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Sandy Bridge Linux 3.17 Kernel

Intel Linux benchmarks by Michael Larabel.

Automated Executive Summary

Linux 3.17 20140820 had the most wins, coming in first place for 72% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 3.17 20140820) was 1.033x the speed of the slowest (Linux 3.16.0).

Test Systems:

Linux 3.16.0

Processor: Intel Core i5-2415M @ 2.90GHz (4 Cores), Motherboard: Apple Mac-8ED6AF5B48C039E1, Chipset: Intel 2nd Generation Core Family DRAM, Memory: 2048MB, Disk: 500GB Hitachi HTS54505, Graphics: Intel HD 3000 (1300MHz), Audio: Intel 6 /C200, Network: Broadcom NetXtreme BCM57765 Gigabit PCIe + Broadcom BCM4331 802.11a/b/g/n

Sandy Bridge Linux 3.17 Kernel

OS: Ubuntu 14.04, Kernel: 3.16.0-031600-generic (x86_64), Desktop: Unity 7.2.2, Display Server: X Server 1.15.1, Display Driver: intel 2.99.914, OpenGL: 3.1 Mesa 10.3.0-devel (git-a4359bc 2014-08-19 trusty-oibaf-ppa+gallium-nine), Compiler: GCC 4.8.2, File-System: ext4, Screen Resolution: 2560x1440

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-libmudflap --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-gtk-cairo --enable-java-awt=gtk --enable-java-home --enable-languages=c,c++,java,go,d,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-arch-directory=amd64 --with-multilib-list=m32,m64,mx32 --with-tune=generic -v
Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: intel_pstate performance
System Notes: Disk Scheduler: DEADLINE. Python 2.7.6.

Linux 3.17 20140820

Processor: Intel Core i5-2415M @ 2.90GHz (4 Cores), Motherboard: Apple Mac-8ED6AF5B48C039E1, Chipset: Intel 2nd Generation Core Family DRAM, Memory: 2048MB, Disk: 500GB Hitachi HTS54505, Graphics: Intel HD 3000 (1300MHz), Audio: Intel 6 /C200, Network: Broadcom NetXtreme BCM57765 Gigabit PCIe + Broadcom BCM4331 802.11a/b/g/n

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Disk Notes: DEADLINE / data=ordered,errors=remount-ro,relatime,rw
Processor Notes: Scaling Governor: intel_pstate performance
System Notes: Disk Scheduler: DEADLINE. Python 2.7.6.

	Linux 3.16.0	Linux 3.17 20140820
x264 - H.2.V.E (FPS)	**54.49**	**56.55**
Normalized	96.36%	100%
Standard Deviation	2.3%	2.2%
Compile Bench - Compile (MB/s)	**35.06**	**34.91**
Normalized	100%	99.57%
Standard Deviation	0.4%	0%
Compile Bench - Initial Create (MB/s)	**32.60**	**32.41**
Normalized	100%	99.42%
Standard Deviation	2.5%	2%
John The Ripper - Blowfish (Real C/S)	**1827**	**1862**
Normalized	98.12%	100%
Standard Deviation	0.1%	0%
John The Ripper - Traditional DES (Real C/S)	**3100667**	**3121333**
Normalized	99.34%	100%
Standard Deviation	0.2%	0.2%
John The Ripper - MD5 (Real C/S)	**25040**	**25617**
Normalized	97.75%	100%
Standard Deviation	0%	0.1%
PostMark - D.T.P (TPS)	**146**	**141**
Normalized	100%	96.58%
Standard Deviation	2.1%	1.1%

