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ryzen_memtest

AMD Ryzen 5 1600 Six-Core testing with a ASRock B450M Pro4 (P4.20 BIOS) and ASUS NVIDIA GeForce GT 1030 2GB on Ubuntu 21.04 via the Phoronix Test Suite.

Test Systems:

AMD Ryzen 5 1600 Six-Core

Processor: AMD Ryzen 5 1600 Six-Core @ 3.20GHz (6 Cores / 12 Threads), Motherboard: ASRock B450M Pro4 (P4.20 BIOS), Chipset: AMD 17h, Memory: 16GB, Disk: 2 x 120GB KINGSTON SA400S3 + 2000GB Western Digital WD20EZRZ-22Z, Graphics: ASUS NVIDIA GeForce GT 1030 2GB, Audio: NVIDIA GP108 HD Audio, Monitor: PHL 223V7, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 21.04, Kernel: 5.11.0-18-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server 1.20.9, Display Driver: NVIDIA 460.80, OpenGL: 4.6.0, OpenCL: OpenCL 1.2 CUDA 11.2.162, Vulkan: 1.2.155, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 3840x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie

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--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-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0x800820d
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	AMD Ryzen 5 1600 Six-Core
RAMspeed SMP - Add - Integer (MB/s)	28749
Standard Deviation	0.3%
RAMspeed SMP - Copy - Integer (MB/s)	25187
Standard Deviation	0.4%
RAMspeed SMP - Scale - Integer (MB/s)	23694
Standard Deviation	0.3%
RAMspeed SMP - Triad - Integer (MB/s)	23093
Standard Deviation	2.2%
RAMspeed SMP - Average - Integer (MB/s)	24751
Standard Deviation	0.7%
RAMspeed SMP - Add - Floating Point (MB/s)	28818
Standard Deviation	0.6%
RAMspeed SMP - Copy - Floating Point (MB/s)	25284
Standard Deviation	0.2%
RAMspeed SMP - Scale - Floating Point (MB/s)	23789
Standard Deviation	0.8%
RAMspeed SMP - Triad - Floating Point (MB/s)	27698
Standard Deviation	0.6%
RAMspeed SMP - Average - Floating Point (MB/s)	26375
Standard Deviation	0.3%
Stream - Copy (MB/s)	37517
Standard Deviation	0.1%
Stream - Scale (MB/s)	25615
Standard Deviation	0%
Stream - Triad (MB/s)	29146
Standard Deviation	0%
Stream - Add (MB/s)	29135
Standard Deviation	0%
Tinymembench - Standard Memcpy (MB/s)	15977
Standard Deviation	1.3%
Tinymembench - Standard Memset (MB/s)	12643
Standard Deviation	0.1%
MBW - Memory Copy - 1024 MiB (MiB/s)	15230
Standard Deviation	0.7%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	8777
Standard Deviation	0.3%
t-test1 - 1 (sec)	25.971
Standard Deviation	1.2%
t-test1 - 2 (sec)	9.085
Standard Deviation	2.1%

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CacheBench - Read Cache (MB/s) 2814

