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overclock-testing

AMD Ryzen 7 1700 Eight-Core testing with a ASUS PRIME X370-PRO (4406 BIOS) and AMD Radeon RX 64 8GB on neon 18.04 via the Phoronix Test Suite.

Automated Executive Summary

1700@3.72933 had the most wins, coming in first place for 94% of the tests.

Based on the geometric mean of all complete results, the fastest (1700@3.72933) was 1.008x the speed of the slowest (1700@3.7 2933 bios 4406).

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

RAMspeed SMP (Type: Triad - Benchmark: Integer) at 1.031x
RAMspeed SMP (Type: Average - Benchmark: Floating Point) at 1.021x
t-test1 (Threads: 2) at 1.016x
RAMspeed SMP (Type: Scale - Benchmark: Integer) at 1.016x
RAMspeed SMP (Type: Triad - Benchmark: Floating Point) at 1.013x
RAMspeed SMP (Type: Average - Benchmark: Integer) at 1.012x
Tinymembench (Standard Memcpy) at 1.01x
RAMspeed SMP (Type: Add - Benchmark: Integer) at 1.008x
Tinymembench (Standard Memset) at 1.008x

RAMspeed SMP (Type: Copy - Benchmark: Integer) at 1.008x.

Test Systems:

1700@3.72933

Processor: AMD Ryzen 7 1700 Eight-Core @ 3.65GHz (8 Cores / 16 Threads), Motherboard: ASUS PRIME X370-PRO (4207 BIOS), Chipset: AMD Family 17h, Memory: 32768MB, Disk: 5 x 1000GB Seagate ST1000LM035-1RK1 + 500GB Samsung SSD 850 + 500GB Seagate ST500LM021-1KJ15 + Samsung SSD 960 EVO 500GB, Graphics: AMD Radeon RX 64 8GB (1630/945MHz), Audio: AMD Device aaf8, Monitor: PHL BDM3270, Network: Intel I211 Gigabit Connection

OS: neon 18.04, Kernel: 5.0.2-050002-generic (x86_64), Desktop: KDE Plasma 5.15.3, Display Server: X Server 1.19.6, Display Driver: amdgpu 18.0.1, OpenGL: 4.5 Mesa 19.1.0-devel (git-9bb63e9 2019-03-15 bionic-oibaf-ppa) (LLVM 8.0.0), OpenCL: OpenCL 2.1 AMD-APP (2833.0) + OpenCL 1.1 Mesa 19.1.0-devel (git-9bb63e9 2019-03-15 bionic-oibaf-ppa), Vulkan: 1.1.90, Compiler: GCC 7.3.0 + Clang 6.0.0-1ubuntu2, File-System: ext4, Screen Resolution: 2560x1440

Kernel Notes: amdgpu.ppfeaturemask=0xffffffff
Environment Notes: NVM_CD_FLAGS=
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++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling + SSB disabled via prctl and seccomp

