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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 + l1tf: 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 + l1tf: 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 + l1tf: 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 + l1tf: 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

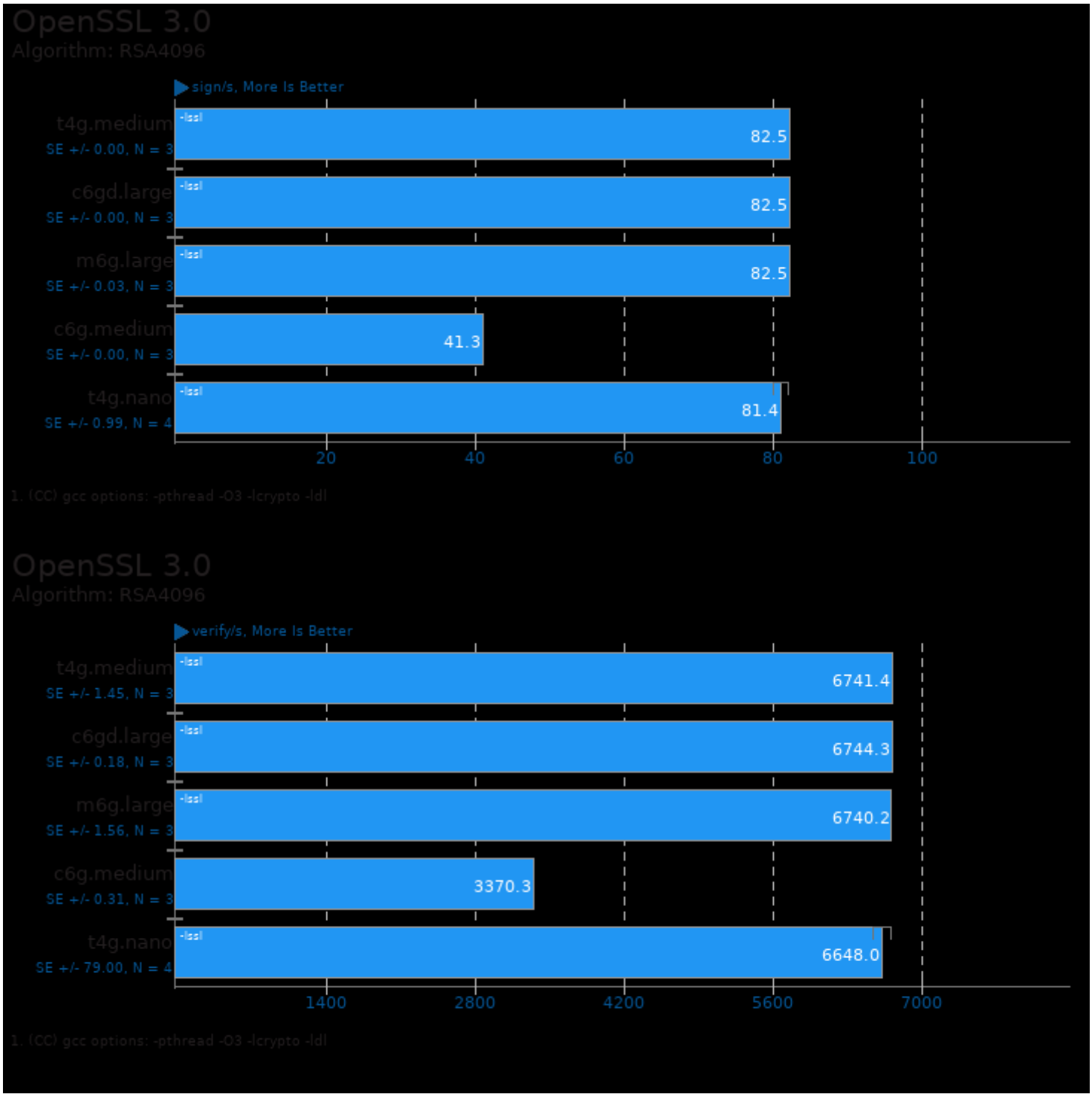
OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (aarch64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: amazon

