



CC23Assignment2

Xen HVM domU 4.11.amazon testing on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

M5-Large had the most wins, coming in first place for 66% of the tests.

Based on the geometric mean of all complete results, the fastest (M5-Large) was 1.352x the speed of the slowest (C4-Large). T3-Large was 0.92x the speed of M5-Large and C4-Large was 0.803x the speed of T3-Large.

Test Systems:

T3-Large

Processor: Intel Xeon Platinum 8259CL (1 Core / 2 Threads), Motherboard: Amazon EC2 t3.large (1.0 BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 8GB, Disk: 9GB Amazon Elastic Block Store, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (x86_64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgc-n-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: CPU Microcode: 0x500320a

Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + I1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + mmio_stale_data: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + retbleed: Vulnerable + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRBS-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

M5-Large

Processor: Intel Xeon Platinum 8175M (1 Core / 2 Threads), Motherboard: Amazon EC2 m5.large (1.0 BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 8GB, Disk: 9GB Amazon Elastic Block Store, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (x86_64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgc-n-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: CPU Microcode: 0x2006c0a

Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + I1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + mmio_stale_data: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + retbleed: Vulnerable + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRBS-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown

C4-Large

Processor: Intel Xeon E5-2666 v3 (1 Core / 2 Threads), Motherboard: Xen HVM domU (4.11.amazon BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 4096MB, Disk: 8GB, Graphics: Cirrus Logic GD 5446, Network: Intel 82599 Virtual Function

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (x86_64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: Xen HVM domU 4.11.amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgc-n-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: CPU Microcode: 0x49

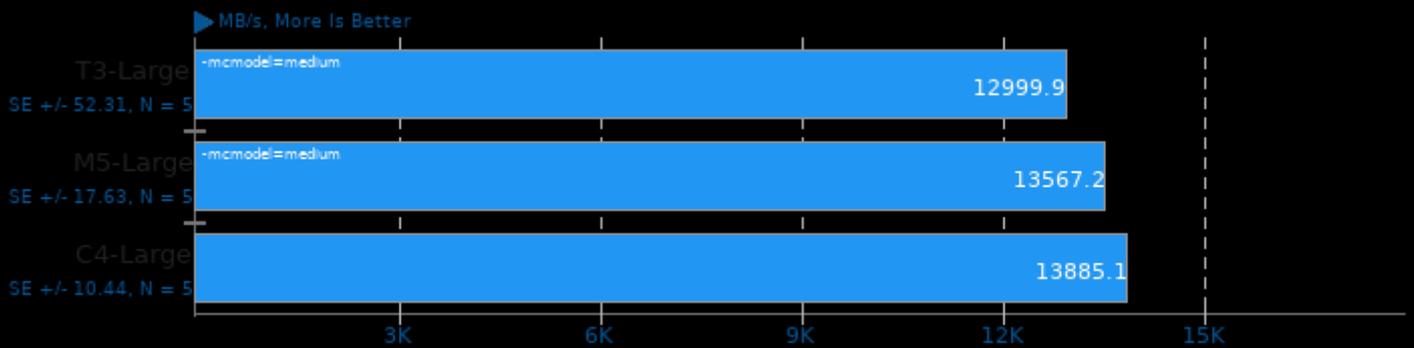
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + I1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + mmio_stale_data: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + retbleed: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRBS-eIBRS: Not affected + srbds: Not affected + tsx_async_abort: Not affected

	T3-Large	M5-Large	C4-Large
Stream - Add (MB/s)	13000	13567	13885
Normalized	93.62%	97.71%	100%

	Standard Deviation	0.9%	0.3%	0.2%
Loopback TCP Network Performance - T.T.T.1.V.L (sec)		19.214	17.579	22.268
	Normalized	91.49%	100%	78.94%
	Standard Deviation	1.2%	0.4%	1.4%
John The Ripper - Blowfish (Real C/S)		1382	1380	1238
	Normalized	100%	99.86%	89.58%
	Standard Deviation	0.1%	0.1%	0%
LAME MP3 Encoding - WAV To MP3 (sec)		14.066	13.825	12.431
	Normalized	88.38%	89.92%	100%
	Standard Deviation	0.1%	0.2%	0.9%
OpenSSL - RSA4096 (sign/s)		235.2	237.2	141.4
	Normalized	99.16%	100%	59.61%
	Standard Deviation	0.2%	0%	0.9%
OpenSSL - RSA4096 (verify/s)		15629	15615	9640
	Normalized	100%	99.91%	61.68%
	Standard Deviation	0.1%	0.1%	1.2%
Apache HTTP Server - 1 (Reqs/sec)		5814	7155	4303
	Normalized	81.25%	100%	60.13%
	Standard Deviation	0.4%	0.2%	2%
Apache HTTP Server - 20 (Reqs/sec)		9839	11197	7444
	Normalized	87.88%	100%	66.48%
	Standard Deviation	0.9%	0.3%	0.2%
Apache HTTP Server - 100 (Reqs/sec)		9161	10536	7147
	Normalized	86.95%	100%	67.83%
	Standard Deviation	1.4%	0.7%	0.6%
Apache HTTP Server - 200 (Reqs/sec)		9069	10241	6993
	Normalized	88.55%	100%	68.28%
	Standard Deviation	1.6%	0.3%	1.7%
Apache HTTP Server - 500 (Reqs/sec)		8776	9998	6874
	Normalized	87.78%	100%	68.75%
	Standard Deviation	1.4%	1.1%	0.2%
Apache HTTP Server - 1000 (Reqs/sec)		8488	9486	6722
	Normalized	89.48%	100%	70.86%
	Standard Deviation	1.4%	0.3%	0.1%

