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20210903-8g

ARMv8 Cortex-A72 testing on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

5.14.0-caculeapplied-raspi had the most wins, coming in first place for 39% of the tests.

Based on the geometric mean of all complete results, the fastest (5.14.0-caculeapplied-raspi) was 1.64x the speed of the slowest (5.14.0-caculesl-raspi-2). 5.14.0-cacule-raspi was 1x the speed of 5.14.0-caculeapplied-raspi, 5.14.0-caculepure-raspi was 0.988x the speed of 5.14.0-cacule-raspi, 5.14.0-cfs-raspi was 0.967x the speed of 5.14.0-caculepure-raspi, 5.14.0-caculesl-raspi was 0.982x the speed of 5.14.0-cfs-raspi, 5.14.0-caculesl-raspi-4 was 0.666x the speed of 5.14.0-caculesl-raspi, 5.14.0-caculesl-raspi-3 was 1x the speed of 5.14.0-caculesl-raspi-4, 5.14.0-caculesl-raspi-2 was 0.976x the speed of 5.14.0-caculesl-raspi-3.

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

PostgreSQL pgbench (Scaling Factor: 100 - Clients: 50 - Mode: Read Write) at 4.216x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency) at 4.214x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 1 - Mode: Read Write) at 4.192x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency) at 4.187x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency) at 3.744x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 100 - Mode: Read Write) at 3.741x

PostgreSQL pgbench (Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency) at 3.24x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 250 - Mode: Read Write) at 3.239x
ebizzy at 1.208x
PostgreSQL pgbench (Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency) at 1.178x.

Test Systems:

5.14.0-cfs-raspi

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5

OS: Ubuntu 20.04, Kernel: 5.14.0-cfs-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

5.14.0-cacule-raspi

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5

OS: Ubuntu 20.04, Kernel: 5.14.0-cacule-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

5.14.0-caculepure-raspi

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5

OS: Ubuntu 20.04, Kernel: 5.14.0-caculepure-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

5.14.0-caculeapplied-raspi

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5

OS: Ubuntu 20.04, Kernel: 5.14.0-caculeapplied-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

5.14.0-caculesl-raspi

5.14.0-caculesl-raspi-2

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5, Graphics: vc4, Monitor: Dell U4919DW

OS: Ubuntu 20.04, Kernel: 5.14.0-caculesl-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 5120x1440

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

5.14.0-caculesl-raspi-3

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5, Graphics: vc4

OS: Ubuntu 20.04, Kernel: 5.14.0-caculesl-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 5120x1440

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

5.14.0-caculesl-raspi-4

Processor: ARMv8 Cortex-A72 @ 1.50GHz (4 Cores), Motherboard: Raspberry Pi 4 Model B Rev 1.4, Memory: 8GB, Disk: 128GB ED2S5

OS: Ubuntu 20.04, Kernel: 5.14.0-caculesl-raspi (aarch64), Vulkan: 1.0.2, Compiler: GCC 9.3.0, File-System: ext4

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=aarch64-linux-gnu --disable-libquadmath --disable-libquadmath-support --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-fix-cortex-a53-843419 --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug

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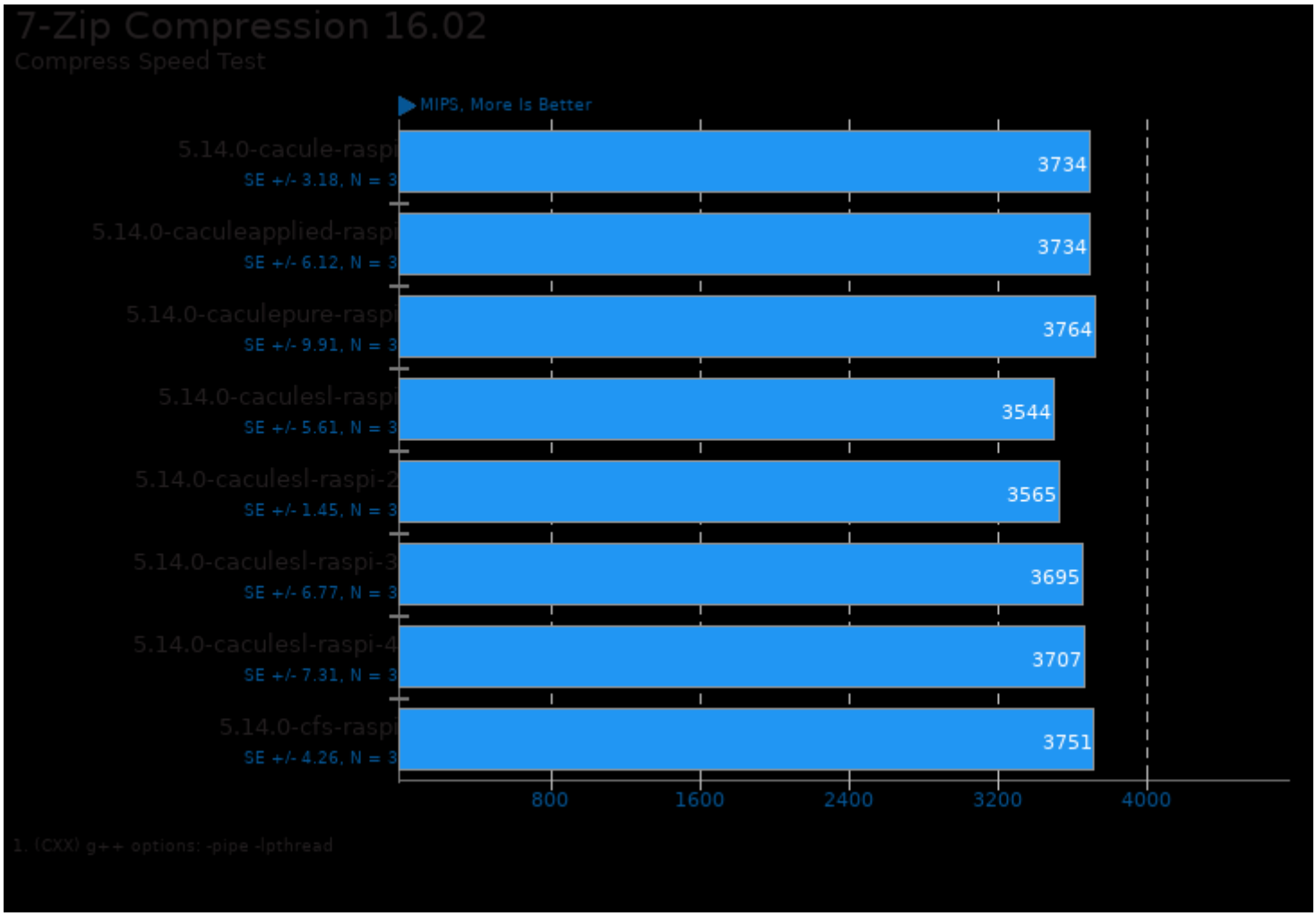
--enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=aarch64-linux-gnu --program-prefix=aarch64-linux-gnu- --target=aarch64-linux-gnu --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Processor Notes: Scaling Governor: cpufreq-dt performance
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Vulnerable + spectre_v1: Mitigation of __user pointer sanitization + spectre_v2: Vulnerable + srbds: Not affected + tsx_async_abort: Not affected

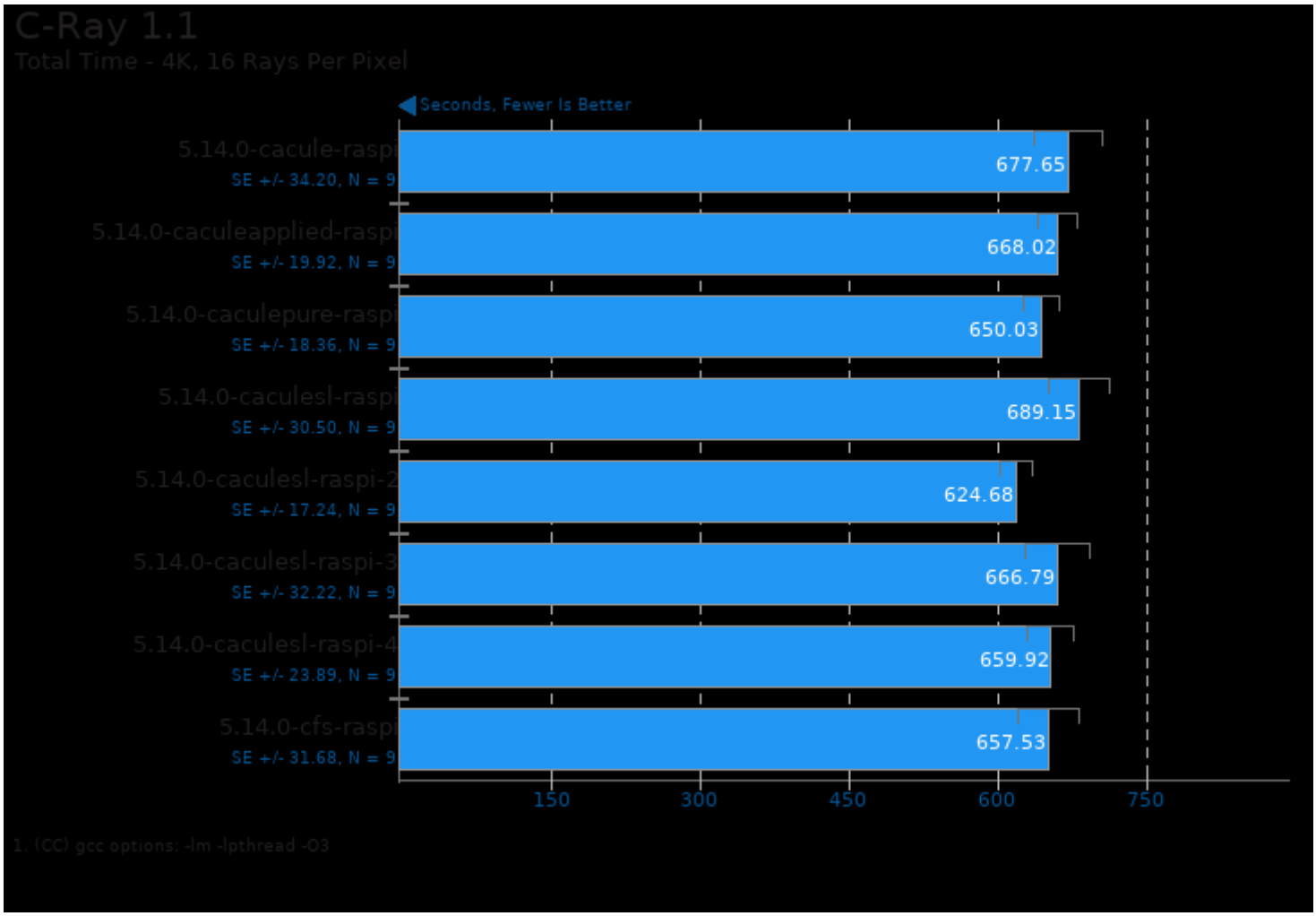
	5.14.0-cfs-raspi	5.14.0-cacule-raspi	5.14.0-cacule-pure-raspi	5.14.0-cacule-applied-raspi	5.14.0-cacule-sl-raspi	5.14.0-cacule-sl-raspi-2	5.14.0-cacule-sl-raspi-3	5.14.0-cacule-sl-raspi-4
7-Zip Compression - C.S.T (MIPS)	3751	3734	**3764**	3734	**3544**	3565	3695	3707
Normalized	99.65%	99.2%	100%	99.2%	94.16%	94.71%	98.17%	98.49%
Standard Deviation	0.2%	0.1%	0.5%	0.3%	0.3%	0.1%	0.3%	0.3%
C-Ray - Total Time - 4.1.R.P.P (sec)	657.532	677.649	650.027	668.022	**689.154**	**624.684**	666.794	659.924
Normalized	95%	92.18%	96.1%	93.51%	90.65%	100%	93.68%	94.66%
Standard Deviation	14.5%	15.1%	8.5%	8.9%	13.3%	8.3%	14.5%	10.9%
ebizzy (Records/s)	5980	**6412**	6347	5868	5309	**5308**	5969	5975
Normalized	93.26%	100%	98.99%	91.52%	82.8%	82.78%	93.09%	93.18%
Standard Deviation	0.2%	0%	2.4%	4.5%	0.1%	0.1%		0.2%
John The Ripper - Blowfish (Real C/S)	1336	1363	1363	**1319**	1363	**1364**	1363	1363
Normalized	97.95%	99.93%	99.93%	96.7%	99.93%	100%	99.93%	99.93%
Standard Deviation	4.3%	0%		5%	0.1%			
John The Ripper - MD5 (Real C/S)	32297	32193	32302	32291	**32317**	32298	32189	**31976**
Normalized	99.94%	99.62%	99.95%	99.92%	100%	99.94%	99.6%	98.94%
Standard Deviation	0.1%	0.6%	0.1%	0%	0%	0.1%	0.4%	1.8%
PostgreSQL pgbench - 100 - 1 - Read Only (TPS)	5740	5711	**5780**	5736	5575	5685	**5543**	5655
Normalized	99.31%	98.81%	100%	99.24%	96.45%	98.36%	95.9%	97.84%
Standard Deviation	0.4%	0.4%	0.5%	1%	0.7%	0.3%	0.4%	1.2%
PostgreSQL pgbench - 100 - 1 - Read Only - Average Latency (ms)	0.174	0.175	**0.173**	0.174	**0.180**	0.176	**0.180**	0.177
Normalized	99.43%	98.86%	100%	99.43%	96.11%	98.3%	96.11%	97.74%
Standard Deviation	0.3%	0.3%	0.6%	0.9%	0.6%	0.3%	0.3%	1.1%
PostgreSQL pgbench - 100 - 1 - Read Write (TPS)	853	846	**872**	850	823	210	**208**	211
Normalized	97.82%	97.02%	100%	97.48%	94.38%	24.08%	23.85%	24.2%
Standard Deviation	0.9%	1%	1%	1.4%	0.4%	0.4%	0.3%	0.8%
PostgreSQL pgbench - 100 - 1 - Read Write - Average Latency (ms)	1.172	1.182	**1.147**	1.177	1.216	4.752	**4.803**	4.751
Normalized	97.87%	97.04%	100%	97.45%	94.33%	24.14%	23.88%	24.14%
Standard Deviation	0.9%	1%	1%	1.5%	0.4%	0.4%	0.3%	0.8%