1700@3.7 2933 bios 4406

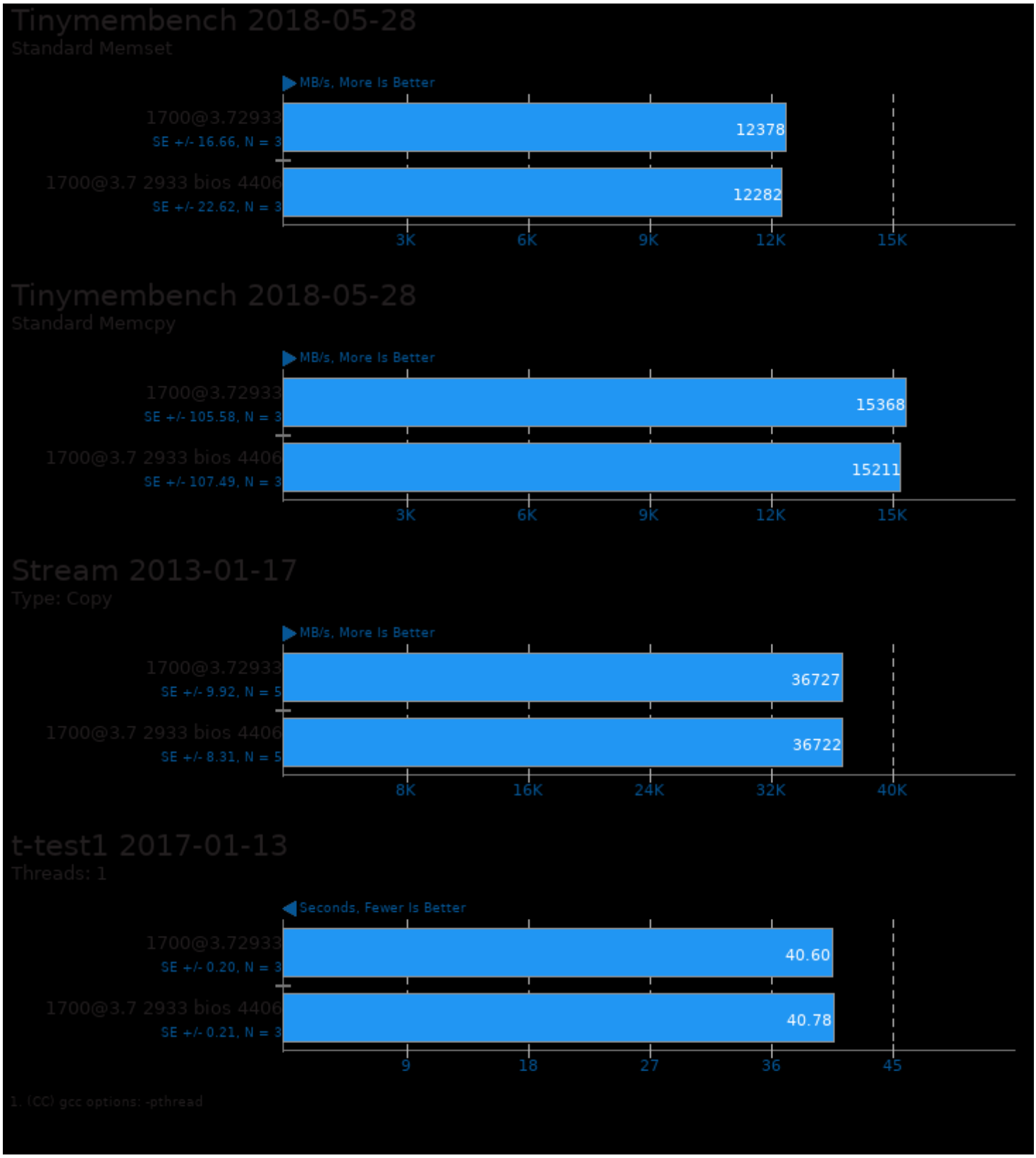
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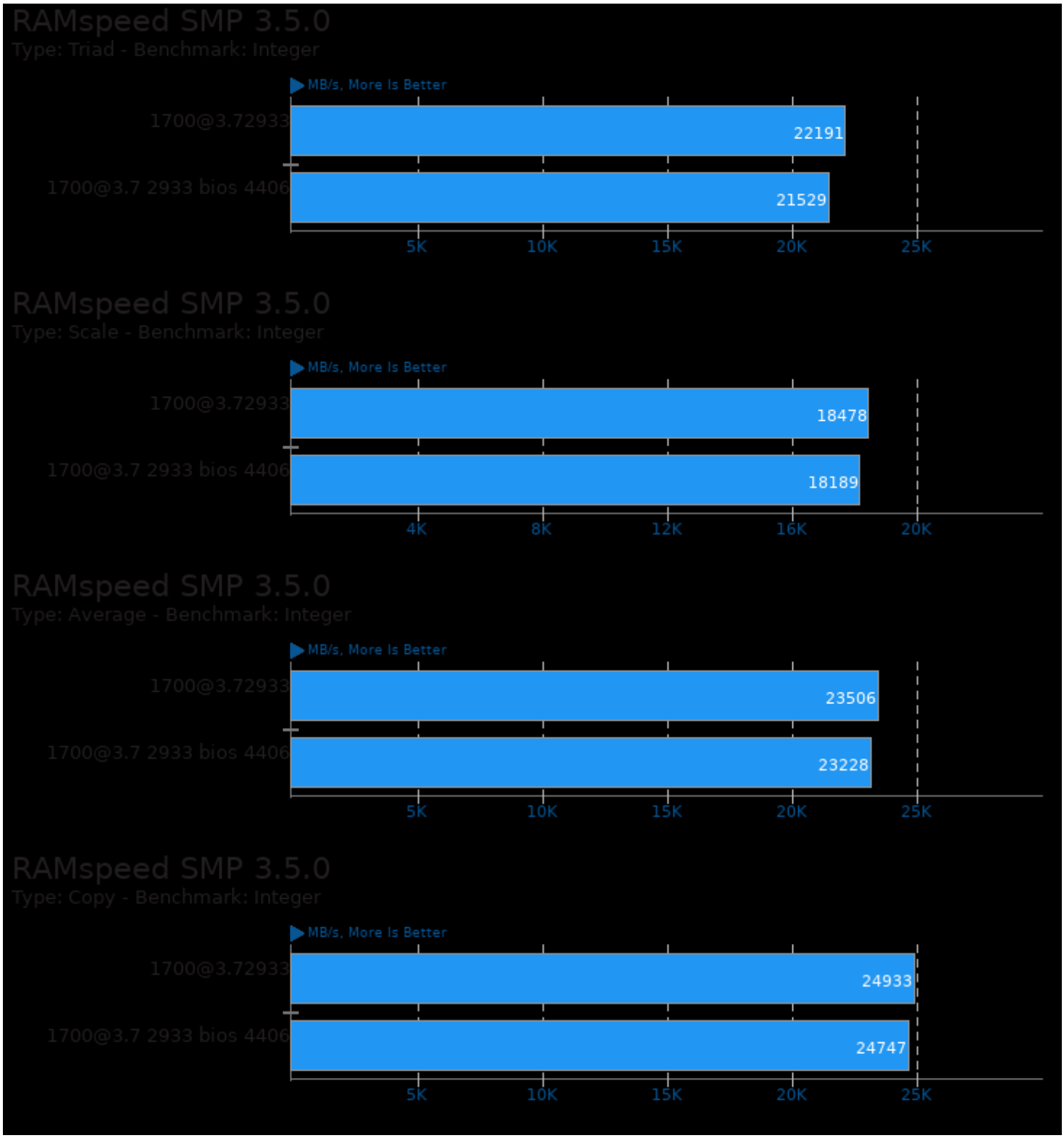
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