Stream 2013-01-17

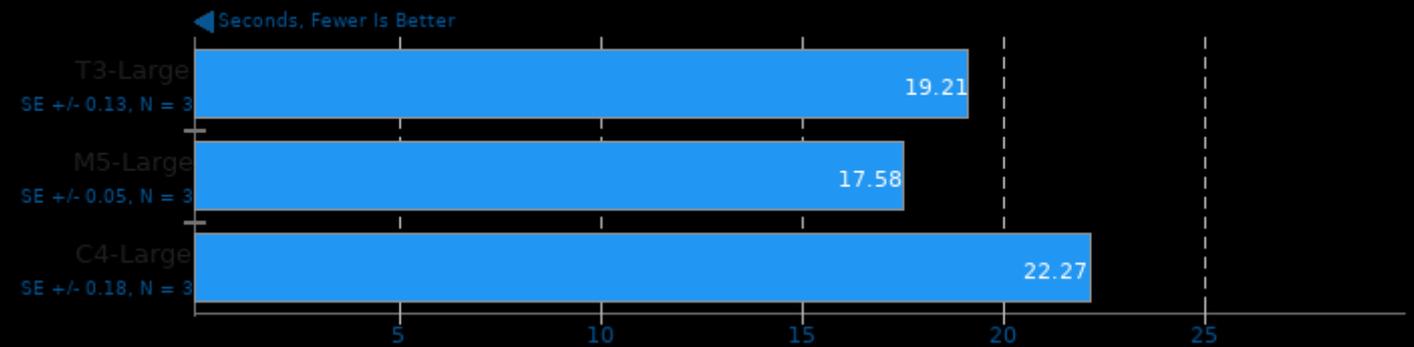
Type: Add



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

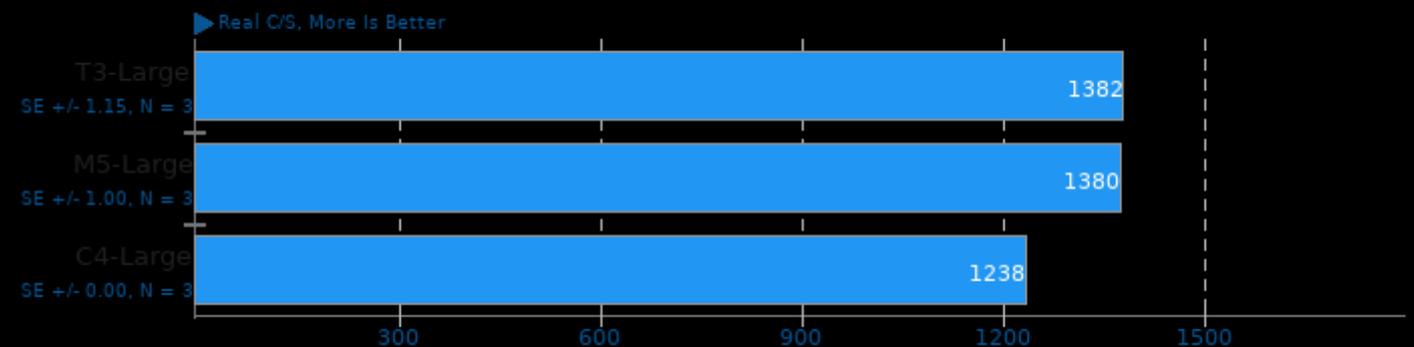
Loopback TCP Network Performance

Time To Transfer 10GB Via Loopback



John The Ripper 1.8.0

Test: Blowfish

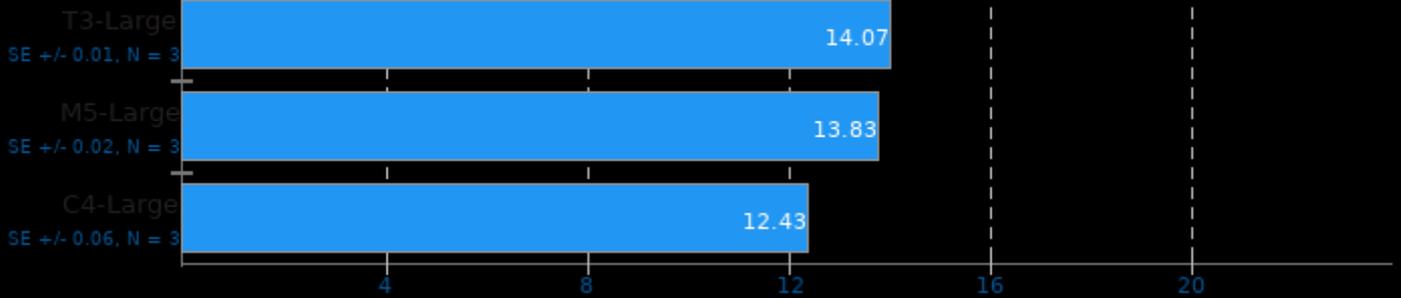


1. (CC) gcc options: -fopenmp -lcrypt

LAME MP3 Encoding 3.100

WAV To MP3

← Seconds, Fewer Is Better

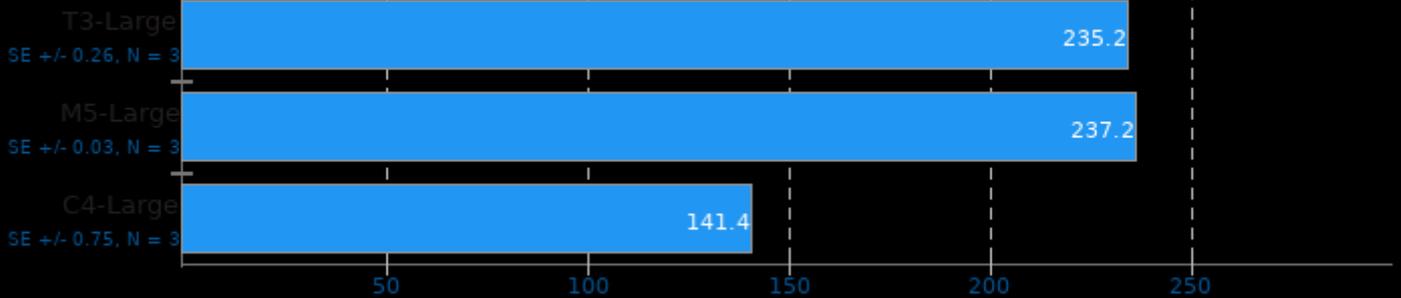


1. (CC) gcc options: -O3 -fast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

