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CentOS 7.0 vs. Scientific Linux 7.0

CentOS 7 vs. Scientific 7.0 benchmarks by Michael Larabel for a future article on Phoronix.com... More coming!

Automated Executive Summary

Ubuntu 14.04 LTS had the most wins, coming in first place for 26% of the tests.

Based on the geometric mean of all complete results, the fastest (Fedora 20 + Updates) was 1.056x the speed of the slowest (Fedora 20). Ubuntu 14.04 LTS was 0.995x the speed of Fedora 20 + Updates, Scientific Linux 7.0 Alpha was 0.964x the speed of Ubuntu 14.04 LTS, CentOS 7.0.1406 was 0.991x the speed of Scientific Linux 7.0 Alpha, Fedora 20 was 0.996x the speed of CentOS 7.0.1406.

Test Systems:

Ubuntu 14.04 LTS

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: Gigabyte Z97-HD3, Chipset: Intel 4th Gen Core DRAM, Memory: 8192MB, Disk: 150GB Western Digital WD1500HLHX-0, Graphics: Intel HD 4600 (1250MHz), Audio:

Intel Xeon E3-1200 v3/4th, Network: Realtek RTL8111/8168/8411

OS: Ubuntu 14.04, Kernel: 3.13.0-24-generic (x86_64), Desktop: Unity 7.2.0, Display Server: X Server 1.15.1, Display Driver: intel 2.99.910, OpenGL: 3.3 Mesa 10.1.0, Compiler: GCC 4.8.2, File-System: ext4, Screen Resolution: 1280x800

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: acpi-cpufreq ondemand
Graphics Notes: SNA
System Notes: Disk Scheduler: DEADLINE.

Fedora 20

Processor: Intel Core i7-4770K @ 3.50GHz (8 Cores), Motherboard: Gigabyte Z97-HD3, Chipset: Intel 4th Gen Core DRAM, Memory: 8192MB, Disk: 150GB Western Digital WD1500HLHX-0, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Xeon E3-1200 v3/4th, Monitor: SyncMaster, Network: Realtek RTL8111/8168/8411

OS: Fedora 20, Kernel: 3.11.10-301.fc20.x86_64 (x86_64), Desktop: GNOME Shell 3.10.2.1, Display Server: X Server 1.14.4, Display Driver: intel 2.21.15, OpenGL: 3.1 Mesa 9.2.3, Compiler: GCC 4.8.3 20140624, File-System: ext4, Screen Resolution: 1280x800

Compiler Notes: --build=x86_64-redhat-linux --disable-dssi --disable-libjava-multilib --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-unique-object --enable-initfini-array --enable-java-awt=gtk --enable-java-maintainer-mode --enable-languages=c,c++,objc,obj-c++,java,fortran,ada,go,lto --enable-libgcj-multifile --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-linker-hash-style=gnu --with-tune=generic
Disk Notes: CFQ / data=ordered,relatime,rw,seclabel
Processor Notes: Scaling Governor: acpi-cpufreq ondemand
Graphics Notes: UXA
System Notes: Disk Scheduler: CFQ. SELinux: Enabled.

Fedora 20 + Updates

Processor: Intel Core i7-4770K @ 3.90GHz (8 Cores), Motherboard: Gigabyte Z97-HD3, Chipset: Intel 4th Gen Core DRAM, Memory: 8192MB, Disk: 150GB Western Digital WD1500HLHX-0, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Xeon E3-1200 v3/4th, Monitor: SyncMaster, Network: Realtek RTL8111/8168/8411

OS: Fedora 20, Kernel: 3.15.3-200.fc20.x86_64 (x86_64), Desktop: GNOME Shell 3.10.4, Display Server: X Server 1.14.4, Display Driver: intel 2.21.15, OpenGL: 3.3 Mesa 10.1.5, Compiler: GCC 4.8.3 20140624, File-System: ext4, Screen Resolution: 1280x800

Compiler Notes: --build=x86_64-redhat-linux --disable-dssi --disable-libjava-multilib --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-unique-object --enable-initfini-array --enable-java-awt=gtk --enable-java-maintainer-mode --enable-languages=c,c++,objc,obj-c++,java,fortran,ada,go,lto --enable-libgcj-multifile --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=i686 --with-linker-hash-style=gnu --with-tune=generic
Disk Notes: CFQ / data=ordered,relatime,rw,seclabel
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: UXA
System Notes: Disk Scheduler: CFQ. SELinux: Enabled.

CentOS 7.0.1406

Processor: Intel Core i7-4770K @ 3.90GHz (8 Cores), Motherboard: Gigabyte Z97-HD3, Chipset: Intel 4th Gen Core DRAM, Memory: 8192MB, Disk: 150GB Western Digital WD1500HLHX-0, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Xeon E3-1200 v3/4th, Monitor: SyncMaster, Network: Realtek RTL8111/8168/8411

OS: CentOS Linux 7.0.1406, Kernel: 3.10.0-123.4.2.el7.x86_64 (x86_64), Desktop: GNOME Shell 3.8.4, Display Server:

X Server 1.15.0, Display Driver: intel 2.21.15, OpenGL: 3.1 Mesa 9.2.5, Compiler: GCC 4.8.2 20140120, File-System: xfs, Screen Resolution: 1280x800

Compiler Notes: --build=x86_64-redhat-linux --disable-libgcj --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,objc,obj-c++,java,fortran,ada,go,lto --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-linker-hash-style=gnu --with-tune=generic
Disk Notes: CFQ / attr2,inode64,noquota,relatime,rw,seclabel
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: UXA
System Notes: Disk Scheduler: CFQ. SELinux: Enabled.

Scientific Linux 7.0 Alpha

Processor: Intel Core i7-4770K @ 3.90GHz (8 Cores), Motherboard: Gigabyte Z97-HD3, Chipset: Intel 4th Gen Core DRAM, Memory: 8192MB, Disk: 150GB Western Digital WD1500HLHX-0, Graphics: Intel HD 4600 (1250MHz), Audio: Intel Xeon E3-1200 v3/4th, Monitor: SyncMaster, Network: Realtek RTL8111/8168/8411

OS: Scientific 7.0, Kernel: 3.10.0-123.4.2.el7.x86_64 (x86_64), Desktop: GNOME Shell 3.8.4, Display Server: X Server 1.15.0, Display Driver: intel 2.21.15, OpenGL: 3.1 Mesa 9.2.5, Compiler: GCC 4.8.2 20140120, File-System: xfs, Screen Resolution: 1280x800

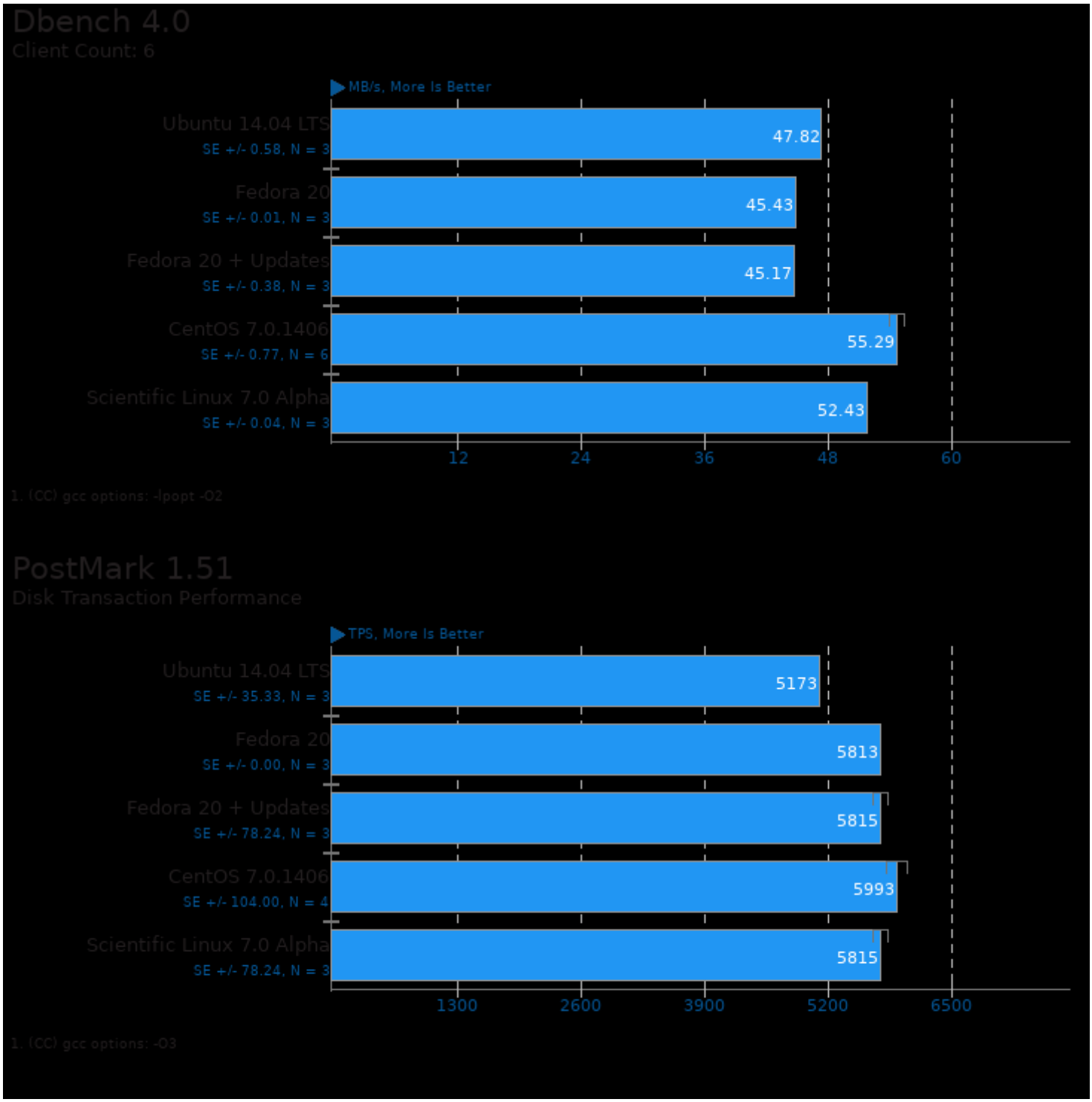
Compiler Notes: --build=x86_64-redhat-linux --disable-libgcj --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,objc,obj-c++,java,fortran,ada,go,lto --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-linker-hash-style=gnu --with-tune=generic
Disk Notes: CFQ / attr2,inode64,noquota,relatime,rw,seclabel
Processor Notes: Scaling Governor: intel_pstate powersave
Graphics Notes: UXA
System Notes: Disk Scheduler: CFQ. SELinux: Enabled.

