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stock-debian-kernel

KVM testing on Debian 11 via the Phoronix Test Suite.

Automated Executive Summary

stock-debian-kernel-testing-vo had the most wins, coming in first place for 47% of the tests.

Based on the geometric mean of all complete results, the fastest (stock-debian-kernel-testing-vo) was 1.096x the speed of the slowest (latest-generic-kernel-v5-12-8). stock-debian-kernel was 0.985x the speed of stock-debian-kernel-testing-vo, latest-generic-kernel-v5-12-8-vo was 0.935x the speed of stock-debian-kernel, latest-xanmod-cacule-kernel-v5-12-8-x1-vo was 0.996x the speed of latest-generic-kernel-v5-12-8-vo, latest-lowlatency-kernel-v5-12-8-vo was 1x the speed of latest-xanmod-cacule-kernel-v5-12-8-x1-vo, latest-xanmod-kernel-v5-12-8-x1-vo was 0.999x the speed of latest-lowlatency-kernel-v5-12-8-vo, latest-generic-kernel-v5-12-8 was 0.997x the speed of latest-xanmod-kernel-v5-12-8-x1-vo.

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

Ethr (Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 16) at 20.201x
PostgreSQL pgbench (Scaling Factor: 1000 - Clients: 50 - Mode: Read Only - Average Latency) at 2.532x
PostgreSQL pgbench (Scaling Factor: 1000 - Clients: 50 - Mode: Read Only) at 2.287x
SQLite (Threads / Copies: 64) at 2.274x
Core-Latency (Average Latency Between CPU Cores) at 2.164x

Ethr (Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 2) at 2.135x
SQLite (Threads / Copies: 8) at 2.095x
SQLite (Threads / Copies: 32) at 2.094x
CacheBench (Test: Read / Modify / Write) at 1.949x
Sample Pi Program at 1.843x.

Test Systems:

stock-debian-kernel

Processor: AMD EPYC (1 Core / 2 Threads), Motherboard: Hetzner vServer v20171111, Memory: 1 x 8000 MB RAM QEMU, Disk: 82GB QEMU HDD, Graphics: virtiodrmfb

OS: Debian 10, Kernel: 4.19.0-16-amd64 (x86_64), Compiler: GCC 8.3.0, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1000065
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-post-Debian-1deb10u1)
Python Notes: Python 2.7.16 + Python 3.7.3
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

latest-generic-kernel-v5-12-8

latest-generic-kernel-v5-12-8-vo

Processor: AMD EPYC (1 Core / 2 Threads), Motherboard: Hetzner vServer v20171111, Memory: 1 x 8000 MB RAM QEMU, Disk: 82GB QEMU HDD, Graphics: virtio_gpudrmfb, Monitor: QEMU Monitor

OS: Debian 11, Kernel: 5.12.8-051208-generic (x86_64), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1000065
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-post-Debian-1)
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

latest-lowlatency-kernel-v5-12-8-vo

Processor: AMD EPYC (1 Core / 2 Threads), Motherboard: Hetzner vServer v20171111, Memory: 1 x 8000 MB RAM QEMU, Disk: 82GB QEMU HDD, Graphics: virtio_gpudrmfb, Monitor: QEMU Monitor

OS: Debian 11, Kernel: 5.12.8-051208-lowlatency (x86_64), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1000065
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-post-Debian-1)
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

stock-debian-kernel-testing-vo

Processor: AMD EPYC (1 Core / 2 Threads), Motherboard: Hetzner vServer v20171111, Memory: 1 x 8000 MB RAM QEMU, Disk: 82GB QEMU HDD, Graphics: virtiodrmfb

OS: Debian 11, Kernel: 4.19.0-16-amd64 (x86_64), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1000065
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-post-Debian-1)
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

latest-xanmod-kernel-v5-12-8-x1-vo

Processor: AMD EPYC (1 Core / 2 Threads), Motherboard: Hetzner vServer v20171111, Memory: 1 x 8000 MB RAM QEMU, Disk: 82GB QEMU HDD, Graphics: virtio_gpudrmfb, Monitor: QEMU Monitor

OS: Debian 11, Kernel: 5.12.8-xanmod1 (x86_64), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: BFQ / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1000065
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-post-Debian-1)

Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

latest-xanmod-cacule-kernel-v5-12-8-x1-vo

Processor: AMD EPYC (1 Core / 2 Threads), Motherboard: Hetzner vServer v20171111, Memory: 1 x 8000 MB RAM QEMU, Disk: 82GB QEMU HDD, Graphics: virtio_gpudrmfb, Monitor: QEMU Monitor

OS: Debian 11, Kernel: 5.12.8-xanmod1-cacule (x86_64), Compiler: GCC 10.2.1 20210110, File-System: ext4, Screen Resolution: 1024x768, System Layer: KVM

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-Km9U7s/gcc-10-10.2.1/debian/tmp-gcn/usr, hsa --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: BFQ / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: CPU Microcode: 0x1000065
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-post-Debian-1)
Python Notes: Python 3.9.2
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Vulnerable: __user pointer sanitization and usercopy barriers only; no swapgs barriers + spectre_v2: Vulnerable IBPB: disabled STIBP: disabled + srbds: Not affected + tsx_async_abort: Not affected

	stock-debian-kernel	latest-generic-kernel-v5-12-8	latest-generic-kernel-v5-12-8-vo	latest-lowlatency-kernel-v5-12-8-vo	stock-debian-kernel-testing-vo	latest-xanmod-kernel-v5-12-8-x1-vo	latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SQLite - 1 (sec)	**7.779**	8.996	**9.170**	9.009	8.188	8.237	8.608
Normalized	100%	86.47%	84.83%	86.35%	95%	94.44%	90.37%
Standard Deviation	4.1%	3.3%	2.1%	2.3%	4.8%	4.5%	2.2%
SQLite - 8 (sec)	**19.072**	23.693	24.958	24.410	21.168	38.003	**39.957**
Normalized	100%	80.5%	76.42%	78.13%	90.1%	50.19%	47.73%
Standard Deviation	2.2%	2.5%	1.6%	2.4%	4.1%	6.1%	9.4%
SQLite - 32 (sec)	**40.685**	45.133	49.947	47.132	46.317	**85.202**	78.804
Normalized	100%	90.14%	81.46%	86.32%	87.84%	47.75%	51.63%
Standard Deviation	0.5%	1.1%	2.3%	1.2%	0.7%	17.4%	11.1%
SQLite - 64 (sec)	**68.744**	**156.343**	140.859	114.406	85.772	146.417	149.045
Normalized	100%	43.97%	48.8%	60.09%	80.15%	46.95%	46.12%
Standard Deviation	0.1%	9.2%	3.6%	1.5%	0.9%	2.5%	2.4%
SQLite - 128 (sec)	**145.002**	**405.728**	368.323	259.511	174.849	358.743	359.821
Normalized	100%	35.74%	39.37%	55.88%	82.93%	40.42%	40.3%
Standard Deviation	1.3%	1.4%	0.7%	0.9%	11.9%	7.8%	8.7%
RAMspeed SMP - Add - Integer (MB/s)	**33565**	**30939**	31989	31708	33240	31705	31926
Normalized	100%	92.18%	95.31%	94.47%	99.03%	94.46%	95.12%
Standard Deviation	0.4%	0.5%	0.2%	0.5%	0.6%	0.1%	0.3%

RAMspeed SMP - Copy - Integer (MB/s)	**36186**	**30491**	31702	31610	35626	31680	32176
Normalized	100%	84.26%	87.61%	87.36%	98.45%	87.55%	88.92%
Standard Deviation	0.6%	0.2%	0.5%	0.1%	0.1%	0.4%	0.1%
RAMspeed SMP - Scale - Integer (MB/s)	**37470**	**34954**	35164	35004	37217	34978	35442
Normalized	100%	93.29%	93.85%	93.42%	99.33%	93.35%	94.59%
Standard Deviation	0.6%	0.5%	0.5%	0.1%	0.1%	0.5%	0.5%
RAMspeed SMP - Triad - Integer (MB/s)	**35096**	**32593**	32888	32955	34385	32706	32913
Normalized	100%	92.87%	93.71%	93.9%	97.97%	93.19%	93.78%
Standard Deviation	0.3%	0.6%	0.2%	0.7%	0.1%	0.5%	1.2%
RAMspeed SMP - Average - Integer (MB/s)	**35184**	**32141**	32995	32826	35165	32985	32974
Normalized	100%	91.35%	93.78%	93.3%	99.94%	93.75%	93.72%
Standard Deviation	1.3%	0.5%	0.8%	0.2%	0.2%	0.4%	1%
RAMspeed SMP - Add - Floating Point (MB/s)	32805	**31297**	32025	31954	**33321**	31795	31931
Normalized	98.45%	93.92%	96.11%	95.9%	100%	95.42%	95.83%
Standard Deviation	0.7%	0.4%	0.3%	0.2%	0.2%	1%	0.1%
RAMspeed SMP - Copy - Floating Point (MB/s)	**36289**	**30367**	31823	31392	35570	31617	31821
Normalized	100%	83.68%	87.69%	86.5%	98.02%	87.12%	87.69%
Standard Deviation	0.1%	0.7%	0.1%	0.5%	0.2%	0.2%	0.2%
RAMspeed SMP - Scale - Floating Point (MB/s)	**35943**	**30445**	31963	31587	35585	31696	32192
Normalized	100%	84.7%	88.93%	87.88%	99%	88.18%	89.56%
Standard Deviation	0.4%	0.9%	0%	0.1%	0.2%	0.1%	0%
RAMspeed SMP - Triad - Floating Point (MB/s)	**33747**	**31464**	32058	31950	33252	31819	32308
Normalized	100%	93.23%	94.99%	94.67%	98.53%	94.29%	95.74%
Standard Deviation	0.2%	0.9%	0.2%	0.6%	0.2%	0.6%	0.4%
RAMspeed SMP - Average - Floating Point (MB/s)	**34786**	31218	31450	**30973**	34481	31620	32094
Normalized	100%	89.74%	90.41%	89.04%	99.12%	90.9%	92.26%
Standard Deviation	0.4%	0.3%	0.8%	0.8%	0.1%	0.4%	0.2%
Stream - Copy (MB/s)	45636	**43269**	43618	43298	**45641**	43531	43579
Normalized	99.99%	94.8%	95.57%	94.87%	100%	95.38%	95.48%
Standard Deviation	0.1%	0.3%	0.2%	0.3%	0.1%	0.2%	0.1%
Stream - Scale (MB/s)	**32691**	29364	29402	**29277**	31766	29417	29405
Normalized	100%	89.82%	89.94%	89.56%	97.17%	89.98%	89.95%
Standard Deviation	0.1%	0.1%	0.2%	0.4%	0.2%	0.3%	0.1%
Stream - Triad (MB/s)	**31457**	30920	31001	**30815**	31048	30924	30974
Normalized	100%	98.29%	98.55%	97.96%	98.7%	98.31%	98.46%
Standard Deviation	0.1%	0.2%	0.2%	0.6%	0.2%	0.1%	0.2%
Stream - Add (MB/s)	**31385**	31058	31080	**30927**	31272	31060	31088
Normalized	100%	98.96%	99.03%	98.54%	99.64%	98.96%	99.05%
Standard Deviation	0.1%	0.2%	0.2%	0.5%	0.2%	0.1%	0.1%
Tinymembench - Standard Memcpy (MB/s)	13188	13482	15663	**16038**	**13141**	15066	14035
Normalized	82.23%	84.06%	97.66%	100%	81.94%	93.94%	87.51%
Standard Deviation	5.9%	5.7%	4.8%	0.2%	6.1%	16.7%	9.4%

stock-debian-kernel

Tinymembench - Standard Memset (MB/s)	30164	24524	26106	25037	29948	25692	25991
Normalized	100%	81.3%	86.55%	83%	99.28%	85.18%	86.17%
Standard Deviation	2%	1%	6.4%	1.8%	5.8%	7.4%	4.3%
t-test1 - 1 (sec)	19.135	16.687	15.943	16.206	16.295	15.766	15.570
Normalized	81.37%	93.31%	97.66%	96.08%	95.55%	98.76%	100%
Standard Deviation	1.6%	1.3%	1.3%	0.9%	4.2%	0.9%	0.8%
t-test1 - 2 (sec)	7.307	7.999	7.757	7.849	7.290	7.546	7.691
Normalized	99.77%	91.14%	93.98%	92.88%	100%	96.61%	94.79%
Standard Deviation	0.1%	0.4%	2.1%	0.3%	0.6%	0.3%	0.2%
Ethr - TCP - Latency - 1	21.60	23.73	24.33	24.15	20.93	22.36	22.46
Normalized	96.9%	88.2%	86.03%	86.67%	100%	93.6%	93.19%
Standard Deviation	0.4%	0.4%	0%	1.6%	2.1%	0.1%	0.7%
Ethr - TCP - Latency - 2	21.66	23.78	24.50	23.85	21.01	22.37	22.45
Normalized	97%	88.35%	85.76%	88.09%	100%	93.92%	93.59%
Standard Deviation	0.3%	0.7%	1.6%	0.2%	2.3%	0.3%	0.5%
Ethr - TCP - Latency - 16 (us)	21.54	23.80	24.16	23.82	21.16	22.36	22.51
Normalized	98.24%	88.91%	87.58%	88.83%	100%	94.63%	94%
Standard Deviation	0.1%	0.6%	0.3%	0.1%	1.4%	0.4%	0.4%
Ethr - TCP - Bandwidth - 2 (Mbits/s)	30497	22510	23938	26426	31893	21246	20084
Normalized	95.62%	70.58%	75.06%	82.86%	100%	66.62%	62.97%
Standard Deviation	0.8%	0.3%	2.3%	4.7%	0.7%	0.4%	1.6%
Ethr - UDP - Bandwidth - 2 (Mbits/s)	29231	26863	26875	27362	38211	31553	29168
Normalized	76.5%	70.3%	70.33%	71.61%	100%	82.58%	76.33%
Standard Deviation	2.4%	2.4%	1%	1.1%	4.3%	0.5%	5.4%
Ethr - HTTP - Bandwidth - 1 (Mbits/s)	922.30	855.31	878.78	869.17	933.40	942.91	939.60
Normalized	97.81%	90.71%	93.2%	92.18%	98.99%	100%	99.65%
Standard Deviation	11.5%	0.2%	0.2%	0.2%	13.1%	8.4%	0.2%
Ethr - HTTP - Bandwidth - 2 (Mbits/s)	1729	1251	1428	1307	1714	1621	1459
Normalized	100%	72.34%	82.58%	75.59%	99.13%	93.75%	84.38%
Standard Deviation	0.5%	20.8%	12.3%	19.2%		0.3%	1.5%
Ethr - TCP - Bandwidth - 16 (Mbits/s)	28997	28136	28990	29081	35112	29157	25792
Normalized	82.58%	80.13%	82.56%	82.82%	100%	83.04%	73.46%
Standard Deviation	1.4%	0.6%	0.3%	0.1%	0.5%	0.7%	1.8%
Ethr - UDP - Bandwidth - 16 (Mbits/s)	54109	41000	41606	40452	56605	45893	42947
Normalized	95.59%	72.43%	73.5%	71.46%	100%	81.08%	75.87%
Standard Deviation	14.4%	1.9%	0.6%	0.3%	3.2%	0.6%	2%
Ethr - HTTP - Bandwidth - 16 (Mbits/s)	2067	1880	1921	1895	2086	1981	1791
Normalized	99.09%	90.12%	92.09%	90.84%	100%	94.97%	85.86%
Standard Deviation	0.3%	0.6%	0.7%	1.8%	0.5%	0.5%	0.7%
Ethr - TCP - Connections/s - 1	8525	9887	9780	9382	56299	10380	9199
Normalized	15.14%	17.56%	17.37%	16.66%	100%	18.44%	16.34%
Standard Deviation	53.7%	1.9%	1.6%	2.3%	319.3%	2%	10.5%

Ethr - TCP - Connections/s - 2	8704	12933	13110	12647	6450	13772	12893
Normalized	63.2%	93.91%	95.19%	91.83%	46.83%	100%	93.62%
Standard Deviation	44.6%	1.3%	0.5%	1.6%	50.3%	2.4%	2.6%
Ethr - TCP - Connections/s - 16	272164	13893	14170	13473	157126	15267	14916
Normalized	100%	5.1%	5.21%	4.95%	57.73%	5.61%	5.48%
Standard Deviation	121%	2.2%	1%	1%	131.5%	0.9%	5.8%
iPerf - 5201 - 10 Seconds - TCP - 10 (Mbits/s)	74913	48219	48369	48045	74257	47556	47598
Normalized	100%	64.37%	64.57%	64.13%	99.12%	63.48%	63.54%
Standard Deviation	0.6%	2%	2.2%	0.2%	0.2%	1.8%	0.8%
iPerf - 5201 - 10 Seconds - UDP - 10 (Mbits/s)	10.4	10.5	10.5	10.5	10.4	10.5	10.5
Normalized	99.05%	100%	100%	100%	99.05%	100%	100%
Standard Deviation	0%	0%	0%	0%	0%	0%	0%
Sockperf - Throughput (Messages/sec)	257428	215341	222476	244263	233249	288216	281346
Normalized	89.32%	74.72%	77.19%	84.75%	80.93%	100%	97.62%
Standard Deviation	14.1%	2.5%	1.6%	0.5%	13.9%	1.3%	1%
Sockperf - Latency Ping Pong (usec)	10.231	11.914	11.646	10.661	10.003	9.261	9.719
Normalized	90.52%	77.73%	79.52%	86.87%	92.58%	100%	95.29%
Standard Deviation	13.7%	15%	14.6%	0.8%	10.8%	11.9%	14.1%
Sockperf - Latency Under Load (usec)	10.192	12.387	11.624	10.931	23.275	13.247	11.074
Normalized	100%	82.28%	87.68%	93.24%	43.79%	76.94%	92.04%
Standard Deviation	16.6%	14.5%	14.6%	12.9%	236.7%	94.4%	1.8%
Crypto++ - All Algorithms (MiB/s)	1488	1489	1493	1486	1497	1492	1487
Normalized	99.44%	99.46%	99.73%	99.27%	100%	99.67%	99.38%
Standard Deviation	0.1%	0.1%	0.3%	0.1%	0.1%	0.1%	0.2%
High Performance Conjugate Gradient (GFLOP/s)	2.25028	2.20910	2.22003	2.17342	2.20623	2.18782	2.22213
Normalized	100%	98.17%	98.66%	96.58%	98.04%	97.22%	98.75%
Standard Deviation	1%	1.8%	1.4%	0.5%	1.2%	1.5%	0.7%
HPC Challenge - G-HPL (GFLOPS)	33.89193						
Standard Deviation	0.1%						
HPC Challenge - G-Ffte (GFLOPS)	0.84601						
Standard Deviation	0.1%						
HPC Challenge - EP-DGEMM (GFLOPS)	35.06213						
Standard Deviation	0.1%						
HPC Challenge - G-Ptrans (GB/s)	0.96463						
Standard Deviation	1.8%						
HPC Challenge - EP-STREAM Triad (GB/s)	11.33023						
Standard Deviation	0.1%						

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HPC Challenge - G-Rand Access (GUP/s)	0.00494						
Standard Deviation	0.2%						
FFTW - Stock - 1D FFT Size 32 (Mflops)	**10312**	8983	8965	8940	8991	8948	**8890**
Normalized	100%	87.11%	86.94%	86.69%	87.19%	86.78%	86.21%
Standard Deviation	4.6%	0.8%	0.4%	0.3%	0.2%	0.2%	0.6%
FFTW - Stock - 2D FFT Size 32 (Mflops)	**10848**	9363	9400	**9247**	9398	9266	9343
Normalized	100%	86.31%	86.65%	85.24%	86.63%	85.41%	86.12%
Standard Deviation	1%	0.2%	0.1%	0.5%	0.1%	1.4%	0.6%
FFTW - Stock - 1D FFT Size 512 (Mflops)	**8910**	**8387**	8532	8432	8531	8514	8469
Normalized	100%	94.13%	95.76%	94.64%	95.74%	95.55%	95.05%
Standard Deviation	0.4%	2.5%	0.7%	0.7%	0.5%	0.2%	0.1%
FFTW - Stock - 2D FFT Size 512 (Mflops)	**7778**	**7496**	7570	7548	7551	7580	7563
Normalized	100%	96.37%	97.33%	97.04%	97.08%	97.45%	97.23%
Standard Deviation	1.5%	0.8%	0.2%	0.6%	0.7%	0.5%	0.2%
FFTW - Stock - 1D FFT Size 4096 (Mflops)	**8023**	7886	7878	**7850**	7909	7871	7857
Normalized	100%	98.29%	98.2%	97.84%	98.58%	98.1%	97.93%
Standard Deviation	0.2%	0.2%	0.3%	0.5%	0.2%	0.8%	0.2%
FFTW - Stock - 2D FFT Size 4096 (Mflops)	**5920**	4929	4863	**4856**	5687	5089	4858
Normalized	100%	83.27%	82.15%	82.02%	96.06%	85.96%	82.06%
Standard Deviation	2.5%	0.7%	1%	1.2%	2.4%	1.1%	0.6%
FFTW - Float + SSE - 1D FFT Size 32 (Mflops)	15014	**15146**	14992	14913	**14697**	14972	14727
Normalized	99.13%	100%	98.98%	98.46%	97.04%	98.85%	97.23%
Standard Deviation	0.5%	0.2%	1%	2.4%	3.7%	1.4%	1.5%
FFTW - Float + SSE - 2D FFT Size 32 (Mflops)	**39626**	**41965**	40520	41698	41028	41178	41648
Normalized	94.43%	100%	96.56%	99.36%	97.77%	98.12%	99.24%
Standard Deviation	1.9%	1.2%	7%	1.7%	5.5%	2.2%	1.5%
FFTW - Float + SSE - 1D FFT Size 512 (Mflops)	**44642**	**48049**	47699	46166	46026	45424	47352
Normalized	92.91%	100%	99.27%	96.08%	95.79%	94.54%	98.55%
Standard Deviation	1.6%	1.3%	0.2%	4.4%	6.9%	7.2%	0.6%
FFTW - Float + SSE - 2D FFT Size 512 (Mflops)	**32781**	**31300**	31604	31837	31919	31454	31709
Normalized	100%	95.48%	96.41%	97.12%	97.37%	95.95%	96.73%
Standard Deviation	1.5%	1.1%	0.5%	2.4%	2.3%	0.2%	1%
FFTW - Float + SSE - 1D FFT Size 4096 (Mflops)	**44929**	47878	46779	48495	47596	47212	**49047**
Normalized	91.6%	97.62%	95.38%	98.87%	97.04%	96.26%	100%
Standard Deviation	2.4%	2.2%	2.6%	0.7%	2.1%	1.3%	1.7%
FFTW - Float + SSE - 2D FFT Size 4096 (Mflops)	**23928**	21585	21910	**21298**	23120	21447	22238
Normalized	100%	90.21%	91.57%	89.01%	96.62%	89.63%	92.94%
Standard Deviation	4%	1.6%	2.1%	6.3%	1%	4.3%	0.5%

Fhourstones - C.C.4.S (Kpos / sec)	11237	10655	10760	10213	11353	10660	10489
Normalized	98.97%	93.85%	94.77%	89.95%	100%	93.89%	92.39%
Standard Deviation	0.8%	0.3%	0.3%	1.1%	0.4%	1.8%	0.5%
CacheBench - Read	2055	2466	2464	2444	2466	2462	2463
Normalized	83.35%	100%	99.94%	99.12%	100%	99.85%	99.89%
Standard Deviation	0%	0%	0%	0.1%	0.1%	0.1%	0%
CacheBench - Write	23580	23633	23596	23511	23624	23655	23647
Normalized	99.68%	99.9%	99.75%	99.39%	99.87%	100%	99.97%
Standard Deviation	0.3%	0%	0.1%	0.5%	0.3%	0.4%	0.3%
CacheBench - R.M.W (MB/s)	24163	47097	47026	46811	46985	46895	47025
Normalized	51.31%	100%	99.85%	99.39%	99.76%	99.57%	99.85%
Standard Deviation	0.2%	0.5%	0.3%	0.4%	0.1%	0%	0.3%
LZ4 Compression - 1 - Compression Speed	12904	10978	10952	10959	12860	11025	11139
Normalized	100%	85.07%	84.87%	84.93%	99.66%	85.44%	86.33%
Standard Deviation	1%	0.6%	2.5%	2.5%	0.4%	2.2%	2.4%
LZ4 Compression - 1 - D.S (MB/s)	14443	13231	13421	13329	14735	13548	13469
Normalized	98.02%	89.79%	91.09%	90.46%	100%	91.94%	91.41%
Standard Deviation	0.4%	0.6%	0.6%	1.2%	0.8%	0.8%	0.7%
LZ4 Compression - 3 - Compression Speed	49.81	49.73	48.95	47.71	51.06	48.73	49.35
Normalized	97.55%	97.4%	95.87%	93.44%	100%	95.44%	96.65%
Standard Deviation	0.1%	2.1%	2.4%	0.3%	0.5%	0.9%	2.5%
LZ4 Compression - 3 - D.S (MB/s)	13655	12504	12584	12502	13757	12466	12601
Normalized	99.26%	90.89%	91.47%	90.88%	100%	90.61%	91.6%
Standard Deviation	0.4%	0.4%	0.9%	0.1%	0.2%	1.7%	0.8%
LZ4 Compression - 9 - Compression Speed	48.75	47.36	47.40	47.41	49.79	47.24	47.35
Normalized	97.91%	95.12%	95.2%	95.22%	100%	94.88%	95.1%
Standard Deviation	0.2%	1.1%	0.3%	2.4%	0.4%	0.4%	0.4%
LZ4 Compression - 9 - D.S (MB/s)	13710	12527	12687	12524	13794	12334	12681
Normalized	99.39%	90.82%	91.97%	90.8%	100%	89.42%	91.94%
Standard Deviation	0.5%	0.1%	0.6%	0.2%	0.1%	1.3%	0.4%
Zstd Compression - 3 - Compression Speed	717.5	694.3	696.2	675.2	718.7	678.6	689.4
Normalized	99.83%	96.6%	96.87%	93.95%	100%	94.42%	95.92%
Standard Deviation	2.4%	1.2%	1.5%	0.5%	0.3%	1.2%	0.5%
Zstd Compression - 3 - D.S (MB/s)	3230	3091	3149	3135	3282	3124	3125
Normalized	98.44%	94.19%	95.97%	95.52%	100%	95.18%	95.23%
Standard Deviation	0.6%	0.3%	1.8%	1.1%	0.1%	2%	1.8%
Zstd Compression - 8 - Compression Speed	187.5	179.4	181.3	179.2	188.1	177.7	181.7
Normalized	99.68%	95.37%	96.38%	95.27%	100%	94.47%	96.6%
Standard Deviation	0.3%	0.3%	0.5%	0.3%	0.5%	0.2%	0.6%
Zstd Compression - 8 - D.S (MB/s)	3361	3180	3191	3181	3395	3197	3247
Normalized	98.99%	93.67%	93.99%	93.69%	100%	94.17%	95.62%

Standard Deviation	1%	0.1%	0.5%	4.3%	0.4%	0.5%	2.1%
Zstd Compression - 19 - Compression Speed	**5.72**	5.12	5.17	5.03	5.67	**4.82**	5.17
Normalized	100%	89.51%	90.38%	87.94%	99.13%	84.27%	90.38%
Standard Deviation	0.2%	0.1%	0.8%	0.3%	0.3%	0.2%	0.9%
Zstd Compression - 19 - D.S (MB/s)	2999	2812	2813	2832	**3003**	**2786**	2834
Normalized	99.86%	93.65%	93.66%	94.3%	100%	92.78%	94.38%
Standard Deviation	0.1%	0.5%	0.4%	1%	0.4%	0.7%	1.4%
Zstd Compression - 3, Long Mode - Compression Speed	**484.9**	452.3	453.0	445.2	474.0	**444.1**	478.6
Normalized	100%	93.28%	93.42%	91.81%	97.75%	91.59%	98.7%
Standard Deviation	1%	0.3%	0.3%	0.5%	0.5%	1.2%	1%
Zstd Compression - 3, Long Mode - D.S (MB/s)	3498	3398	**3327**	3329	**3564**	3348	3375
Normalized	98.16%	95.34%	93.35%	93.42%	100%	93.96%	94.71%
Standard Deviation	1.2%	2%	0.3%	1.2%	0.1%	2.3%	1.7%
Zstd Compression - 8, Long Mode - Compression Speed	**180.4**	171.5	171.7	168.8	176.5	**168.1**	173.9
Normalized	100%	95.07%	95.18%	93.57%	97.84%	93.18%	96.4%
Standard Deviation	0.1%	0.2%	0.2%	0.7%	1.3%	1.1%	0.3%
Zstd Compression - 8, Long Mode - D.S (MB/s)	3649	3472	3489	**3457**	**3701**	3466	3465
Normalized	98.6%	93.79%	94.27%	93.39%	100%	93.65%	93.6%
Standard Deviation	0.7%	2.3%	2.4%	2.3%	0.1%	2.2%	0.8%
Zstd Compression - 19, Long Mode - Compression Speed	4.52	4.08	4.09	4.03	**4.54**	**3.98**	4.13
Normalized	99.56%	89.87%	90.09%	88.77%	100%	87.67%	90.97%
Standard Deviation	1%	0.1%	0.1%	0.8%	0.3%	0.9%	0%
Zstd Compression - 19, Long Mode - D.S (MB/s)	3005	**2843**	2898	2884	**3047**	2876	2887
Normalized	98.62%	93.3%	95.11%	94.66%	100%	94.4%	94.77%
Standard Deviation	0.2%	1.5%	1.9%	0.6%	0.6%	1.8%	0.8%
Botan - KASUMI (MiB/s)	**73.518**	71.248	71.236	71.560	**70.654**	71.947	71.565
Normalized	100%	96.91%	96.9%	97.34%	96.1%	97.86%	97.34%
Standard Deviation	1.3%	1.3%	1.1%	0.2%	1.3%	0.3%	0.1%
Botan - KASUMI - Decrypt (MiB/s)	**73.663**	71.992	71.948	**71.682**	72.010	71.892	71.723
Normalized	100%	97.73%	97.67%	97.31%	97.76%	97.6%	97.37%
Standard Deviation	0.6%	0%	0.1%	0.1%	0.1%	0%	0.2%
Botan - AES-256 (MiB/s)	4786	**4680**	4716	4755	**4813**	4805	4782
Normalized	99.45%	97.25%	98%	98.81%	100%	99.85%	99.38%
Standard Deviation	1.2%	0.2%	1.1%	0.1%	0.2%	0.1%	0.3%
Botan - AES-256 - Decrypt (MiB/s)	**4961**	4900	4885	**4875**	4946	4929	4923
Normalized	100%	98.77%	98.45%	98.26%	99.7%	99.34%	99.22%
Standard Deviation	0.1%	0.1%	0.1%	0%	0.1%	0.2%	0.2%
Botan - Twofish (MiB/s)	**292.372**	298.554	300.425	**304.504**	301.364	302.743	304.330
Normalized	96.02%	98.05%	98.66%	100%	98.97%	99.42%	99.94%
Standard Deviation	1.3%	0.3%	1.7%	0.3%	1.2%	0.9%	0.4%

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Botan - Twofish - Decrypt (MiB/s)	305.028	311.226	310.880	310.005	311.752	309.780	310.907
Normalized	97.84%	99.83%	99.72%	99.44%	100%	99.37%	99.73%
Standard Deviation	0.4%	0.3%	0.3%	0.2%	0.3%	0.4%	0.3%
Botan - Blowfish (MiB/s)	355.460	365.713	363.347	367.793	366.798	366.080	368.265
Normalized	96.52%	99.31%	98.66%	99.87%	99.6%	99.41%	100%
Standard Deviation	1.3%	1.2%	1.2%	0.2%	1.2%	1.5%	0.1%
Botan - Blowfish - Decrypt (MiB/s)	377.769	380.005	380.883	379.980	381.412	380.710	380.642
Normalized	99.04%	99.63%	99.86%	99.62%	100%	99.82%	99.8%
Standard Deviation	0.1%	0.4%	0.1%	0.1%	0%	0.1%	0.1%
Botan - CAST-256 (MiB/s)	112.294	111.543	110.318	111.601	110.530	112.224	111.724
Normalized	100%	99.33%	98.24%	99.38%	98.43%	99.94%	99.49%
Standard Deviation	1.3%	1.4%	2.4%	0.5%	1.1%	0%	0.5%
Botan - CAST-256 - Decrypt (MiB/s)	117.607	116.745	115.611	115.966	116.747	116.652	115.932
Normalized	100%	99.27%	98.3%	98.6%	99.27%	99.19%	98.58%
Standard Deviation	0%	0%	1.9%	0.5%	0.1%	0.1%	0.7%
Botan - ChaCha20Poly1305	469.955	545.559	545.195	546.196	547.552	546.868	547.185
Normalized	85.83%	99.64%	99.57%	99.75%	100%	99.88%	99.93%
Standard Deviation	0.6%	0.7%	0.5%	0.1%	0.2%	0.2%	0.1%
Botan - ChaCha20Poly1305 -	462.706	537.823	537.100	537.957	540.275	535.917	539.023
Normalized	85.64%	99.55%	99.41%	99.57%	100%	99.19%	99.77%
Standard Deviation	0.7%	0.7%	0.6%	0.1%	0.1%	0.3%	0.1%
Crafty - Elapsed Time (Nodes/s)	7662111	7529610	7491360	7406320	7597765	7067881	7466357
Normalized	100%	98.27%	97.77%	96.66%	99.16%	92.24%	97.45%
Standard Deviation	0.6%	0.3%	0.8%	0.1%	0.7%	0.8%	0.2%
John The Ripper - Blowfish (Real C/S)	1857	1854	1843	1845	1840	1851	1850
Normalized	100%	99.84%	99.25%	99.35%	99.08%	99.68%	99.62%
Standard Deviation	0.1%	0.1%	0.6%	0.1%	0.8%	0.1%	0.1%
John The Ripper - MD5 (Real C/S)	115814	118976	119046	118327	118777	117988	118372
Normalized	97.29%	99.94%	100%	99.4%	99.77%	99.11%	99.43%
Standard Deviation	1%	0%	0.1%	0.1%	0.5%	0.5%	0.1%
GraphicsMagick - Swirl (Iterations/min)	62	60	61	60	63	61	60
Normalized	98.41%	95.24%	96.83%	95.24%	100%	96.83%	95.24%
Standard Deviation						1%	
GraphicsMagick - Rotate (Iterations/min)	732	561	586	540	696	564	561
Normalized	100%	76.64%	80.05%	73.77%	95.08%	77.05%	76.64%
Standard Deviation	0.4%	0.2%	0.3%	0.2%	2.5%	1.2%	0.5%
GraphicsMagick - Sharpen (Iterations/min)	12	12	12	11	12	12	12
Normalized	100%	100%	100%	91.67%	100%	100%	100%
GraphicsMagick - Enhanced (Iterations/min)	21	21	22	21	22	21	21
Normalized	95.45%	95.45%	100%	95.45%	100%	95.45%	95.45%

stock-debian-kernel

GraphicsMagick - Resizing (Iterations/min)	120	108	109	108	117	109	109
Normalized	100%	90%	90.83%	90%	97.5%	90.83%	90.83%
Standard Deviation			1.1%				
GraphicsMagick - Noise-Gaussian (Iterations/min)	32	34	34	34	35	34	34
Normalized	91.43%	97.14%	97.14%	97.14%	100%	97.14%	97.14%
GraphicsMagick - HWB Color Space	254	225	229	224	252	227	226
Normalized	100%	88.58%	90.16%	88.19%	99.21%	89.37%	88.98%
Standard Deviation			0.7%				0.3%
x264 - H.2.V.E (FPS)	13.42	13.33	13.39	13.17	13.25	13.05	13.35
Normalized	100%	99.33%	99.78%	98.14%	98.73%	97.24%	99.48%
Standard Deviation	2%	1.9%	1.4%	1.9%	1.5%	1.2%	1.9%
x265 - Bosphorus 4K	2.35	2.33	2.33	2.30	2.35	2.29	2.32
Normalized	100%	99.15%	99.15%	97.87%	100%	97.45%	98.72%
Standard Deviation	0.2%	0%	0.2%	0.3%	0.2%	0.4%	0.2%
7-Zip Compression - C.S.T (MIPS)	7177	6823	6885	6785	7256	6631	6824
Normalized	98.91%	94.03%	94.89%	93.51%	100%	91.39%	94.05%
Standard Deviation	0.3%	1.3%	2.2%		1%	0.3%	0.2%
Stockfish - Total Time (Nodes/s)	2665660	2692355	2663466	2642113	2729346	2600187	2642919
Normalized	97.67%	98.64%	97.59%	96.8%	100%	95.27%	96.83%
Standard Deviation	0.9%	2.3%	0.9%	0.9%	1%	1.6%	1%
Timed Linux Kernel Compilation - Time To Compile (sec)	636.776	682.319	672.963	692.264	668.571	701.540	691.529
Normalized	100%	93.33%	94.62%	91.98%	95.24%	90.77%	92.08%
Standard Deviation	0.1%	0.2%	0.3%	0.1%	0.1%	0.4%	0.2%
Timed PHP Compilation - Time To Compile (sec)	255.803	266.441	264.318	270.074	261.952	272.559	269.340
Normalized	100%	96.01%	96.78%	94.72%	97.65%	93.85%	94.97%
Standard Deviation	0.2%	0.1%	0.2%	0.2%	0.1%	1.6%	0.1%
C-Ray - Total Time - 4.1.R.P.P (sec)	612.141	627.784	627.236	629.820	627.299	628.496	628.540
Normalized	100%	97.51%	97.59%	97.19%	97.58%	97.4%	97.39%
Standard Deviation	0%	0.1%	0%	0%	0%	0.1%	0.1%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	14.1313	14.6779	14.7233	14.6378	14.4106	14.7021	14.5986
Normalized	100%	96.28%	95.98%	96.54%	98.06%	96.12%	96.8%
Standard Deviation	0.7%	1%	0.8%	0.1%	0.1%	0.9%	0.1%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	8.38821	11.2583	10.6875	10.9042	8.56735	10.9932	11.1775
Normalized	100%	74.51%	78.49%	76.93%	97.91%	76.3%	75.05%
Standard Deviation	0.9%	1.3%	3%	2.5%	0.4%	0.3%	0.5%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	29.9497	30.9653	31.8437	31.9141	30.9919	32.1700	32.2236
Normalized	100%	96.72%	94.05%	93.84%	96.64%	93.1%	92.94%
Standard Deviation	1.6%	2.3%	1.7%	1.5%	1.6%	0.4%	1.3%

stock-debian-kernel

oneDNN - D.B.s - u8s8f32 - CPU (ms)	20.0924	20.2841	20.2634	20.4095	20.1930	20.3740	20.3405
Normalized	100%	99.05%	99.16%	98.45%	99.5%	98.62%	98.78%
Standard Deviation	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.2%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	40.6044	41.0420	39.3512	38.5772	37.8519	38.4137	37.7663
Normalized	93.01%	92.02%	95.97%	97.9%	99.77%	98.31%	100%
Standard Deviation	6%	6.5%	5.2%	0.2%	0.9%	0.3%	1.4%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	27383	27581	27491	27738	27302	27714	27668
Normalized	99.7%	98.99%	99.31%	98.43%	100%	98.52%	98.68%
Standard Deviation	0.7%	0.4%	0.2%	0.1%	0.6%	0.1%	0.4%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	13475	13765	13721	13864	13494	13880	13845
Normalized	100%	97.89%	98.21%	97.19%	99.86%	97.09%	97.33%
Standard Deviation	0.4%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	26.0696	30.7967	30.9991	30.9724	30.5154	30.8566	30.8272
Normalized	100%	84.65%	84.1%	84.17%	85.43%	84.49%	84.57%
Standard Deviation	0.4%	0.1%	1.4%	0.1%	0.2%	0.2%	0.1%
Numpy Benchmark	360.55	334.81	333.63	333.66	349.39	332.60	337.33
Normalized	100%	92.86%	92.53%	92.54%	96.9%	92.25%	93.56%
Standard Deviation	1.3%	0.1%	1.4%	1.3%	0.7%	0.5%	1.3%
Cython Benchmark - N-Queens (sec)	24.687	25.717	26.003	25.819	26.177	26.256	26.157
Normalized	100%	95.99%	94.94%	95.62%	94.31%	94.02%	94.38%
Standard Deviation	0.6%	0.8%	1.2%	0.7%	2.2%	3.1%	1.6%
Opus Codec Encoding - WAV To Opus Encode	9.828	10.026	10.030	10.002	10.019	9.985	9.974
Normalized	100%	98.03%	97.99%	98.26%	98.09%	98.43%	98.54%
Standard Deviation	1.6%	2.4%	2.3%	2.3%	2%	2.3%	2.5%
FFmpeg - H.2.H.T.N.D	18.217	18.568	18.245	18.182	18.231	18.104	18.095
Normalized	99.33%	97.45%	99.18%	99.52%	99.25%	99.95%	100%
Standard Deviation	0.5%	1%	1.2%	1.2%	1.1%	1%	0.9%
Sample Pi Program (sec)	13.861	7.759	7.743	7.536	7.677	7.520	7.522
Normalized	54.25%	96.92%	97.12%	99.79%	97.95%	100%	99.97%
Standard Deviation	0.3%	2.5%	2.3%	0.1%	2.4%	0.1%	0.1%
OpenSSL - R.4.b.P (Signs/sec)	217.4	217.2	216.8	218.9	219.9	219.5	219.7
Normalized	98.86%	98.77%	98.59%	99.55%	100%	99.82%	99.91%
Standard Deviation	2%	2%	2.2%	1.9%	2.1%	2%	1.9%
Core-Latency - A.L.B.C.C (ns)	44.6381	75.0086	76.4646	76.9555	71.2538	75.6472	96.6189
Normalized	100%	59.51%	58.38%	58.01%	62.65%	59.01%	46.2%
MariaDB - 1 (Queries/sec)	4711						
Standard Deviation	1.8%						
MariaDB - 4 (Queries/sec)	2747						
Standard Deviation	0.7%						
MariaDB - 16	1182						
Standard Deviation	1.2%						
Tensorflow - Cifar10 (sec)	320.63						
Standard Deviation	0.1%						

PostgreSQL pgbench - 1 - 1 - Read Only (TPS)	14477	14063	14264	**13649**	**15408**	14779	14904
Normalized	93.96%	91.27%	92.58%	88.58%	100%	95.92%	96.73%
Standard Deviation	1%	0.6%	0.7%	0.4%	1.1%	0.7%	1.3%
PostgreSQL pgbench - 1 - 1 - Read Only - Average Latency (ms)	0.069	0.071	0.070	**0.073**	**0.065**	0.068	0.067
Normalized	94.2%	91.55%	92.86%	89.04%	100%	95.59%	97.01%
Standard Deviation	0.8%	0%	0.8%	0.8%	1.5%	0.9%	1.5%
PostgreSQL pgbench - 1 - 1 - Read Write (TPS)	1489	1410	1415	**1401**	**1533**	1421	1443
Normalized	97.13%	91.98%	92.3%	91.39%	100%	92.69%	94.13%
Standard Deviation	2.3%	1.3%	1.4%	2.1%	2.6%	1.1%	3.1%
PostgreSQL pgbench - 1 - 1 - Read Write - Average Latency (ms)	0.672	0.710	0.707	**0.714**	**0.653**	0.704	0.694
Normalized	97.17%	91.97%	92.36%	91.46%	100%	92.76%	94.09%
Standard Deviation	2.3%	1.3%	1.4%	2.1%	2.5%	1.1%	2.9%
PostgreSQL pgbench - 1 - 50 - Read Only (TPS)	31727	31154	30915	**30124**	**34240**	33637	32414
Normalized	92.66%	90.99%	90.29%	87.98%	100%	98.24%	94.67%
Standard Deviation	2.5%	2.2%	1.6%	0.5%	0.5%	0.2%	2.1%
PostgreSQL pgbench - 1 - 50 - Read Only - Average Latency (ms)	1.577	1.606	1.618	**1.660**	**1.461**	1.487	1.543
Normalized	92.64%	90.97%	90.3%	88.01%	100%	98.25%	94.69%
Standard Deviation	2.5%	2.2%	1.6%	0.5%	0.5%	0.2%	2.1%
PostgreSQL pgbench - 1 - 50 - Read Write (TPS)	1721	1582	1601	1570	**1775**	1628	**1540**
Normalized	96.96%	89.13%	90.2%	88.45%	100%	91.72%	86.76%
Standard Deviation	0.2%	0.6%	0.2%	1.5%	1.2%	0.3%	1.1%
PostgreSQL pgbench - 1 - 50 - Read Write - Average Latency (ms)	29.052	31.613	31.229	31.856	**28.181**	30.717	**32.477**
Normalized	97%	89.14%	90.24%	88.46%	100%	91.74%	86.77%
Standard Deviation	0.2%	0.6%	0.2%	1.5%	1.2%	0.3%	1.1%
PostgreSQL pgbench - 100 - 1 - Read Only (TPS)	12966	12417	12574	**12037**	**13755**	13059	12931
Normalized	94.26%	90.27%	91.41%	87.51%	100%	94.94%	94.01%
Standard Deviation	0.6%	0.7%	0.1%	0.7%	0.6%	1.5%	0.3%
PostgreSQL pgbench - 100 - 1 - Read Only - Average Latency (ms)	0.077	0.081	0.080	**0.083**	**0.073**	0.077	0.077
Normalized	94.81%	90.12%	91.25%	87.95%	100%	94.81%	94.81%
Standard Deviation	0.7%	0.7%	0.7%	1.2%	0.8%	2%	0.7%
PostgreSQL pgbench - 100 - 1 - Read Write (TPS)	1373	1305	1311	**1249**	**1400**	1316	1332
Normalized	98.07%	93.21%	93.64%	89.21%	100%	94%	95.14%
Standard Deviation	1.6%	1.1%	0.5%	0.1%	0.7%	0.9%	0.8%

PostgreSQL pgbench - 100 - 1 - Read Write - Average Latency (ms)	0.729	0.767	0.763	**0.800**	**0.714**	0.760	0.751
Normalized	97.94%	93.09%	93.58%	89.25%	100%	93.95%	95.07%
Standard Deviation	1.6%	1.2%	0.5%	0.1%	0.7%	0.9%	0.8%
PostgreSQL pgbench - 100 - 50 - Read Only (TPS)	26380	25655	25881	**24735**	**28159**	26736	25965
Normalized	93.68%	91.11%	91.91%	87.84%	100%	94.95%	92.21%
Standard Deviation	2.1%	0.3%	0.9%	0.9%	0.8%	0.6%	0%
PostgreSQL pgbench - 100 - 50 - Read Only - Average Latency (ms)	1.897	1.949	1.932	**2.022**	**1.776**	1.870	1.926
Normalized	93.62%	91.12%	91.93%	87.83%	100%	94.97%	92.21%
Standard Deviation	2.1%	0.3%	0.9%	0.9%	0.8%	0.6%	0%
PostgreSQL pgbench - 1000 - 1 - Read Only (TPS)	4084	**2939**	3103	3000	**4159**	3049	2952
Normalized	98.2%	70.67%	74.61%	72.13%	100%	73.31%	70.98%
Standard Deviation	6%	0.8%	2.4%	5.1%	3.3%	2.1%	2.5%
PostgreSQL pgbench - 1000 - 1 - Read Only - Average Latency (ms)	0.246	**0.340**	0.323	0.334	**0.241**	0.328	0.339
Normalized	97.97%	70.88%	74.61%	72.16%	100%	73.48%	71.09%
Standard Deviation	6.3%	0.9%	2.4%	5.1%	3.3%	2.1%	2.4%
PostgreSQL pgbench - 100 - 50 - Read Write	3792	3494	3528	3492	**3909**	3583	**3392**
Normalized	97.01%	89.38%	90.25%	89.33%	100%	91.66%	86.77%
Standard Deviation	1.5%	2.1%	1.4%	0.8%	2.4%	1.6%	2.2%
PostgreSQL pgbench - 100 - 50 - Read Write - Average Latency (ms)	13.190	14.314	14.176	14.321	**12.797**	13.959	**14.746**
Normalized	97.02%	89.4%	90.27%	89.36%	100%	91.68%	86.78%
Standard Deviation	1.5%	2.1%	1.4%	0.8%	2.5%	1.6%	2.2%
PostgreSQL pgbench - 1000 - 1 - Read Write	1061	**901**	944	912	**1097**	931	938
Normalized	96.72%	82.13%	86.05%	83.14%	100%	84.87%	85.51%
Standard Deviation	3.2%	3.4%	0.6%	3.1%	1.9%	0.1%	2.2%
PostgreSQL pgbench - 1000 - 1 - Read Write - Average Latency (ms)	0.944	**1.111**	1.059	1.097	**0.912**	1.074	1.067
Normalized	96.61%	82.09%	86.12%	83.14%	100%	84.92%	85.47%
Standard Deviation	3.2%	3.3%	0.5%	3.2%	2%	0.1%	2.3%
PostgreSQL pgbench - 1000 - 50 - Read Only (TPS)	19281	14497	15131	14763	**19822**	**8668**	12661
Normalized	97.27%	73.14%	76.33%	74.48%	100%	43.73%	63.87%
Standard Deviation	1.1%	0.7%	2.4%	2%	0.7%	35.1%	17%
PostgreSQL pgbench - 1000 - 50 - Read Only - Average Latency (ms)	2.594	3.449	3.306	3.388	**2.523**	**6.388**	4.096
Normalized	97.26%	73.15%	76.32%	74.47%	100%	39.5%	61.6%
Standard Deviation	1.1%	0.7%	2.3%	2%	0.7%	32.3%	23.2%

stock-debian-kernel

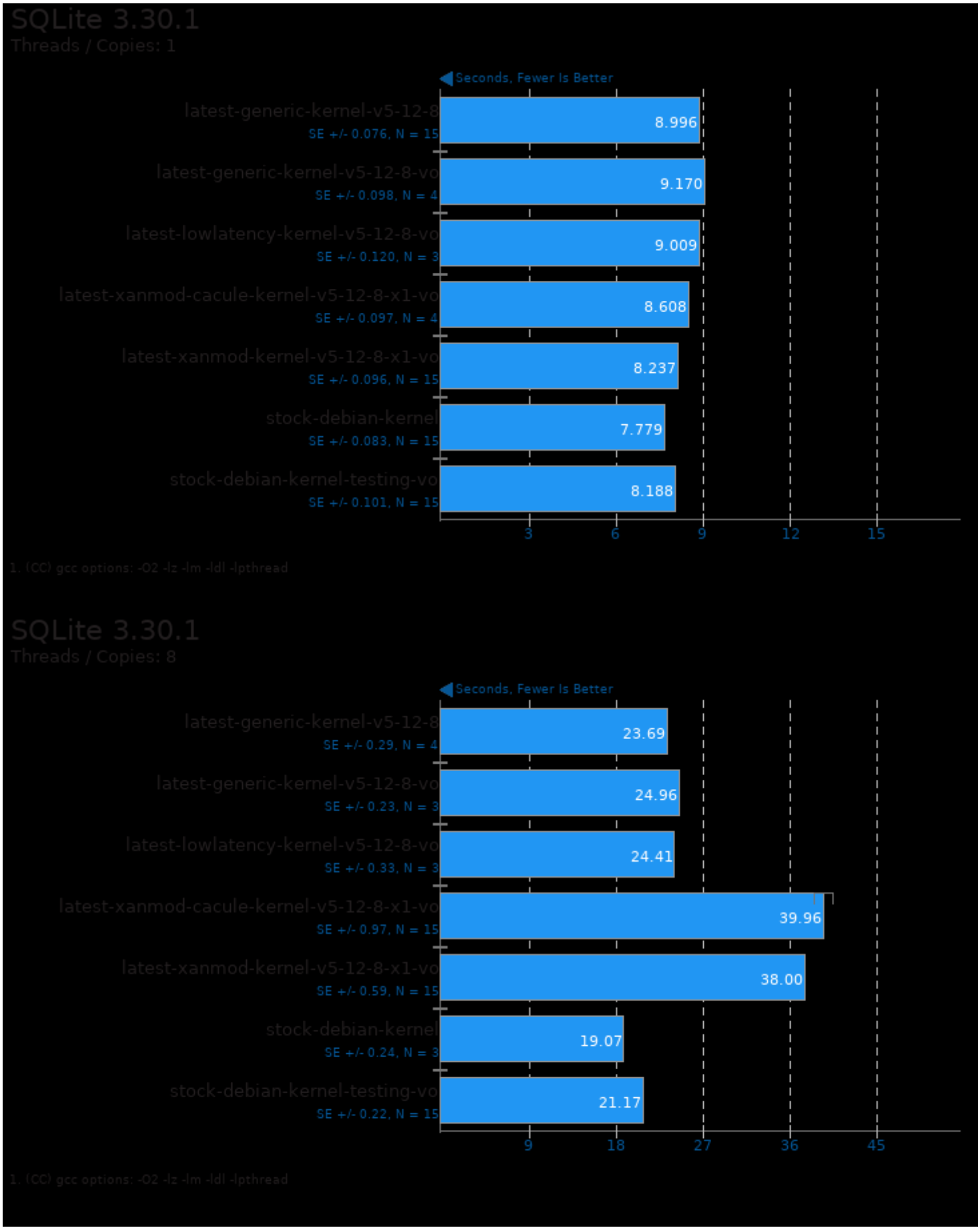
PostgreSQL pgbench - 1000 - 50 - Read Write (TPS)	3332	2744	2946	3096	**3518**	2838	**2696**
Normalized	94.71%	78%	83.74%	88%	100%	80.67%	76.63%
Standard Deviation	5.2%	9.4%	4.9%	1%	1%	8.2%	5%
PostgreSQL pgbench - 1000 - 50 - Read Write - Average Latency (ms)	15.045	18.383	17.012	16.152	**14.215**	17.749	**18.590**
Normalized	94.48%	77.33%	83.56%	88.01%	100%	80.09%	76.47%
Standard Deviation	5.3%	9.9%	5.1%	1%	1%	9.7%	5.2%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	64.177	**67.363**	65.964	66.414	**62.709**	64.825	64.500
Normalized	97.71%	93.09%	95.07%	94.42%	100%	96.74%	97.22%
Standard Deviation	0.5%	0.3%	0.3%	0.4%	1.1%	0.4%	0.2%
GIMP - resize (sec)	15.054						
Standard Deviation	2.4%						
GIMP - rotate (sec)	21.073						
Standard Deviation	0.5%						
GIMP - auto-levels (sec)	29.764						
Standard Deviation	2.5%						
GIMP - unsharp-mask	31.683						
Standard Deviation	0.2%						
Redis - LPOP (Reqs/sec)	**1770817**	1667235	1228449	**1179814**	1278617	1243266	1255724
Normalized	100%	94.15%	69.37%	66.63%	72.2%	70.21%	70.91%
Standard Deviation	1.1%	0.8%	1.5%	1.6%	2.3%	0.6%	0.3%
Redis - SADD (Reqs/sec)	**1416667**	1447664	1467955	1436265	**1569330**	1520691	1526343
Normalized	90.27%	92.25%	93.54%	91.52%	100%	96.9%	97.26%
Standard Deviation	1.3%	1.4%	1.6%	0.3%	2.4%	0.8%	0.1%
Redis - LPUSH (Reqs/sec)	**1127623**	1169864	1166357	1146140	**1246584**	1196351	1204997
Normalized	90.46%	93.85%	93.56%	91.94%	100%	95.97%	96.66%
Standard Deviation	2.5%	0.6%	0.3%	2.4%	1.8%	0.7%	1.2%
Redis - GET (Reqs/sec)	1616455	1618897	1540623	**1485468**	**1664172**	1581931	1590346
Normalized	97.13%	97.28%	92.58%	89.26%	100%	95.06%	95.56%
Standard Deviation	2.8%	0.7%	0.5%	1.3%	2.4%	0.6%	0.9%
Redis - SET (Reqs/sec)	**1275459**	1318732	1298001	1292968	**1430217**	1378467	1364756
Normalized	89.18%	92.21%	90.76%	90.4%	100%	96.38%	95.42%
Standard Deviation	2.1%	2.5%	2.4%	0.9%	1.1%	0.2%	2.1%
Caffe - AlexNet - CPU - 100 (ms)	77125						
Standard Deviation	2%						
Caffe - GoogleNet - CPU - 100 (ms)	174890						
Standard Deviation	0.2%						
Sysbench - RAM / Memory (MiB/sec)	**7602**	8045	8159	8048	**8339**	8242	8164
Normalized	91.16%	96.48%	97.85%	96.52%	100%	98.84%	97.9%
Standard Deviation	1.4%	1.4%	2.2%	1.8%	0.6%	0.1%	2.5%
Sysbench - CPU (Events/sec)	4105	4110	**4120**	**4104**	4120	4109	4111
Normalized	99.64%	99.75%	100%	99.62%	100%	99.74%	99.78%
Standard Deviation	0.2%	0.2%	0.1%	0%	0.1%	0%	0%

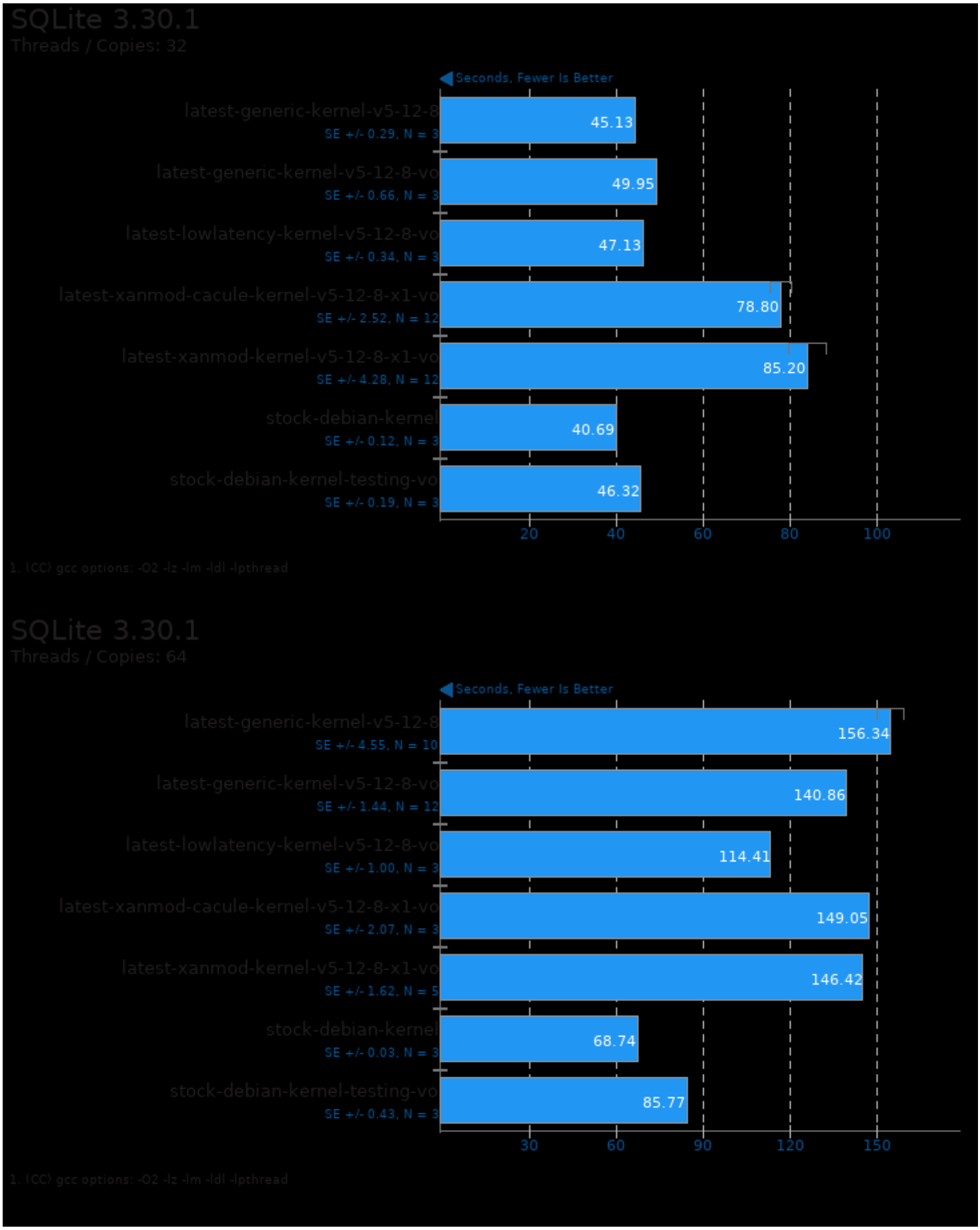
stock-debian-kernel

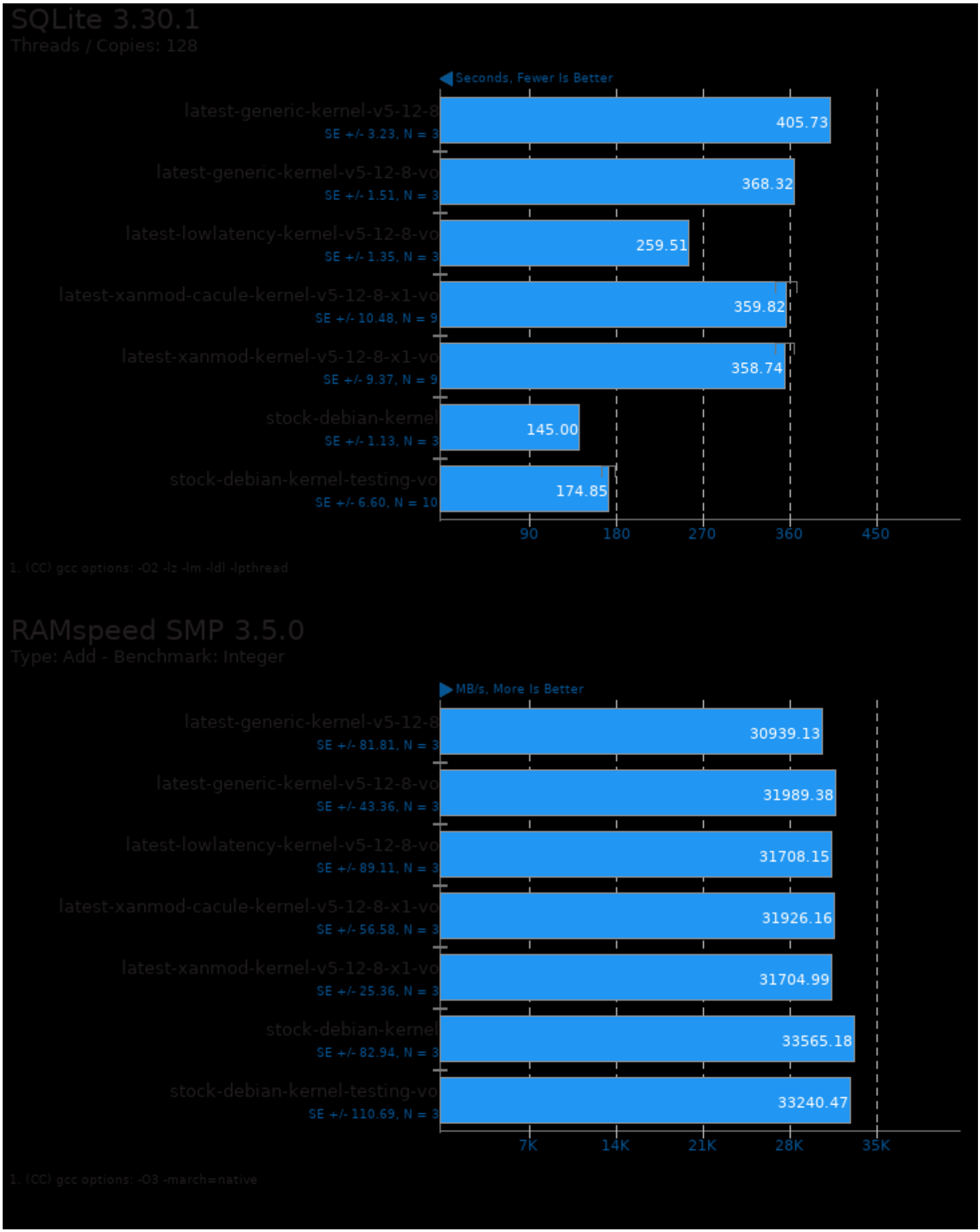
Apache Cassandra - Writes (Op/s)	5162	**4466**	4581	4494	**5257**	4598	4697
Normalized	98.19%	84.95%	87.14%	85.49%	100%	87.46%	89.35%
Standard Deviation	8%	0.3%	1.2%	0.1%	5.9%	1.2%	2.5%
Blender - BMW27 - CPU-Only (sec)	1477	1511	1508	**1521**	**1475**	1514	1512
Normalized	99.83%	97.6%	97.76%	96.94%	100%	97.39%	97.51%
Standard Deviation	0%	0%	0.2%	0.1%	0.2%	0.2%	0.2%
PyBench - T.F.A.T.T (Milliseconds)	**1059**	1033	**1032**	1035	1035	1033	1033
Normalized	97.45%	99.9%	100%	99.71%	99.71%	99.9%	99.9%
Standard Deviation	0.4%	0.2%	0.8%	0.1%	0.8%		0.3%
PyPerformance - go (Milliseconds)	**273**	272	272	271	271	272	**270**
Normalized	98.9%	99.26%	99.26%	99.63%	99.63%	99.26%	100%
PyPerformance - 2to3 (Milliseconds)	360	361	**362**	361	**359**	360	361
Normalized	99.72%	99.45%	99.17%	99.45%	100%	99.72%	99.45%
Standard Deviation			0.7%	0.4%			0.3%
PyPerformance - chaos (Milliseconds)	**129**	**116**	**116**	**116**	**116**	**116**	117
Normalized	89.92%	100%	100%	100%	100%	100%	99.15%
Standard Deviation					0.5%	1%	
PyPerformance - float (Milliseconds)	**116**	125	126	**127**	125	126	126
Normalized	100%	92.8%	92.06%	91.34%	92.8%	92.06%	92.06%
Standard Deviation		0.5%					
PyPerformance - nbody (Milliseconds)	**135**	132	130	131	**129**	134	130
Normalized	95.56%	97.73%	99.23%	98.47%	100%	96.27%	99.23%
Standard Deviation					0.8%	2%	
PyPerformance - pathlib (Milliseconds)	**20.5**	19.3	18.9	18.9	18.2	**18.1**	18.2
Normalized	88.29%	93.78%	95.77%	95.77%	99.45%	100%	99.45%
Standard Deviation	0.3%	0.5%	0.8%	0.6%	0.8%	0.3%	0.3%
PyPerformance - raytrace (Milliseconds)	**516**	498	**495**	**495**	497	497	497
Normalized	95.93%	99.4%	100%	100%	99.6%	99.6%	99.6%
Standard Deviation	0.2%	0.1%	0.3%		0.3%	0.3%	0.2%
PyPerformance - json_loads (Milliseconds)	**27.2**	26.9	**26.6**	**26.6**	**26.6**	26.7	26.7
Normalized	97.79%	98.88%	100%	100%	100%	99.63%	99.63%
Standard Deviation	1.3%	1.5%	0.2%	0%	0%	0.2%	0.2%
PyPerformance - crypto_pyaes	**114**	112	113	112	**114**	**114**	**111**
Normalized	97.37%	99.11%	98.23%	99.11%	97.37%	97.37%	100%
Standard Deviation				0.5%			
PyPerformance - regex_compile (Milliseconds)	**194**	177	177	178	**176**	178	177
Normalized	90.72%	99.44%	99.44%	98.88%	100%	98.88%	99.44%
Standard Deviation	0.3%		0.3%			0.6%	

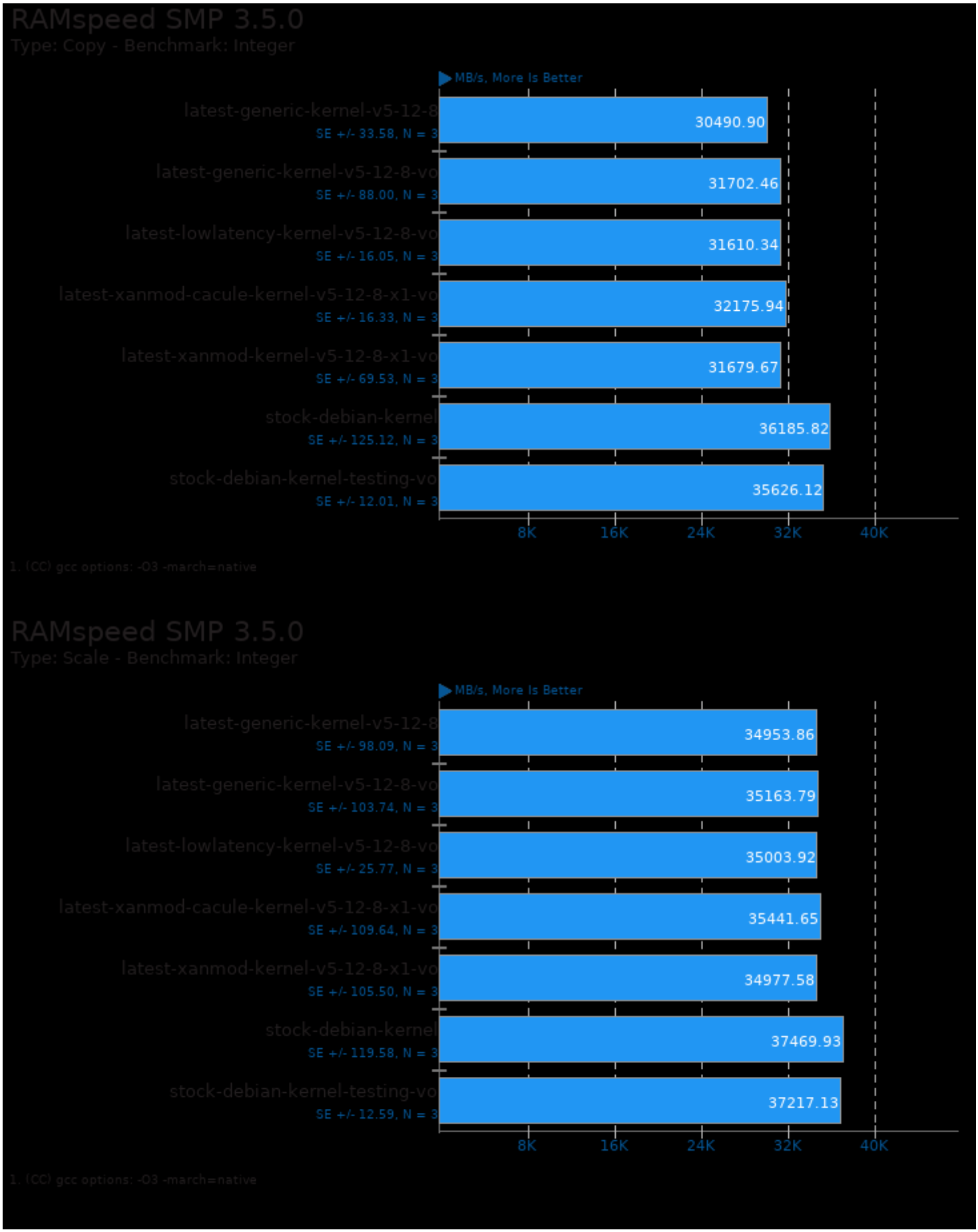
stock-debian-kernel

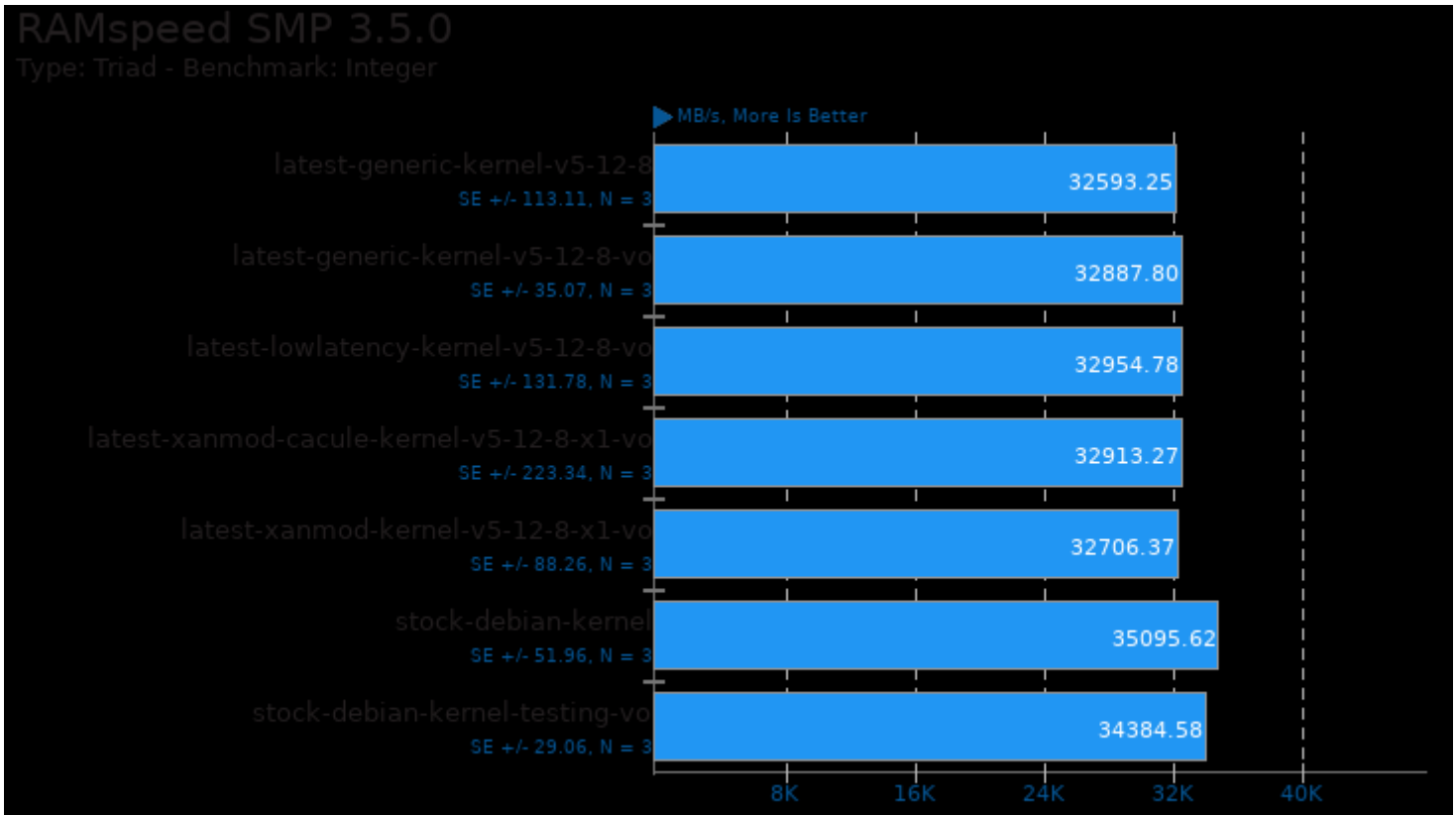
PyPerformance - python_startup (Milliseconds)	8.65	8.70	8.95	**9.05**	**8.55**	9.00	8.95
Normalized	98.84%	98.28%	95.53%	94.48%	100%	95%	95.53%
Standard Deviation	0.1%	0.2%	0.3%	0.1%	0.1%	0.5%	0.1%
PyPerformance - django_template (Milliseconds)	**60.4**	**51.1**	51.2	52.4	52.2	51.6	51.5
Normalized	84.6%	100%	99.8%	97.52%	97.89%	99.03%	99.22%
Standard Deviation	0.6%	0.4%	0.4%	0.2%	0.7%	0%	0.3%
PyPerformance - pickle_pure_python (Milliseconds)	**511**	477	478	477	481	479	**476**
Normalized	93.15%	99.79%	99.58%	99.79%	98.96%	99.37%	100%
Standard Deviation		0.2%	0.2%	0.8%		1%	0.8%
NGINX Benchmark - S.W.P.S (Reqs/sec)	24631	22336	23063	**22242**	**24927**	24496	24624
Normalized	98.82%	89.61%	92.52%	89.23%	100%	98.27%	98.78%
Standard Deviation	0.8%	0.3%	1%	0.5%	1.4%	0.2%	0.1%
Apache Benchmark - S.W.P.S (Reqs/sec)	14038	**11633**	11796	11879	**14161**	12821	12447
Normalized	99.13%	82.15%	83.3%	83.88%	100%	90.54%	87.9%
Standard Deviation	0.3%	0.2%	0.2%	0.2%	0.3%	0.2%	1%
Tesseract OCR - T.T.O.7.I (sec)	48.423						
Standard Deviation	0.5%						
InfluxDB - 4 - 10000 - 2,5000,1 - 10000 (val/sec)	321403	**315081**	315989	317158	**322450**	318953	317699
Normalized	99.68%	97.71%	98%	98.36%	100%	98.92%	98.53%
Standard Deviation	0.3%	0.4%	0.9%	0.4%	0.4%	0.5%	0.4%
InfluxDB - 64 - 10000 - 2,5000,1 - 10000 (val/sec)	**309899**	301030	304111	**298564**	308274	301328	300890
Normalized	100%	97.14%	98.13%	96.34%	99.48%	97.23%	97.09%
Standard Deviation	0.5%	0.6%	0.3%	0.7%	0.2%	0.4%	0.4%
GIMP - resize (sec)		20.657	**20.779**	20.623	**20.445**	20.613	20.468
Normalized		98.97%	98.39%	99.14%	100%	99.18%	99.89%
Standard Deviation		0.9%	0.6%	1.4%	1.6%	1.2%	1%
GIMP - rotate (sec)		**16.003**	15.906	15.948	**14.553**	15.978	15.637
Normalized		90.94%	91.49%	91.25%	100%	91.08%	93.07%
Standard Deviation		1.1%	0.8%	0.2%	1.6%	1.1%	0.3%
GIMP - auto-levels (sec)		**21.432**	21.361	21.348	**19.782**	21.11	21.021
Normalized		92.3%	92.61%	92.66%	100%	93.71%	94.11%
Standard Deviation		0.7%	0.9%	0.1%	1.3%	0.1%	0.1%
GIMP - unsharp-mask		24.067	24.095	**24.288**	**21.972**	24.110	23.881
Normalized		91.3%	91.19%	90.46%	100%	91.13%	92.01%
Standard Deviation		0.3%	0.3%	0.1%	0.2%	0.6%	0.7%
Tesseract OCR - T.T.O.7.I (sec)		48.253	47.385	48.218	**41.568**	44.269	**48.570**
Normalized		86.15%	87.72%	86.21%	100%	93.9%	85.58%
Standard Deviation		0.5%	0.5%	0.3%	0.1%	0.2%	0.5%

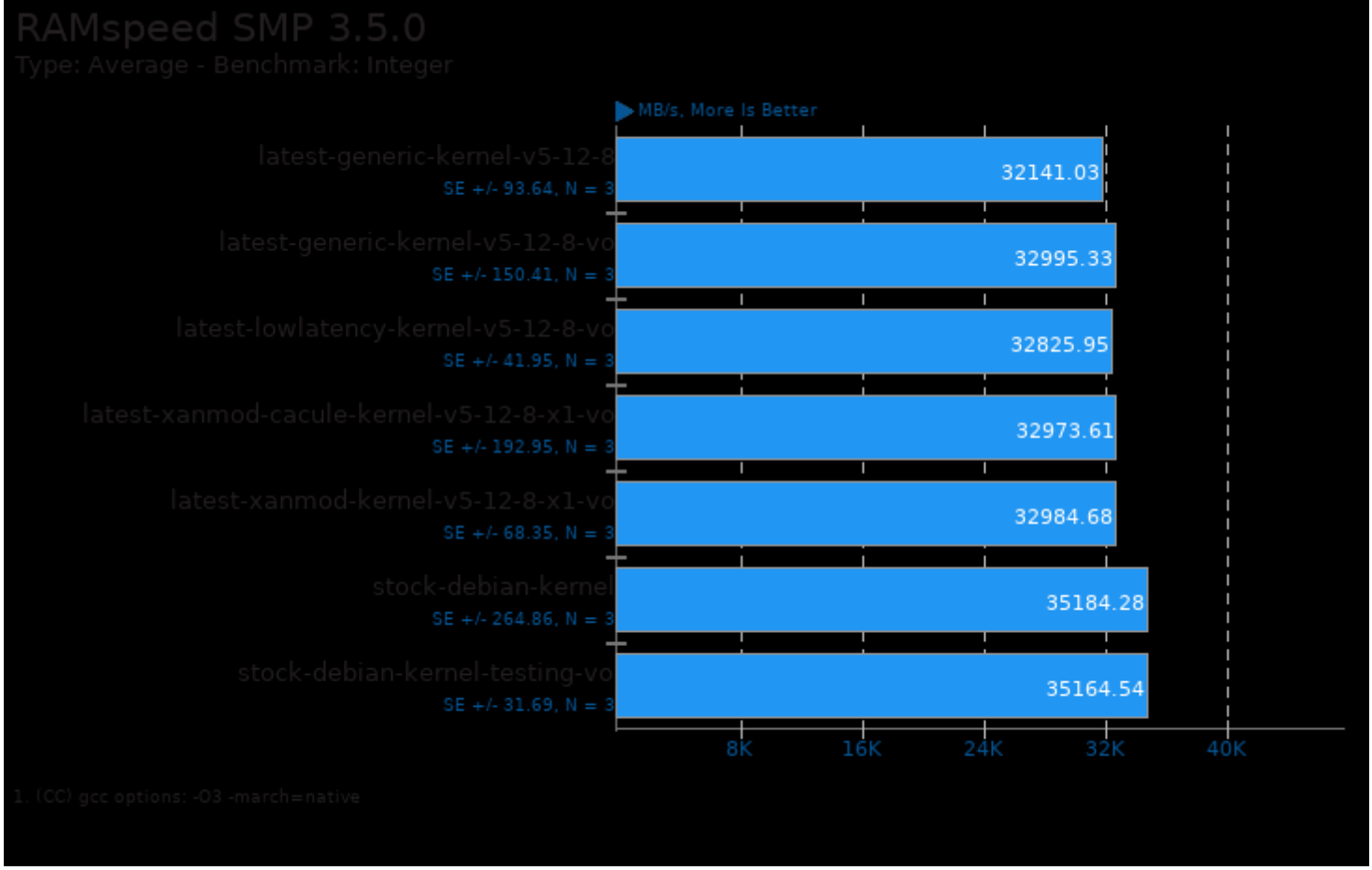

SQLite 3.30.1
Threads / Copies: 1
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.076, N = 15
8.996
latest-generic-kernel-v5-12-8-vo
SE +/- 0.098, N = 4
9.170
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.120, N = 3
9.009
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.097, N = 4
8.608
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.096, N = 15
8.237
stock-debian-kernel
SE +/- 0.083, N = 15
7.779
stock-debian-kernel-testing-vo
SE +/- 0.101, N = 15
8.188
3
6
9
12
15
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread
SQLite 3.30.1
Threads / Copies: 8
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.29, N = 4
23.69
latest-generic-kernel-v5-12-8-vo
SE +/- 0.23, N = 3
24.96
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.33, N = 3
24.41
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.97, N = 15
39.96
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.59, N = 15
38.00
stock-debian-kernel
SE +/- 0.24, N = 3
19.07
stock-debian-kernel-testing-vo
SE +/- 0.22, N = 15
21.17
9
18
27
36
45
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread

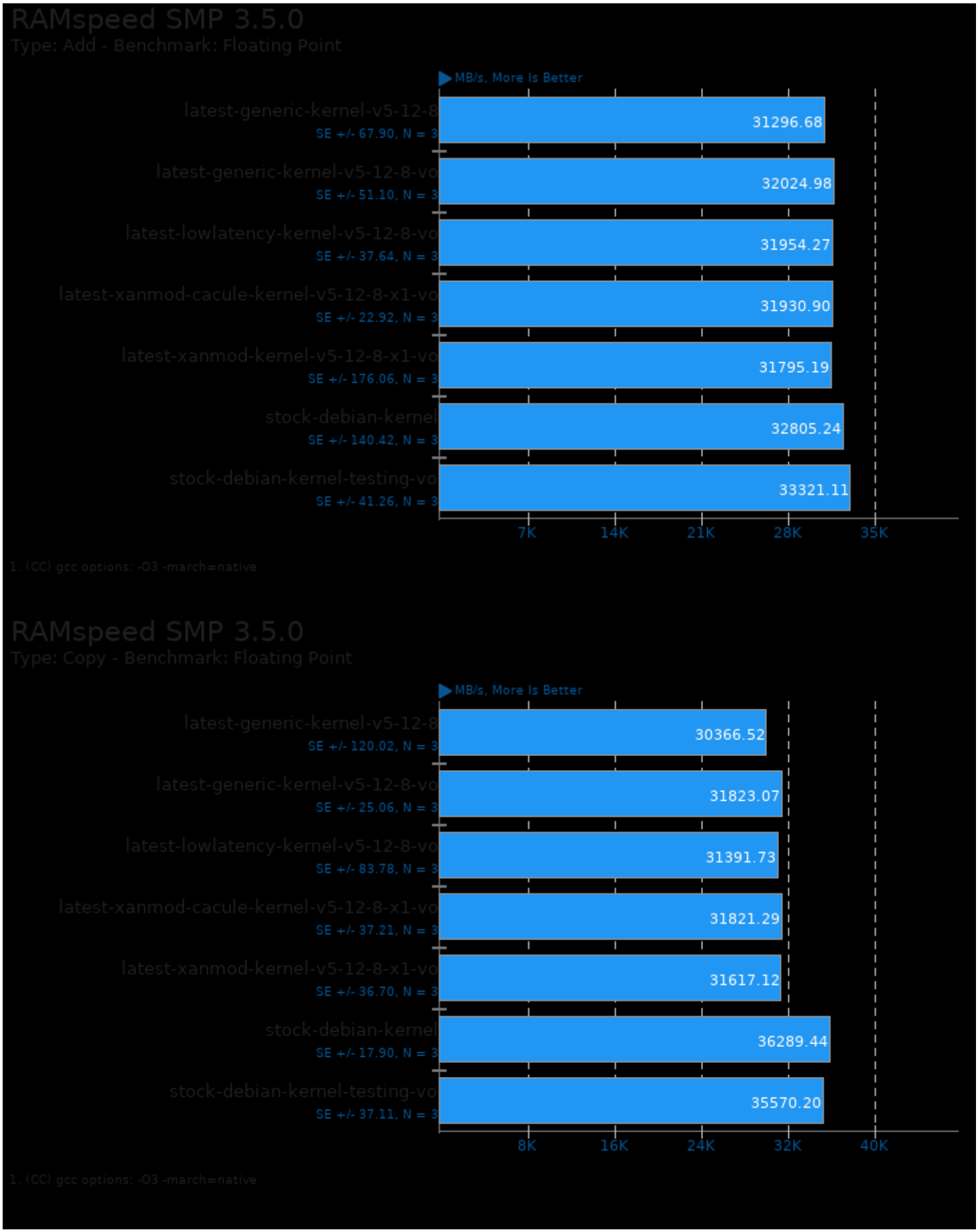

SQLite 3.30.1
Threads / Copies: 32
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.29, N = 3
45.13
latest-generic-kernel-v5-12-8-vo
SE +/- 0.66, N = 3
49.95
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.34, N = 3
47.13
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2.52, N = 12
78.80
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 4.28, N = 12
85.20
stock-debian-kernel
SE +/- 0.12, N = 3
40.69
stock-debian-kernel-testing-vo
SE +/- 0.19, N = 3
46.32
20
40
60
80
100
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread
SQLite 3.30.1
Threads / Copies: 64
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 4.55, N = 10
156.34
latest-generic-kernel-v5-12-8-vo
SE +/- 1.44, N = 12
140.86
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.00, N = 3
114.41
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2.07, N = 3
149.05
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.62, N = 5
146.42
stock-debian-kernel
SE +/- 0.03, N = 3
68.74
stock-debian-kernel-testing-vo
SE +/- 0.43, N = 3
85.77
30
60
90
120
150
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread