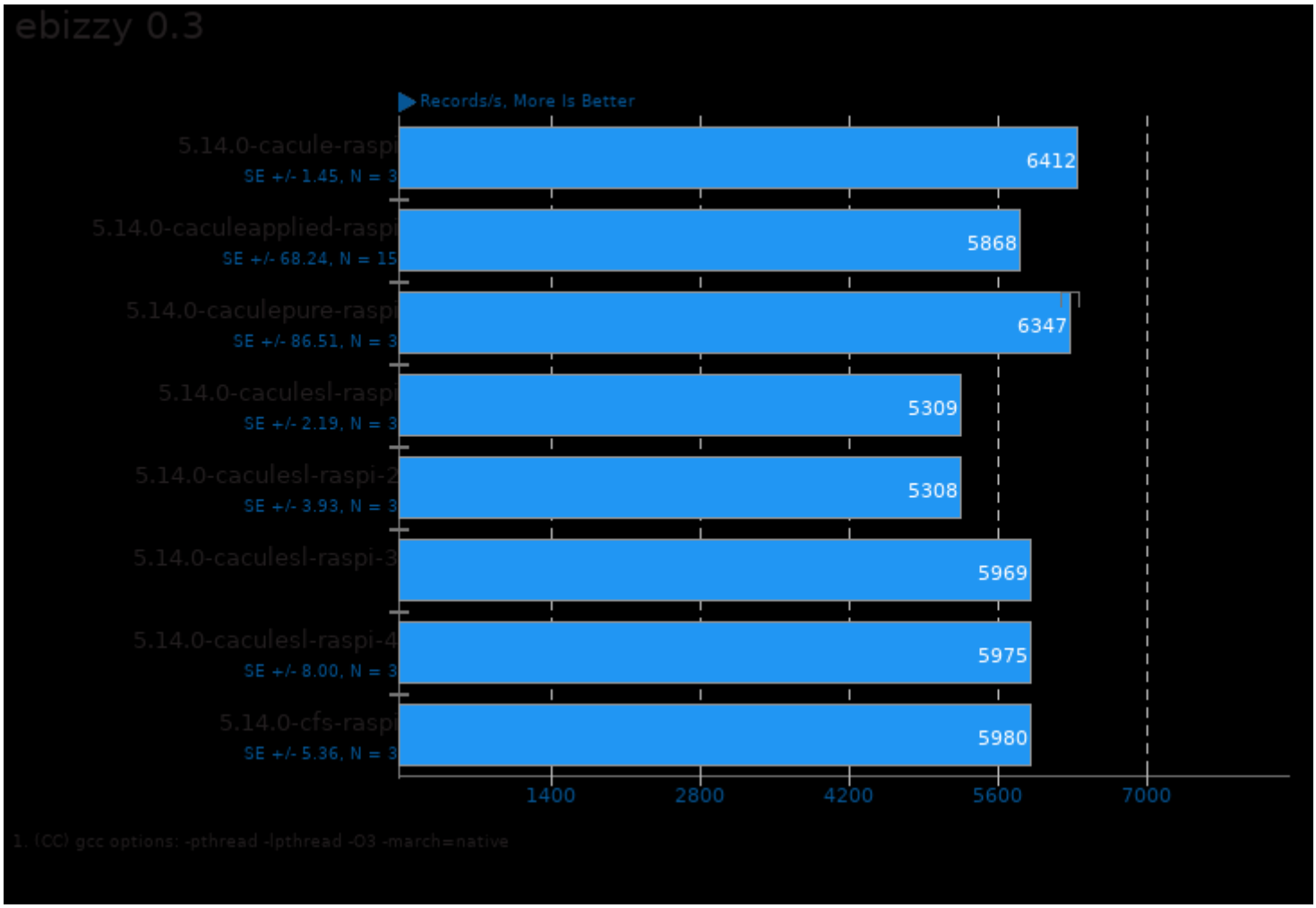
PostgreSQL pgbench - 100 - 50 - Read Only (TPS)	7878	8557	**8664**	8600	7604	**7601**	8059	8099
Normalized	90.93%	98.77%	100%	99.26%	87.77%	87.73%	93.02%	93.48%
Standard Deviation	0.6%	0.4%	0.5%	0.3%	0.2%	0.4%	0.3%	0.2%
PostgreSQL pgbench - 100 - 50 - Read Only - Average Latency (ms)	6.348	5.844	**5.772**	5.814	6.576	**6.578**	6.206	6.175
Normalized	90.93%	98.77%	100%	99.28%	87.77%	87.75%	93.01%	93.47%
Standard Deviation	0.6%	0.4%	0.5%	0.3%	0.2%	0.4%	0.3%	0.2%
PostgreSQL pgbench - 100 - 100 - Read Only (TPS)	**6794**	7977	7862	**8003**	7332	7366	7899	7812
Normalized	84.89%	99.68%	98.24%	100%	91.62%	92.04%	98.7%	97.61%
Standard Deviation	0.6%	0.4%	0.3%	0.2%	0.2%	0%	0.4%	0.2%
PostgreSQL pgbench - 100 - 100 - Read Only - Average Latency (ms)	**14.721**	12.538	12.722	**12.496**	13.640	13.578	12.661	12.803
Normalized	84.89%	99.67%	98.22%	100%	91.61%	92.03%	98.7%	97.6%
Standard Deviation	0.6%	0.4%	0.3%	0.2%	0.2%	0%	0.4%	0.2%
PostgreSQL pgbench - 100 - 250 - Read Only (TPS)	**6646**	7601	7245	**7635**	7000	6998	7481	7412
Normalized	87.05%	99.55%	94.89%	100%	91.68%	91.66%	97.98%	97.08%
Standard Deviation	0.3%	0.2%	0.5%	0.7%	1.3%	1.2%	2.1%	2.5%
PostgreSQL pgbench - 100 - 250 - Read Only - Average Latency (ms)	**37.621**	32.894	34.509	**32.748**	35.723	35.735	33.435	33.750
Normalized	87.05%	99.56%	94.9%	100%	91.67%	91.64%	97.95%	97.03%
Standard Deviation	0.3%	0.2%	0.5%	0.7%	1.3%	1.3%	2.2%	2.5%
PostgreSQL pgbench - 100 - 50 - Read Write (TPS)	1447	**1581**	1489	1579	1406	**375**	386	388
Normalized	91.52%	100%	94.18%	99.87%	88.93%	23.72%	24.41%	24.54%
Standard Deviation	0%	0.3%	0.6%	0.4%	0.3%	1.9%	1.6%	0.2%
PostgreSQL pgbench - 100 - 50 - Read Write - Average Latency (ms)	34.563	**31.630**	33.573	31.663	35.557	**133.303**	129.521	128.800
Normalized	91.51%	100%	94.21%	99.9%	88.96%	23.73%	24.42%	24.56%
Standard Deviation	0%	0.3%	0.6%	0.4%	0.3%	1.8%	1.6%	0.2%
PostgreSQL pgbench - 100 - 100 - Read Write (TPS)	1363	1438	1357	**1444**	1328	**386**	391	390
Normalized	94.39%	99.58%	93.98%	100%	91.97%	26.73%	27.08%	27.01%
Standard Deviation	0.1%	0.2%	0.1%	0.2%	0.3%	2.3%	2%	1.3%
PostgreSQL pgbench - 100 - 100 - Read Write - Average Latency (ms)	73.350	69.562	73.697	**69.273**	75.340	**259.325**	255.667	256.215
Normalized	94.44%	99.58%	94%	100%	91.95%	26.71%	27.1%	27.04%
Standard Deviation	0.1%	0.2%	0.1%	0.2%	0.3%	2.3%	2%	1.3%

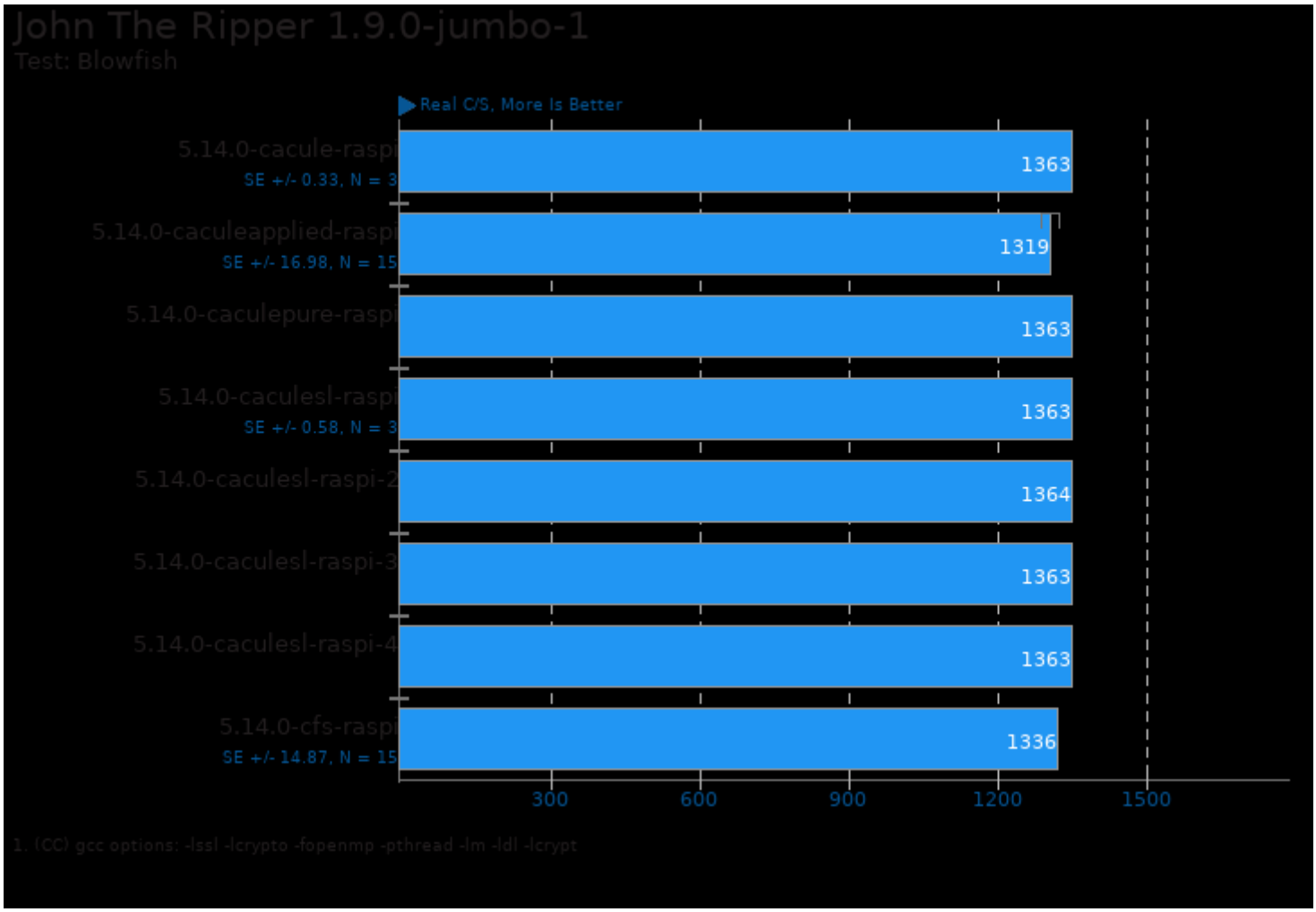
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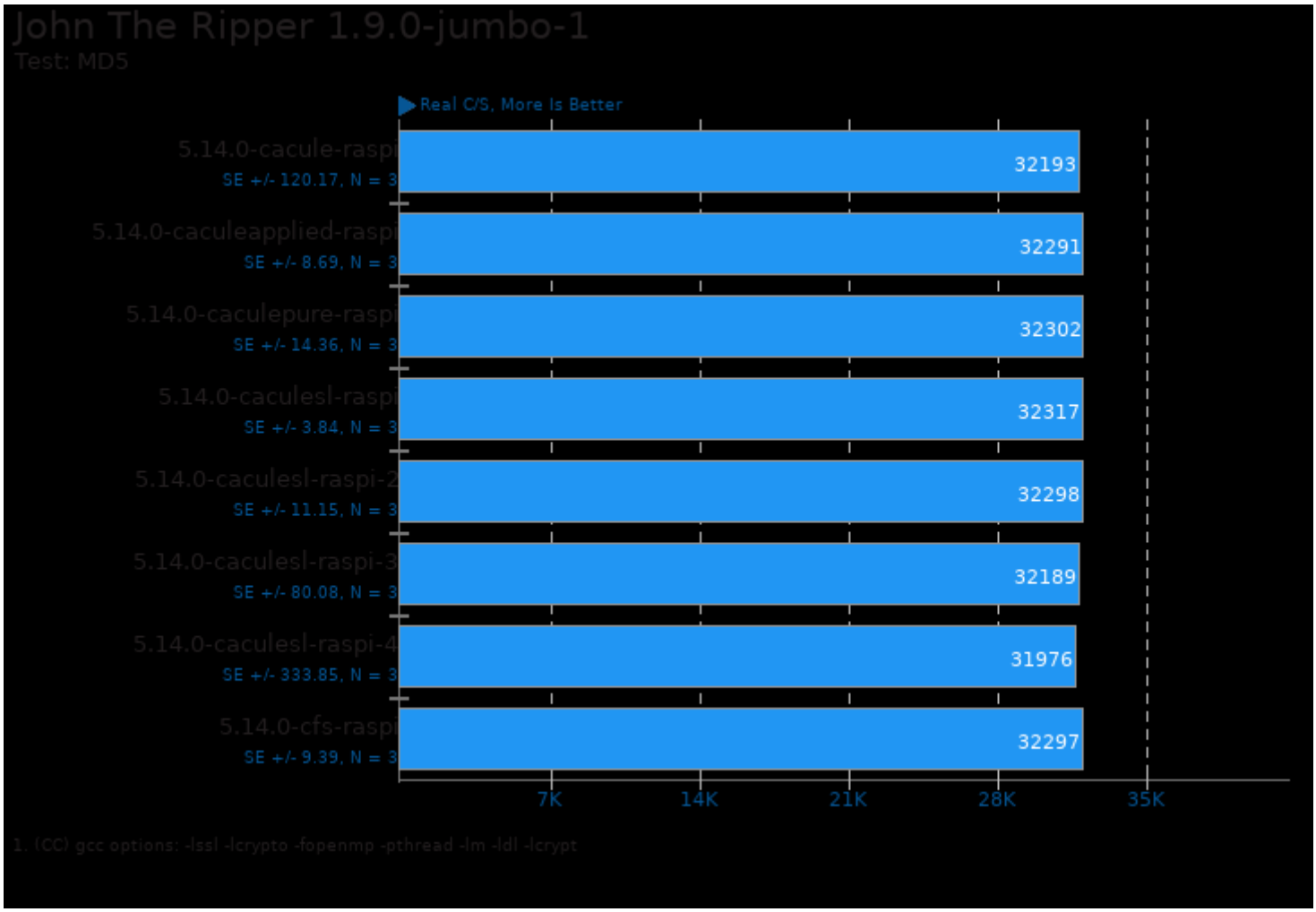
PostgreSQL pgbench - 100 - 250 - Read Write (TPS)	1206	1228	1162	**1231**	1185	381	383	**380**
Normalized	97.97%	99.76%	94.39%	100%	96.26%	30.95%	31.11%	30.87%
Standard Deviation	0.5%	0.6%	0.2%	0.5%	0.5%	2.3%	1.6%	1.5%
PostgreSQL pgbench - 100 - 250 - Read Write - Average Latency (ms)	207.366	203.612	215.226	**203.062**	211.063	656.536	653.264	**657.949**
Normalized	97.92%	99.73%	94.35%	100%	96.21%	30.93%	31.08%	30.86%
Standard Deviation	0.5%	0.6%	0.2%	0.5%	0.5%	2.3%	1.6%	1.5%
Primesieve - 1.P.N.G (sec)	527.007	555.502	532.913	**525.899**	**569.292**	540.726	532.649	546.836
Normalized	99.79%	94.67%	98.68%	100%	92.38%	97.26%	98.73%	96.17%
Standard Deviation	5.5%	9.6%	6.5%	3.2%	8.4%	8.9%	6.3%	7.3%
Timed Linux Kernel Compilation - Time To Compile (sec)	5117	5076	**5068**	5096	5336	**5337**	5113	5093
Normalized	99.05%	99.85%	100%	99.45%	94.98%	94.96%	99.13%	99.51%
Standard Deviation	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%

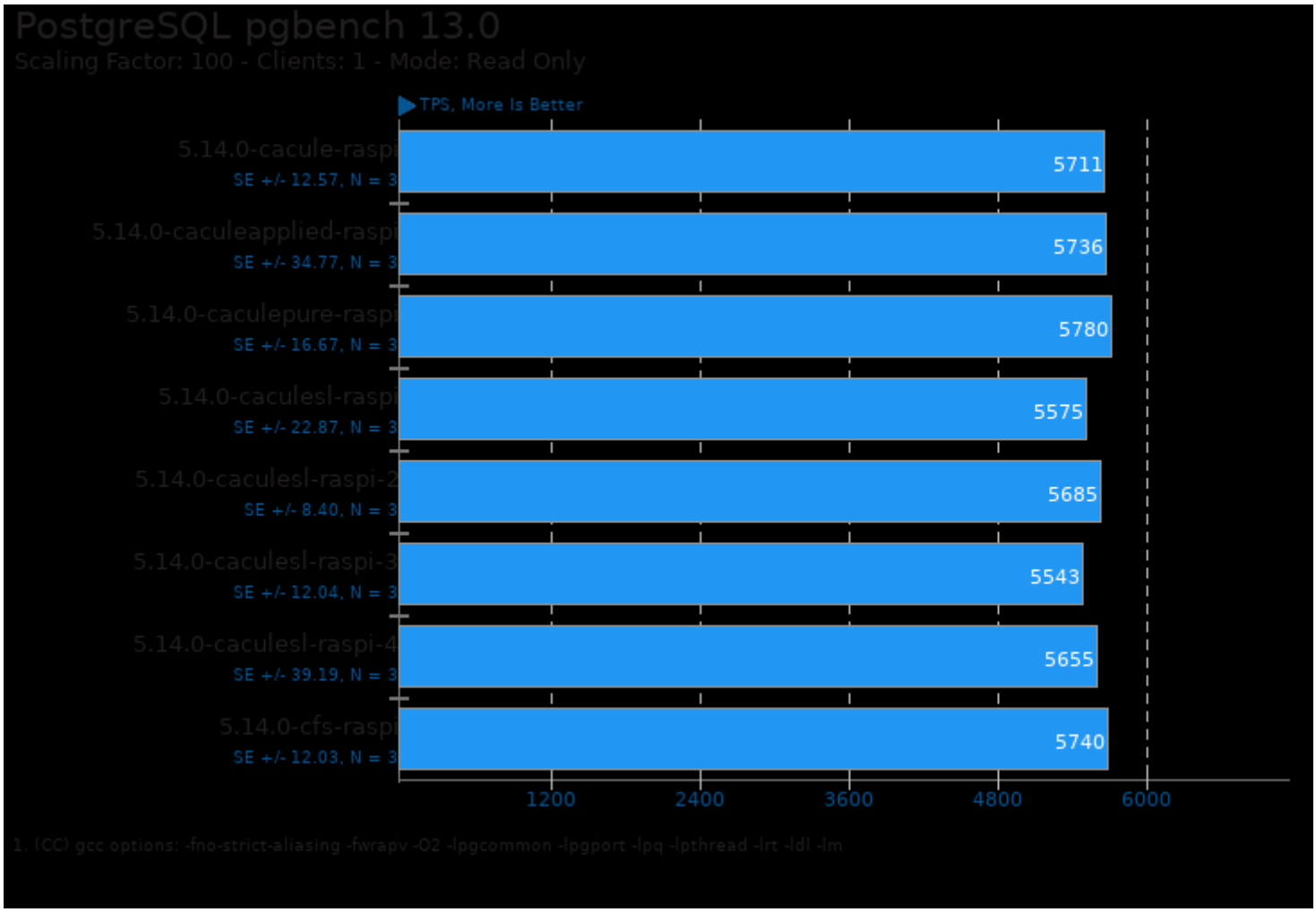

7-Zip Compression 16.02
Compress Speed Test
MIPS, More Is Better
5.14.0-cacule-raspi
SE +/- 3.18, N = 3
3734
5.14.0-caculeapplied-raspi
SE +/- 6.12, N = 3
3734
5.14.0-caculepure-raspi
SE +/- 9.91, N = 3
3764
5.14.0-caculesl-raspi
SE +/- 5.61, N = 3
3544
5.14.0-caculesl-raspi-2
SE +/- 1.45, N = 3
3565
5.14.0-caculesl-raspi-3
SE +/- 6.77, N = 3
3695
5.14.0-caculesl-raspi-4
SE +/- 7.31, N = 3
3707
5.14.0-cfs-raspi
SE +/- 4.26, N = 3
3751
800
1600
2400
3200
4000
1. (CXX) g++ options: -pipe -lpthread

