

www.phoronix-test-suite.com

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Running pts/fs-mark-1.0.2, pts/ramspeed-1.4.2, pts/tinymembench-1.0.2, pts/x264-2.5.0, pts/openssl-1.11.0, pts/pgbench-1.8.7, pts/apache-1.7.2, pts/phpbench-1.1.5, pts/git-1.0.2 via the Phoronix Test Suite.

Automated Executive Summary

second had the most wins, coming in first place for 50% of the tests.

Based on the geometric mean of all complete results, the fastest (second) was 1.054x the speed of the slowest (zorin).

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

PHPBench (PHP Benchmark Suite) at 1.517x
Tinymembench (Standard Memset) at 1.33x
Tinymembench (Standard Memcpy) at 1.041x
RAMspeed SMP (Type: Average - Benchmark: Integer) at 1.031x
PostgreSQL pgbench (Scaling: Mostly RAM - Test: Normal Load - Mode: Read Write) at 1.029x
PostgreSQL pgbench (Scaling: Buffer Test - Test: Normal Load - Mode: Read Write) at 1.021x
Git (Time To Complete Common Git Commands) at 1.02x
RAMspeed SMP (Type: Average - Benchmark: Floating Point) at 1.019x
x264 (H.264 Video Encoding) at 1.006x
OpenSSL (RSA 4096-bit Performance) at 1.004x.

Test Systems:

second

Processor: Intel Celeron J4105 @ 2.50GHz (4 Cores), Motherboard: HARDKERNEL ODROID-H2 v1.0 (5.13 BIOS), Chipset: Intel Device 31f0, Memory: 16384MB, Disk: 500GB Western Digital WDS500G1B0C-00S6U0, Graphics: Intel UHD 600 3GB (750MHz), Audio: Realtek ALC662 rev1, Monitor: XB271HU, Network: 2 x Realtek RTL8111/8168/8411

OS: Clear Linux OS 30140, Kernel: 5.1.15-791.native (x86_64), Desktop: GNOME Shell 3.32.2, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 4.5 Mesa 19.2.0-devel, OpenCL: OpenCL 1.2, Vulkan: 1.1.102, Compiler: GCC 9.1.1 20190701 gcc-9-branch@272838 + Clang 8.0.0 + LLVM 8.0.0, File-System: ext4, Screen Resolution: 2560x1440

Environment Notes:
CFFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-m64-fasynchronous-unwind-tables-Wp-D_REENTRANT-ftree-loop-distribute-patterns-Wl-z-Wl now-Wl-z-Wl relro-malign-data=abi-fno-semantic-interposition-ftree-vectorize-ftree-loop-vectorize-Wl-sort-common-Wl--enable-new-dtags
FFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-m64-fasynchronous-unwind-tables-Wp-D_REENTRANT-ftree-loop-distribute-patterns-Wl-z-Wl relro-malign-data=abi-fno-semantic-interposition-ftree-vectorize-ftree-loop-vectorize-Wl--enable-new-dtags
CXXFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-Wformat-Wformat-security-m64-fasynchronous-unwind-tables-Wp-D_REENTRANT-ftree-loop-distribute-patterns-Wl-z-Wl relro-fno-semantic-interposition-ffat-lto-objects-fno-signed-zeros-fno-trapping-math-fassociative-math-Wl-sort-common-Wl--enable-new-dtags-mtune=skylake-fvisibility-inlines-hidden-Wl--enable-new-dtags MESA_GLSL_CACHE_DISABLE=0
CFLAGS=-g-O3-feliminate-unused-debug-types-pipe-Wall-Wp-D_FORTIFY_SOURCE=2-fexceptions-fstack-protector--param=ssp-buffer-size=32-Wformat-Wformat-security-m64-fasynchronous-unwind-tables-Wp-D_REENTRANT-ftree-loop-distribute-patterns-Wl-z-Wl relro-fno-semantic-interposition-ffat-lto-objects-fno-signed-zeros-fno-trapping-math-fassociative-math-Wl-sort-common-Wl--enable-new-dtags-mtune=skylake THEANO_FLAGS=floatX=float32 openmp=true gcc.cxxflags="-ftree-vectorize-mavx"
Compiler Notes: --build=x86_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-clocale=gnu --enable-default-pie --enable-gnu-indirect-function --enable-languages=c,c++,fortran,go --enable-ld=default --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-gcc-major-version-only --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
Disk Notes: MQ-DEADLINE / relatime,rw,stripe=256
Processor Notes: Scaling Governor: intel_pstate performance
Security Notes: l1tf: Not affected + mds: Not affected + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling

zorin

Processor: Intel Celeron J4105 @ 2.50GHz (4 Cores), Motherboard: HARDKERNEL ODROID-H2 v1.0, Chipset: Intel Device 31f0, Memory: 16384MB, Disk: 457GB, Graphics: Intel Device 3185, Audio: Realtek ALC662 rev1, Network: Realtek RTL8111/8168/8411

OS: Zorin 15, Kernel: 4.18.0-25-generic (x86_64), Desktop: GNOME Shell 3.30.2, File-System: ext4, Screen Resolution: 2560x1440

Processor Notes: Scaling Governor: intel_pstate powersave
Disk Mount Options Notes: errors=remount-ro,relatime,rw

	second	zorin
PHPBench - P.B.S (Score)	**379915**	**250491**
Normalized	100%	65.93%
Standard Deviation	0.1%	0.4%
Tinymembench - Standard Memset (MB/s)	**7224**	**5432**
Normalized	100%	75.19%

