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all_tst

KVM testing on Debian 10 via the Phoronix Test Suite.

Automated Executive Summary

R6525_amd_deb1040c256gb had the most wins, coming in first place for 55% of the tests.

Based on the geometric mean of all complete results, the fastest (R6525_amd_deb1040c256gb) was 1.227x the speed of the slowest (R650_intel_deb1040c256gb). Ovirt_R6525_amd_deb1040c256gb was 0.889x the speed of R6525_amd_deb1040c256gb and R650_intel_deb1040c256gb was 0.917x the speed of Ovirt_R6525_amd_deb1040c256gb.

Test Systems:

R6525_amd_deb1040c256gb

Processor: 2 x AMD EPYC 7513 32-Core (40 Cores), Motherboard: Intel 440BX (6.00 BIOS), Chipset: Intel 440BX/ZX/DX, Memory: 16 x 16384 MB DRAM, Disk: 107GB Virtual disk, Graphics: VMware SVGA II, Network: 2 x

VMware VMXNET3

OS: Debian 10, Kernel: 4.19.0-21-amd64 (x86_64), Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1176x885, System Layer: VMware

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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: CPU Microcode: 0xa001173
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: 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 Retpolines IBPB: conditional STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

R650_intel_deb1040c256gb

Processor: 2 x Intel Xeon Gold 6336Y (40 Cores), Motherboard: Intel 440BX (6.00 BIOS), Chipset: Intel 440BX/ZX/DX, Memory: 16 x 16384 MB DRAM, Disk: 107GB Virtual disk, Graphics: VMware SVGA II, Network: 2 x VMware VMXNET3

OS: Debian 10, Kernel: 4.19.0-21-amd64 (x86_64), Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1176x885, System Layer: VMware

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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: CPU Microcode: 0xd000375
Security Notes: itlb_multihit: KVM: Vulnerable + l1tf: Mitigation of PTE Inversion + mds: Mitigation of Clear buffers; SMT Host state unknown + meltdown: Mitigation of PTI + mmio_stale_data: 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 Retpolines IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Ovirt_R6525_amd_deb1040c256gb

Processor: 40 x AMD EPYC (40 Cores), Motherboard: Red Hat RHEL-AV (1.16.0-3.module_el8.7.0+1218+f626c2ff BIOS), Chipset: Intel 82G33/G31/P35/P31 + ICH9, Memory: 16 x 16384 MB RAM, Disk: 11GB QEMU HDD + 107GB QEMU HDD, Graphics: Red Hat QXL paravirtual graphic card, Network: Red Hat Virtio device