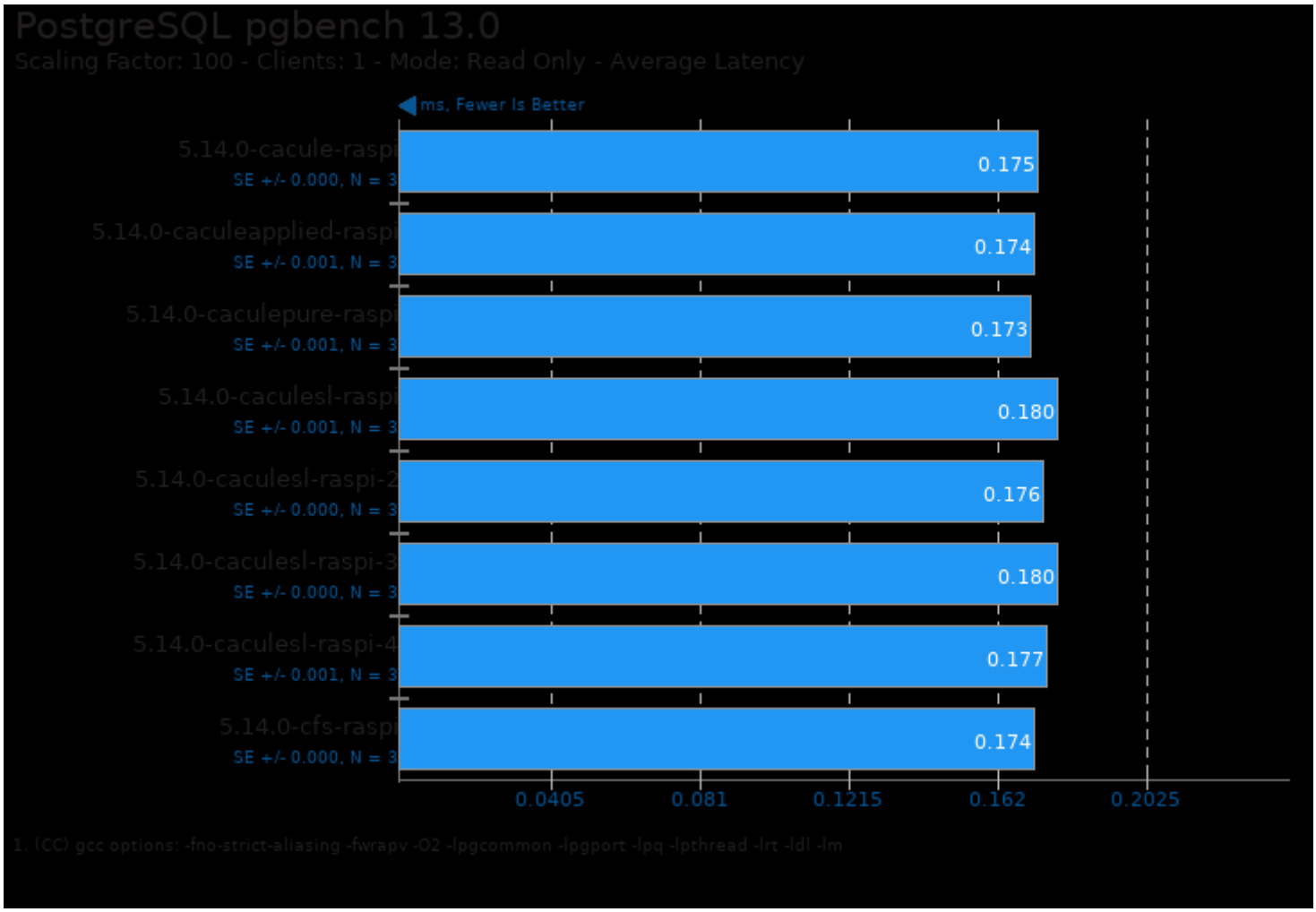

C-Ray 1.1
Total Time - 4K, 16 Rays Per Pixel
Seconds, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 34.20, N = 9
677.65
5.14.0-caculeapplied-raspi
SE +/- 19.92, N = 9
668.02
5.14.0-caculepure-raspi
SE +/- 18.36, N = 9
650.03
5.14.0-caculesl-raspi
SE +/- 30.50, N = 9
689.15
5.14.0-caculesl-raspi-2
SE +/- 17.24, N = 9
624.68
5.14.0-caculesl-raspi-3
SE +/- 32.22, N = 9
666.79
5.14.0-caculesl-raspi-4
SE +/- 23.89, N = 9
659.92
5.14.0-cfs-raspi
SE +/- 31.68, N = 9
657.53
150
300
450
600
750
1. (CC) gcc options: -lm -lpthread -O3

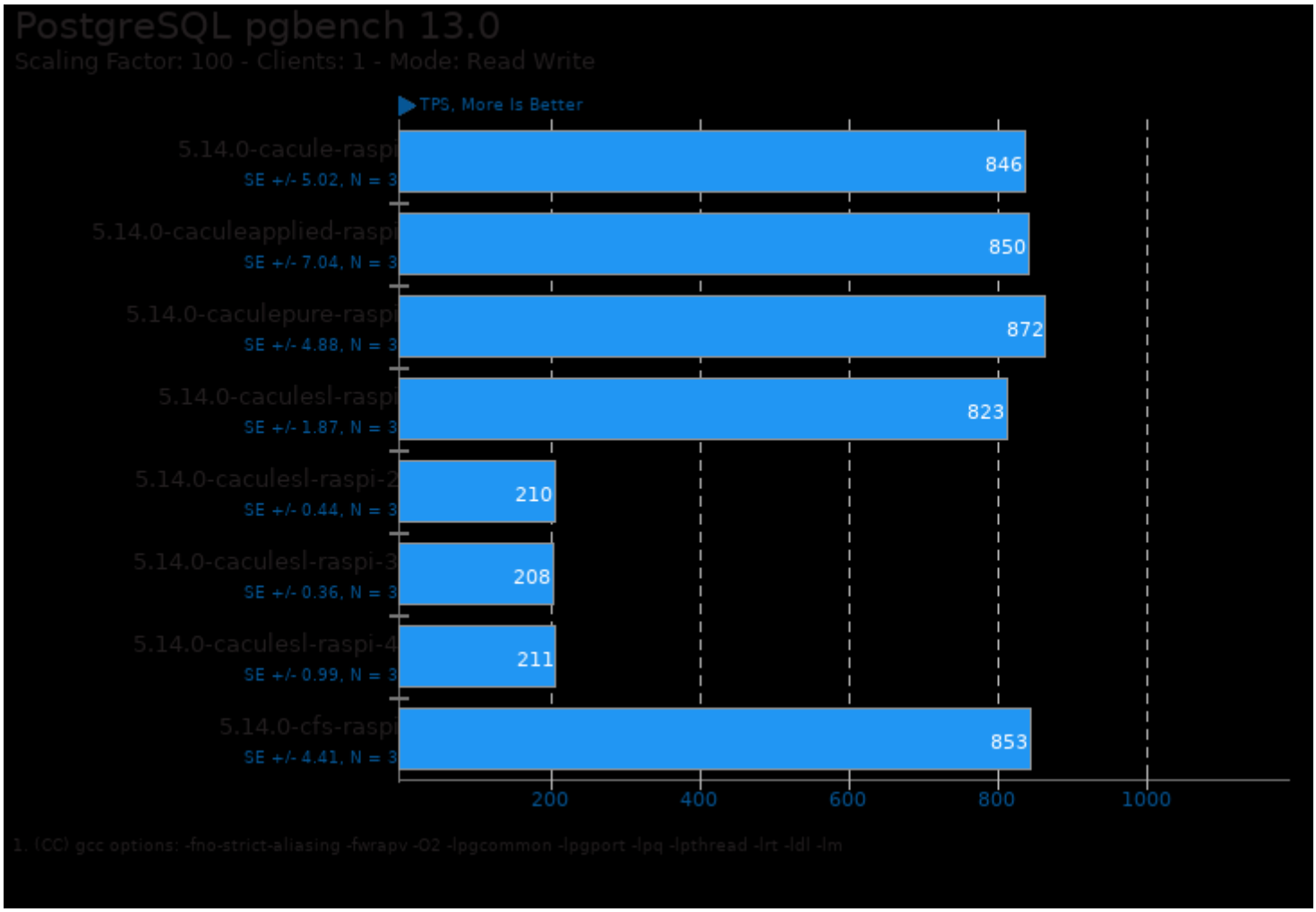

ebizzy 0.3
Records/s, More Is Better
5.14.0-cacule-raspi
SE +/- 1.45, N = 3
6412
5.14.0-caculeapplied-raspi
SE +/- 68.24, N = 15
5868
5.14.0-caculepure-raspi
SE +/- 86.51, N = 3
6347
5.14.0-caculesl-raspi
SE +/- 2.19, N = 3
5309
5.14.0-caculesl-raspi-2
SE +/- 3.93, N = 3
5308
5.14.0-caculesl-raspi-3
5969
5.14.0-caculesl-raspi-4
SE +/- 8.00, N = 3
5975
5.14.0-cfs-raspi
SE +/- 5.36, N = 3
5980
1400
2800
4200
5600
7000
1. (CC) gcc options: -pthread -lpthread -O3 -march=native

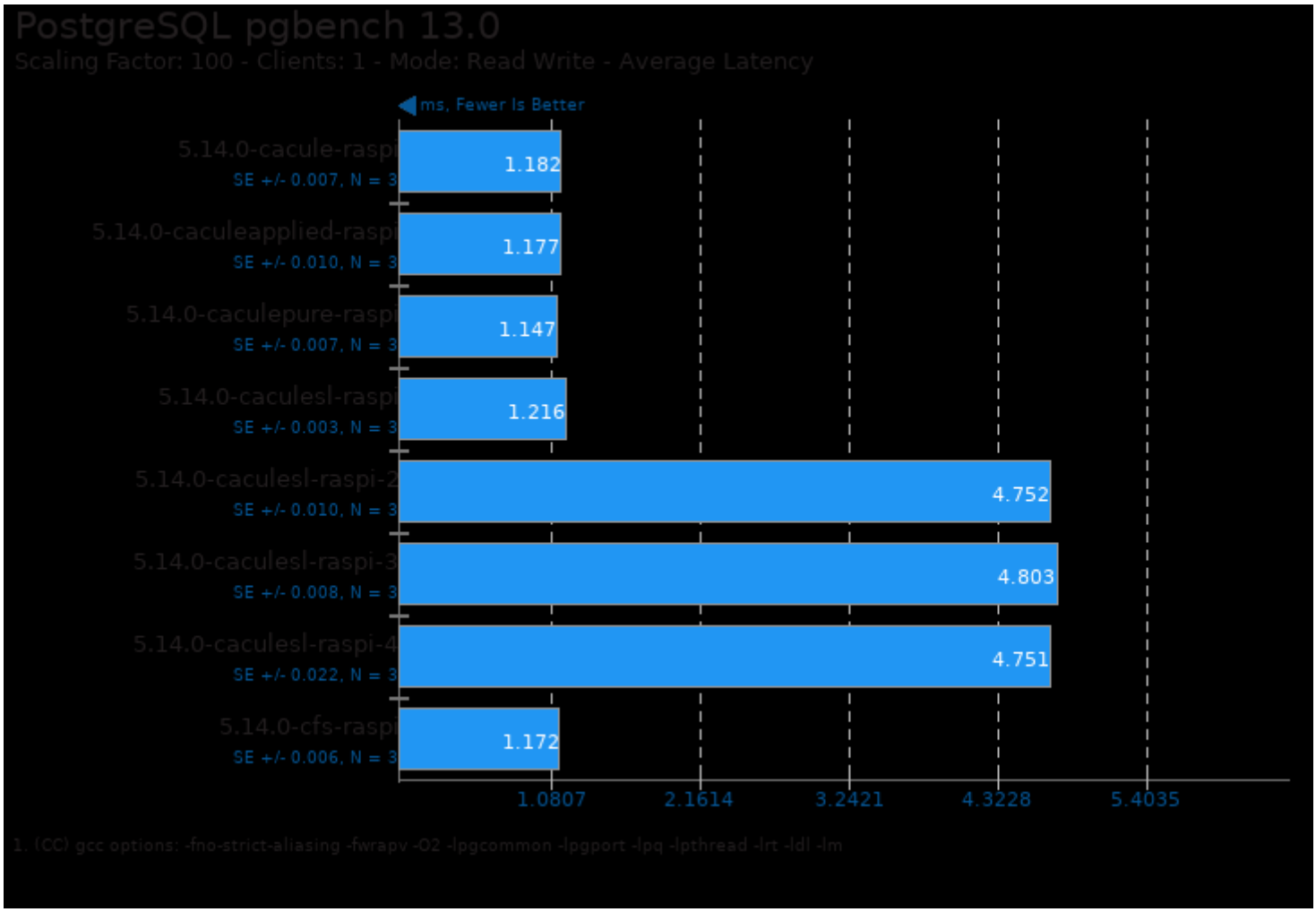

John The Ripper 1.9.0-jumbo-1
Test: Blowfish
Real C/S, More Is Better
5.14.0-cacule-raspi
SE +/- 0.33, N = 3
1363
5.14.0-caculeapplied-raspi
SE +/- 16.98, N = 15
1319
5.14.0-caculepure-raspi
1363
5.14.0-caculesl-raspi
SE +/- 0.58, N = 3
1363
5.14.0-caculesl-raspi-2
1364
5.14.0-caculesl-raspi-3
1363
5.14.0-caculesl-raspi-4
1363
5.14.0-cfs-raspi
SE +/- 14.87, N = 15
1336
300
600
900
1200
1500
1. (CC) gcc options: -lssl -lcrypto -fopenmp -pthread -lm -ldl -lcrypt

