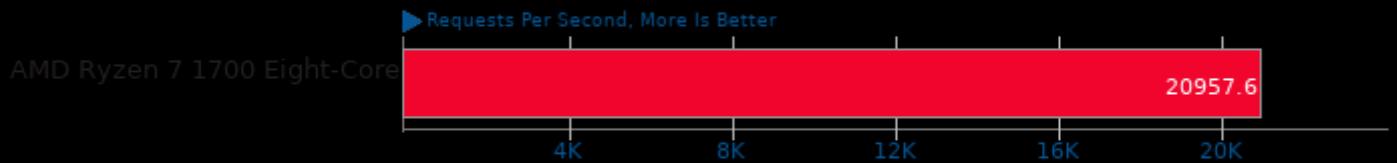
Model: Rhodopsin Protein



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

NGINX Benchmark 1.9.9

Static Web Page Serving

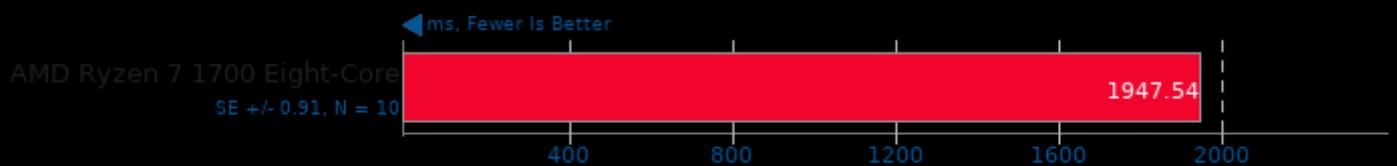


1. (C) gcc options: -pthread -lcrypt -lcrypto -lz -O3 -march=native

BLAKE2 20170307



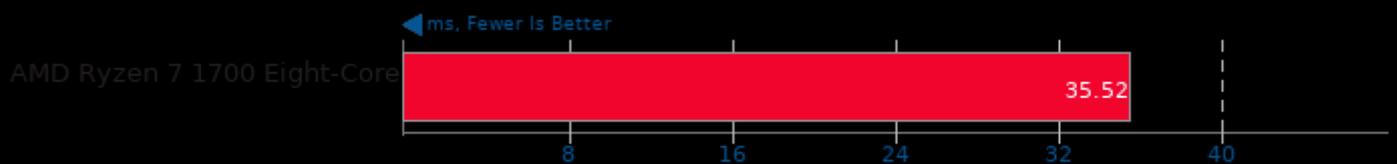
System ZLIB Decompression 1.2.7



SE +/- 0.91, N = 10

ArrayFire 3.7

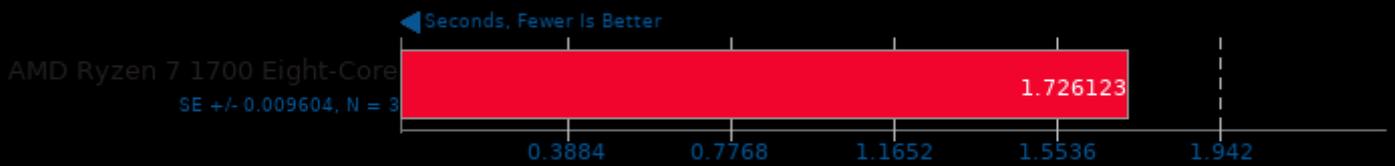
Test: Conjugate Gradient CPU



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

Parboil 2.5

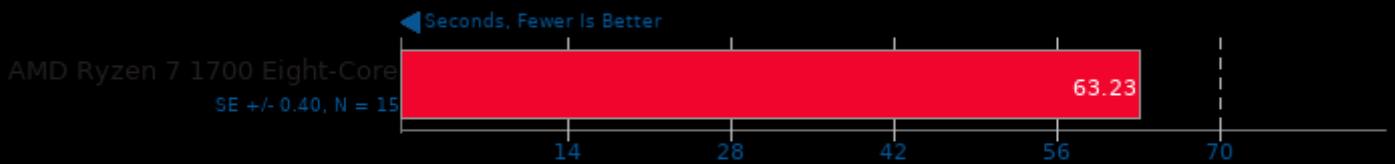
Test: OpenCL BFS



