



m4.4xlarge Amazon EC2 Cloud Benchmarks - December 2017

Testing for a future article.

Automated Executive Summary

Dec 17: Clear Linux had the most wins, coming in first place for 51% of the tests.

Based on the geometric mean of all complete results, the fastest (Dec 17: Clear Linux) was 3.393x the speed of the slowest (Dec 17: SUSE SLES 12 SP3). Dec 17: Clear Linux was 2.13x the speed of Dec 17: Amazon Linux 2, Dec 17: RHEL Server 7 was 0.359x the speed of Dec 17: Clear Linux, Dec 17: SUSE SLES 12 SP3 was 0.822x the speed of Dec 17: RHEL Server 7, Dec 17: Ubuntu 16.04 LTS was 1.565x the speed of Dec 17: SUSE SLES 12 SP3, Feb 18: Amazon Linux 2 was 0.983x the speed of Dec 17: Ubuntu 16.04 LTS, Feb 18: SUSE SLES 12 SP3 was 0.781x the speed of Feb 18: Amazon Linux 2.

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

Systemd Total Boot Time (Test: Userspace) at 174.606x

Systemd Total Boot Time (Test: Total) at 137.549x

Systemd Total Boot Time (Test: Kernel) at 95.355x

R Benchmark at 4.402x

PHPBench (PHP Benchmark Suite) at 3.874x

Gzip Compression (2GB File Compression) at 2.824x

Schbench (Message Threads: 32 - Workers Per Message Thread: 16) at 2.426x

Redis (Test: GET) at 2.26x

Rodinia (Test: OpenMP LavaMD) at 2.258x

Redis (Test: SET) at 1.976x.

Test Systems:

Dec 17: Amazon Linux 2

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU, Chipset: Intel 440FX- 82441FX PMC, Memory: 64512MB, Disk: 8GB, Graphics: Cirrus Logic GD 5446, Network: Intel 82599 Virtual Function

OS: Amazon Linux 2.0, Kernel: 4.9.62-10.57.amzn2.x86_64 (x86_64), Compiler: GCC 7.2.1 20170915, File-System: xfs, System Layer: Xen HVM domU 4.2.amazon

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --disable-multilib --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++,fortran,ada,go,lto --enable-libatomic --enable-libcilkrt --enable-libitm --enable-libmpx --enable-libquadmath --enable-lsanitizer --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic
System Notes: Python 2.7.5.

Dec 17: Clear Linux

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU, Chipset: Intel 440FX- 82441FX PMC, Memory: 64512MB, Disk: 10GB, Graphics: Cirrus Logic GD 5446

OS: Clear Linux OS 19700, Kernel: 4.13.12-56.aws (x86_64), Vulkan: 1.0.39, Compiler: GCC 7.2.1 20170910 + Clang 5.0.0 + LLVM 5.0.0, File-System: ext4, System Layer: Xen HVM domU 4.2.amazon

Compiler Notes: --build=x86_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --enable-__cxa_atexit --enable-bootstrap --enable-clocale=gnu --enable-gnu-indirect-function --enable-languages=c,c++,fortran,go --enable-lid=default --enable-libstdc++-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
System Notes: Python 2.7.12.

Dec 17: RHEL Server 7

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU, Memory: 64512MB, Disk: 10GB, Graphics: cirrusdrmfb

OS: Red Hat Enterprise Linux Server 7.4, Kernel: 3.10.0-693.el7.x86_64 (x86_64), Compiler: GCC 4.8.5 20150623, File-System: xfs, Screen Resolution: 1024x768, System Layer: Xen HVM domU 4.2.amazon

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
System Notes: Python 2.7.5. SELinux: Enabled.

Dec 17: SUSE SLES 12 SP3

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU, Chipset: Intel 440FX- 82441FX PMC, Memory: 64512MB, Disk: 10GB, Graphics: Cirrus Logic GD 5446, Network: Intel 82599 Virtual Function

OS: SUSE Linux Enterprise Server 12 SP3 12.3, Kernel: 4.4.92-6.30-default (x86_64), Compiler: GCC 4.8.5, File-System: ext4, Screen Resolution: 1024x768, System Layer: Xen HVM domU 4.2.amazon

Environment Notes: LIBGL_DEBUG=quiet

Compiler Notes: --build=x86_64-suse-linux --disable-libgcj --disable-libmudflap --disable-libssp --disable-libstdcxx-pch --disable-plugin --enable-__cxa_atexit --enable-checking=release --enable-languages=c,c++,objc,fortran,obj-c++,java,ada --enable-libstdcxx-allocator=new --enable-linux-futex --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=i586 --with-slibdir=/lib64 --with-tune=generic --without-system-libunwind

System Notes: Python 2.7.13.

Dec 17: Ubuntu 16.04 LTS

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU, Chipset: Intel 440FX- 82441FX PMC, Memory: 64512MB, Disk: 8GB, Graphics: Cirrus Logic GD 5446, Network: Intel 82599 Virtual Function

OS: Ubuntu 16.04, Kernel: 4.4.0-1041-aws (x86_64), File-System: ext4, System Layer: Xen HVM domU 4.2.amazon

Compiler Notes: --build=x86_64-linux-gnu --disable-browser-plugin --disable-vtable-verify --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,ada,c++,java,go,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiaarch --enable-multilib --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-default-libstdcxx-abi=new --with-multilib-list=m32,m64,mx32 --with-tune=generic -v

System Notes: Python 2.7.12.

Feb 18: Amazon Linux 2

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU (4.2.amazon BIOS), Chipset: Intel 440FX- 82441FX PMC, Memory: 64512MB, Disk: 8GB, Graphics: Cirrus Logic GD 5446, Network: Intel 82599 Virtual Function

OS: Amazon Linux 2, Kernel: 4.9.77-41.59.amzn2.x86_64 (x86_64), Compiler: GCC 7.2.1 20170915, File-System: xfs, System Layer: Xen HVM domU 4.2.amazon

Compiler Notes: --build=x86_64-redhat-linux --disable-libunwind-exceptions --disable-multilib --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++,fortran,ada,go,lto --enable-libatomic --enable-libcilkrt --enable-libitm --enable-libmpx --enable-libquadmath --enable-lsanitizer --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic

Disk Notes: NOOP / attr2,inode64,noatime,noquota,rw

Python Notes: Python 2.7.5

Security Notes: KPTI + Full generic retpoline Protection

Feb 18: SUSE SLES 12 SP3

Processor: Intel Xeon E5-2686 v4 @ 2.30GHz (8 Cores / 16 Threads), Motherboard: Xen HVM domU (4.2.amazon BIOS), Chipset: Intel 440FX- 82441FX PMC, Memory: 64512MB, Disk: 10GB, Graphics: Cirrus Logic GD 5446, Network: Intel 82599 Virtual Function

OS: SUSE Linux Enterprise Server 12 SP3 12.3, Kernel: 4.4.114-94.11-default (x86_64), Compiler: GCC 4.8.5, File-System: ext4, Screen Resolution: 1024x768, System Layer: Xen HVM domU 4.2.amazon

Environment Notes: LIBGL_DEBUG=quiet

Compiler Notes: --build=x86_64-suse-linux --disable-libgcj --disable-libmudflap --disable-libssp --disable-libstdcxx-pch --disable-plugin --enable-__cxa_atexit --enable-checking=release --enable-languages=c,c++,objc,fortran,obj-c++,java,ada --enable-libstdcxx-allocator=new --enable-linux-futex --enable-ssp --enable-version-specific-runtime-libs --host=x86_64-suse-linux --mandir=/usr/share/man --with-arch-32=i586 --with-slibdir=/lib64 --with-tune=generic

--without-system-libunwind
Python Notes: Python 2.7.13
Security Notes: KPTI + Barriers + Full generic retpoline Protection

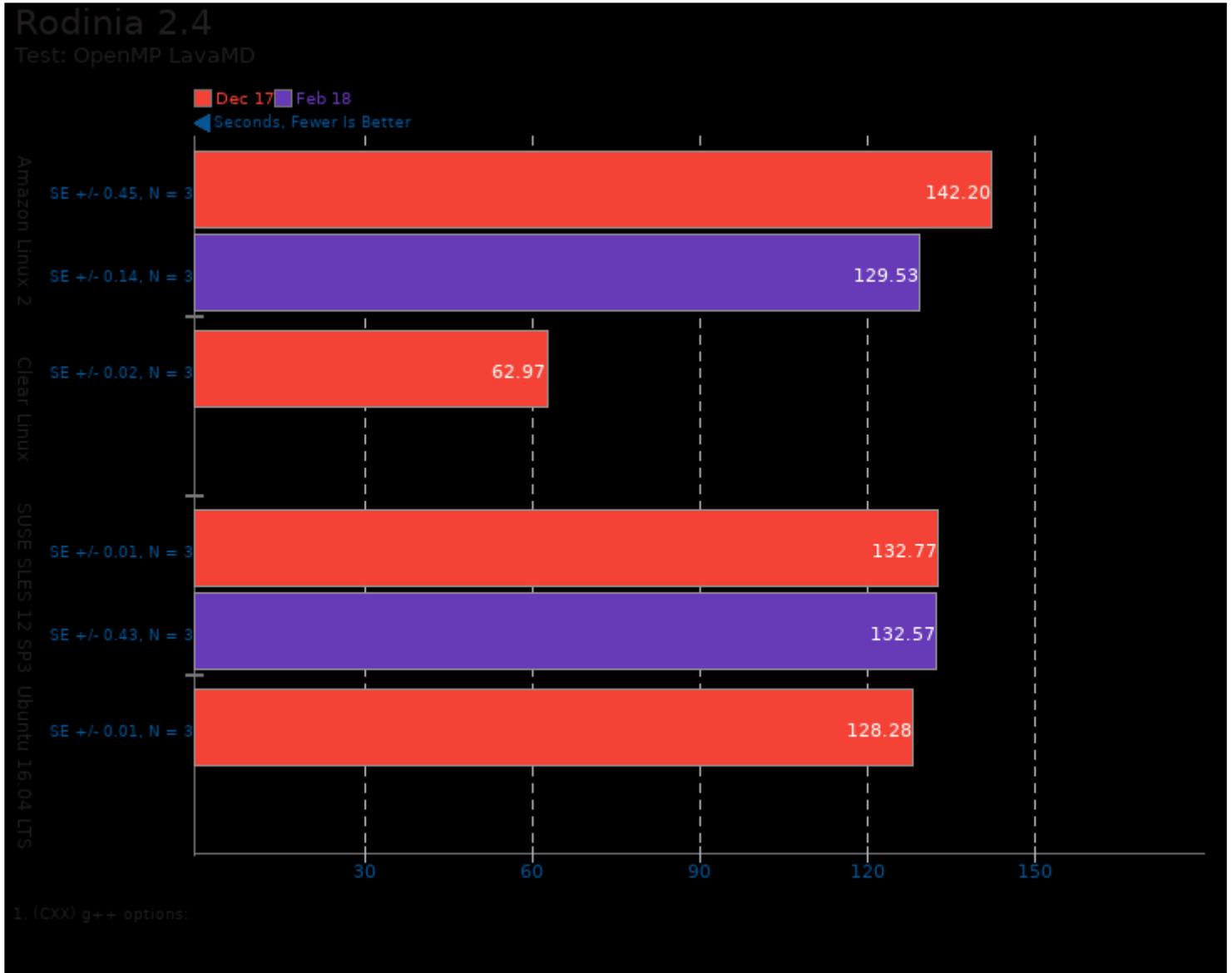
	Dec 17: Amazon Linux 2	Dec 17: Clear Linux	Dec 17: RHEL Server 7	Dec 17: SUSE SLES 12 SP3	Dec 17: Ubuntu 16.04 LTS	Feb 18: Amazon Linux 2	Feb 18: SUSE SLES 12 SP3
Rodinia - OpenMP LavaMD (sec)	142.20	62.97		132.77	128.28	129.53	132.57
Normalized	44.28%	100%		47.43%	49.09%	48.61%	47.5%
Standard Deviation	0.6%	0%		0%	0%	0.2%	0.6%
Rodinia - OpenMP CFD Solver (sec)	31.46	33.35		46.14	42.24	29.46	41.71
Normalized	93.64%	88.34%		63.85%	69.74%	100%	70.63%
Standard Deviation	0.5%	0.4%		0.3%	0.2%	0.3%	0.3%
Go Benchmarks - http (ns/op)	9029	7895			6511	8944	
Normalized	72.11%	82.47%			100%	72.8%	
Standard Deviation	0.2%	0.3%			0.5%	1.4%	
Go Benchmarks - json (ns/op)	11774995	10059809			11934349	10584904	
Normalized	85.43%	100%			84.29%	95.04%	
Standard Deviation	0.1%	0.2%			0.5%	0.2%	
Go Benchmarks - build (ns/op)	1821177278	1891636386			2266265619	1849745315	
Normalized	3	7			6	7	
Standard Deviation	100%	96.28%			80.36%	98.46%	
Go Benchmarks - garbage (ns/op)	2458881	2248314			2393988	2254882	
Normalized	91.44%	100%			93.92%	99.71%	
Standard Deviation	0.3%	0.1%			0.3%	0.1%	
Himeno Benchmark - P.P.S (MFLOPS)	1634	1589		1519	1534	1671	1615
Normalized	97.78%	95.08%		90.91%	91.78%	100%	96.65%
Standard Deviation	1.7%	0.1%		0.1%	0.1%	0.2%	0%
Timed Linux Kernel Compilation - Time To Compile (sec)	107.48	92.39	89.49	84.82	89.15	98.47	85.44
Normalized	78.92%	91.81%	94.78%	100%	95.14%	86.14%	99.27%
Standard Deviation	0.7%	1.8%	1.9%	1.9%	1.7%	1.7%	1.9%
Gzip Compression - 2.F.C (sec)	14.41	5.50	15.53	12.36	14.44	14.49	12.39
Normalized	38.17%	100%	35.42%	44.5%	38.09%	37.96%	44.39%
Standard Deviation	0%	0.1%	0.1%	0.1%	0.1%	0%	0.3%
FLAC Audio Encoding - WAV To FLAC (sec)	8.77	8.41	10.08	10.03	8.65	8.79	
Normalized	95.9%	100%	83.43%	83.85%	97.23%	95.68%	
Standard Deviation	0.2%	0.3%	0.3%	0.1%	0.1%	0%	

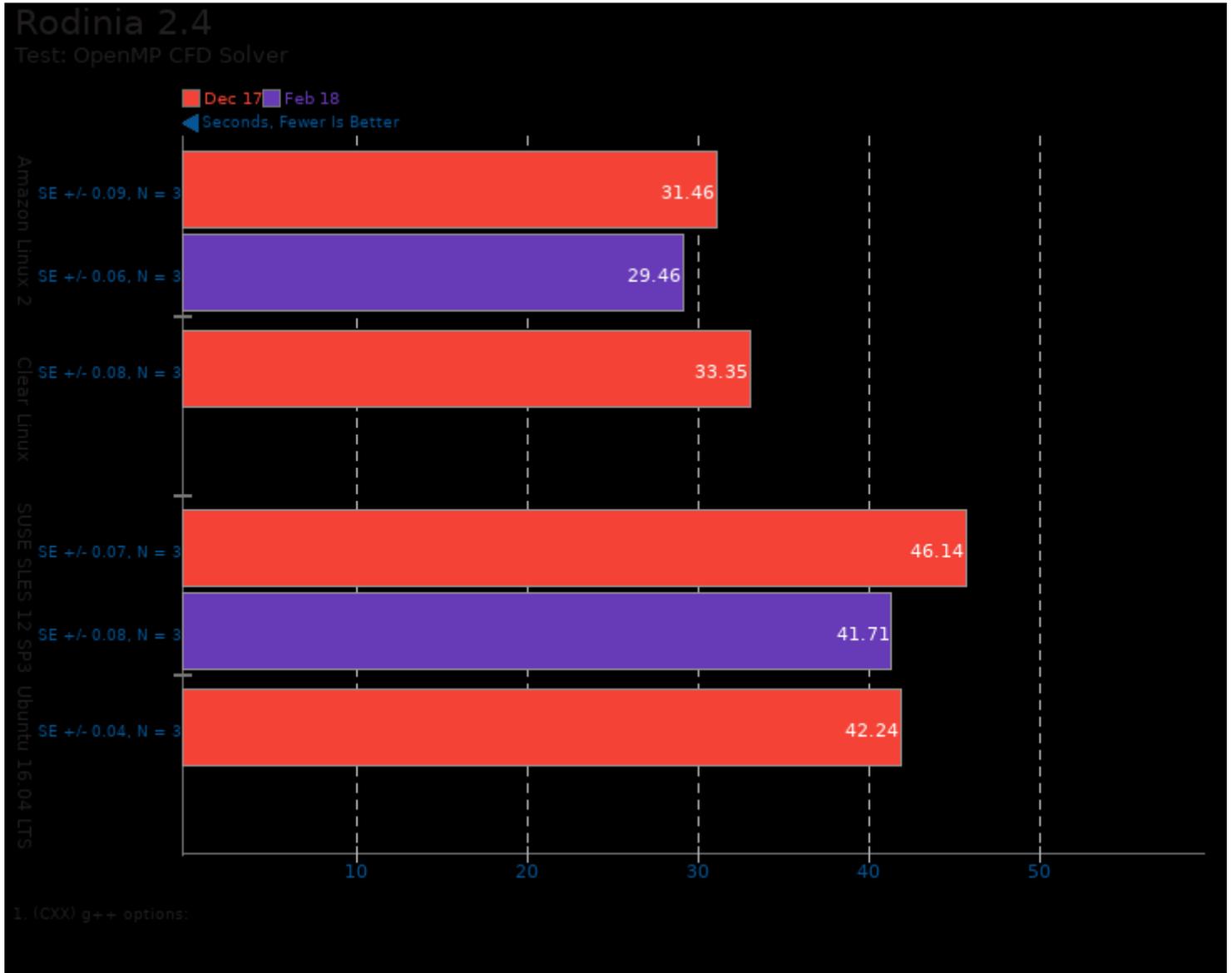
LAME MP3 Encoding - WAV To MP3 (sec)	13.86	13.48	17.08	17.14	15.52	13.86	17.93
Normalized	97.26%	100%	78.92%	78.65%	86.86%	97.26%	75.18%
Standard Deviation	0.1%	0.1%	0.1%	1.3%	0.8%	0.1%	0.8%
FFmpeg - H.2.H.T.N.D	8.91			9.10	9.03		8.86
Normalized	99.44%			97.36%	98.12%		100%
Standard Deviation	2.6%			0.9%	1.6%		0.6%
OpenSSL - R.4.b.P (Signs/sec)	913.67	981.97	974.63	987.93	985.67	983.67	
Normalized	92.48%	99.4%	98.65%	100%	99.77%	99.57%	
Standard Deviation	0.3%	0.1%	0%	0.1%	0%	0%	
Perl Benchmarks - Pod2html (seconds)	0.19707410	0.19714943	0.20894897	0.19370366	0.19713420	0.19728241	0.19893783
Normalized	98.29%	98.25%	92.7%	100%	98.26%	98.19%	97.37%
Standard Deviation	2.7%	1.3%	1.3%	1%	2.7%	2.6%	1.3%
Perl Benchmarks - Interpreter (seconds)	0.00136237	0.00122207	0.00156785	0.00096575	0.00095212	0.00151685	0.00106251
Normalized	69.89%	77.91%	60.73%	98.59%	100%	62.77%	89.61%
Standard Deviation	0.2%	0.3%	0.2%	0.3%	0.3%	0.4%	0.3%
Redis - GET (Reqs/sec)	1162050	1627782	1116937	1375590	1274925	720298	772643
Normalized	71.39%	100%	68.62%	84.51%	78.32%	44.25%	47.47%
Standard Deviation	1.4%	0.1%	0.7%	0.9%	2.4%	0.5%	0.9%
Redis - SET (Reqs/sec)	898315	1202463	860253	1051987	976316	608437	666079
Normalized	74.71%	100%	71.54%	87.49%	81.19%	50.6%	55.39%
Standard Deviation	1.4%	0.9%	4.8%	1.2%	1.1%	1%	0.3%
PyBench - T.F.A.T.T (Milliseconds)	2393	1847	2439	2183	2109	2394	2189
Normalized	77.18%	100%	75.73%	84.61%	87.58%	77.15%	84.38%
Standard Deviation	0.3%	0.2%	0.3%	0.1%	0.1%	0.1%	0.3%
PHPBench - P.B.S (Score)	146108	423815	140237	109406	320707	144601	
Normalized	34.47%	100%	33.09%	25.81%	75.67%	34.12%	
Standard Deviation	0.3%	0.4%	0.5%	1.3%	0.5%	0.6%	
Dolfyn - C.F.D (sec)			30.79	30.50	30.25		31.10
Normalized			98.25%	99.18%	100%		97.27%
Standard Deviation			0.6%	0.5%	0.9%		1.2%
GraphicsMagick - Sharpen (Iterations/min)	116	117		102	119	118	
Normalized	97.48%	98.32%		85.71%	100%	99.16%	
GraphicsMagick - Resizing (Iterations/min)	147	147		152	153	147	
Normalized	96.08%	96.08%		99.35%	100%	96.08%	
GraphicsMagick - HWB Color Space	160	160		167	164	161	
Normalized	95.81%	95.81%		100%	98.2%	96.41%	
GraphicsMagick - L.A.T (Iterations/min)	66	69		69	69	66	
Normalized	95.65%	100%		100%	100%	95.65%	
C-Ray - Total Time (sec)	18.26	14.69	15.83	15.61	15.57	16.94	15.60
Normalized	80.45%	100%	92.8%	94.11%	94.35%	86.72%	94.17%
Standard Deviation	0.1%	0.1%	0.1%	0%	0.1%	0%	0%
Stockfish - Total Time	4601	4702	4478	4683	4835	4551	4428
Normalized	96.24%	94.17%	98.88%	94.55%	91.58%	97.3%	100%
Standard Deviation	0%	0%	0.1%	0.2%	0.2%	0.1%	0.2%

R Benchmark (sec)		0.2580			1.1358		
Normalized		100%			22.72%		
Standard Deviation		0.1%			1.3%		
Systemd Total Boot Time	9749	612.30	37473	84221	11013	7799	41029
- Total (ms)							
Normalized	6.28%	100%	1.63%	0.73%	5.56%	7.85%	1.49%
Systemd Total Boot Time	6936	326.10	33785	56939	7279	5246	38040
- Userspace (ms)							
Normalized	4.7%	100%	0.97%	0.57%	4.48%	6.22%	0.86%
Systemd Total Boot Time	1517	286.10	2129	27281	3733	1752	2419
- Kernel (ms)							
Normalized	18.86%	100%	13.44%	1.05%	7.66%	16.33%	11.83%
SQLite - D.T.D (sec)						20.66	
Standard Deviation						0.4%	
Stress-NG - Memory						6611	7542
Copying (Bogo Ops/s)						87.66%	100%
Normalized						1.1%	5.1%
Standard Deviation							
Stress-NG - Forking						47473	46037
(Bogo Ops/s)							
Normalized						100%	96.98%
Standard Deviation						1%	1%
Stress-NG - S.V.M.P						7121514	5634958
(Bogo Ops/s)							
Normalized						100%	79.13%
Standard Deviation						0.2%	12.6%
Stress-NG - Semaphores						2975130	2833823
(Bogo Ops/s)							
Normalized						100%	95.25%
Standard Deviation						3.1%	2.8%
Stress-NG - Socket						9291	10077
Activity (Bogo Ops/s)							
Normalized						92.2%	100%
Standard Deviation						1.8%	1.5%
Stress-NG - Context						1157545	2521015
Switching (Bogo Ops/s)							
Normalized						45.92%	100%
Standard Deviation						16.9%	0.2%
Hackbench - 16 - Process						73.34	47.52
(sec)							
Normalized						64.79%	100%
Standard Deviation						15.6%	0.4%
Hackbench - 16 - Thread						84.28	49.26
(sec)							
Normalized						58.45%	100%
Standard Deviation						1.3%	0.5%
Hackbench - 32 - Process						129.30	94.10
(sec)							
Normalized						72.78%	100%
Standard Deviation						2.1%	0.7%

