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Desktop-Memory

AMD Ryzen 7 1700 Eight-Core testing with a ASUS PRIME A320M-K (0805 BIOS) and eVGA NVIDIA GeForce GTX 750 Ti 2GB on ManjaroLinux 20.2.1 via the Phoronix Test Suite.

Test Systems:

16GB

Processor: AMD Ryzen 7 1700 Eight-Core @ 3.00GHz (8 Cores / 16 Threads), Motherboard: ASUS PRIME A320M-K (0805 BIOS), Chipset: AMD 17h, Memory: 16GB, Disk: 256GB ADATA SX8200PNP + 1000GB Western Digital WDS100T2G0A-, Graphics: eVGA NVIDIA GeForce GTX 750 Ti 2GB (1019/2700MHz), Audio: NVIDIA GM107 HD Audio, Monitor: EK240Y, Network: Realtek RTL8111/8168/8411

OS: ManjaroLinux 20.2.1, Kernel: 5.9.16-1-MANJARO (x86_64), Desktop: GNOME Shell 3.38.3, Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.32.03, OpenGL: 4.6.0, Compiler: GCC 10.2.0 + Clang 11.0.1Target: + CUDA 11.2, File-System: ext4, Screen Resolution: 4920x2160

Compiler Notes: --disable-libssp --disable-libstdcxx-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-libiberty

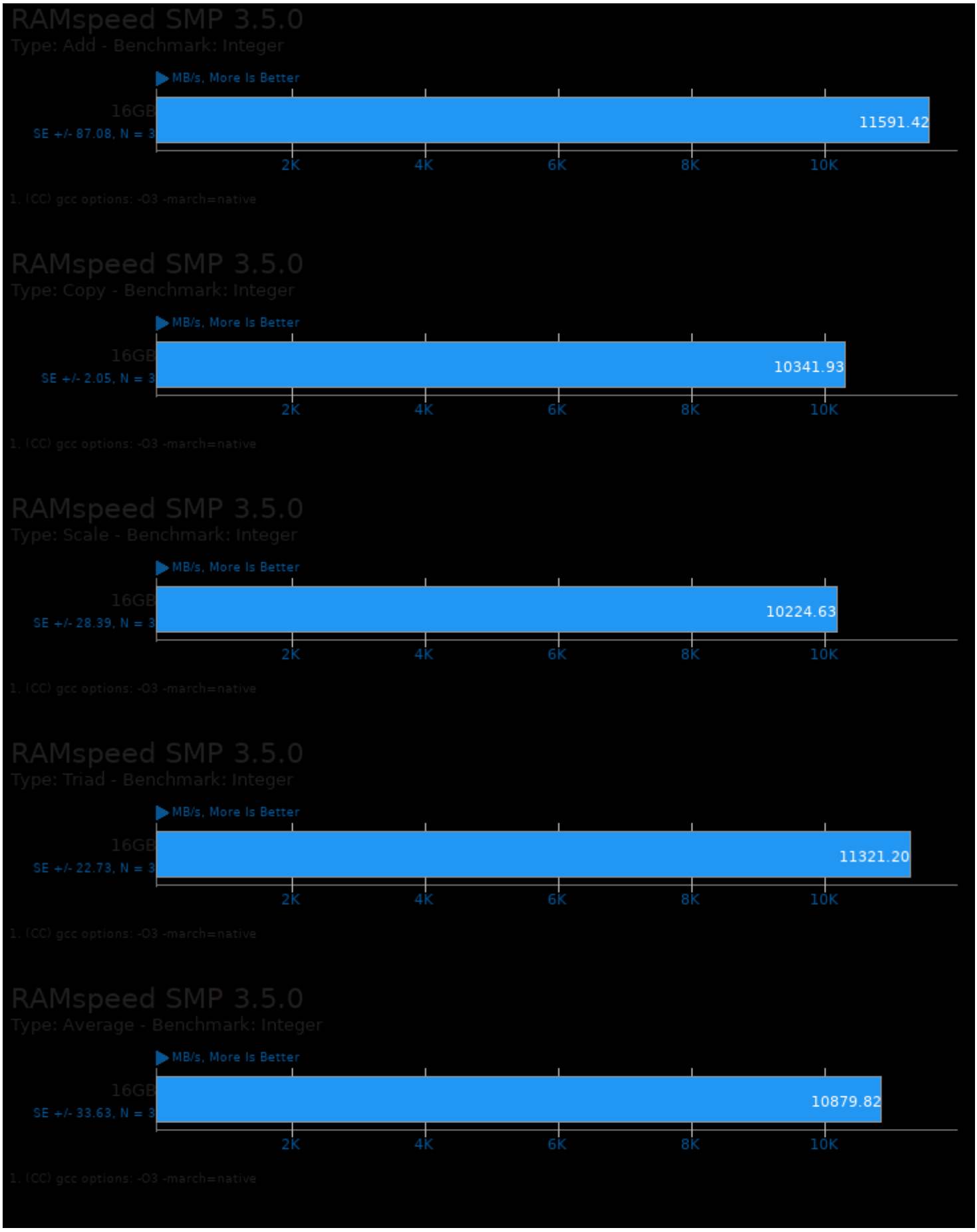
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--enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0x8001126
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 STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

