



## CC23Assignment2

amazon testing on Ubuntu 22.04 via the Phoronix Test Suite.

### Automated Executive Summary

*c6gd.large had the most wins, coming in first place for 83% of the tests.*

*Based on the geometric mean of all complete results, the fastest (t4g.nano) was 1.606x the speed of the slowest (c6g.medium). t4g.medium was 0.991x the speed of t4g.nano, c6gd.large was 0.999x the speed of t4g.medium, m6g.large was 0.995x the speed of c6gd.large, c6g.medium was 0.632x the speed of m6g.large.*

### Test Systems:

#### t4g.medium

Processor: ARMv8 Neoverse-N1 (2 Cores), Motherboard: Amazon EC2 t4g.medium (1.0 BIOS), Chipset: Amazon Device 0200, Memory: 4096MB, Disk: 9GB Amazon Elastic Block Store, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (aarch64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v

Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + retbleed: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl + spectre\_v1: Mitigation of \_\_user pointer sanitization + spectre\_v2: Mitigation of CSV2 BHB + srbds: Not affected + tsx\_async\_abort: Not affected

### c6gd.large

Processor: ARMv8 Neoverse-N1 (2 Cores), Motherboard: Amazon EC2 c6gd.large (1.0 BIOS), Chipset: Amazon Device 0200, Memory: 4096MB, Disk: 9GB Amazon Elastic Block Store + 118GB Amazon EC2 NVMe Instance Storage, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (aarch64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v

Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + retbleed: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl + spectre\_v1: Mitigation of \_\_user pointer sanitization + spectre\_v2: Mitigation of CSV2 BHB + srbds: Not affected + tsx\_async\_abort: Not affected

### m6g.large

Processor: ARMv8 Neoverse-N1 (2 Cores), Motherboard: Amazon EC2 m6g.large (1.0 BIOS), Chipset: Amazon Device 0200, Memory: 8GB, Disk: 9GB Amazon Elastic Block Store, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (aarch64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v

Security Notes: itlb\_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + retbleed: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl + spectre\_v1: Mitigation of \_\_user pointer sanitization + spectre\_v2: Mitigation of CSV2 BHB + srbds: Not affected + tsx\_async\_abort: Not affected

### c6g.medium

Processor: ARMv8 Neoverse-N1 (1 Core), Motherboard: Amazon EC2 c6g.medium (1.0 BIOS), Chipset: Amazon Device 0200, Memory: 2048MB, Disk: 9GB Amazon Elastic Block Store, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (aarch64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

Kernel Notes: Transparent Huge Pages: madvise

Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu

```
--with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Security Notes: itlb_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected +
spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Mitigation of CSV2 BHB + srbds: Not affected +
tsx_async_abort: Not affected
```

## t4g.nano

Processor: ARMv8 Neoverse-N1 (2 Cores), Motherboard: Amazon EC2 t4g.nano (1.0 BIOS), Chipset: Amazon Device 0200, Memory: 423MB, Disk: 9GB Amazon Elastic Block Store, Network: Amazon Elastic

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (aarch64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

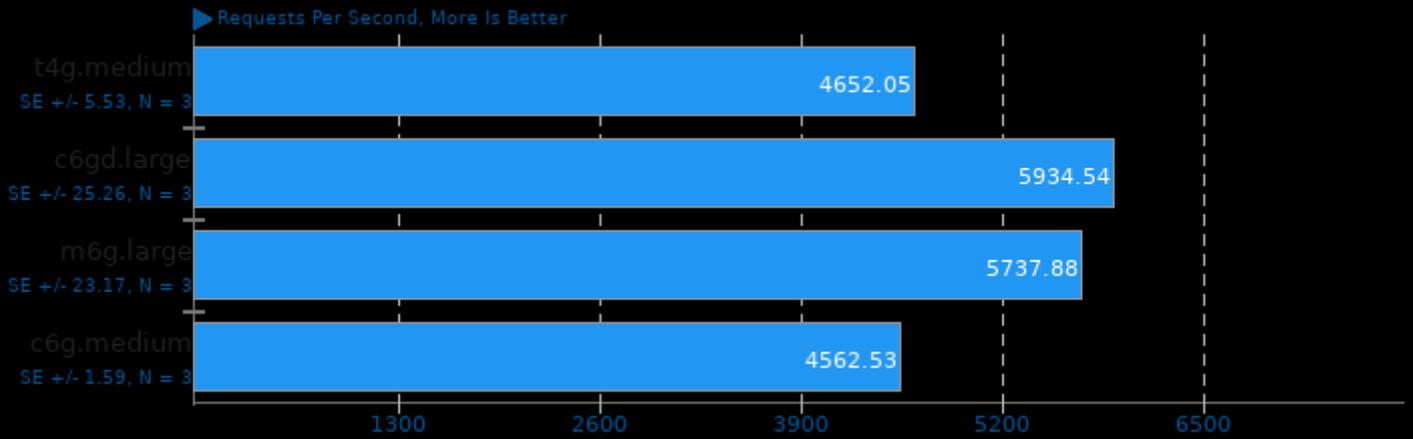
```
Kernel Notes: Transparent Huge Pages: never
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release
--enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2
--enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-nls
--enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu
--with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Security Notes: itlb_multihit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio_stale_data: Not affected + retbleed: Not affected +
spec_store_bypass: Mitigation of SSB disabled via prctl + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Mitigation of CSV2 BHB + srbds: Not affected +
tsx_async_abort: Not affected
```

	t4g.medium	c6gd.large	m6g.large	c6g.medium	t4g.nano
<b>Apache HTTP Server - 1</b>	4652	<b>5935</b>	5738	<b>4563</b>	
<b>(Reqs/sec)</b>					
Normalized	78.39%	100%	96.69%	76.88%	
Standard Deviation	0.2%	0.7%	0.7%	0.1%	
<b>Apache HTTP Server - 20</b>	8507	<b>9625</b>	8931	<b>5096</b>	
<b>(Reqs/sec)</b>					
Normalized	88.38%	100%	92.79%	52.94%	
Standard Deviation	0.2%	0.4%	0.8%	0.3%	
<b>Apache HTTP Server - 100</b>	8819	<b>10348</b>	9017	<b>5328</b>	
<b>(Reqs/sec)</b>					
Normalized	85.23%	100%	87.14%	51.49%	
Standard Deviation	0.1%	0.7%	0.1%	0.6%	
<b>Apache HTTP Server - 200</b>	8592	<b>9821</b>	9000	<b>5162</b>	
<b>(Reqs/sec)</b>					
Normalized	87.49%	100%	91.64%	52.56%	
Standard Deviation	1.2%	0.5%	1%	2.3%	
<b>Apache HTTP Server - 500</b>	7975	<b>9137</b>	8504	<b>4809</b>	
<b>(Reqs/sec)</b>					
Normalized	87.28%	100%	93.07%	52.63%	
Standard Deviation	0.6%	1.1%	0.7%	2.2%	
<b>Apache HTTP Server - 1000</b>	7896	<b>9092</b>	8570	<b>3763</b>	
<b>(Reqs/sec)</b>					
Normalized	86.85%	100%	94.26%	41.39%	
Standard Deviation	0.9%	0.6%	1.2%	1.5%	
<b>John The Ripper - Blowfish (Real C/S)</b>	1418	<b>1427</b>	1424	<b>713</b>	1395
Normalized	99.37%	100%	99.79%	49.96%	97.76%
Standard Deviation	0.1%	0.1%	0.1%	0.2%	0.1%