Standard Deviation 0.2%

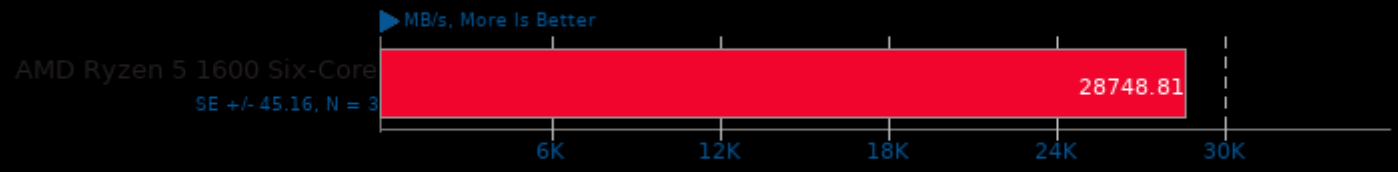
CacheBench - Write Cache (MB/s) 25294

Standard Deviation 0.1%

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RAMspeed SMP 3.5.0

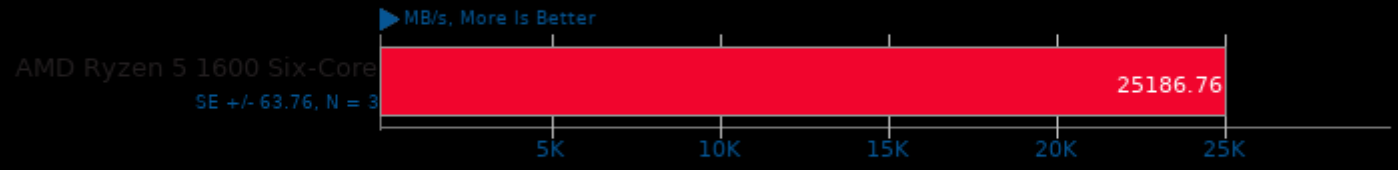
Type: Add - Benchmark: Integer



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

RAMspeed SMP 3.5.0

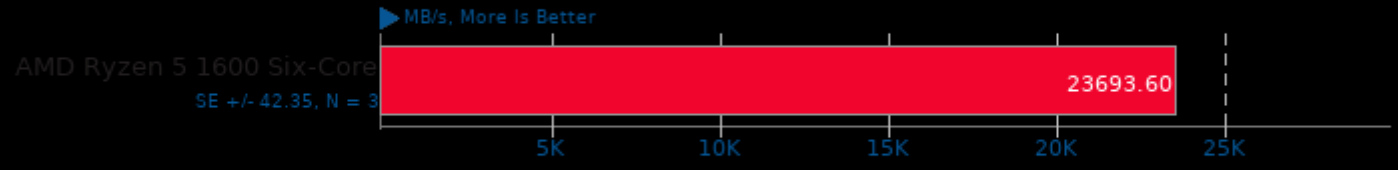
Type: Copy - Benchmark: Integer



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