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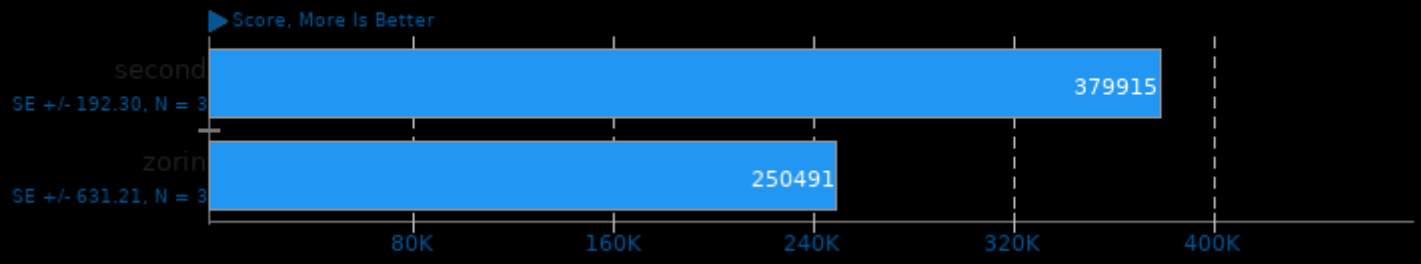
Standard Deviation	0.2%	0.1%
Tinymembench - Standard Memcpy (MB/s)	5219	5435
Normalized	96.02%	100%
Standard Deviation	0.1%	0%
RAMspeed SMP - Average - Integer (MB/s)	10901	11240
Normalized	96.98%	100%
PostgreSQL pgbench - Mostly RAM - Normal Load - Read Write (TPS)	2958	2875
Normalized	100%	97.19%
Standard Deviation	1.7%	0.8%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Write (TPS)	3809	3730
Normalized	100%	97.94%
Standard Deviation	0.4%	0.7%
Git - T.T.C.C.G.C (sec)	13.25	13.52
Normalized	100%	98%
Standard Deviation	1.6%	1.5%
RAMspeed SMP - Average - Floating Point (MB/s)	10962	11166
Normalized	98.17%	100%
x264 - H.2.V.E (FPS)	12.35	12.28
Normalized	100%	99.43%
Standard Deviation	0.1%	0%
OpenSSL - R.4.b.P (Signs/sec)	246.30	247.20
Normalized	99.64%	100%
Standard Deviation	0%	0.1%
PostgreSQL pgbench - On-Disk - Normal Load - Read Write (TPS)	2530	2532
Normalized	99.95%	100%
Standard Deviation	0.3%	0.4%
Apache Benchmark - S.W.P.S (Reqs/sec)	9332	
Standard Deviation	0.1%	
Flexible IO Tester - Seq Write - Linux AIO - Yes - Yes - 1MB (MB/s)	1281	
Standard Deviation	0.6%	
Flexible IO Tester - Seq Write - Linux AIO - Yes - No - 1MB (MB/s)	1364	
Standard Deviation	3.8%	
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 1MB (MB/s)	689	
Flexible IO Tester - Seq Read - Linux AIO - Yes - Yes - 1MB (MB/s)	3593	
Standard Deviation	2.1%	
Flexible IO Tester - Seq Write - Linux AIO - No - No - 1MB (MB/s)	689	
Flexible IO Tester - Seq Read - Linux AIO - Yes - No - 1MB (MB/s)	3636	
Standard Deviation	0.2%	
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 1MB (MB/s)	857	
Flexible IO Tester - Seq Read - Linux AIO - No - No - 1MB (MB/s)	857	
Standard Deviation	0.1%	

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Flexible IO Tester - Rand Write - Linux AIO - Yes - Yes - 1MB (MB/s)	1922	
Standard Deviation	0.7%	
Flexible IO Tester - Rand Write - Linux AIO - Yes - No - 1MB (MB/s)	1907	
Standard Deviation	2%	
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 1MB (MB/s)	688	
Flexible IO Tester - Rand Read - Linux AIO - Yes - Yes - 1MB (MB/s)	3567	
Standard Deviation	2.9%	
Flexible IO Tester - Rand Write - Linux AIO - No - No - 1MB (MB/s)	689	
Flexible IO Tester - Rand Read - Linux AIO - Yes - No - 1MB (MB/s)	3632	
Standard Deviation	0.2%	
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 1MB (MB/s)	858	
Standard Deviation	0.1%	
Flexible IO Tester - Rand Read - Linux AIO - No - No - 1MB (MB/s)	857	
FS-Mark - 4.F.3.S.D.1.S (Files/s)	**183.21**	**192.48**
Normalized	95.18%	100%
Standard Deviation	4.8%	16.5%

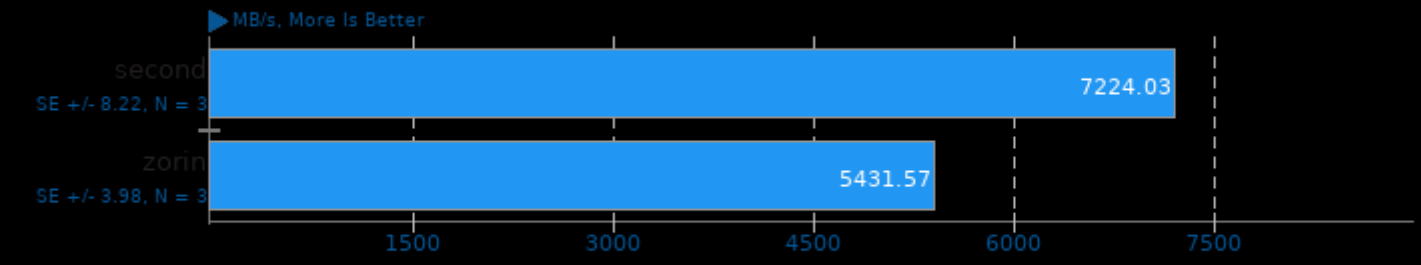
PHPBench 0.8.1

PHP Benchmark Suite



Tinymembench 2018-05-28

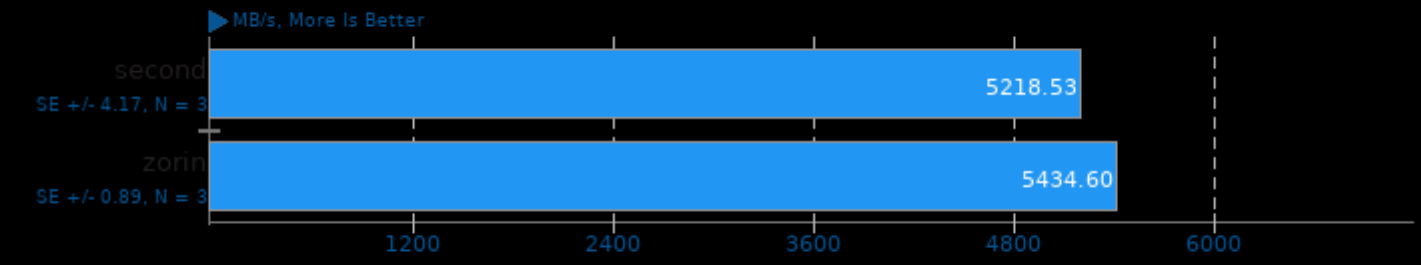
Standard Memset



1. (CC) gcc options: -O2 -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fassociative-math -mtune=

Tinymembench 2018-05-28

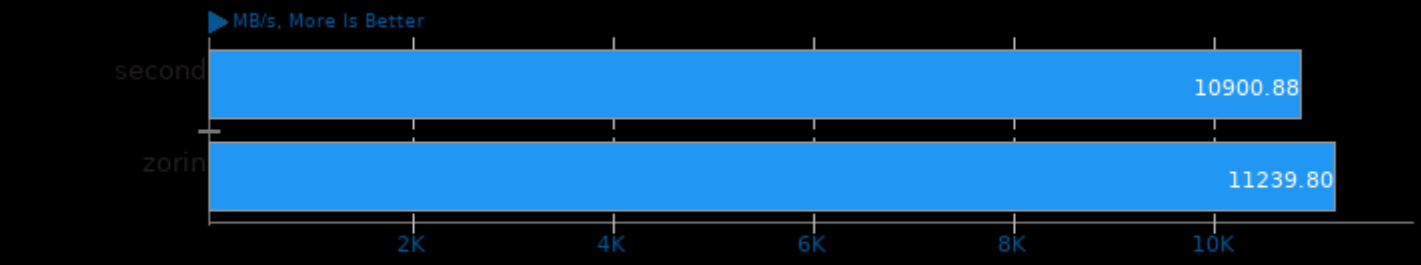
Standard Memcpy



1. (CC) gcc options: -O2 -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fassociative-math -mtune=

