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Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

Intel Xeon E3-1280 v5 testing with a MSI Z170A SLI PLUS (MS-7998) v1.0 (2.90 BIOS) and Sapphire AMD Radeon 4096MB on Ubuntu 18.04 via the Phoronix Test Suite.

Automated Executive Summary

Linux 4.17 20180613 Git had the most wins, coming in first place for 51% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 4.17.1 Stable) was 1.026x the speed of the slowest (Linux 4.17 20180613 Git).

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

OpenArena (Resolution: 2560 x 1440 - Total Frame Time) at 29x
OpenArena (Resolution: 2560 x 1440) at 1.48x
FS-Mark (Test: 4000 Files, 32 Sub Dirs, 1MB Size) at 1.42x
Tesseract (Resolution: 2560 x 1440) at 1.301x
Threaded I/O Tester (Test: Write - Size Per Thread: 256MB - Thread Count: 16) at 1.078x
Flexible IO Tester (Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 1.06x
Flexible IO Tester (Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 1.059x

Flexible IO Tester (Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory) at 1.046x
Flexible IO Tester (Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 1.044x
Flexible IO Tester (Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 1.042x.

Test Systems:

Linux 4.17.1 Stable

Processor: Intel Xeon E3-1280 v5 @ 4.00GHz (4 Cores / 8 Threads), Motherboard: MSI Z170A SLI PLUS (MS-7998) v1.0 (2.90 BIOS), Chipset: Intel Skylake, Memory: 16384MB, Disk: 256GB TOSHIBA-RD400, Graphics: Sapphire AMD Radeon 4096MB, Audio: Realtek ALC1150, Monitor: ASUS PB278, Network: Intel Connection

OS: Ubuntu 18.04, Kernel: 4.17.1-041701-generic (x86_64), Desktop: GNOME Shell 3.28.1, Display Server: X Server 1.19.6, Display Driver: modesetting 1.19.6, OpenGL: 4.5 Mesa 18.0.0-rc5 (LLVM 6.0.0), Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 2560x1440

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-as=/usr/bin/x86_64-linux-gnu-as --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-ld=/usr/bin/x86_64-linux-gnu-ld --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: GLAMOR
Python Notes: Python 2.7.15rc1 + Python 3.6.5
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW Protection

Linux 4.17 20180613 Git

Processor: Intel Xeon E3-1280 v5 @ 4.00GHz (4 Cores / 8 Threads), Motherboard: MSI Z170A SLI PLUS (MS-7998) v1.0 (2.90 BIOS), Chipset: Intel Skylake, Memory: 16384MB, Disk: 256GB TOSHIBA-RD400, Graphics: Sapphire AMD Radeon 4096MB, Audio: Realtek ALC1150, Monitor: ASUS PB278, Network: Intel Connection

OS: Ubuntu 18.04, Kernel: 4.17.0-999-generic (x86_64) 20180613, Desktop: GNOME Shell 3.28.1, Display Server: X Server 1.19.6, Display Driver: modesetting 1.19.6, OpenGL: 4.5 Mesa 18.0.0-rc5 (LLVM 6.0.0), Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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-as=/usr/bin/x86_64-linux-gnu-as --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-ld=/usr/bin/x86_64-linux-gnu-ld --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: GLAMOR
Python Notes: Python 2.7.15rc1 + Python 3.6.5
Security Notes: KPTI + __user pointer sanitization + Full generic retpoline IBPB IBRS_FW Protection

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

	Linux 4.17.1 Stable	Linux 4.17 20180613 Git
SQLite - T.S.I (sec)	69.04	66.77
Normalized	96.71%	100%
Standard Deviation	0.2%	1.4%
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 2MB (MB/s)	2423	2465
Normalized	98.3%	100%
Standard Deviation	0.5%	0.2%
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 4KB (MB/s)	839	827
Normalized	100%	98.57%
Flexible IO Tester - Rand Read - Linux AIO - No - Yes - 4KB (IOPS)	215000	212000
Normalized	100%	98.6%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 2MB (MB/s)	1019	725
Normalized	100%	71.15%
Standard Deviation	0.8%	28.4%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 4KB (MB/s)	580	547
Normalized	100%	94.31%
Standard Deviation	1%	1.7%
Flexible IO Tester - Rand Write - Linux AIO - No - Yes - 4KB (IOPS)	148667	140333
Normalized	100%	94.39%
Standard Deviation	1%	1.6%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 2MB (MB/s)	841	841
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (MB/s)	777	783
Normalized	99.23%	100%
Standard Deviation		0.1%
Flexible IO Tester - Seq Read - Linux AIO - No - Yes - 4KB (IOPS)	199000	200333
Normalized	99.33%	100%
Standard Deviation		0.3%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 2MB (MB/s)	1115	1066
Normalized	100%	95.61%
Standard Deviation	1.4%	2.5%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (MB/s)	767	735
Normalized	100%	95.83%
Standard Deviation	0.2%	3.5%
Flexible IO Tester - Seq Write - Linux AIO - No - Yes - 4KB (IOPS)	196333	188333
Normalized	100%	95.93%
Standard Deviation	0.3%	3.4%
FS-Mark - 1.F.1.S (Files/s)	95.58	99.35
Normalized	96.21%	100%
Standard Deviation	3.3%	12.1%
FS-Mark - 5.F.1.S.4.T (Files/s)	152.90	87.95
Normalized	100%	57.52%

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

Standard Deviation	2.6%	7.8%
FS-Mark - 4.F.3.S.D.1.S (Files/s)	**87.20**	**61.43**
Normalized	100%	70.45%
Standard Deviation	0.5%	3.8%
FS-Mark - 1.F.1.S.N.S.F (Files/s)	**2460**	**2458**
Normalized	100%	99.91%
Standard Deviation	0.2%	0.7%
Dbench - 12 (MB/s)	**399.23**	**402.07**
Normalized	99.29%	100%
Standard Deviation	0.2%	0.8%
Dbench - 48 (MB/s)	**1016**	**1015**
Normalized	100%	99.89%
Standard Deviation	0.5%	0.6%
IOzone - 4Kb - 8GB - Write Performance (MB/s)	**992.88**	**493.50**
Normalized	100%	49.7%
Standard Deviation	1.4%	31.4%
Threaded I/O Tester - Read - 256MB - 16 (MB/s)	**18278**	**18655**
Normalized	97.98%	100%
Standard Deviation	5.5%	0.7%
Threaded I/O Tester - Write - 256MB - 16 (MB/s)	**5.51**	**5.11**
Normalized	100%	92.74%
Standard Deviation	1%	1.4%
Threaded I/O Tester - Rand Read - 256MB - 16 (MB/s)	**337853**	**383342**
Normalized	88.13%	100%
Standard Deviation	6.6%	8.1%
Threaded I/O Tester - Rand Write - 256MB - 16 (MB/s)	**371.98**	**335.82**
Normalized	100%	90.28%
Standard Deviation	7.5%	3.5%
Compile Bench - Compile (MB/s)	**1088**	**891.03**
Normalized	100%	81.89%
Standard Deviation	16.8%	0.7%
Compile Bench - Initial Create (MB/s)	**530.42**	**539.14**
Normalized	98.38%	100%
Standard Deviation	1.2%	1.6%
PostMark - D.T.P (TPS)	**6373**	**6637**
Normalized	96.02%	100%
Standard Deviation	5.5%	1.5%
Tinymembench - Standard Memcpy (MB/s)	**12829**	**12867**
Normalized	99.71%	100%
Tinymembench - Standard Memset (MB/s)	**30302**	**30287**
Normalized	100%	99.95%
Sockperf - Throughput (Messages/sec)	**602354**	**599803**
Normalized	100%	99.58%
Standard Deviation	1.8%	0.9%
Sockperf - Latency Ping Pong (usec)	**3.20**	**3.23**
Normalized	100%	99.07%
Standard Deviation	1%	0.6%
Sockperf - Latency Under Load (usec)	**18.68**	**18.17**
Normalized	97.27%	100%
Standard Deviation	24%	28.4%
Botan - AES-256 - Encrypt (MiB/s)	**3763**	**3764**
Normalized	99.96%	100%
Standard Deviation	0%	0%
Crafty - Elapsed Time (Nodes/s)	**7796919**	**7824351**
Normalized	99.65%	100%

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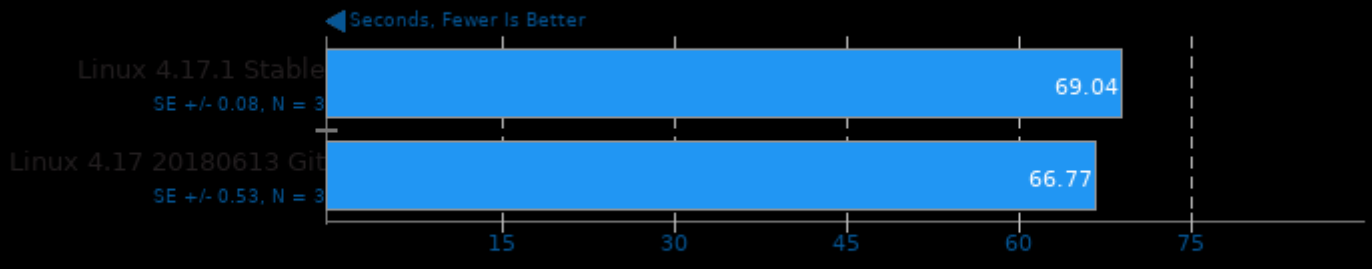
Standard Deviation	0.2%	0.1%
x264 - H.2.V.E (FPS)	**41.82**	**41.86**
Normalized	99.9%	100%
Standard Deviation	0.3%	0.9%
GraphicsMagick - Resizing (Iterations/min)	205	205
Himeno Benchmark - P.P.S (MFLOPS)	**2600**	**2630**
Normalized	98.85%	100%
Standard Deviation	0.7%	0.2%
Stockfish - Total Time (Nodes/s)	**11155049**	**11052380**
Normalized	100%	99.08%
Standard Deviation	0.8%	0.4%
ebizzy (Records/s)	**259049**	**259789**
Normalized	99.72%	100%
Standard Deviation	7.8%	4.8%
Timed Linux Kernel Compilation - Time To Compile	**131.19**	**131.03**
Normalized	99.88%	100%
Standard Deviation	1.2%	1.4%
Zstd Compression - C.u.1.0.3.s.i.i.C.L.1 (sec)	**128.79**	**130.04**
Normalized	100%	99.04%
Standard Deviation	0.1%	0.4%
FLAC Audio Encoding - WAV To FLAC (sec)	**9.50**	**9.44**
Normalized	99.37%	100%
Standard Deviation	2.5%	2.3%
LAME MP3 Encoding - WAV To MP3 (sec)	30.00	30.00
Standard Deviation	0.1%	0.1%
Hackbench - 8 - Thread (sec)	**40.14**	**39.82**
Normalized	99.2%	100%
Standard Deviation	0.1%	0.1%
Hackbench - 8 - Process (sec)	**39.10**	**38.70**
Normalized	98.98%	100%
Standard Deviation	0.4%	0.2%
m-queens - Time To Solve (sec)	**200.11**	**200.04**
Normalized	99.97%	100%
Standard Deviation	0.1%	0%
OpenSSL - R.4.b.P (Signs/sec)	**1122**	**1121**
Normalized	100%	99.85%
Standard Deviation	0.5%	0.4%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Only (TPS)	**114350**	**115179**
Normalized	99.28%	100%
Standard Deviation	0.2%	0.5%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Write (TPS)	**2462**	**2526**
Normalized	97.48%	100%
Standard Deviation	3.2%	6.8%
PyBench - T.F.A.T.T (Milliseconds)	**1292**	**1289**
Normalized	99.77%	100%
Standard Deviation	0.3%	0.3%
NGINX Benchmark - S.W.P.S (Reqs/sec)	**38765**	**38199**
Normalized	99.83%	98.37%
Standard Deviation	0.2%	0.4%
PHPBench - P.B.S (Score)	**651970**	**652430**
Normalized	99.93%	100%
Standard Deviation	0.2%	0.5%

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

Git - T.T.C.C.G.C (sec)	**5.46**	**5.45**
Normalized	99.82%	100%
Standard Deviation	0.3%	0%
Schbench - 8 - 2 (usec, 99.9th Latency Percentile)	**22773**	**22592**
Normalized	99.21%	100%
Standard Deviation	2.8%	4.2%
Schbench - 8 - 4 (usec, 99.9th Latency Percentile)	**46571**	**47168**
Normalized	100%	98.73%
Standard Deviation	2.2%	2.4%
Schbench - 8 - 6 (usec, 99.9th Latency Percentile)	**67371**	**69024**
Normalized	100%	97.61%
Standard Deviation	4.8%	7.6%
Botan - AES-256 - Encrypt - Decrypt (MiB/s)	**3793**	**3793**
Normalized	100%	99.99%
Standard Deviation	0%	0%
FFmpeg - H.2.H.T.N.D (sec)	**6.23**	**6.24**
Normalized	100%	99.84%
Standard Deviation	1.3%	1%
Xonotic - 2560 x 1440 - Low (FPS)	**351.34**	**348.72**
Normalized	100%	99.25%
Standard Deviation	0.3%	1.6%
Xonotic - 2560 x 1440 - High (FPS)	**308.55**	**303.21**
Normalized	100%	98.27%
Standard Deviation	0.7%	0.1%
Xonotic - 2560 x 1440 - Ultra (FPS)	**275.69**	**273.25**
Normalized	100%	99.11%
Standard Deviation	0.7%	0.2%
Xonotic - 2560 x 1440 - Ultimate (FPS)	**223.86**	**225.43**
Normalized	99.3%	100%
Standard Deviation	0.6%	0.3%
Tesseract - 2560 x 1440 (FPS)	**365.28**	**475.40**
Normalized	76.84%	100%
Standard Deviation	0.7%	1.3%
OpenArena - 2560 x 1440 (FPS)	**262.83**	**388.97**
Normalized	67.57%	100%
Standard Deviation	0.3%	0.2%

SQLite 3.22

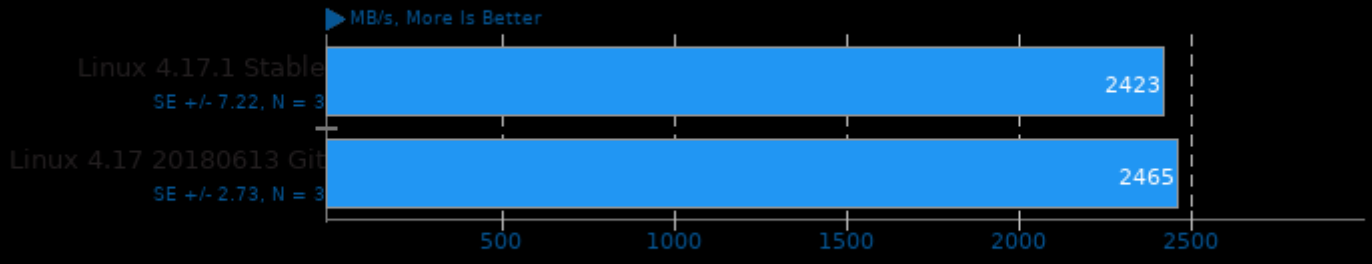
Timed SQLite Insertions



1. (CC) gcc options: -O2 -lz -ldl -lpthread

Flexible IO Tester 3.1

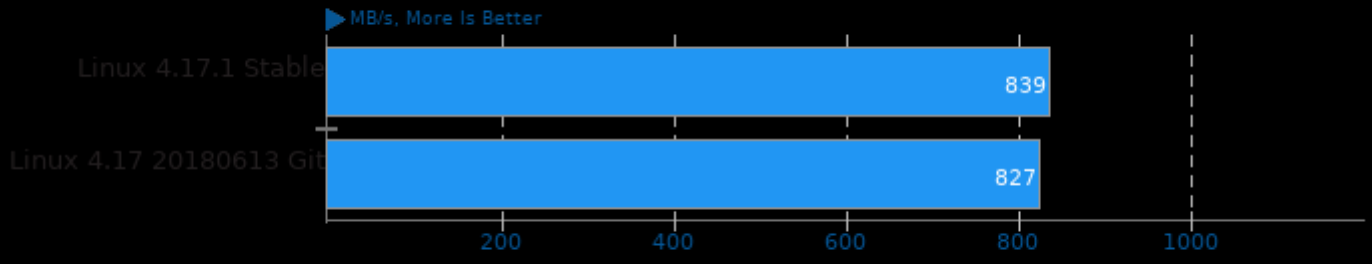
Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory