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

GnuPG 2.2.27

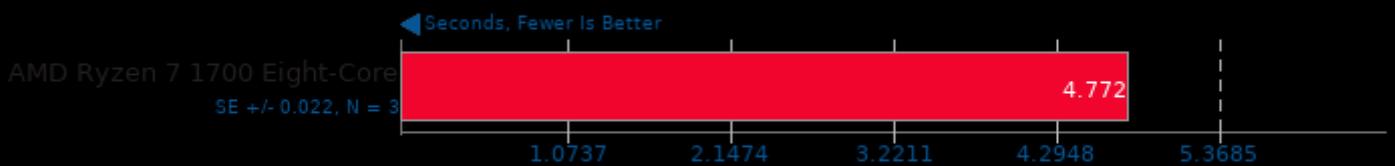
2.7GB Sample File Encryption



1. (CC) gcc options: -O2

Parallel BZIP2 Compression 1.1.12

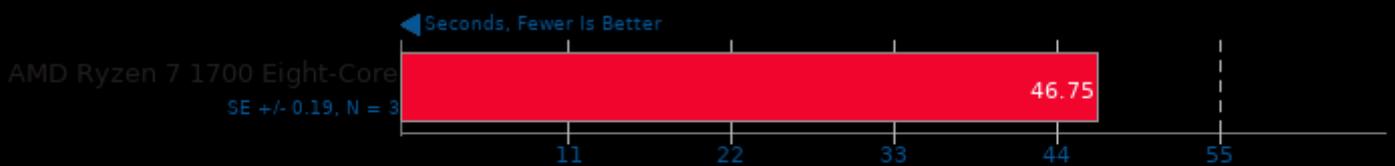
256MB File Compression



1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread

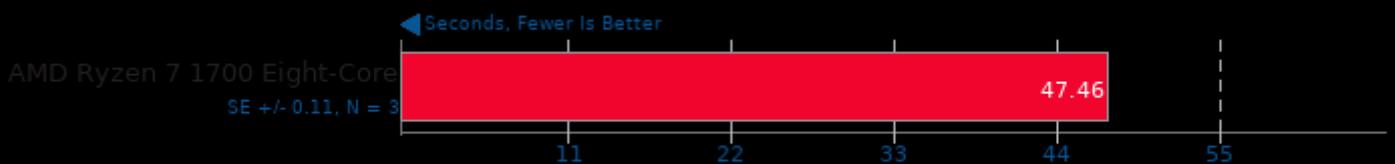
Gzip Compression

Linux Source Tree Archiving To .tar.gz



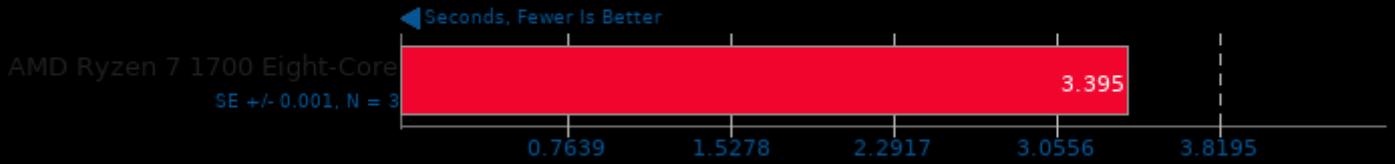
XZ Compression 5.2.4

Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9

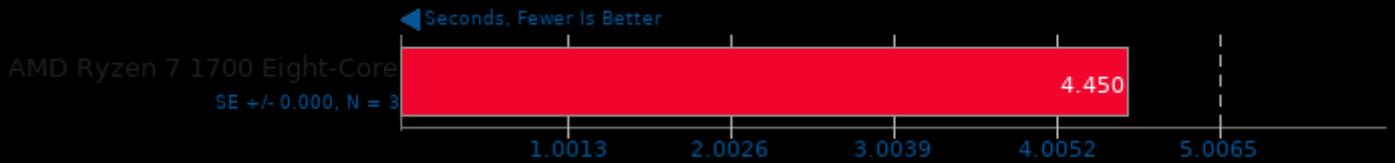


1. (CC) gcc options: -pthread -fvisibility=hidden -O2