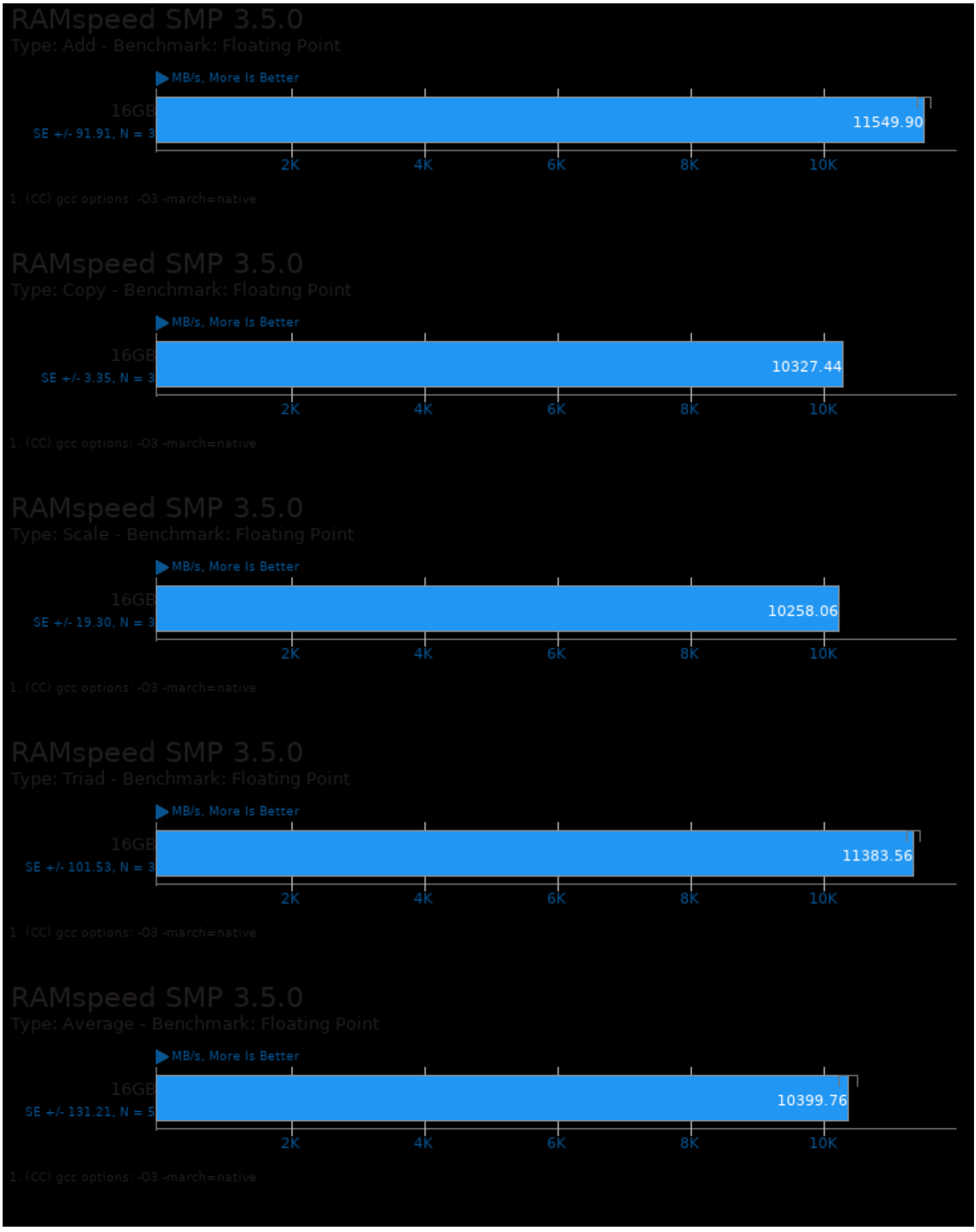
	16GB
RAMspeed SMP - Add - Integer (MB/s)	11591
Standard Deviation	1.3%
RAMspeed SMP - Copy - Integer (MB/s)	10342
Standard Deviation	0%
RAMspeed SMP - Scale - Integer (MB/s)	10225
Standard Deviation	0.5%
RAMspeed SMP - Triad - Integer (MB/s)	11321
Standard Deviation	0.3%
RAMspeed SMP - Average - Integer (MB/s)	10880
Standard Deviation	0.5%
RAMspeed SMP - Add - Floating Point (MB/s)	11550
Standard Deviation	1.4%
RAMspeed SMP - Copy - Floating Point (MB/s)	10327
Standard Deviation	0.1%
RAMspeed SMP - Scale - Floating Point (MB/s)	10258
Standard Deviation	0.3%
RAMspeed SMP - Triad - Floating Point (MB/s)	11384
Standard Deviation	1.5%
RAMspeed SMP - Average - Floating Point (MB/s)	10400
Standard Deviation	2.8%
Stream - Copy (MB/s)	13385
Standard Deviation	0.1%
Stream - Scale (MB/s)	9851
Standard Deviation	0.2%
Stream - Triad (MB/s)	10989
Standard Deviation	0.2%
Stream - Add (MB/s)	11020
Standard Deviation	0.1%
Tinymembench - Standard Memcpy (MB/s)	8332
Standard Deviation	0.3%
Tinymembench - Standard Memset (MB/s)	7527
Standard Deviation	0.8%
MBW - Memory Copy - 128 MiB (MiB/s)	7908
Standard Deviation	0.4%
MBW - Memory Copy - 512 MiB (MiB/s)	7979
Standard Deviation	0.1%
MBW - Memory Copy - 1024 MiB (MiB/s)	7967
Standard Deviation	0.3%
MBW - Memory Copy - 4096 MiB (MiB/s)	8000
Standard Deviation	0.2%
MBW - M.C.F.B.S - 128 MiB (MiB/s)	4785
Standard Deviation	0.6%
MBW - M.C.F.B.S - 512 MiB (MiB/s)	4939