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

Flexible IO Tester 3.1

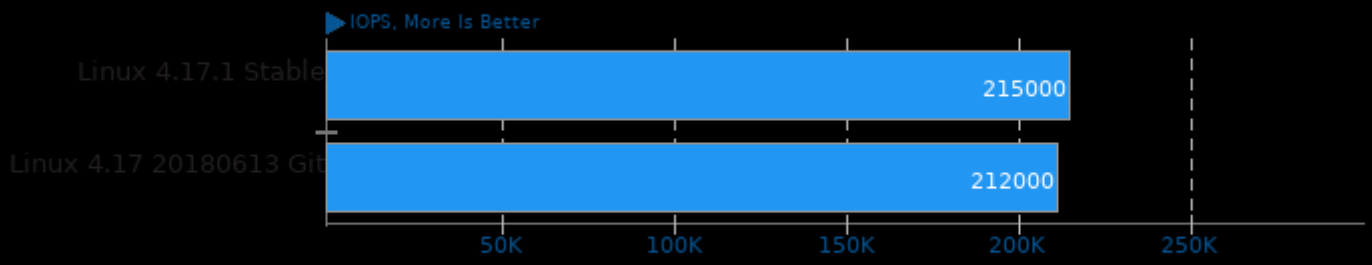
Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory



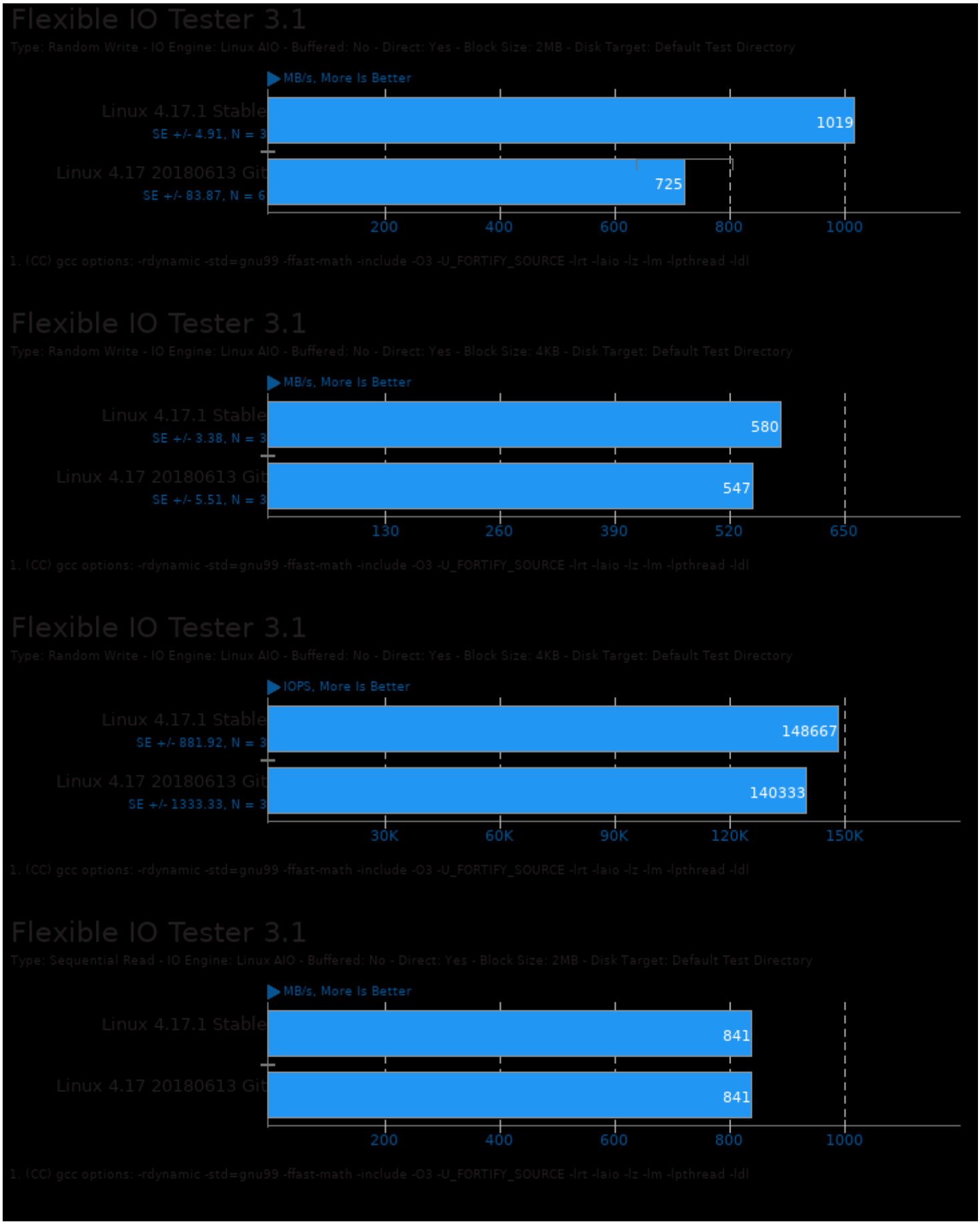
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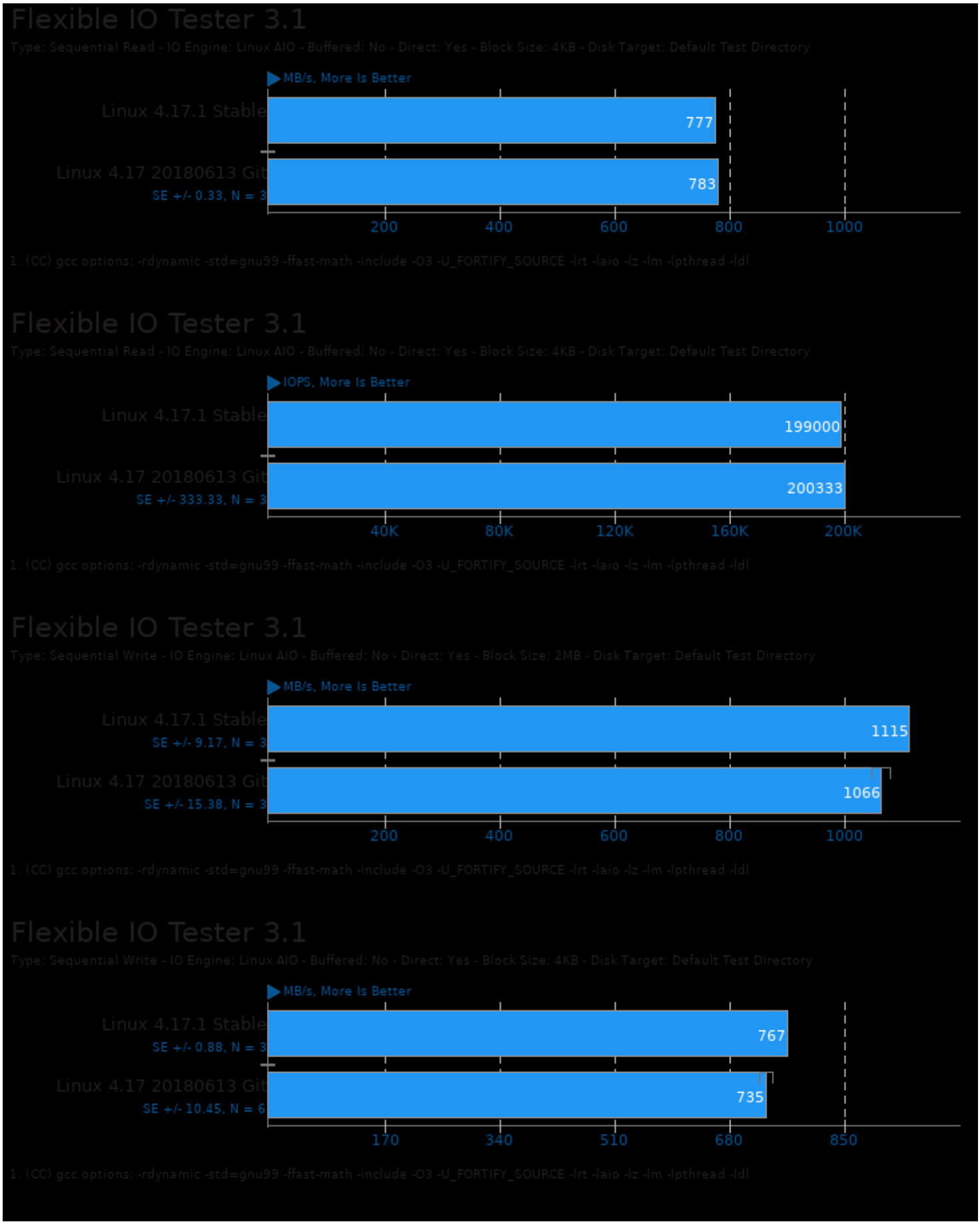
Flexible IO Tester 3.1

Type: Random Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory



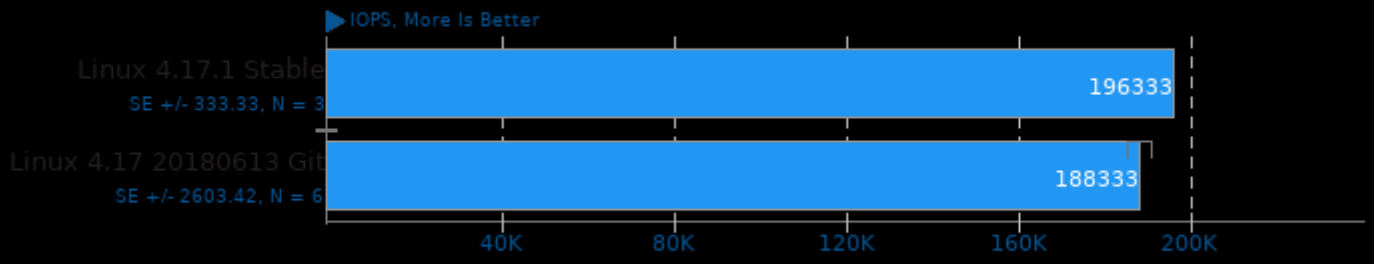
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Flexible IO Tester 3.1
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 4.91, N = 3
1019
Linux 4.17 20180613 Git
SE +/- 83.87, N = 6
725
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 3.38, N = 3
580
Linux 4.17 20180613 Git
SE +/- 5.51, N = 3
547
130
260
390
520
650
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Random Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Linux 4.17.1 Stable
SE +/- 881.92, N = 3
148667
Linux 4.17 20180613 Git
SE +/- 1333.33, N = 3
140333
30K
60K
90K
120K
150K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
Linux 4.17.1 Stable
841
Linux 4.17 20180613 Git
841
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl


Flexible IO Tester 3.1
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Linux 4.17.1 Stable
777
Linux 4.17 20180613 Git
SE +/- 0.33, N = 3
783
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Read - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
IOPS, More Is Better
Linux 4.17.1 Stable
199000
Linux 4.17 20180613 Git
SE +/- 333.33, N = 3
200333
40K
80K
120K
160K
200K
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 2MB - Disk Target: Default Test Directory
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 9.17, N = 3
1115
Linux 4.17 20180613 Git
SE +/- 15.38, N = 3
1066
200
400
600
800
1000
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl
Flexible IO Tester 3.1
Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 0.88, N = 3
767
Linux 4.17 20180613 Git
SE +/- 10.45, N = 6
735
170
340
510
680
850
1. (CC) gcc options: -rdynamic -std=gnu99 -ffast-math -include -O3 -U_FORTIFY_SOURCE -lrt -laio -lz -lm -lpthread -ldl

Flexible IO Tester 3.1

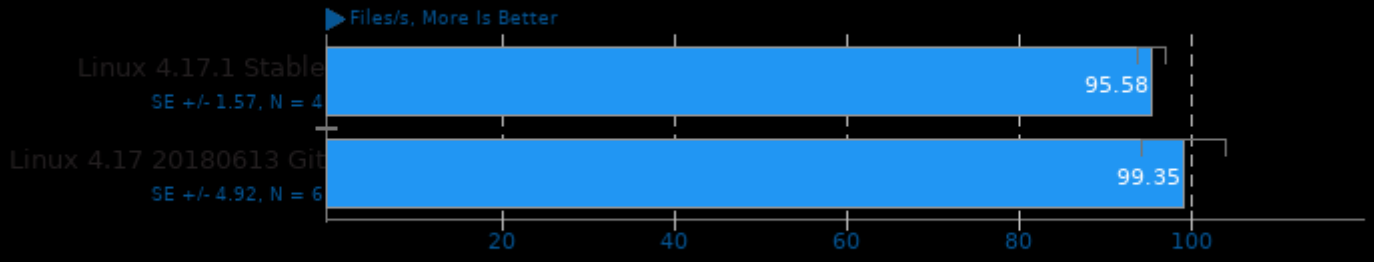
Type: Sequential Write - IO Engine: Linux AIO - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory