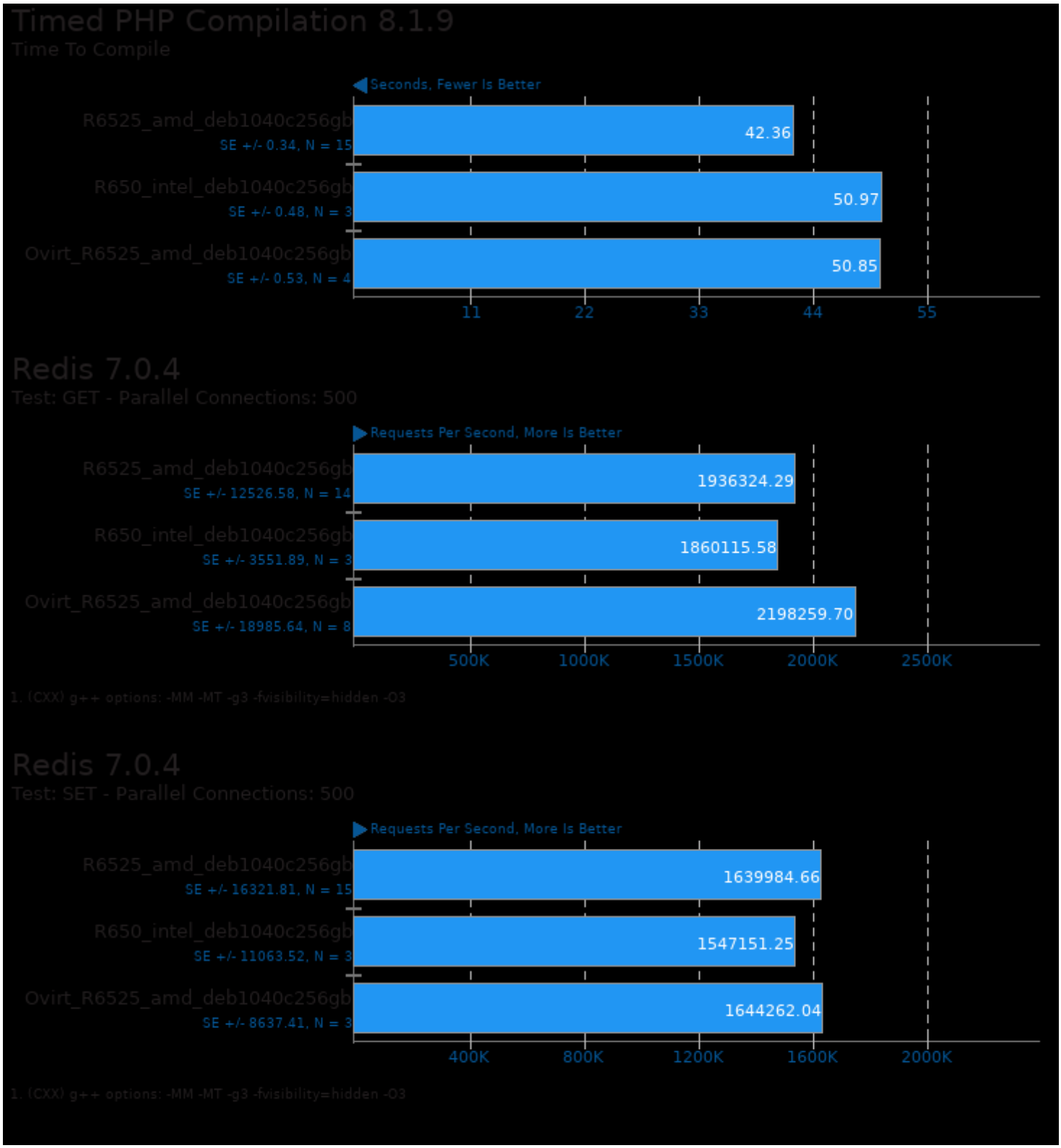
OS: Debian 10, Kernel: 4.19.0-21-amd64 (x86_64), Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

