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testmem

2 x Intel Xeon Gold 6240 testing with a Intel S2600WFT (SE5C620.86B.02.01.0012.070720200218 BIOS) and ASPEED on CentOS 7.9.2009 via the Phoronix Test Suite.

Test Systems:

testmem1

Processor: 2 x Intel Xeon Gold 6240 @ 3.90GHz (36 Cores / 72 Threads), Motherboard: Intel S2600WFT (SE5C620.86B.02.01.0012.070720200218 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 12 x 32 GB DDR4-2933MT/s Micron 18ASF4G72PZ-2G9B1, Disk: 2 x 1600GB SAMSUNG MZPLJ1T6HBJR-00007 + 43GB MR9480-8i8e, Graphics: ASPEED, Monitor: LCD, Network: 2 x Intel X722 for 10GBASE-T + 2 x Intel 10G X550T + 2 x Intel I350

OS: CentOS 7.9.2009, Kernel: 3.10.0-1160.6.1.el7.x86_64 (x86_64), Compiler: GCC 4.8.5 20150623, File-System: ext4, Screen Resolution: 1440x900

Processor Notes: Scaling Governor: intel_pstate performance
Security Notes: SELinux + itlb_multihit: vulnerable + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via

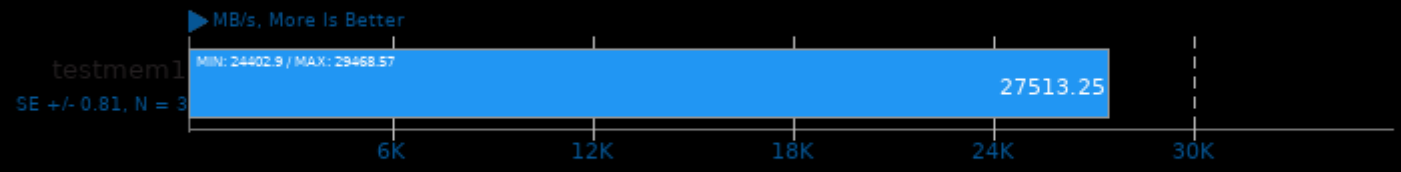
testmem

prctl and seccomp + spectre_v1: Mitigation of Load fences usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full retpoline IBPB + srbds: Not affected + tsx_async_abort: Mitigation of Clear buffers; SMT vulnerable

	testmem1
CacheBench - Write Cache (MB/s)	27513
Standard Deviation	0%
CacheBench - Read Cache (MB/s)	3291
Standard Deviation	0%
t-test1 - 2 (sec)	7.66
Standard Deviation	1.5%
t-test1 - 1 (sec)	19.31
Standard Deviation	0%
MBW - M.C.F.B.S - 1024 MiB (MiB/s)	5366
Standard Deviation	5.4%
MBW - Memory Copy - 1024 MiB (MiB/s)	4441
Standard Deviation	0.4%
Tinymembench - Standard Memcpy (MB/s)	4750
Standard Deviation	0.4%
Stream - Add (MB/s)	112764
Standard Deviation	2.9%
Stream - Triad (MB/s)	113191
Standard Deviation	2.9%
Stream - Scale (MB/s)	102552
Standard Deviation	2%
Stream - Copy (MB/s)	108097
Standard Deviation	1.9%
RAMspeed SMP - Average - Floating Point (MB/s)	25872
Standard Deviation	2.3%
RAMspeed SMP - Triad - Floating Point (MB/s)	26371
Standard Deviation	2%
RAMspeed SMP - Scale - Floating Point (MB/s)	25262
Standard Deviation	2.8%
RAMspeed SMP - Copy - Floating Point (MB/s)	25237
Standard Deviation	3.4%
RAMspeed SMP - Add - Floating Point (MB/s)	26161
Standard Deviation	0%
RAMspeed SMP - Average - Integer (MB/s)	25280
Standard Deviation	1.5%
RAMspeed SMP - Triad - Integer (MB/s)	26160
Standard Deviation	4.1%
RAMspeed SMP - Scale - Integer (MB/s)	26559
Standard Deviation	3.6%
RAMspeed SMP - Copy - Integer (MB/s)	25219
Standard Deviation	3.9%
RAMspeed SMP - Add - Integer (MB/s)	26648
Standard Deviation	2.8%
Tinymembench - Standard Memset (MB/s)	11855
Standard Deviation	8.6%