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

FS-Mark 3.3

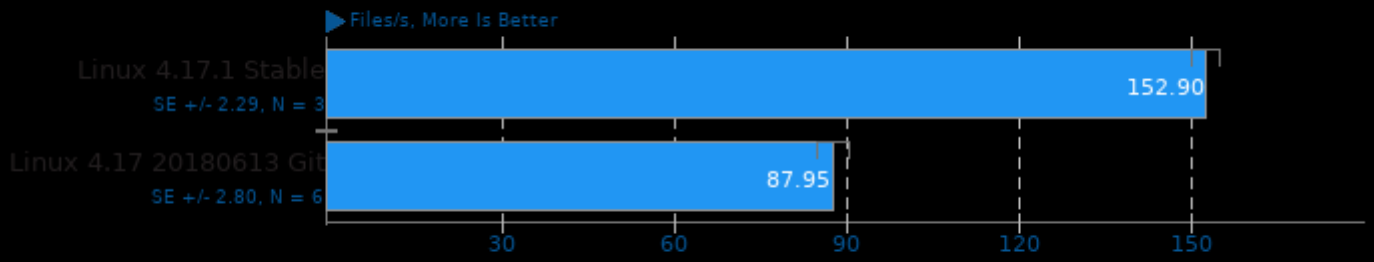
Test: 1000 Files, 1MB Size



1. (CC) gcc options: -static

FS-Mark 3.3

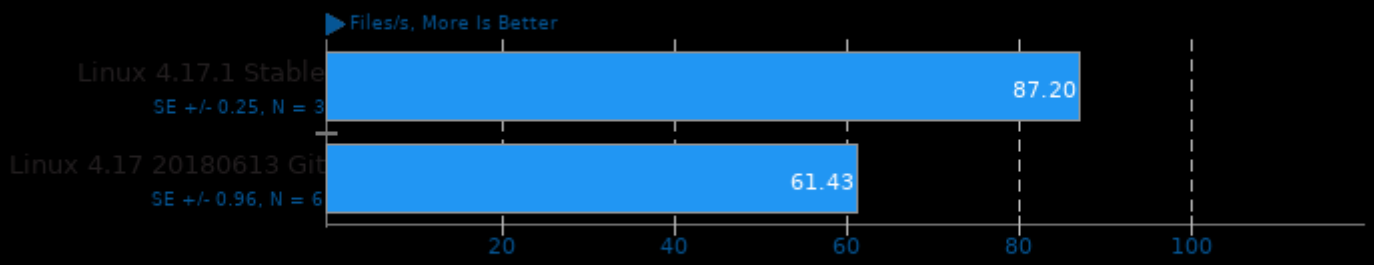
Test: 5000 Files, 1MB Size, 4 Threads



1. (CC) gcc options: -static

FS-Mark 3.3

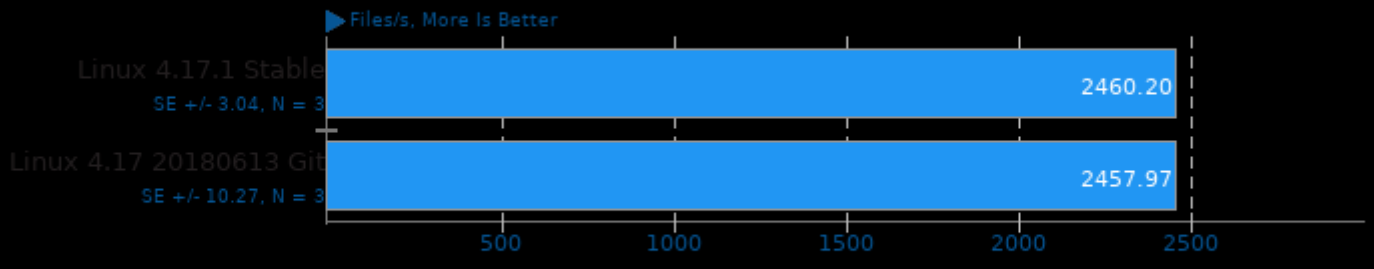
Test: 4000 Files, 32 Sub Dirs, 1MB Size



1. (CC) gcc options: -static

FS-Mark 3.3

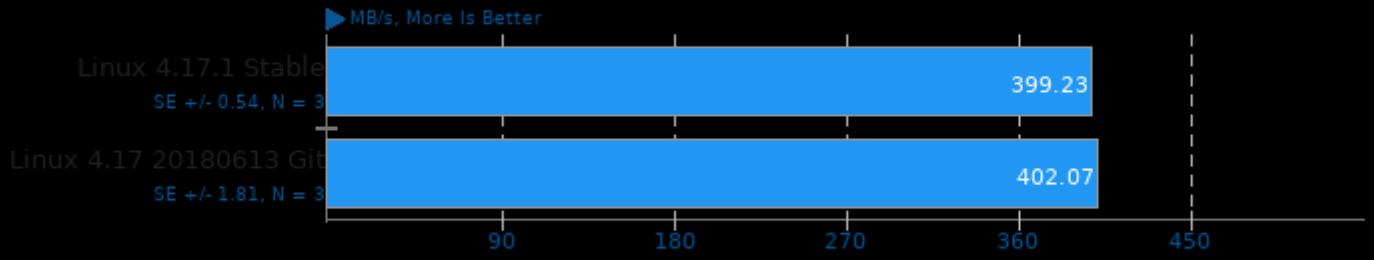
Test: 1000 Files, 1MB Size, No Sync/FSync



1. (CC) gcc options: -static

Dbench 4.0

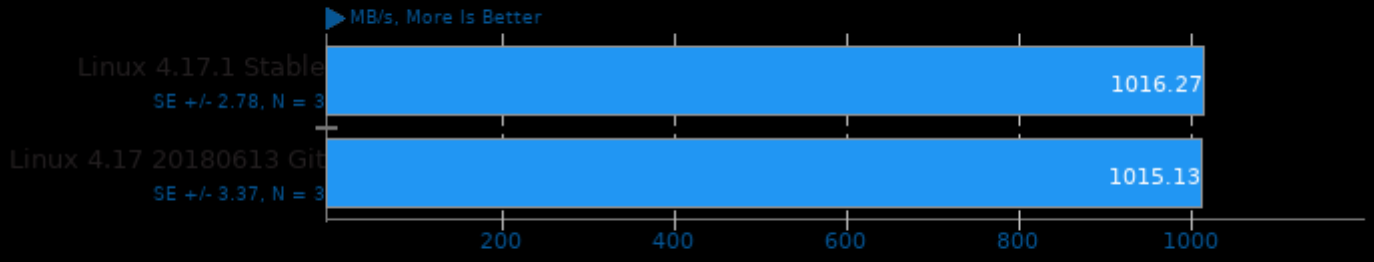
Client Count: 12



1. (CC) gcc options: -lpopt -O2

Dbench 4.0

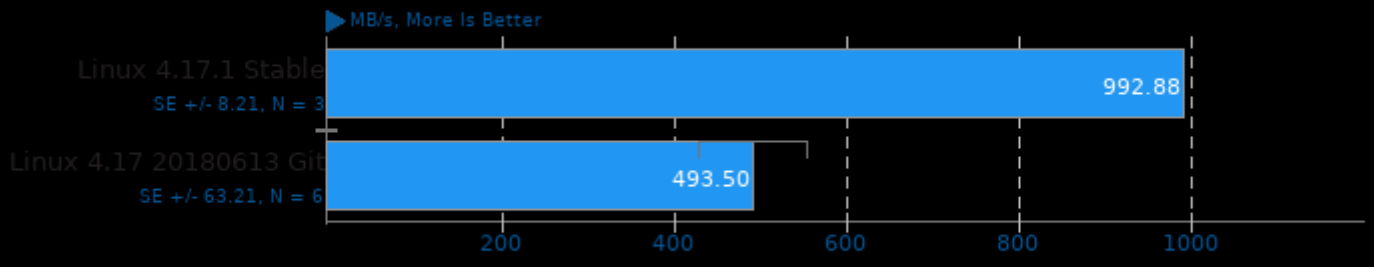
Client Count: 48



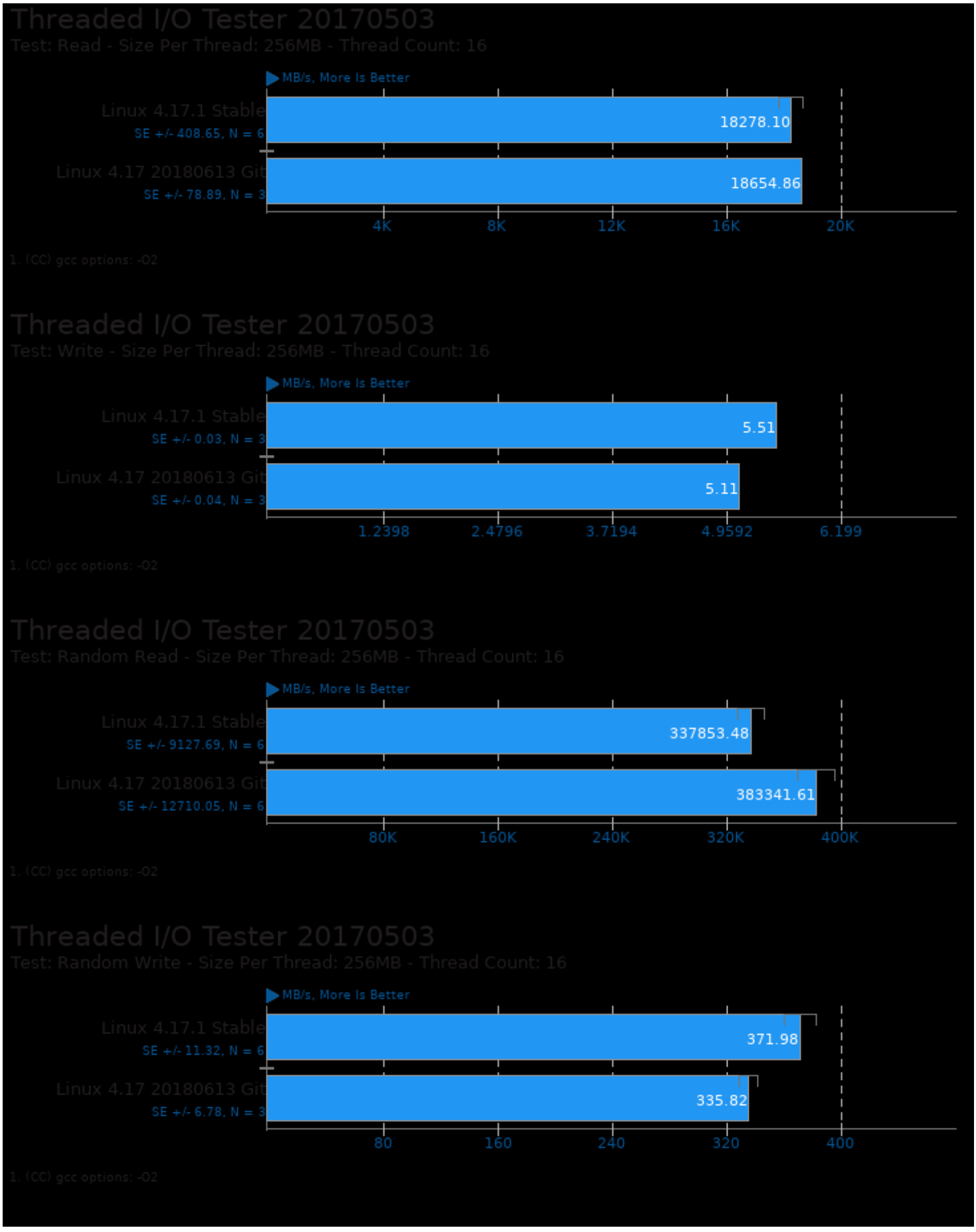
1. (CC) gcc options: -lpopt -O2

IOzone 3.465

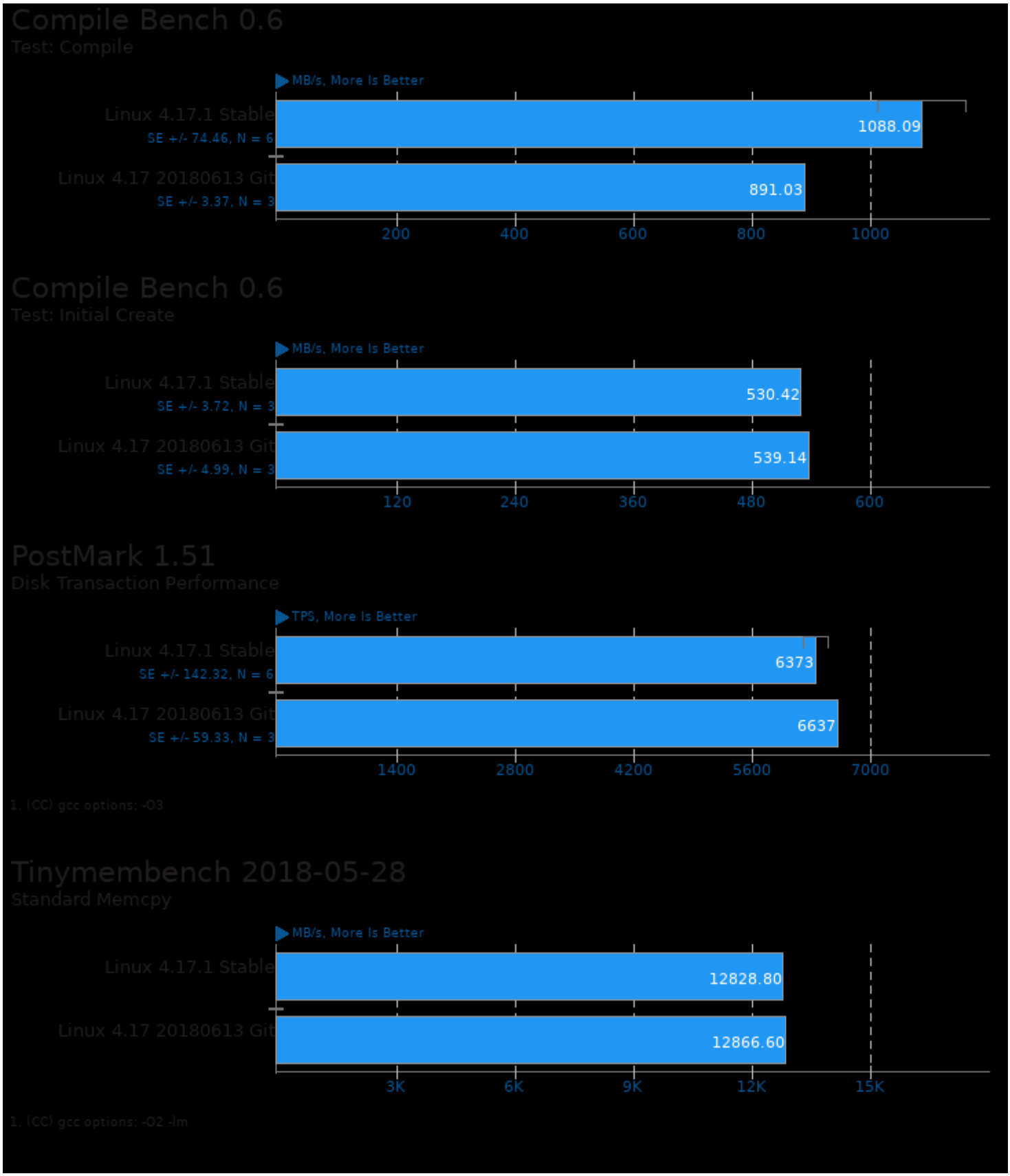
Record Size: 4Kb - File Size: 8GB - Disk Test: Write Performance



1. (CC) gcc options: -O3

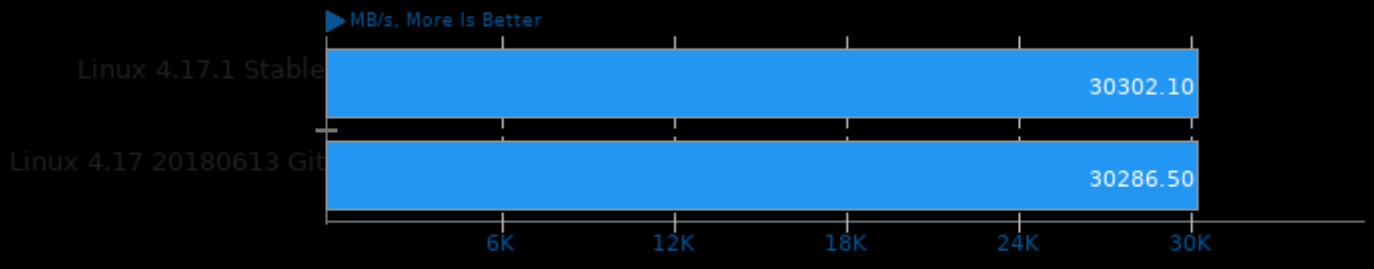

Threaded I/O Tester 20170503
Test: Read - Size Per Thread: 256MB - Thread Count: 16
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 408.65, N = 6
18278.10
Linux 4.17 20180613 Git
SE +/- 78.89, N = 3
18654.86
4K
8K
12K
16K
20K
1. (CC) gcc options: -O2
Threaded I/O Tester 20170503
Test: Write - Size Per Thread: 256MB - Thread Count: 16
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 0.03, N = 3
5.51
Linux 4.17 20180613 Git
SE +/- 0.04, N = 3
5.11
1.2398
2.4796
3.7194
4.9592
6.199
1. (CC) gcc options: -O2
Threaded I/O Tester 20170503
Test: Random Read - Size Per Thread: 256MB - Thread Count: 16
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 9127.69, N = 6
337853.48
Linux 4.17 20180613 Git
SE +/- 12710.05, N = 6
383341.61
80K
160K
240K
320K
400K
1. (CC) gcc options: -O2
Threaded I/O Tester 20170503
Test: Random Write - Size Per Thread: 256MB - Thread Count: 16
MB/s, More Is Better
Linux 4.17.1 Stable
SE +/- 11.32, N = 6
371.98
Linux 4.17 20180613 Git
SE +/- 6.78, N = 3
335.82
80
160
240
320
400
1. (CC) gcc options: -O2