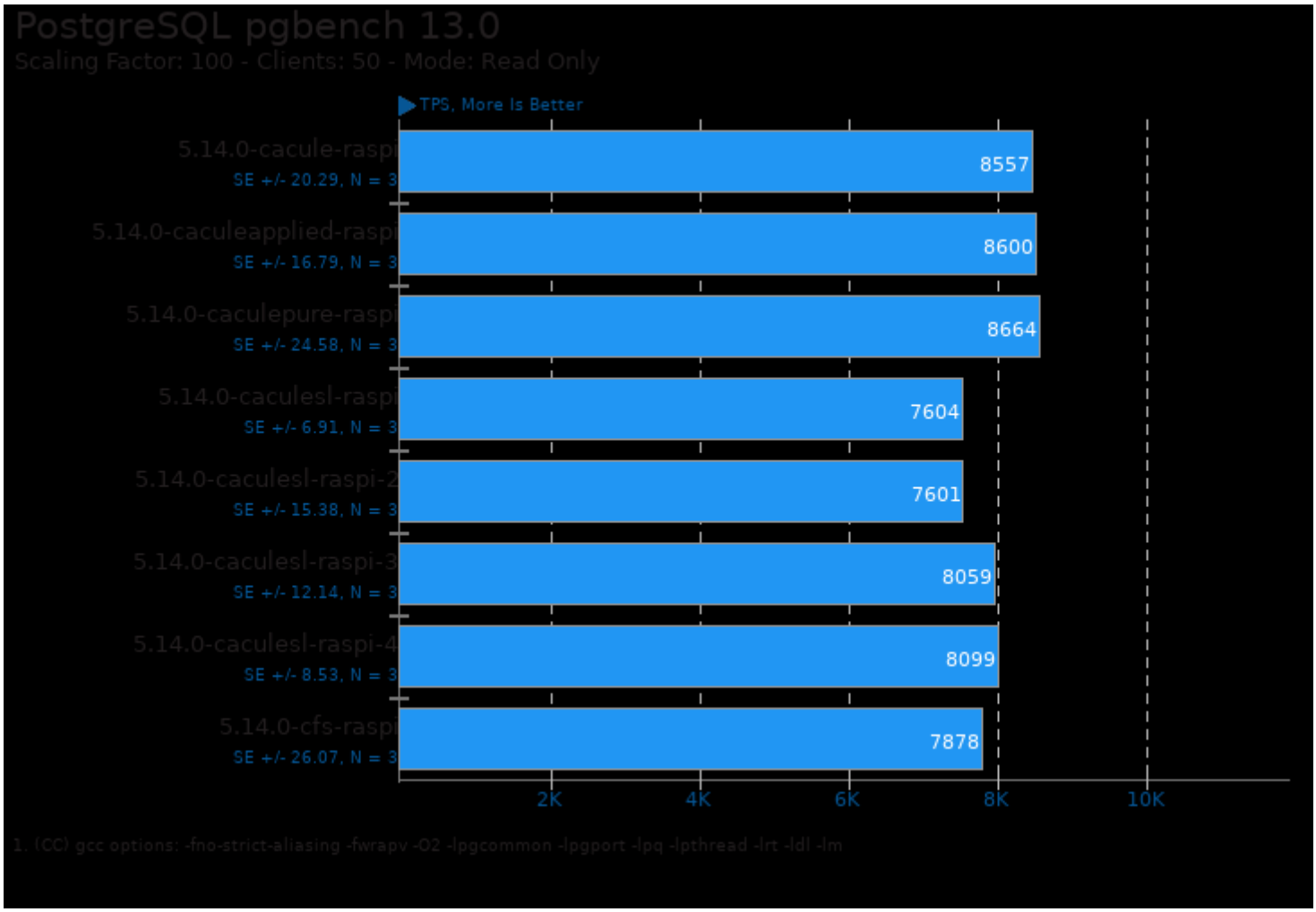

John The Ripper 1.9.0-jumbo-1
Test: MD5
Real C/S, More Is Better
5.14.0-cacule-raspi
SE +/- 120.17, N = 3
32193
5.14.0-caculeapplied-raspi
SE +/- 8.69, N = 3
32291
5.14.0-caculepure-raspi
SE +/- 14.36, N = 3
32302
5.14.0-caculesl-raspi
SE +/- 3.84, N = 3
32317
5.14.0-caculesl-raspi-2
SE +/- 11.15, N = 3
32298
5.14.0-caculesl-raspi-3
SE +/- 80.08, N = 3
32189
5.14.0-caculesl-raspi-4
SE +/- 333.85, N = 3
31976
5.14.0-cfs-raspi
SE +/- 9.39, N = 3
32297
7K
14K
21K
28K
35K
1. (CC) gcc options: -lssl -lcrypto -fopenmp -pthread -lm -ldl -lcrypt

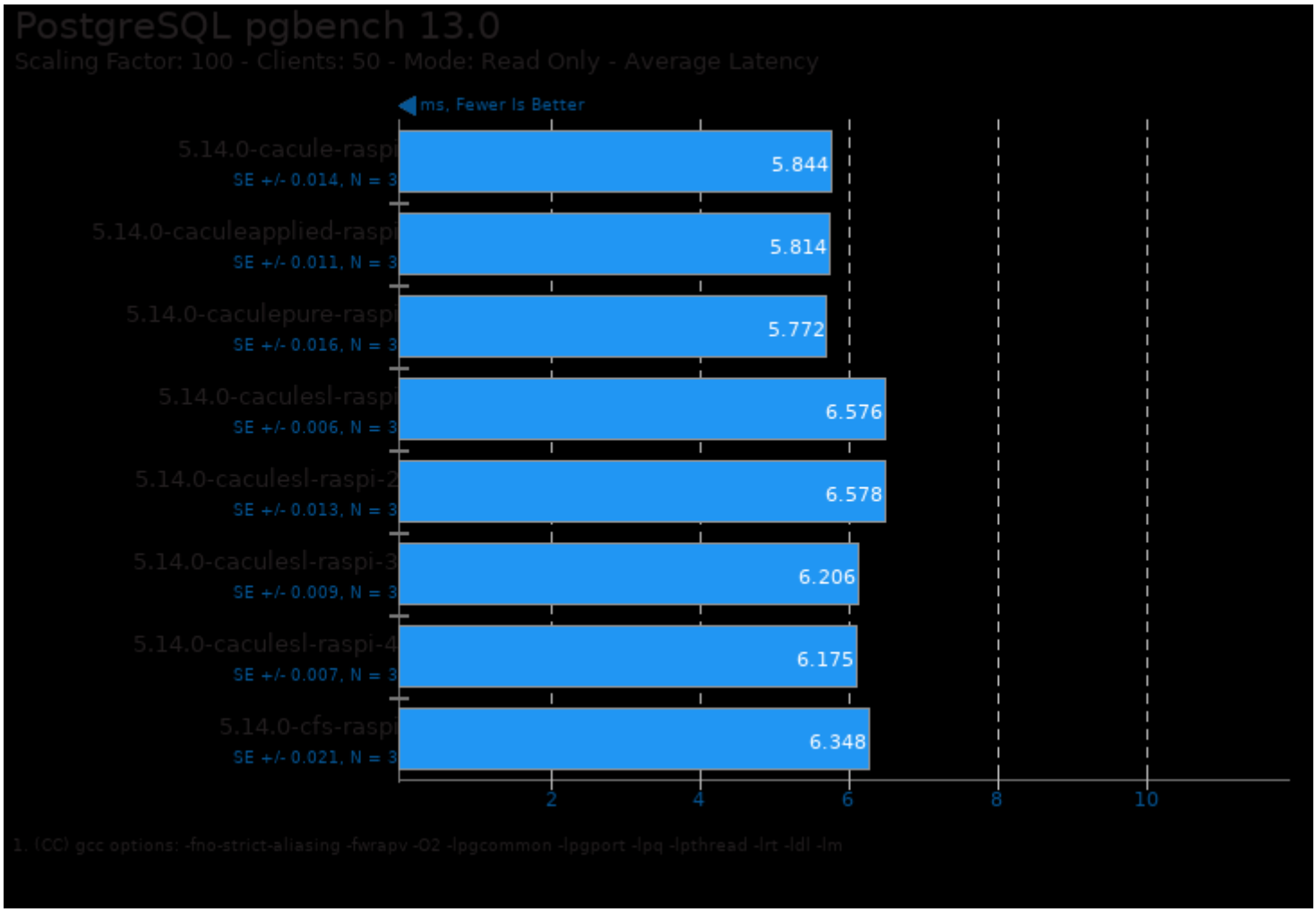

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Only
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 12.57, N = 3
5711
5.14.0-caculeapplied-raspi
SE +/- 34.77, N = 3
5736
5.14.0-caculepure-raspi
SE +/- 16.67, N = 3
5780
5.14.0-caculesl-raspi
SE +/- 22.87, N = 3
5575
5.14.0-caculesl-raspi-2
SE +/- 8.40, N = 3
5685
5.14.0-caculesl-raspi-3
SE +/- 12.04, N = 3
5543
5.14.0-caculesl-raspi-4
SE +/- 39.19, N = 3
5655
5.14.0-cfs-raspi
SE +/- 12.03, N = 3
5740
1200
2400
3600
4800
6000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

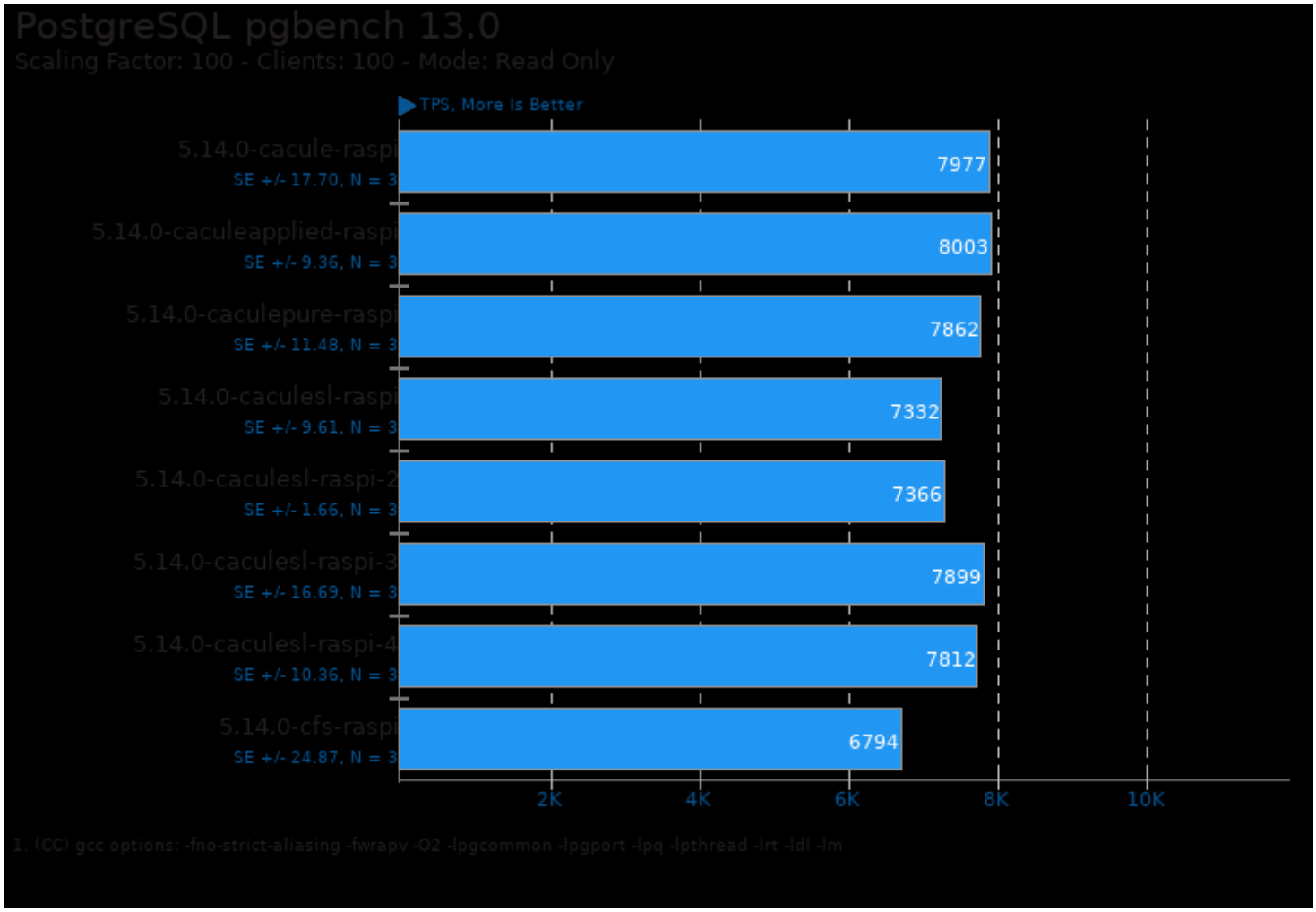

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.000, N = 3
0.175
5.14.0-caculeapplied-raspi
SE +/- 0.001, N = 3
0.174
5.14.0-caculepure-raspi
SE +/- 0.001, N = 3
0.173
5.14.0-caculesl-raspi
SE +/- 0.001, N = 3
0.180
5.14.0-caculesl-raspi-2
SE +/- 0.000, N = 3
0.176
5.14.0-caculesl-raspi-3
SE +/- 0.000, N = 3
0.180
5.14.0-caculesl-raspi-4
SE +/- 0.001, N = 3
0.177
5.14.0-cfs-raspi
SE +/- 0.000, N = 3
0.174
0.0405
0.081
0.1215
0.162
0.2025
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

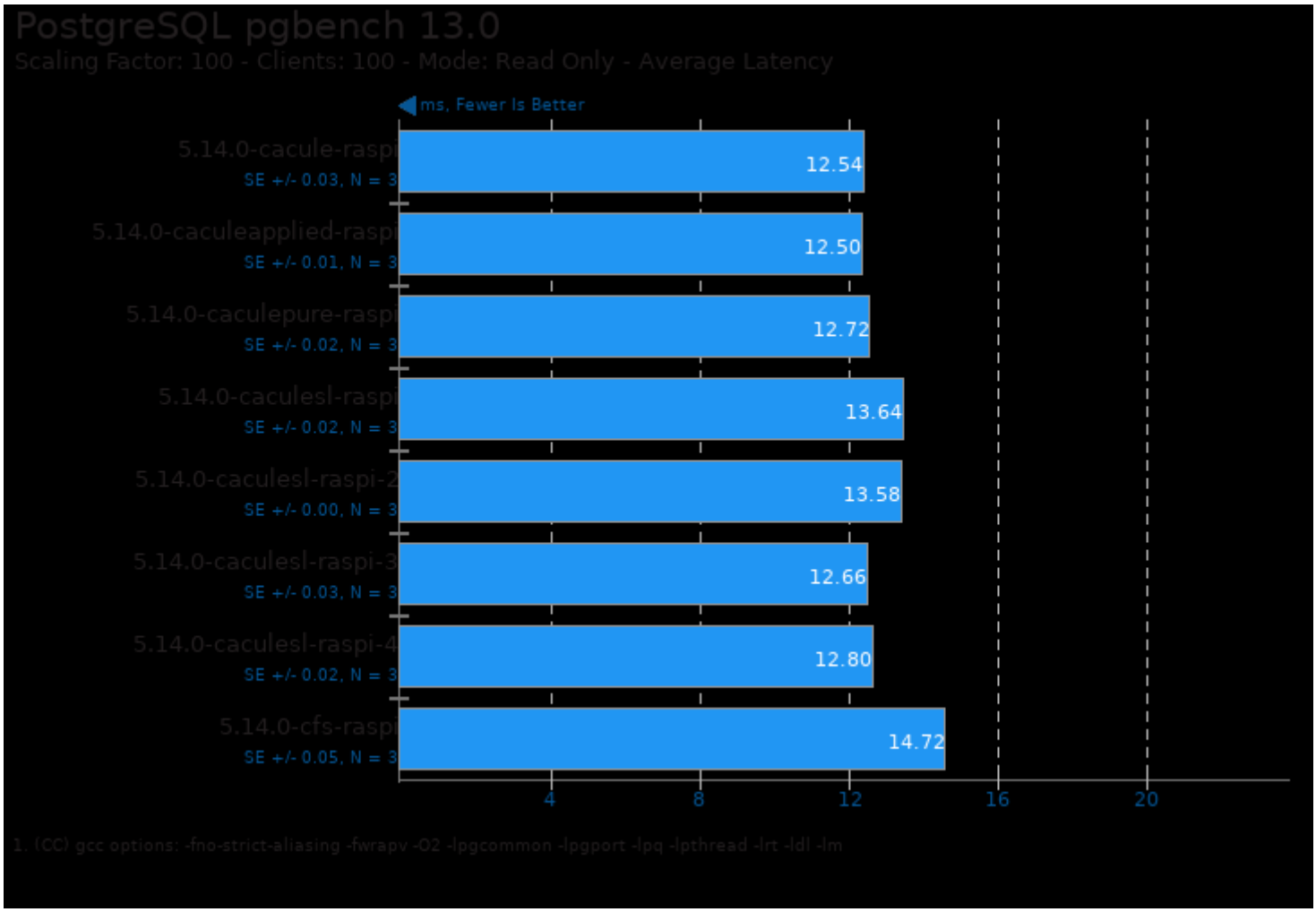

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Write
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 5.02, N = 3
846
5.14.0-caculeapplied-raspi
SE +/- 7.04, N = 3
850
5.14.0-caculepure-raspi
SE +/- 4.88, N = 3
872
5.14.0-caculesl-raspi
SE +/- 1.87, N = 3
823
5.14.0-caculesl-raspi-2
SE +/- 0.44, N = 3
210
5.14.0-caculesl-raspi-3
SE +/- 0.36, N = 3
208
5.14.0-caculesl-raspi-4
SE +/- 0.99, N = 3
211
5.14.0-cfs-raspi
SE +/- 4.41, N = 3
853
200
400
600
800
1000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