RAMspeed SMP 3.5.0

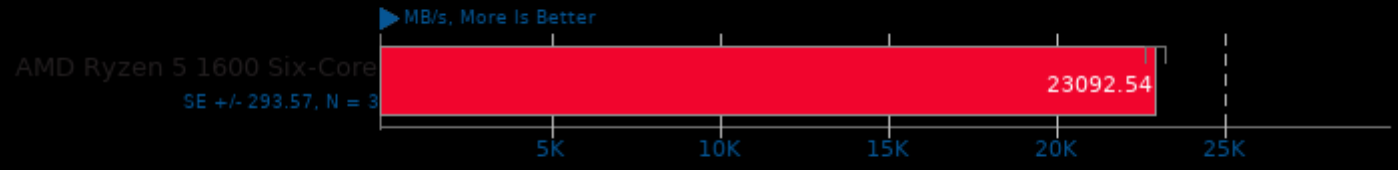
Type: Scale - Benchmark: Integer



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

RAMspeed SMP 3.5.0

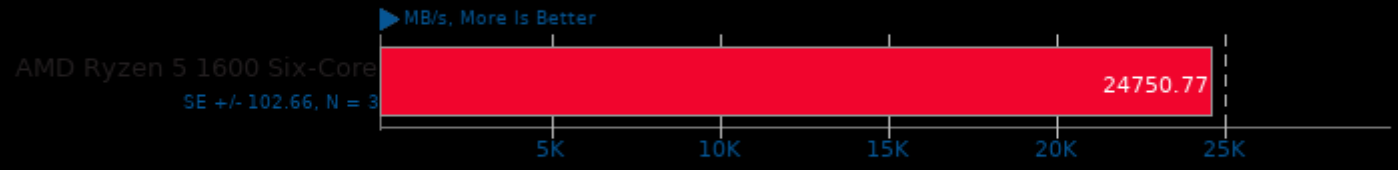
Type: Triad - Benchmark: Integer



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

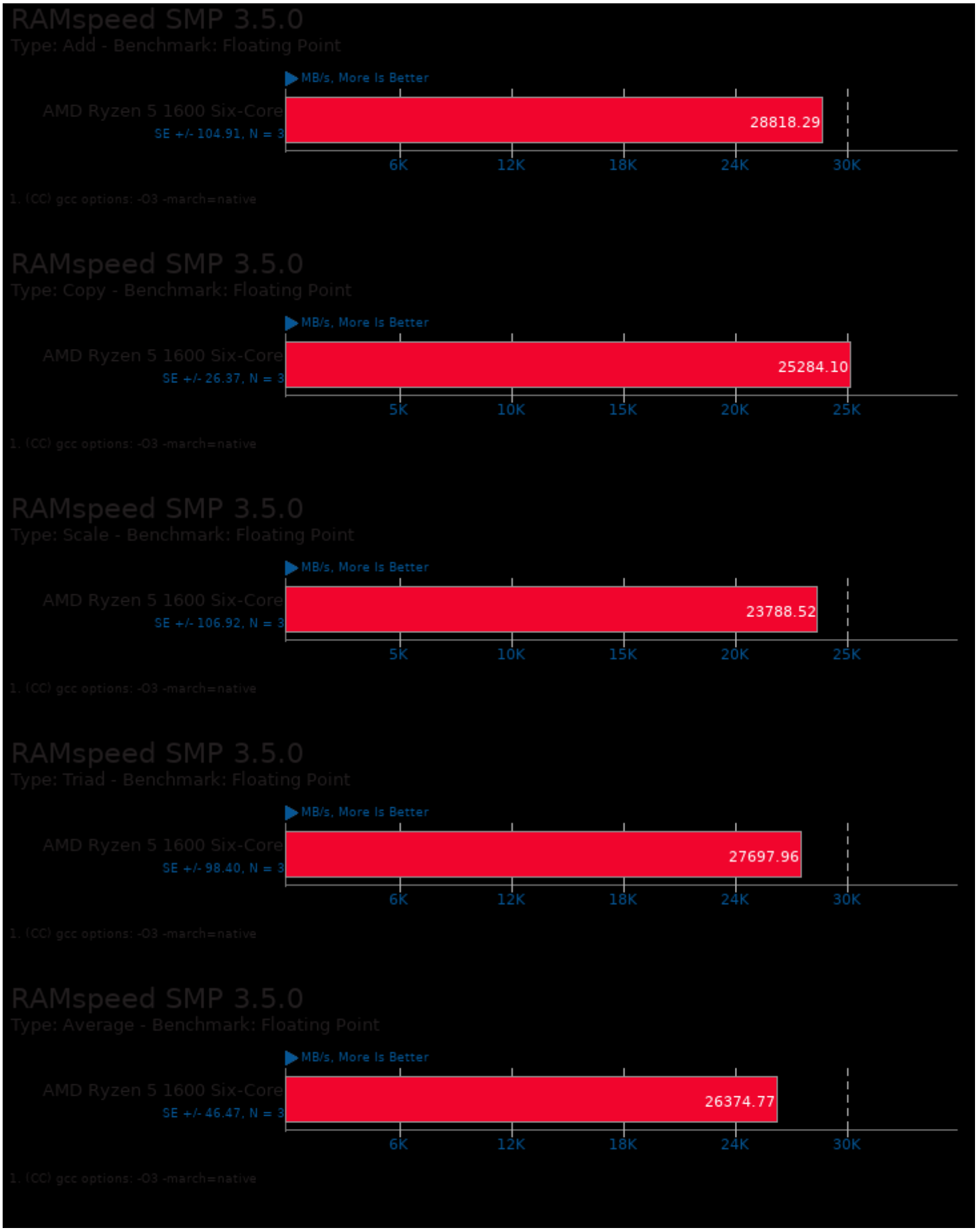
RAMspeed SMP 3.5.0

Type: Average - Benchmark: Integer



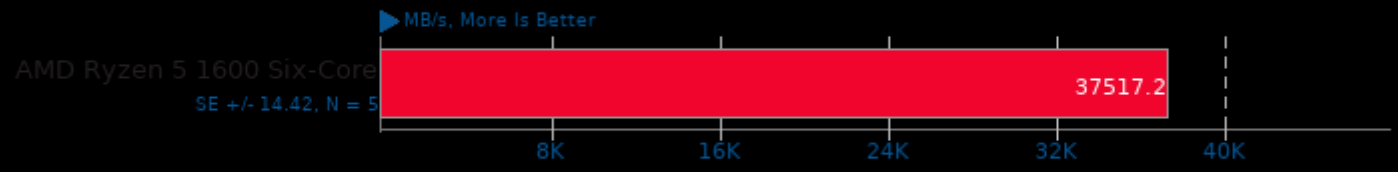
1. (CC) gcc options: -O3 -march=native