<b>LAME MP3 Encoding - WAV To MP3 (sec)</b>	<b>11.312</b>	<b>11.060</b>	11.085	11.105	11.169
Normalized	97.77%	100%	99.77%	99.59%	99.02%
Standard Deviation	1.6%	0.1%	0.1%	0.2%	1%
<b>Loopback TCP Network Performance - T.T.T.1.V.L (sec)</b>	18.516	19.159	19.563	<b>24.245</b>	<b>17.168</b>
Normalized	92.72%	89.61%	87.76%	70.81%	100%
Standard Deviation	4%	1.1%	1.8%	0.2%	1.1%
<b>OpenSSL - RSA4096 (sign/s)</b>	<b>82.5</b>	<b>82.5</b>	<b>82.5</b>	<b>41.3</b>	81.4
Normalized	100%	100%	100%	50.06%	98.67%
Standard Deviation	0%	0%	0.1%	0%	2.4%
<b>OpenSSL - RSA4096 (verify/s)</b>	6741	<b>6744</b>	6740	<b>3370</b>	6648
Normalized	99.96%	100%	99.94%	49.97%	98.57%
Standard Deviation	0%	0%	0%	0%	2.4%
<b>Stream - Add (MB/s)</b>	<b>46717</b>	<b>49146</b>	47045		
Normalized	95.06%	100%	95.73%		
Standard Deviation	4.1%	0.4%	0.5%		