Schbench - 8 - 8 (usec, 99.9th Latency Percentile)	55936	83584
Normalized	100%	66.92%
Standard Deviation	3.9%	2.3%
Schbench - 8 - 16 (usec, 99.9th Latency Percentile)	117888	175019
Normalized	100%	67.36%
Standard Deviation	1.8%	3.3%
Schbench - 16 - 8 (usec, 99.9th Latency Percentile)	112427	169728
Normalized	100%	66.24%
Standard Deviation	1.3%	1.1%
Schbench - 16 - 16 (usec, 99.9th Latency Percentile)	179968	346624
Normalized	100%	51.92%
Standard Deviation	1.5%	2.8%
Schbench - 32 - 8 (usec, 99.9th Latency Percentile)	187989	348160
Normalized	100%	54%
Standard Deviation	0.2%	3.3%
Schbench - 32 - 16 (usec, 99.9th Latency Percentile)	294741	715093
Normalized	100%	41.22%
Standard Deviation	2.1%	2.2%
Crafty - Elapsed Time (Nodes/s)	5397216	5286783
Normalized	100%	97.95%
Standard Deviation	0.4%	0.2%
Botan - AES-256 - Encrypt (MiB/s)	1251	
Standard Deviation	0.1%	
Botan - AES-256 - Decrypt (MiB/s)	1250	
Standard Deviation	0.1%	
Botan - Blowfish - Encrypt (MiB/s)	163.83	
Standard Deviation	0%	
Botan - Blowfish - Decrypt (MiB/s)	163.18	
Standard Deviation	0%	
Botan - CAST-256 - Encrypt (MiB/s)	85.91	
Standard Deviation	0%	
Botan - CAST-256 - Decrypt (MiB/s)	85.91	
Standard Deviation	0%	
Botan - KASUMI - Encrypt (MiB/s)	58.02	
Standard Deviation	0.1%	
Botan - KASUMI - Decrypt (MiB/s)	56.29	
Standard Deviation	0.1%	

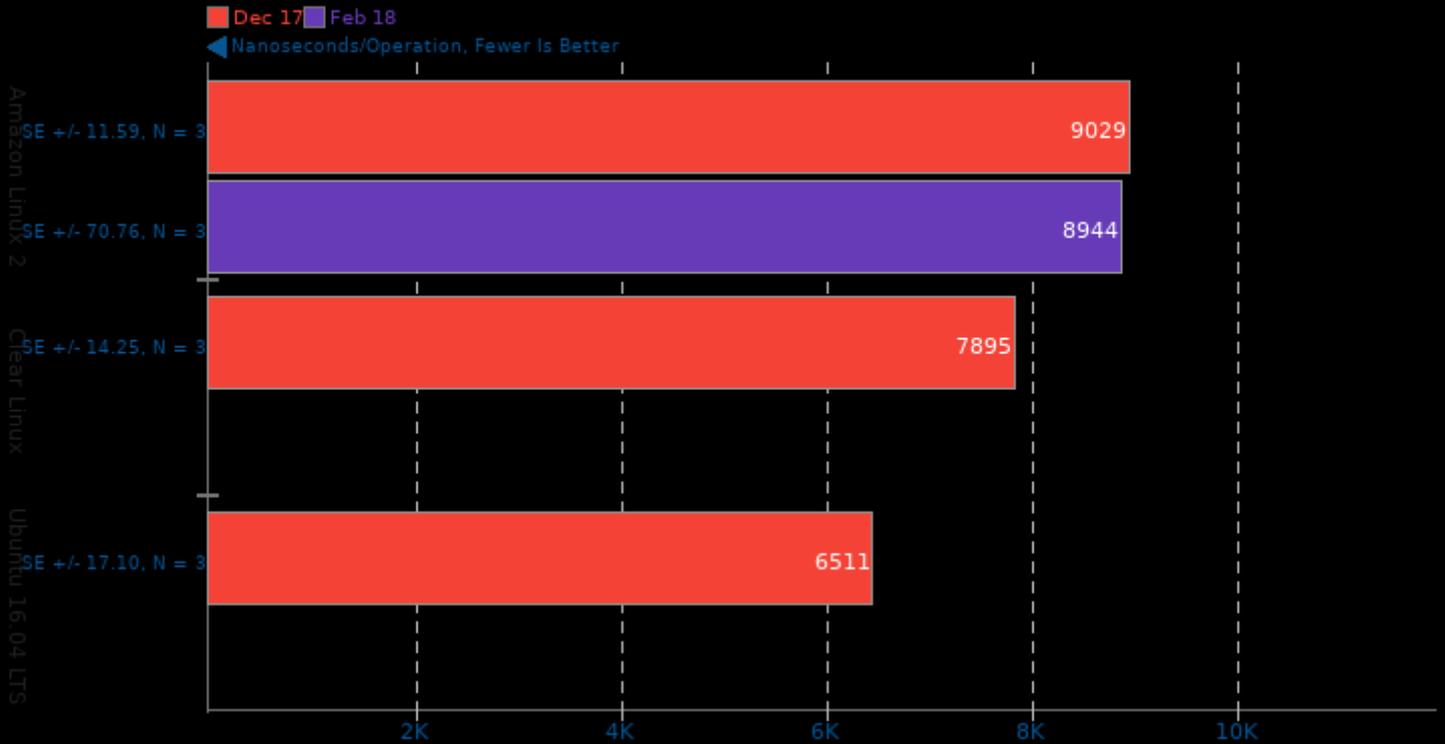
Botan - Twofish - Encrypt	212.55	
(MiB/s)		
Standard Deviation	0.1%	
Botan - Twofish - Decrypt	210.60	
(MiB/s)		
Standard Deviation	0.2%	
BLAKE2 (Cycles/Byte)	5.37	4.85
Normalized	90.32%	100%
Standard Deviation	0.1%	0.1%
Timed MAFFT Alignment -	4.76	4.32
M.S.A (sec)		
Normalized	90.76%	100%
Standard Deviation	1.7%	3.3%
NGINX Benchmark -	23257	
S.W.P.S (Reqs/sec)		
Standard Deviation	1.9%	
POV-Ray - Trace Time	81.42	
(sec)		
Standard Deviation	0.1%	
OpenSSL - R.4.b.P	1021	1020
(Signs/sec)		
Normalized	100%	99.9%
Standard Deviation	0%	0%