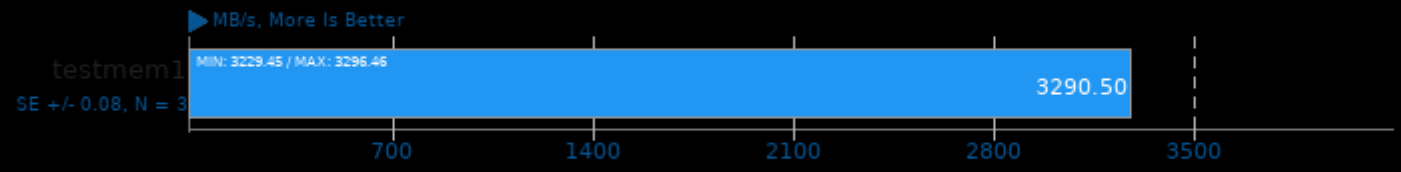
testmem

CacheBench
Write Cache



1. (CC) gcc options: -lrt

CacheBench
Read Cache



1. (CC) gcc options: -lrt

t-test1 2017-01-13
Threads: 2



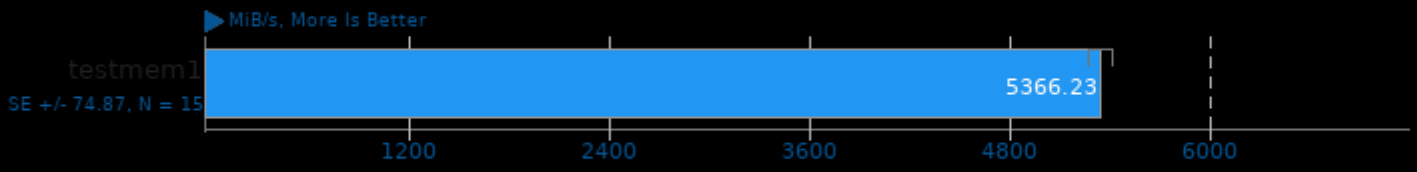
1. (CC) gcc options: -pthread

t-test1 2017-01-13
Threads: 1



1. (CC) gcc options: -pthread

MBW 2018-09-08
Test: Memory Copy, Fixed Block Size - Array Size: 1024 MiB

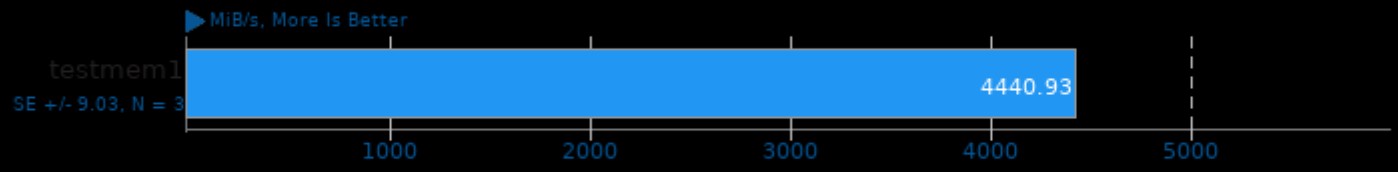


1. (CC) gcc options: -O3 -march=native

testmem

MBW 2018-09-08

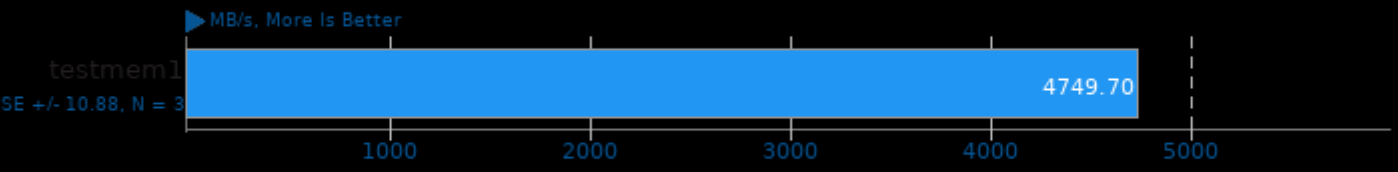
Test: Memory Copy - Array Size: 1024 MiB