System GZIP Decompression

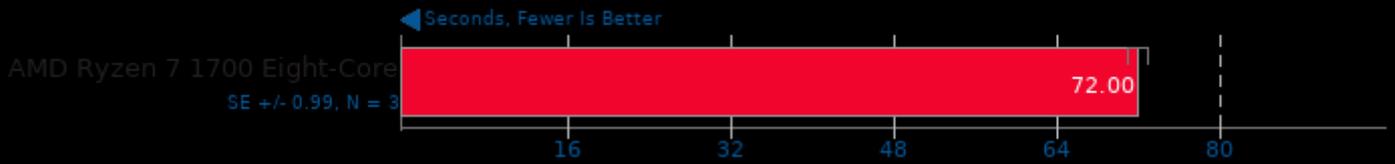


System XZ Decompression



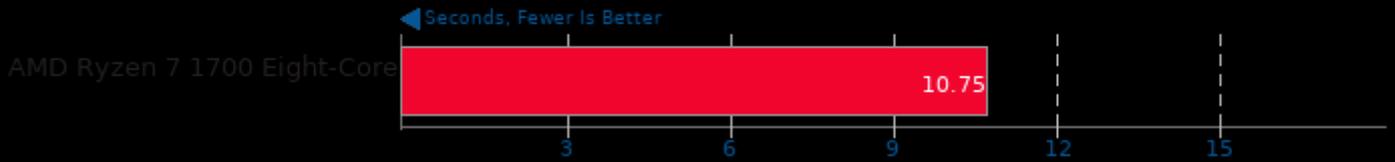
RAR Compression 5.6.1

Linux Source Tree Archiving To RAR



Bork File Encrypter 1.4

File Encryption Time



t-test1 2017-01-13

Threads: 1



1. (CC) gcc options: -pthread

t-test1 2017-01-13

Threads: 2

AMD Ryzen 7 1700 Eight-Core - Sapphire AMD Radeon RX

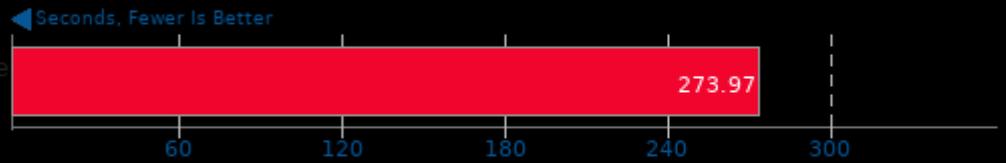


1. (GCC) gcc options: -pthread

Rodinia 3.1

Test: OpenMP LavaMD

AMD Ryzen 7 1700 Eight-Core

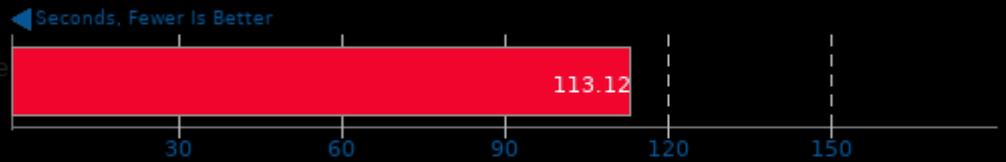