	Ubuntu 14.04 LTS	Fedora 20	Fedora 20 + Updates	CentOS 7.0.1406	Scientific Linux 7.0 Alpha
Dbench - 6 (MB/s)	47.82	45.43	**45.17**	**55.29**	52.43
Normalized	86.49%	82.17%	81.7%	100%	94.83%
Standard Deviation	2.1%	0%	1.5%	3.4%	0.1%
PostMark - D.T.P (TPS)	**5173**	5813	5815	**5993**	5815
Normalized	86.32%	97%	97.03%	100%	97.03%
Standard Deviation	1.2%	0%	2.3%	3.5%	2.3%
OpenArena - 1280 x 800 (FPS)	**56.08**	54.83	55.37	**52.93**	54.20
Normalized	100%	97.77%	98.73%	94.38%	96.65%
Standard Deviation	3.3%	0.9%	1.7%	1.9%	0.3%
Xonotic - 1280 x 800 - Low (FPS)	**154.47**	156.40	**204.07**	164.19	179.69
Normalized	75.69%	76.64%	100%	80.46%	88.05%
Standard Deviation	0.5%	16.4%	0.9%	0.3%	14%
Xonotic - 1280 x 800 - High (FPS)	95.15	**88.31**	**101.01**	95.54	95.71
Normalized	94.2%	87.43%	100%	94.58%	94.75%
Standard Deviation	0.5%	5.8%	3.4%	0.2%	3.4%
Xonotic - 1280 x 800 - Ultra (FPS)	80.88	**67.18**	**82.77**	72.06	71.86
Normalized	97.72%	81.16%	100%	87.06%	86.82%
Standard Deviation	3.7%	2.3%	2.5%	1.7%	1.5%
FFTE - N.6.1.C.F.R (MFLOPS)	6070	6069	**6069**	**6074**	6071
Normalized	99.93%	99.92%	99.91%	100%	99.95%
Standard Deviation	0%	0%	0%	0%	0.1%

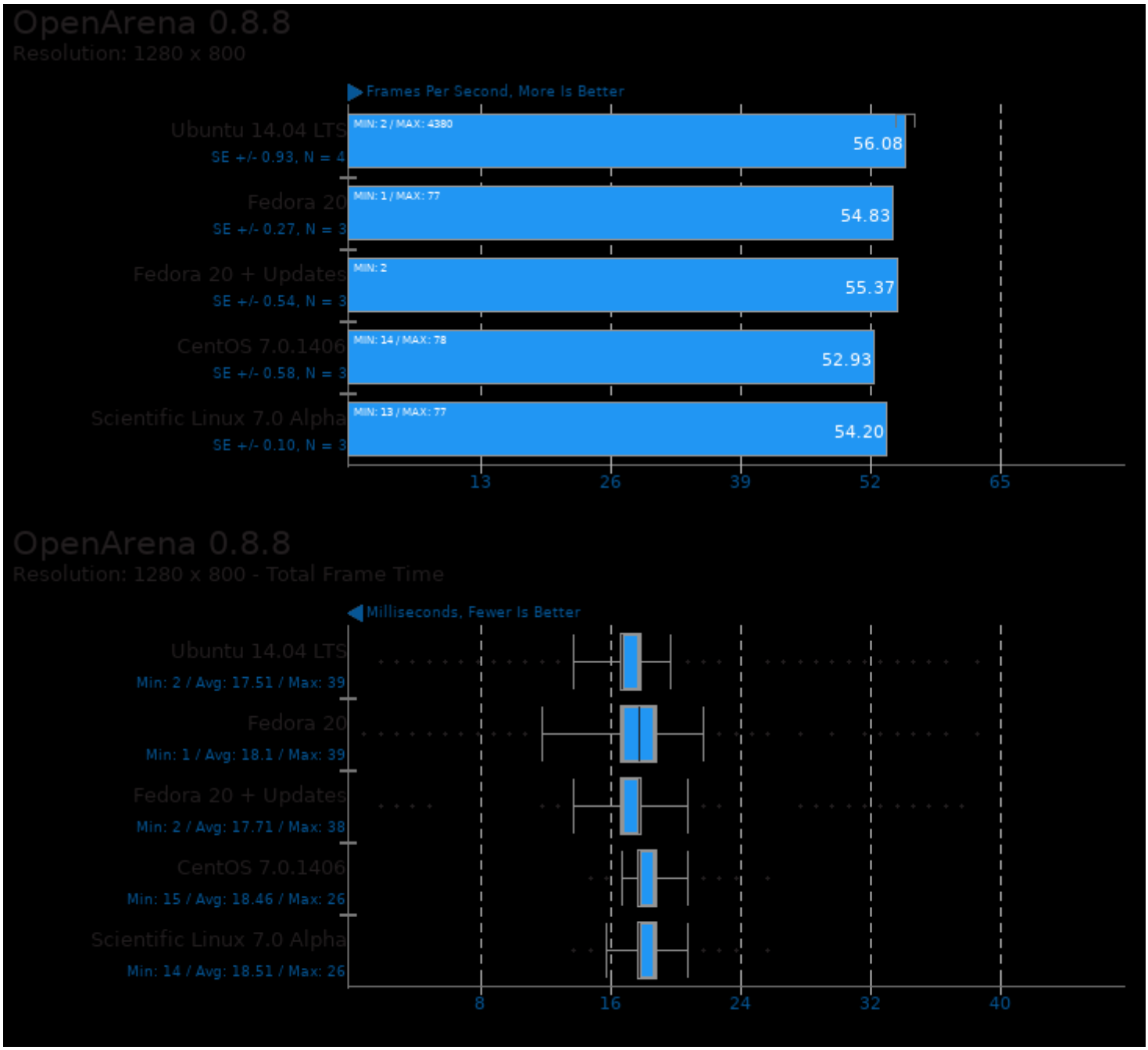
CentOS 7.0 vs. Scientific Linux 7.0

Himeno Benchmark - P.P.S (MFLOPS)	1719	1718	1668	1693	1670
Normalized	100%	99.97%	97.07%	98.48%	97.17%
Standard Deviation	0.1%	0.1%	3.3%	2.4%	6.9%
Timed ImageMagick Compilation - Time To Compile (sec)	54.55	47.55	47.66	49.10	51.73
Normalized	87.17%	100%	99.77%	96.84%	91.92%
Standard Deviation	0.5%	0.3%	0.2%	0.3%	0.3%
Timed Linux Kernel Compilation - Time To Compile (sec)	72.82	65.86	66.50	67.88	66.61
Normalized	90.44%	100%	99.04%	97.02%	98.87%
Standard Deviation	1.2%	1.3%	1.3%	1.1%	0.9%
C-Ray - Total Time (sec)	21.70	21.77	21.71	21.70	21.71
Normalized	100%	99.68%	99.95%	100%	99.95%
Standard Deviation	0%	0.2%	0.1%	0%	0%
Parallel BZIP2 Compression - 2.F.C (sec)	7.63	7.49	7.94	8.31	7.50
Normalized	98.17%	100%	94.33%	90.13%	99.87%
Standard Deviation	3.4%	2.4%	10.5%	14.9%	1.8%
FLAC Audio Encoding - WAV To FLAC (sec)	4.53	4.52	4.52	4.52	4.52
Normalized	99.78%	100%	100%	100%	100%
Standard Deviation	0.5%	0.5%	0.5%	1.1%	0.6%
LAME MP3 Encoding - WAV To MP3 (sec)	12.15	12.35	12.28	12.14	12.11
Normalized	99.67%	98.06%	98.62%	99.75%	100%
Standard Deviation	0.1%	1.1%	0.7%	0.1%	0.1%
Apache Benchmark - S.W.P.S (Reqs/sec)	37803	17370	23314	14730	15442
Normalized	100%	45.95%	61.67%	38.97%	40.85%
Standard Deviation	1.4%	0.6%	0.7%	0.4%	0.2%