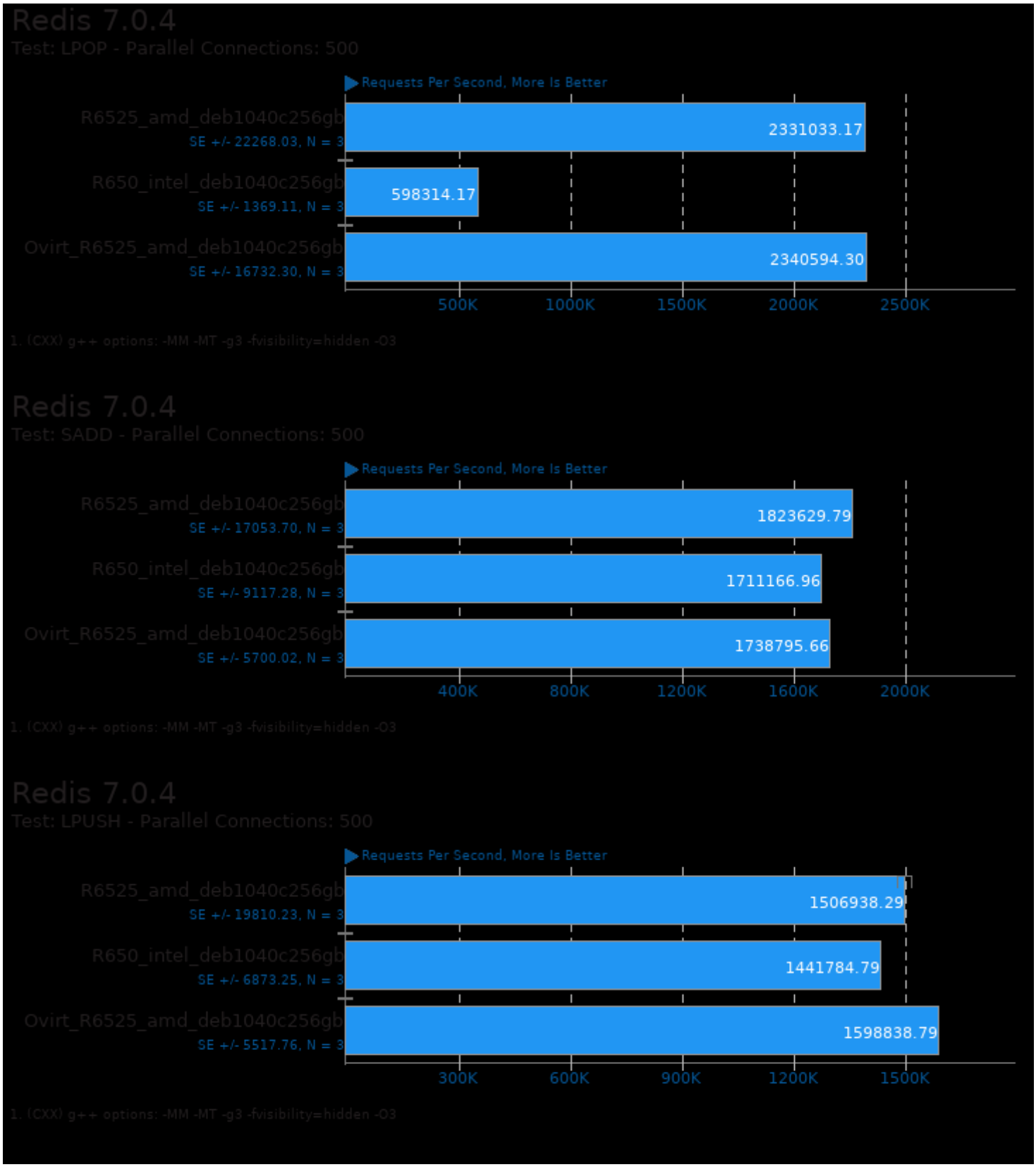
Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --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: CPU Microcode: 0x1000065
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Phoronix Test Suite