### Apache HTTP Server 2.4.48

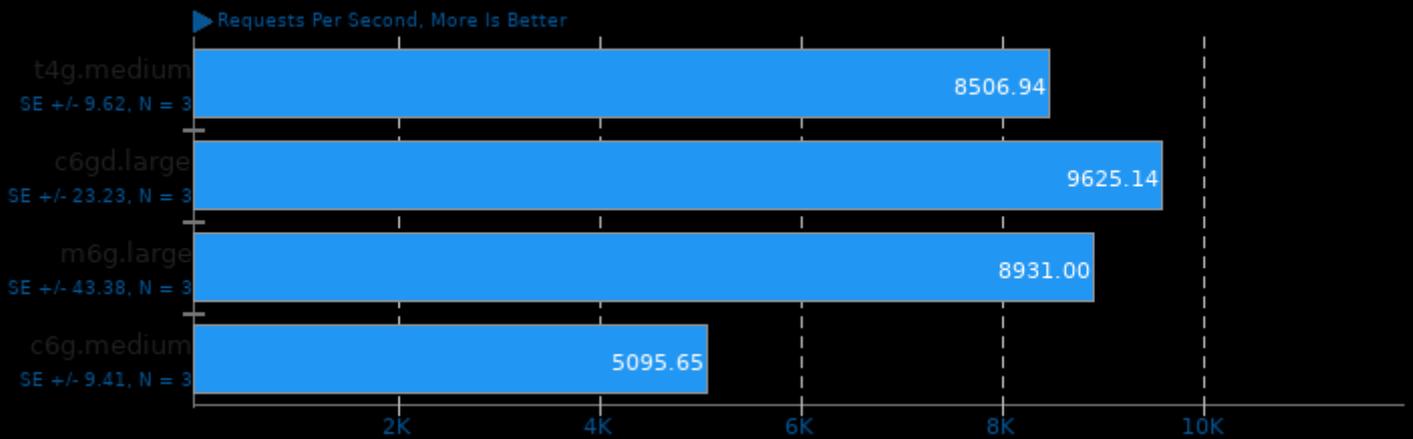
Concurrent Requests: 1



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

### Apache HTTP Server 2.4.48

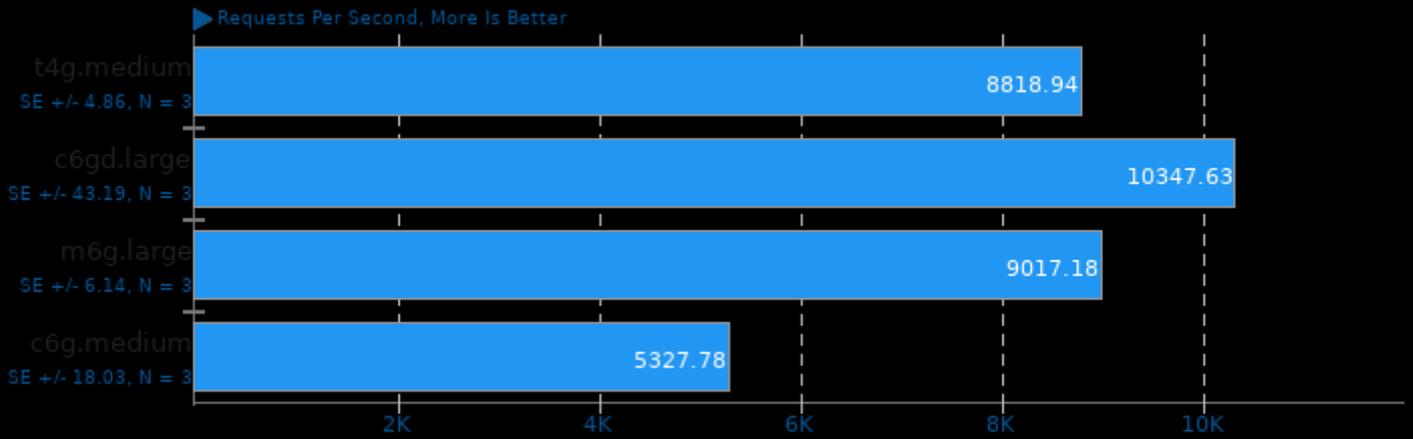
Concurrent Requests: 20



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

### Apache HTTP Server 2.4.48

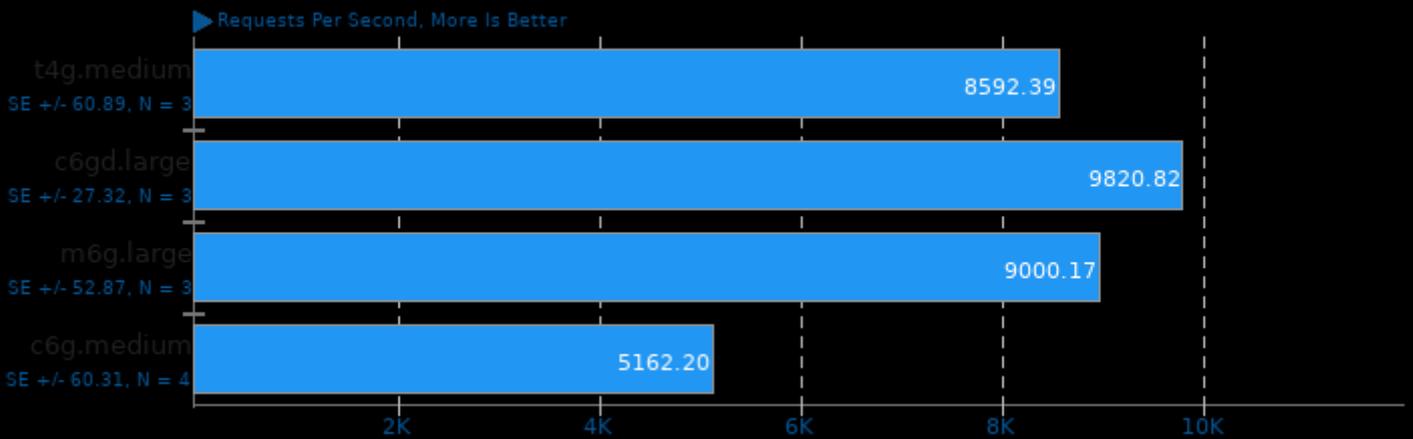
Concurrent Requests: 100