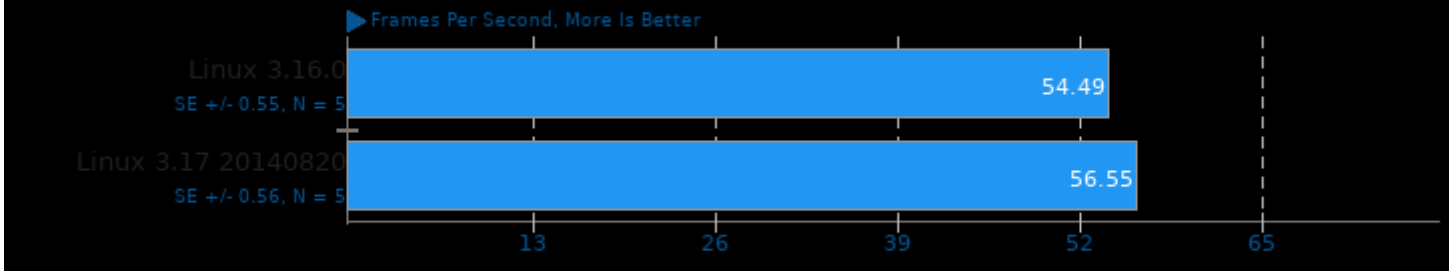
Sandy Bridge Linux 3.17 Kernel

Gcrypt Library - C.E.C (us)	**3755**	**3417**
Normalized	91%	100%
Standard Deviation	3.1%	3.3%
Timed Linux Kernel Compilation - Time To Compile	**248.18**	**242.49**
Normalized	97.71%	100%
Standard Deviation	0.9%	1%
C-Ray - Total Time (sec)	**82.99**	**82.50**
Normalized	99.41%	100%
Standard Deviation	0%	0%
LAME MP3 Encoding - WAV To MP3 (sec)	**25.29**	**20.92**
Normalized	82.72%	100%
Standard Deviation	0.7%	6.6%