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks



Tinymembench 2018-05-28

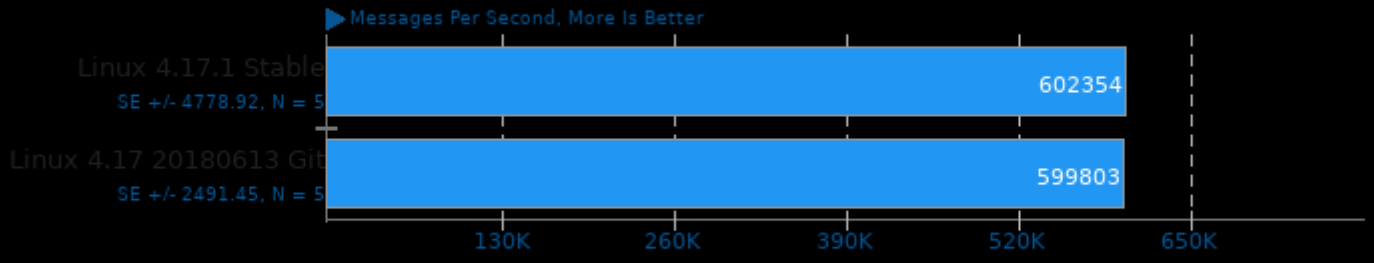
Standard Memset



1. (CC) gcc options: -O2 -lm

Sockperf 3.4

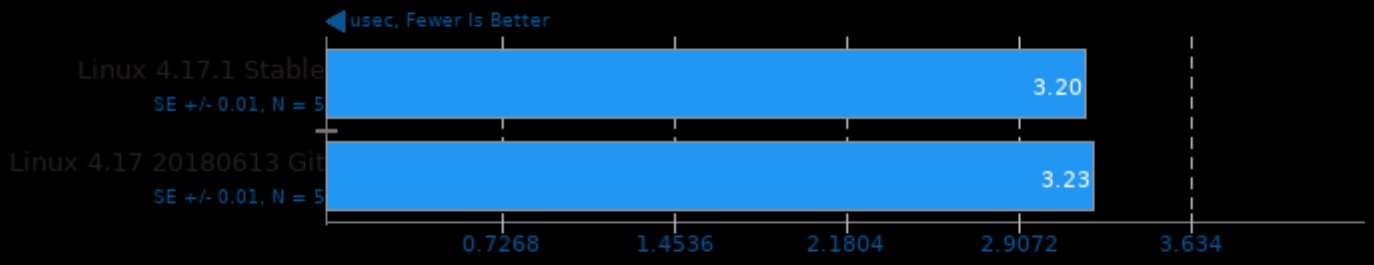
Test: Throughput



1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

Sockperf 3.4

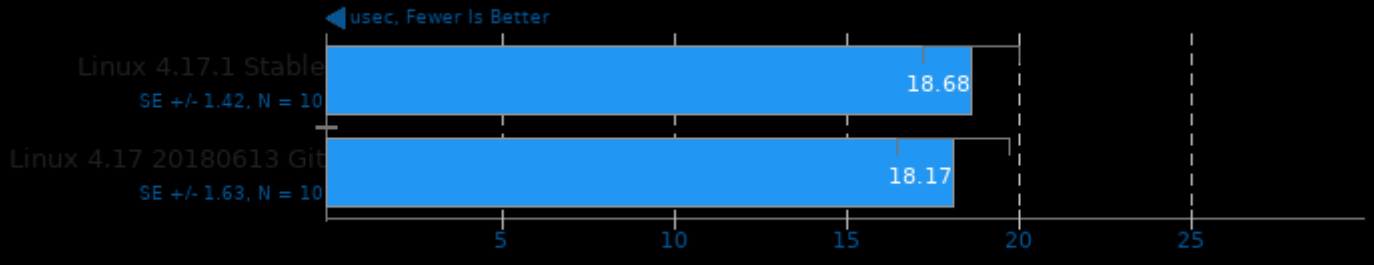
Test: Latency Ping Pong



1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

Sockperf 3.4

Test: Latency Under Load

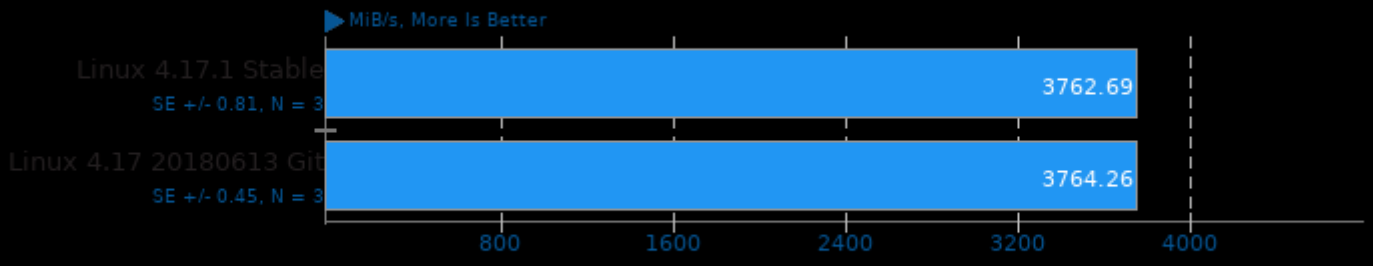


1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

Botan 2.6.0

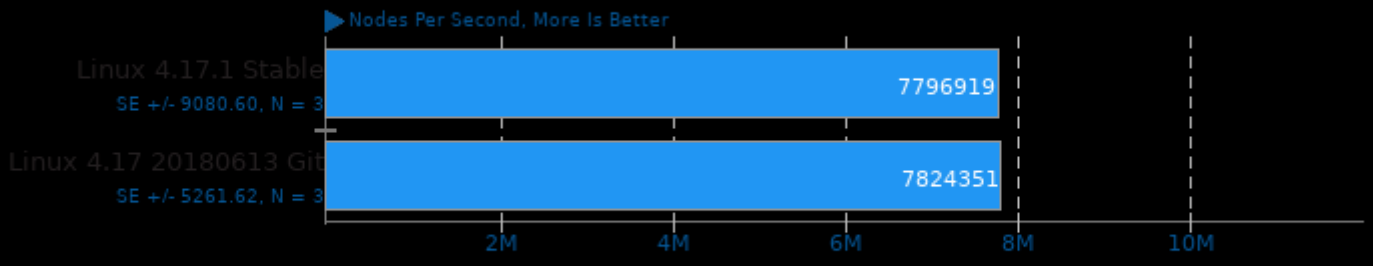
Test: AES-256 - Encrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Crafty 25.2

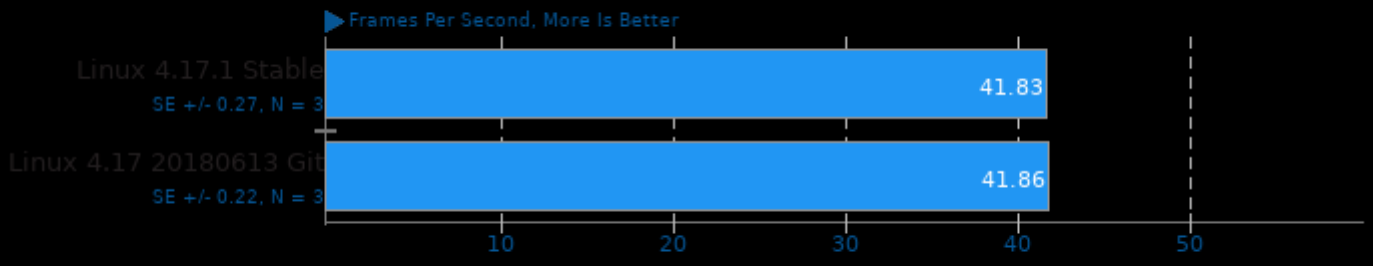
Elapsed Time



1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm

x264 2018-02-05

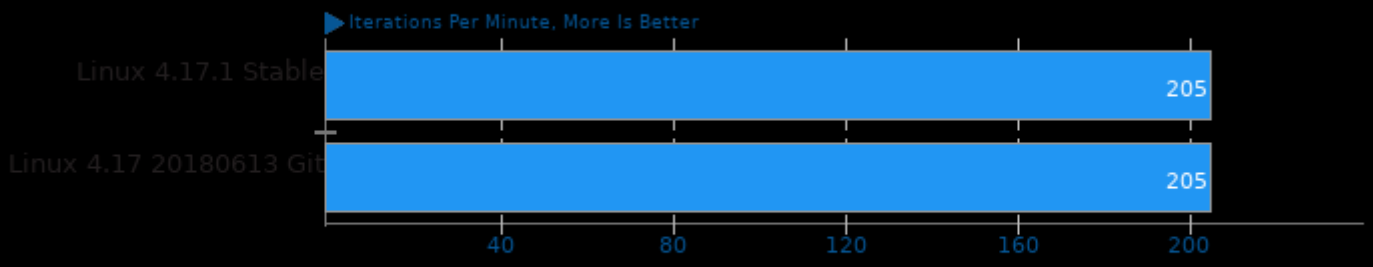
H.264 Video Encoding



1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectorize

GraphicsMagick 1.3.28

Operation: Resizing

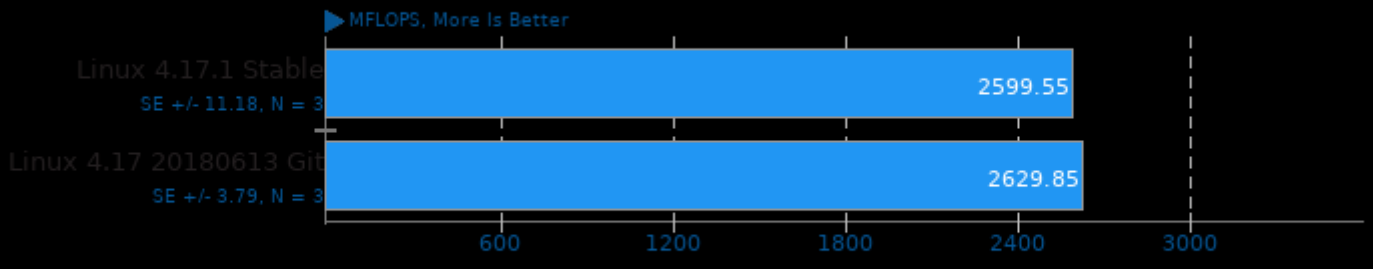


1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lz -lm -lgomp -lpthread

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

Himeno Benchmark 3.0

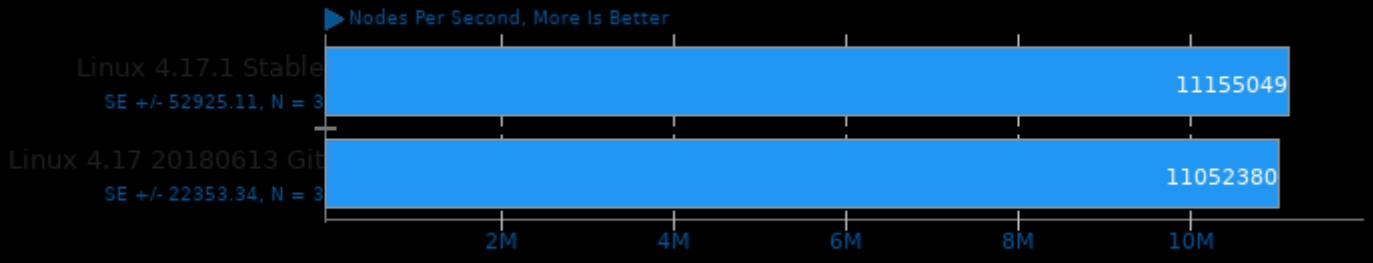
Poisson Pressure Solver



1. (CC) gcc options: -O3 -mavx2

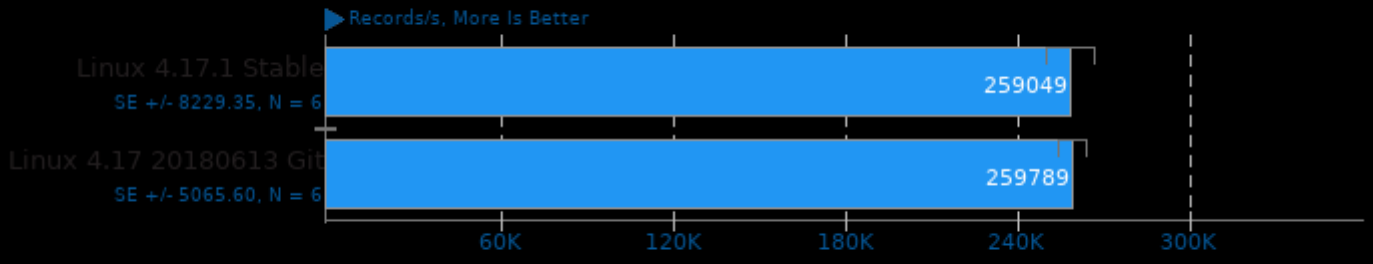
Stockfish 9

Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++11 -pedantic -O3 -msse -msse3 -mpopcnt -flto

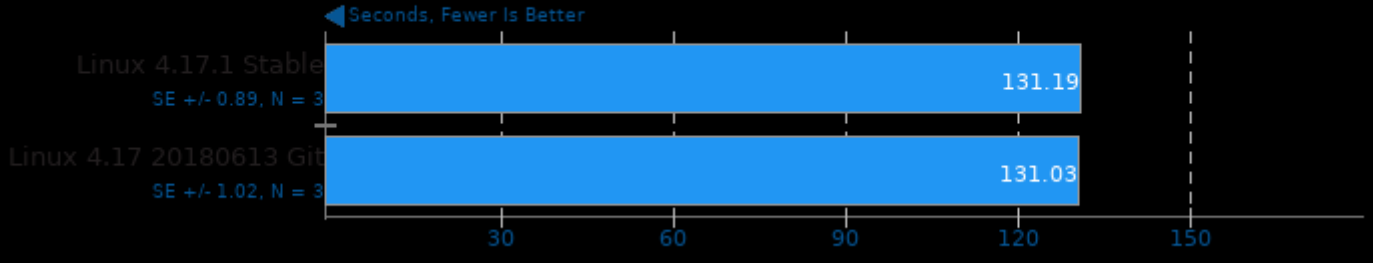
ebizzy 0.3



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

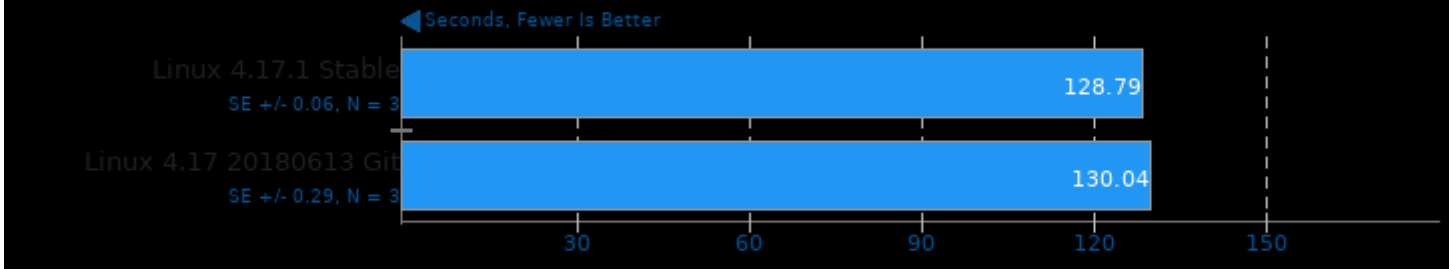
Timed Linux Kernel Compilation 4.13

Time To Compile



Zstd Compression 1.3.4

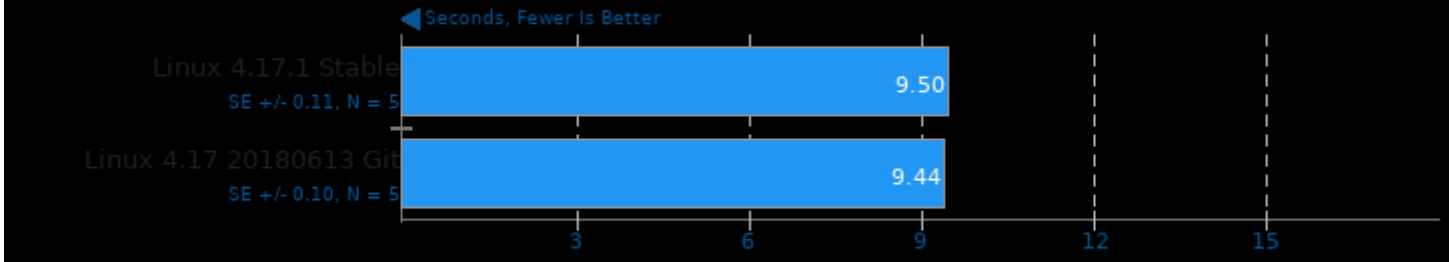
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 19