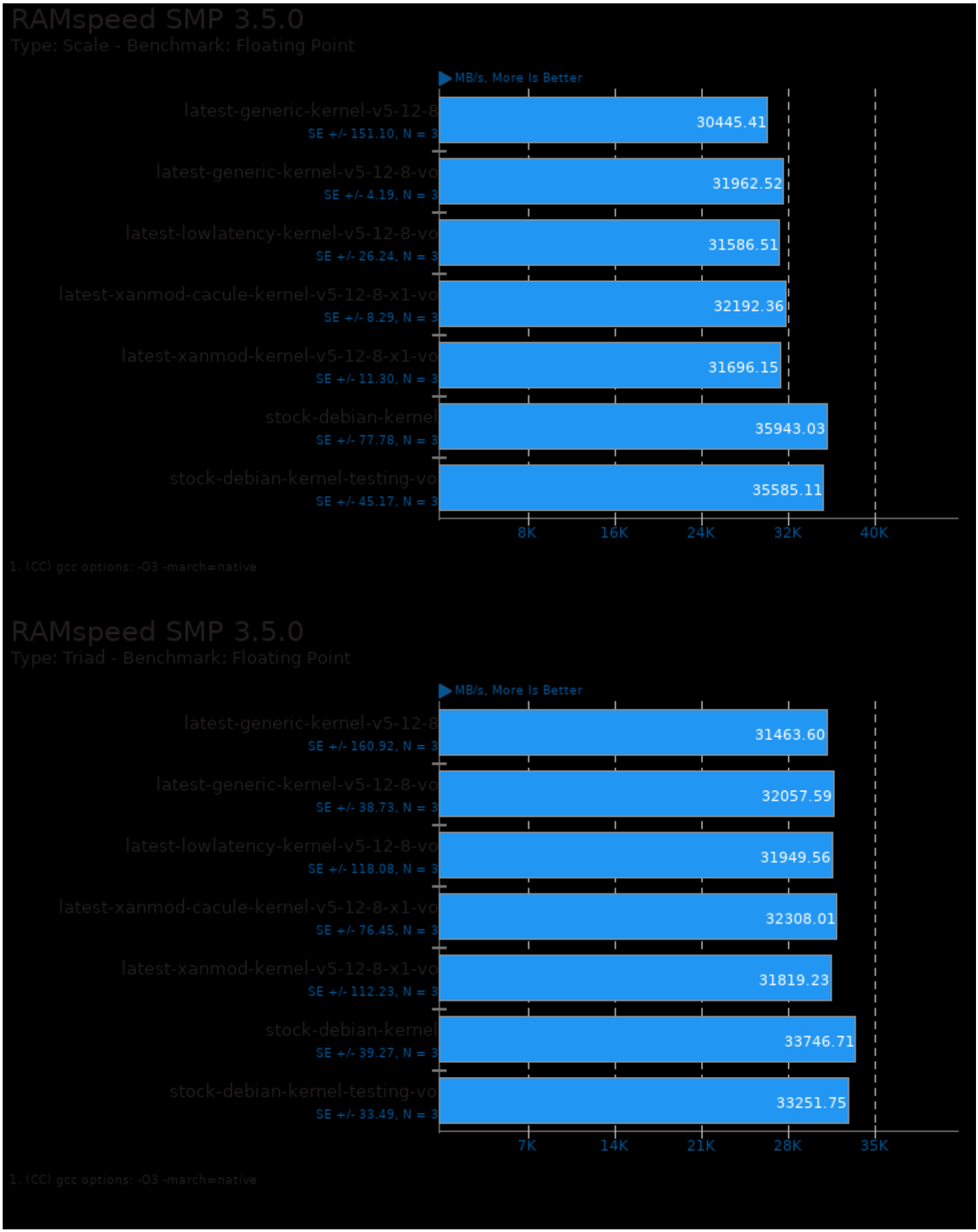

SQLite 3.30.1
Threads / Copies: 128
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 3.23, N = 3
405.73
latest-generic-kernel-v5-12-8-vo
SE +/- 1.51, N = 3
368.32
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.35, N = 3
259.51
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 10.48, N = 9
359.82
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 9.37, N = 9
358.74
stock-debian-kernel
SE +/- 1.13, N = 3
145.00
stock-debian-kernel-testing-vo
SE +/- 6.60, N = 10
174.85
90
180
270
360
450
1. (CC) gcc options: -O2 -lz -lm -ldl -lpthread
RAMspeed SMP 3.5.0
Type: Add - Benchmark: Integer
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 81.81, N = 3
30939.13
latest-generic-kernel-v5-12-8-vo
SE +/- 43.36, N = 3
31989.38
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 89.11, N = 3
31708.15
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 56.58, N = 3
31926.16
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 25.36, N = 3
31704.99
stock-debian-kernel
SE +/- 82.94, N = 3
33565.18
stock-debian-kernel-testing-vo
SE +/- 110.69, N = 3
33240.47
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native


RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Integer
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 33.58, N = 3
30490.90
latest-generic-kernel-v5-12-8-vo
SE +/- 88.00, N = 3
31702.46
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 16.05, N = 3
31610.34
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 16.33, N = 3
32175.94
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 69.53, N = 3
31679.67
stock-debian-kernel
SE +/- 125.12, N = 3
36185.82
stock-debian-kernel-testing-vo
SE +/- 12.01, N = 3
35626.12
8K
16K
24K
32K
40K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Integer
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 98.09, N = 3
34953.86
latest-generic-kernel-v5-12-8-vo
SE +/- 103.74, N = 3
35163.79
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 25.77, N = 3
35003.92
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 109.64, N = 3
35441.65
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 105.50, N = 3
34977.58
stock-debian-kernel
SE +/- 119.58, N = 3
37469.93
stock-debian-kernel-testing-vo
SE +/- 12.59, N = 3
37217.13
8K
16K
24K
32K
40K
1. (CC) gcc options: -O3 -march=native


RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Integer
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 113.11, N = 3
32593.25
latest-generic-kernel-v5-12-8-vo
SE +/- 35.07, N = 3
32887.80
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 131.78, N = 3
32954.78
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 223.34, N = 3
32913.27
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 88.26, N = 3
32706.37
stock-debian-kernel
SE +/- 51.96, N = 3
35095.62
stock-debian-kernel-testing-vo
SE +/- 29.06, N = 3
34384.58
8K
16K
24K
32K
40K
1. (CC) gcc options: -O3 -march=native

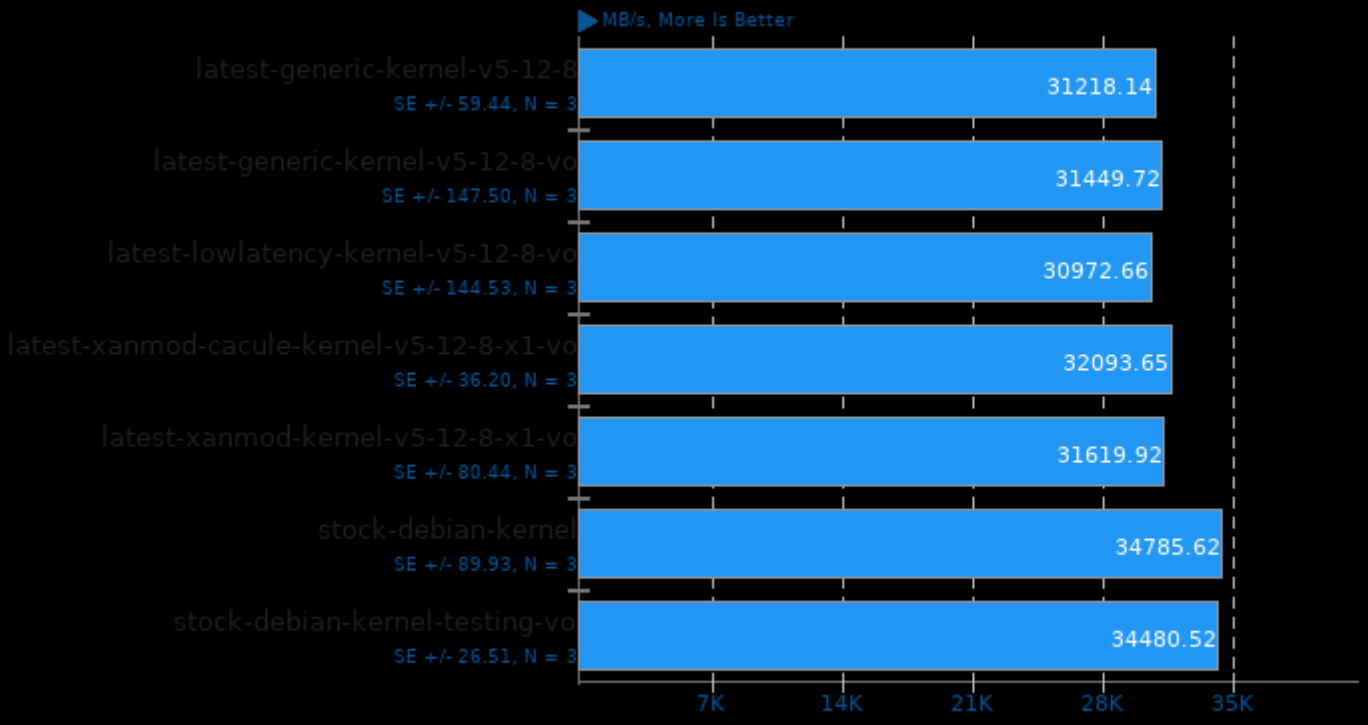

RAMspeed SMP 3.5.0
Type: Average - Benchmark: Integer
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 93.64, N = 3
32141.03
latest-generic-kernel-v5-12-8-vo
SE +/- 150.41, N = 3
32995.33
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 41.95, N = 3
32825.95
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 192.95, N = 3
32973.61
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 68.35, N = 3
32984.68
stock-debian-kernel
SE +/- 264.86, N = 3
35184.28
stock-debian-kernel-testing-vo
SE +/- 31.69, N = 3
35164.54
8K
16K
24K
32K
40K
1. (CC) gcc options: -O3 -march=native


RAMspeed SMP 3.5.0
Type: Add - Benchmark: Floating Point
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 67.90, N = 3
31296.68
latest-generic-kernel-v5-12-8-vo
SE +/- 51.10, N = 3
32024.98
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 37.64, N = 3
31954.27
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 22.92, N = 3
31930.90
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 176.06, N = 3
31795.19
stock-debian-kernel
SE +/- 140.42, N = 3
32805.24
stock-debian-kernel-testing-vo
SE +/- 41.26, N = 3
33321.11
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Copy - Benchmark: Floating Point
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 120.02, N = 3
30366.52
latest-generic-kernel-v5-12-8-vo
SE +/- 25.06, N = 3
31823.07
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 83.78, N = 3
31391.73
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 37.21, N = 3
31821.29
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 36.70, N = 3
31617.12
stock-debian-kernel
SE +/- 17.90, N = 3
36289.44
stock-debian-kernel-testing-vo
SE +/- 37.11, N = 3
35570.20
8K
16K
24K
32K
40K
1. (CC) gcc options: -O3 -march=native


RAMspeed SMP 3.5.0
Type: Scale - Benchmark: Floating Point
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 151.10, N = 3
30445.41
latest-generic-kernel-v5-12-8-vo
SE +/- 4.19, N = 3
31962.52
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 26.24, N = 3
31586.51
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 8.29, N = 3
32192.36
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 11.30, N = 3
31696.15
stock-debian-kernel
SE +/- 77.78, N = 3
35943.03
stock-debian-kernel-testing-vo
SE +/- 45.17, N = 3
35585.11
8K
16K
24K
32K
40K
1. (CC) gcc options: -O3 -march=native
RAMspeed SMP 3.5.0
Type: Triad - Benchmark: Floating Point
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 160.92, N = 3
31463.60
latest-generic-kernel-v5-12-8-vo
SE +/- 38.73, N = 3
32057.59
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 118.08, N = 3
31949.56
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 76.45, N = 3
32308.01
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 112.23, N = 3
31819.23
stock-debian-kernel
SE +/- 39.27, N = 3
33746.71
stock-debian-kernel-testing-vo
SE +/- 33.49, N = 3
33251.75
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native

RAMspeed SMP 3.5.0

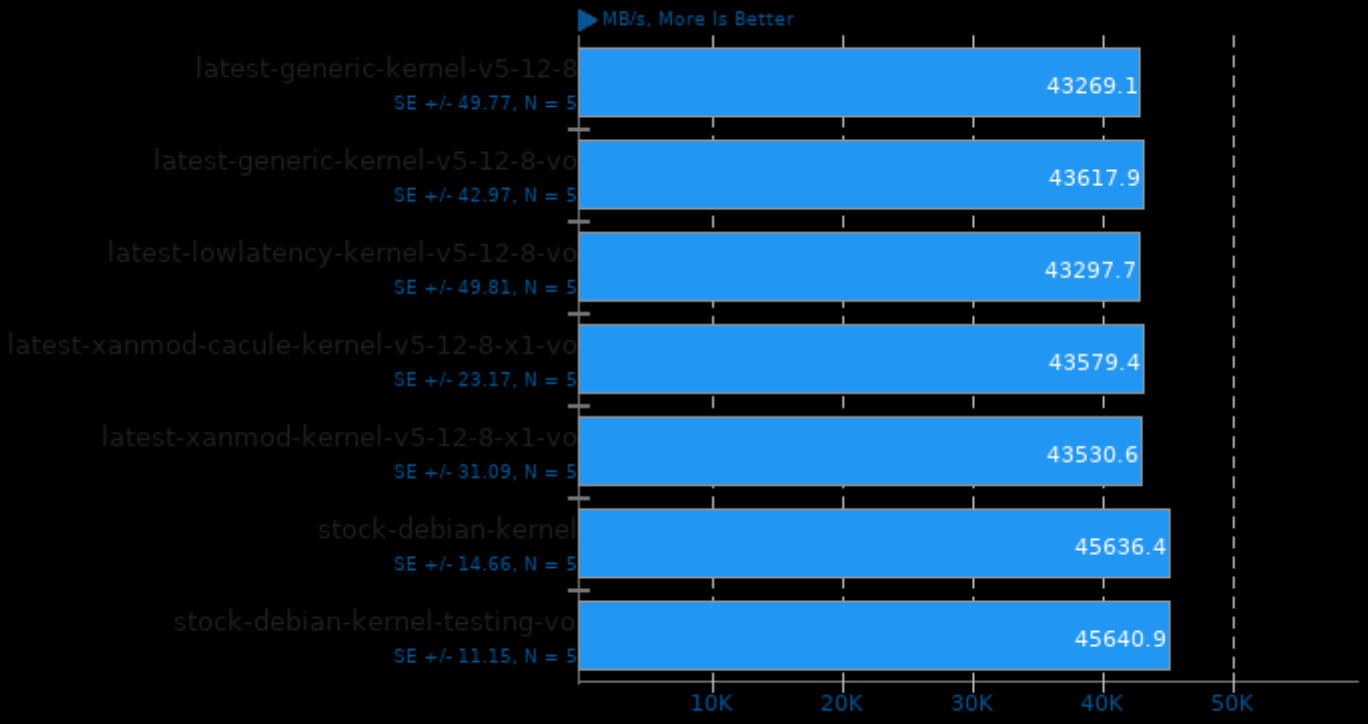
Type: Average - Benchmark: Floating Point



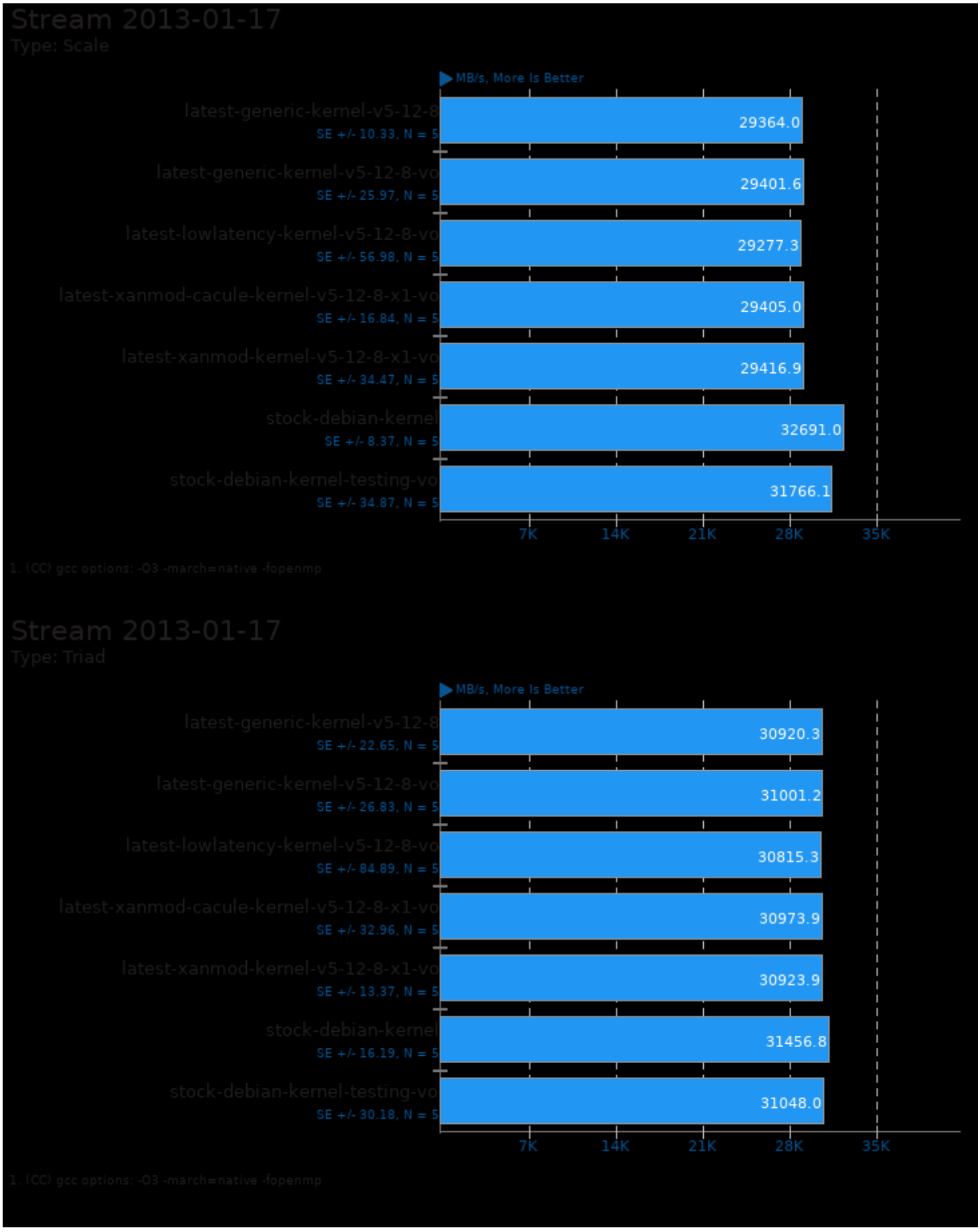
1. (CC) gcc options: -O3 -march=native

Stream 2013-01-17

Type: Copy

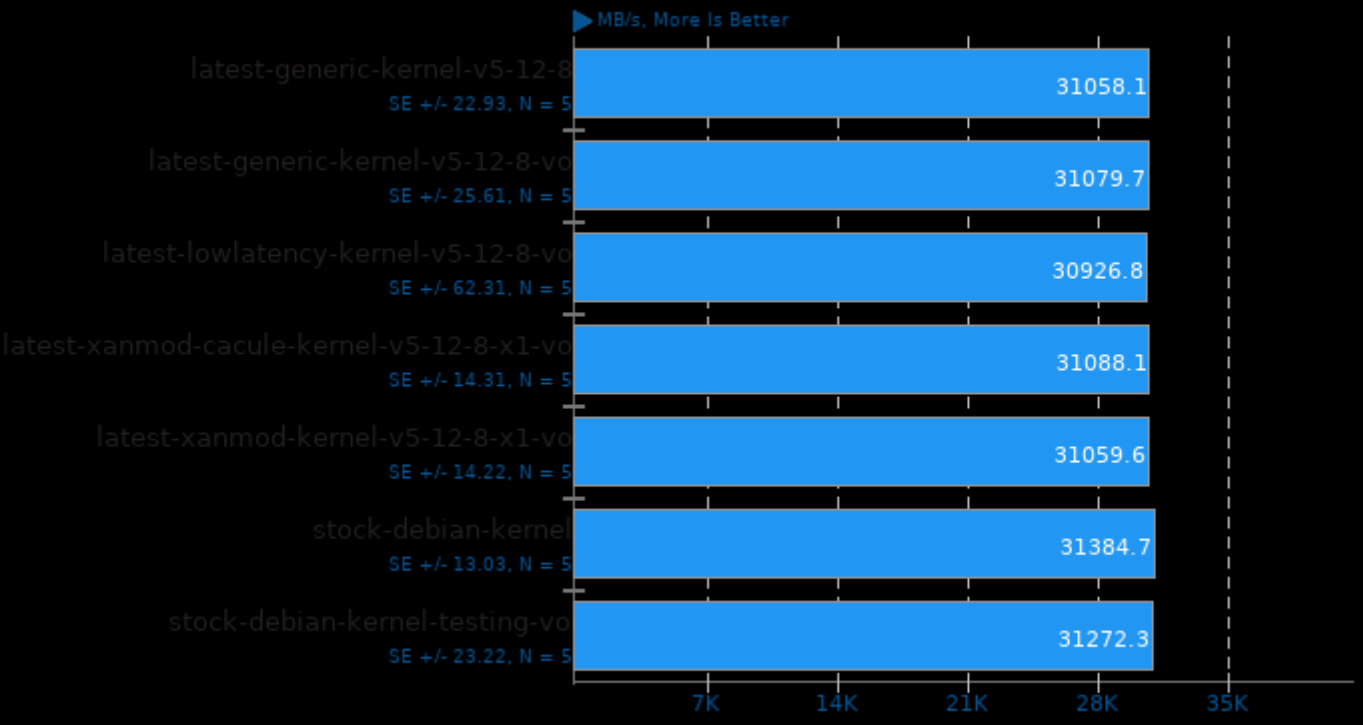


1. (CC) gcc options: -O3 -march=native -fopenmp


Stream 2013-01-17
Type: Scale
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 10.33, N = 5
29364.0
latest-generic-kernel-v5-12-8-vo
SE +/- 25.97, N = 5
29401.6
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 56.98, N = 5
29277.3
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 16.84, N = 5
29405.0
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 34.47, N = 5
29416.9
stock-debian-kernel
SE +/- 8.37, N = 5
32691.0
stock-debian-kernel-testing-vo
SE +/- 34.87, N = 5
31766.1
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native -fopenmp
Stream 2013-01-17
Type: Triad
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 22.65, N = 5
30920.3
latest-generic-kernel-v5-12-8-vo
SE +/- 26.83, N = 5
31001.2
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 84.89, N = 5
30815.3
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 32.96, N = 5
30973.9
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 13.37, N = 5
30923.9
stock-debian-kernel
SE +/- 16.19, N = 5
31456.8
stock-debian-kernel-testing-vo
SE +/- 30.18, N = 5
31048.0
7K
14K
21K
28K
35K
1. (CC) gcc options: -O3 -march=native -fopenmp

Stream 2013-01-17

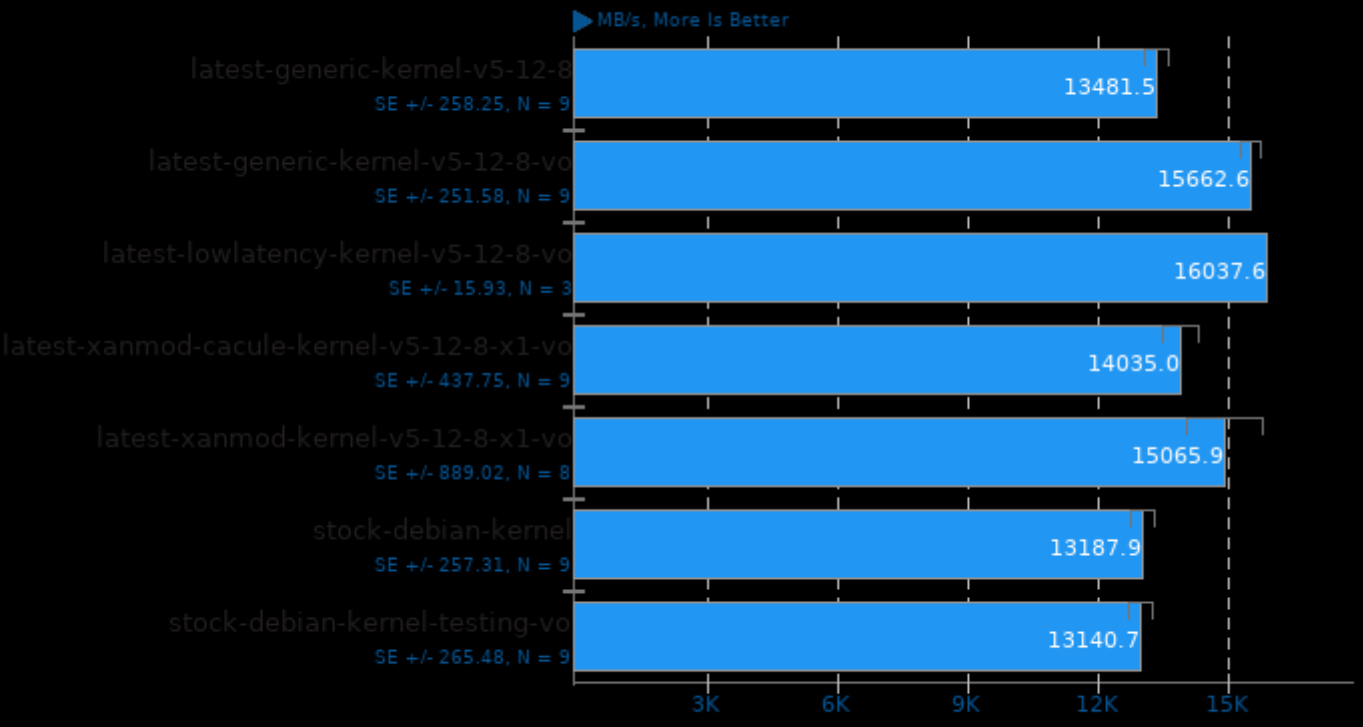
Type: Add



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

Tinymembench 2018-05-28

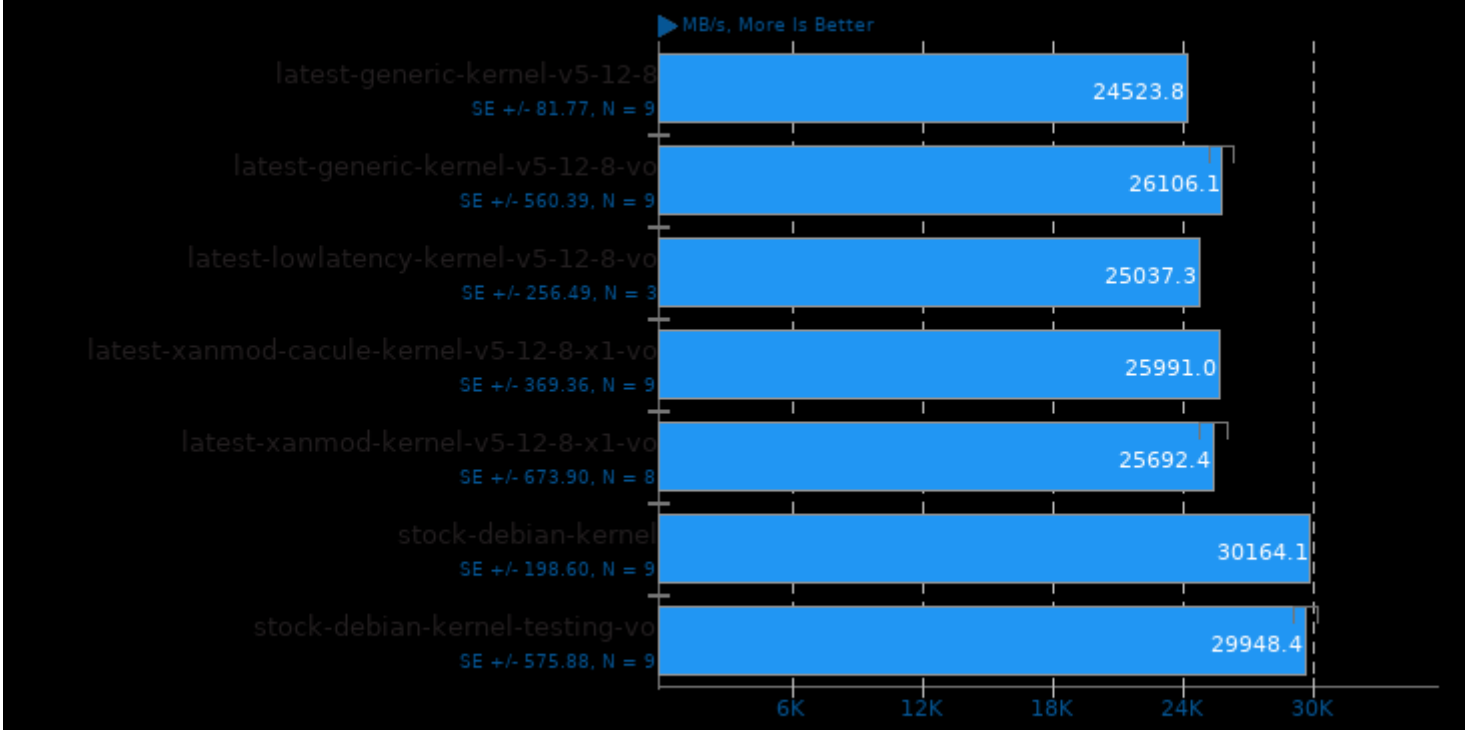
Standard Memcpy



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

Tinymembench 2018-05-28

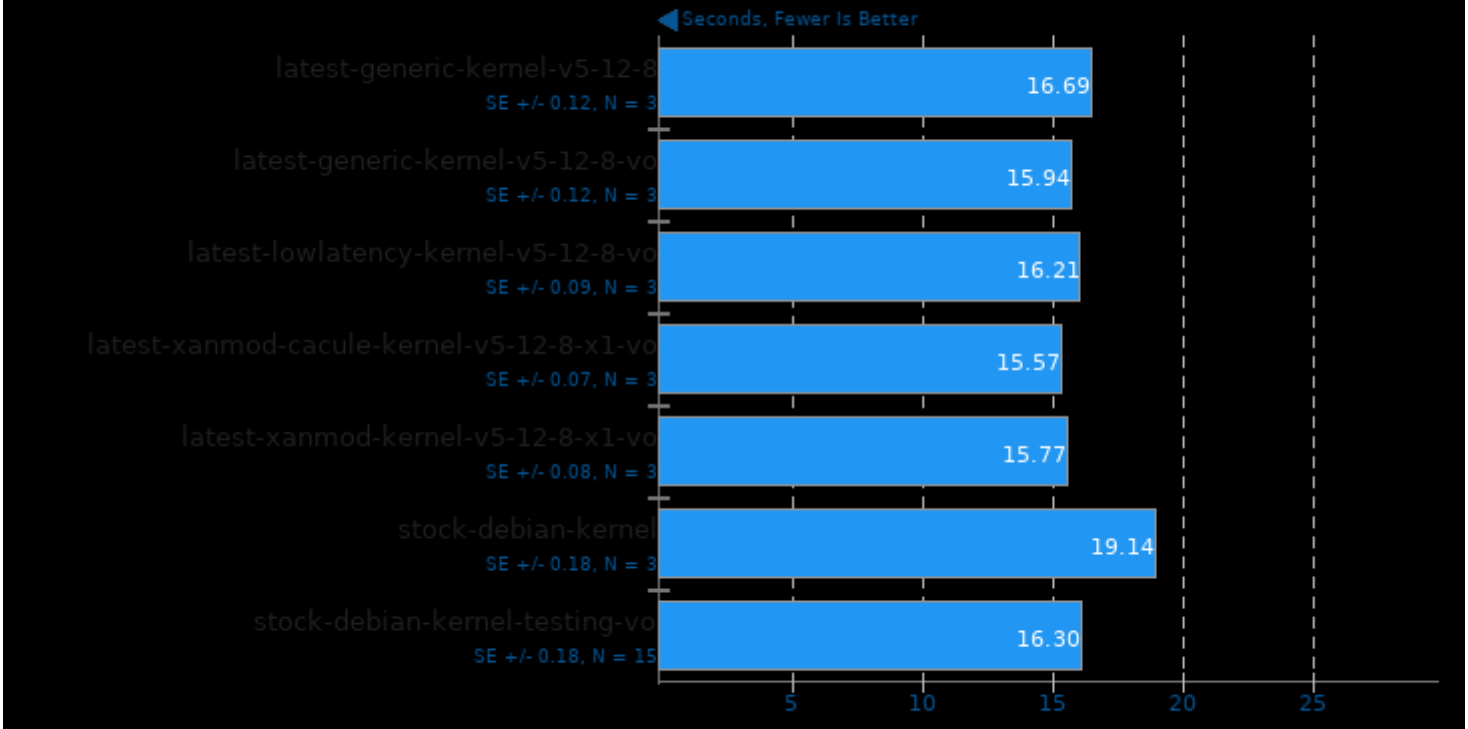
Standard Memset



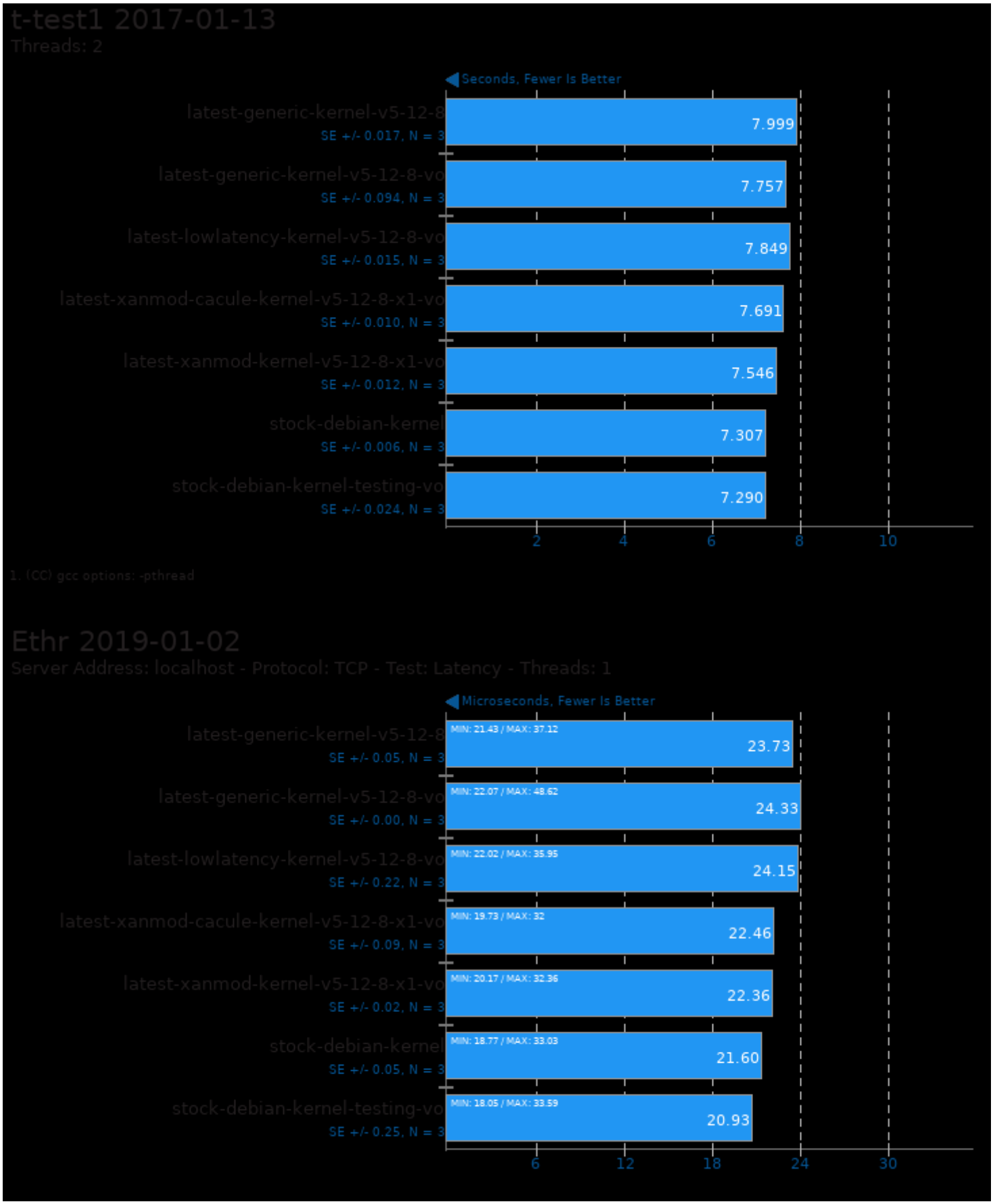
1. (CC) gcc options: -O2 -lm

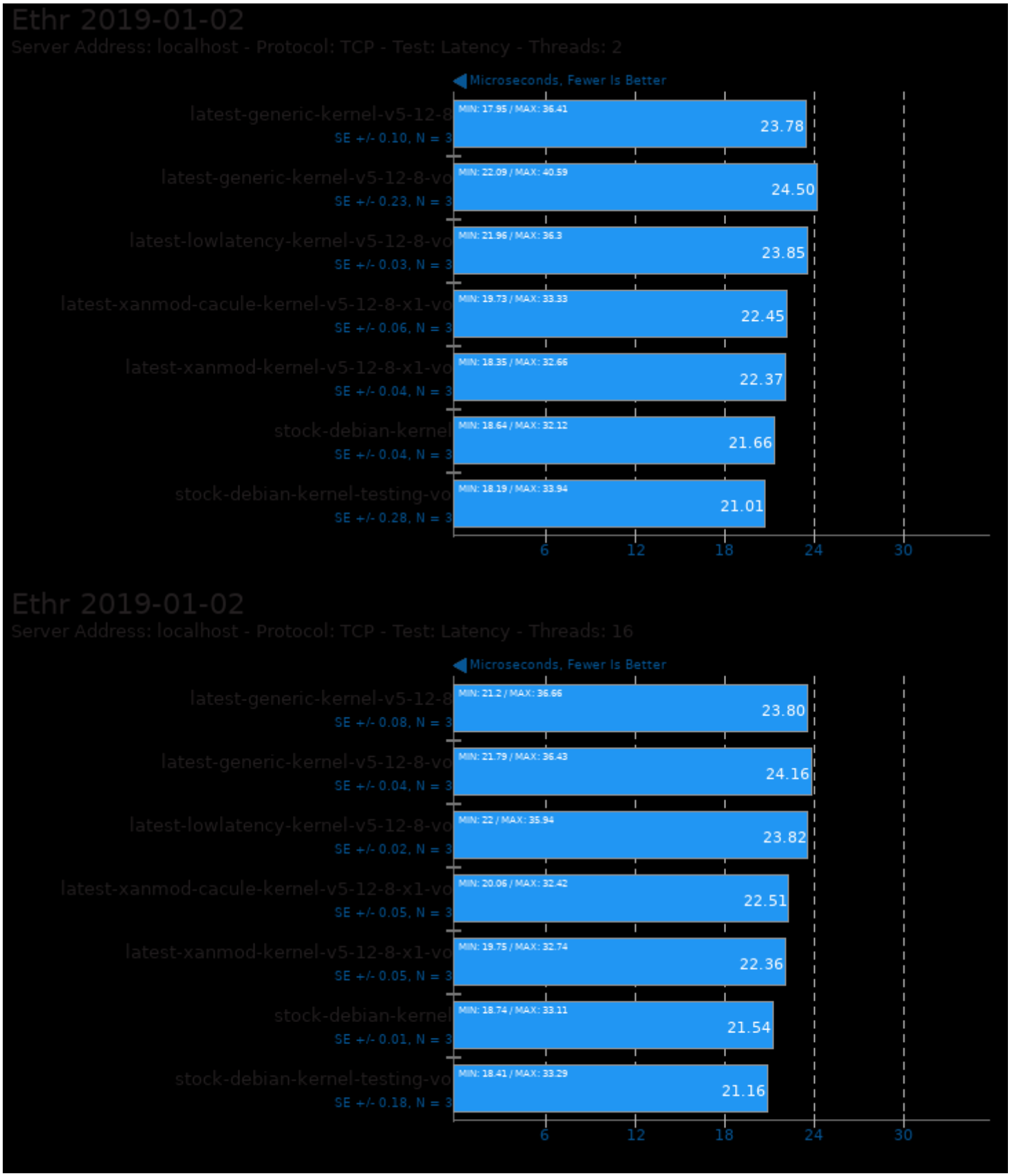
t-test1 2017-01-13

Threads: 1

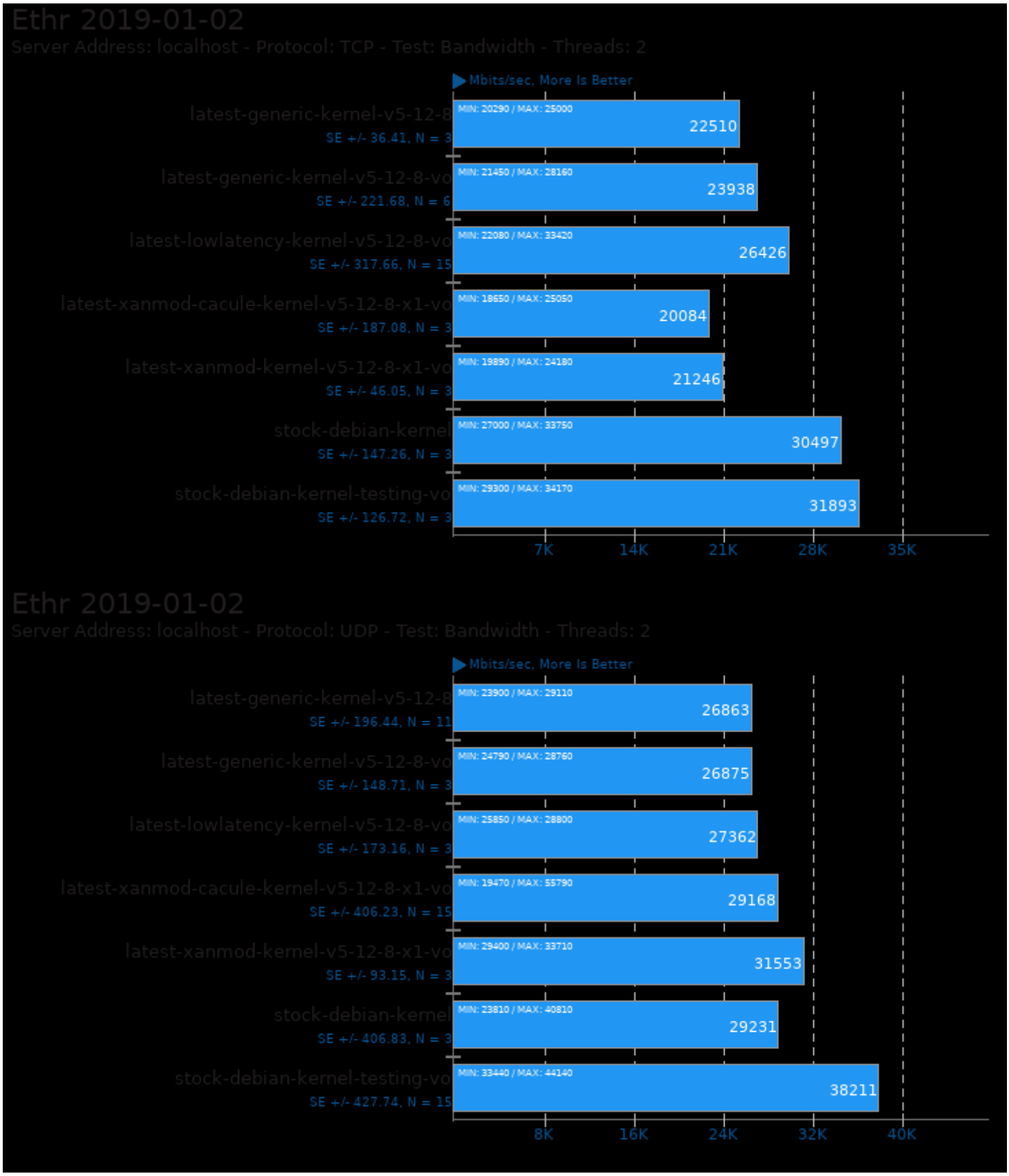


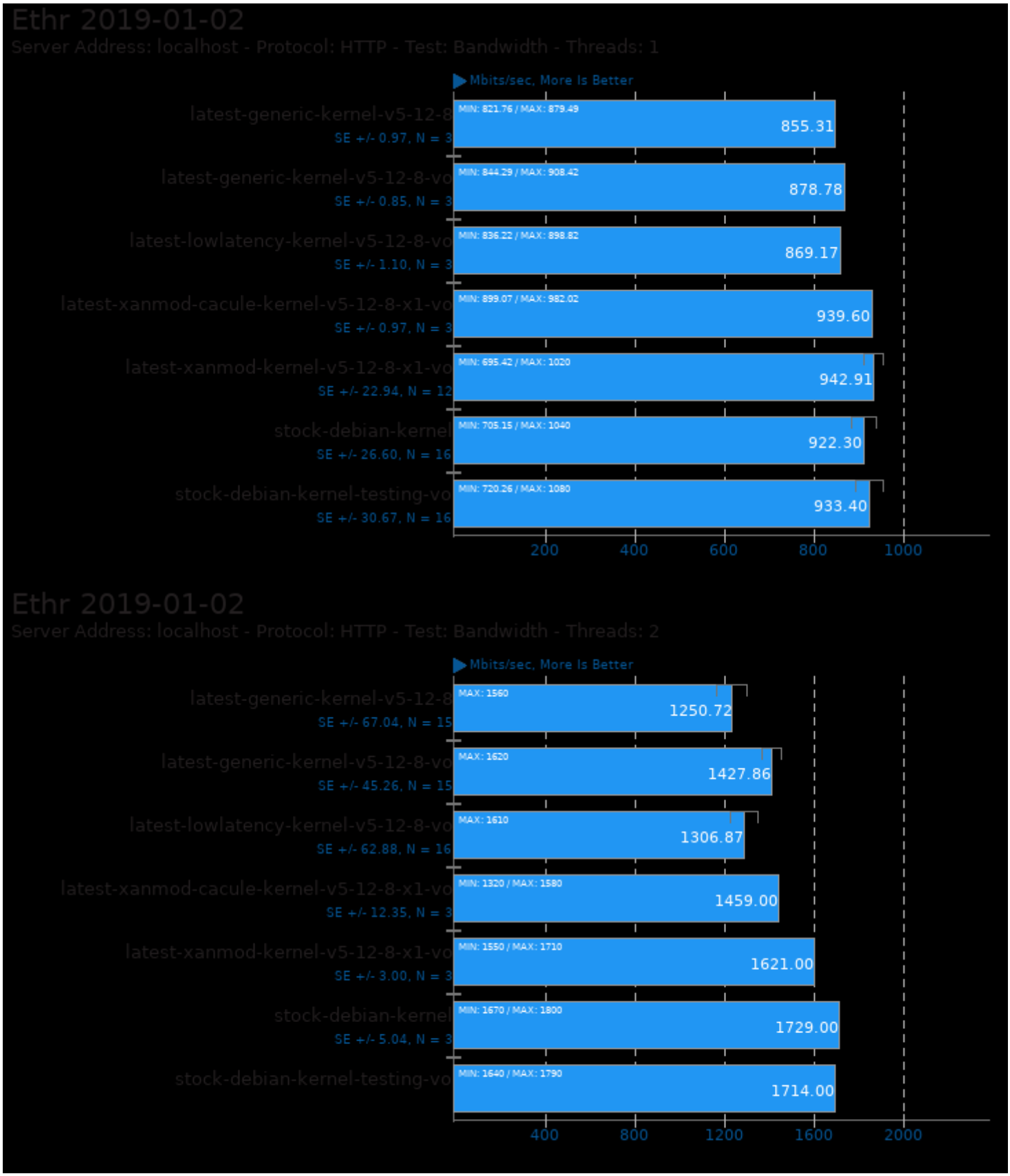
1. (CC) gcc options: -pthread

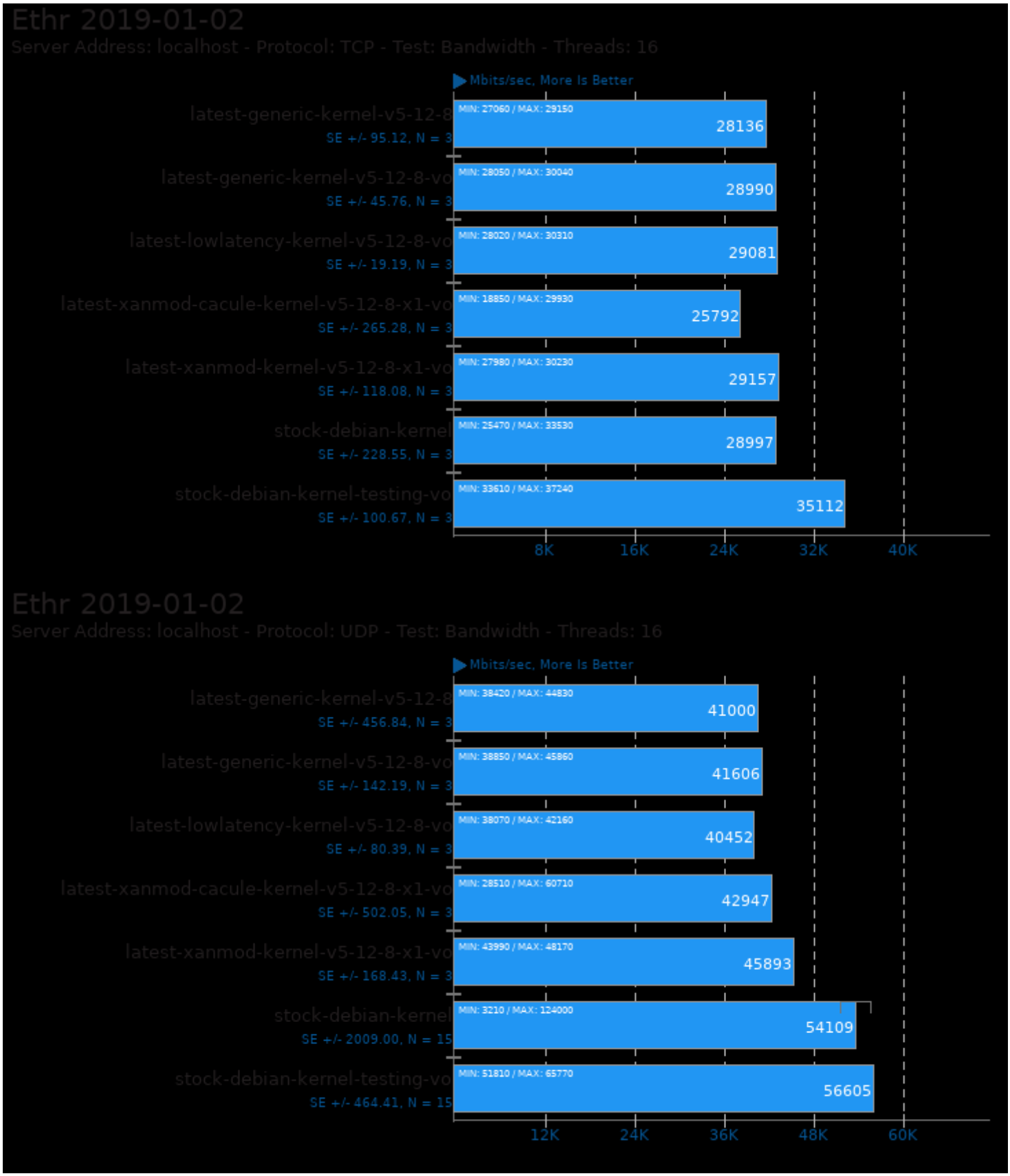

t-test1 2017-01-13
Threads: 2
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.017, N = 3
7.999
latest-generic-kernel-v5-12-8-vo
SE +/- 0.094, N = 3
7.757
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.015, N = 3
7.849
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.010, N = 3
7.691
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.012, N = 3
7.546
stock-debian-kernel
SE +/- 0.006, N = 3
7.307
stock-debian-kernel-testing-vo
SE +/- 0.024, N = 3
7.290
2
4
6
8
10
1. (CC) gcc options: -pthread
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1
Microseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.05, N = 3
MIN: 21.43 / MAX: 37.12
23.73
latest-generic-kernel-v5-12-8-vo
SE +/- 0.00, N = 3
MIN: 22.07 / MAX: 48.62
24.33
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.22, N = 3
MIN: 22.02 / MAX: 35.95
24.15
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.09, N = 3
MIN: 19.73 / MAX: 32
22.46
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.02, N = 3
MIN: 20.17 / MAX: 32.36
22.36
stock-debian-kernel
SE +/- 0.05, N = 3
MIN: 18.77 / MAX: 33.03
21.60
stock-debian-kernel-testing-vo
SE +/- 0.25, N = 3
MIN: 18.05 / MAX: 33.59
20.93
6
12
18
24
30

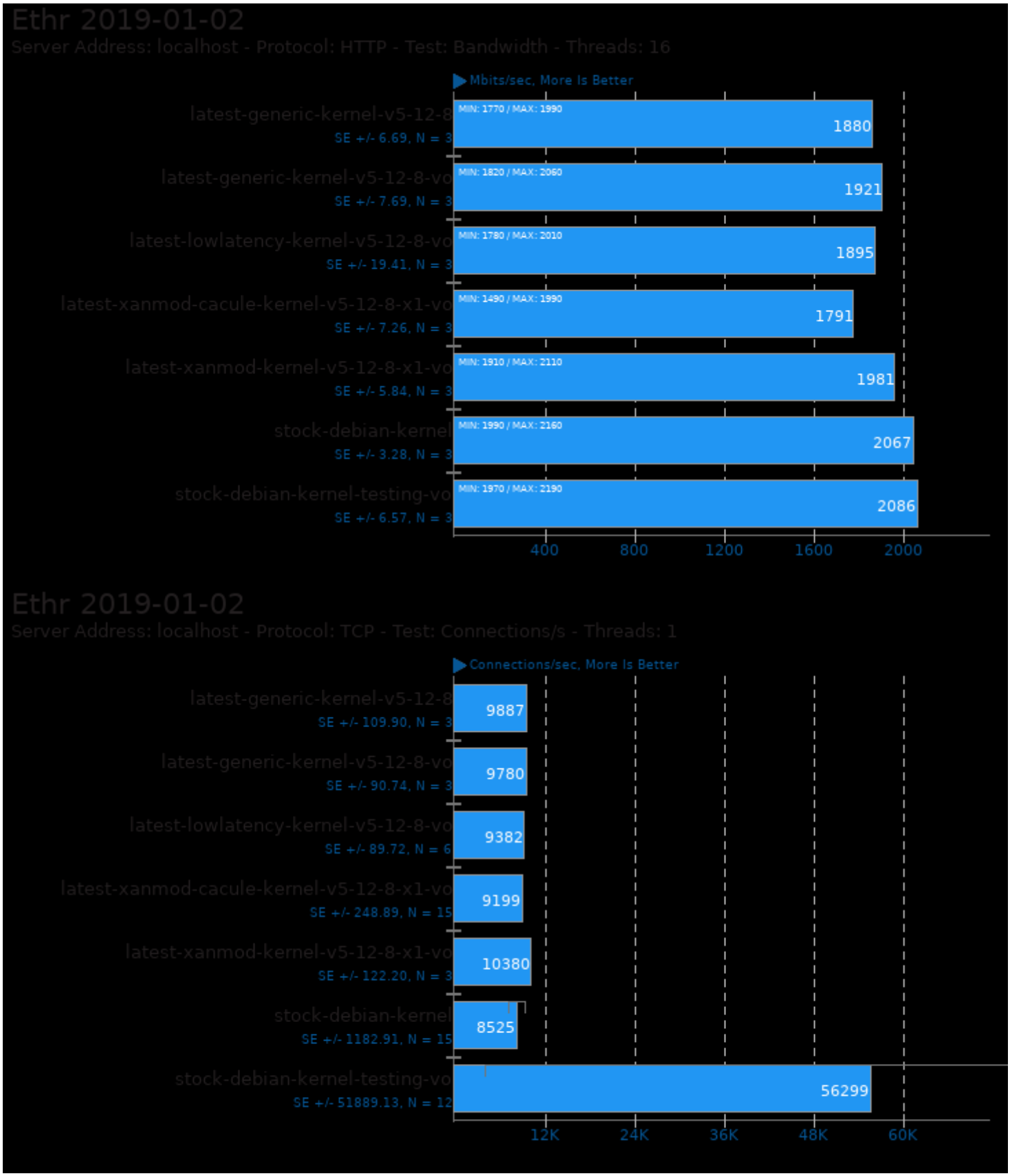

Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 2
Microseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.10, N = 3
MIN: 17.95 / MAX: 36.41
23.78
latest-generic-kernel-v5-12-8-vo
SE +/- 0.23, N = 3
MIN: 22.09 / MAX: 40.59
24.50
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.03, N = 3
MIN: 21.96 / MAX: 36.3
23.85
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.06, N = 3
MIN: 19.73 / MAX: 33.33
22.45
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.04, N = 3
MIN: 18.35 / MAX: 32.66
22.37
stock-debian-kernel
SE +/- 0.04, N = 3
MIN: 18.64 / MAX: 32.12
21.66
stock-debian-kernel-testing-vo
SE +/- 0.28, N = 3
MIN: 18.19 / MAX: 33.94
21.01
6
12
18
24
30
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 16
Microseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.08, N = 3
MIN: 21.2 / MAX: 36.66
23.80
latest-generic-kernel-v5-12-8-vo
SE +/- 0.04, N = 3
MIN: 21.79 / MAX: 36.43
24.16
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.02, N = 3
MIN: 22 / MAX: 35.94
23.82
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.05, N = 3
MIN: 20.06 / MAX: 32.42
22.51
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.05, N = 3
MIN: 19.75 / MAX: 32.74
22.36
stock-debian-kernel
SE +/- 0.01, N = 3
MIN: 18.74 / MAX: 33.11
21.54
stock-debian-kernel-testing-vo
SE +/- 0.18, N = 3
MIN: 18.41 / MAX: 33.29
21.16
6
12
18
24
30

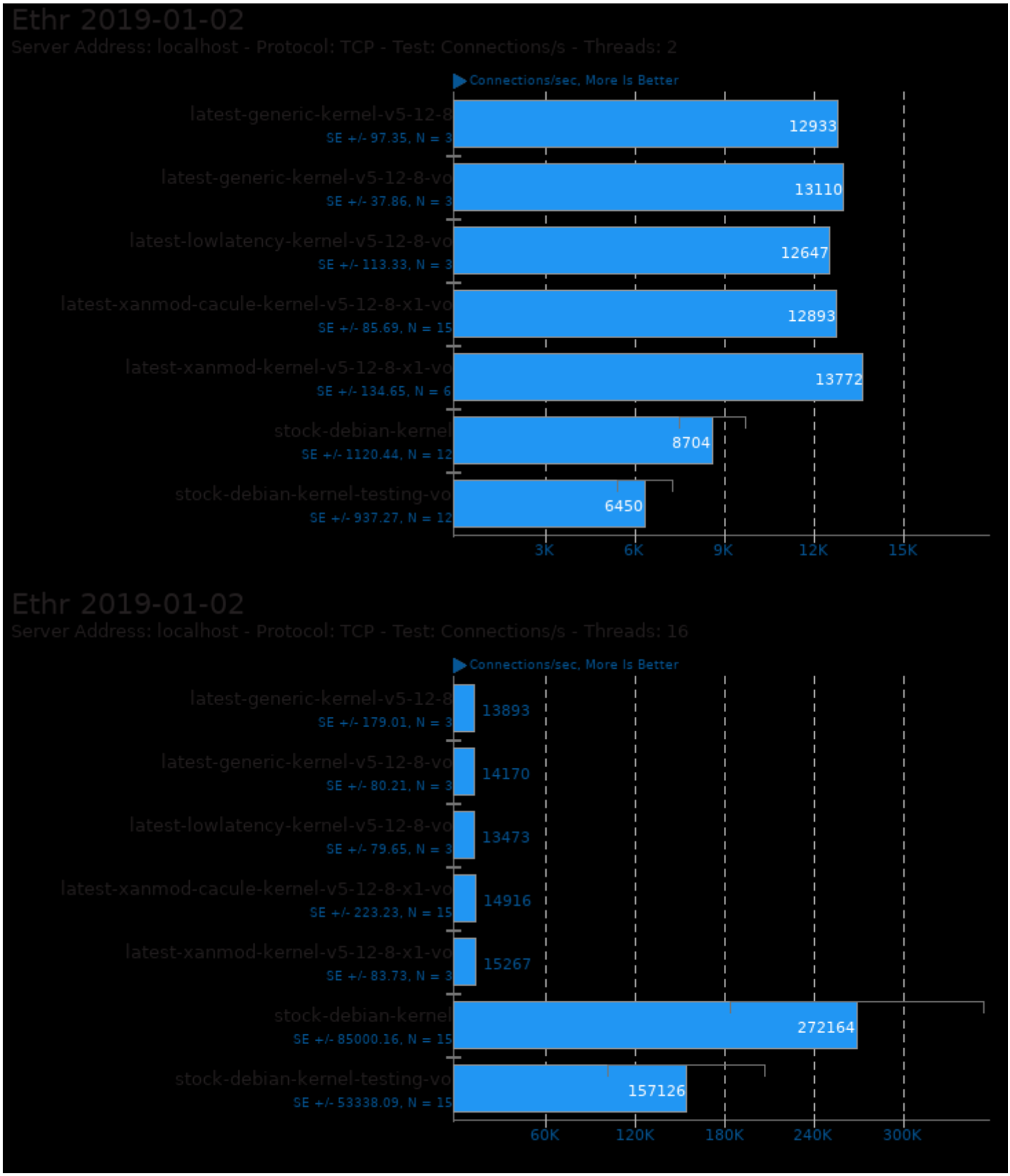
stock-debian-kernel

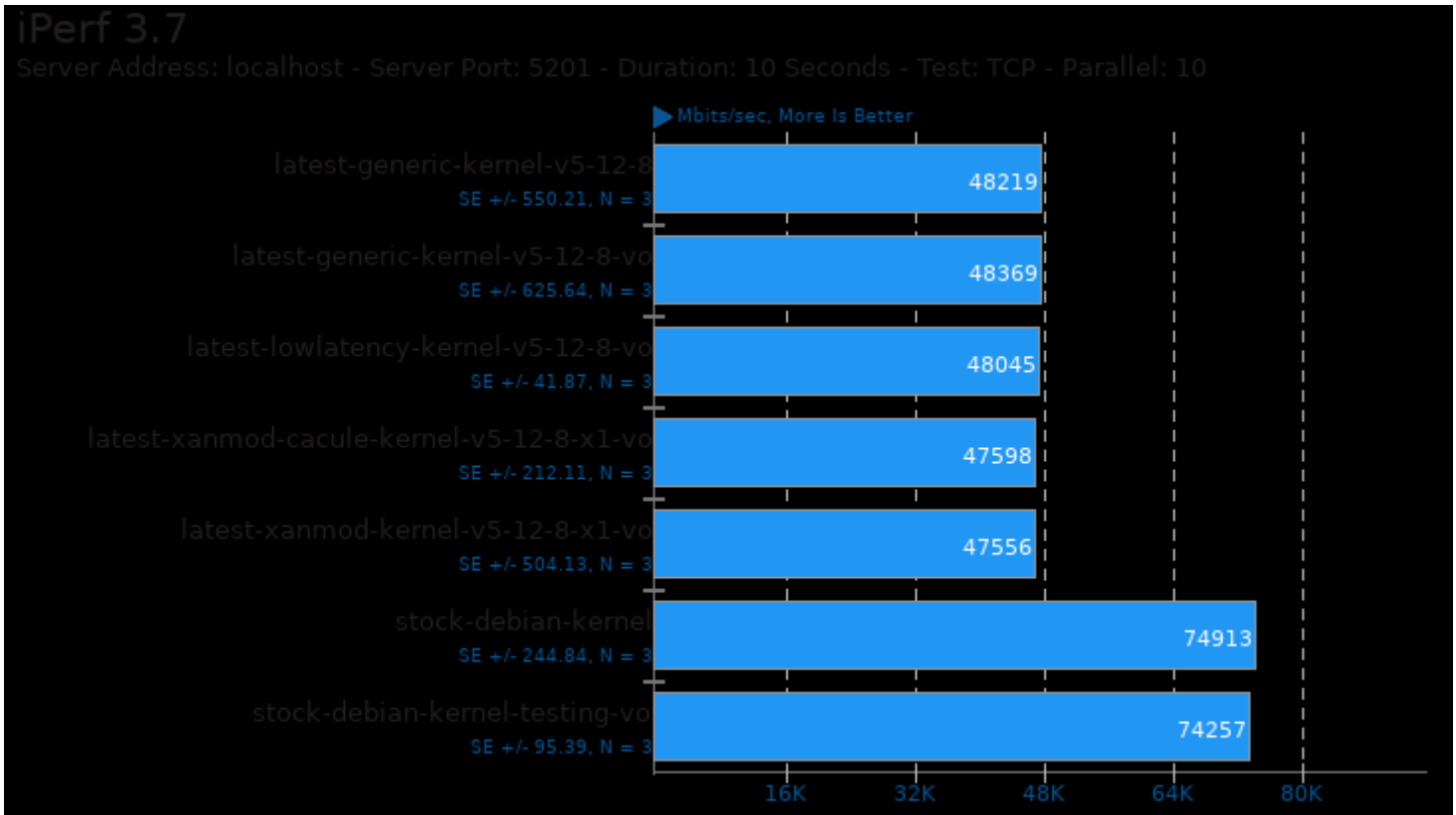


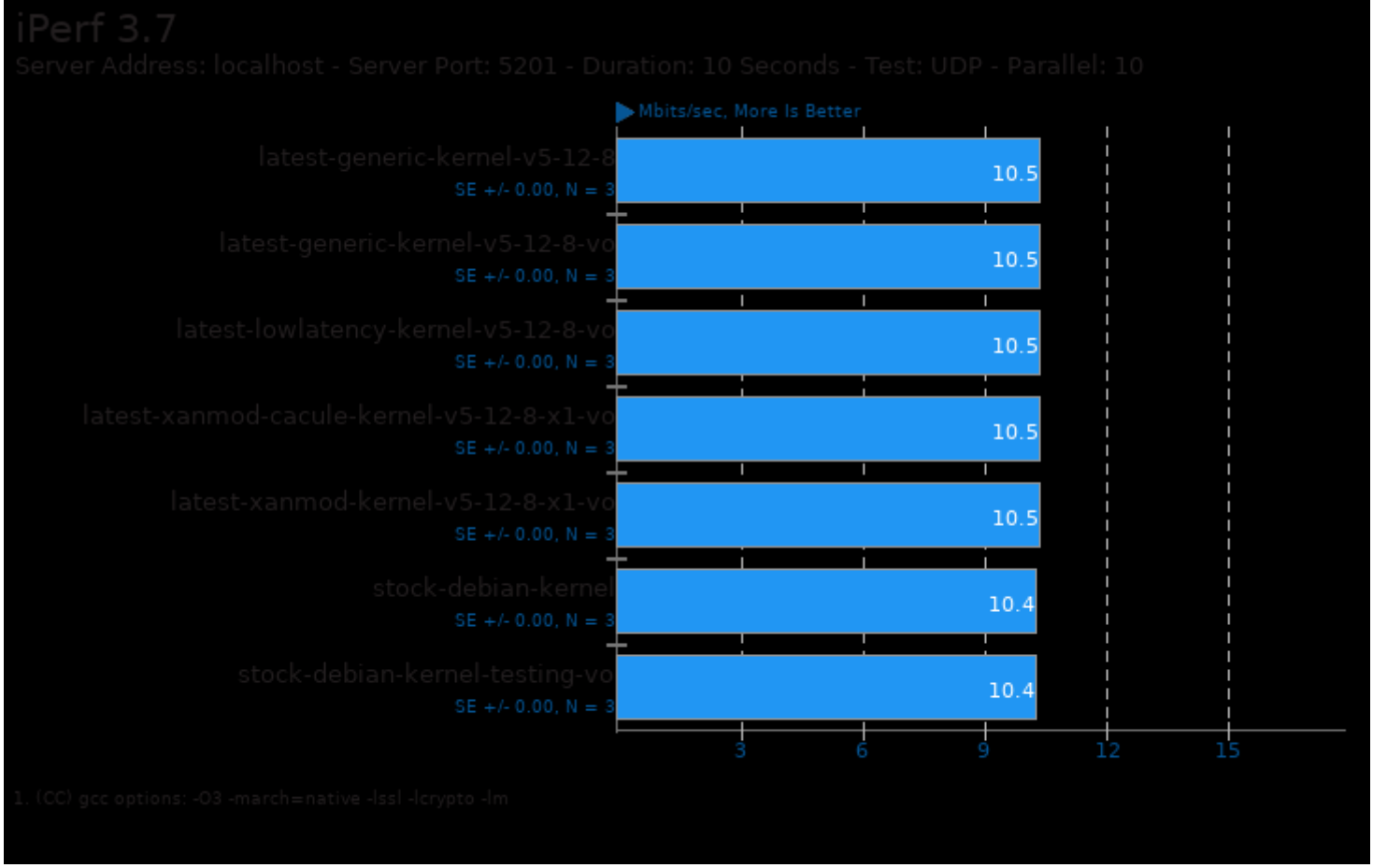

Ethr 2019-01-02
Server Address: localhost - Protocol: HTTP - Test: Bandwidth - Threads: 1
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.97, N = 3
MIN: 821.76 / MAX: 879.49
855.31
latest-generic-kernel-v5-12-8-vo
SE +/- 0.85, N = 3
MIN: 844.29 / MAX: 908.42
878.78
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.10, N = 3
MIN: 836.22 / MAX: 898.82
869.17
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.97, N = 3
MIN: 899.07 / MAX: 982.02
939.60
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 22.94, N = 12
MIN: 695.42 / MAX: 1020
942.91
stock-debian-kernel
SE +/- 26.60, N = 16
MIN: 705.15 / MAX: 1040
922.30
stock-debian-kernel-testing-vo
SE +/- 30.67, N = 16
MIN: 720.26 / MAX: 1080
933.40
200
400
600
800
1000
Ethr 2019-01-02
Server Address: localhost - Protocol: HTTP - Test: Bandwidth - Threads: 2
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 67.04, N = 15
MAX: 1560
1250.72
latest-generic-kernel-v5-12-8-vo
SE +/- 45.26, N = 15
MAX: 1620
1427.86
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 62.88, N = 16
MAX: 1610
1306.87
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 12.35, N = 3
MIN: 1320 / MAX: 1580
1459.00
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 3.00, N = 3
MIN: 1550 / MAX: 1710
1621.00
stock-debian-kernel
SE +/- 5.04, N = 3
MIN: 1670 / MAX: 1800
1729.00
stock-debian-kernel-testing-vo
MIN: 1640 / MAX: 1790
1714.00
400
800
1200
1600
2000

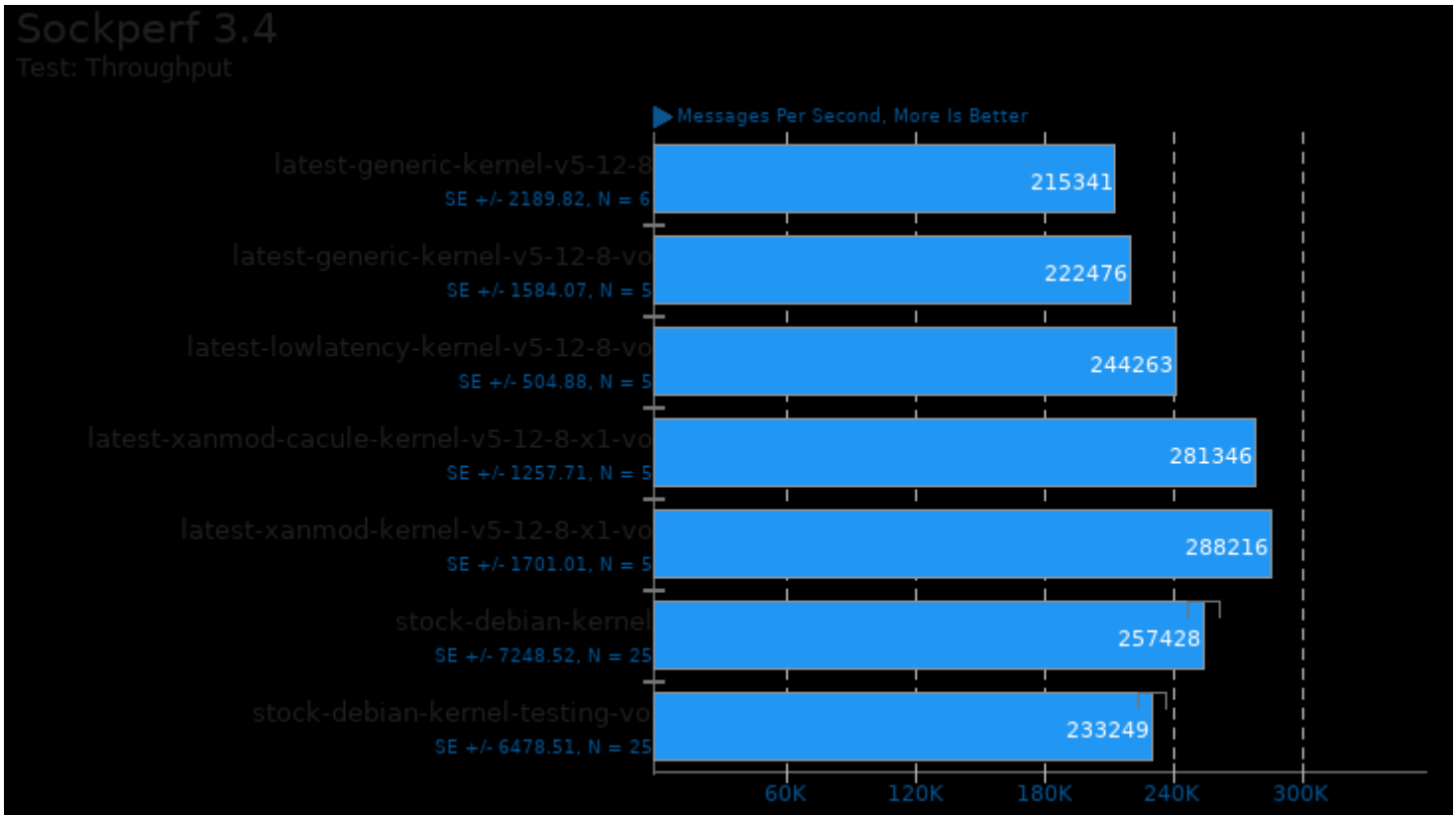

Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 16
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 95.12, N = 3
MIN: 27060 / MAX: 29150
28136
latest-generic-kernel-v5-12-8-vo
SE +/- 45.76, N = 3
MIN: 28050 / MAX: 30040
28990
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 19.19, N = 3
MIN: 28020 / MAX: 30310
29081
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 265.28, N = 3
MIN: 18850 / MAX: 29930
25792
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 118.08, N = 3
MIN: 27980 / MAX: 30230
29157
stock-debian-kernel
SE +/- 228.55, N = 3
MIN: 25470 / MAX: 33530
28997
stock-debian-kernel-testing-vo
SE +/- 100.67, N = 3
MIN: 33610 / MAX: 37240
35112
8K
16K
24K
32K
40K
Ethr 2019-01-02
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 16
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 456.84, N = 3
MIN: 38420 / MAX: 44830
41000
latest-generic-kernel-v5-12-8-vo
SE +/- 142.19, N = 3
MIN: 38850 / MAX: 45860
41606
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 80.39, N = 3
MIN: 38070 / MAX: 42160
40452
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 502.05, N = 3
MIN: 28510 / MAX: 60710
42947
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 168.43, N = 3
MIN: 43990 / MAX: 48170
45893
stock-debian-kernel
SE +/- 2009.00, N = 15
MIN: 3210 / MAX: 124000
54109
stock-debian-kernel-testing-vo
SE +/- 464.41, N = 15
MIN: 51810 / MAX: 65770
56605
12K
24K
36K
48K
60K

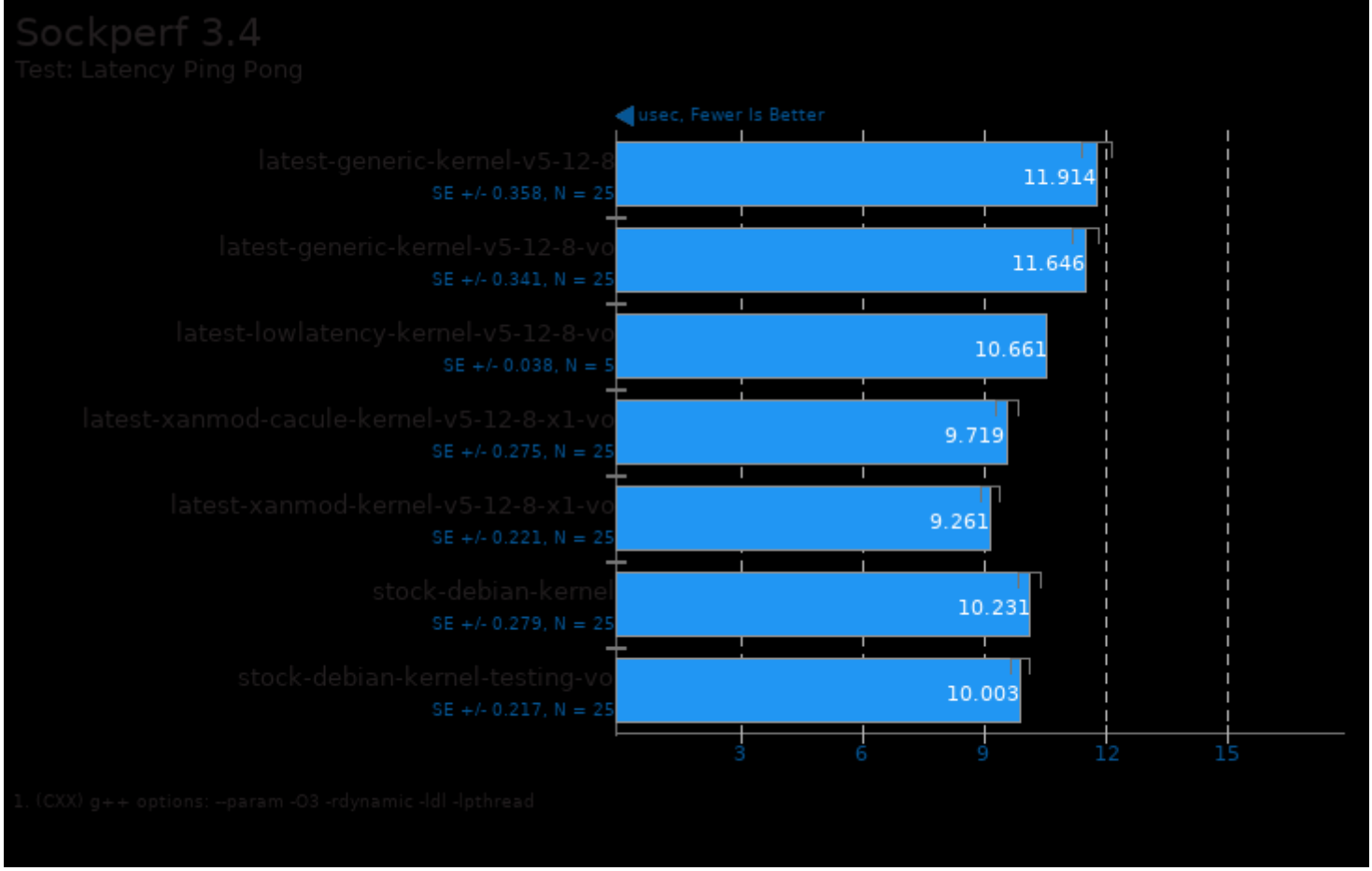

Ethr 2019-01-02
Server Address: localhost - Protocol: HTTP - Test: Bandwidth - Threads: 16
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 6.69, N = 3
MIN: 1770 / MAX: 1990
1880
latest-generic-kernel-v5-12-8-vo
SE +/- 7.69, N = 3
MIN: 1820 / MAX: 2060
1921
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 19.41, N = 3
MIN: 1780 / MAX: 2010
1895
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 7.26, N = 3
MIN: 1490 / MAX: 1990
1791
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 5.84, N = 3
MIN: 1910 / MAX: 2110
1981
stock-debian-kernel
SE +/- 3.28, N = 3
MIN: 1990 / MAX: 2160
2067
stock-debian-kernel-testing-vo
SE +/- 6.57, N = 3
MIN: 1970 / MAX: 2190
2086
400
800
1200
1600
2000
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 1
Connections/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 109.90, N = 3
9887
latest-generic-kernel-v5-12-8-vo
SE +/- 90.74, N = 3
9780
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 89.72, N = 6
9382
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 248.89, N = 15
9199
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 122.20, N = 3
10380
stock-debian-kernel
SE +/- 1182.91, N = 15
8525
stock-debian-kernel-testing-vo
SE +/- 51889.13, N = 12
56299
12K
24K
36K
48K
60K


Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 2
Connections/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 97.35, N = 3
12933
latest-generic-kernel-v5-12-8-vo
SE +/- 37.86, N = 3
13110
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 113.33, N = 3
12647
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 85.69, N = 15
12893
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 134.65, N = 6
13772
stock-debian-kernel
SE +/- 1120.44, N = 12
8704
stock-debian-kernel-testing-vo
SE +/- 937.27, N = 12
6450
3K
6K
9K
12K
15K
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 16
Connections/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 179.01, N = 3
13893
latest-generic-kernel-v5-12-8-vo
SE +/- 80.21, N = 3
14170
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 79.65, N = 3
13473
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 223.23, N = 15
14916
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 83.73, N = 3
15267
stock-debian-kernel
SE +/- 85000.16, N = 15
272164
stock-debian-kernel-testing-vo
SE +/- 53338.09, N = 15
157126
60K
120K
180K
240K
300K


iPerf 3.7
Server Address: localhost - Server Port: 5201 - Duration: 10 Seconds - Test: TCP - Parallel: 10
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 550.21, N = 3
48219
latest-generic-kernel-v5-12-8-vo
SE +/- 625.64, N = 3
48369
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 41.87, N = 3
48045
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 212.11, N = 3
47598
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 504.13, N = 3
47556
stock-debian-kernel
SE +/- 244.84, N = 3
74913
stock-debian-kernel-testing-vo
SE +/- 95.39, N = 3
74257
16K
32K
48K
64K
80K
1. (CC) gcc options: -O3 -march=native -lssl -lcrypto -lm

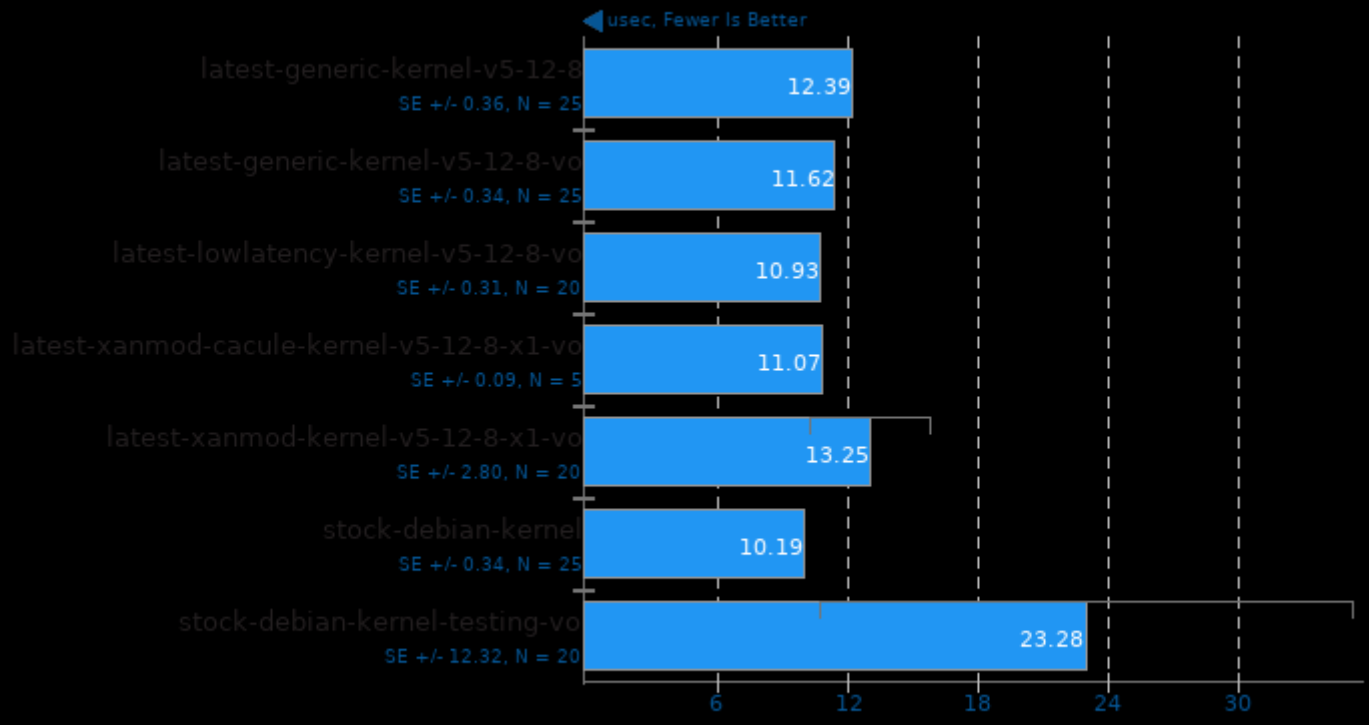

iPerf 3.7
Server Address: localhost - Server Port: 5201 - Duration: 10 Seconds - Test: UDP - Parallel: 10
Mbits/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.00, N = 3
10.5
latest-generic-kernel-v5-12-8-vo
SE +/- 0.00, N = 3
10.5
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.00, N = 3
10.5
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.00, N = 3
10.5
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.00, N = 3
10.5
stock-debian-kernel
SE +/- 0.00, N = 3
10.4
stock-debian-kernel-testing-vo
SE +/- 0.00, N = 3
10.4
3
6
9
12
15
1. (CC) gcc options: -O3 -march=native -lssl -lcrypto -lm


Sockperf 3.4
Test: Throughput
Messages Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 2189.82, N = 6
215341
latest-generic-kernel-v5-12-8-vo
SE +/- 1584.07, N = 5
222476
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 504.88, N = 5
244263
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 1257.71, N = 5
281346
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1701.01, N = 5
288216
stock-debian-kernel
SE +/- 7248.52, N = 25
257428
stock-debian-kernel-testing-vo
SE +/- 6478.51, N = 25
233249
60K
120K
180K
240K
300K
1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread


Sockperf 3.4
Test: Latency Ping Pong
usec, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.358, N = 25
11.914
latest-generic-kernel-v5-12-8-vo
SE +/- 0.341, N = 25
11.646
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.038, N = 5
10.661
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.275, N = 25
9.719
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.221, N = 25
9.261
stock-debian-kernel
SE +/- 0.279, N = 25
10.231
stock-debian-kernel-testing-vo
SE +/- 0.217, N = 25
10.003
3
6
9
12
15
1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