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Standard Deviation	0.4%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	4971
Standard Deviation	0.3%
MBW - M.C.F.B.S - 4096 MiB (MiB/s)	5020
Standard Deviation	0.2%
t-test1 - 1 (sec)	43.249
Standard Deviation	8.1%
t-test1 - 2 (sec)	15.576
Standard Deviation	2.2%
CacheBench - Read (MB/s)	2634
Standard Deviation	0.3%
CacheBench - Write (MB/s)	23400
Standard Deviation	1.3%
CacheBench - R.M.W (MB/s)	45942
Standard Deviation	0.3%


RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
16GB
SE +/- 87.08, N = 3
11591.42
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
16GB
SE +/- 2.05, N = 3
10341.93
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
16GB
SE +/- 28.39, N = 3
10224.63
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
16GB
SE +/- 22.73, N = 3
11321.20
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
16GB
SE +/- 33.63, N = 3
10879.82
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native

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Stream 2013-01-17
Type: Copy



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

Stream 2013-01-17
Type: Scale



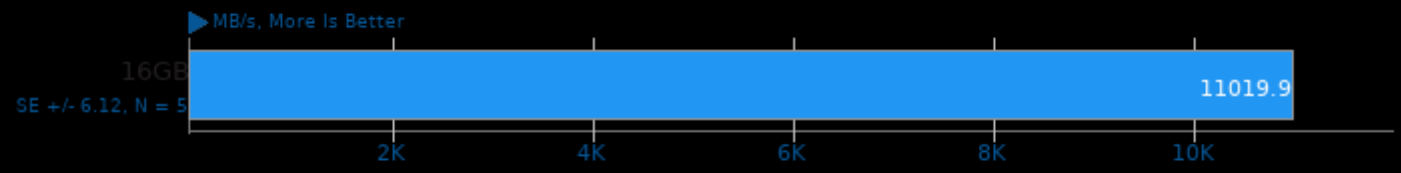
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17
Type: Triad



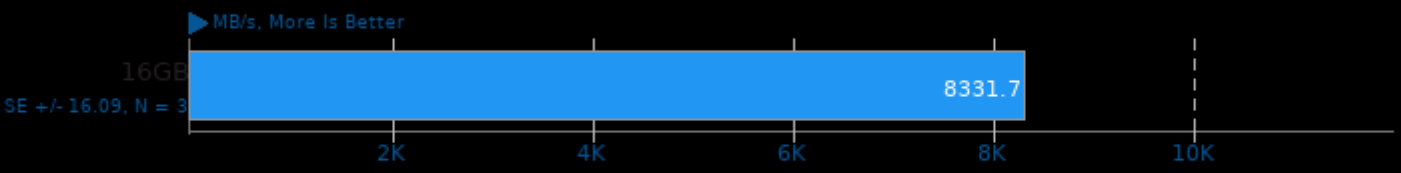
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17
Type: Add