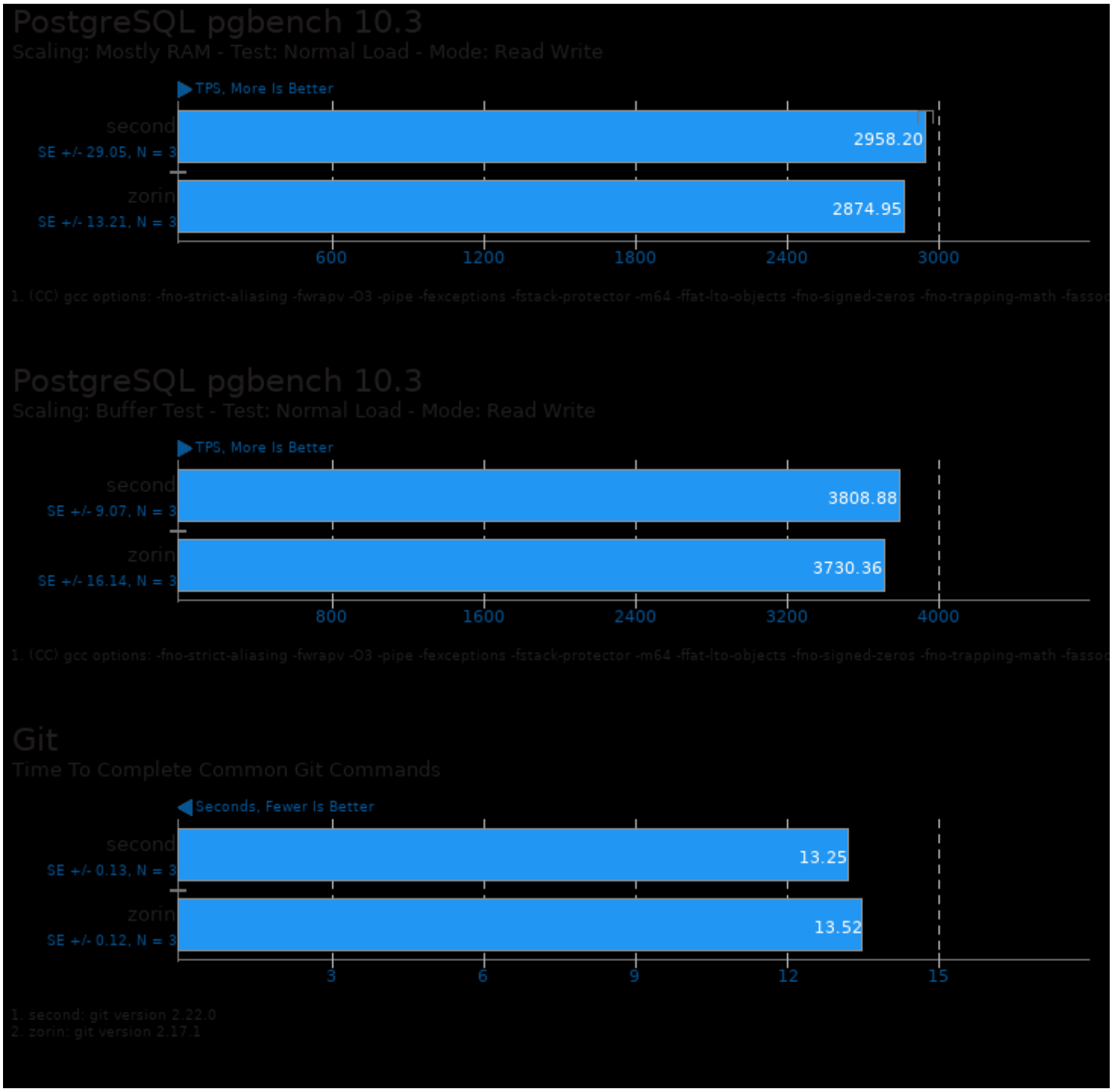
RAMspeed SMP 3.5.0

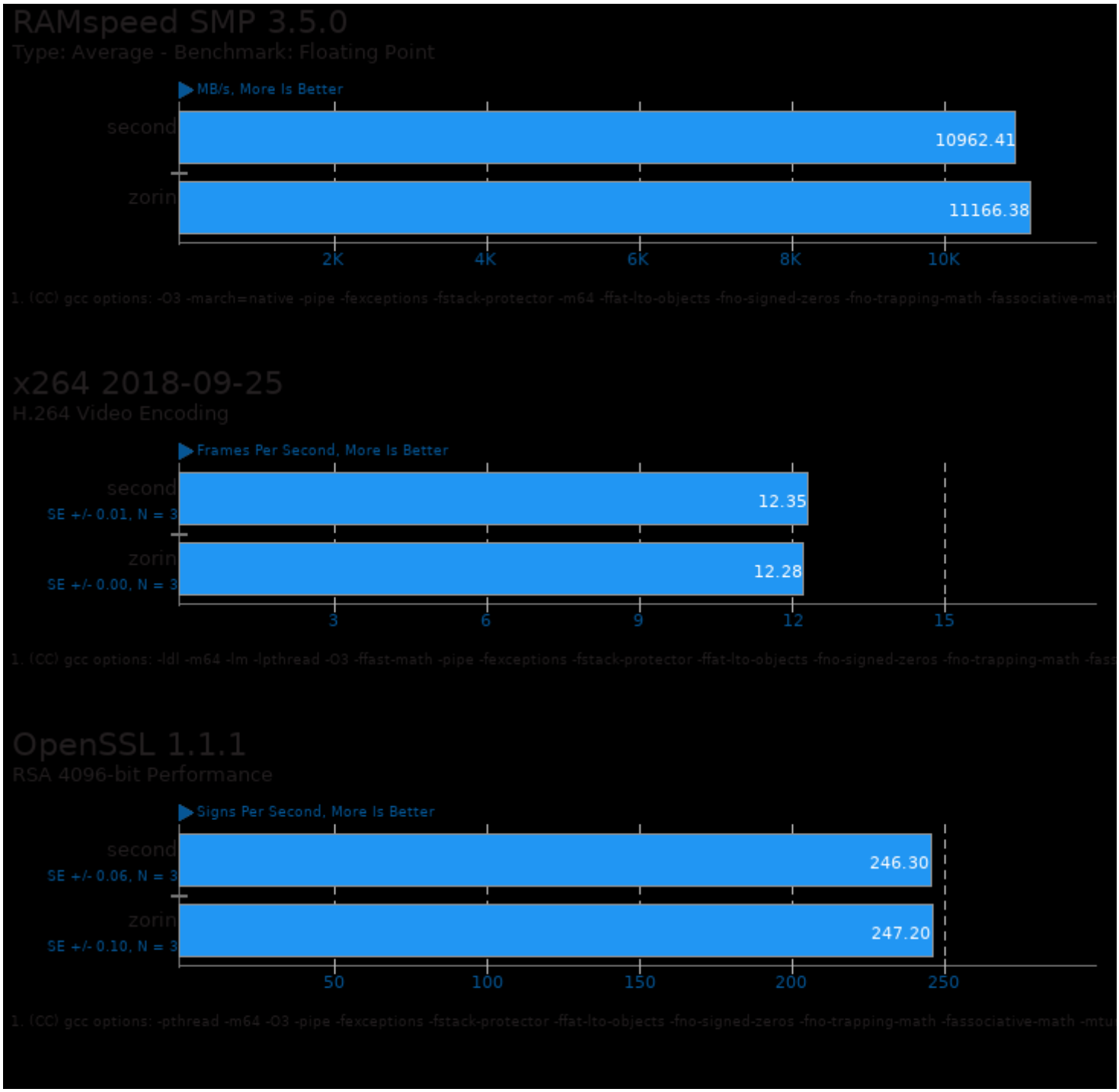
Type: Average - Benchmark: Integer



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fassociative-mat

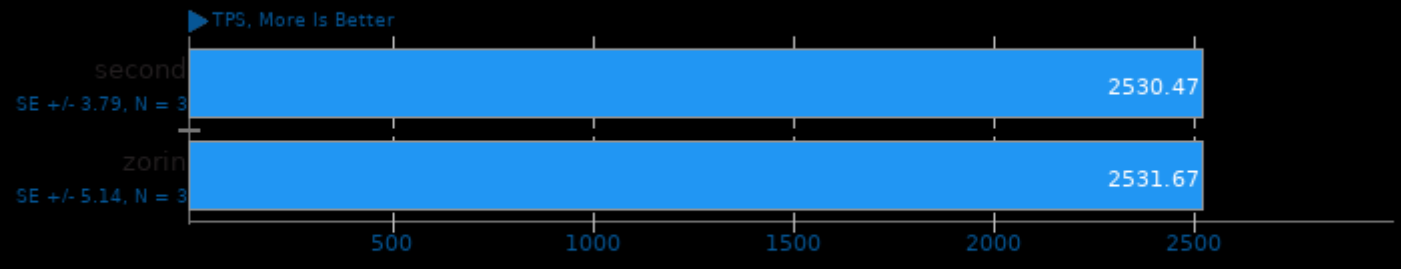
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RAMspeed SMP 3.5.0
Type: Average - Benchmark: Floating Point
MB/s, More Is Better
second
10962.41
zorin
11166.38
2K
4K
6K
8K
10K
1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fassociative-mat
x264 2018-09-25
H.264 Video Encoding
Frames Per Second, More Is Better
second
SE +/- 0.01, N = 3
12.35
zorin
SE +/- 0.00, N = 3
12.28
3
6
9
12
15
1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fass
OpenSSL 1.1.1