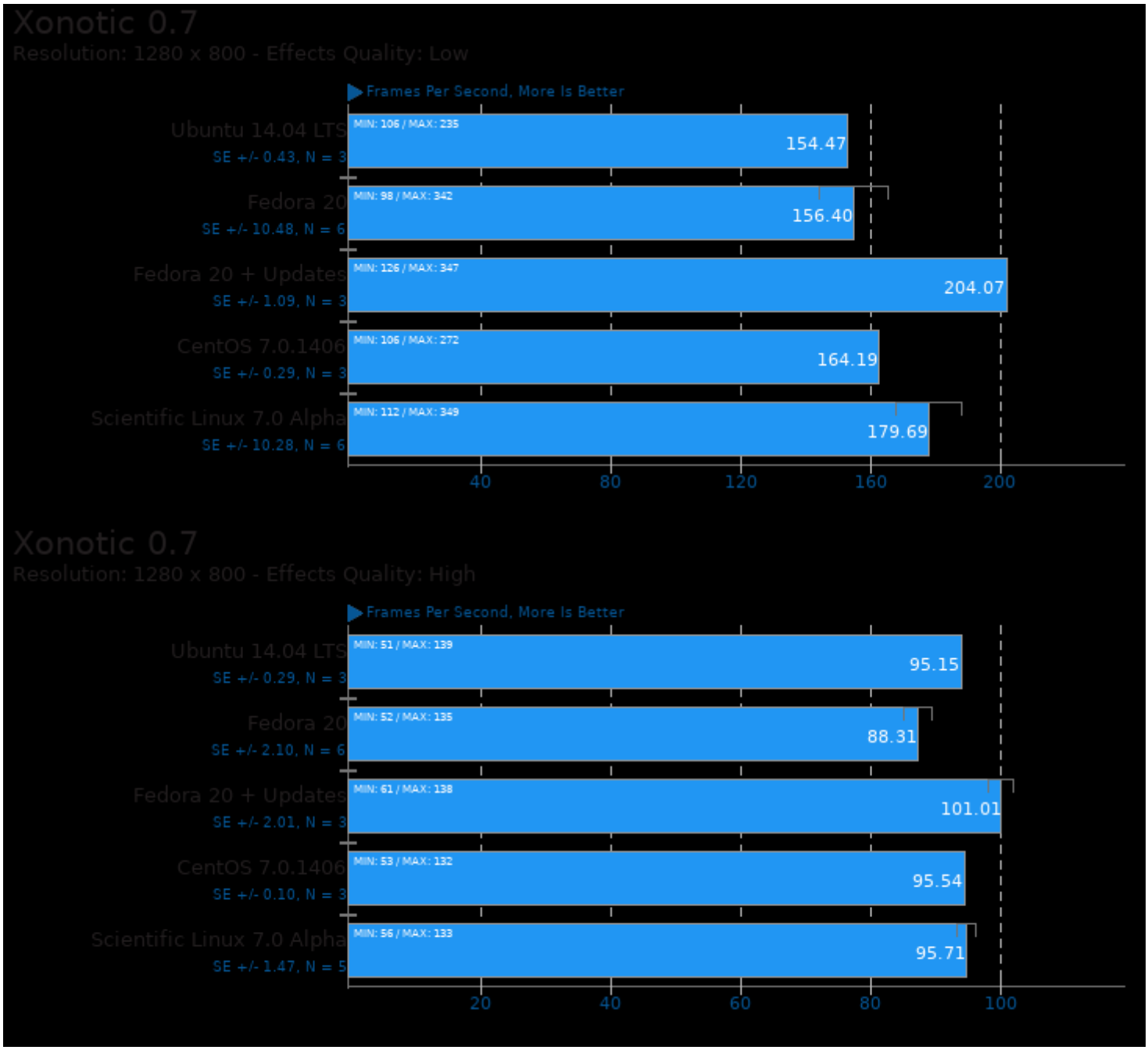
CentOS 7.0 vs. Scientific Linux 7.0



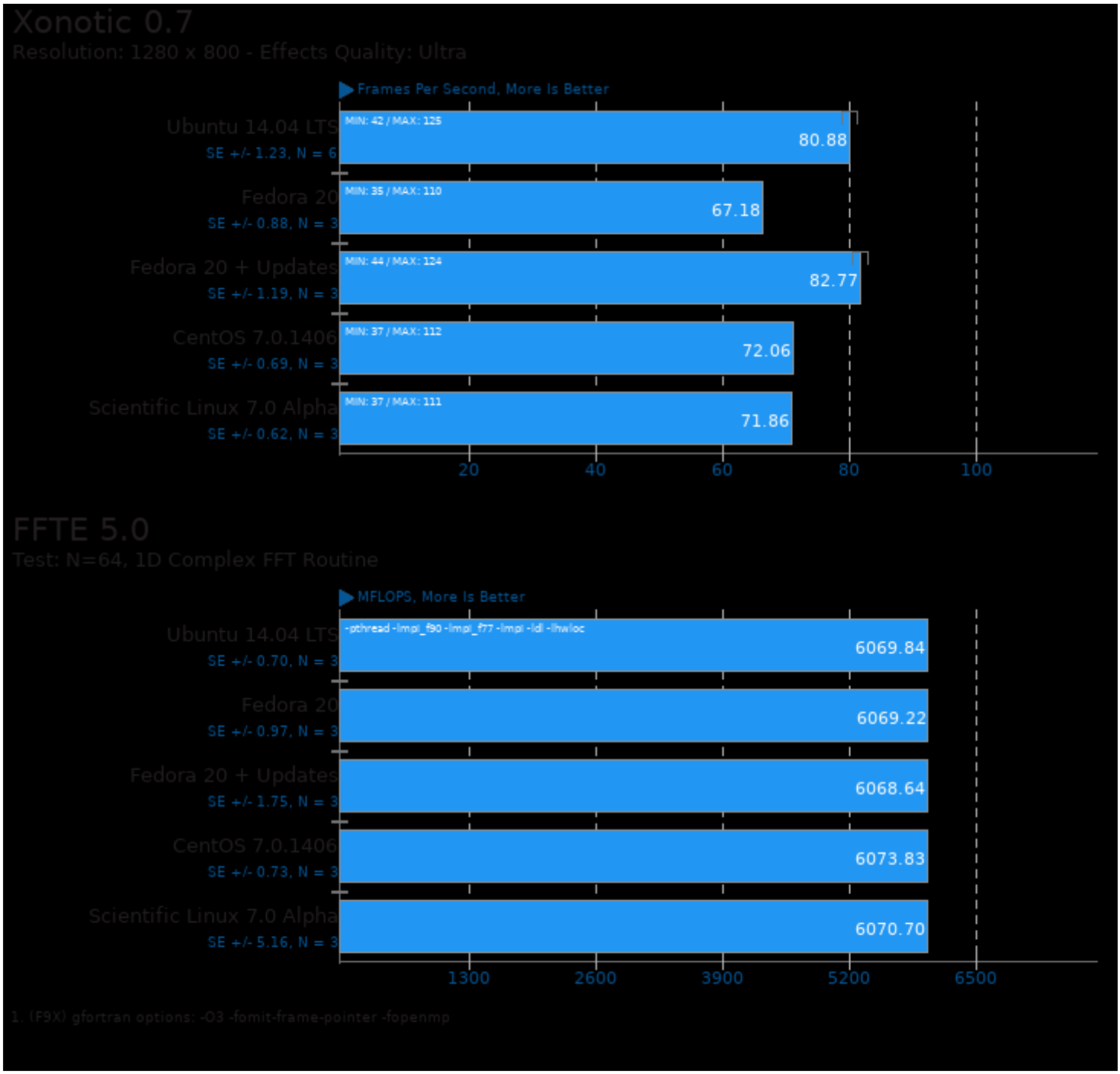
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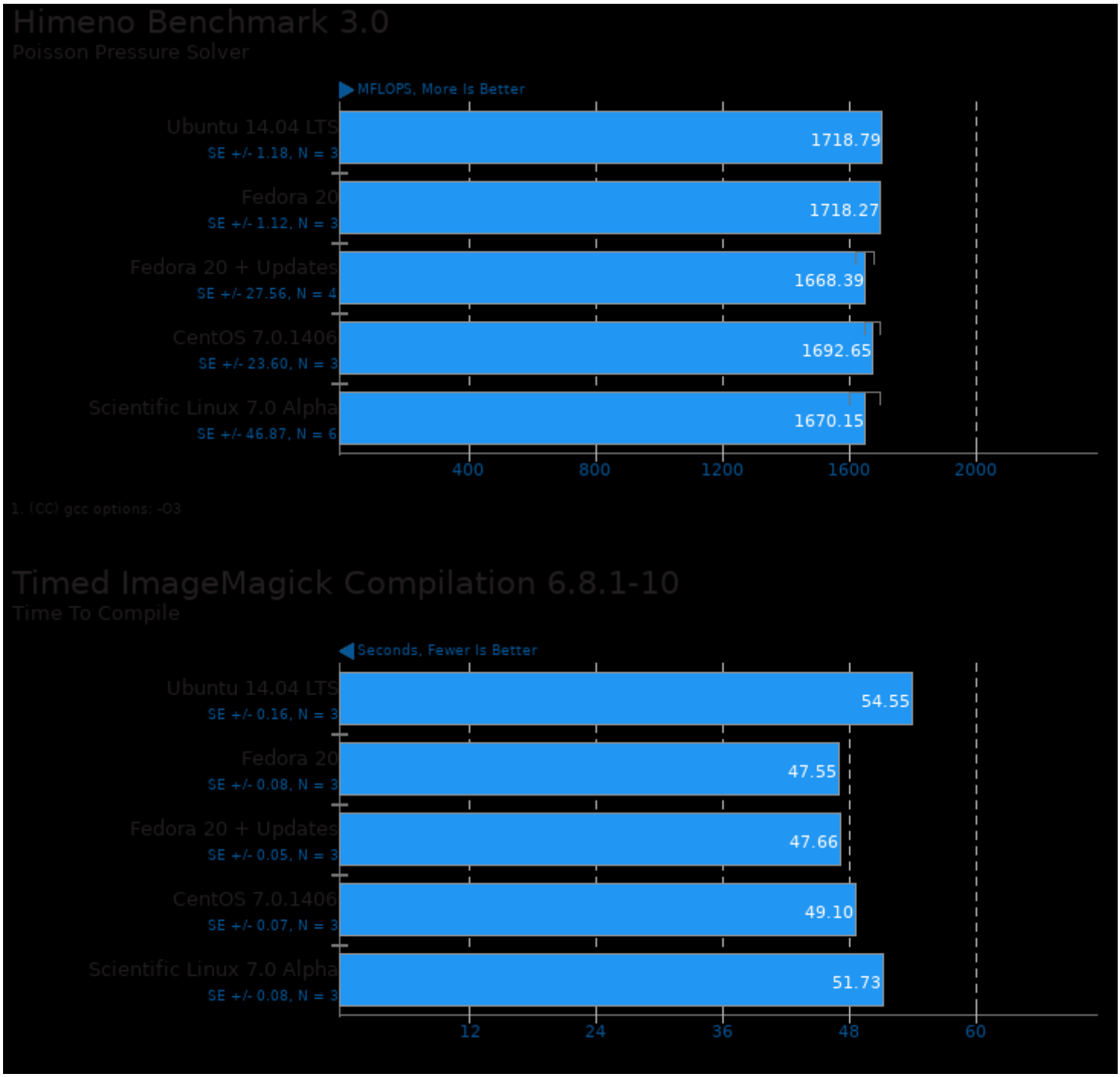
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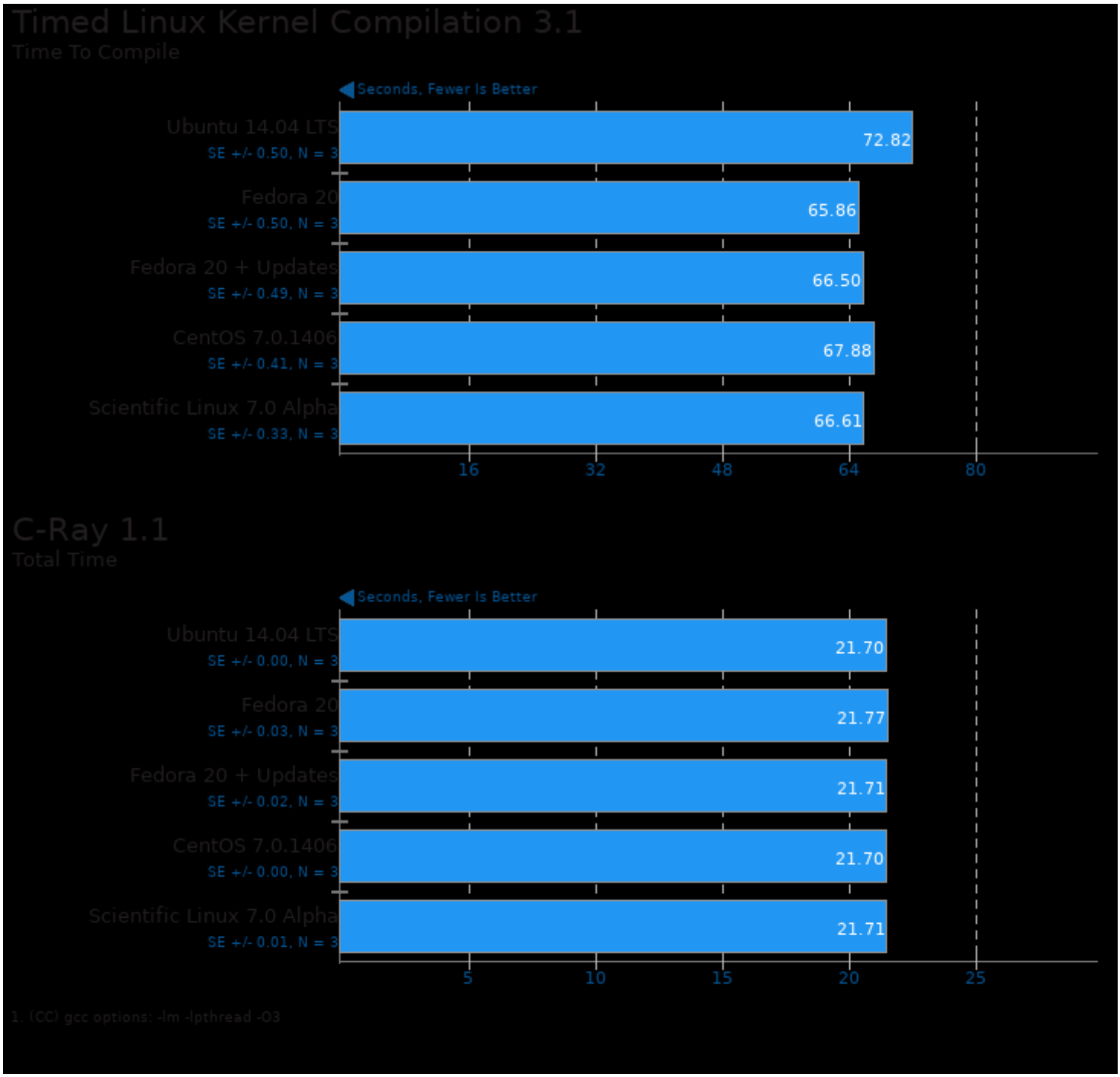
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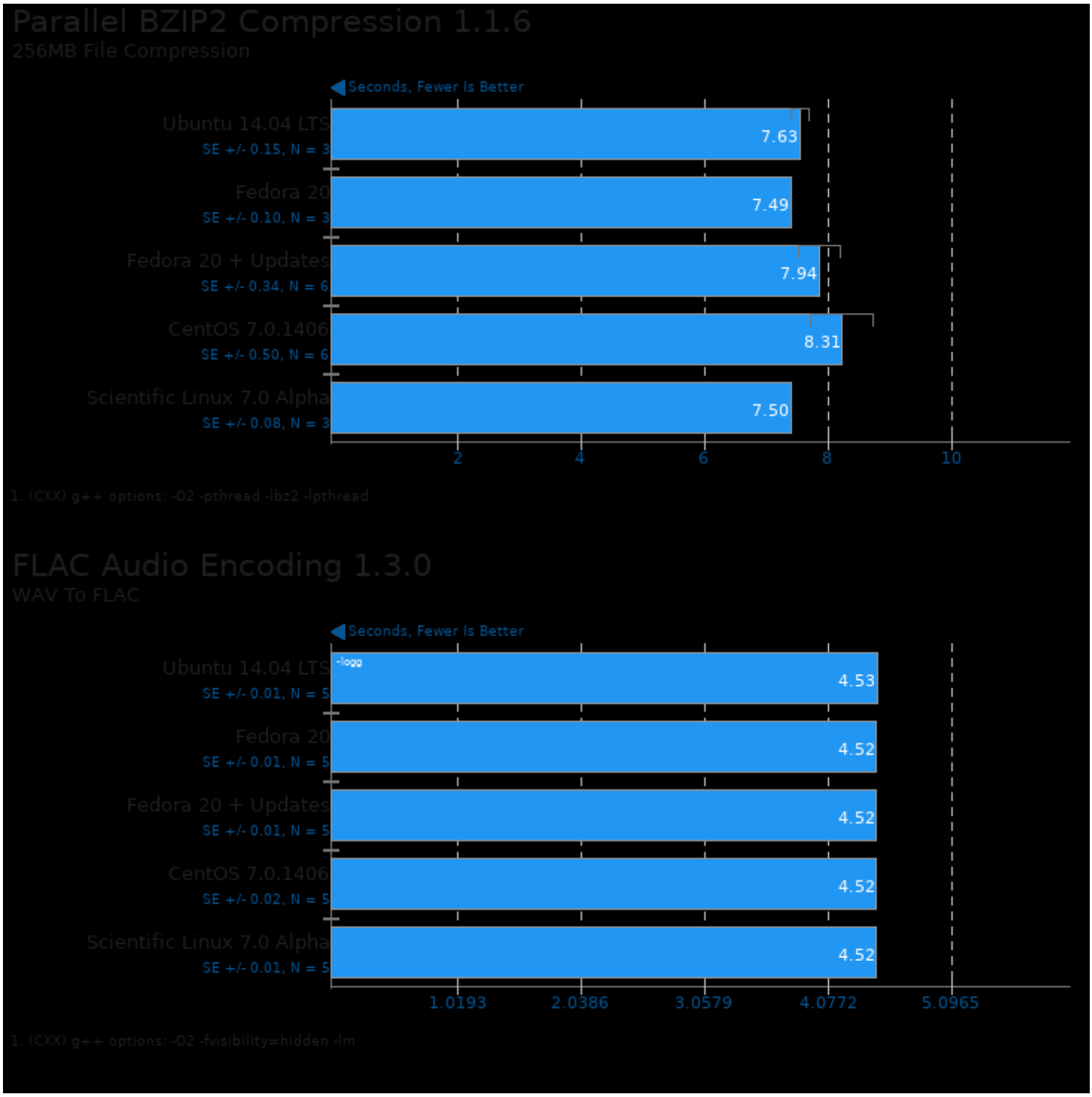