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

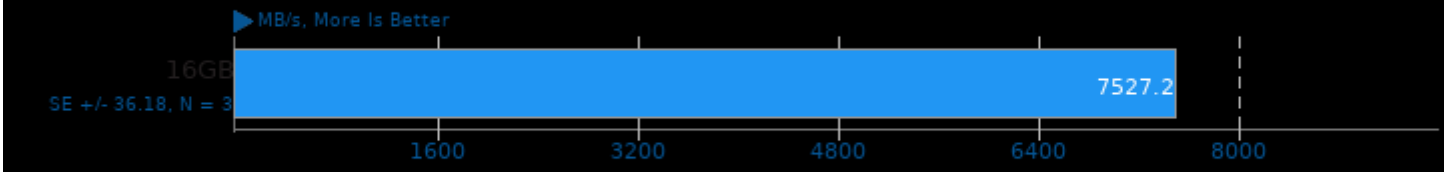
Tinymembench 2018-05-28
Standard Memcpy



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

Tinymembench 2018-05-28

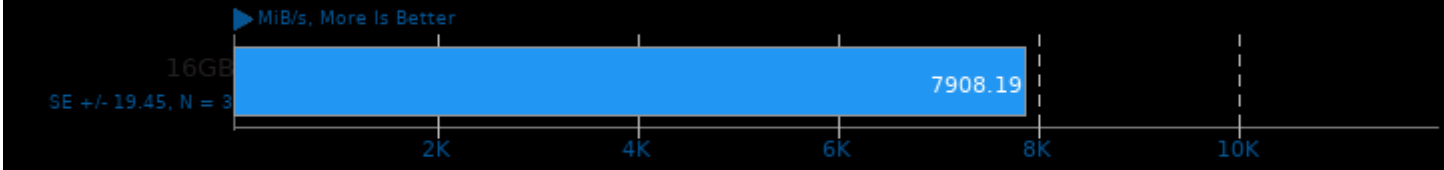
Standard Memset



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

MBW 2018-09-08

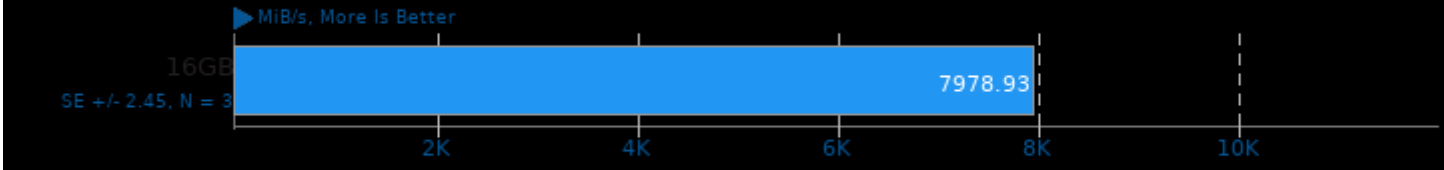
Test: Memory Copy - Array Size: 128 MiB