RSA 4096-bit Performance
Signs Per Second, More Is Better
second
SE +/- 0.06, N = 3
246.30
zorin
SE +/- 0.10, N = 3
247.20
50
100
150
200
250
1. (CC) gcc options: -pthread -m64 -O3 -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fassociative-math -mtu

PostgreSQL pgbench 10.3

Scaling: On-Disk - Test: Normal Load - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-signed-zeros -fno-trapping-math -fasso

Apache Benchmark 2.4.29

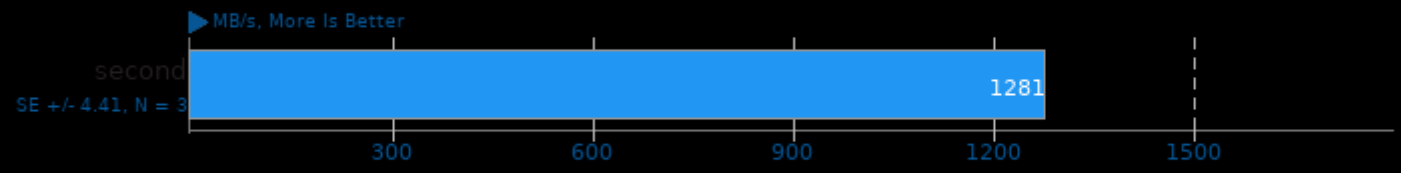
Static Web Page Serving



1. (CC) gcc options: -shared -fPIC -pthread -O3 -fstack-protector -m64 -mtune=skylake

Flexible IO Tester 3.1

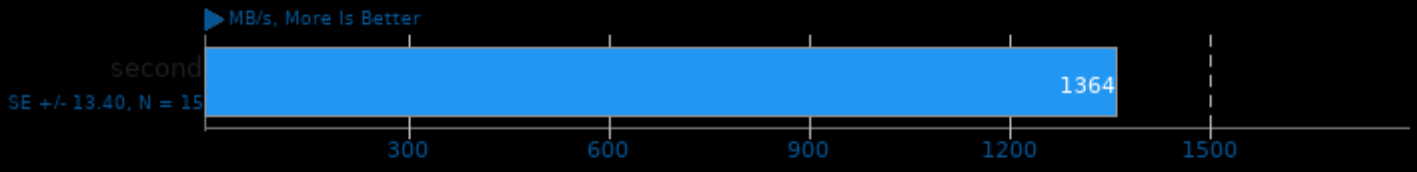
Type: Sequential Write - IO Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory