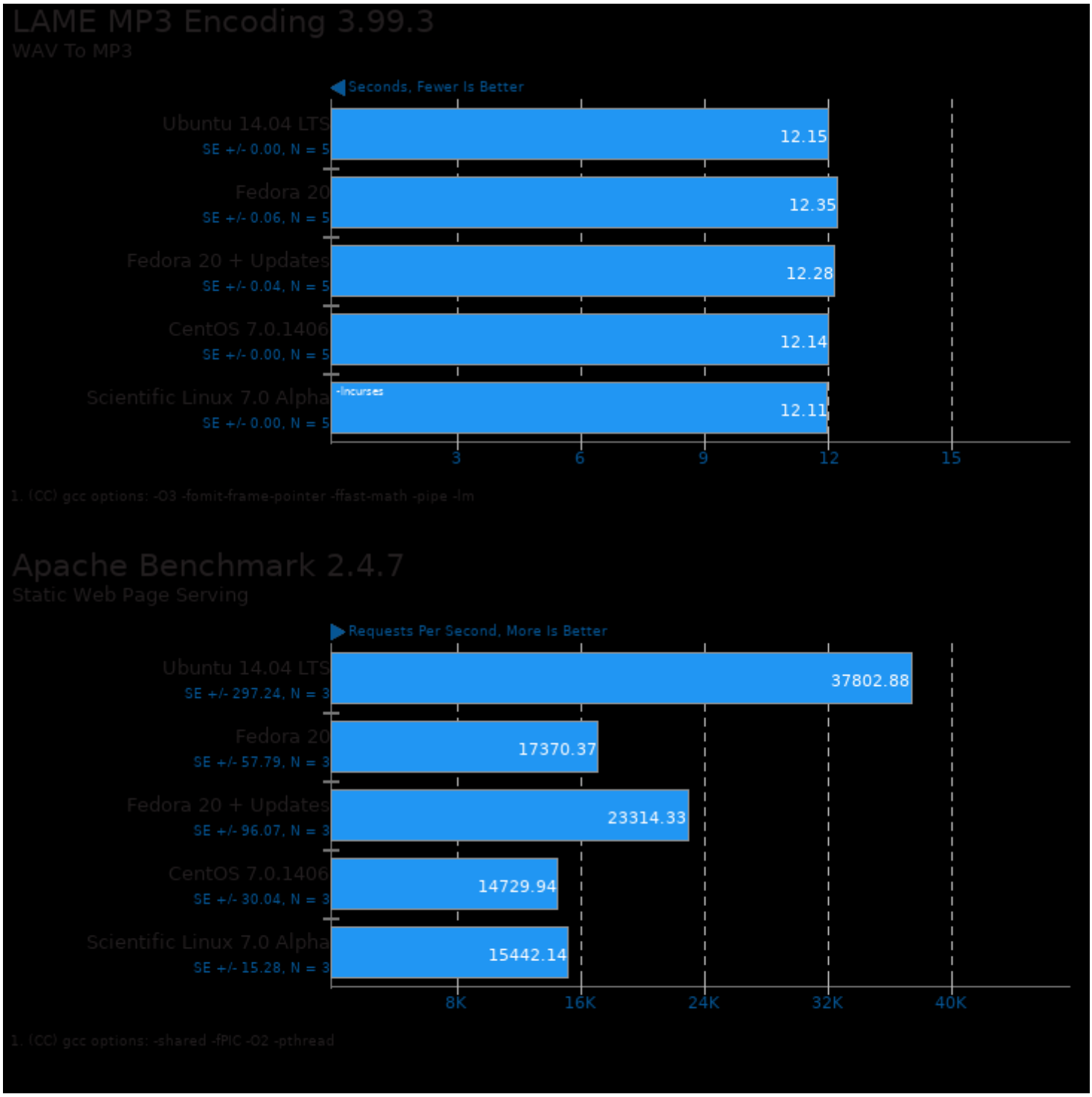
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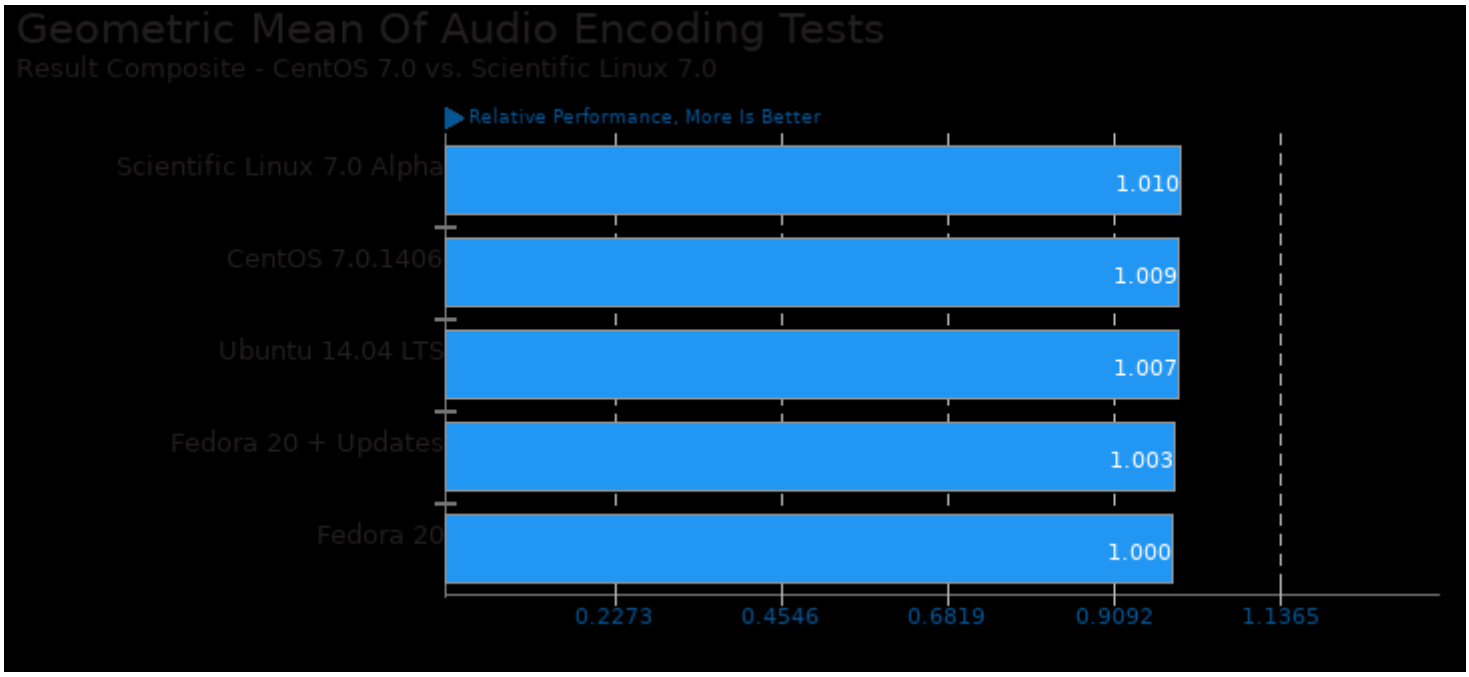
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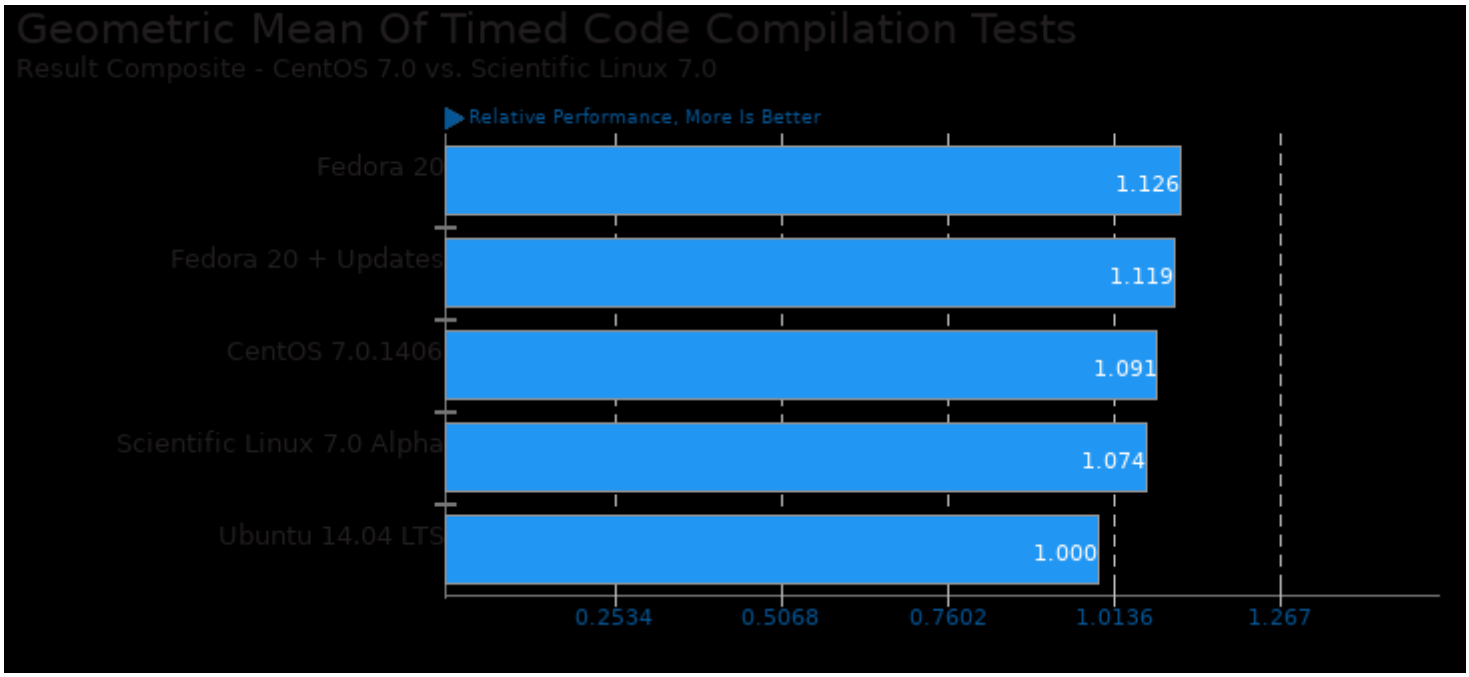