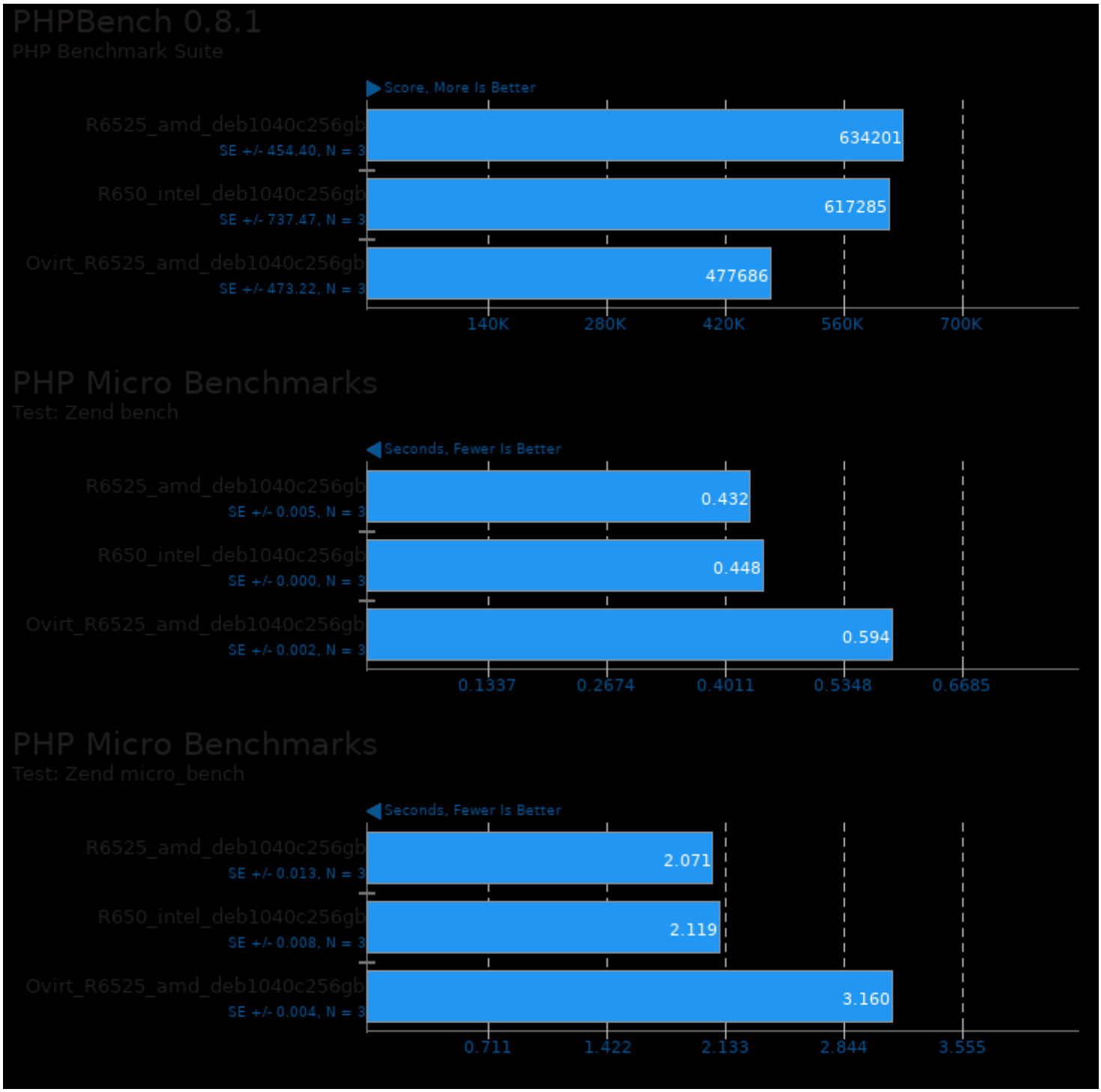
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	R6525_amd_deb1040c256gb	R650_intel_deb1040c256gb	Ovirt_R6525_amd_deb1040c256gb
Timed PHP Compilation - Time To Compile (sec)	**42.359**	**50.966**	50.848
Normalized	100%	83.11%	83.31%
Standard Deviation	3.1%	1.6%	2.1%
Redis - GET - 500 (Reqs/sec)	1936324	**1860116**	**2198260**
Normalized	88.08%	84.62%	100%
Standard Deviation	2.4%	0.3%	2.4%
Redis - SET - 500 (Reqs/sec)	1639985	**1547151**	**1644262**
Normalized	99.74%	94.09%	100%
Standard Deviation	3.9%	1.2%	0.9%
Redis - LPOP - 500 (Reqs/sec)	2331033	**598314**	**2340594**
Normalized	99.59%	25.56%	100%
Standard Deviation	1.7%	0.4%	1.2%
Redis - SADD - 500 (Reqs/sec)	**1823630**	**1711167**	1738796
Normalized	100%	93.83%	95.35%
Standard Deviation	1.6%	0.9%	0.6%
Redis - LPUSH - 500 (Reqs/sec)	1506938	**1441785**	**1598839**
Normalized	94.25%	90.18%	100%
Standard Deviation	2.3%	0.8%	0.6%
PHPBench - P.B.S (Score)	**634201**	617285	**477686**
Normalized	100%	97.33%	75.32%
Standard Deviation	0.1%	0.2%	0.2%
PHP Micro Benchmarks - Zend bench (sec)	**0.432**	0.448	**0.594**
Normalized	100%	96.43%	72.73%
Standard Deviation	2.1%	0.1%	0.5%
PHP Micro Benchmarks - Zend micro_bench (sec)	**2.071**	2.119	**3.160**
Normalized	100%	97.73%	65.54%
Standard Deviation	1%	0.6%	0.2%


Timed PHP Compilation 8.1.9
Time To Compile
Seconds, Fewer Is Better
R6525_amd_deb1040c256gb
SE +/- 0.34, N = 15
42.36
R650_intel_deb1040c256gb
SE +/- 0.48, N = 3
50.97
Ovirt_R6525_amd_deb1040c256gb
SE +/- 0.53, N = 4
50.85
11
22
33
44
55
Redis 7.0.4
Test: GET - Parallel Connections: 500
Requests Per Second, More Is Better
R6525_amd_deb1040c256gb
SE +/- 12526.58, N = 14
1936324.29
R650_intel_deb1040c256gb
SE +/- 3551.89, N = 3
1860115.58
Ovirt_R6525_amd_deb1040c256gb
SE +/- 18985.64, N = 8
2198259.70
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 7.0.4
Test: SET - Parallel Connections: 500
Requests Per Second, More Is Better
R6525_amd_deb1040c256gb
SE +/- 16321.81, N = 15
1639984.66
R650_intel_deb1040c256gb
SE +/- 11063.52, N = 3
1547151.25
Ovirt_R6525_amd_deb1040c256gb
SE +/- 8637.41, N = 3
1644262.04
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