OpenSSL 3.0

Algorithm: RSA4096

▶ sign/s, More Is Better

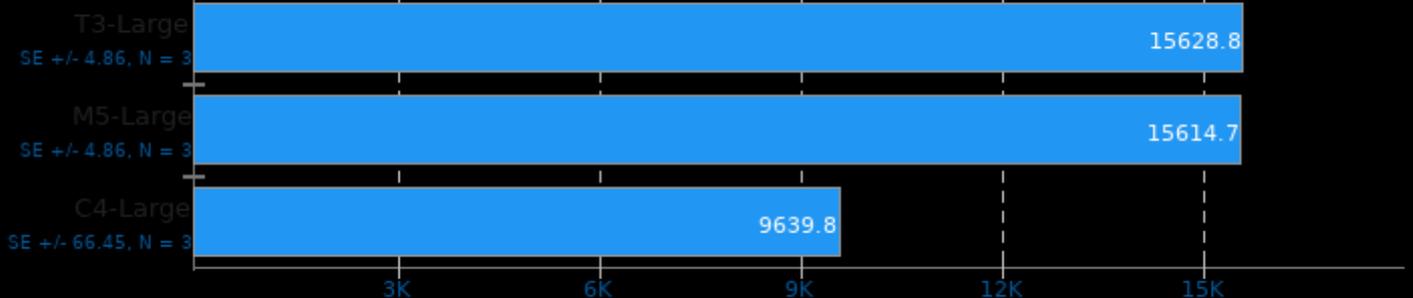


1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

Algorithm: RSA4096

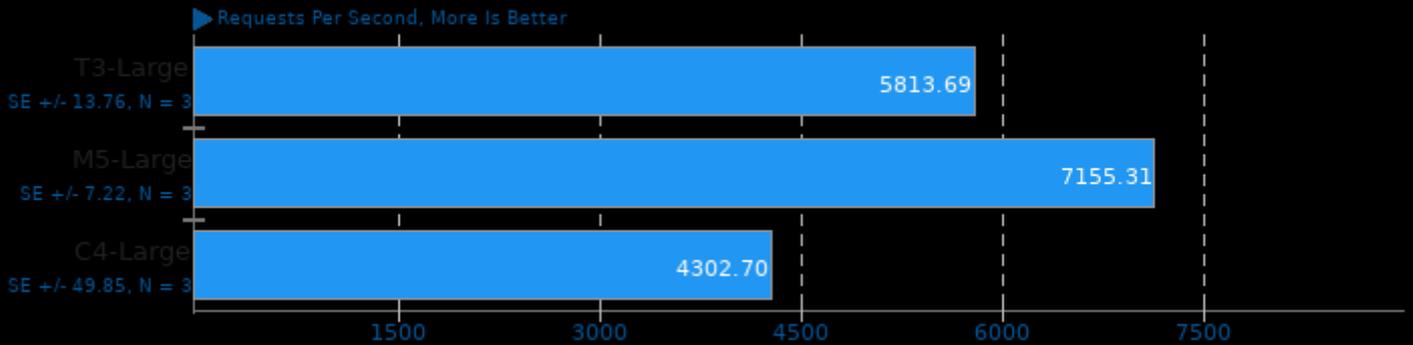
▶ verify/s, More Is Better



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