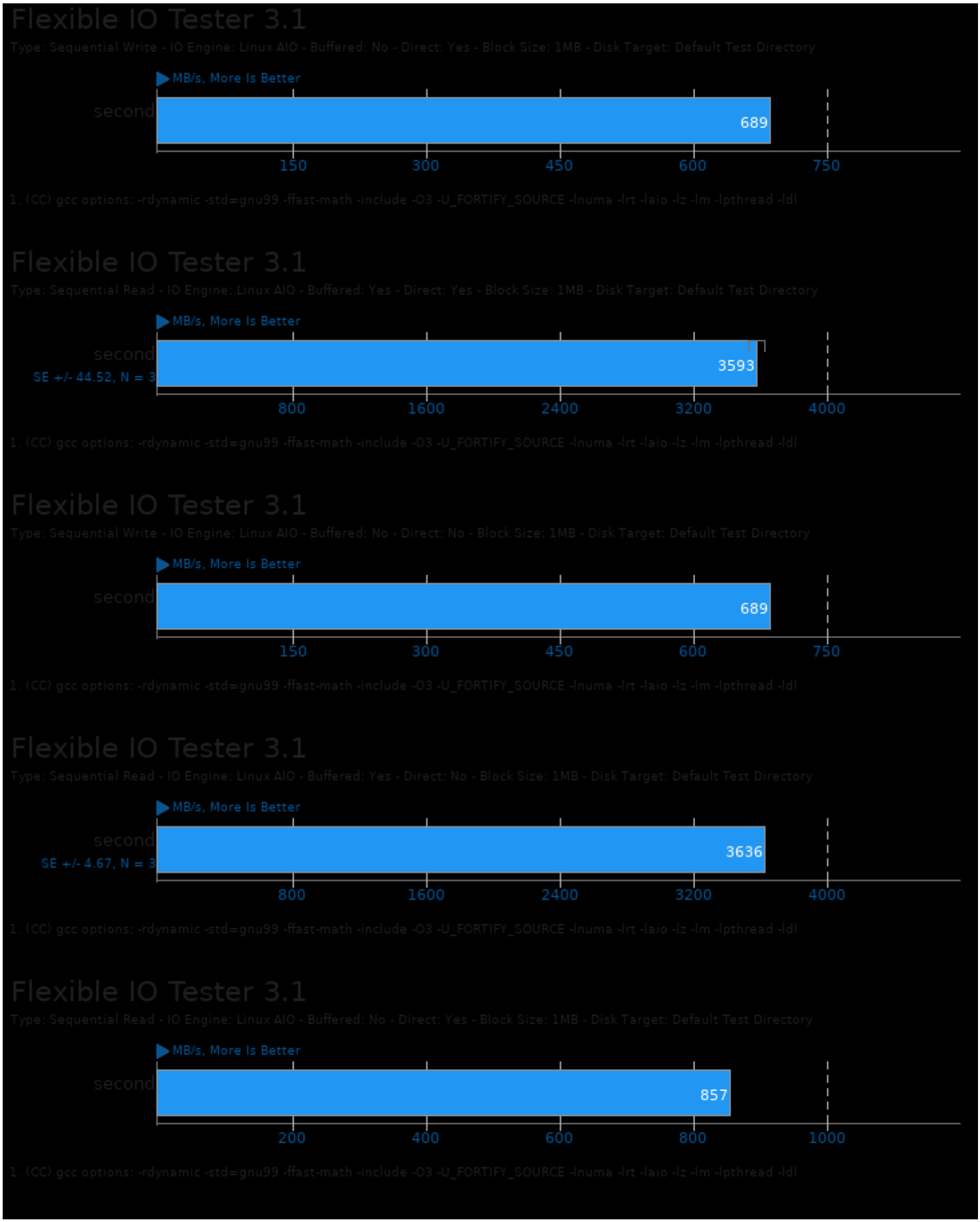
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 3.1

Type: Sequential Write - IO Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl


Flexible IO Tester 3.1
Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
second
689
150
300
450
600
750
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Read - IO Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
second
SE +/- 44.52, N = 3
3593
800
1600
2400
3200
4000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
second
689
150
300
450
600
750
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Read - IO Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
second
SE +/- 4.67, N = 3
3636
800
1600
2400
3200
4000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory
MB/s, More Is Better
second
857
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 3.1

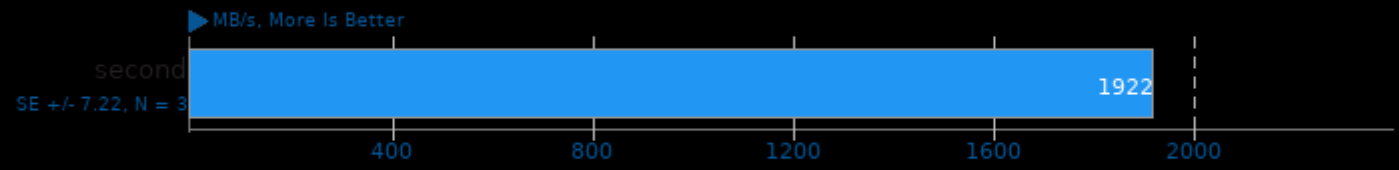
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 3.1

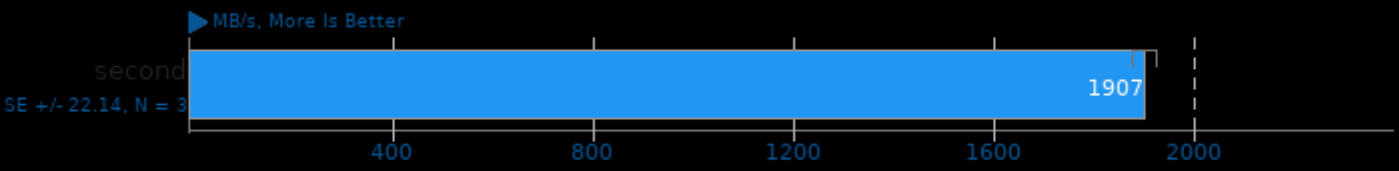
Type: Random Write - IO Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 3.1

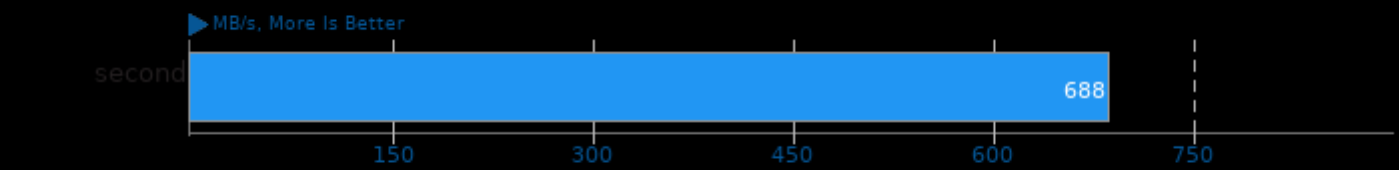
Type: Random Write - IO Engine: Linux AIO - Buffered: Yes - Direct: No - Block Size: 1MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 3.1

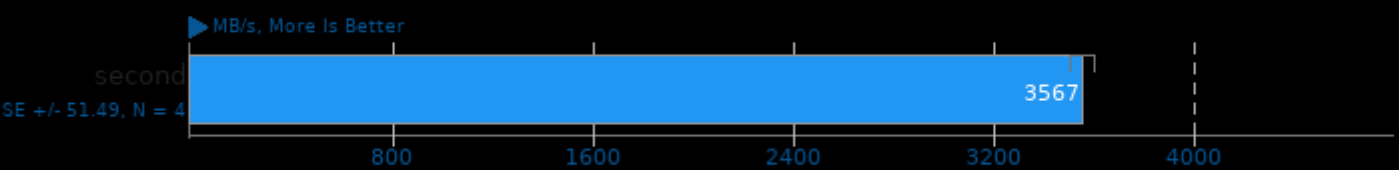
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory