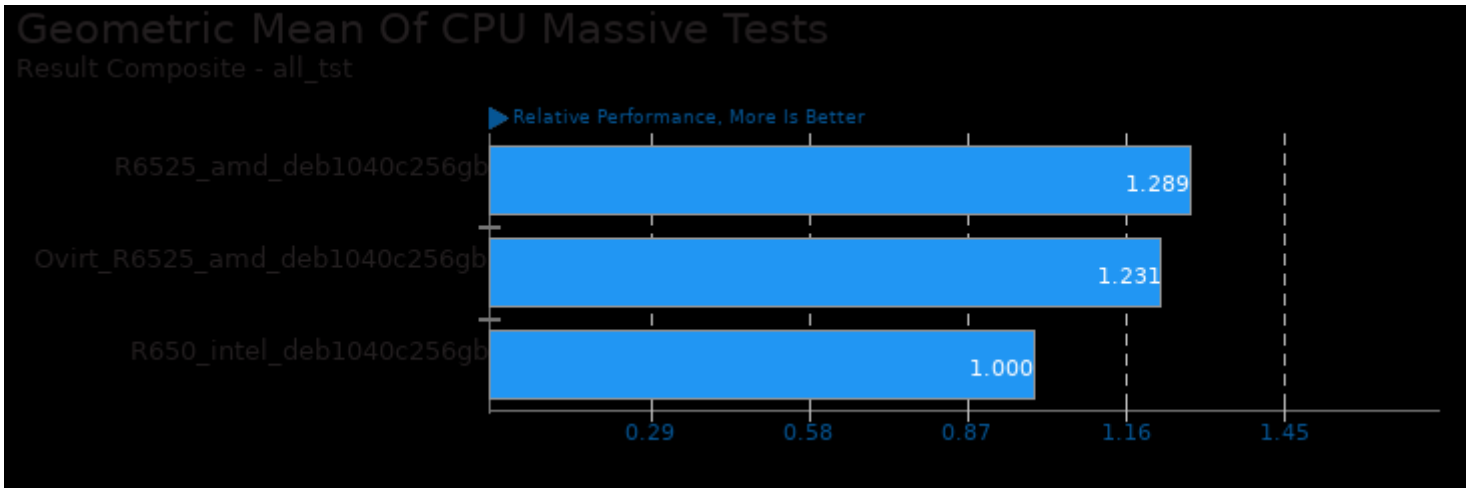

Redis 7.0.4
Test: LPOP - Parallel Connections: 500
Requests Per Second, More Is Better
R6525_amd_deb1040c256gb
SE +/- 22268.03, N = 3
2331033.17
R650_intel_deb1040c256gb
SE +/- 1369.11, N = 3
598314.17
Ovirt_R6525_amd_deb1040c256gb
SE +/- 16732.30, N = 3
2340594.30
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 7.0.4
Test: SADD - Parallel Connections: 500
Requests Per Second, More Is Better
R6525_amd_deb1040c256gb
SE +/- 17053.70, N = 3
1823629.79
R650_intel_deb1040c256gb
SE +/- 9117.28, N = 3
1711166.96
Ovirt_R6525_amd_deb1040c256gb
SE +/- 5700.02, N = 3
1738795.66
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 7.0.4
Test: LPUSH - Parallel Connections: 500
Requests Per Second, More Is Better
R6525_amd_deb1040c256gb
SE +/- 19810.23, N = 3
1506938.29
R650_intel_deb1040c256gb
SE +/- 6873.25, N = 3
1441784.79
Ovirt_R6525_amd_deb1040c256gb
SE +/- 5517.76, N = 3
1598838.79
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