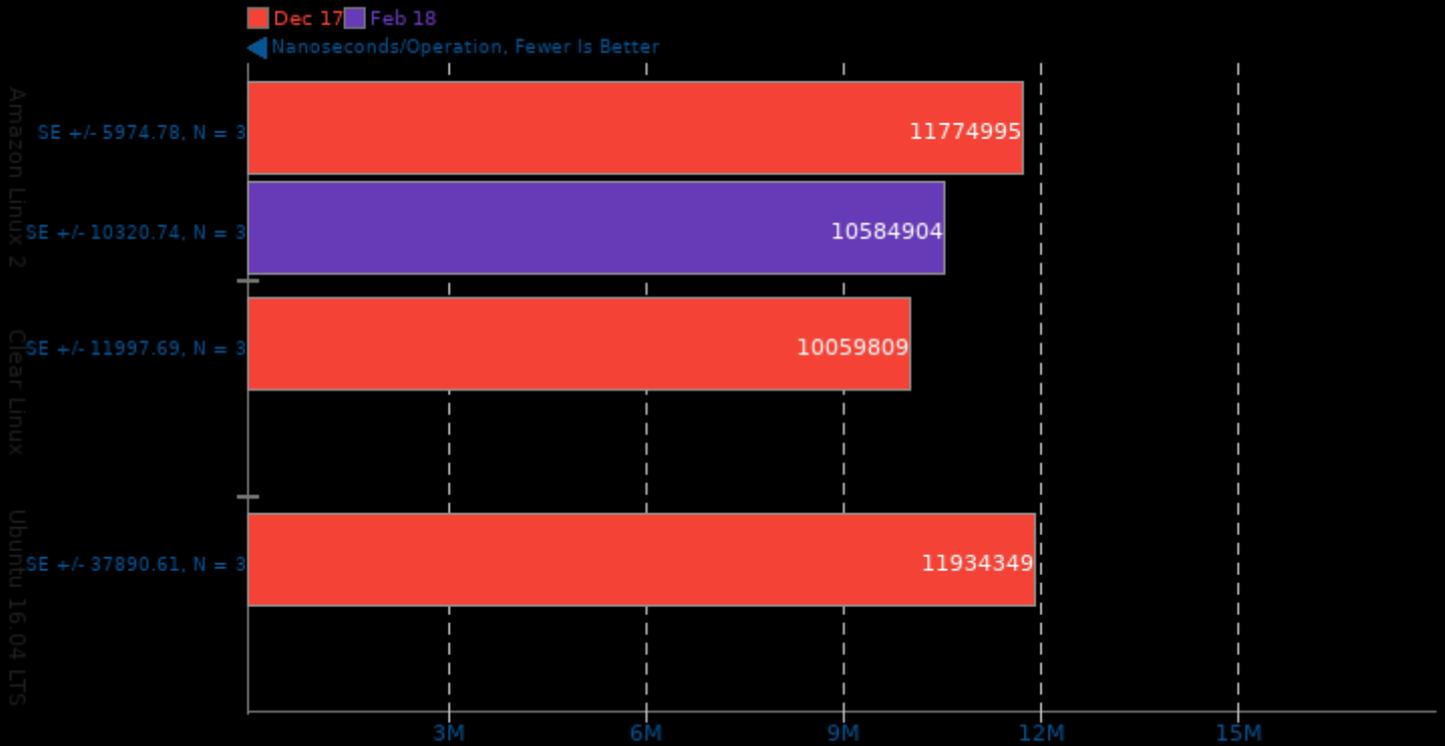
Go Benchmarks

Test: http



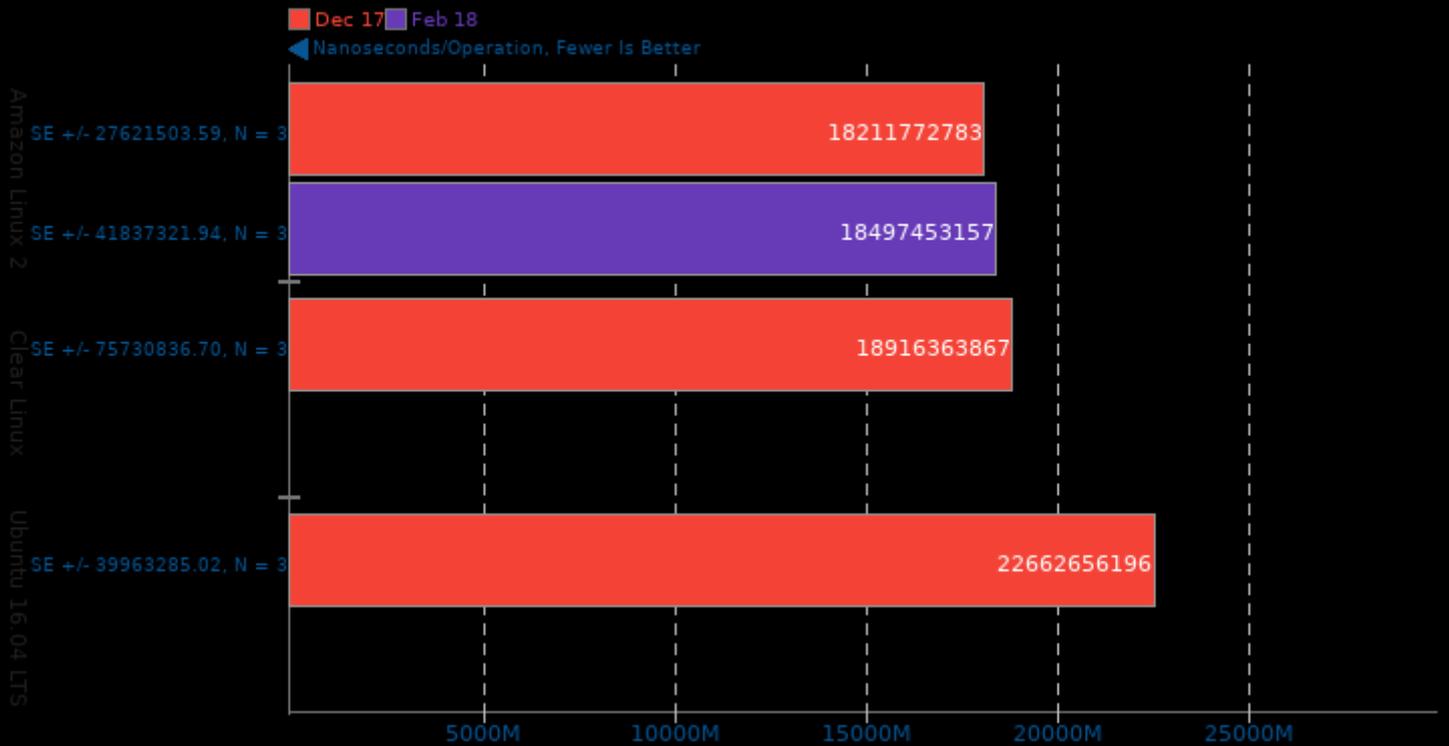
Go Benchmarks

Test: json



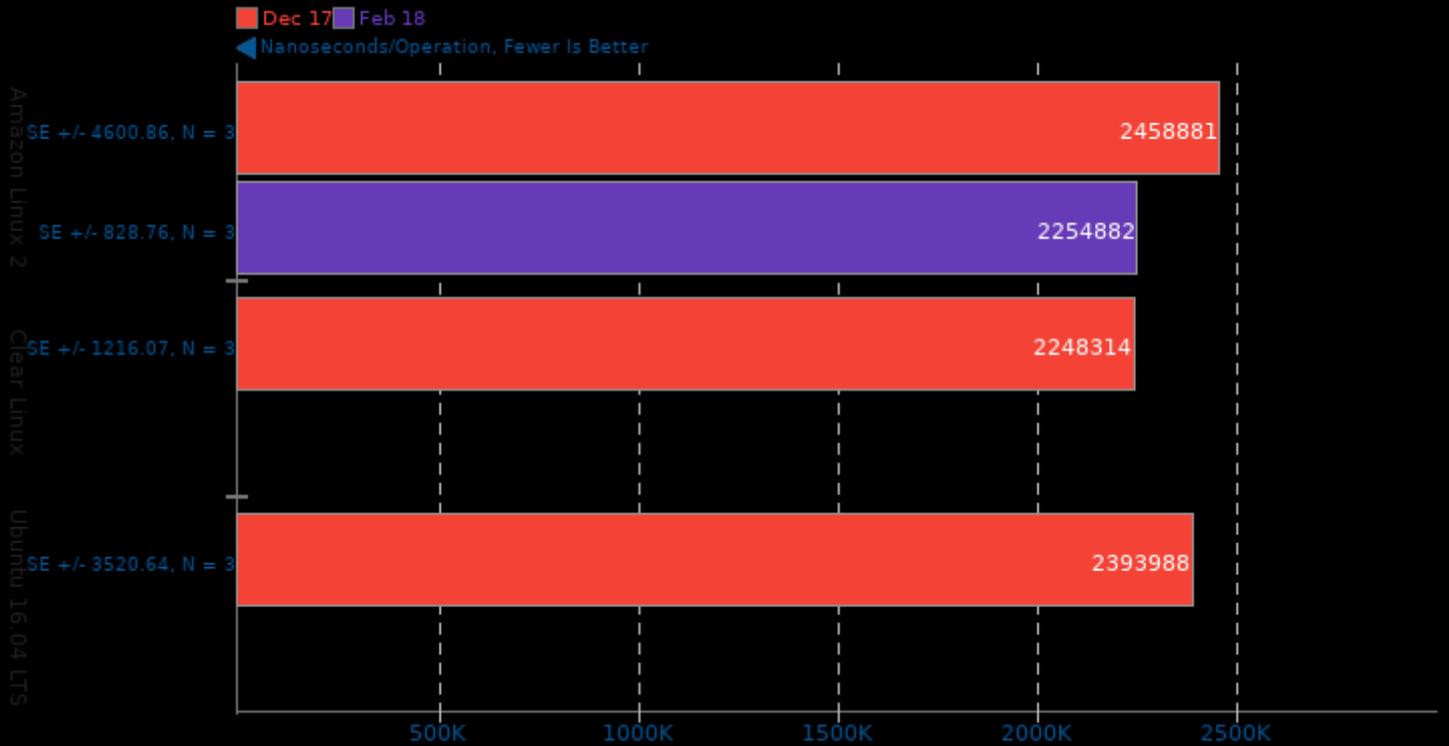
Go Benchmarks

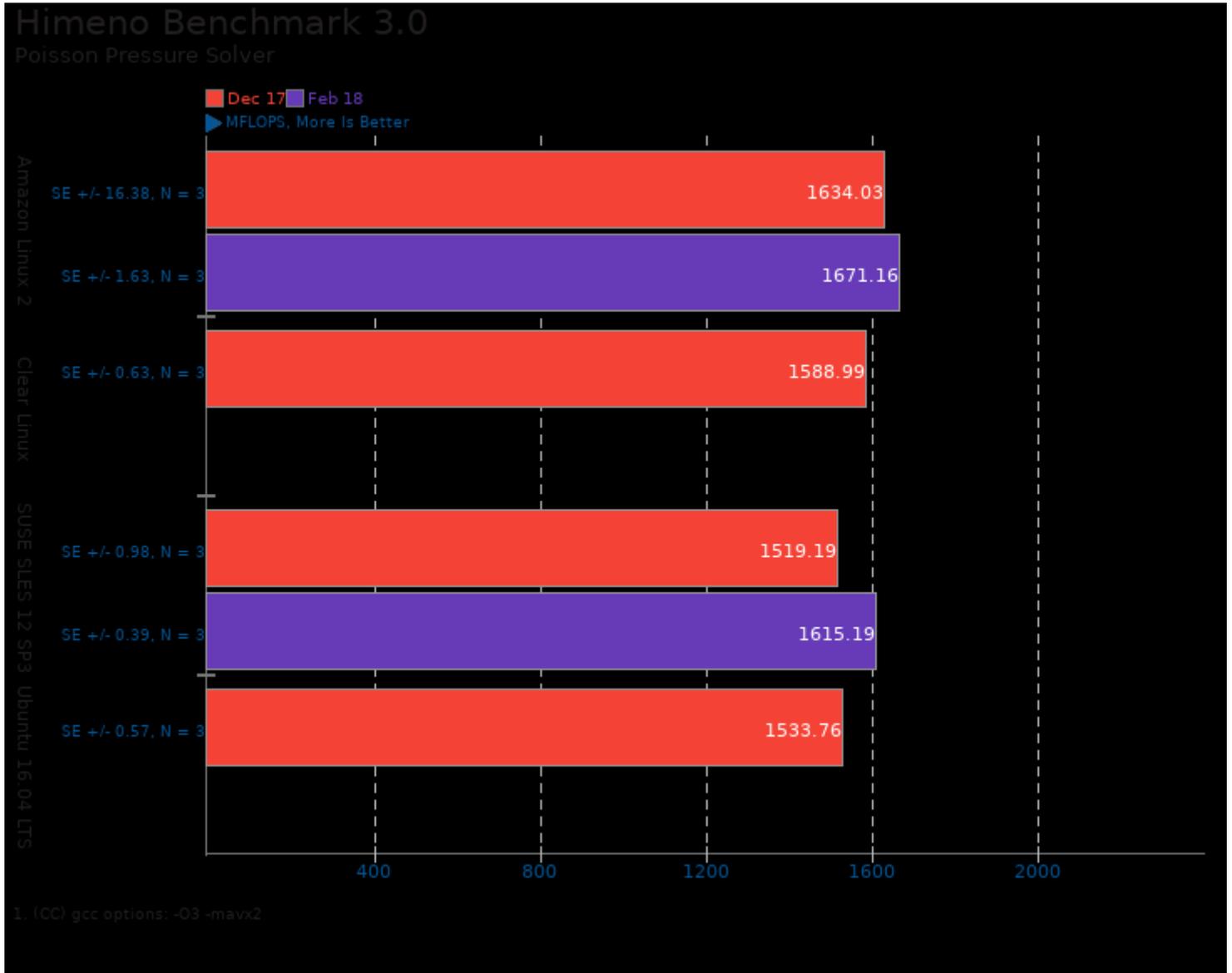
Test: build

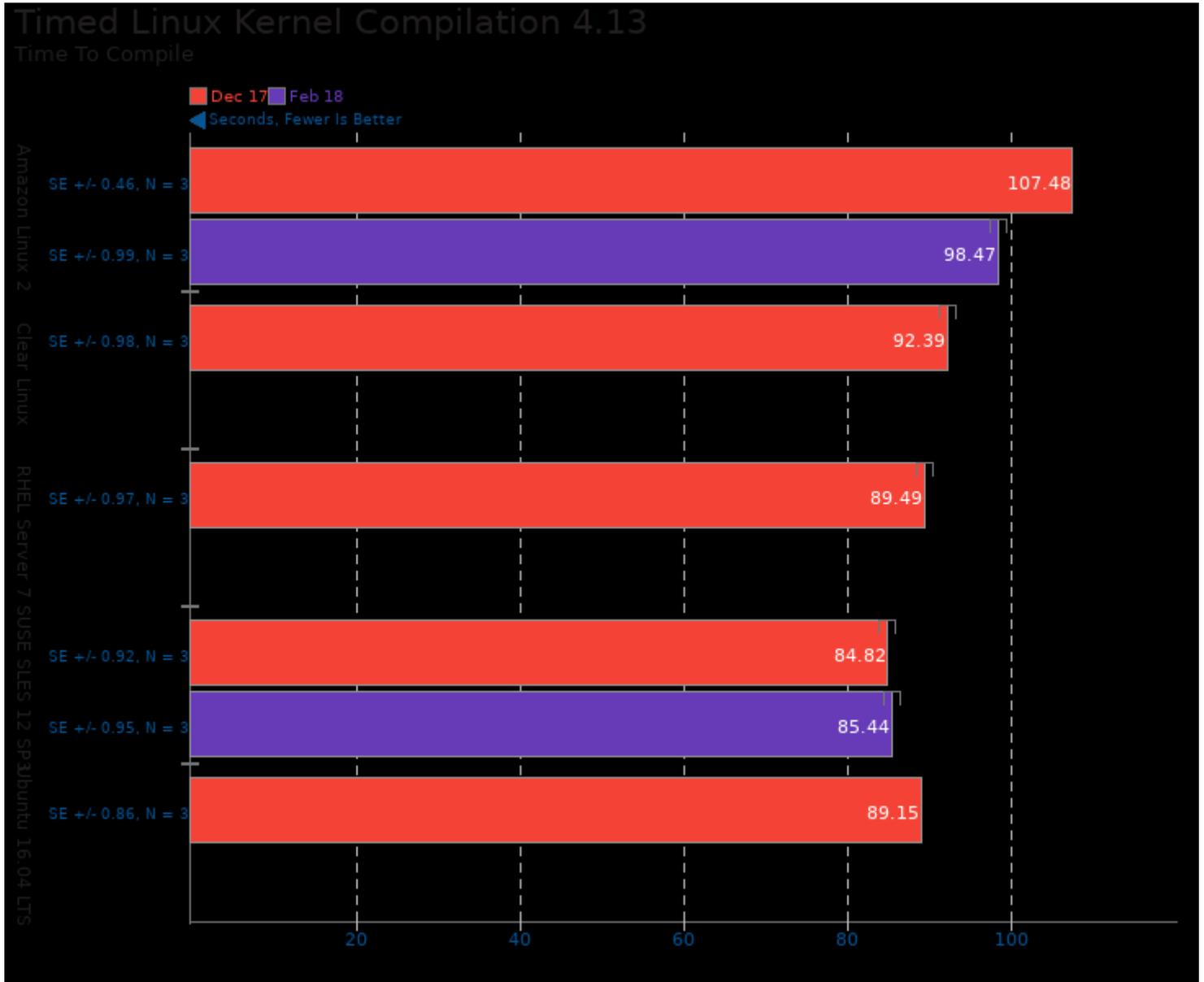


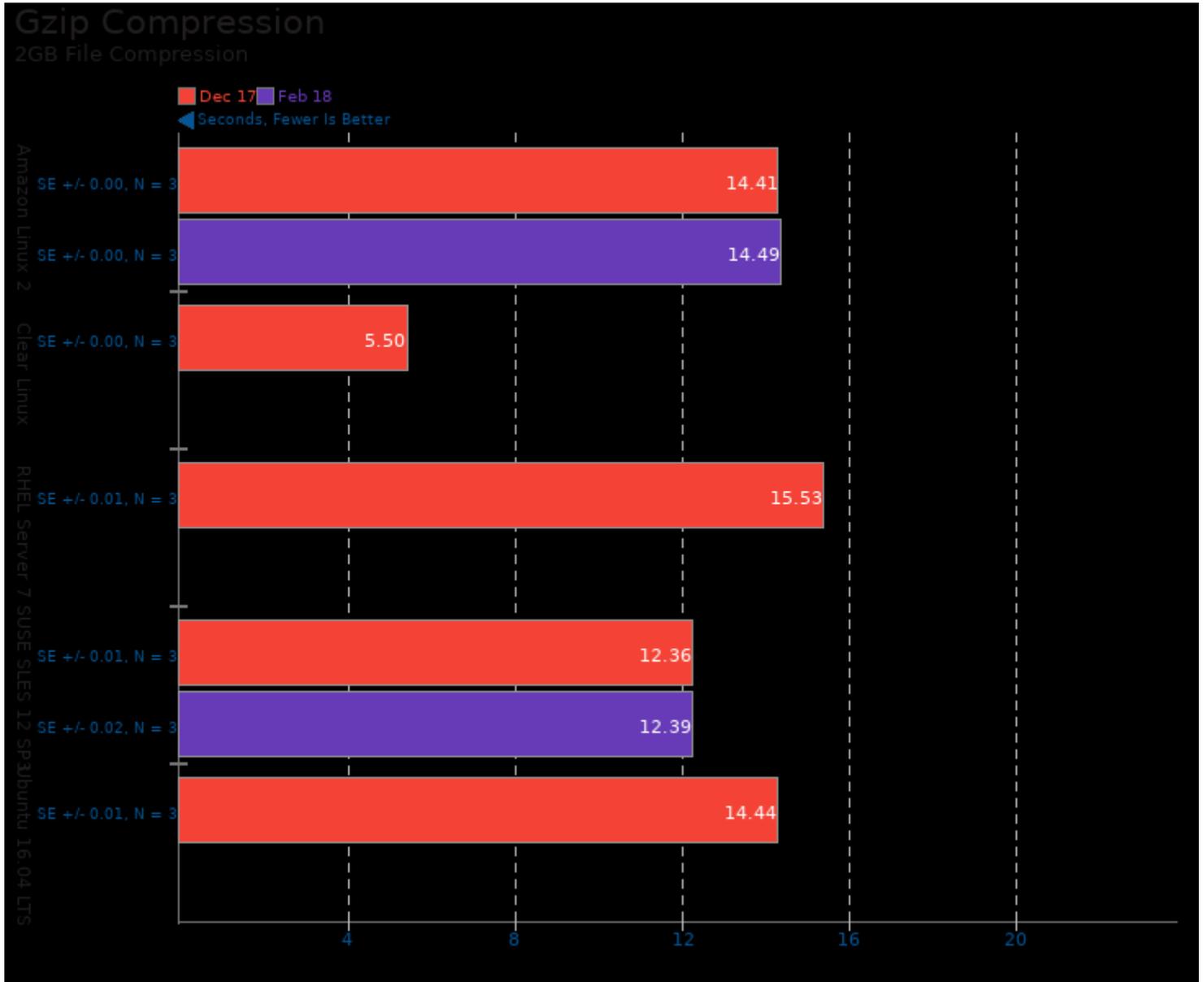
Go Benchmarks

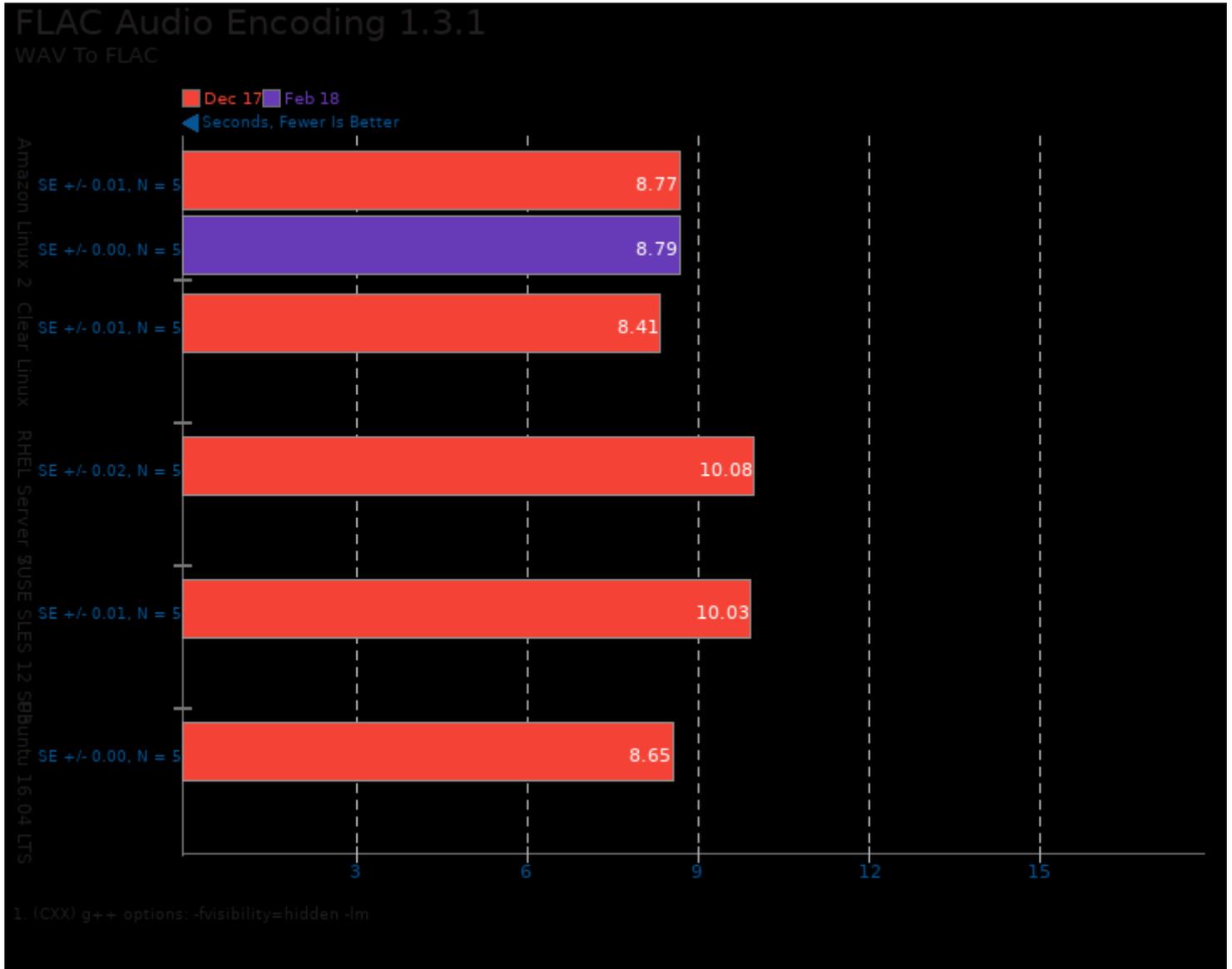
Test: garbage

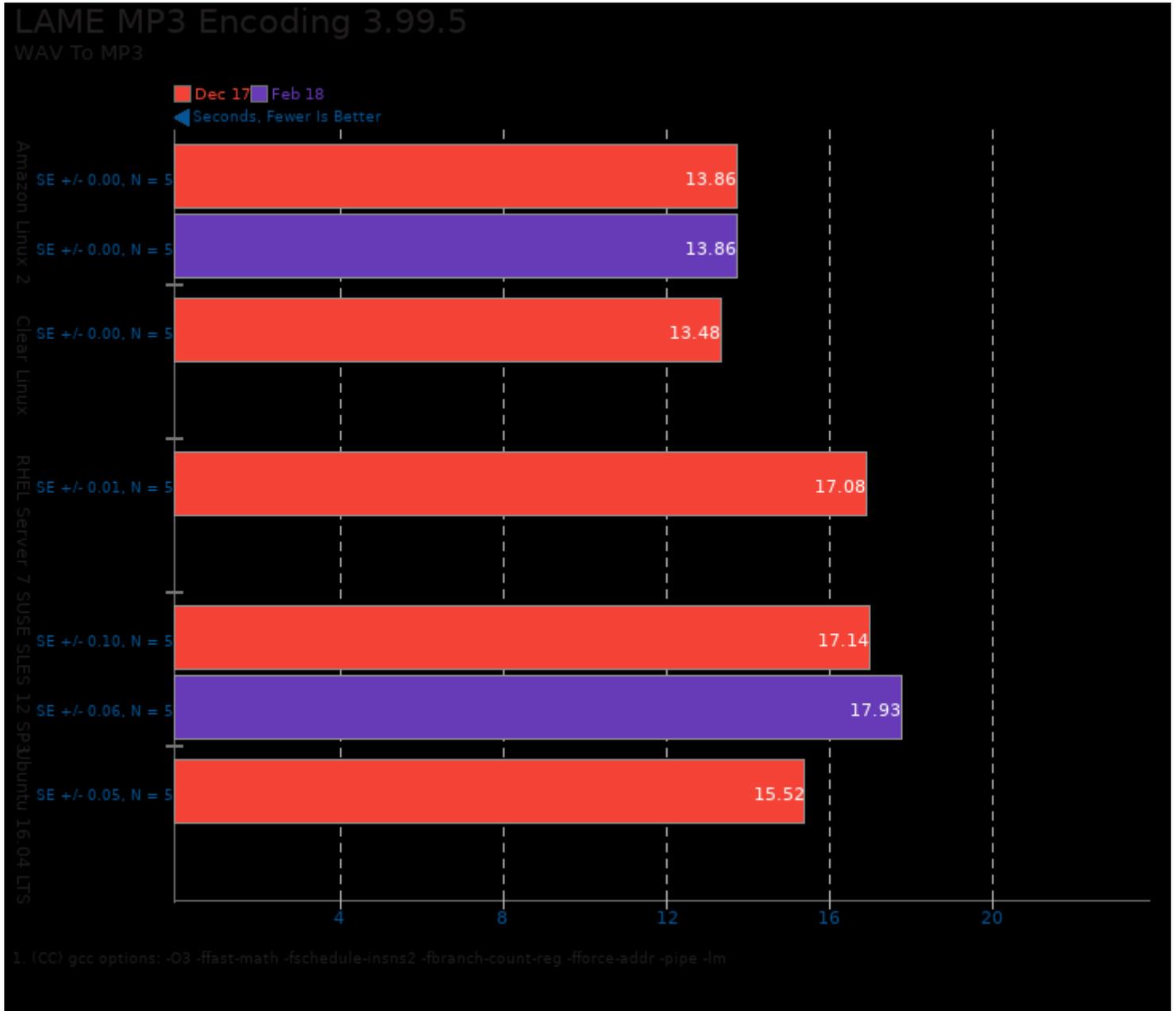


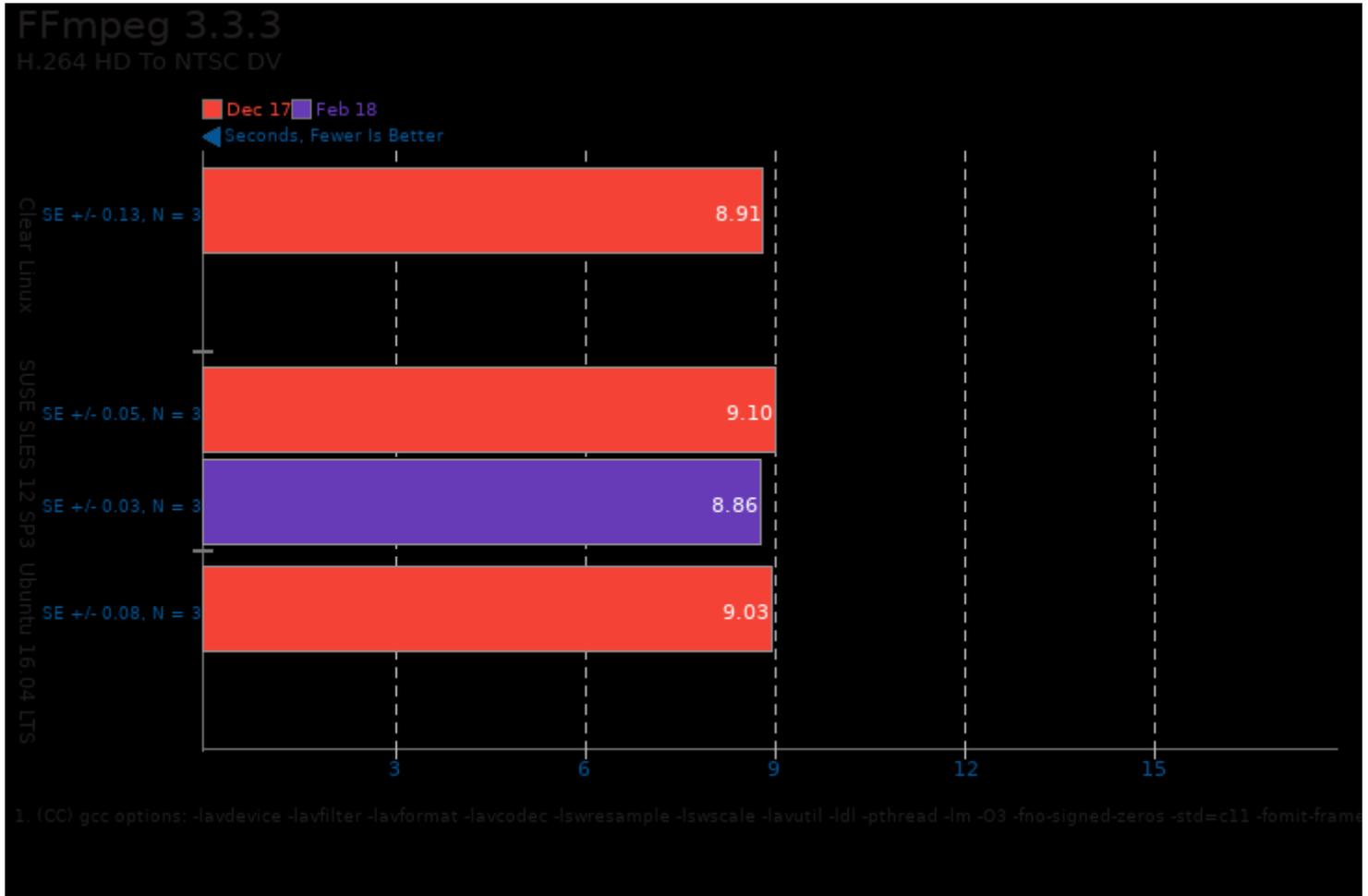


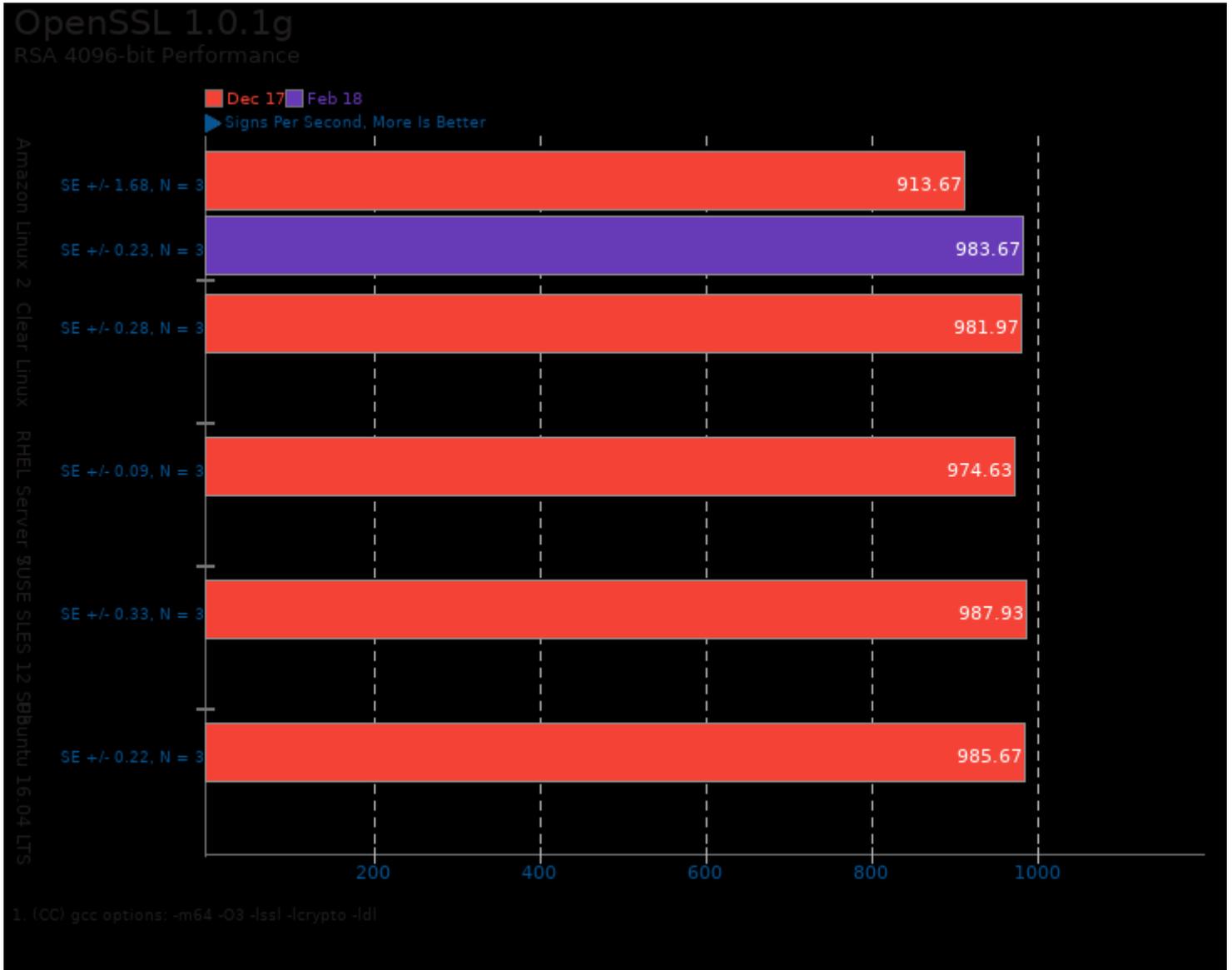


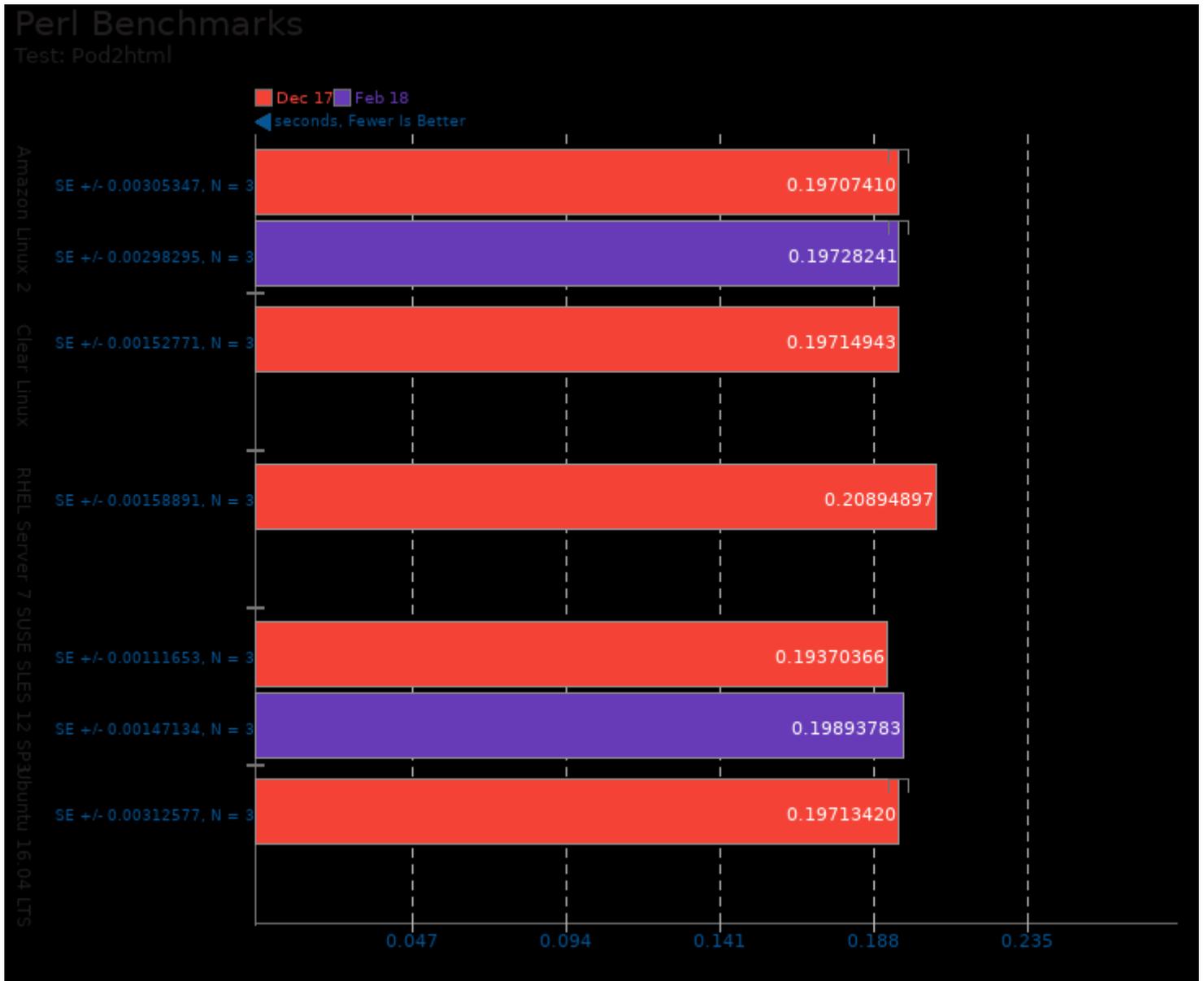


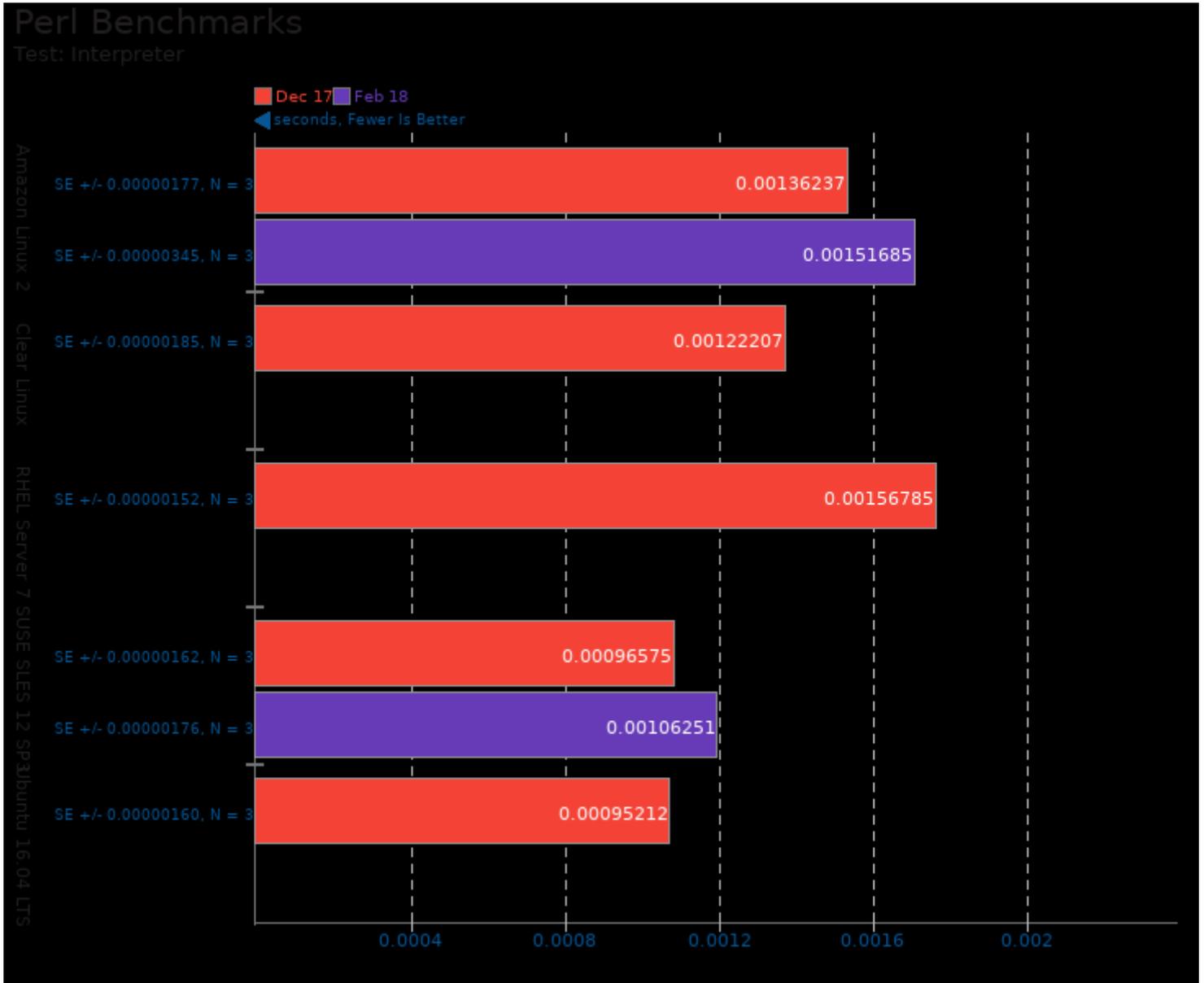


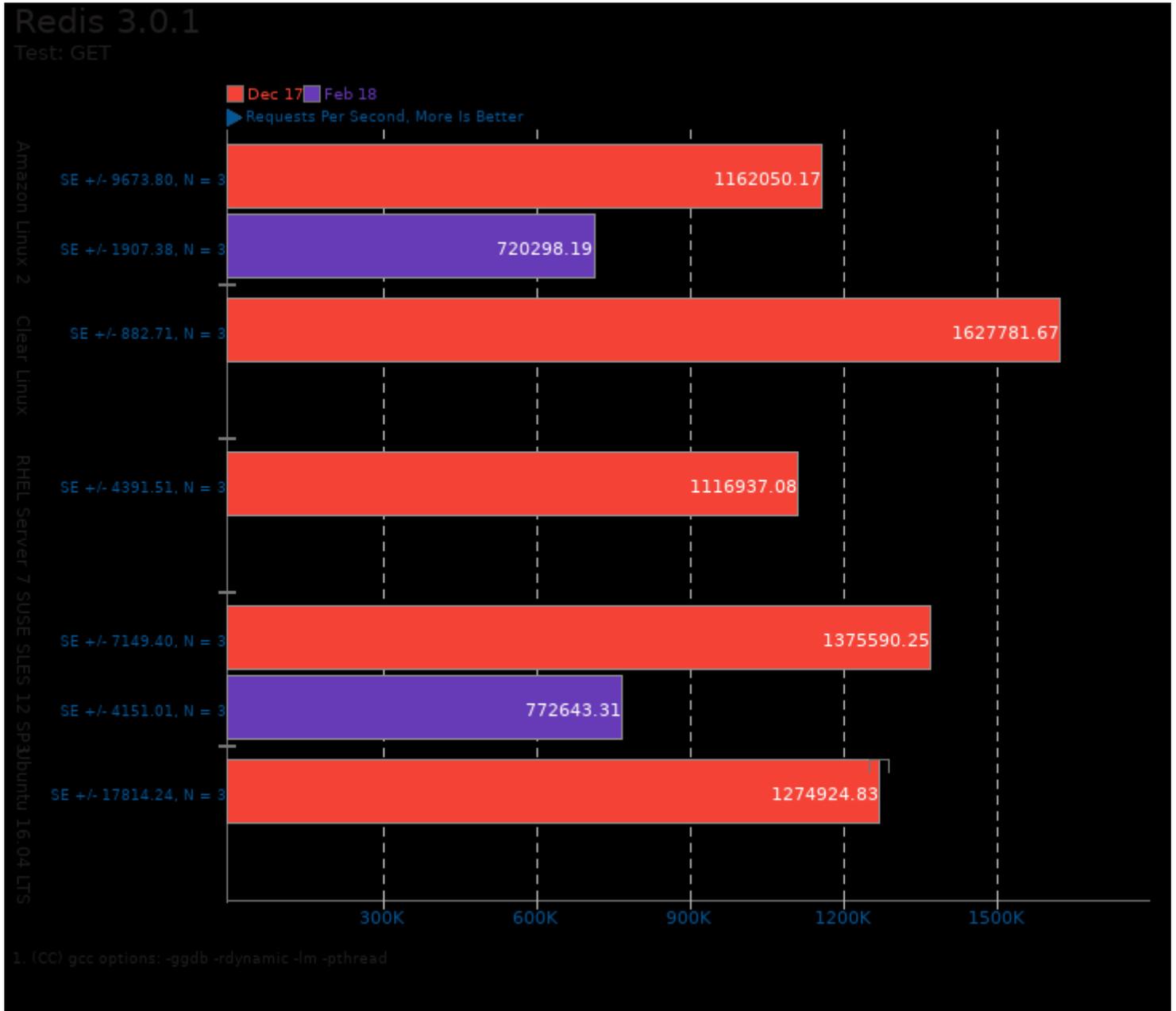


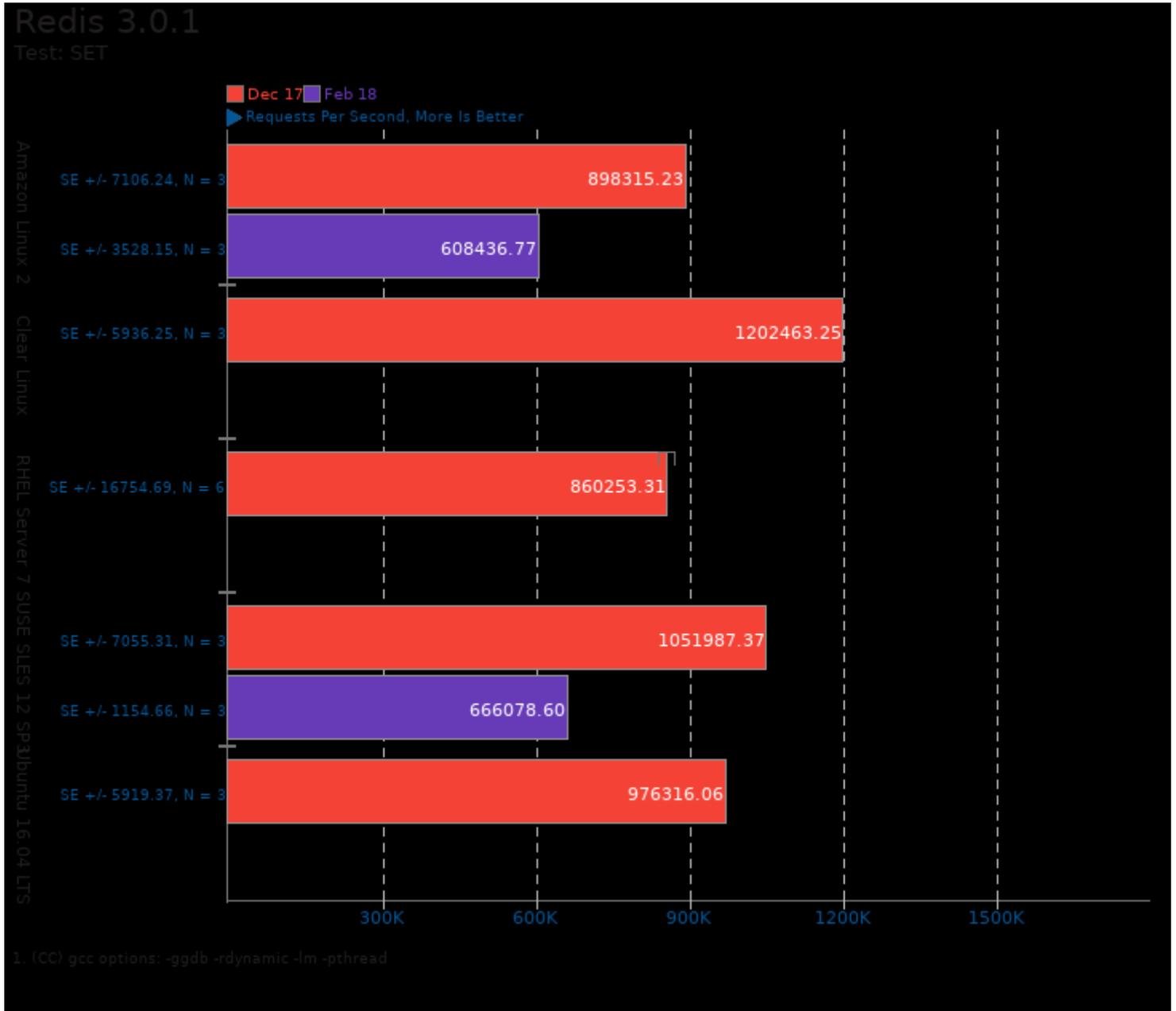


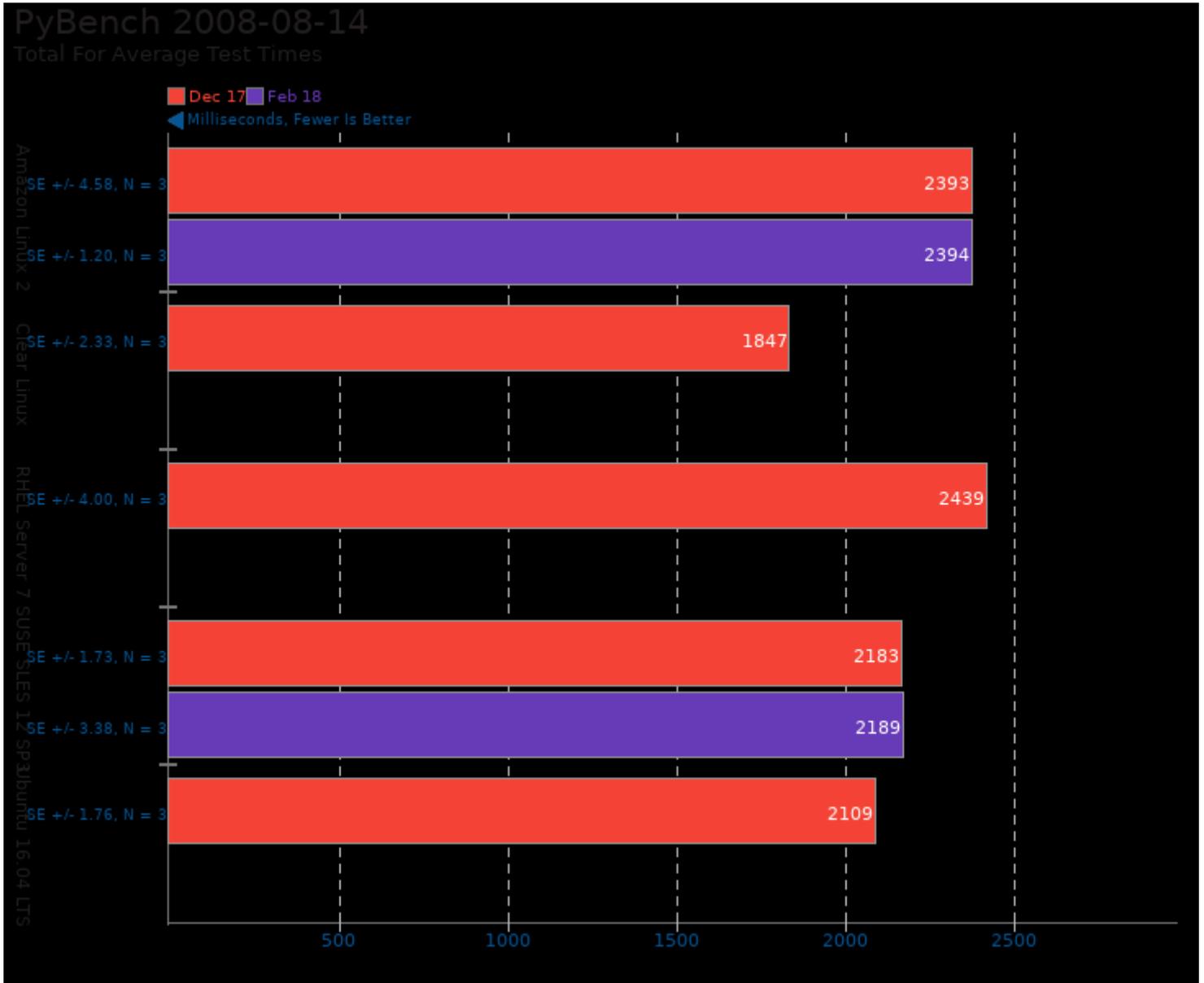