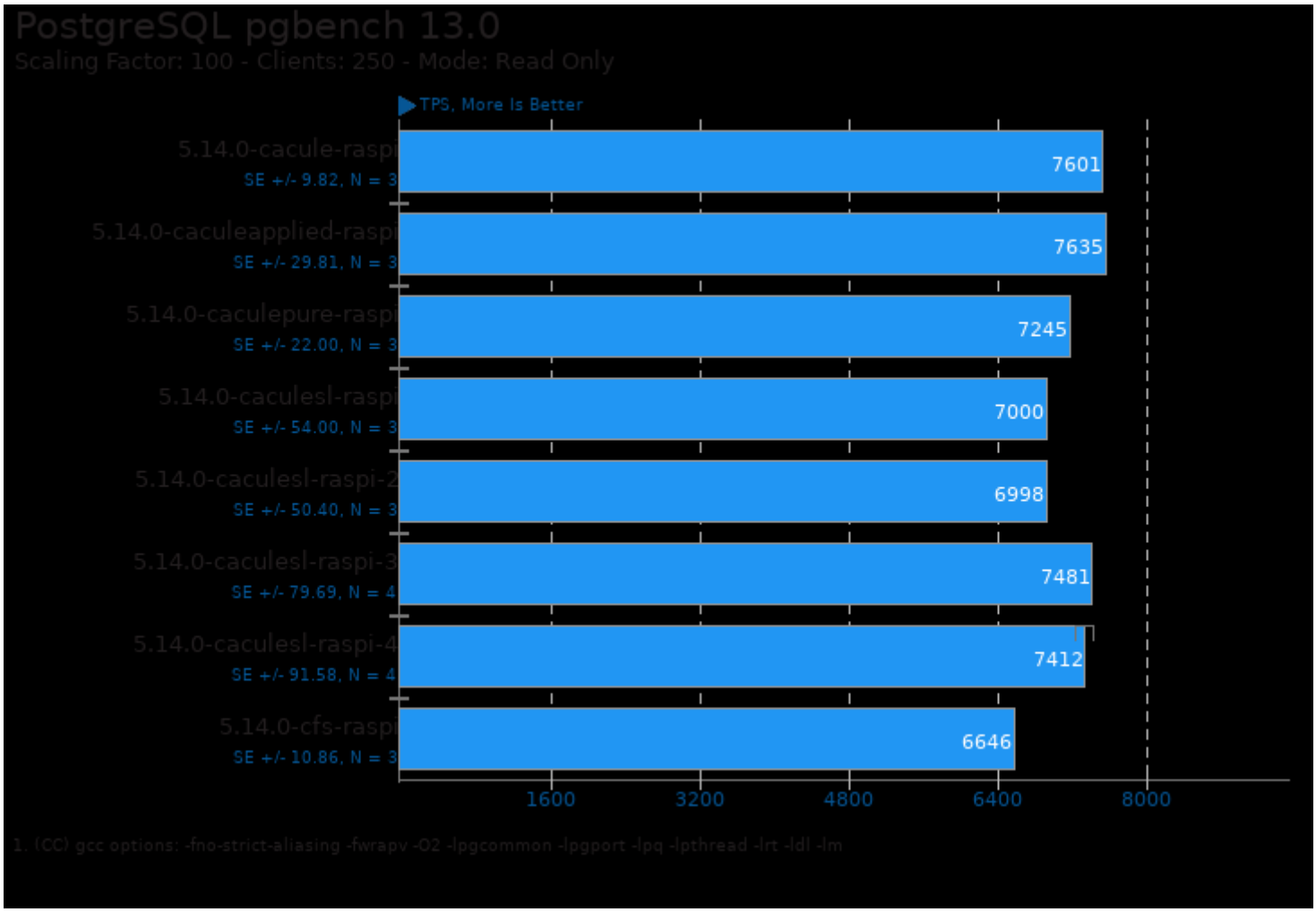

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.007, N = 3
1.182
5.14.0-caculeapplied-raspi
SE +/- 0.010, N = 3
1.177
5.14.0-caculepure-raspi
SE +/- 0.007, N = 3
1.147
5.14.0-caculesl-raspi
SE +/- 0.003, N = 3
1.216
5.14.0-caculesl-raspi-2
SE +/- 0.010, N = 3
4.752
5.14.0-caculesl-raspi-3
SE +/- 0.008, N = 3
4.803
5.14.0-caculesl-raspi-4
SE +/- 0.022, N = 3
4.751
5.14.0-cfs-raspi
SE +/- 0.006, N = 3
1.172
1.0807
2.1614
3.2421
4.3228
5.4035
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

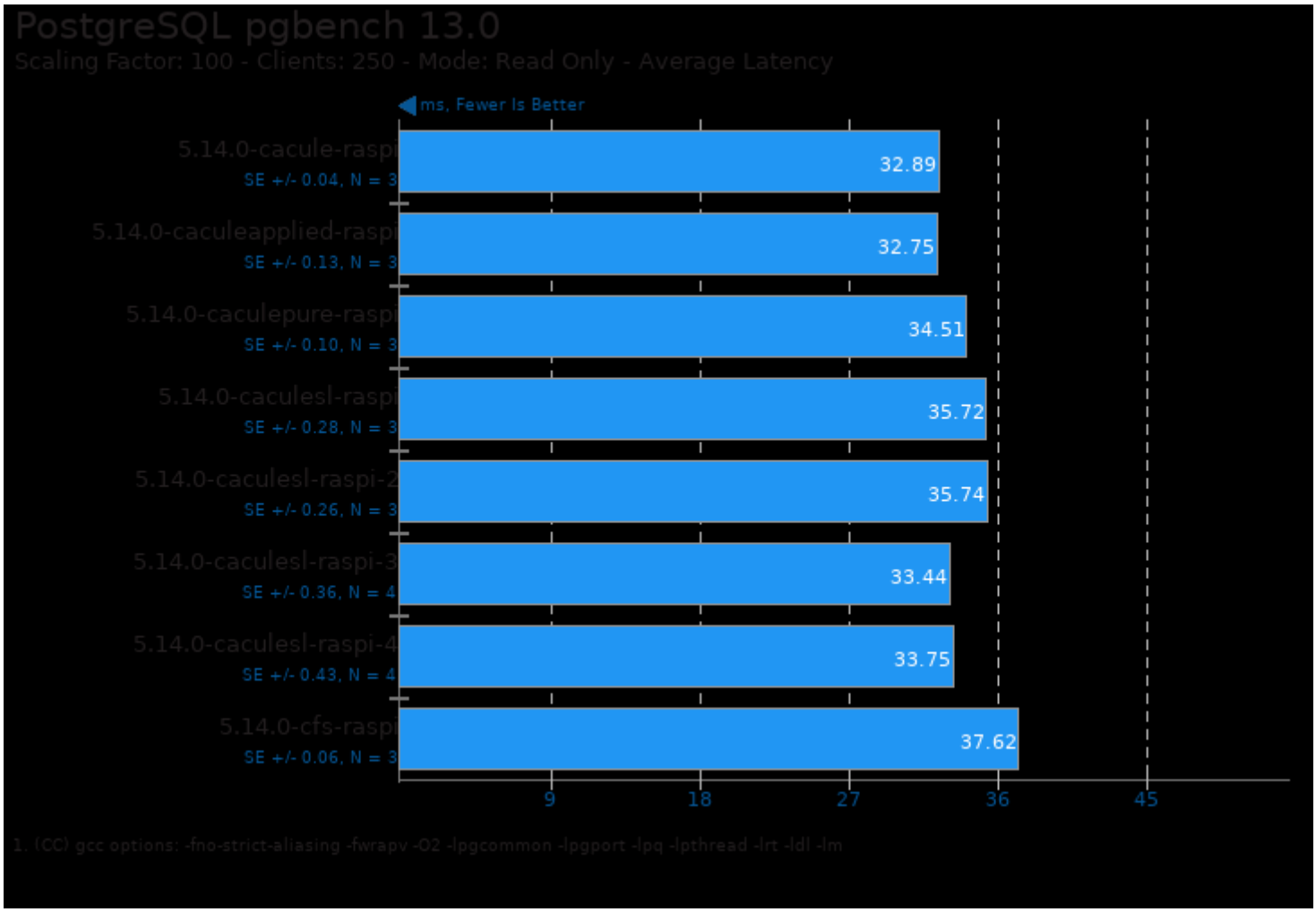

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Only
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 20.29, N = 3
8557
5.14.0-caculeapplied-raspi
SE +/- 16.79, N = 3
8600
5.14.0-caculepure-raspi
SE +/- 24.58, N = 3
8664
5.14.0-caculesl-raspi
SE +/- 6.91, N = 3
7604
5.14.0-caculesl-raspi-2
SE +/- 15.38, N = 3
7601
5.14.0-caculesl-raspi-3
SE +/- 12.14, N = 3
8059
5.14.0-caculesl-raspi-4
SE +/- 8.53, N = 3
8099
5.14.0-cfs-raspi
SE +/- 26.07, N = 3
7878
2K
4K
6K
8K
10K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

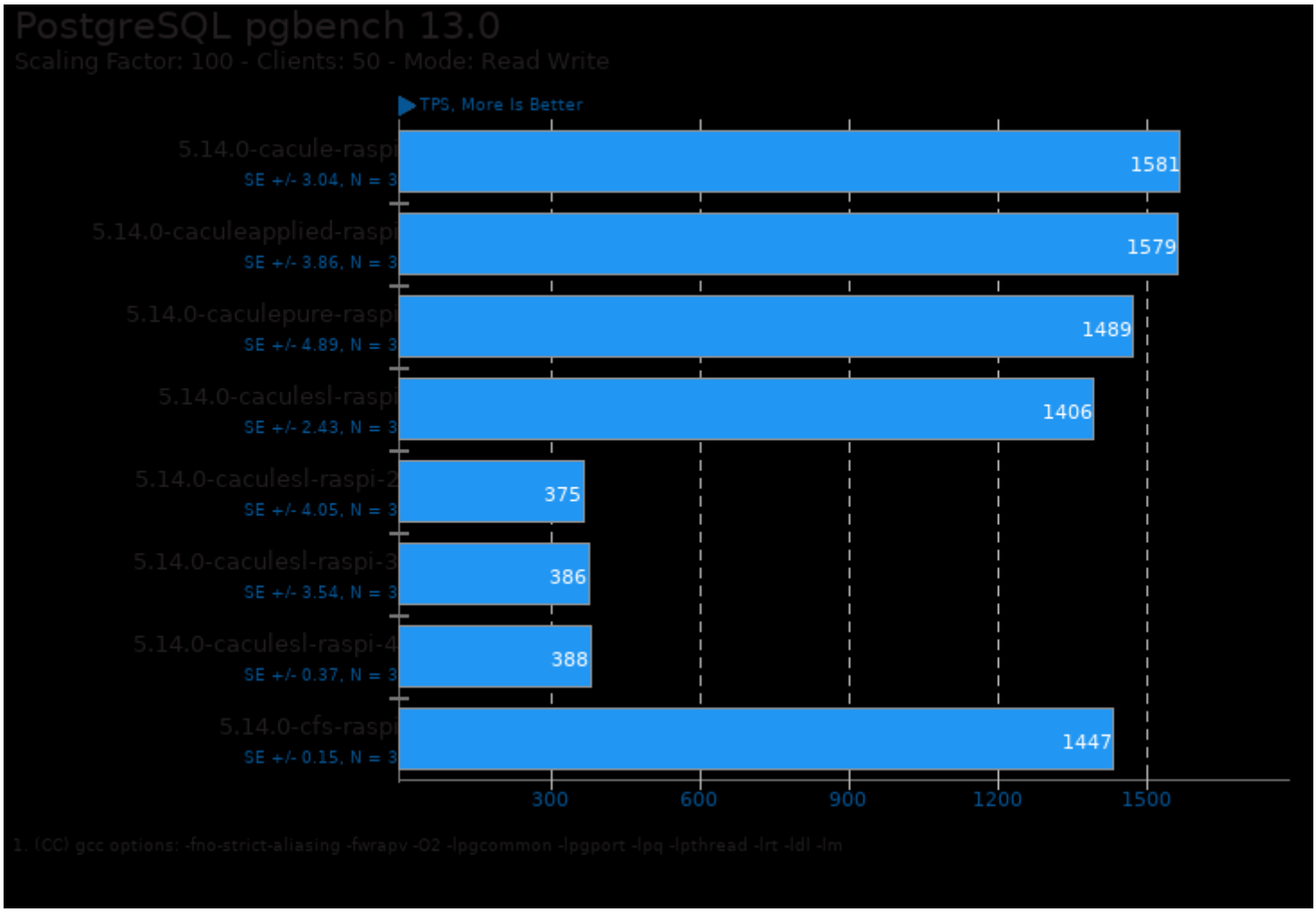

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Only - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.014, N = 3
5.844
5.14.0-caculeapplied-raspi
SE +/- 0.011, N = 3
5.814
5.14.0-caculepure-raspi
SE +/- 0.016, N = 3
5.772
5.14.0-caculesl-raspi
SE +/- 0.006, N = 3
6.576
5.14.0-caculesl-raspi-2
SE +/- 0.013, N = 3
6.578
5.14.0-caculesl-raspi-3
SE +/- 0.009, N = 3
6.206
5.14.0-caculesl-raspi-4
SE +/- 0.007, N = 3
6.175
5.14.0-cfs-raspi
SE +/- 0.021, N = 3
6.348
2
4
6
8
10
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

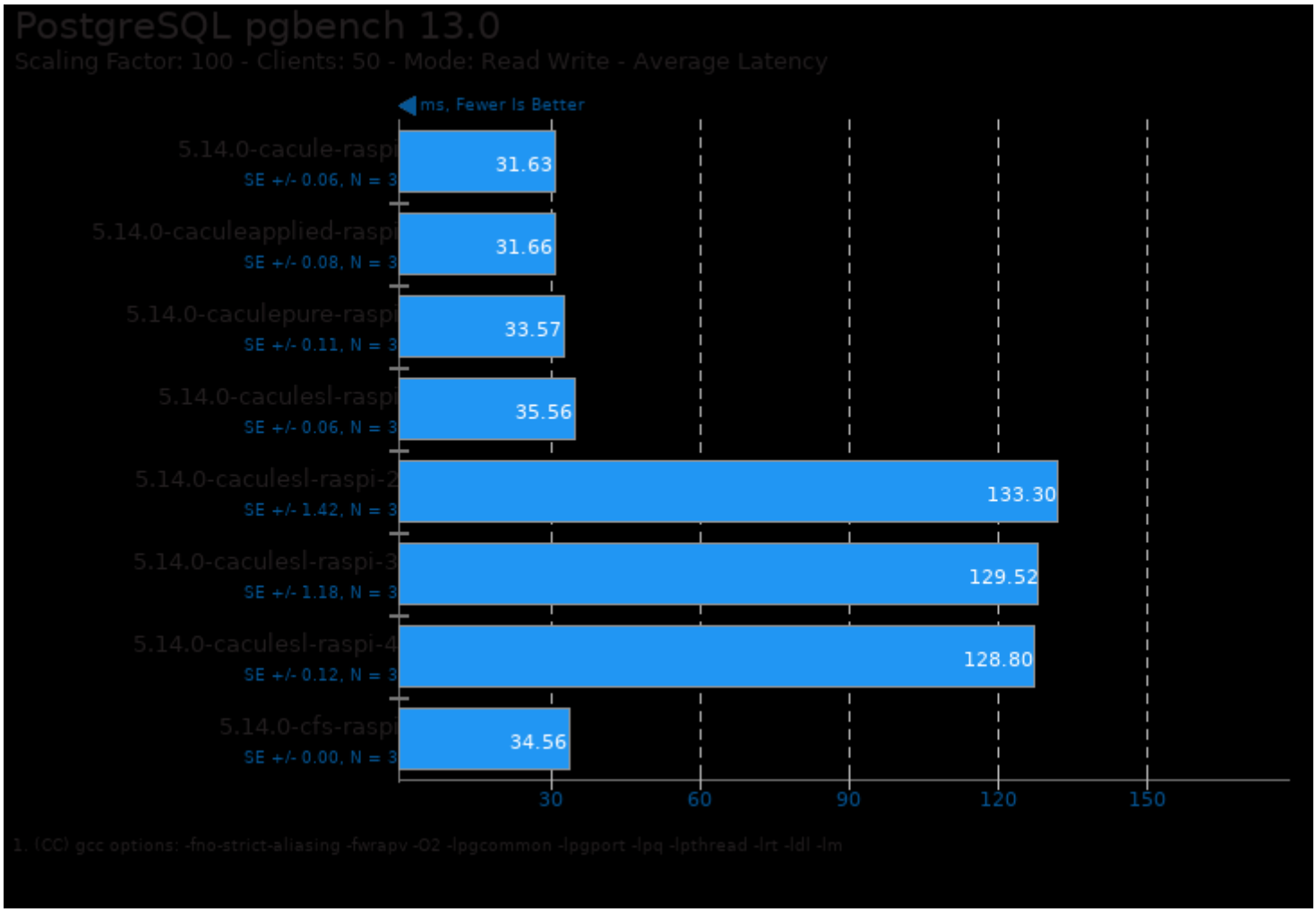

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Only
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 17.70, N = 3
7977
5.14.0-caculeapplied-raspi
SE +/- 9.36, N = 3
8003
5.14.0-caculepure-raspi
SE +/- 11.48, N = 3
7862
5.14.0-caculesl-raspi
SE +/- 9.61, N = 3
7332
5.14.0-caculesl-raspi-2
SE +/- 1.66, N = 3
7366
5.14.0-caculesl-raspi-3
SE +/- 16.69, N = 3
7899
5.14.0-caculesl-raspi-4
SE +/- 10.36, N = 3
7812
5.14.0-cfs-raspi
SE +/- 24.87, N = 3
6794
2K
4K
6K
8K
10K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