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

### Apache HTTP Server 2.4.48

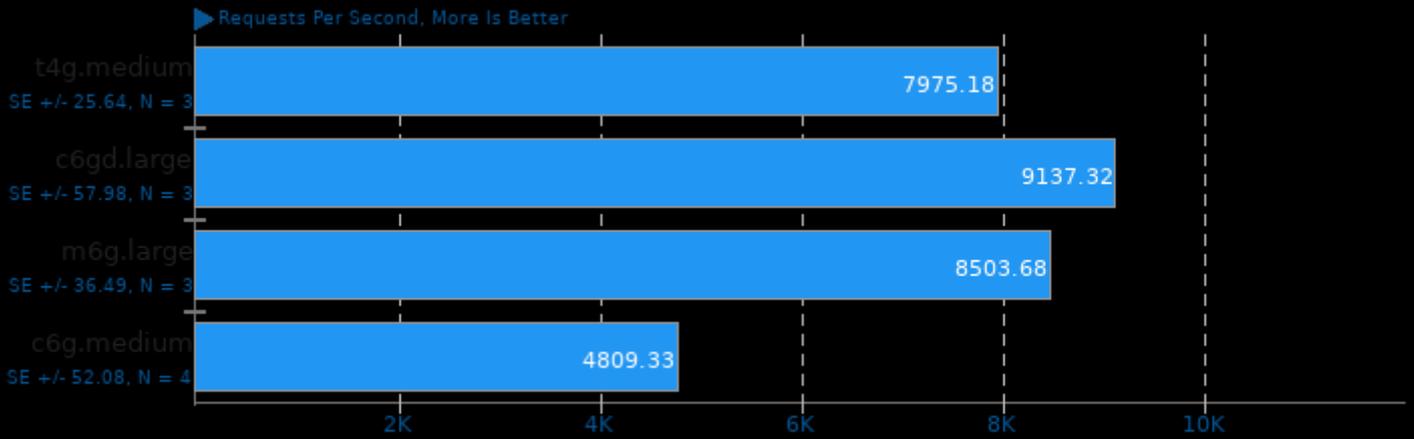
Concurrent Requests: 200



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

### Apache HTTP Server 2.4.48

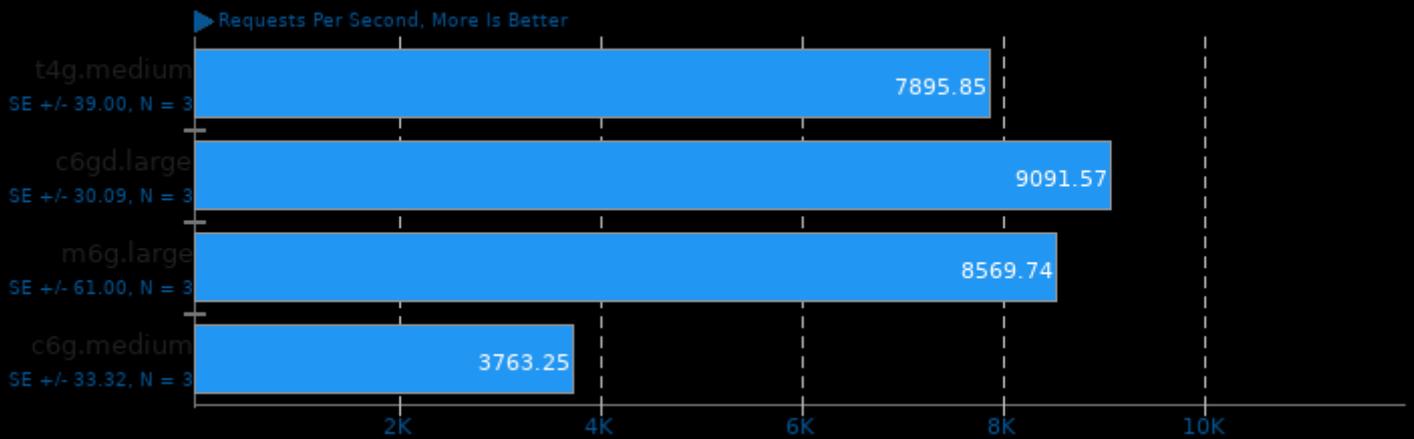
Concurrent Requests: 500



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