Sandy Bridge Linux 3.17 Kernel

x264 2014-01-09

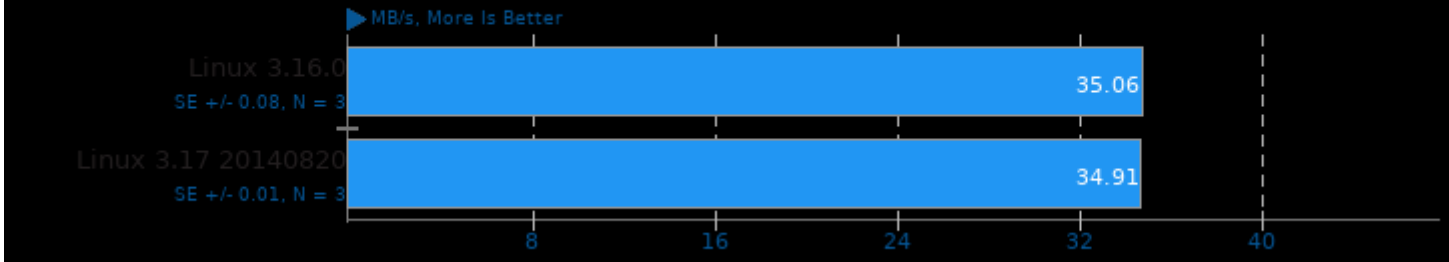
H.264 Video Encoding



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

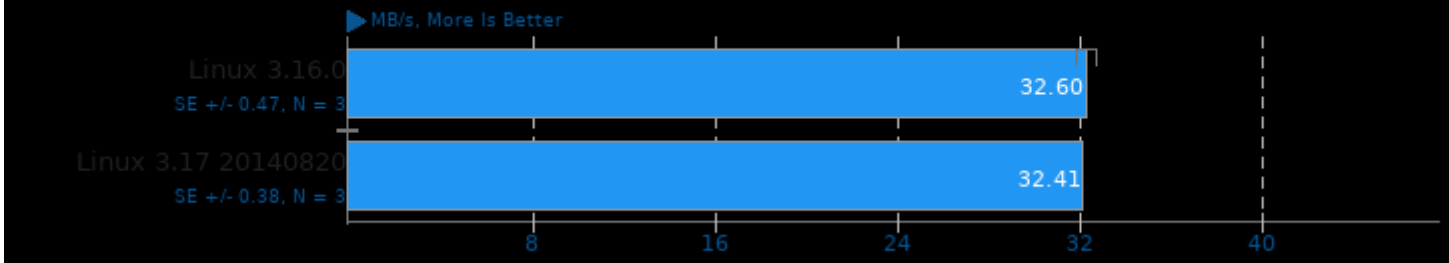
Compile Bench 0.6

Test: Compile



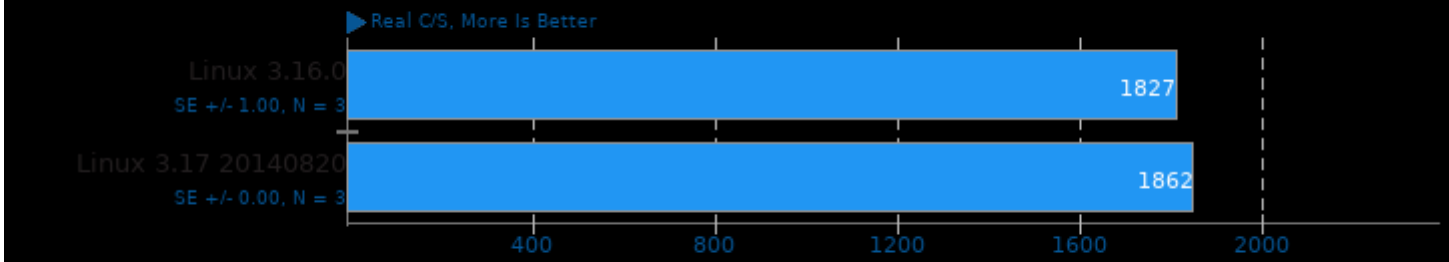