all_tst

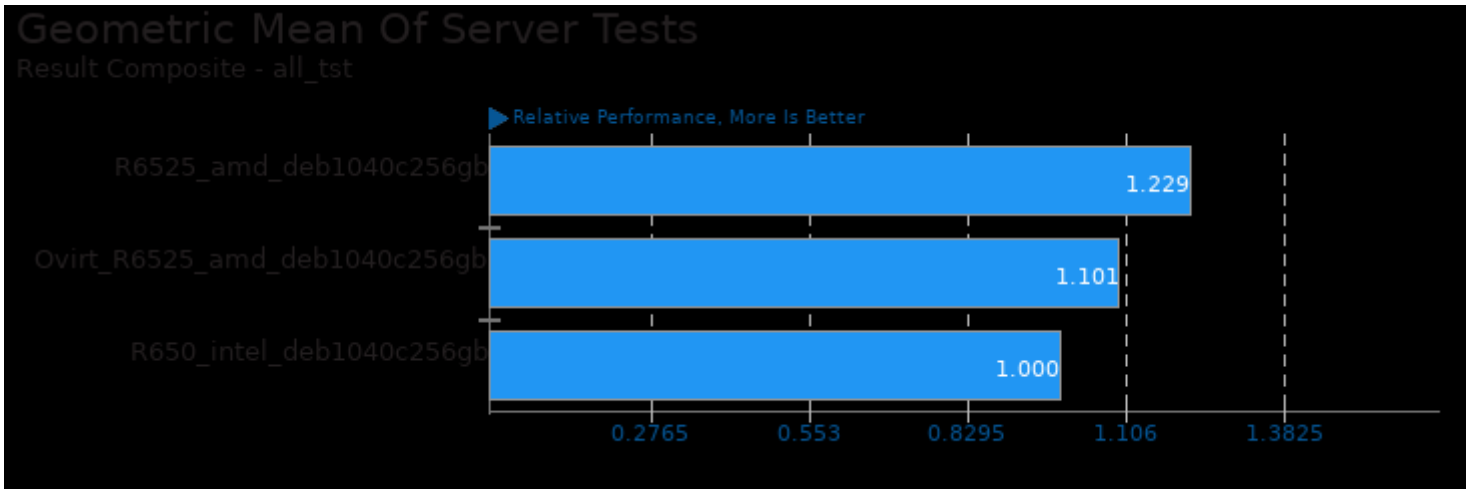

PHPBench 0.8.1
PHP Benchmark Suite
Score, More Is Better
R6525_amd_deb1040c256gb
SE +/- 454.40, N = 3
634201
R650_intel_deb1040c256gb
SE +/- 737.47, N = 3
617285
Ovirt_R6525_amd_deb1040c256gb
SE +/- 473.22, N = 3
477686
140K
280K
420K
560K
700K
PHP Micro Benchmarks
Test: Zend bench
Seconds, Fewer Is Better
R6525_amd_deb1040c256gb
SE +/- 0.005, N = 3
0.432
R650_intel_deb1040c256gb
SE +/- 0.000, N = 3
0.448
Ovirt_R6525_amd_deb1040c256gb
SE +/- 0.002, N = 3
0.594
0.1337
0.2674
0.4011
0.5348
0.6685
PHP Micro Benchmarks
Test: Zend micro_bench
Seconds, Fewer Is Better
R6525_amd_deb1040c256gb
SE +/- 0.013, N = 3
2.071
R650_intel_deb1040c256gb
SE +/- 0.008, N = 3
2.119
Ovirt_R6525_amd_deb1040c256gb
SE +/- 0.004, N = 3
3.160
0.711
1.422
2.133
2.844
3.555