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

Tinymembench 2018-05-28

Standard Memcpy



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

Stream 2013-01-17

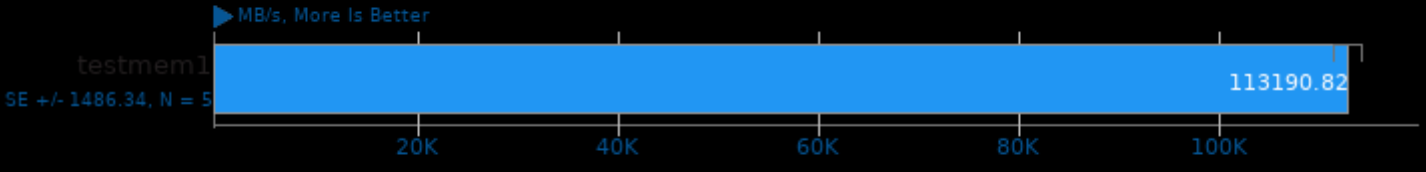
Type: Add



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

Stream 2013-01-17

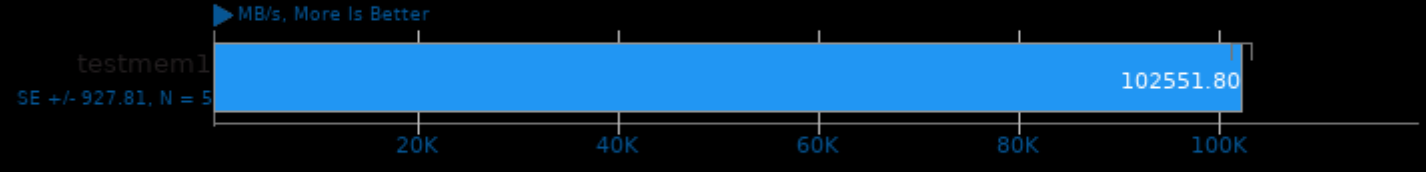
Type: Triad



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

Stream 2013-01-17

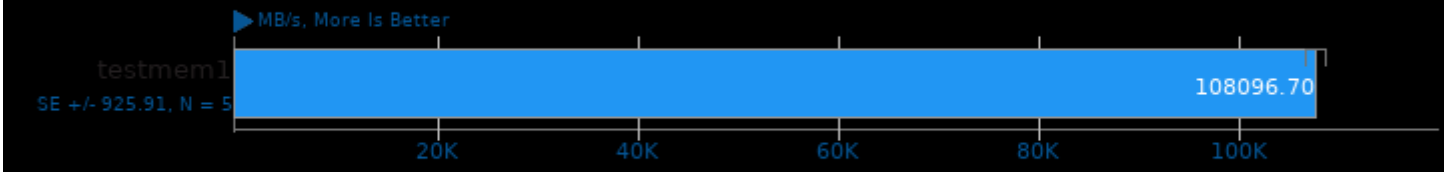
Type: Scale



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

Stream 2013-01-17

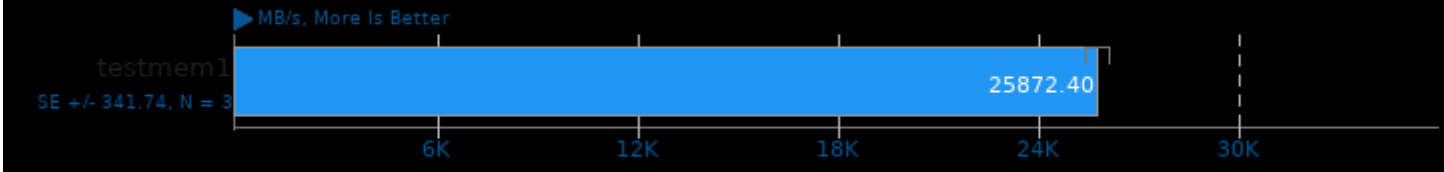
Type: Copy



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

RAMspeed SMP 3.5.0

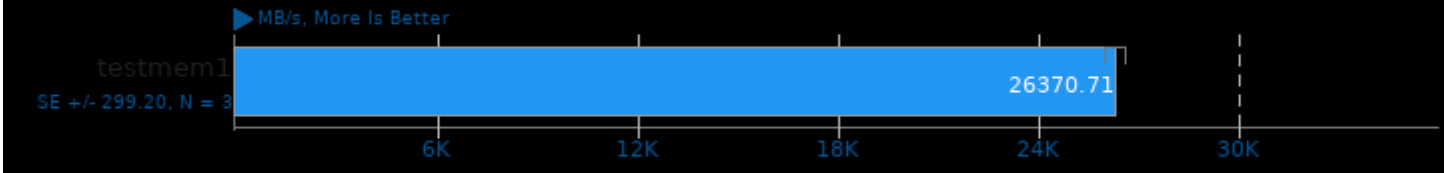
Type: Average - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