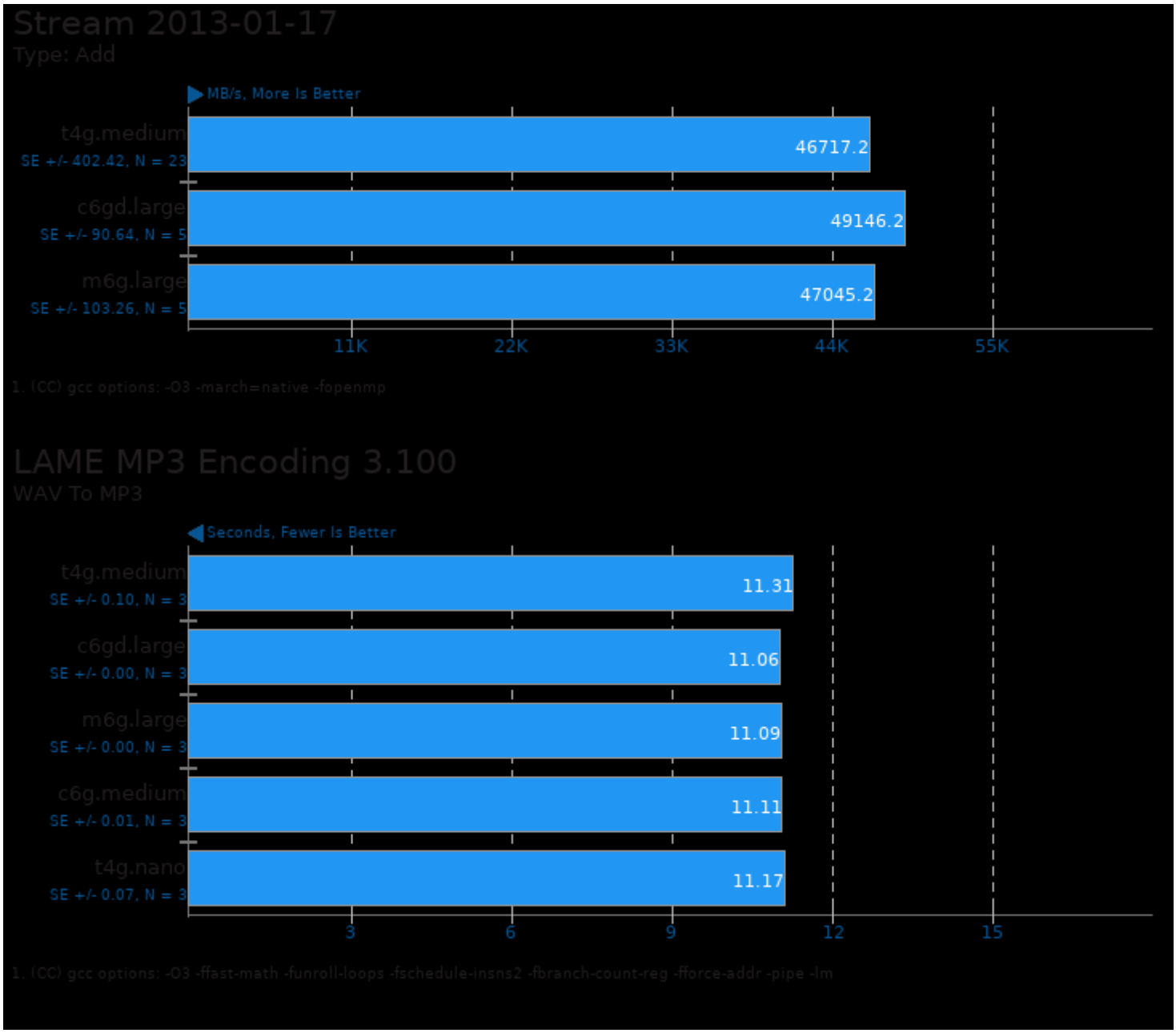
Kernel Notes: Transparent Huge Pages: never
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --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 + l1tf: 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
OpenSSL - RSA4096 (sign/s)	**82.5**	**82.5**	**82.5**	**41.3**	81.4
Normalized	100%	100%	100%	50.06%	98.67%
Standard Deviation	0%	0%	0.1%	0%	2.4%
OpenSSL - RSA4096 (verify/s)	6741	**6744**	6740	**3370**	6648
Normalized	99.96%	100%	99.94%	49.97%	98.57%
Standard Deviation	0%	0%	0%	0%	2.4%
Stream - Add (MB/s)	**46717**	**49146**	47045		
Normalized	95.06%	100%	95.73%		
Standard Deviation	4.1%	0.4%	0.5%		
LAME MP3 Encoding - WAV To MP3 (sec)	**11.312**	**11.060**	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%
Apache HTTP Server - 1 (Reqs/sec)	4652	**5935**	5738	**4563**	
Normalized	78.39%	100%	96.69%	76.88%	
Standard Deviation	0.2%	0.7%	0.7%	0.1%	
Apache HTTP Server - 20 (Reqs/sec)	8507	**9625**	8931	**5096**	
Normalized	88.38%	100%	92.79%	52.94%	
Standard Deviation	0.2%	0.4%	0.8%	0.3%	
Apache HTTP Server - 100 (Reqs/sec)	8819	**10348**	9017	**5328**	
Normalized	85.23%	100%	87.14%	51.49%	
Standard Deviation	0.1%	0.7%	0.1%	0.6%	
Apache HTTP Server - 200 (Reqs/sec)	8592	**9821**	9000	**5162**	
Normalized	87.49%	100%	91.64%	52.56%	
Standard Deviation	1.2%	0.5%	1%	2.3%	