Sockperf 3.4

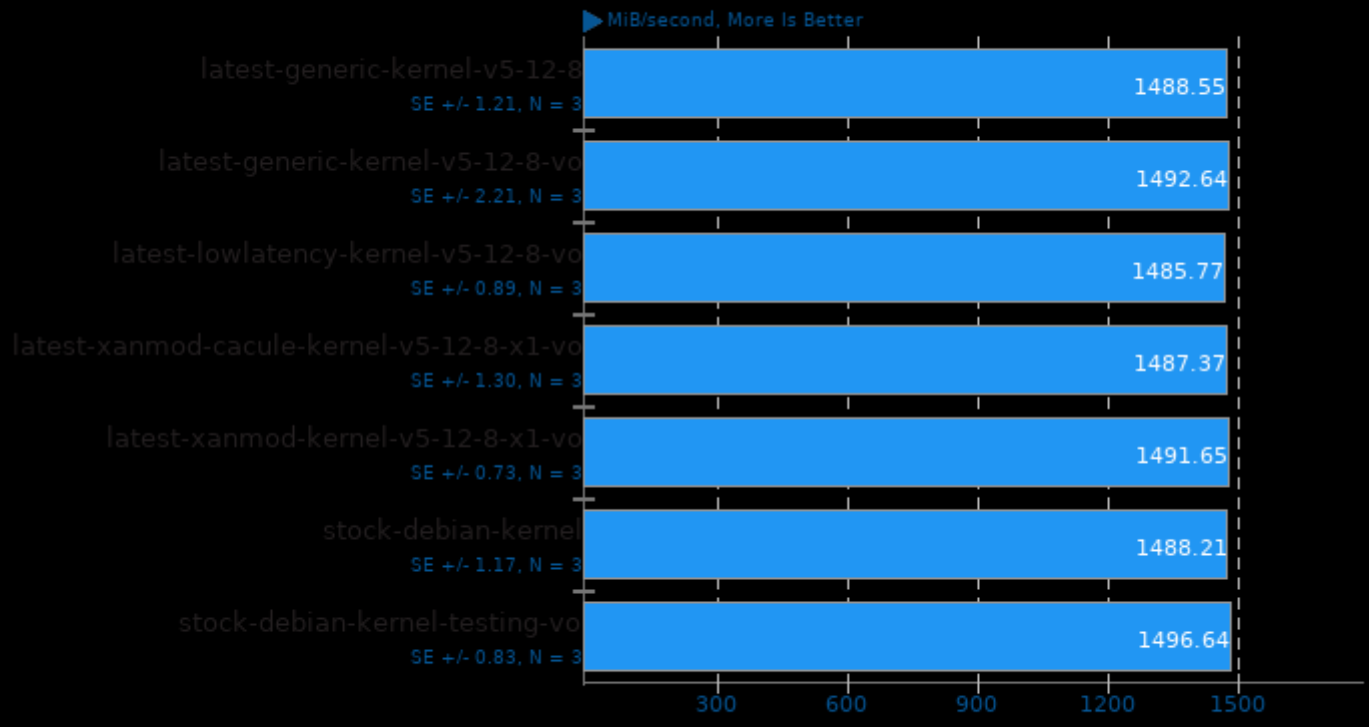
Test: Latency Under Load



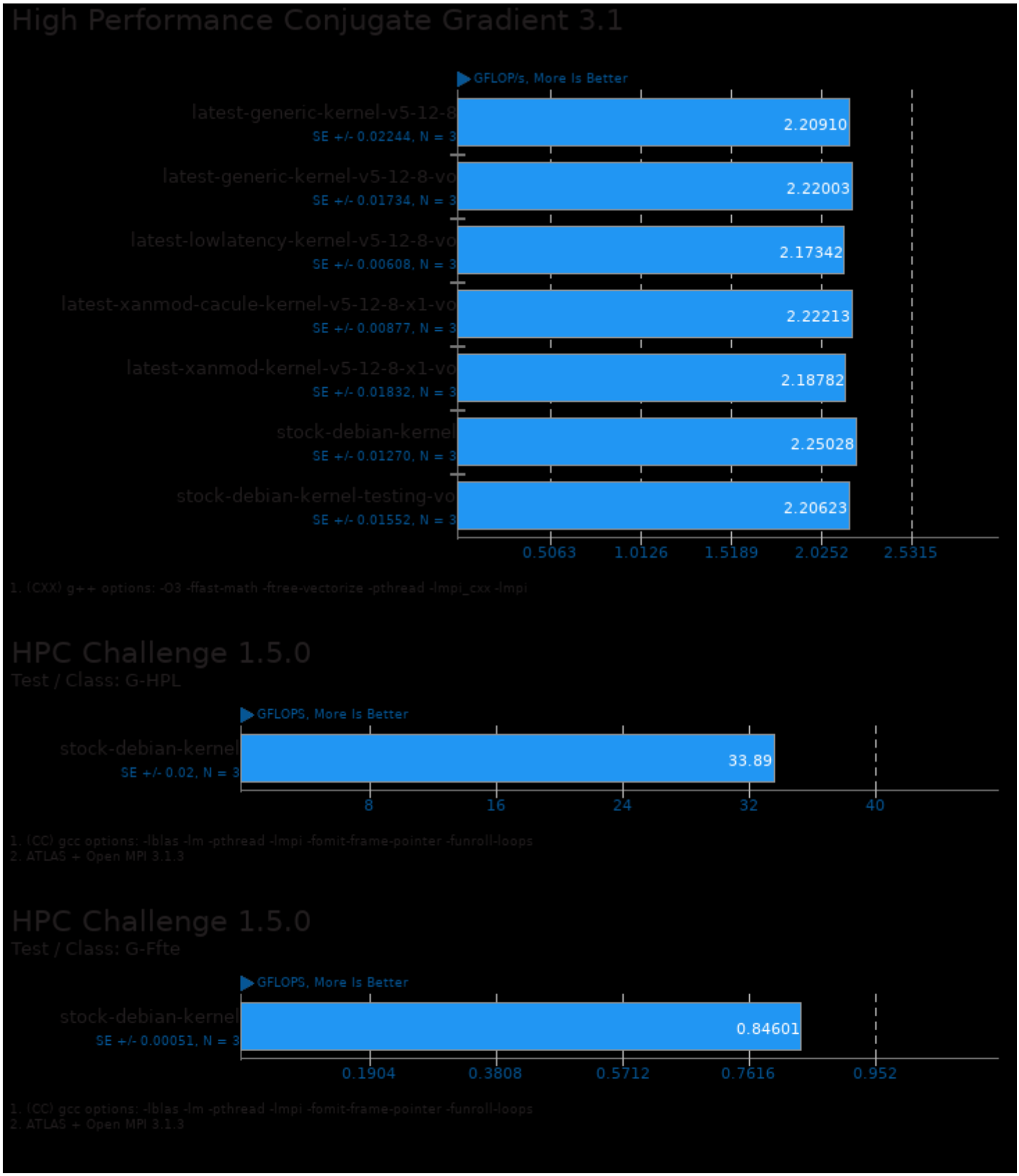
1. (CXX) g++ options: --param -O3 -rdynamic -ldl -lpthread

Crypto++ 8.2

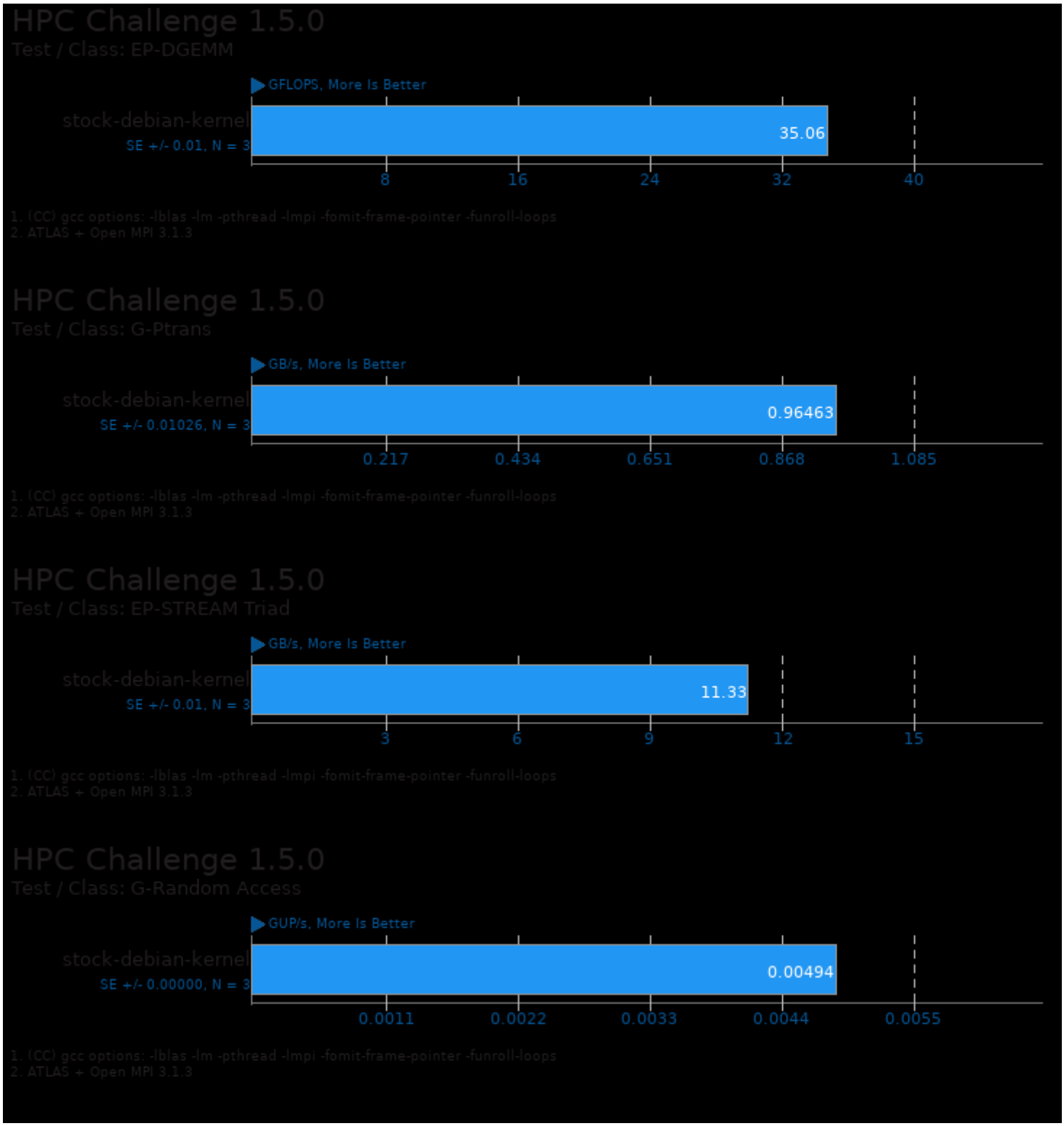
Test: All Algorithms



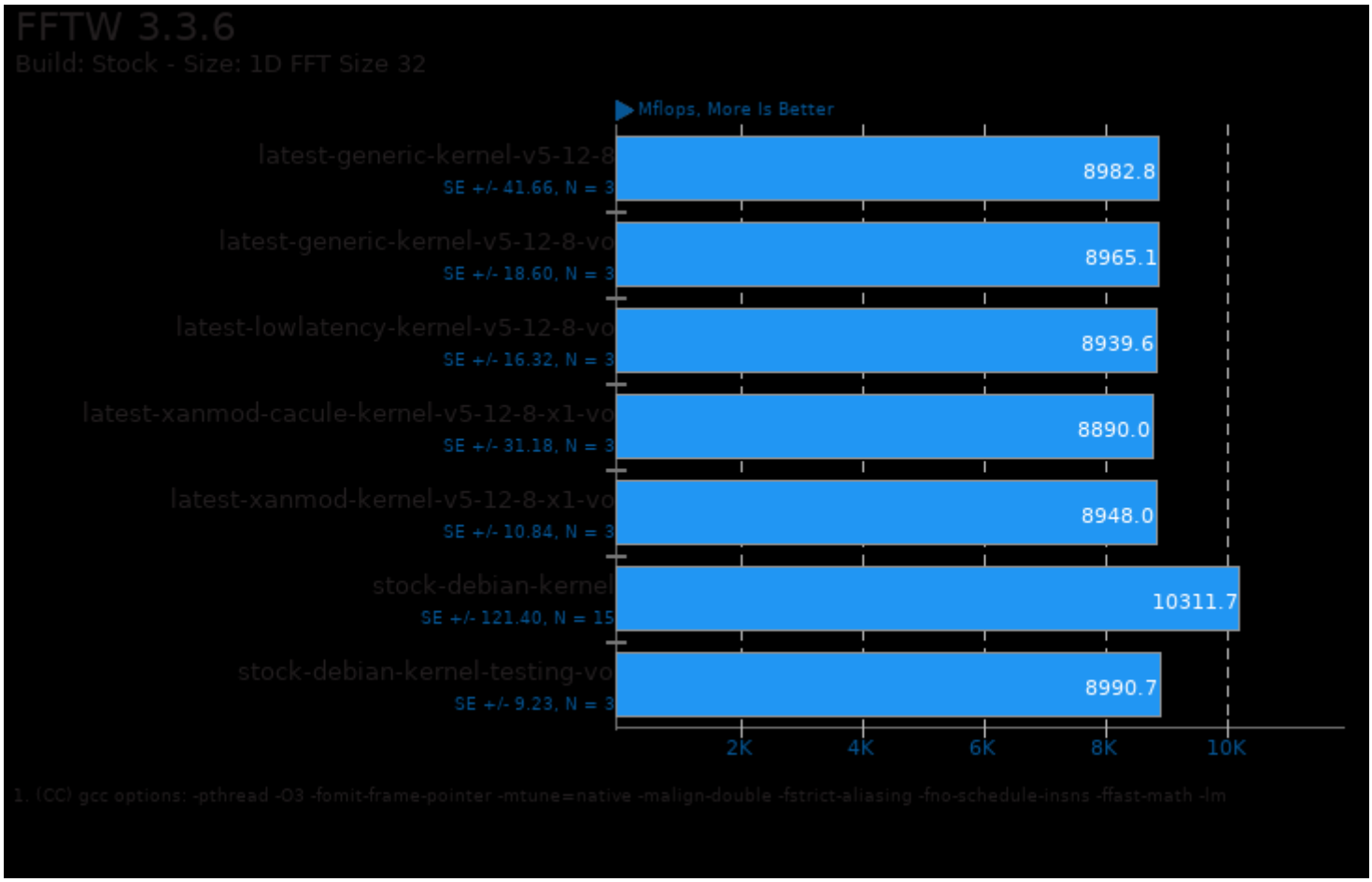
1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe


High Performance Conjugate Gradient 3.1
GFLOP/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.02244, N = 3
2.20910
latest-generic-kernel-v5-12-8-vo
SE +/- 0.01734, N = 3
2.22003
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.00608, N = 3
2.17342
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.00877, N = 3
2.22213
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.01832, N = 3
2.18782
stock-debian-kernel
SE +/- 0.01270, N = 3
2.25028
stock-debian-kernel-testing-vo
SE +/- 0.01552, N = 3
2.20623
0.5063
1.0126
1.5189
2.0252
2.5315
1. (CXX) g++ options: -O3 -ffast-math -ftree-vectorize -pthread -lmpi_cxx -lmpi
HPC Challenge 1.5.0
Test / Class: G-HPL
GFLOPS, More Is Better
stock-debian-kernel
SE +/- 0.02, N = 3
33.89
8
16
24
32
40
1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops
2. ATLAS + Open MPI 3.1.3
HPC Challenge 1.5.0
Test / Class: G-Ffte
GFLOPS, More Is Better
stock-debian-kernel
SE +/- 0.00051, N = 3
0.84601
0.1904
0.3808
0.5712
0.7616
0.952
1. (CC) gcc options: -lblas -lm -pthread -lmpi -fomit-frame-pointer -funroll-loops
2. ATLAS + Open MPI 3.1.3

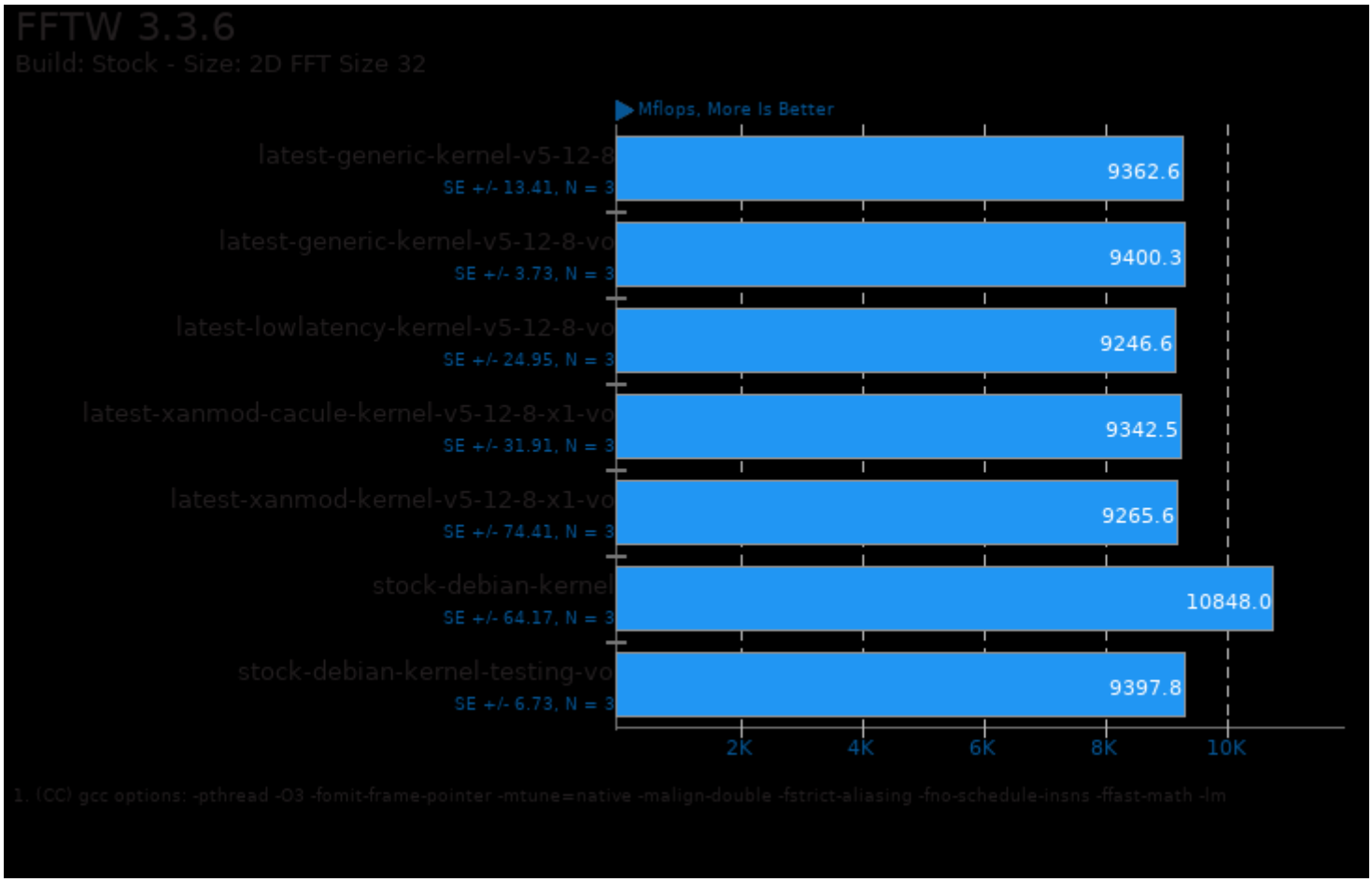
stock-debian-kernel



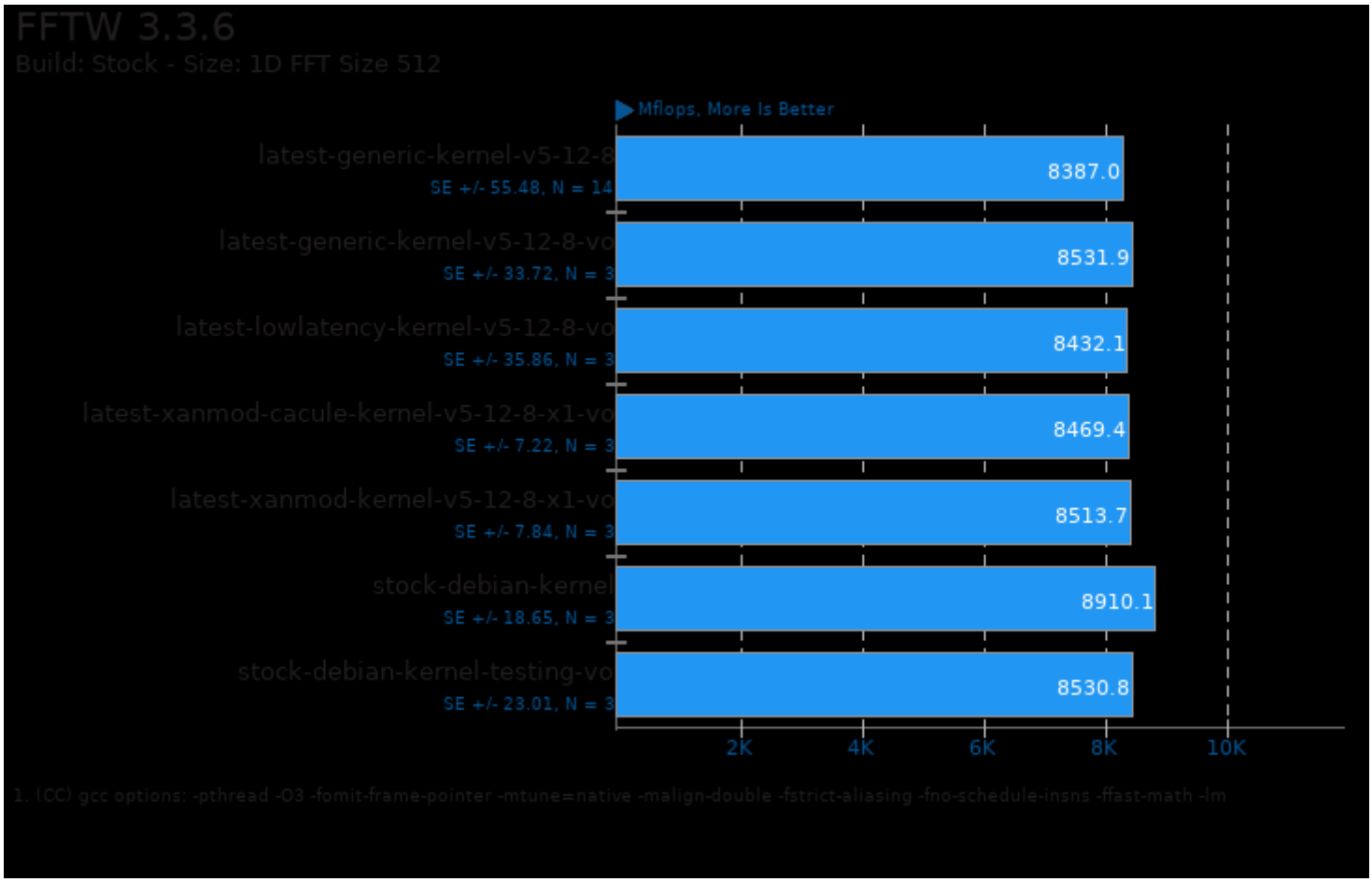
stock-debian-kernel



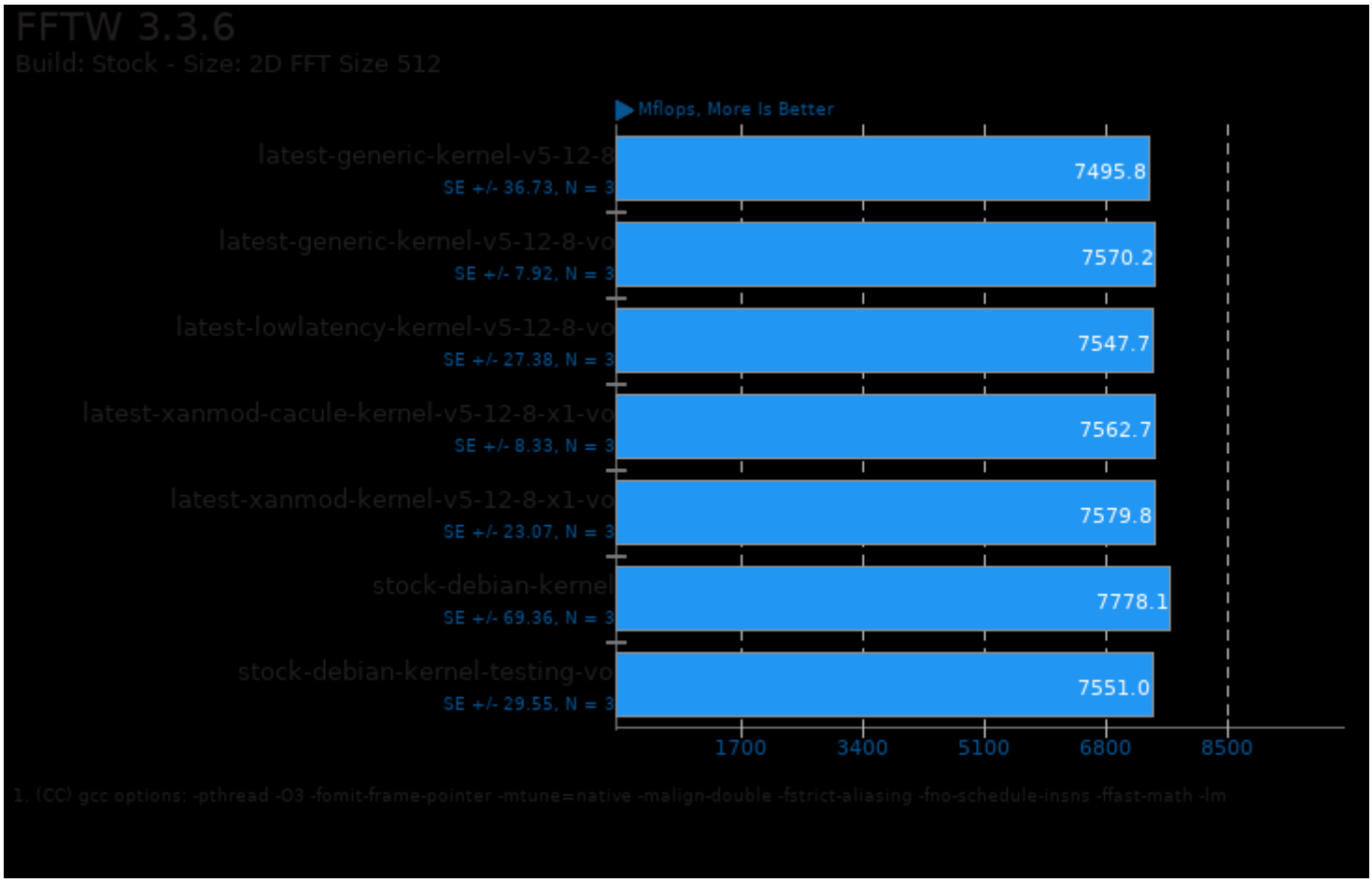
stock-debian-kernel



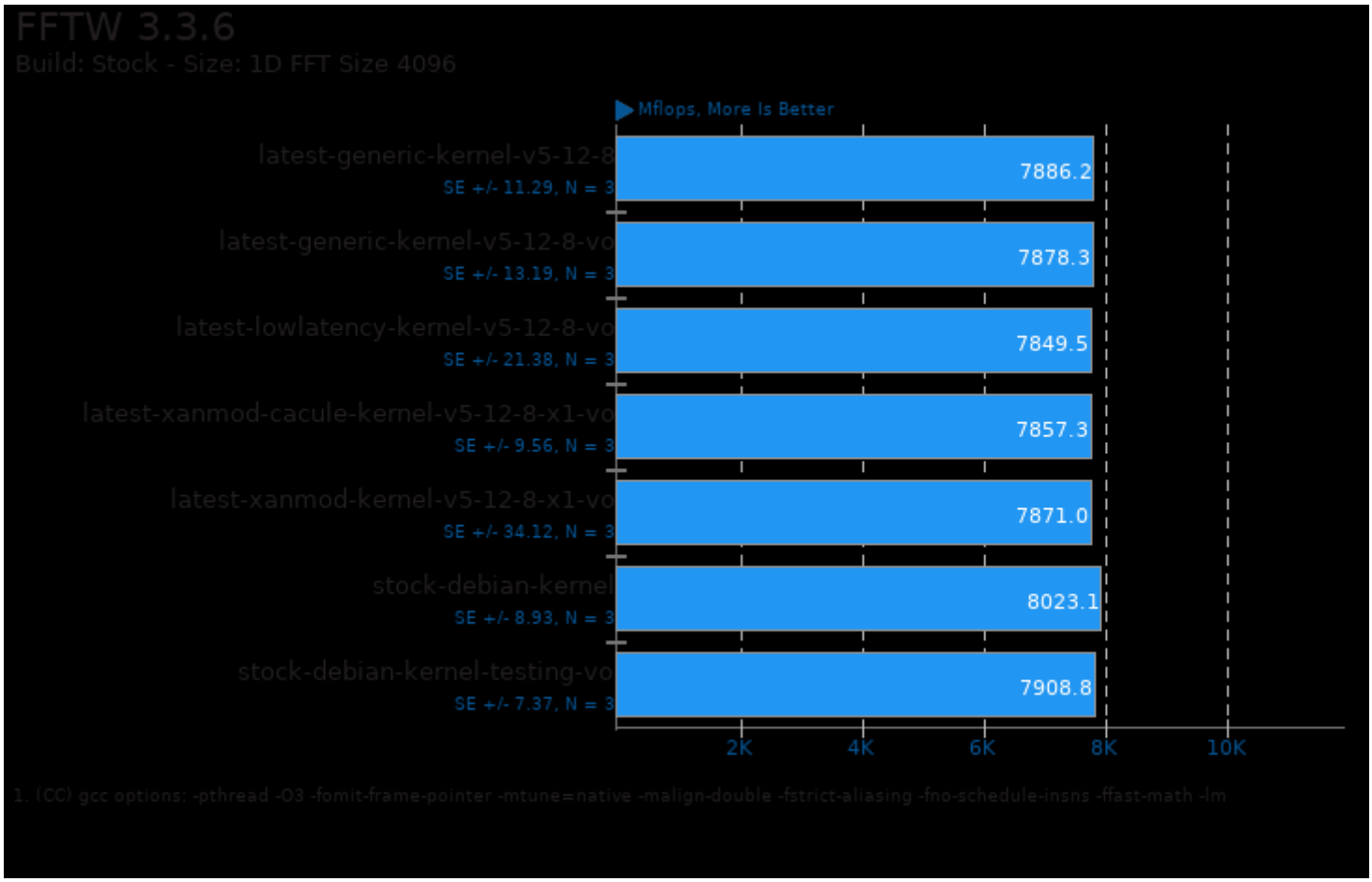
stock-debian-kernel



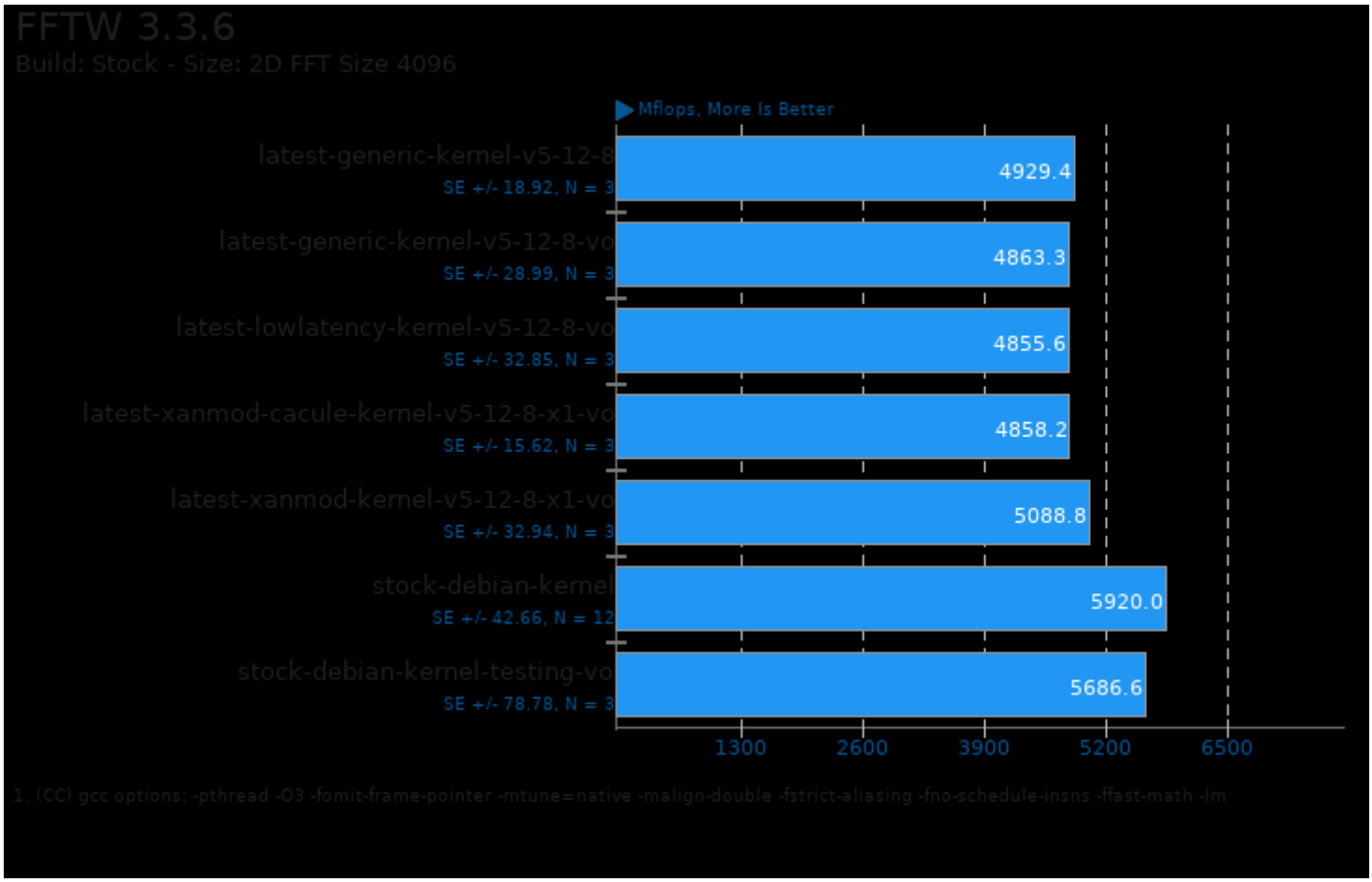
stock-debian-kernel



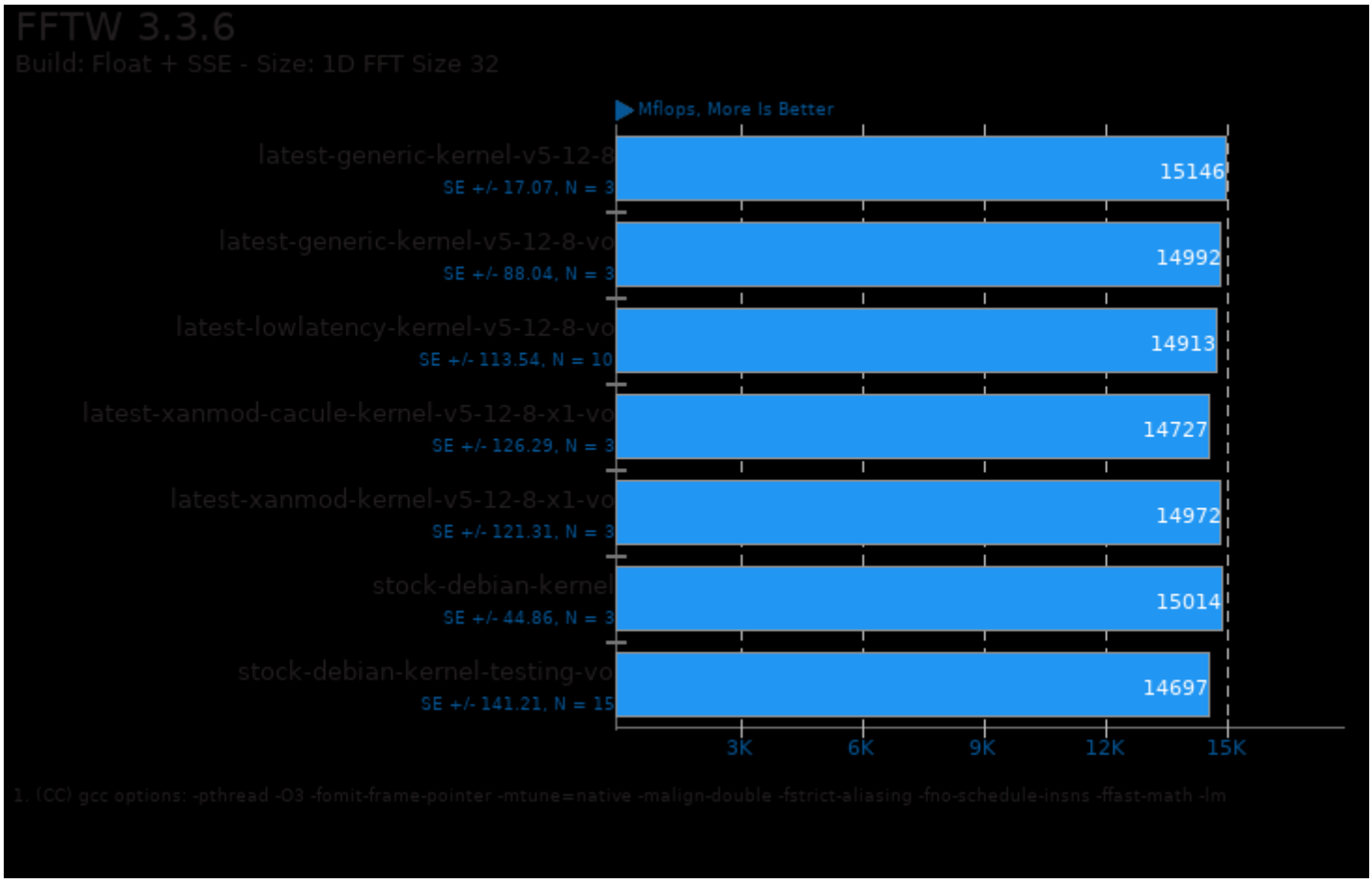
stock-debian-kernel



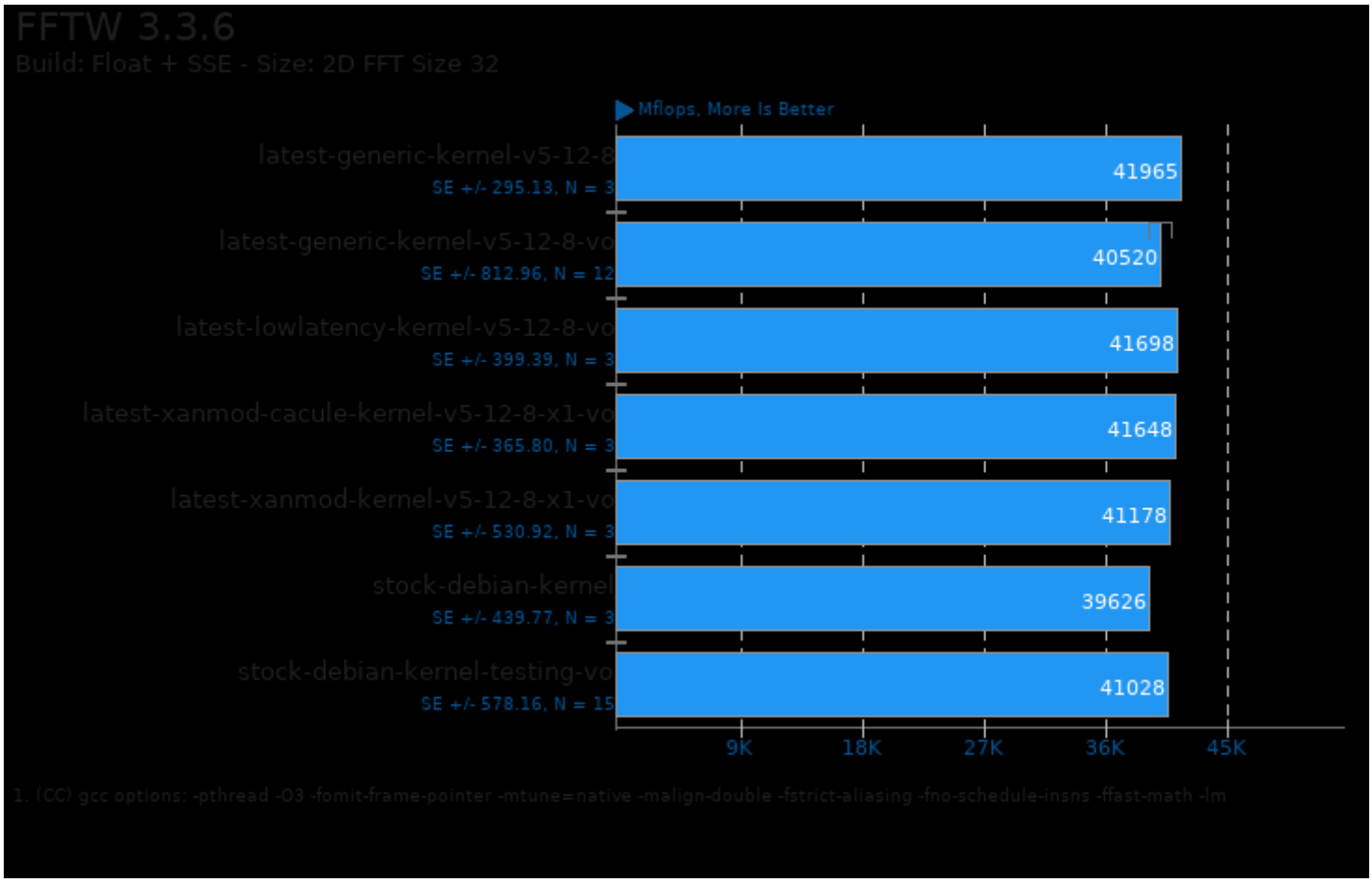
stock-debian-kernel



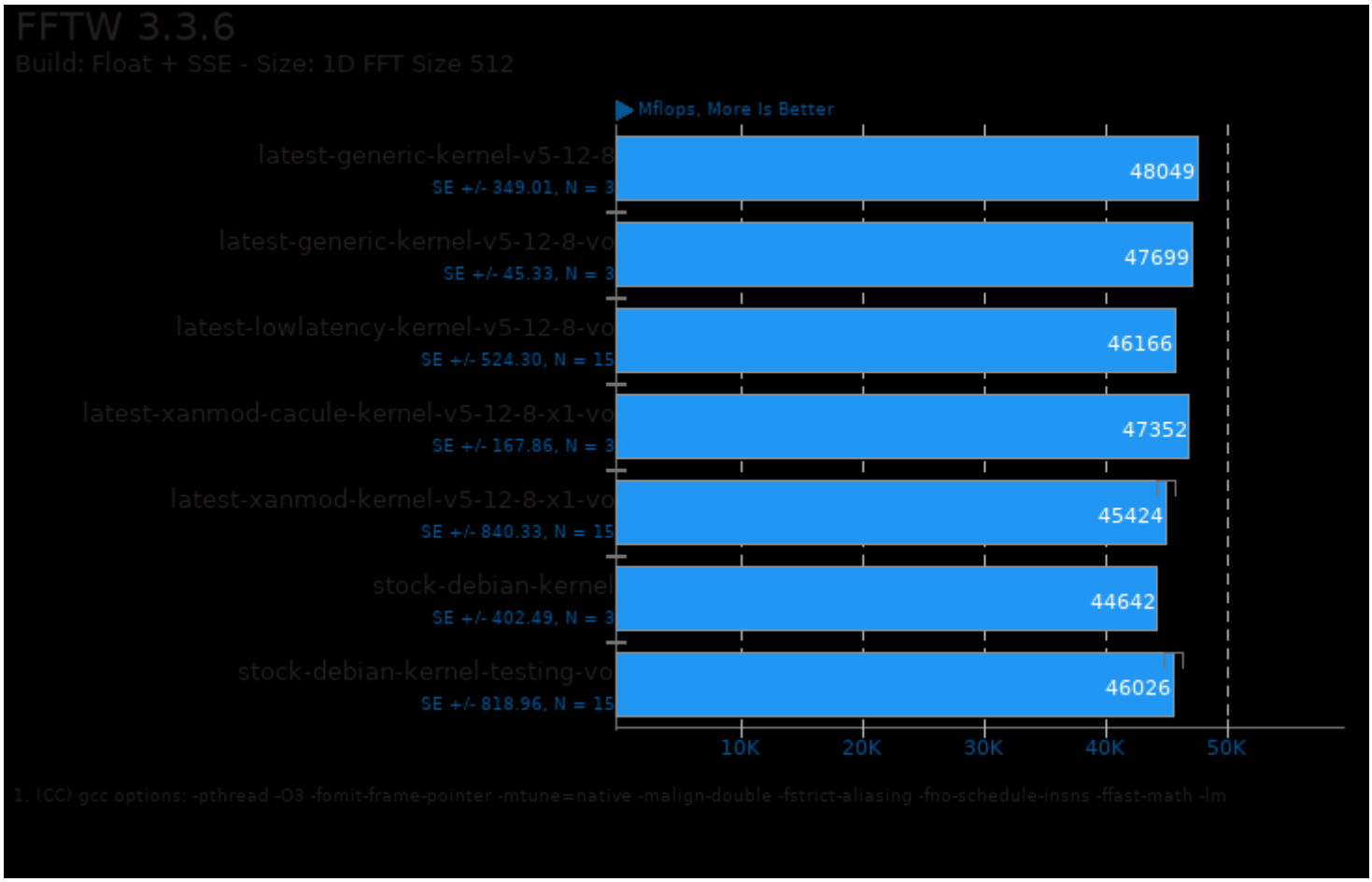
stock-debian-kernel



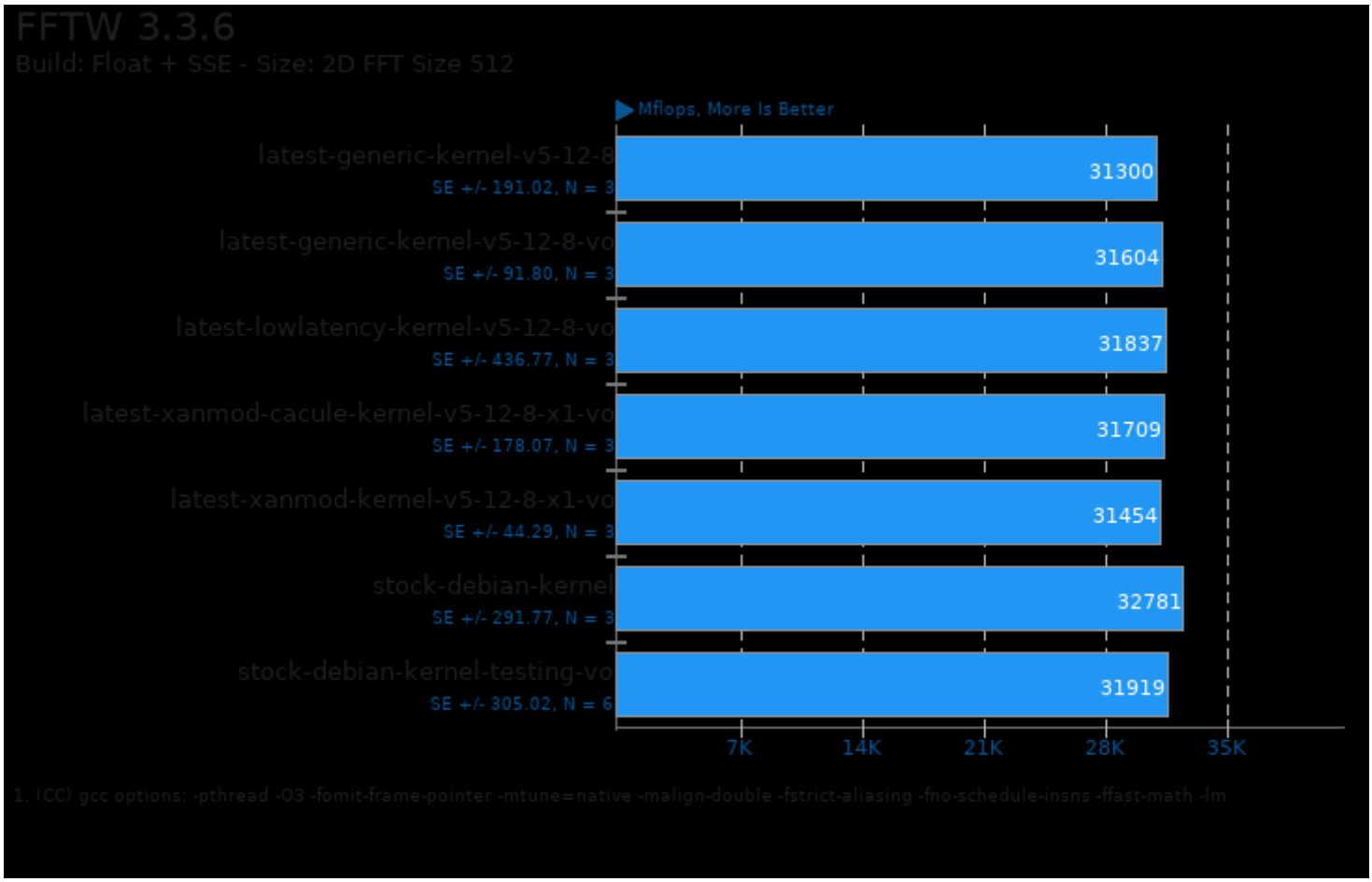
stock-debian-kernel



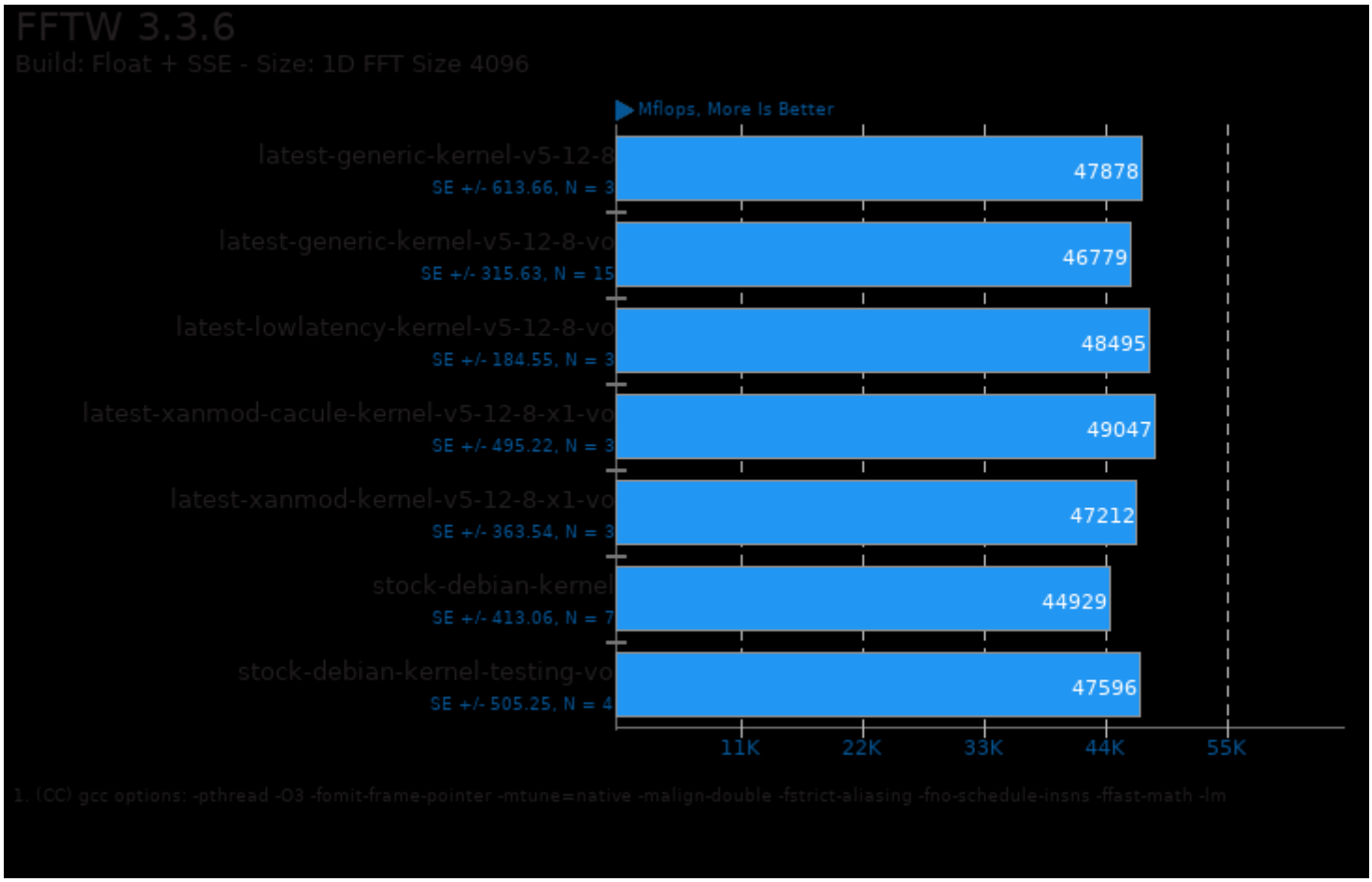
stock-debian-kernel



stock-debian-kernel

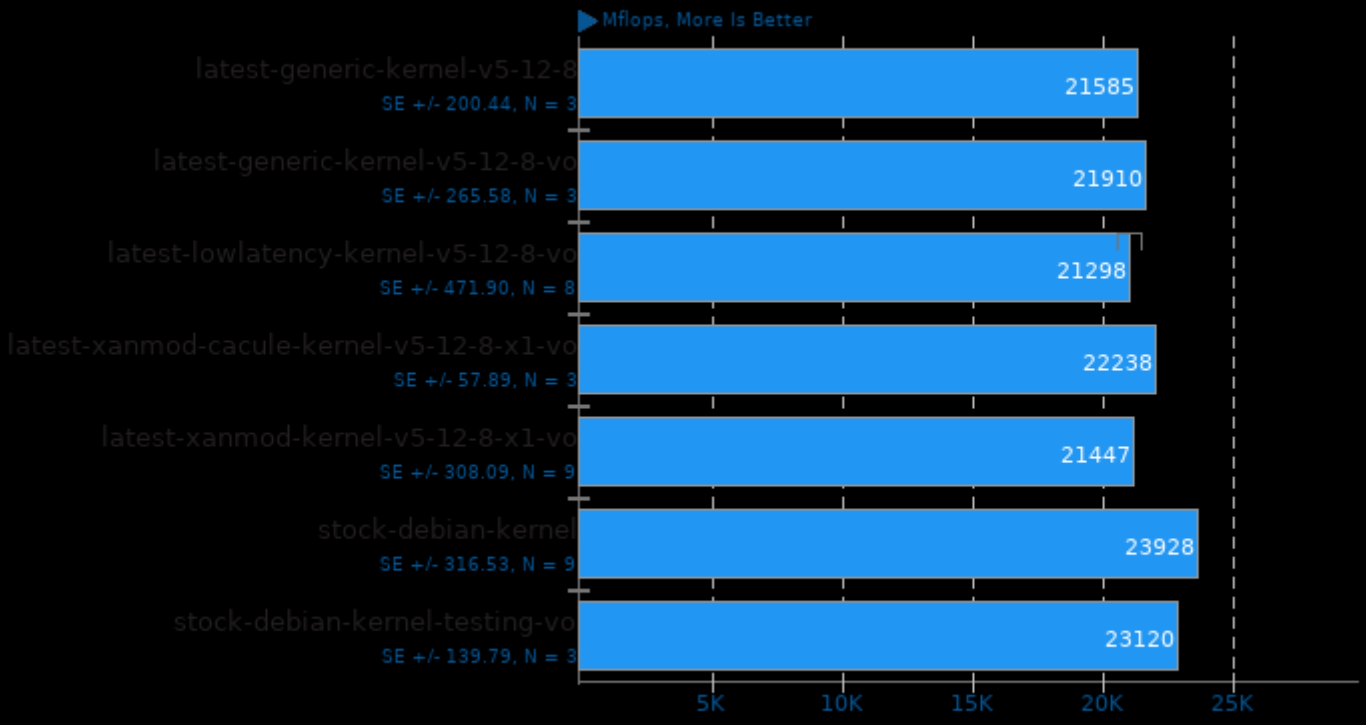


stock-debian-kernel



FFTW 3.3.6

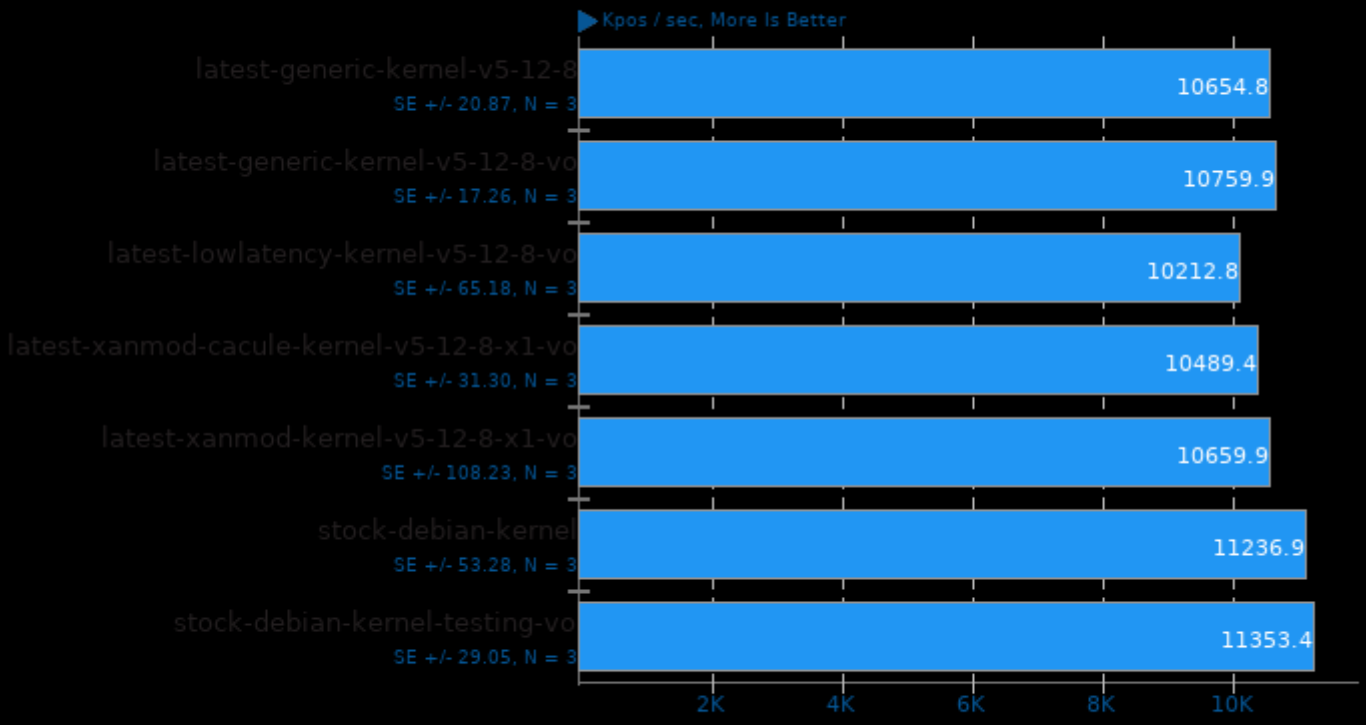
Build: Float + SSE - Size: 2D FFT Size 4096



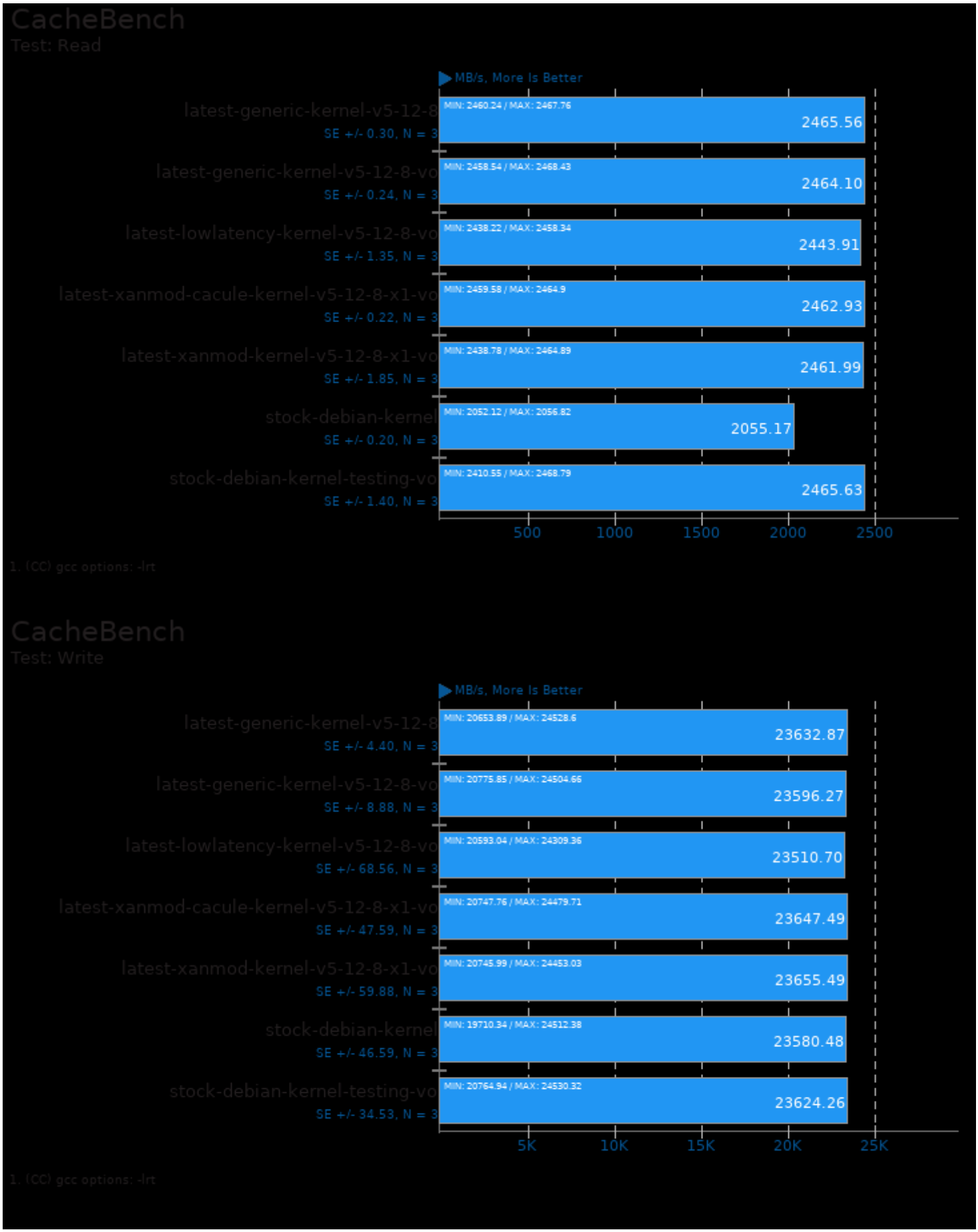
1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm

Fhourstones 3.1

Complex Connect-4 Solving

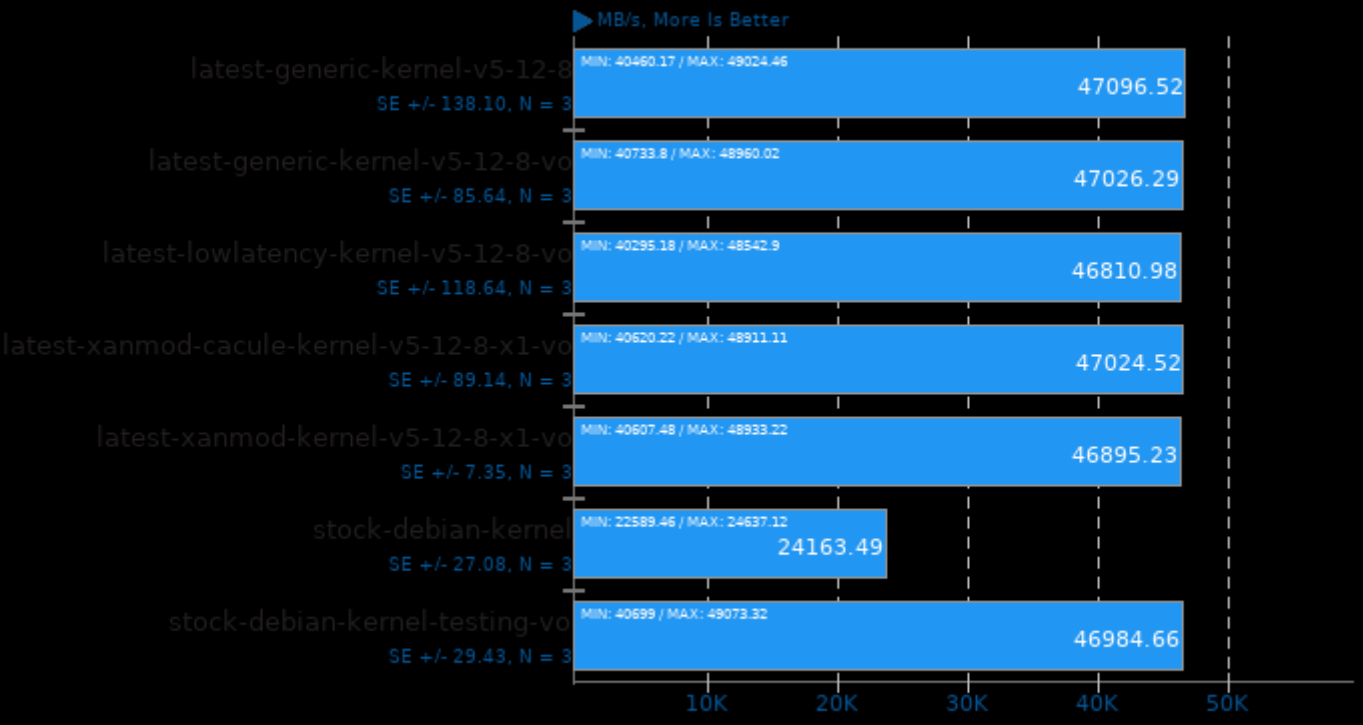


1. (CC) gcc options: -O3


CacheBench
Test: Read
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.30, N = 3
MIN: 2460.24 / MAX: 2467.76
2465.56
latest-generic-kernel-v5-12-8-vo
SE +/- 0.24, N = 3
MIN: 2458.54 / MAX: 2468.43
2464.10
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.35, N = 3
MIN: 2438.22 / MAX: 2458.34
2443.91
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.22, N = 3
MIN: 2459.58 / MAX: 2464.9
2462.93
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.85, N = 3
MIN: 2438.78 / MAX: 2464.89
2461.99
stock-debian-kernel
SE +/- 0.20, N = 3
MIN: 2052.12 / MAX: 2056.82
2055.17
stock-debian-kernel-testing-vo
SE +/- 1.40, N = 3
MIN: 2410.55 / MAX: 2468.79
2465.63
500
1000
1500
2000
2500
1. (CC) gcc options: -lrt
CacheBench
Test: Write
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 4.40, N = 3
MIN: 20653.89 / MAX: 24528.6
23632.87
latest-generic-kernel-v5-12-8-vo
SE +/- 8.88, N = 3
MIN: 20775.85 / MAX: 24504.66
23596.27
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 68.56, N = 3
MIN: 20593.04 / MAX: 24309.36
23510.70
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 47.59, N = 3
MIN: 20747.76 / MAX: 24479.71
23647.49
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 59.88, N = 3
MIN: 20745.99 / MAX: 24453.03
23655.49
stock-debian-kernel
SE +/- 46.59, N = 3
MIN: 19710.34 / MAX: 24512.38
23580.48
stock-debian-kernel-testing-vo
SE +/- 34.53, N = 3
MIN: 20764.94 / MAX: 24530.32
23624.26
5K
10K
15K
20K
25K
1. (CC) gcc options: -lrt

CacheBench

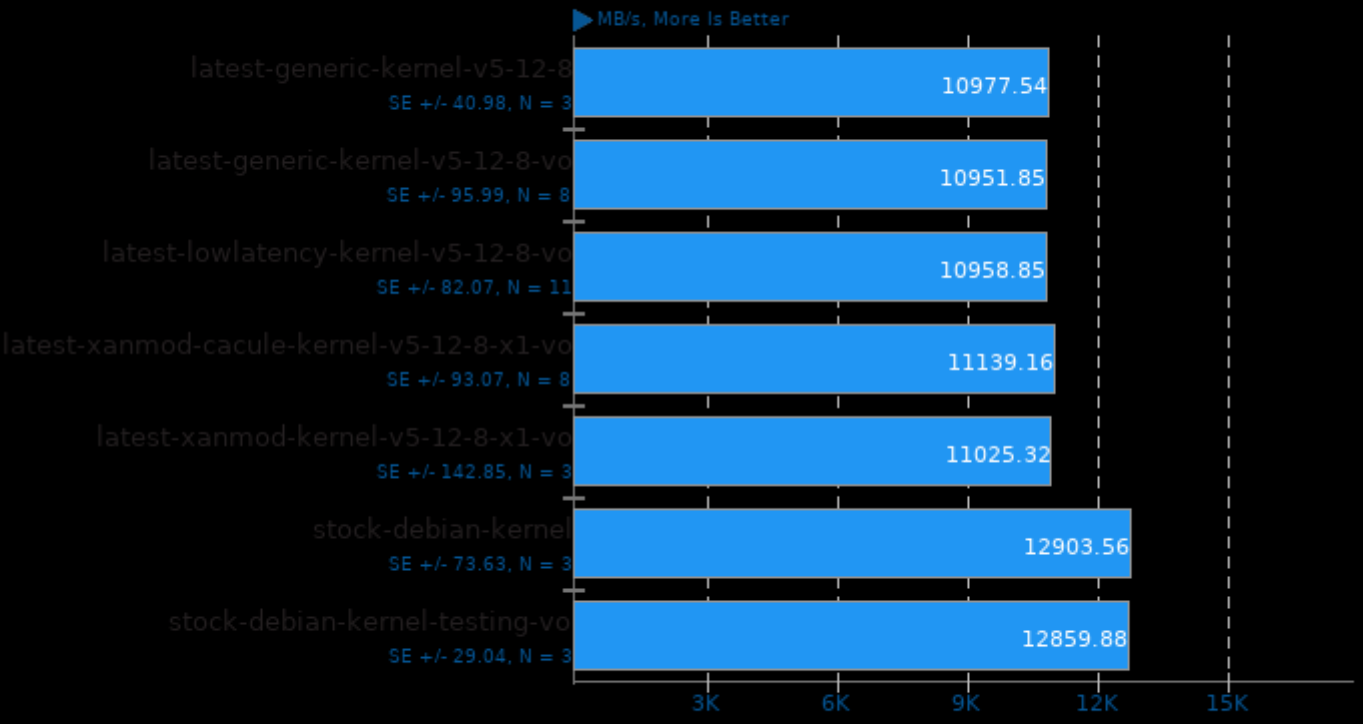
Test: Read / Modify / Write



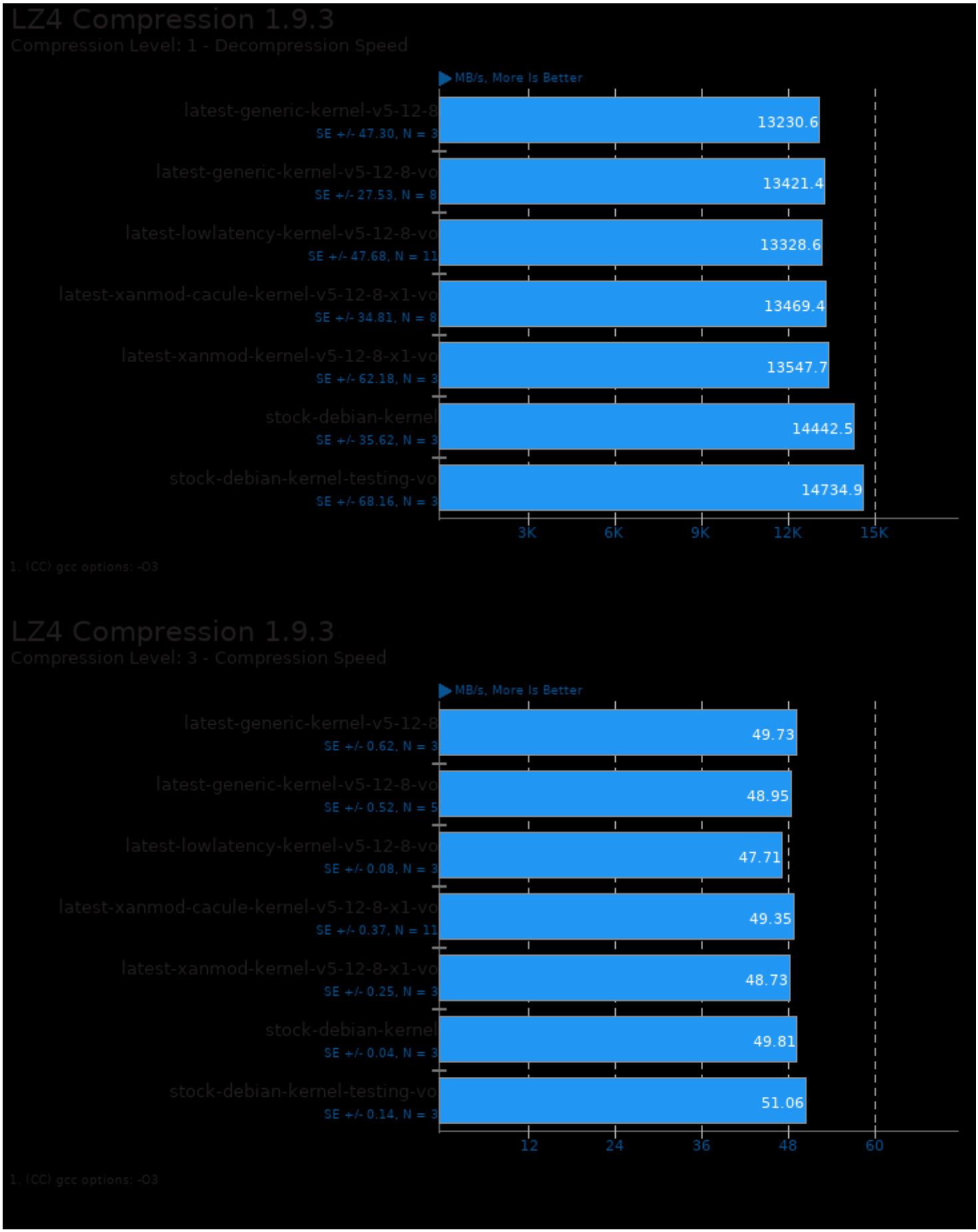
1. (CC) gcc options: -lrt

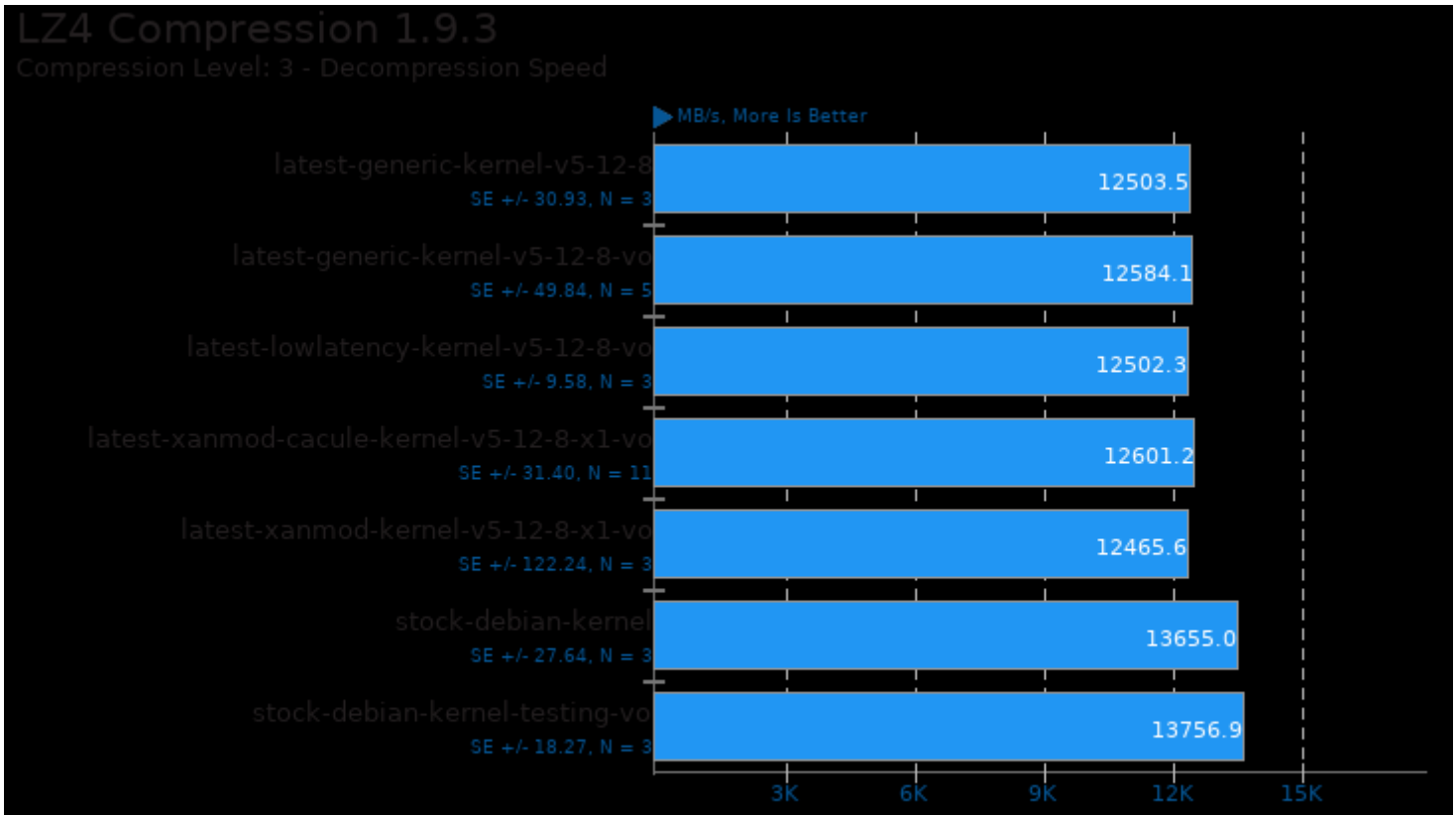
LZ4 Compression 1.9.3

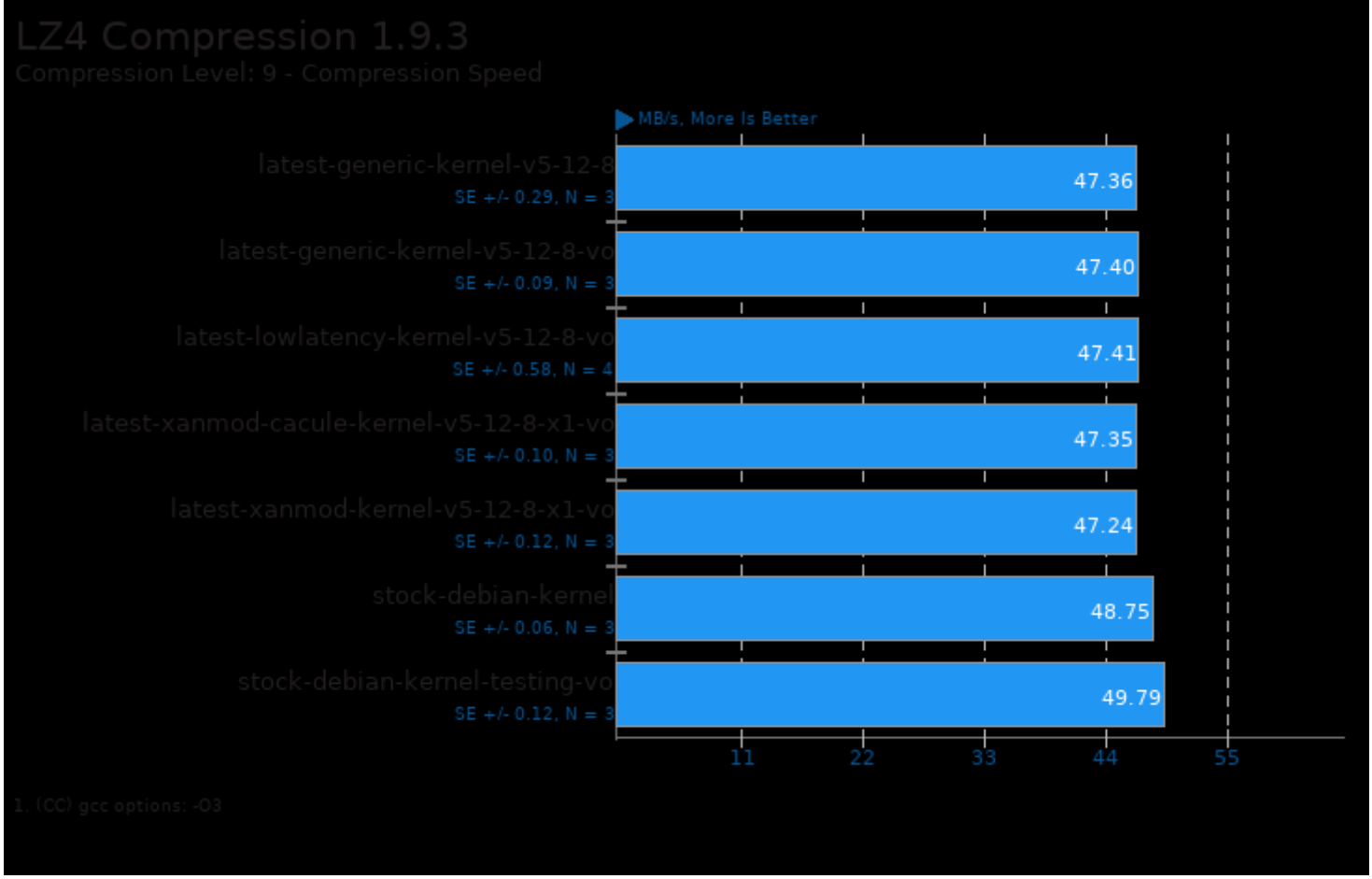
Compression Level: 1 - Compression Speed