Compile Bench 0.6

Test: Initial Create



John The Ripper 1.8.0

Test: Blowfish

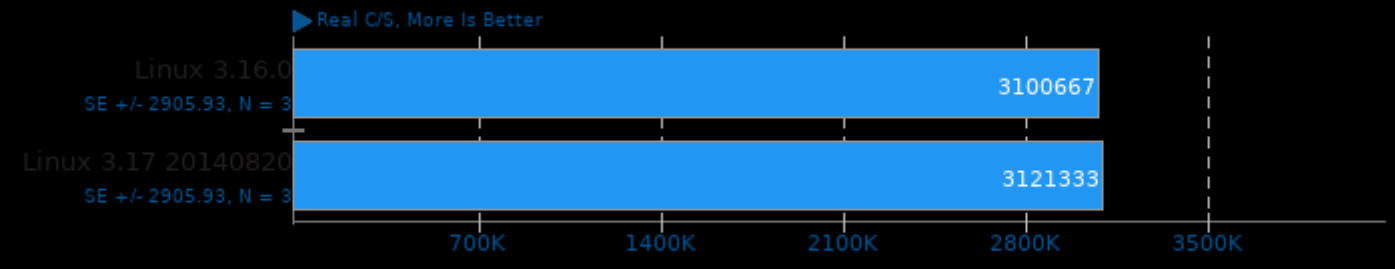


1. (CC) gcc options: -fopenmp -lcrypt

Sandy Bridge Linux 3.17 Kernel

John The Ripper 1.8.0

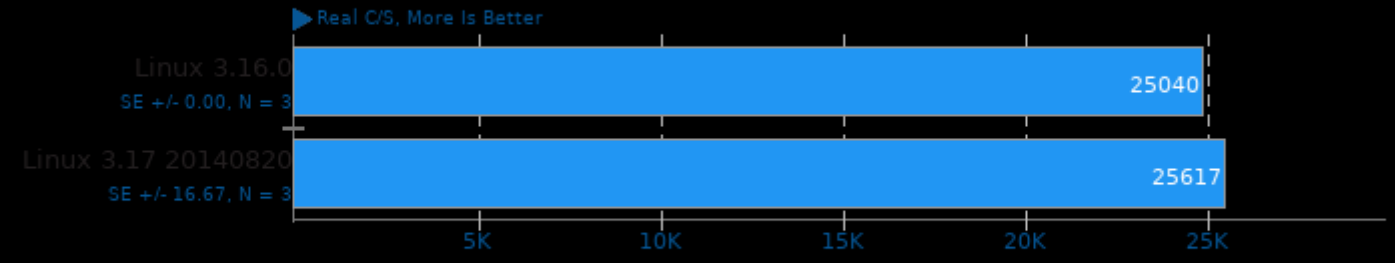
Test: Traditional DES