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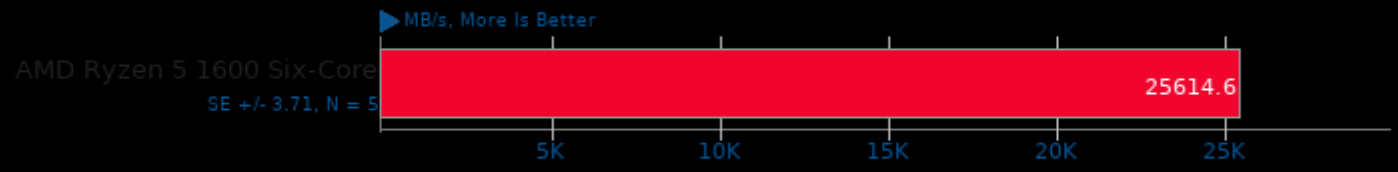
ryzen_memtest

Stream 2013-01-17
Type: Copy



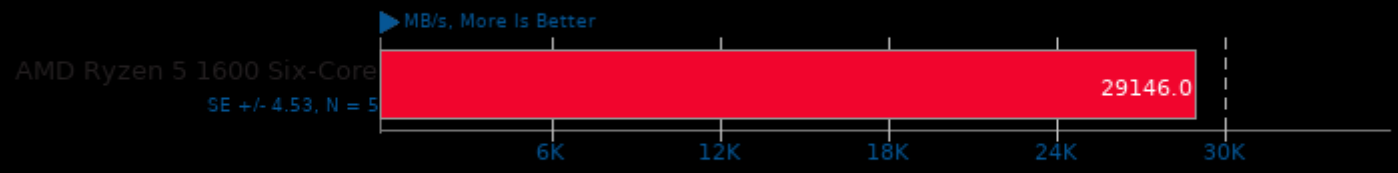
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17
Type: Scale



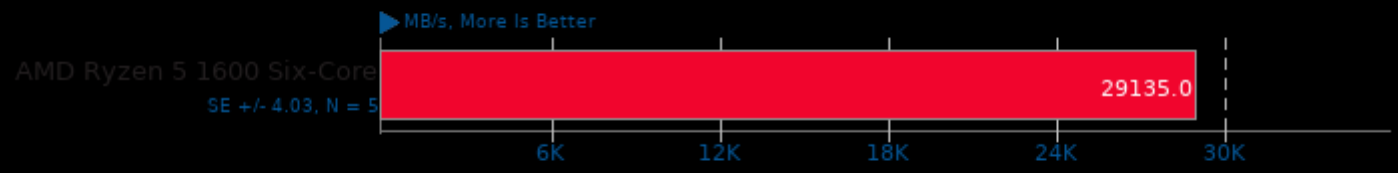
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17
Type: Triad



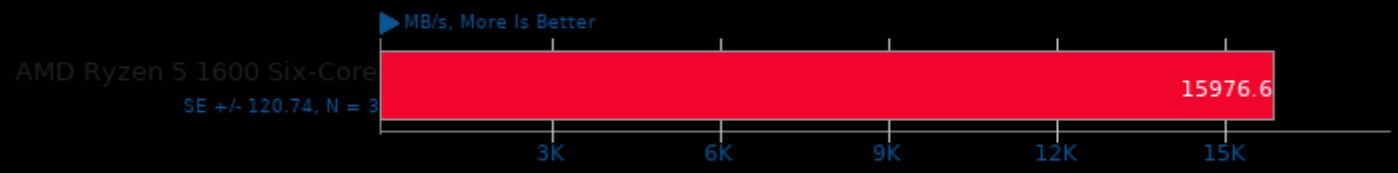
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17
Type: Add