Parallel BZIP2 Compression 1.1.6
256MB File Compression
Seconds, Fewer Is Better
Ubuntu 14.04 LTS
SE +/- 0.15, N = 3
7.63
Fedora 20
SE +/- 0.10, N = 3
7.49
Fedora 20 + Updates
SE +/- 0.34, N = 6
7.94
CentOS 7.0.1406
SE +/- 0.50, N = 6
8.31
Scientific Linux 7.0 Alpha
SE +/- 0.08, N = 3
7.50
2
4
6
8
10
1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread
FLAC Audio Encoding 1.3.0
WAV To FLAC
Seconds, Fewer Is Better
-logg
Ubuntu 14.04 LTS
SE +/- 0.01, N = 5
4.53
Fedora 20
SE +/- 0.01, N = 5
4.52
Fedora 20 + Updates
SE +/- 0.01, N = 5
4.52
CentOS 7.0.1406
SE +/- 0.02, N = 5
4.52
Scientific Linux 7.0 Alpha
SE +/- 0.01, N = 5
4.52
1.0193
2.0386
3.0579
4.0772
5.0965
1. (CXX) g++ options: -O2 -fvisibility=hidden -lm


LAME MP3 Encoding 3.99.3
WAV To MP3
Seconds, Fewer Is Better
Ubuntu 14.04 LTS
SE +/- 0.00, N = 5
12.15
Fedora 20
SE +/- 0.06, N = 5
12.35
Fedora 20 + Updates
SE +/- 0.04, N = 5
12.28
CentOS 7.0.1406
SE +/- 0.00, N = 5
12.14
Scientific Linux 7.0 Alpha
SE +/- 0.00, N = 5
-lncurses
12.11
3
6
9
12
15
1. (CC) gcc options: -O3 -fomit-frame-pointer -ffast-math -pipe -lm
Apache Benchmark 2.4.7
Static Web Page Serving
Requests Per Second, More Is Better
Ubuntu 14.04 LTS
SE +/- 297.24, N = 3
37802.88
Fedora 20
SE +/- 57.79, N = 3
17370.37
Fedora 20 + Updates
SE +/- 96.07, N = 3
23314.33
CentOS 7.0.1406
SE +/- 30.04, N = 3
14729.94
Scientific Linux 7.0 Alpha
SE +/- 15.28, N = 3
15442.14
8K
16K
24K
32K
40K
1. (CC) gcc options: -shared -fPIC -O2 -pthread

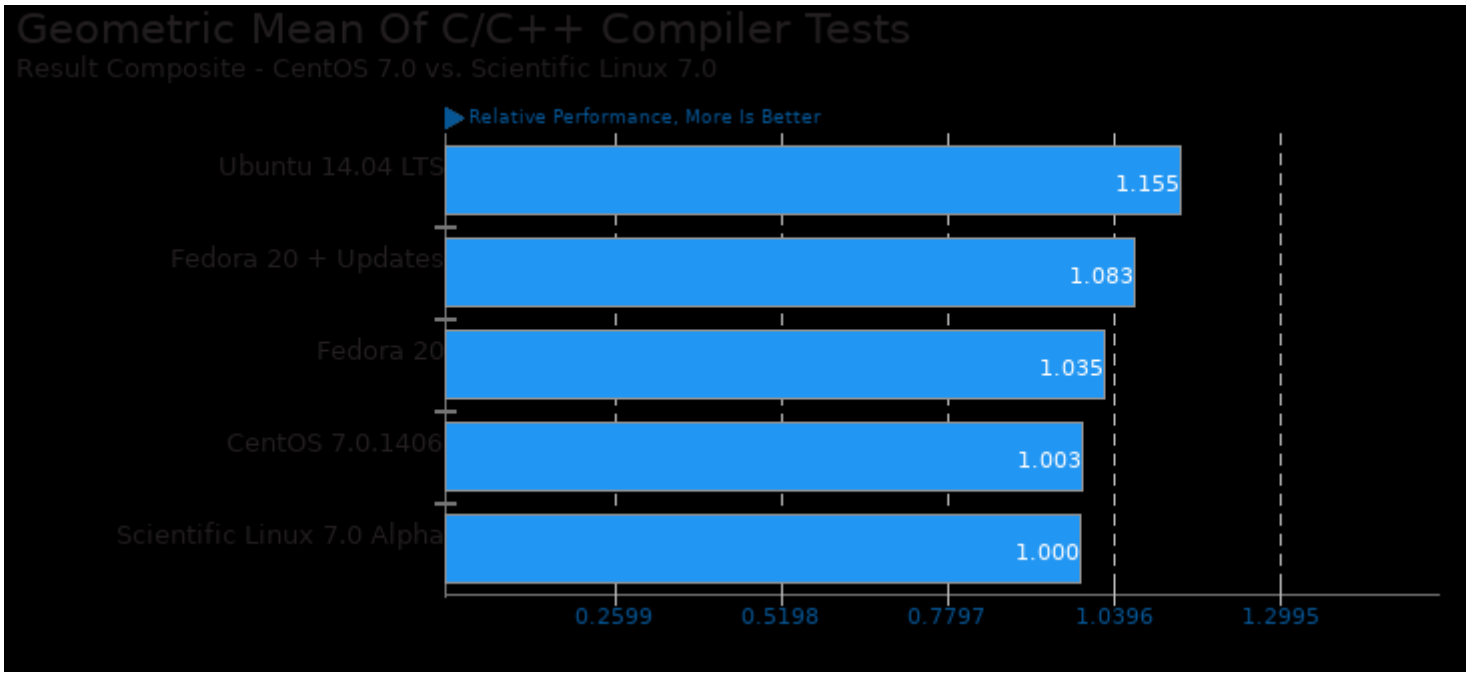
These geometric means are based upon test groupings / test suites for this result file.



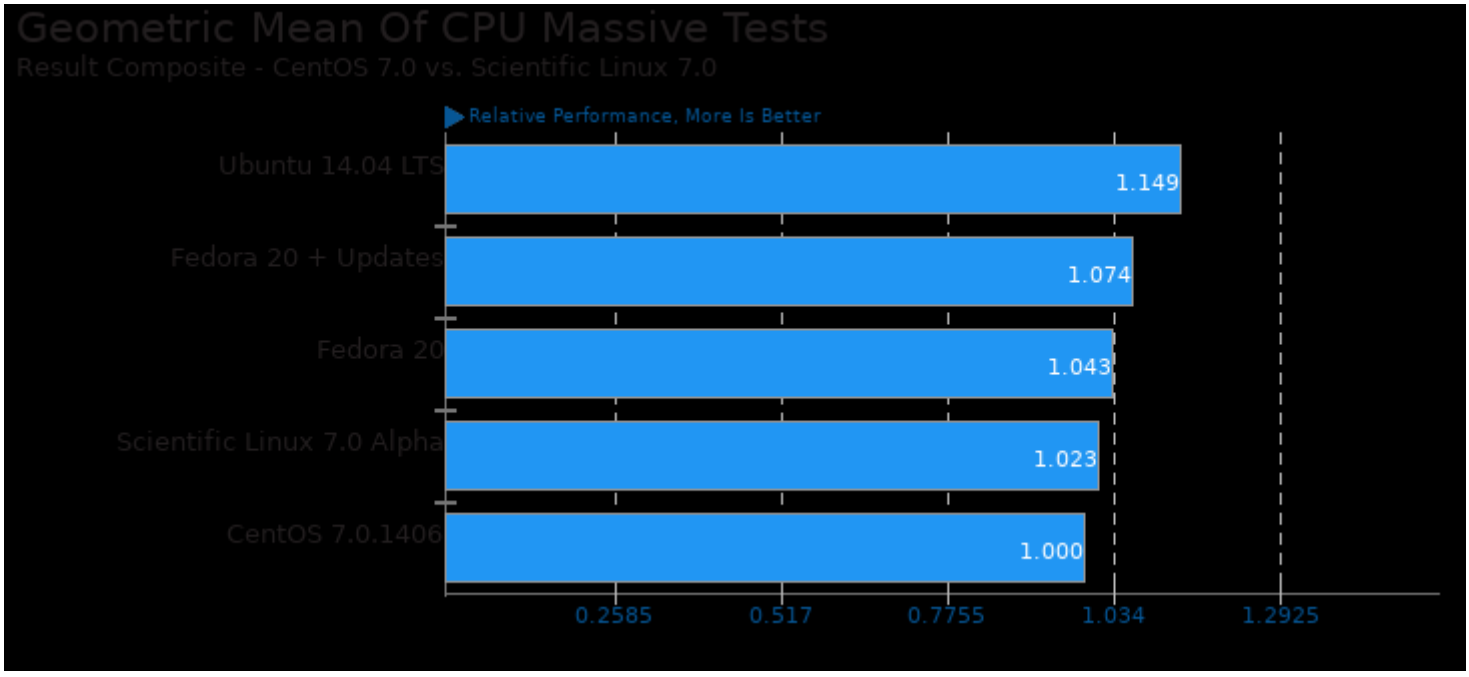
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