all_tst

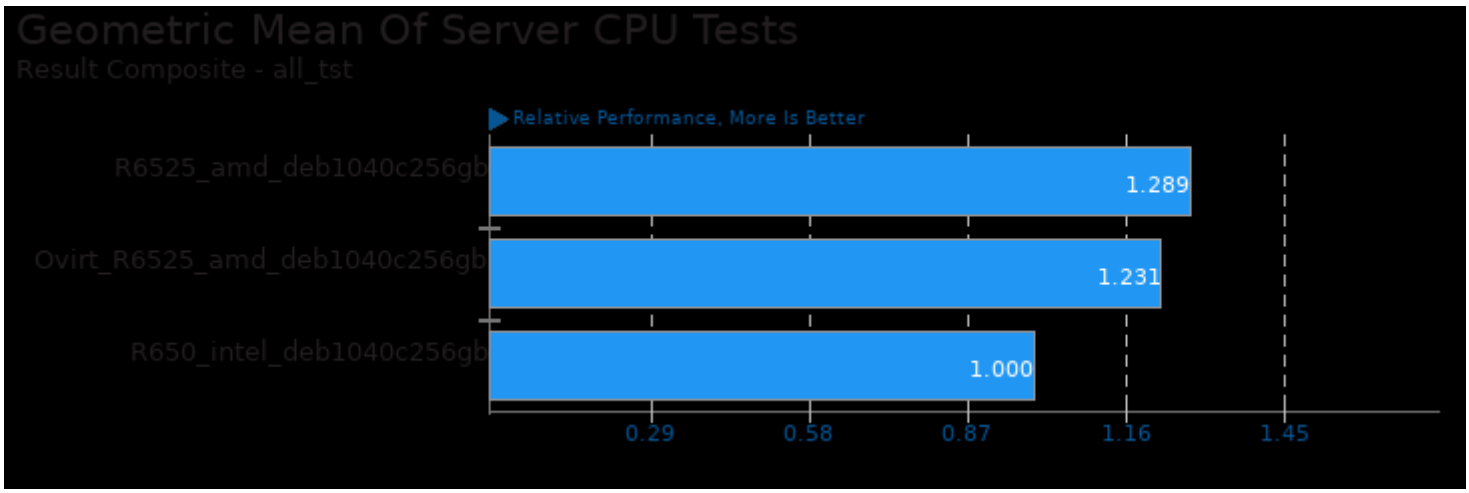
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/build-php, pts/phpbench and pts/redis

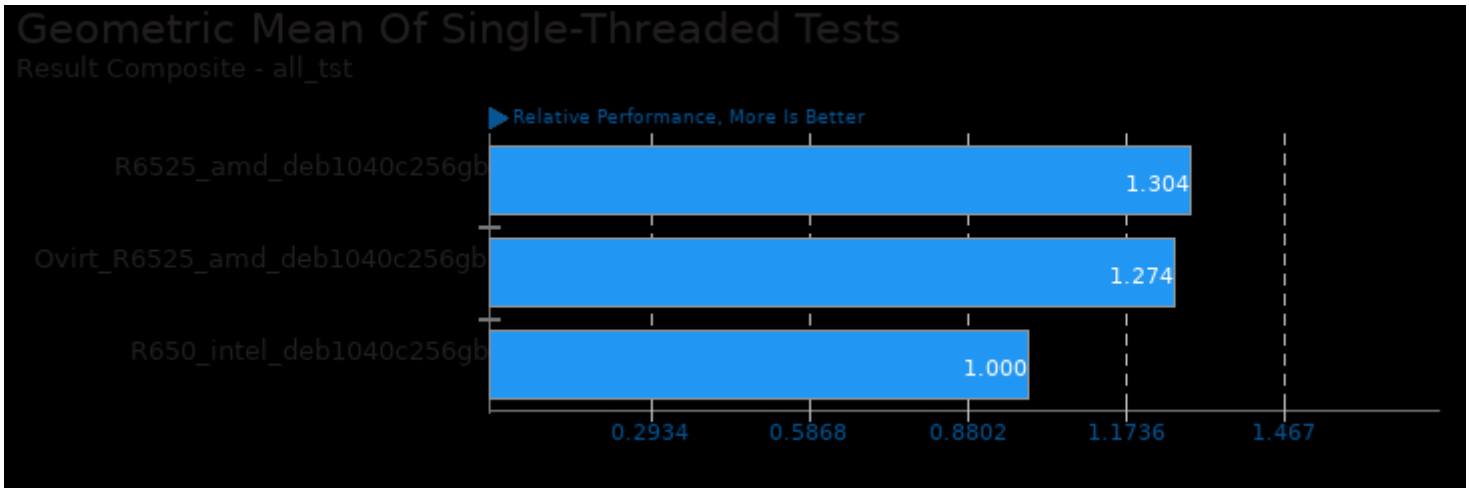


Geometric mean based upon tests: pts/redis, pts/php and pts/phpbench



Geometric mean based upon tests: pts/build-php, pts/redis and pts/phpbench

all_tst



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

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