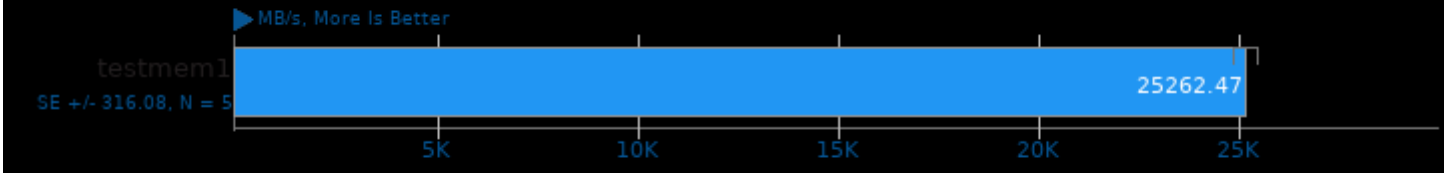
Type: Triad - Benchmark: Floating Point



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

RAMspeed SMP 3.5.0

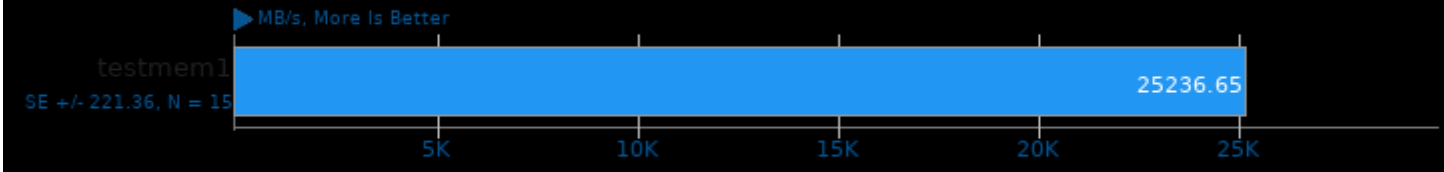
Type: Scale - Benchmark: Floating Point



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

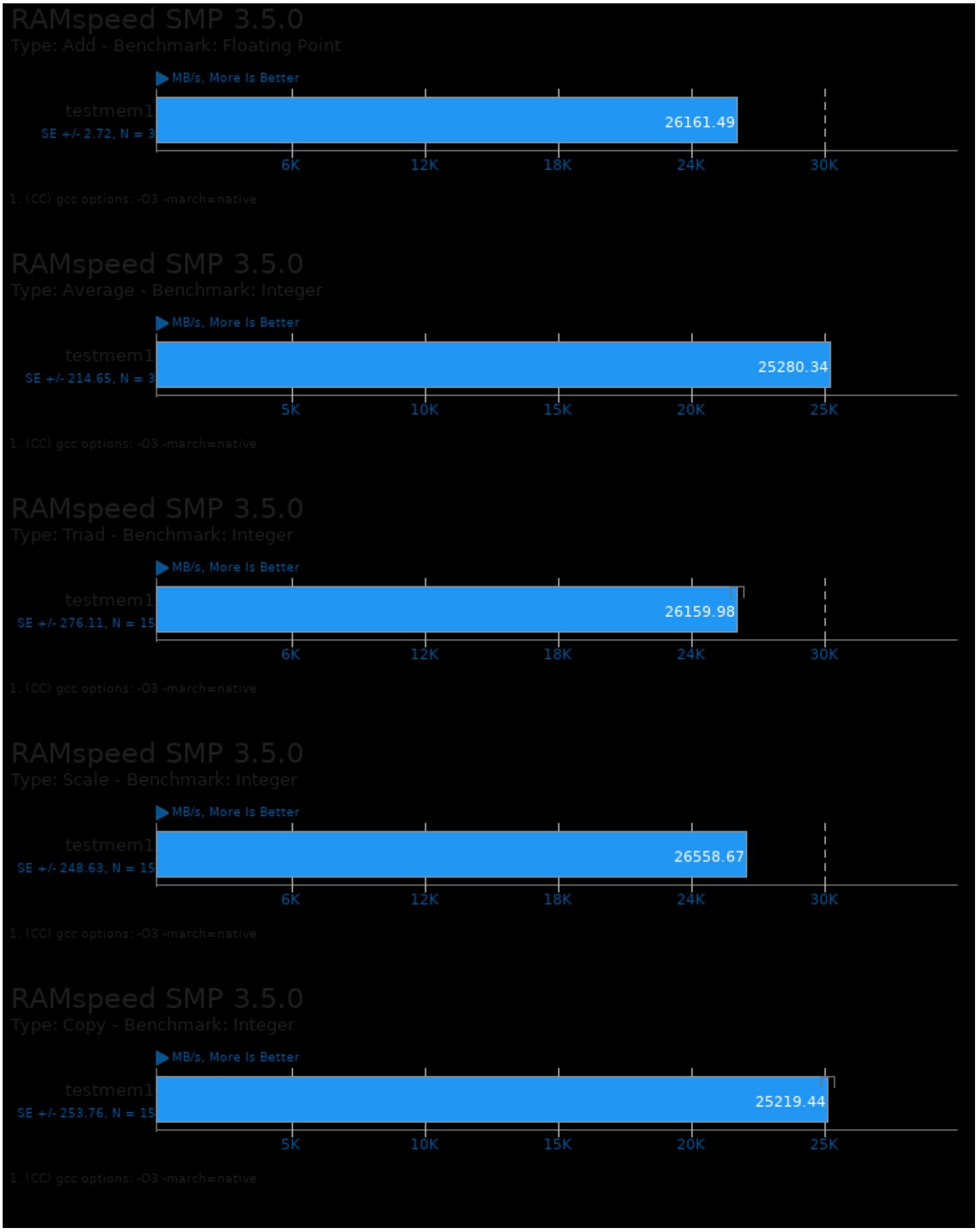
RAMspeed SMP 3.5.0

Type: Copy - Benchmark: Floating Point