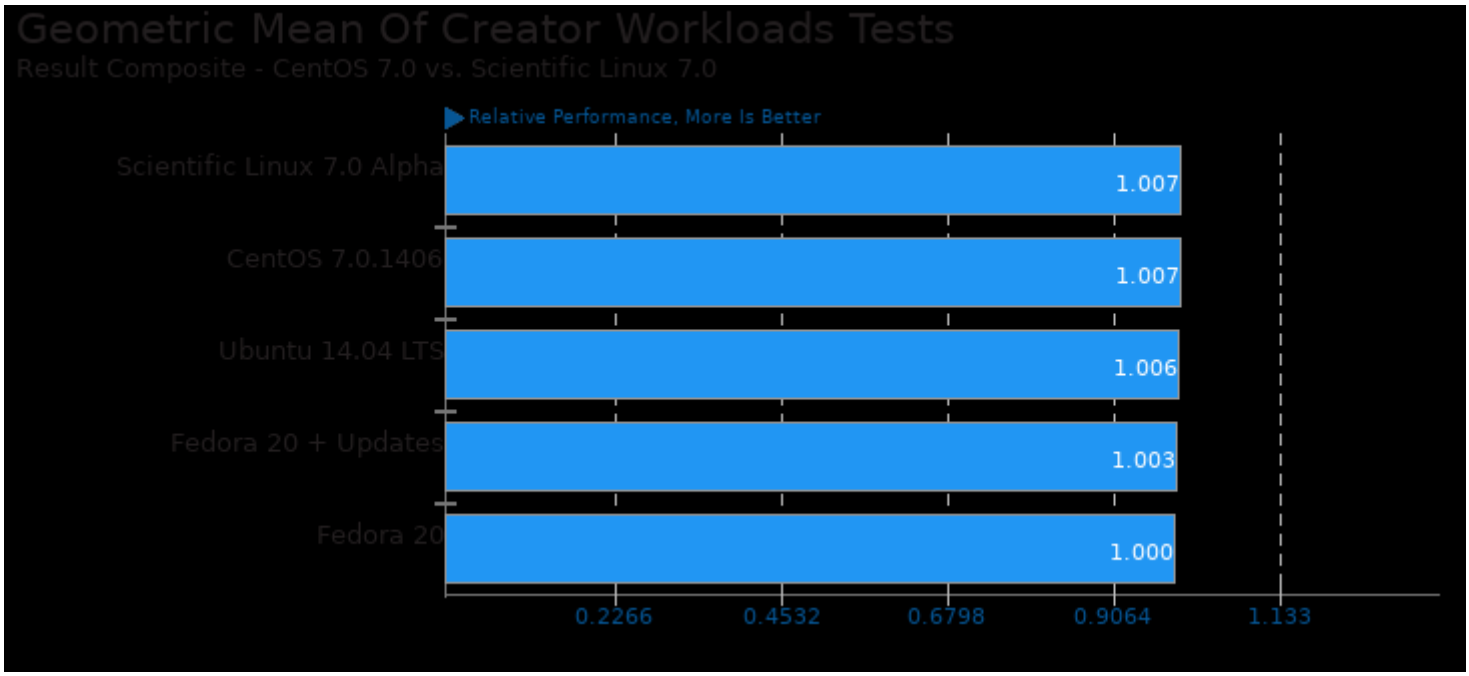
Geometric mean based upon tests: pts/build-linux-kernel and pts/build-imagemagick



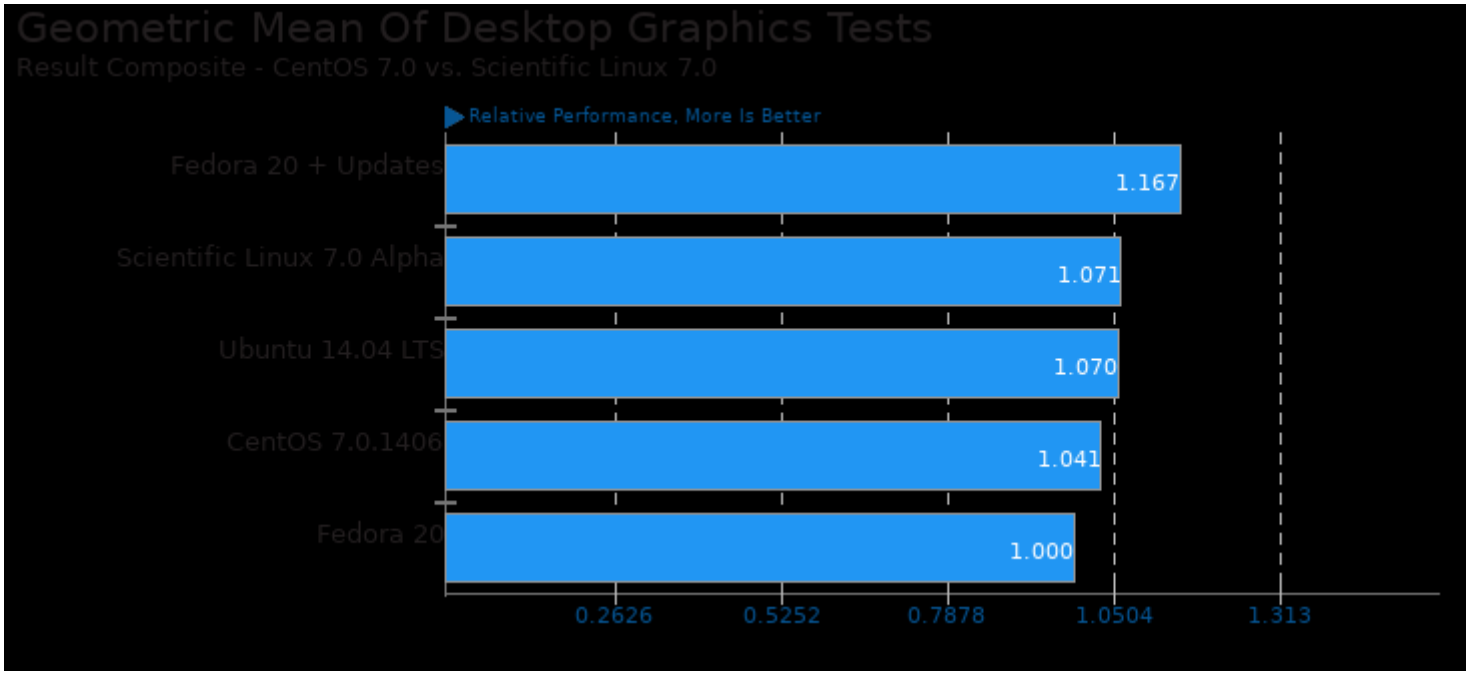
Geometric mean based upon tests: pts/himeno, pts/build-imagemagick, pts/c-ray, pts/encode-mp3, pts/encode-flac and pts/apache



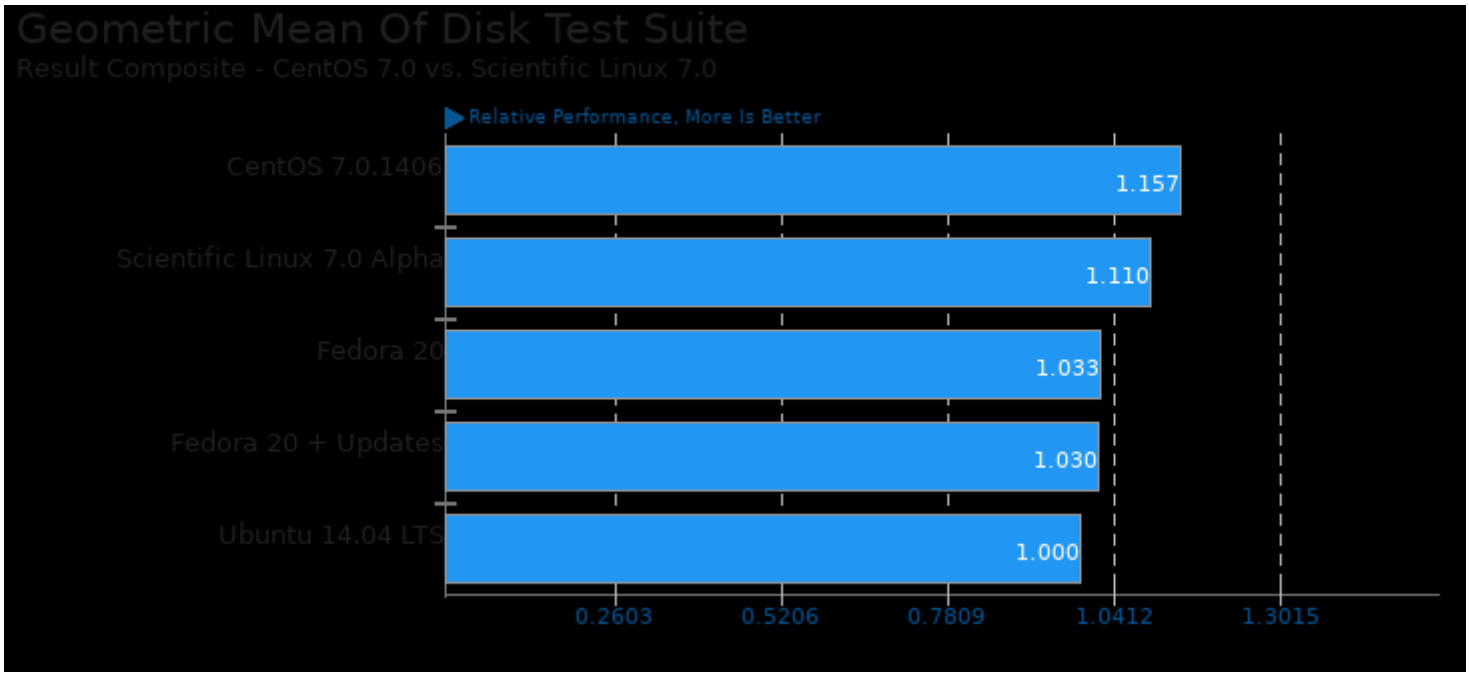
Geometric mean based upon tests: pts/apache, pts/build-linux-kernel, pts/c-ray, pts/compress-pbzip2, pts/encode-flac, pts/encode-mp3 and pts/himeno



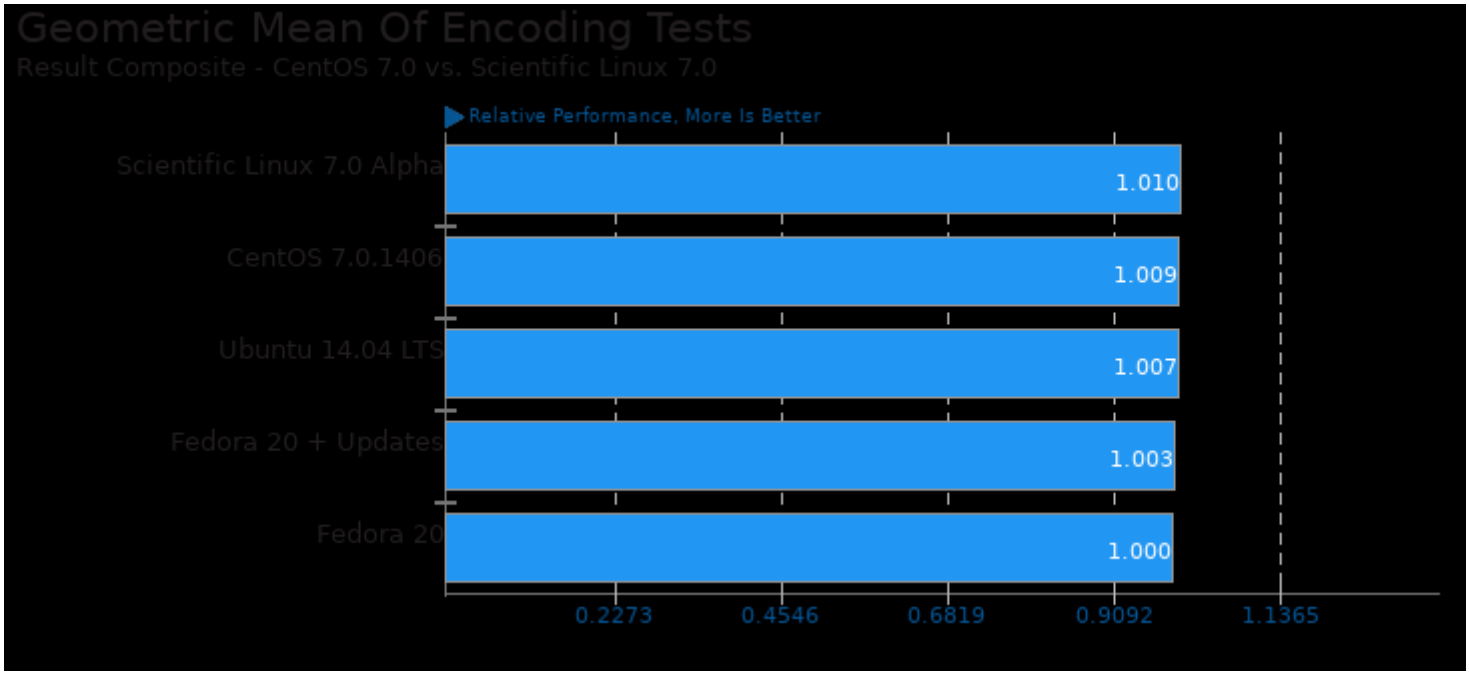
Geometric mean based upon tests: pts/c-ray, pts/encode-mp3 and pts/encode-flac