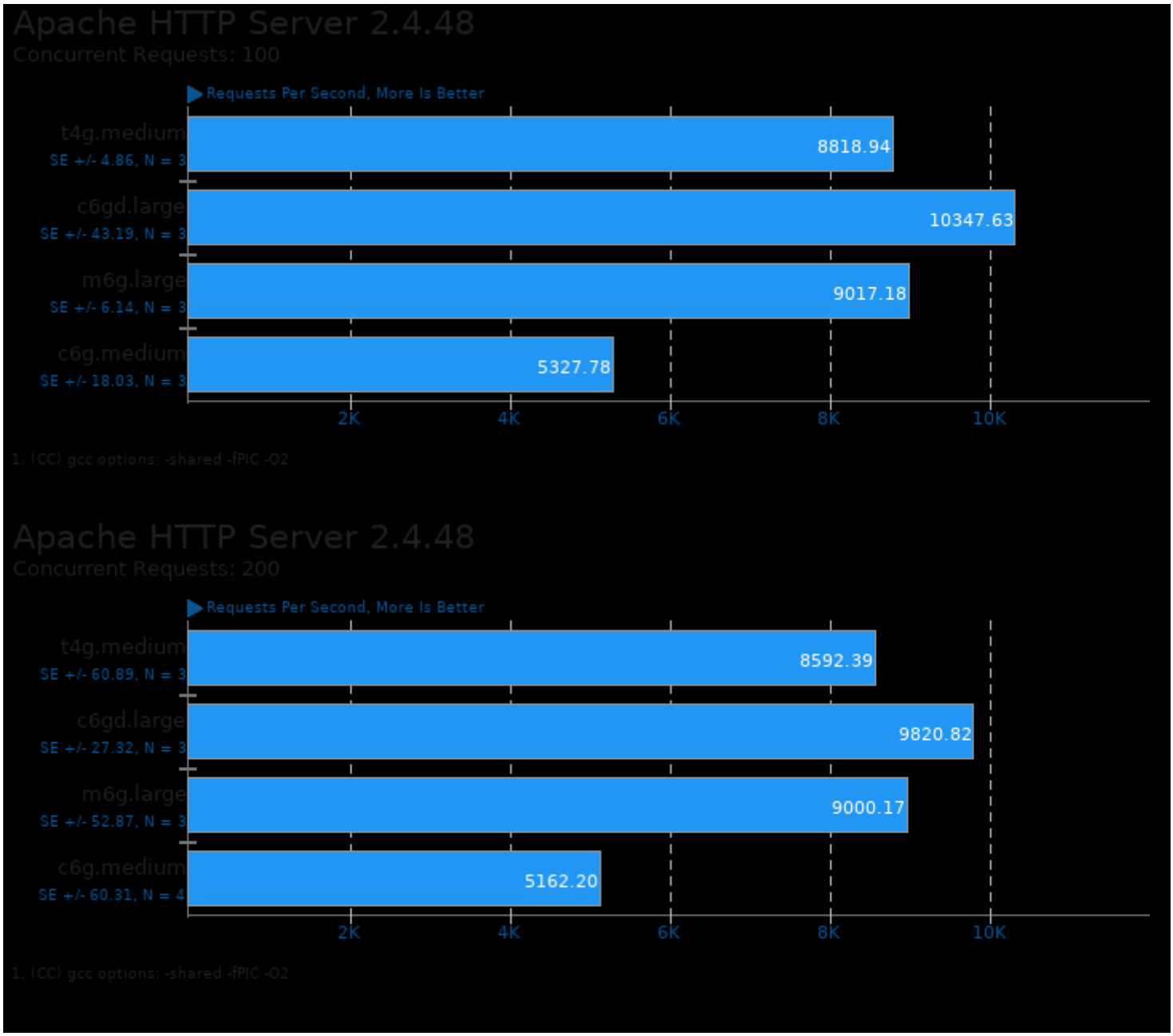
CC23Assignment2

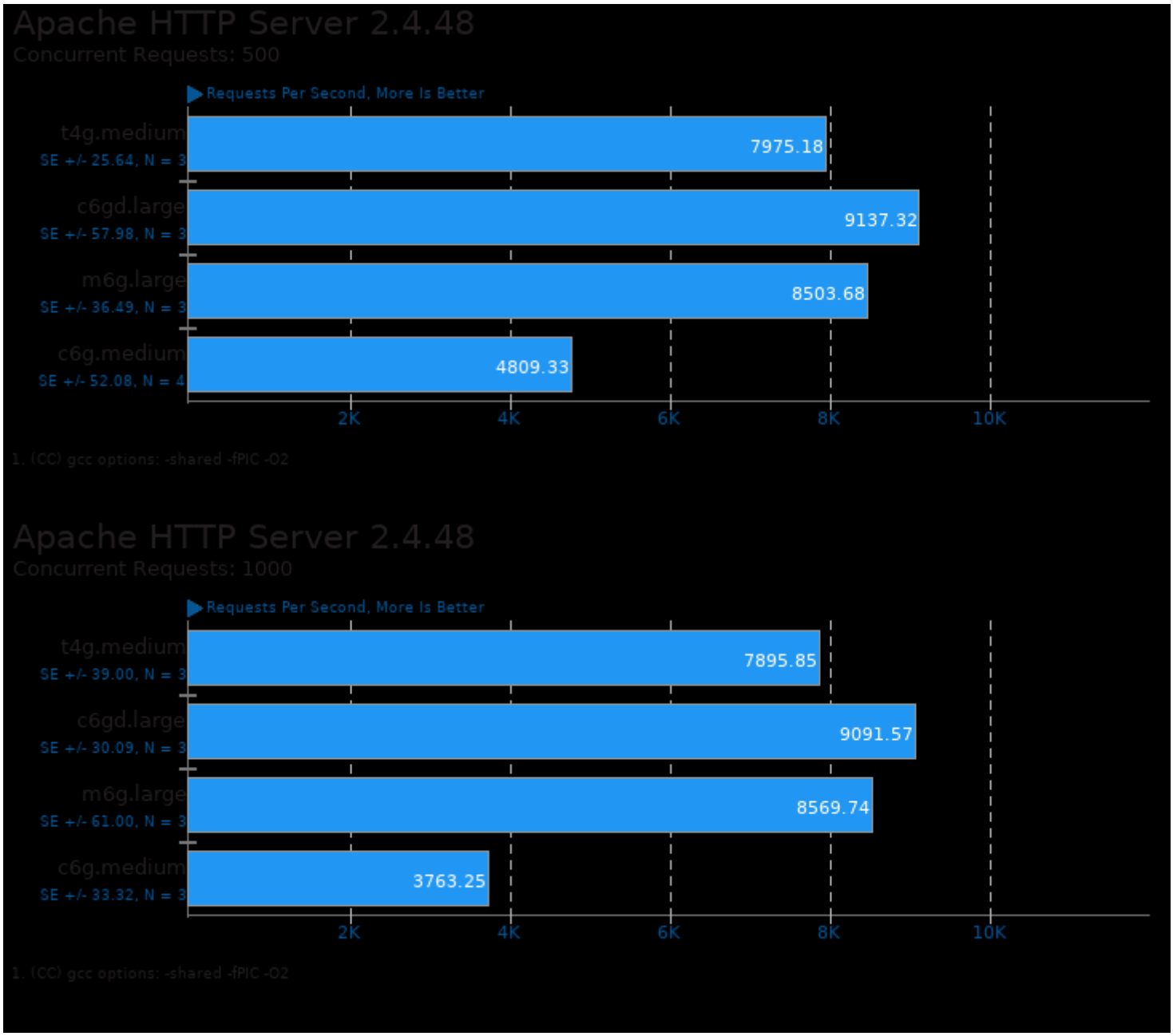
Apache HTTP Server - 500 (Reqs/sec)	7975	**9137**	8504	**4809**	
Normalized	87.28%	100%	93.07%	52.63%	
Standard Deviation	0.6%	1.1%	0.7%	2.2%	
Apache HTTP Server - 1000 (Reqs/sec)	7896	**9092**	8570	**3763**	
Normalized	86.85%	100%	94.26%	41.39%	
Standard Deviation	0.9%	0.6%	1.2%	1.5%	
Loopback TCP Network Performance - T.T.T.1.V.L (sec)	18.516	19.159	19.563	**24.245**	**17.168**
Normalized	92.72%	89.61%	87.76%	70.81%	100%
Standard Deviation	4%	1.1%	1.8%	0.2%	1.1%
John The Ripper - Blowfish (Real C/S)	1418	**1427**	1424	**713**	1395
Normalized	99.37%	100%	99.79%	49.96%	97.76%
Standard Deviation	0.1%	0.1%	0.1%	0.2%	0.1%