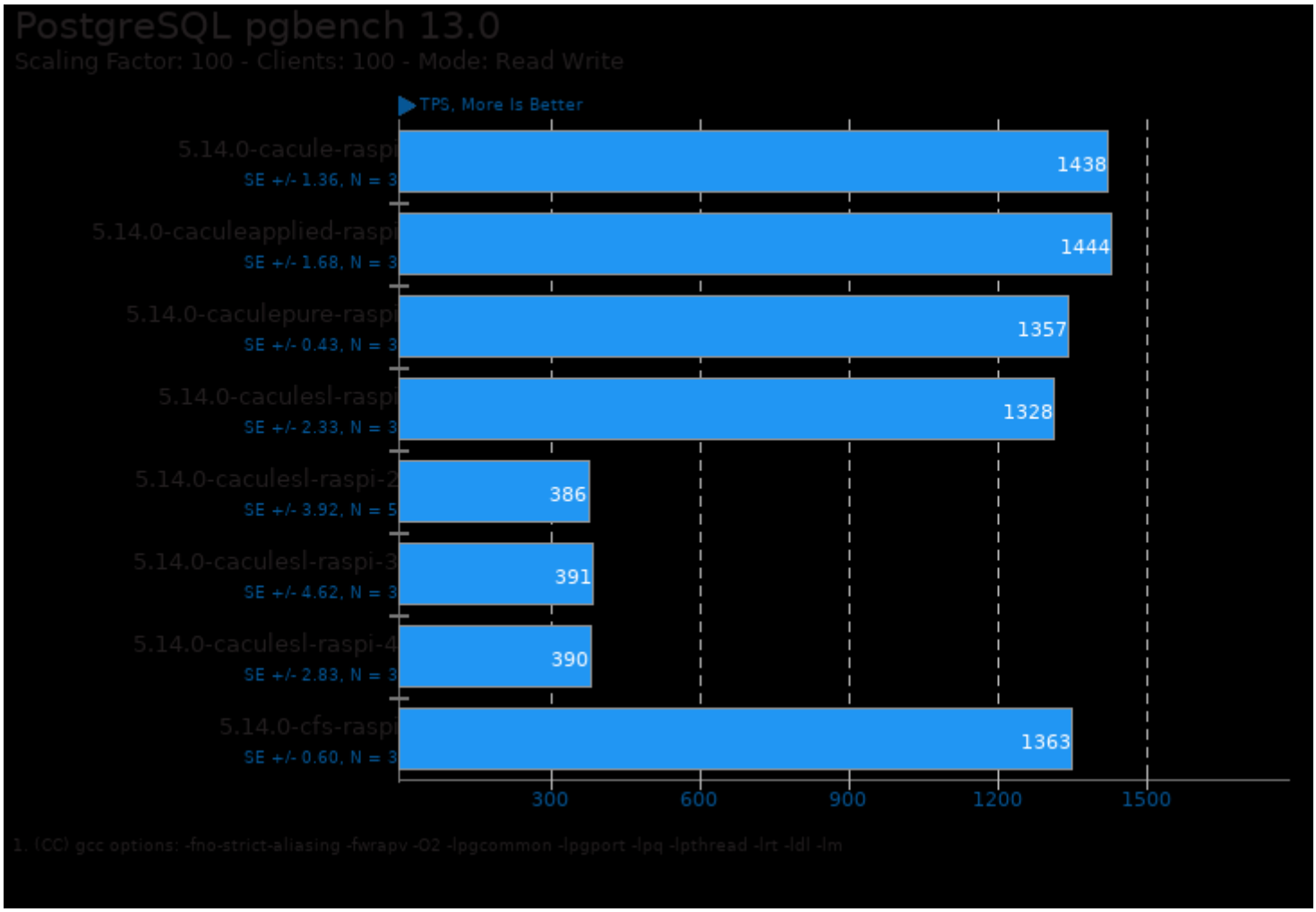

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.03, N = 3
12.54
5.14.0-caculeapplied-raspi
SE +/- 0.01, N = 3
12.50
5.14.0-caculepure-raspi
SE +/- 0.02, N = 3
12.72
5.14.0-caculesl-raspi
SE +/- 0.02, N = 3
13.64
5.14.0-caculesl-raspi-2
SE +/- 0.00, N = 3
13.58
5.14.0-caculesl-raspi-3
SE +/- 0.03, N = 3
12.66
5.14.0-caculesl-raspi-4
SE +/- 0.02, N = 3
12.80
5.14.0-cfs-raspi
SE +/- 0.05, N = 3
14.72
4
8
12
16
20
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

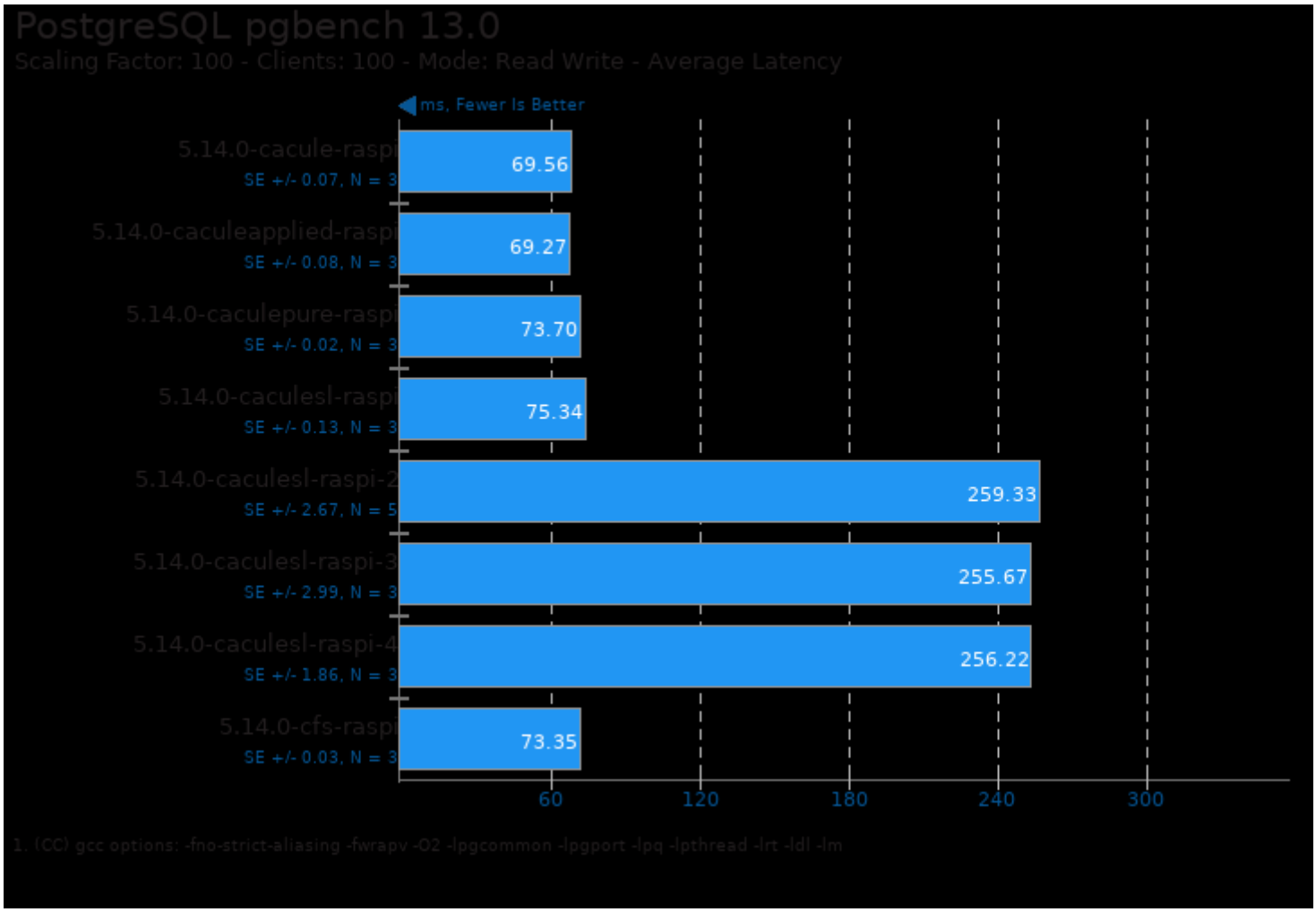

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Only
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 9.82, N = 3
7601
5.14.0-caculeapplied-raspi
SE +/- 29.81, N = 3
7635
5.14.0-caculepure-raspi
SE +/- 22.00, N = 3
7245
5.14.0-caculesl-raspi
SE +/- 54.00, N = 3
7000
5.14.0-caculesl-raspi-2
SE +/- 50.40, N = 3
6998
5.14.0-caculesl-raspi-3
SE +/- 79.69, N = 4
7481
5.14.0-caculesl-raspi-4
SE +/- 91.58, N = 4
7412
5.14.0-cfs-raspi
SE +/- 10.86, N = 3
6646
1600
3200
4800
6400
8000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

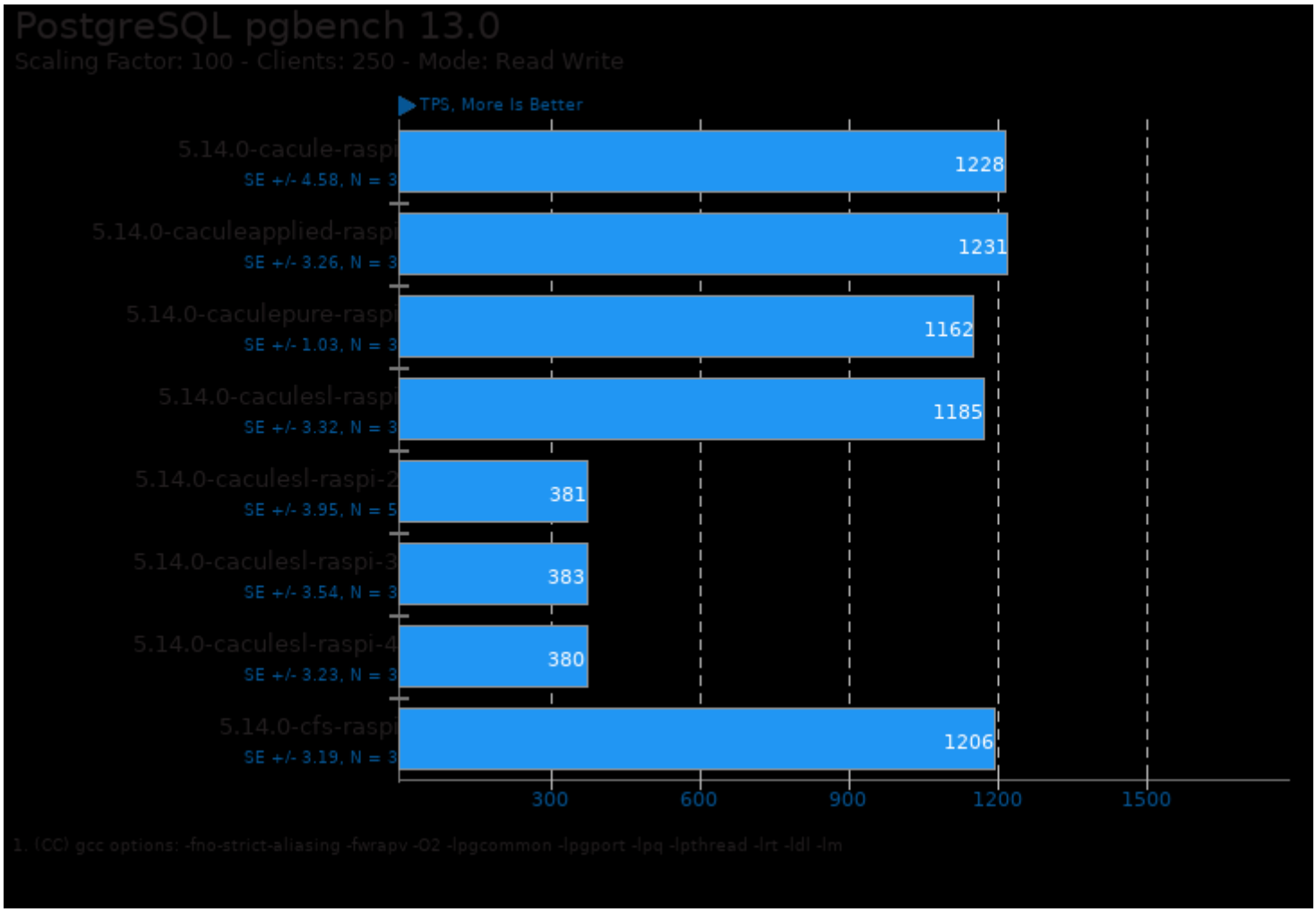

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Only - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.04, N = 3
32.89
5.14.0-caculeapplied-raspi
SE +/- 0.13, N = 3
32.75
5.14.0-caculepure-raspi
SE +/- 0.10, N = 3
34.51
5.14.0-caculesl-raspi
SE +/- 0.28, N = 3
35.72
5.14.0-caculesl-raspi-2
SE +/- 0.26, N = 3
35.74
5.14.0-caculesl-raspi-3
SE +/- 0.36, N = 4
33.44
5.14.0-caculesl-raspi-4
SE +/- 0.43, N = 4
33.75
5.14.0-cfs-raspi
SE +/- 0.06, N = 3
37.62
9
18
27
36
45
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

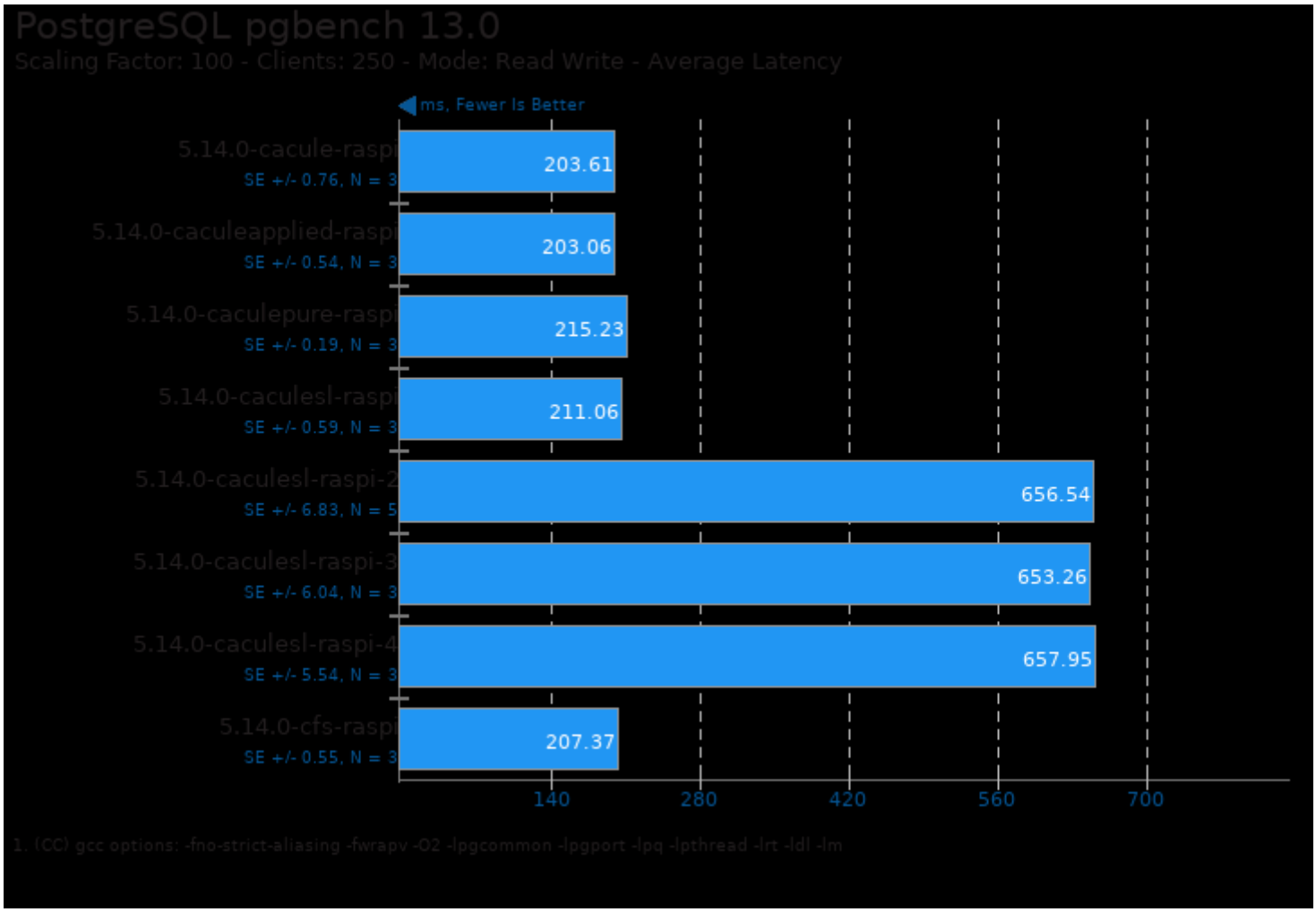

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Write
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 3.04, N = 3
1581
5.14.0-caculeapplied-raspi
SE +/- 3.86, N = 3
1579
5.14.0-caculepure-raspi
SE +/- 4.89, N = 3
1489
5.14.0-caculesl-raspi
SE +/- 2.43, N = 3
1406
5.14.0-caculesl-raspi-2
SE +/- 4.05, N = 3
375
5.14.0-caculesl-raspi-3
SE +/- 3.54, N = 3
386
5.14.0-caculesl-raspi-4
SE +/- 0.37, N = 3
388
5.14.0-cfs-raspi
SE +/- 0.15, N = 3
1447
300
600
900
1200
1500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