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

MBW 2018-09-08

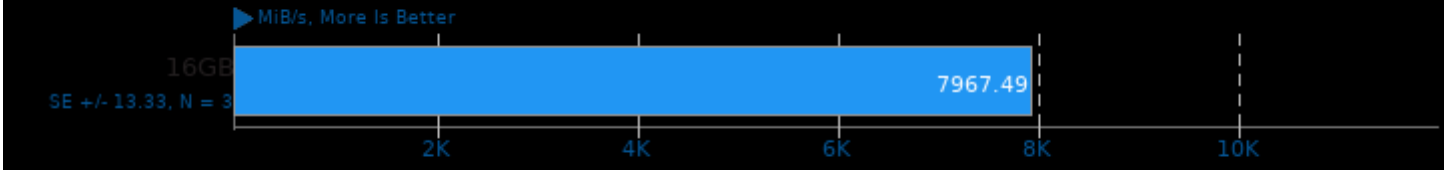
Test: Memory Copy - Array Size: 512 MiB



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

MBW 2018-09-08

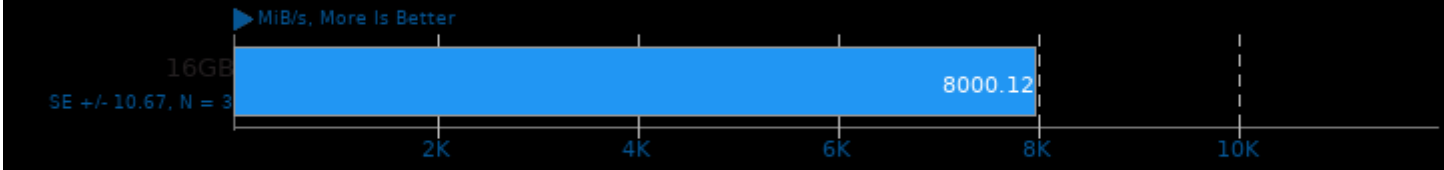
Test: Memory Copy - Array Size: 1024 MiB



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

MBW 2018-09-08

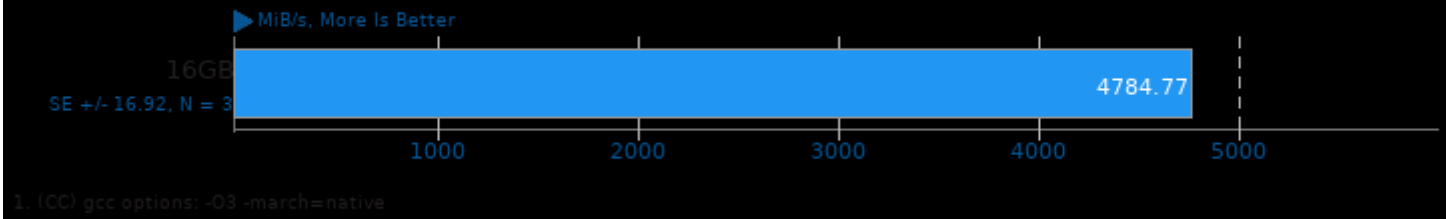
Test: Memory Copy - Array Size: 4096 MiB