1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

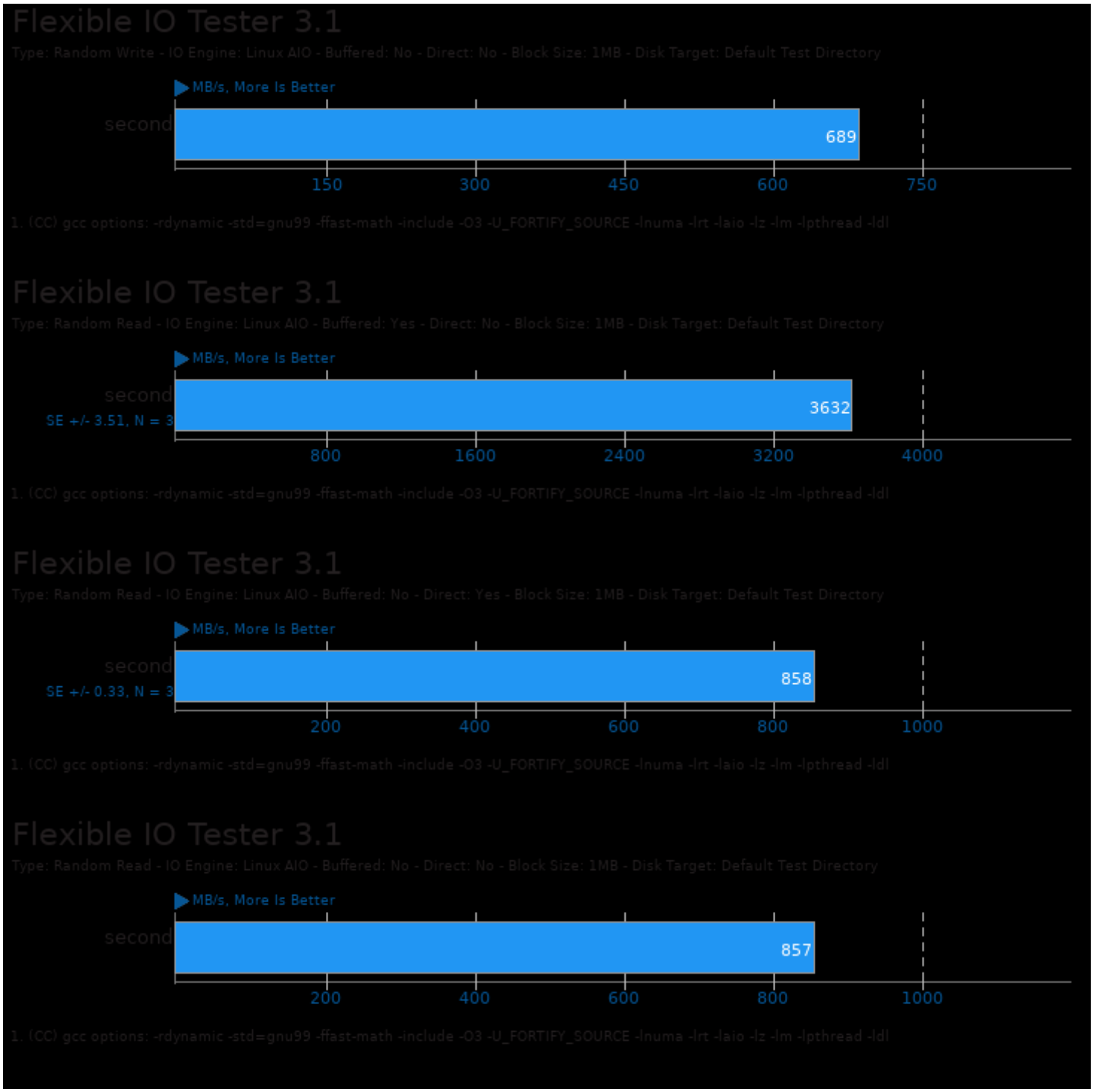
Flexible IO Tester 3.1

Type: Random Read - IO Engine: Linux AIO - Buffered: Yes - Direct: Yes - Block Size: 1MB - Disk Target: Default Test Directory

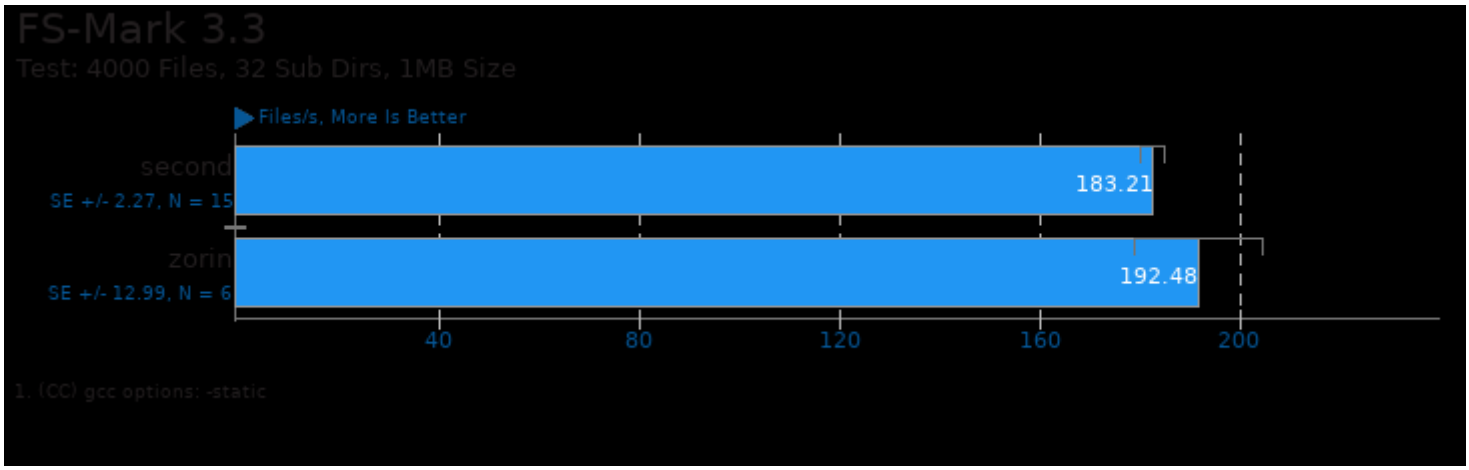


1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lnuma -lrt -laio -lz -lm -lpthread -ldl