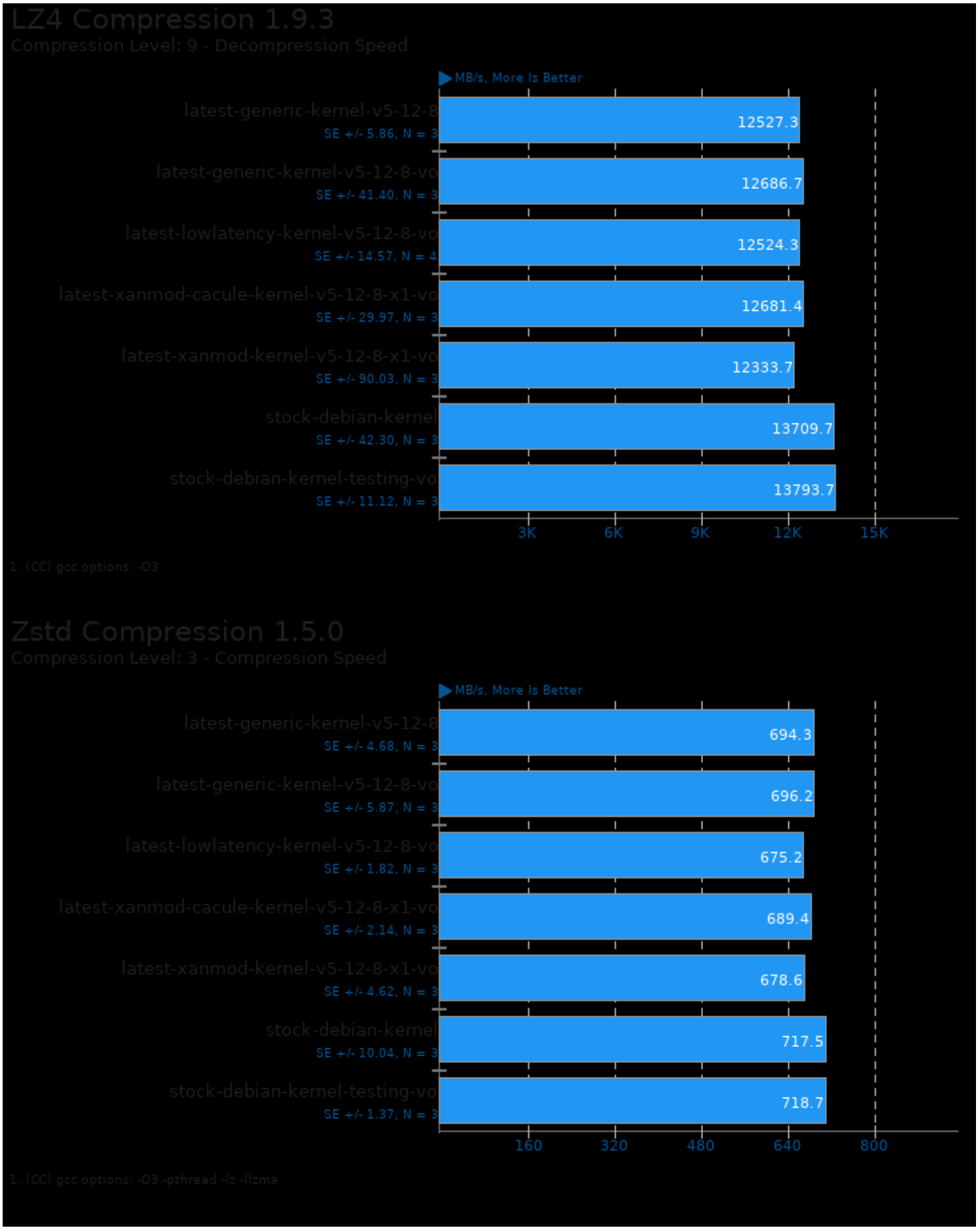


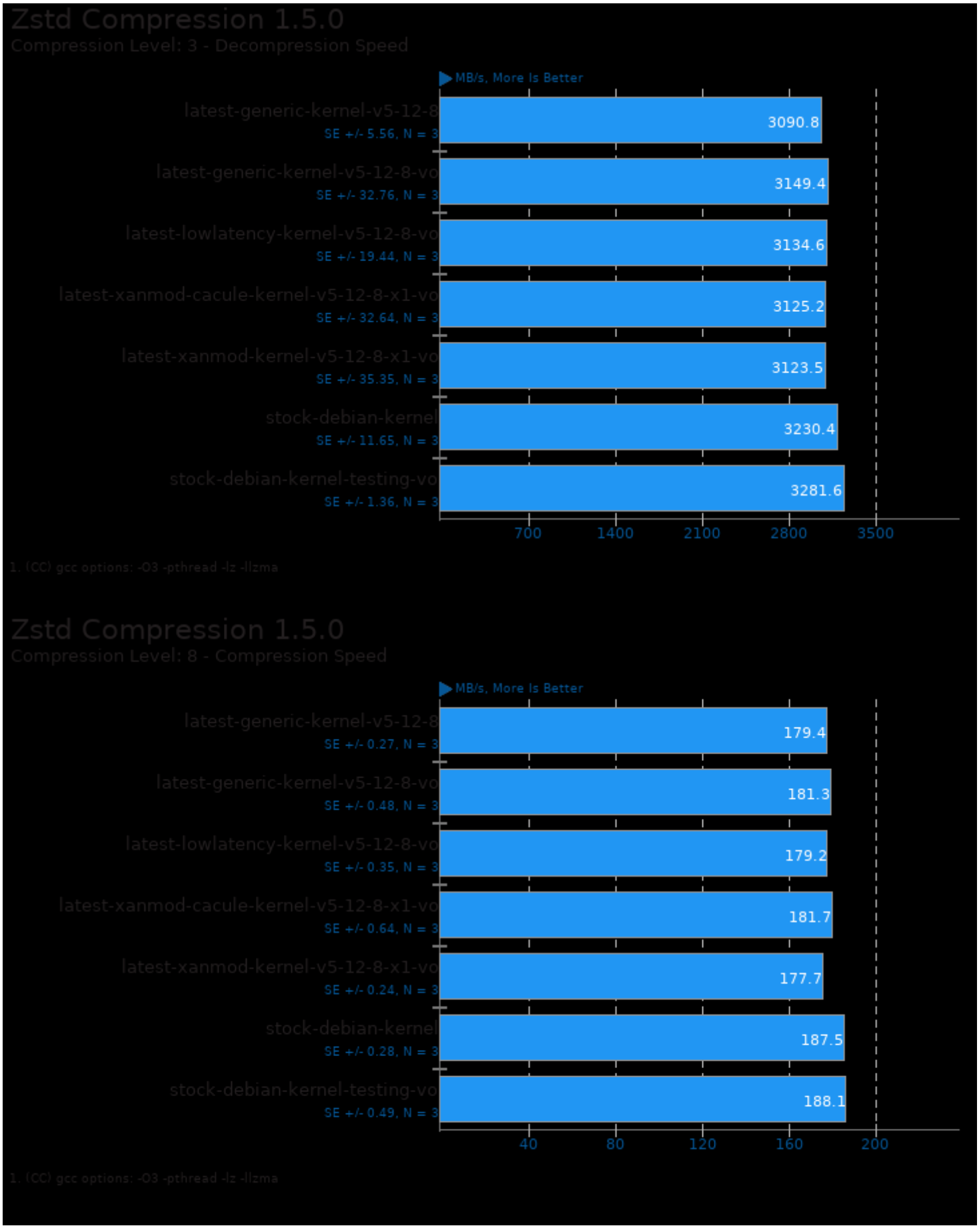
1. (CC) gcc options: -O3

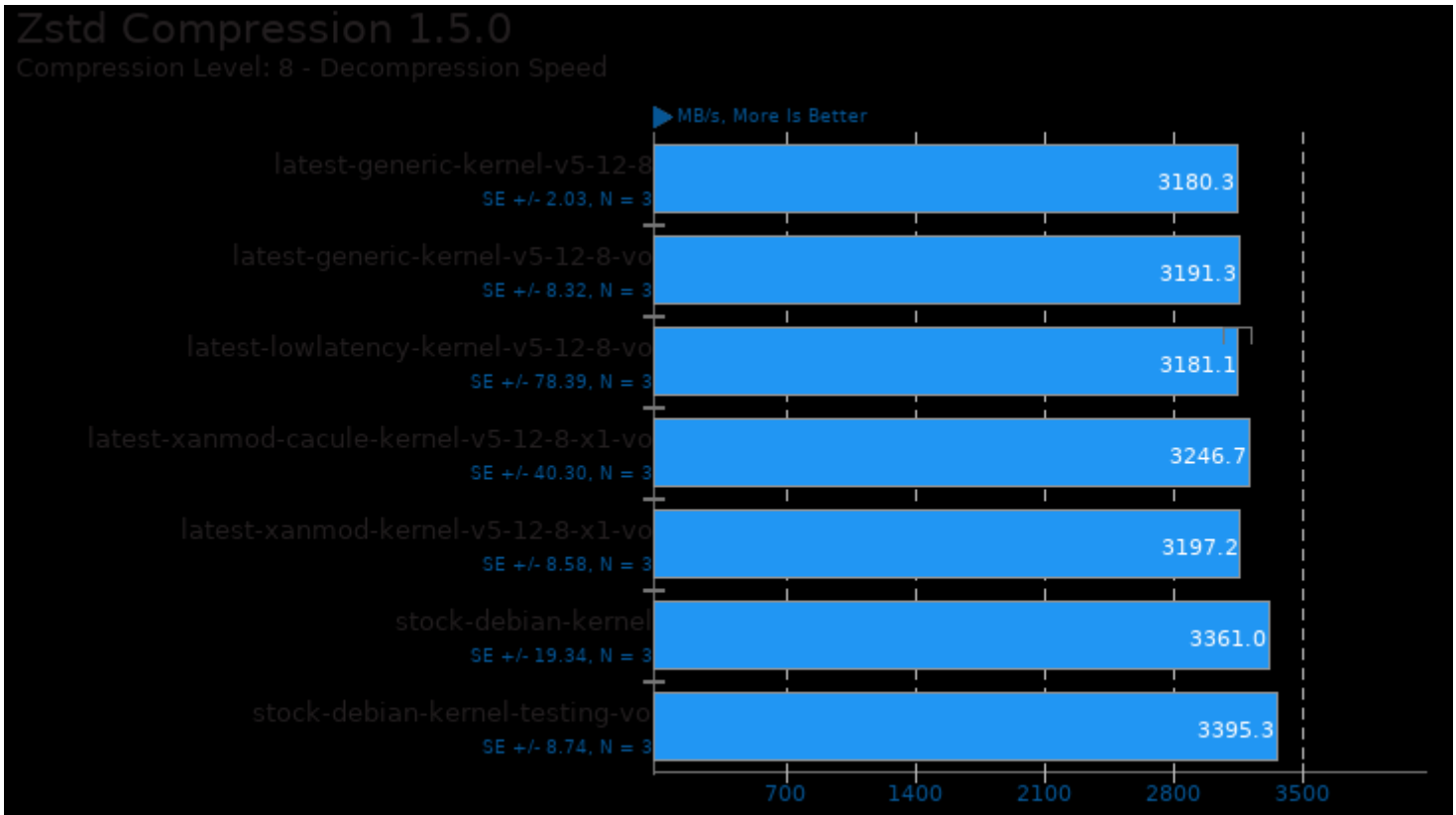

LZ4 Compression 1.9.3
Compression Level: 1 - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 47.30, N = 3
13230.6
latest-generic-kernel-v5-12-8-vo
SE +/- 27.53, N = 8
13421.4
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 47.68, N = 11
13328.6
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 34.81, N = 8
13469.4
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 62.18, N = 3
13547.7
stock-debian-kernel
SE +/- 35.62, N = 3
14442.5
stock-debian-kernel-testing-vo
SE +/- 68.16, N = 3
14734.9
3K
6K
9K
12K
15K
1. (CC) gcc options: -O3
LZ4 Compression 1.9.3
Compression Level: 3 - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.62, N = 3
49.73
latest-generic-kernel-v5-12-8-vo
SE +/- 0.52, N = 5
48.95
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.08, N = 3
47.71
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.37, N = 11
49.35
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.25, N = 3
48.73
stock-debian-kernel
SE +/- 0.04, N = 3
49.81
stock-debian-kernel-testing-vo
SE +/- 0.14, N = 3
51.06
12
24
36
48
60
1. (CC) gcc options: -O3

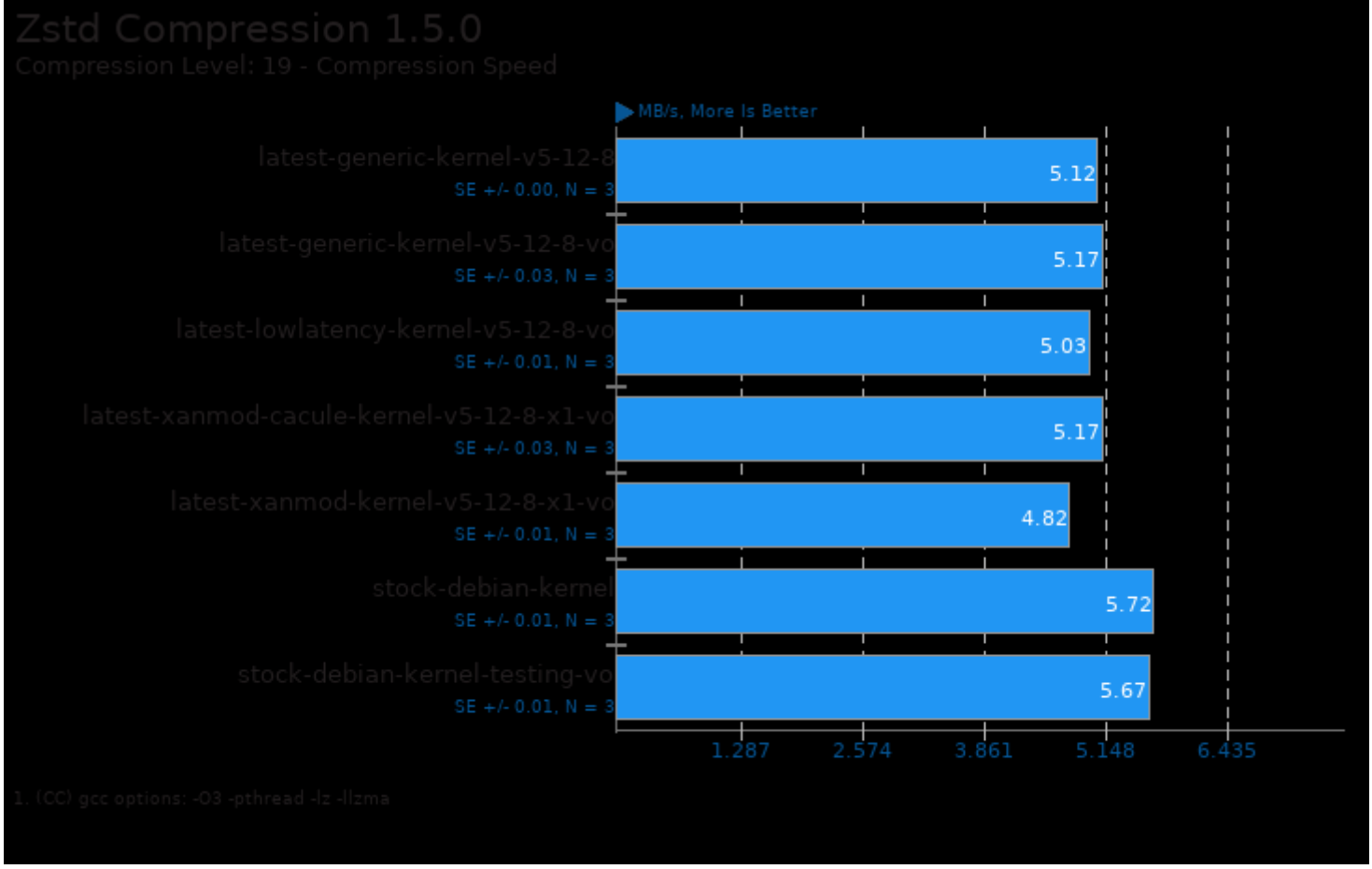

LZ4 Compression 1.9.3
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 30.93, N = 3
12503.5
latest-generic-kernel-v5-12-8-vo
SE +/- 49.84, N = 5
12584.1
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 9.58, N = 3
12502.3
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 31.40, N = 11
12601.2
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 122.24, N = 3
12465.6
stock-debian-kernel
SE +/- 27.64, N = 3
13655.0
stock-debian-kernel-testing-vo
SE +/- 18.27, N = 3
13756.9
3K
6K
9K
12K
15K
1. (CC) gcc options: -O3

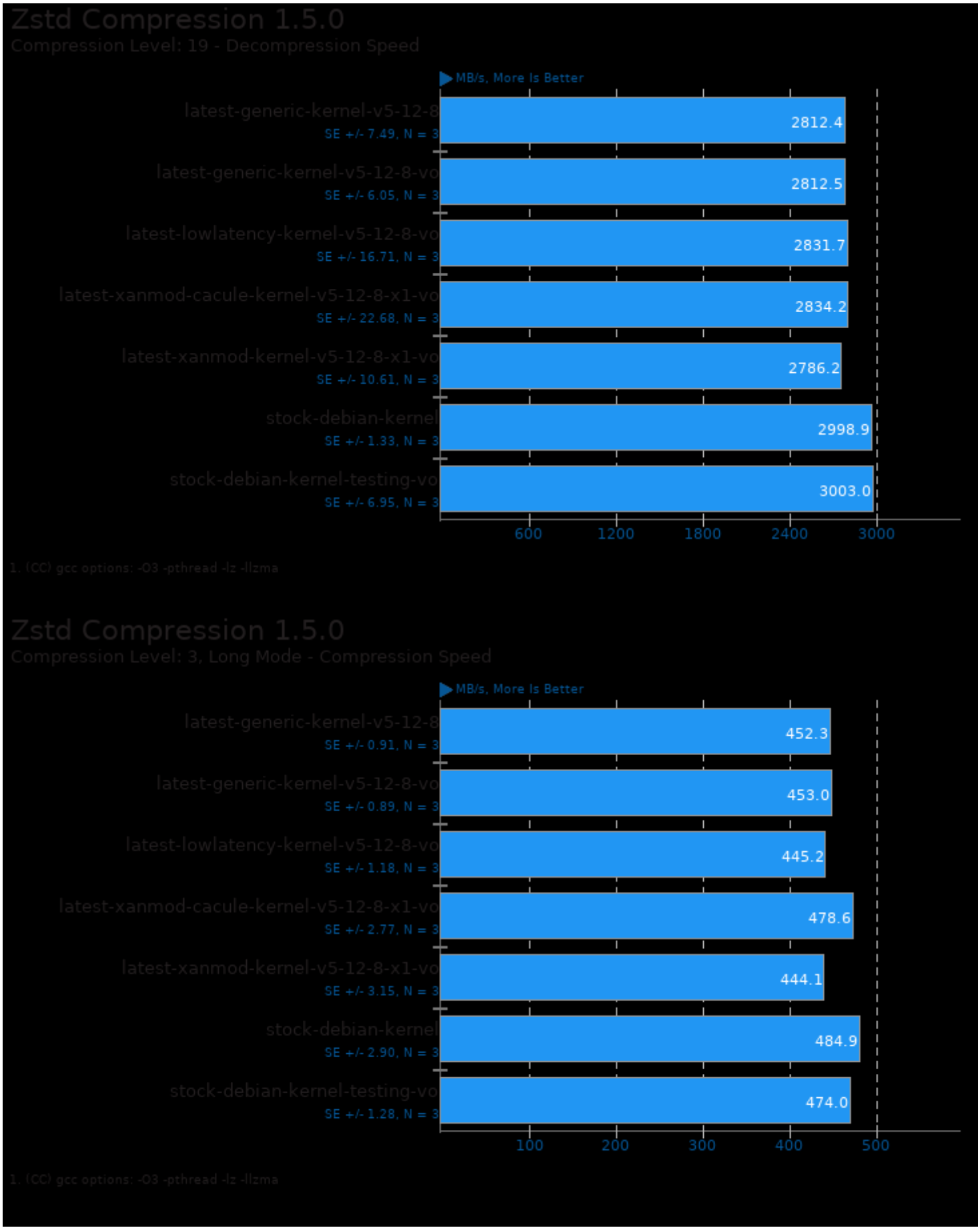

LZ4 Compression 1.9.3
Compression Level: 9 - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.29, N = 3
47.36
latest-generic-kernel-v5-12-8-vo
SE +/- 0.09, N = 3
47.40
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.58, N = 4
47.41
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.10, N = 3
47.35
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.12, N = 3
47.24
stock-debian-kernel
SE +/- 0.06, N = 3
48.75
stock-debian-kernel-testing-vo
SE +/- 0.12, N = 3
49.79
11
22
33
44
55
1. (CC) gcc options: -O3

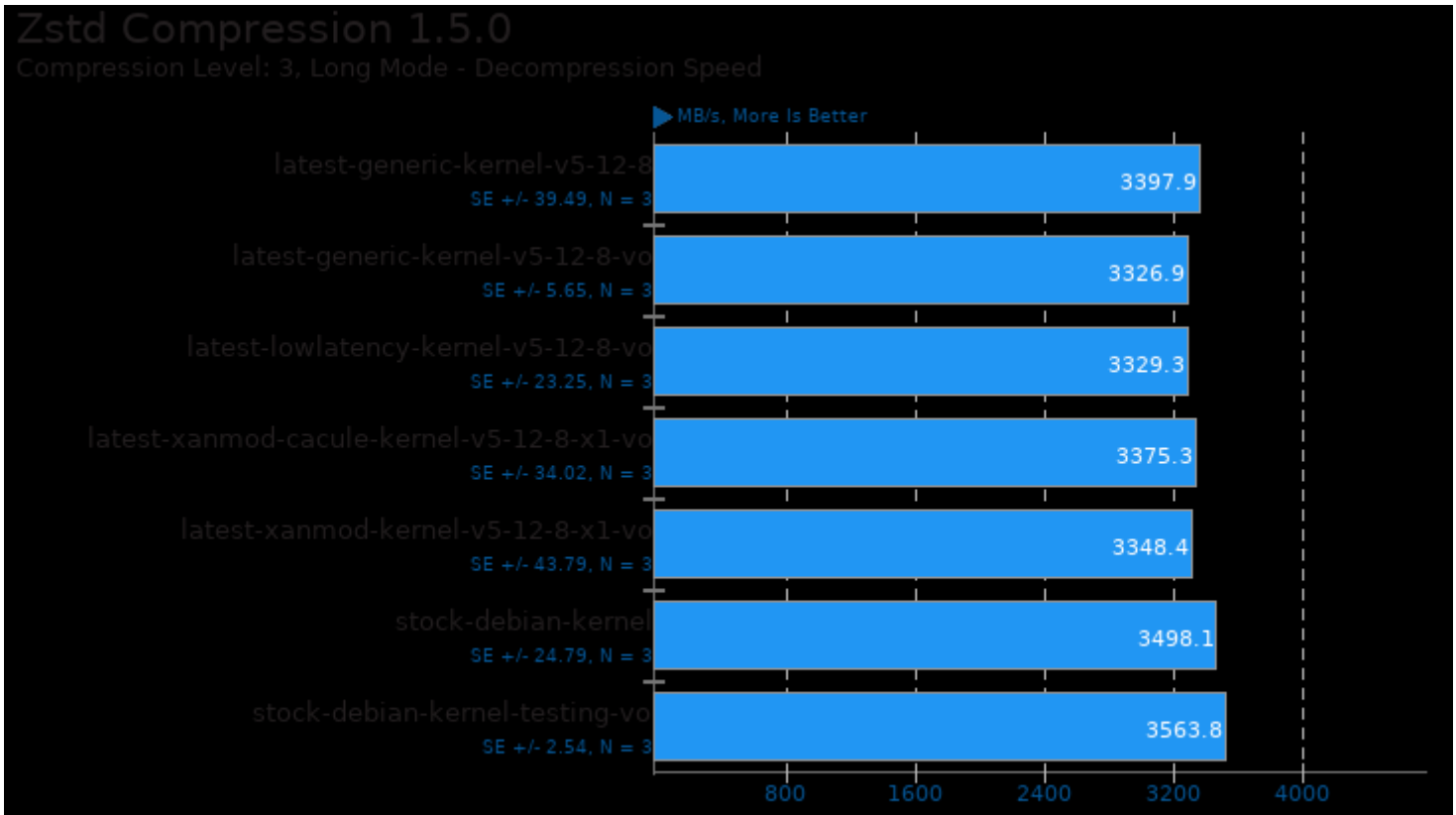

LZ4 Compression 1.9.3
Compression Level: 9 - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 5.86, N = 3
12527.3
latest-generic-kernel-v5-12-8-vo
SE +/- 41.40, N = 3
12686.7
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 14.57, N = 4
12524.3
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 29.97, N = 3
12681.4
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 90.03, N = 3
12333.7
stock-debian-kernel
SE +/- 42.30, N = 3
13709.7
stock-debian-kernel-testing-vo
SE +/- 11.12, N = 3
13793.7
3K
6K
9K
12K
15K
1. (CC) gcc options: -O3
Zstd Compression 1.5.0
Compression Level: 3 - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 4.68, N = 3
694.3
latest-generic-kernel-v5-12-8-vo
SE +/- 5.87, N = 3
696.2
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.82, N = 3
675.2
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2.14, N = 3
689.4
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 4.62, N = 3
678.6
stock-debian-kernel
SE +/- 10.04, N = 3
717.5
stock-debian-kernel-testing-vo
SE +/- 1.37, N = 3
718.7
160
320
480
640
800
1. (CC) gcc options: -O3 -pthread -lz -llzma

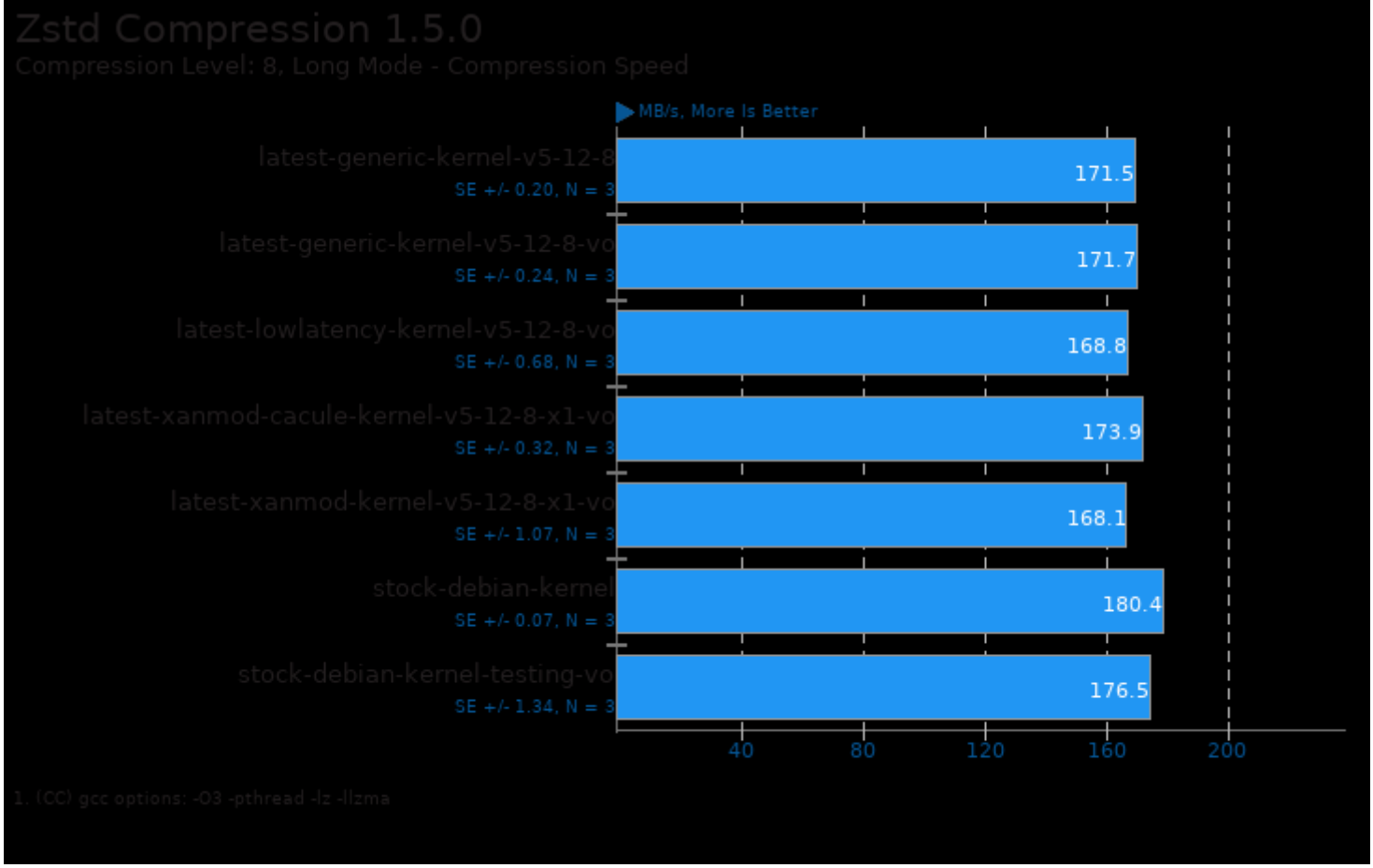

Zstd Compression 1.5.0
Compression Level: 3 - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 5.56, N = 3
3090.8
latest-generic-kernel-v5-12-8-vo
SE +/- 32.76, N = 3
3149.4
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 19.44, N = 3
3134.6
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 32.64, N = 3
3125.2
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 35.35, N = 3
3123.5
stock-debian-kernel
SE +/- 11.65, N = 3
3230.4
stock-debian-kernel-testing-vo
SE +/- 1.36, N = 3
3281.6
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8 - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.27, N = 3
179.4
latest-generic-kernel-v5-12-8-vo
SE +/- 0.48, N = 3
181.3
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.35, N = 3
179.2
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.64, N = 3
181.7
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.24, N = 3
177.7
stock-debian-kernel
SE +/- 0.28, N = 3
187.5
stock-debian-kernel-testing-vo
SE +/- 0.49, N = 3
188.1
40
80
120
160
200
1. (CC) gcc options: -O3 -pthread -lz -llzma

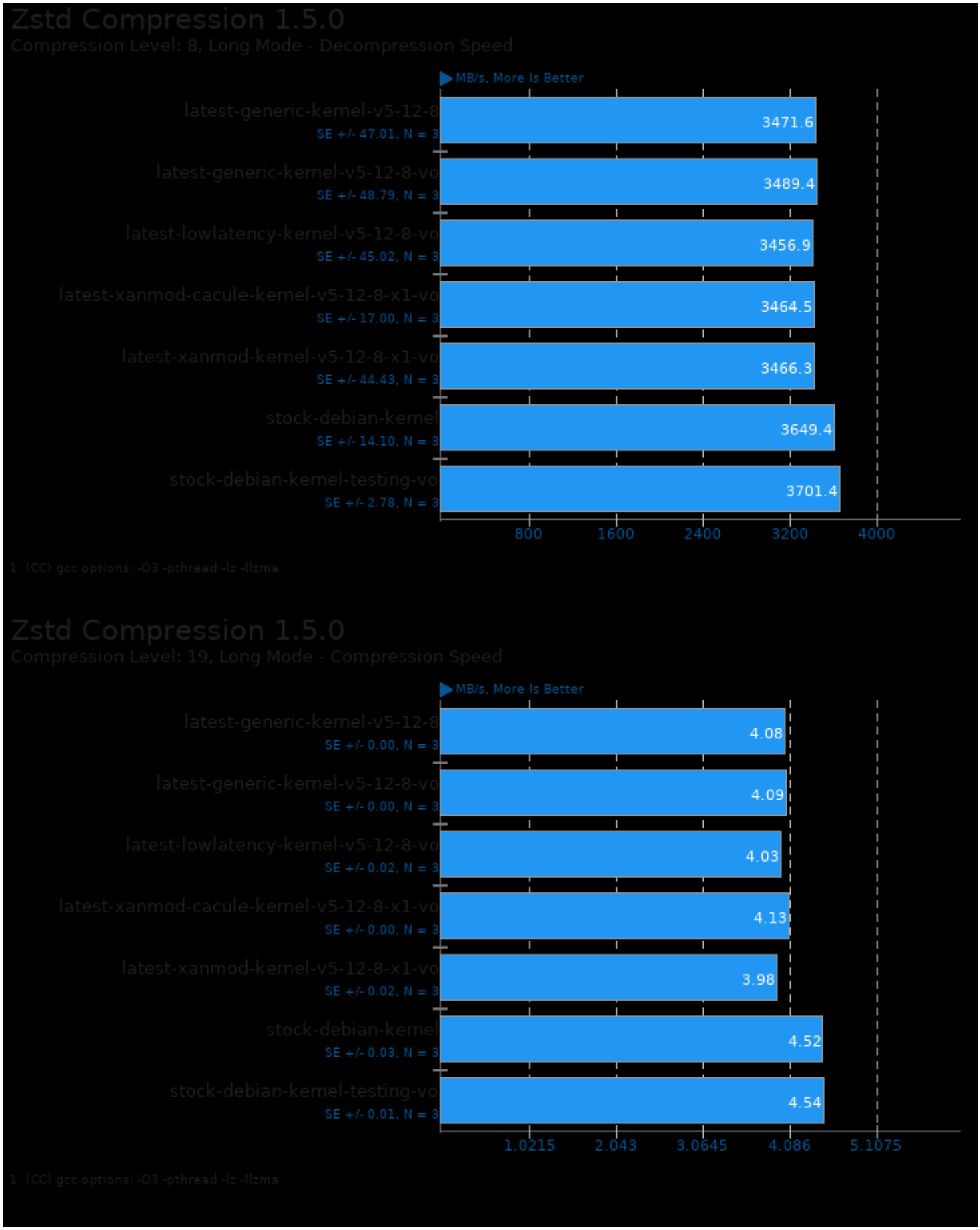

Zstd Compression 1.5.0
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 2.03, N = 3
3180.3
latest-generic-kernel-v5-12-8-vo
SE +/- 8.32, N = 3
3191.3
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 78.39, N = 3
3181.1
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 40.30, N = 3
3246.7
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 8.58, N = 3
3197.2
stock-debian-kernel
SE +/- 19.34, N = 3
3361.0
stock-debian-kernel-testing-vo
SE +/- 8.74, N = 3
3395.3
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.00, N = 3
5.12
latest-generic-kernel-v5-12-8-vo
SE +/- 0.03, N = 3
5.17
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.01, N = 3
5.03
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.03, N = 3
5.17
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.01, N = 3
4.82
stock-debian-kernel
SE +/- 0.01, N = 3
5.72
stock-debian-kernel-testing-vo
SE +/- 0.01, N = 3
5.67
1.287
2.574
3.861
5.148
6.435
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 7.49, N = 3
2812.4
latest-generic-kernel-v5-12-8-vo
SE +/- 6.05, N = 3
2812.5
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 16.71, N = 3
2831.7
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 22.68, N = 3
2834.2
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 10.61, N = 3
2786.2
stock-debian-kernel
SE +/- 1.33, N = 3
2998.9
stock-debian-kernel-testing-vo
SE +/- 6.95, N = 3
3003.0
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.91, N = 3
452.3
latest-generic-kernel-v5-12-8-vo
SE +/- 0.89, N = 3
453.0
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.18, N = 3
445.2
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2.77, N = 3
478.6
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 3.15, N = 3
444.1
stock-debian-kernel
SE +/- 2.90, N = 3
484.9
stock-debian-kernel-testing-vo
SE +/- 1.28, N = 3
474.0
100
200
300
400
500
1. (CC) gcc options: -O3 -pthread -lz -llzma

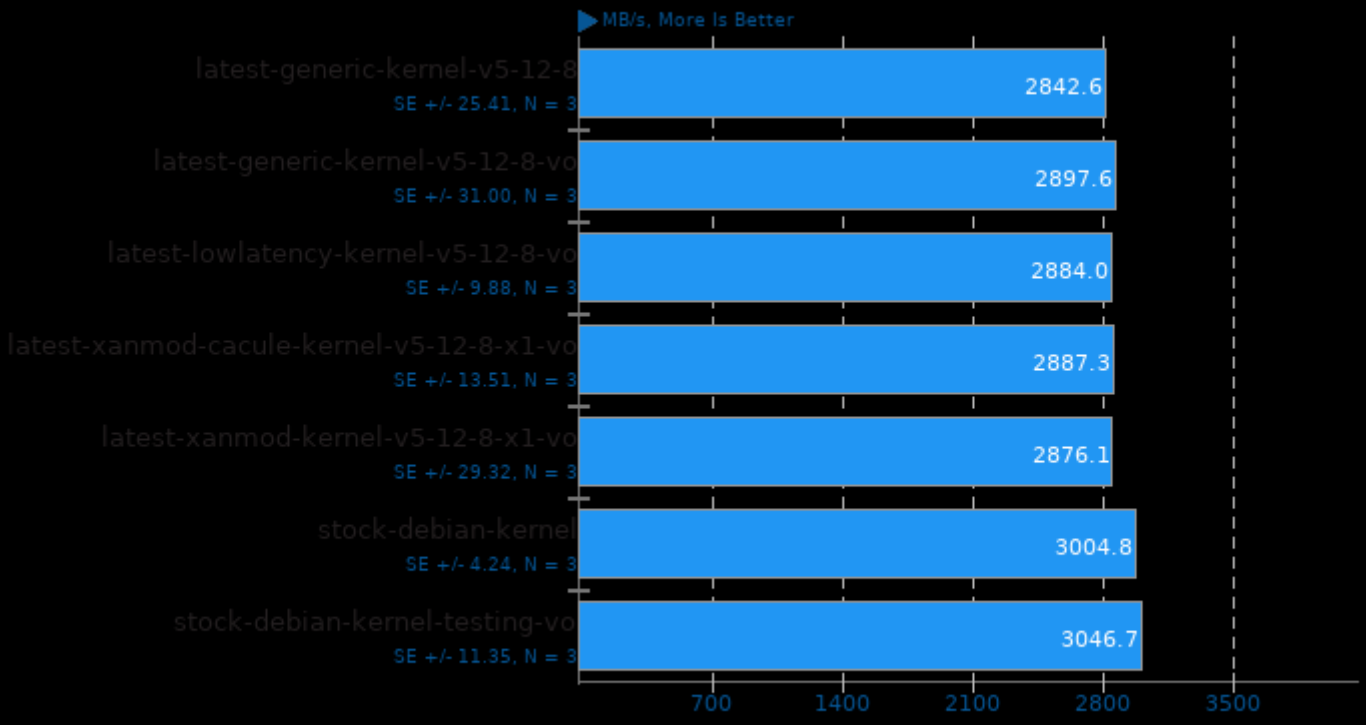

Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 39.49, N = 3
3397.9
latest-generic-kernel-v5-12-8-vo
SE +/- 5.65, N = 3
3326.9
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 23.25, N = 3
3329.3
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 34.02, N = 3
3375.3
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 43.79, N = 3
3348.4
stock-debian-kernel
SE +/- 24.79, N = 3
3498.1
stock-debian-kernel-testing-vo
SE +/- 2.54, N = 3
3563.8
800
1600
2400
3200
4000
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.20, N = 3
171.5
latest-generic-kernel-v5-12-8-vo
SE +/- 0.24, N = 3
171.7
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.68, N = 3
168.8
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.32, N = 3
173.9
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.07, N = 3
168.1
stock-debian-kernel
SE +/- 0.07, N = 3
180.4
stock-debian-kernel-testing-vo
SE +/- 1.34, N = 3
176.5
40
80
120
160
200
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 47.01, N = 3
3471.6
latest-generic-kernel-v5-12-8-vo
SE +/- 48.79, N = 3
3489.4
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 45.02, N = 3
3456.9
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 17.00, N = 3
3464.5
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 44.43, N = 3
3466.3
stock-debian-kernel
SE +/- 14.10, N = 3
3649.4
stock-debian-kernel-testing-vo
SE +/- 2.78, N = 3
3701.4
800
1600
2400
3200
4000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.00, N = 3
4.08
latest-generic-kernel-v5-12-8-vo
SE +/- 0.00, N = 3
4.09
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.02, N = 3
4.03
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.00, N = 3
4.13
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.02, N = 3
3.98
stock-debian-kernel
SE +/- 0.03, N = 3
4.52
stock-debian-kernel-testing-vo
SE +/- 0.01, N = 3
4.54
1.0215
2.043
3.0645
4.086
5.1075
1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.5.0

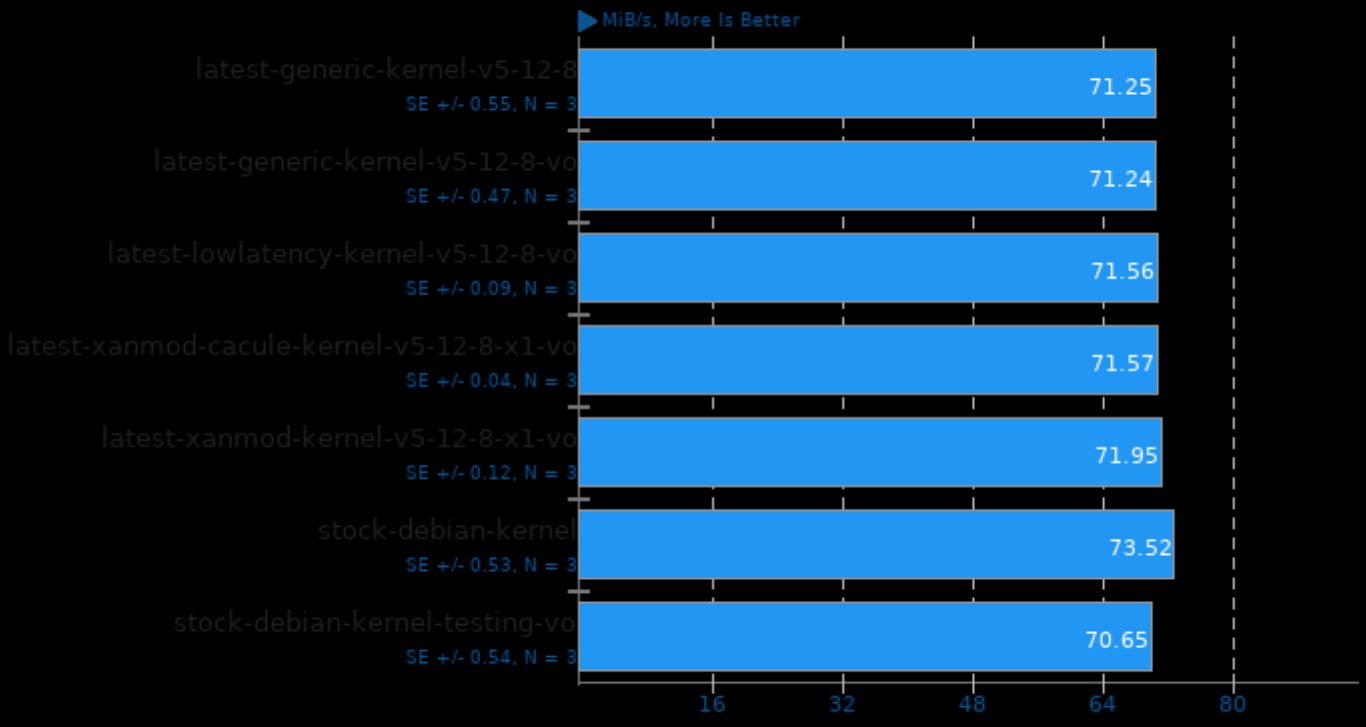
Compression Level: 19, Long Mode - Decompression Speed



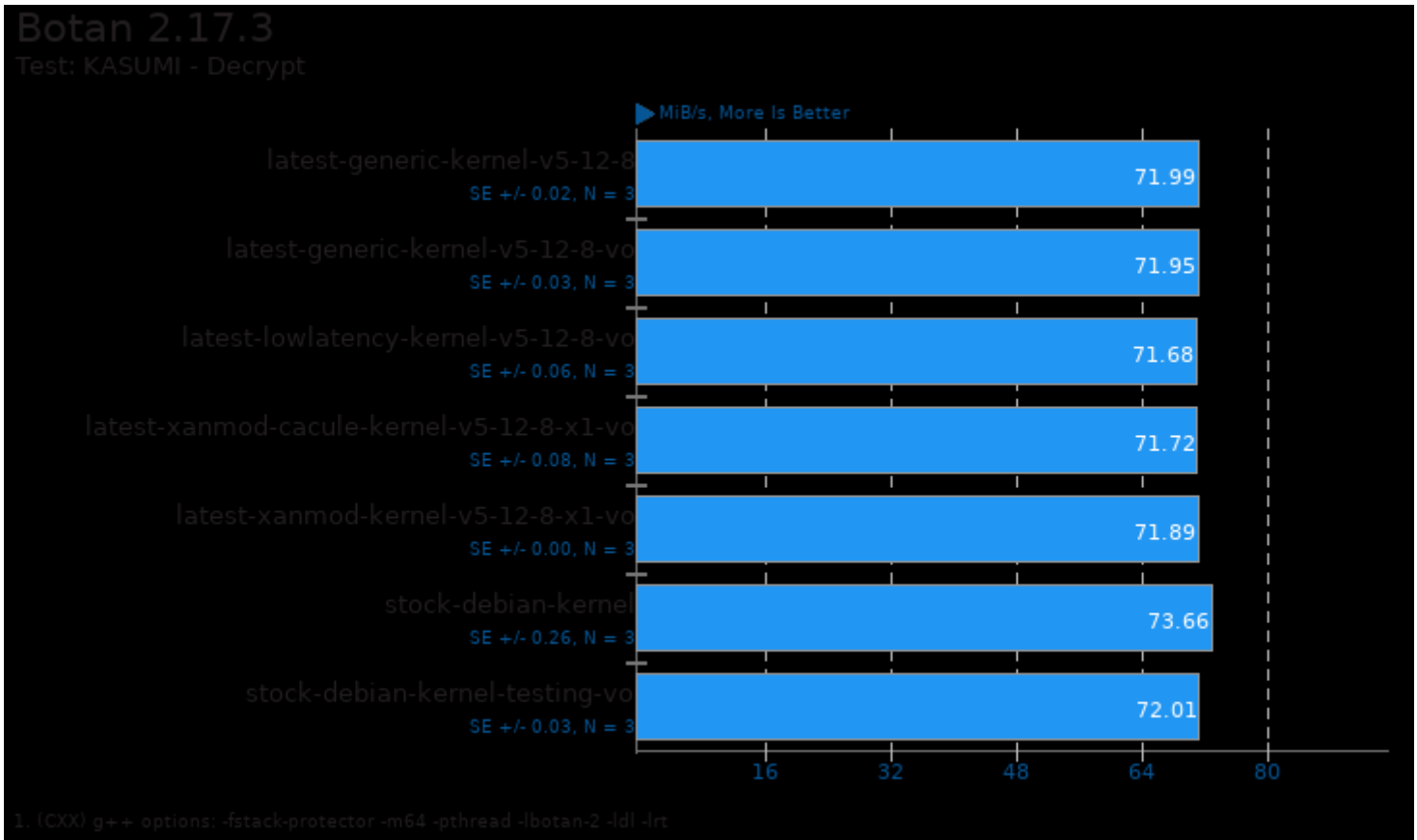
1. (CC) gcc options: -O3 -pthread -lz -llzma

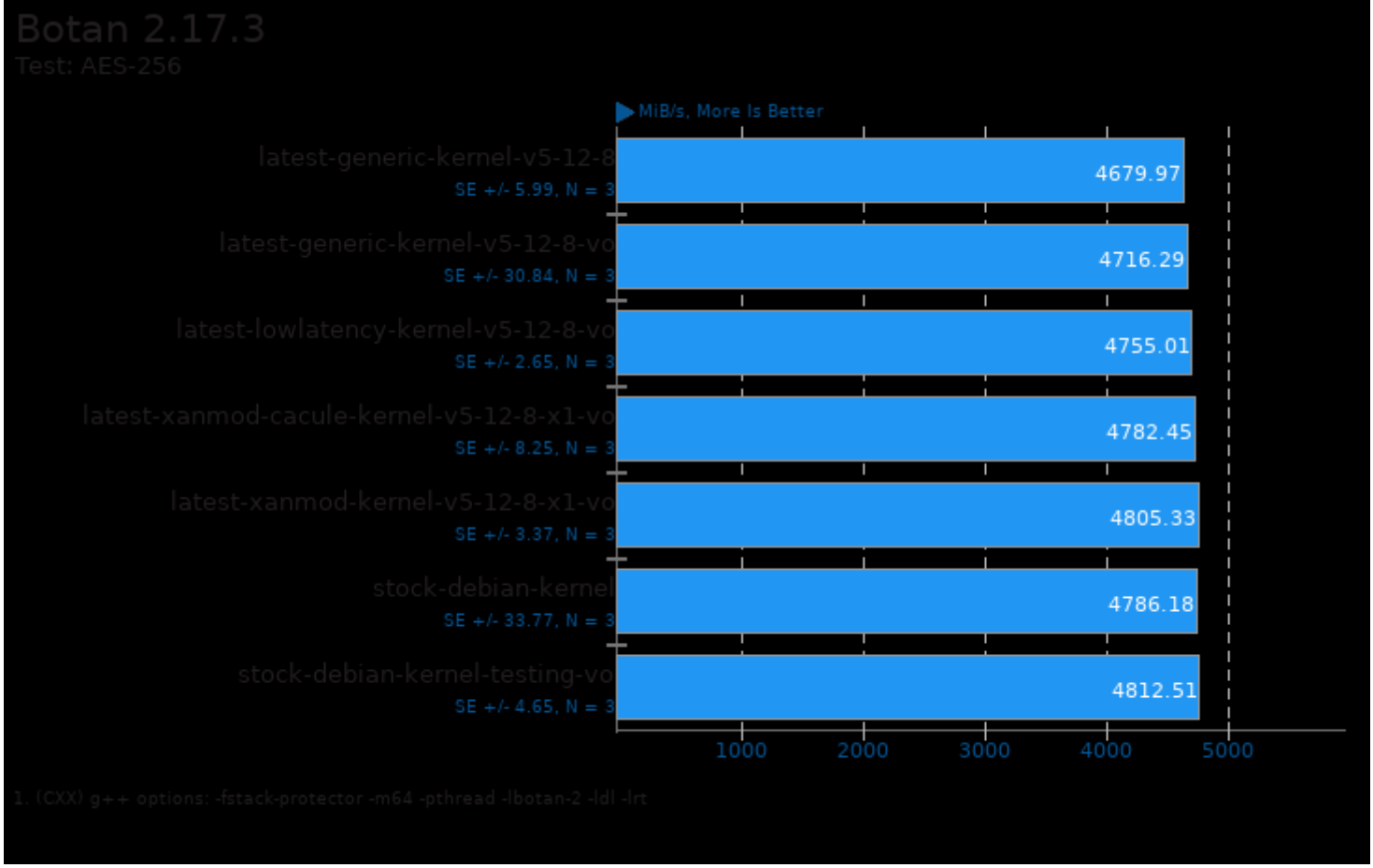
Botan 2.17.3

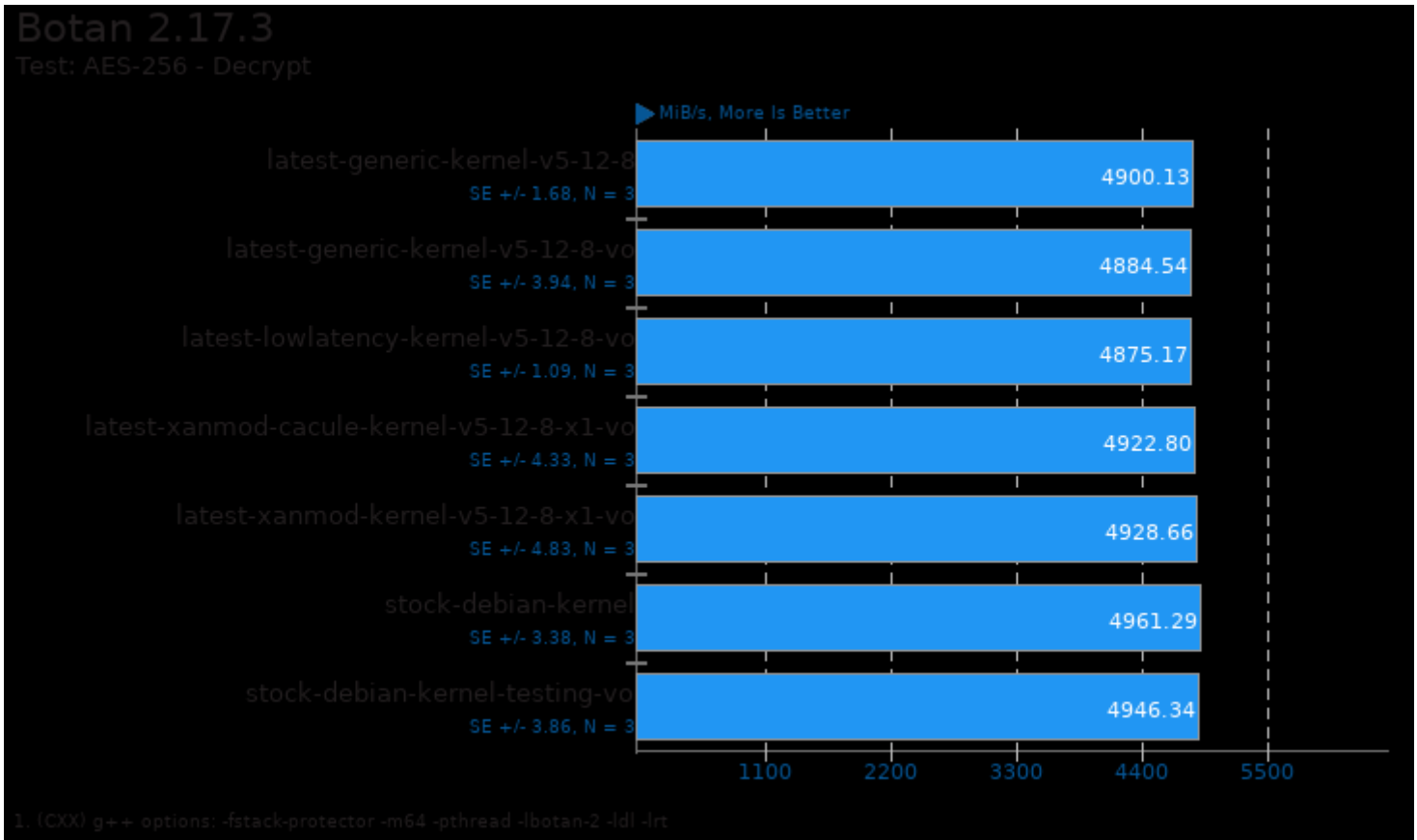
Test: KASUMI

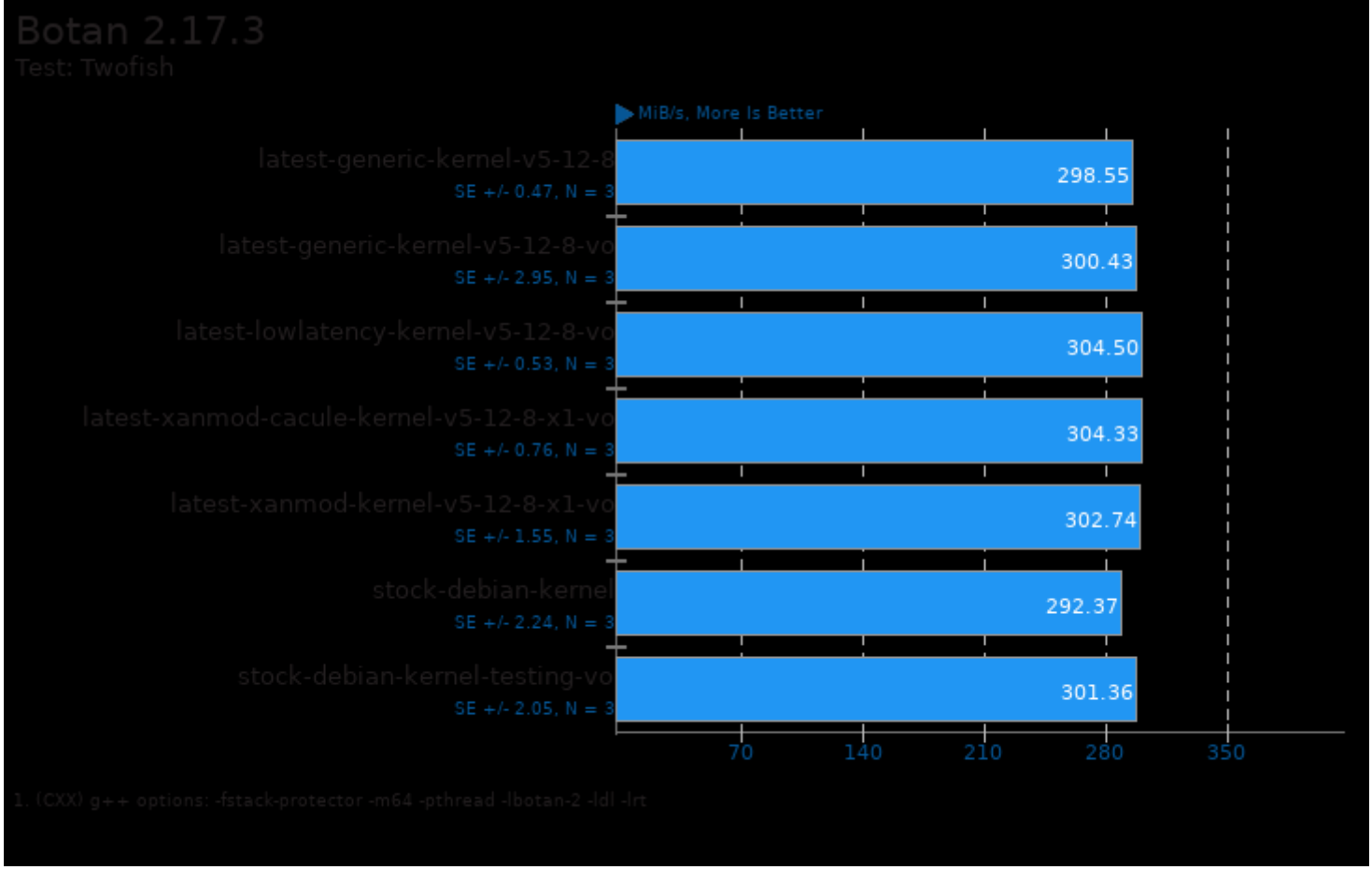


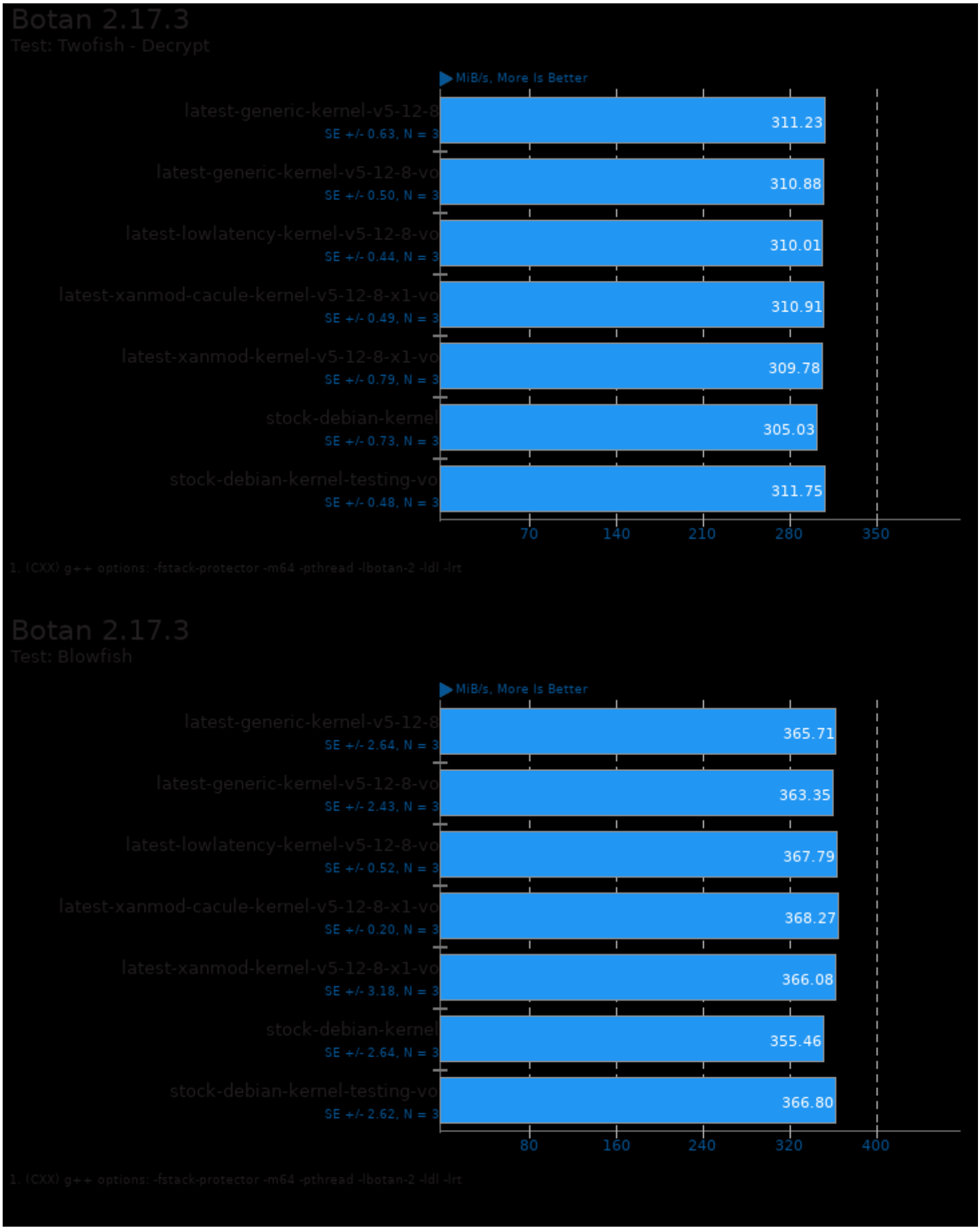
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

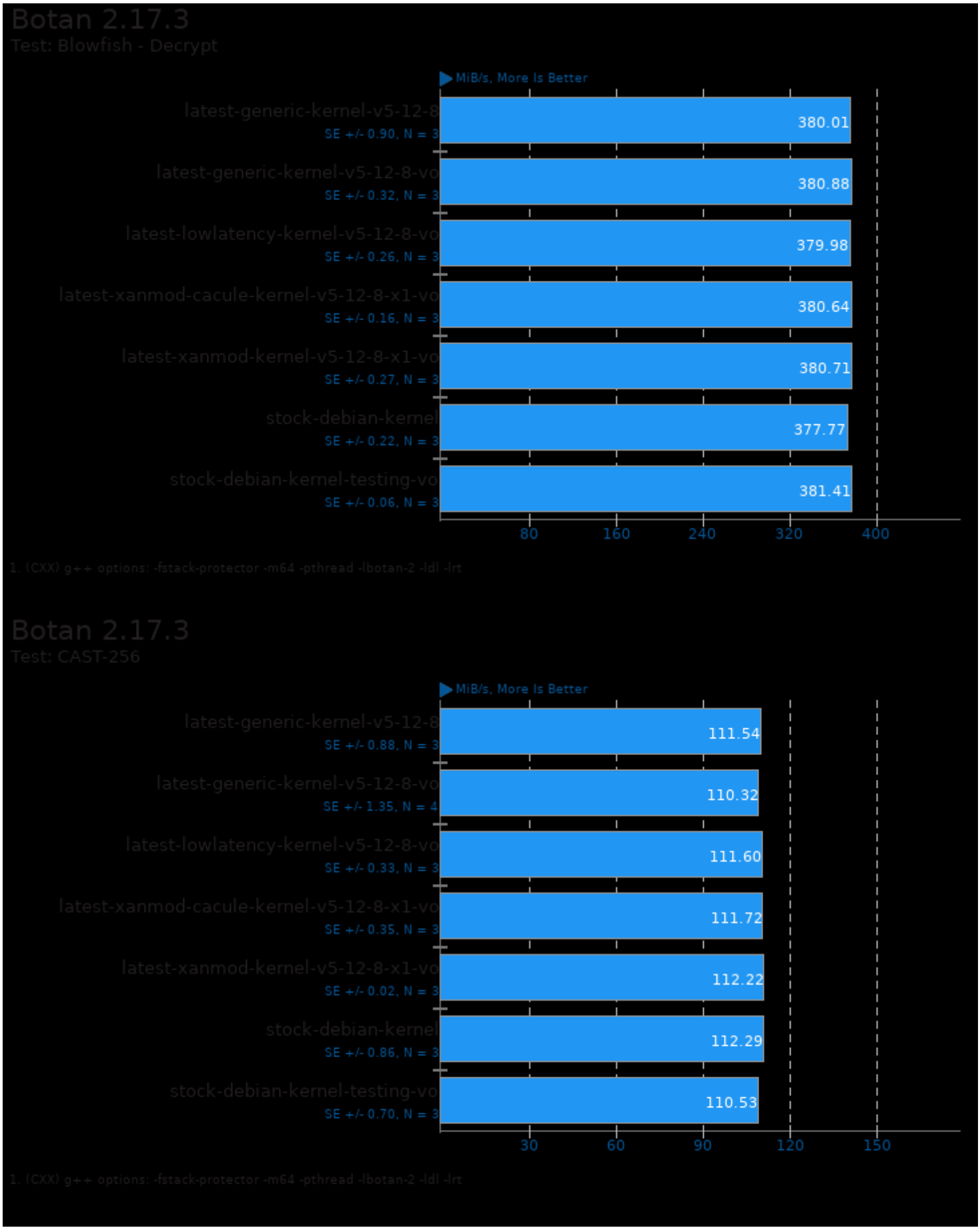

Botan 2.17.3
Test: KASUMI - Decrypt
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.02, N = 3
71.99
latest-generic-kernel-v5-12-8-vo
SE +/- 0.03, N = 3
71.95
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.06, N = 3
71.68
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.08, N = 3
71.72
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.00, N = 3
71.89
stock-debian-kernel
SE +/- 0.26, N = 3
73.66
stock-debian-kernel-testing-vo
SE +/- 0.03, N = 3
72.01
16
32
48
64
80
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

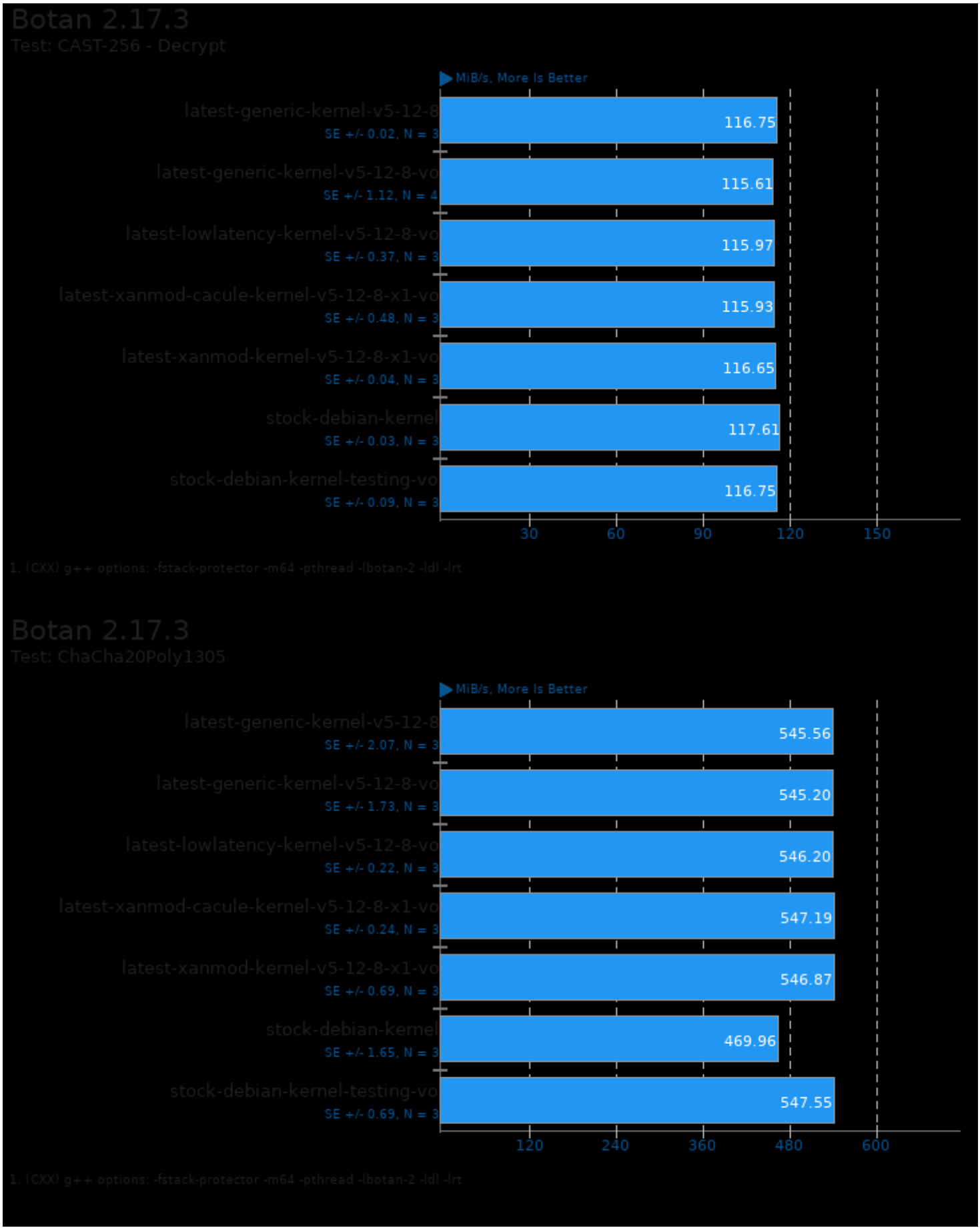

Botan 2.17.3
Test: AES-256
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 5.99, N = 3
4679.97
latest-generic-kernel-v5-12-8-vo
SE +/- 30.84, N = 3
4716.29
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 2.65, N = 3
4755.01
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 8.25, N = 3
4782.45
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 3.37, N = 3
4805.33
stock-debian-kernel
SE +/- 33.77, N = 3
4786.18
stock-debian-kernel-testing-vo
SE +/- 4.65, N = 3
4812.51
1000
2000
3000
4000
5000
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

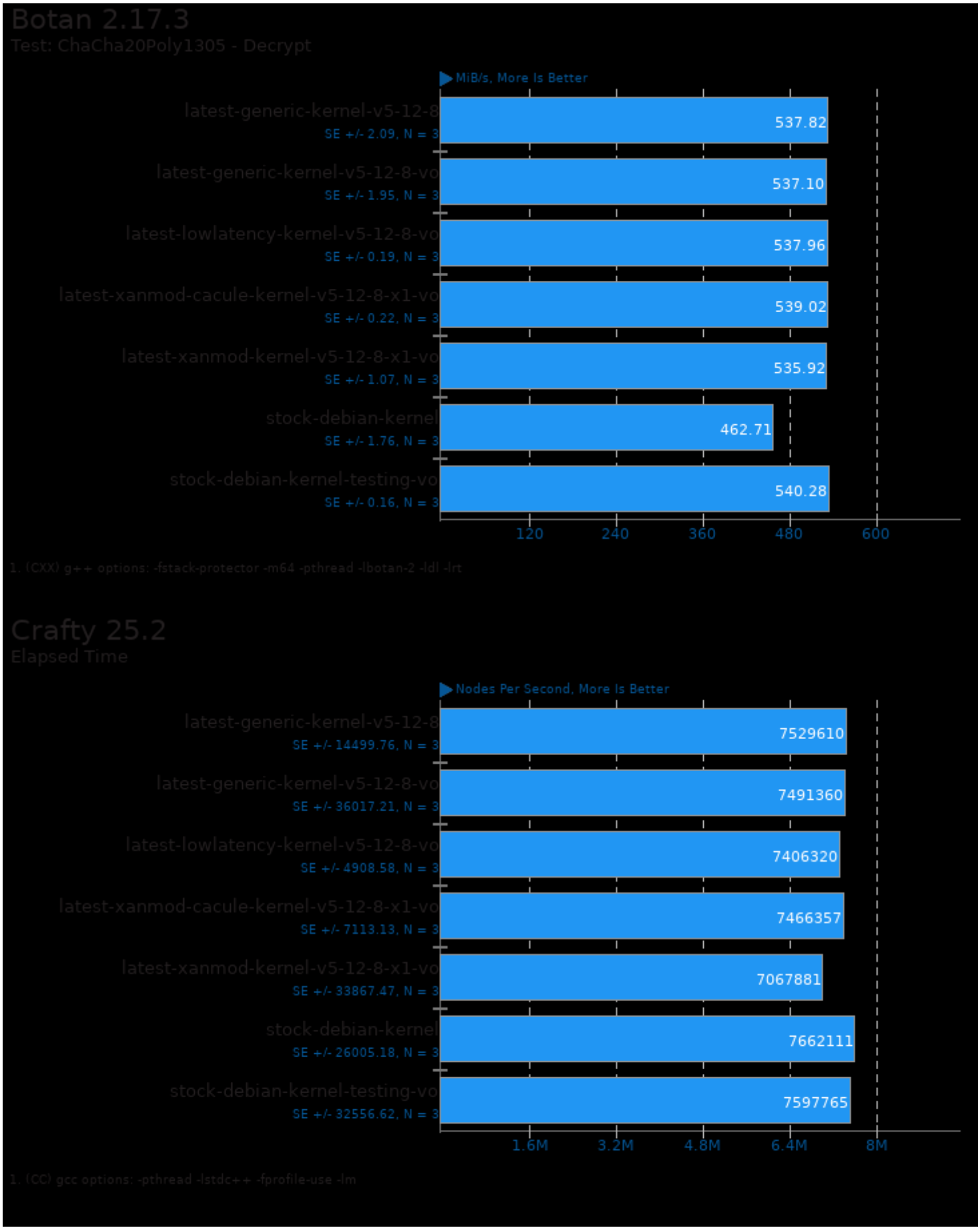

Botan 2.17.3
Test: AES-256 - Decrypt
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 1.68, N = 3
4900.13
latest-generic-kernel-v5-12-8-vo
SE +/- 3.94, N = 3
4884.54
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.09, N = 3
4875.17
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 4.33, N = 3
4922.80
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 4.83, N = 3
4928.66
stock-debian-kernel
SE +/- 3.38, N = 3
4961.29
stock-debian-kernel-testing-vo
SE +/- 3.86, N = 3
4946.34
1100
2200
3300
4400
5500
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

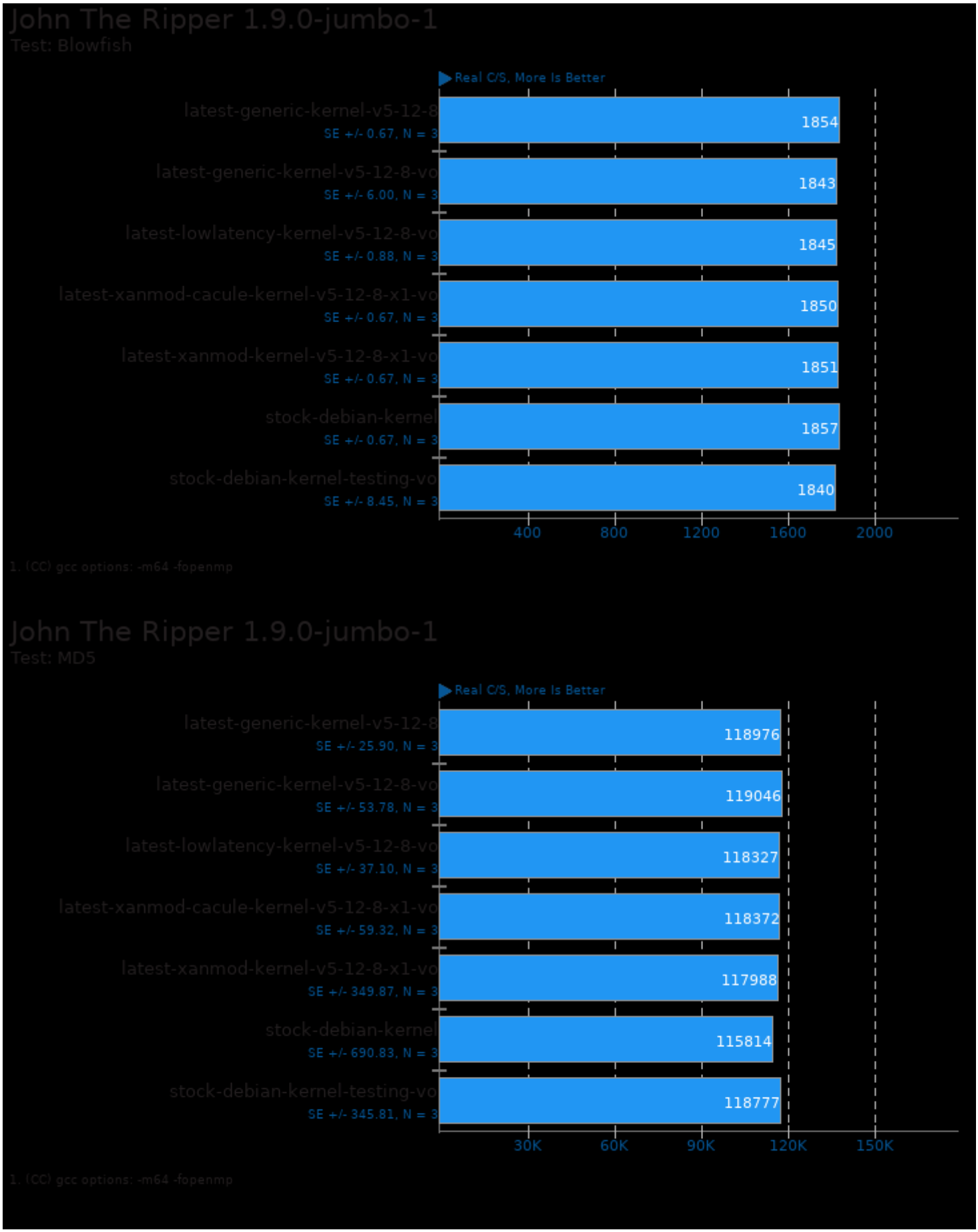

Botan 2.17.3
Test: Twofish
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.47, N = 3
298.55
latest-generic-kernel-v5-12-8-vo
SE +/- 2.95, N = 3
300.43
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.53, N = 3
304.50
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.76, N = 3
304.33
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.55, N = 3
302.74
stock-debian-kernel
SE +/- 2.24, N = 3
292.37
stock-debian-kernel-testing-vo
SE +/- 2.05, N = 3
301.36
70
140
210
280
350
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

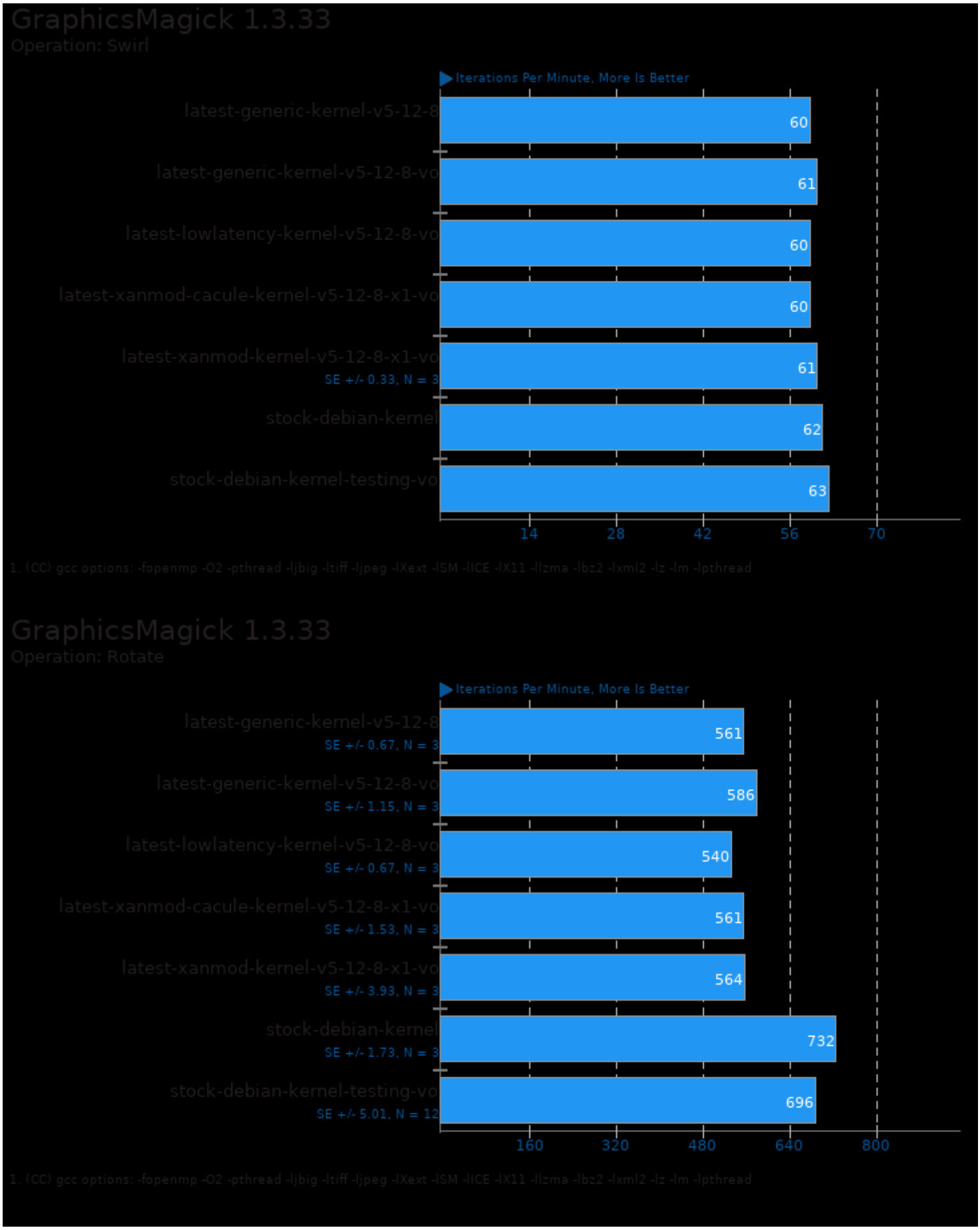

Botan 2.17.3
Test: Twofish - Decrypt
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.63, N = 3
311.23
latest-generic-kernel-v5-12-8-vo
SE +/- 0.50, N = 3
310.88
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.44, N = 3
310.01
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.49, N = 3
310.91
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.79, N = 3
309.78
stock-debian-kernel
SE +/- 0.73, N = 3
305.03
stock-debian-kernel-testing-vo
SE +/- 0.48, N = 3
311.75
70
140
210
280
350
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt
Botan 2.17.3
Test: Blowfish
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 2.64, N = 3
365.71
latest-generic-kernel-v5-12-8-vo
SE +/- 2.43, N = 3
363.35
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.52, N = 3
367.79
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.20, N = 3
368.27
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 3.18, N = 3
366.08
stock-debian-kernel
SE +/- 2.64, N = 3
355.46
stock-debian-kernel-testing-vo
SE +/- 2.62, N = 3
366.80
80
160
240
320
400
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

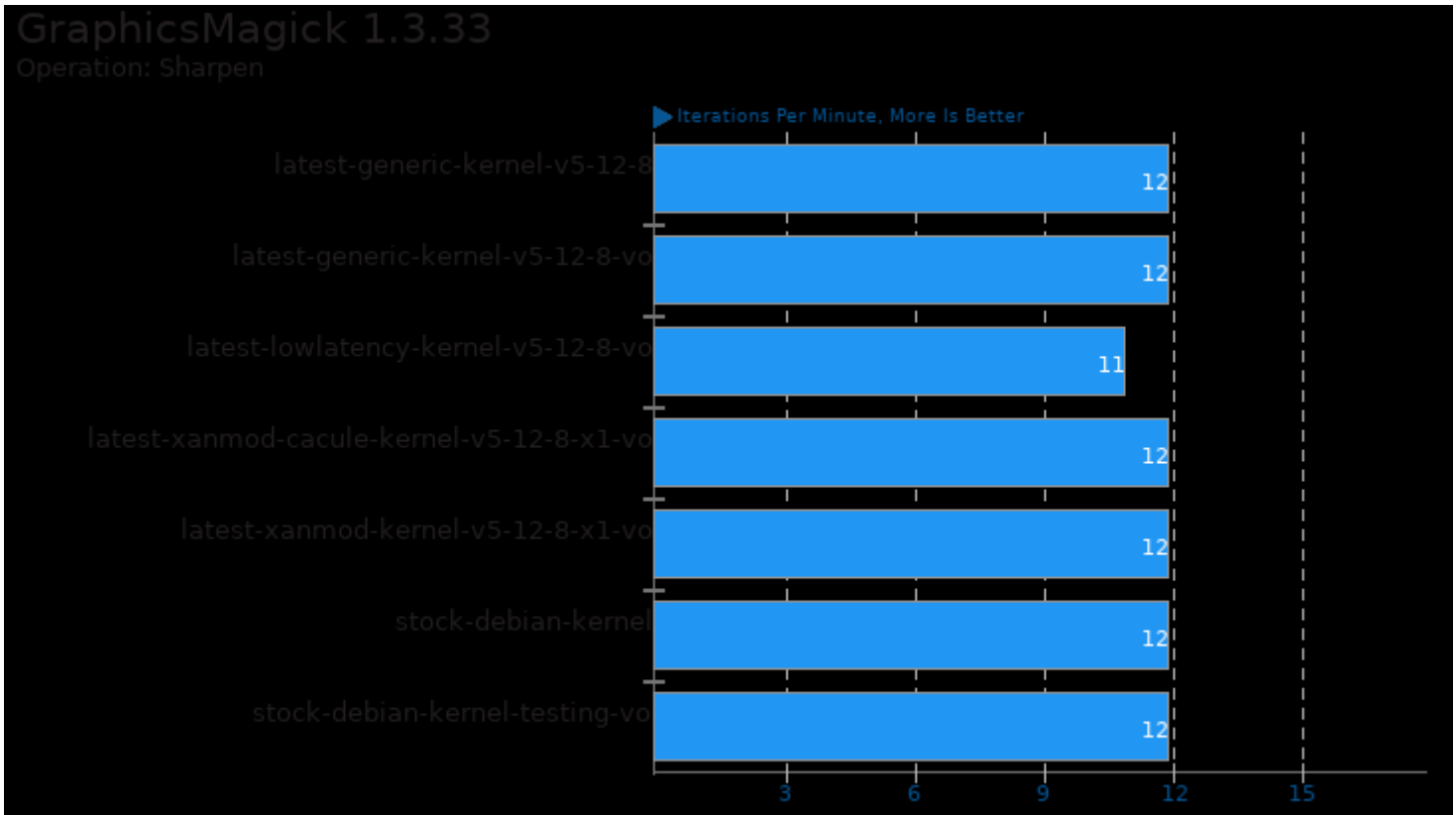

Botan 2.17.3
Test: Blowfish - Decrypt
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.90, N = 3
380.01
latest-generic-kernel-v5-12-8-vo
SE +/- 0.32, N = 3
380.88
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.26, N = 3
379.98
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.16, N = 3
380.64
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.27, N = 3
380.71
stock-debian-kernel
SE +/- 0.22, N = 3
377.77
stock-debian-kernel-testing-vo
SE +/- 0.06, N = 3
381.41
80
160
240
320
400
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt
Botan 2.17.3
Test: CAST-256
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.88, N = 3
111.54
latest-generic-kernel-v5-12-8-vo
SE +/- 1.35, N = 4
110.32
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.33, N = 3
111.60
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.35, N = 3
111.72
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.02, N = 3
112.22
stock-debian-kernel
SE +/- 0.86, N = 3
112.29
stock-debian-kernel-testing-vo
SE +/- 0.70, N = 3
110.53
30
60
90
120
150
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

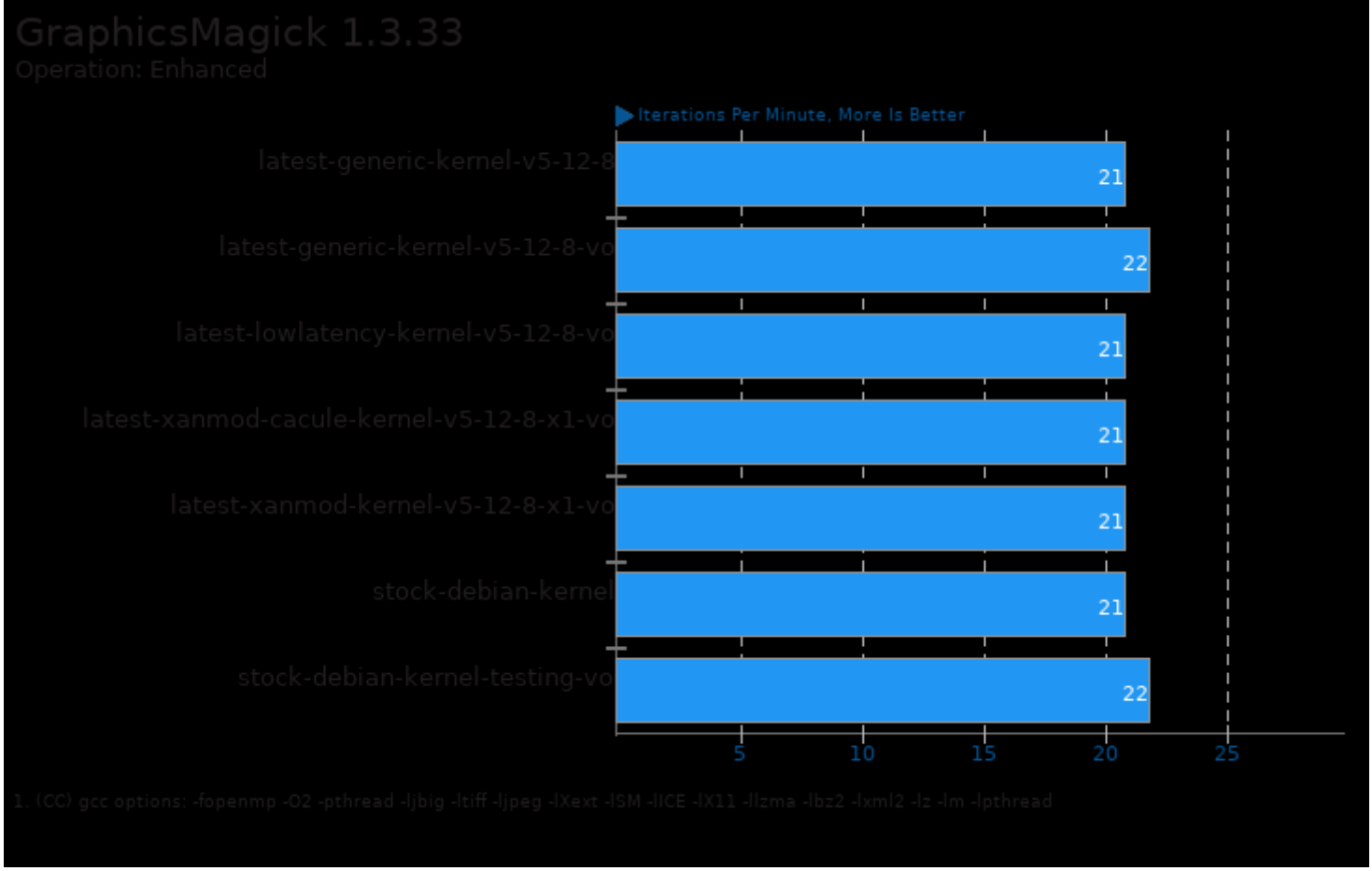

Botan 2.17.3
Test: CAST-256 - Decrypt
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.02, N = 3
116.75
latest-generic-kernel-v5-12-8-vo
SE +/- 1.12, N = 4
115.61
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.37, N = 3
115.97
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.48, N = 3
115.93
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.04, N = 3
116.65
stock-debian-kernel
SE +/- 0.03, N = 3
117.61
stock-debian-kernel-testing-vo
SE +/- 0.09, N = 3
116.75
30
60
90
120
150
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt
Botan 2.17.3
Test: ChaCha20Poly1305
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 2.07, N = 3
545.56
latest-generic-kernel-v5-12-8-vo
SE +/- 1.73, N = 3
545.20
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.22, N = 3
546.20
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.24, N = 3
547.19
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.69, N = 3
546.87
stock-debian-kernel
SE +/- 1.65, N = 3
469.96
stock-debian-kernel-testing-vo
SE +/- 0.69, N = 3
547.55
120
240
360
480
600
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