1. (GXX) g++ options: -O2 -fOpenCL

Rodinia 3.1

Test: OpenMP HotSpot3D

AMD Ryzen 7 1700 Eight-Core

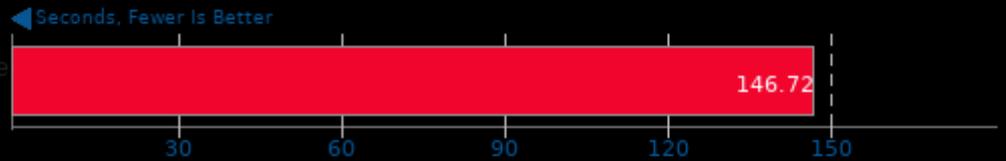


1. (GXX) g++ options: -O2 -fOpenCL

Rodinia 3.1

Test: OpenMP Leukocyte

AMD Ryzen 7 1700 Eight-Core

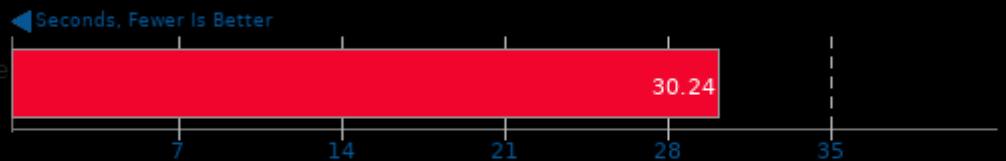


1. (GXX) g++ options: -O2 -fOpenCL

Rodinia 3.1

Test: OpenMP CFD Solver

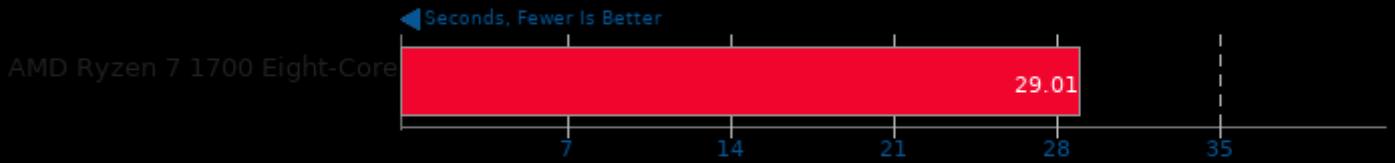
AMD Ryzen 7 1700 Eight-Core



1. (GXX) g++ options: -O2 -fOpenCL

Rodinia 3.1

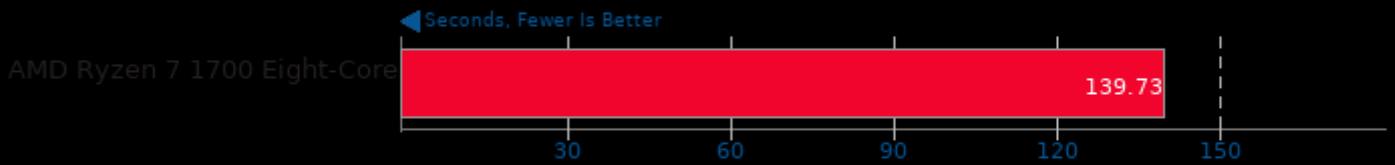
Test: OpenMP Streamcluster



1. (CXX) g++ options: -O2 -fOpenCL

Parboil 2.5

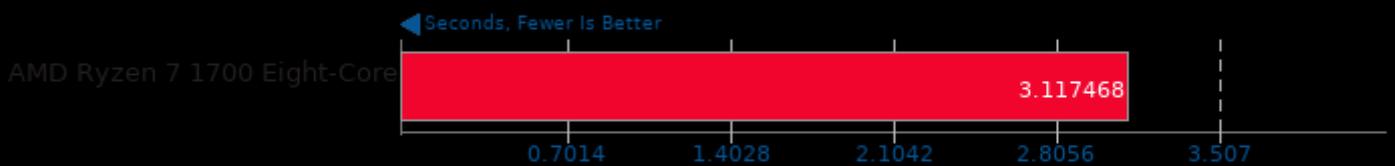