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

MBW 2018-09-08

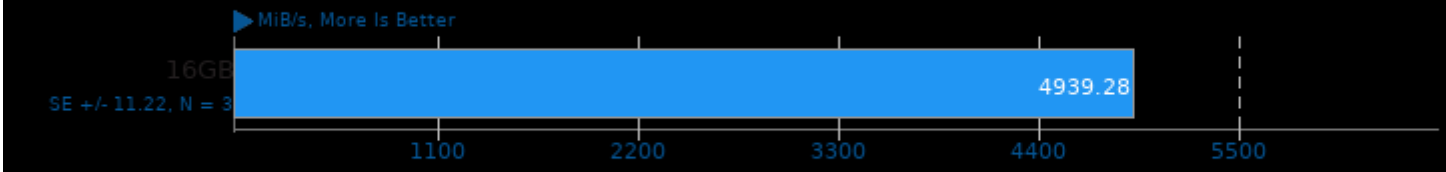
Test: Memory Copy, Fixed Block Size - Array Size: 128 MiB



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

MBW 2018-09-08

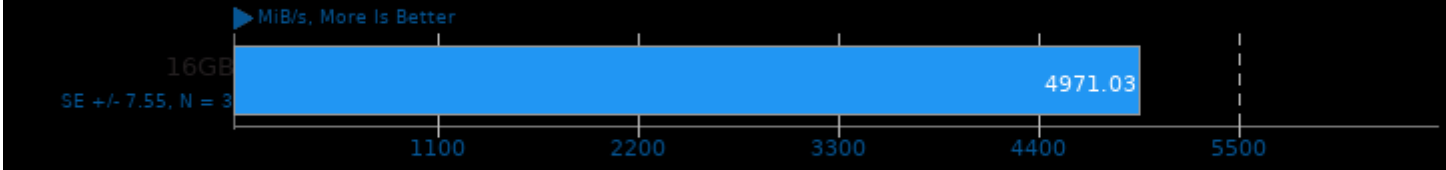
Test: Memory Copy, Fixed Block Size - Array Size: 512 MiB



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

MBW 2018-09-08

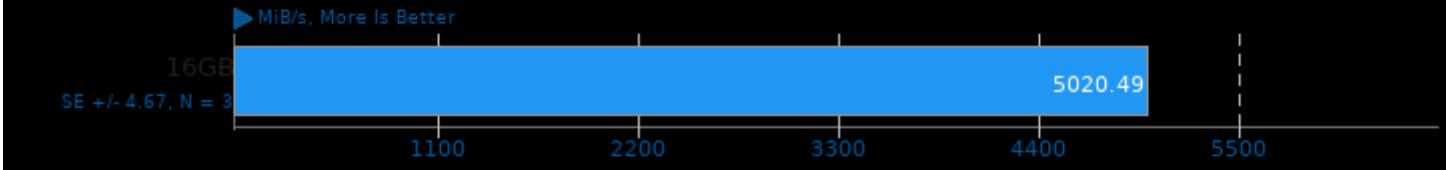
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB



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

MBW 2018-09-08

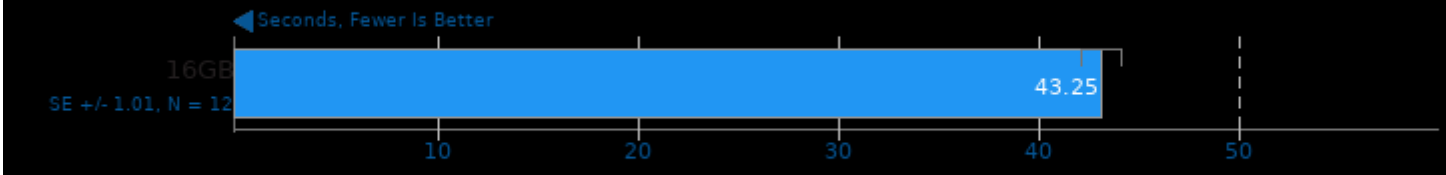
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