### Apache HTTP Server 2.4.48

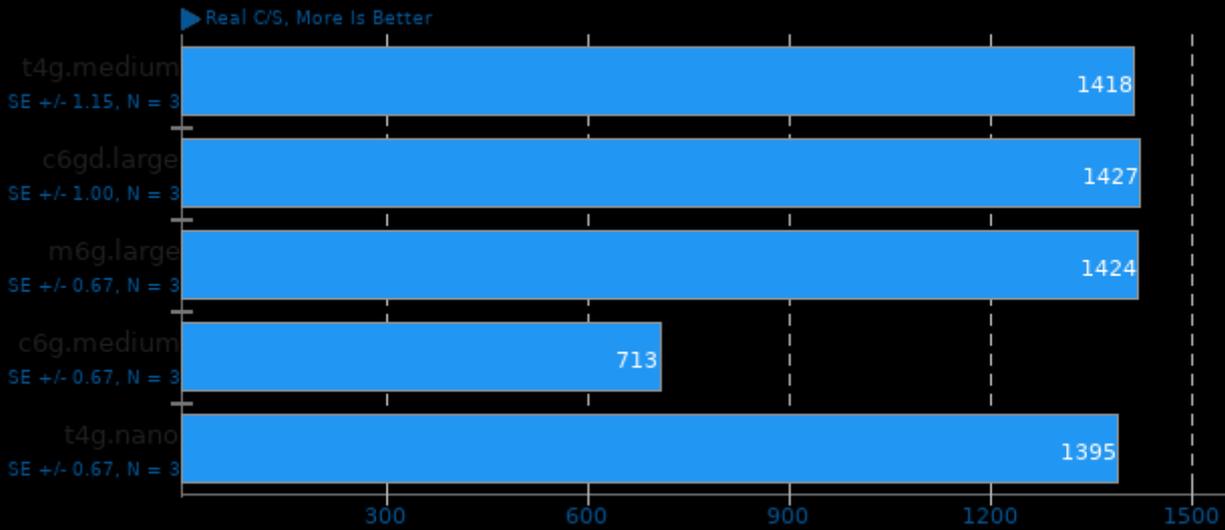
Concurrent Requests: 1000



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

### John The Ripper 1.8.0

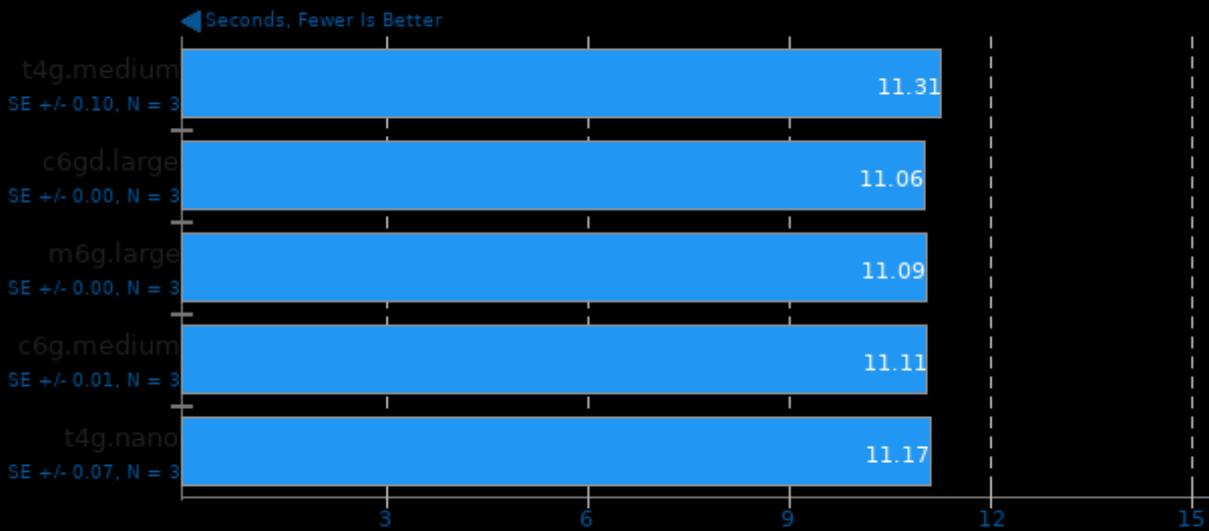
Test: Blowfish



1, (CC) gcc options: -fopenmp

### LAME MP3 Encoding 3.100

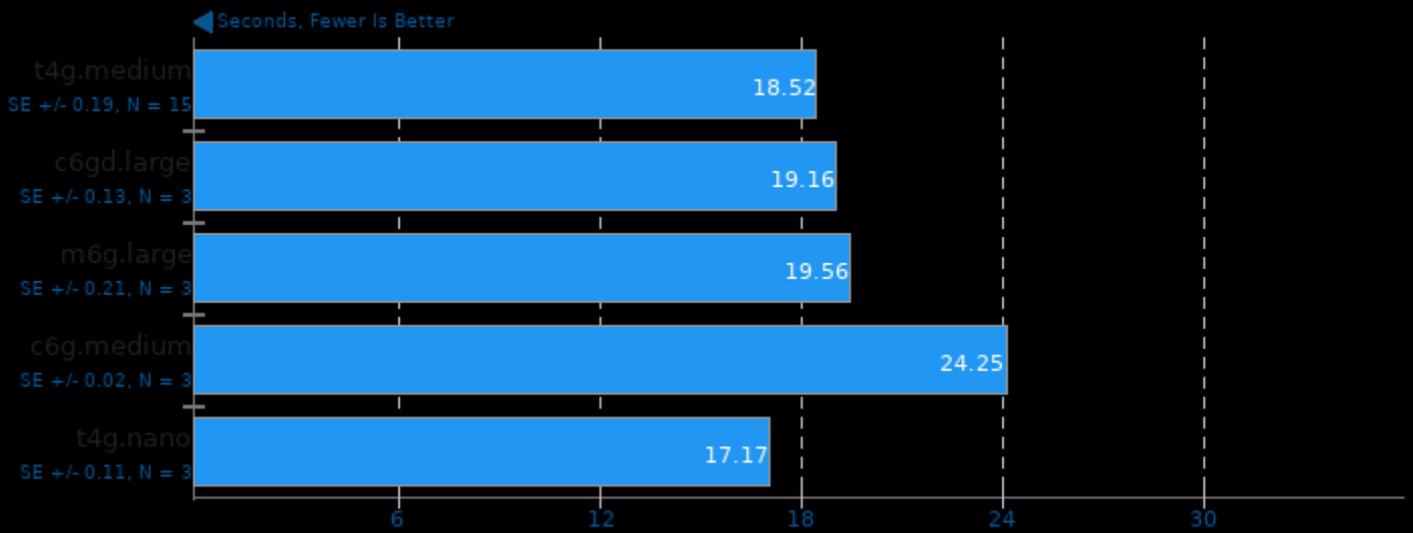
WAV To MP3



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