Test: OpenMP LBM



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

Parboil 2.5

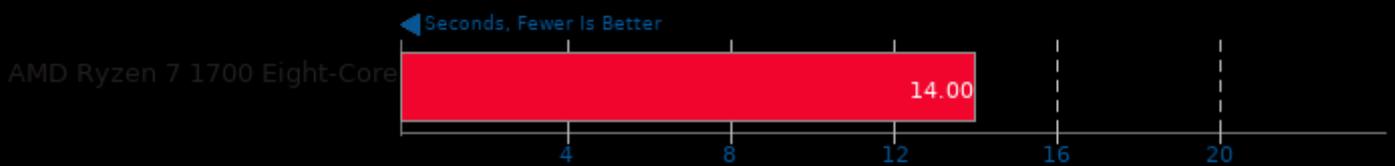
Test: OpenMP CUTCP



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

Parboil 2.5

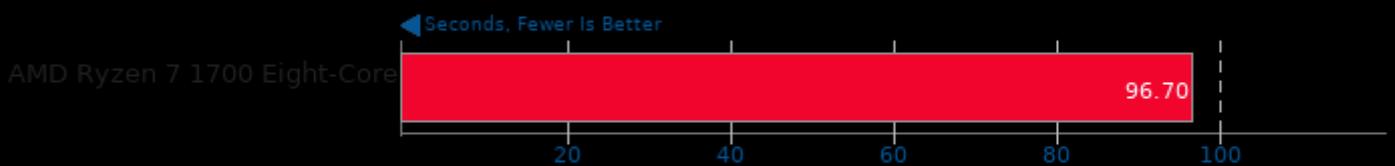
Test: OpenMP Stencil



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

Parboil 2.5

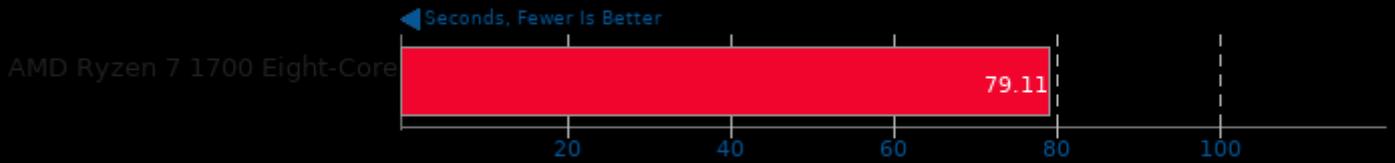
Test: OpenMP MRI Gridding



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

CppPerformanceBenchmarks 9

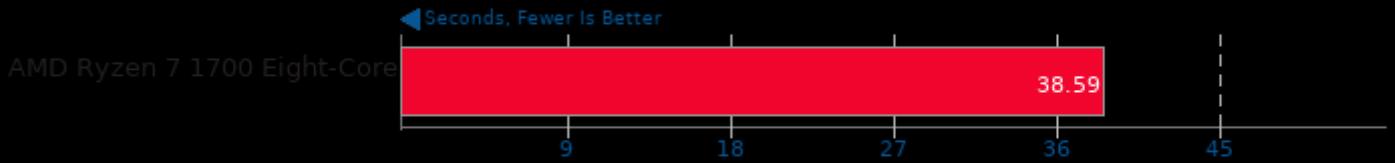
Test: Atol



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