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

John The Ripper 1.8.0

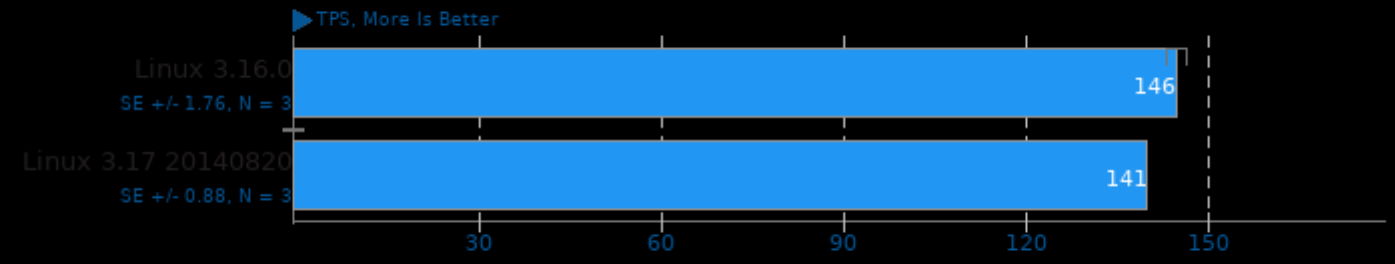
Test: MD5



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

PostMark 1.51

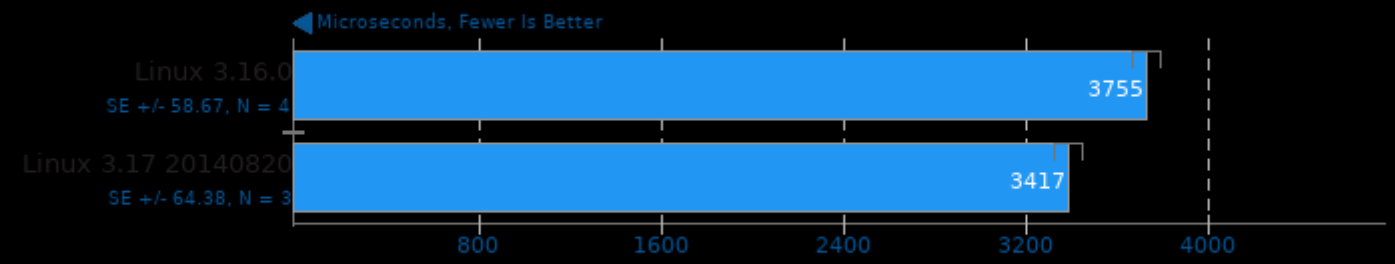
Disk Transaction Performance