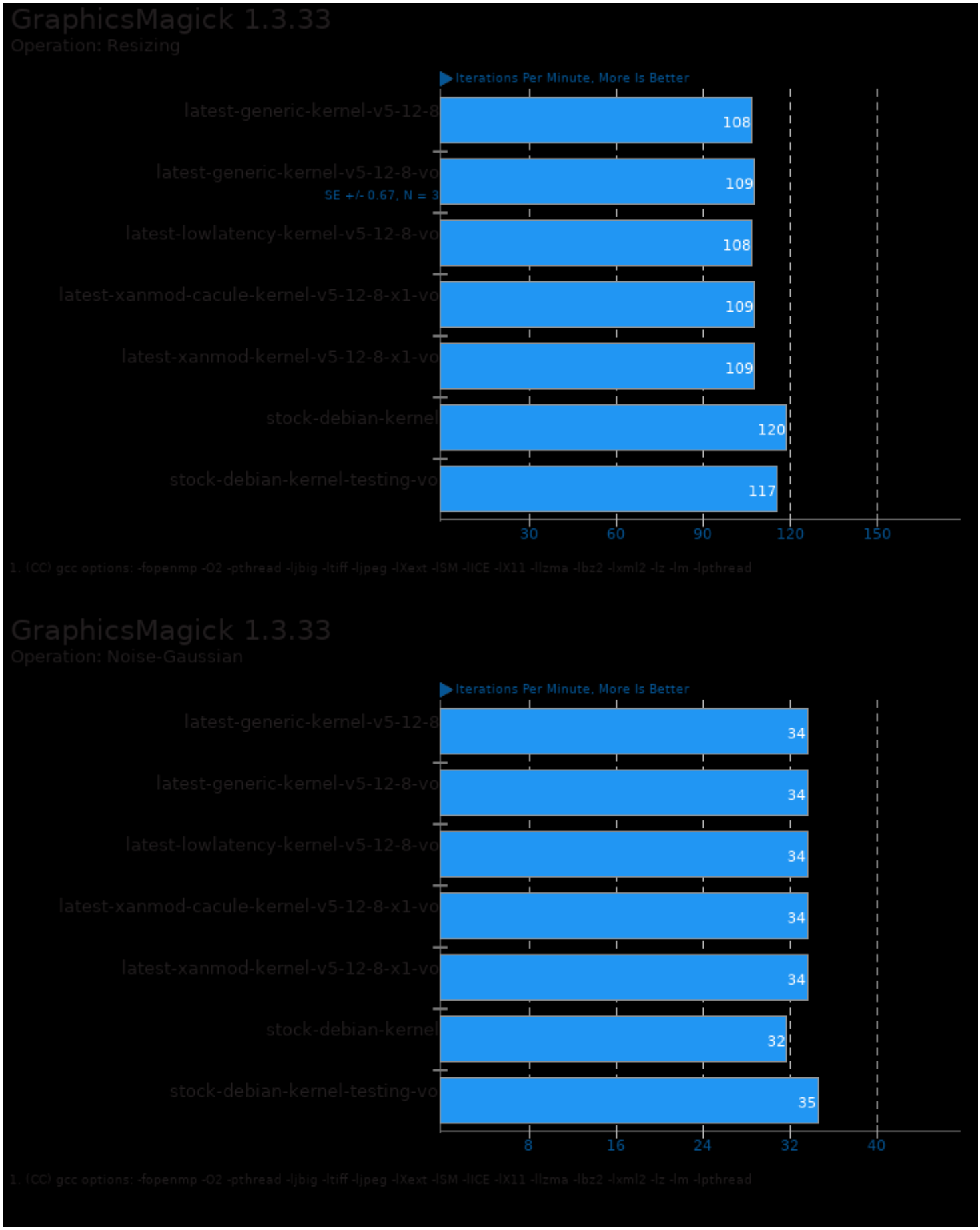

Botan 2.17.3
Test: ChaCha20Poly1305 - Decrypt
MiB/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 2.09, N = 3
537.82
latest-generic-kernel-v5-12-8-vo
SE +/- 1.95, N = 3
537.10
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.19, N = 3
537.96
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.22, N = 3
539.02
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.07, N = 3
535.92
stock-debian-kernel
SE +/- 1.76, N = 3
462.71
stock-debian-kernel-testing-vo
SE +/- 0.16, N = 3
540.28
120
240
360
480
600
1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt
Crafty 25.2
Elapsed Time
Nodes Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 14499.76, N = 3
7529610
latest-generic-kernel-v5-12-8-vo
SE +/- 36017.21, N = 3
7491360
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 4908.58, N = 3
7406320
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 7113.13, N = 3
7466357
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 33867.47, N = 3
7067881
stock-debian-kernel
SE +/- 26005.18, N = 3
7662111
stock-debian-kernel-testing-vo
SE +/- 32556.62, N = 3
7597765
1.6M
3.2M
4.8M
6.4M
8M
1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm


John The Ripper 1.9.0-jumbo-1
Test: Blowfish
Real C/S, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.67, N = 3
1854
latest-generic-kernel-v5-12-8-vo
SE +/- 6.00, N = 3
1843
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.88, N = 3
1845
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.67, N = 3
1850
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.67, N = 3
1851
stock-debian-kernel
SE +/- 0.67, N = 3
1857
stock-debian-kernel-testing-vo
SE +/- 8.45, N = 3
1840
400
800
1200
1600
2000
1. (CC) gcc options: -m64 -fopenmp
John The Ripper 1.9.0-jumbo-1
Test: MD5
Real C/S, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 25.90, N = 3
118976
latest-generic-kernel-v5-12-8-vo
SE +/- 53.78, N = 3
119046
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 37.10, N = 3
118327
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 59.32, N = 3
118372
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 349.87, N = 3
117988
stock-debian-kernel
SE +/- 690.83, N = 3
115814
stock-debian-kernel-testing-vo
SE +/- 345.81, N = 3
118777
30K
60K
90K
120K
150K
1. (CC) gcc options: -m64 -fopenmp


GraphicsMagick 1.3.33
Operation: Swirl
Iterations Per Minute, More Is Better
latest-generic-kernel-v5-12-8
60
latest-generic-kernel-v5-12-8-vo
61
latest-lowlatency-kernel-v5-12-8-vo
60
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
60
latest-xanmod-kernel-v5-12-8-x1-vo
61
SE +/- 0.33, N = 3
stock-debian-kernel
62
stock-debian-kernel-testing-vo
63
14
28
42
56
70
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.33
Operation: Rotate
Iterations Per Minute, More Is Better
latest-generic-kernel-v5-12-8
561
SE +/- 0.67, N = 3
latest-generic-kernel-v5-12-8-vo
586
SE +/- 1.15, N = 3
latest-lowlatency-kernel-v5-12-8-vo
540
SE +/- 0.67, N = 3
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
561
SE +/- 1.53, N = 3
latest-xanmod-kernel-v5-12-8-x1-vo
564
SE +/- 3.93, N = 3
stock-debian-kernel
732
SE +/- 1.73, N = 3
stock-debian-kernel-testing-vo
696
SE +/- 5.01, N = 12
160
320
480
640
800
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

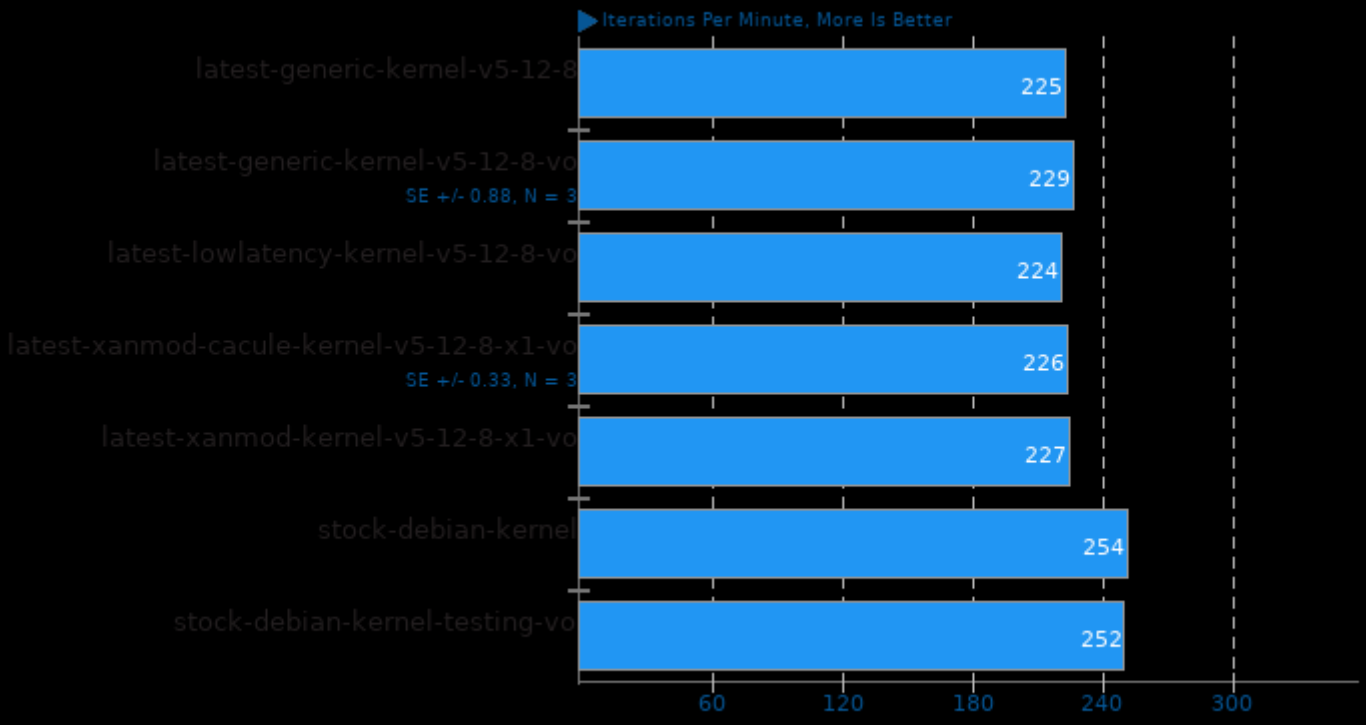

GraphicsMagick 1.3.33
Operation: Sharpen
Iterations Per Minute, More Is Better
latest-generic-kernel-v5-12-8
latest-generic-kernel-v5-12-8-vo
latest-lowlatency-kernel-v5-12-8-vo
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
latest-xanmod-kernel-v5-12-8-x1-vo
stock-debian-kernel
stock-debian-kernel-testing-vo
12
12
11
12
12
12
12
3
6
9
12
15
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread


GraphicsMagick 1.3.33
Operation: Enhanced
Iterations Per Minute, More Is Better
latest-generic-kernel-v5-12-8
latest-generic-kernel-v5-12-8-vo
latest-lowlatency-kernel-v5-12-8-vo
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
latest-xanmod-kernel-v5-12-8-x1-vo
stock-debian-kernel
stock-debian-kernel-testing-vo
21
22
21
21
21
21
22
5
10
15
20
25
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread


GraphicsMagick 1.3.33
Operation: Resizing
Iterations Per Minute, More Is Better
latest-generic-kernel-v5-12-8
108
latest-generic-kernel-v5-12-8-vo
109
SE +/- 0.67, N = 3
latest-lowlatency-kernel-v5-12-8-vo
108
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
109
latest-xanmod-kernel-v5-12-8-x1-vo
109
stock-debian-kernel
120
stock-debian-kernel-testing-vo
117
30
60
90
120
150
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.33
Operation: Noise-Gaussian
Iterations Per Minute, More Is Better
latest-generic-kernel-v5-12-8
34
latest-generic-kernel-v5-12-8-vo
34
latest-lowlatency-kernel-v5-12-8-vo
34
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
34
latest-xanmod-kernel-v5-12-8-x1-vo
34
stock-debian-kernel
32
stock-debian-kernel-testing-vo
35
8
16
24
32
40
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.33

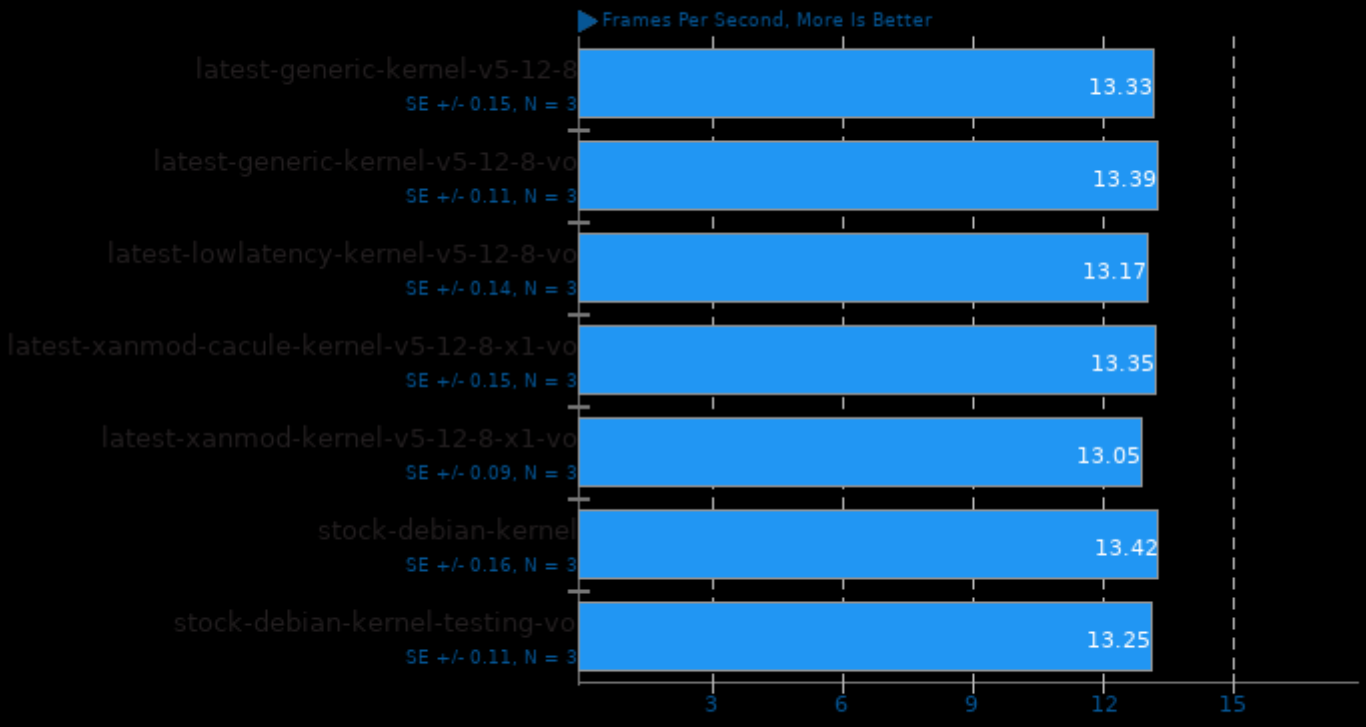
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

x264 2019-12-17

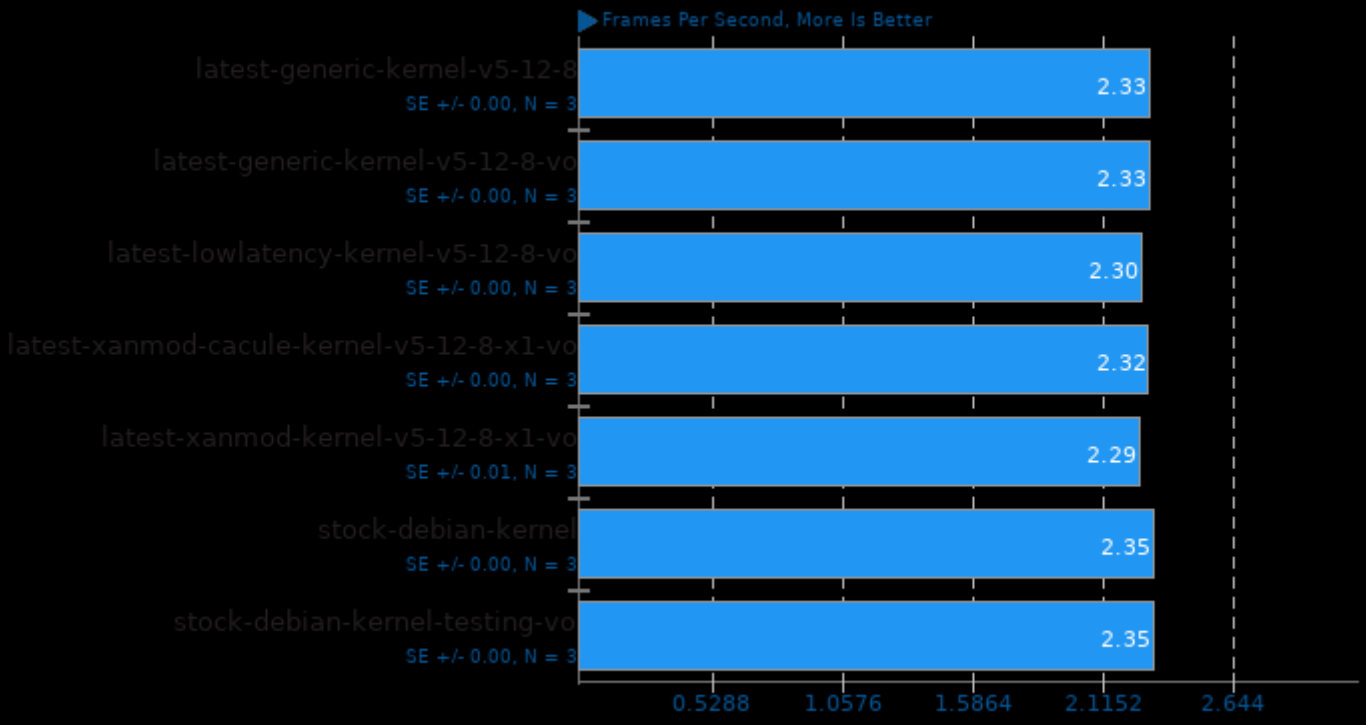
H.264 Video Encoding



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

x265 3.4

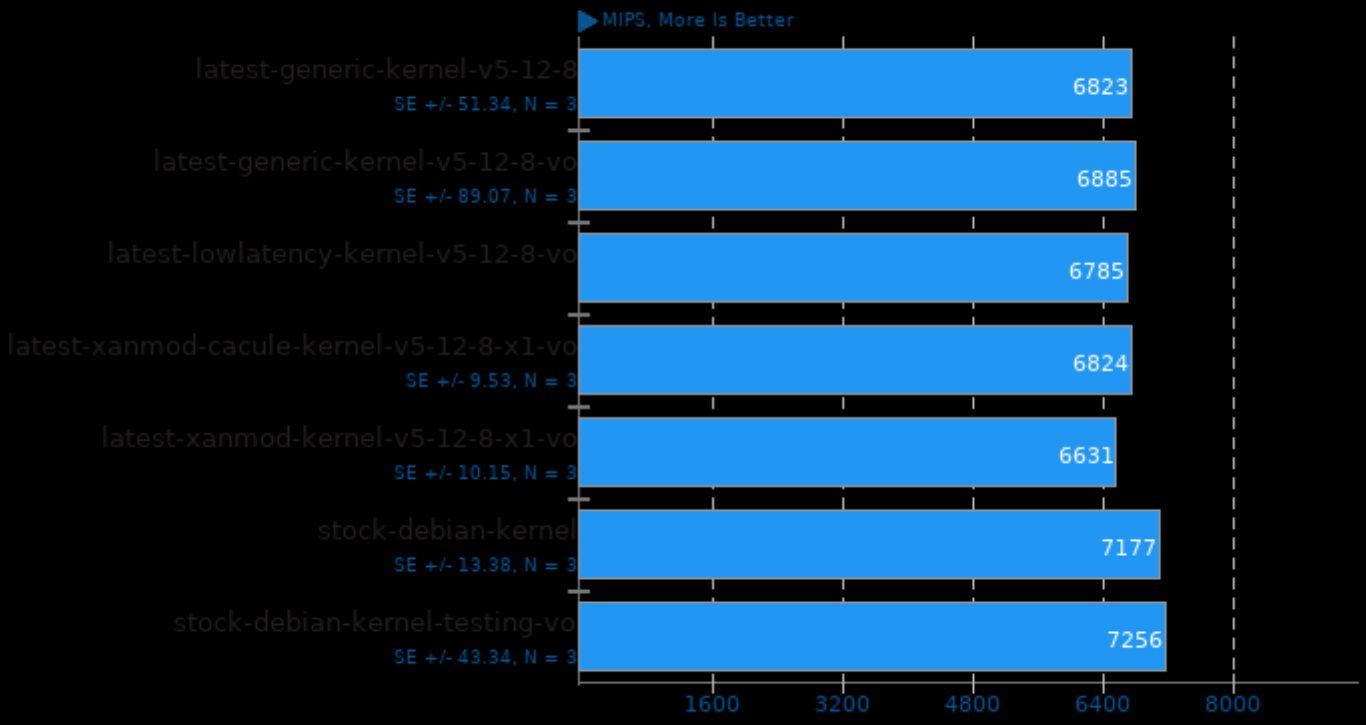
Video Input: Bosphorus 4K



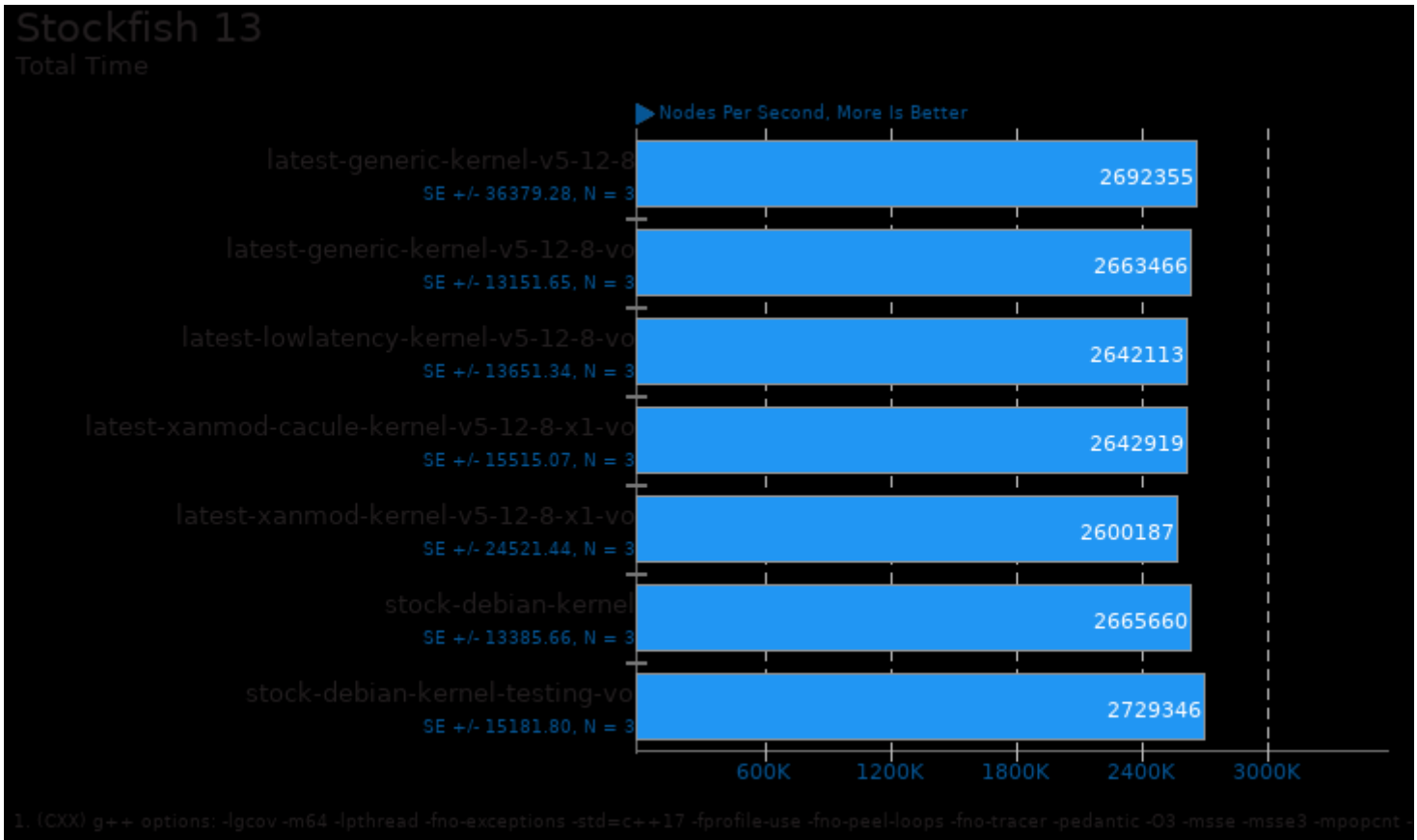
1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

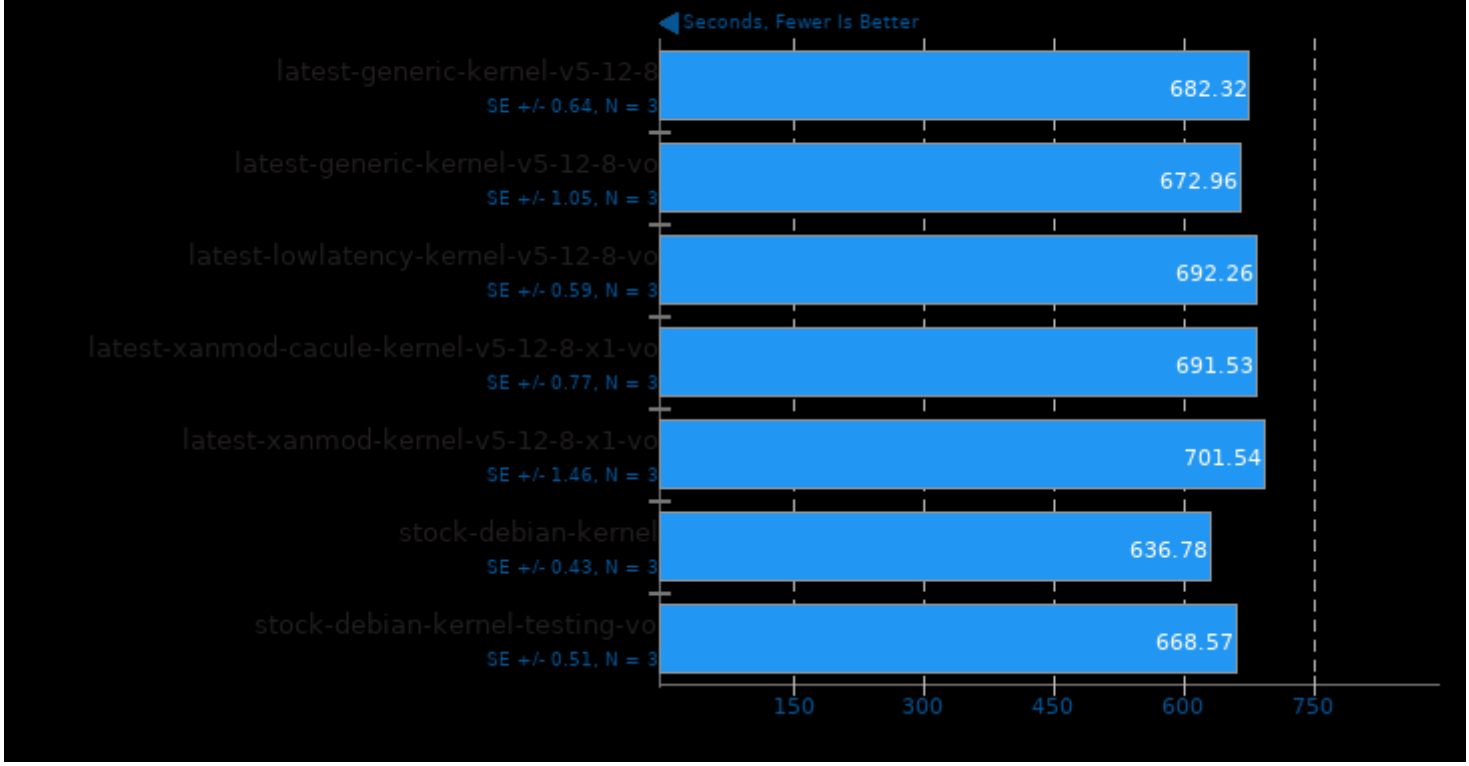
7-Zip Compression 16.02

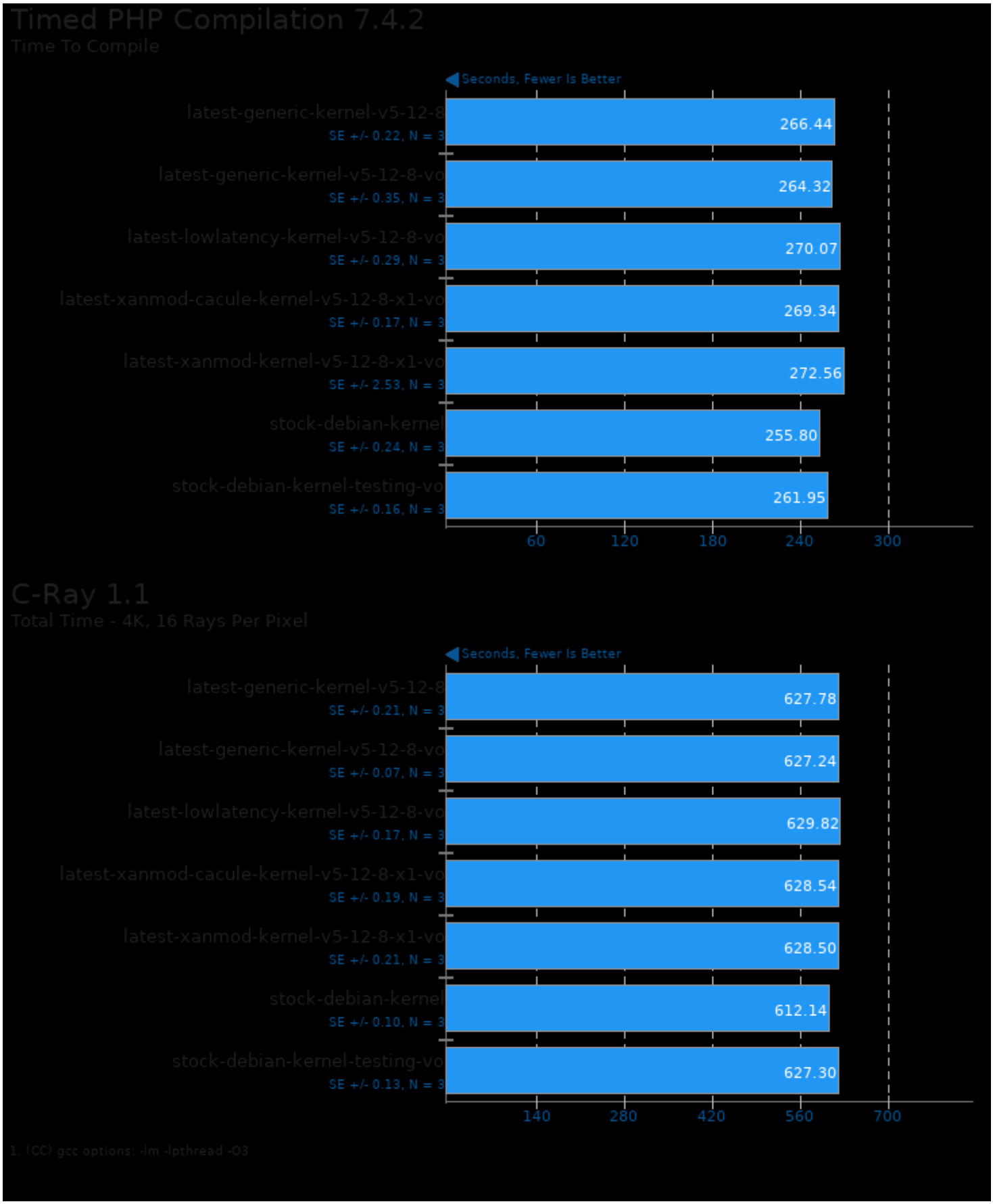
Compress Speed Test

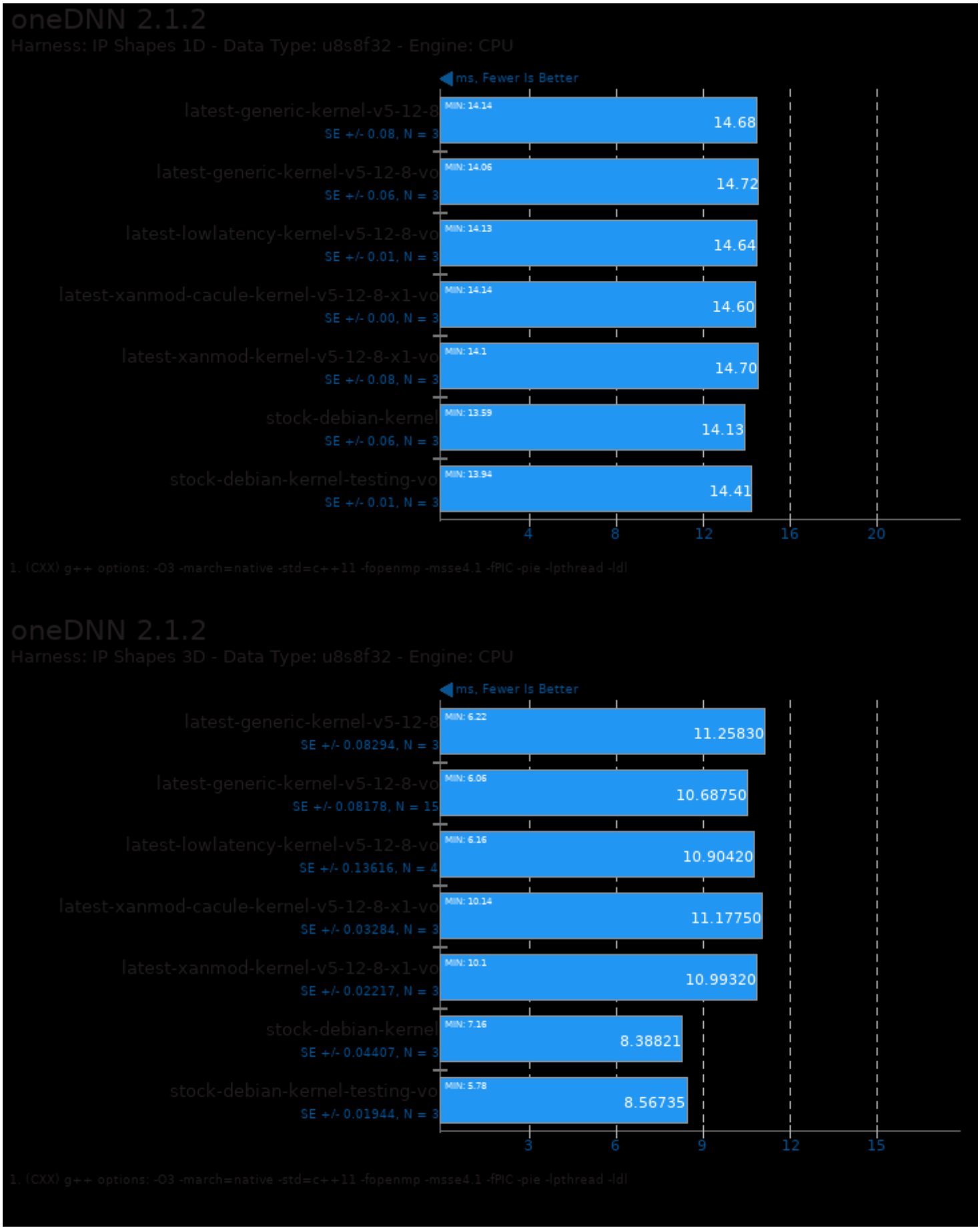


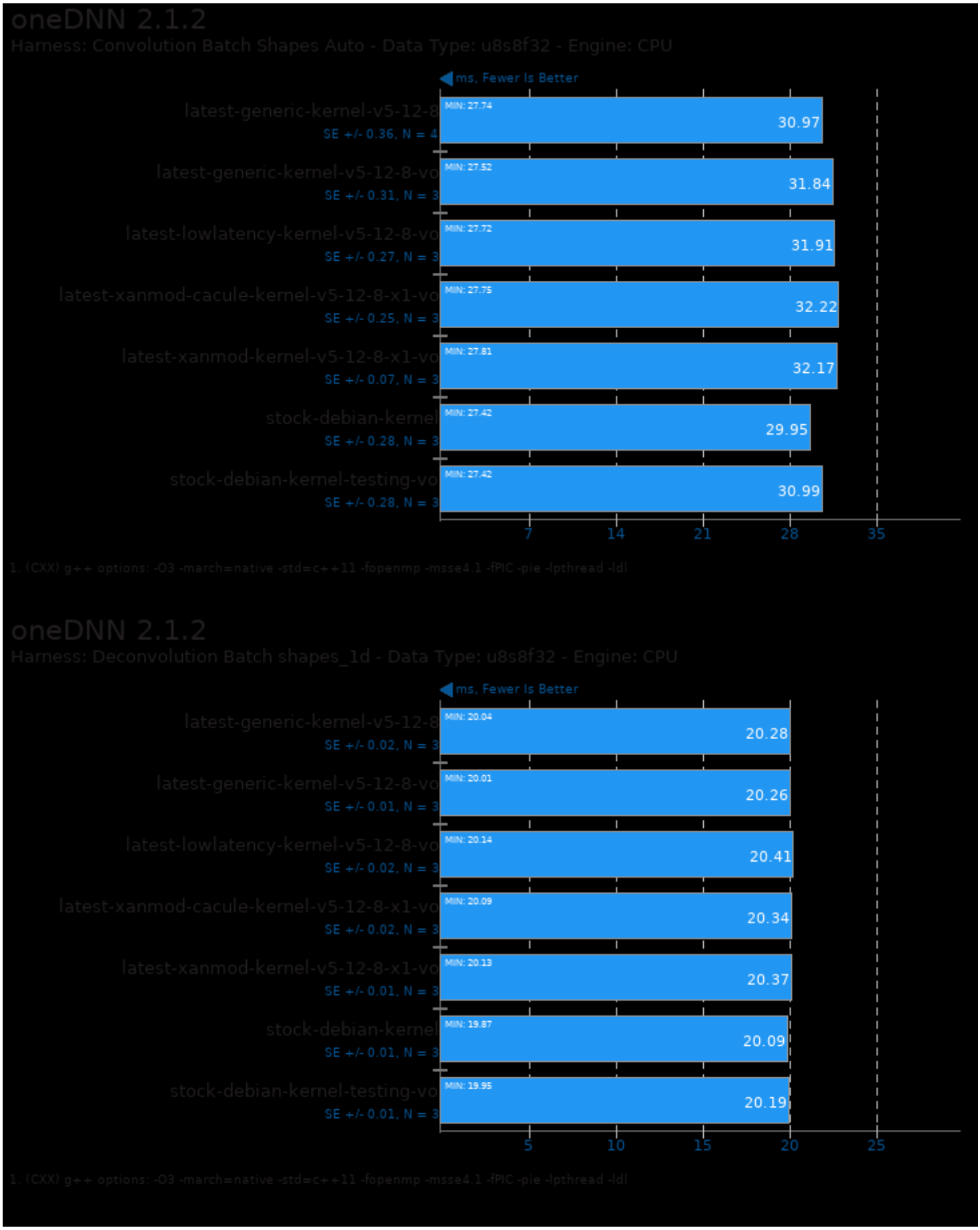
1. (CXX) g++ options: -pipe -lpthread

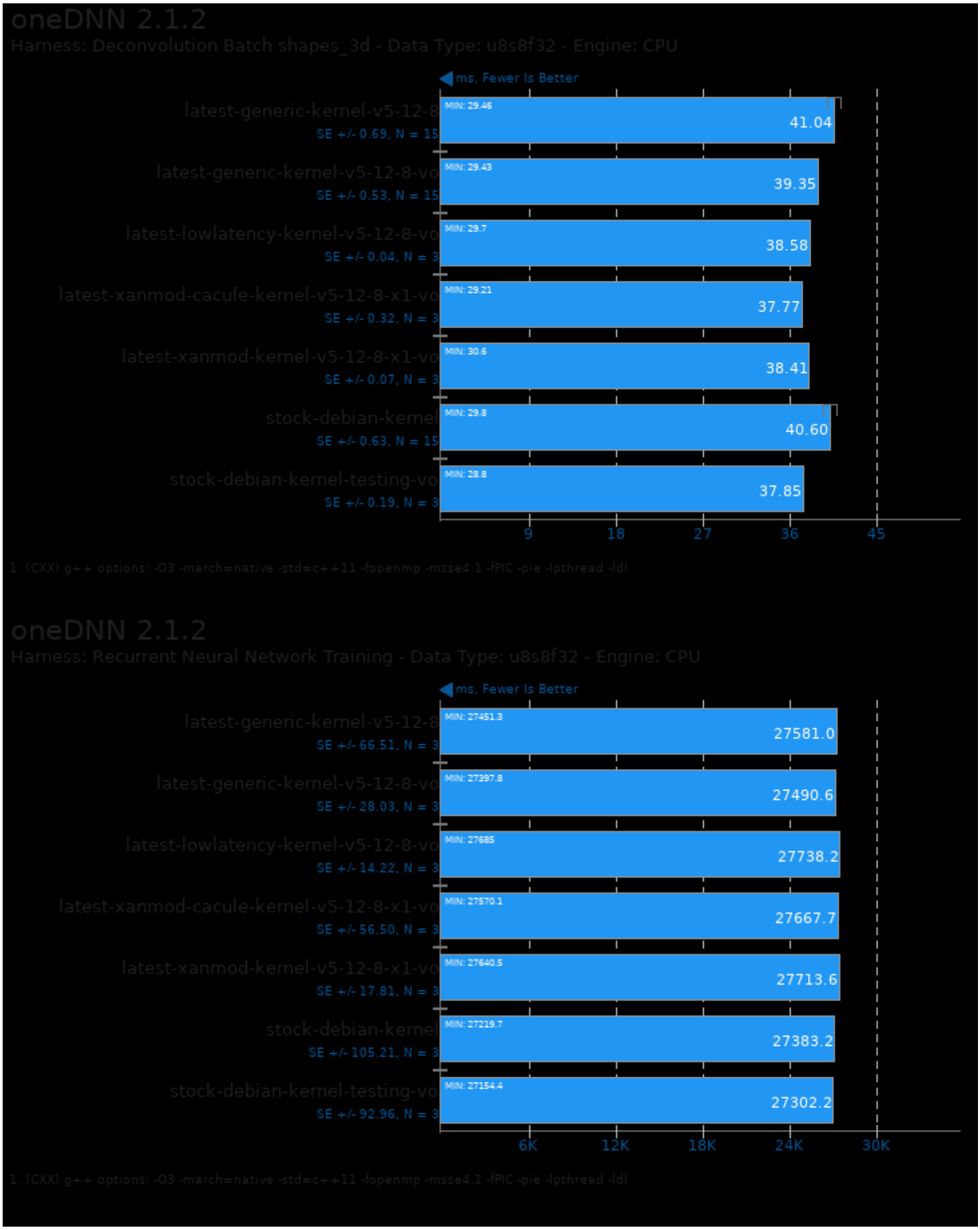

Stockfish 13
Total Time
Nodes Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 36379.28, N = 3
2692355
latest-generic-kernel-v5-12-8-vo
SE +/- 13151.65, N = 3
2663466
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 13651.34, N = 3
2642113
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 15515.07, N = 3
2642919
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 24521.44, N = 3
2600187
stock-debian-kernel
SE +/- 13385.66, N = 3
2665660
stock-debian-kernel-testing-vo
SE +/- 15181.80, N = 3
2729346
600K
1200K
1800K
2400K
3000K
1. (CXX) g++ options: -lgcov -m64 -lpthread -fno-exceptions -std=c++17 -fprofile-use -fno-peel-loops -fno-tracer -pedantic -O3 -msse -msse3 -mpopcnt

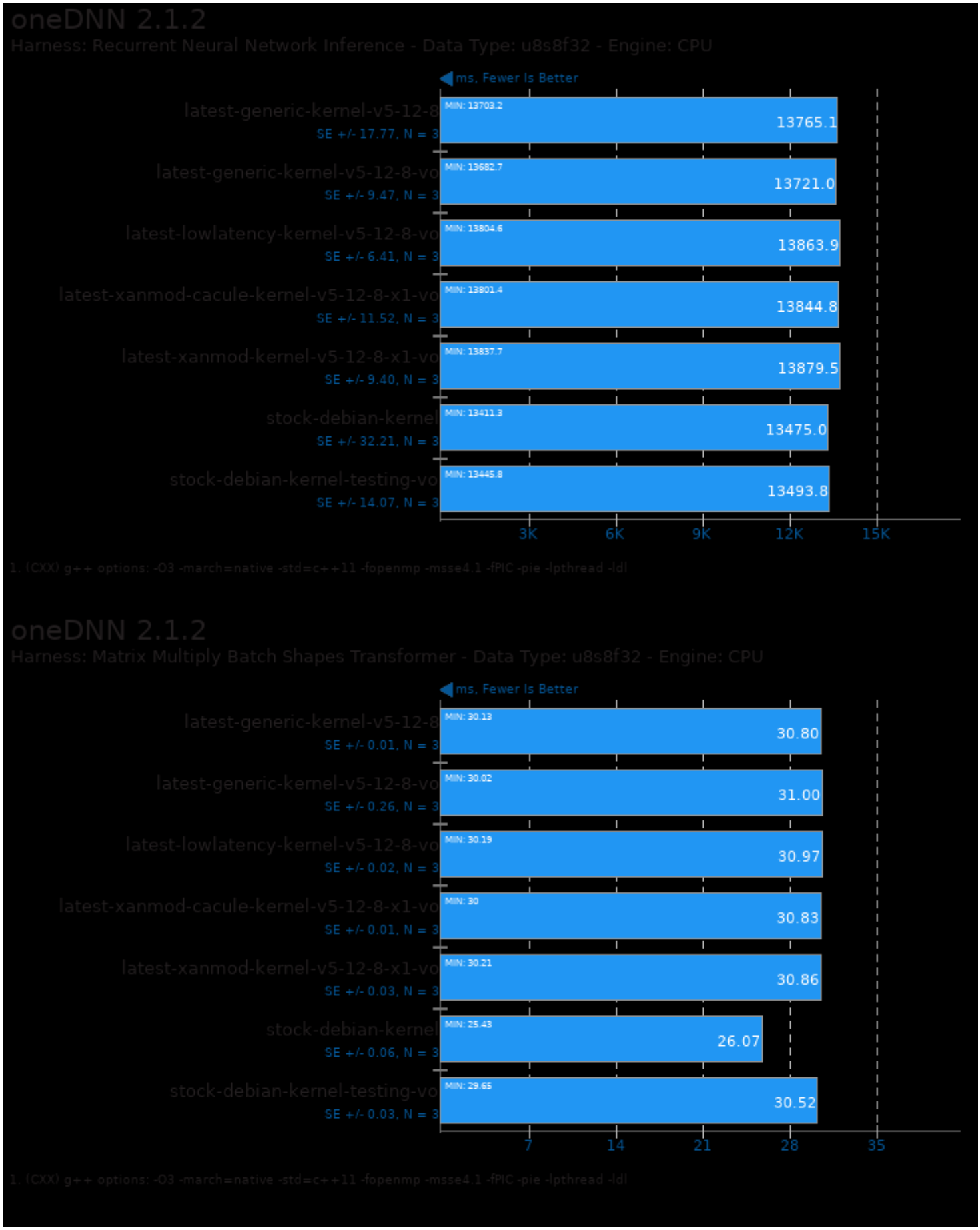

Timed Linux Kernel Compilation 5.10.20
Time To Compile
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.64, N = 3
682.32
latest-generic-kernel-v5-12-8-vo
SE +/- 1.05, N = 3
672.96
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.59, N = 3
692.26
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.77, N = 3
691.53
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.46, N = 3
701.54
stock-debian-kernel
SE +/- 0.43, N = 3
636.78
stock-debian-kernel-testing-vo
SE +/- 0.51, N = 3
668.57
150
300
450
600
750


Timed PHP Compilation 7.4.2
Time To Compile
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.22, N = 3
266.44
latest-generic-kernel-v5-12-8-vo
SE +/- 0.35, N = 3
264.32
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.29, N = 3
270.07
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.17, N = 3
269.34
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 2.53, N = 3
272.56
stock-debian-kernel
SE +/- 0.24, N = 3
255.80
stock-debian-kernel-testing-vo
SE +/- 0.16, N = 3
261.95
60
120
180
240
300
C-Ray 1.1
Total Time - 4K, 16 Rays Per Pixel
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.21, N = 3
627.78
latest-generic-kernel-v5-12-8-vo
SE +/- 0.07, N = 3
627.24
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.17, N = 3
629.82
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.19, N = 3
628.54
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.21, N = 3
628.50
stock-debian-kernel
SE +/- 0.10, N = 3
612.14
stock-debian-kernel-testing-vo
SE +/- 0.13, N = 3
627.30
140
280
420
560
700
1. (CC) gcc options: -lm -lpthread -O3


oneDNN 2.1.2
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.08, N = 3
MIN: 14.14
14.68
latest-generic-kernel-v5-12-8-vo
SE +/- 0.06, N = 3
MIN: 14.06
14.72
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.01, N = 3
MIN: 14.13
14.64
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.00, N = 3
MIN: 14.14
14.60
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.08, N = 3
MIN: 14.1
14.70
stock-debian-kernel
SE +/- 0.06, N = 3
MIN: 13.59
14.13
stock-debian-kernel-testing-vo
SE +/- 0.01, N = 3
MIN: 13.94
14.41
4
8
12
16
20
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.1.2
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.08294, N = 3
MIN: 6.22
11.25830
latest-generic-kernel-v5-12-8-vo
SE +/- 0.08178, N = 15
MIN: 6.06
10.68750
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.13616, N = 4
MIN: 6.16
10.90420
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.03284, N = 3
MIN: 10.14
11.17750
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.02217, N = 3
MIN: 10.1
10.99320
stock-debian-kernel
SE +/- 0.04407, N = 3
MIN: 7.16
8.38821
stock-debian-kernel-testing-vo
SE +/- 0.01944, N = 3
MIN: 5.78
8.56735
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

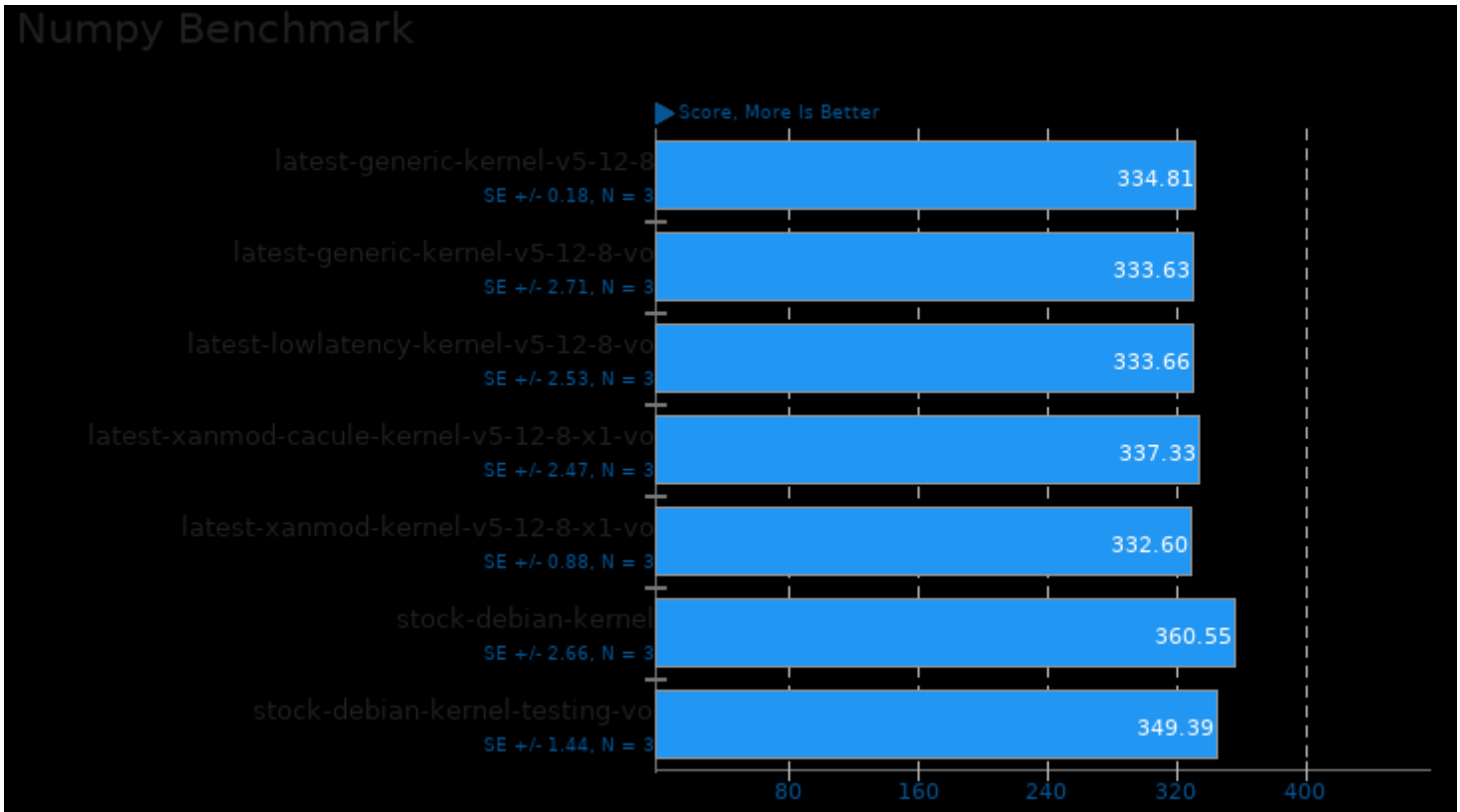

oneDNN 2.1.2
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.36, N = 4
MIN: 27.74
30.97
latest-generic-kernel-v5-12-8-vo
SE +/- 0.31, N = 3
MIN: 27.52
31.84
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.27, N = 3
MIN: 27.72
31.91
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.25, N = 3
MIN: 27.75
32.22
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.07, N = 3
MIN: 27.81
32.17
stock-debian-kernel
SE +/- 0.28, N = 3
MIN: 27.42
29.95
stock-debian-kernel-testing-vo
SE +/- 0.28, N = 3
MIN: 27.42
30.99
7
14
21
28
35
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.1.2
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.02, N = 3
MIN: 20.04
20.28
latest-generic-kernel-v5-12-8-vo
SE +/- 0.01, N = 3
MIN: 20.01
20.26
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.02, N = 3
MIN: 20.14
20.41
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.02, N = 3
MIN: 20.09
20.34
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.01, N = 3
MIN: 20.13
20.37
stock-debian-kernel
SE +/- 0.01, N = 3
MIN: 19.87
20.09
stock-debian-kernel-testing-vo
SE +/- 0.01, N = 3
MIN: 19.95
20.19
5
10
15
20
25
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl


oneDNN 2.1.2
Harness: Deconvolution Batch shapes_3d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.69, N = 15
MIN: 29.46
41.04
latest-generic-kernel-v5-12-8-vo
SE +/- 0.53, N = 15
MIN: 29.43
39.35
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.04, N = 3
MIN: 29.7
38.58
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.32, N = 3
MIN: 29.21
37.77
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.07, N = 3
MIN: 30.6
38.41
stock-debian-kernel
SE +/- 0.63, N = 15
MIN: 29.8
40.60
stock-debian-kernel-testing-vo
SE +/- 0.19, N = 3
MIN: 28.8
37.85
9
18
27
36
45
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.1.2
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 66.51, N = 3
MIN: 27451.3
27581.0
latest-generic-kernel-v5-12-8-vo
SE +/- 28.03, N = 3
MIN: 27397.8
27490.6
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 14.22, N = 3
MIN: 27685
27738.2
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 56.50, N = 3
MIN: 27570.1
27667.7
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 17.81, N = 3
MIN: 27640.5
27713.6
stock-debian-kernel
SE +/- 105.21, N = 3
MIN: 27219.7
27383.2
stock-debian-kernel-testing-vo
SE +/- 92.96, N = 3
MIN: 27154.4
27302.2
6K
12K
18K
24K
30K
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl


oneDNN 2.1.2
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 17.77, N = 3
MIN: 13703.2
13765.1
latest-generic-kernel-v5-12-8-vo
SE +/- 9.47, N = 3
MIN: 13682.7
13721.0
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 6.41, N = 3
MIN: 13804.6
13863.9
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 11.52, N = 3
MIN: 13801.4
13844.8
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 9.40, N = 3
MIN: 13837.7
13879.5
stock-debian-kernel
SE +/- 32.21, N = 3
MIN: 13411.3
13475.0
stock-debian-kernel-testing-vo
SE +/- 14.07, N = 3
MIN: 13445.8
13493.8
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.1.2
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.01, N = 3
MIN: 30.13
30.80
latest-generic-kernel-v5-12-8-vo
SE +/- 0.26, N = 3
MIN: 30.02
31.00
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.02, N = 3
MIN: 30.19
30.97
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.01, N = 3
MIN: 30
30.83
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.03, N = 3
MIN: 30.21
30.86
stock-debian-kernel
SE +/- 0.06, N = 3
MIN: 25.43
26.07
stock-debian-kernel-testing-vo
SE +/- 0.03, N = 3
MIN: 29.65
30.52
7
14
21
28
35
1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

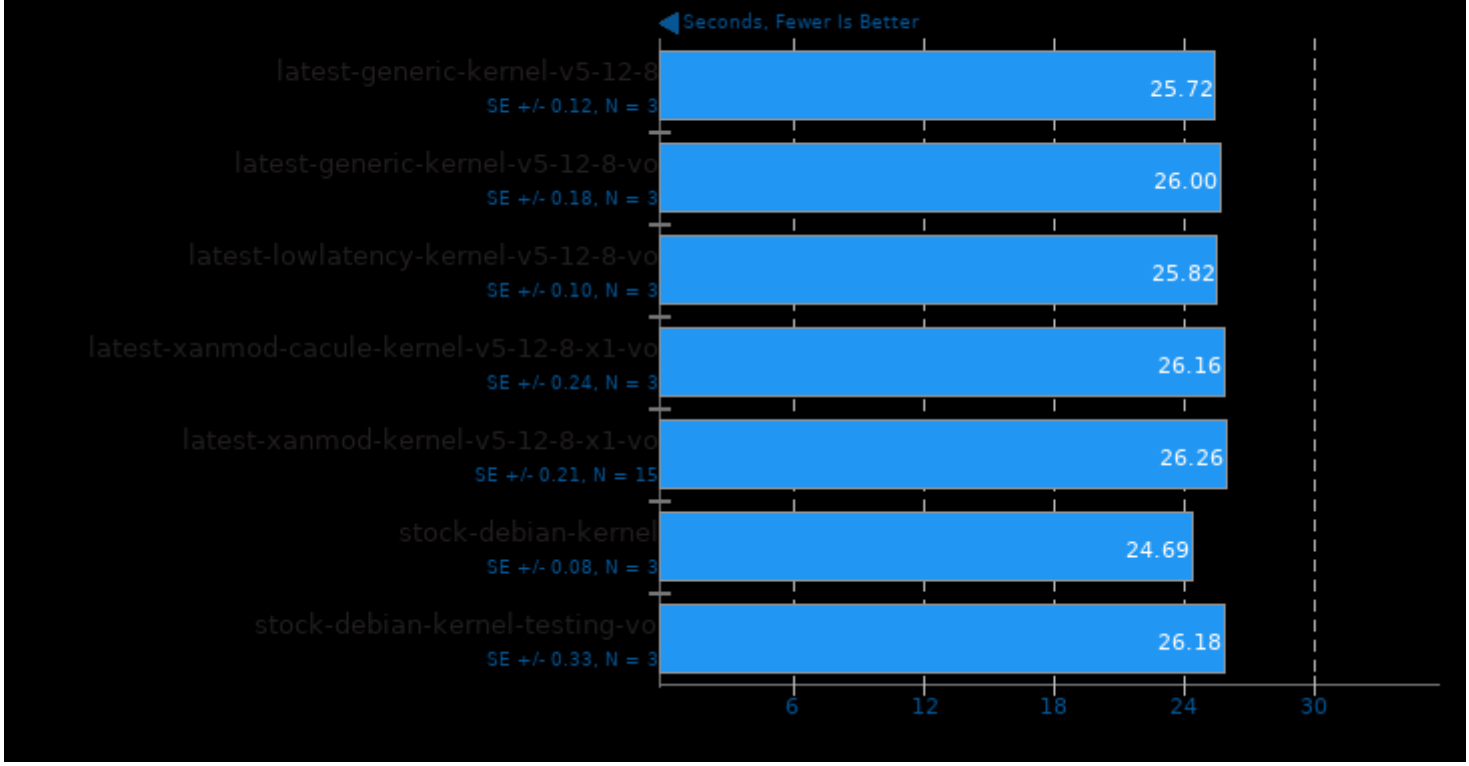
stock-debian-kernel

Numpy Benchmark



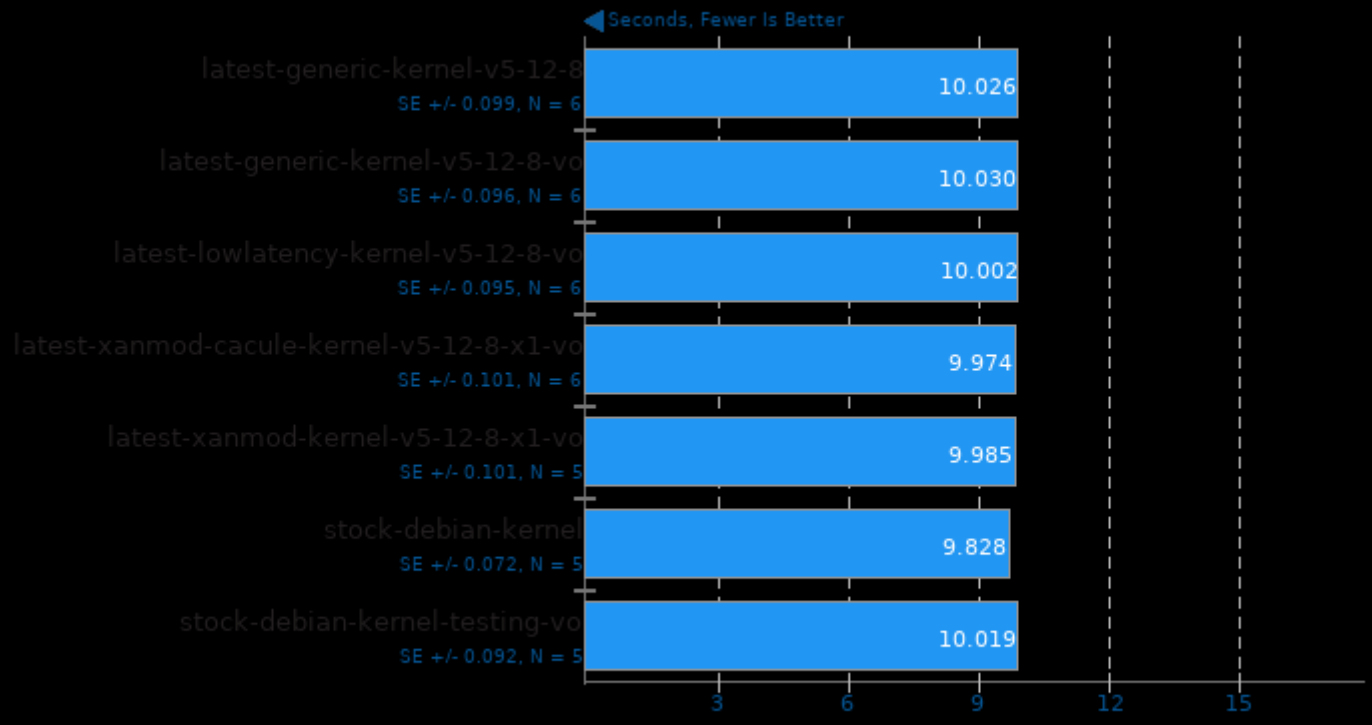
Cython Benchmark 0.29.21

Test: N-Queens



Opus Codec Encoding 1.3.1

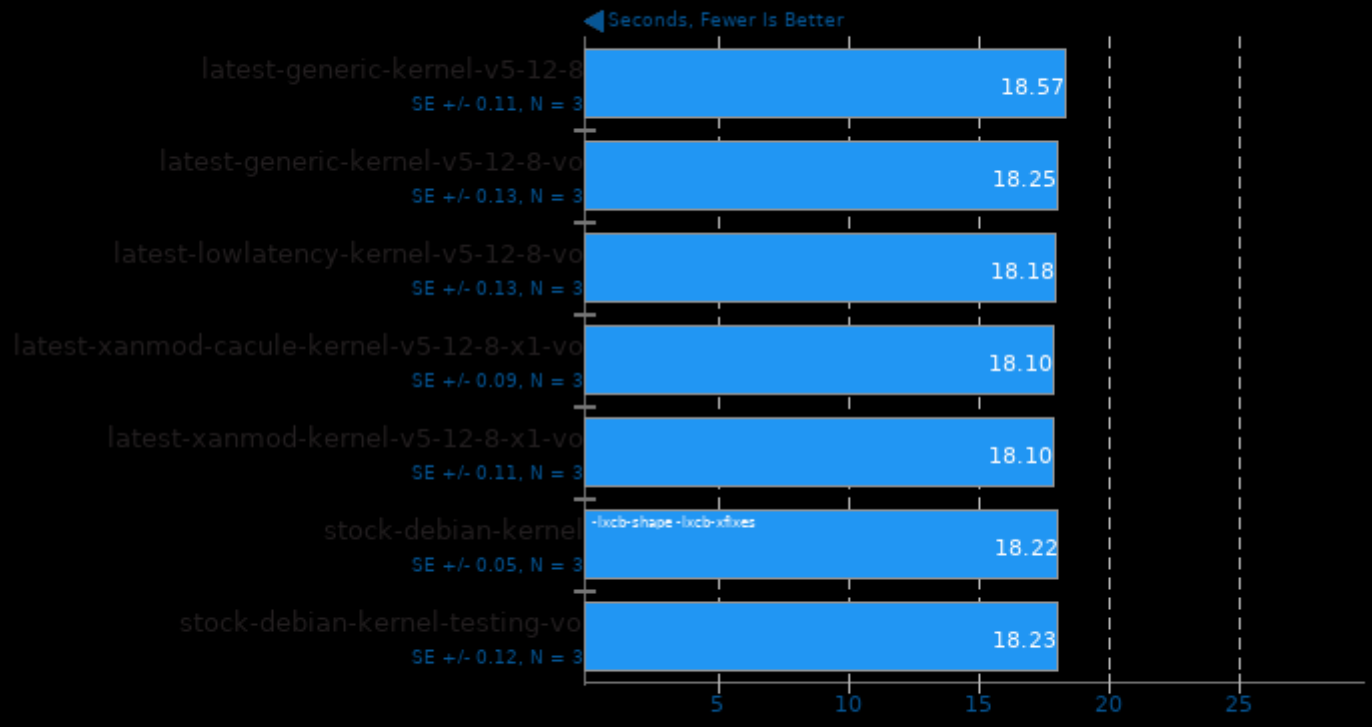
WAV To Opus Encode



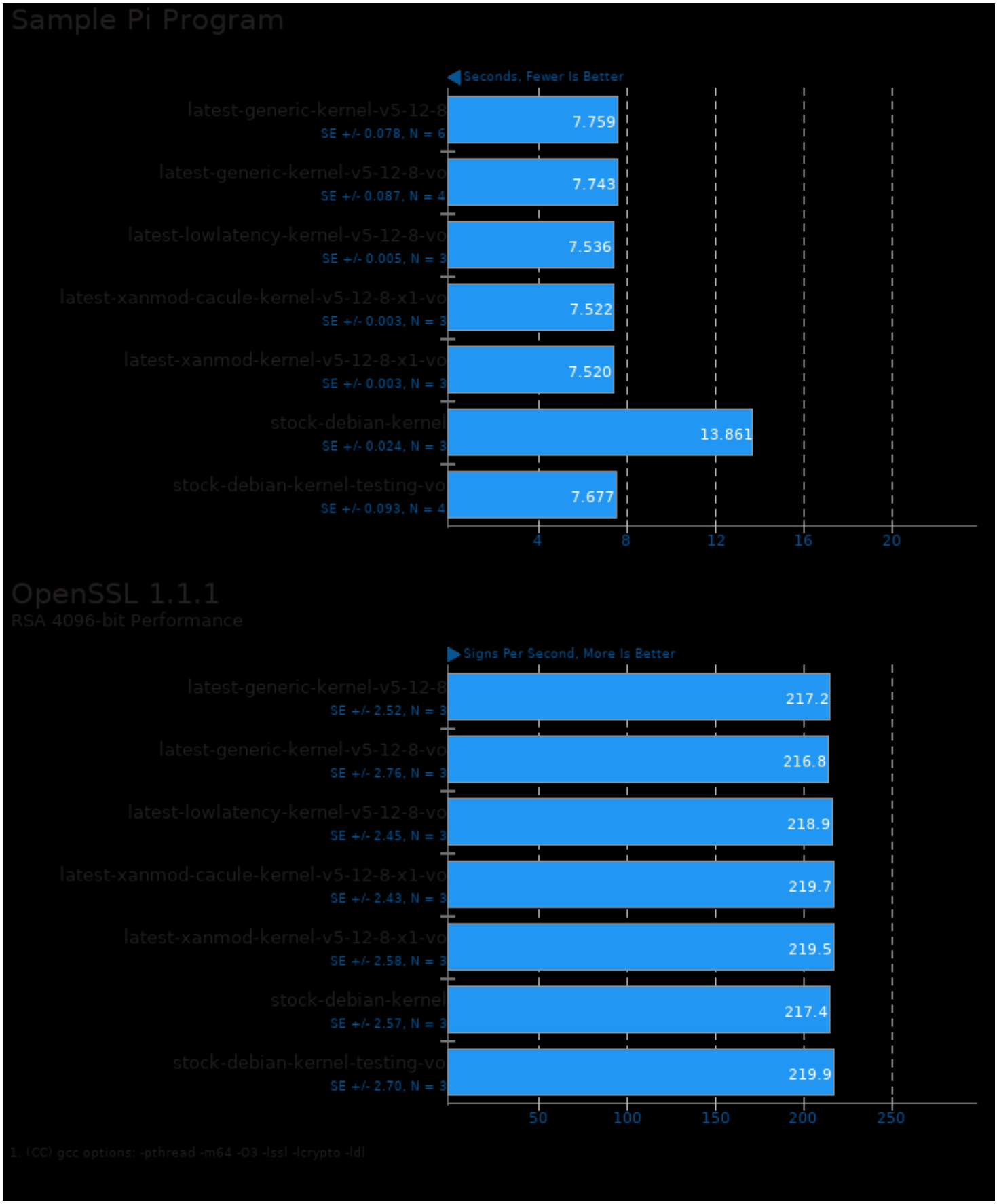
1. (CXX) g++ options: -fvisibility=hidden -logg -lm

FFmpeg 4.0.2

H.264 HD To NTSC DV



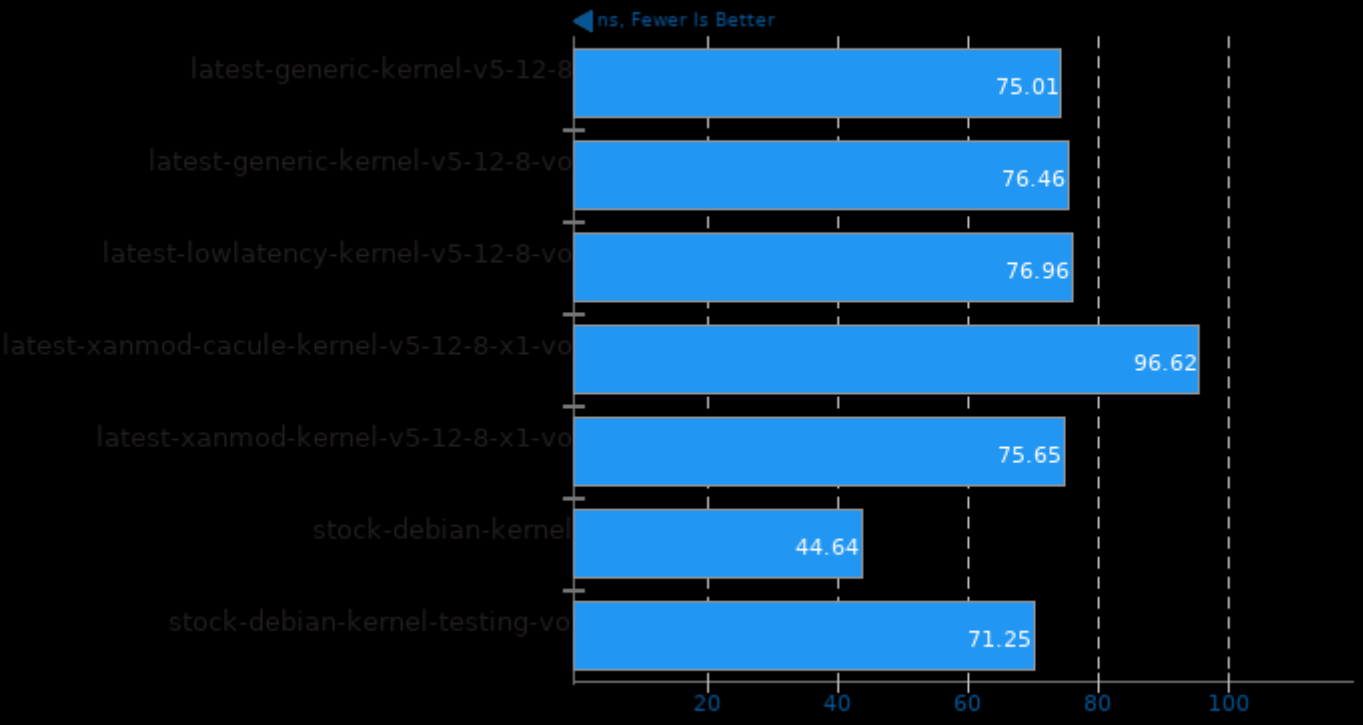
1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lm -lxcb -pthread -lbz2 -llzma -std=c11 -fomit-frame-pointe


Sample Pi Program
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.078, N = 6
7.759
latest-generic-kernel-v5-12-8-vo
SE +/- 0.087, N = 4
7.743
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.005, N = 3
7.536
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.003, N = 3
7.522
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.003, N = 3
7.520
stock-debian-kernel
SE +/- 0.024, N = 3
13.861
stock-debian-kernel-testing-vo
SE +/- 0.093, N = 4
7.677
4
8
12
16
20
OpenSSL 1.1.1
RSA 4096-bit Performance
Signs Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 2.52, N = 3
217.2
latest-generic-kernel-v5-12-8-vo
SE +/- 2.76, N = 3
216.8
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 2.45, N = 3
218.9
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2.43, N = 3
219.7
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 2.58, N = 3
219.5
stock-debian-kernel
SE +/- 2.57, N = 3
217.4
stock-debian-kernel-testing-vo
SE +/- 2.70, N = 3
219.9
50
100
150
200
250
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

stock-debian-kernel

Core-Latency

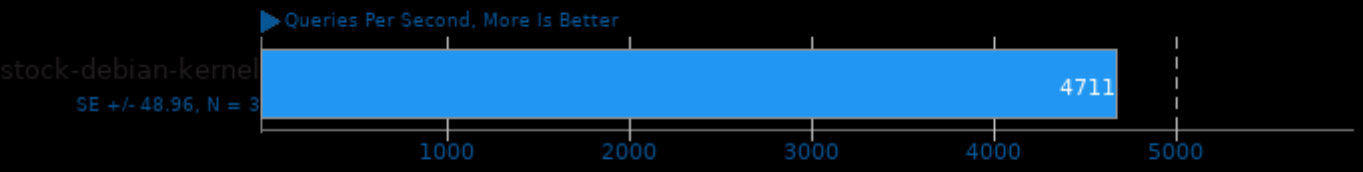
Average Latency Between CPU Cores



1. (CXX) g++ options: -std=c++11 -pthread -O3

MariaDB 10.5.2

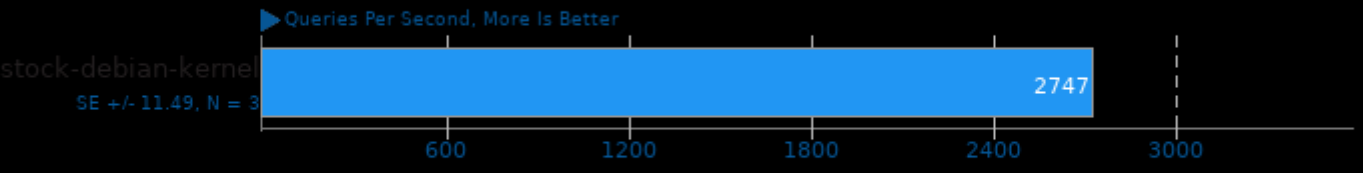
Clients: 1



1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lpthread -llzma -lbz2 -lsnappy -laio -lnuma -lcrypt -lz -lm -lssl -lcrypto -ldl

MariaDB 10.5.2

Clients: 4

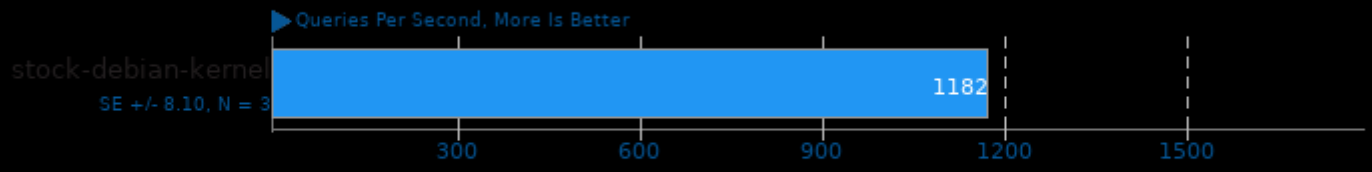


1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lpthread -llzma -lbz2 -lsnappy -laio -lnuma -lcrypt -lz -lm -lssl -lcrypto -ldl

stock-debian-kernel

MariaDB 10.5.2

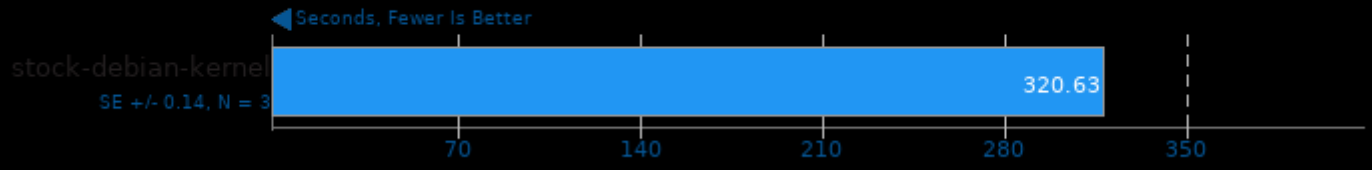
Clients: 16



1. (CXX) g++ options: -pie -fPIC -fstack-protector -O2 -lpthread -llzma -lbz2 -lsnappy -laio -lnuma -lcrypt -lz -lm -lssl -lcrypto -ldl

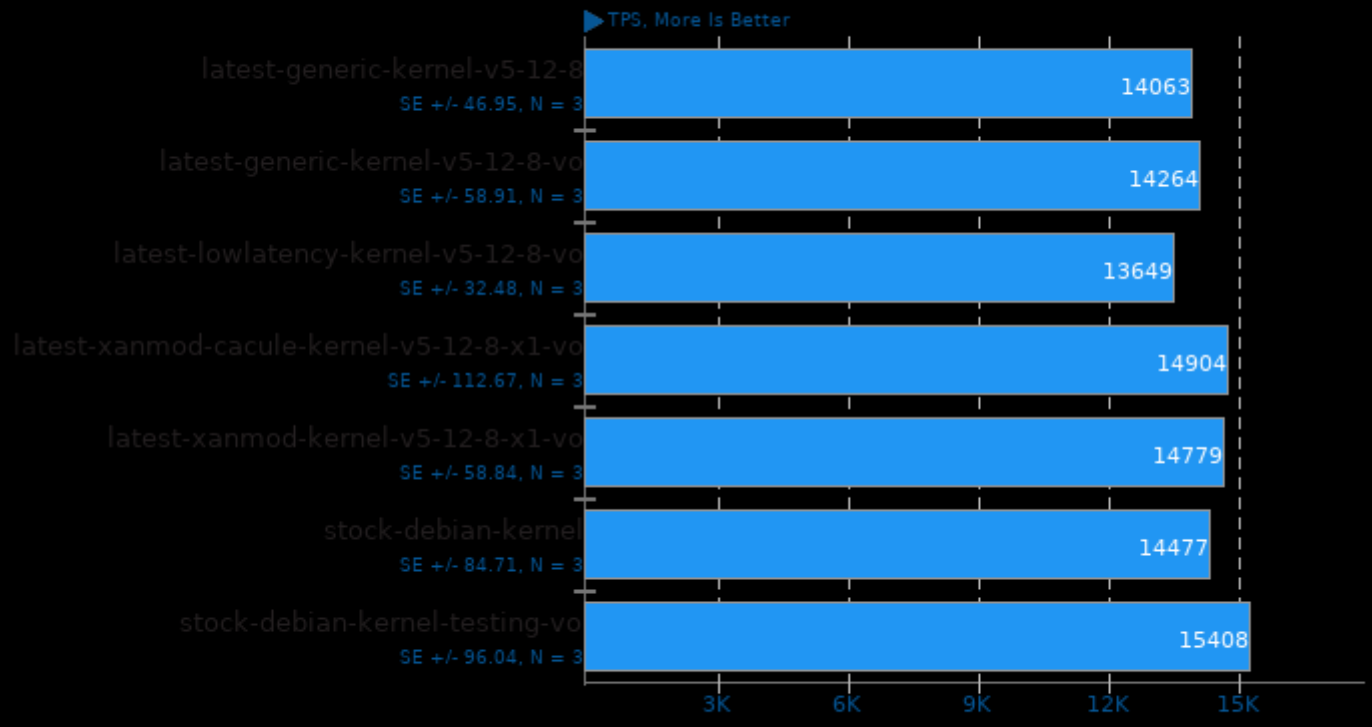
Tensorflow

Build: Cifar10

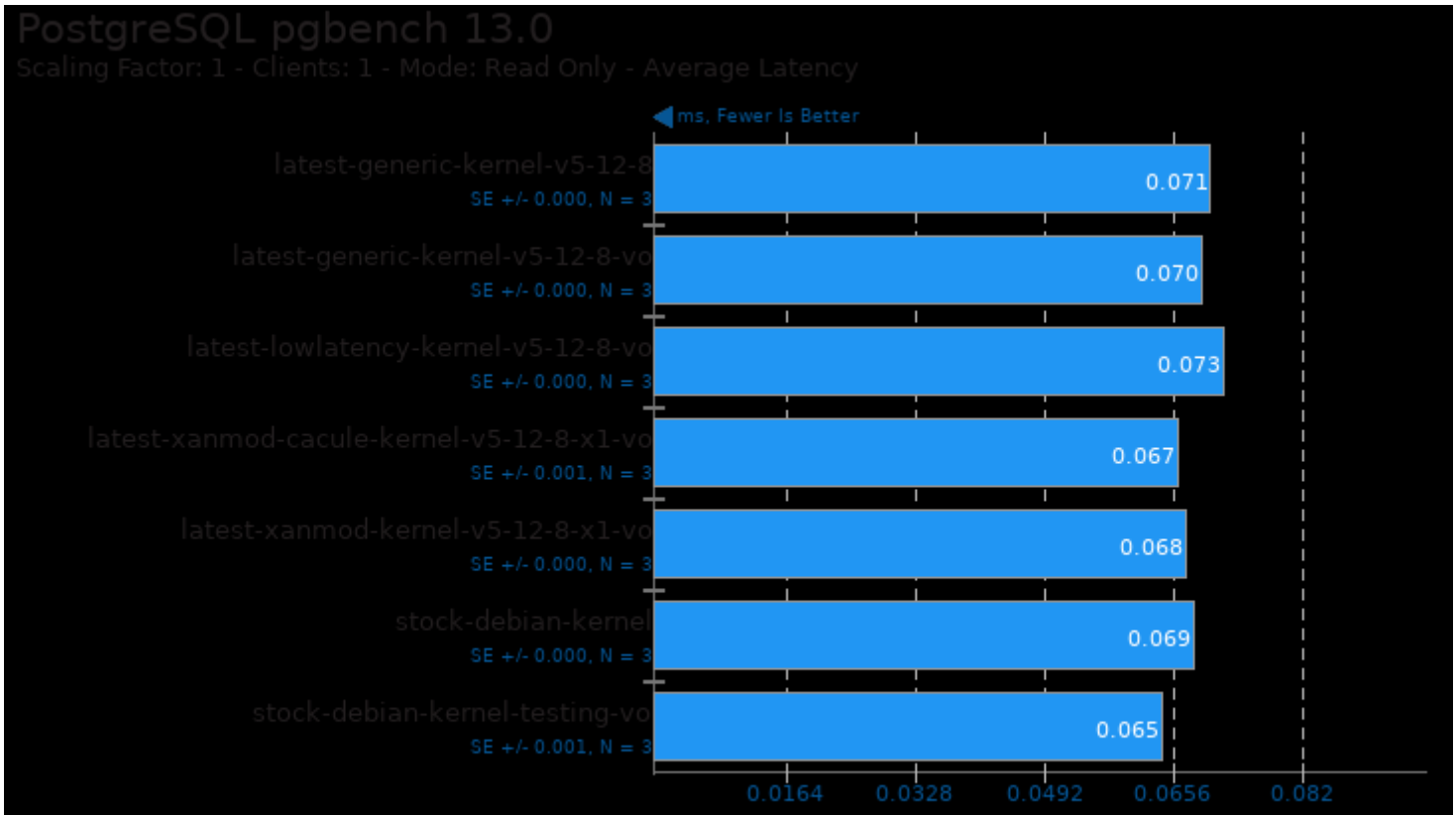


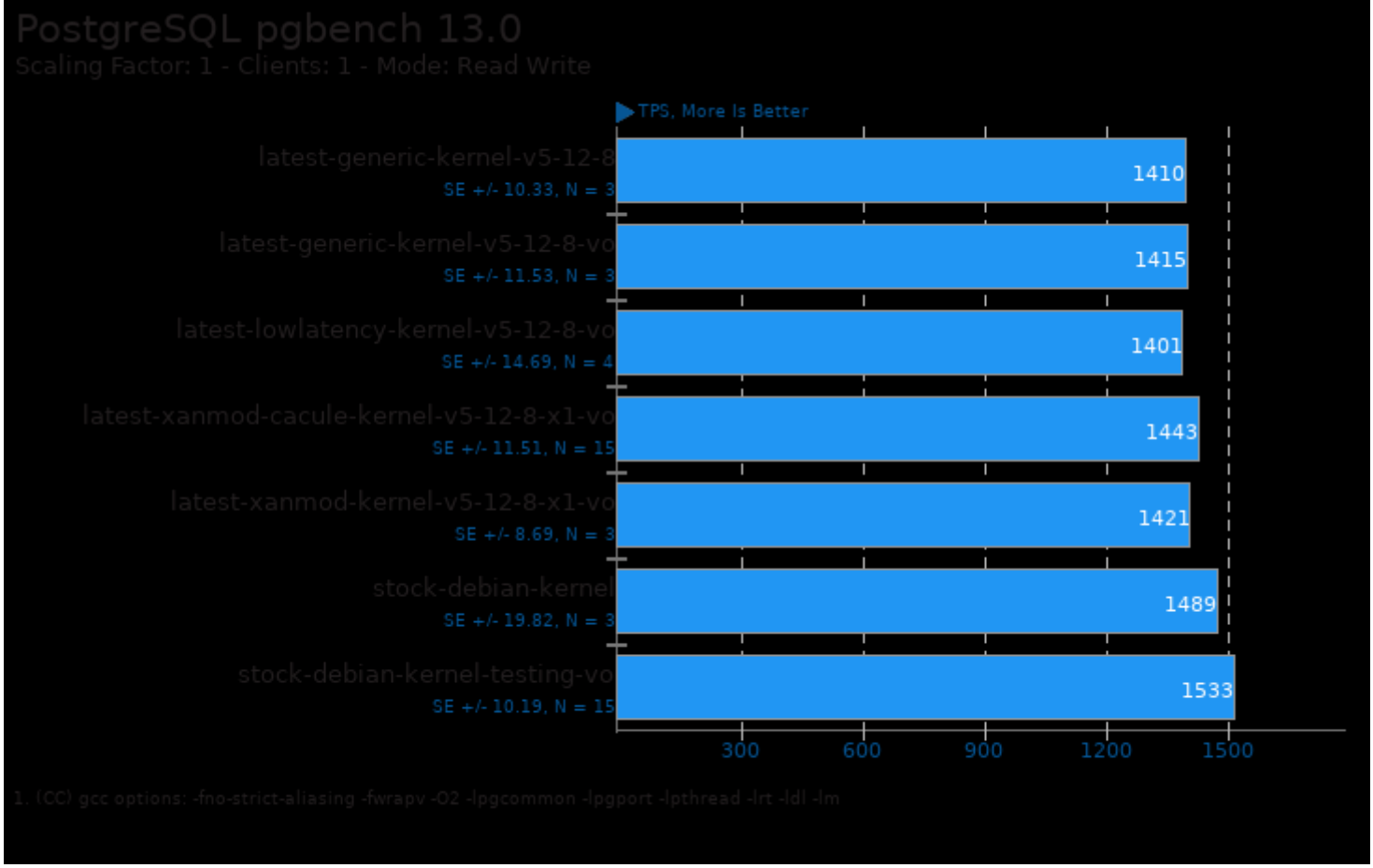
PostgreSQL pgbench 13.0

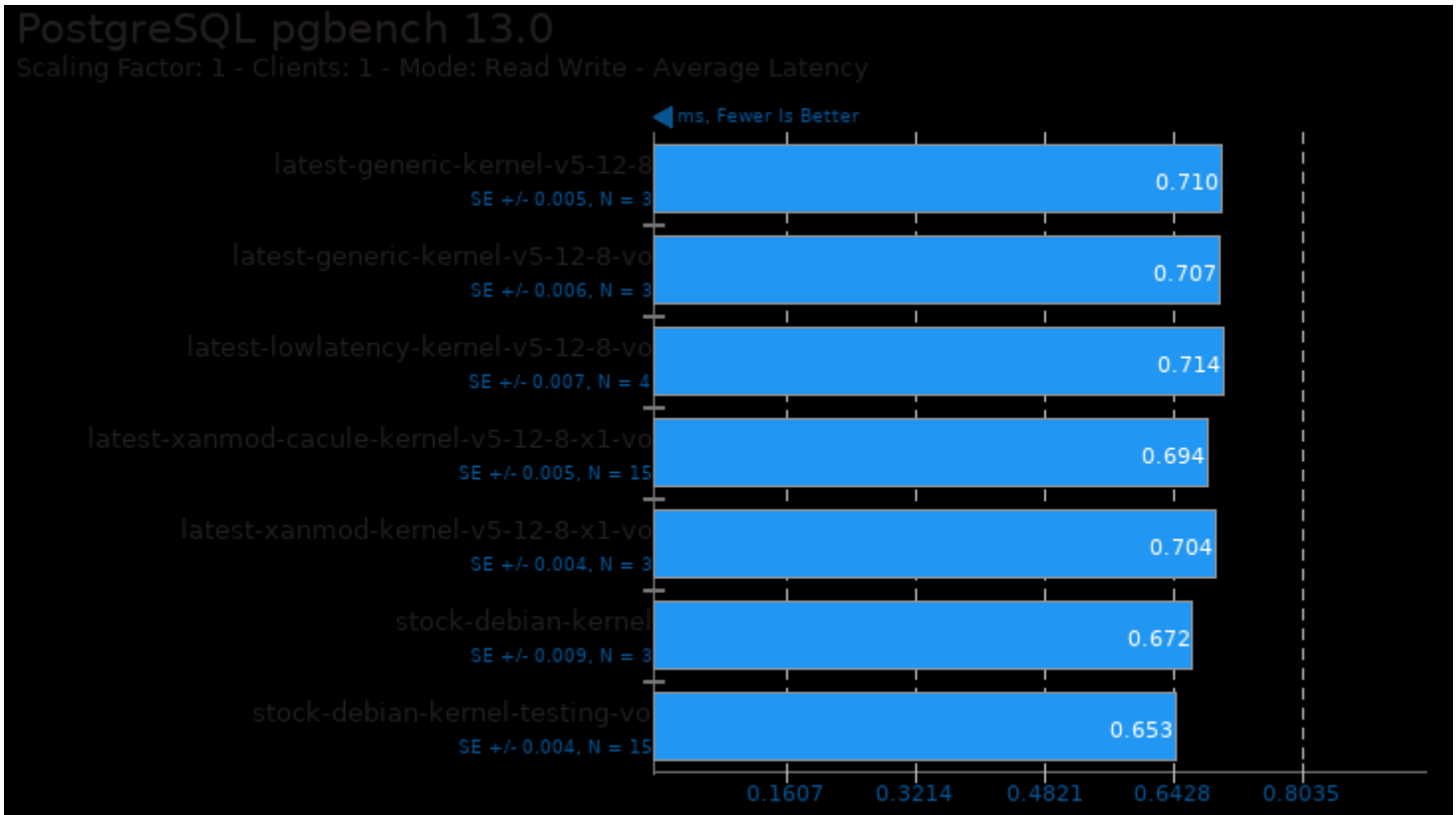
Scaling Factor: 1 - Clients: 1 - Mode: Read Only