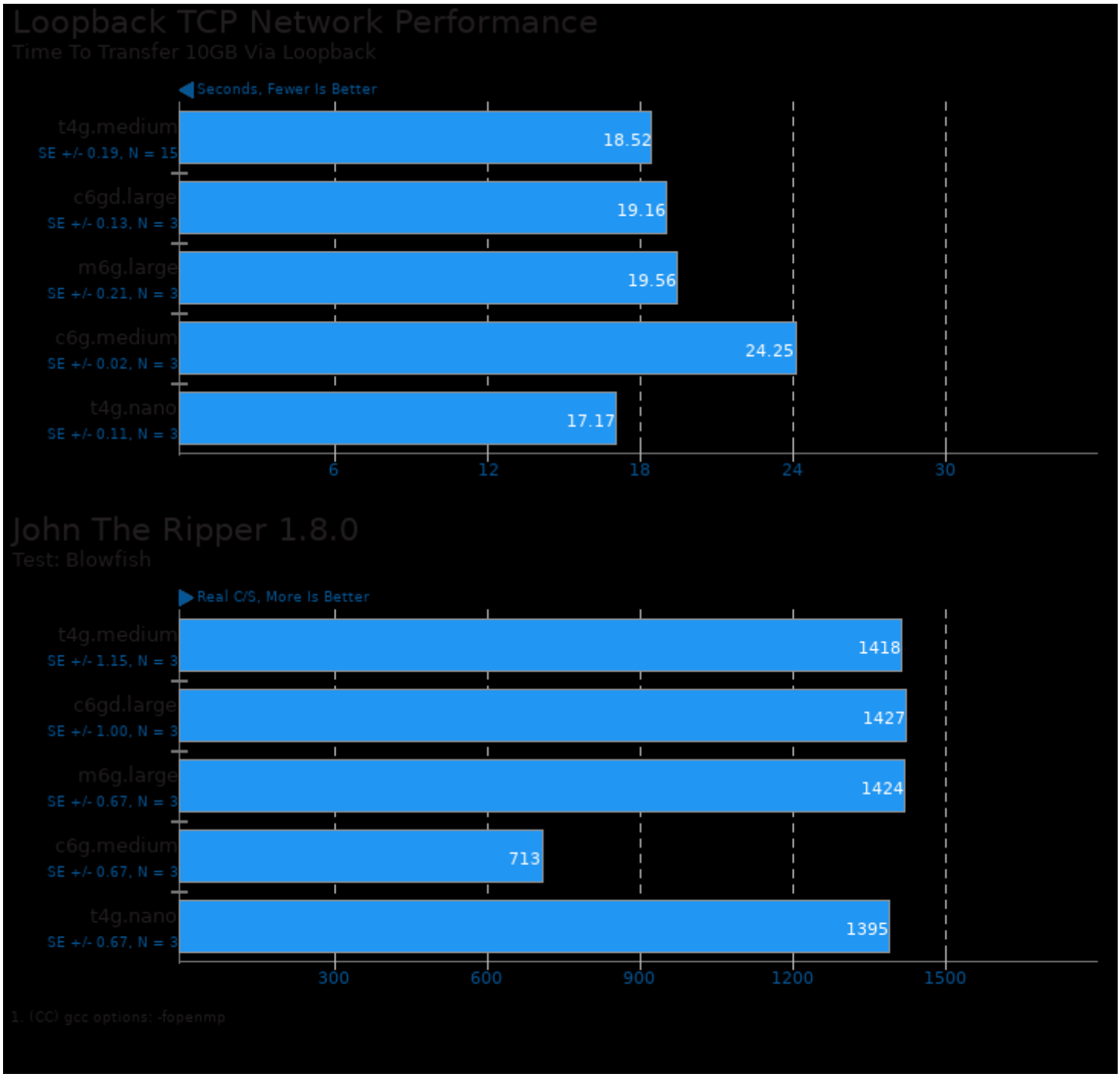

OpenSSL 3.0
Algorithm: RSA4096
sign/s, More Is Better
t4g.medium
SE +/- 0.00, N = 3
c6gd.large
SE +/- 0.00, N = 3
m6g.large
SE +/- 0.03, N = 3
c6g.medium
SE +/- 0.00, N = 3
t4g.nano
SE +/- 0.99, N = 4
-lssl
82.5
82.5
82.5
41.3
81.4
20
40
60
80
100
1. (CC) gcc options: -pthread -O3 -lcrypto -ldl
OpenSSL 3.0
Algorithm: RSA4096
verify/s, More Is Better
t4g.medium
SE +/- 1.45, N = 3
c6gd.large
SE +/- 0.18, N = 3
m6g.large
SE +/- 1.56, N = 3
c6g.medium
SE +/- 0.31, N = 3
t4g.nano
SE +/- 79.00, N = 4
-lssl
6741.4
6744.3
6740.2
3370.3
6648.0
1400
2800
4200
5600
7000
1. (CC) gcc options: -pthread -O3 -lcrypto -ldl


Stream 2013-01-17
Type: Add
MB/s, More Is Better
t4g.medium
SE +/- 402.42, N = 23
46717.2
c6gd.large
SE +/- 90.64, N = 5
49146.2
m6g.large
SE +/- 103.26, N = 5
47045.2
11K
22K
33K
44K
55K
1. (CC) gcc options: -O3 -march=native -fopenmp
LAME MP3 Encoding 3.100
WAV To MP3
Seconds, Fewer Is Better
t4g.medium
SE +/- 0.10, N = 3
11.31
c6gd.large
SE +/- 0.00, N = 3
11.06
m6g.large
SE +/- 0.00, N = 3
11.09
c6g.medium
SE +/- 0.01, N = 3
11.11
t4g.nano
SE +/- 0.07, N = 3
11.17
3
6
9
12
15
1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