CppPerformanceBenchmarks 9

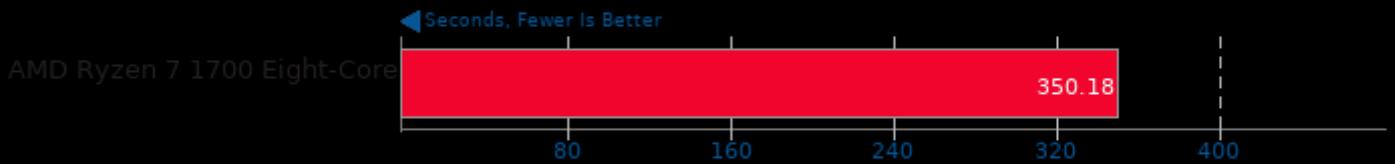
Test: Ctype



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

CppPerformanceBenchmarks 9

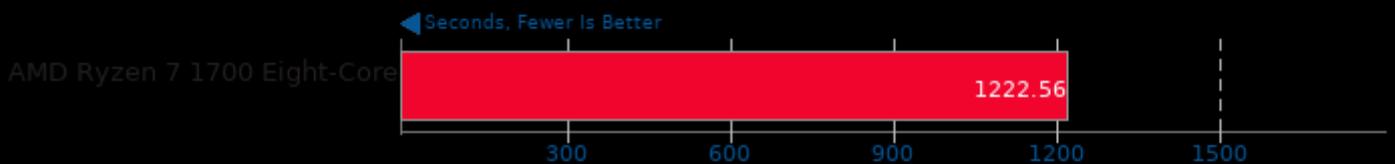
Test: Math Library



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

CppPerformanceBenchmarks 9

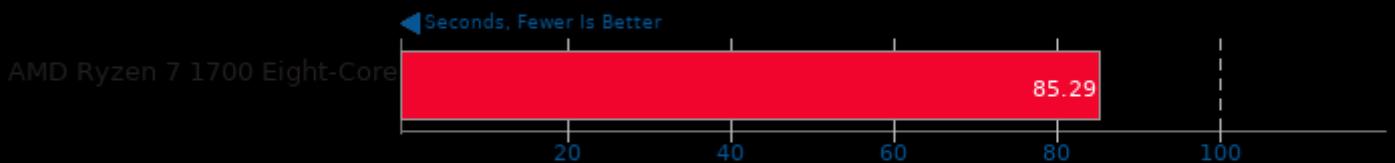
Test: Random Numbers



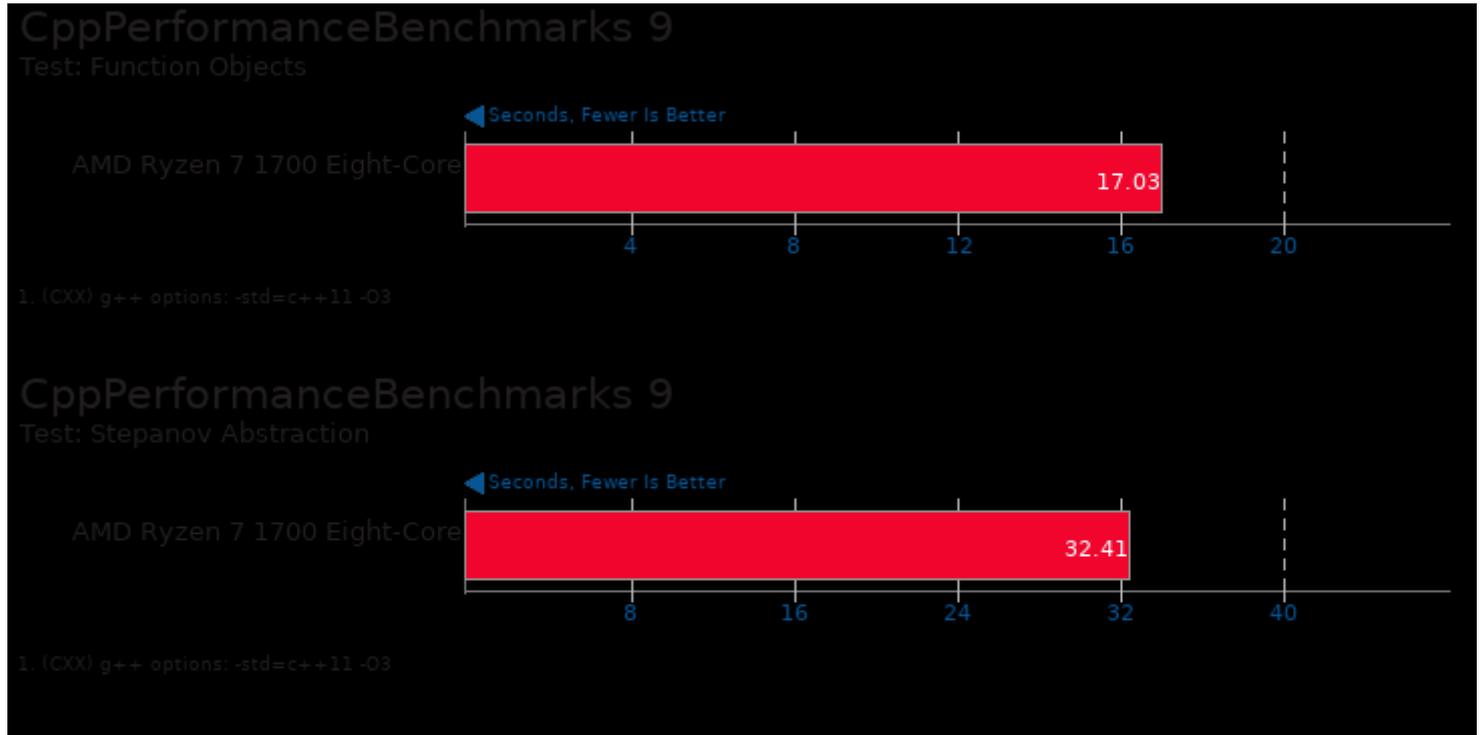
1. (CXX) g++ options: -std=c++11 -O3

CppPerformanceBenchmarks 9

Test: Stepanov Vector



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



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