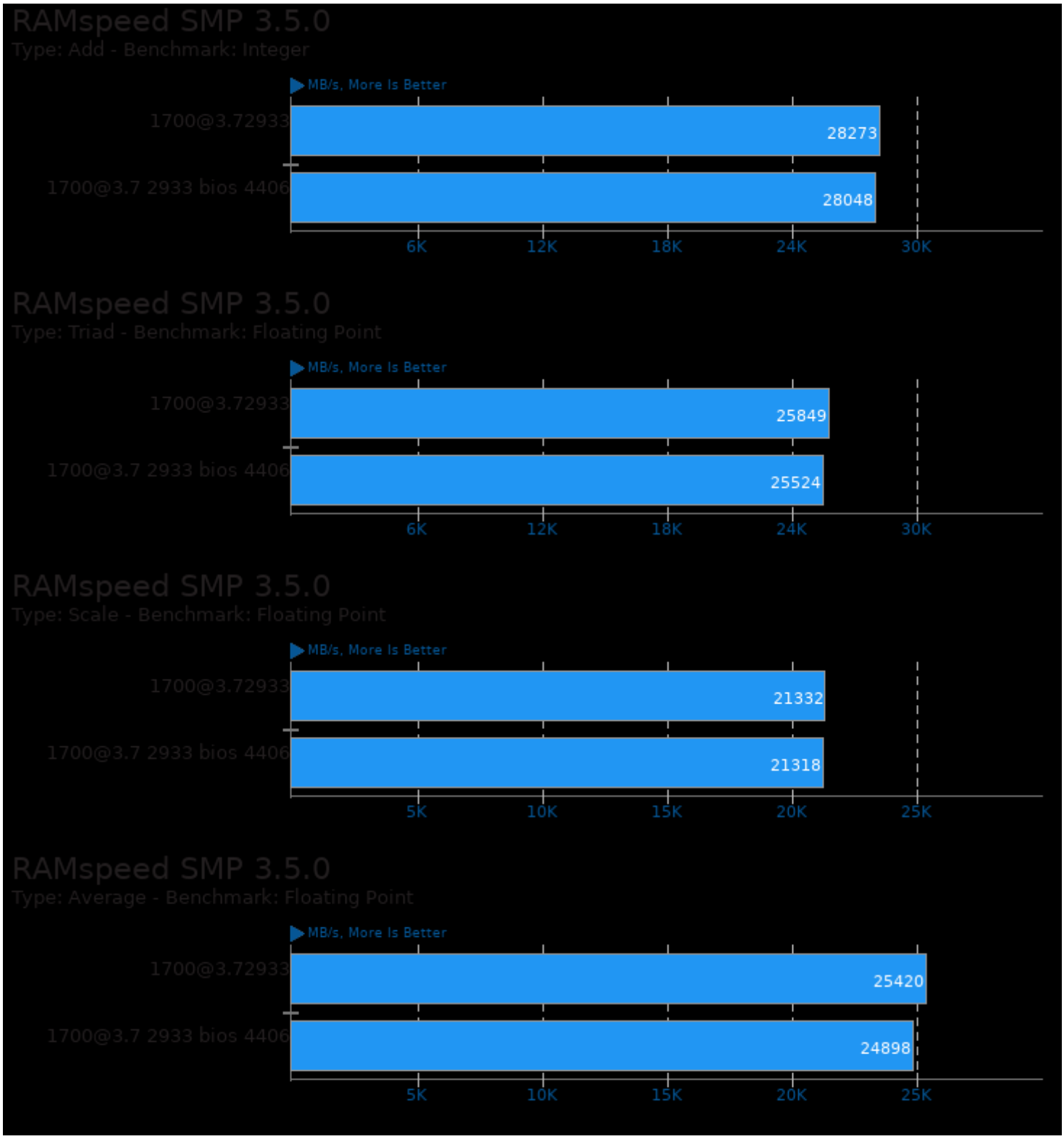
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Environment Notes: NVM_CD_FLAGS=
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --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 --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB: conditional STIBP: disabled RSB filling + SSB disabled via prctl and seccomp