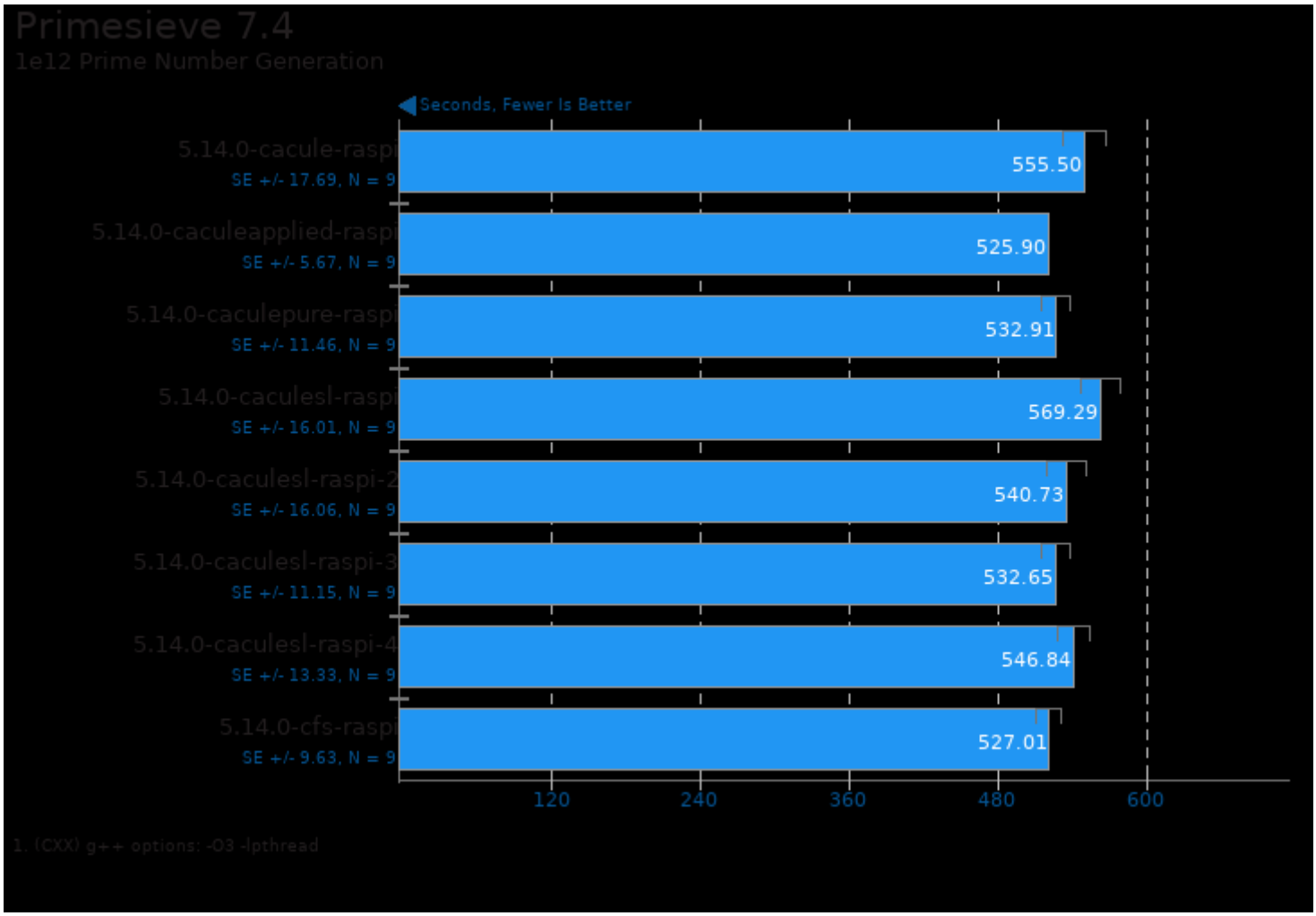

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.06, N = 3
31.63
5.14.0-caculeapplied-raspi
SE +/- 0.08, N = 3
31.66
5.14.0-caculepure-raspi
SE +/- 0.11, N = 3
33.57
5.14.0-caculesl-raspi
SE +/- 0.06, N = 3
35.56
5.14.0-caculesl-raspi-2
SE +/- 1.42, N = 3
133.30
5.14.0-caculesl-raspi-3
SE +/- 1.18, N = 3
129.52
5.14.0-caculesl-raspi-4
SE +/- 0.12, N = 3
128.80
5.14.0-cfs-raspi
SE +/- 0.00, N = 3
34.56
30
60
90
120
150
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

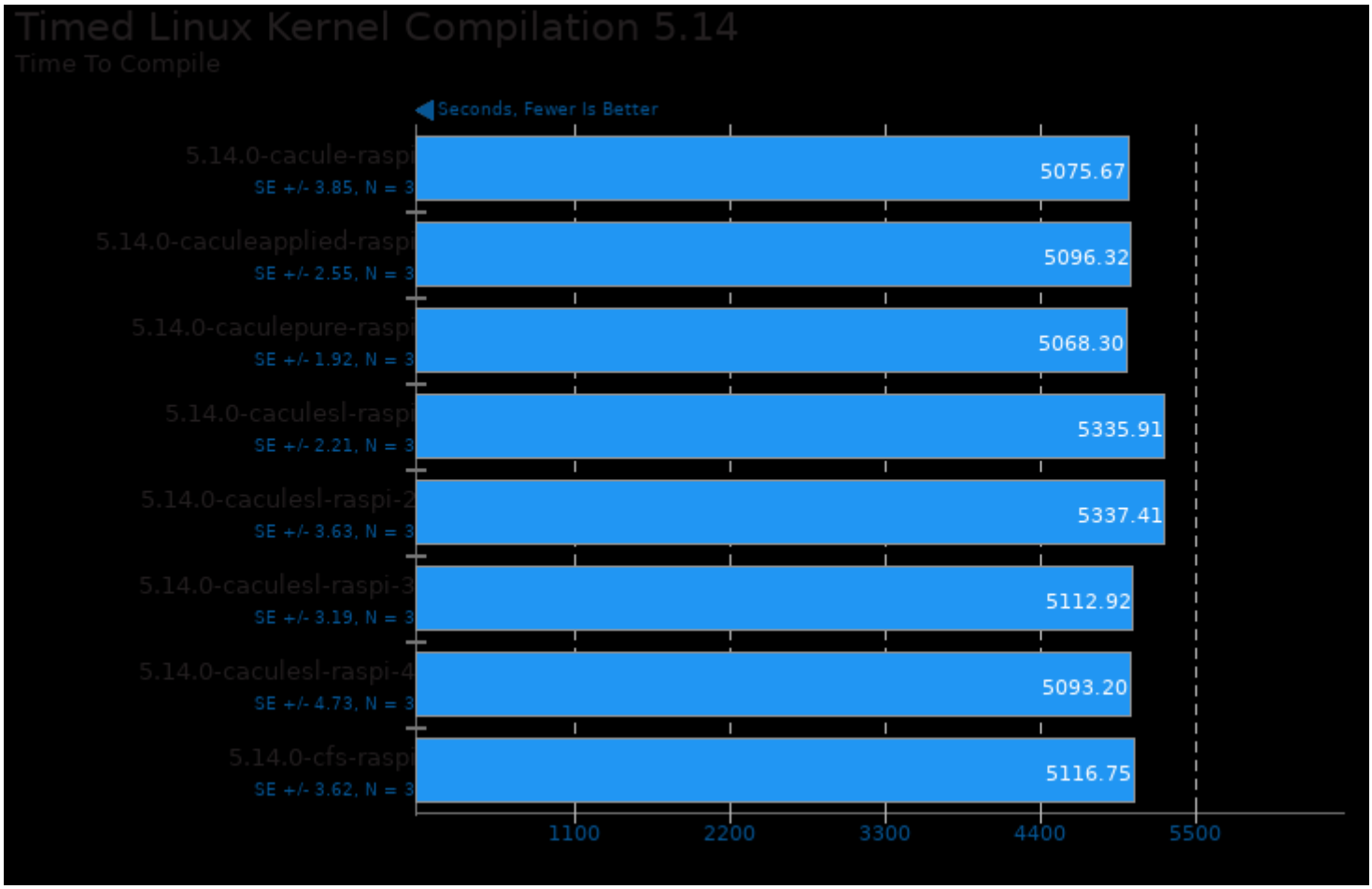

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Write
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 1.36, N = 3
1438
5.14.0-caculeapplied-raspi
SE +/- 1.68, N = 3
1444
5.14.0-caculepure-raspi
SE +/- 0.43, N = 3
1357
5.14.0-caculesl-raspi
SE +/- 2.33, N = 3
1328
5.14.0-caculesl-raspi-2
SE +/- 3.92, N = 5
386
5.14.0-caculesl-raspi-3
SE +/- 4.62, N = 3
391
5.14.0-caculesl-raspi-4
SE +/- 2.83, N = 3
390
5.14.0-cfs-raspi
SE +/- 0.60, N = 3
1363
300
600
900
1200
1500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm


PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.07, N = 3
69.56
5.14.0-caculeapplied-raspi
SE +/- 0.08, N = 3
69.27
5.14.0-caculepure-raspi
SE +/- 0.02, N = 3
73.70
5.14.0-caculesl-raspi
SE +/- 0.13, N = 3
75.34
5.14.0-caculesl-raspi-2
SE +/- 2.67, N = 5
259.33
5.14.0-caculesl-raspi-3
SE +/- 2.99, N = 3
255.67
5.14.0-caculesl-raspi-4
SE +/- 1.86, N = 3
256.22
5.14.0-cfs-raspi
SE +/- 0.03, N = 3
73.35
60
120
180
240
300
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

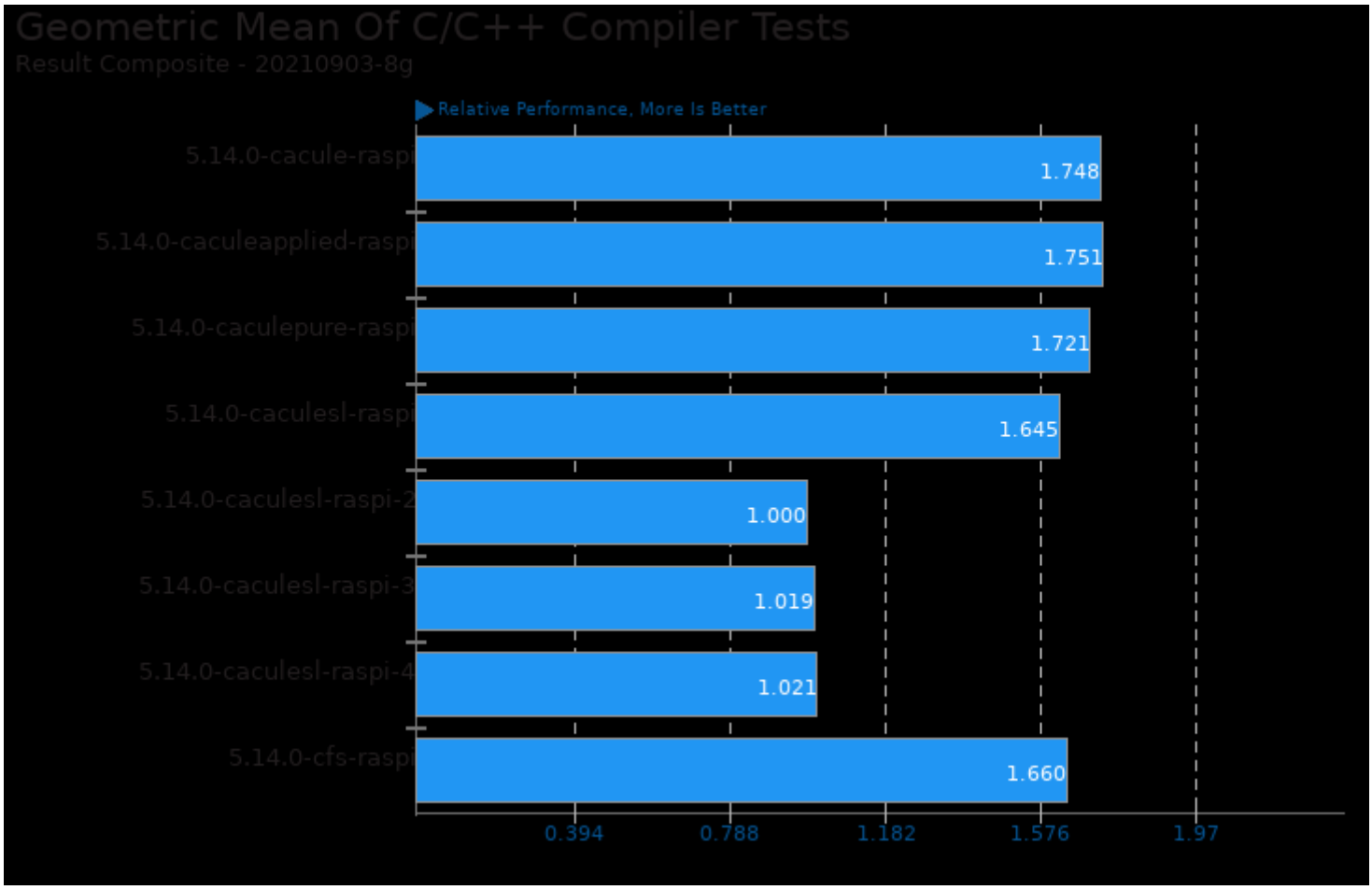

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Write
TPS, More Is Better
5.14.0-cacule-raspi
SE +/- 4.58, N = 3
1228
5.14.0-caculeapplied-raspi
SE +/- 3.26, N = 3
1231
5.14.0-caculepure-raspi
SE +/- 1.03, N = 3
1162
5.14.0-caculesl-raspi
SE +/- 3.32, N = 3
1185
5.14.0-caculesl-raspi-2
SE +/- 3.95, N = 5
381
5.14.0-caculesl-raspi-3
SE +/- 3.54, N = 3
383
5.14.0-caculesl-raspi-4
SE +/- 3.23, N = 3
380
5.14.0-cfs-raspi
SE +/- 3.19, N = 3
1206
300
600
900
1200
1500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm


PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency
ms, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 0.76, N = 3
203.61
5.14.0-caculeapplied-raspi
SE +/- 0.54, N = 3
203.06
5.14.0-caculepure-raspi
SE +/- 0.19, N = 3
215.23
5.14.0-caculesl-raspi
SE +/- 0.59, N = 3
211.06
5.14.0-caculesl-raspi-2
SE +/- 6.83, N = 5
656.54
5.14.0-caculesl-raspi-3
SE +/- 6.04, N = 3
653.26
5.14.0-caculesl-raspi-4
SE +/- 5.54, N = 3
657.95
5.14.0-cfs-raspi
SE +/- 0.55, N = 3
207.37
140
280
420
560
700
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