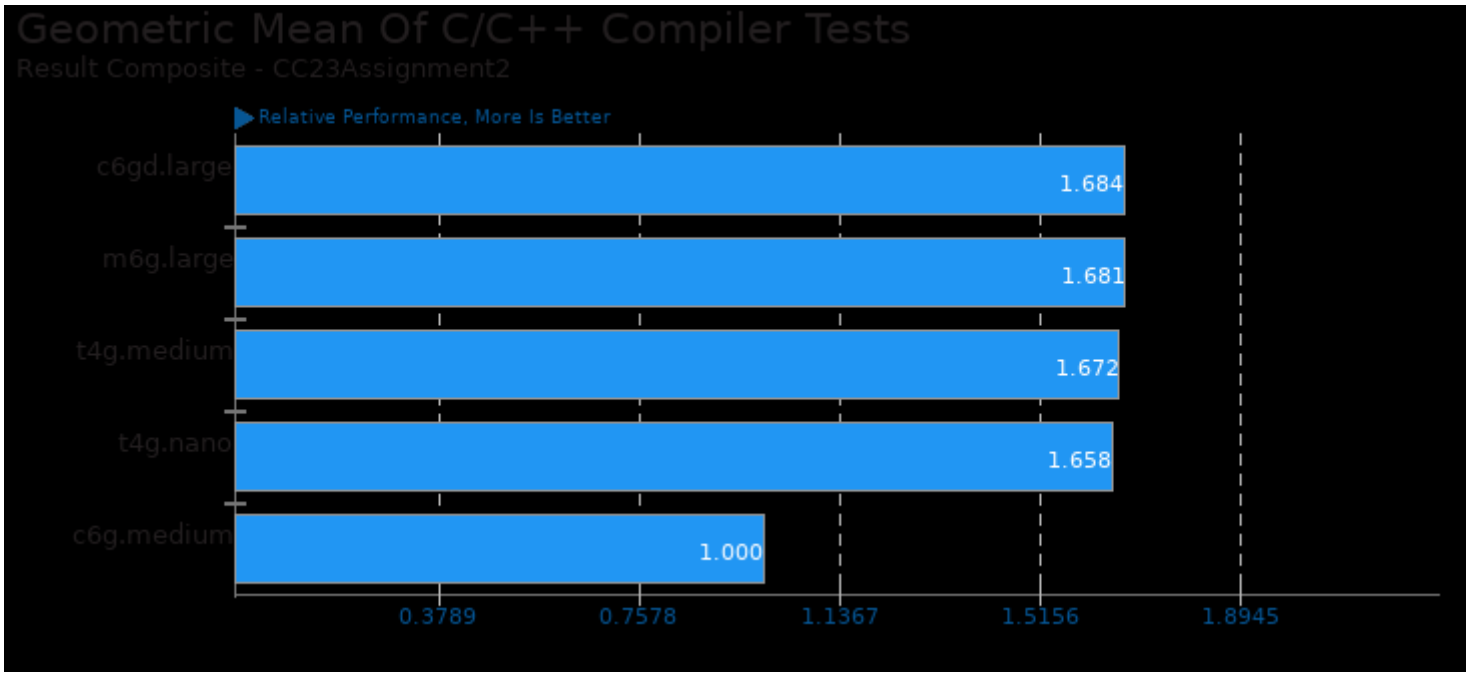

Apache HTTP Server 2.4.48
Concurrent Requests: 1
Requests Per Second, More Is Better
t4g.medium
SE +/- 5.53, N = 3
4652.05
c6gd.large
SE +/- 25.26, N = 3
5934.54
m6g.large
SE +/- 23.17, N = 3
5737.88
c6g.medium
SE +/- 1.59, N = 3
4562.53
1300
2600
3900
5200
6500
1. (CC) gcc options: -shared -fPIC -O2
Apache HTTP Server 2.4.48
Concurrent Requests: 20
Requests Per Second, More Is Better
t4g.medium
SE +/- 9.62, N = 3
8506.94
c6gd.large
SE +/- 23.23, N = 3
9625.14
m6g.large
SE +/- 43.38, N = 3
8931.00
c6g.medium
SE +/- 9.41, N = 3
5095.65
2K
4K
6K
8K
10K
1. (CC) gcc options: -shared -fPIC -O2


Apache HTTP Server 2.4.48
Concurrent Requests: 100
Requests Per Second, More Is Better
t4g.medium
SE +/- 4.86, N = 3
8818.94
c6gd.large
SE +/- 43.19, N = 3
10347.63
m6g.large
SE +/- 6.14, N = 3
9017.18
c6g.medium
SE +/- 18.03, N = 3
5327.78
2K
4K
6K
8K
10K
1. (CC) gcc options: -shared -fPIC -O2
Apache HTTP Server 2.4.48
Concurrent Requests: 200
Requests Per Second, More Is Better
t4g.medium
SE +/- 60.89, N = 3
8592.39
c6gd.large
SE +/- 27.32, N = 3
9820.82
m6g.large
SE +/- 52.87, N = 3
9000.17
c6g.medium
SE +/- 60.31, N = 4
5162.20
2K
4K
6K
8K
10K
1. (CC) gcc options: -shared -fPIC -O2