1. (CC) gcc options: -O3 -pthread -lz -llzma

FLAC Audio Encoding 1.3.2

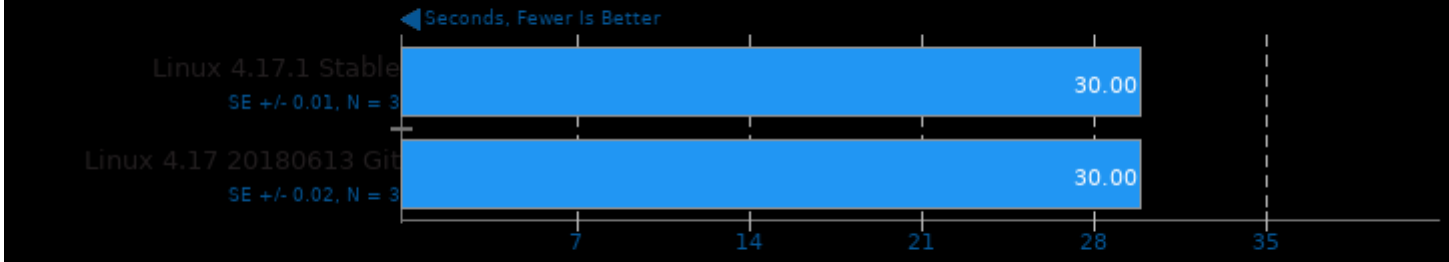
WAV To FLAC



1. (CXX) g++ options: -O2 -fvisibility=hidden -logg -lm

LAME MP3 Encoding 3.100

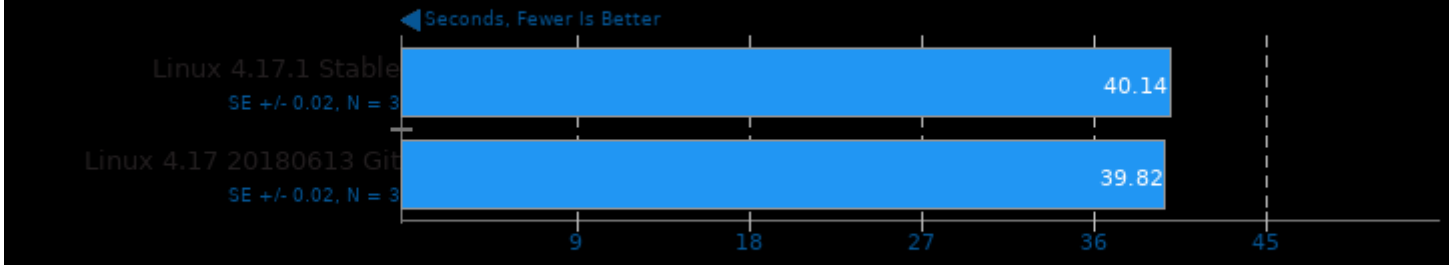
WAV To MP3



1. (CC) gcc options: -lm

Hackbench

Count: 8 - Type: Thread

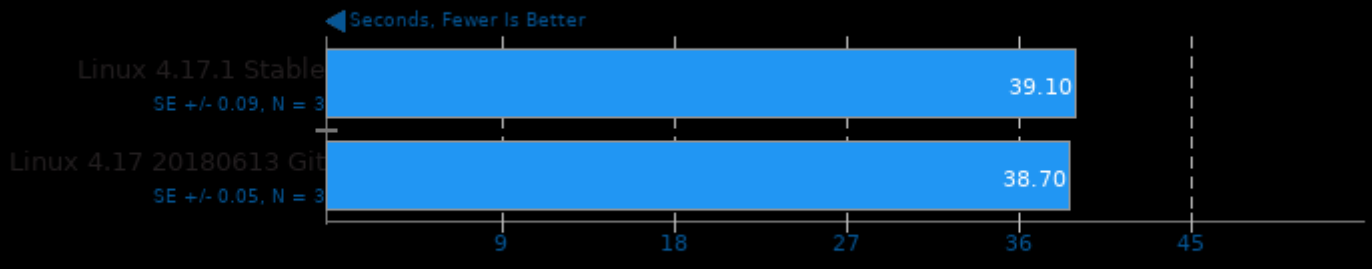


1. (CC) gcc options: -lpthread

Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

Hackbench

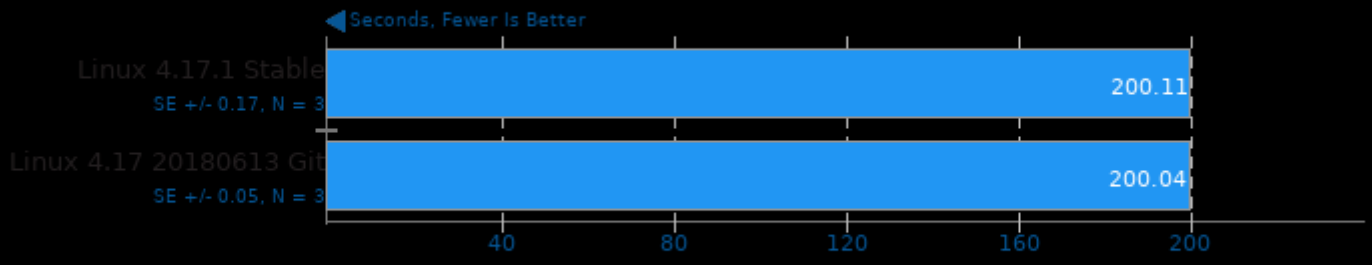
Count: 8 - Type: Process



1. (CC) gcc options: -lpthread

m-queens 1.1

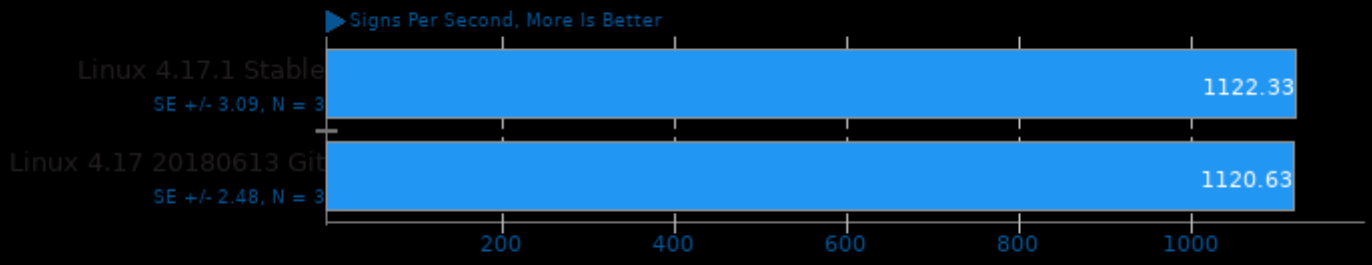
Time To Solve



1. (CXX) g++ options: -fopenmp -O2 -march=native

OpenSSL 1.1.0f

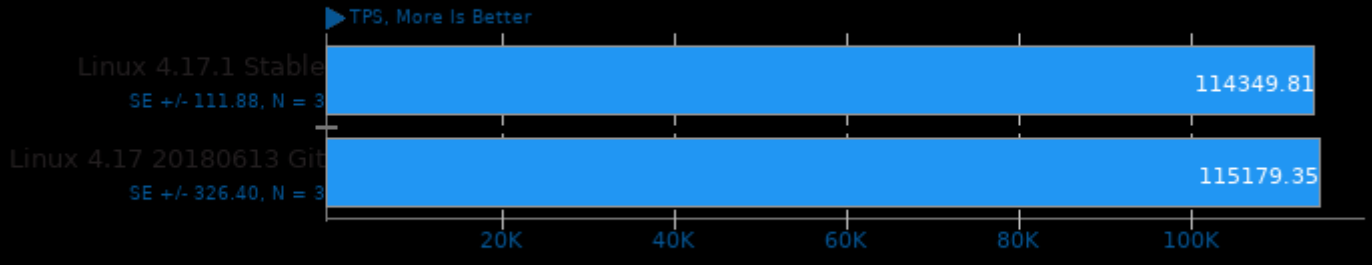
RSA 4096-bit Performance



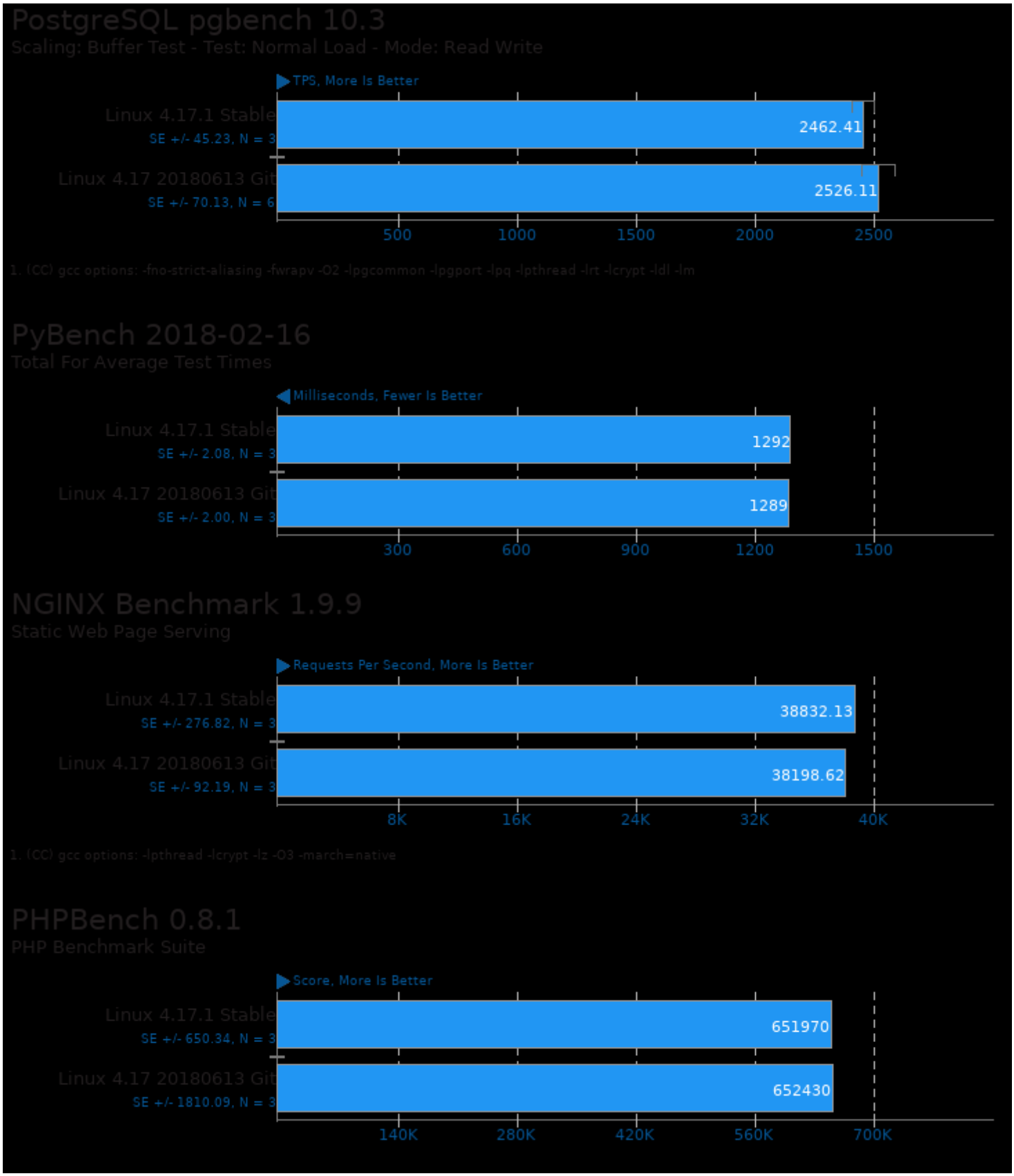
1. (CC) gcc options: -O3 -pthread -m64 -lssl -lcrypto -ldl

PostgreSQL pgbench 10.3

Scaling: Buffer Test - Test: Normal Load - Mode: Read Only

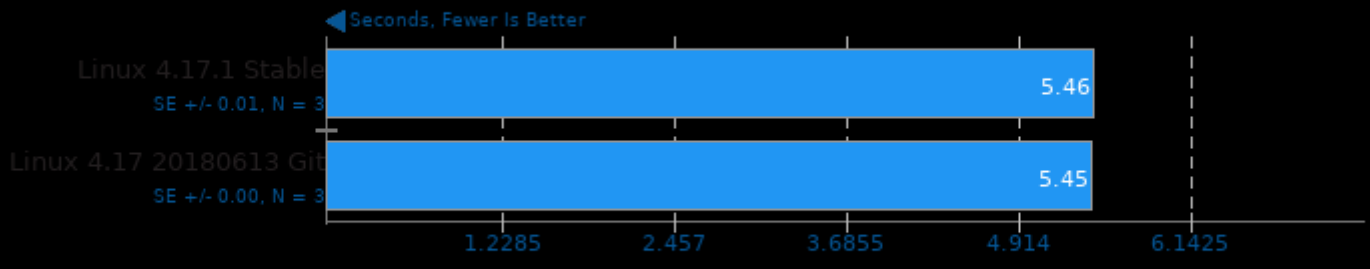


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -lcrypt -ldl -lm


PostgreSQL pgbench 10.3
Scaling: Buffer Test - Test: Normal Load - Mode: Read Write
TPS, More Is Better
Linux 4.17.1 Stable
SE +/- 45.23, N = 3
2462.41
Linux 4.17 20180613 Git
SE +/- 70.13, N = 6
2526.11
500
1000
1500
2000
2500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -lcrypt -ldl -lm
PyBench 2018-02-16
Total For Average Test Times
Milliseconds, Fewer Is Better
Linux 4.17.1 Stable
SE +/- 2.08, N = 3
1292
Linux 4.17 20180613 Git
SE +/- 2.00, N = 3
1289
300
600
900
1200
1500
NGINX Benchmark 1.9.9
Static Web Page Serving
Requests Per Second, More Is Better
Linux 4.17.1 Stable
SE +/- 276.82, N = 3
38832.13
Linux 4.17 20180613 Git
SE +/- 92.19, N = 3
38198.62
8K
16K
24K
32K
40K
1. (CC) gcc options: -lpthread -lcrypt -lz -O3 -march=native
PHPBench 0.8.1
PHP Benchmark Suite
Score, More Is Better
Linux 4.17.1 Stable
SE +/- 650.34, N = 3
651970
Linux 4.17 20180613 Git
SE +/- 1810.09, N = 3
652430
140K
280K
420K
560K
700K