clearsuite2

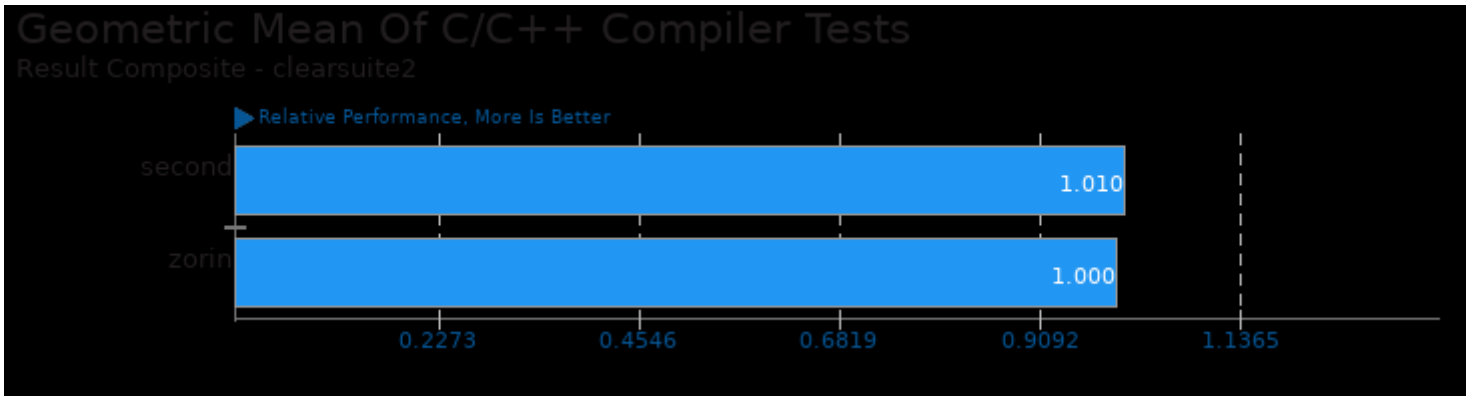


clearsuite2

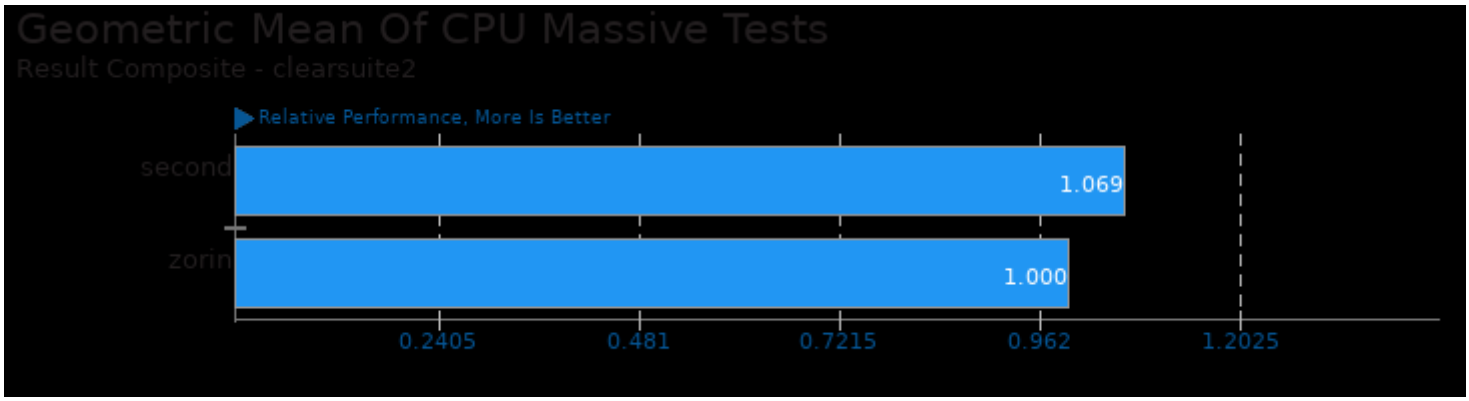


clearsuite2

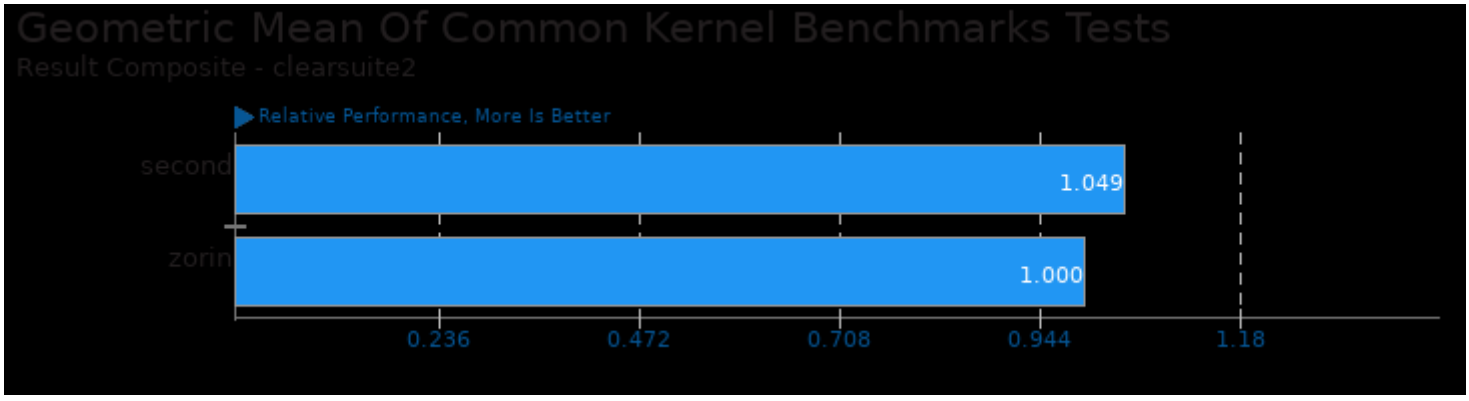
These geometric means are based upon test groupings / test suites for this result file.



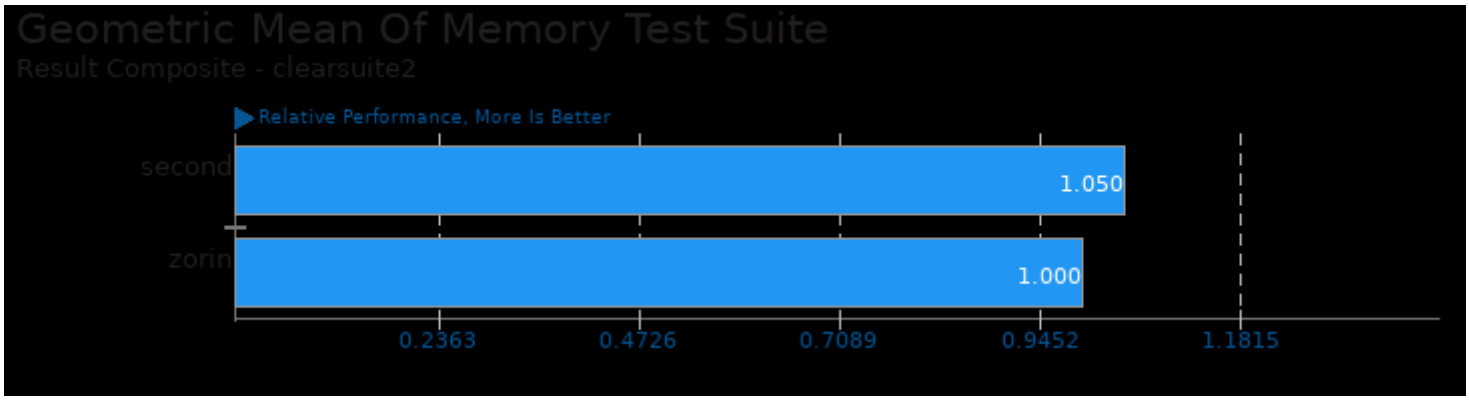
Geometric mean based upon tests: pts/pgbench, pts/apache, pts/x264 and pts/openssl