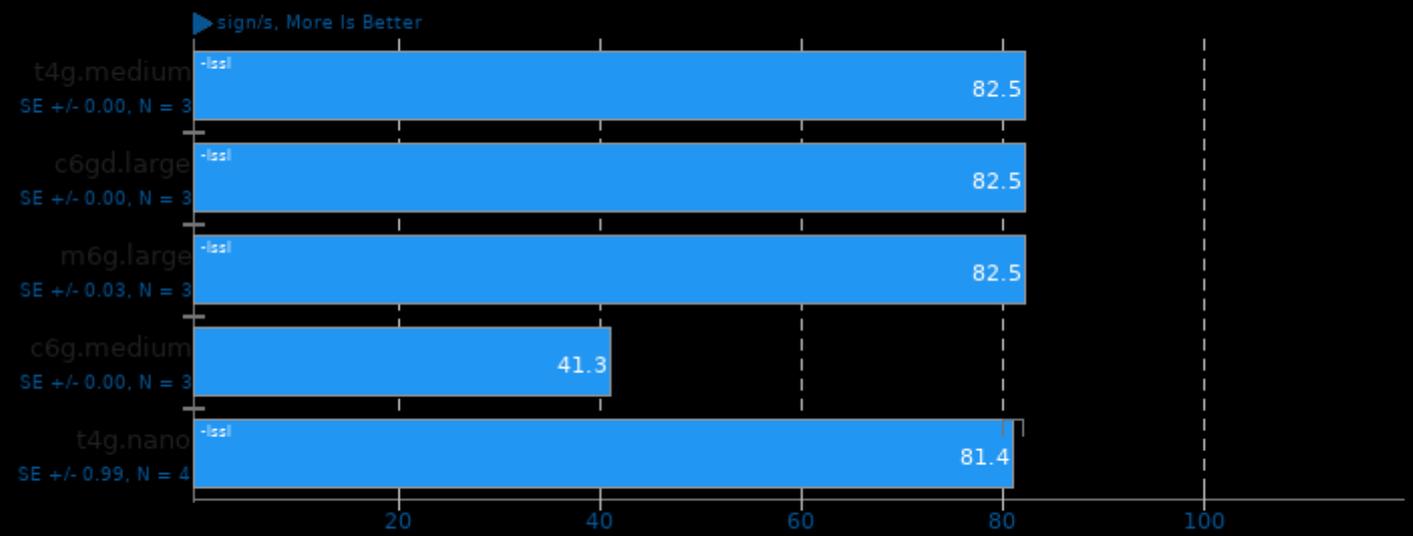
## Loopback TCP Network Performance

Time To Transfer 10GB Via Loopback



## OpenSSL 3.0

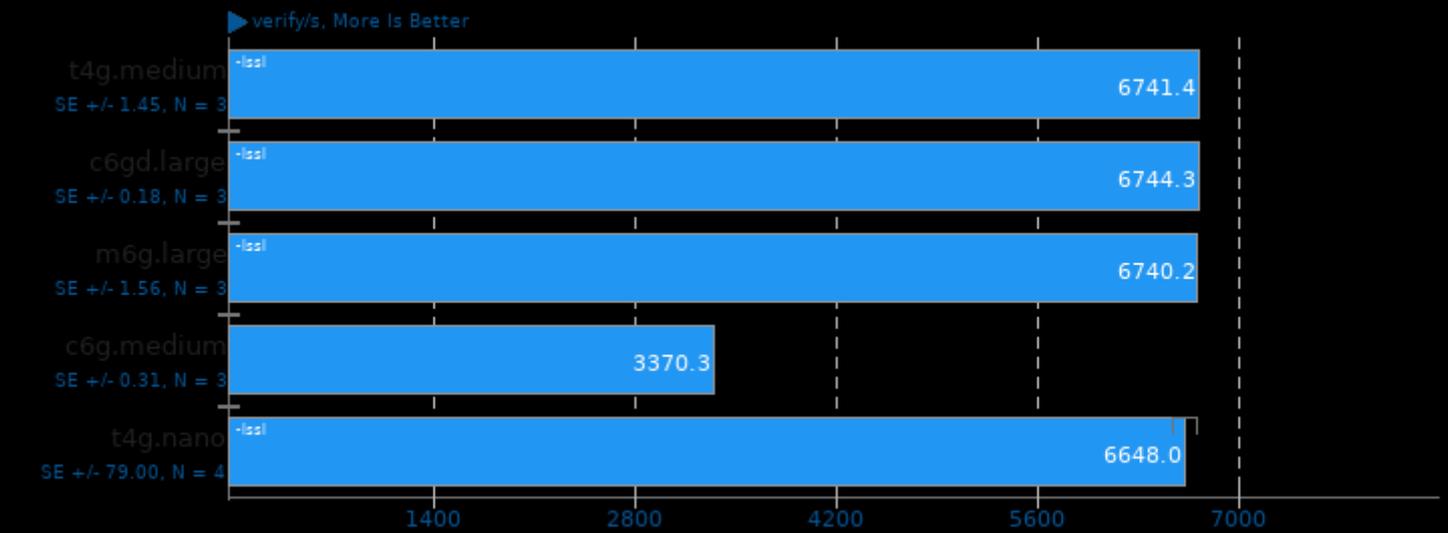
Algorithm: RSA4096



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

### OpenSSL 3.0

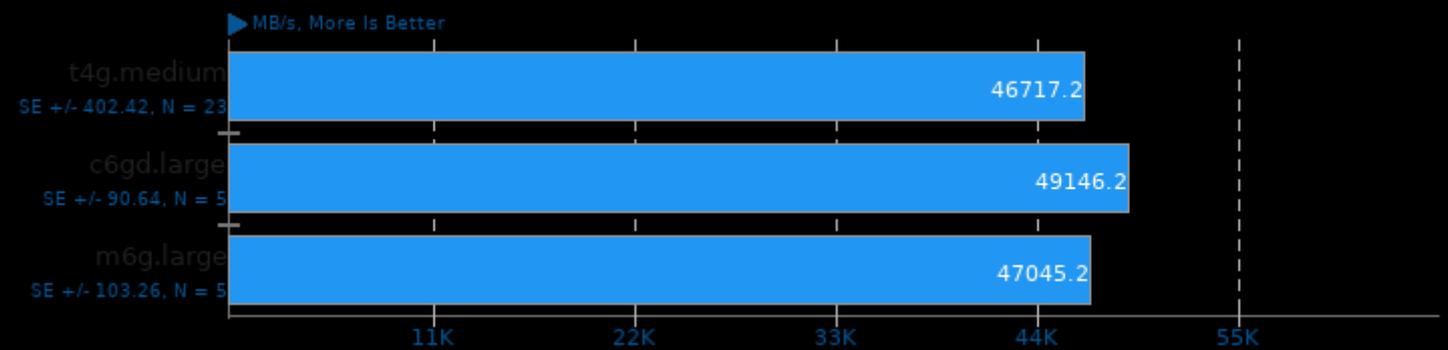
Algorithm: RSA4096



1, (CC) gcc options: -pthread -O3 -lcrypto -ldl

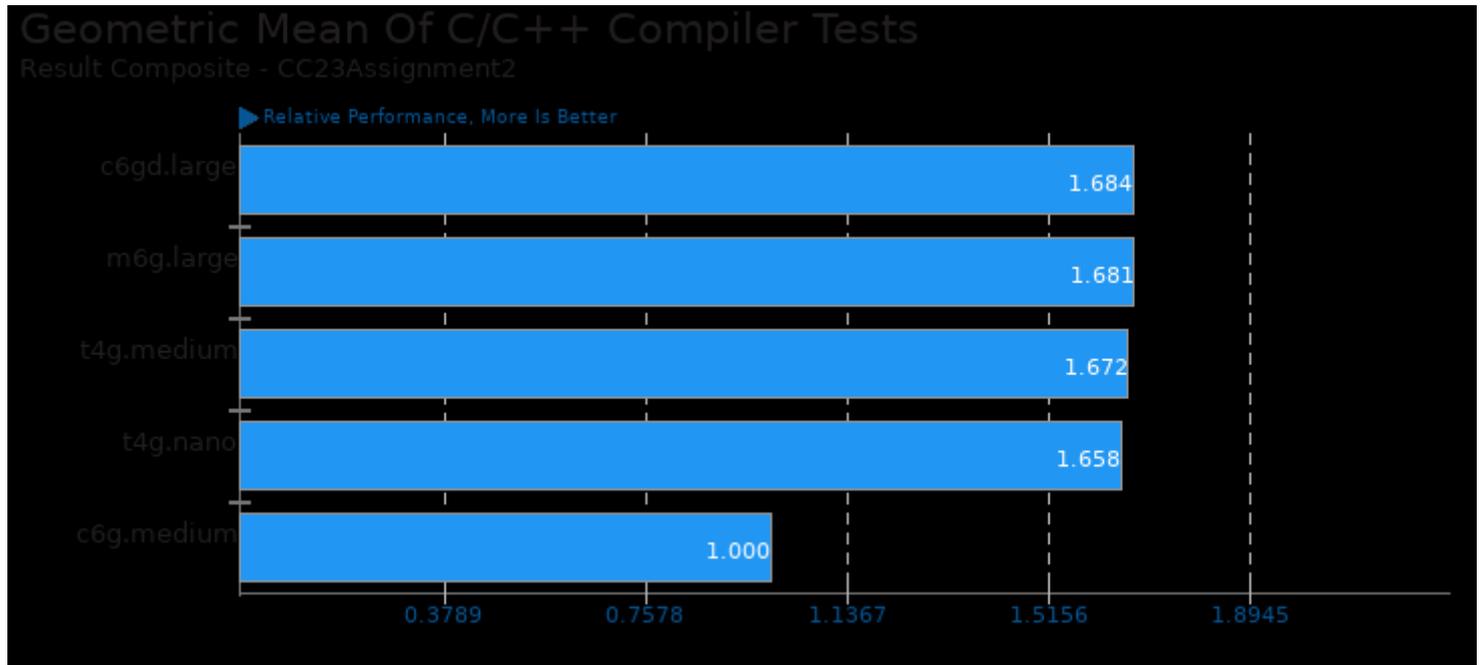