Git

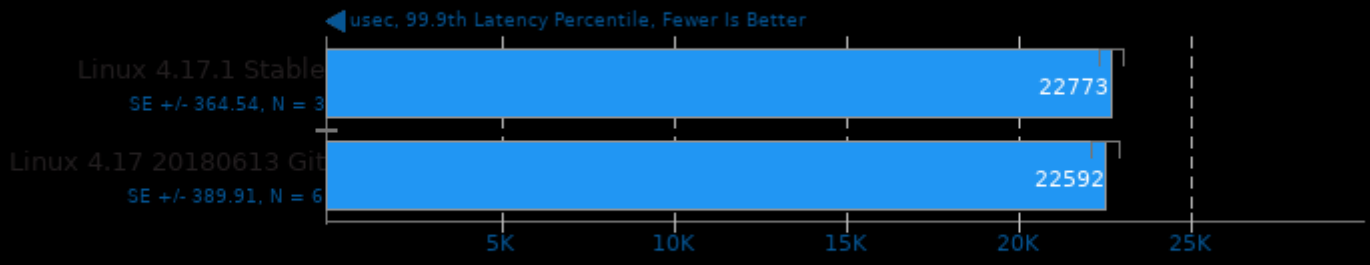
Time To Complete Common Git Commands



1. git version 2.17.1

Schbench

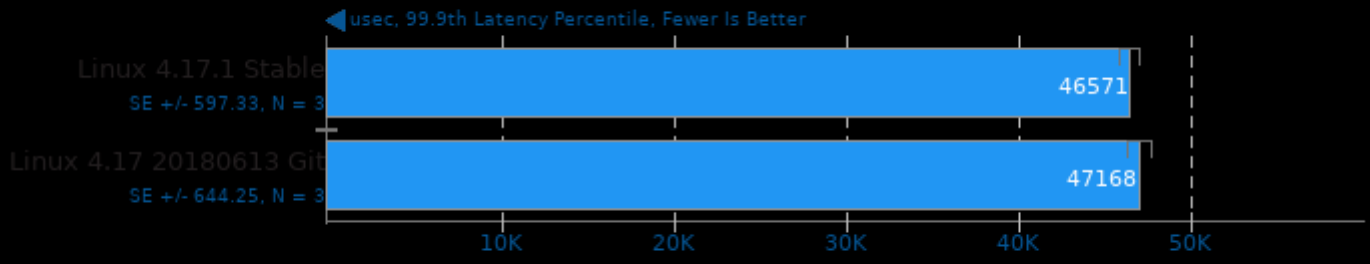
Message Threads: 8 - Workers Per Message Thread: 2



1. (CC) gcc options: -O2 -lpthread

Schbench

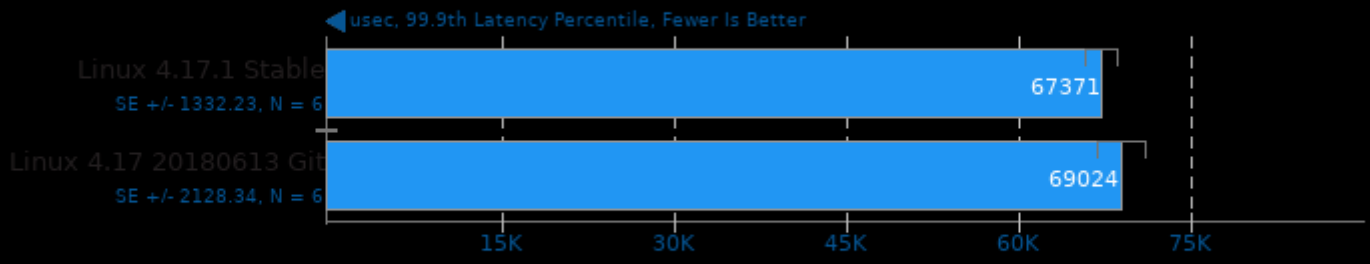
Message Threads: 8 - Workers Per Message Thread: 4



1. (CC) gcc options: -O2 -lpthread

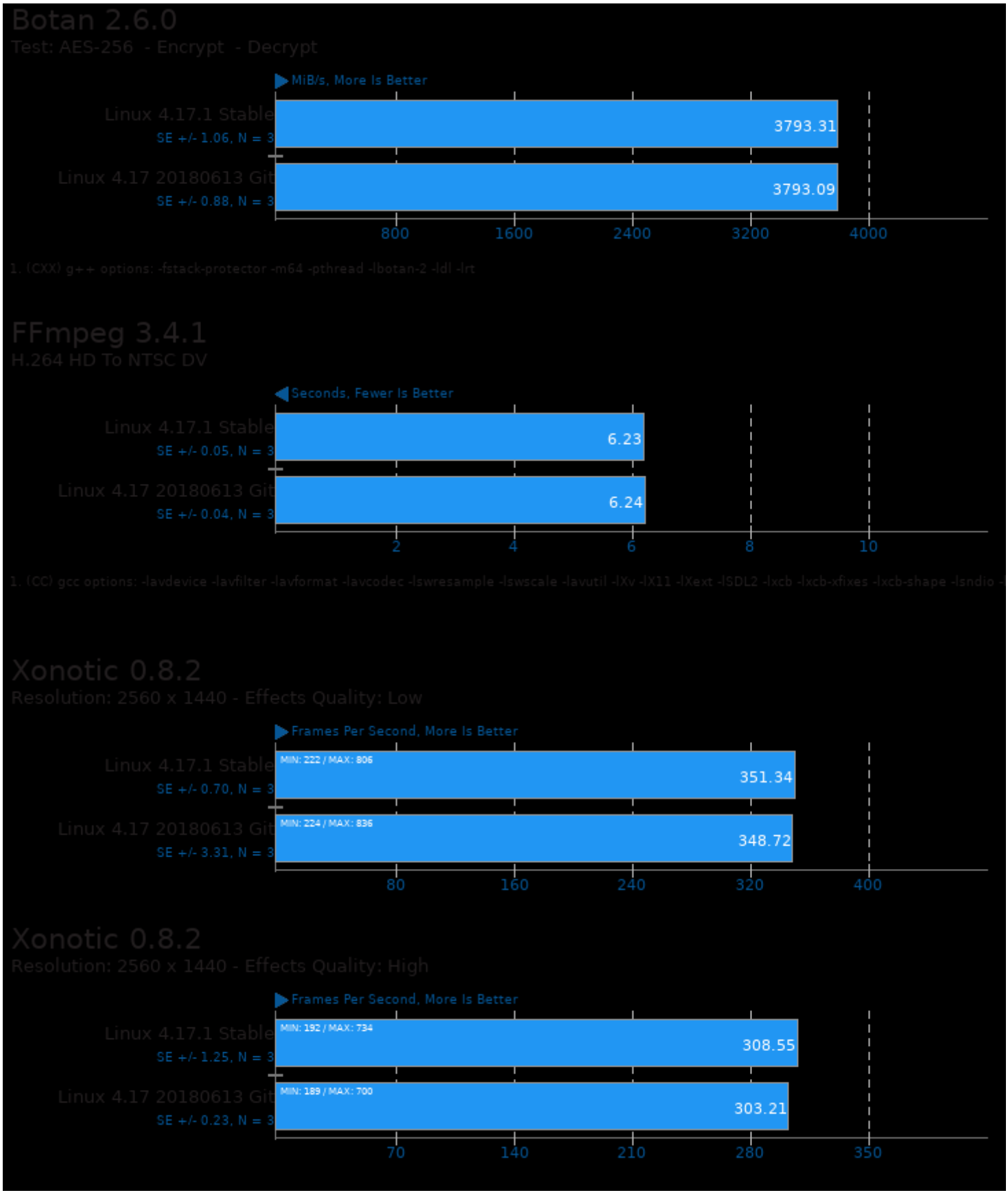
Schbench

Message Threads: 8 - Workers Per Message Thread: 6

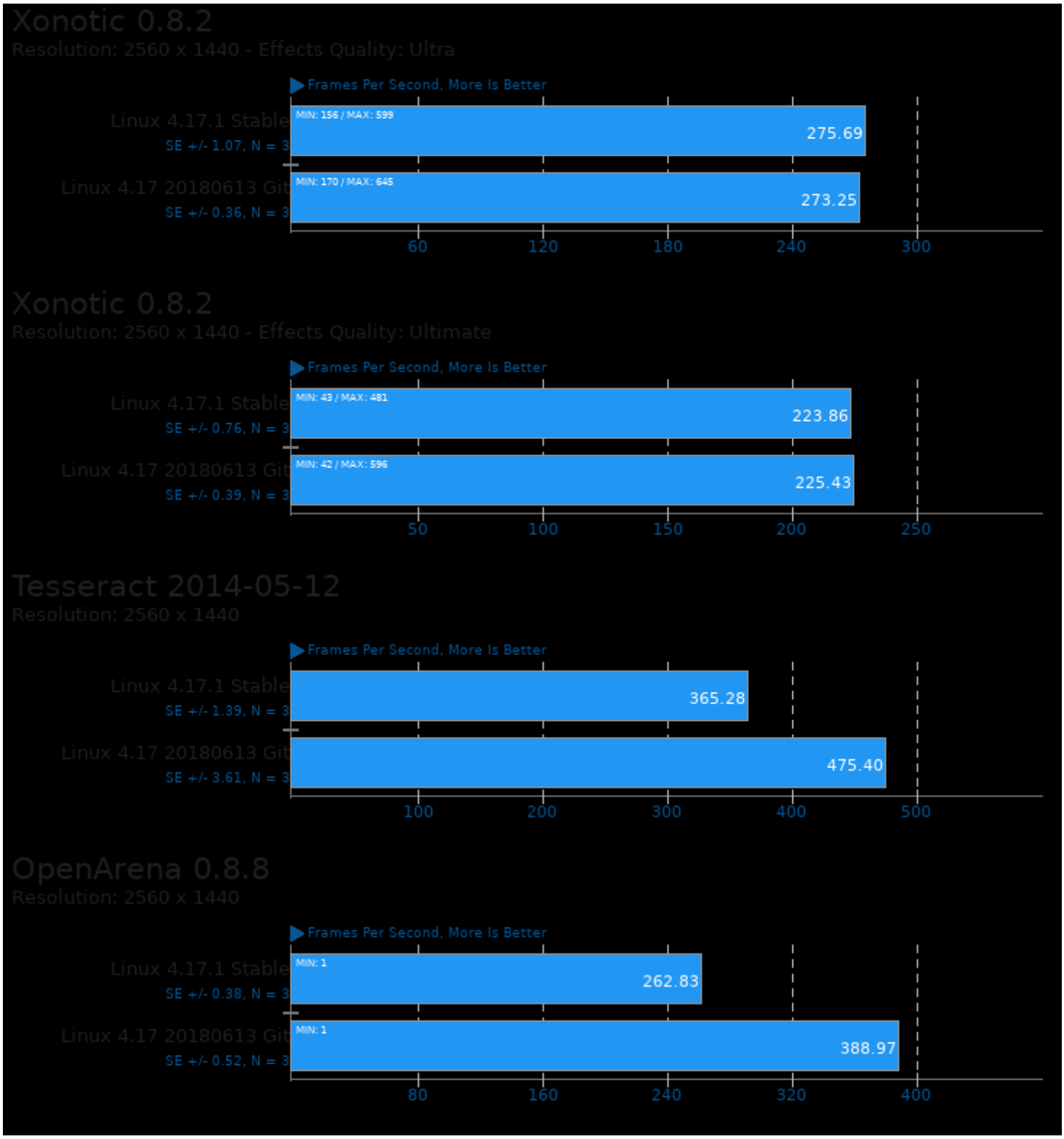


1. (CC) gcc options: -O2 -lpthread

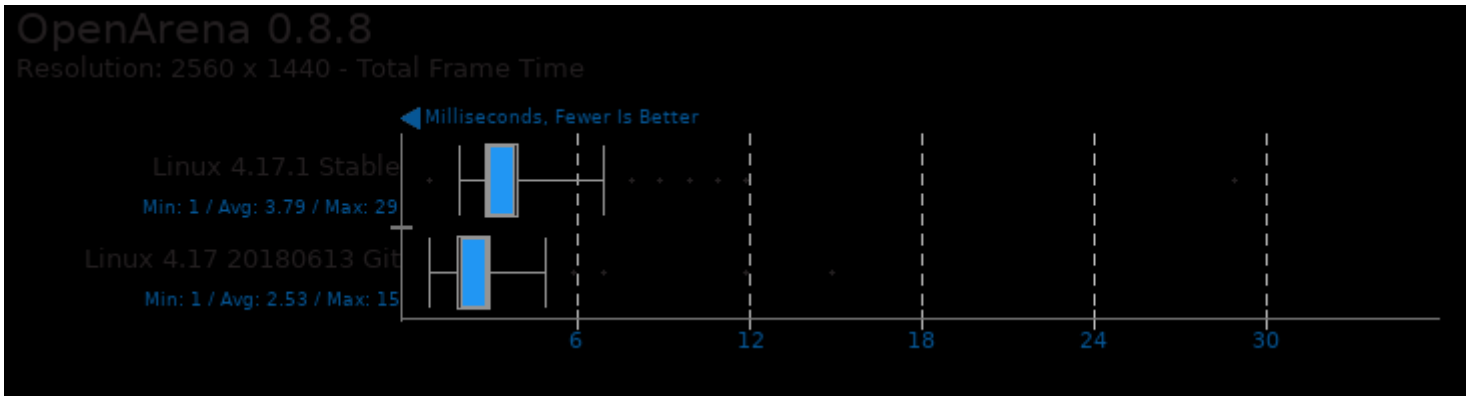
Linux 4.18 Early Git Intel Xeon Kernel Benchmarks



Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

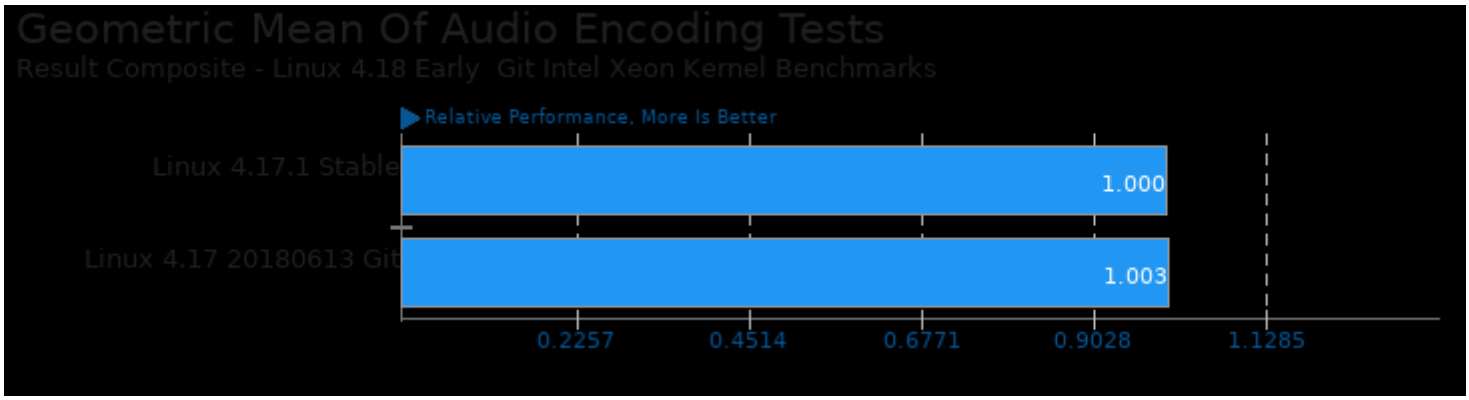


Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

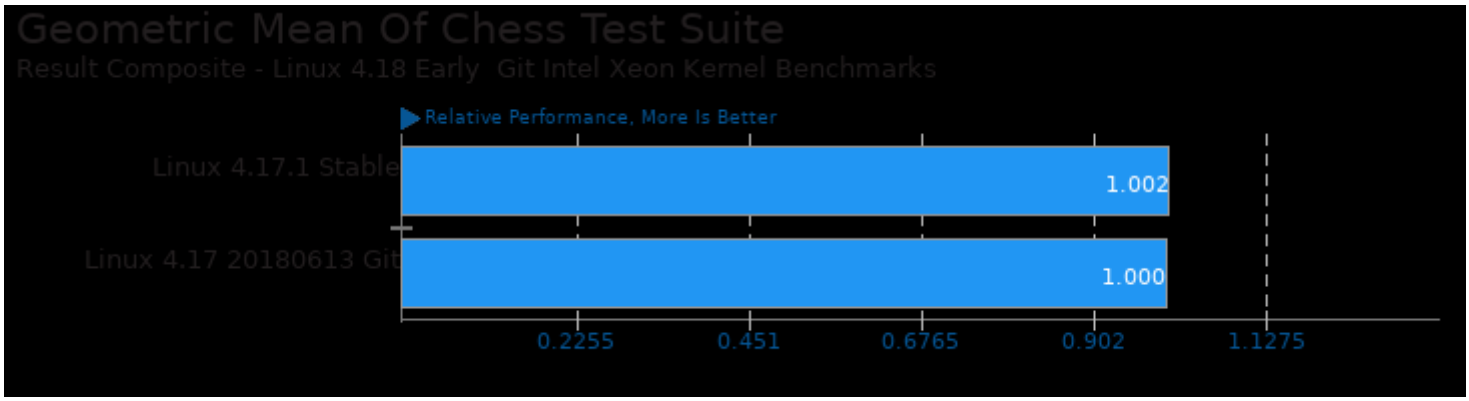


Linux 4.18 Early Git Intel Xeon Kernel Benchmarks

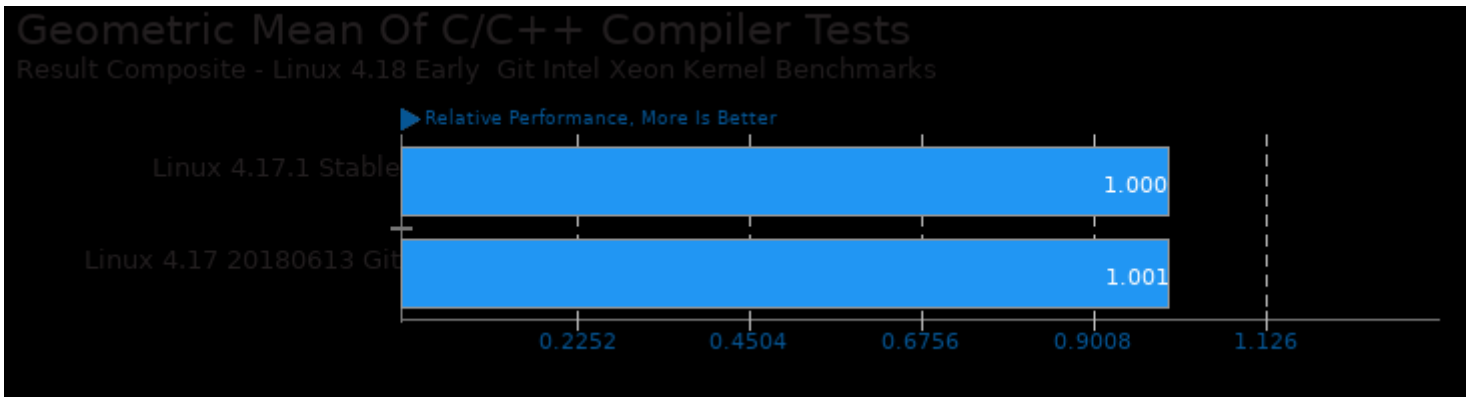
These geometric means are based upon test groupings / test suites for this result file.



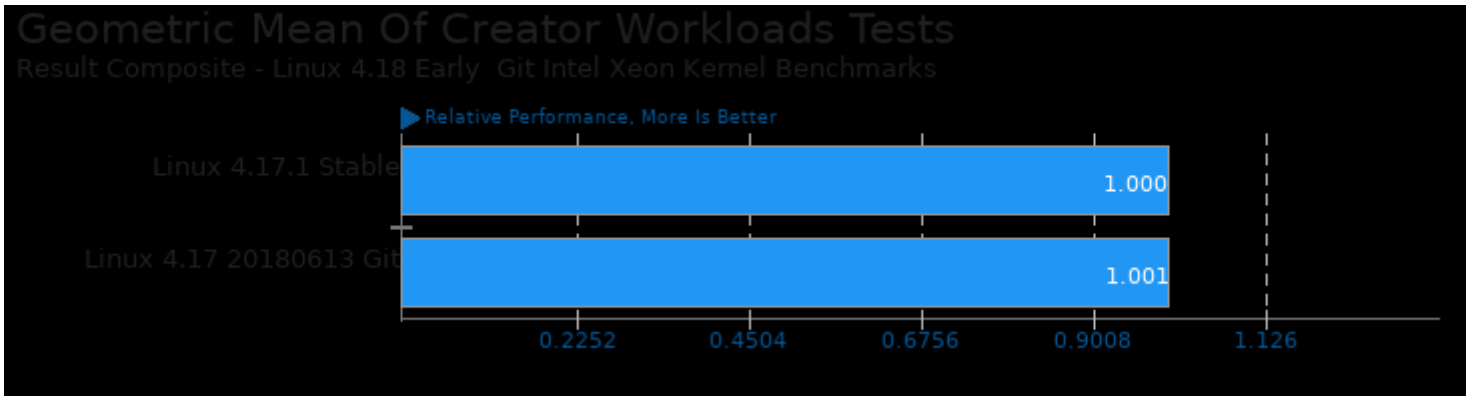
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



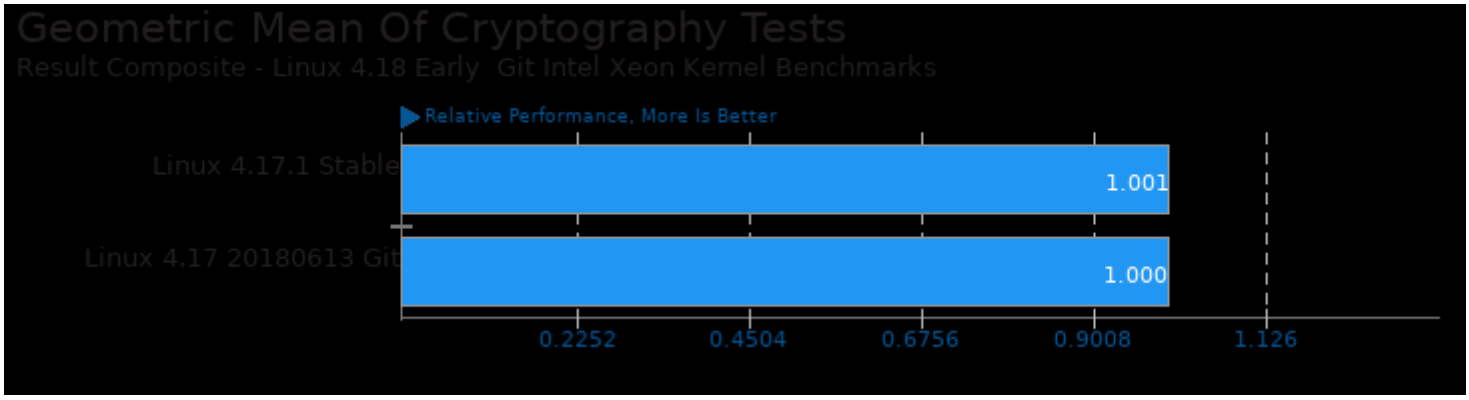
Geometric mean based upon tests: pts/crafty, pts/stockfish and pts/m-queens



Geometric mean based upon tests: pts/graphics-magick, pts/himeno, pts/stockfish, pts/encode-mp3, pts/encode-flac, pts/pgbench, pts/x264, pts/compress-zstd, pts/openssl and pts/nginx



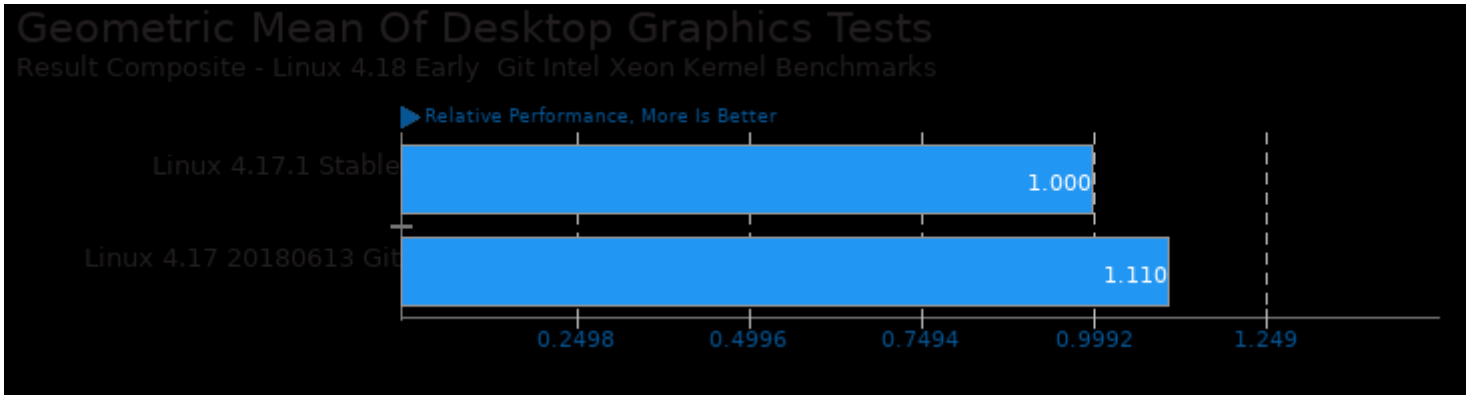
Geometric mean based upon tests: pts/x264, pts/ffmpeg, pts/encode-mp3, pts/encode-flac and pts/graphics-magick



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

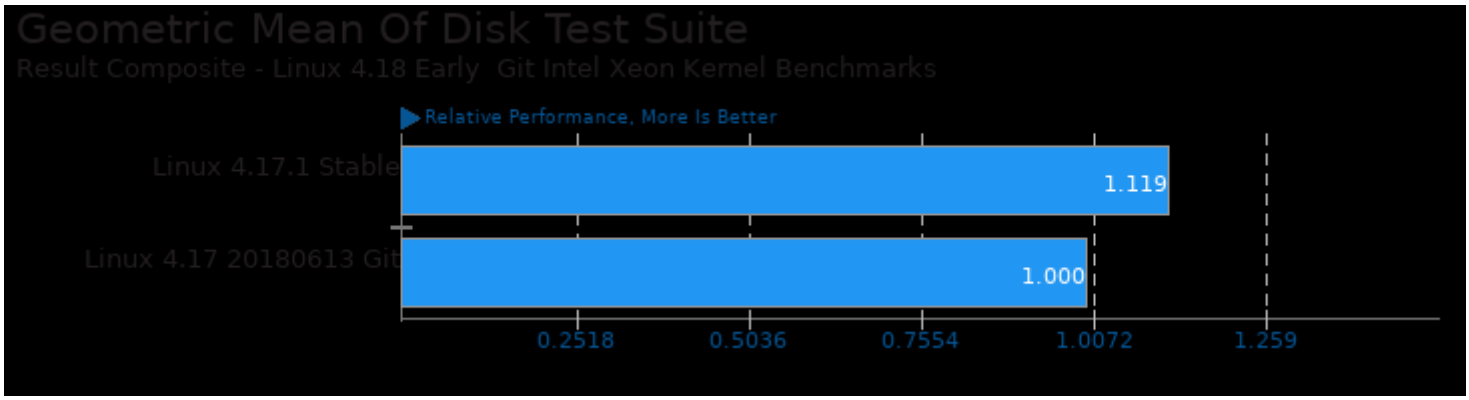


Geometric mean based upon tests: pts/sqlite and pts/pgbench

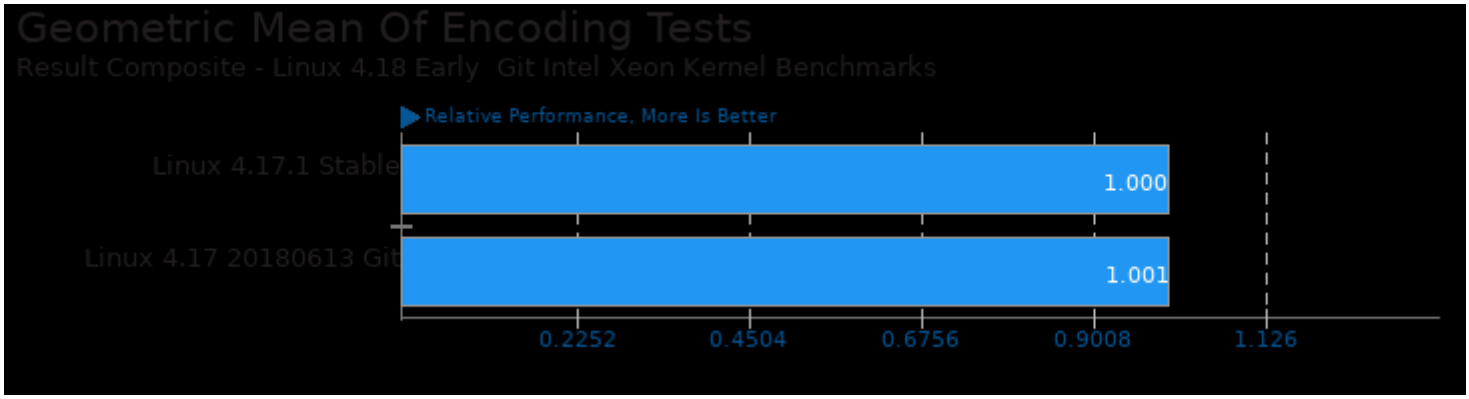


Geometric mean based upon tests: pts/xonotic, pts/openarena and pts/tesseract

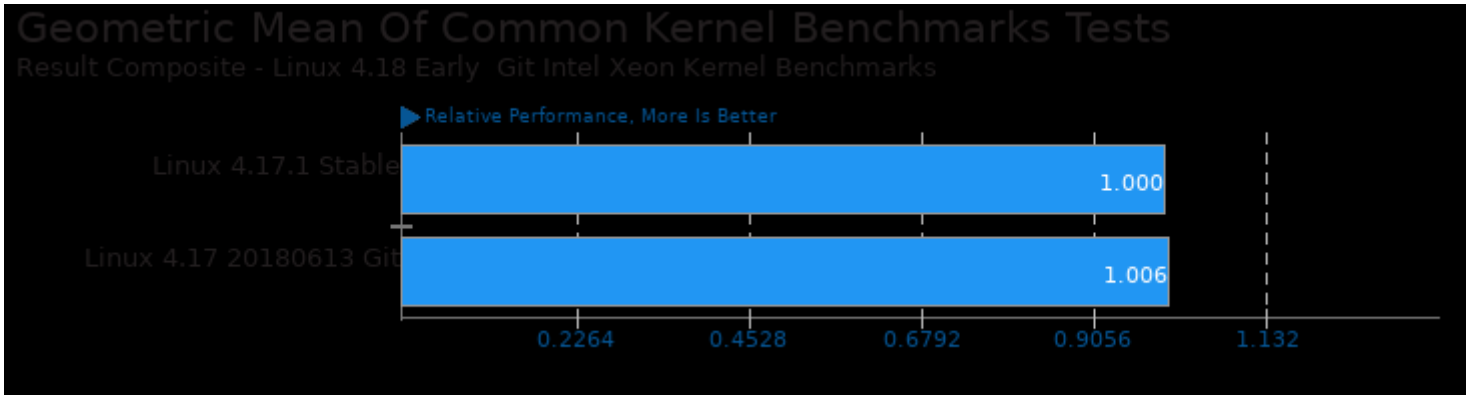
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Geometric mean based upon tests: pts/sqlite, pts/fs-mark, pts/compilebench, pts/iozone, pts/dbench, pts/postmark and pts/fio