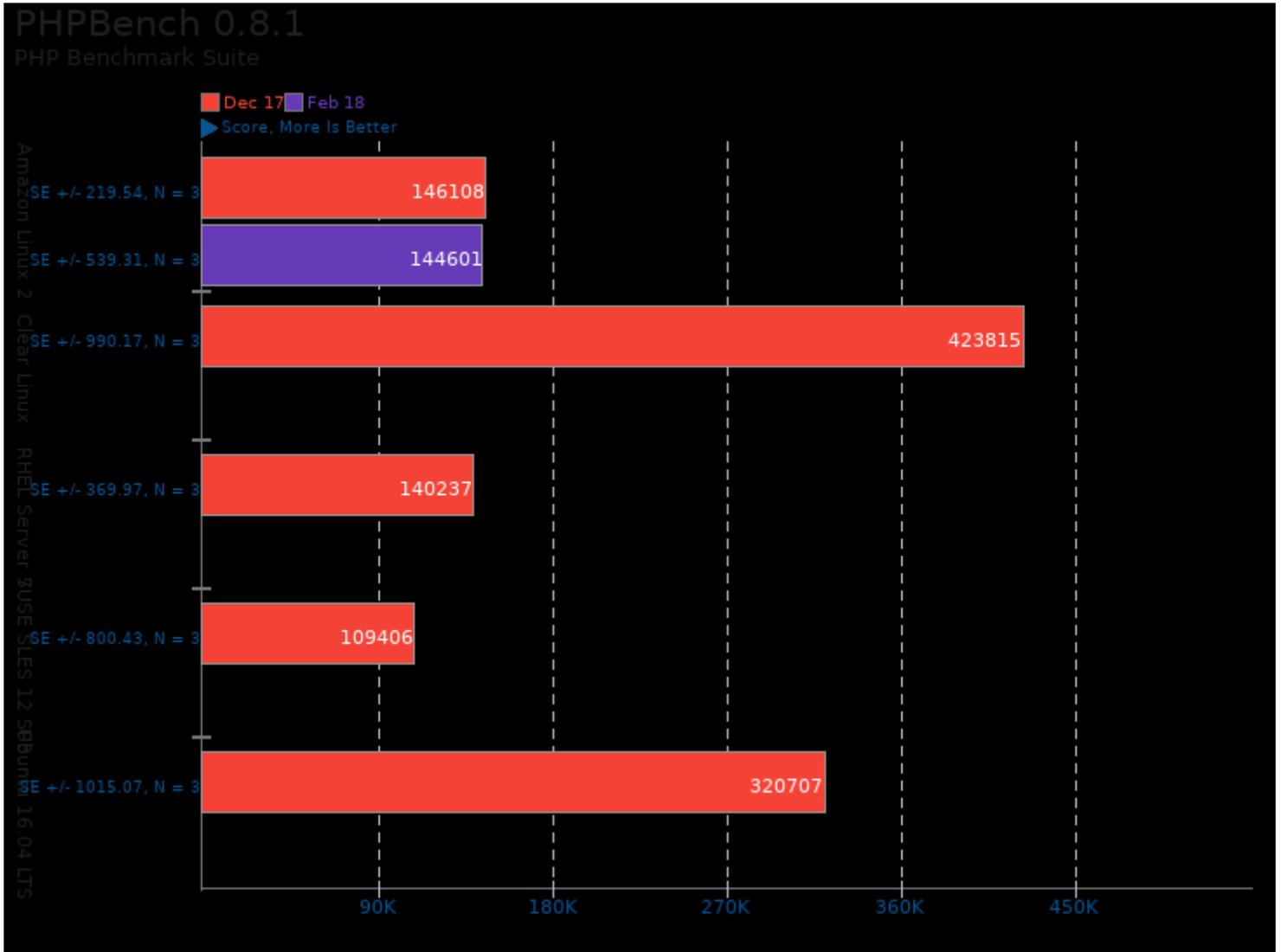


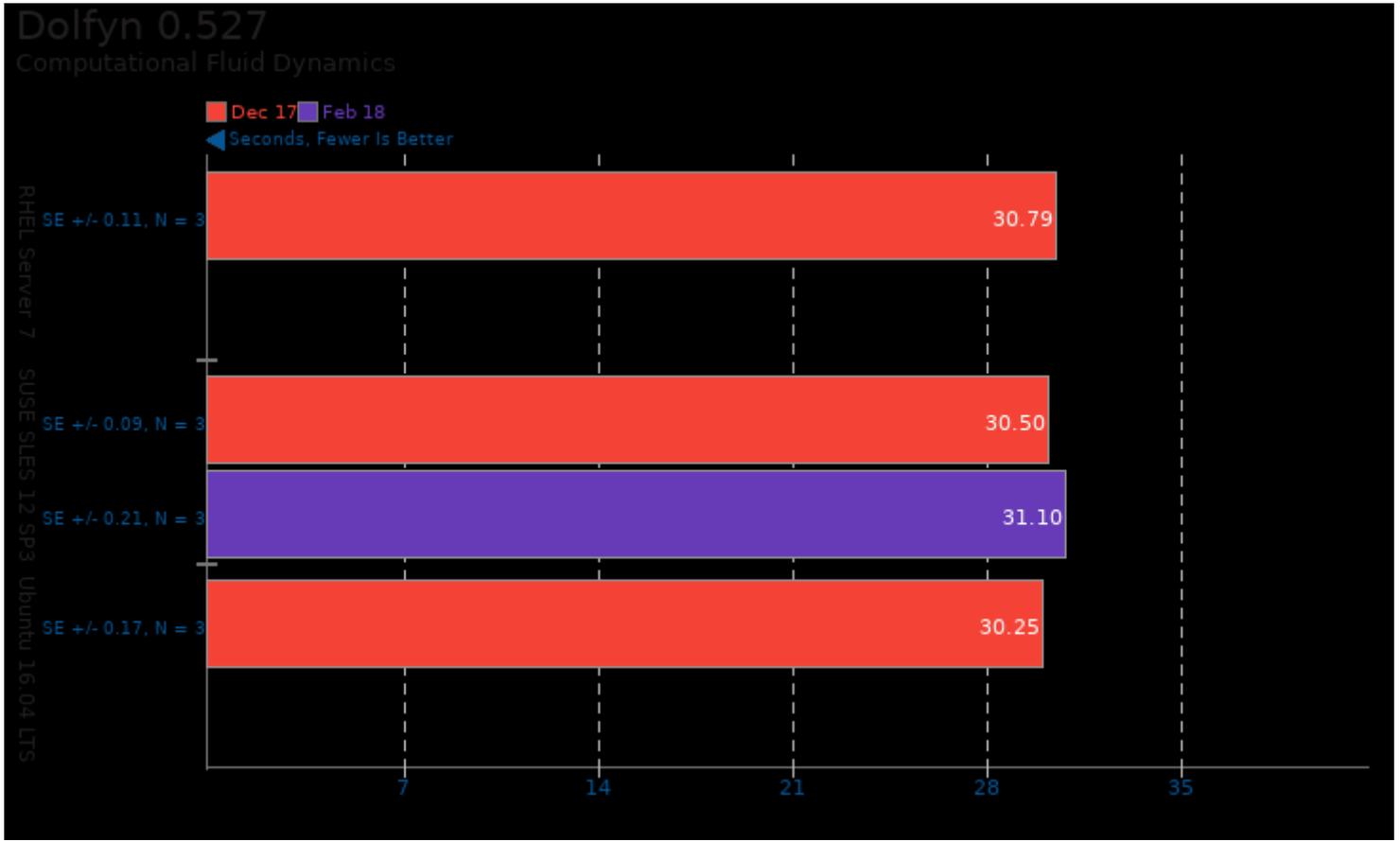


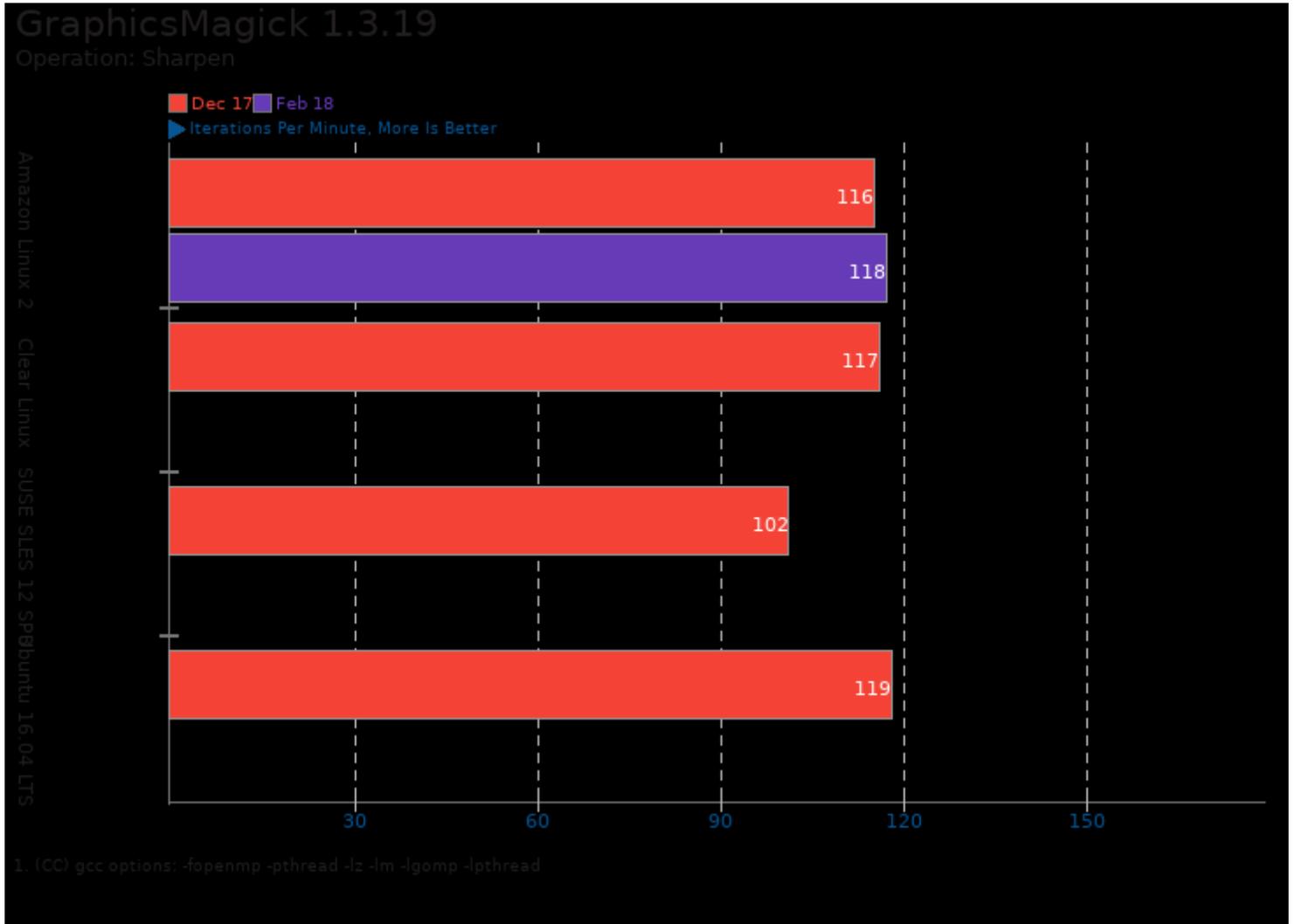


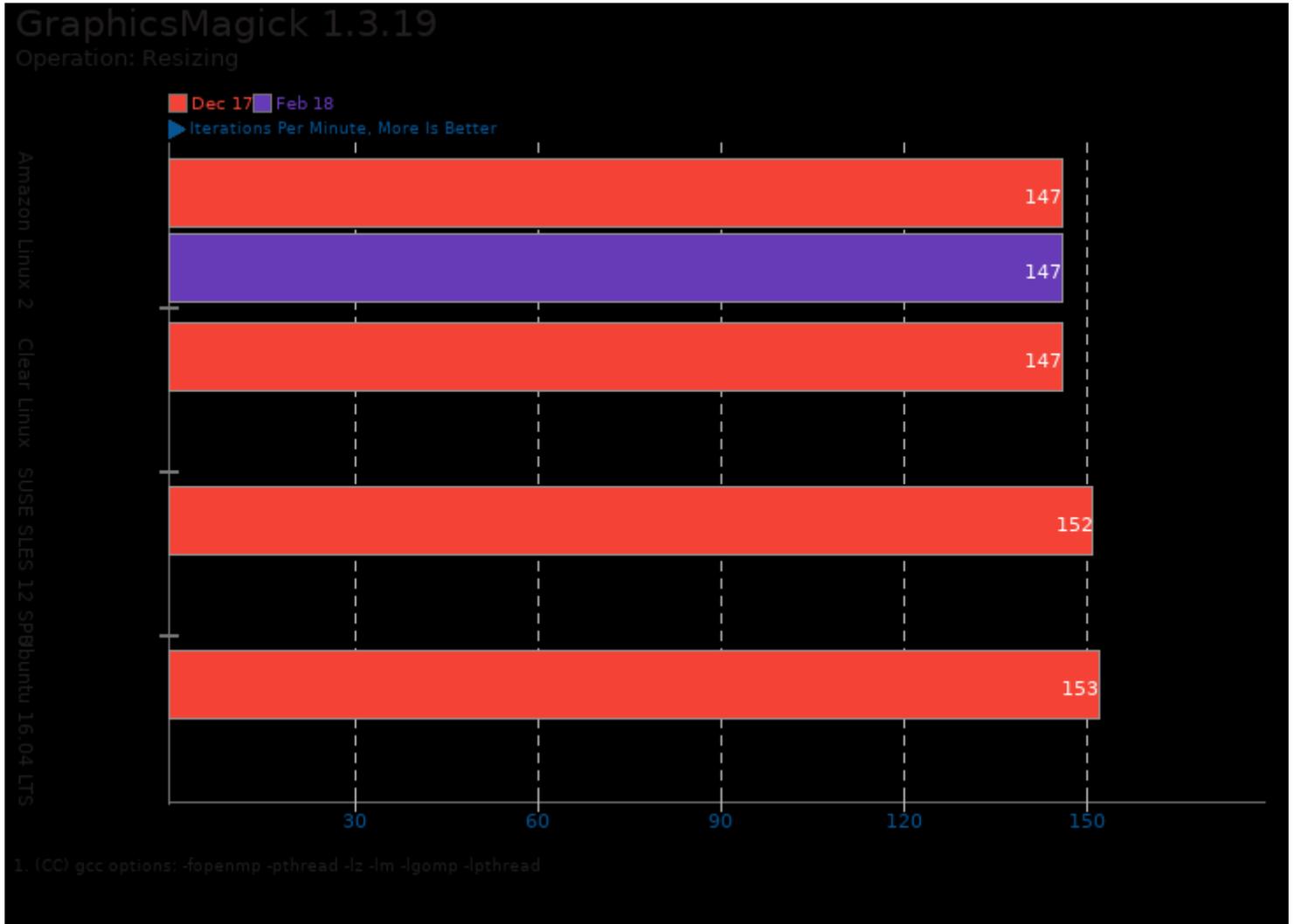


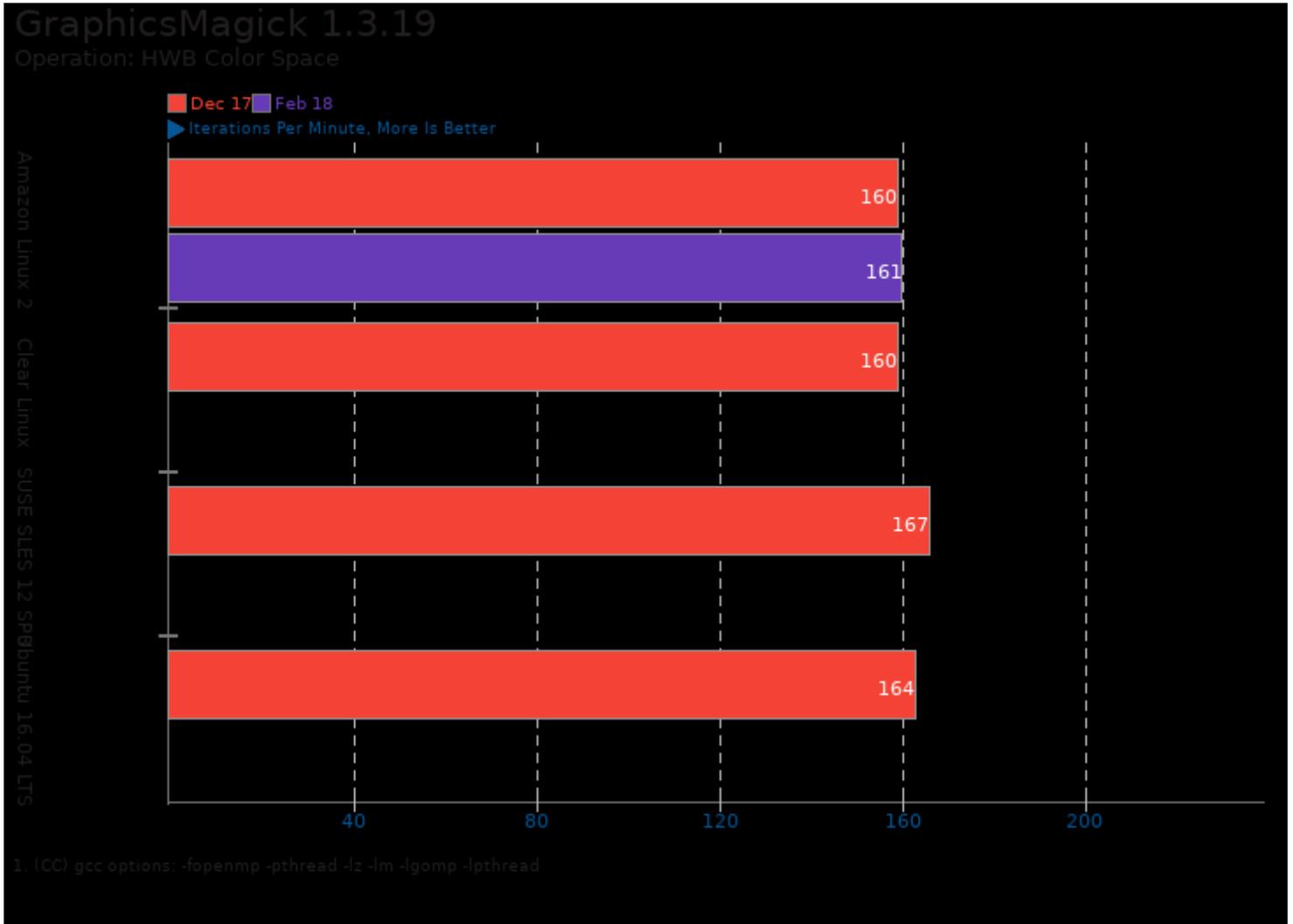


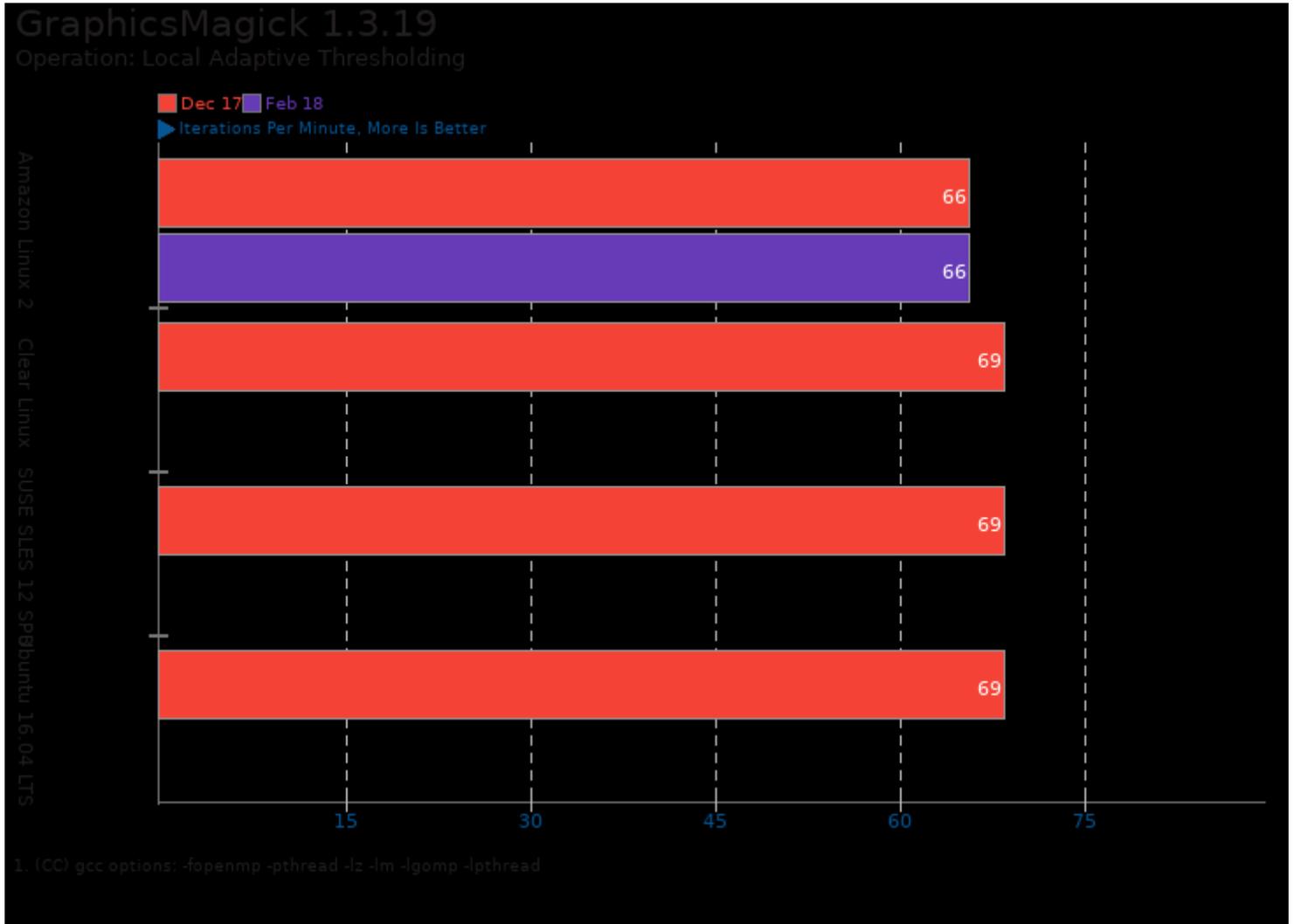


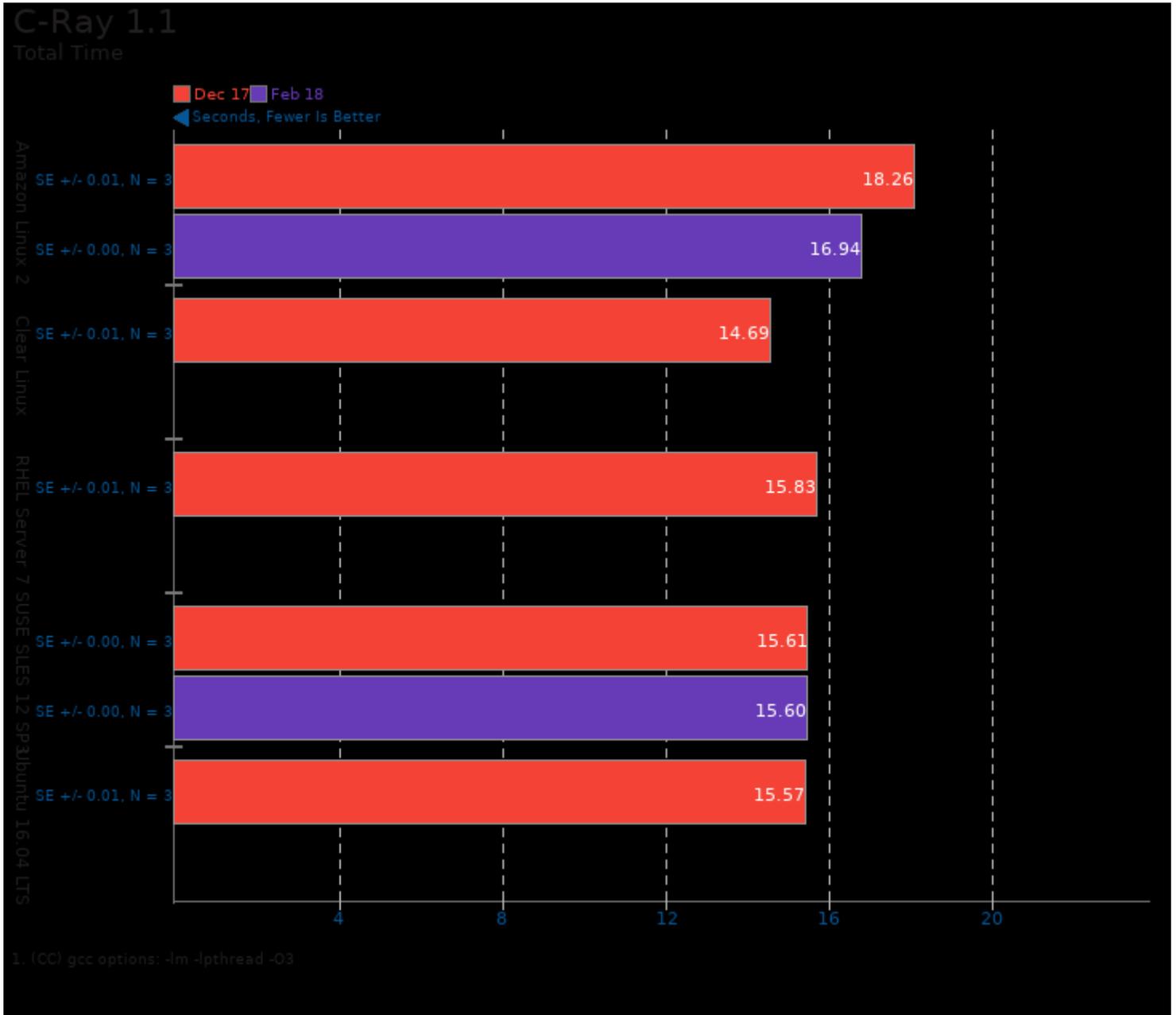






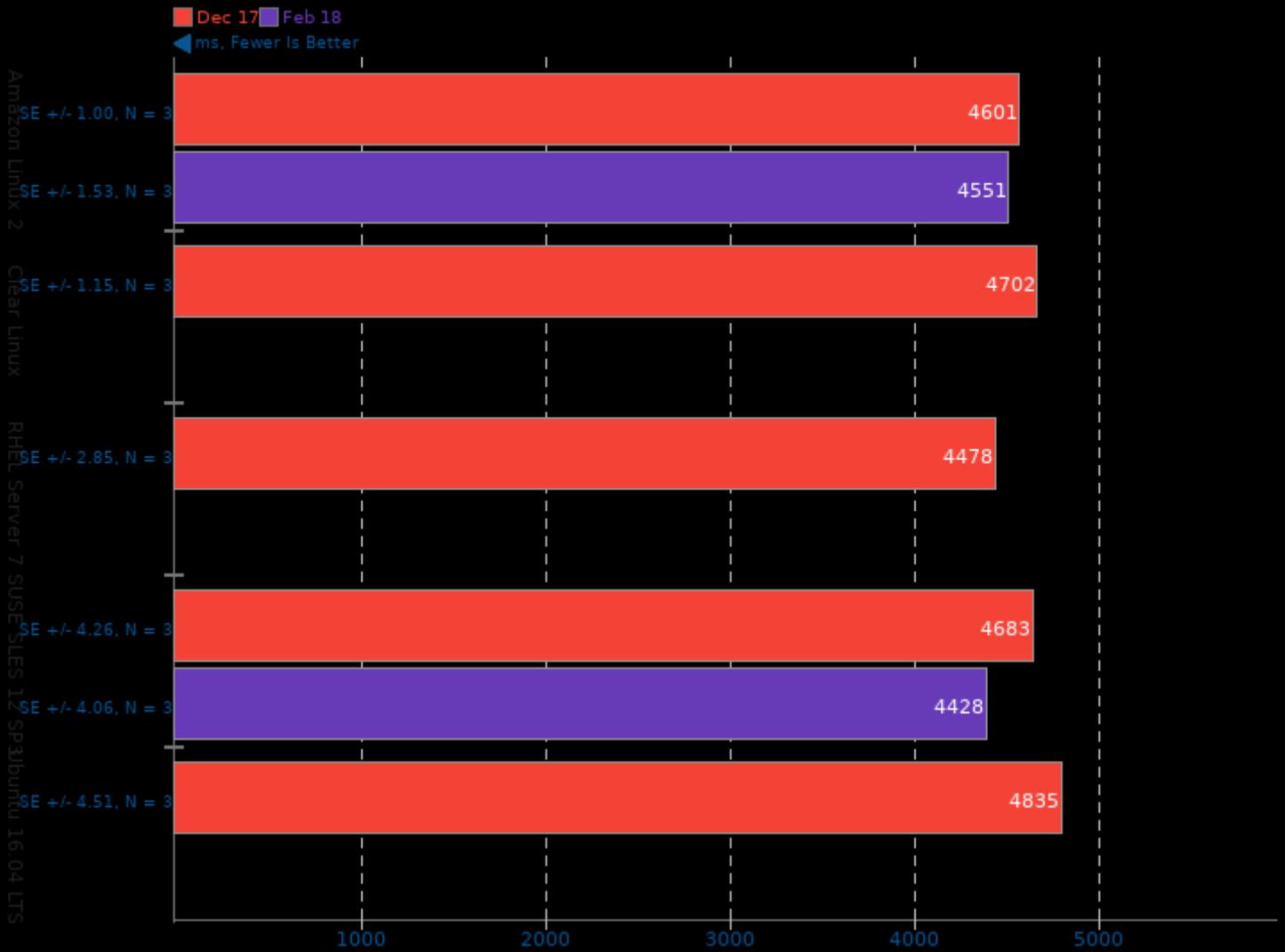






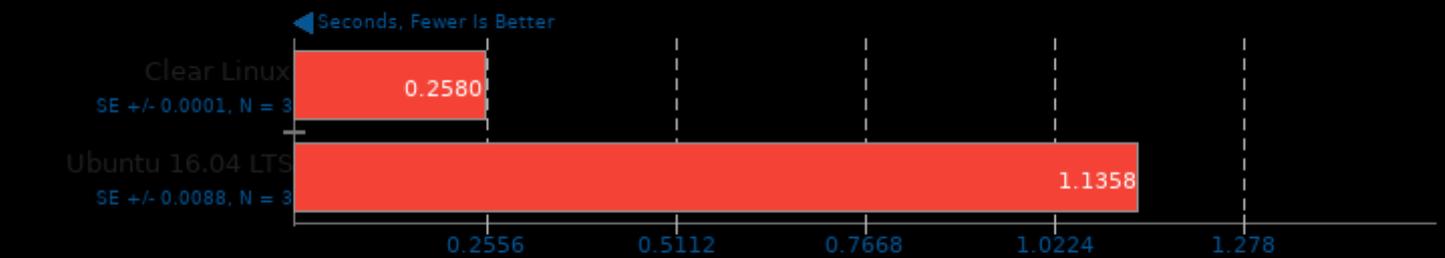
Stockfish 2014-11-26

Total Time



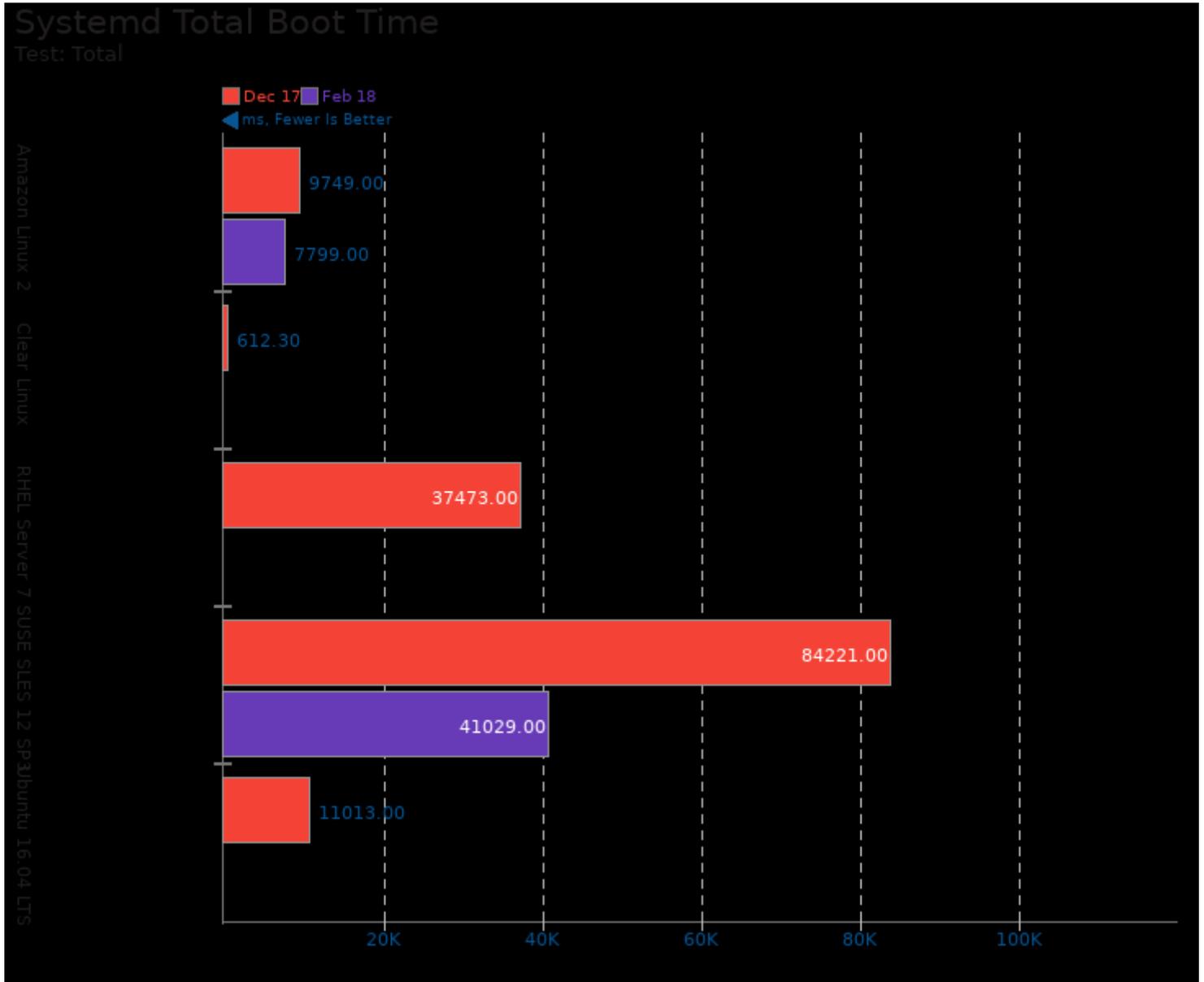
1. (CXX) g++ options: -pthread -fno-exceptions -fno-rtti -ansi -pedantic -O3 -msse -msse3 -mpopcnt -fno

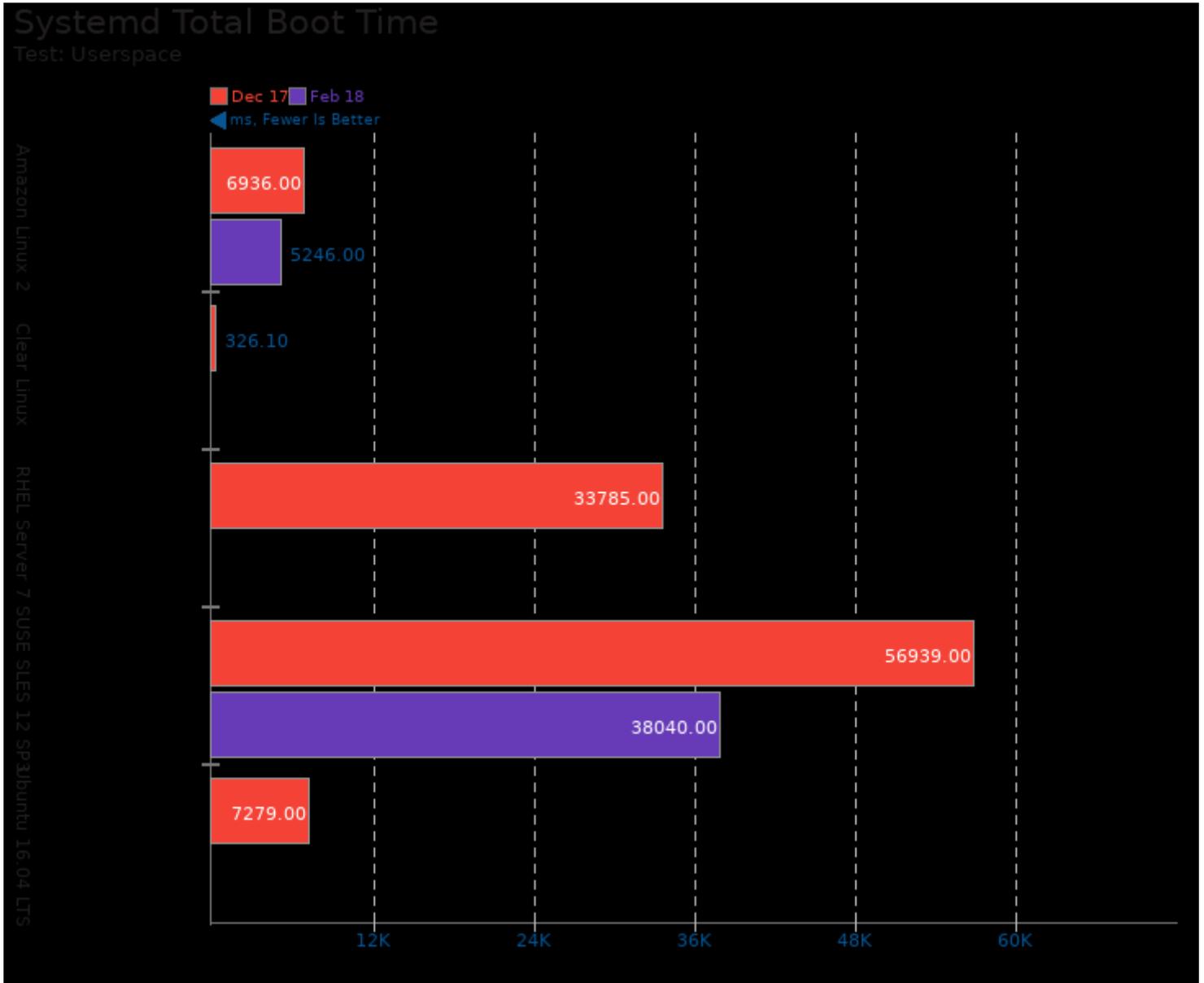
R Benchmark

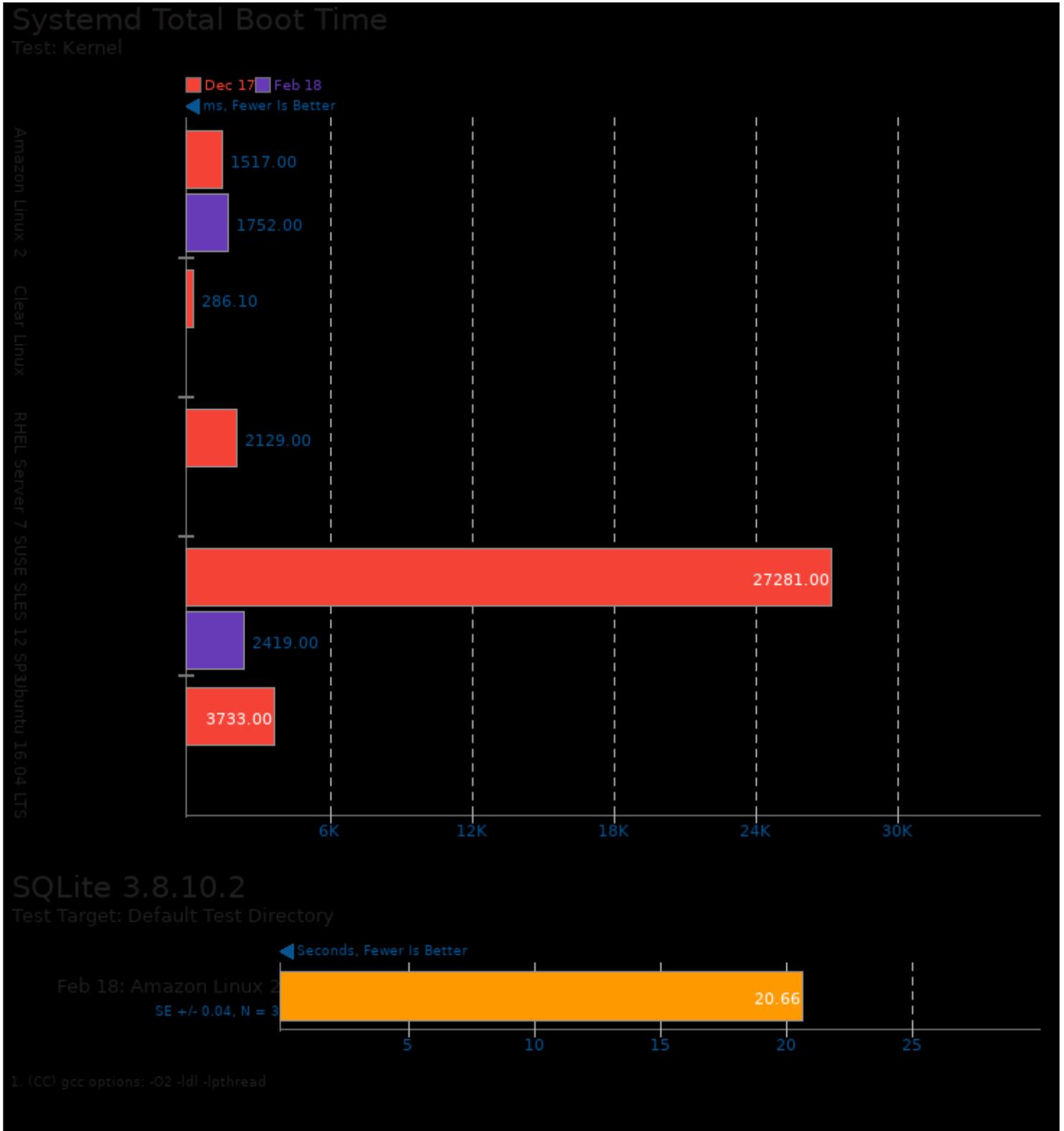


1. Clear Linux: R scripting front-end version 3.4.3 (2017-11-30)