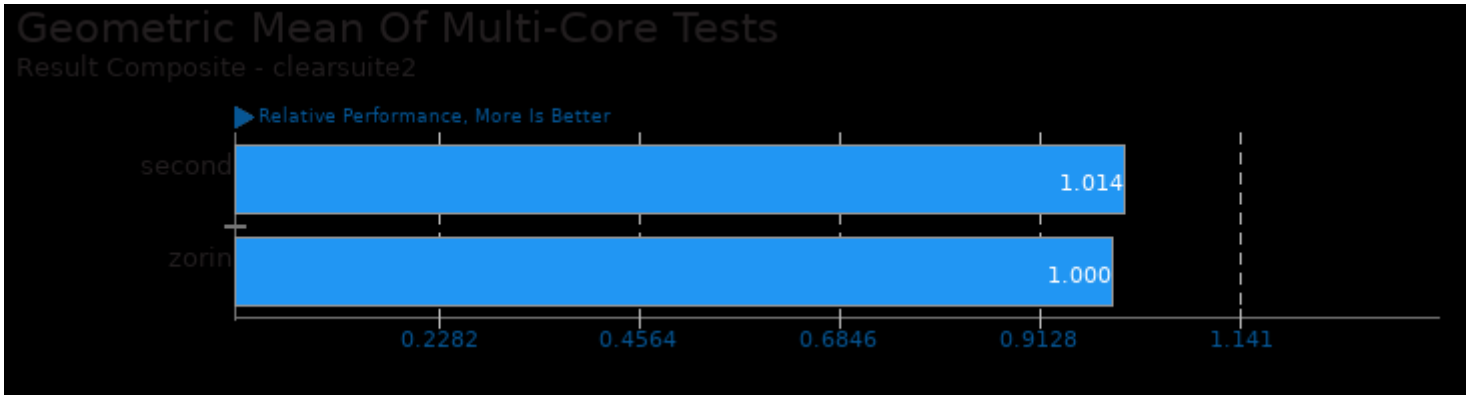
Geometric mean based upon tests: pts/apache, pts/x264, pts/openssl, pts/pgbench, pts/phpbench, pts/ramspeed and pts/tinymembench



Geometric mean based upon tests: pts/apache, pts/pgbench, pts/tinymembench and pts/openssl



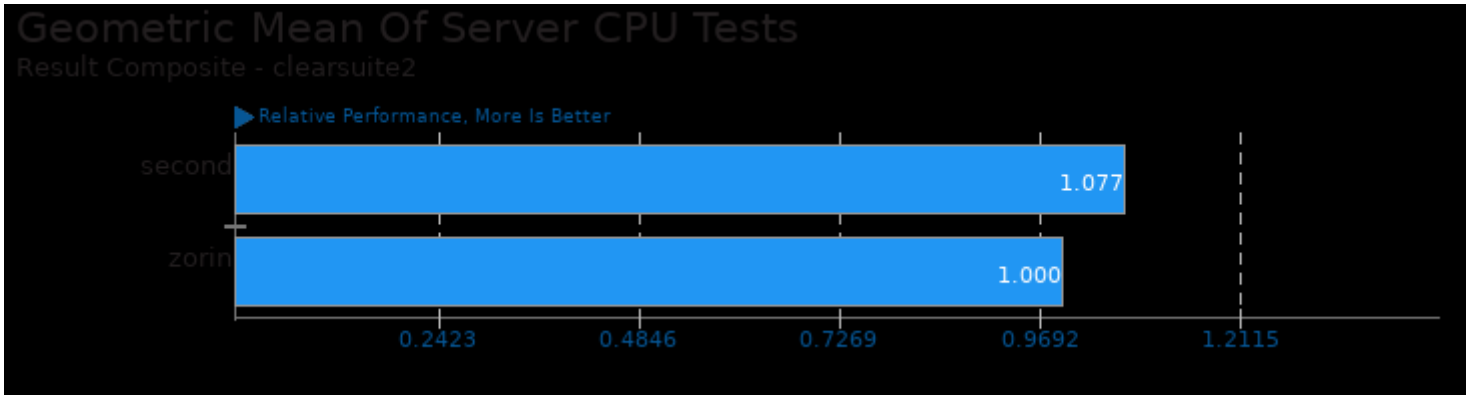
Geometric mean based upon tests: pts/ramspeed and pts/tinymembench



Geometric mean based upon tests: pts/x264 and pts/pgbench

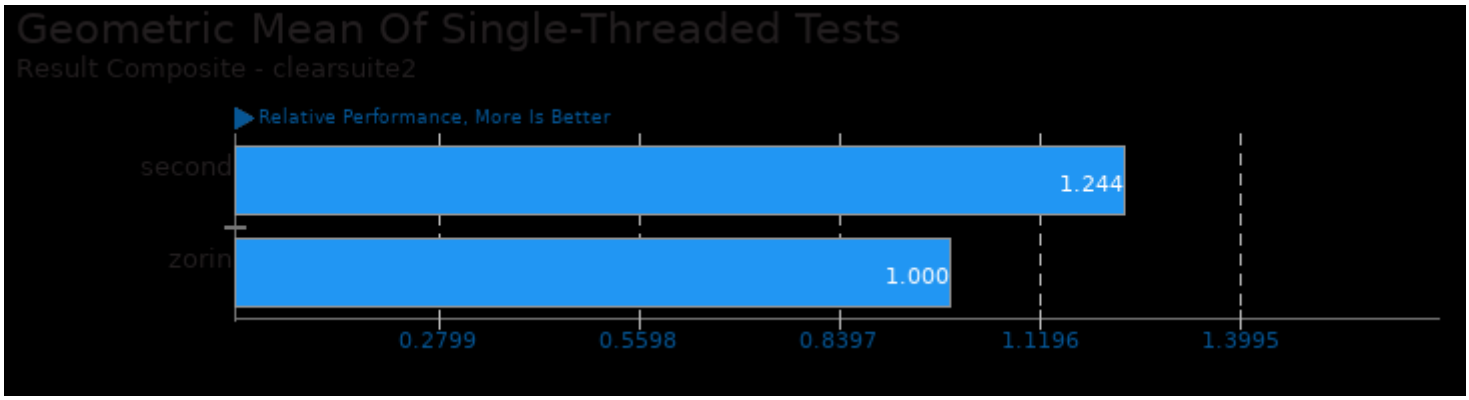


Geometric mean based upon tests: pts/apache, pts/pgbench, pts/phpbench and pts/openssl



Geometric mean based upon tests: pts/x264, pts/openssl, pts/phpbench and pts/ramspeed

clearsuite2



Geometric mean based upon tests: pts/phpbench and pts/git

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 16:43.