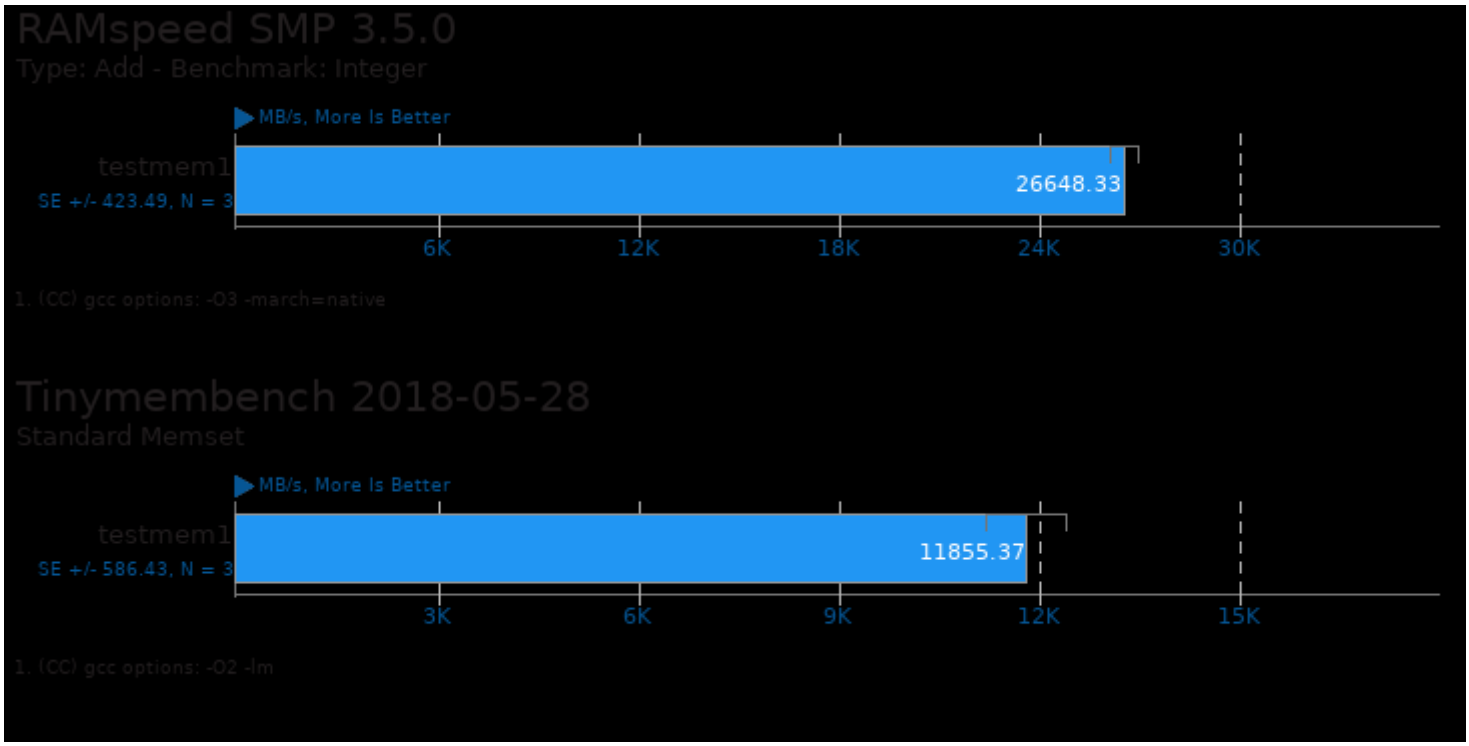


1. (CC) gcc options: -O3 -march=native

testmem


RAMspeed SMP 3.5.0
Type: Add - Benchmark: Floating Point
MB/s, More Is Better
testmem1
SE +/- 2.72, N = 3
26161.49
6K
12K
18K
24K
30K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
testmem1
SE +/- 214.65, N = 3
25280.34
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
testmem1
SE +/- 276.11, N = 15
26159.98
6K
12K
18K
24K
30K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
testmem1
SE +/- 248.63, N = 15
26558.67
6K
12K
18K
24K
30K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
testmem1
SE +/- 253.76, N = 15
25219.44
5K
10K
15K
20K
25K
1. (CC) gcc options: -O3 -march=native

testmem



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