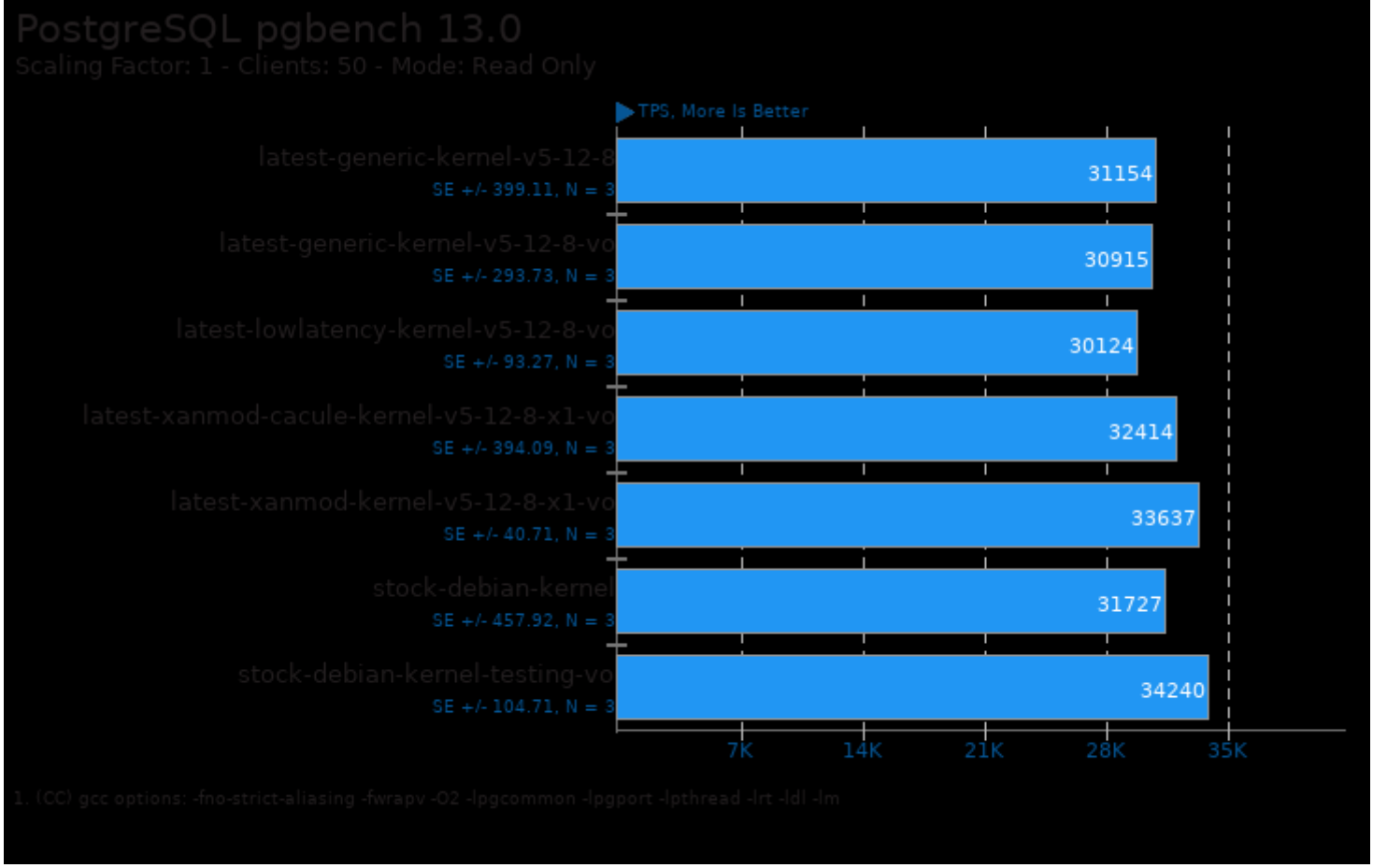


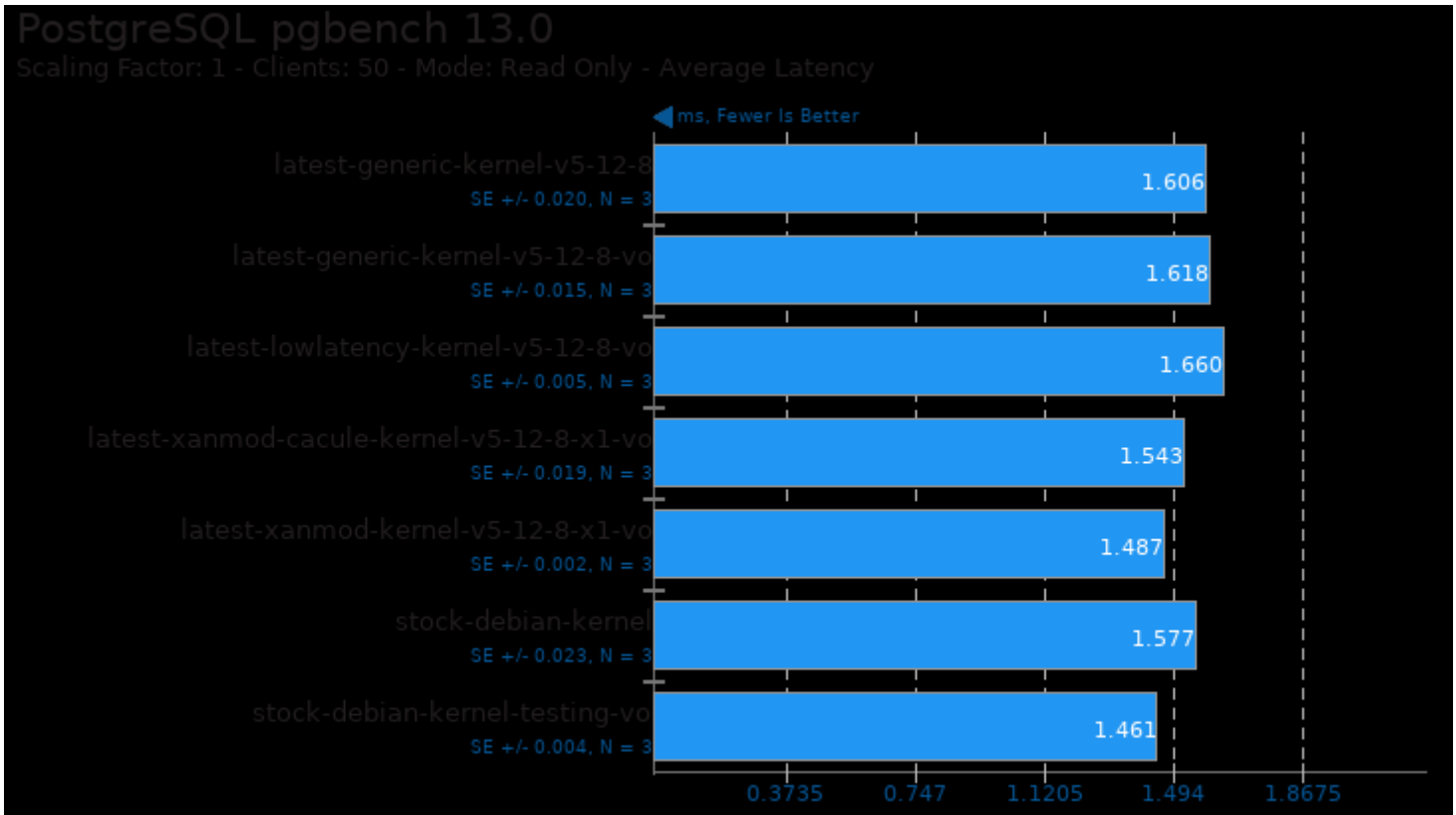
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

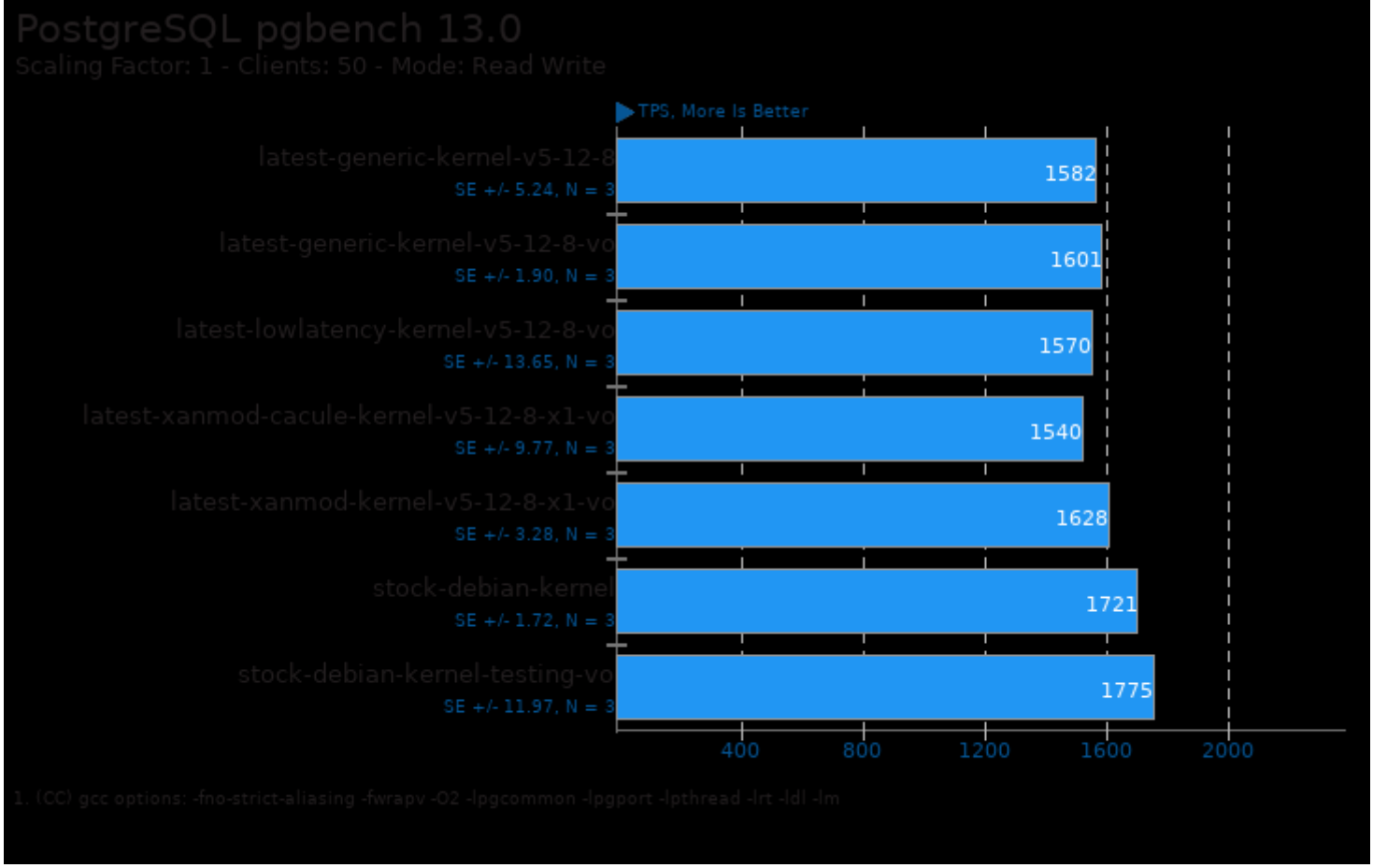

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.000, N = 3
0.071
latest-generic-kernel-v5-12-8-vo
SE +/- 0.000, N = 3
0.070
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.000, N = 3
0.073
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.001, N = 3
0.067
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.000, N = 3
0.068
stock-debian-kernel
SE +/- 0.000, N = 3
0.069
stock-debian-kernel-testing-vo
SE +/- 0.001, N = 3
0.065
0.0164
0.0328
0.0492
0.0656
0.082
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

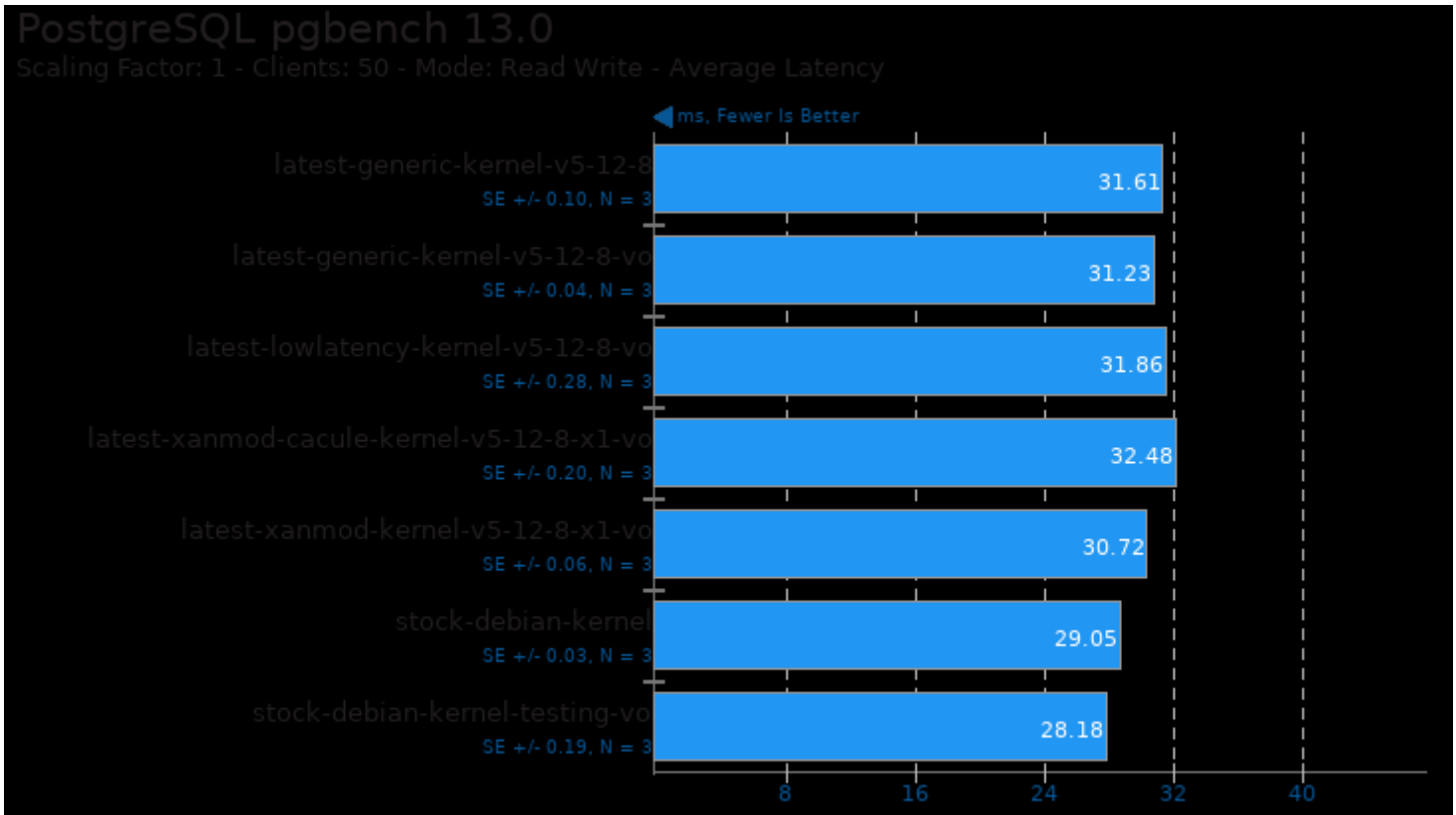

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Write
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 10.33, N = 3
1410
latest-generic-kernel-v5-12-8-vo
SE +/- 11.53, N = 3
1415
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 14.69, N = 4
1401
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 11.51, N = 15
1443
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 8.69, N = 3
1421
stock-debian-kernel
SE +/- 19.82, N = 3
1489
stock-debian-kernel-testing-vo
SE +/- 10.19, N = 15
1533
300
600
900
1200
1500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

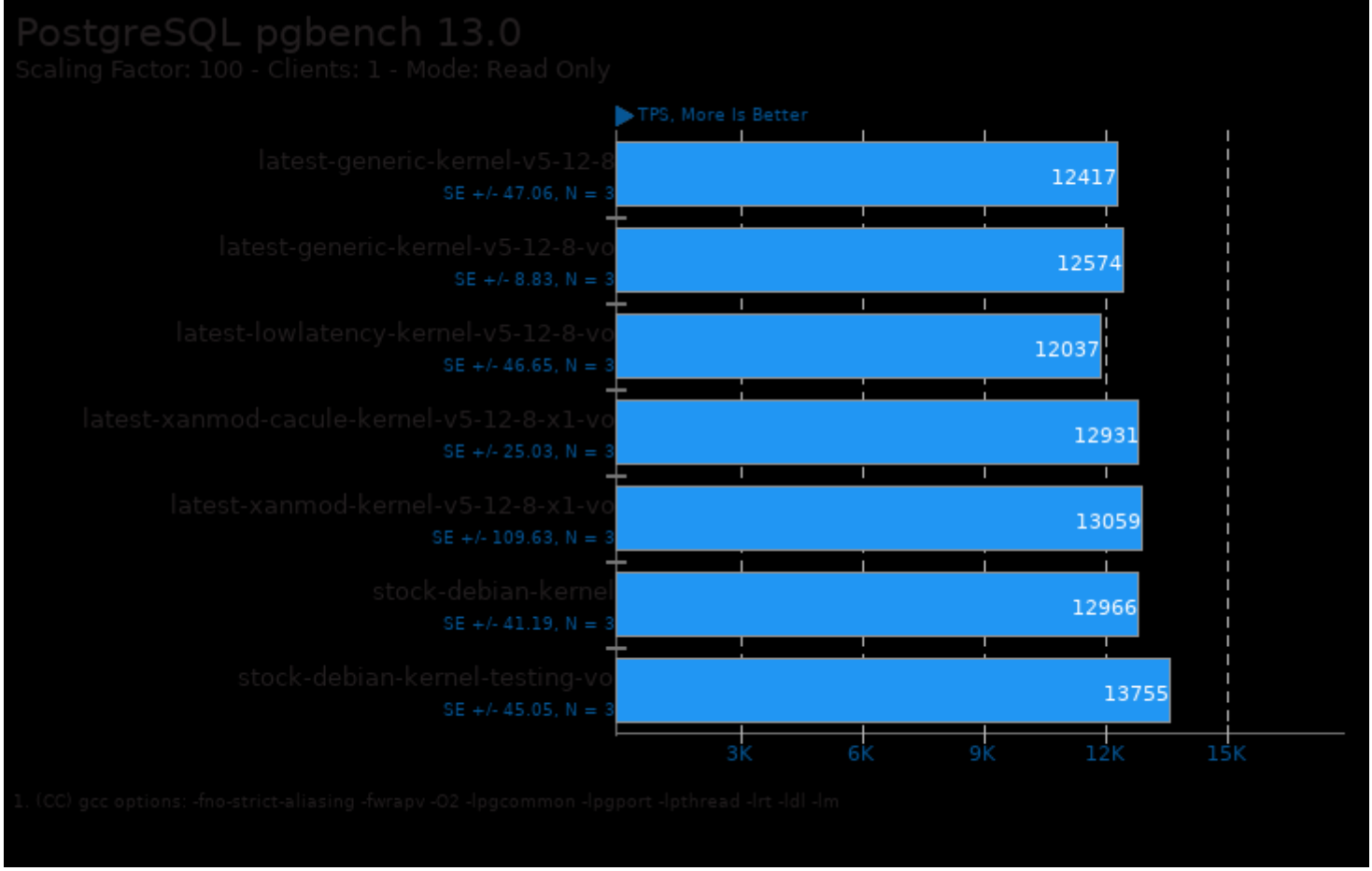

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.005, N = 3
0.710
latest-generic-kernel-v5-12-8-vo
SE +/- 0.006, N = 3
0.707
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.007, N = 4
0.714
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.005, N = 15
0.694
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.004, N = 3
0.704
stock-debian-kernel
SE +/- 0.009, N = 3
0.672
stock-debian-kernel-testing-vo
SE +/- 0.004, N = 15
0.653
0.1607
0.3214
0.4821
0.6428
0.8035
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

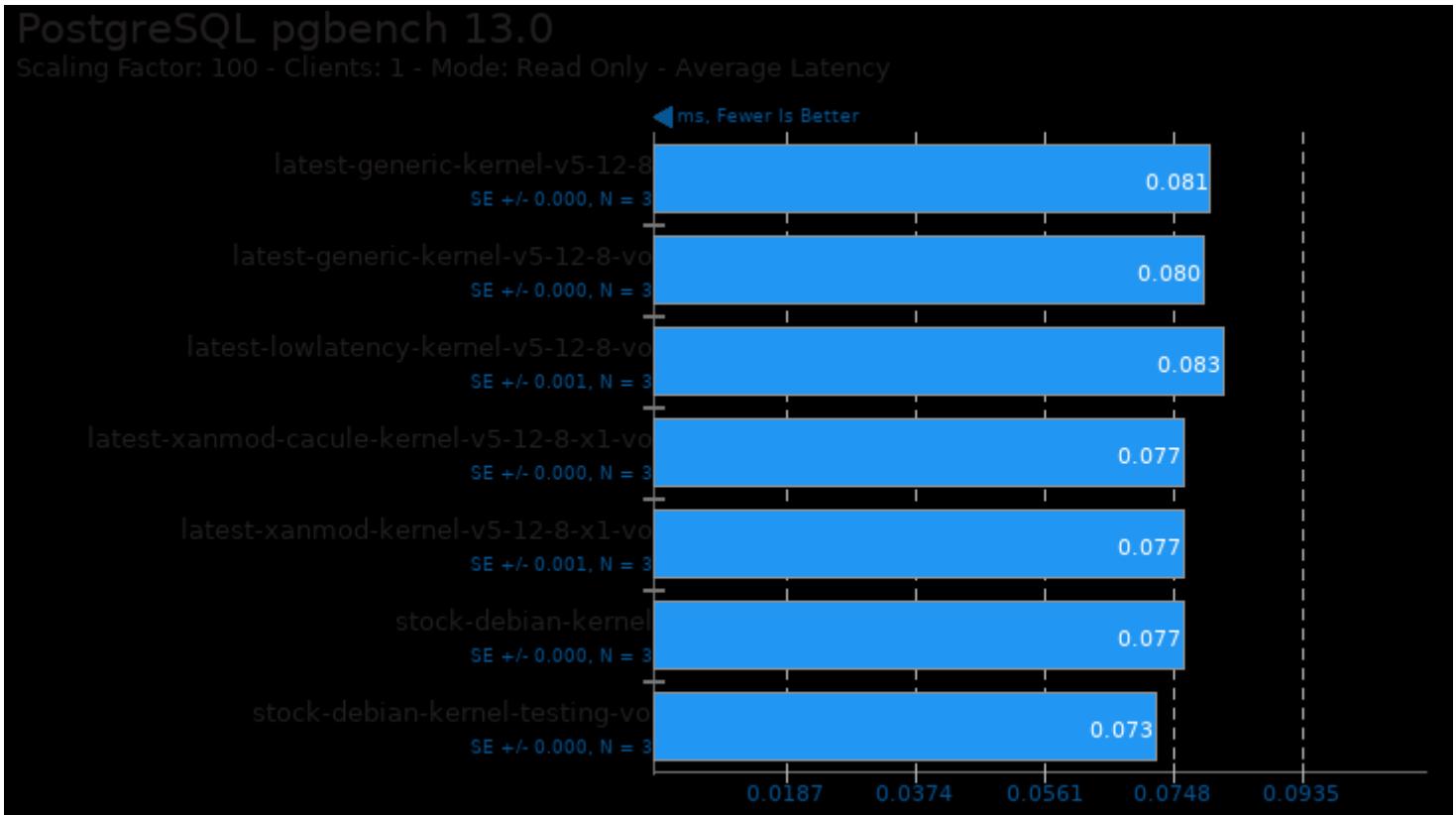

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Only
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 399.11, N = 3
31154
latest-generic-kernel-v5-12-8-vo
SE +/- 293.73, N = 3
30915
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 93.27, N = 3
30124
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 394.09, N = 3
32414
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 40.71, N = 3
33637
stock-debian-kernel
SE +/- 457.92, N = 3
31727
stock-debian-kernel-testing-vo
SE +/- 104.71, N = 3
34240
7K
14K
21K
28K
35K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

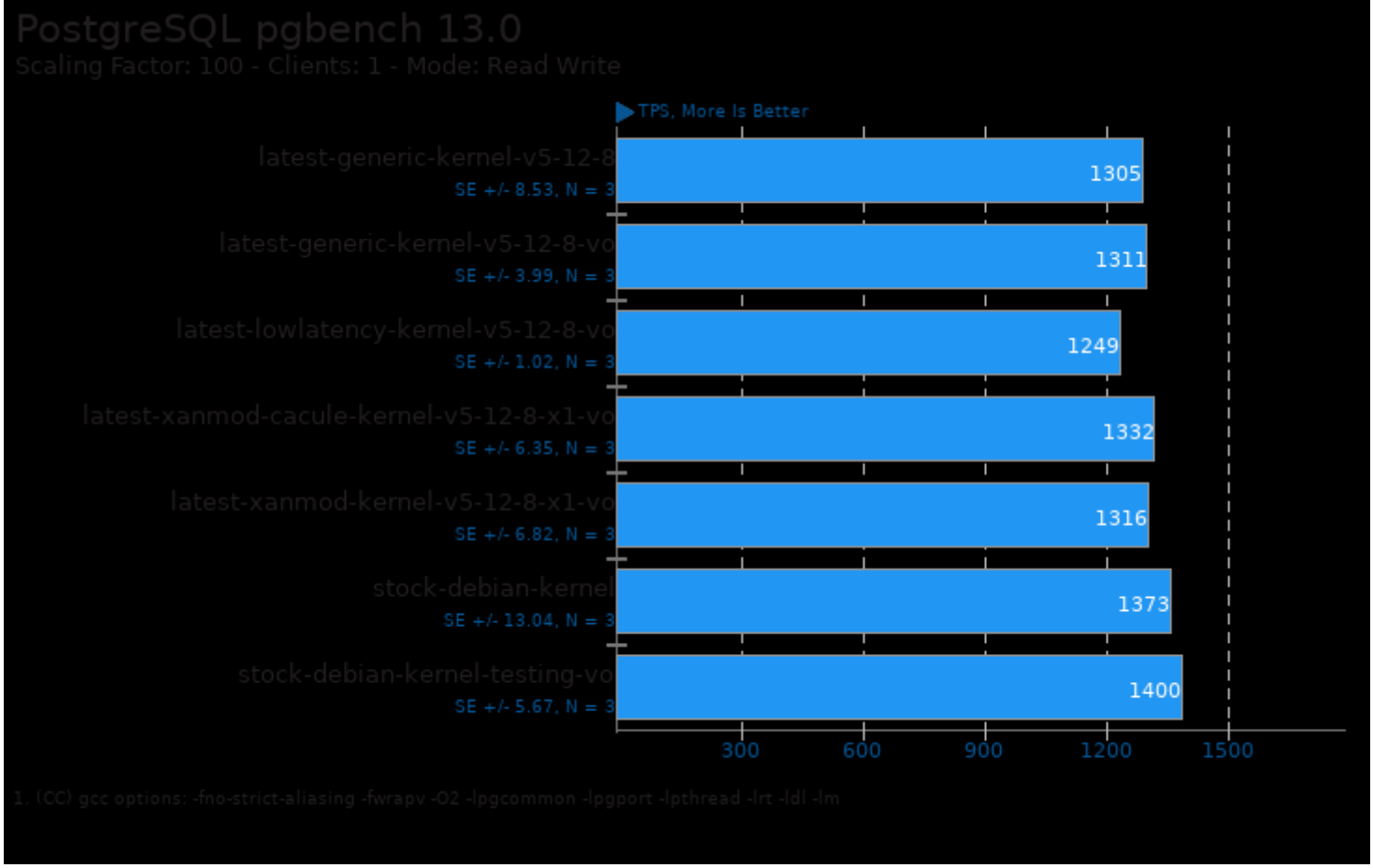

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Only - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.020, N = 3
1.606
latest-generic-kernel-v5-12-8-vo
SE +/- 0.015, N = 3
1.618
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.005, N = 3
1.660
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.019, N = 3
1.543
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.002, N = 3
1.487
stock-debian-kernel
SE +/- 0.023, N = 3
1.577
stock-debian-kernel-testing-vo
SE +/- 0.004, N = 3
1.461
0.3735
0.747
1.1205
1.494
1.8675
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

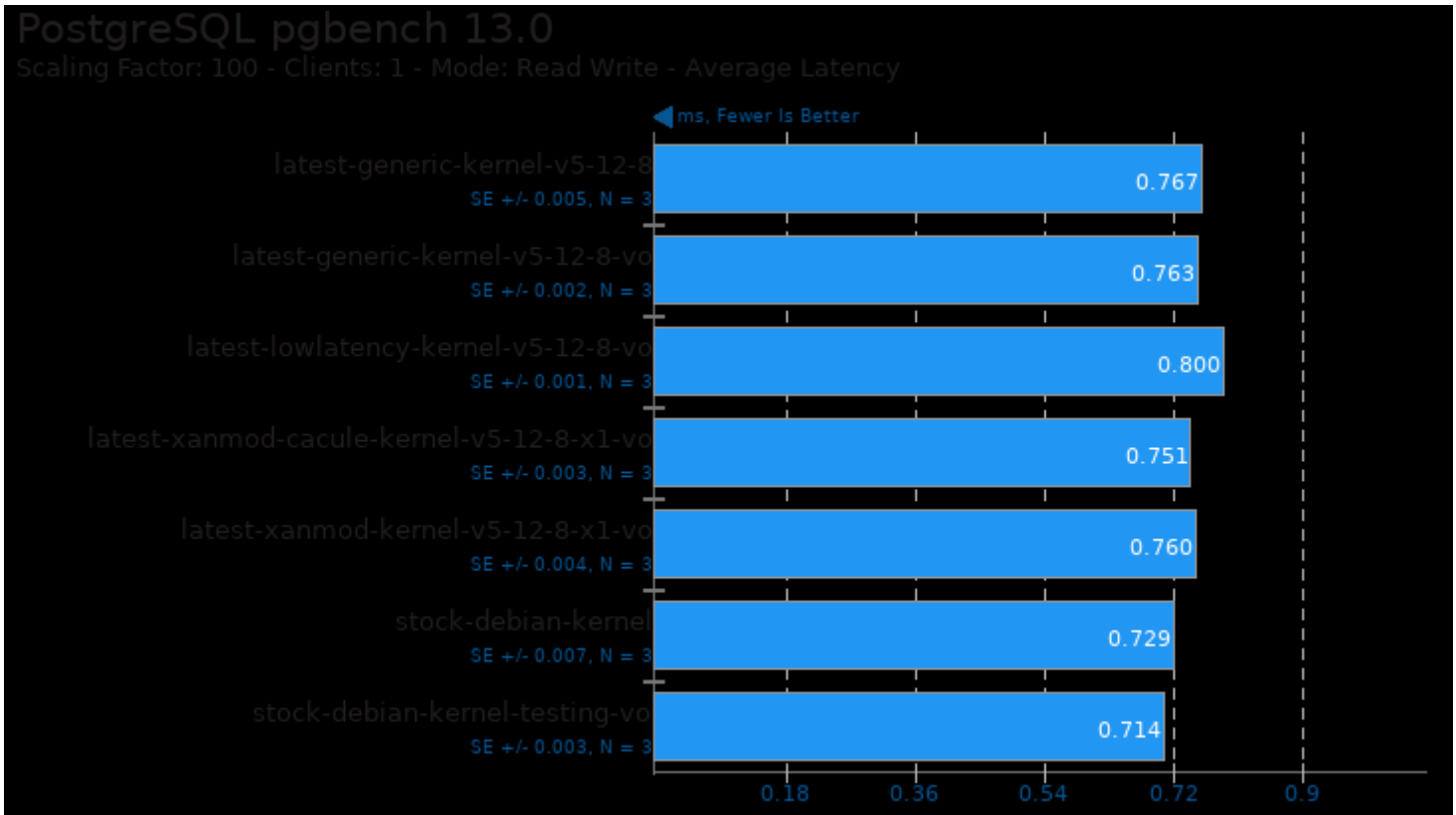

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Write
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 5.24, N = 3
1582
latest-generic-kernel-v5-12-8-vo
SE +/- 1.90, N = 3
1601
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 13.65, N = 3
1570
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 9.77, N = 3
1540
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 3.28, N = 3
1628
stock-debian-kernel
SE +/- 1.72, N = 3
1721
stock-debian-kernel-testing-vo
SE +/- 11.97, N = 3
1775
400
800
1200
1600
2000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

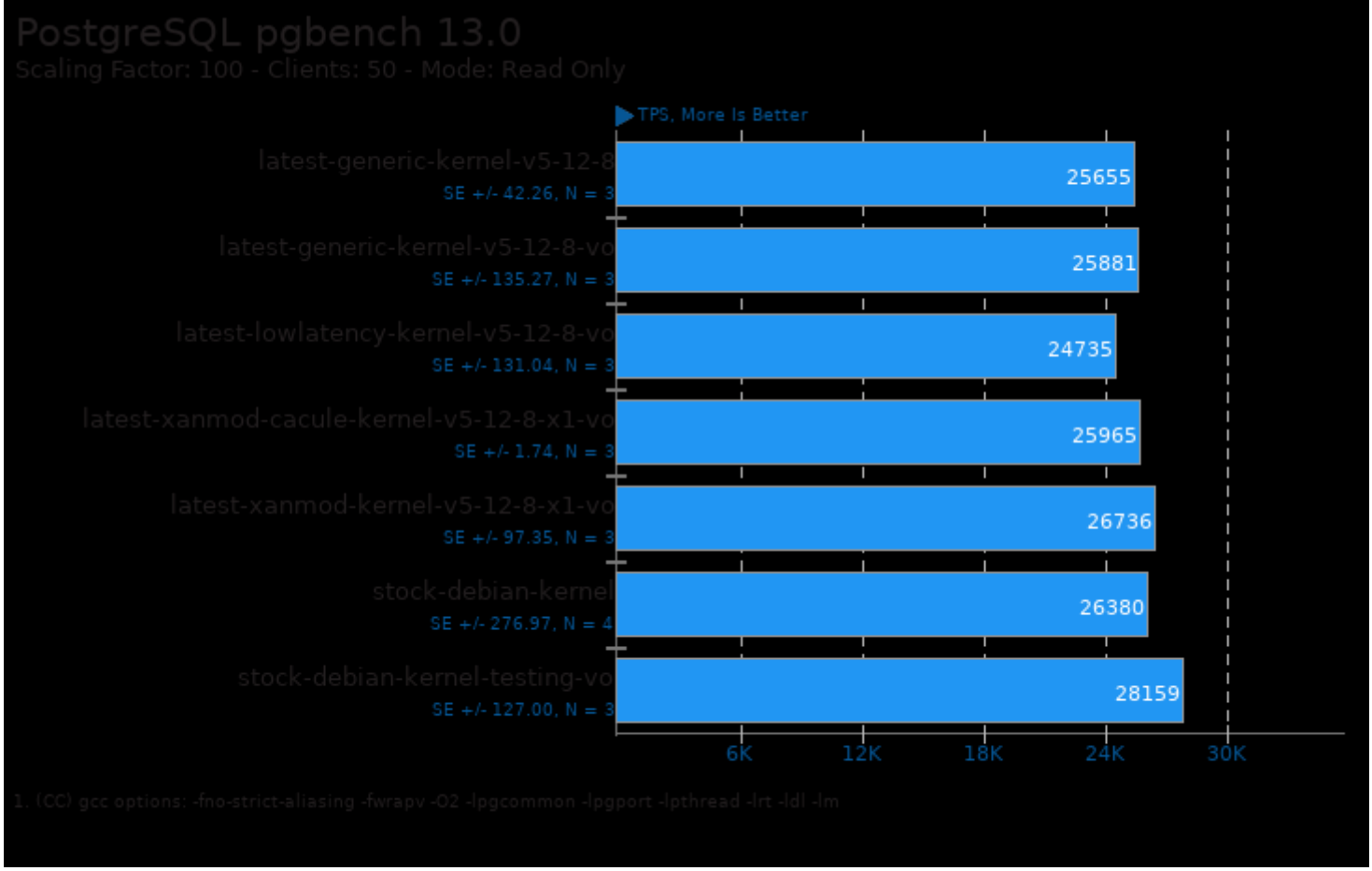

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Write - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.10, N = 3
31.61
latest-generic-kernel-v5-12-8-vo
SE +/- 0.04, N = 3
31.23
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.28, N = 3
31.86
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.20, N = 3
32.48
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.06, N = 3
30.72
stock-debian-kernel
SE +/- 0.03, N = 3
29.05
stock-debian-kernel-testing-vo
SE +/- 0.19, N = 3
28.18
8
16
24
32
40
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

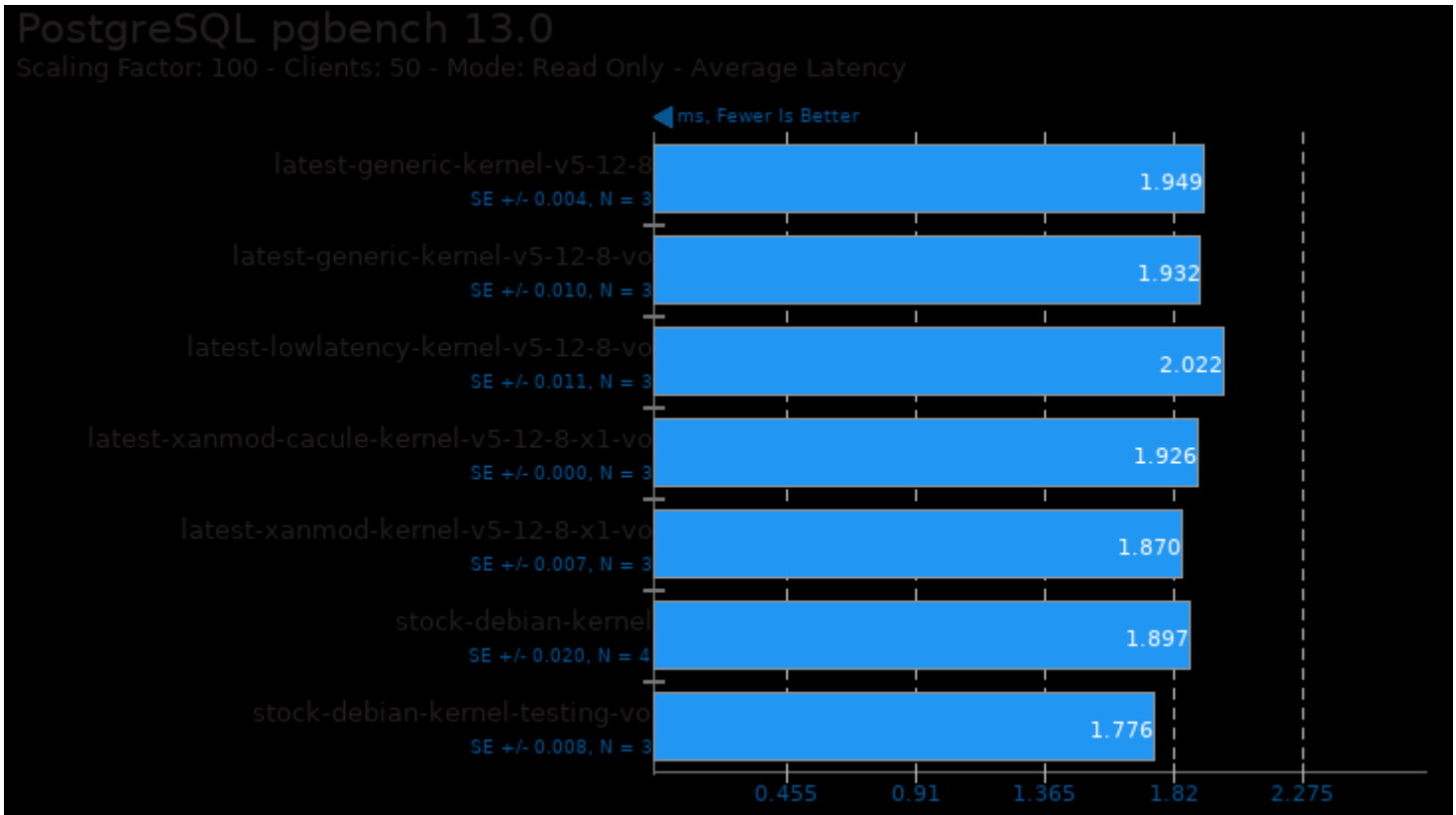

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Only
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 47.06, N = 3
12417
latest-generic-kernel-v5-12-8-vo
SE +/- 8.83, N = 3
12574
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 46.65, N = 3
12037
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 25.03, N = 3
12931
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 109.63, N = 3
13059
stock-debian-kernel
SE +/- 41.19, N = 3
12966
stock-debian-kernel-testing-vo
SE +/- 45.05, N = 3
13755
3K
6K
9K
12K
15K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

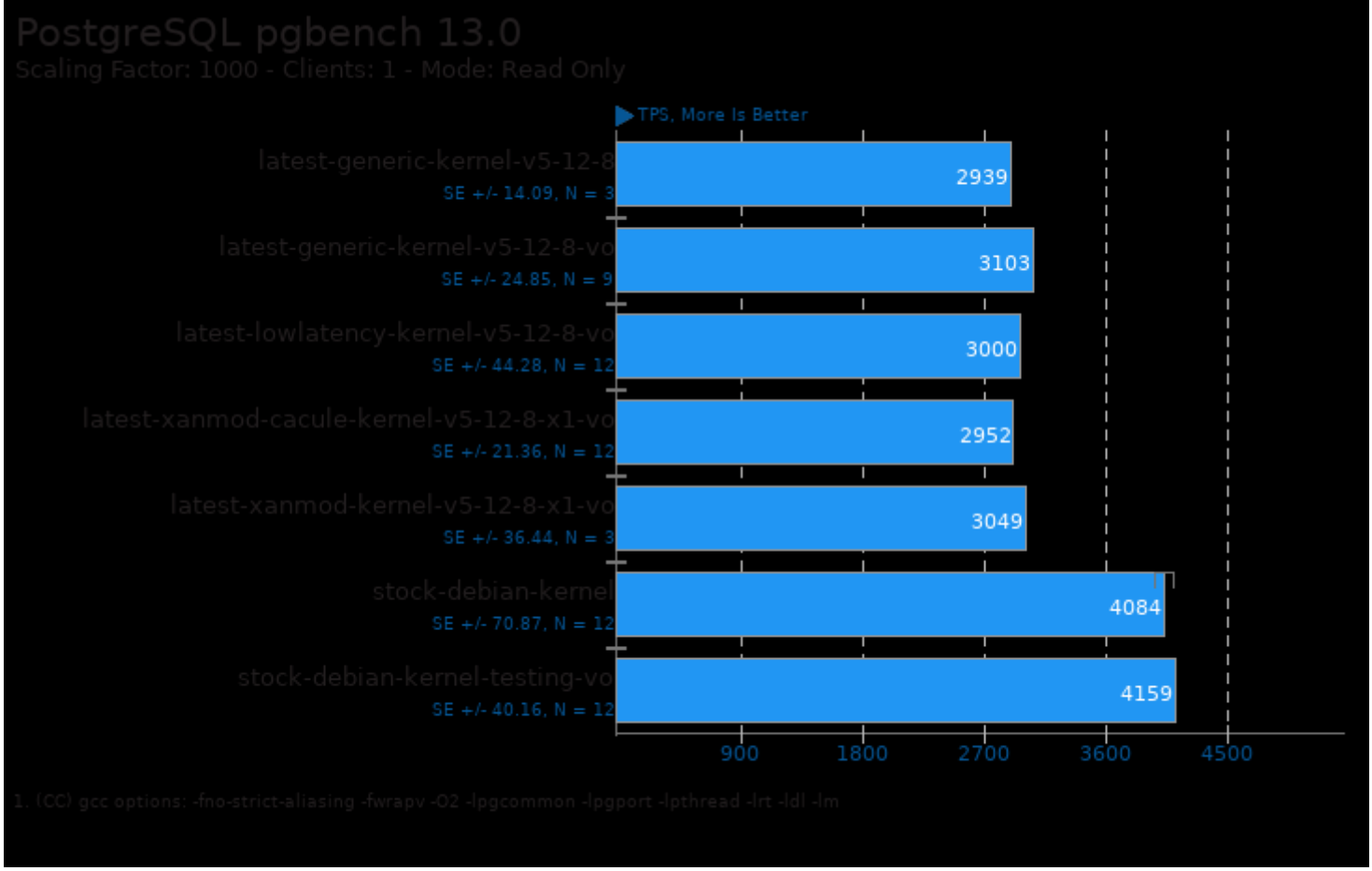

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.000, N = 3
0.081
latest-generic-kernel-v5-12-8-vo
SE +/- 0.000, N = 3
0.080
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.001, N = 3
0.083
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.000, N = 3
0.077
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.001, N = 3
0.077
stock-debian-kernel
SE +/- 0.000, N = 3
0.077
stock-debian-kernel-testing-vo
SE +/- 0.000, N = 3
0.073
0.0187
0.0374
0.0561
0.0748
0.0935
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

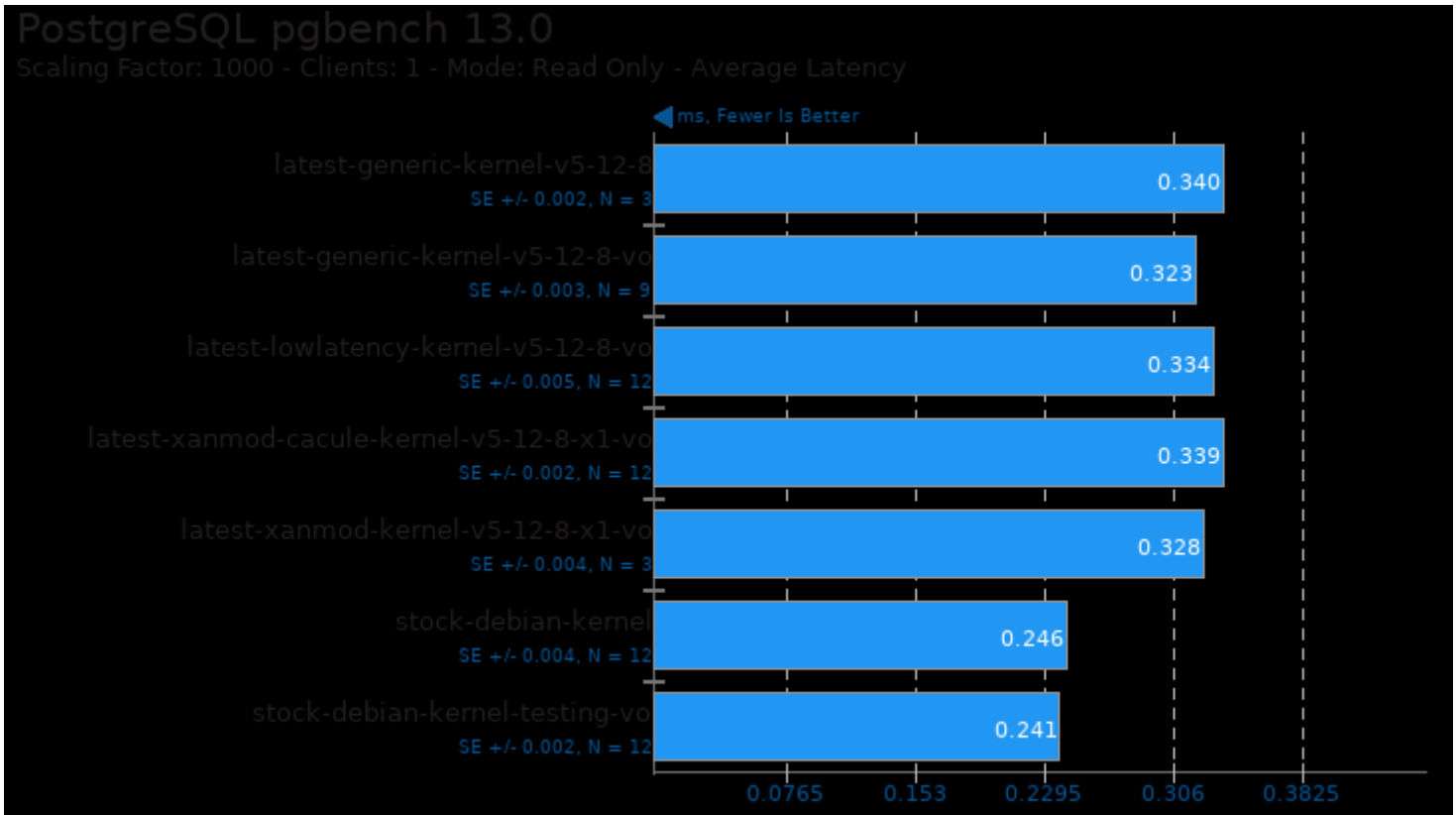

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Write
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 8.53, N = 3
1305
latest-generic-kernel-v5-12-8-vo
SE +/- 3.99, N = 3
1311
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 1.02, N = 3
1249
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 6.35, N = 3
1332
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 6.82, N = 3
1316
stock-debian-kernel
SE +/- 13.04, N = 3
1373
stock-debian-kernel-testing-vo
SE +/- 5.67, N = 3
1400
300
600
900
1200
1500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

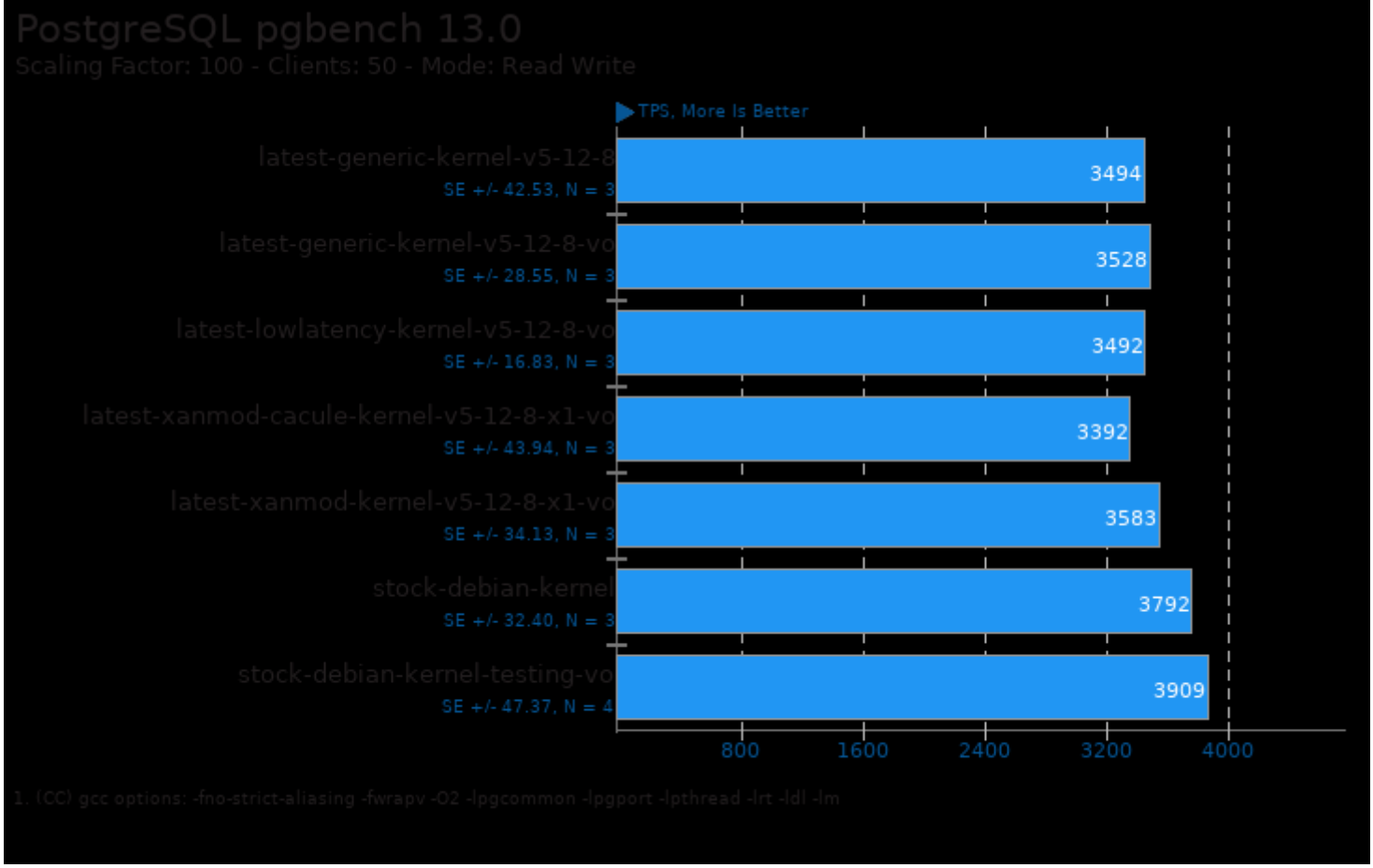

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.005, N = 3
0.767
latest-generic-kernel-v5-12-8-vo
SE +/- 0.002, N = 3
0.763
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.001, N = 3
0.800
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.003, N = 3
0.751
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.004, N = 3
0.760
stock-debian-kernel
SE +/- 0.007, N = 3
0.729
stock-debian-kernel-testing-vo
SE +/- 0.003, N = 3
0.714
0.18
0.36
0.54
0.72
0.9
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

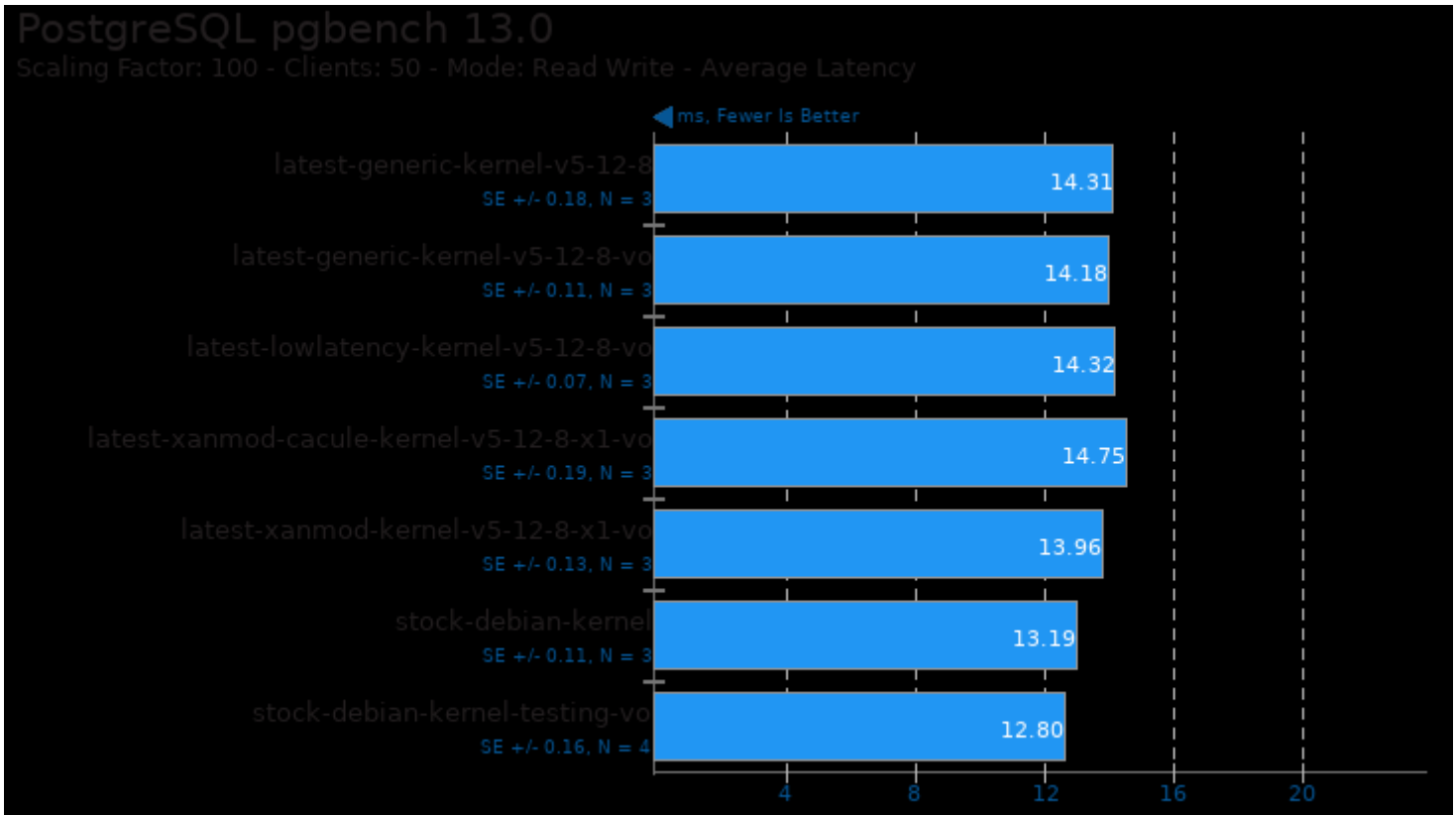

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Only
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 42.26, N = 3
25655
latest-generic-kernel-v5-12-8-vo
SE +/- 135.27, N = 3
25881
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 131.04, N = 3
24735
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 1.74, N = 3
25965
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 97.35, N = 3
26736
stock-debian-kernel
SE +/- 276.97, N = 4
26380
stock-debian-kernel-testing-vo
SE +/- 127.00, N = 3
28159
6K
12K
18K
24K
30K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

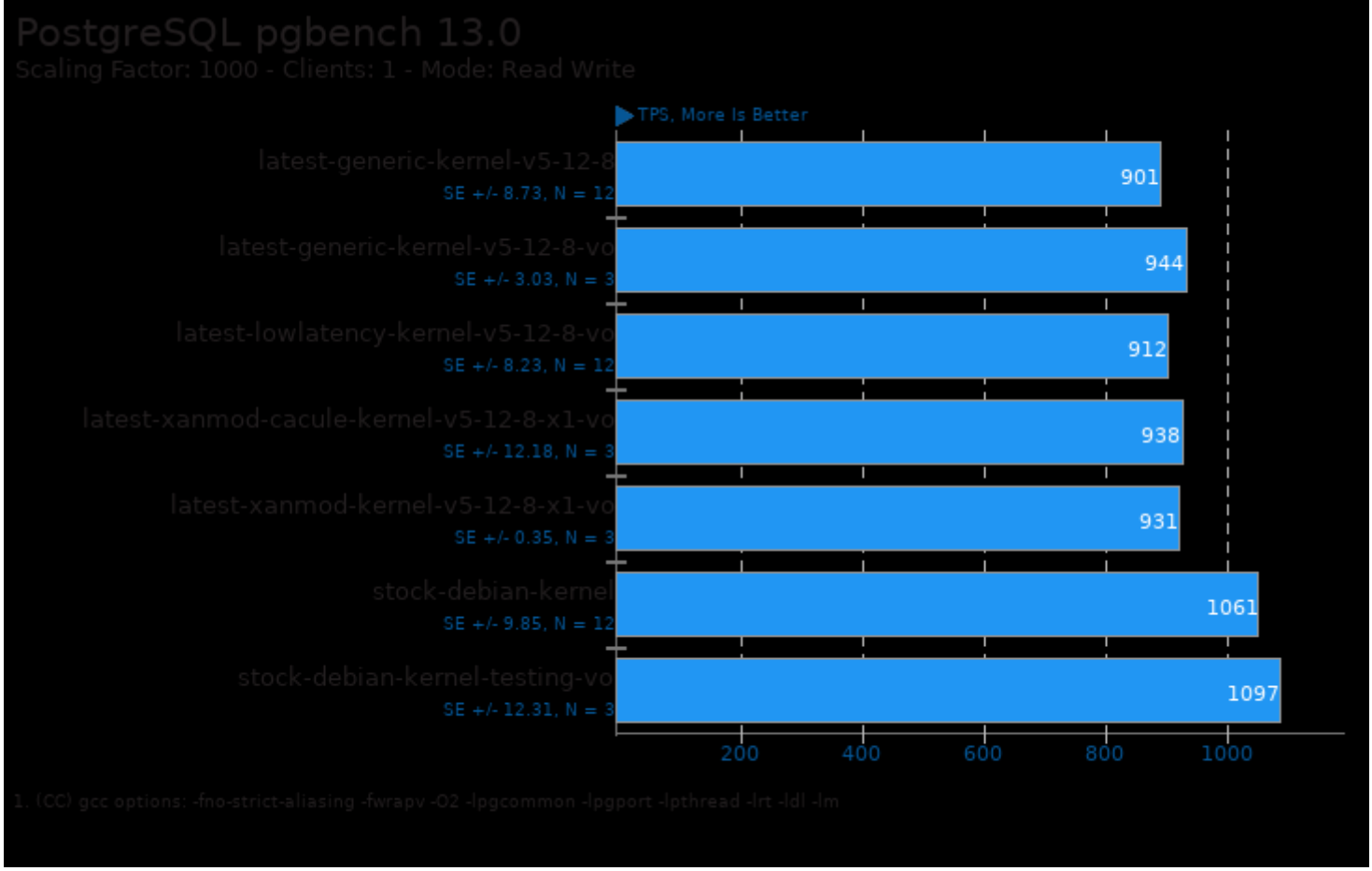

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Only - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.004, N = 3
1.949
latest-generic-kernel-v5-12-8-vo
SE +/- 0.010, N = 3
1.932
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.011, N = 3
2.022
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.000, N = 3
1.926
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.007, N = 3
1.870
stock-debian-kernel
SE +/- 0.020, N = 4
1.897
stock-debian-kernel-testing-vo
SE +/- 0.008, N = 3
1.776
0.455
0.91
1.365
1.82
2.275
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

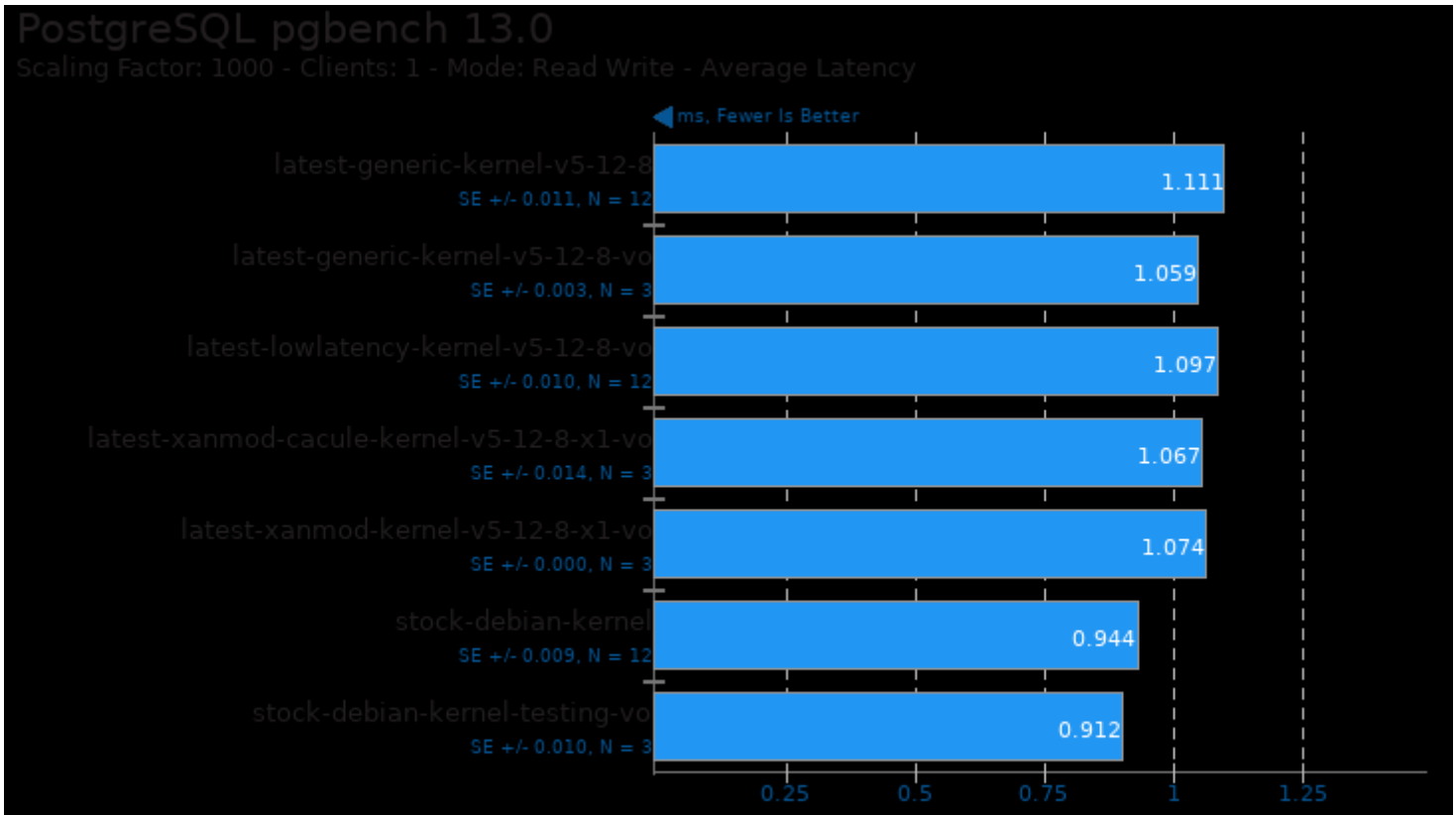

PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 1 - Mode: Read Only
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 14.09, N = 3
2939
latest-generic-kernel-v5-12-8-vo
SE +/- 24.85, N = 9
3103
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 44.28, N = 12
3000
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 21.36, N = 12
2952
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 36.44, N = 3
3049
stock-debian-kernel
SE +/- 70.87, N = 12
4084
stock-debian-kernel-testing-vo
SE +/- 40.16, N = 12
4159
900
1800
2700
3600
4500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

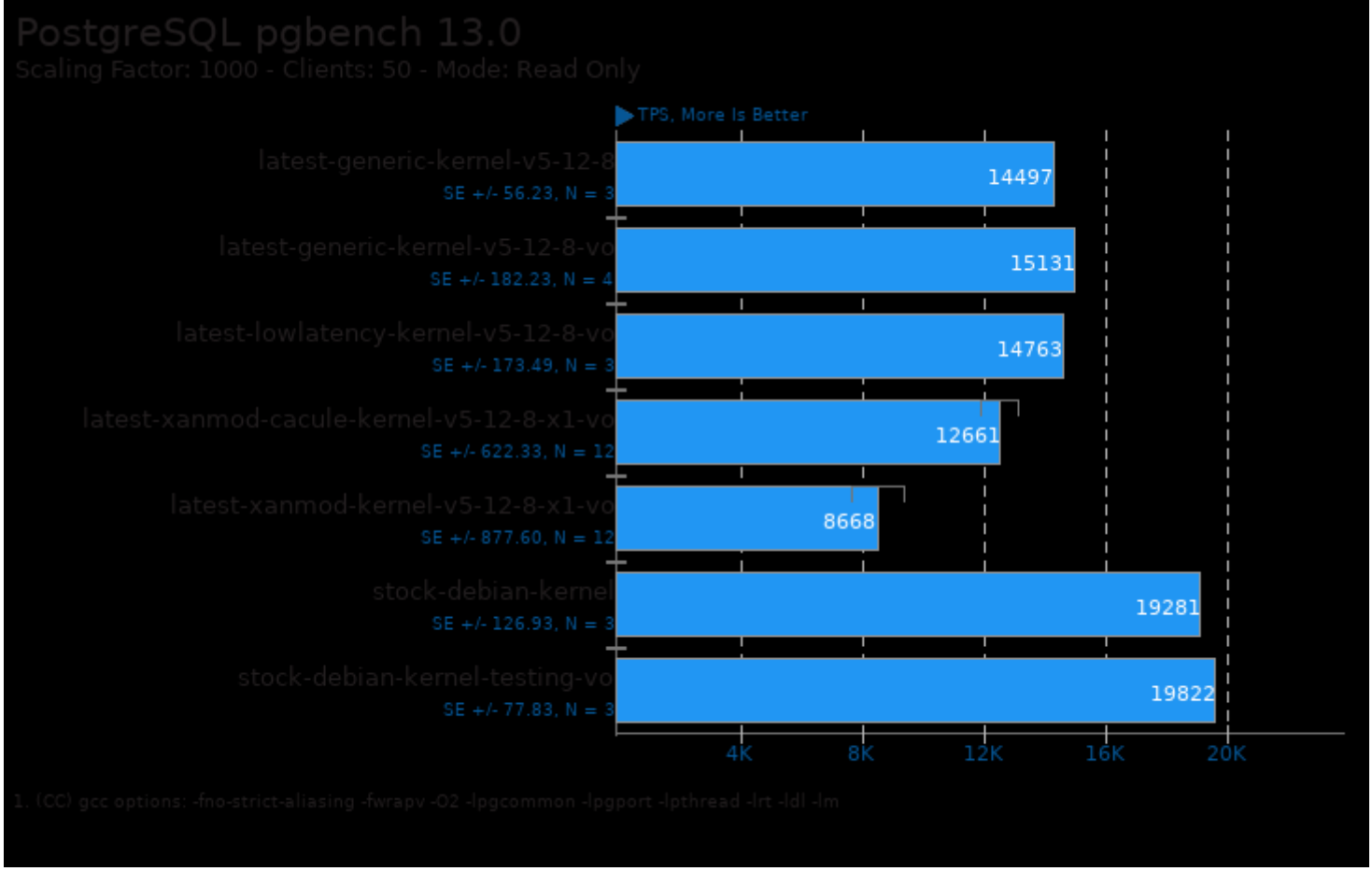

PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.002, N = 3
0.340
latest-generic-kernel-v5-12-8-vo
SE +/- 0.003, N = 9
0.323
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.005, N = 12
0.334
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.002, N = 12
0.339
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.004, N = 3
0.328
stock-debian-kernel
SE +/- 0.004, N = 12
0.246
stock-debian-kernel-testing-vo
SE +/- 0.002, N = 12
0.241
0.0765
0.153
0.2295
0.306
0.3825
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

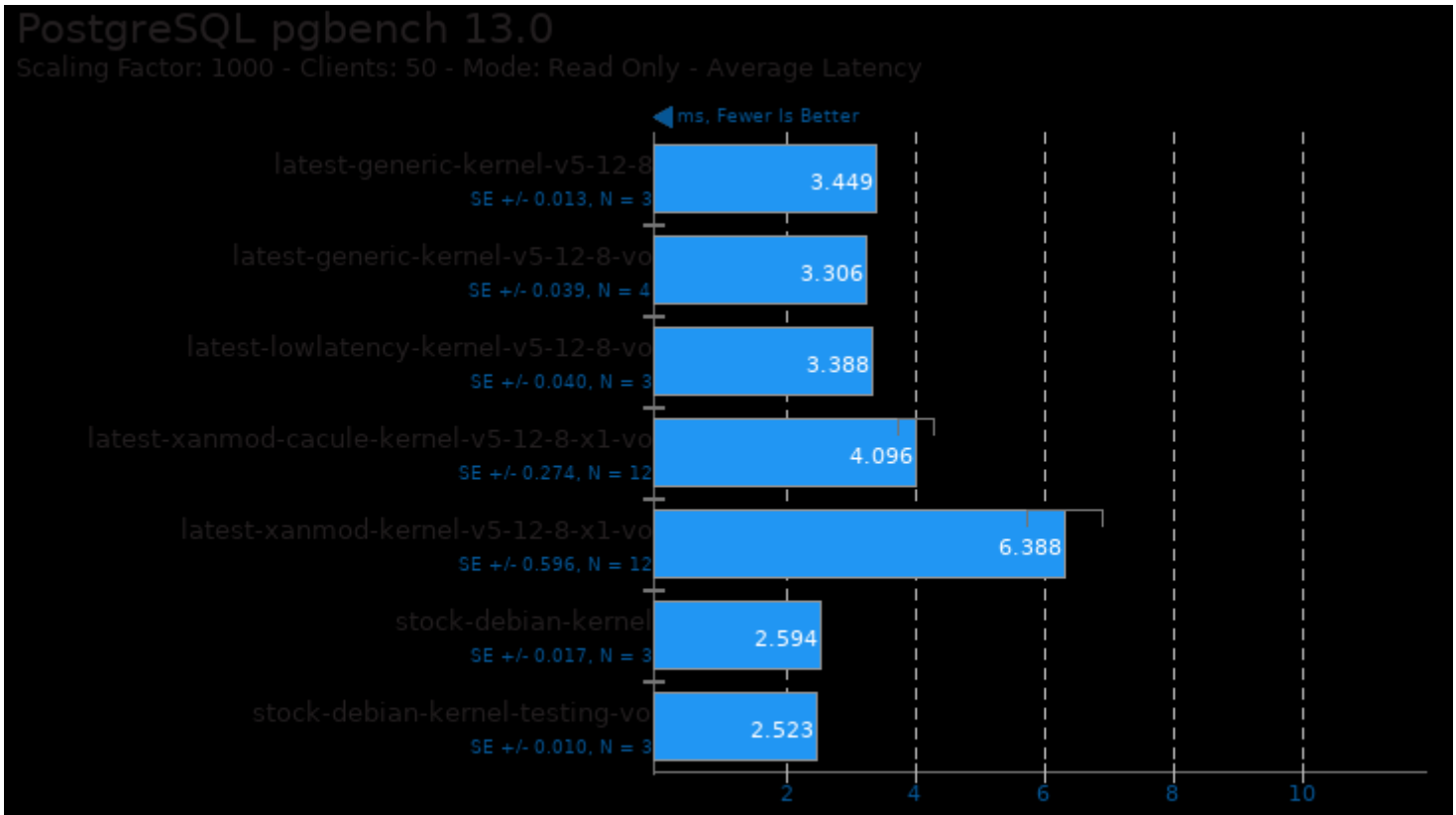

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Write
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 42.53, N = 3
3494
latest-generic-kernel-v5-12-8-vo
SE +/- 28.55, N = 3
3528
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 16.83, N = 3
3492
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 43.94, N = 3
3392
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 34.13, N = 3
3583
stock-debian-kernel
SE +/- 32.40, N = 3
3792
stock-debian-kernel-testing-vo
SE +/- 47.37, N = 4
3909
800
1600
2400
3200
4000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

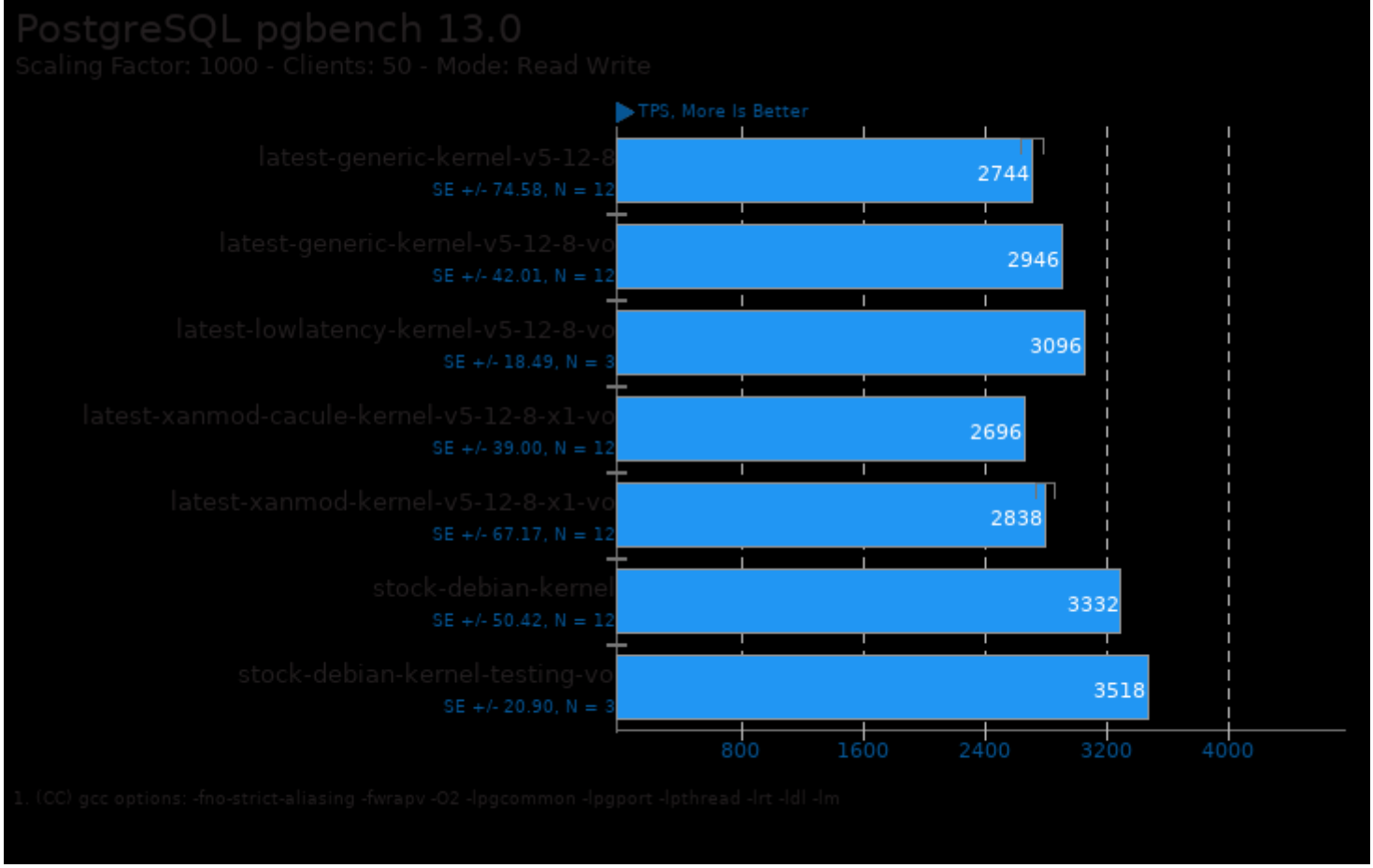

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.18, N = 3
14.31
latest-generic-kernel-v5-12-8-vo
SE +/- 0.11, N = 3
14.18
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.07, N = 3
14.32
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.19, N = 3
14.75
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.13, N = 3
13.96
stock-debian-kernel
SE +/- 0.11, N = 3
13.19
stock-debian-kernel-testing-vo
SE +/- 0.16, N = 4
12.80
4
8
12
16
20
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm


PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 1 - Mode: Read Write
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 8.73, N = 12
901
latest-generic-kernel-v5-12-8-vo
SE +/- 3.03, N = 3
944
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 8.23, N = 12
912
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 12.18, N = 3
938
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.35, N = 3
931
stock-debian-kernel
SE +/- 9.85, N = 12
1061
stock-debian-kernel-testing-vo
SE +/- 12.31, N = 3
1097
200
400
600
800
1000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm


PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.011, N = 12
1.111
latest-generic-kernel-v5-12-8-vo
SE +/- 0.003, N = 3
1.059
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.010, N = 12
1.097
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.014, N = 3
1.067
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.000, N = 3
1.074
stock-debian-kernel
SE +/- 0.009, N = 12
0.944
stock-debian-kernel-testing-vo
SE +/- 0.010, N = 3
0.912
0.25
0.5
0.75
1
1.25
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

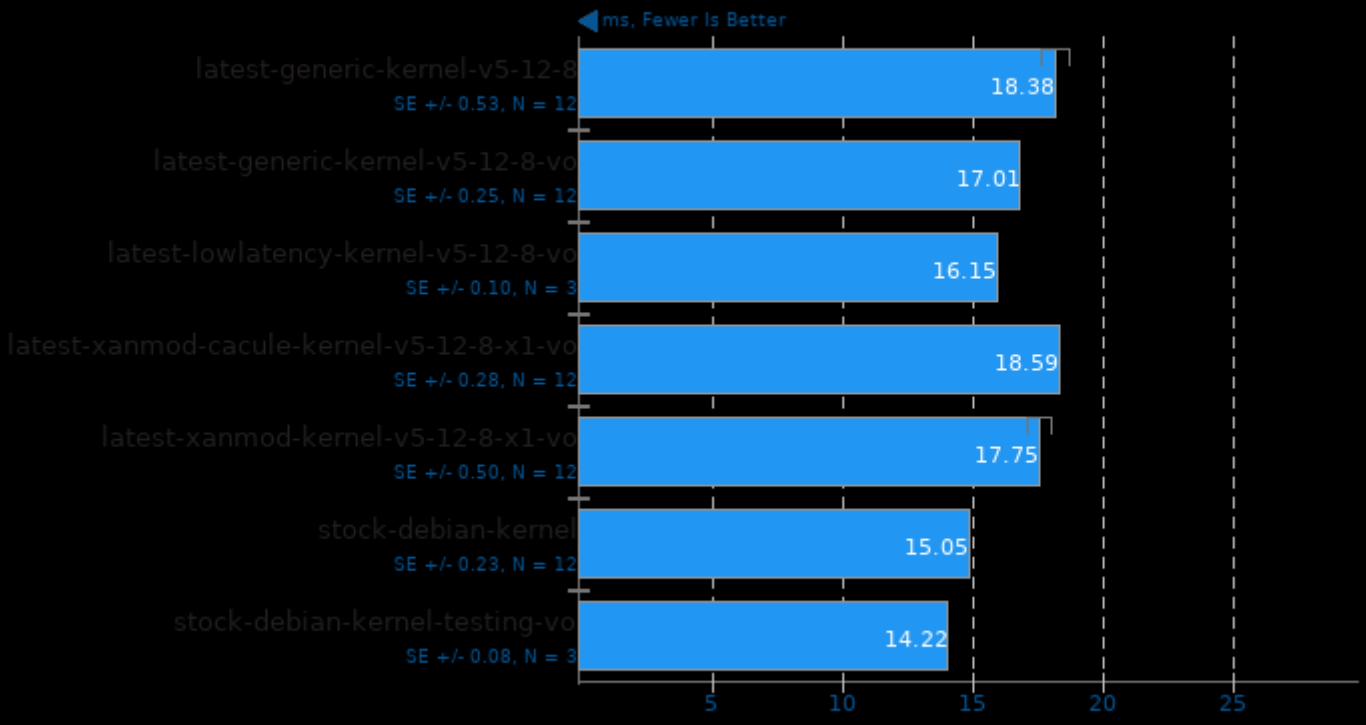

PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 50 - Mode: Read Only
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 56.23, N = 3
14497
latest-generic-kernel-v5-12-8-vo
SE +/- 182.23, N = 4
15131
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 173.49, N = 3
14763
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 622.33, N = 12
12661
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 877.60, N = 12
8668
stock-debian-kernel
SE +/- 126.93, N = 3
19281
stock-debian-kernel-testing-vo
SE +/- 77.83, N = 3
19822
4K
8K
12K
16K
20K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm


PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 50 - Mode: Read Only - Average Latency
ms, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.013, N = 3
3.449
latest-generic-kernel-v5-12-8-vo
SE +/- 0.039, N = 4
3.306
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.040, N = 3
3.388
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.274, N = 12
4.096
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.596, N = 12
6.388
stock-debian-kernel
SE +/- 0.017, N = 3
2.594
stock-debian-kernel-testing-vo
SE +/- 0.010, N = 3
2.523
2
4
6
8
10
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm


PostgreSQL pgbench 13.0
Scaling Factor: 1000 - Clients: 50 - Mode: Read Write
TPS, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 74.58, N = 12
2744
latest-generic-kernel-v5-12-8-vo
SE +/- 42.01, N = 12
2946
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 18.49, N = 3
3096
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 39.00, N = 12
2696
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 67.17, N = 12
2838
stock-debian-kernel
SE +/- 50.42, N = 12
3332
stock-debian-kernel-testing-vo
SE +/- 20.90, N = 3
3518
800
1600
2400
3200
4000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

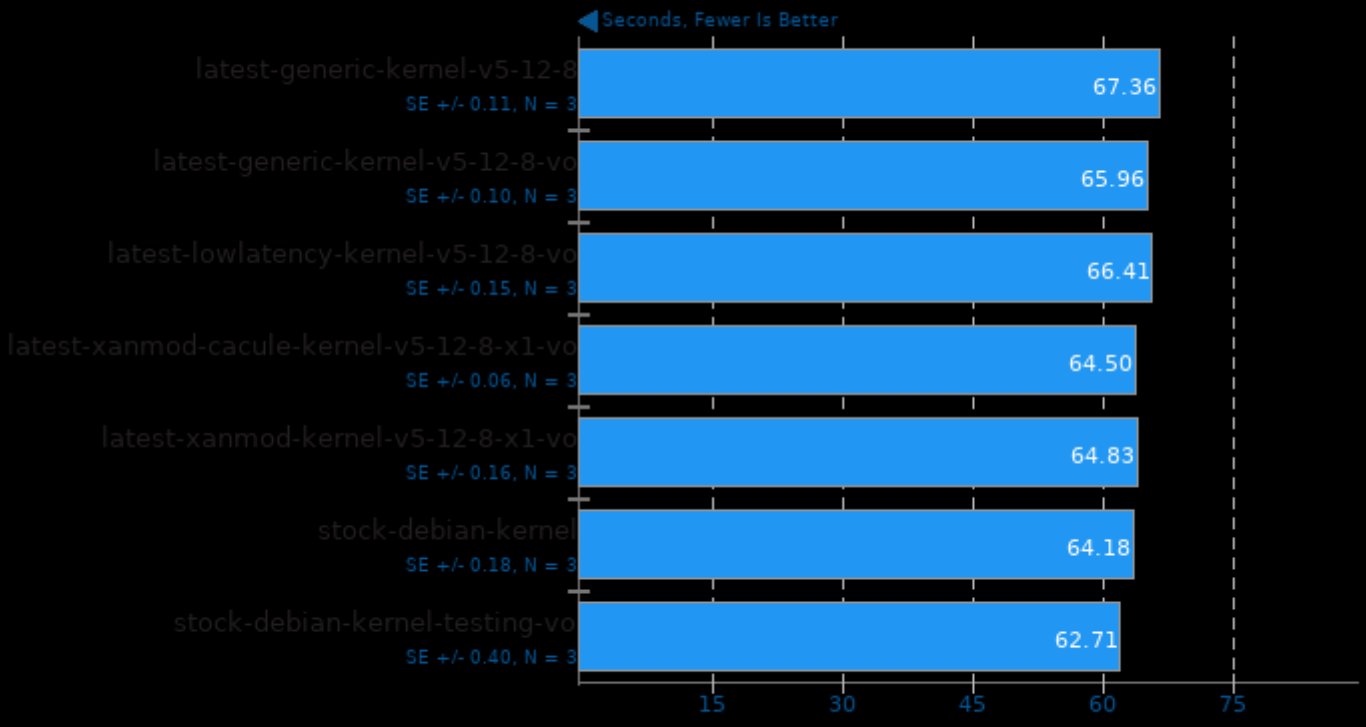
Scaling Factor: 1000 - Clients: 50 - Mode: Read Write - Average Latency



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

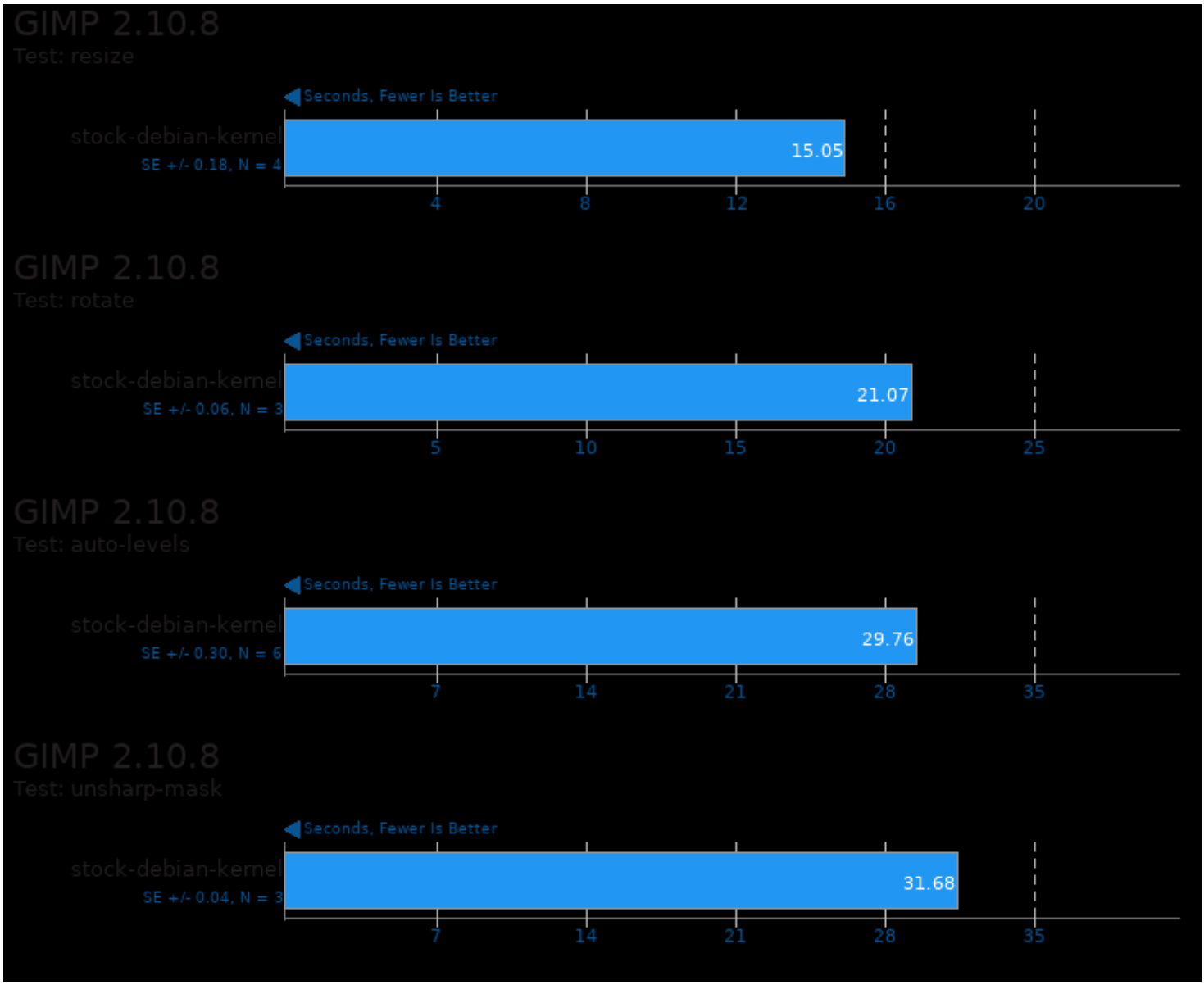
SQLite Speedtest 3.30

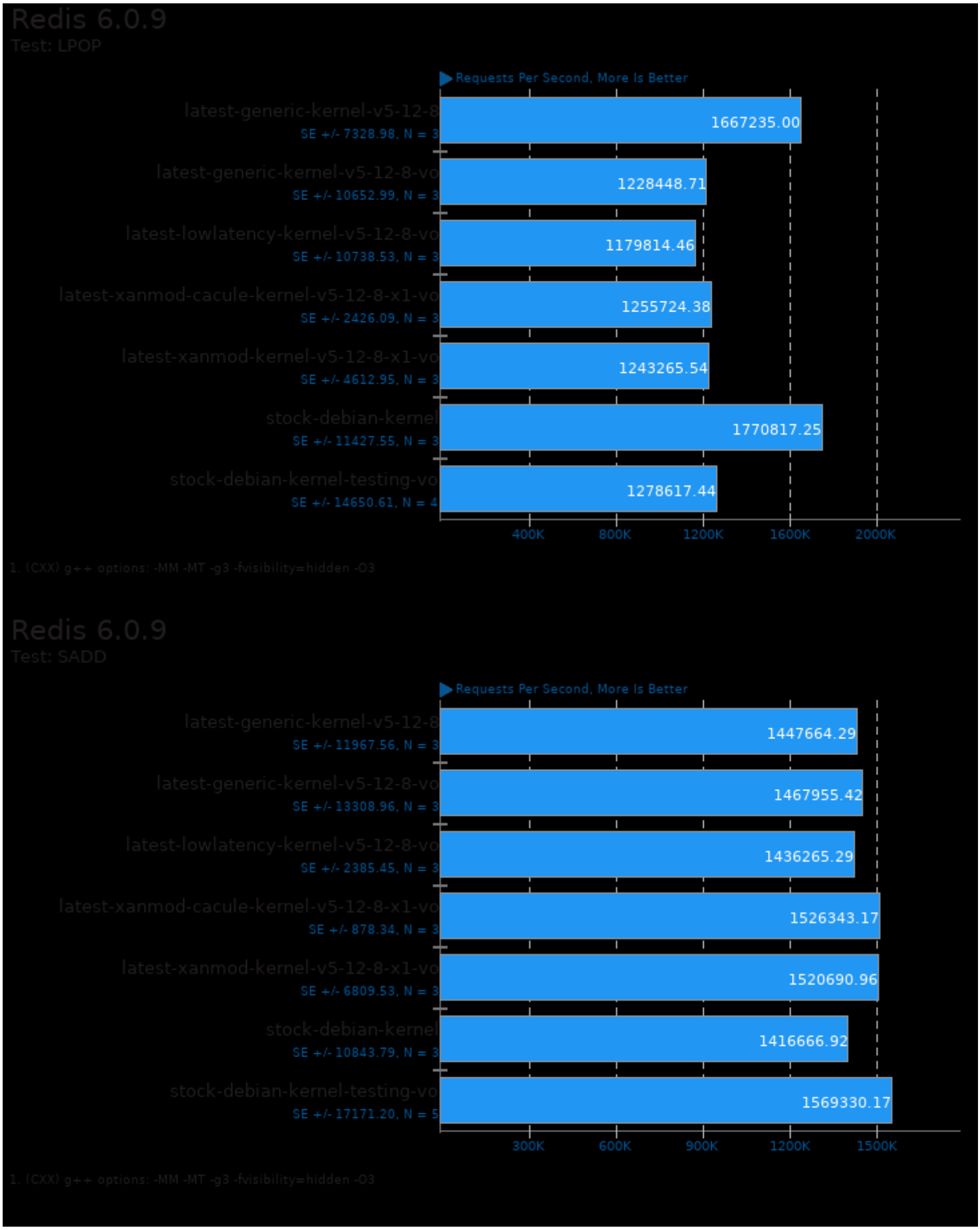
Timed Time - Size 1,000

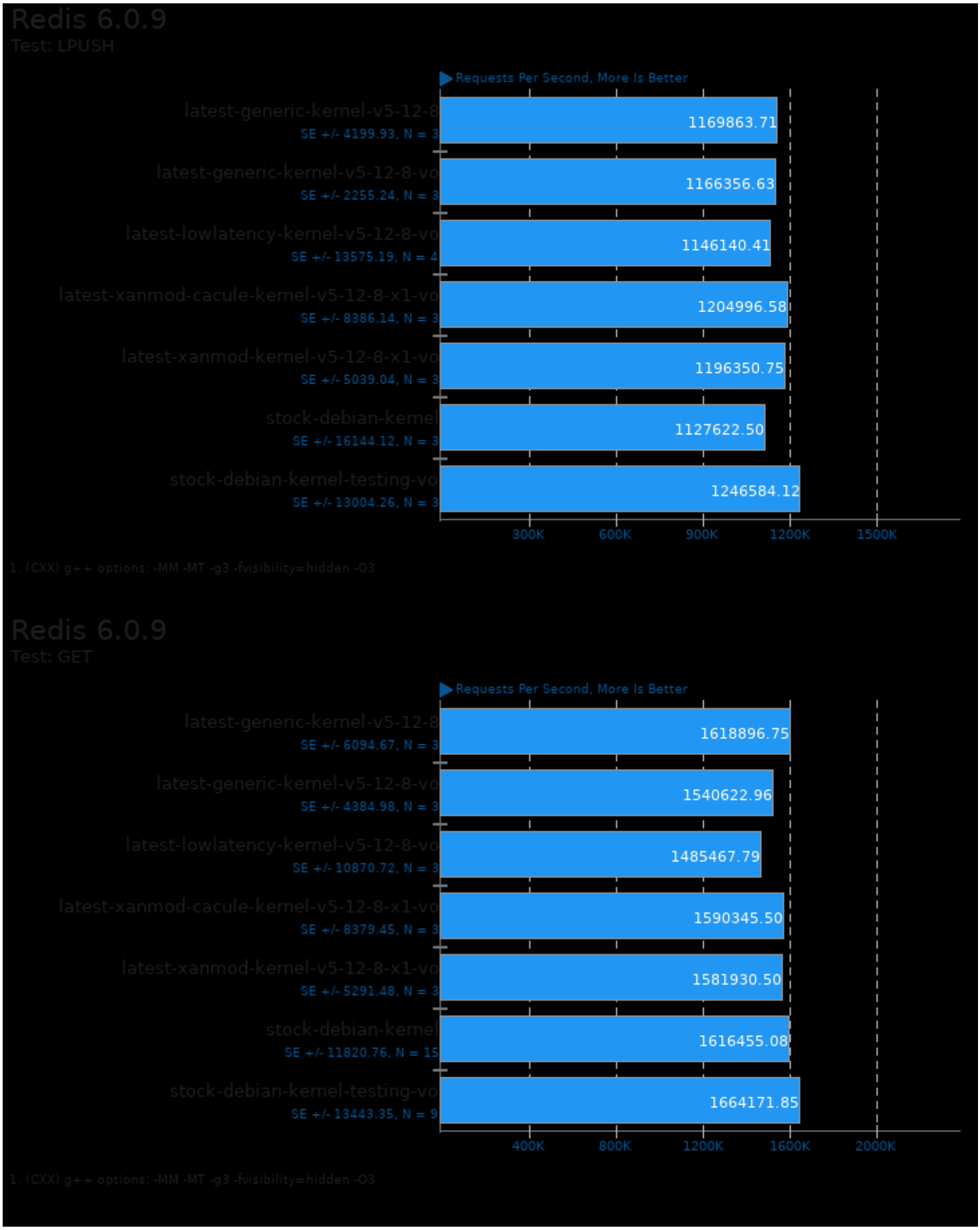


1. (CC) gcc options: -O2 -ldl -lz -lpthread

stock-debian-kernel



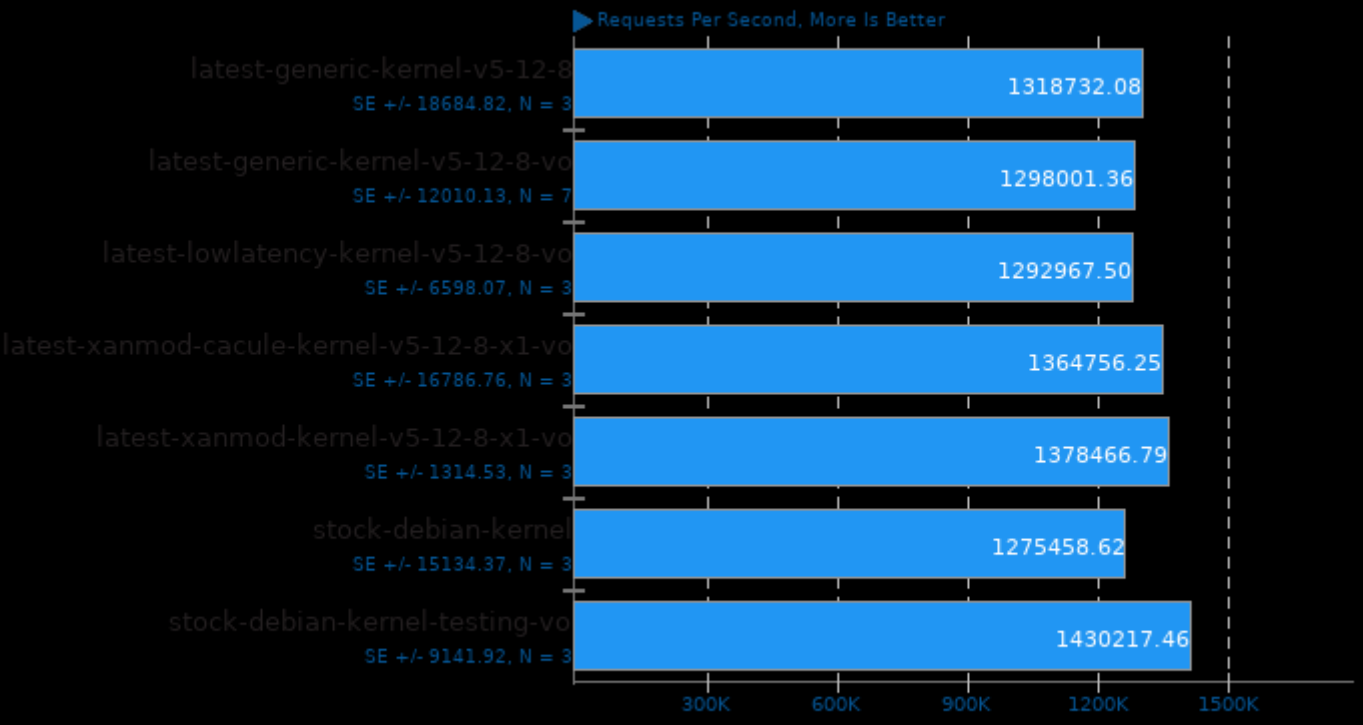

Redis 6.0.9
Test: LPOP
Requests Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 7328.98, N = 3
1667235.00
latest-generic-kernel-v5-12-8-vo
SE +/- 10652.99, N = 3
1228448.71
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 10738.53, N = 3
1179814.46
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2426.09, N = 3
1255724.38
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 4612.95, N = 3
1243265.54
stock-debian-kernel
SE +/- 11427.55, N = 3
1770817.25
stock-debian-kernel-testing-vo
SE +/- 14650.61, N = 4
1278617.44
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: SADD
Requests Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 11967.56, N = 3
1447664.29
latest-generic-kernel-v5-12-8-vo
SE +/- 13308.96, N = 3
1467955.42
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 2385.45, N = 3
1436265.29
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 878.34, N = 3
1526343.17
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 6809.53, N = 3
1520690.96
stock-debian-kernel
SE +/- 10843.79, N = 3
1416666.92
stock-debian-kernel-testing-vo
SE +/- 17171.20, N = 5
1569330.17
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3


Redis 6.0.9
Test: LPUSH
Requests Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 4199.93, N = 3
1169863.71
latest-generic-kernel-v5-12-8-vo
SE +/- 2255.24, N = 3
1166356.63
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 13575.19, N = 4
1146140.41
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 8386.14, N = 3
1204996.58
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 5039.04, N = 3
1196350.75
stock-debian-kernel
SE +/- 16144.12, N = 3
1127622.50
stock-debian-kernel-testing-vo
SE +/- 13004.26, N = 3
1246584.12
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 6.0.9
Test: GET
Requests Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 6094.67, N = 3
1618896.75
latest-generic-kernel-v5-12-8-vo
SE +/- 4384.98, N = 3
1540622.96
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 10870.72, N = 3
1485467.79
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 8379.45, N = 3
1590345.50
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 5291.48, N = 3
1581930.50
stock-debian-kernel
SE +/- 11820.76, N = 15
1616455.08
stock-debian-kernel-testing-vo
SE +/- 13443.35, N = 9
1664171.85
400K
800K
1200K
1600K
2000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

stock-debian-kernel

Redis 6.0.9

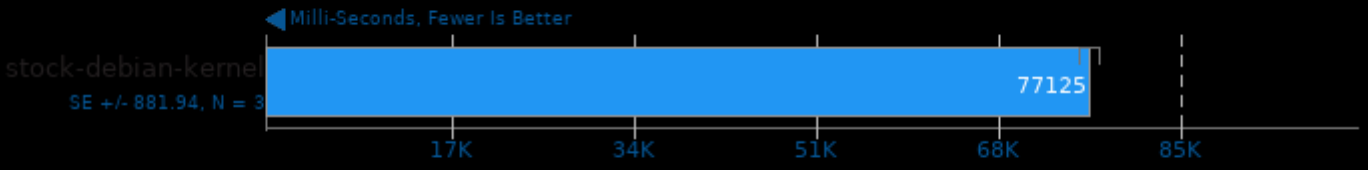
Test: SET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Caffe 2020-02-13

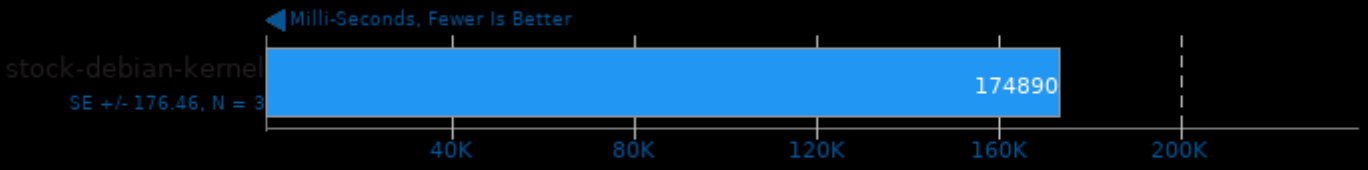
Model: AlexNet - Acceleration: CPU - Iterations: 100



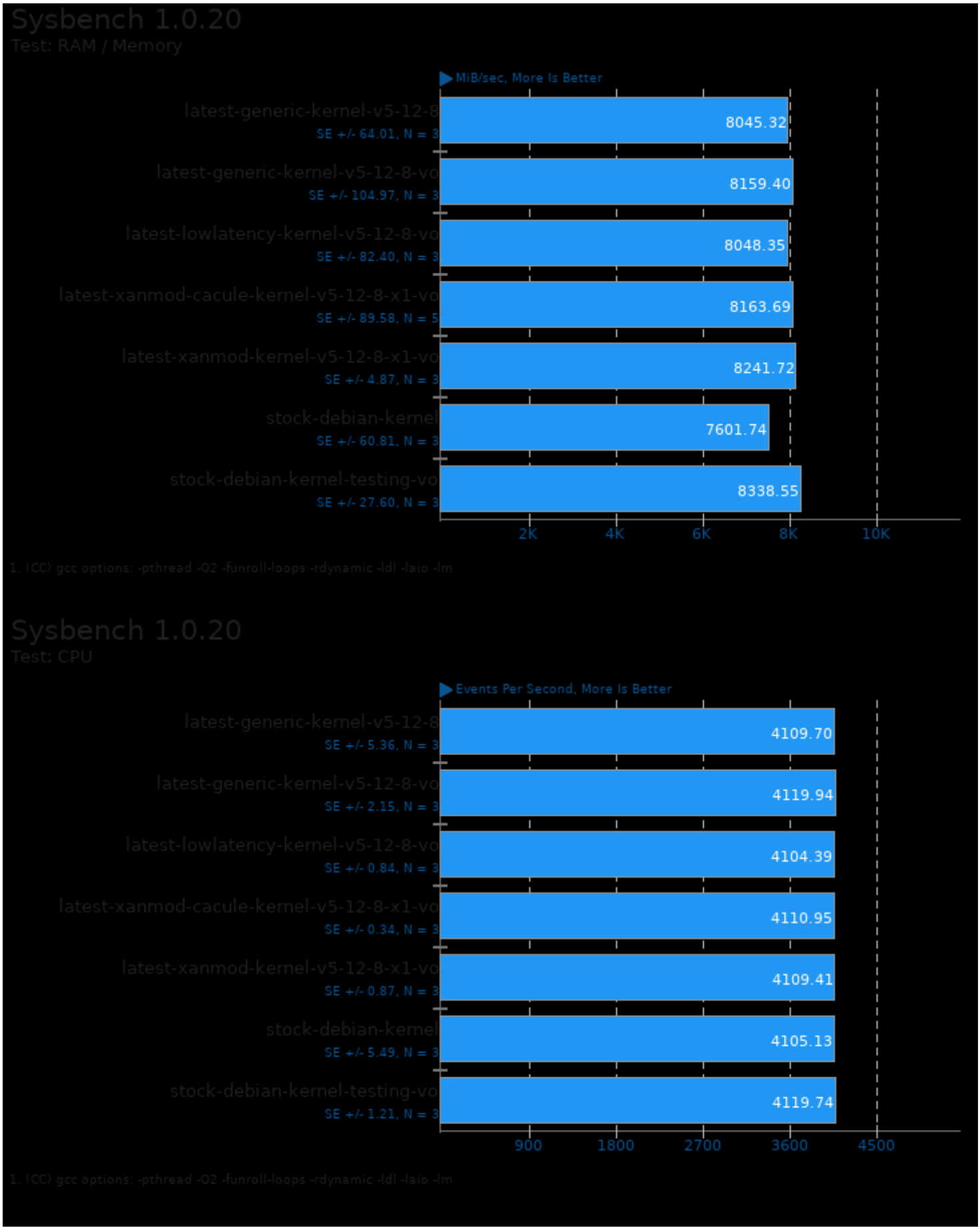
1. (CXX) g++ options: -fPIC -O3 -rdynamic -lboost_system -lboost_thread -lboost_filesystem -lboost_chrono -lboost_date_time -lboost_atomic -lglog -lgfl

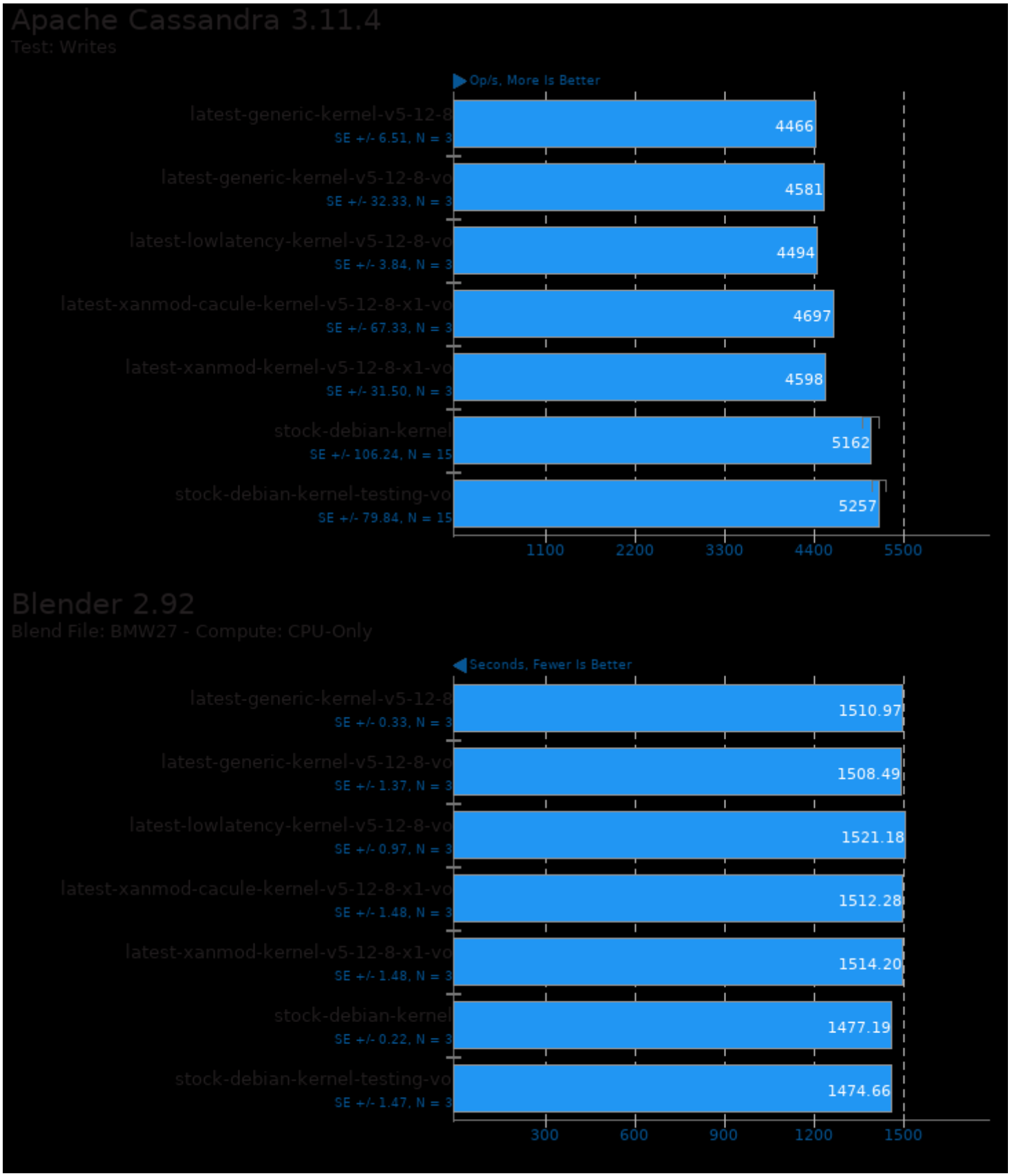
Caffe 2020-02-13

Model: GoogleNet - Acceleration: CPU - Iterations: 100

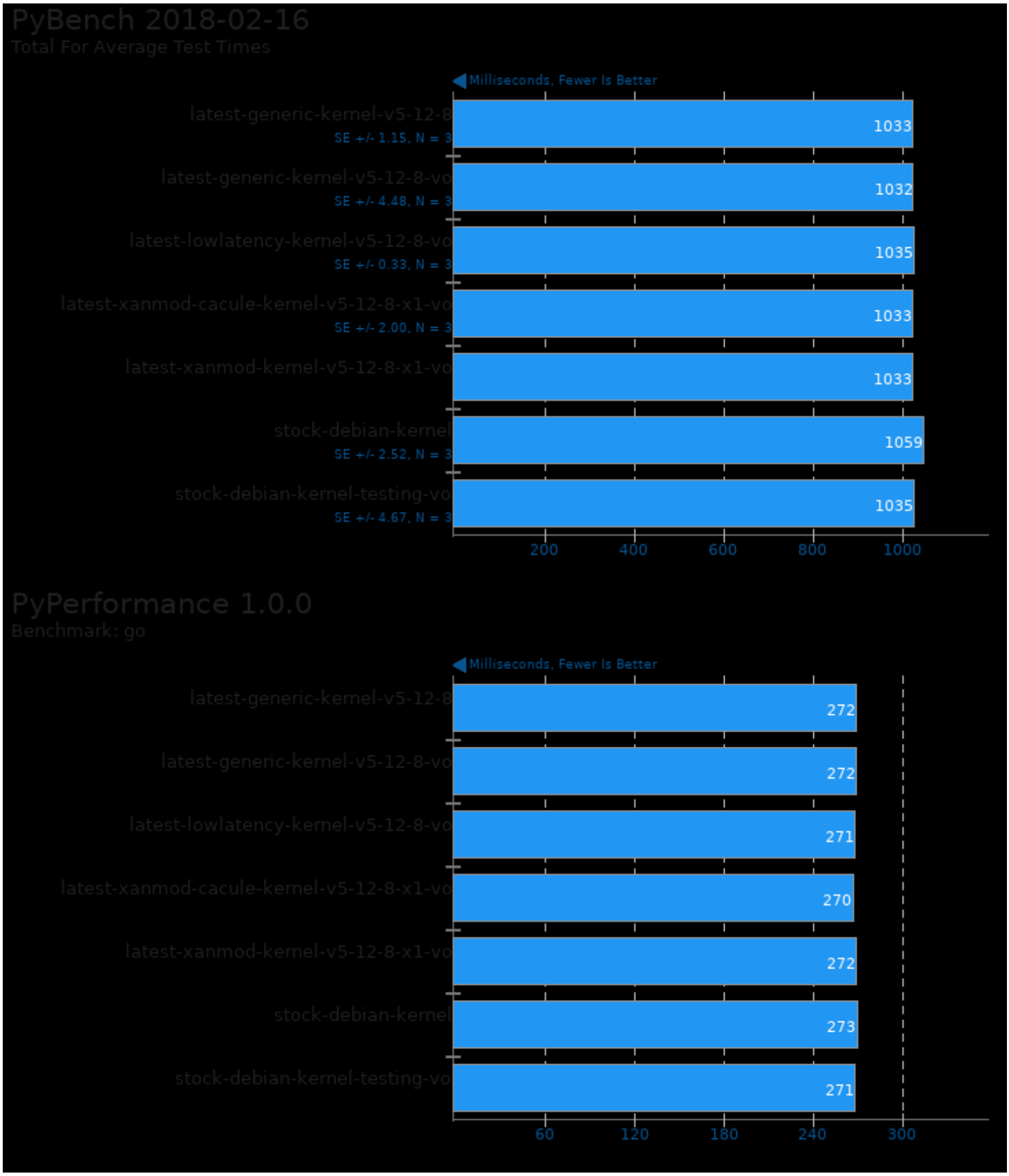


1. (CXX) g++ options: -fPIC -O3 -rdynamic -lboost_system -lboost_thread -lboost_filesystem -lboost_chrono -lboost_date_time -lboost_atomic -lglog -lgfl

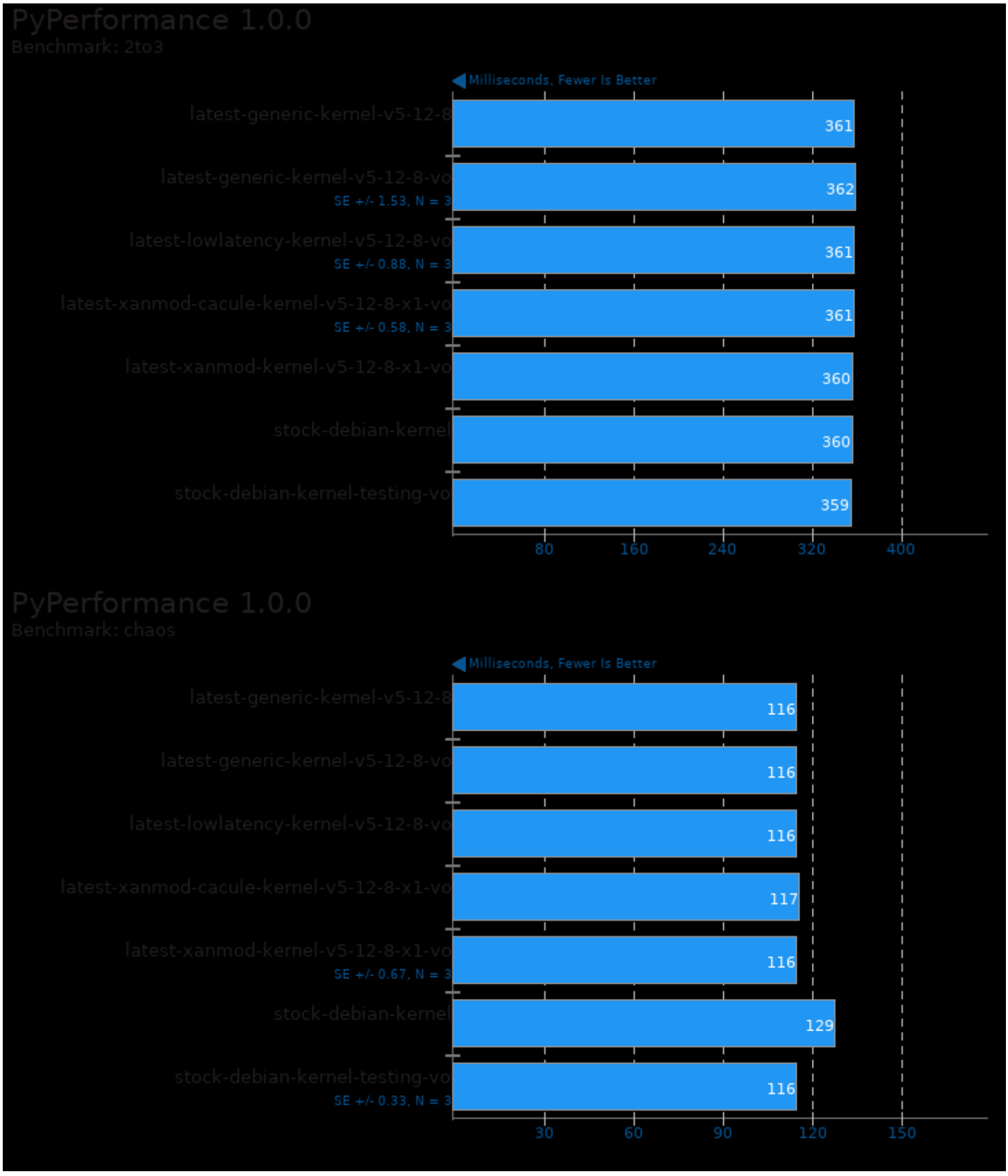

Sysbench 1.0.20
Test: RAM / Memory
MiB/sec, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 64.01, N = 3
8045.32
latest-generic-kernel-v5-12-8-vo
SE +/- 104.97, N = 3
8159.40
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 82.40, N = 3
8048.35
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 89.58, N = 5
8163.69
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 4.87, N = 3
8241.72
stock-debian-kernel
SE +/- 60.81, N = 3
7601.74
stock-debian-kernel-testing-vo
SE +/- 27.60, N = 3
8338.55
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm
Sysbench 1.0.20
Test: CPU
Events Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 5.36, N = 3
4109.70
latest-generic-kernel-v5-12-8-vo
SE +/- 2.15, N = 3
4119.94
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.84, N = 3
4104.39
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.34, N = 3
4110.95
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.87, N = 3
4109.41
stock-debian-kernel
SE +/- 5.49, N = 3
4105.13
stock-debian-kernel-testing-vo
SE +/- 1.21, N = 3
4119.74
900
1800
2700
3600
4500
1. (CC) gcc options: -pthread -O2 -funroll-loops -rdynamic -ldl -laio -lm


Apache Cassandra 3.11.4
Test: Writes
Op/s, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 6.51, N = 3
4466
latest-generic-kernel-v5-12-8-vo
SE +/- 32.33, N = 3
4581
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 3.84, N = 3
4494
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 67.33, N = 3
4697
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 31.50, N = 3
4598
stock-debian-kernel
SE +/- 106.24, N = 15
5162
stock-debian-kernel-testing-vo
SE +/- 79.84, N = 15
5257
1100
2200
3300
4400
5500
Blender 2.92
Blend File: BMW27 - Compute: CPU-Only
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.33, N = 3
1510.97
latest-generic-kernel-v5-12-8-vo
SE +/- 1.37, N = 3
1508.49
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.97, N = 3
1521.18
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 1.48, N = 3
1512.28
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 1.48, N = 3
1514.20
stock-debian-kernel
SE +/- 0.22, N = 3
1477.19
stock-debian-kernel-testing-vo
SE +/- 1.47, N = 3
1474.66
300
600
900
1200
1500

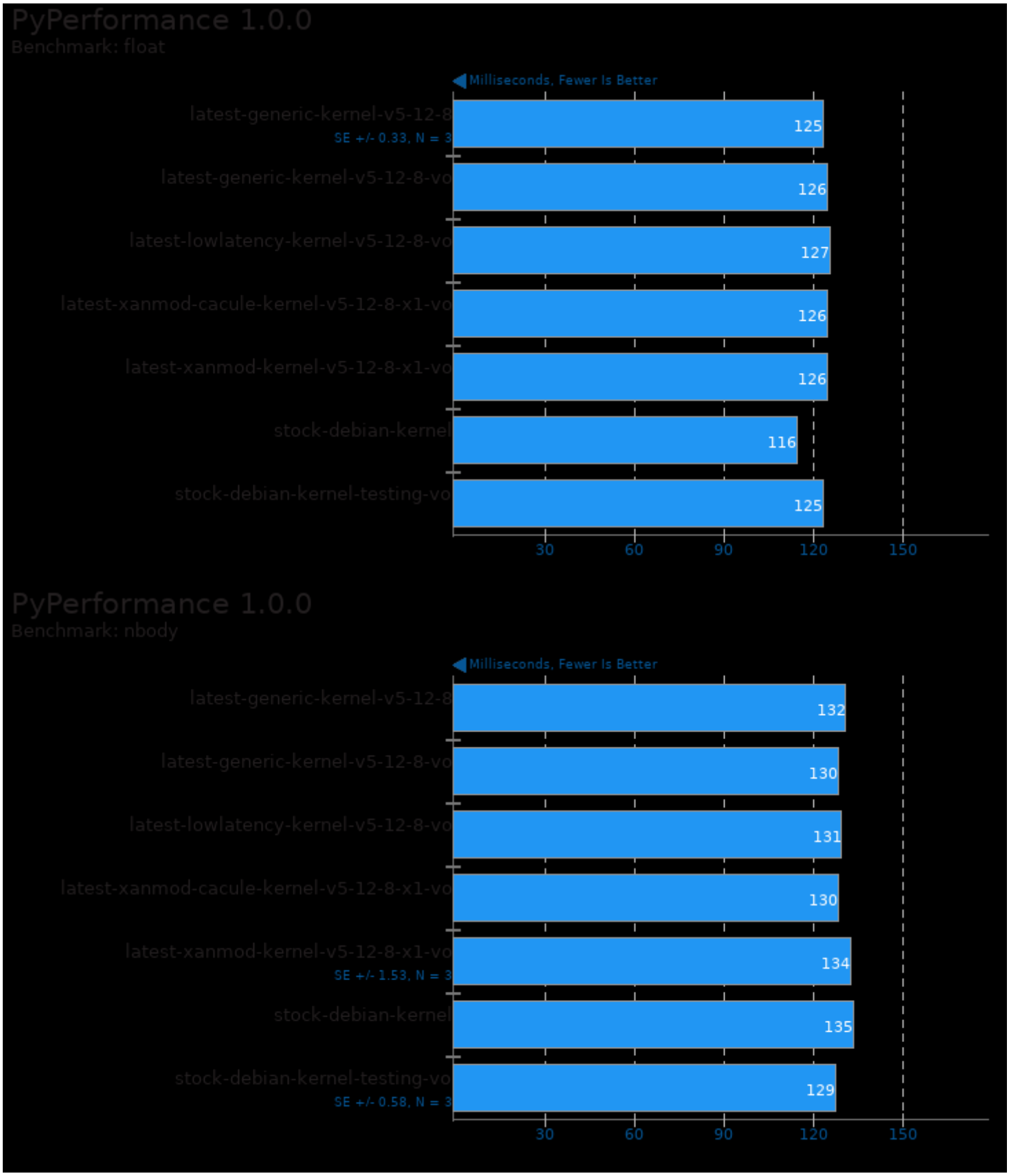
stock-debian-kernel

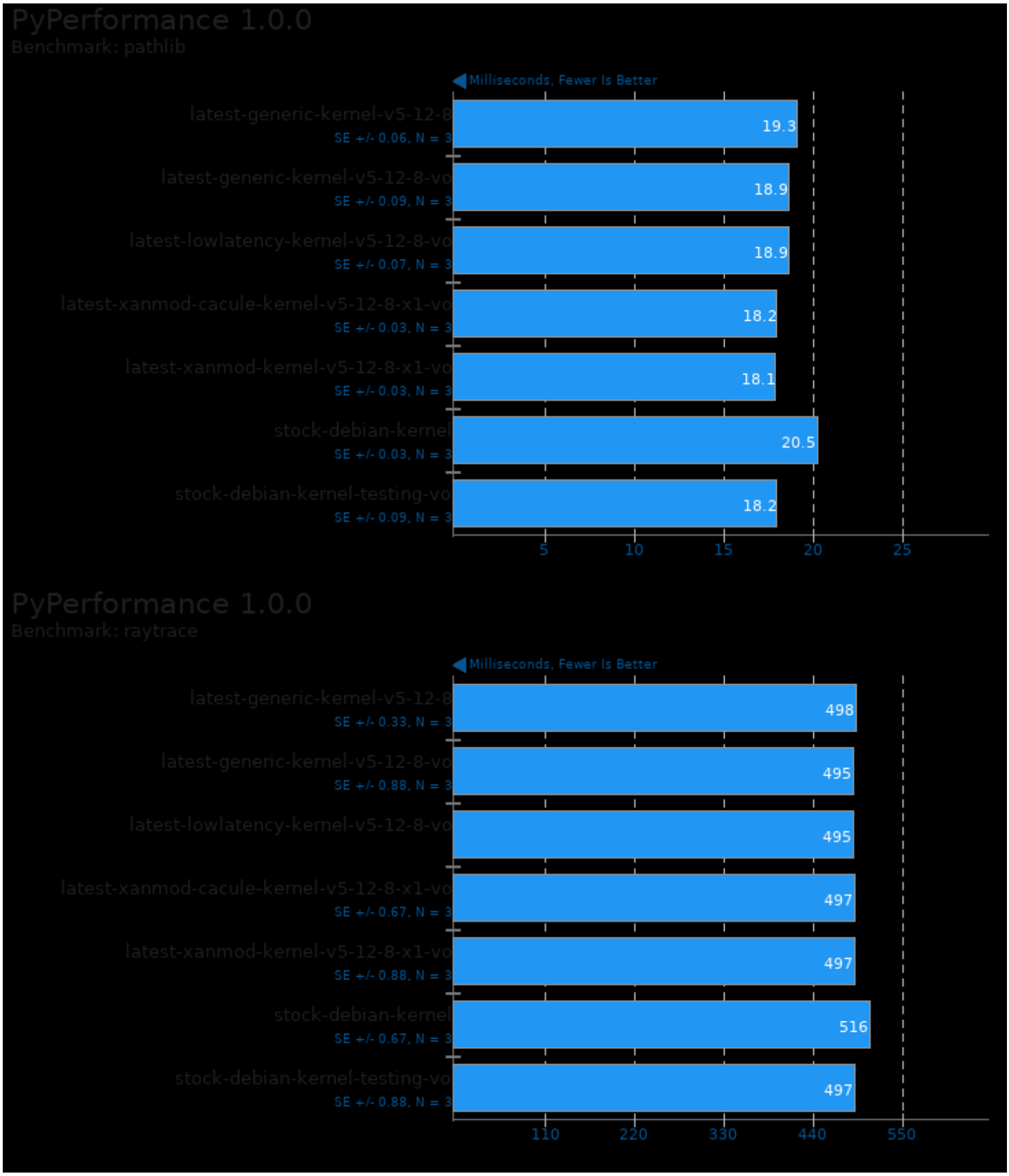


stock-debian-kernel

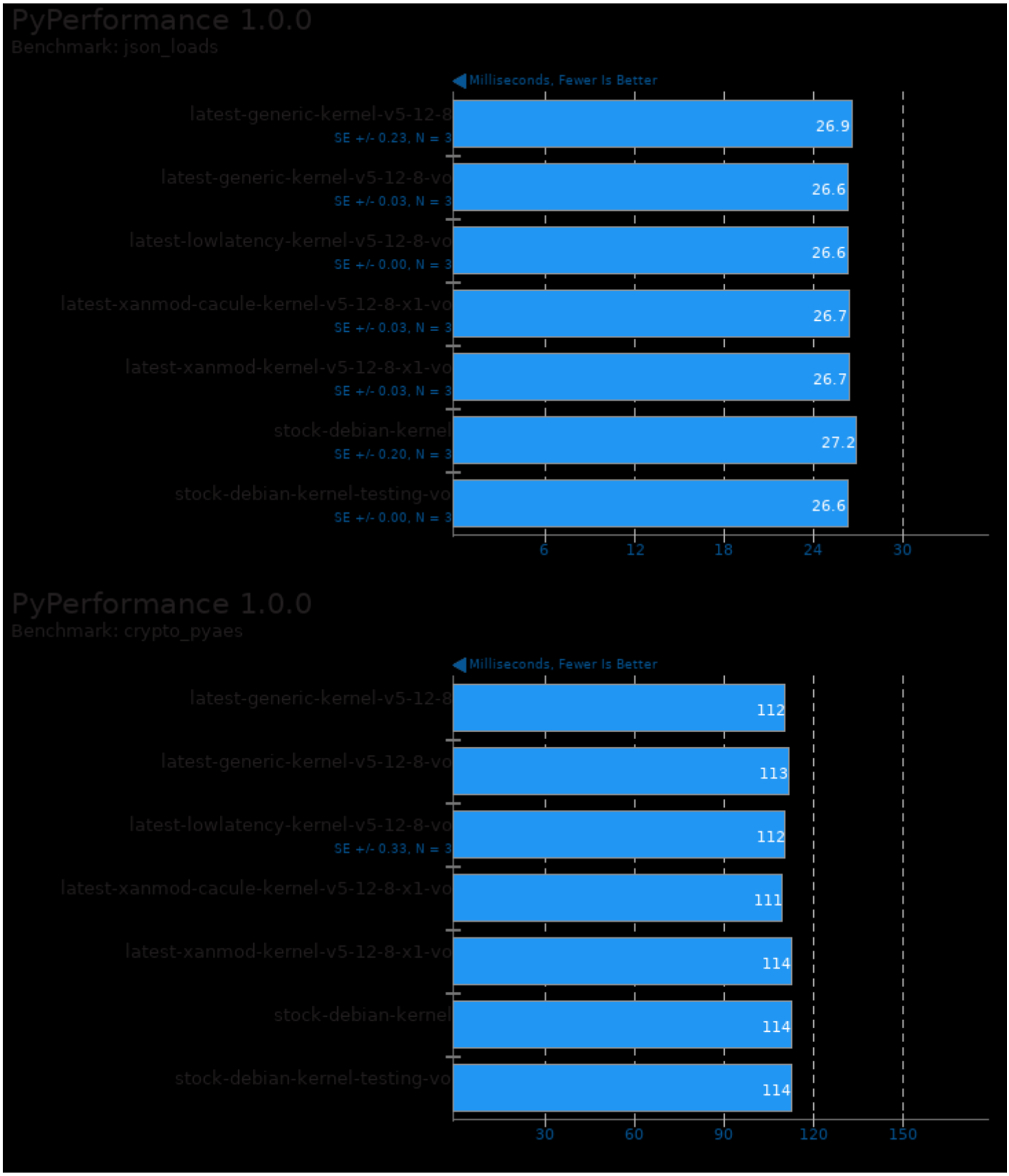


stock-debian-kernel

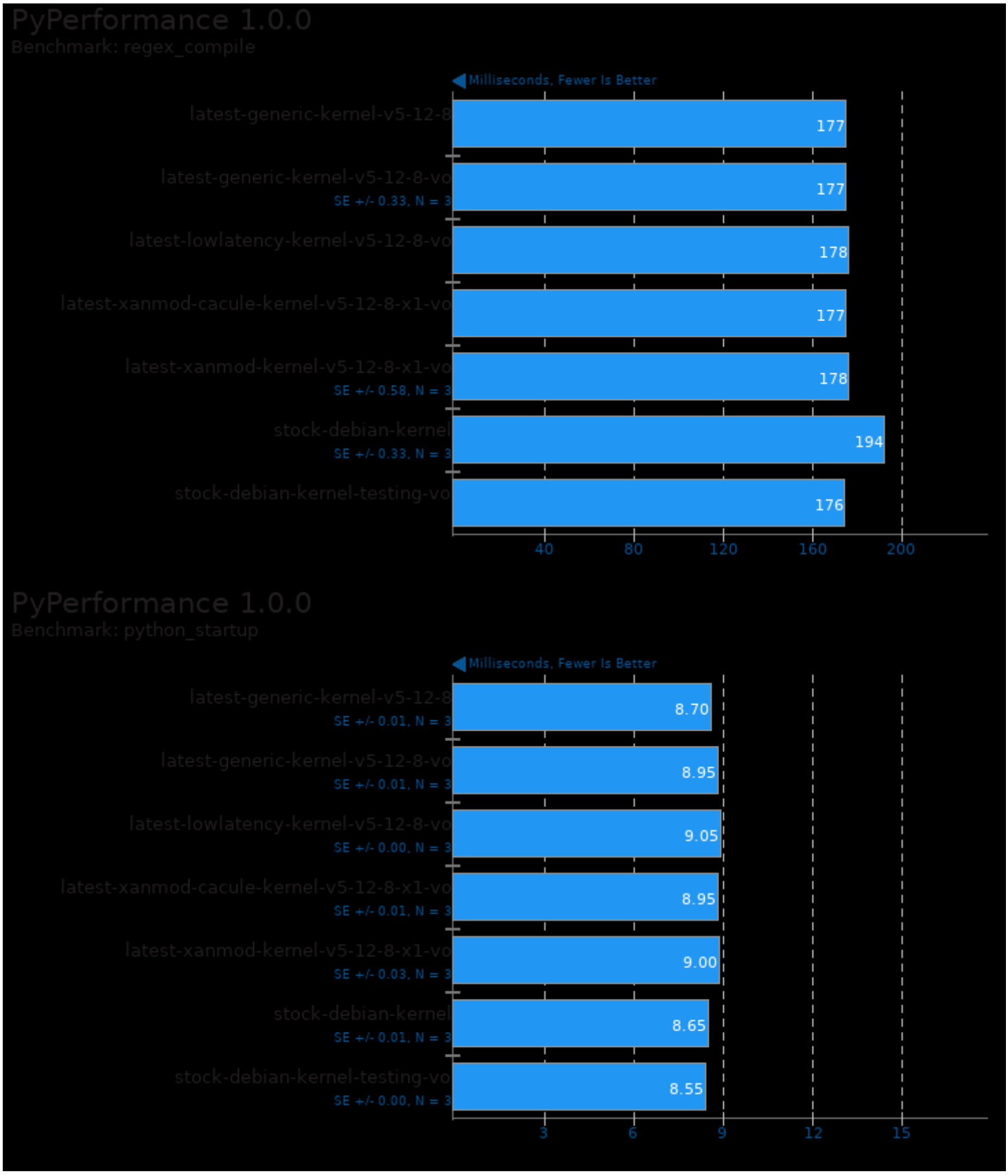


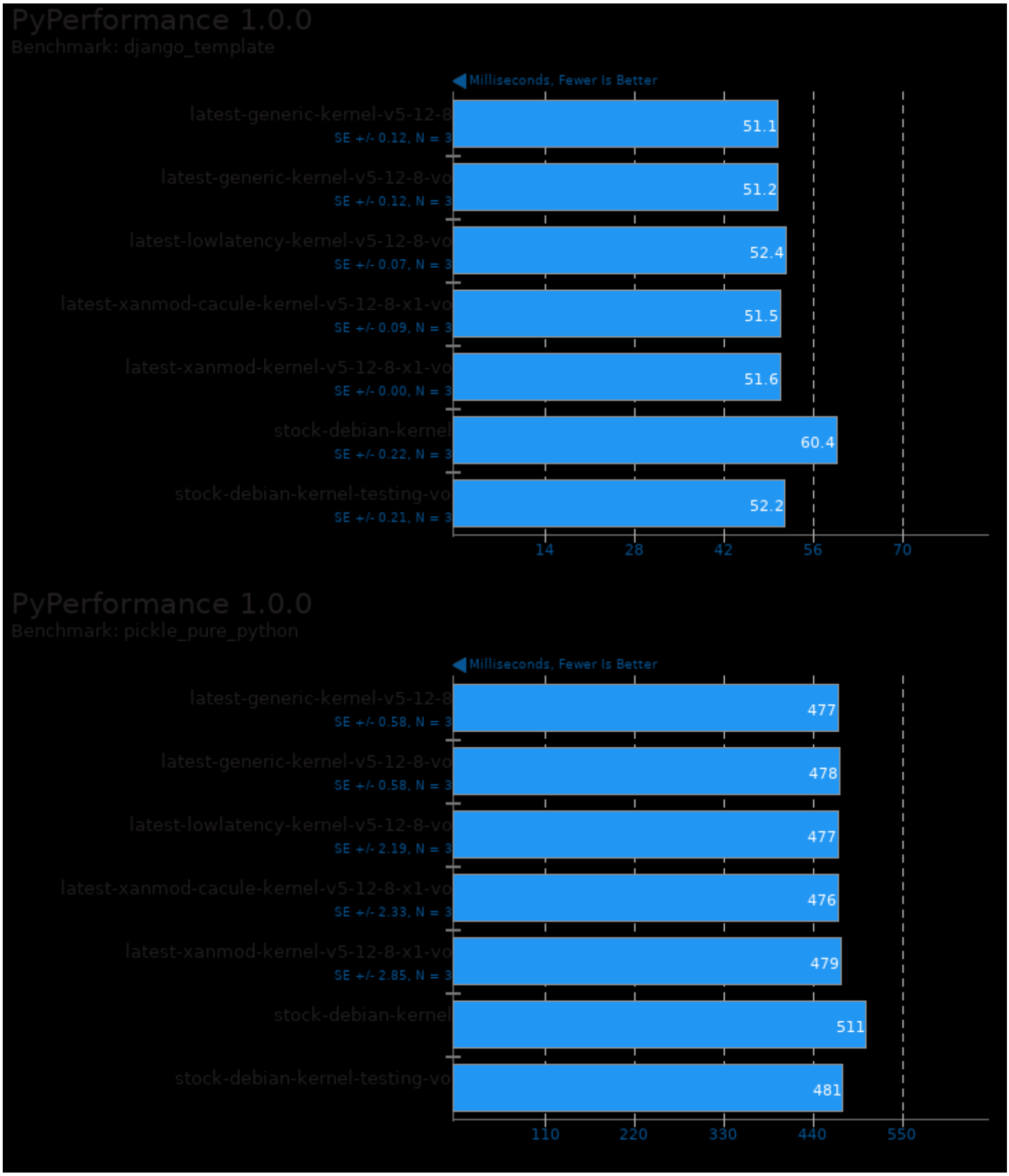

PyPerformance 1.0.0
Benchmark: pathlib
Milliseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.06, N = 3
19.3
latest-generic-kernel-v5-12-8-vo
SE +/- 0.09, N = 3
18.9
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.07, N = 3
18.9
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.03, N = 3
18.2
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.03, N = 3
18.1
stock-debian-kernel
SE +/- 0.03, N = 3
20.5
stock-debian-kernel-testing-vo
SE +/- 0.09, N = 3
18.2
5
10
15
20
25
PyPerformance 1.0.0
Benchmark: raytrace
Milliseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.33, N = 3
498
latest-generic-kernel-v5-12-8-vo
SE +/- 0.88, N = 3
495
latest-lowlatency-kernel-v5-12-8-vo
495
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.67, N = 3
497
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.88, N = 3
497
stock-debian-kernel
SE +/- 0.67, N = 3
516
stock-debian-kernel-testing-vo
SE +/- 0.88, N = 3
497
110
220
330
440
550

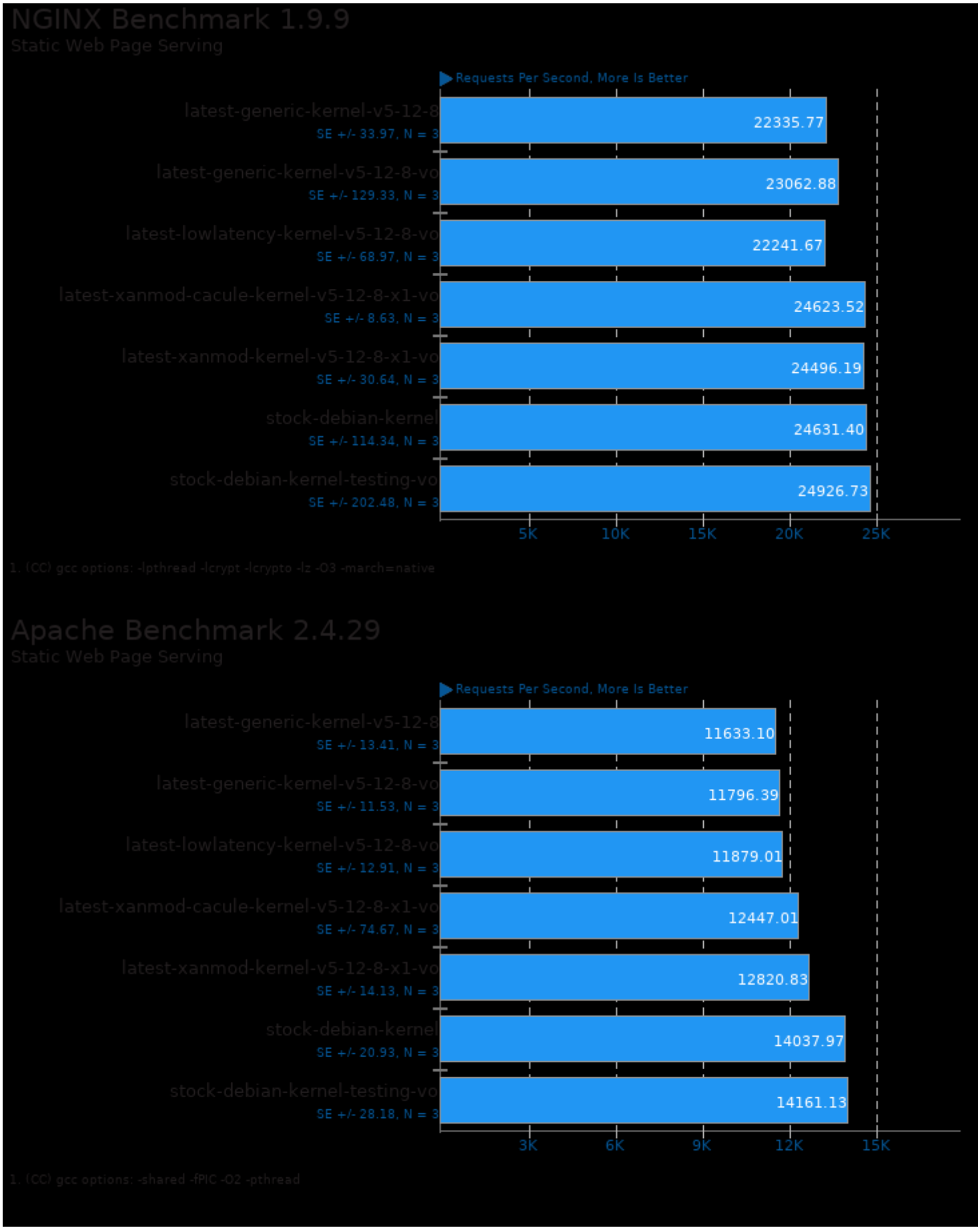
stock-debian-kernel



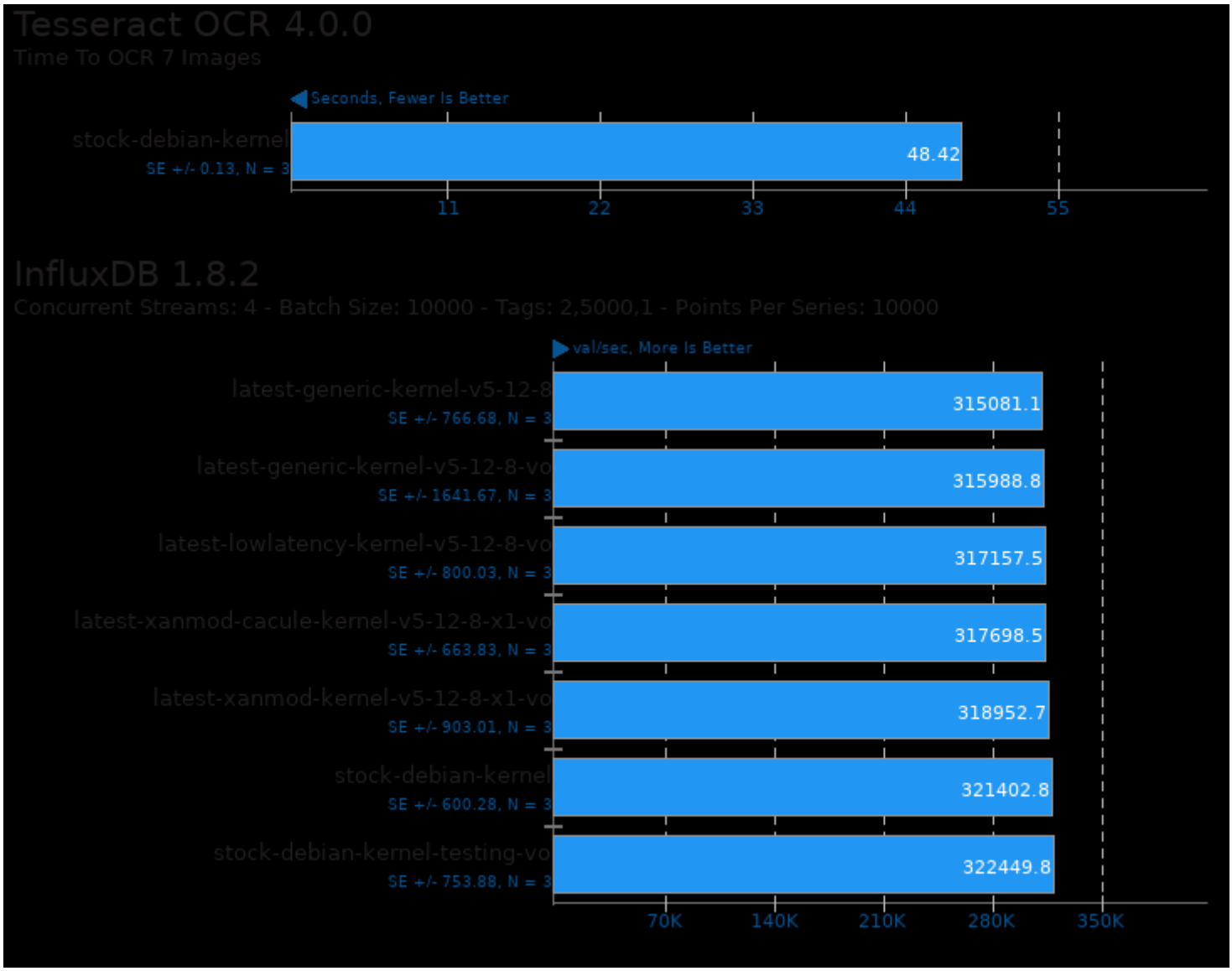
stock-debian-kernel



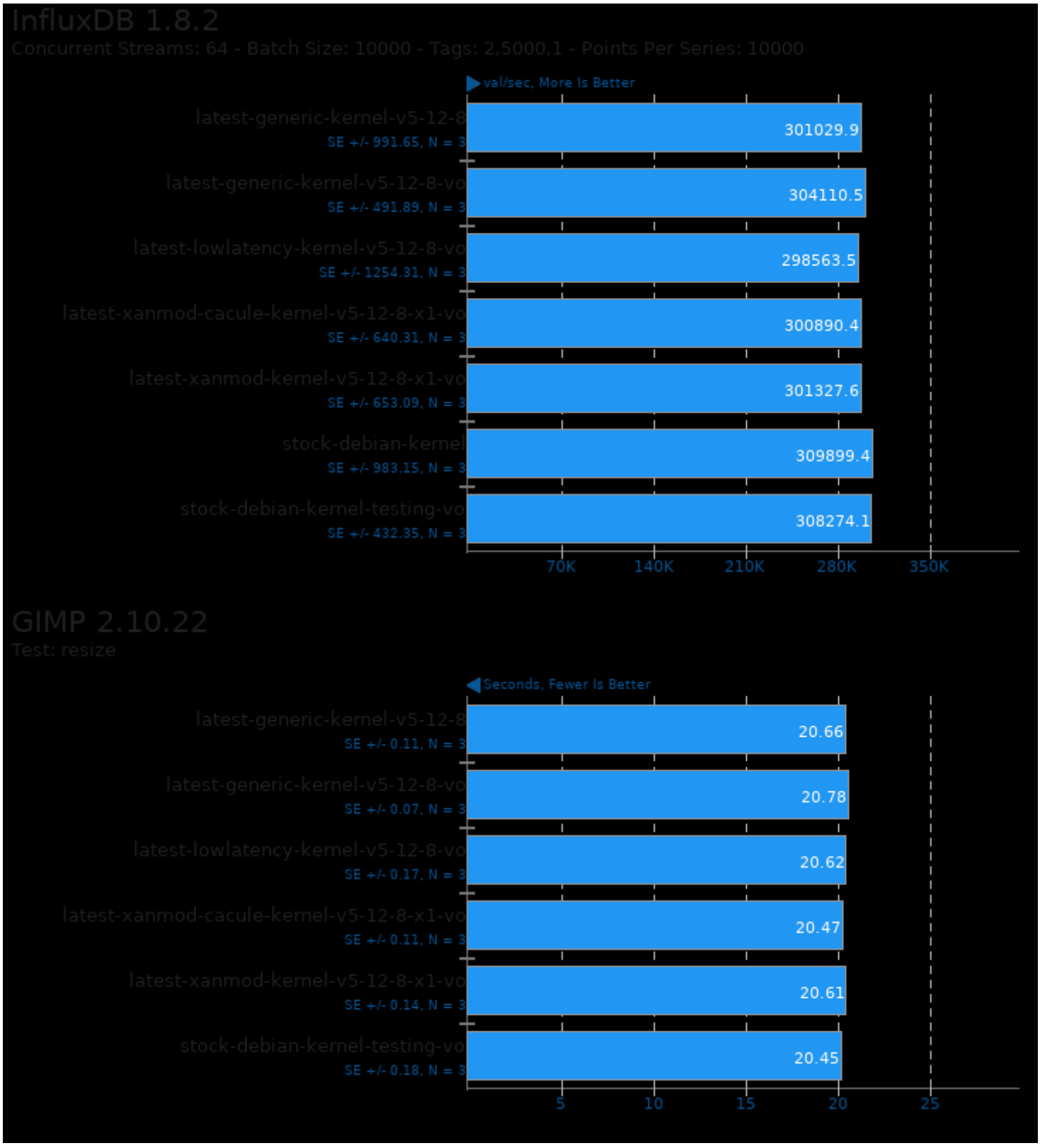

PyPerformance 1.0.0
Benchmark: django_template
Milliseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.12, N = 3
51.1
latest-generic-kernel-v5-12-8-vo
SE +/- 0.12, N = 3
51.2
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.07, N = 3
52.4
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.09, N = 3
51.5
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.00, N = 3
51.6
stock-debian-kernel
SE +/- 0.22, N = 3
60.4
stock-debian-kernel-testing-vo
SE +/- 0.21, N = 3
52.2
14
28
42
56
70
PyPerformance 1.0.0
Benchmark: pickle_pure_python
Milliseconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.58, N = 3
477
latest-generic-kernel-v5-12-8-vo
SE +/- 0.58, N = 3
478
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 2.19, N = 3
477
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 2.33, N = 3
476
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 2.85, N = 3
479
stock-debian-kernel
511
stock-debian-kernel-testing-vo
481
110
220
330
440
550

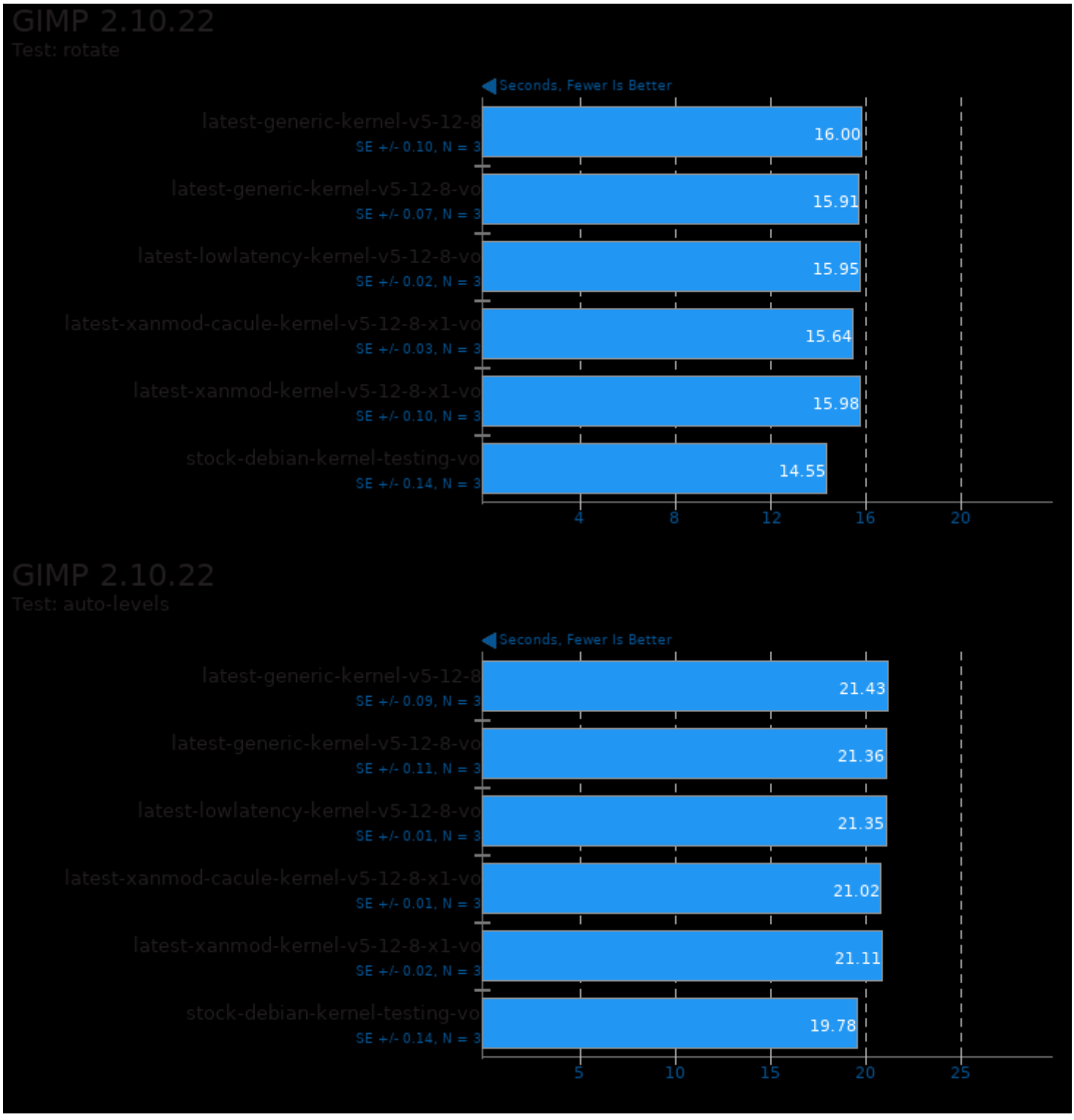

NGINX Benchmark 1.9.9
Static Web Page Serving
Requests Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 33.97, N = 3
22335.77
latest-generic-kernel-v5-12-8-vo
SE +/- 129.33, N = 3
23062.88
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 68.97, N = 3
22241.67
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 8.63, N = 3
24623.52
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 30.64, N = 3
24496.19
stock-debian-kernel
SE +/- 114.34, N = 3
24631.40
stock-debian-kernel-testing-vo
SE +/- 202.48, N = 3
24926.73
5K
10K
15K
20K
25K
1. (CC) gcc options: -lpthread -lcrypt -lcrypto -lz -O3 -march=native
Apache Benchmark 2.4.29
Static Web Page Serving
Requests Per Second, More Is Better
latest-generic-kernel-v5-12-8
SE +/- 13.41, N = 3
11633.10
latest-generic-kernel-v5-12-8-vo
SE +/- 11.53, N = 3
11796.39
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 12.91, N = 3
11879.01
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 74.67, N = 3
12447.01
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 14.13, N = 3
12820.83
stock-debian-kernel
SE +/- 20.93, N = 3
14037.97
stock-debian-kernel-testing-vo
SE +/- 28.18, N = 3
14161.13
3K
6K
9K
12K
15K
1. (CC) gcc options: -shared -fPIC -O2 -pthread

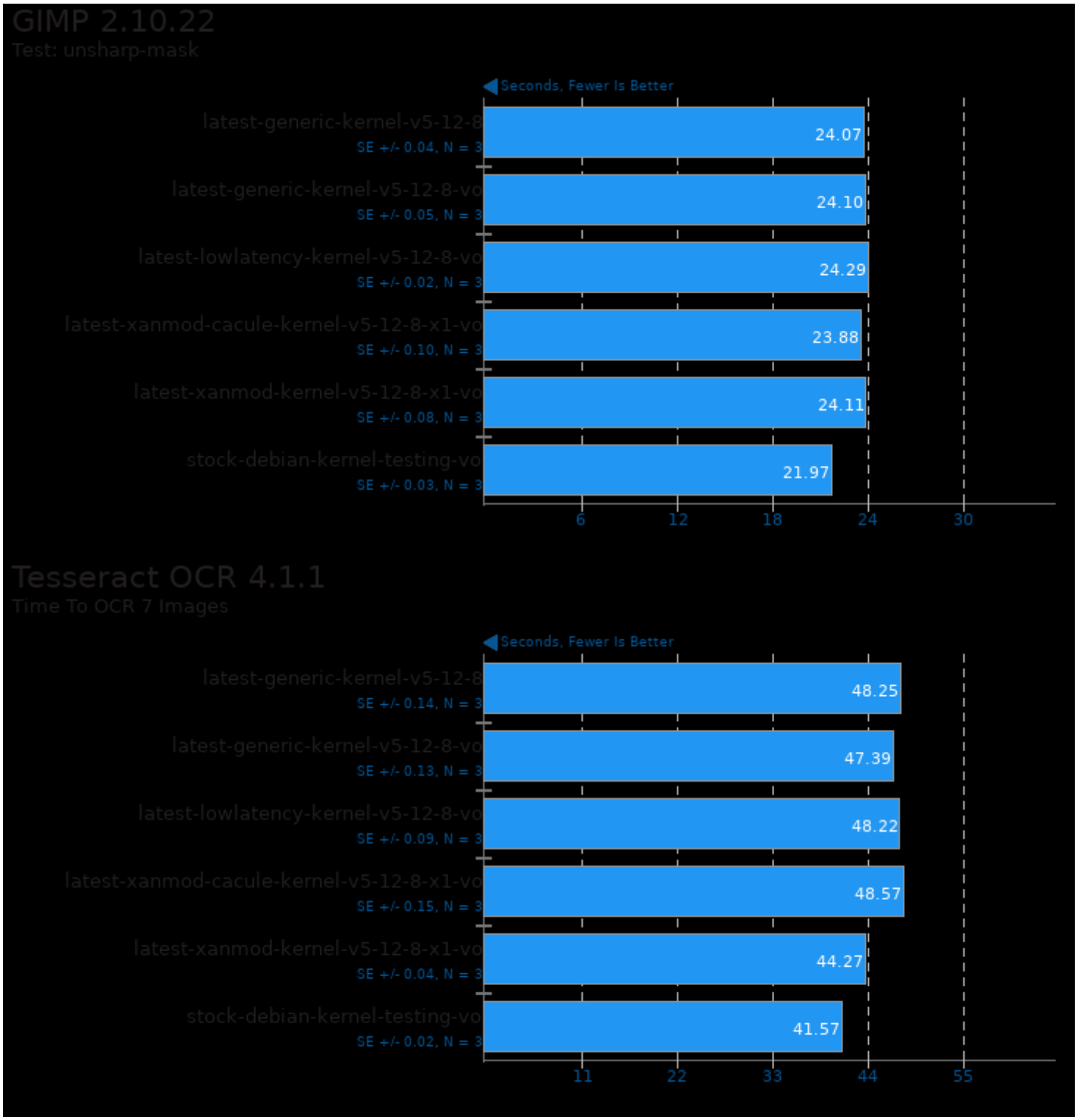
stock-debian-kernel



stock-debian-kernel

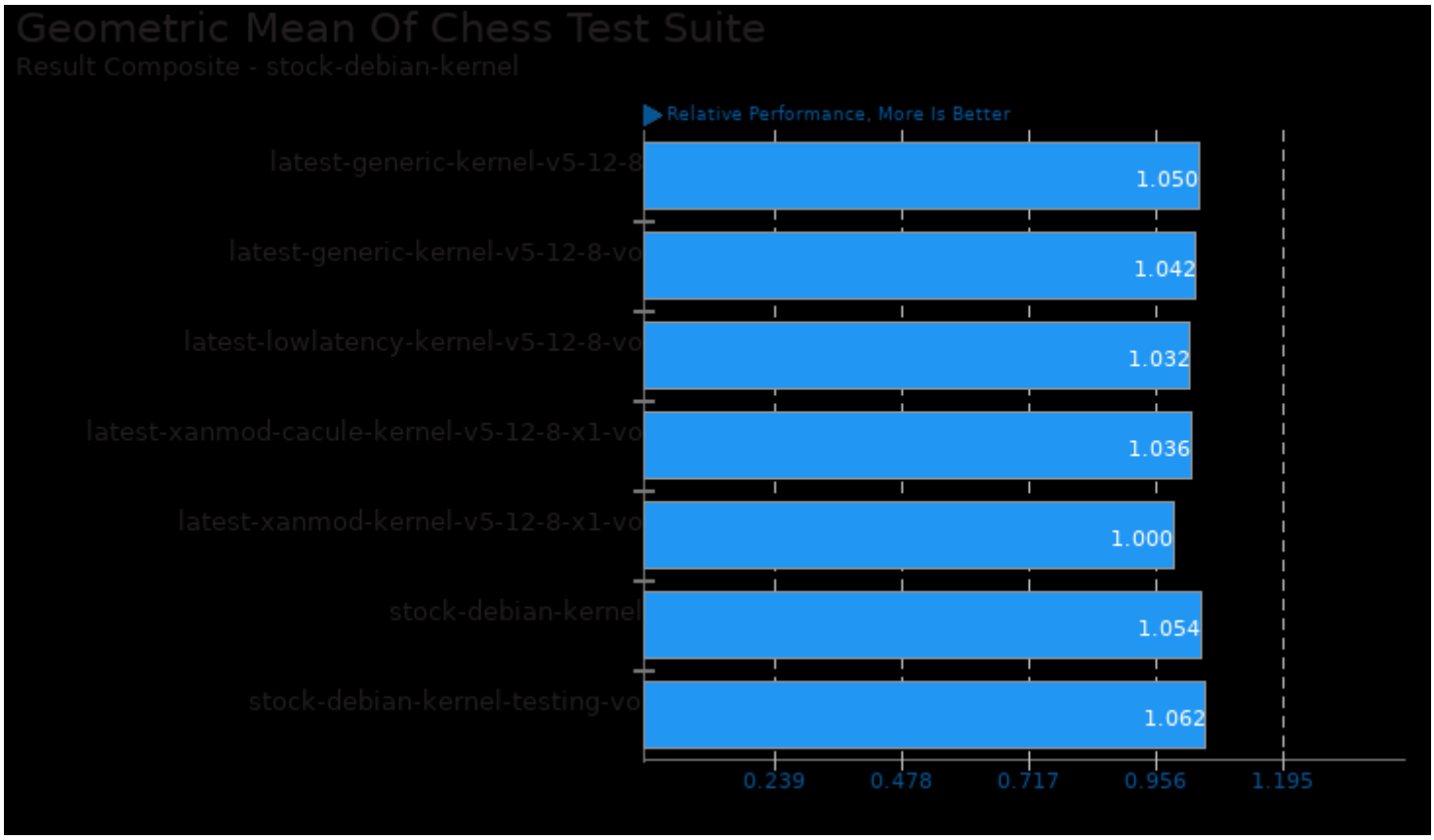



GIMP 2.10.22
Test: rotate
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.10, N = 3
16.00
latest-generic-kernel-v5-12-8-vo
SE +/- 0.07, N = 3
15.91
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.02, N = 3
15.95
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.03, N = 3
15.64
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.10, N = 3
15.98
stock-debian-kernel-testing-vo
SE +/- 0.14, N = 3
14.55
4
8
12
16
20
GIMP 2.10.22
Test: auto-levels
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.09, N = 3
21.43
latest-generic-kernel-v5-12-8-vo
SE +/- 0.11, N = 3
21.36
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.01, N = 3
21.35
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.01, N = 3
21.02
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.02, N = 3
21.11
stock-debian-kernel-testing-vo
SE +/- 0.14, N = 3
19.78
5
10
15
20
25

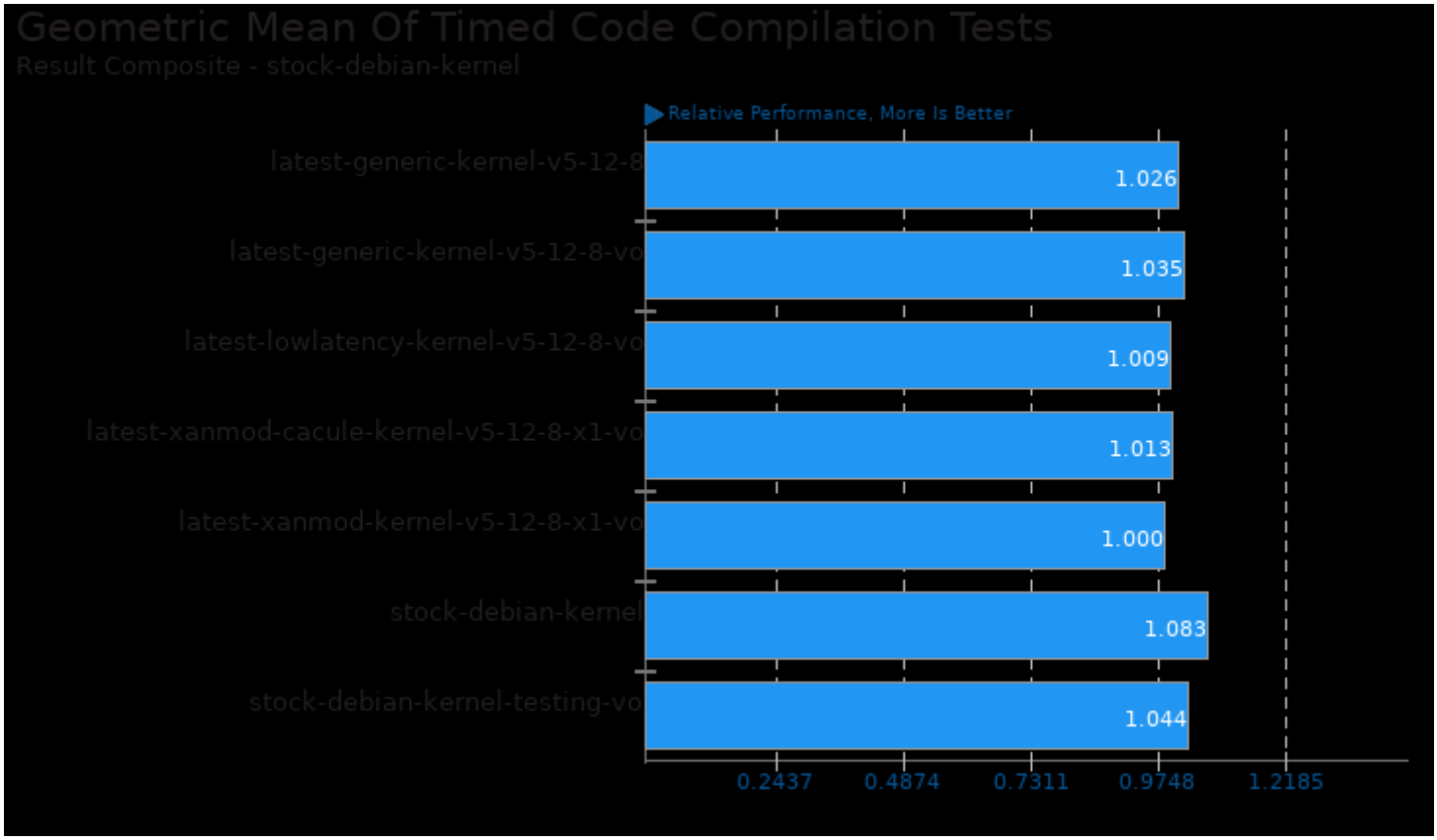

GIMP 2.10.22
Test: unsharp-mask
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.04, N = 3
24.07
latest-generic-kernel-v5-12-8-vo
SE +/- 0.05, N = 3
24.10
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.02, N = 3
24.29
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.10, N = 3
23.88
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.08, N = 3
24.11
stock-debian-kernel-testing-vo
SE +/- 0.03, N = 3
21.97
6
12
18
24
30
Tesseract OCR 4.1.1
Time To OCR 7 Images
Seconds, Fewer Is Better
latest-generic-kernel-v5-12-8
SE +/- 0.14, N = 3
48.25
latest-generic-kernel-v5-12-8-vo
SE +/- 0.13, N = 3
47.39
latest-lowlatency-kernel-v5-12-8-vo
SE +/- 0.09, N = 3
48.22
latest-xanmod-cacule-kernel-v5-12-8-x1-vo
SE +/- 0.15, N = 3
48.57
latest-xanmod-kernel-v5-12-8-x1-vo
SE +/- 0.04, N = 3
44.27
stock-debian-kernel-testing-vo
SE +/- 0.02, N = 3
41.57
11
22
33
44
55

stock-debian-kernel

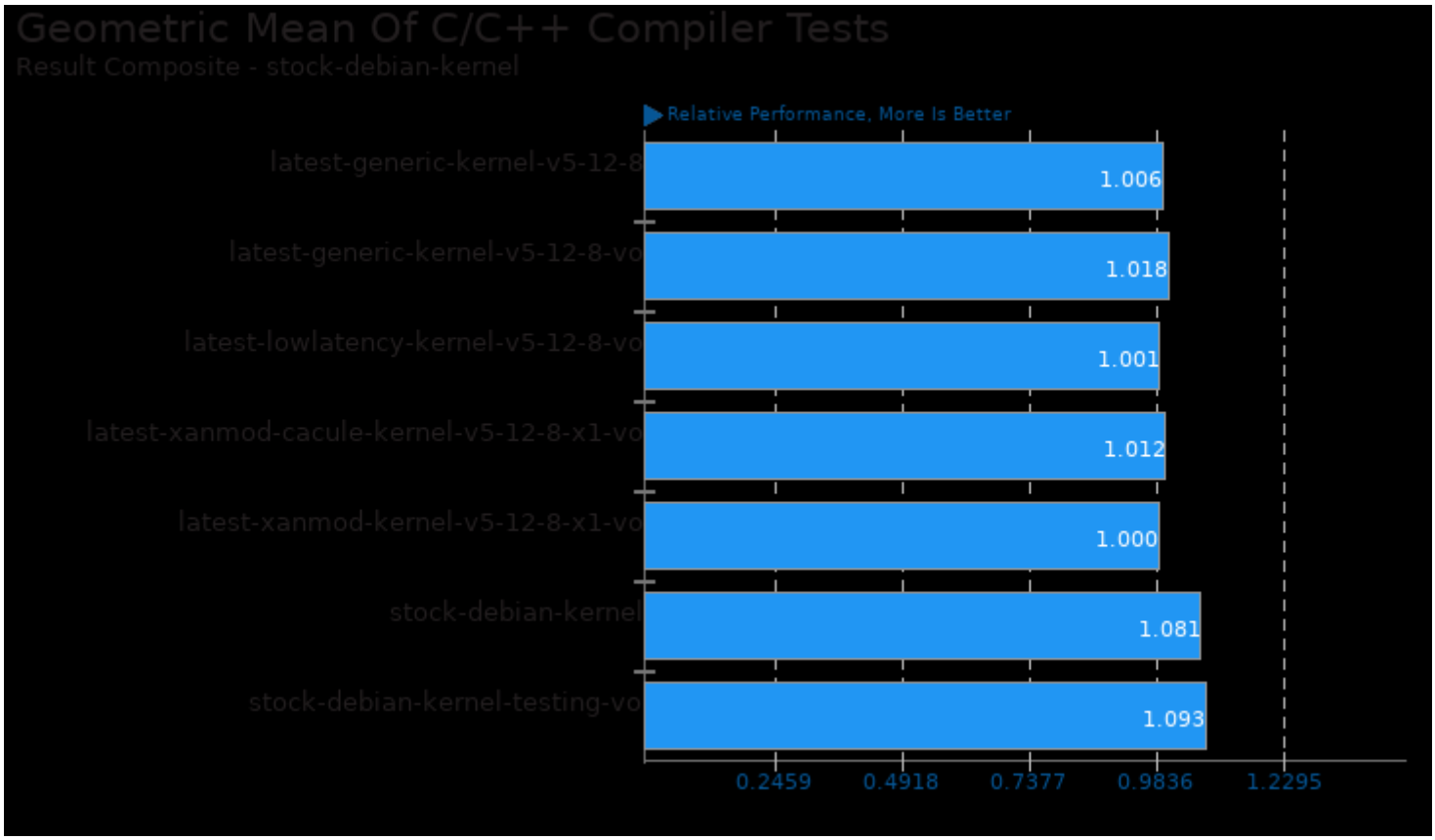
These geometric means are based upon test groupings / test suites for this result file.