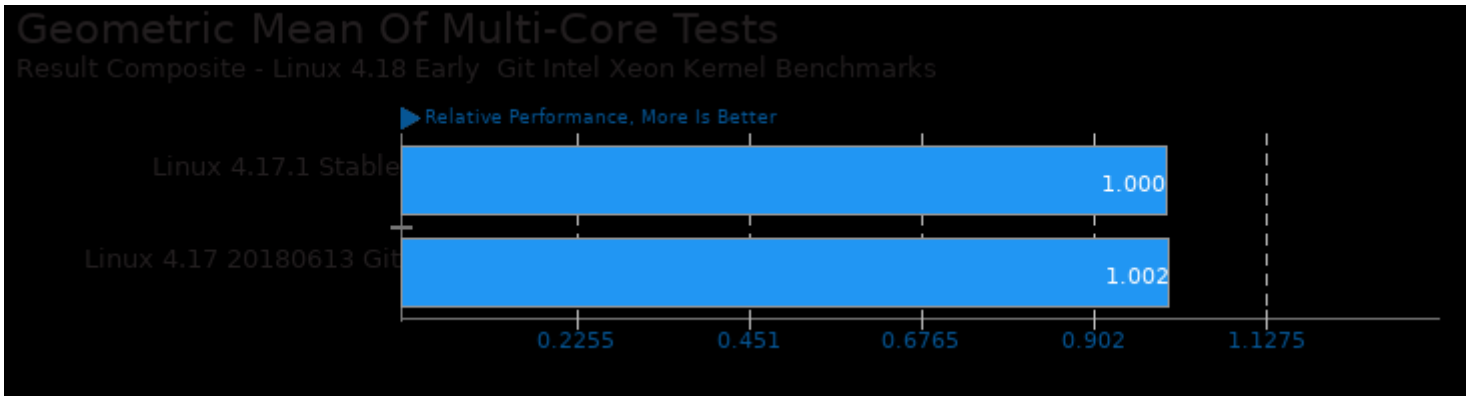


Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/x264 and pts/ffmpeg

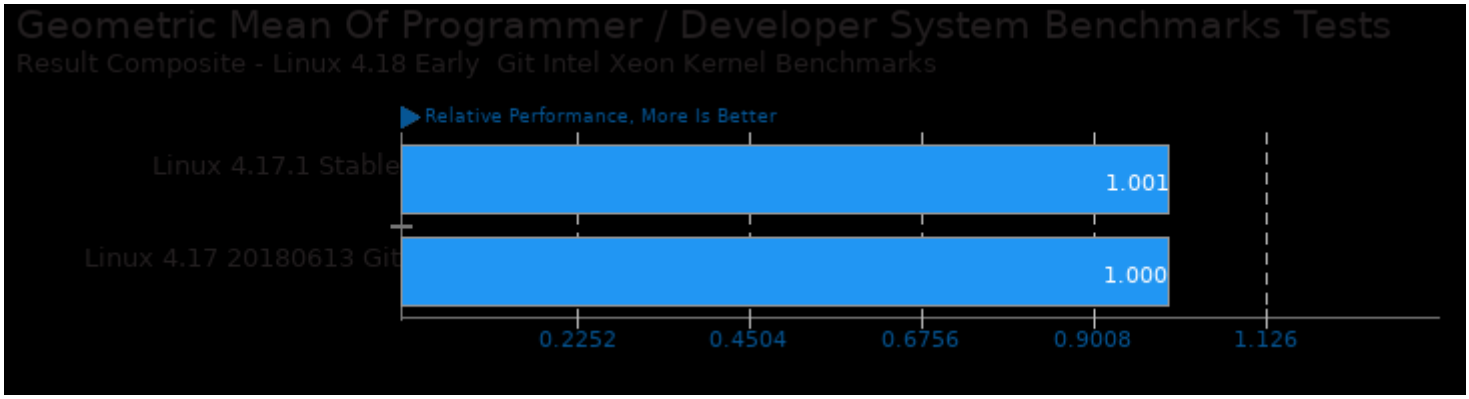


Geometric mean based upon tests: pts/postmark, pts/pgbench, pts/tinymembench, pts/openssl, pts/hackbench and pts/schbench

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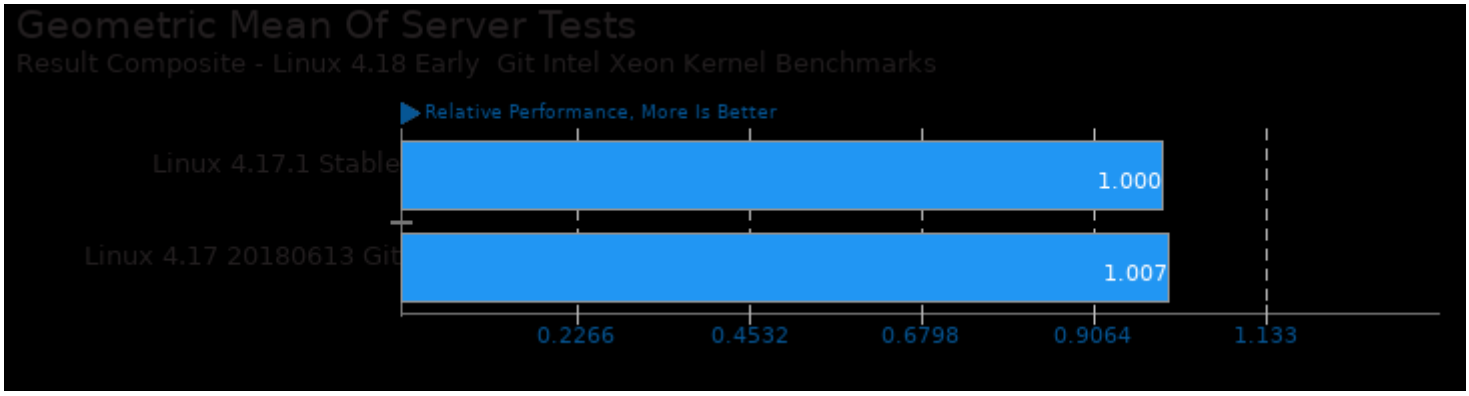
Geometric mean based upon tests: pts/stockfish, pts/m-queens, pts/x264, pts/ffmpeg, pts/ebizzy, pts/graphics-magick, pts/compress-zstd, pts/build-linux-kernel and pts/pgbench



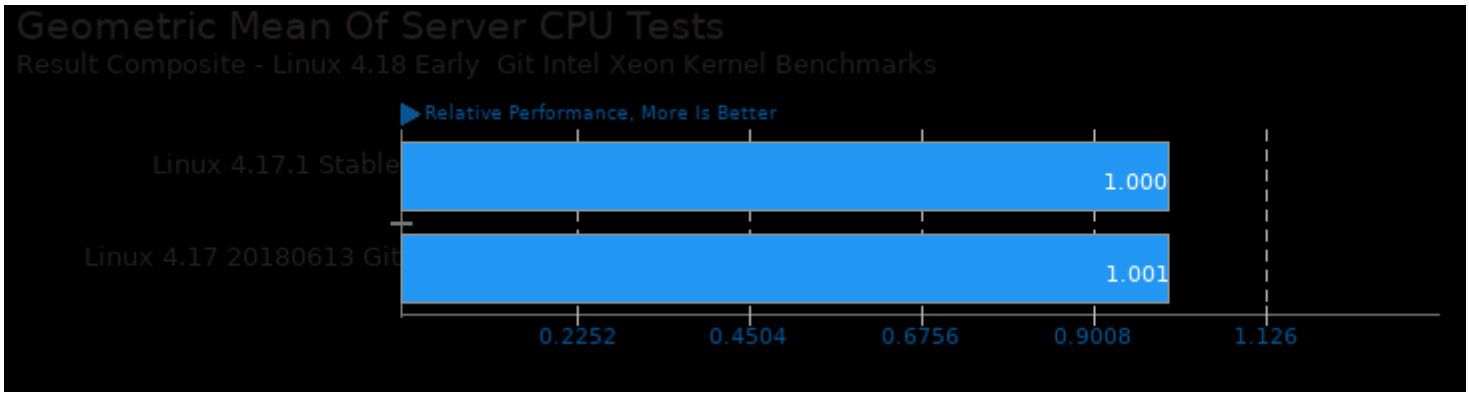
Geometric mean based upon tests: pts/git, pts/compress-zstd, pts/pybench and pts/build-linux-kernel



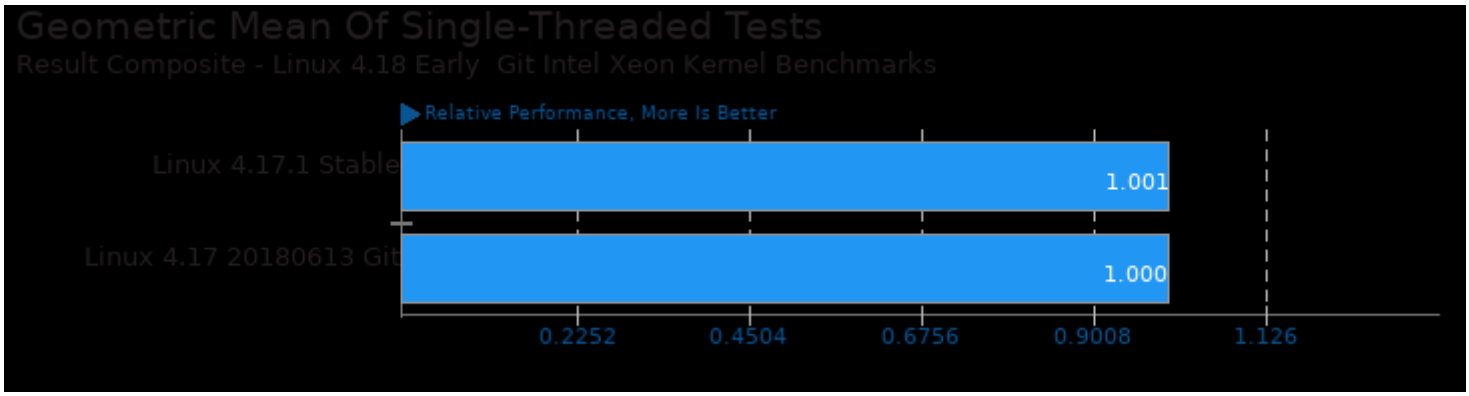
Geometric mean based upon tests: pts/compilebench and pts/pybench



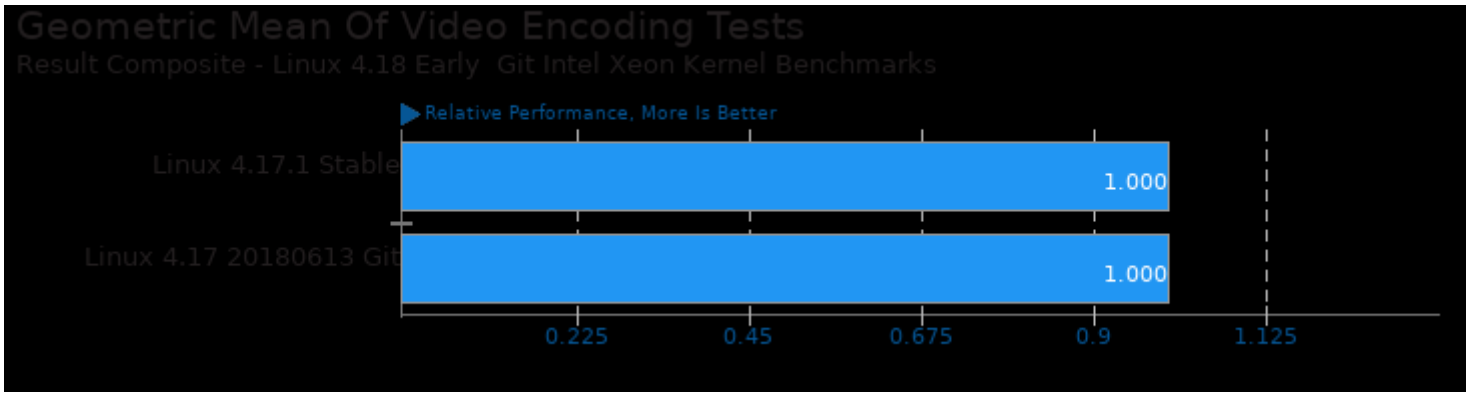
Geometric mean based upon tests: pts/nginx, pts/ebizzy, pts/pgbench, pts/phpbench, pts/openssl and pts/sqlite



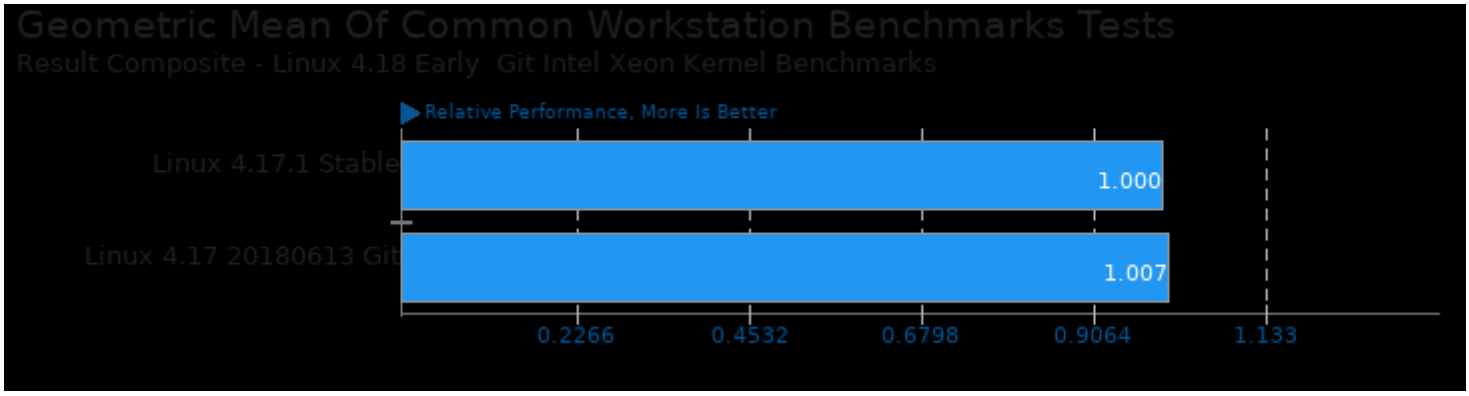
Geometric mean based upon tests: pts/x264, pts/himeno, pts/stockfish, pts/build-linux-kernel, pts/compress-zstd, pts/hackbench, pts/m-queens, pts/openssl, pts/pybench and pts/phpbench



Geometric mean based upon tests: pts/botan, pts/encode-flac, pts/encode-mp3, pts/pybench, pts/phpbench, pts/nginx and pts/git



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



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 10:32.