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

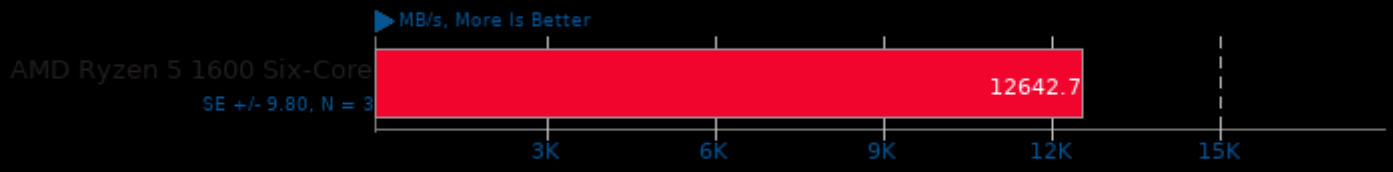
Tinymembench 2018-05-28
Standard Memcpy



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

Tinymembench 2018-05-28

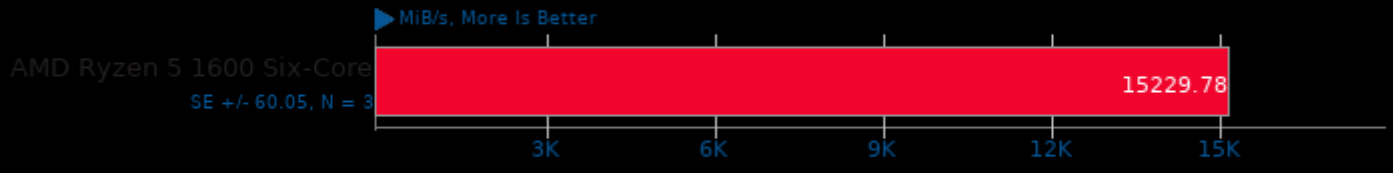
Standard Memset



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

MBW 2018-09-08

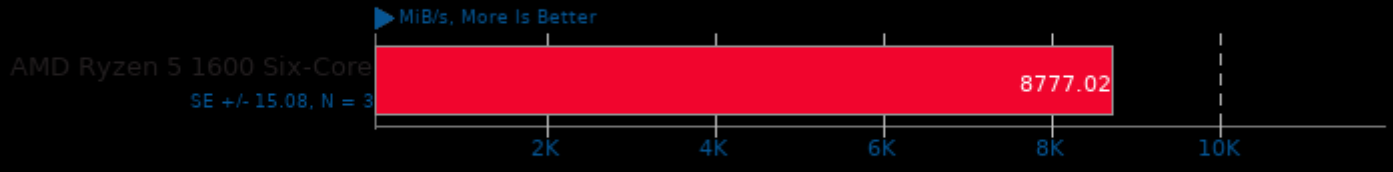
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

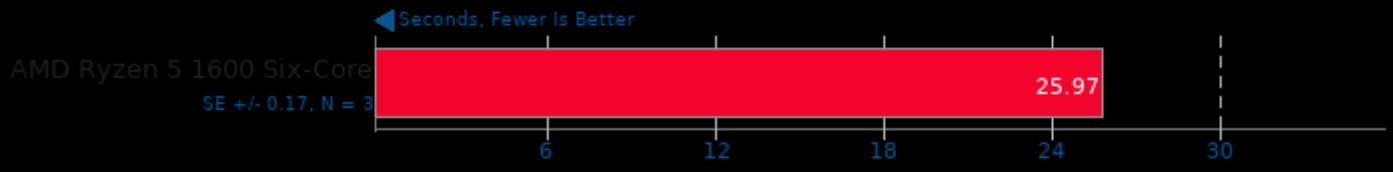
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