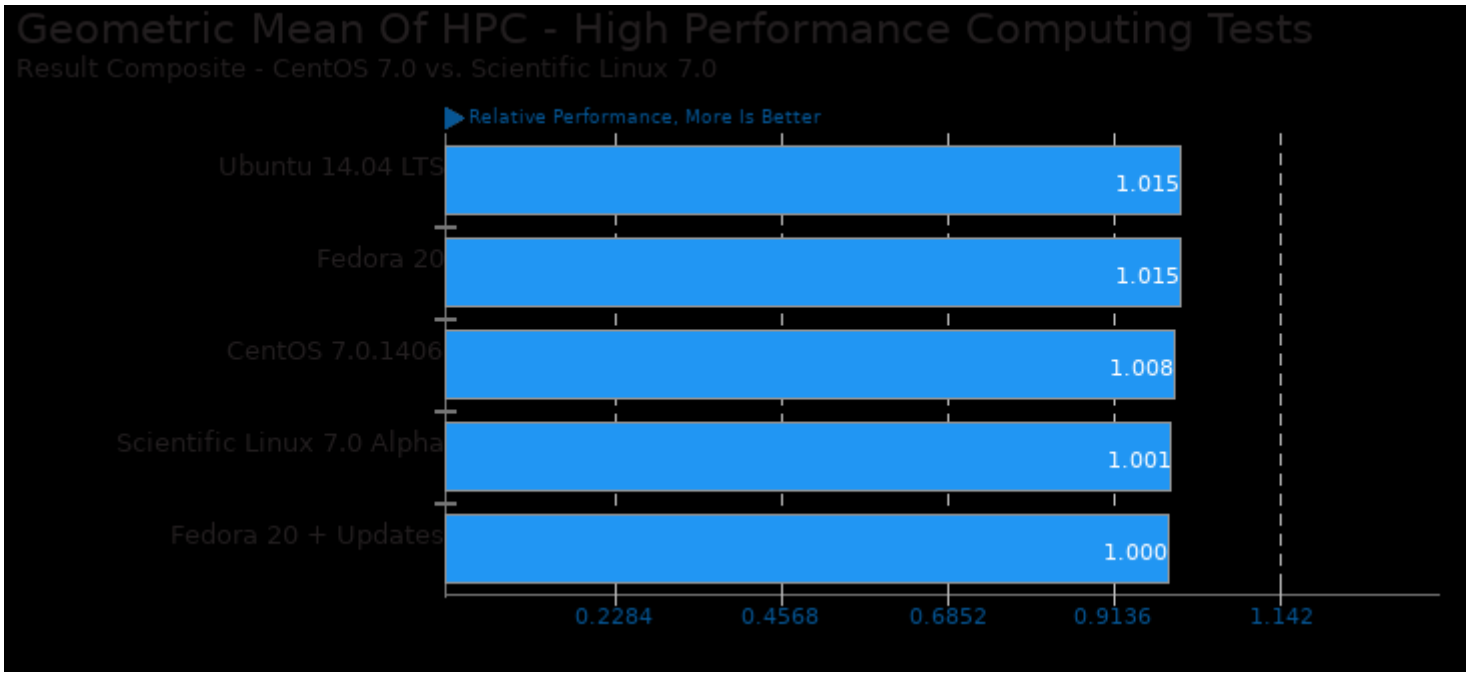
Geometric mean based upon tests: pts/xonotic and pts/openarena



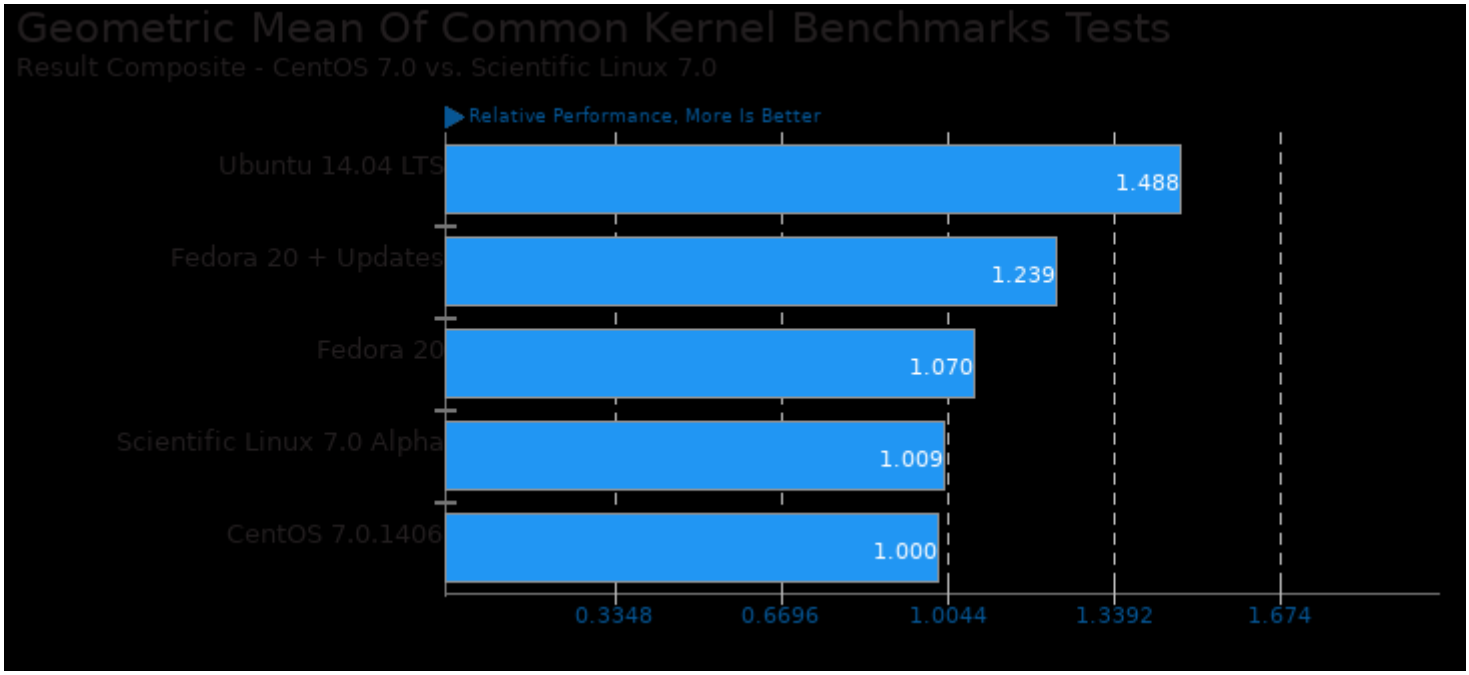
Geometric mean based upon tests: pts/dbench and pts/postmark