1. (CC) gcc options: -O3

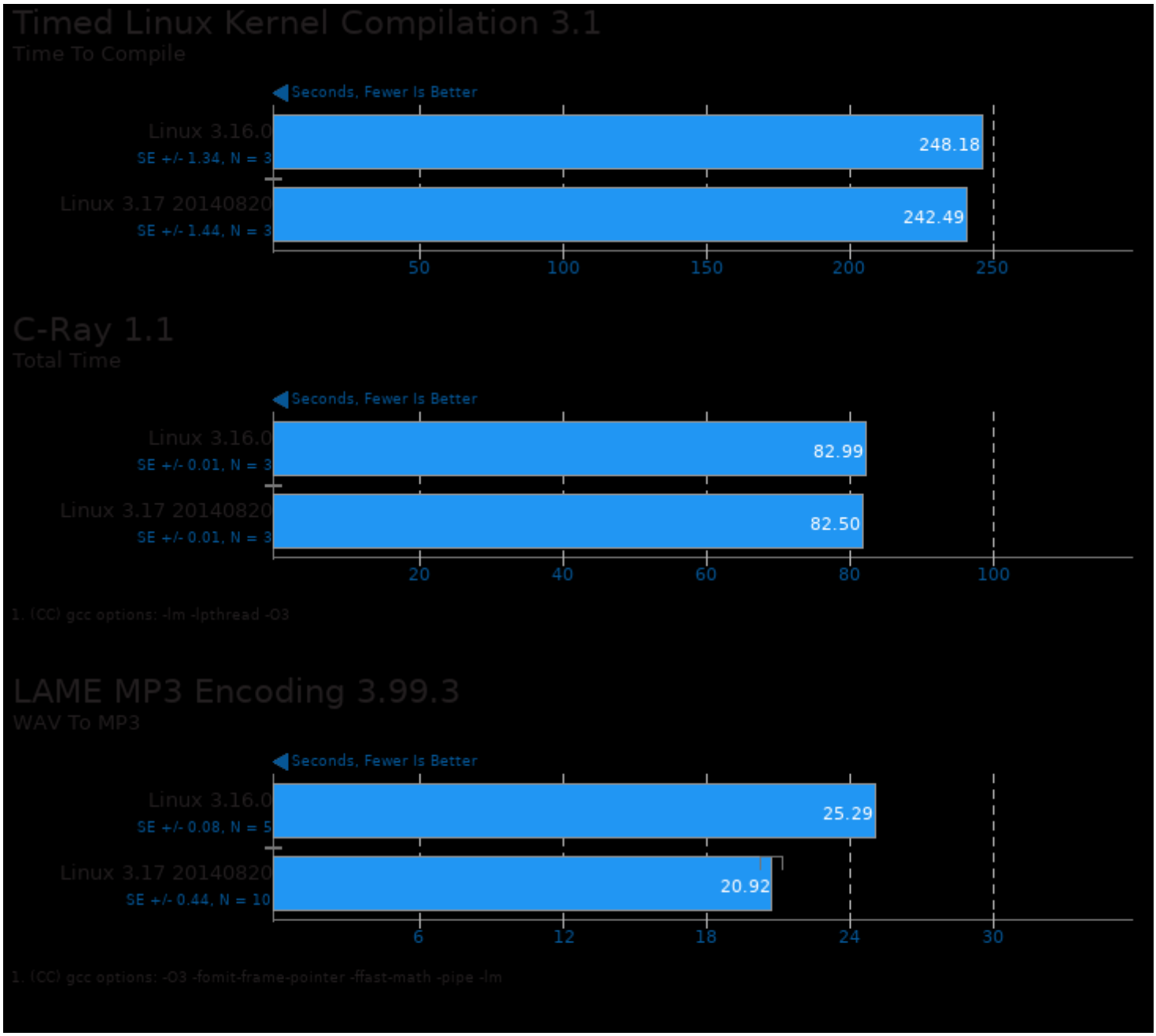
Gcrypt Library 1.4.4

CAMELLIA256-ECB Cipher



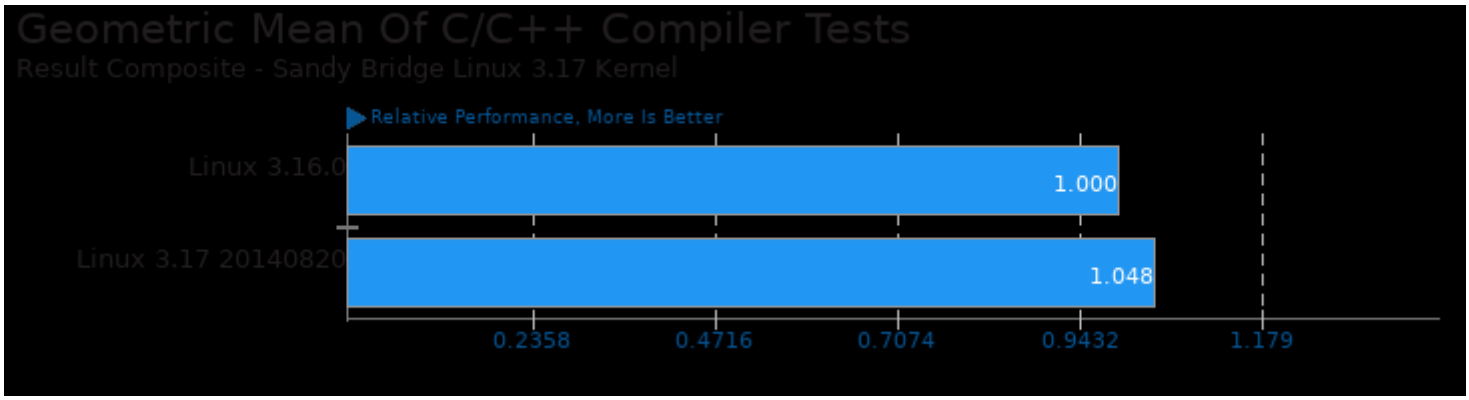
1. (CC) gcc options: -O2 -fvisibility=hidden

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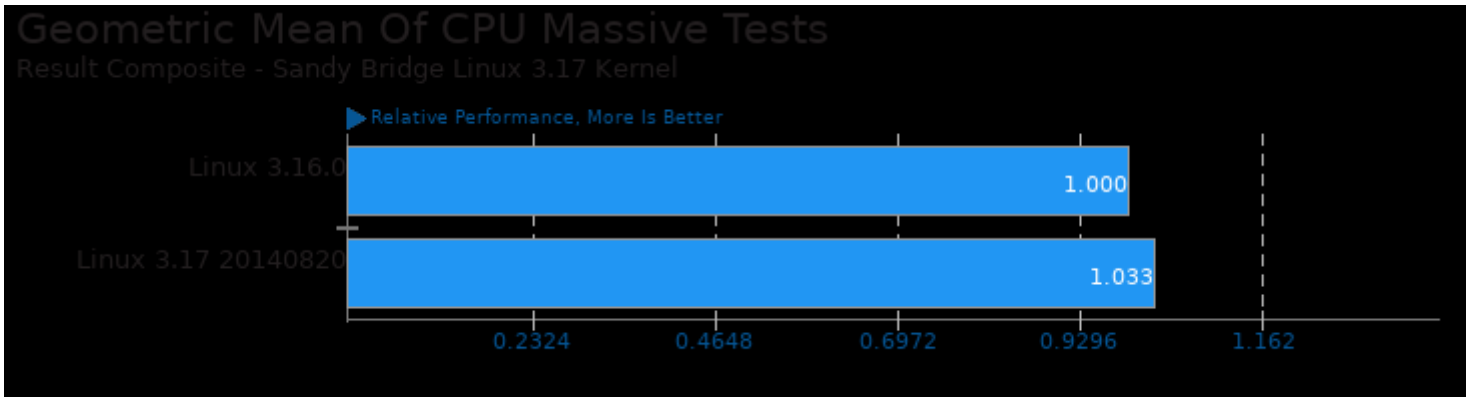