2. Ubuntu 16.04 LTS: R scripting front-end version 3.2.3 (2015-12-10)

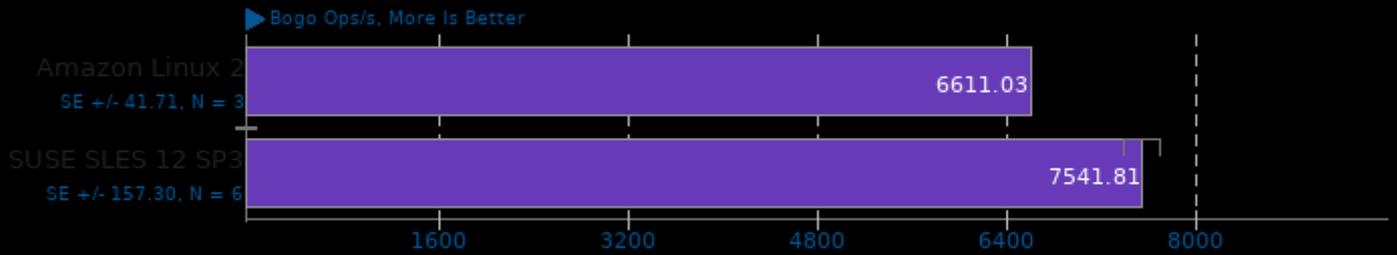






Stress-NG 0.07.26

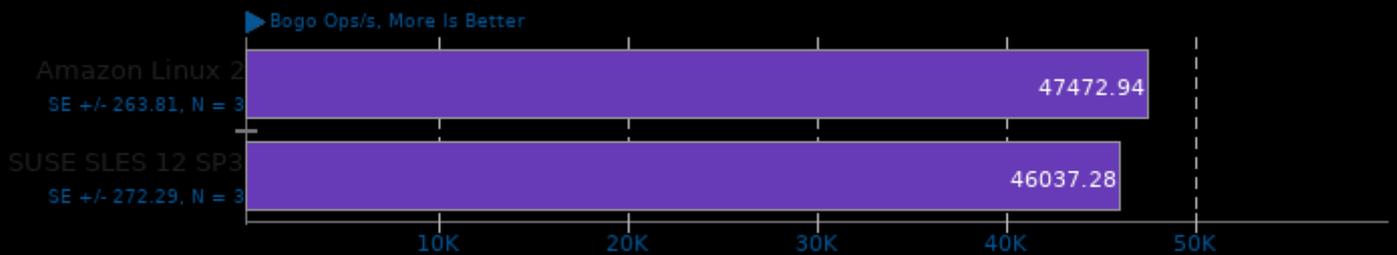
Test: Memory Copying



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -lc

Stress-NG 0.07.26

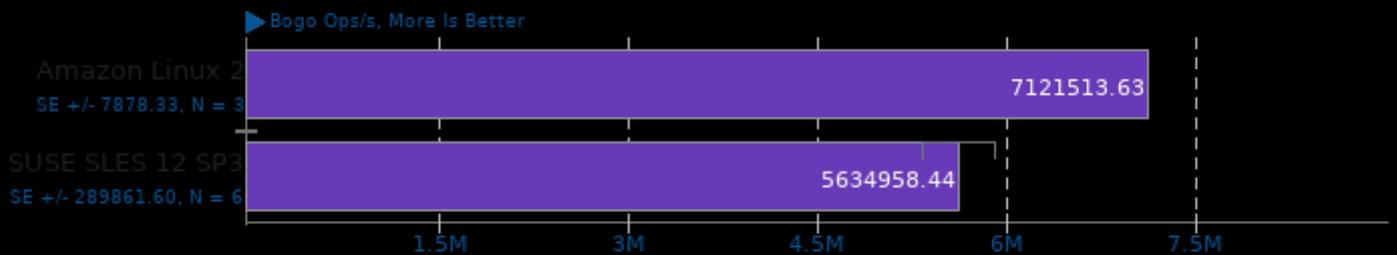
Test: Forking



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -lc

Stress-NG 0.07.26

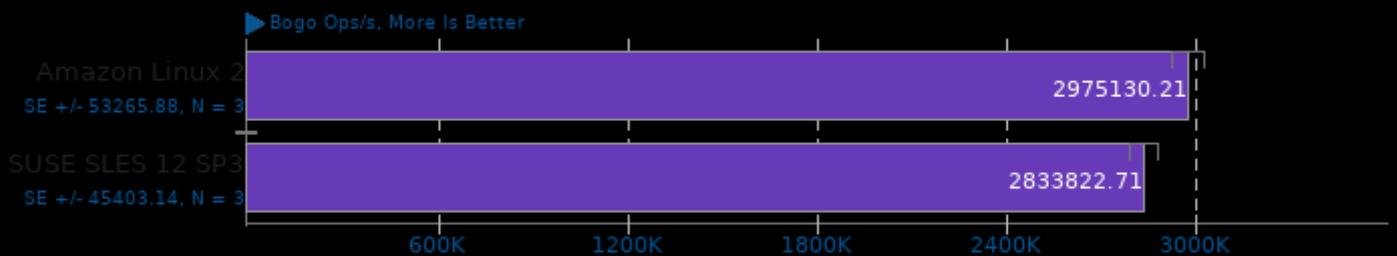
Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -lc

Stress-NG 0.07.26

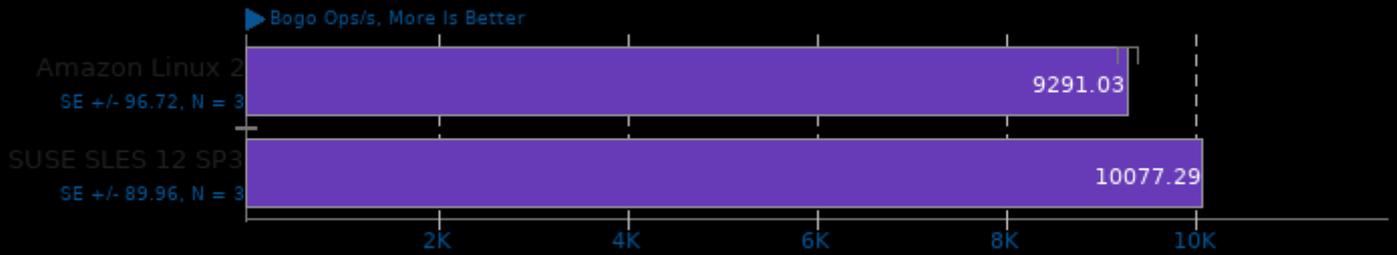
Test: Semaphores



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -lc

Stress-NG 0.07.26

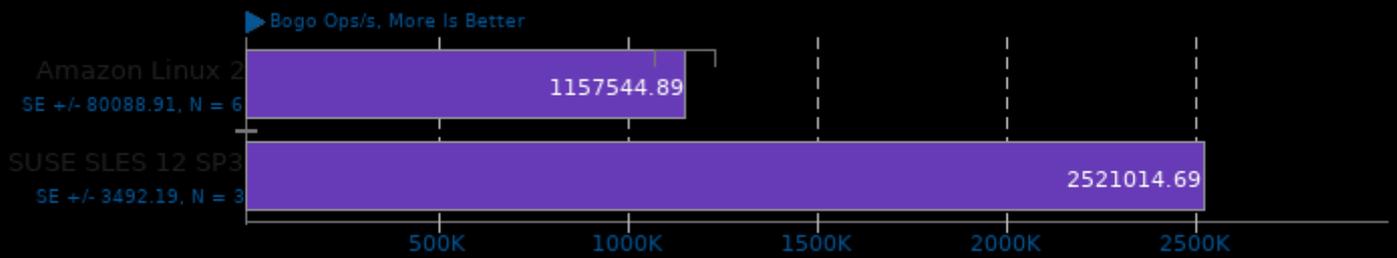