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

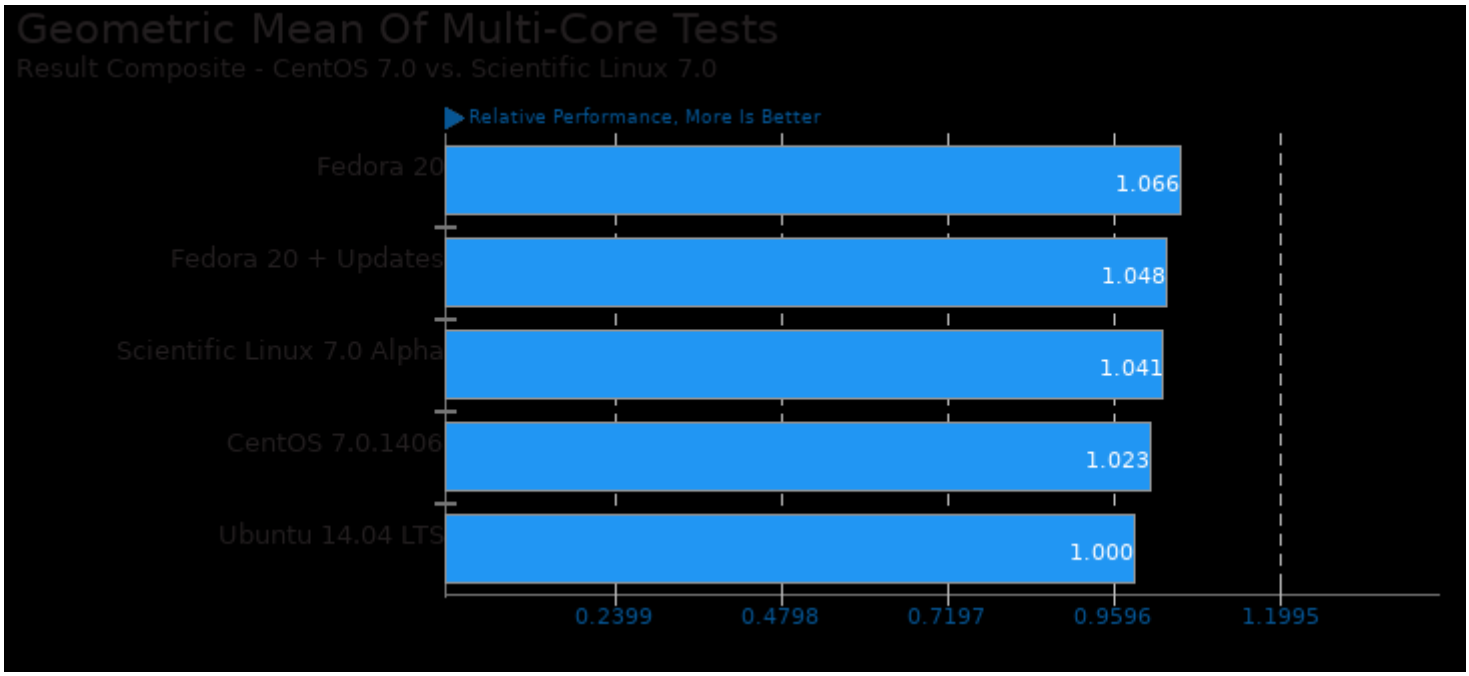


Geometric mean based upon tests: pts/ffte and pts/himeno

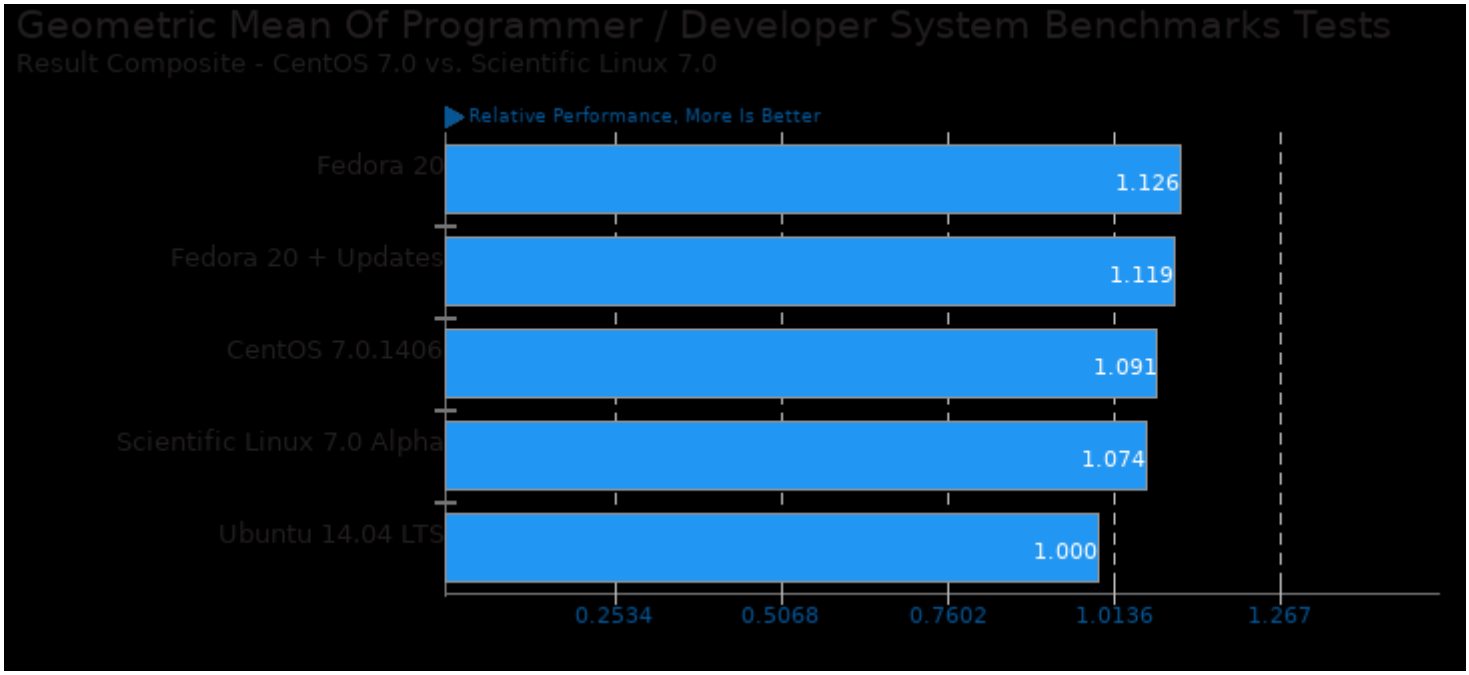


Geometric mean based upon tests: pts/apache and pts/postmark

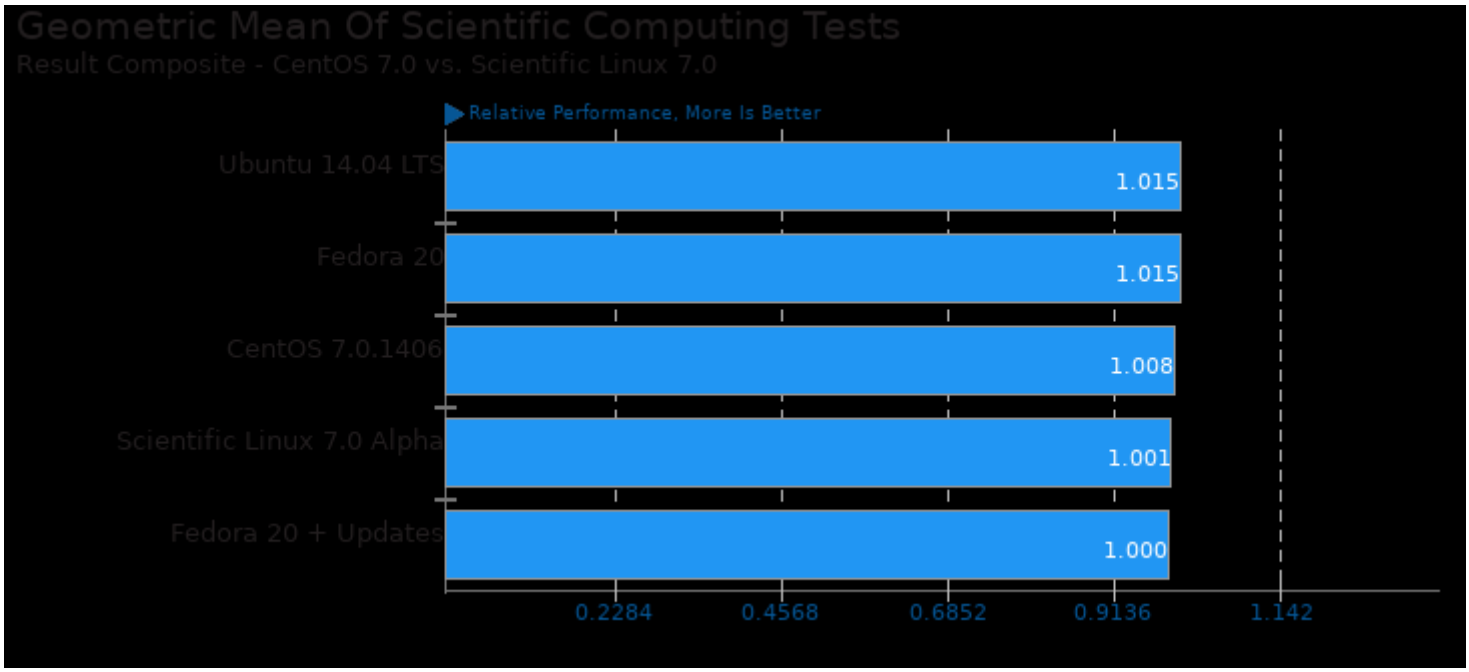
CentOS 7.0 vs. Scientific Linux 7.0



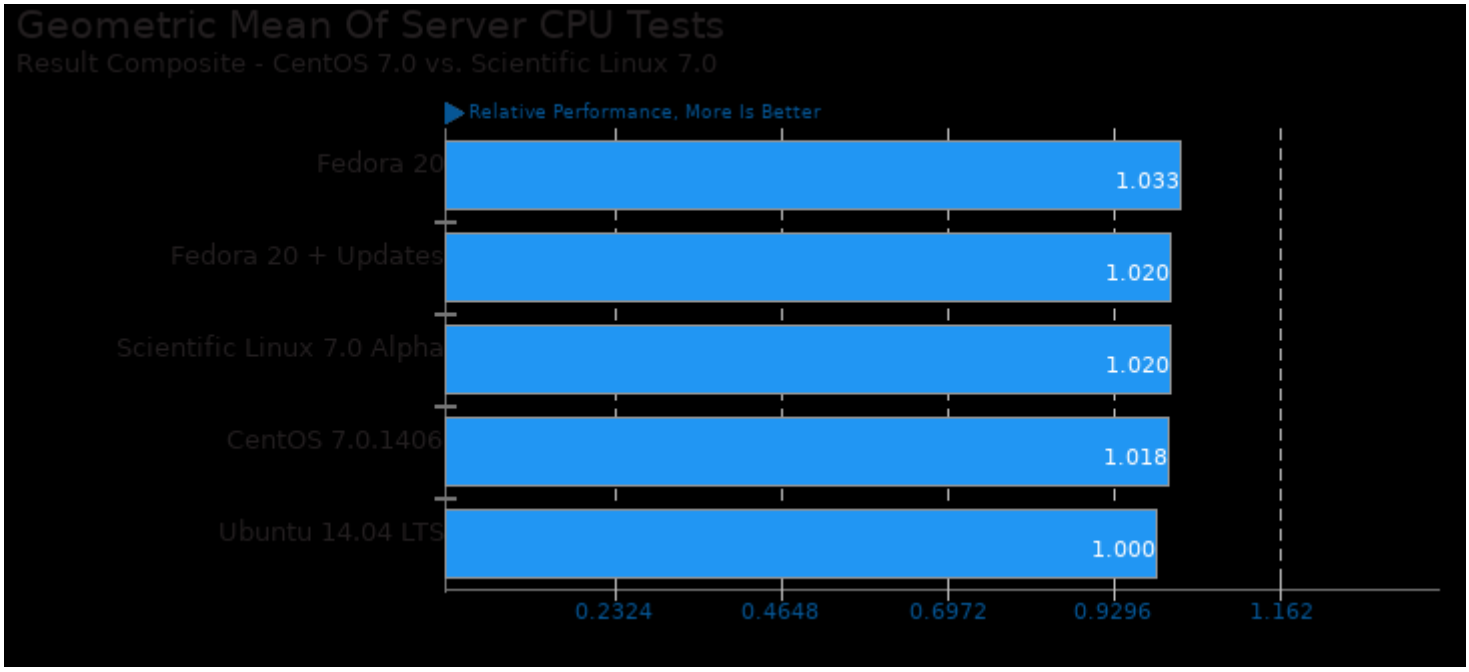
Geometric mean based upon tests: pts/c-ray, pts/compress-pbzip2, pts/build-linux-kernel and pts/build-imagemagick



Geometric mean based upon tests: pts/build-linux-kernel and pts/build-imagemagick

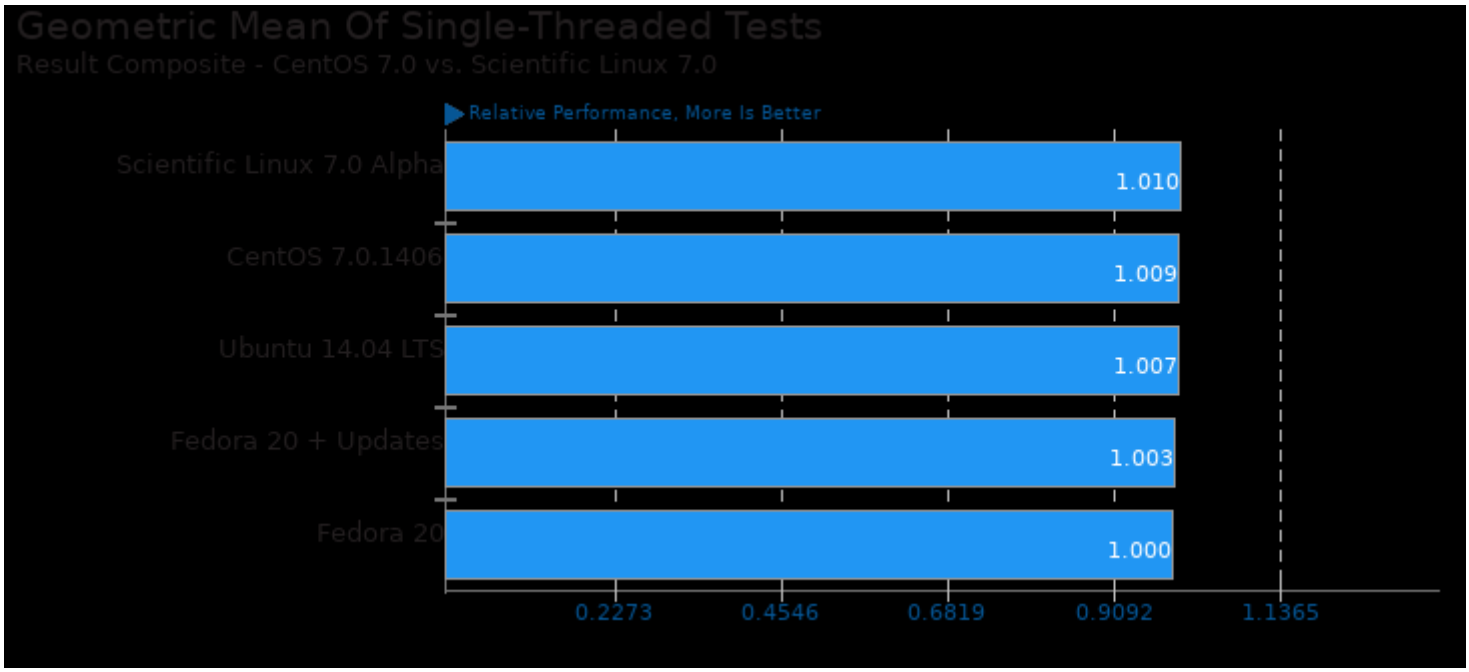


Geometric mean based upon tests: pts/ffte and pts/himeno



Geometric mean based upon tests: pts/himeno, pts/build-linux-kernel and pts/c-ray

CentOS 7.0 vs. Scientific Linux 7.0



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 07:12.