Apache HTTP Server 2.4.48

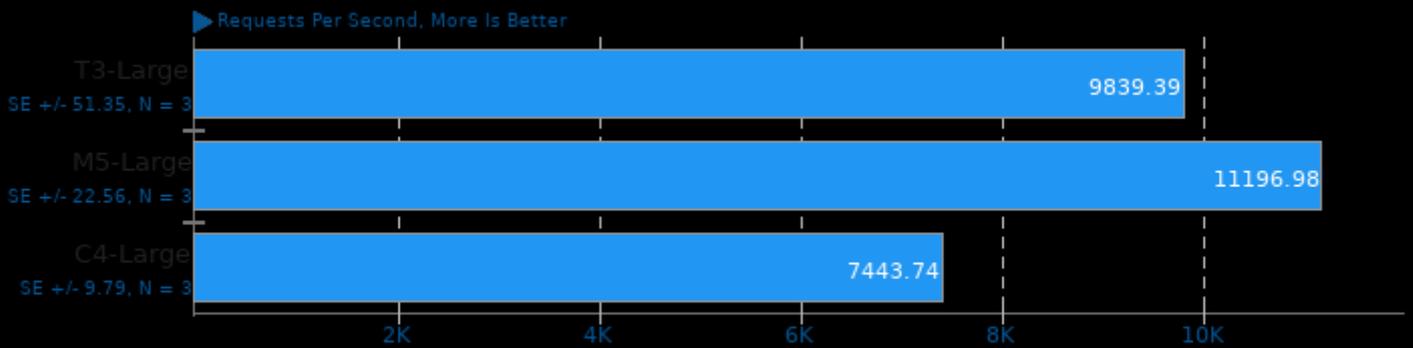
Concurrent Requests: 1



1. (CC) gcc options: -shared -fPIC -O2

Apache HTTP Server 2.4.48

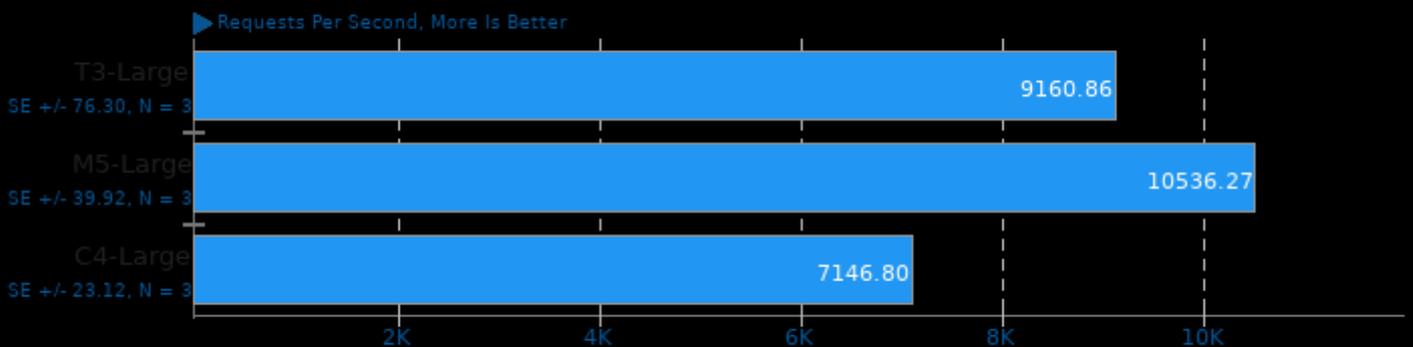
Concurrent Requests: 20



1. (CC) gcc options: -shared -fPIC -O2