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -lc

Stress-NG 0.07.26

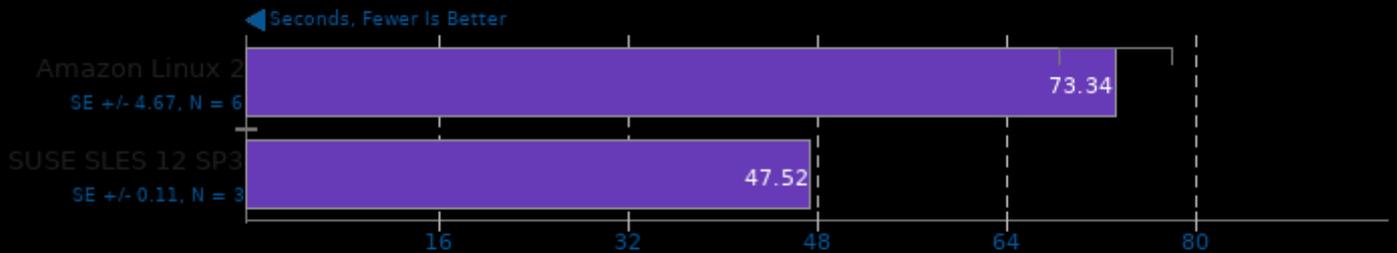
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lz -lcrypt -lrt -lpthread -lc

Hackbench

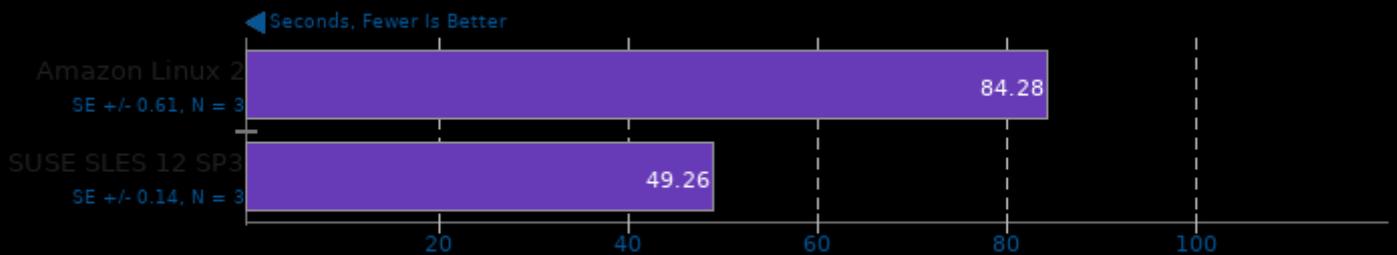
Count: 16 - Type: Process



1. (CC) gcc options: -lpthread

Hackbench

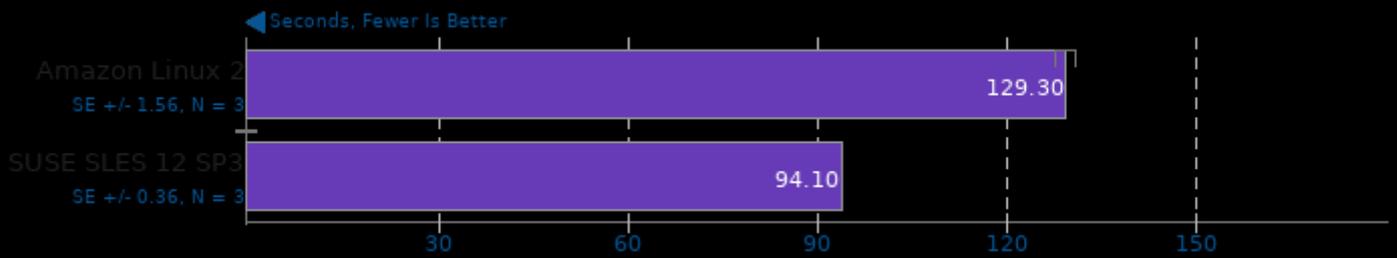
Count: 16 - Type: Thread



1. (CC) gcc options: -lpthread

Hackbench

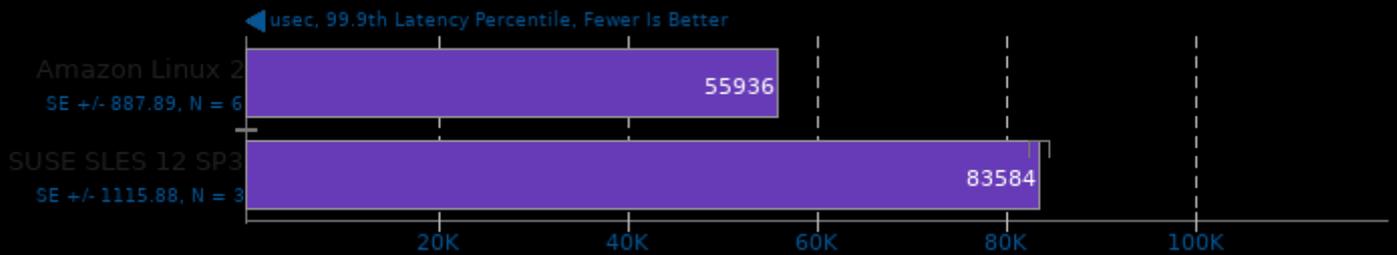
Count: 32 - Type: Process



1. (CC) gcc options: -lpthread

Schbench

Message Threads: 8 - Workers Per Message Thread: 8



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

Schbench

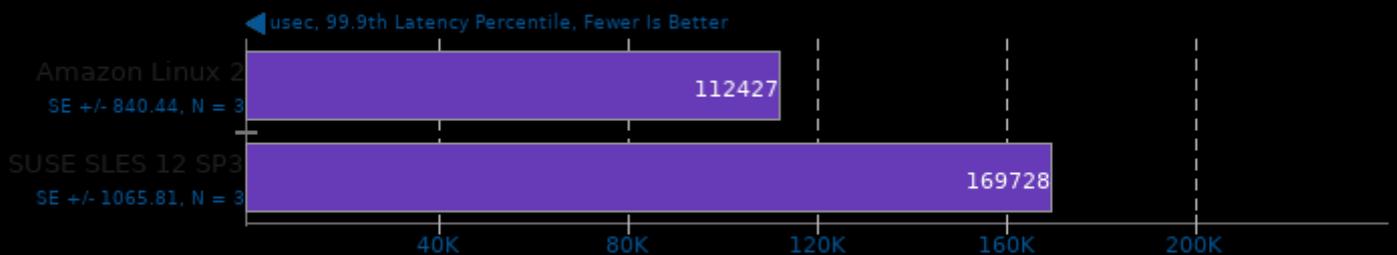
Message Threads: 8 - Workers Per Message Thread: 16