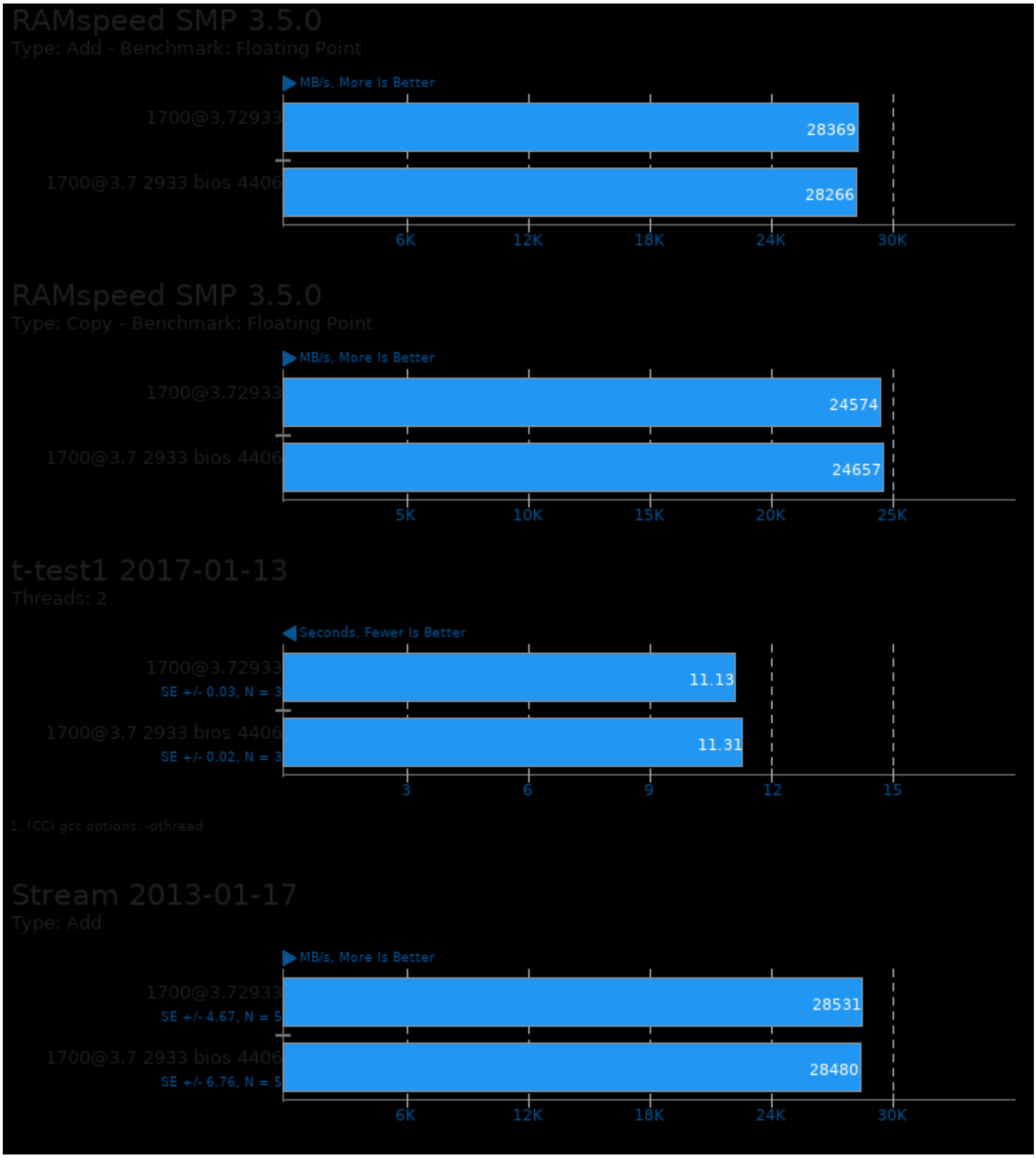
overclock-testing

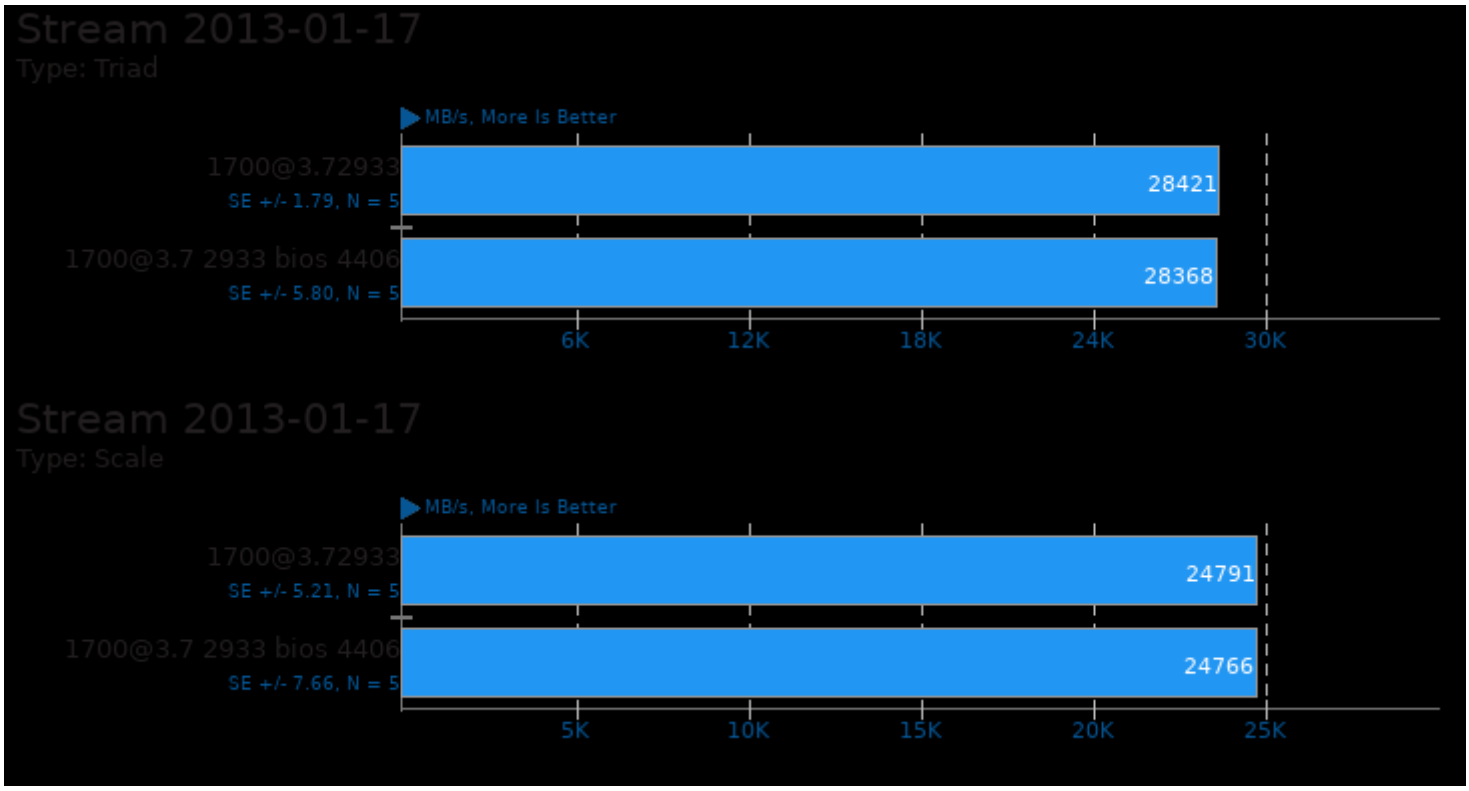
	1700@3.72933	1700@3.7 2933 bios 4406
Tinymembench - Standard Memset (MB/s)	12378	12282
Normalized	100%	99.22%
Standard Deviation	0.2%	0.3%
Tinymembench - Standard Memcpy (MB/s)	15368	15211
Normalized	100%	98.98%
Standard Deviation	1.2%	1.2%
Stream - Copy (MB/s)	36727	36722
Normalized	100%	99.99%
Standard Deviation	0.1%	0.1%
t-test1 - 1 (sec)	40.60	40.78
Normalized	100%	99.56%
Standard Deviation	0.8%	0.9%
RAMspeed SMP - Triad - Integer (MB/s)	22191	21529
Normalized	100%	97.02%
RAMspeed SMP - Scale - Integer (MB/s)	18478	18189
Normalized	100%	98.44%
RAMspeed SMP - Average - Integer (MB/s)	23506	23228
Normalized	100%	98.82%
RAMspeed SMP - Copy - Integer (MB/s)	24933	24747
Normalized	100%	99.25%
RAMspeed SMP - Add - Integer (MB/s)	28273	28048
Normalized	100%	99.2%
RAMspeed SMP - Triad - Floating Point (MB/s)	25849	25524
Normalized	100%	98.74%
RAMspeed SMP - Scale - Floating Point (MB/s)	21332	21318
Normalized	100%	99.93%
RAMspeed SMP - Average - Floating Point (MB/s)	25420	24898
Normalized	100%	97.95%
RAMspeed SMP - Add - Floating Point (MB/s)	28369	28266
Normalized	100%	99.64%
RAMspeed SMP - Copy - Floating Point (MB/s)	24574	24657
Normalized	99.66%	100%
t-test1 - 2 (sec)	11.13	11.31
Normalized	100%	98.41%
Standard Deviation	0.4%	0.3%
Stream - Add (MB/s)	28531	28480
Normalized	100%	99.82%
Standard Deviation	0%	0.1%
Stream - Triad (MB/s)	28421	28368
Normalized	100%	99.81%
Standard Deviation	0%	0%
Stream - Scale (MB/s)	24791	24766
Normalized	100%	99.9%
Standard Deviation	0%	0.1%