t-test1 2017-01-13

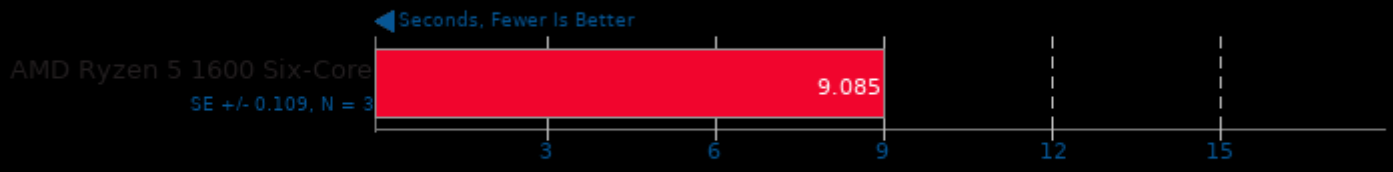
Threads: 1



1. (CC) gcc options: -pthread

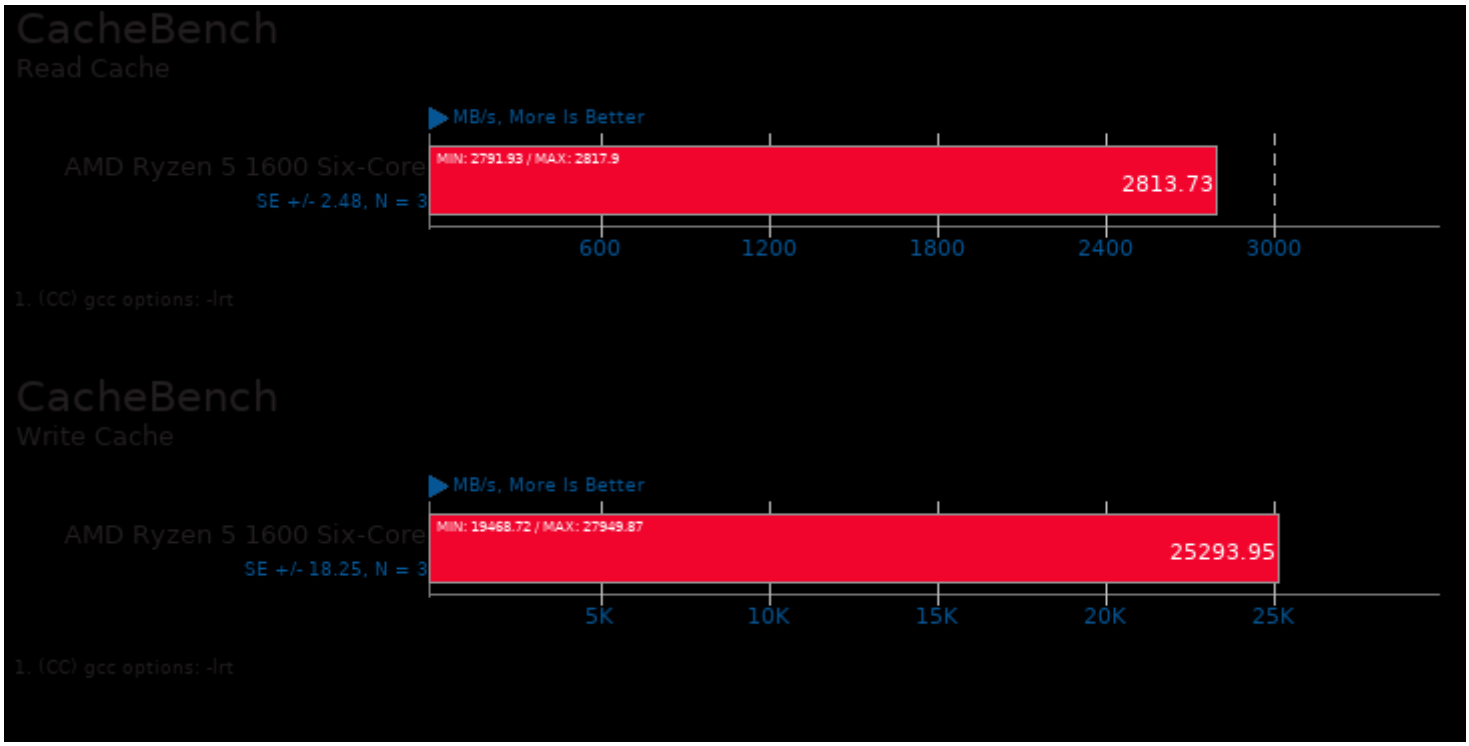
t-test1 2017-01-13

Threads: 2



1. (CC) gcc options: -pthread

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