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

Schbench

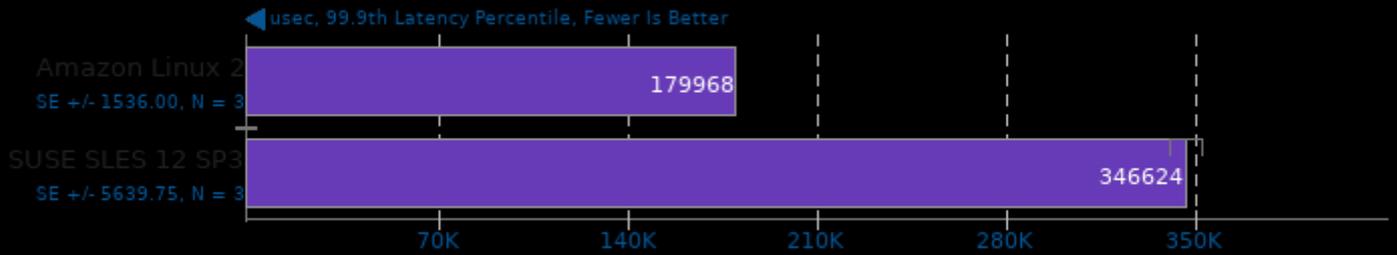
Message Threads: 16 - Workers Per Message Thread: 8



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

Schbench

Message Threads: 16 - Workers Per Message Thread: 16



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

Schbench

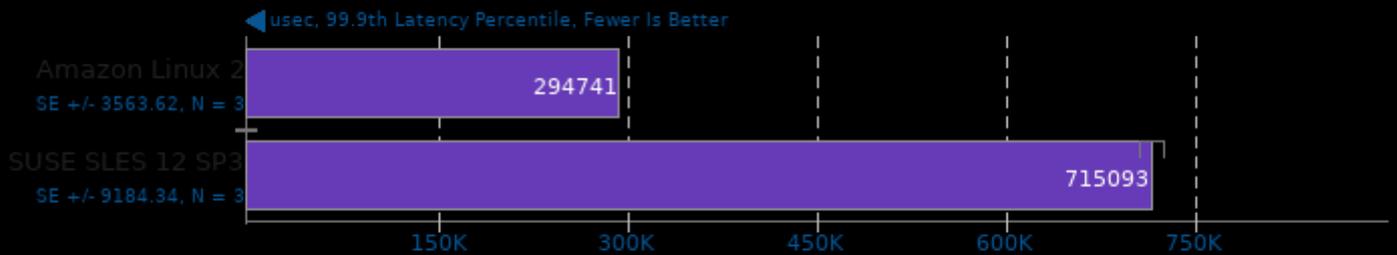
Message Threads: 32 - Workers Per Message Thread: 8



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

Schbench

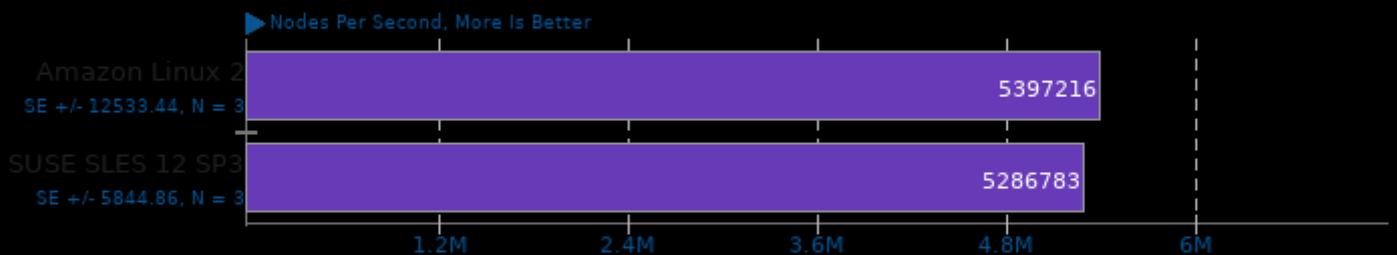
Message Threads: 32 - Workers Per Message Thread: 16



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

Crafty 25.2

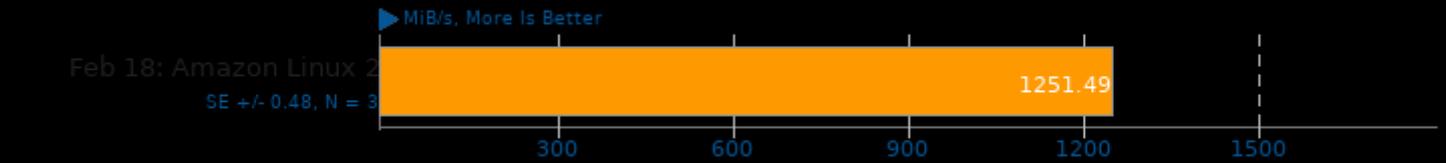
Elapsed Time



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

Botan 2.4.0

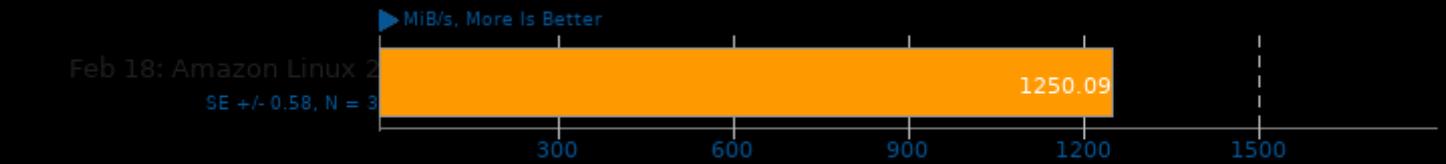
Test: AES-256 - Encrypt



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

Botan 2.4.0

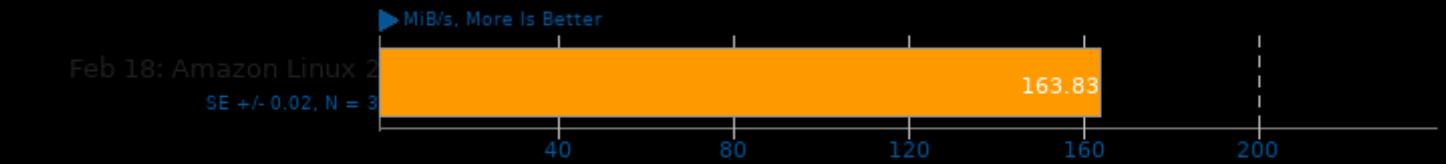
Test: AES-256 - Decrypt



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

Botan 2.4.0

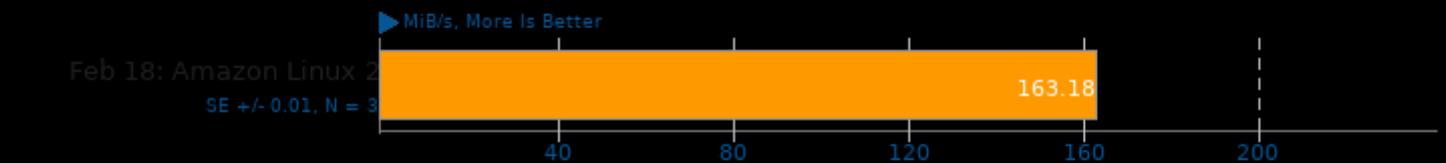
Test: Blowfish - Encrypt



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

Botan 2.4.0

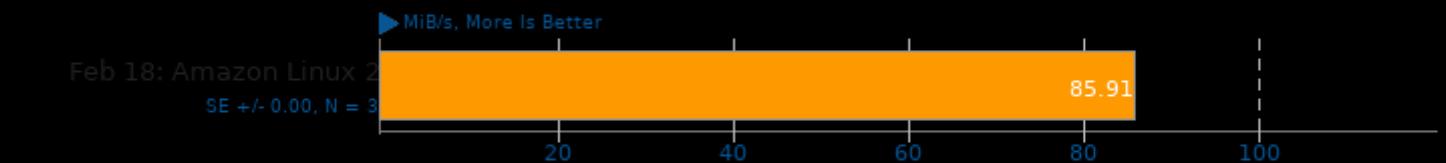
Test: Blowfish - Decrypt



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

Botan 2.4.0

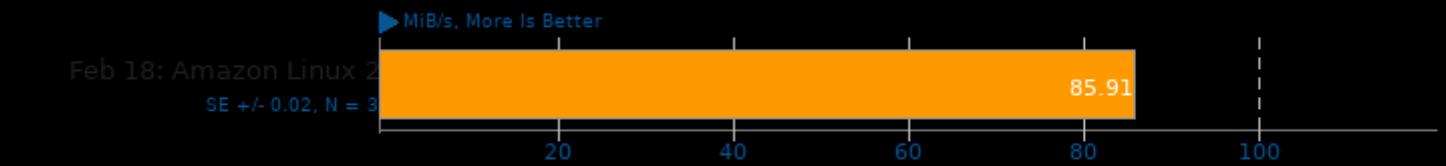
Test: CAST-256 - Encrypt



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

Botan 2.4.0

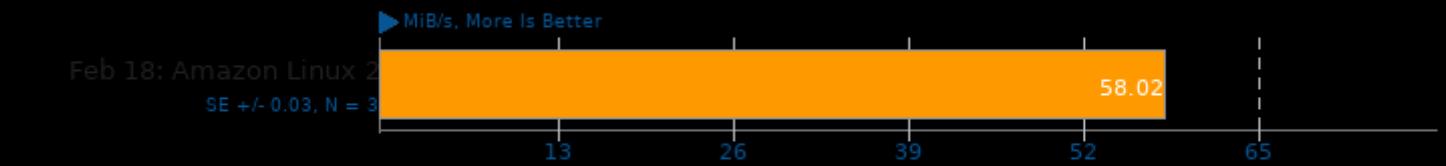
Test: CAST-256 - Decrypt



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

Botan 2.4.0

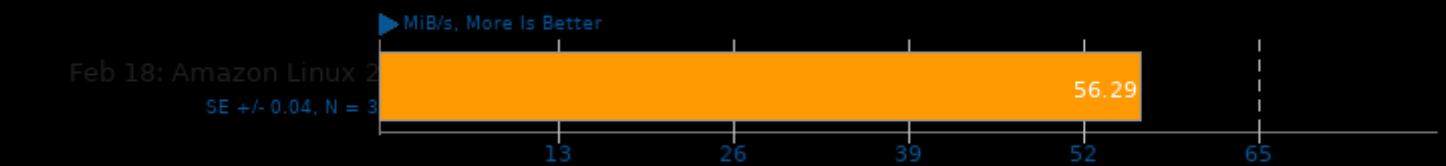
Test: KASUMI - Encrypt



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

Botan 2.4.0

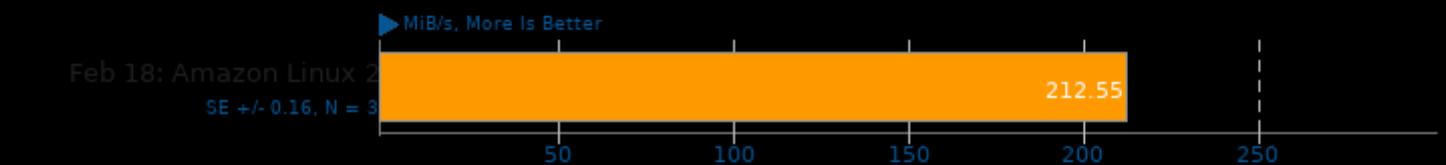
Test: KASUMI - Decrypt



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

Botan 2.4.0

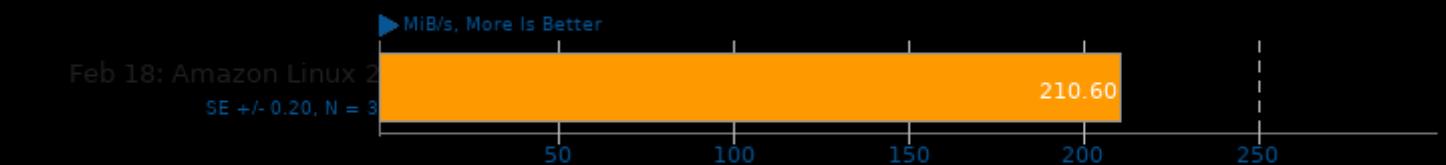
Test: Twofish - Encrypt



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

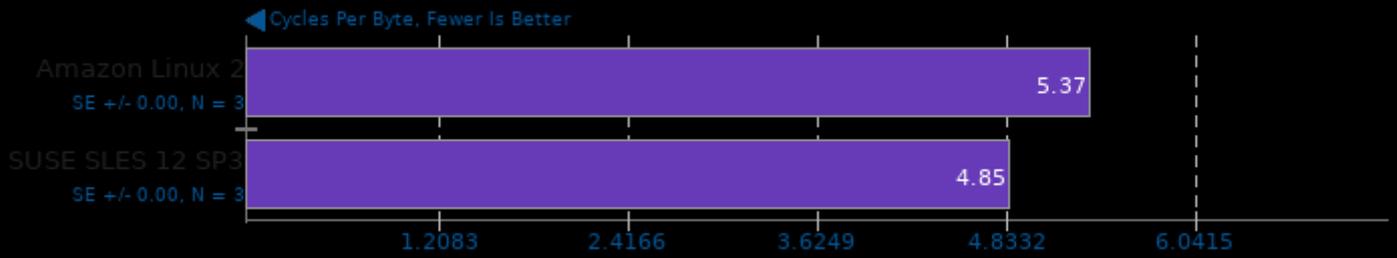
Botan 2.4.0

Test: Twofish - Decrypt



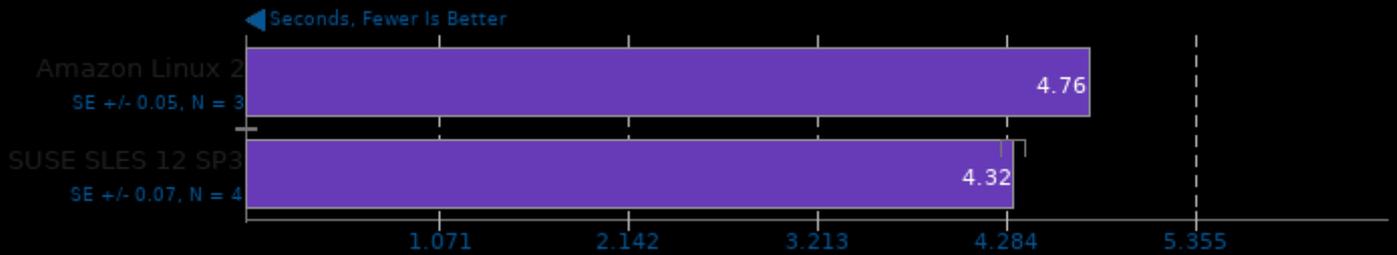
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