Tinymembench 2018-05-28
Standard Memset
MB/s, More Is Better
1700@3.72933
SE +/- 16.66, N = 3
12378
1700@3.7 2933 bios 4406
SE +/- 22.62, N = 3
12282
3K
6K
9K
12K
15K
Tinymembench 2018-05-28
Standard Memcpy
MB/s, More Is Better
1700@3.72933
SE +/- 105.58, N = 3
15368
1700@3.7 2933 bios 4406
SE +/- 107.49, N = 3
15211
3K
6K
9K
12K
15K
Stream 2013-01-17
Type: Copy
MB/s, More Is Better
1700@3.72933
SE +/- 9.92, N = 5
36727
1700@3.7 2933 bios 4406
SE +/- 8.31, N = 5
36722
8K
16K
24K
32K
40K
t-test1 2017-01-13
Threads: 1
Seconds, Fewer Is Better
1700@3.72933
SE +/- 0.20, N = 3
40.60
1700@3.7 2933 bios 4406
SE +/- 0.21, N = 3
40.78
9
18
27
36
45
1. (CC) gcc options: -pthread


RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
1700@3.72933
22191
1700@3.7 2933 bios 4406
21529
5K
10K
15K
20K
25K
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
1700@3.72933
18478
1700@3.7 2933 bios 4406
18189
4K
8K
12K
16K
20K
RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
1700@3.72933
23506
1700@3.7 2933 bios 4406
23228
5K
10K
15K
20K
25K
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
1700@3.72933
24933
1700@3.7 2933 bios 4406
24747
5K
10K
15K
20K
25K


RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
1700@3.72933
28273
1700@3.7 2933 bios 4406
28048
6K
12K
18K
24K
30K
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Floating Point
MB/s, More Is Better
1700@3.72933
25849
1700@3.7 2933 bios 4406
25524
6K
12K
18K
24K
30K
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Floating Point
MB/s, More Is Better
1700@3.72933
21332
1700@3.7 2933 bios 4406
21318
5K
10K
15K
20K
25K
RAMspeed SMP 3.5.0
Type: Average - Benchmark: Floating Point
MB/s, More Is Better
1700@3.72933
25420
1700@3.7 2933 bios 4406
24898
5K
10K
15K
20K
25K