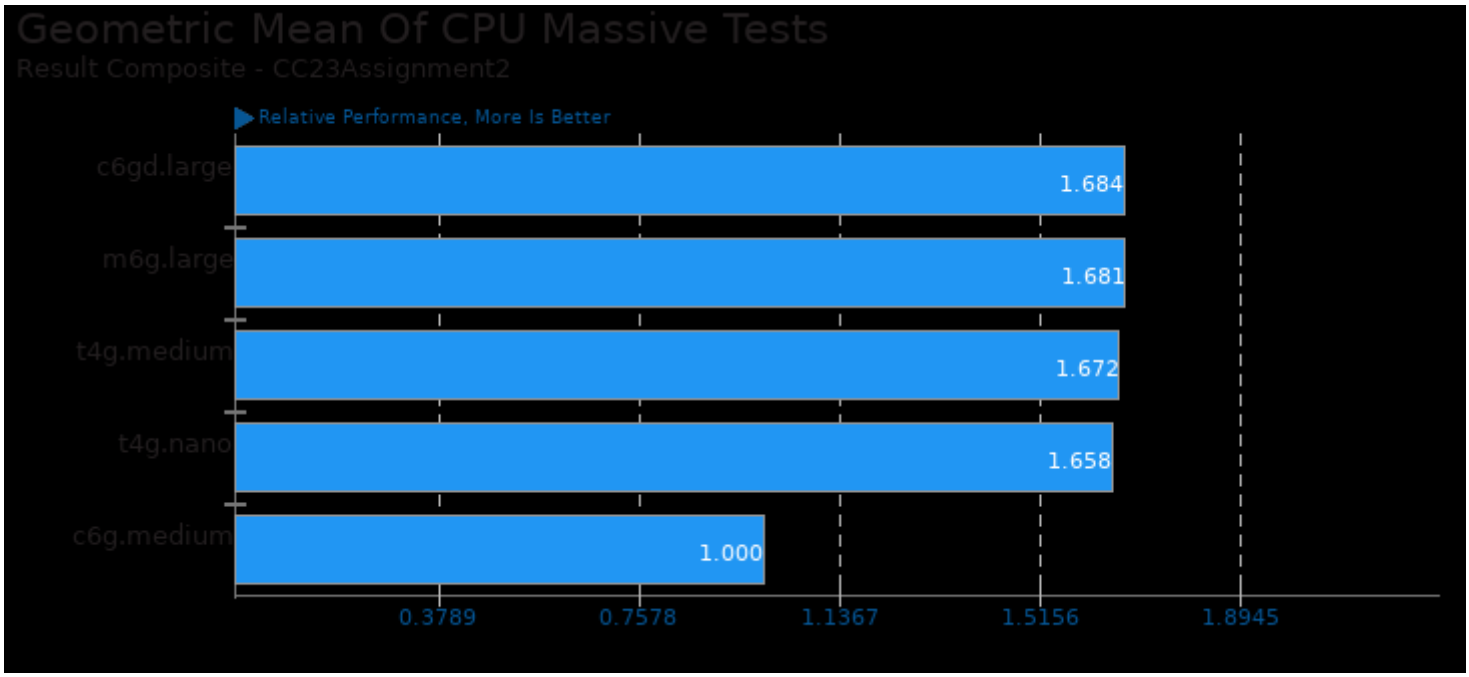

Apache HTTP Server 2.4.48
Concurrent Requests: 500
Requests Per Second, More Is Better
t4g.medium
SE +/- 25.64, N = 3
7975.18
c6gd.large
SE +/- 57.98, N = 3
9137.32
m6g.large
SE +/- 36.49, N = 3
8503.68
c6g.medium
SE +/- 52.08, N = 4
4809.33
2K
4K
6K
8K
10K
1. (CC) gcc options: -shared -fPIC -O2
Apache HTTP Server 2.4.48
Concurrent Requests: 1000
Requests Per Second, More Is Better
t4g.medium
SE +/- 39.00, N = 3
7895.85
c6gd.large
SE +/- 30.09, N = 3
9091.57
m6g.large
SE +/- 61.00, N = 3
8569.74
c6g.medium
SE +/- 33.32, N = 3
3763.25
2K
4K
6K
8K
10K
1. (CC) gcc options: -shared -fPIC -O2


Loopback TCP Network Performance
Time To Transfer 10GB Via Loopback
Seconds, Fewer Is Better
t4g.medium
SE +/- 0.19, N = 15
18.52
c6gd.large
SE +/- 0.13, N = 3
19.16
m6g.large
SE +/- 0.21, N = 3
19.56
c6g.medium
SE +/- 0.02, N = 3
24.25
t4g.nano
SE +/- 0.11, N = 3
17.17
6
12
18
24
30
John The Ripper 1.8.0
Test: Blowfish
Real C/S, More Is Better
t4g.medium
SE +/- 1.15, N = 3
1418
c6gd.large
SE +/- 1.00, N = 3
1427
m6g.large
SE +/- 0.67, N = 3
1424
c6g.medium
SE +/- 0.67, N = 3
713
t4g.nano
SE +/- 0.67, N = 3
1395
300
600
900
1200
1500
1. (CC) gcc options: -fopenmp