### Stream 2013-01-17

Type: Add

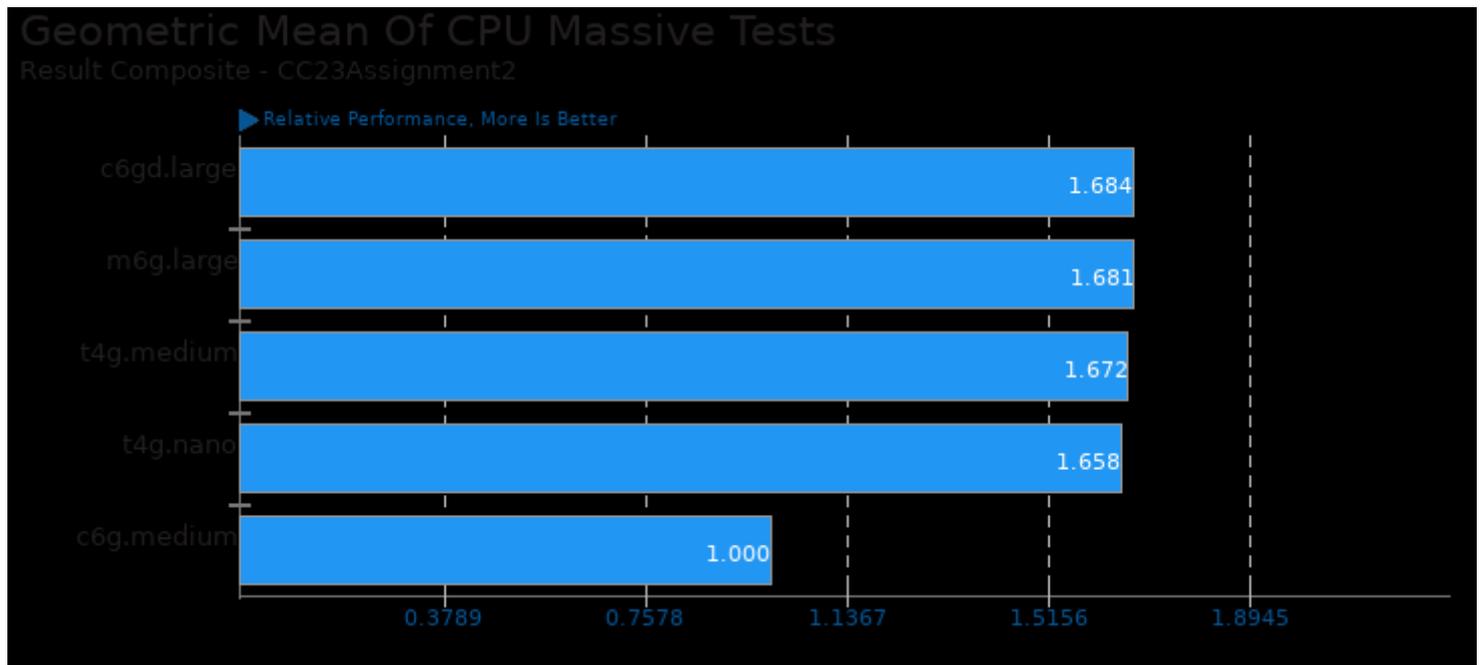


1, (CC) gcc options: -O3 -march=native -fopenmp

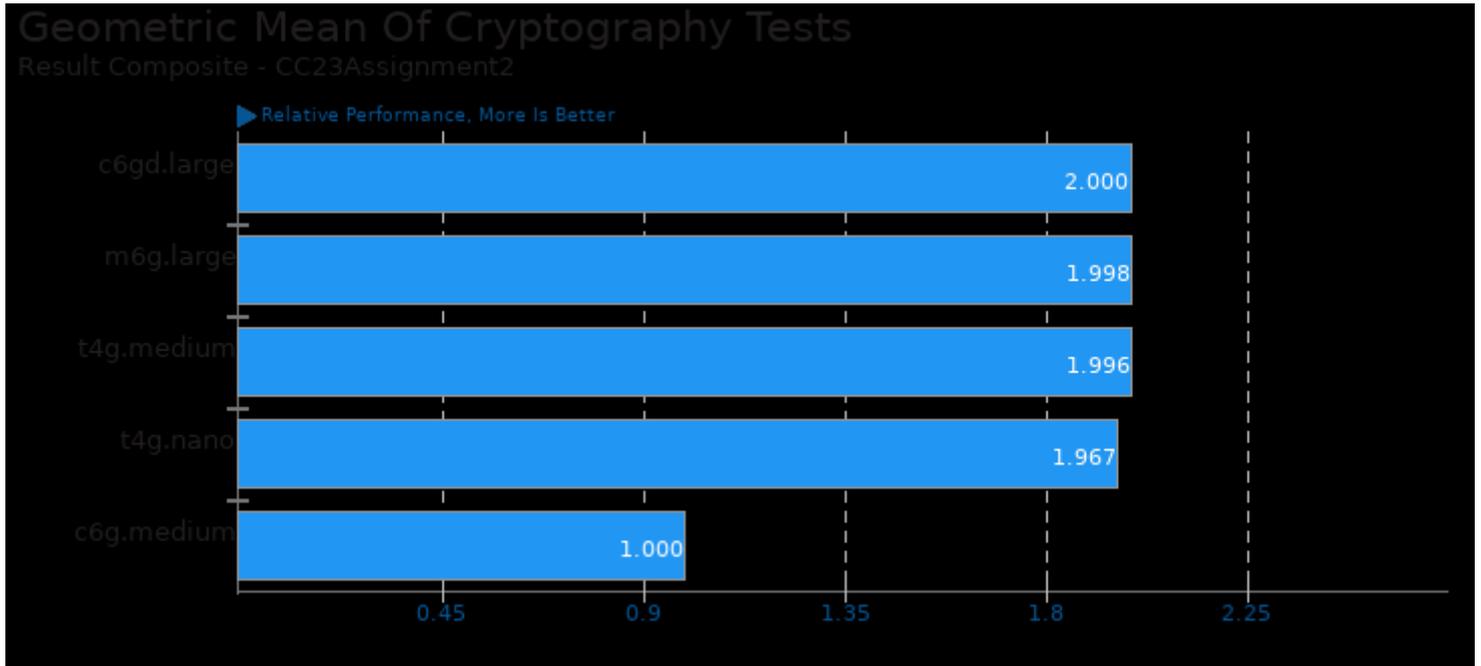
These geometric means are based upon test groupings / test suites for this result file.



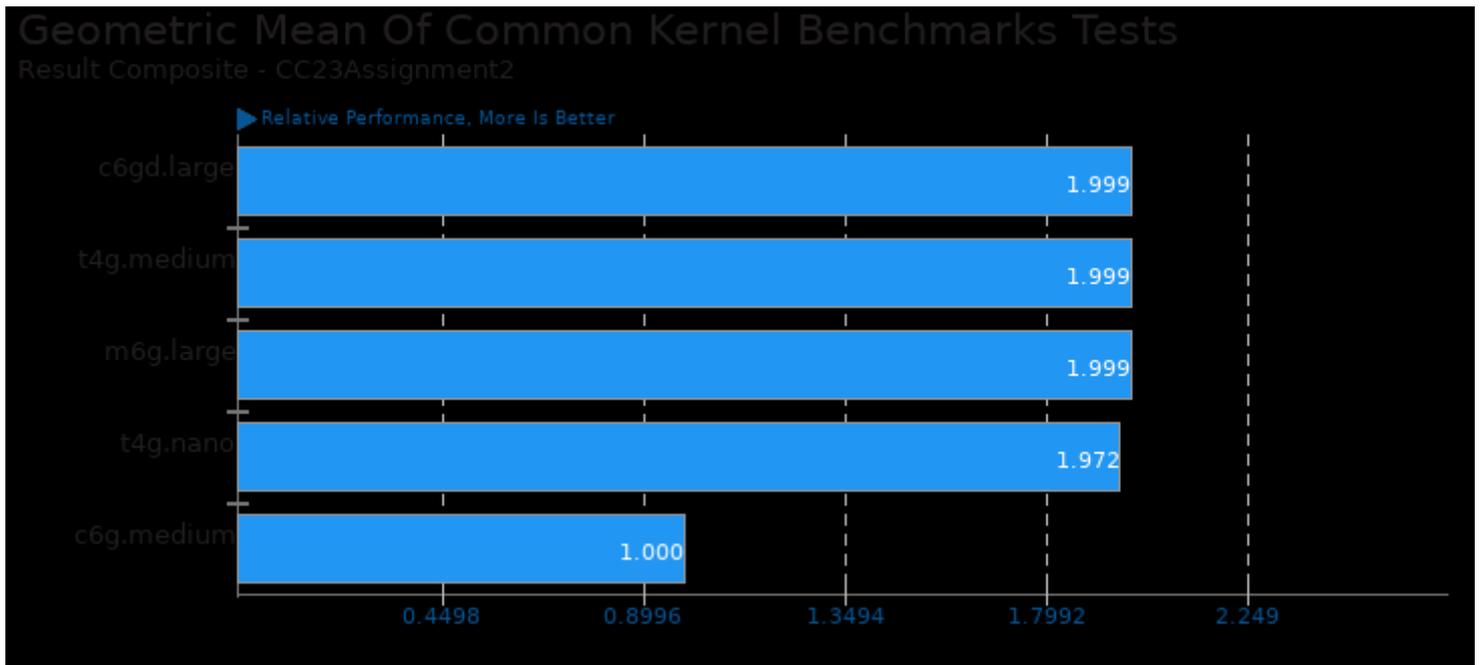
Geometric mean based upon tests: pts/encode-mp3, pts/apache, pts/john-the-ripper and pts/openssl