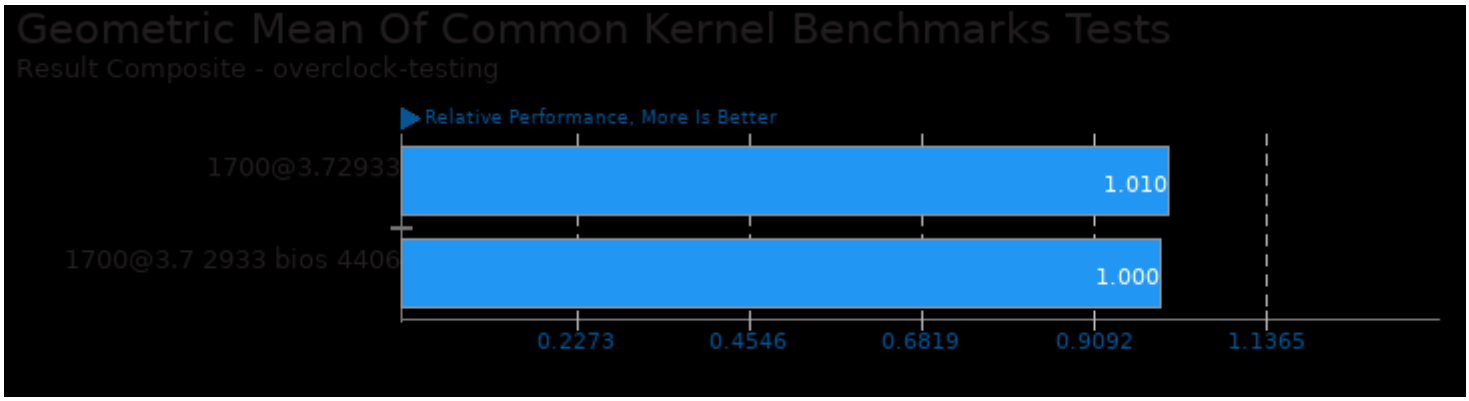

RAMspeed SMP 3.5.0
Type: Add - Benchmark: Floating Point
MB/s, More Is Better
1700@3.72933
28369
1700@3.7 2933 bios 4406
28266
6K
12K
18K
24K
30K
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Floating Point
MB/s, More Is Better
1700@3.72933
24574
1700@3.7 2933 bios 4406
24657
5K
10K
15K
20K
25K
t-test1 2017-01-13
Threads: 2
Seconds, Fewer Is Better
1700@3.72933
SE +/- 0.03, N = 3
11.13
1700@3.7 2933 bios 4406
SE +/- 0.02, N = 3
11.31
3
6
9
12
15
1. (CC) gcc options: -pthread
Stream 2013-01-17
Type: Add
MB/s, More Is Better
1700@3.72933
SE +/- 4.67, N = 5
28531
1700@3.7 2933 bios 4406
SE +/- 6.76, N = 5
28480
6K
12K
18K
24K
30K


Stream 2013-01-17
Type: Triad
MB/s, More Is Better
1700@3.72933
SE +/- 1.79, N = 5
28421
1700@3.7 2933 bios 4406
SE +/- 5.80, N = 5
28368
6K
12K
18K
24K
30K
Stream 2013-01-17
Type: Scale
MB/s, More Is Better
1700@3.72933
SE +/- 5.21, N = 5
24791
1700@3.7 2933 bios 4406
SE +/- 7.66, N = 5
24766
5K
10K
15K
20K
25K

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



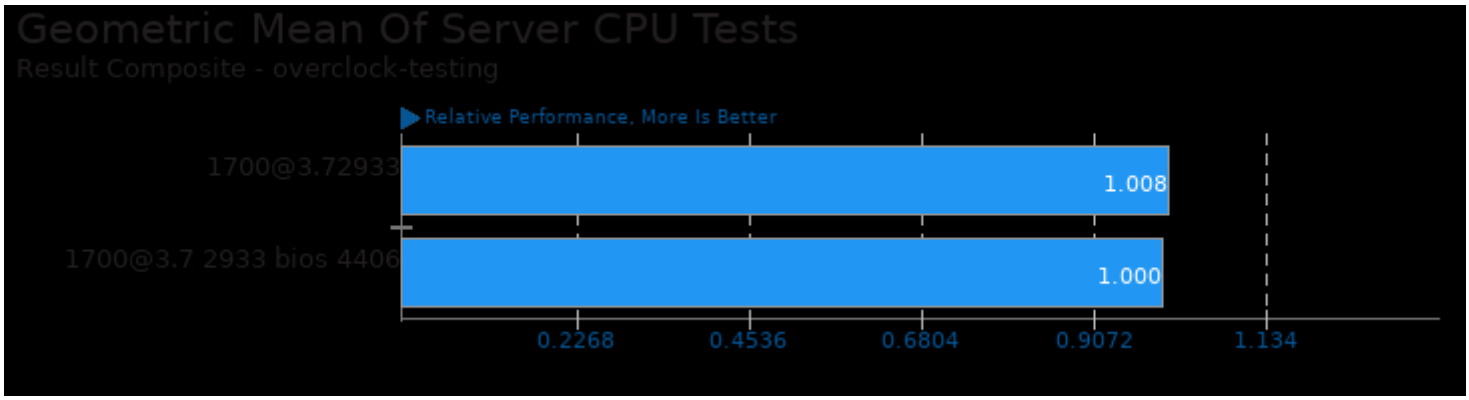
Geometric mean based upon tests: pts/ramspeed, pts/stream, pts/t-test1 and pts/tinymembench



Geometric mean based upon tests: pts/tinymembench and pts/t-test1



Geometric mean based upon tests: pts/ramspeed, pts/stream, pts/t-test1 and pts/tinymembench



Geometric mean based upon tests: pts/ramspeed and pts/stream

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