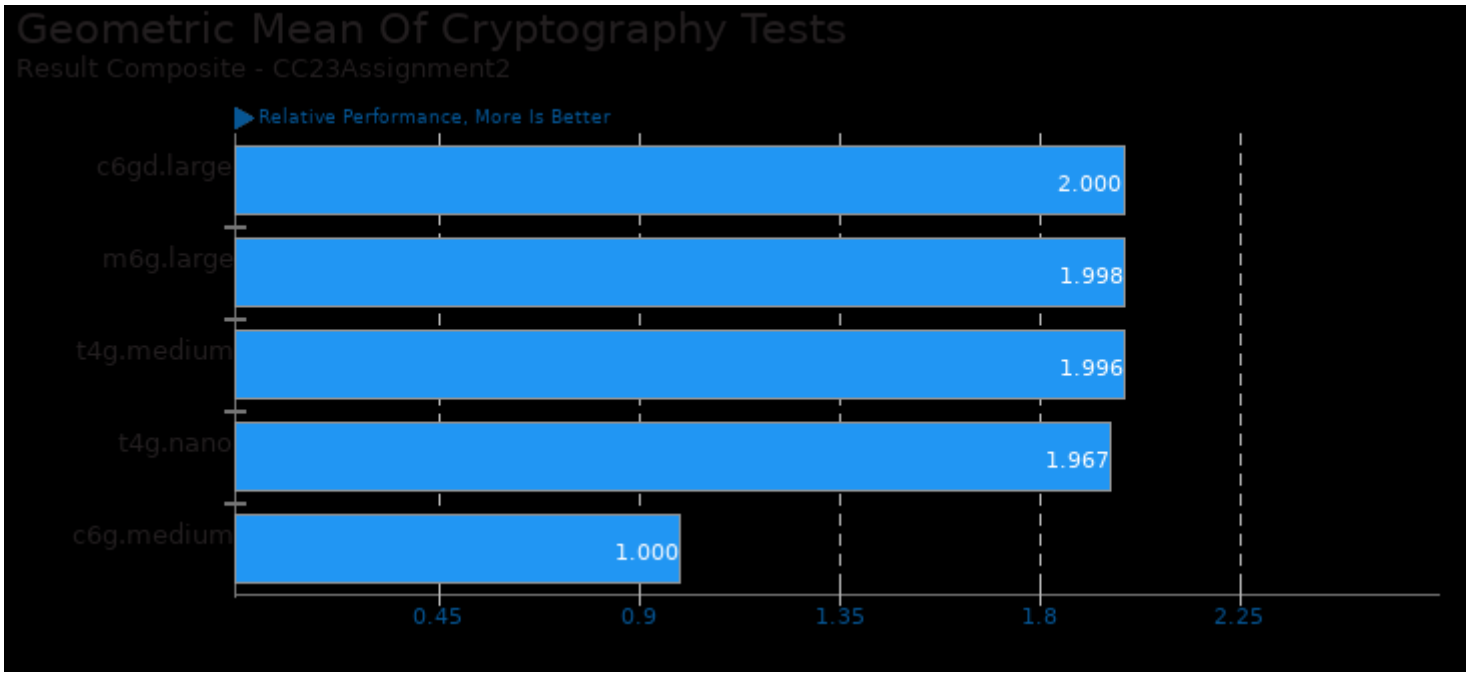
These geometric means are based upon test groupings / test suites for this result file.



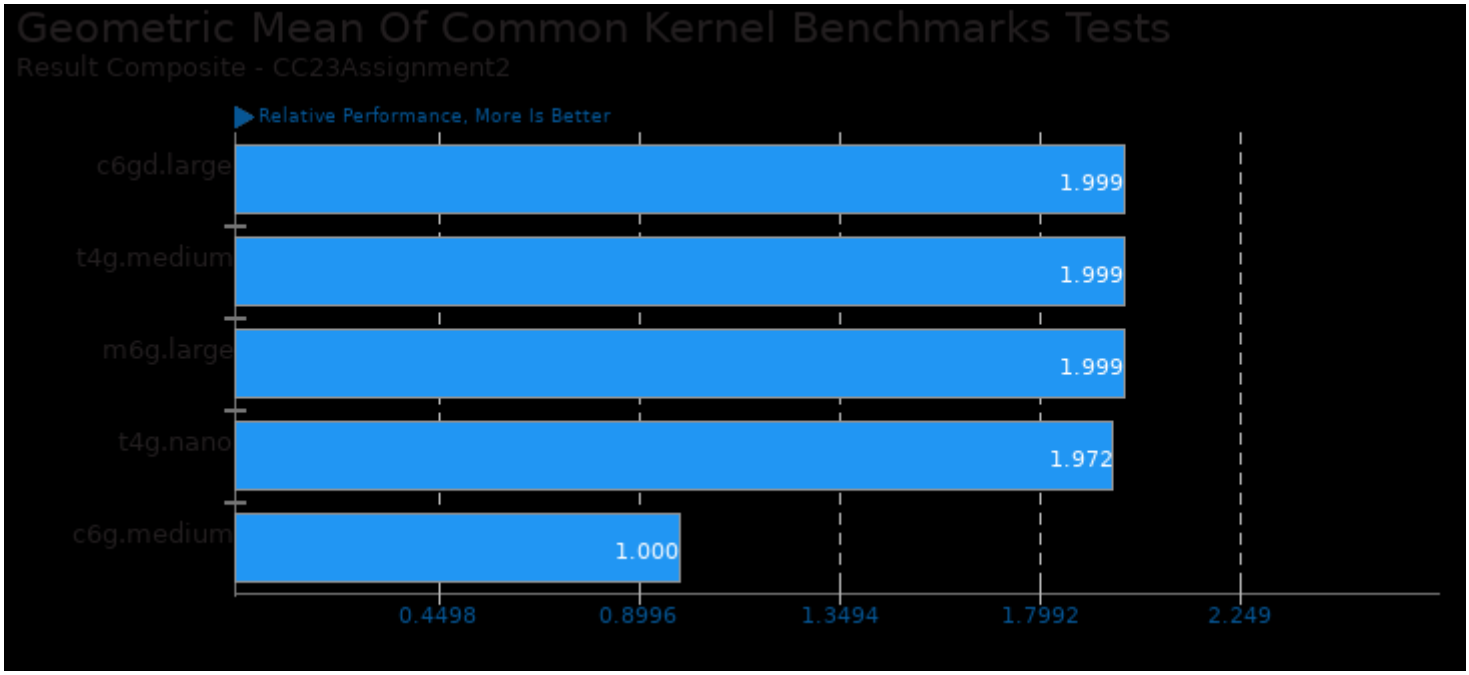
Geometric mean based upon tests: pts/encode-mp3, pts/apache, pts/john-the-ripper and pts/openssl