Sandy Bridge Linux 3.17 Kernel

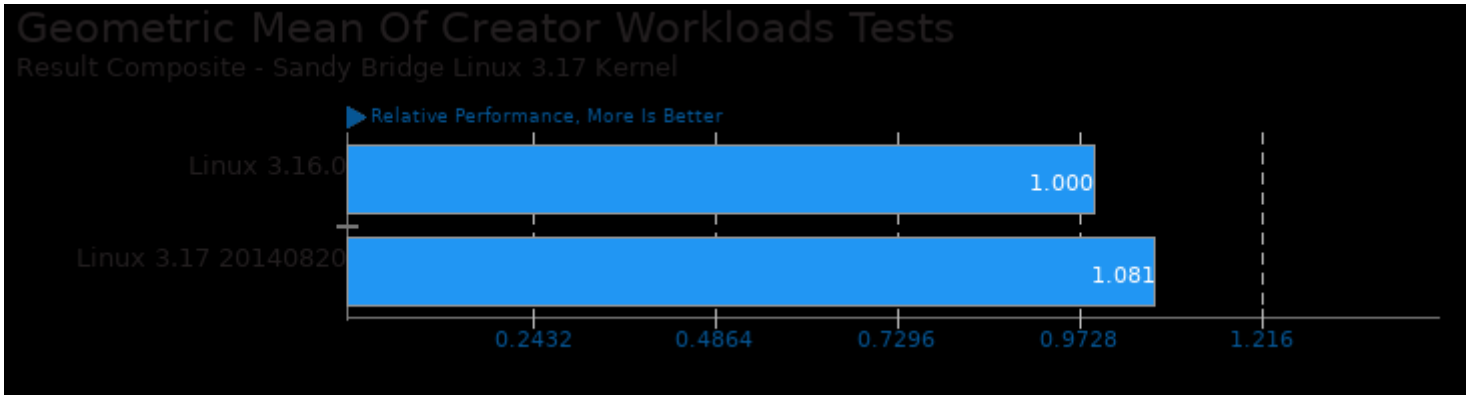
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/c-ray, pts/encode-mp3, pts/john-the-ripper and pts/x264

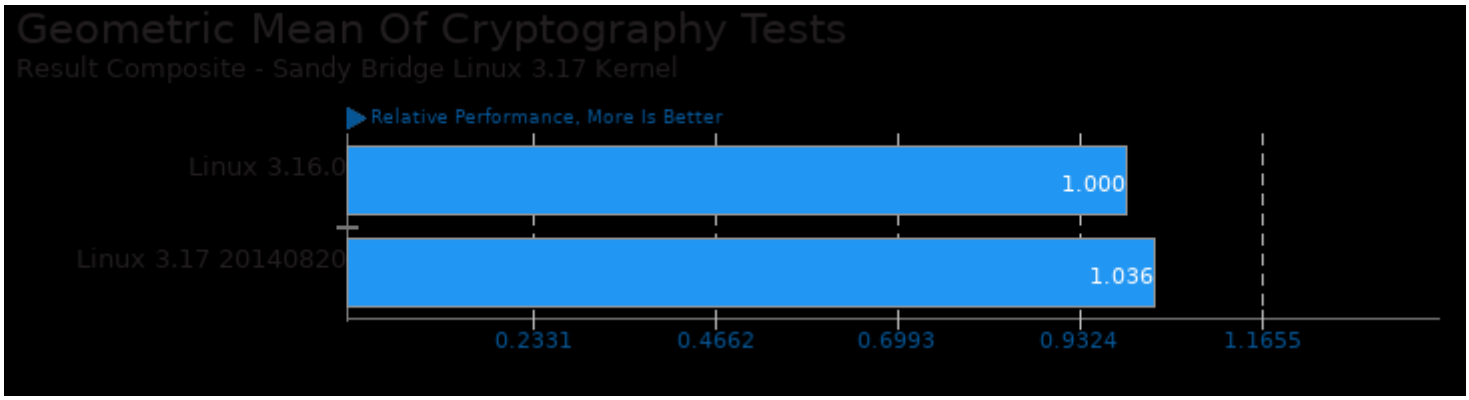


Geometric mean based upon tests: pts/build-linux-kernel, pts/c-ray, pts/compilebench, pts/x264, pts/encode-mp3 and pts/john-the-ripper