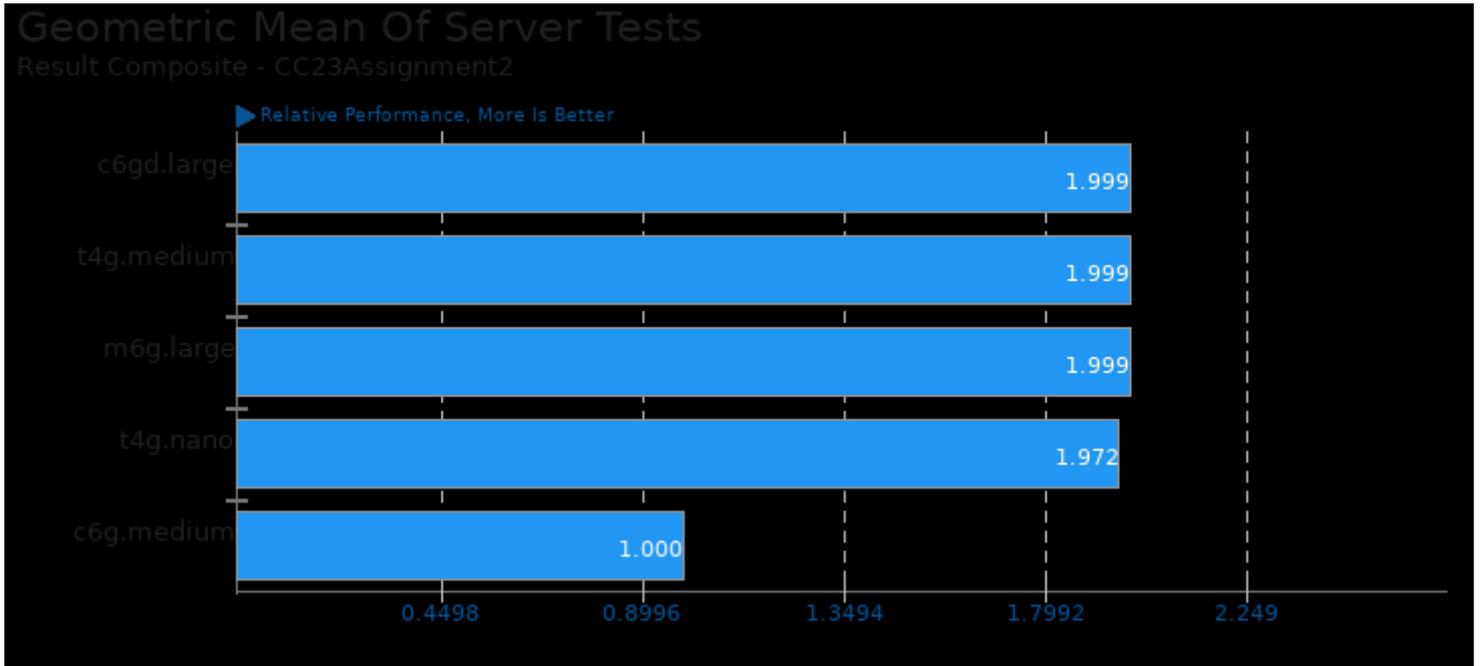
Geometric mean based upon tests: pts/apache, pts/encode-mp3, pts/john-the-ripper, pts/openssl and pts/stream



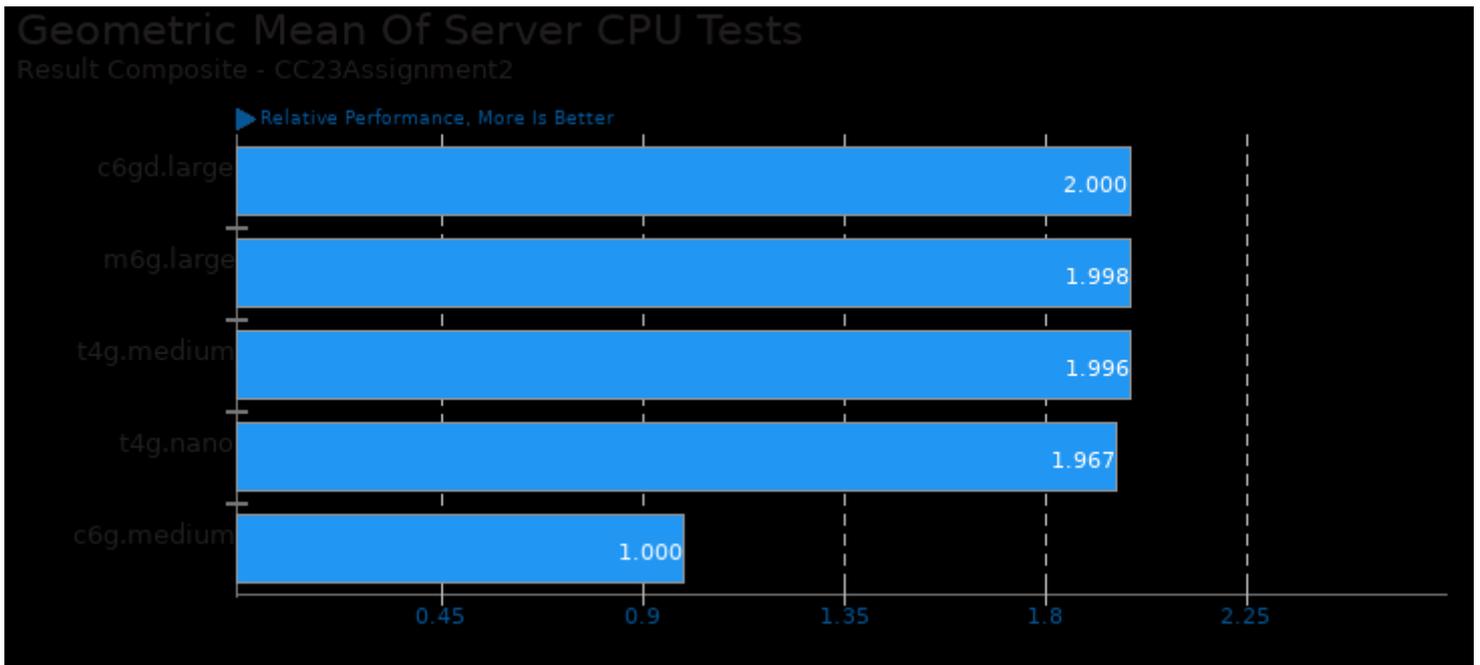
Geometric mean based upon tests: pts/openssl and pts/john-the-ripper



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 Thursday, 28 March 2024 19:43.