Apache HTTP Server 2.4.48

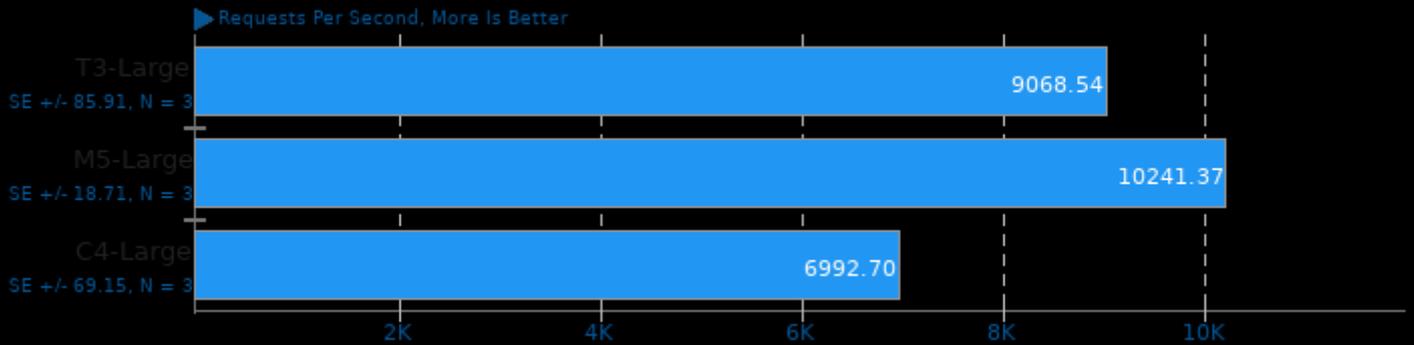
Concurrent Requests: 100



1. (CC) gcc options: -shared -fPIC -O2

Apache HTTP Server 2.4.48

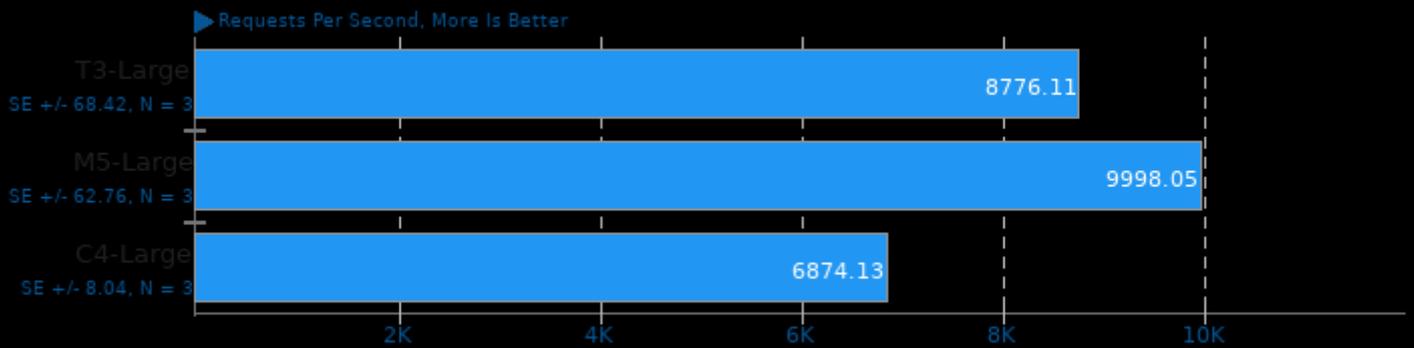
Concurrent Requests: 200



1. (CC) gcc options: -shared -fPIC -O2

Apache HTTP Server 2.4.48