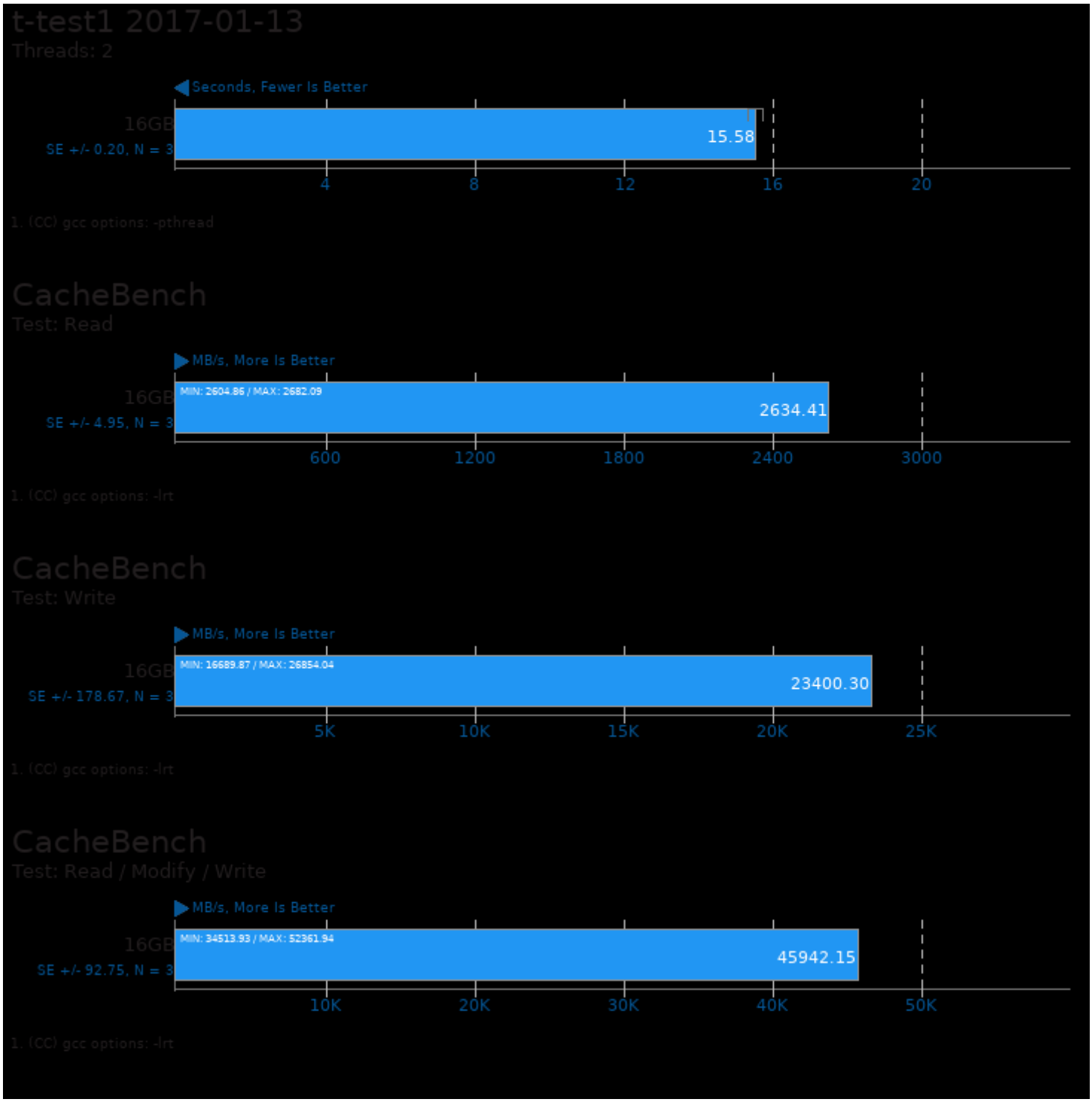
1. (CC) gcc options: -O3 -march=native

t-test1 2017-01-13

Threads: 1



1. (CC) gcc options: -pthread



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