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

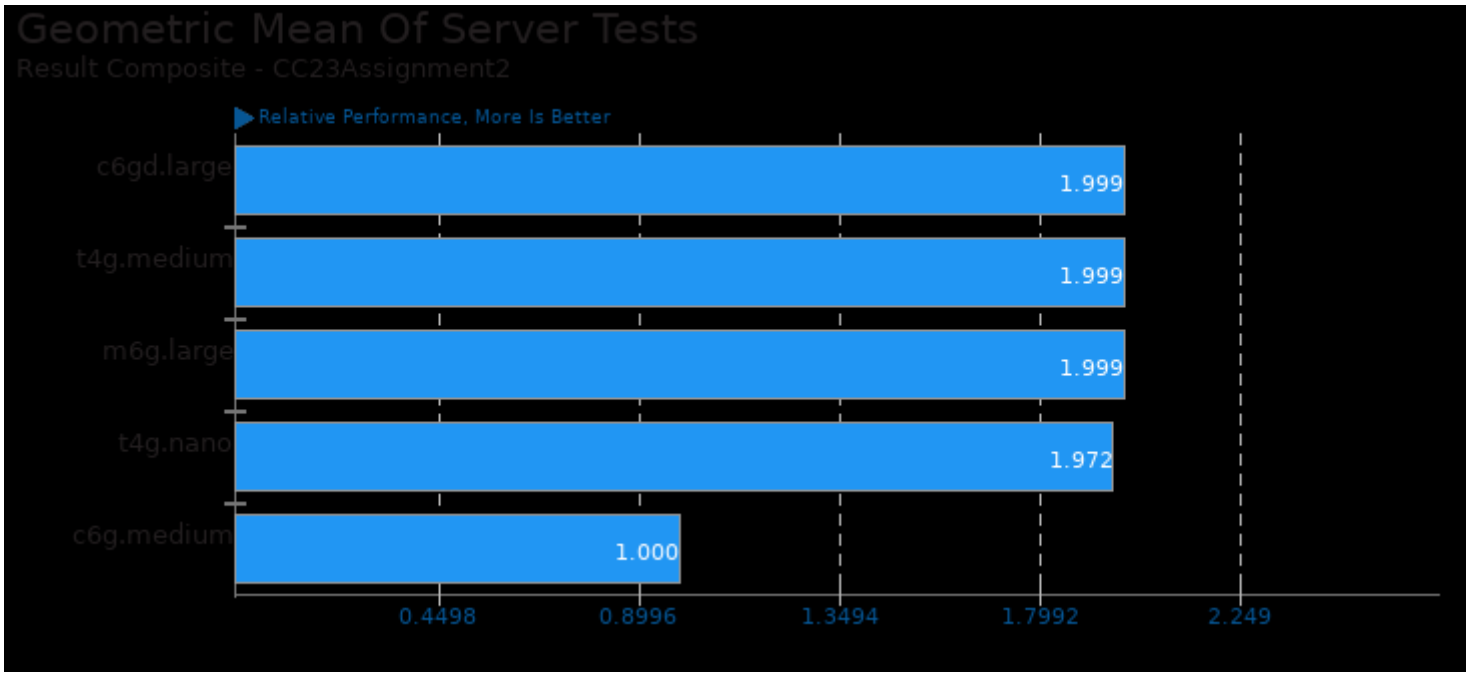


Geometric mean based upon tests: pts/openssl and pts/john-the-ripper

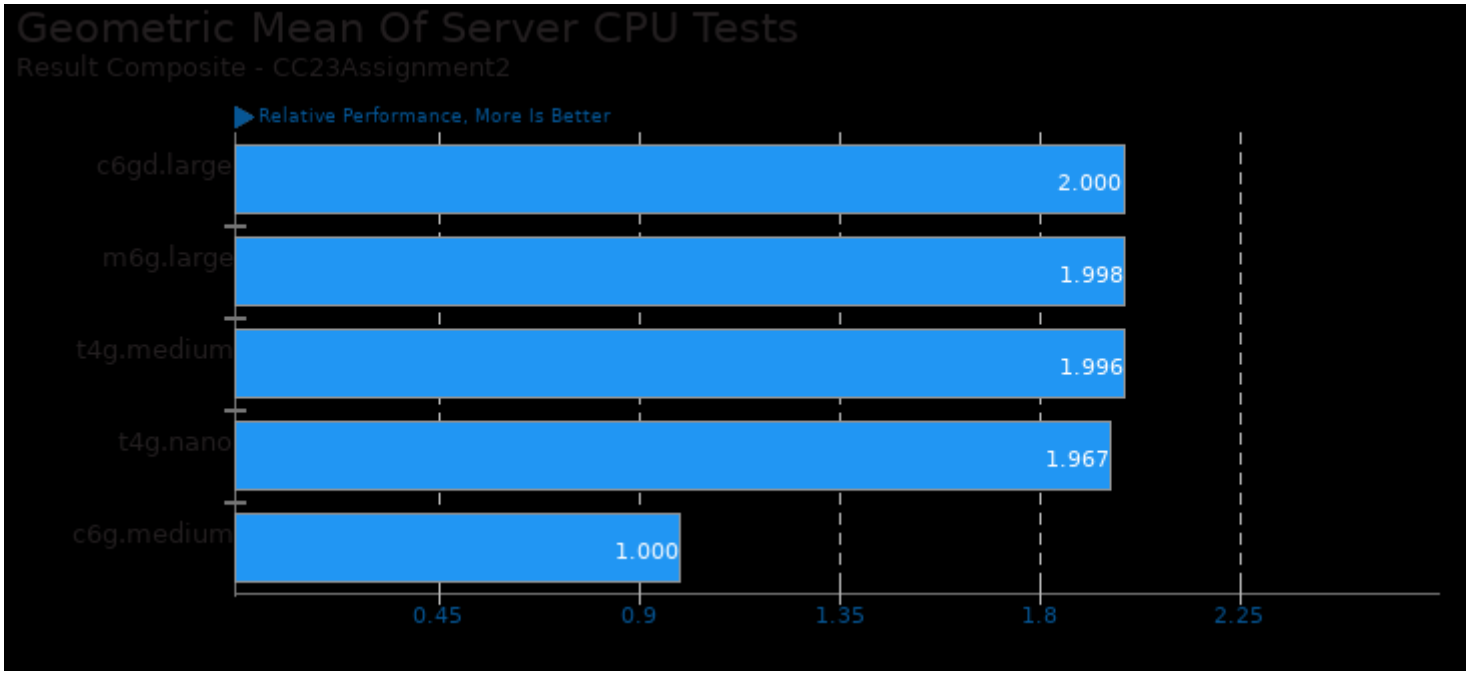


Geometric mean based upon tests: pts/apache and pts/openssl

CC23Assignment2



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 03:11.