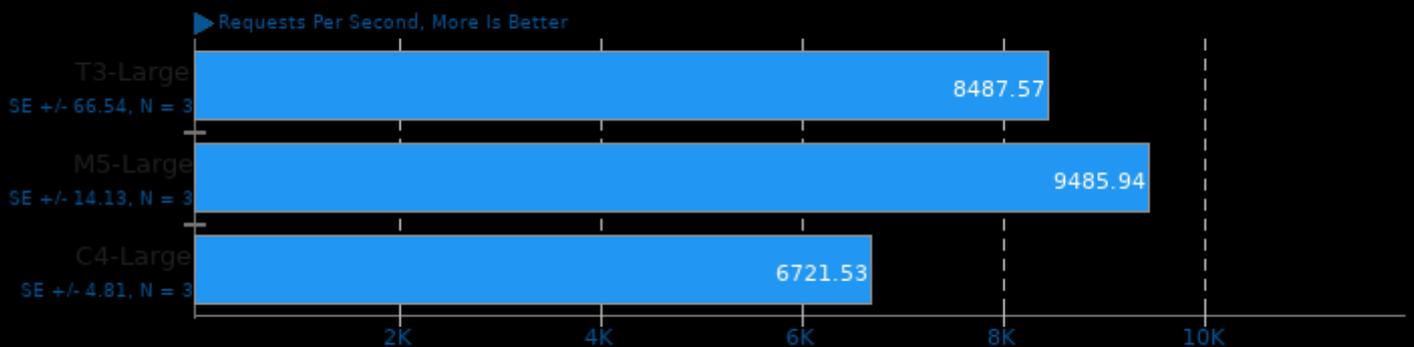
Concurrent Requests: 500



1. (CC) gcc options: -shared -fPIC -O2

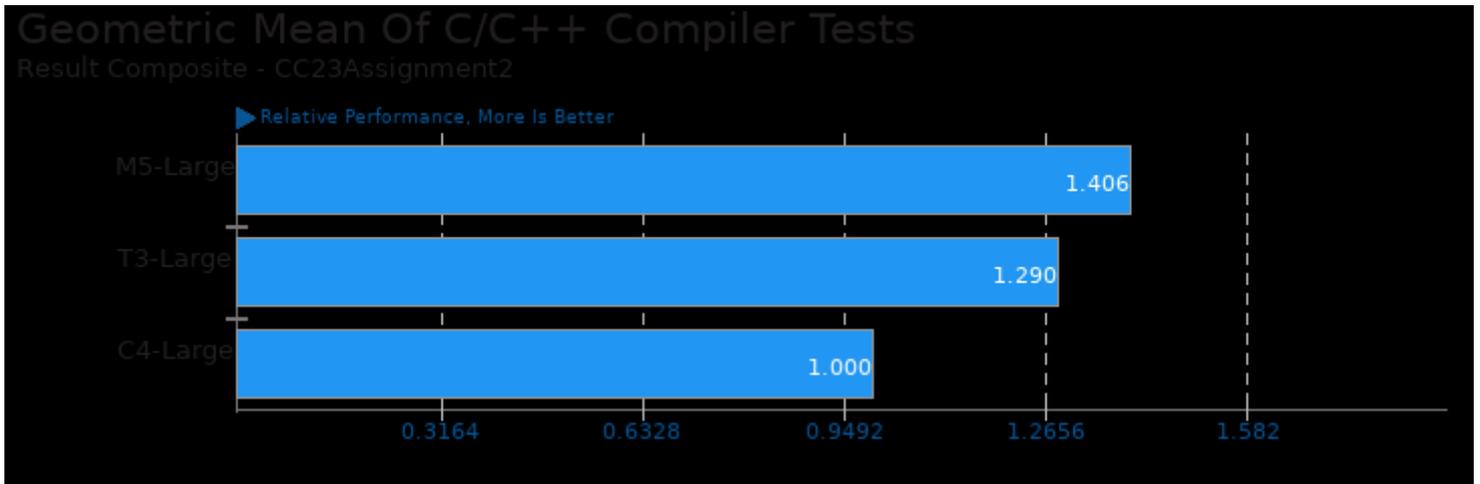
Apache HTTP Server 2.4.48

Concurrent Requests: 1000

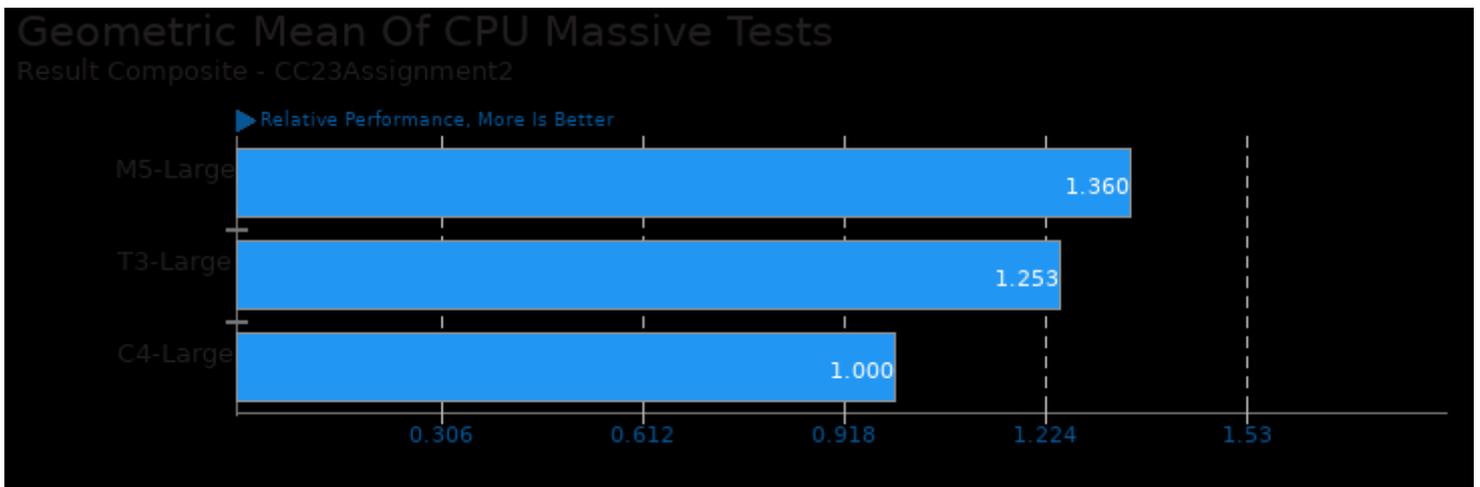


1. (CC) gcc options: -shared -fPIC -O2