BLAKE2 20170307



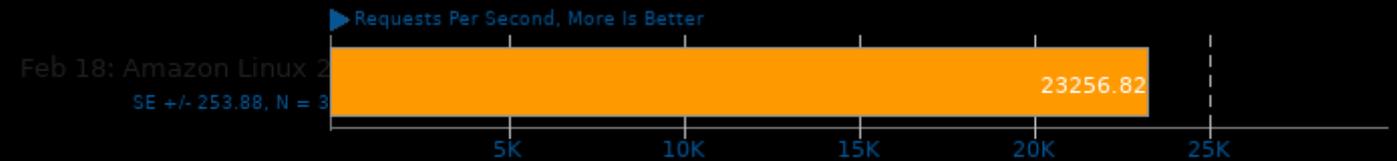
Timed MAFFT Alignment 6.864

Multiple Sequence Alignment



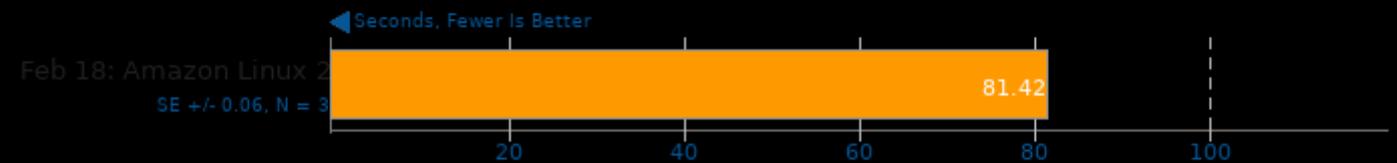
NGINX Benchmark 1.9.9

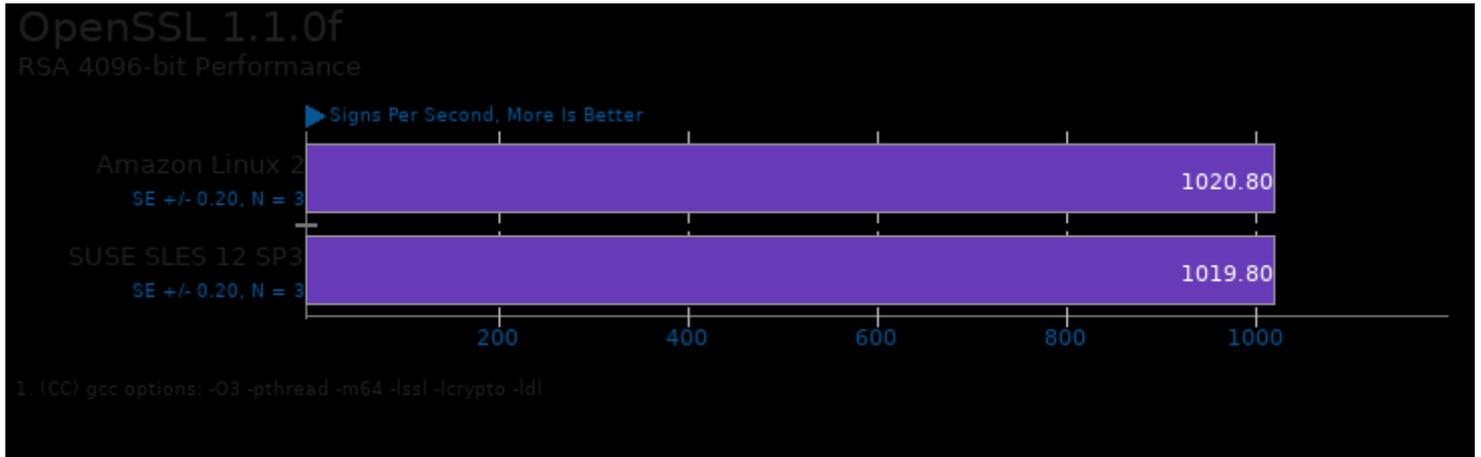
Static Web Page Serving



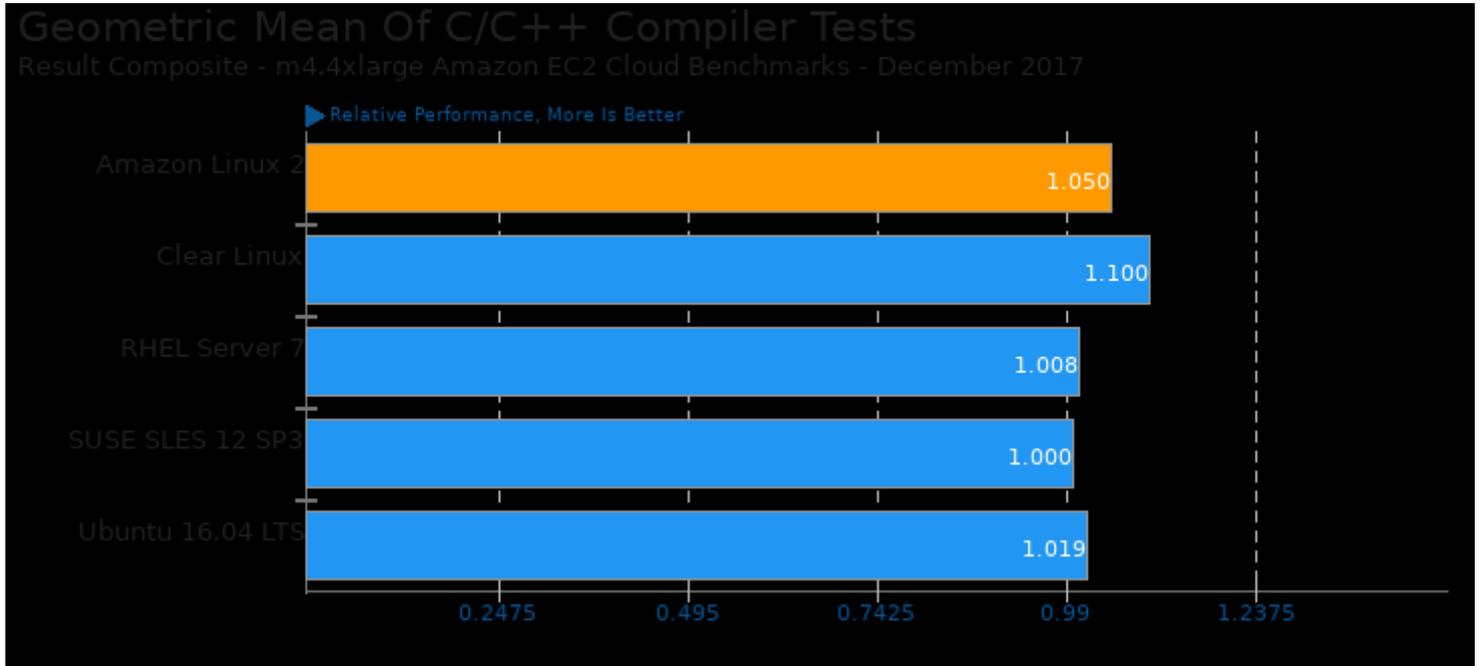
POV-Ray 3.7.0.7

Trace Time

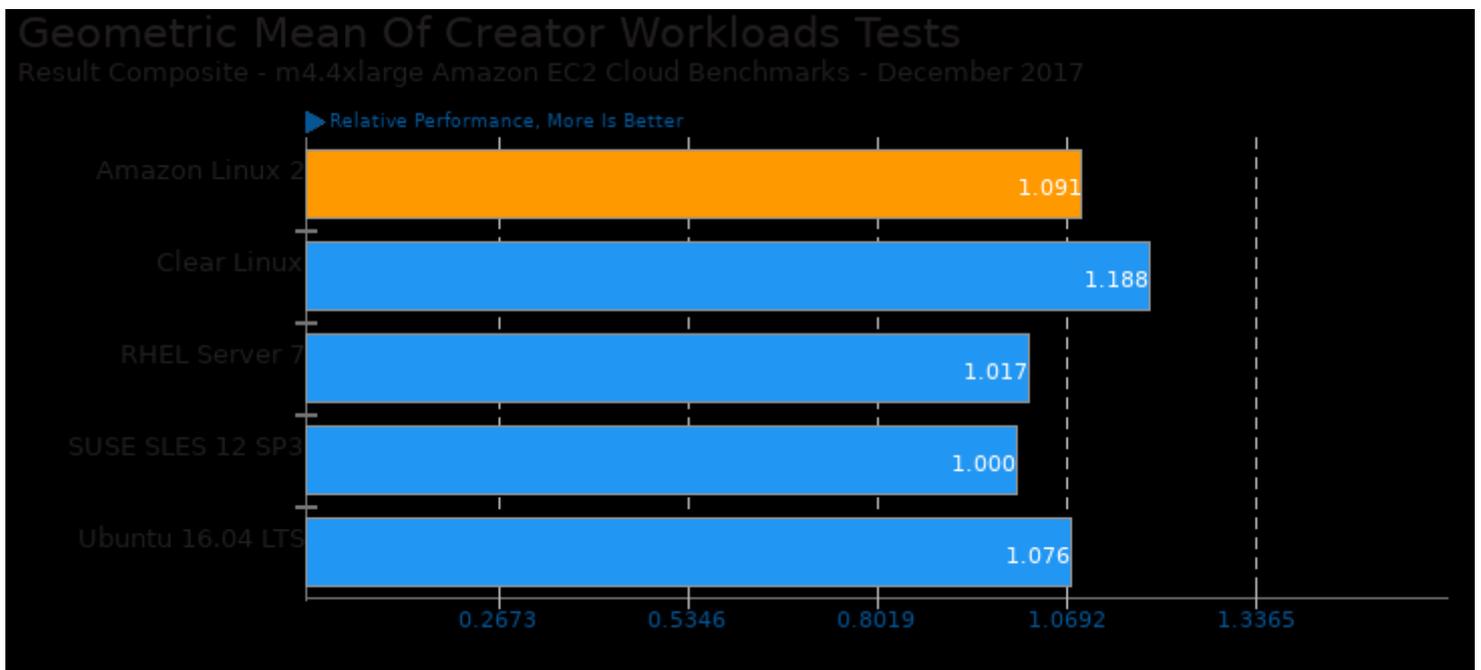




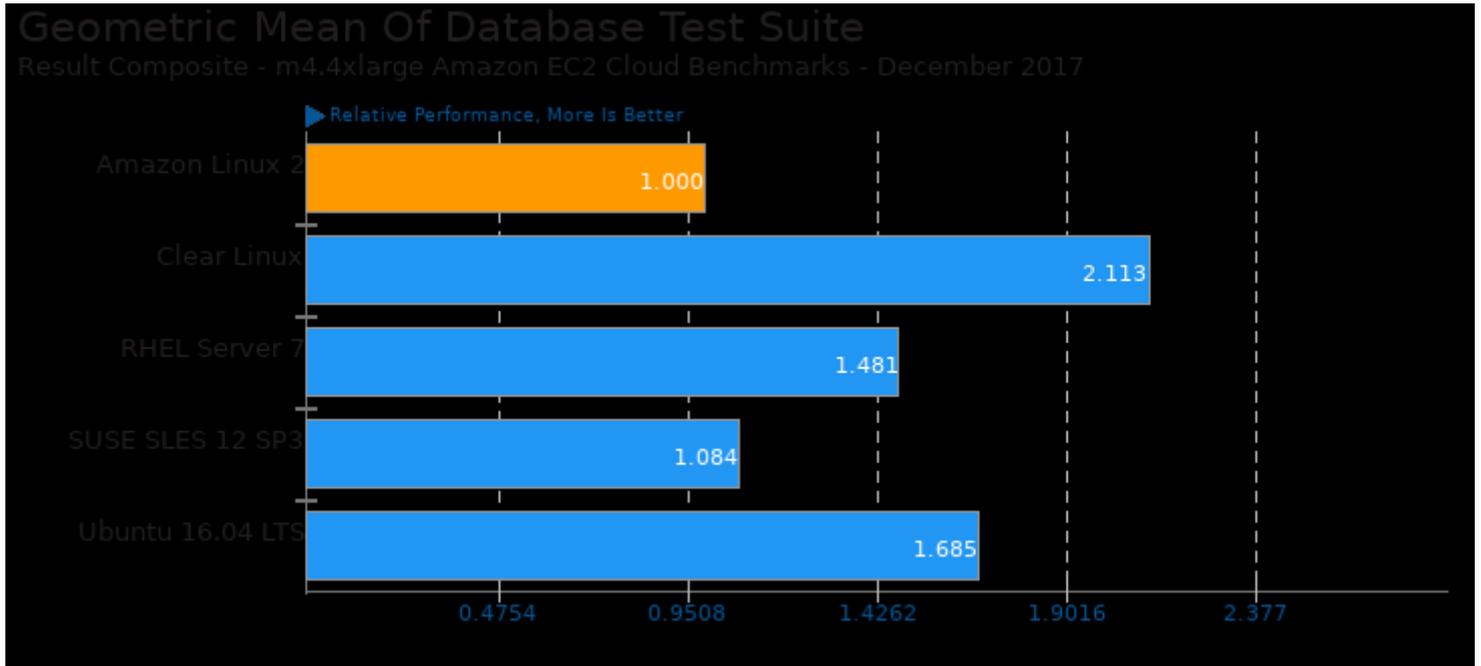
These geometric means are based upon test groupings / test suites for this result file.



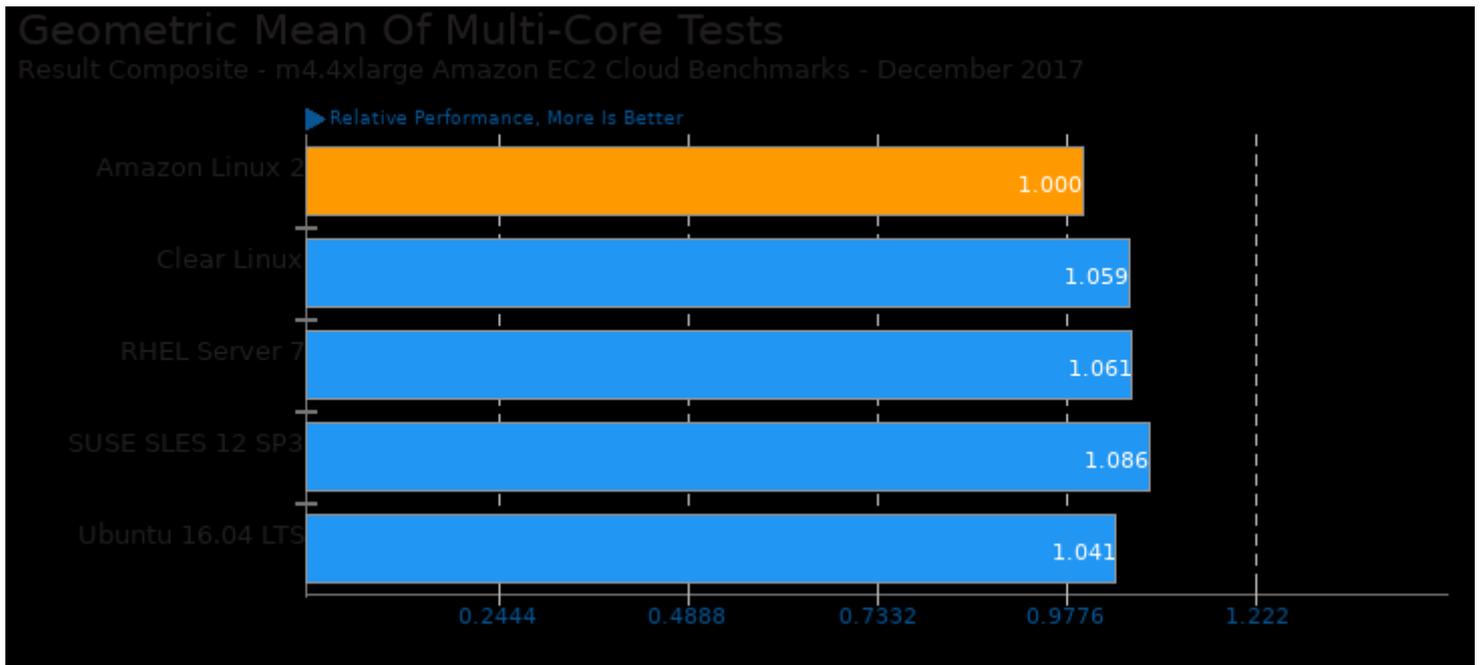
Geometric mean based upon tests: pts/mafft, pts/graphics-magick, pts/himeno, pts/stockfish, pts/c-ray, pts/encode-mp3, pts/encode-flac, pts/openssl and pts/nginx



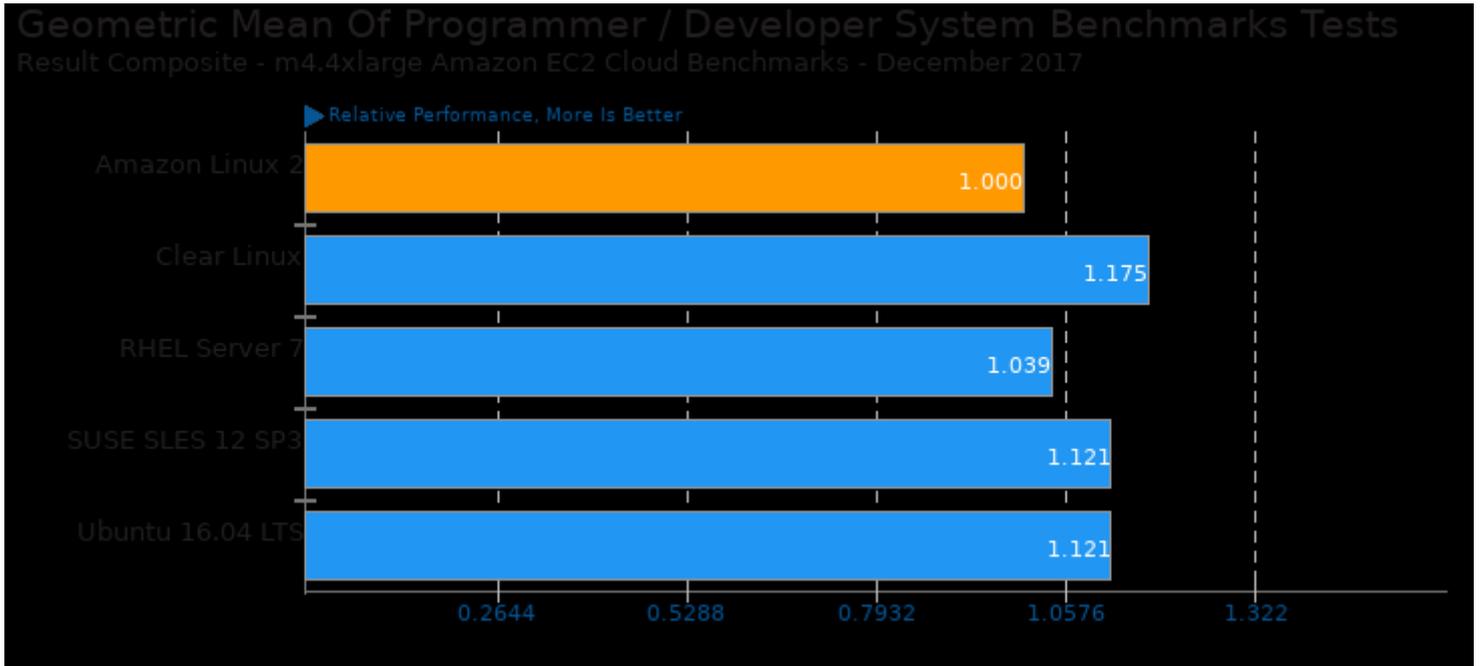
Geometric mean based upon tests: pts/c-ray, pts/povray, pts/ffmpeg, pts/encode-mp3, pts/encode-flac and pts/graphics-magick



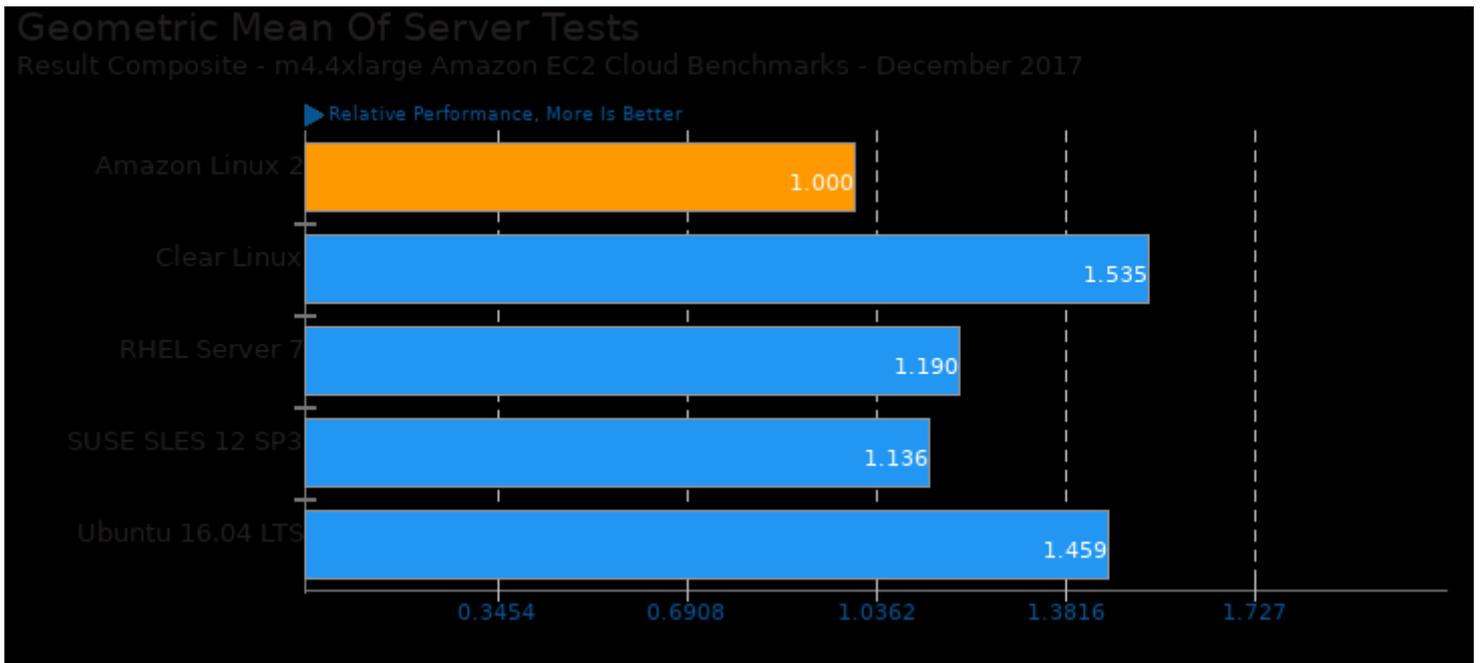
Geometric mean based upon tests: pts/sqlite and pts/redis



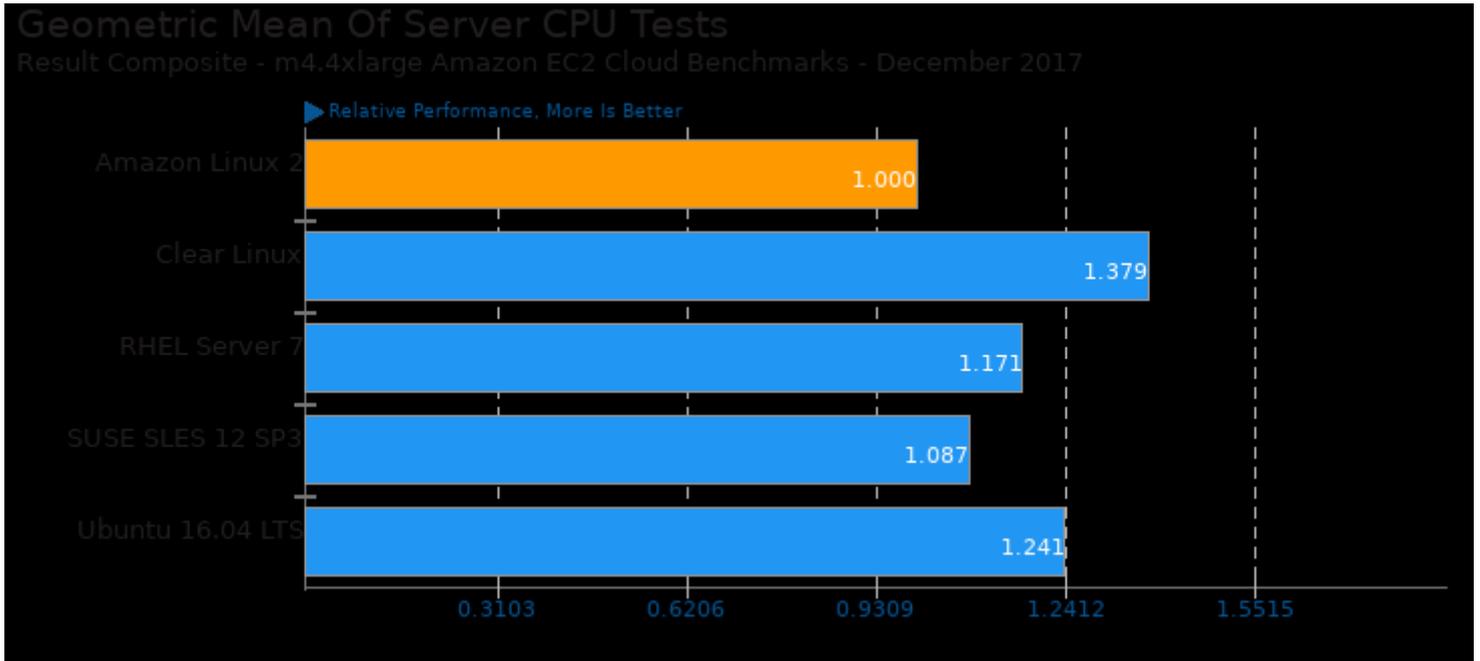
Geometric mean based upon tests: pts/c-ray, pts/povray, pts/stockfish, pts/ffmpeg, pts/rodinia, pts/graphics-magick and pts/build-linux-kernel



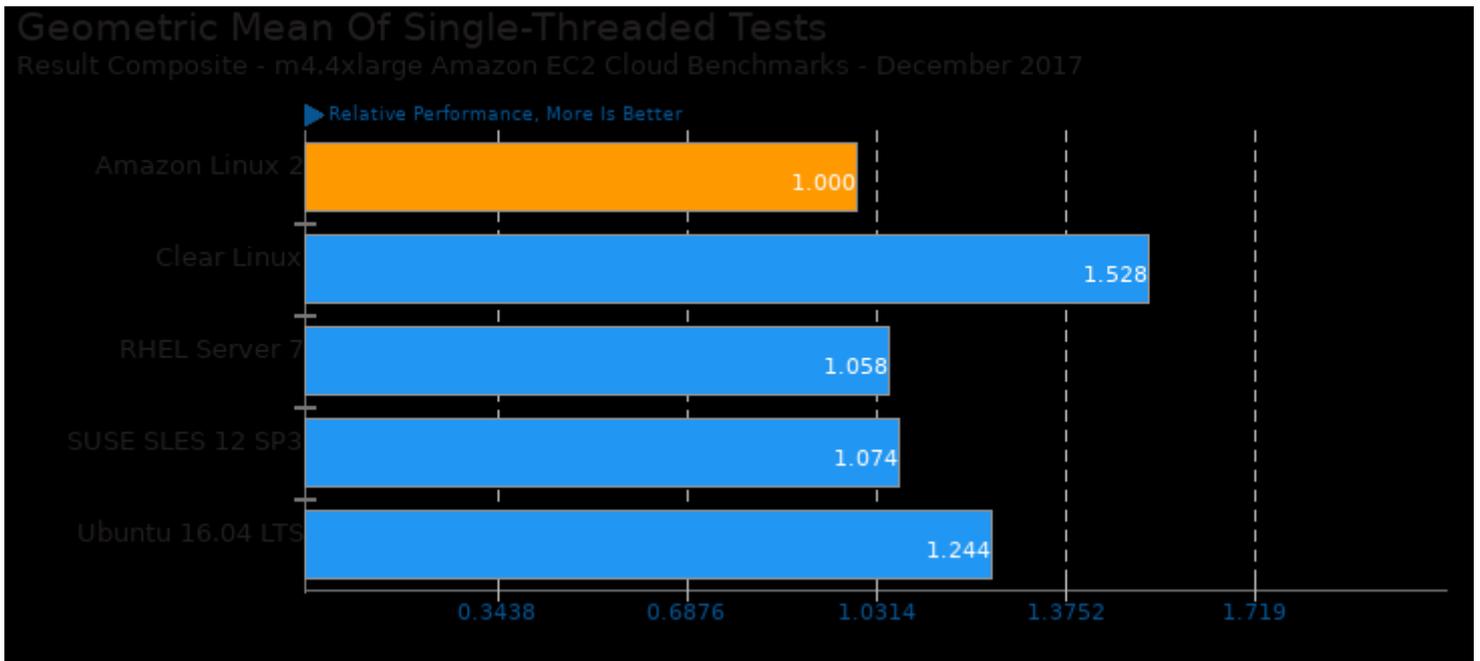
Geometric mean based upon tests: pts/pybench and pts/build-linux-kernel



Geometric mean based upon tests: pts/nginx, pts/redis, pts/phpbench, pts/openssl, pts/perl-benchmark and pts/sqlite



Geometric mean based upon tests: pts/rodinia, pts/himeno, pts/stockfish, pts/build-linux-kernel, pts/c-ray, pts/povray, pts/hackbench, pts/openssl, pts/redis, pts/stress-ng, pts/pybench and pts/phpbench



Geometric mean based upon tests: pts/blake2, pts/botan, pts/compress-gzip, pts/encode-flac, pts/encode-mp3, pts/perl-benchmark, pts/rbenchmark, pts/redis, pts/pybench, pts/phpbench and pts/nginx

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 19:36.