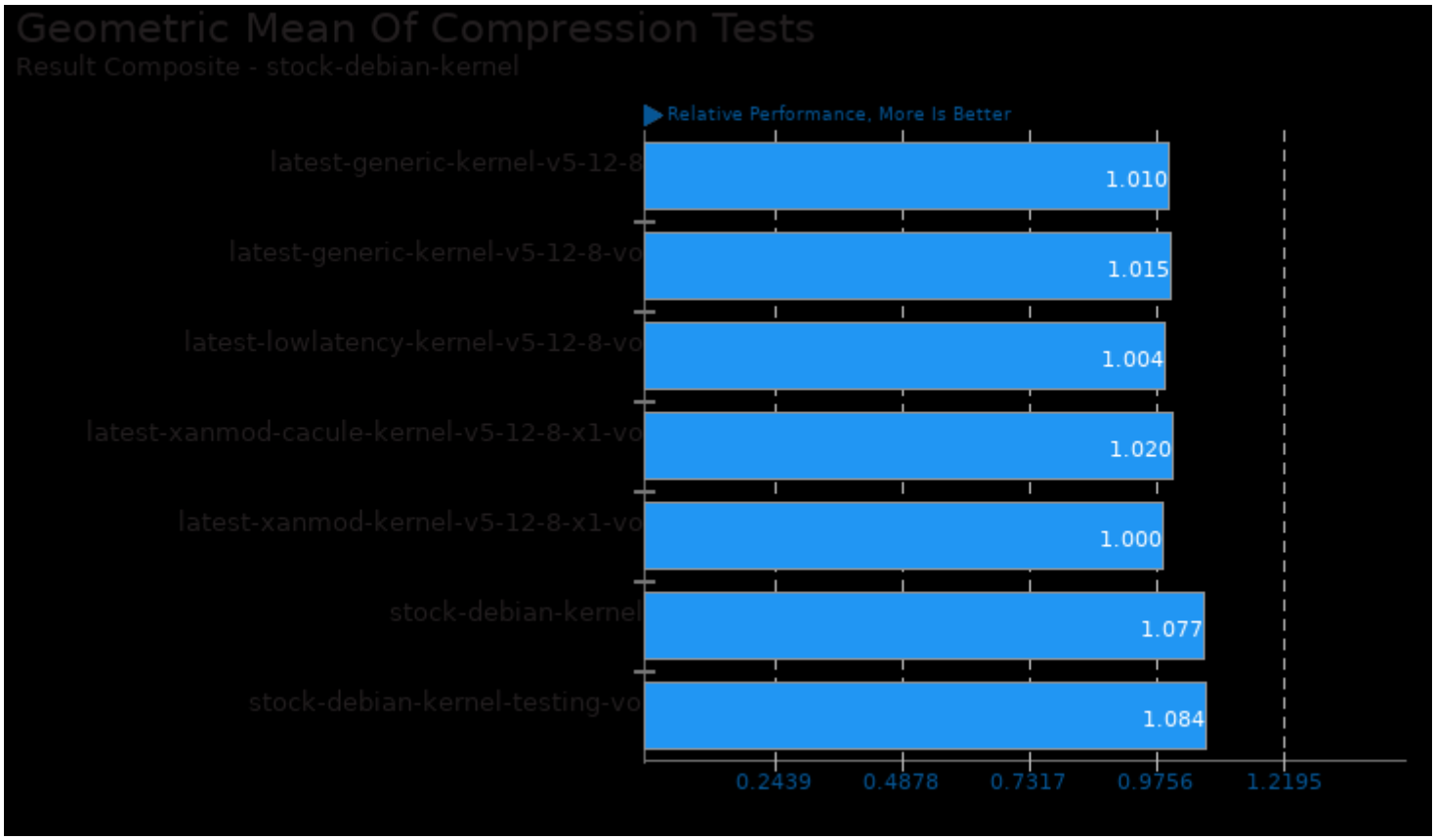
Geometric mean based upon tests: pts/crafty and pts/stockfish



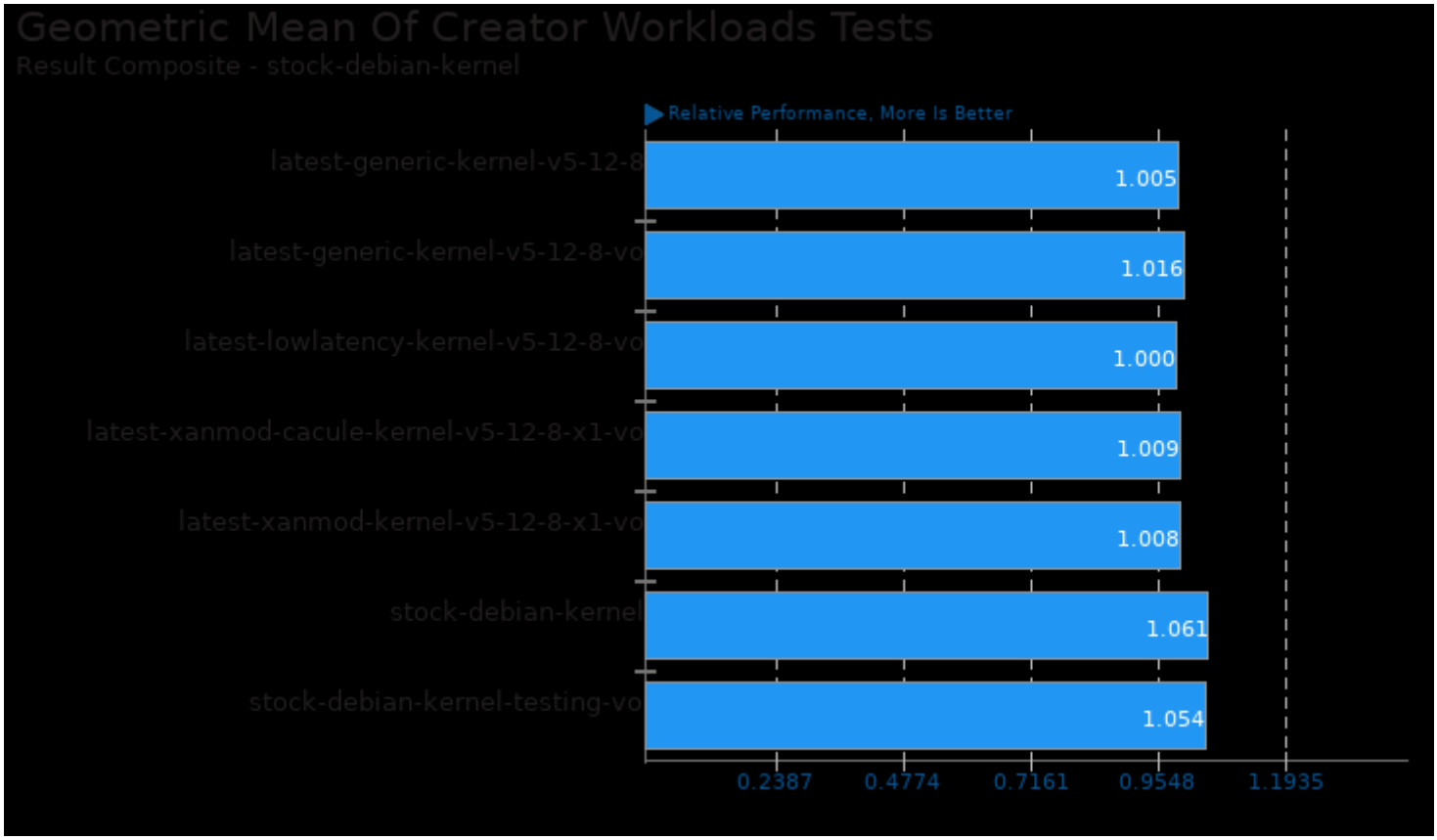
Geometric mean based upon tests: pts/build-php and pts/build-linux-kernel



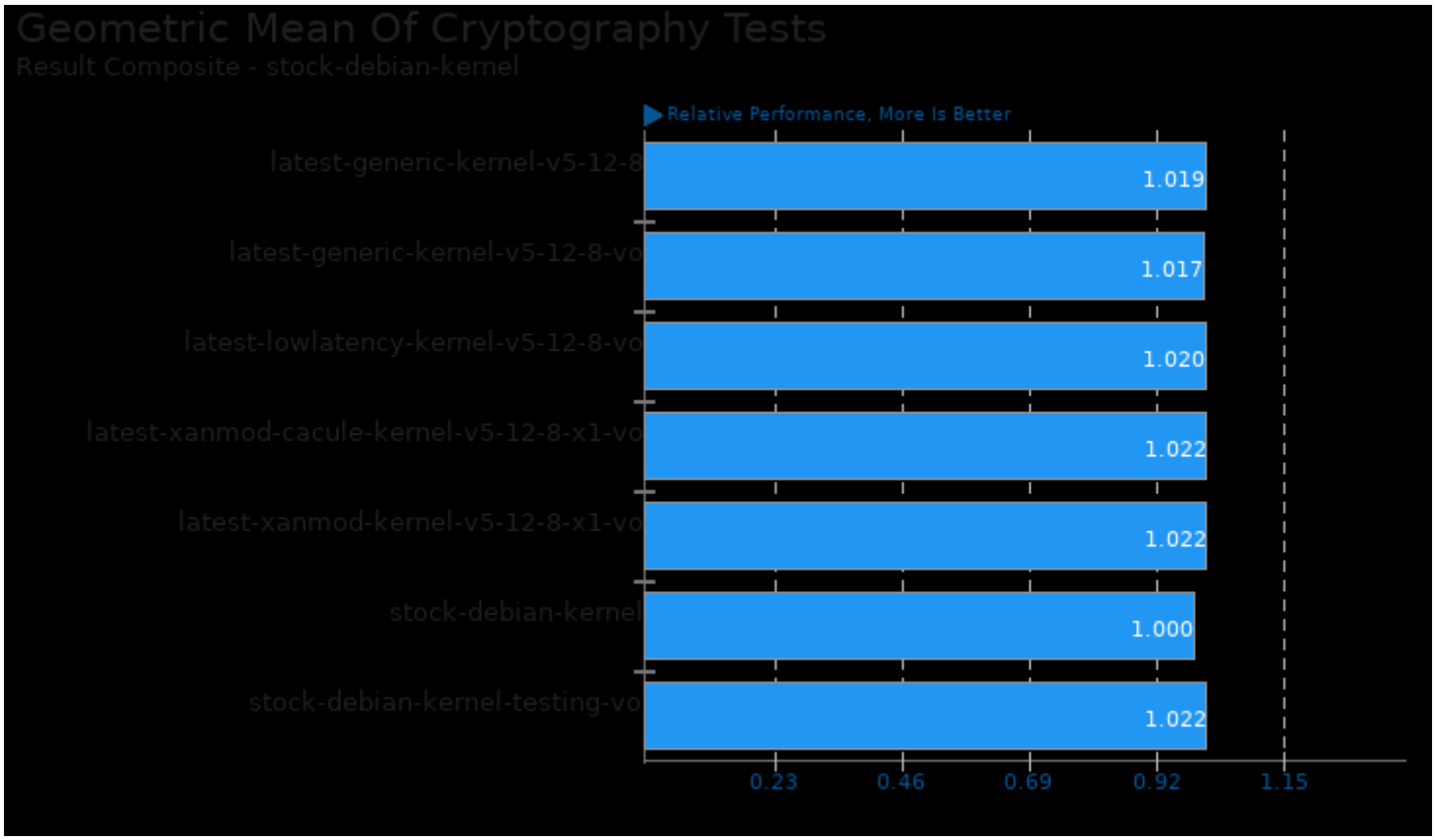
Geometric mean based upon tests: pts/fftw, pts/graphics-magick, pts/stockfish, pts/build-php, pts/c-ray, pts/compress-7zip, pts/pgbench, pts/apache, pts/sqlite-speedtest, pts/john-the-ripper, pts/x264, pts/x265, pts/compress-zstd, pts/openssl, pts/nginx and pts/cryptopp



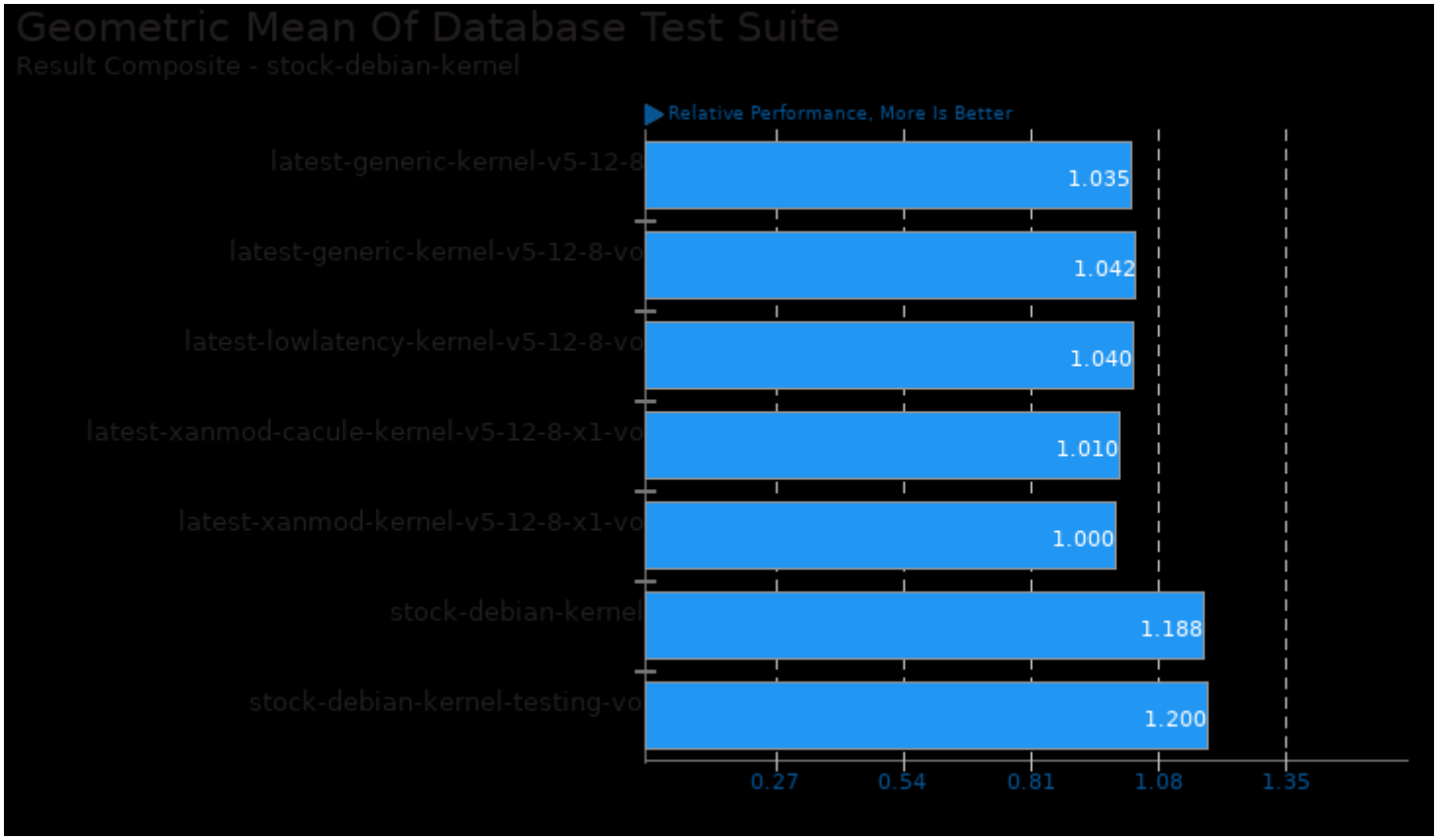
Geometric mean based upon tests: pts/compress-7zip, pts/compress-zstd and pts/compress-lz4



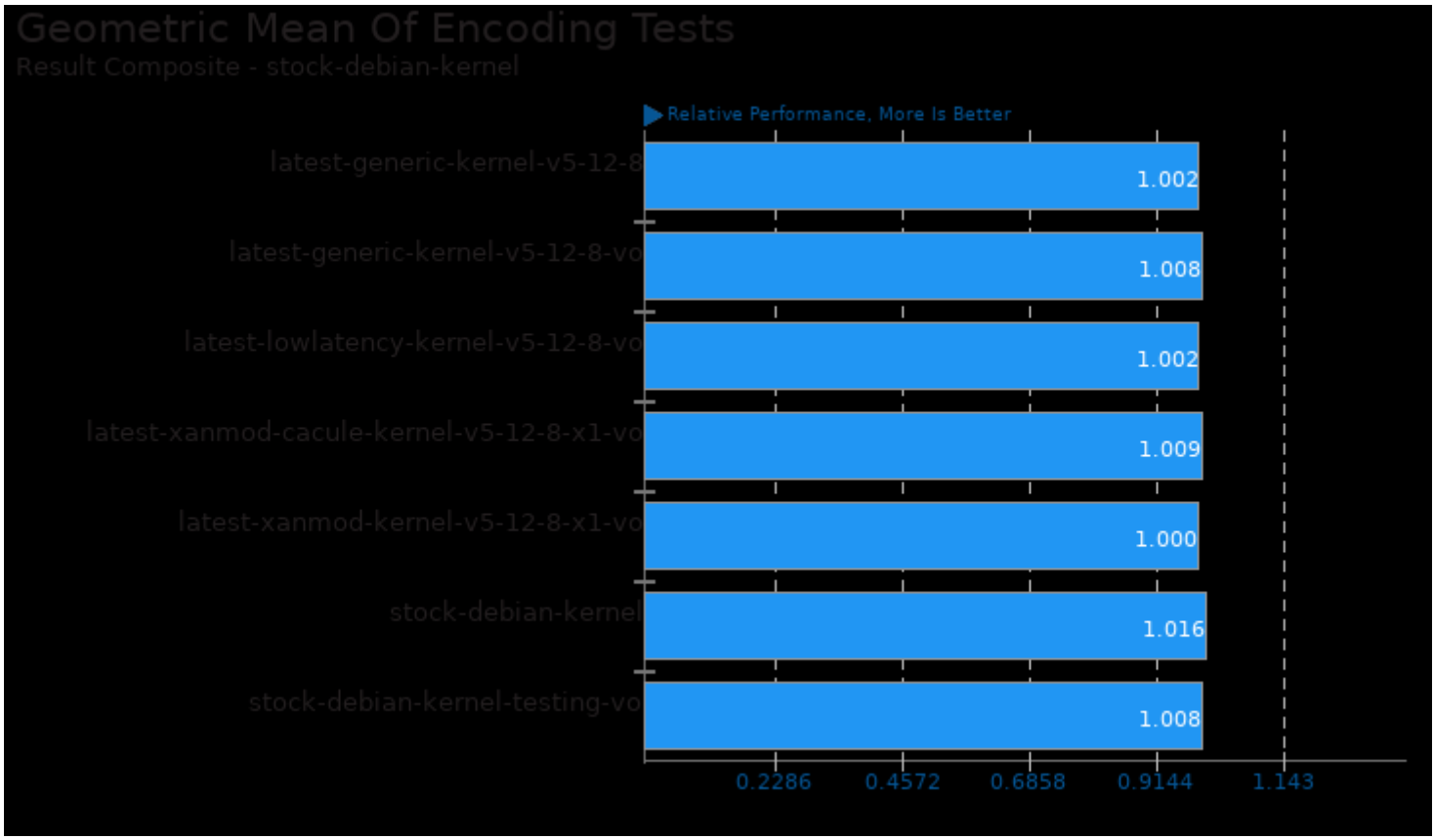
Geometric mean based upon tests: pts/c-ray, pts/blender, system/tesseract-ocr, pts/x264, pts/x265, pts/ffmpeg, pts/encode-opus, pts/graphics-magick, system/gimp and pts/onednn



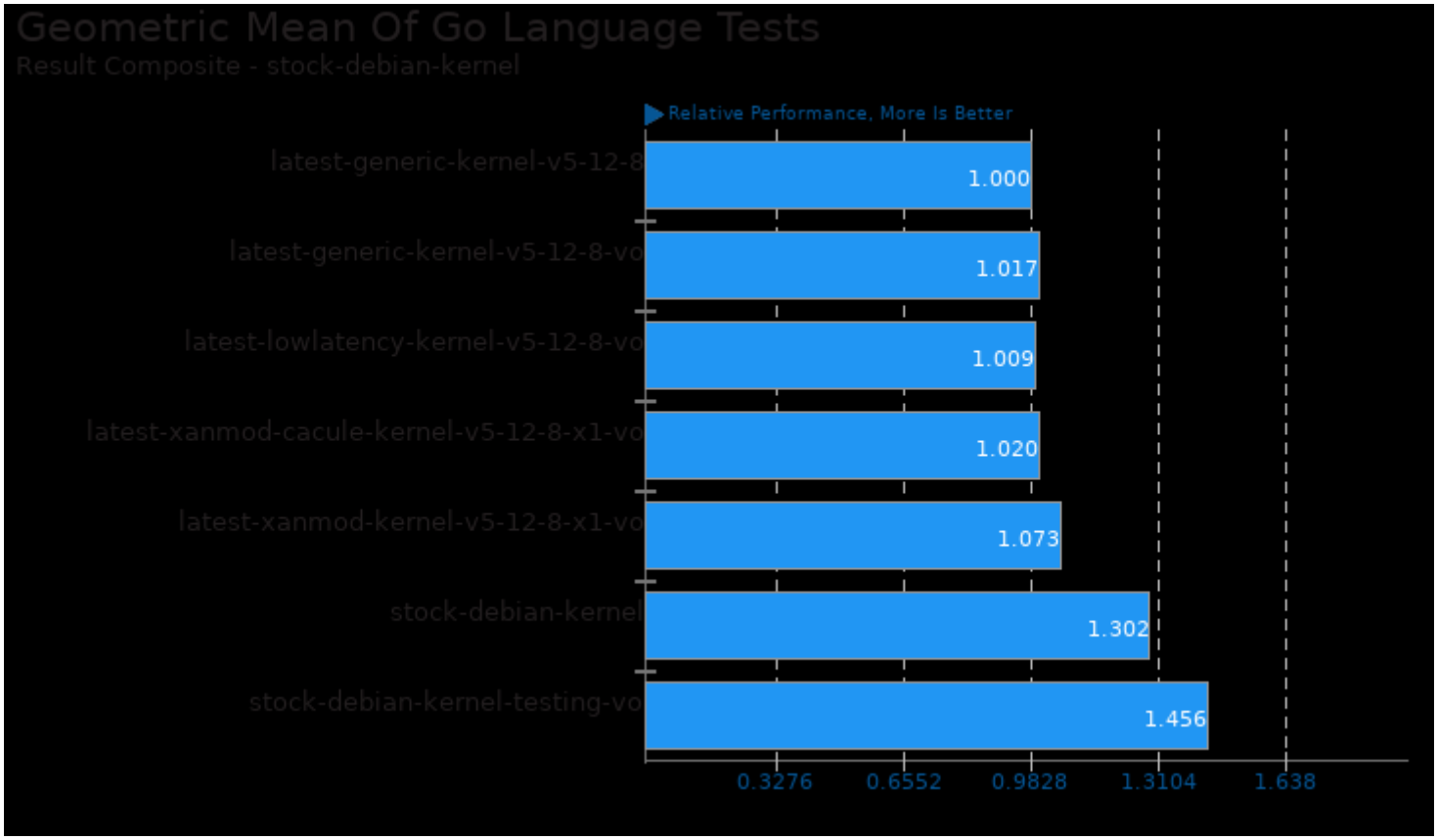
Geometric mean based upon tests: pts/openssl, pts/john-the-ripper, pts/botan and pts/cryptopp



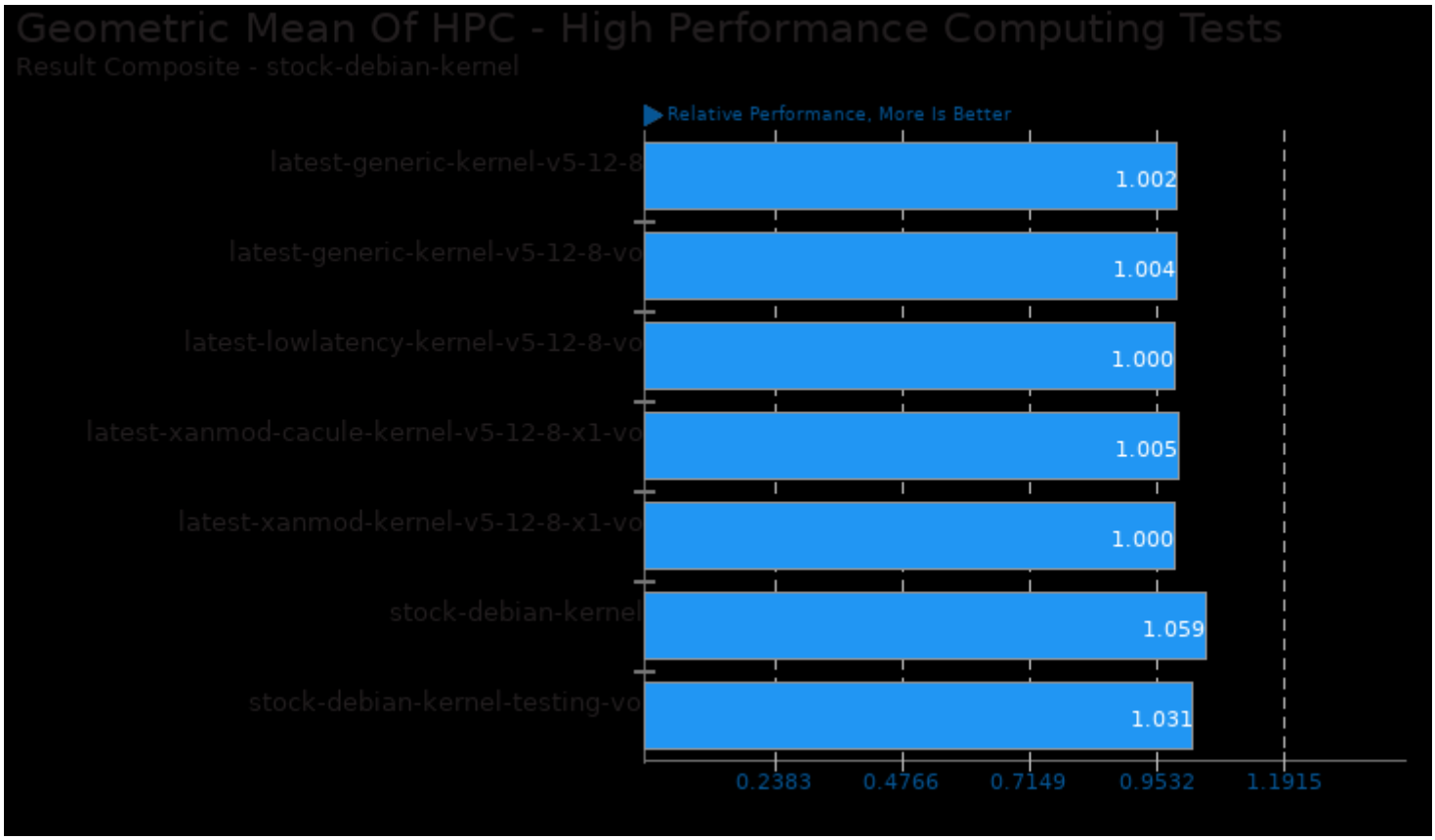
Geometric mean based upon tests: pts/sqlite, pts/sqlite-speedtest, pts/redis, pts/cassandra, pts/pgbench, pts/mysqlslap and pts/influxdb



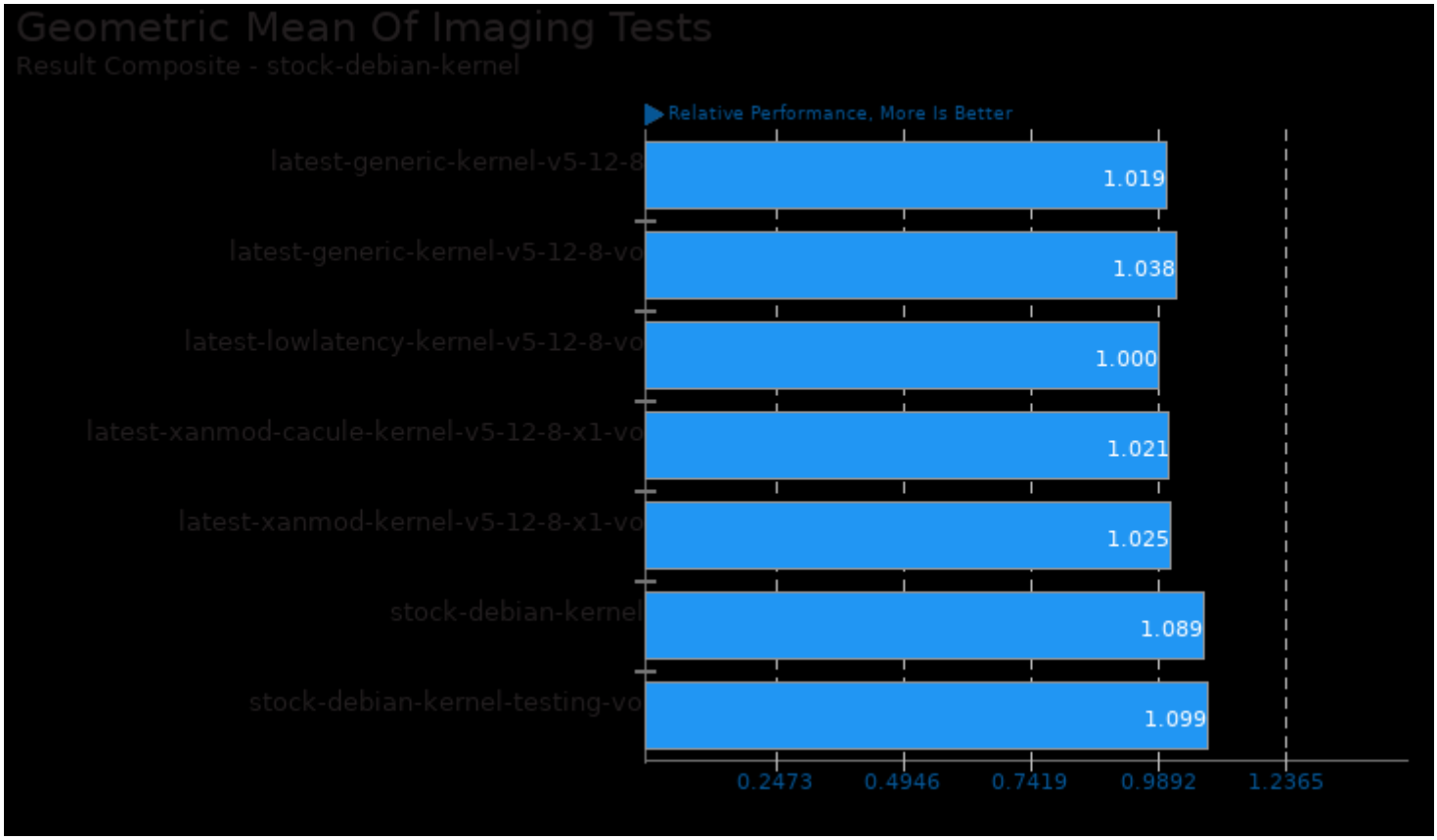
Geometric mean based upon tests: pts/encode-opus, pts/x264, pts/x265 and pts/ffmpeg



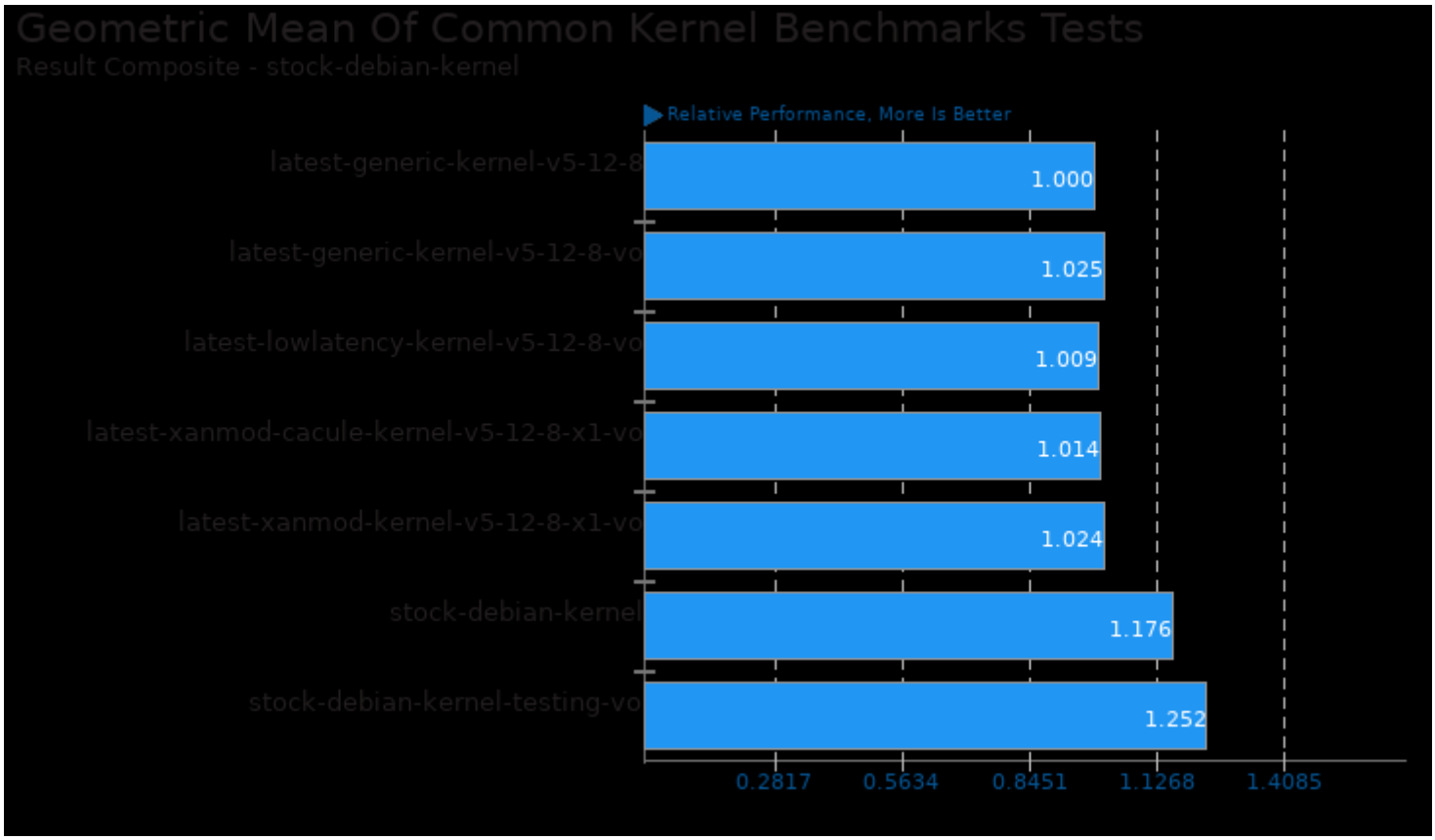
Geometric mean based upon tests: pts/ethr and pts/influxdb



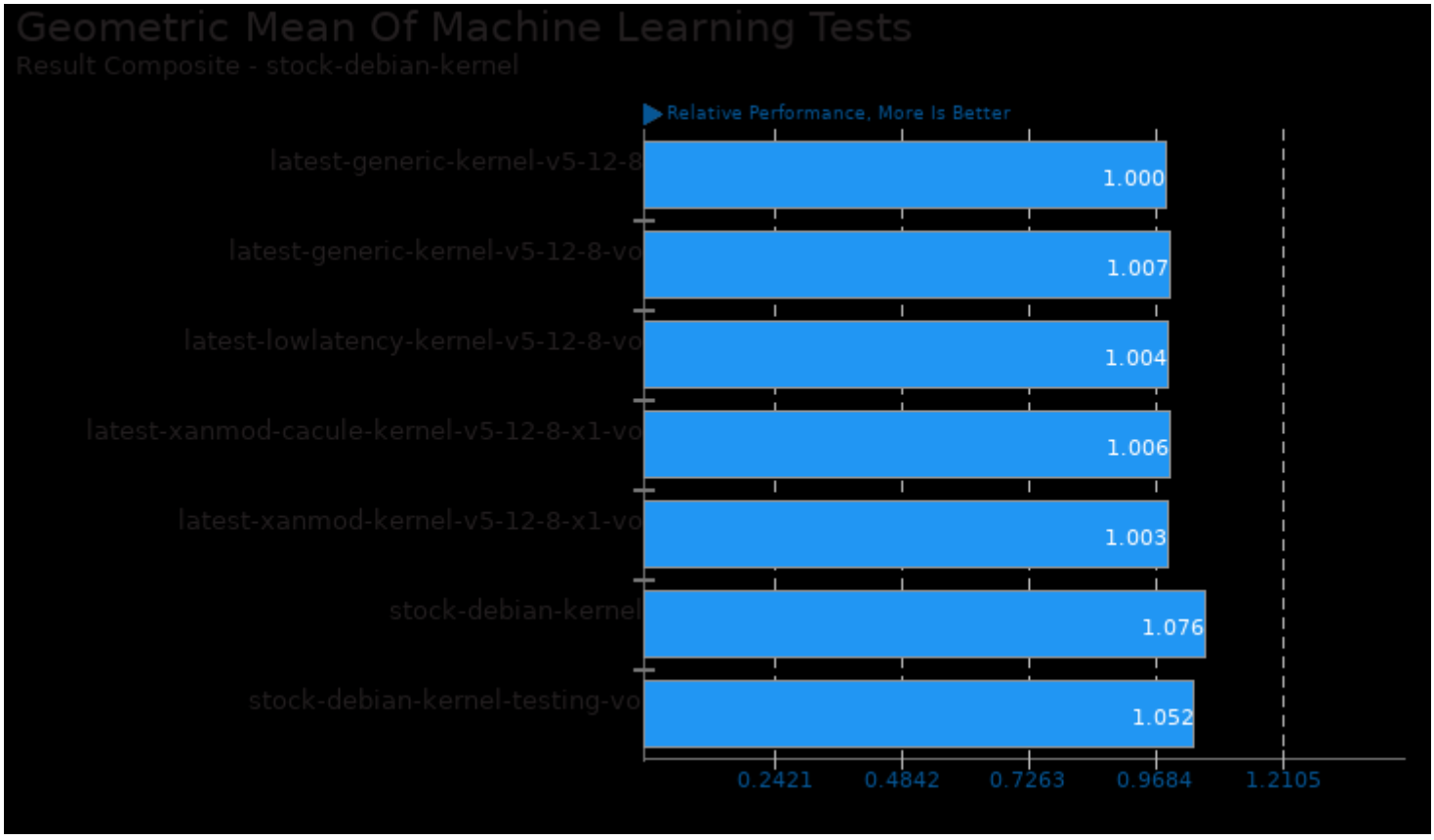
Geometric mean based upon tests: pts/hpcc, pts/hpcg, pts/fftw, pts/caffe, pts/numpy, pts/tensorflow and pts/onednn



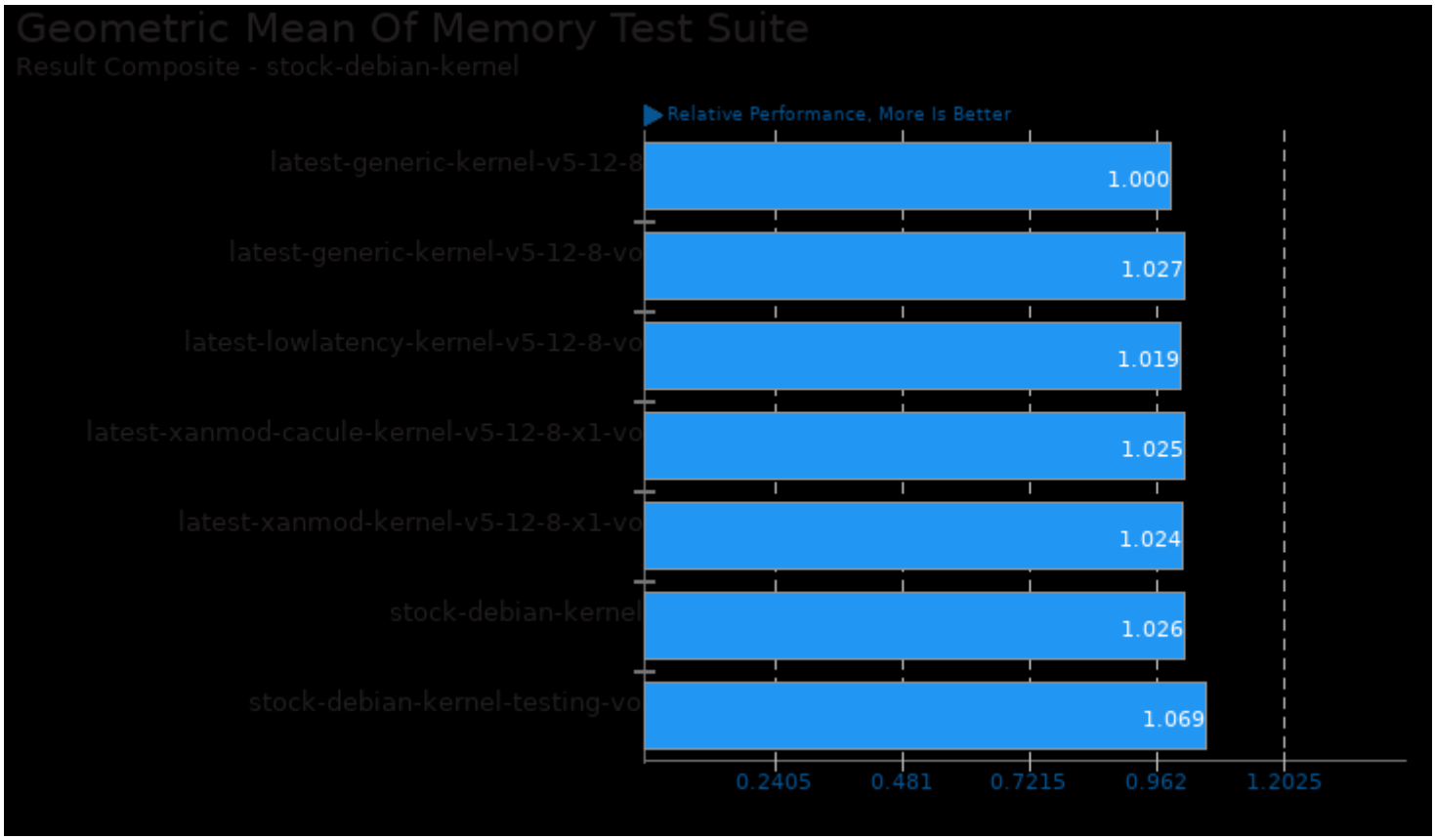
Geometric mean based upon tests: pts/graphics-magick and system/gimp



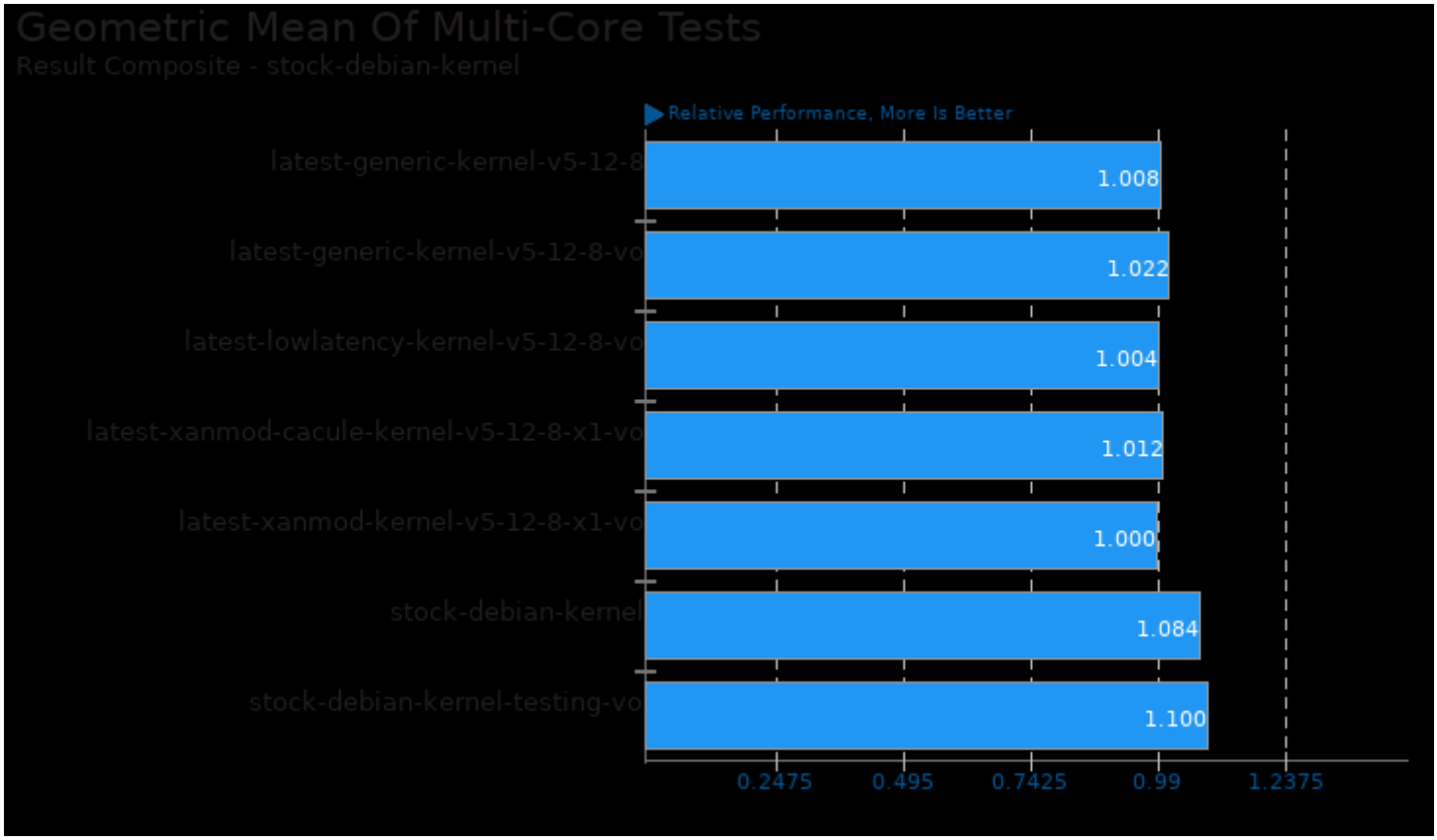
Geometric mean based upon tests: pts/apache, pts/sqlite-speedtest, pts/pgbench, pts/tinymembench, pts/t-test1, pts/openssl, pts/ethr and pts/iperf



Geometric mean based upon tests: pts/caffe, pts/numpy, pts/tensorflow and pts/onednn

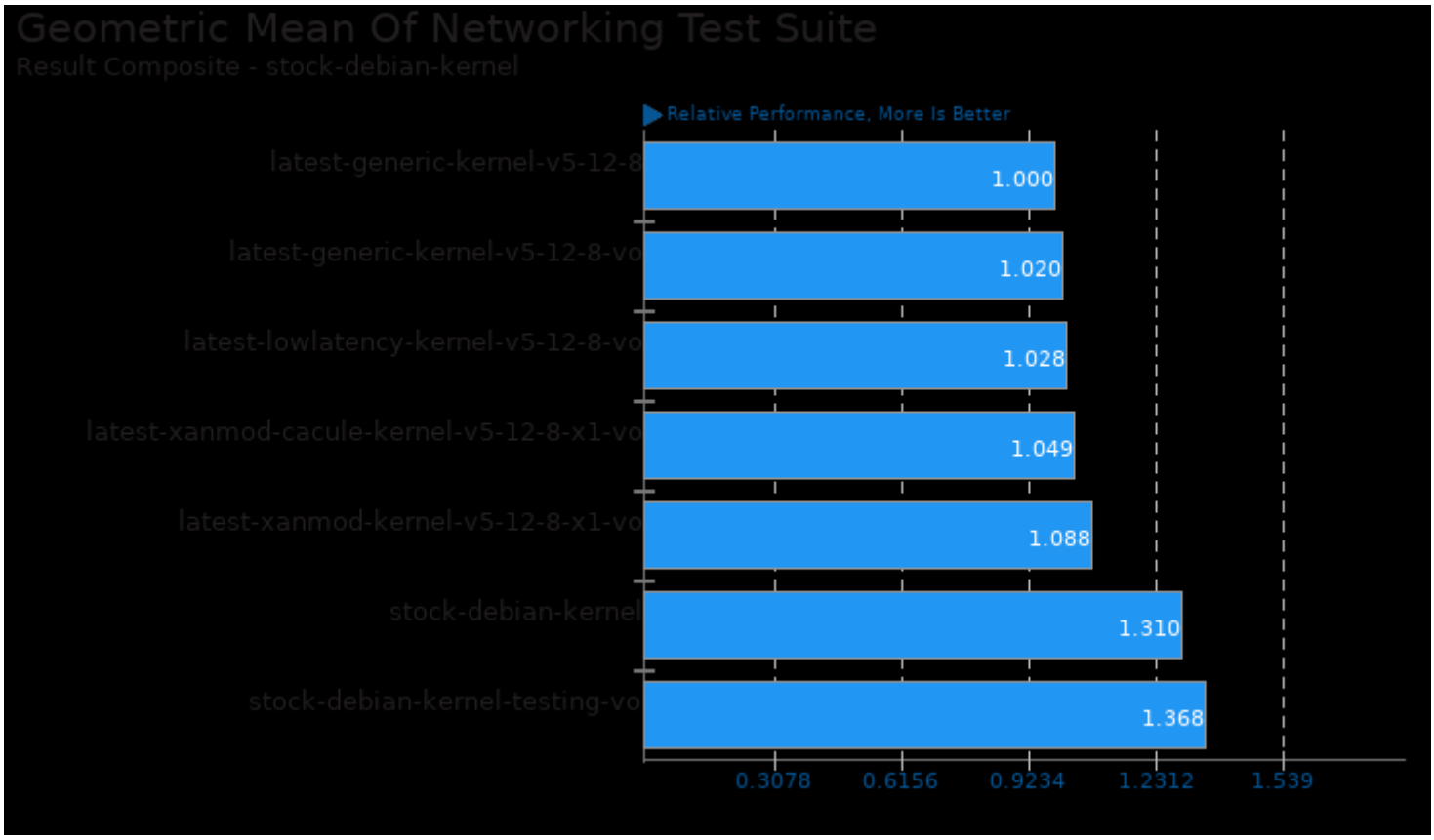


Geometric mean based upon tests: pts/ramspeed, pts/stream, pts/t-test1, pts/cachebench and pts/tinymembench

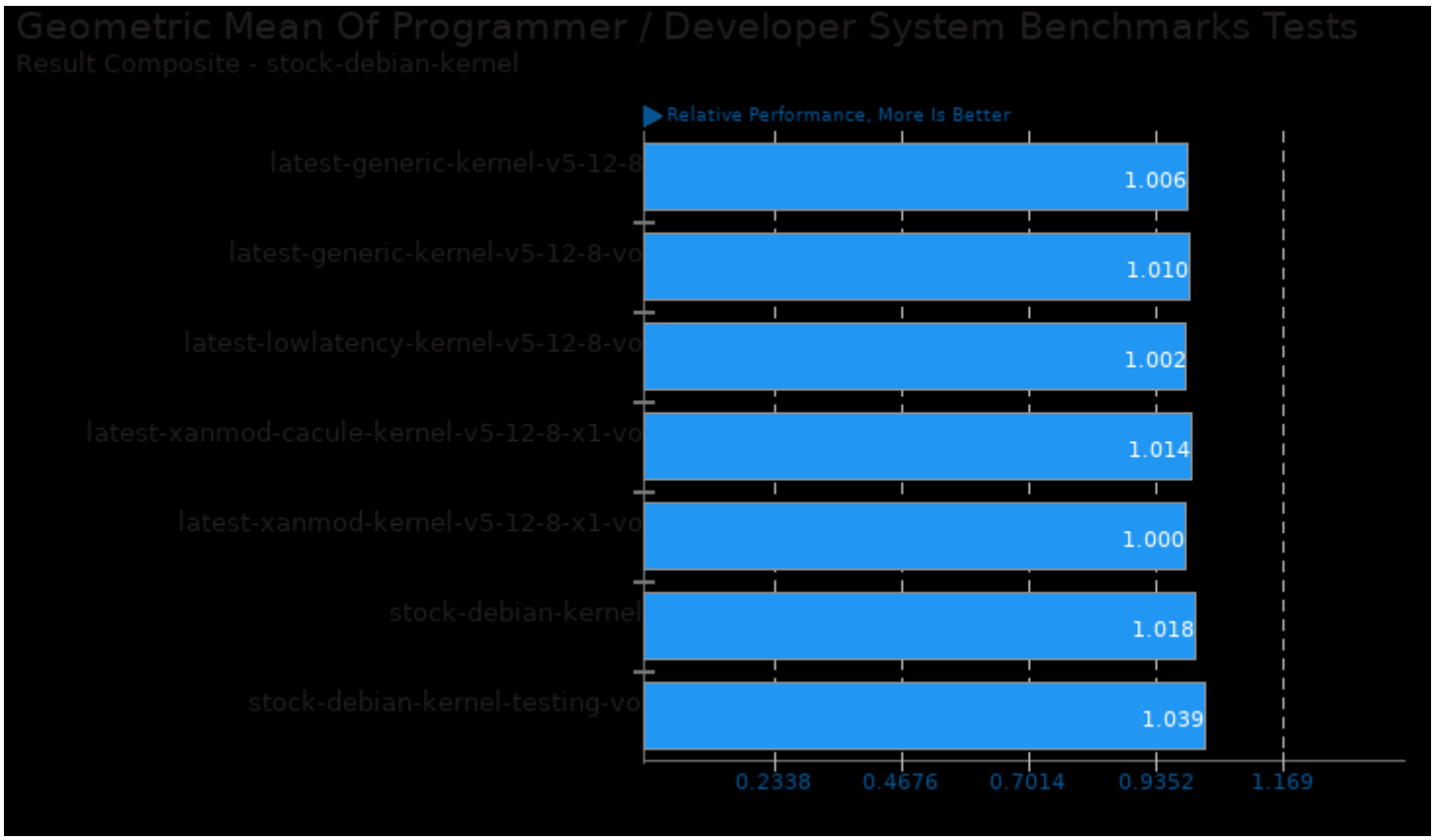


Geometric mean based upon tests: pts/blender, pts/sysbench, pts/c-ray, pts/stockfish, pts/x264, pts/x265, pts/ffmpeg, pts/john-the-ripper, pts/graphics-magick, pts/onednn, pts/mysqlslap, pts/compress-7zip, pts/compress-zstd,

pts/build-php, pts/build-linux-kernel, pts/hpcg, pts/cassandra and pts/pgbench

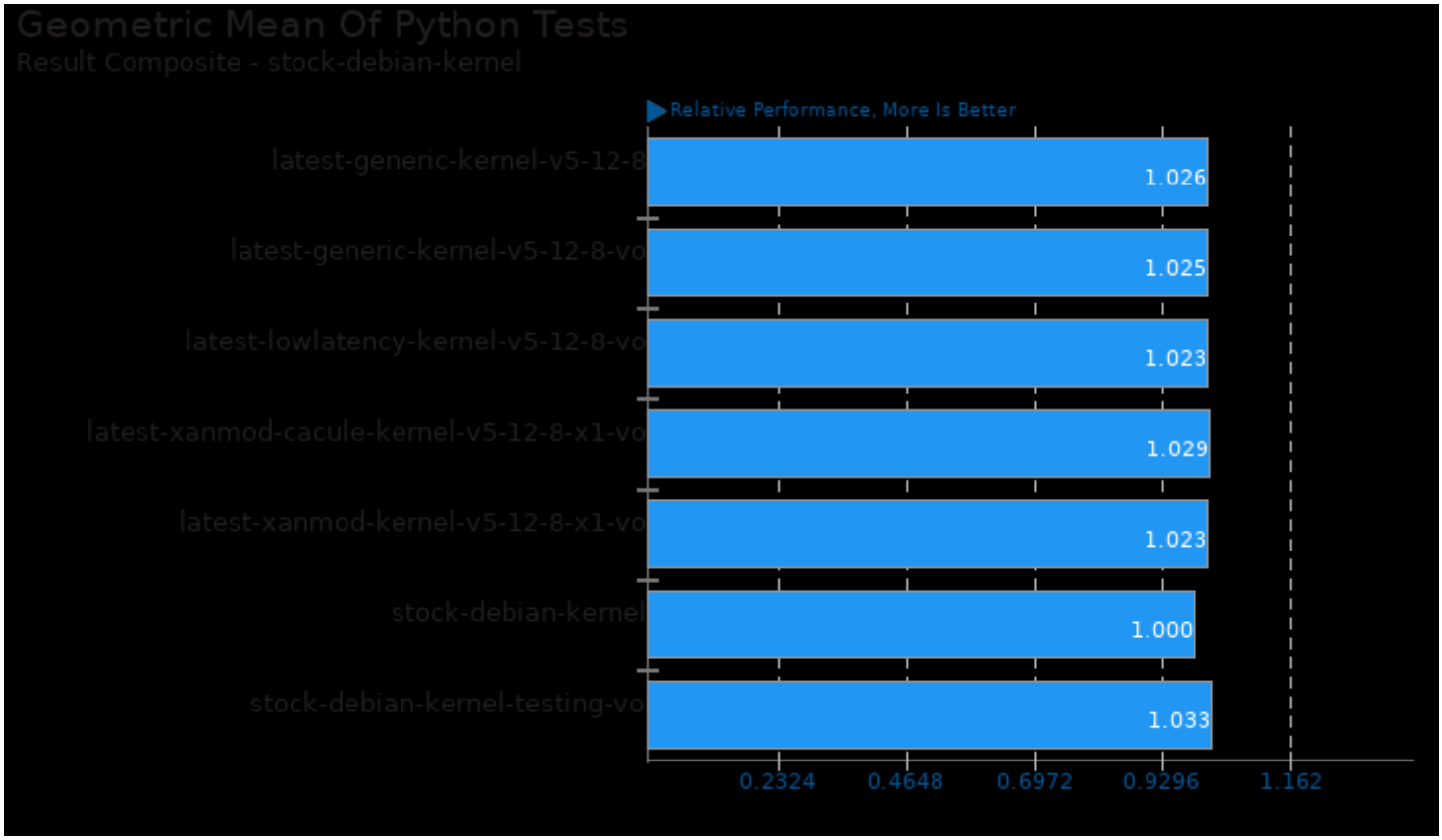


Geometric mean based upon tests: pts/sockperf, pts/ethr and pts/iperf

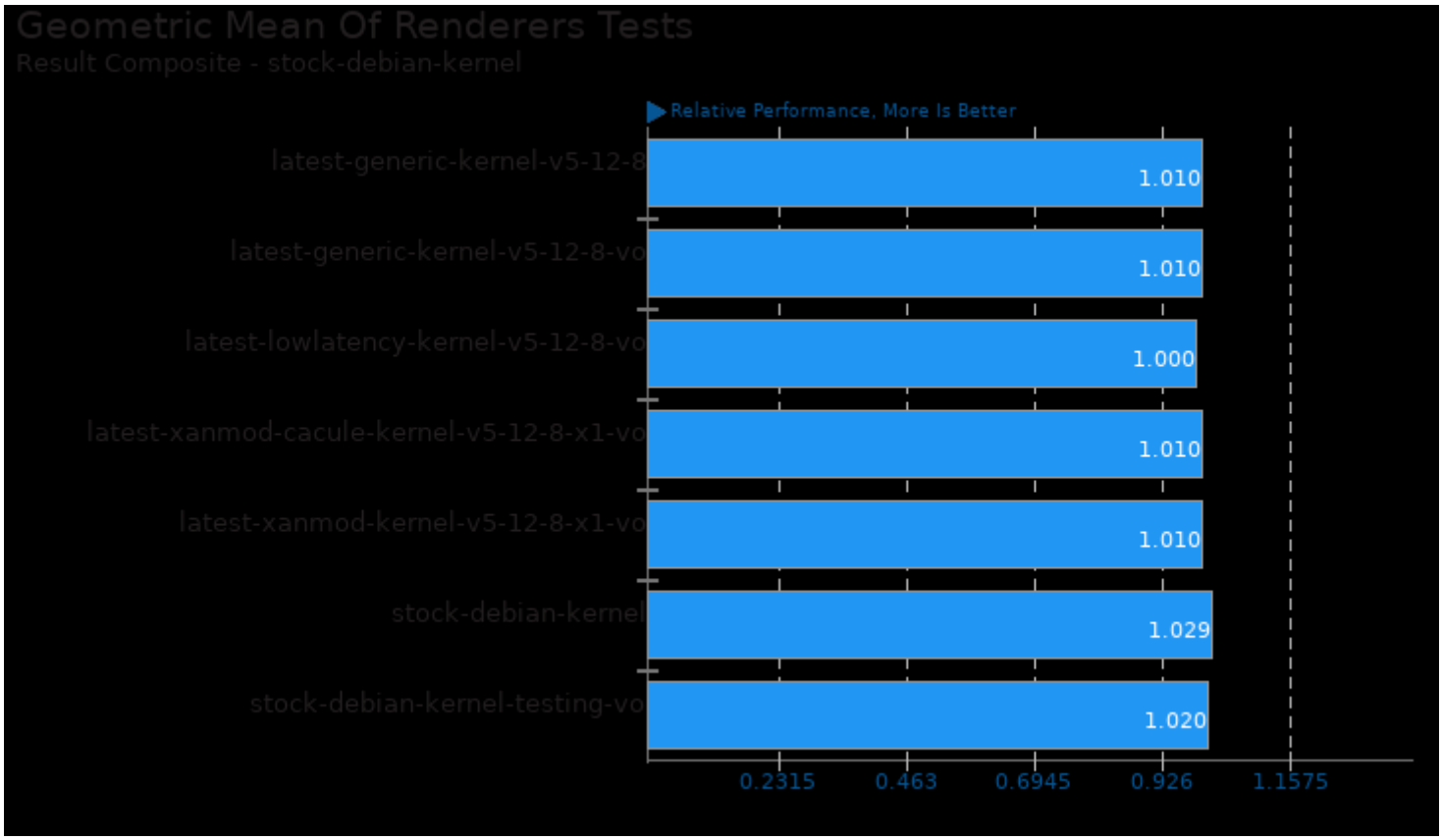


stock-debian-kernel

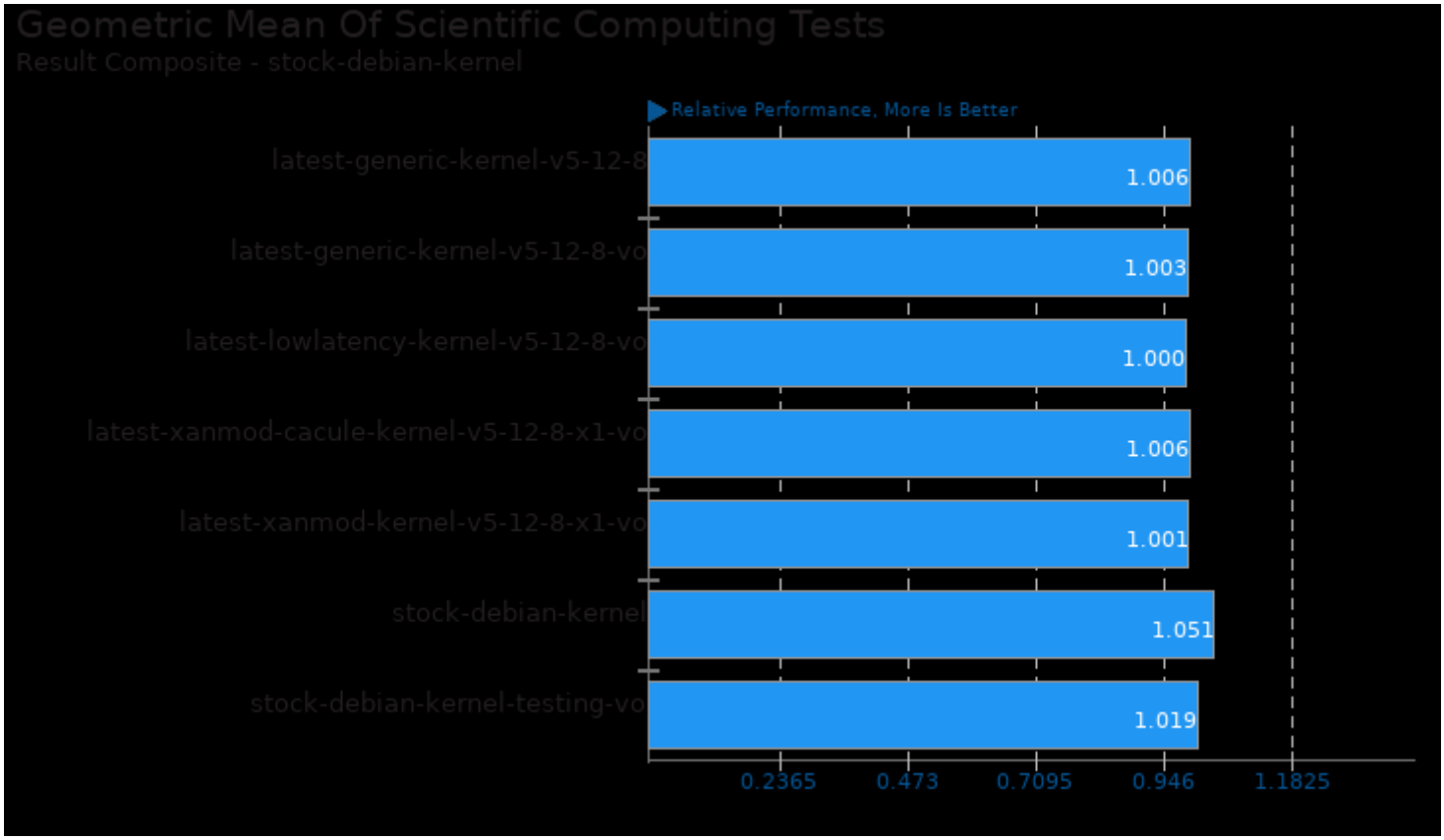
Geometric mean based upon tests: pts/sqlite-speedtest, pts/compress-zstd, pts/pyperformance, pts/pybench, pts/build-php, pts/build-linux-kernel and pts/hpcc



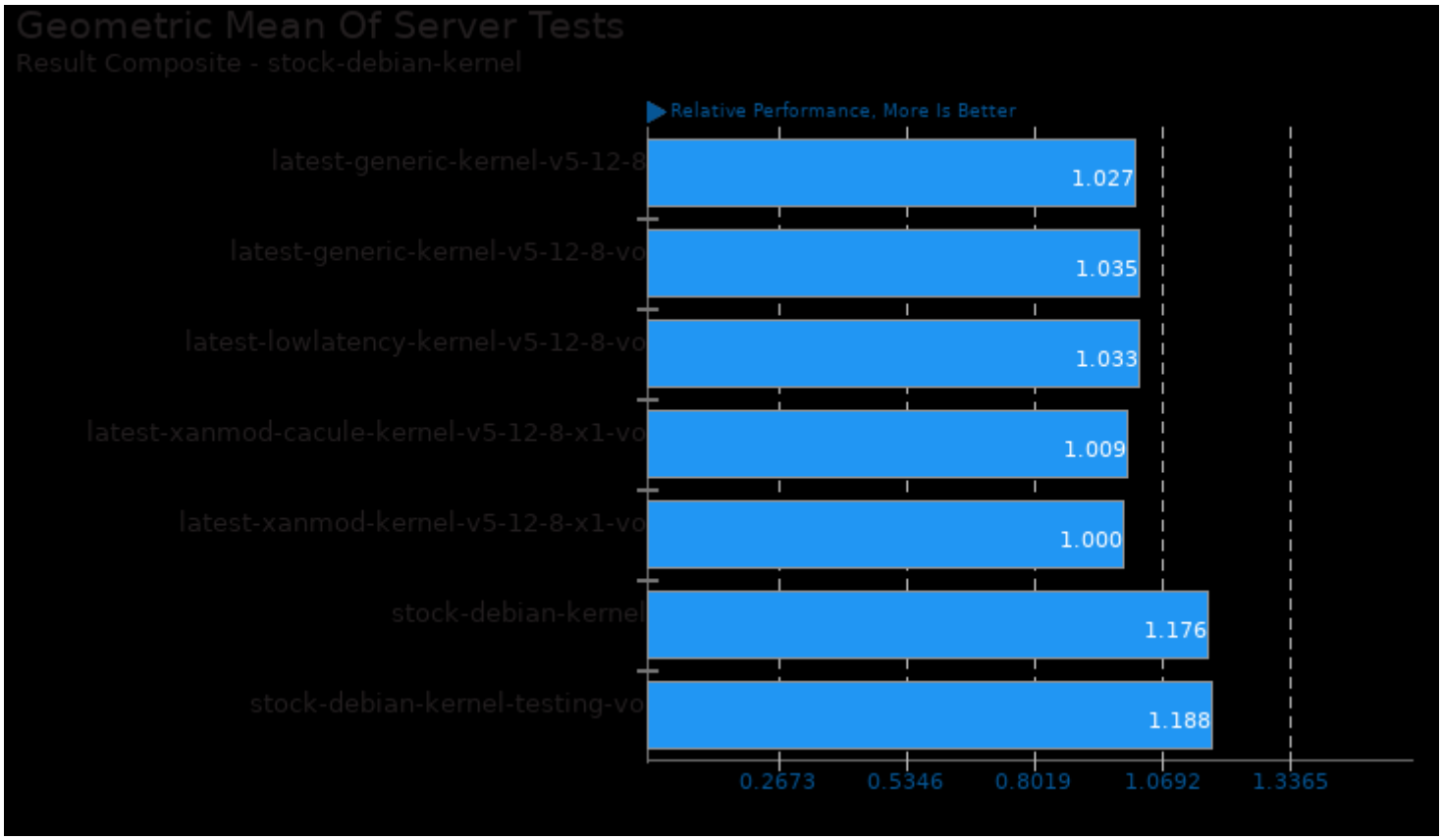
Geometric mean based upon tests: pts/pybench, pts/cython-bench, pts/numpy and pts/pyperformance



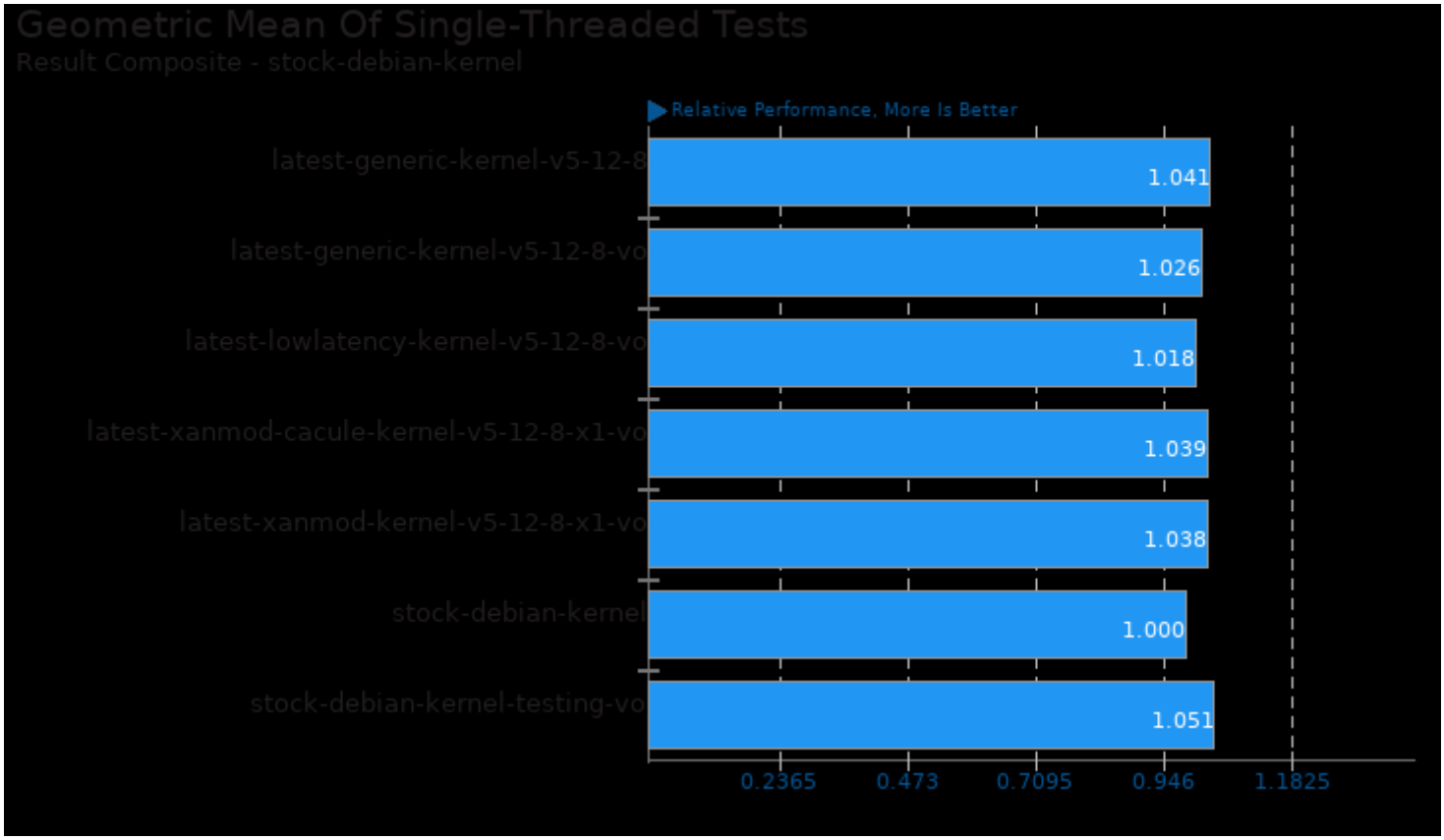
Geometric mean based upon tests: pts/c-ray and pts/blender



Geometric mean based upon tests: pts/fftw and pts/hpcc

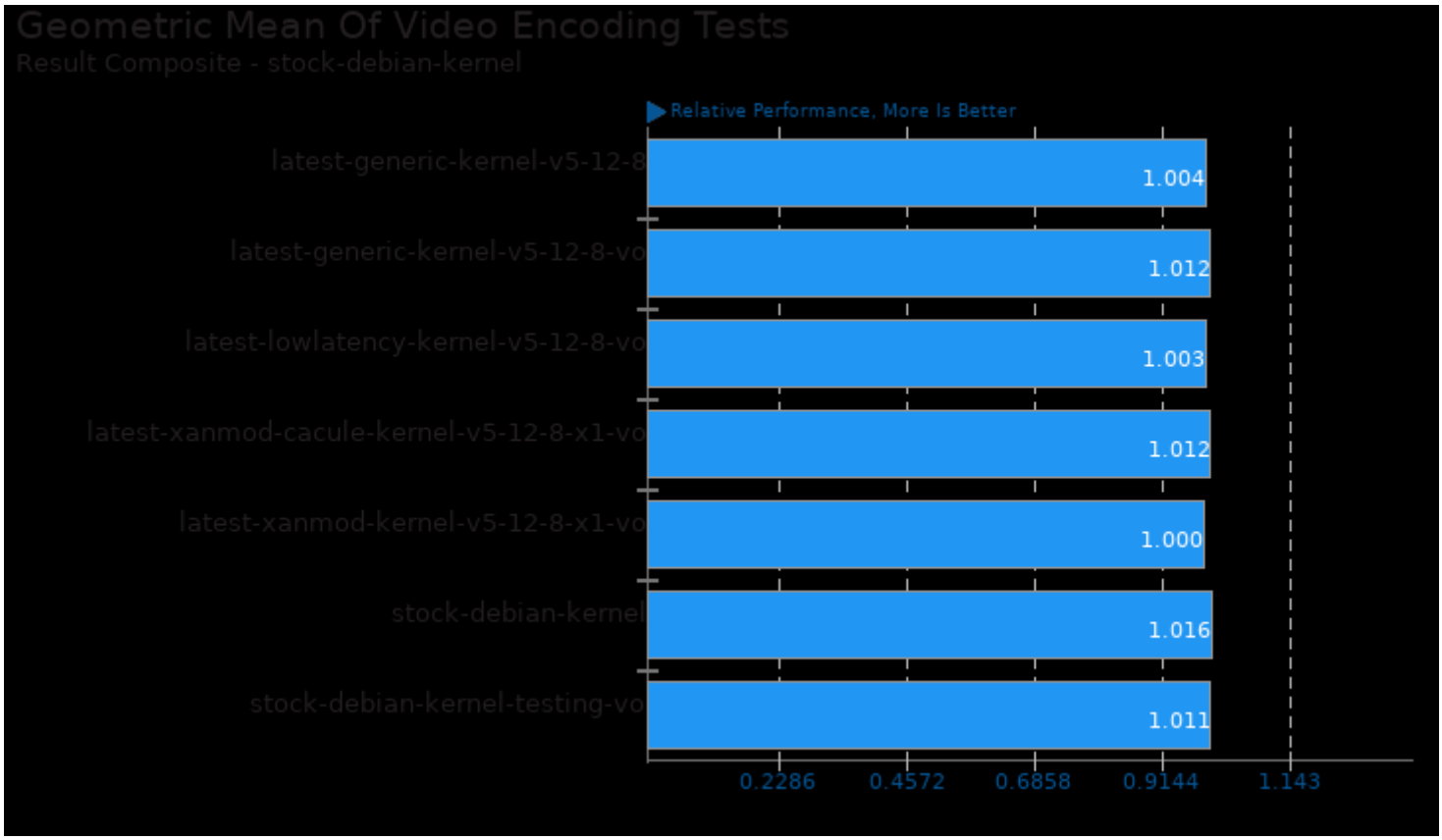


Geometric mean based upon tests: pts/apache, pts/nginx, pts/mysqlslap, pts/pgbench, pts/redis, pts/cassandra, pts/openssl, pts/sqlite, pts/sqlite-speedtest and pts/influxdb

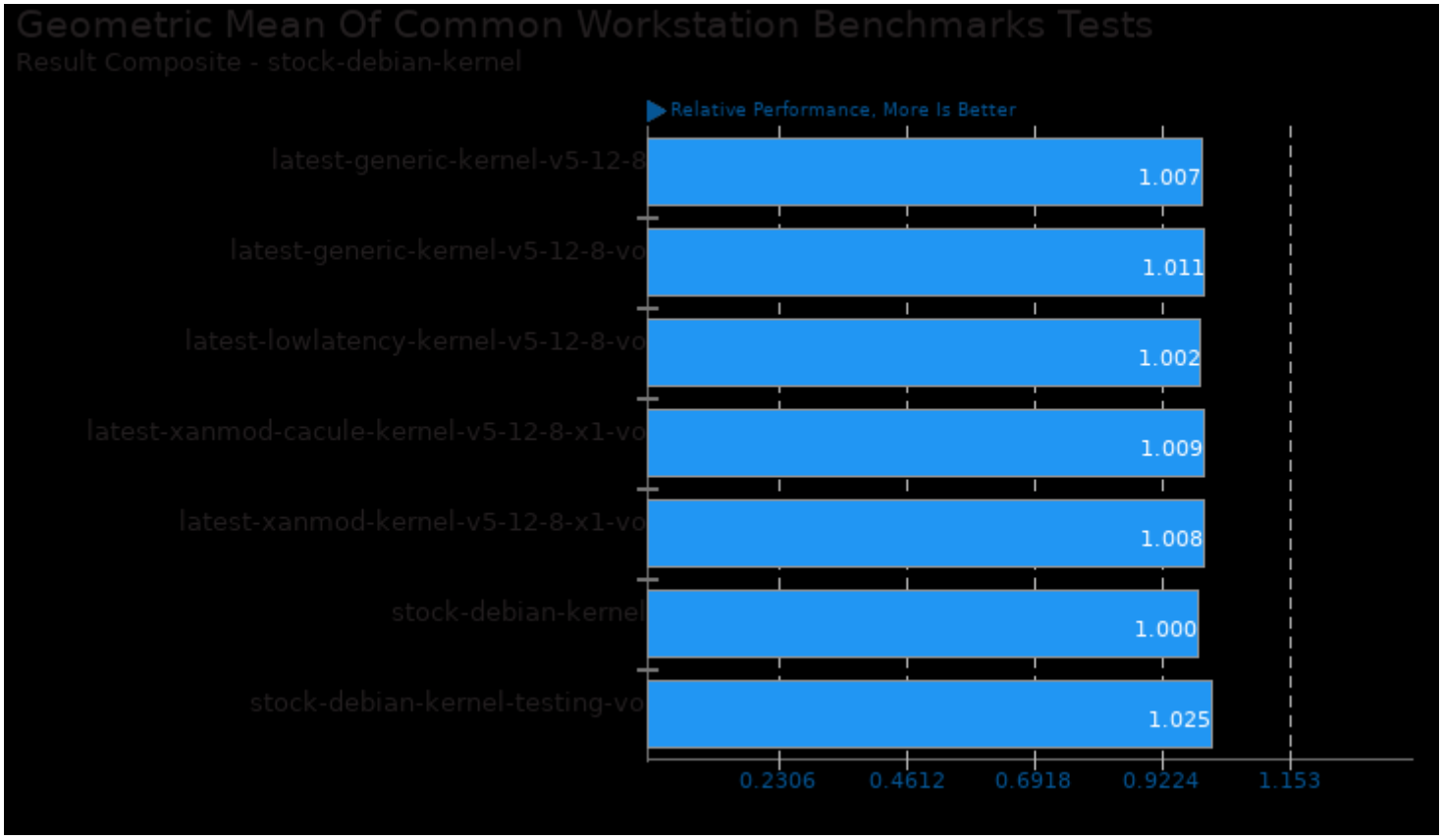


Geometric mean based upon tests: pts/fhourstones, pts/cachebench, pts/botan, pts/numpy, pts/redis, pts/pybench,

pts/nginx and system/tesseract-ocr



Geometric mean based upon tests: pts/x264, pts/x265 and pts/ffmpeg



stock-debian-kernel

Geometric mean based upon tests: pts/blender, pts/x265 and pts/sysbench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 01:30.