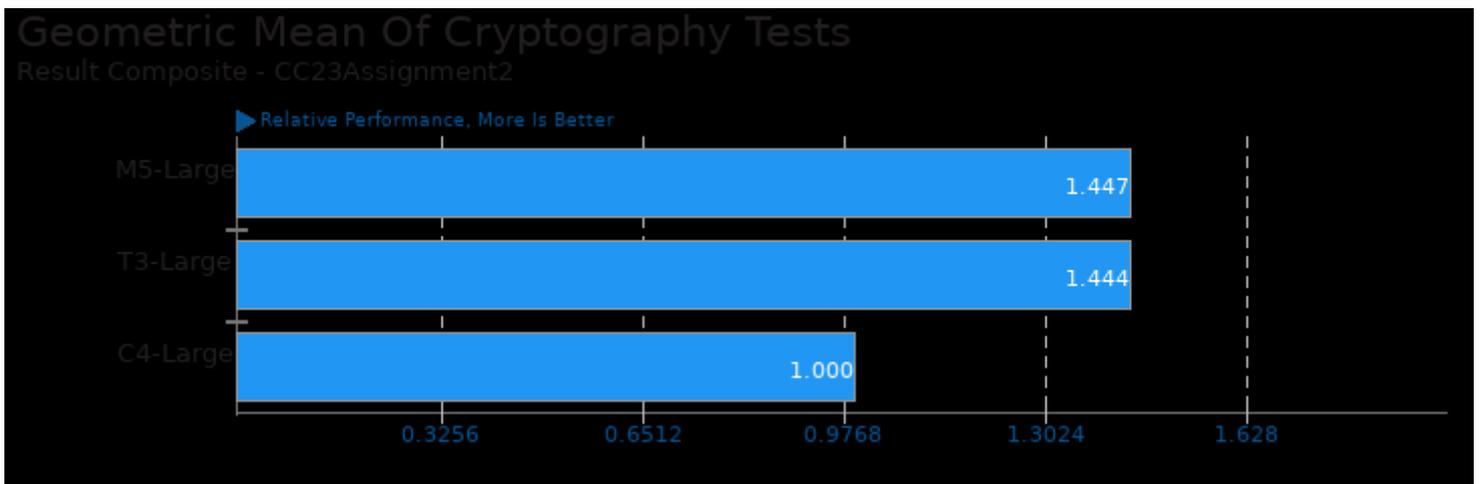
These geometric means are based upon test groupings / test suites for this result file.



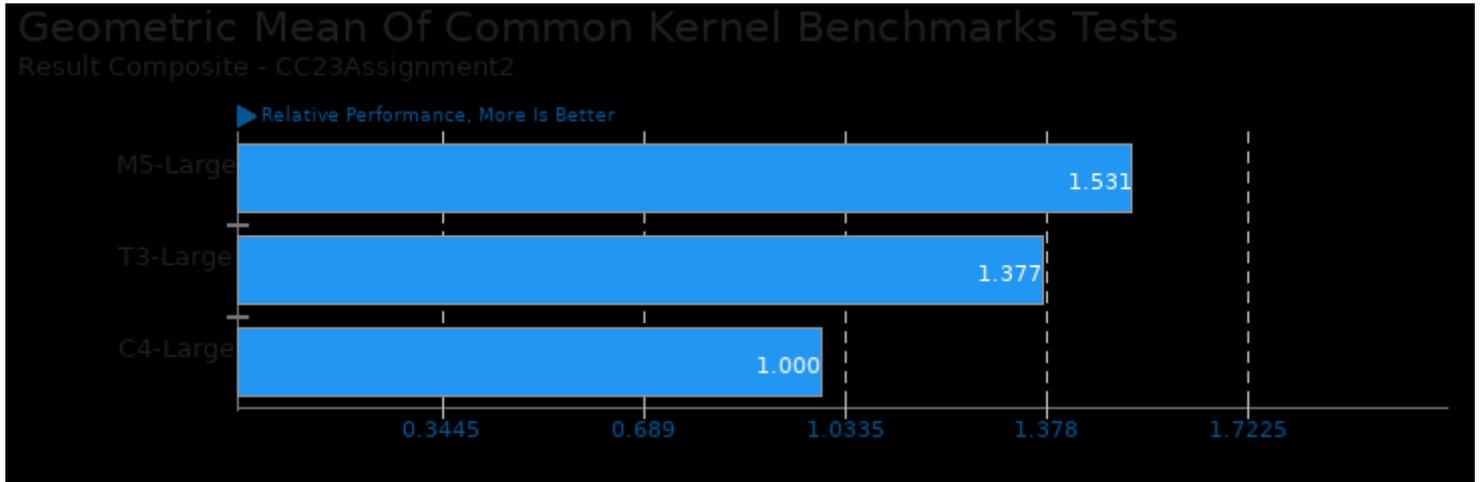
Geometric mean based upon tests: pts/encode-mp3, pts/apache, pts/john-the-ripper and pts/openssl