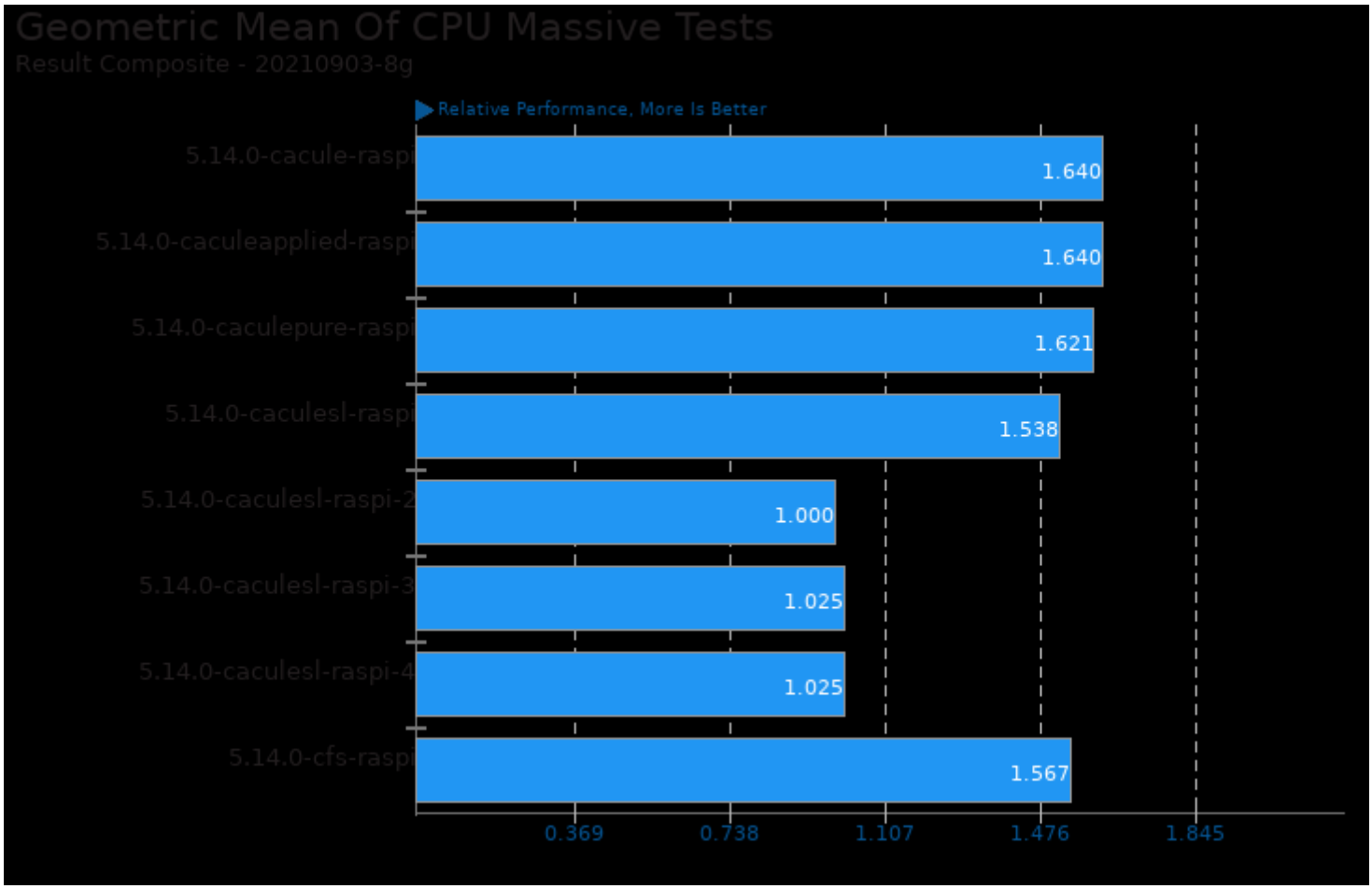

Primesieve 7.4
1e12 Prime Number Generation
Seconds, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 17.69, N = 9
555.50
5.14.0-caculeapplied-raspi
SE +/- 5.67, N = 9
525.90
5.14.0-caculepure-raspi
SE +/- 11.46, N = 9
532.91
5.14.0-caculesl-raspi
SE +/- 16.01, N = 9
569.29
5.14.0-caculesl-raspi-2
SE +/- 16.06, N = 9
540.73
5.14.0-caculesl-raspi-3
SE +/- 11.15, N = 9
532.65
5.14.0-caculesl-raspi-4
SE +/- 13.33, N = 9
546.84
5.14.0-cfs-raspi
SE +/- 9.63, N = 9
527.01
120
240
360
480
600
1. (CXX) g++ options: -O3 -lpthread


Timed Linux Kernel Compilation 5.14
Time To Compile
Seconds, Fewer Is Better
5.14.0-cacule-raspi
SE +/- 3.85, N = 3
5075.67
5.14.0-caculeapplied-raspi
SE +/- 2.55, N = 3
5096.32
5.14.0-caculepure-raspi
SE +/- 1.92, N = 3
5068.30
5.14.0-caculesl-raspi
SE +/- 2.21, N = 3
5335.91
5.14.0-caculesl-raspi-2
SE +/- 3.63, N = 3
5337.41
5.14.0-caculesl-raspi-3
SE +/- 3.19, N = 3
5112.92
5.14.0-caculesl-raspi-4
SE +/- 4.73, N = 3
5093.20
5.14.0-cfs-raspi
SE +/- 3.62, N = 3
5116.75
1100
2200
3300
4400
5500

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

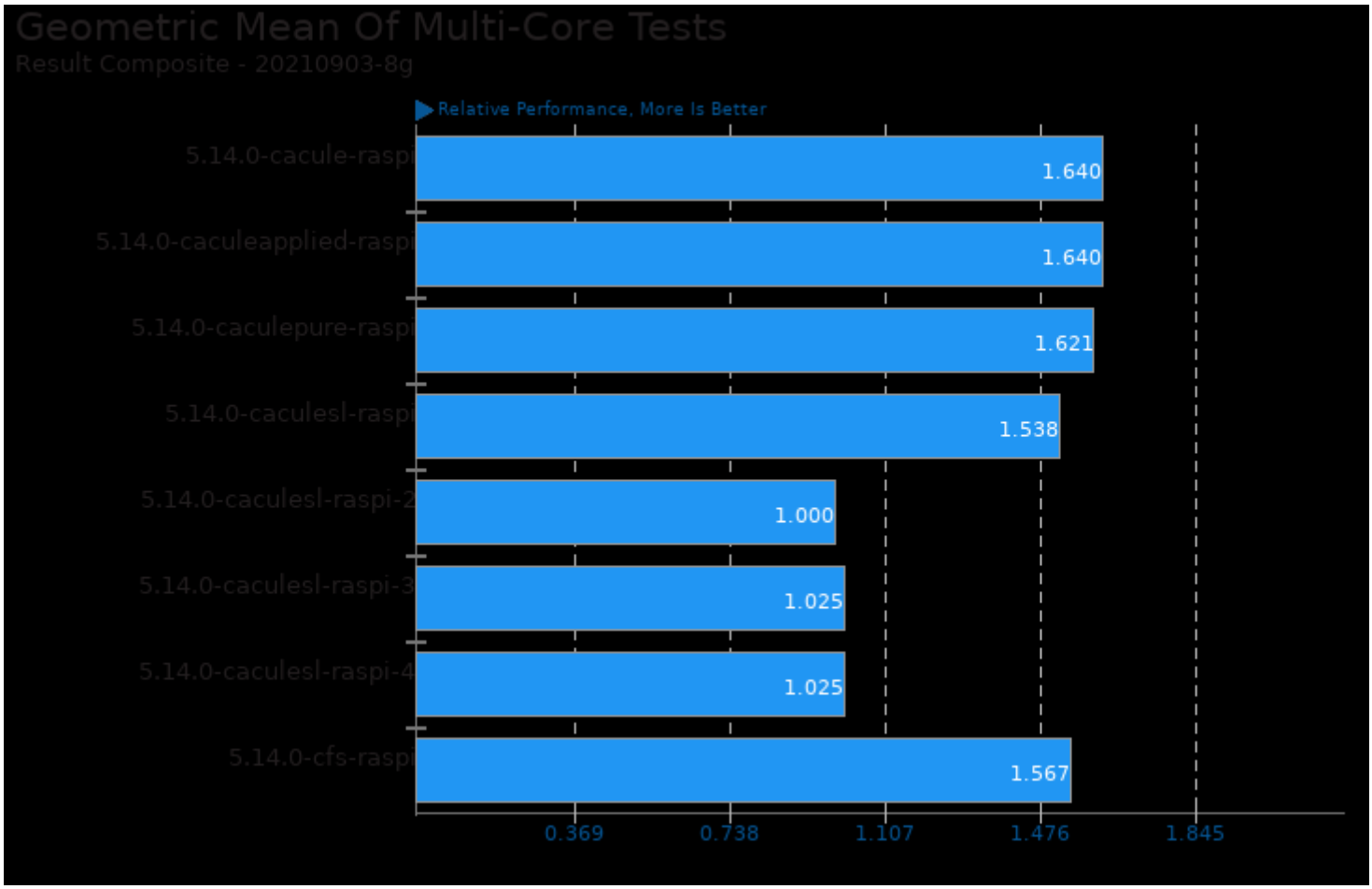


Geometric mean based upon tests: pts/c-ray, pts/compress-7zip, pts/pgbench and pts/john-the-ripper

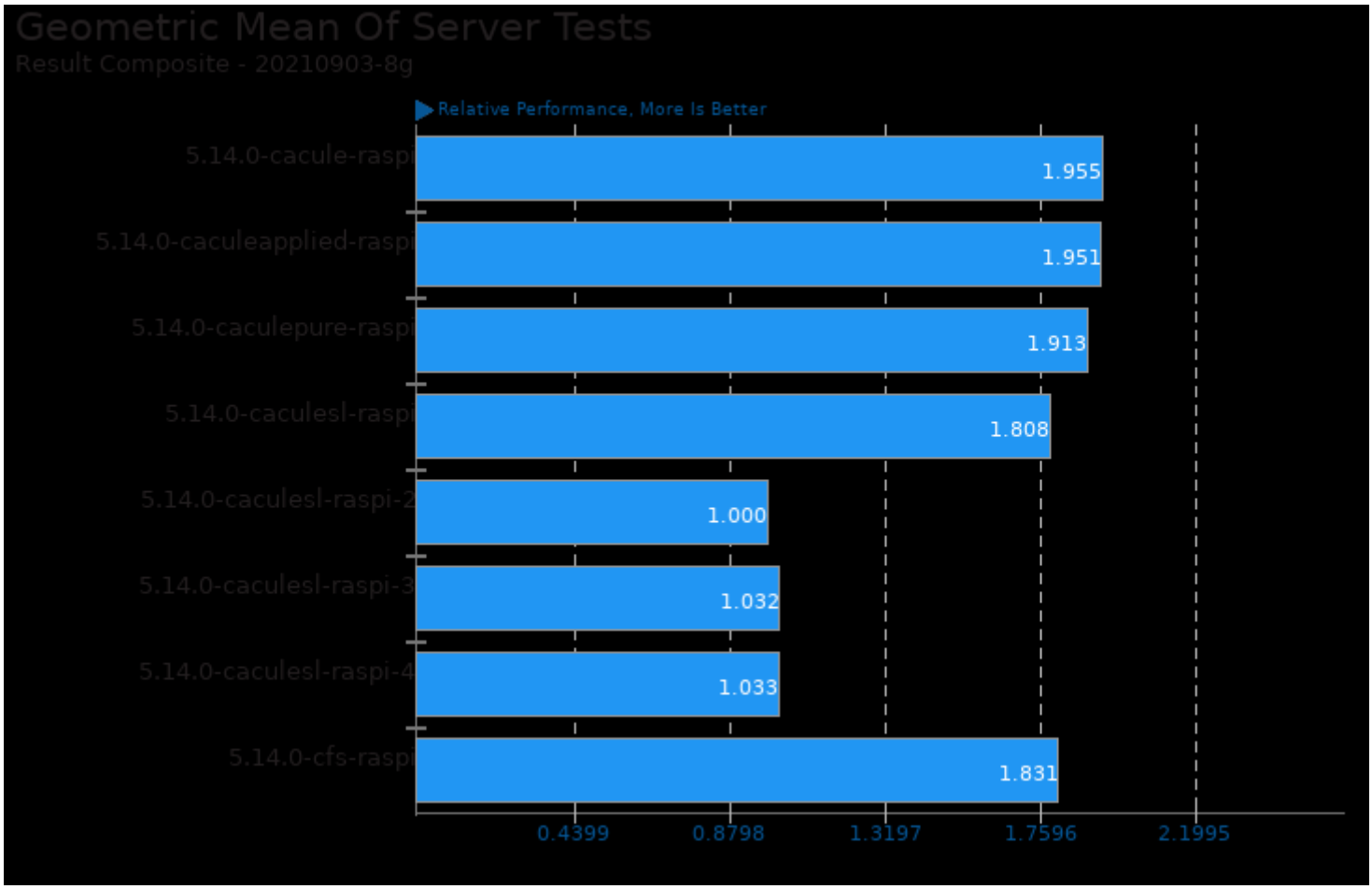


Geometric mean based upon tests: pts/build-linux-kernel, pts/c-ray, pts/compress-7zip, pts/ebizzy, pts/john-the-ripper, pts/pgbench and pts/primesieve

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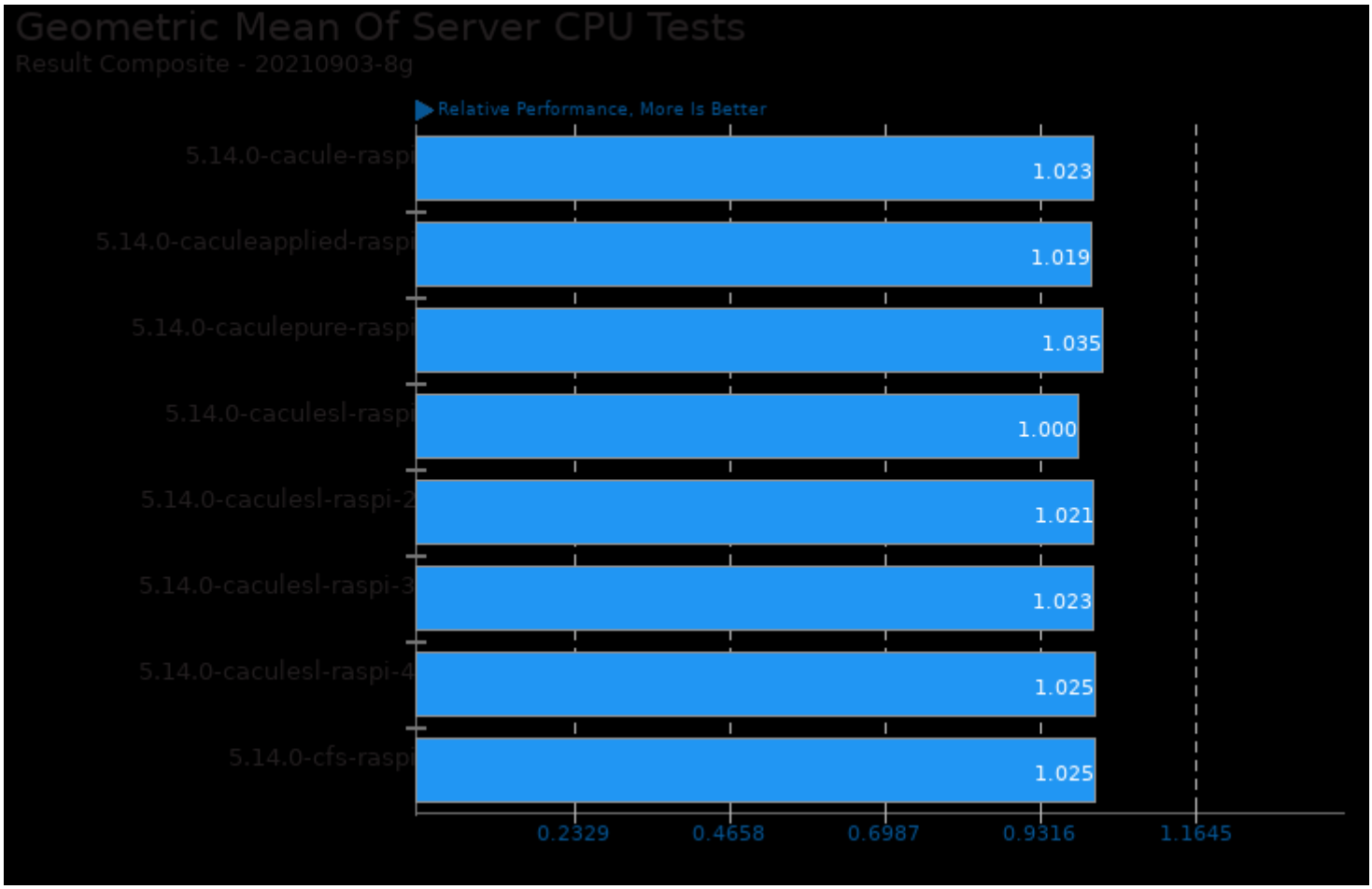


Geometric mean based upon tests: pts/c-ray, pts/primesieve, pts/john-the-ripper, pts/ebizzy, pts/compress-7zip, pts/build-linux-kernel and pts/pgbench



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

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Geometric mean based upon tests: pts/john-the-ripper, pts/compress-7zip, pts/build-linux-kernel and pts/c-ray

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 14:46.