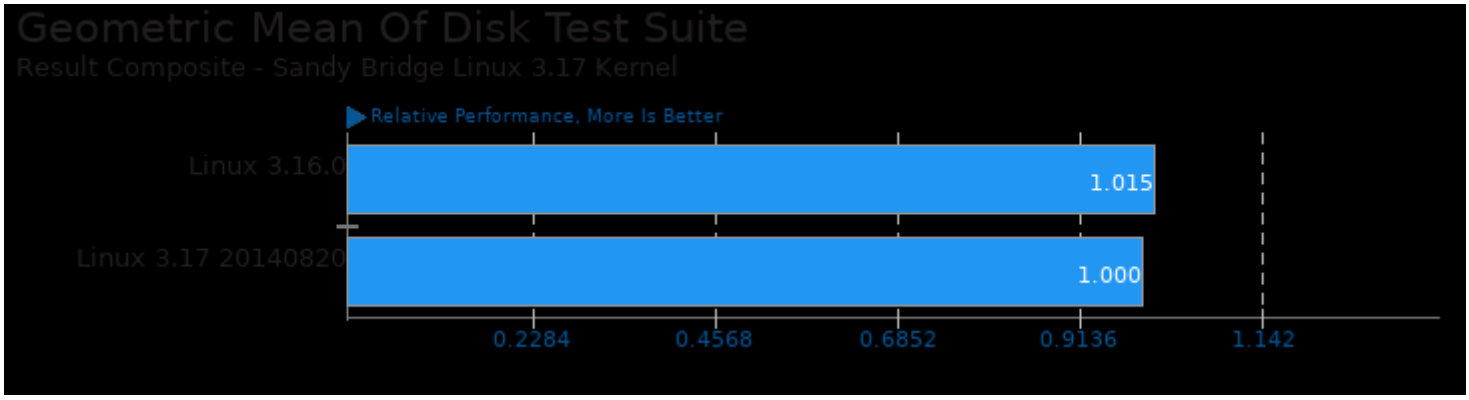


Geometric mean based upon tests: pts/c-ray, pts/x264 and pts/encode-mp3

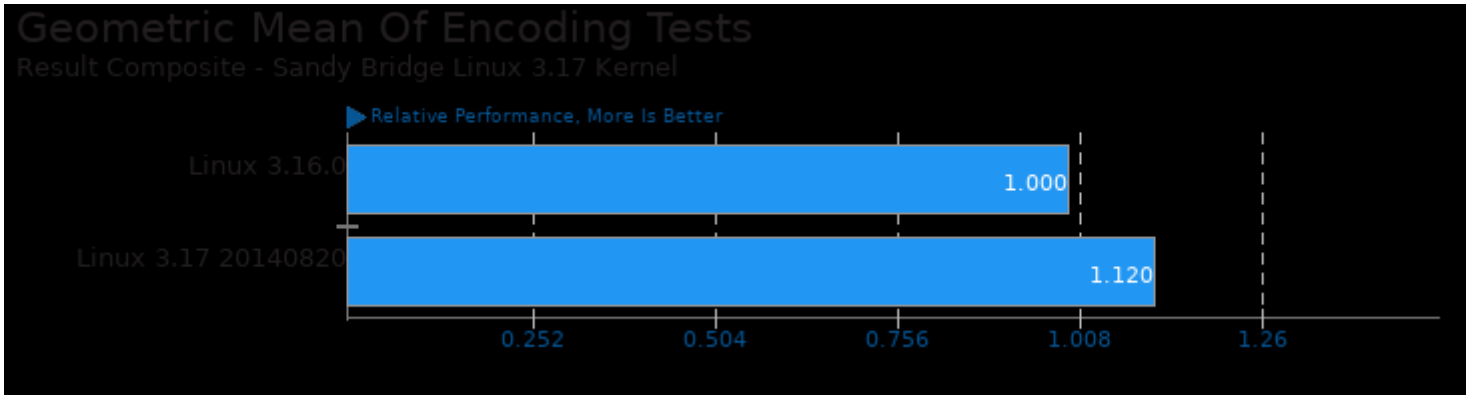
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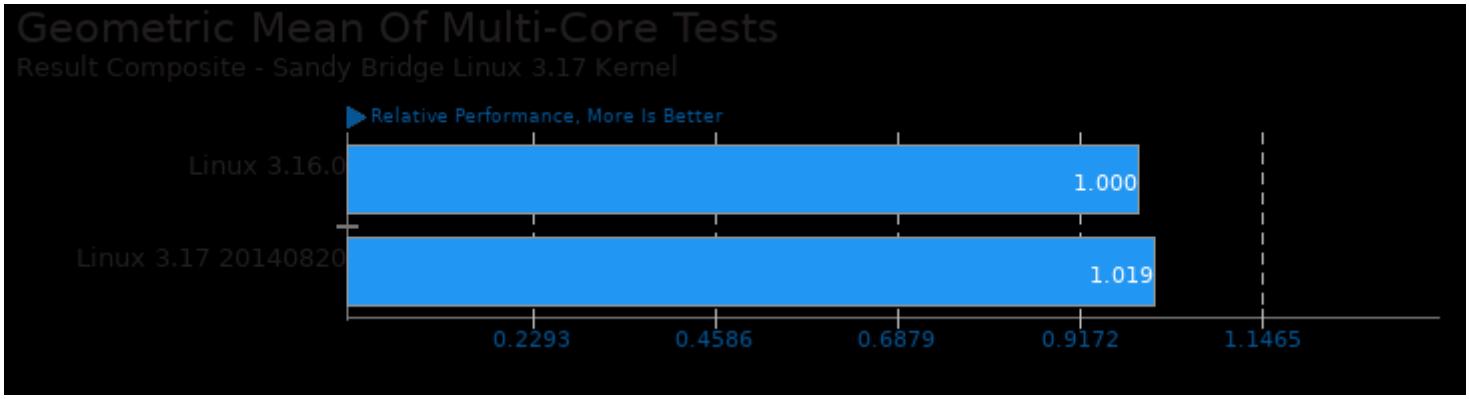
Geometric mean based upon tests: pts/gcrypt and pts/john-the-ripper



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

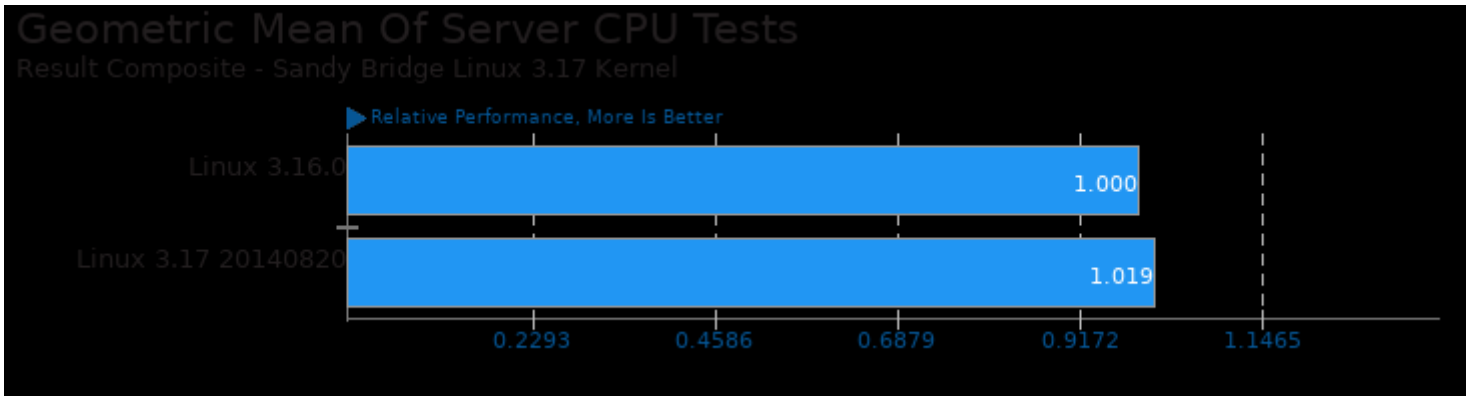


Geometric mean based upon tests: pts/encode-mp3 and pts/x264



Geometric mean based upon tests: pts/c-ray, pts/x264, pts/john-the-ripper and pts/build-linux-kernel

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Geometric mean based upon tests: pts/john-the-ripper, pts/x264, pts/build-linux-kernel and pts/c-ray

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