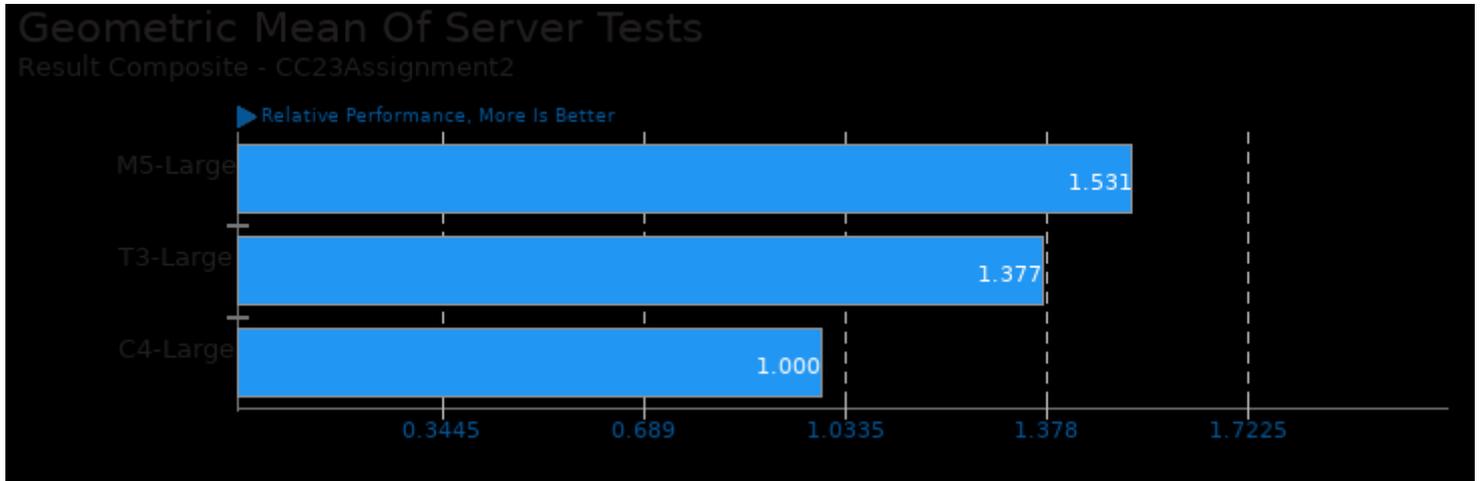
Geometric mean based upon tests: pts/apache, pts/encode-mp3, pts/john-the-ripper, pts/openssl and pts/stream



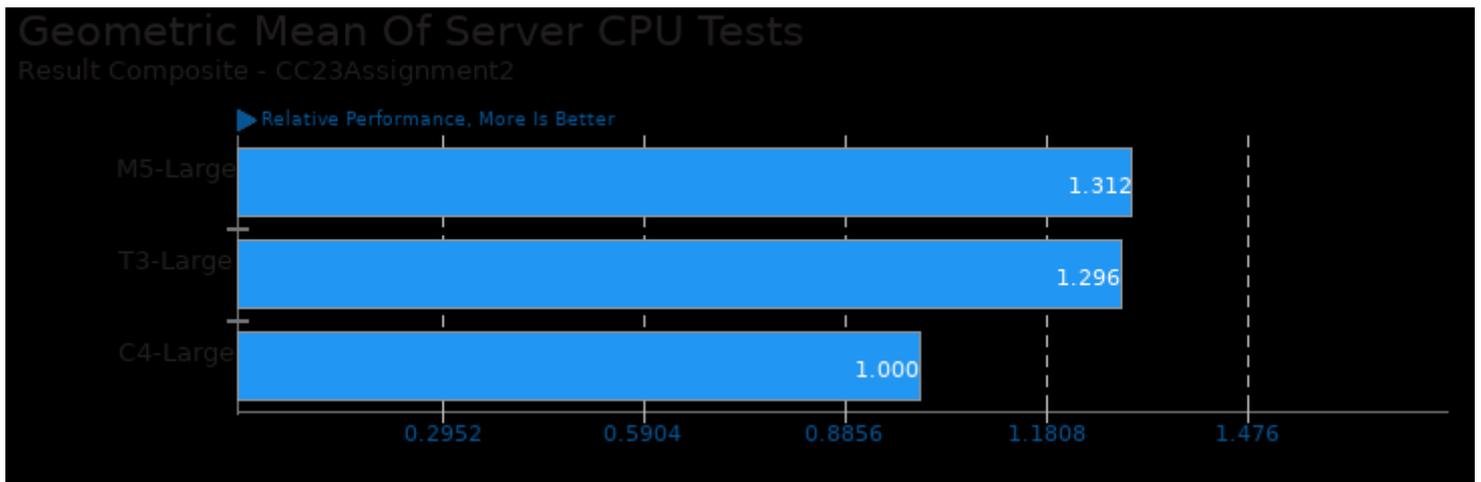
Geometric mean based upon tests: pts/openssl and pts/john-the-ripper



Geometric mean based upon tests: pts/apache and pts/openssl



Geometric mean based upon tests: pts/apache and pts/openssl



Geometric mean based upon tests: pts/john-the-ripper, pts/openssl and pts/stream

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 03:48.